FENWICK SOLAR FARM

Fenwick Solar Farm
EN010152

Environmental Statement

Volume III Appendix 14-2: Glint and Glare Assessment

Document Reference: EN010152/APP/6.3

Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

May 2025
Revision Number: 02

Revision History

BOOM-POWER.CO.UK

BOOM POWER

Revision Number	Date	Details
00	October 2024	DCO application
01	December 2024	S51 Response
02	May 2025	Deadline 2

Prepared for:
Fenwick Solar Project Limited

Prepared by:
AECOM Limited

© 2025 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

ANNEX B: RESIDENTIAL RECEPTOR GLARE RESULTS GROUP A (RECEPTORS 1 – 64) (15 DEGREES)

Fenwick Solar Farm

Fenwick Residential Group A 15 degrees

Created Nov 28, 2023
Updated Aug 06, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106533.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	15.0	180.0	26,999	2,130	-
East Array	15.0	180.0	74,497	0	-
North Array	15.0	180.0	33,850	8,121	-
South Array	15.0	180.0	4,470	115	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,405 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,919 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630739	-1.092357	7.00	3.50	10.50
39	53.629021	-1.091542	8.67	3.50	12.17
40	53.628715	-1.092958	7.62	3.50	11.12
41	53.628448	-1.094224	8.00	3.50	11.50
42	53.628092	-1.096026	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.655069	-1.107859	6.97	2.00	8.97
OP 2	53.655202	-1.106593	7.25	2.00	9.25
OP 3	53.655031	-1.104179	7.11	2.00	9.11
OP 4	53.655279	-1.100403	6.02	2.00	8.02
OP 5	53.638555	-1.113455	7.81	2.00	9.81
OP 6	53.639255	-1.110762	8.82	2.00	10.82
OP 7	53.639497	-1.108648	8.74	2.00	10.74
OP 8	53.639668	-1.107489	8.61	2.00	10.61
OP 9	53.639757	-1.106084	8.37	2.00	10.37
OP 10	53.639776	-1.104689	7.41	2.00	9.41
OP 11	53.639458	-1.103262	7.87	2.00	9.87
OP 12	53.639592	-1.102082	7.69	2.00	9.69
OP 13	53.639465	-1.100269	8.95	2.00	10.95
OP 14	53.639026	-1.102211	8.00	2.00	10.00
OP 15	53.638943	-1.101256	8.48	2.00	10.48
OP 16	53.638377	-1.101127	8.20	2.00	10.20
OP 17	53.639408	-1.099164	8.99	2.00	10.99
OP 18	53.639325	-1.098649	9.00	2.00	11.00
OP 19	53.638803	-1.098284	9.00	2.00	11.00
OP 20	53.638740	-1.096632	8.15	2.00	10.15
OP 21	53.637483	-1.100636	7.32	2.00	9.32
OP 22	53.636682	-1.100797	7.92	2.00	9.92
OP 23	53.636701	-1.101419	7.90	2.00	9.90
OP 24	53.637066	-1.106955	7.53	2.00	9.53
OP 25	53.637044	-1.105292	8.12	2.00	10.12
OP 26	53.636790	-1.103876	8.76	2.00	10.76
OP 27	53.636262	-1.102379	8.21	2.00	10.21
OP 28	53.640574	-1.086978	7.97	2.00	9.97
OP 29	53.639932	-1.082418	8.62	2.00	10.62
OP 30	53.648429	-1.064104	6.86	2.00	8.86
OP 31	53.648136	-1.063192	7.77	2.00	9.77
OP 32	53.648658	-1.061658	6.55	2.00	8.55
OP 33	53.649033	-1.059609	7.87	2.00	9.87
OP 34	53.648540	-1.058327	9.45	2.00	11.45
OP 35	53.648019	-1.058890	8.54	2.00	10.54
OP 36	53.648779	-1.056728	8.29	2.00	10.29
OP 37	53.648591	-1.054706	7.01	2.00	9.01
OP 38	53.646476	-1.051049	6.65	2.00	8.65
OP 39	53.645986	-1.050658	7.36	2.00	9.36
OP 40	53.645118	-1.050363	7.81	2.00	9.81
OP 41	53.644644	-1.050207	7.49	2.00	9.49
OP 42	53.644241	-1.050116	7.63	2.00	9.63
OP 43	53.644056	-1.051199	7.00	2.00	9.00
OP 44	53.643678	-1.051033	7.00	2.00	9.00
OP 45	53.643741	-1.052031	6.56	2.00	8.56
OP 46	53.643834	-1.053125	6.00	2.00	8.00
OP 47	53.643353	-1.052498	6.36	2.00	8.36
OP 48	53.643051	-1.052712	6.65	2.00	8.65
OP 49	53.642511	-1.053018	7.00	2.00	9.00
OP 50	53.641903	-1.053608	7.75	2.00	9.75
OP 51	53.641178	-1.054246	9.00	2.00	11.00
OP 52	53.642641	-1.052020	7.00	2.00	9.00
OP 53	53.644323	-1.056601	7.63	2.00	9.63
OP 54	53.643894	-1.057385	7.43	2.00	9.43
OP 55	53.641814	-1.057540	7.38	2.00	9.38
OP 56	53.641496	-1.058468	7.05	2.00	9.05
OP 57	53.639852	-1.056542	6.69	2.00	8.69
OP 58	53.639499	-1.056054	6.20	2.00	8.20
OP 59	53.638618	-1.055893	6.35	2.00	8.35
OP 60	53.638647	-1.057052	6.03	2.00	8.03
OP 61	53.639887	-1.058302	7.37	2.00	9.37
OP 62	53.639846	-1.058929	7.00	2.00	9.00
OP 63	53.639260	-1.059235	6.83	2.00	8.83

OP 64	53.639133	-1.060136	6.98	2.00	8.98

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	15.0	180.0	26,999	2,130	-	-
East Array	15.0	180.0	74,497	0	-	-
North Array	15.0	180.0	33,850	8,121	-	-
South Array	15.0	180.0	4,470	115	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	166	786	482	209	309	866	345	0	0	0
central-arra (yellow)	0	0	0	1	109	288	183	10	0	0	0	0
east-array (green)	0	0	237	1040	1270	697	1131	1187	476	0	0	0
east-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
north-array (green)	0	0	191	926	1152	1114	1174	1065	398	0	0	0
north-array (yellow)	0	0	0	91	263	339	289	179	1	0	0	0
south-array (green)	0	0	10	327	426	18	294	437	57	0	0	0
south-array (yellow)	0	0	0	5	0	0	0	5	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	18	0
OP: OP 6	550	0
OP: OP 7	516	0
OP: OP 8	574	0
OP: OP 9	421	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	695	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	15	0
OP: OP 17	701	0
OP: OP 18	649	0
OP: OP 19	839	0

OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	17	0
OP: OP 26	28	0
OP: OP 27	15	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	30	0
OP: OP 45	36	0
OP: OP 46	0	0
OP: OP 47	71	0
OP: OP 48	162	0
OP: OP 49	300	0
OP: OP 50	525	0
OP: OP 51	841	0
OP: OP 52	220	0
OP: OP 53	0	0
OP: OP 54	17	0
OP: OP 55	1111	0
OP: OP 56	1736	0
OP: OP 57	2370	0
OP: OP 58	2364	0
OP: OP 59	2302	25
OP: OP 60	2070	377
OP: OP 61	2010	293
OP: OP 62	2040	423
OP: OP 63	1946	466
OP: OP 64	1810	546

Central Array: OP 1

No glare found

Central Array: OP 2

No glare found

Central Array: OP 3

No glare found

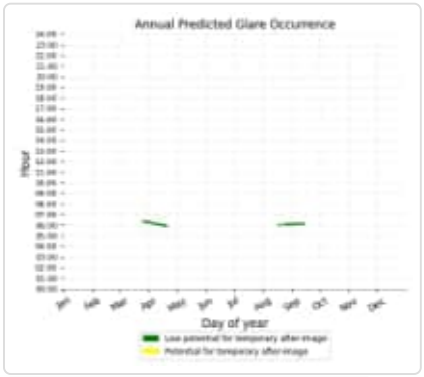
Central Array: OP 4

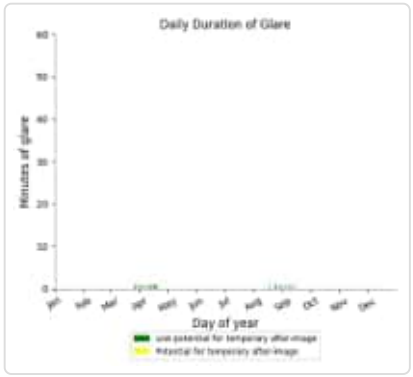
No glare found

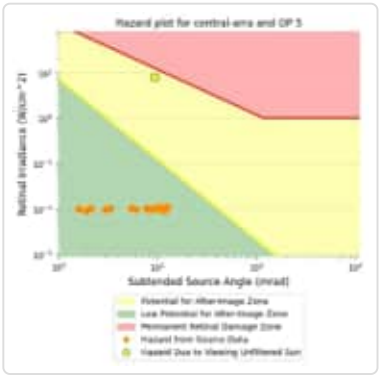
Central Array: OP 5

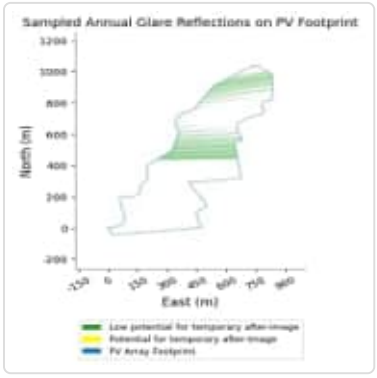
PV array is expected to produce the following glare for this receptor:

- 18 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





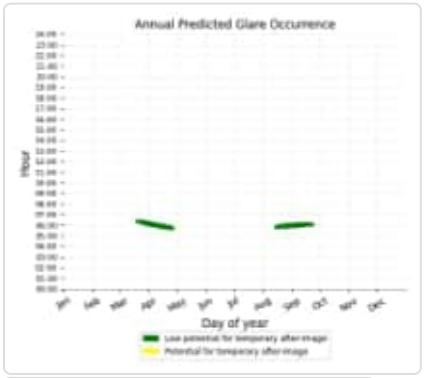


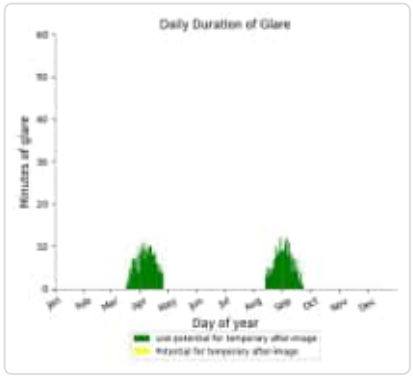


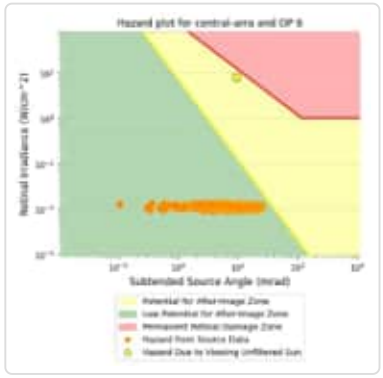
Central Array: OP 6

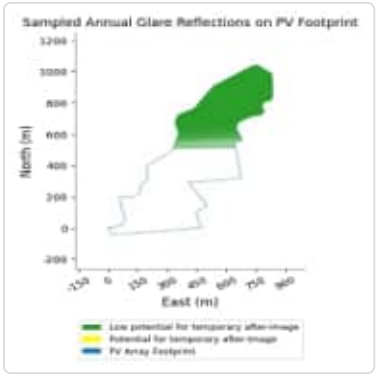
PV array is expected to produce the following glare for this receptor:

- 550 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





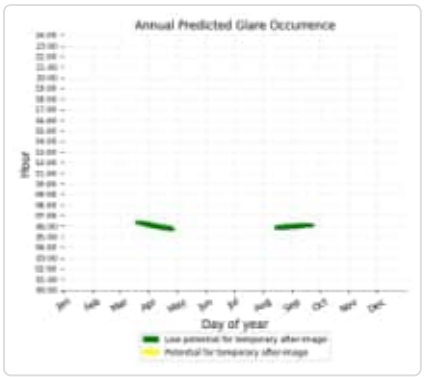


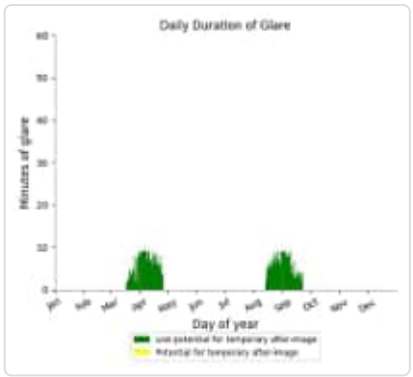


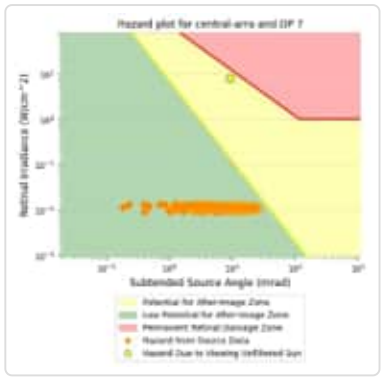
Central Array: OP 7

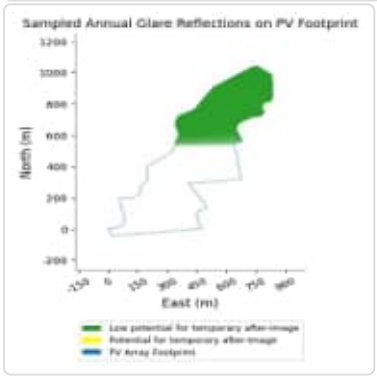
PV array is expected to produce the following glare for this receptor:

- 516 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





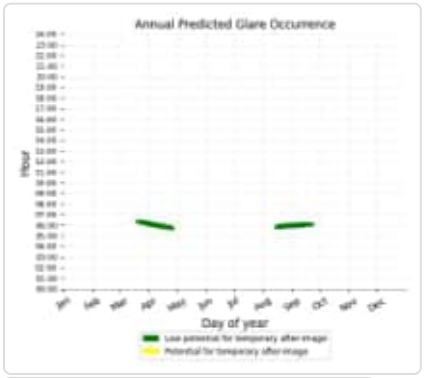


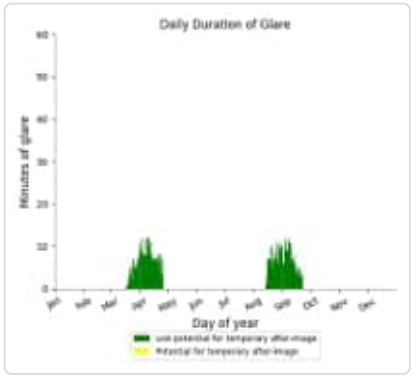


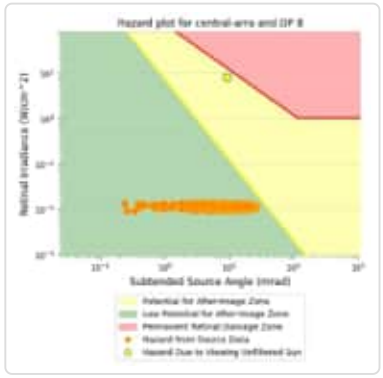
Central Array: OP 8

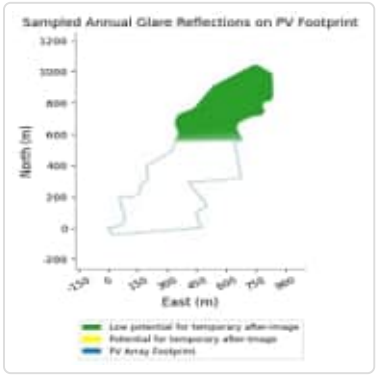
PV array is expected to produce the following glare for this receptor:

- 574 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





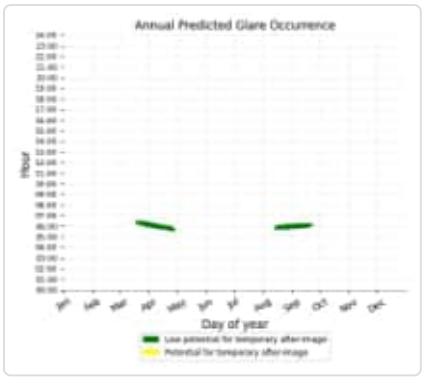


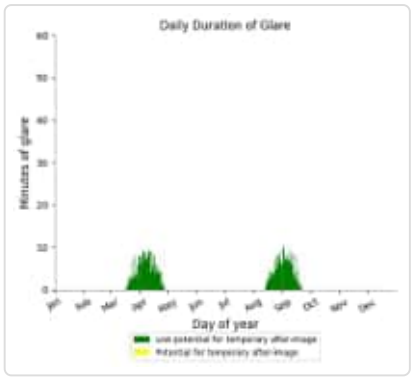


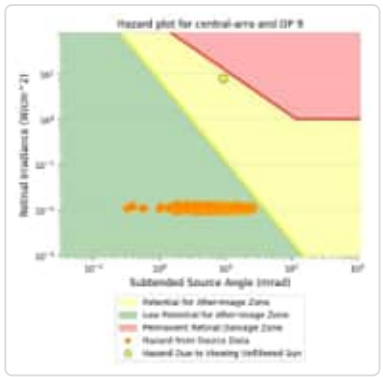
Central Array: OP 9

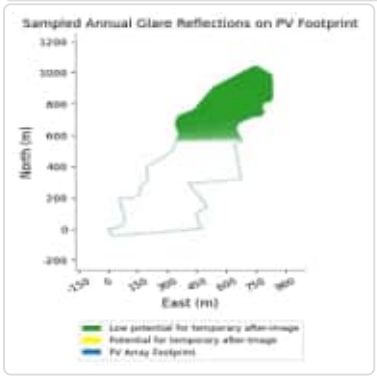
PV array is expected to produce the following glare for this receptor:

- 421 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 10

No glare found

Central Array: OP 11

No glare found

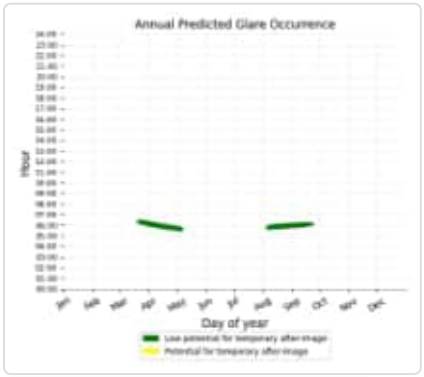
Central Array: OP 12

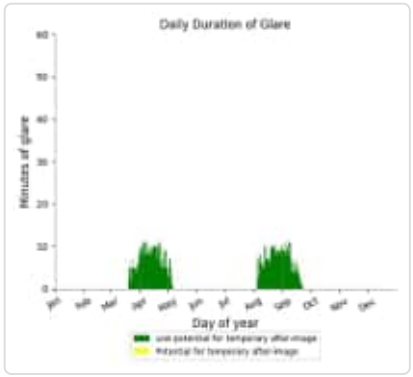
No glare found

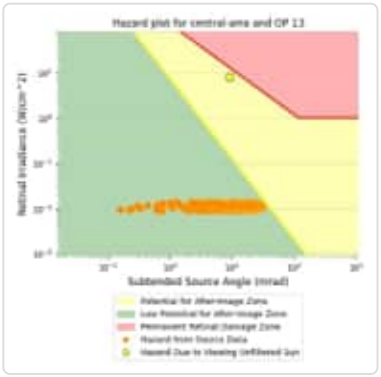
Central Array: OP 13

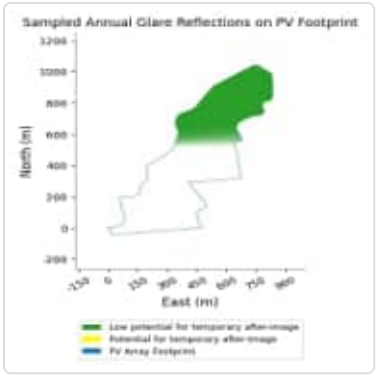
PV array is expected to produce the following glare for this receptor:

- 695 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 14

No glare found

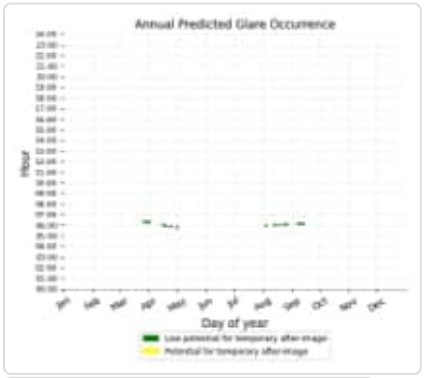
Central Array: OP 15

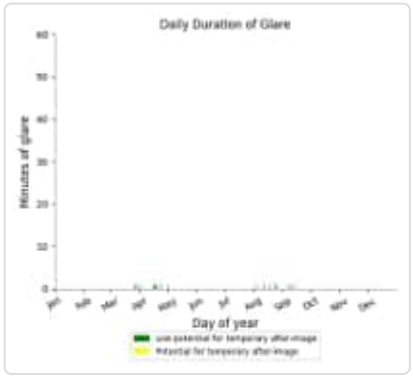
No glare found

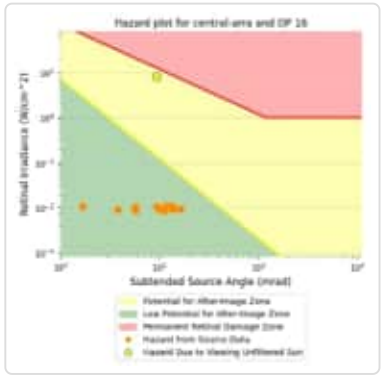
Central Array: OP 16

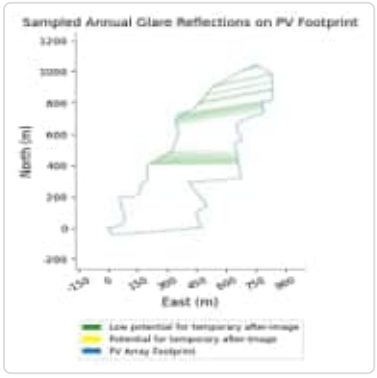
PV array is expected to produce the following glare for this receptor:

- 15 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





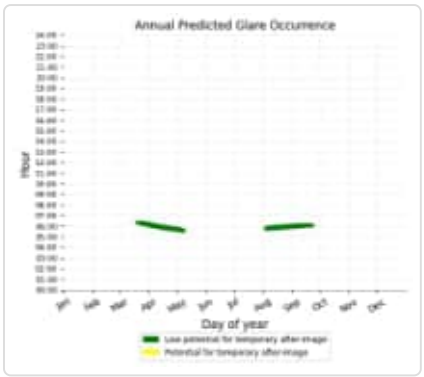


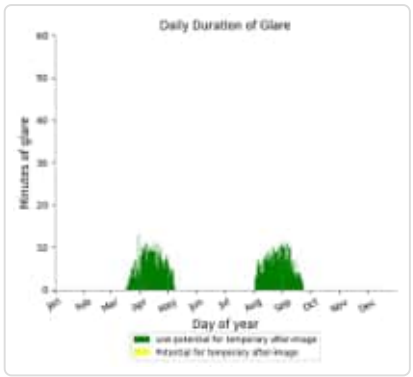


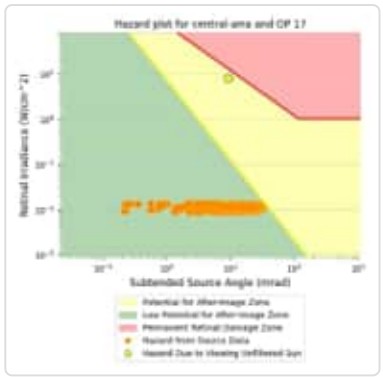
Central Array: OP 17

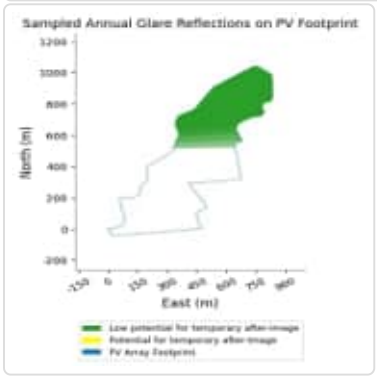
PV array is expected to produce the following glare for this receptor:

- 701 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





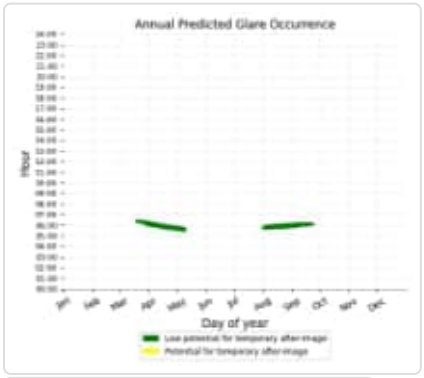


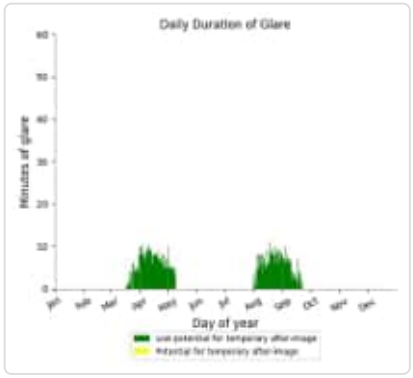


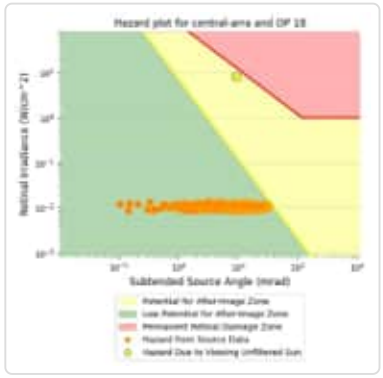
Central Array: OP 18

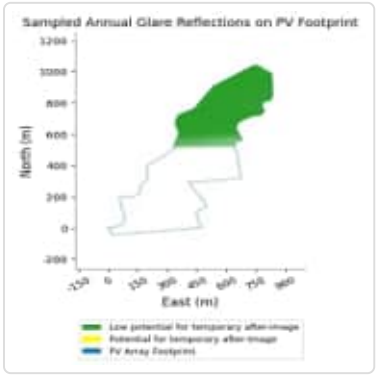
PV array is expected to produce the following glare for this receptor:

- 649 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





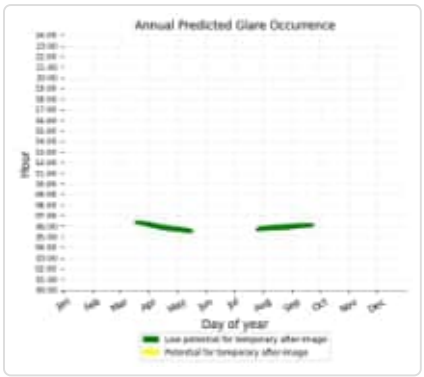


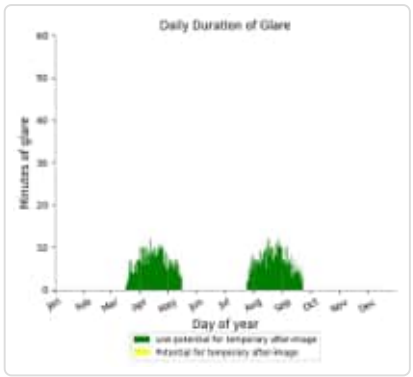


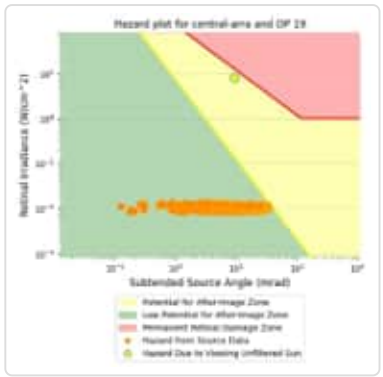
Central Array: OP 19

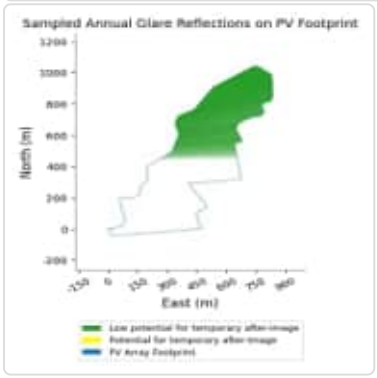
PV array is expected to produce the following glare for this receptor:

- 839 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 20

No glare found

Central Array: OP 21

No glare found

Central Array: OP 22

No glare found

Central Array: OP 23

No glare found

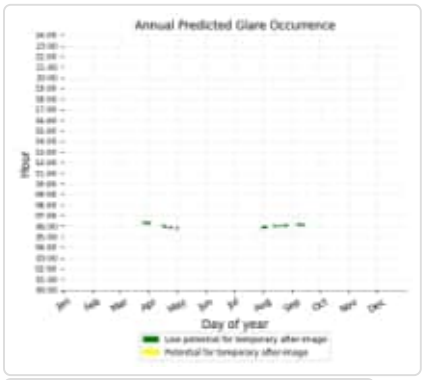
Central Array: OP 24

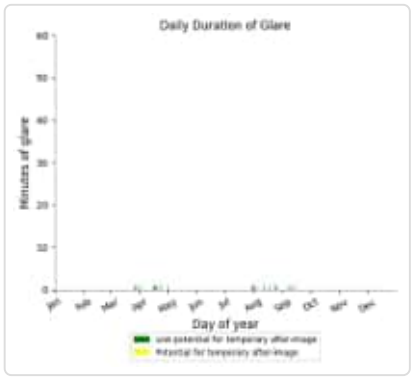
No glare found

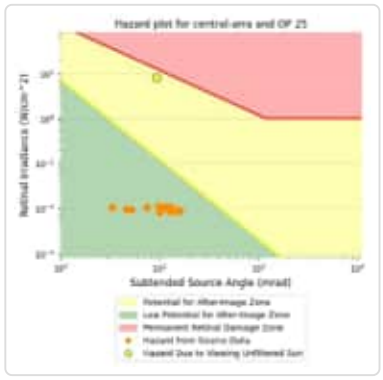
Central Array: OP 25

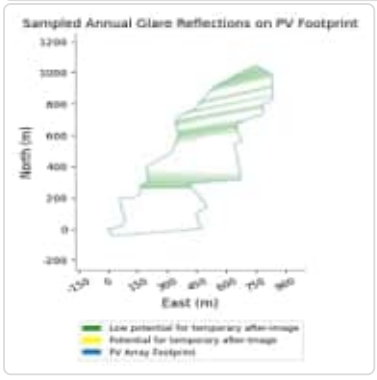
PV array is expected to produce the following glare for this receptor:

- 17 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





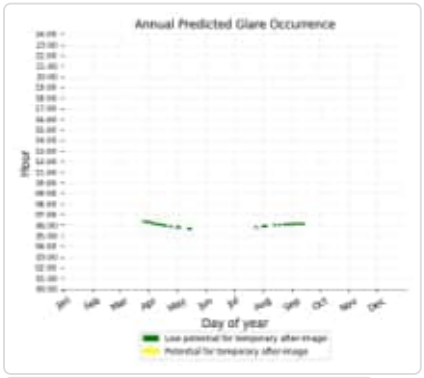


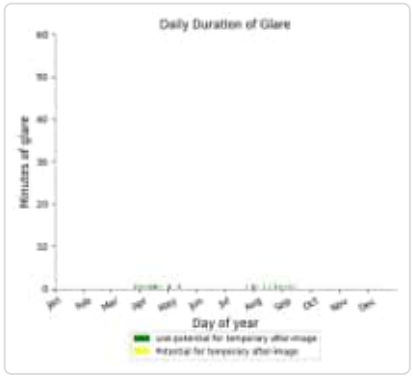


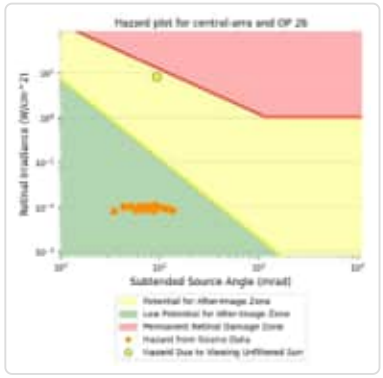
Central Array: OP 26

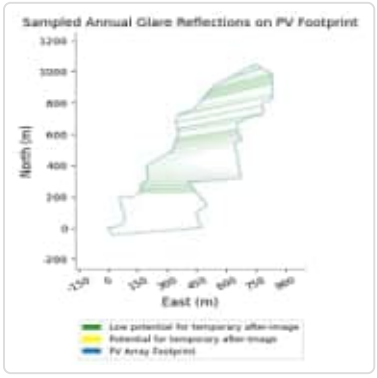
PV array is expected to produce the following glare for this receptor:

- 28 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





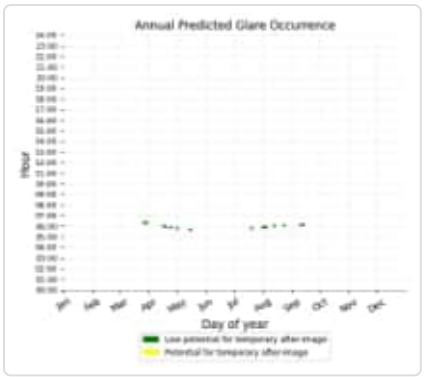


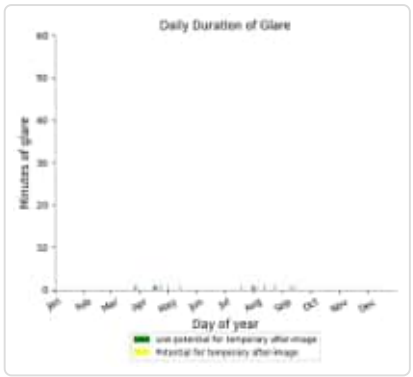


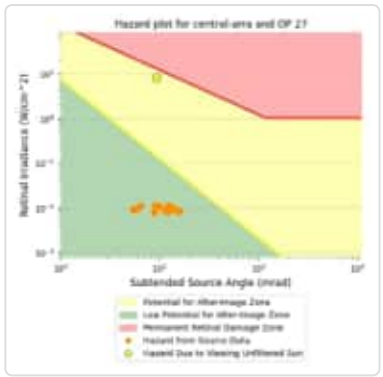
Central Array: OP 27

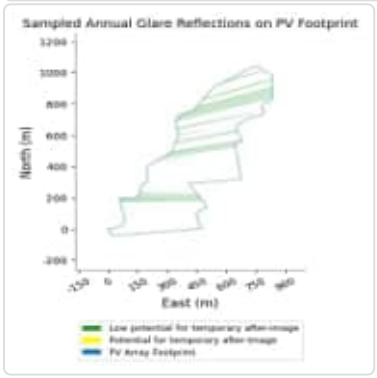
PV array is expected to produce the following glare for this receptor:

- 15 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 28

No glare found

Central Array: OP 29

No glare found

Central Array: OP 30

No glare found

Central Array: OP 31

No glare found

Central Array: OP 32

No glare found

Central Array: OP 33

No glare found

Central Array: OP 34

No glare found

Central Array: OP 35

No glare found

Central Array: OP 36

No glare found

Central Array: OP 37

No glare found

Central Array: OP 38

No glare found

Central Array: OP 39

No glare found

Central Array: OP 40

No glare found

Central Array: OP 41

No glare found

Central Array: OP 42

No glare found

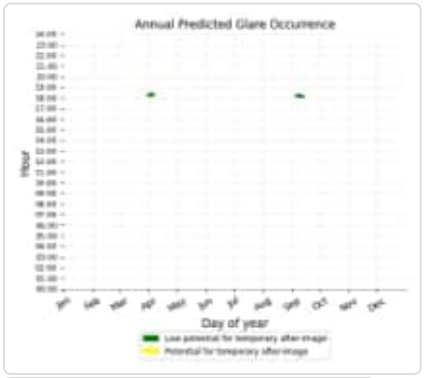
Central Array: OP 43

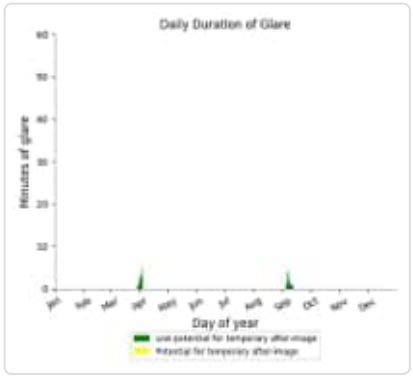
No glare found

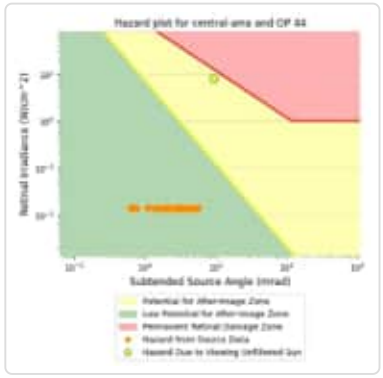
Central Array: OP 44

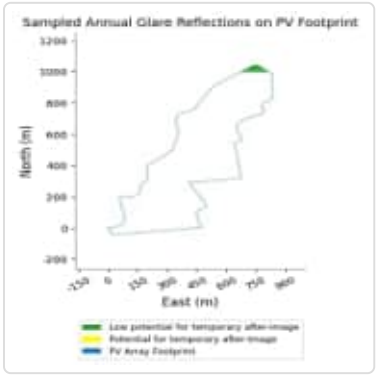
PV array is expected to produce the following glare for this receptor:

- 30 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





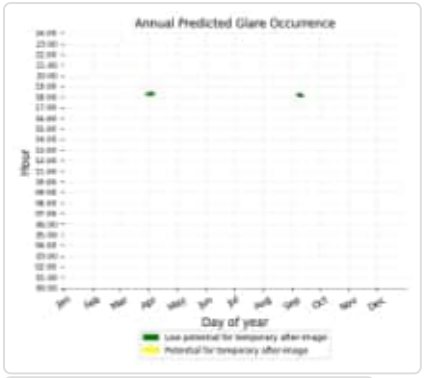


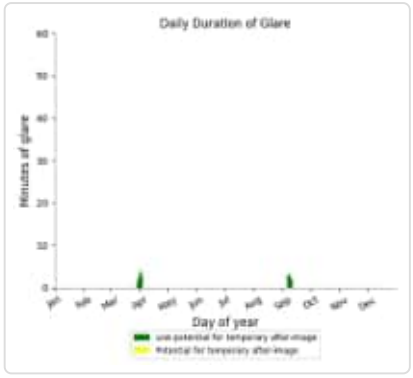


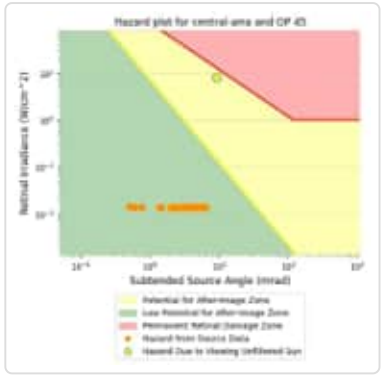
Central Array: OP 45

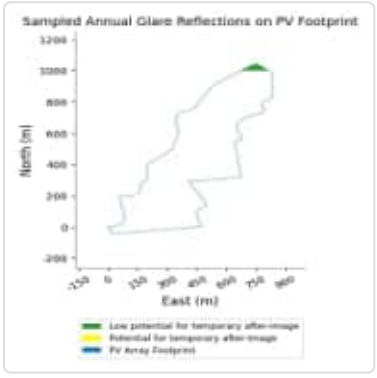
PV array is expected to produce the following glare for this receptor:

- 36 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









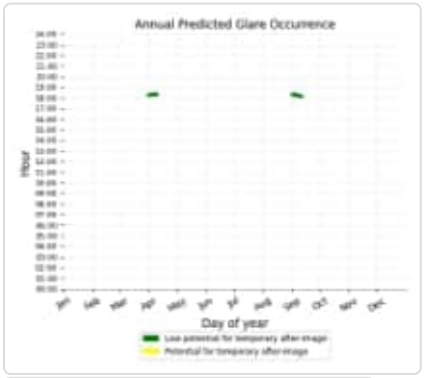
Central Array: OP 46

No glare found

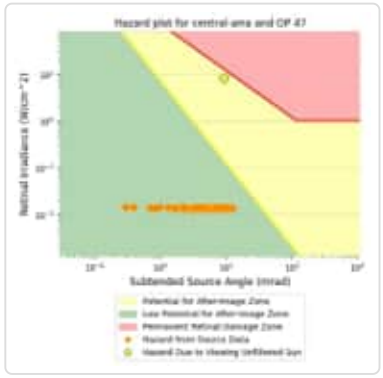
Central Array: OP 47

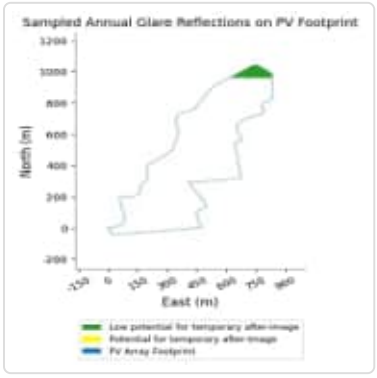
PV array is expected to produce the following glare for this receptor:

- 71 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





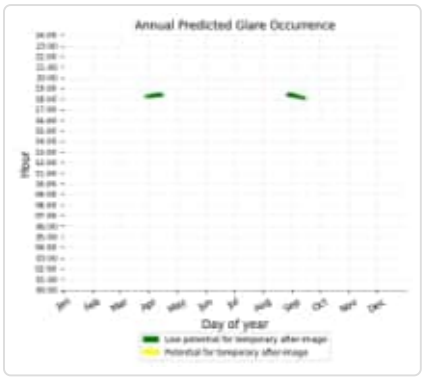




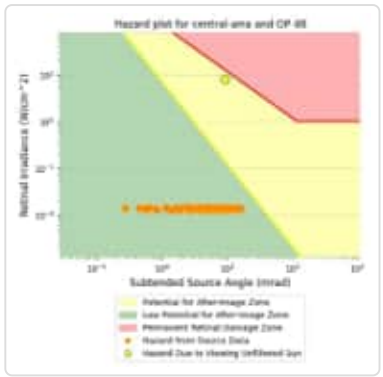
Central Array: OP 48

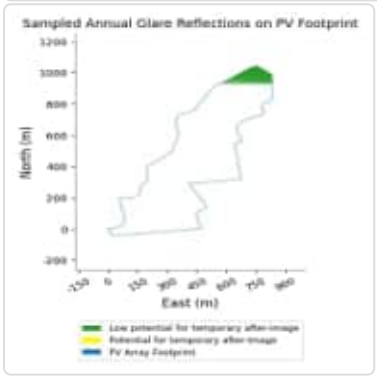
PV array is expected to produce the following glare for this receptor:

- 162 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





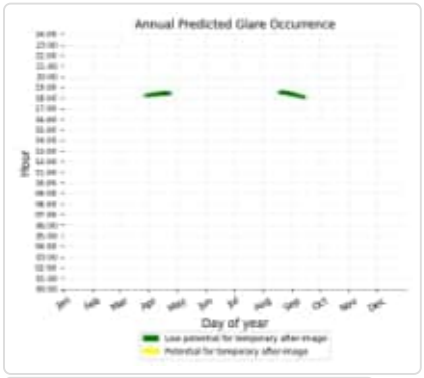


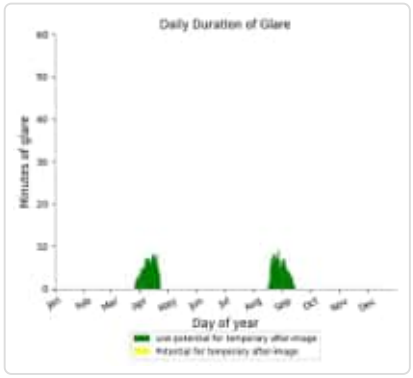


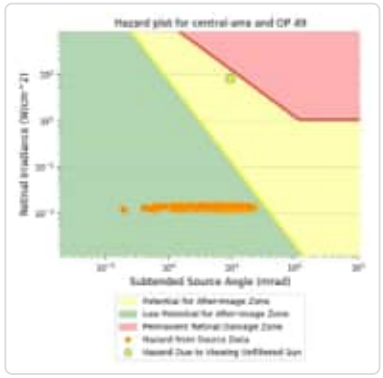
Central Array: OP 49

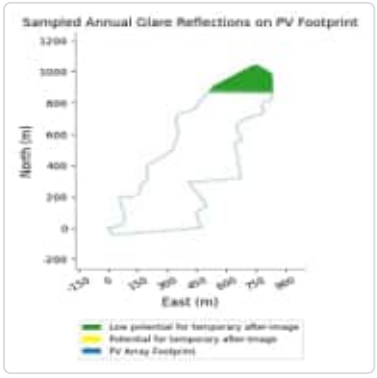
PV array is expected to produce the following glare for this receptor:

- 300 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





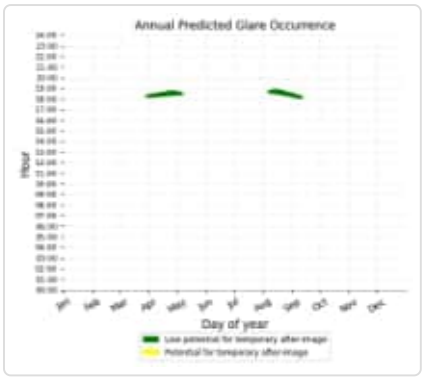


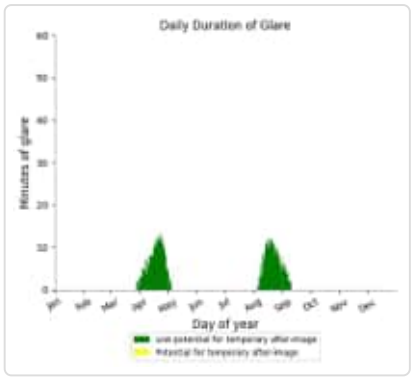


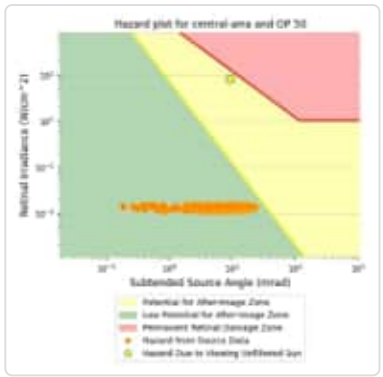
Central Array: OP 50

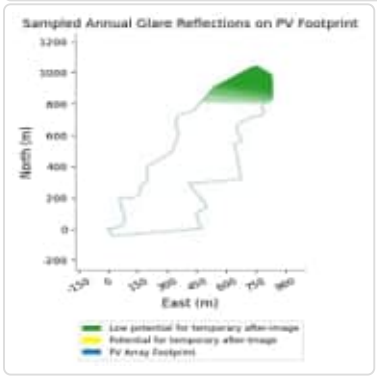
PV array is expected to produce the following glare for this receptor:

- 525 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





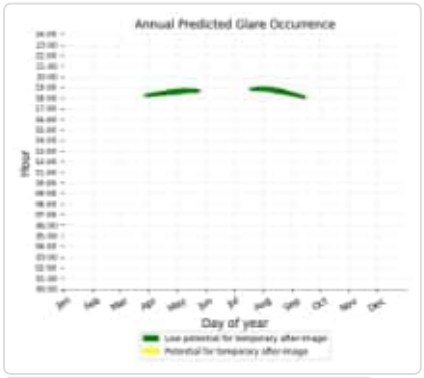


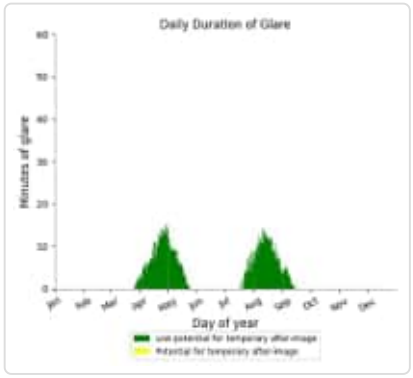


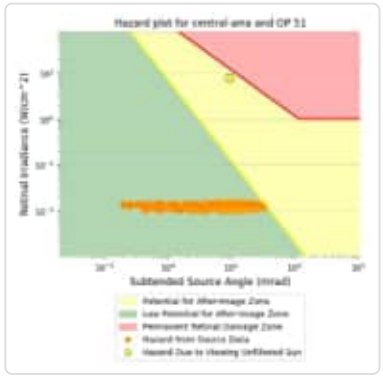
Central Array: OP 51

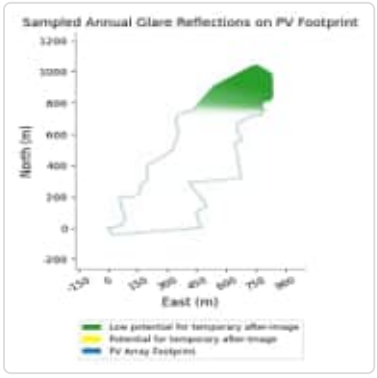
PV array is expected to produce the following glare for this receptor:

- 841 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





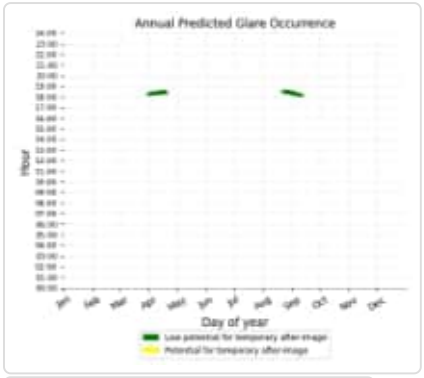




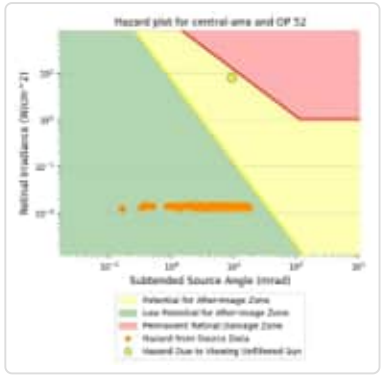
Central Array: OP 52

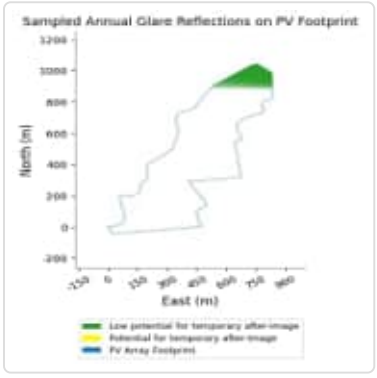
PV array is expected to produce the following glare for this receptor:

- 220 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









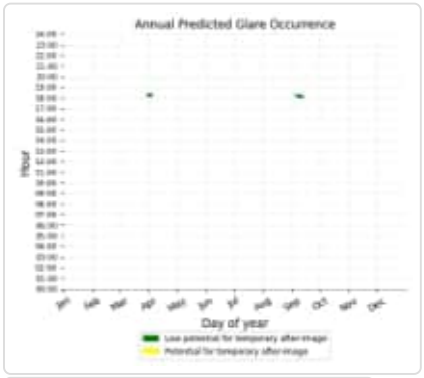
Central Array: OP 53

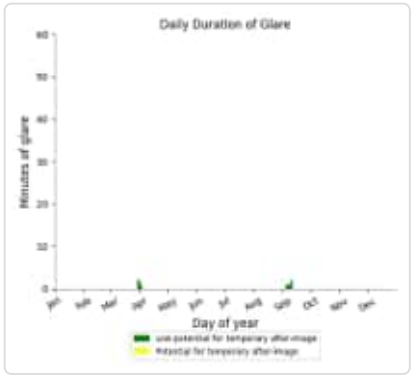
No glare found

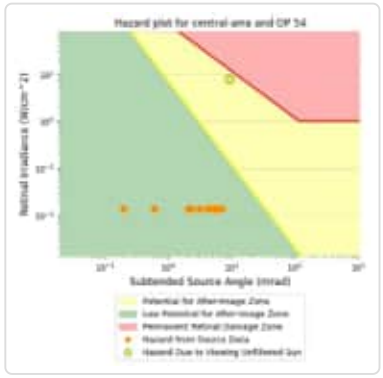
Central Array: OP 54

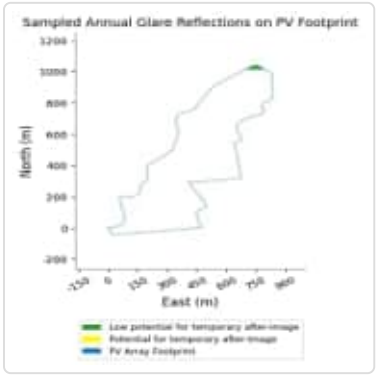
PV array is expected to produce the following glare for this receptor:

- 17 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





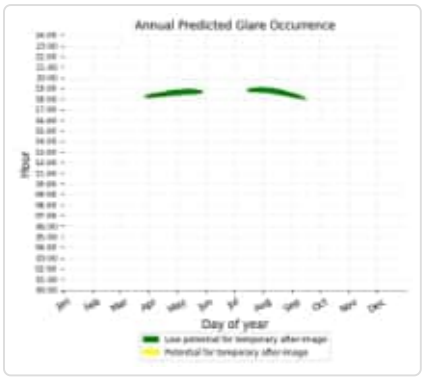




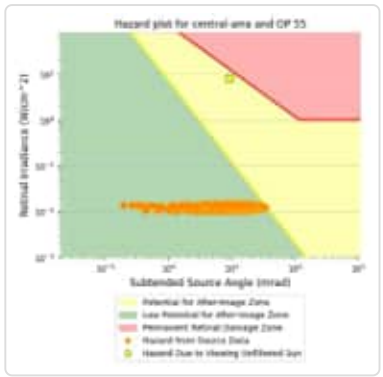
Central Array: OP 55

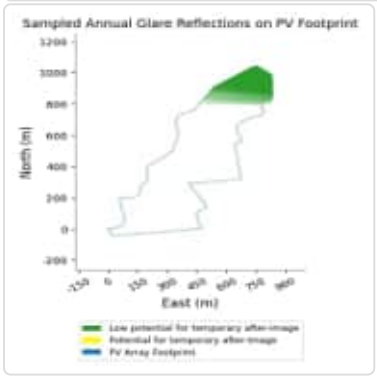
PV array is expected to produce the following glare for this receptor:

- 1,111 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





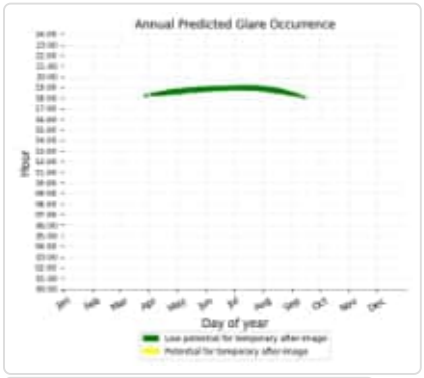




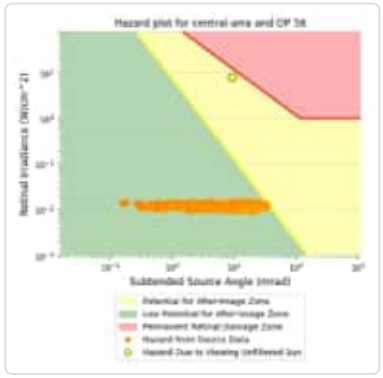
Central Array: OP 56

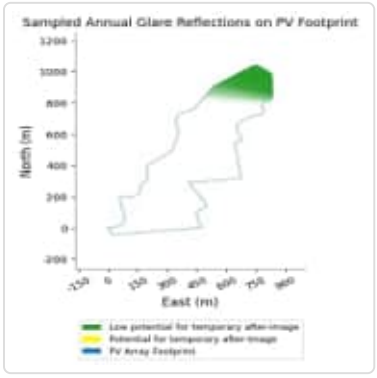
PV array is expected to produce the following glare for this receptor:

- 1,736 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





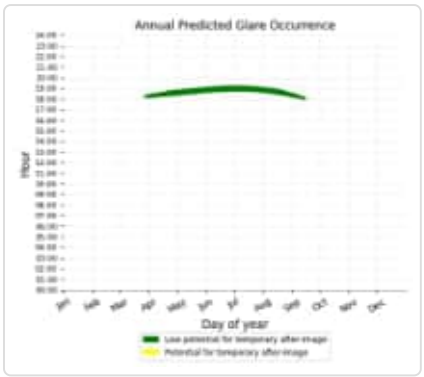


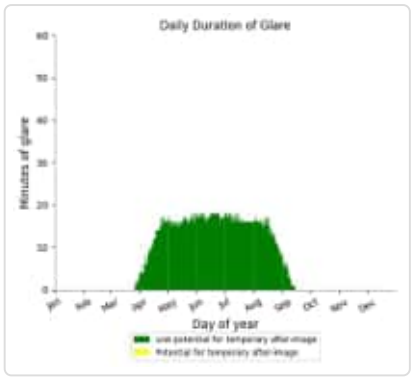


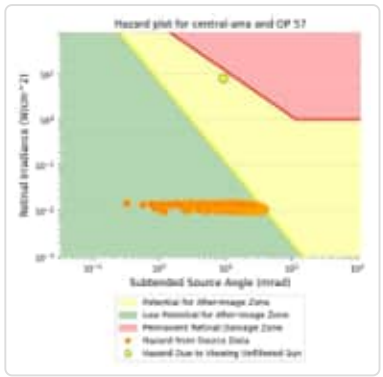
Central Array: OP 57

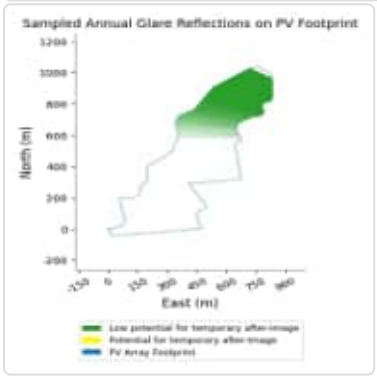
PV array is expected to produce the following glare for this receptor:

- 2,370 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





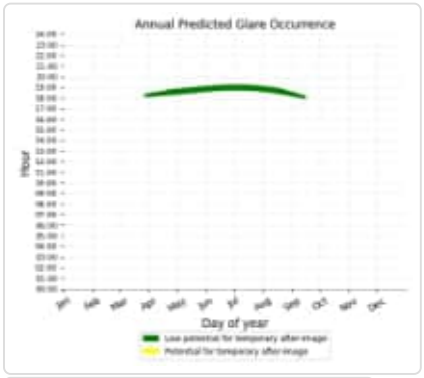




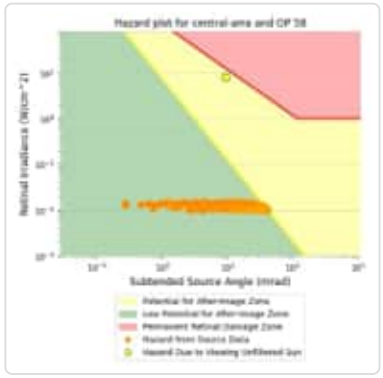
Central Array: OP 58

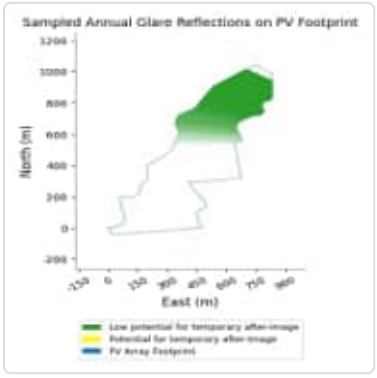
PV array is expected to produce the following glare for this receptor:

- 2,364 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





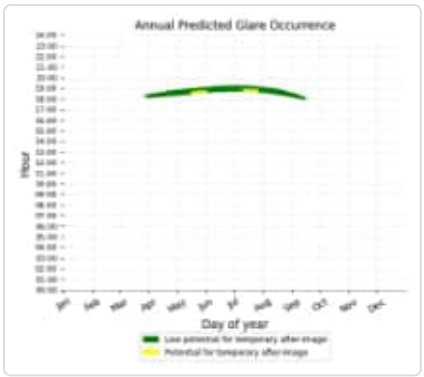




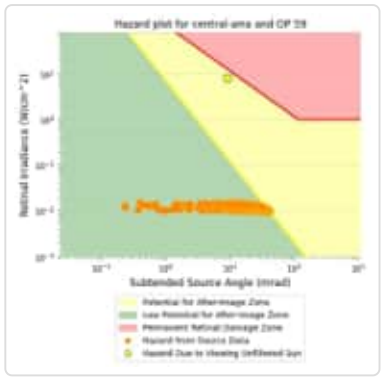
Central Array: OP 59

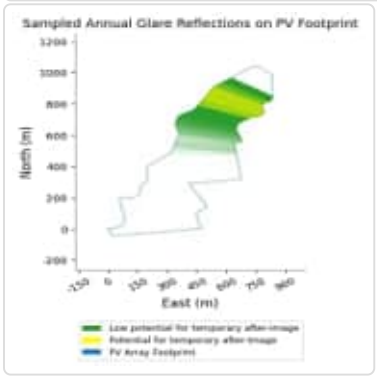
PV array is expected to produce the following glare for this receptor:

- 2,302 minutes of "green" glare with low potential to cause temporary after-image.
- 25 minutes of "yellow" glare with potential to cause temporary after-image.





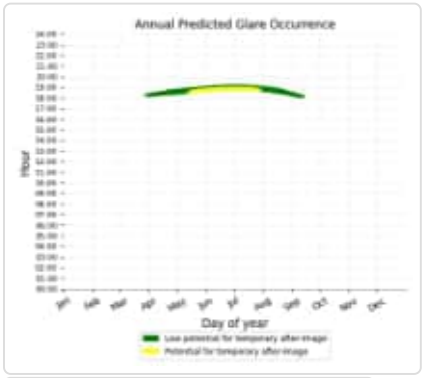


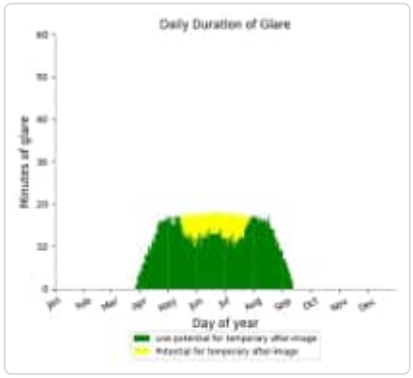


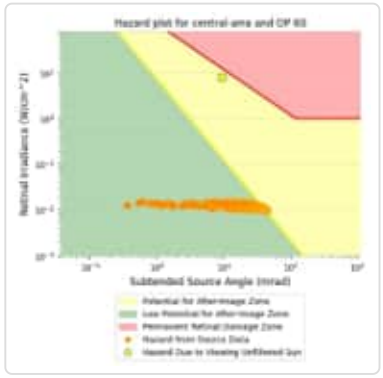
Central Array: OP 60

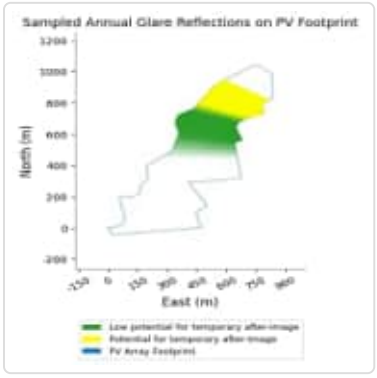
PV array is expected to produce the following glare for this receptor:

- 2,070 minutes of "green" glare with low potential to cause temporary after-image.
- 377 minutes of "yellow" glare with potential to cause temporary after-image.





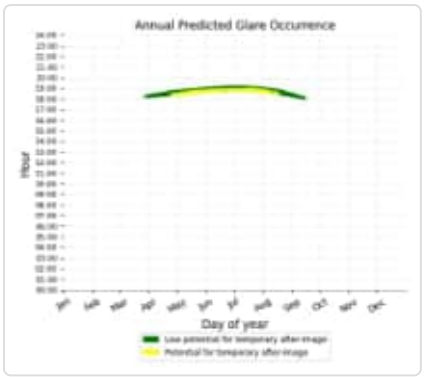


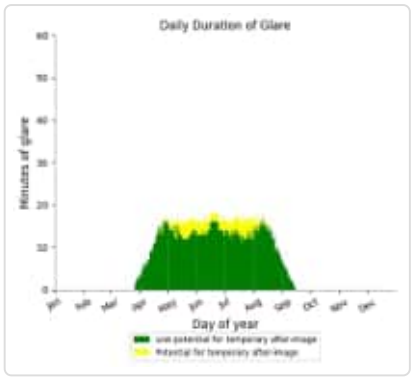


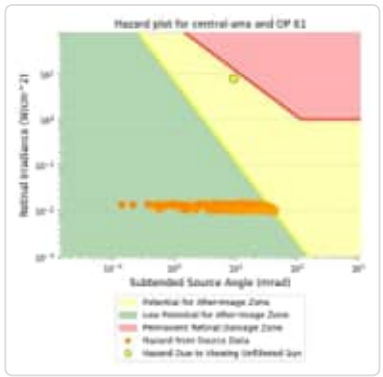
Central Array: OP 61

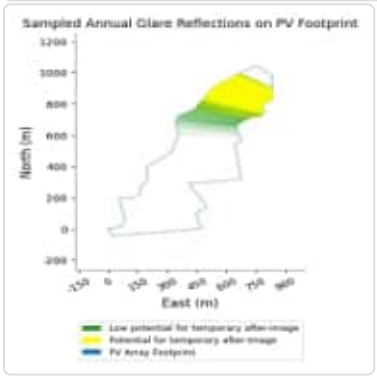
PV array is expected to produce the following glare for this receptor:

- 2,010 minutes of "green" glare with low potential to cause temporary after-image.
- 293 minutes of "yellow" glare with potential to cause temporary after-image.





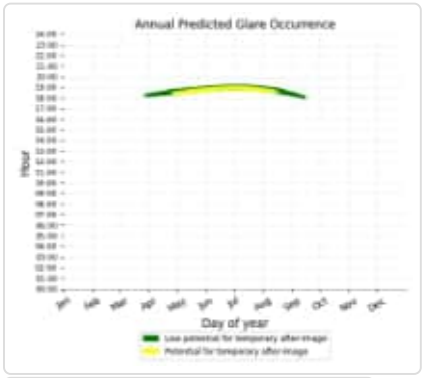


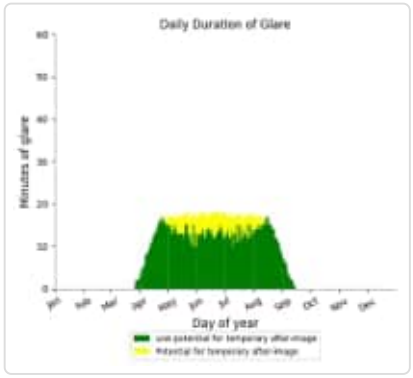


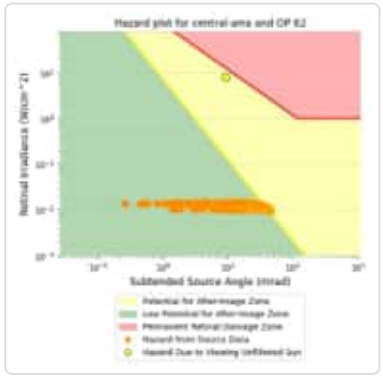
Central Array: OP 62

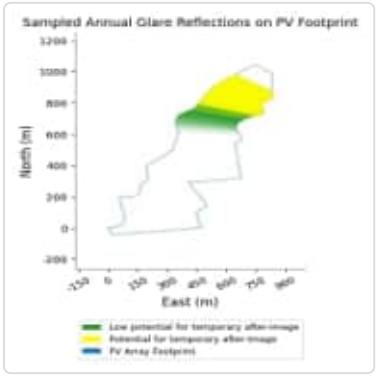
PV array is expected to produce the following glare for this receptor:

- 2,040 minutes of "green" glare with low potential to cause temporary after-image.
- 423 minutes of "yellow" glare with potential to cause temporary after-image.





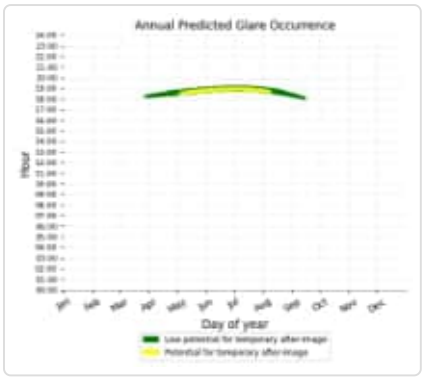


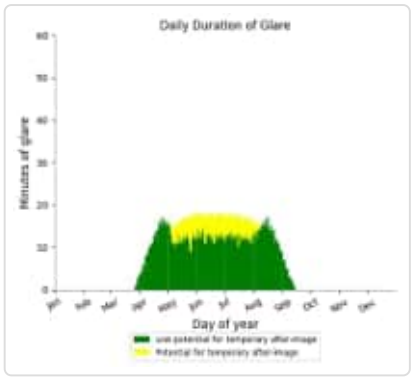


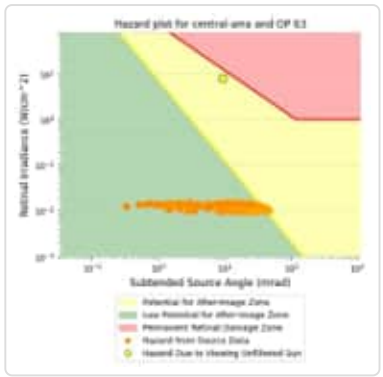
Central Array: OP 63

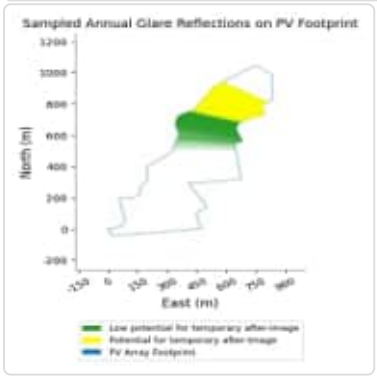
PV array is expected to produce the following glare for this receptor:

- 1,946 minutes of "green" glare with low potential to cause temporary after-image.
- 466 minutes of "yellow" glare with potential to cause temporary after-image.





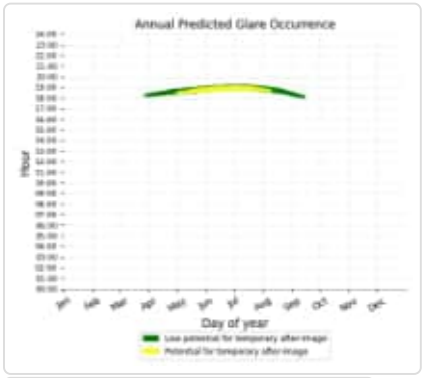


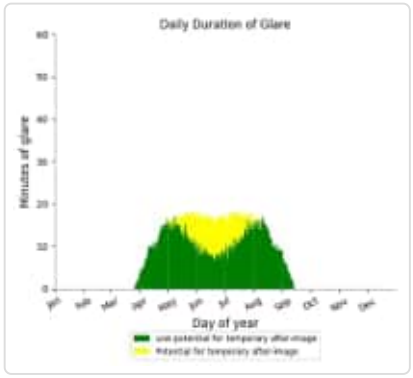


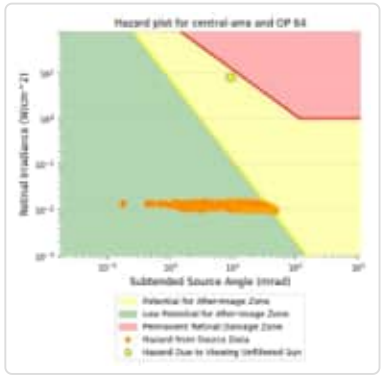
Central Array: OP 64

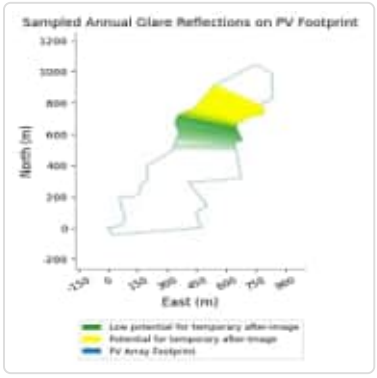
PV array is expected to produce the following glare for this receptor:

- 1,810 minutes of "green" glare with low potential to cause temporary after-image.
- 546 minutes of "yellow" glare with potential to cause temporary after-image.









East Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	1140	0
OP: OP 6	1055	0
OP: OP 7	1074	0
OP: OP 8	1076	0
OP: OP 9	1064	0
OP: OP 10	1079	0
OP: OP 11	1222	0
OP: OP 12	1218	0
OP: OP 13	1314	0
OP: OP 14	1359	0
OP: OP 15	1420	0
OP: OP 16	1577	0
OP: OP 17	1354	0
OP: OP 18	1408	0
OP: OP 19	1610	0
OP: OP 20	1659	0
OP: OP 21	1828	0
OP: OP 22	2065	0
OP: OP 23	2017	0
OP: OP 24	1627	0
OP: OP 25	1705	0

OP: OP 26	1844	0
OP: OP 27	2059	0
OP: OP 28	1560	0
OP: OP 29	2766	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	144	0
OP: OP 48	264	0
OP: OP 49	568	0
OP: OP 50	1122	0
OP: OP 51	2229	0
OP: OP 52	447	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	2808	0
OP: OP 56	3208	0
OP: OP 57	3196	0
OP: OP 58	3188	0
OP: OP 59	3190	0
OP: OP 60	3207	0
OP: OP 61	3161	0
OP: OP 62	3198	0
OP: OP 63	3215	0
OP: OP 64	3252	0

East Array: OP 1

No glare found

East Array: OP 2

No glare found

East Array: OP 3

No glare found

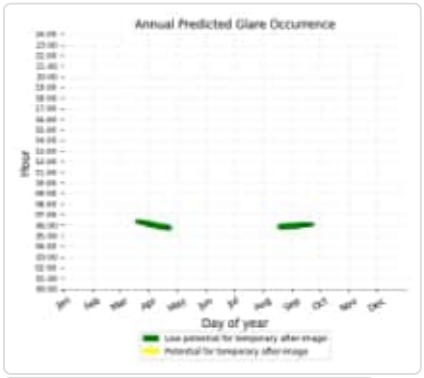
East Array: OP 4

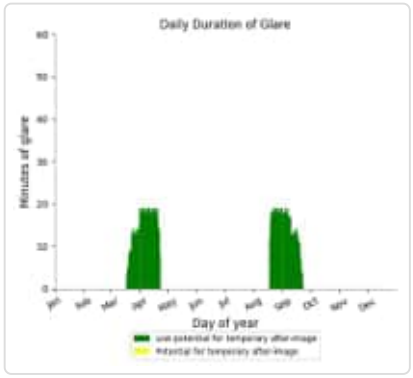
No glare found

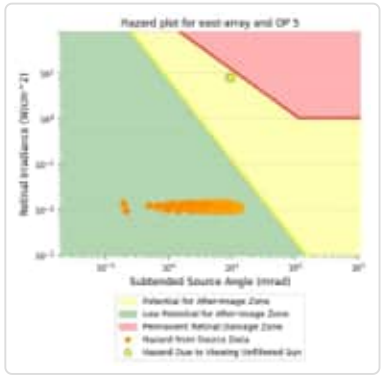
East Array: OP 5

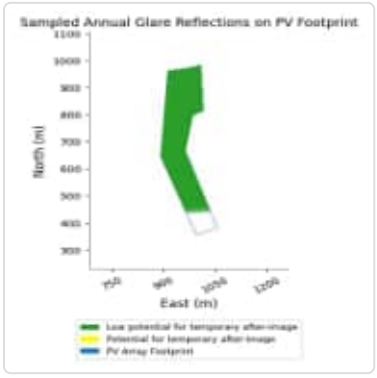
PV array is expected to produce the following glare for this receptor:

- 1,140 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





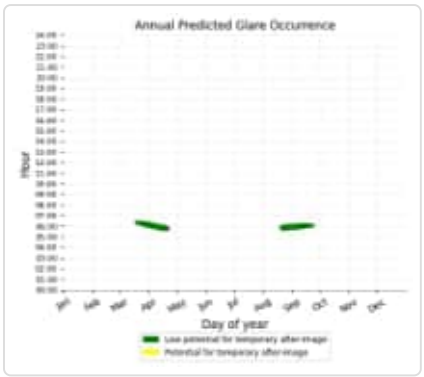




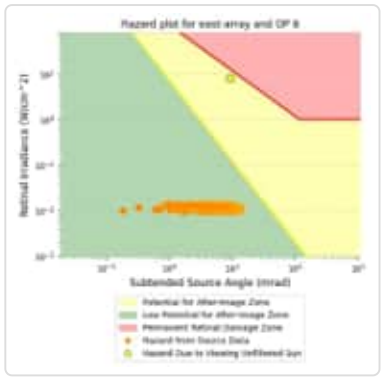
East Array: OP 6

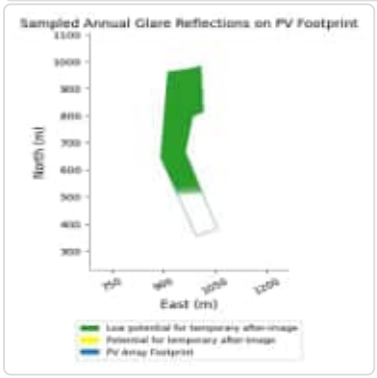
PV array is expected to produce the following glare for this receptor:

- 1,055 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





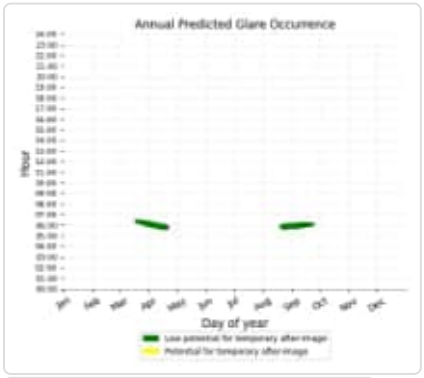




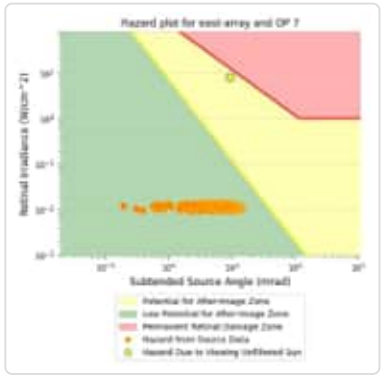
East Array: OP 7

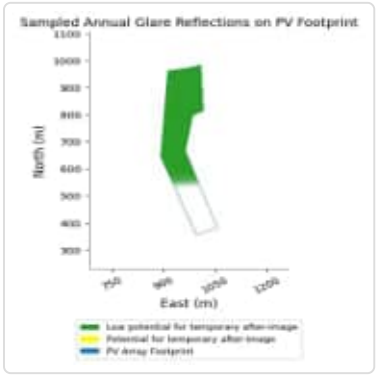
PV array is expected to produce the following glare for this receptor:

- 1,074 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





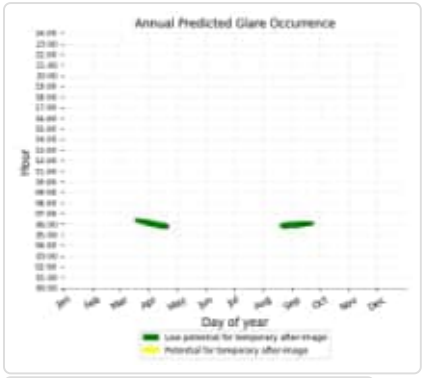




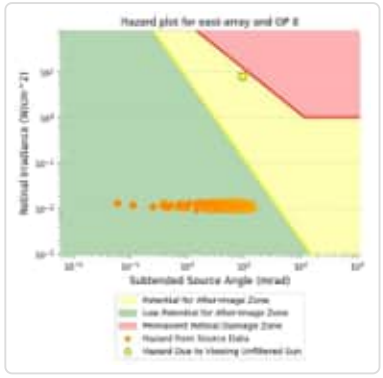
East Array: OP 8

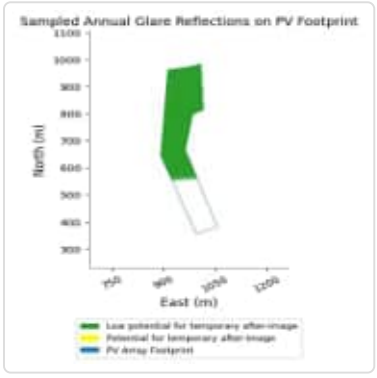
PV array is expected to produce the following glare for this receptor:

- 1,076 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





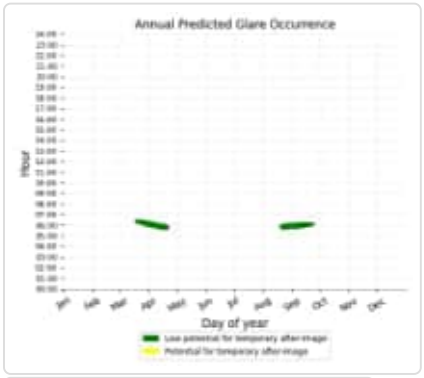


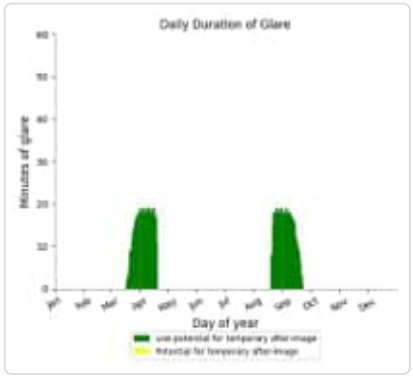


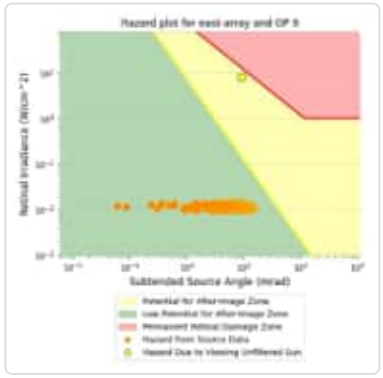
East Array: OP 9

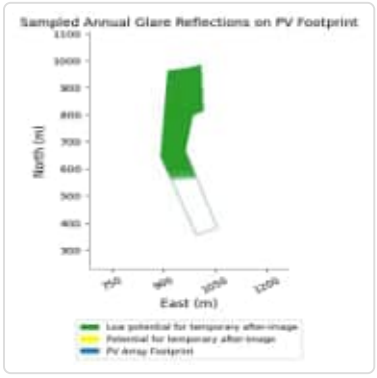
PV array is expected to produce the following glare for this receptor:

- 1,064 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





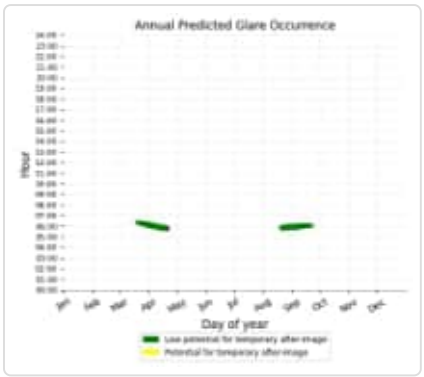




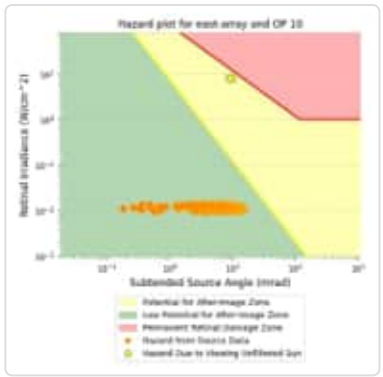
East Array: OP 10

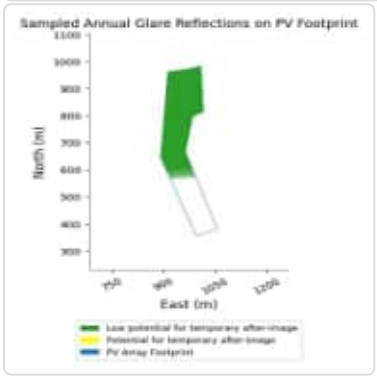
PV array is expected to produce the following glare for this receptor:

- 1,079 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





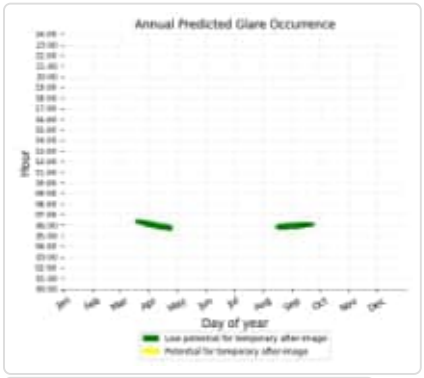




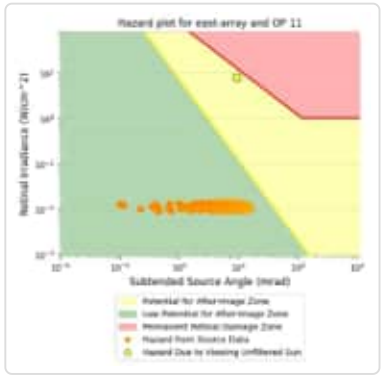
East Array: OP 11

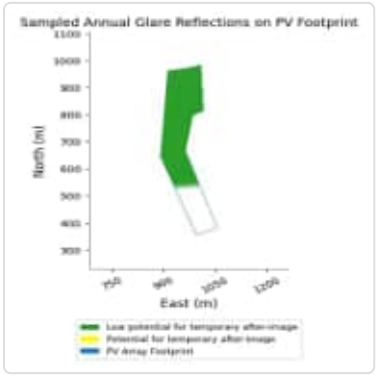
PV array is expected to produce the following glare for this receptor:

- 1,222 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





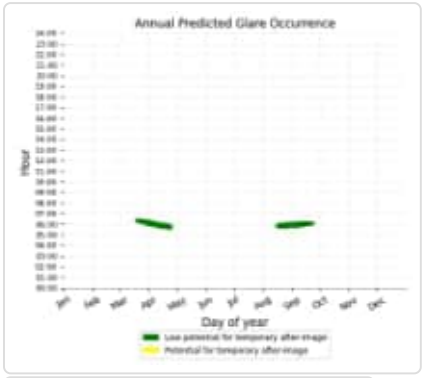




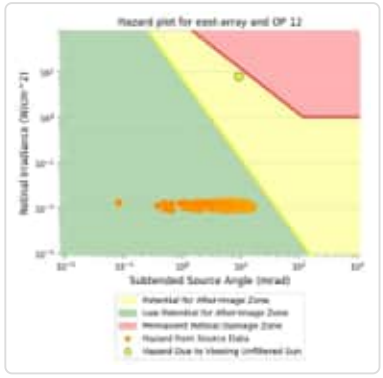
East Array: OP 12

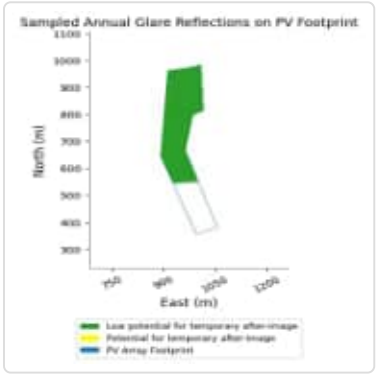
PV array is expected to produce the following glare for this receptor:

- 1,218 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





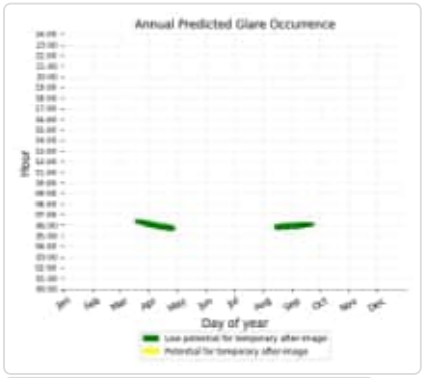




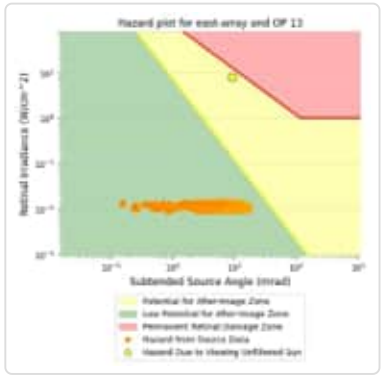
East Array: OP 13

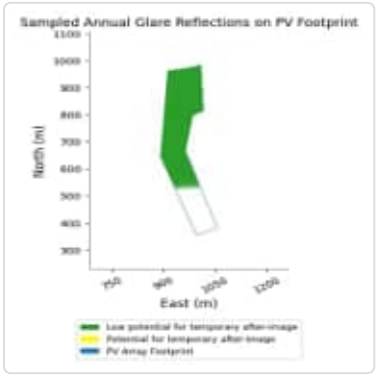
PV array is expected to produce the following glare for this receptor:

- 1,314 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





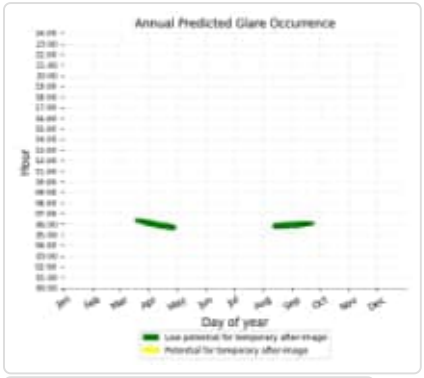




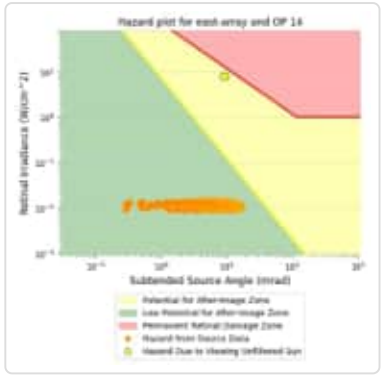
East Array: OP 14

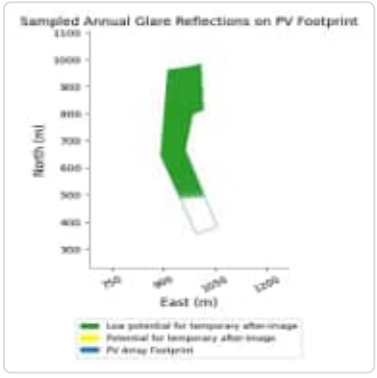
PV array is expected to produce the following glare for this receptor:

- 1,359 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





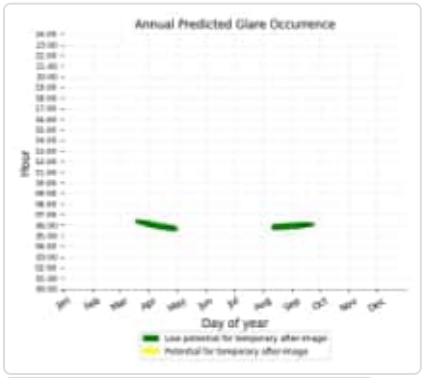




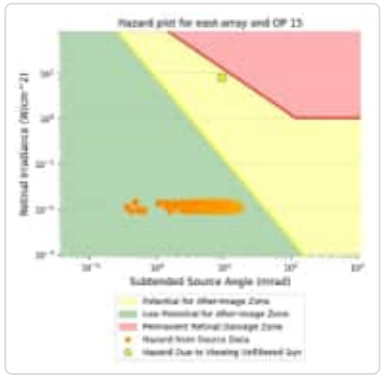
East Array: OP 15

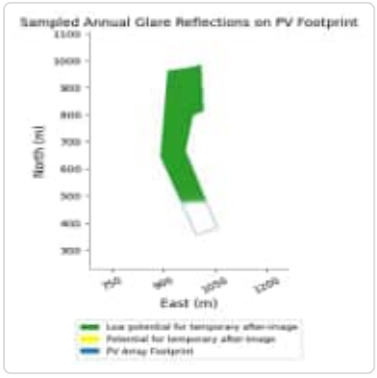
PV array is expected to produce the following glare for this receptor:

- 1,420 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





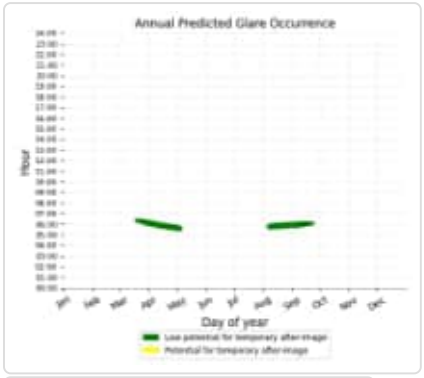




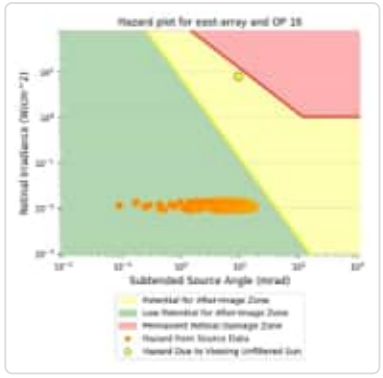
East Array: OP 16

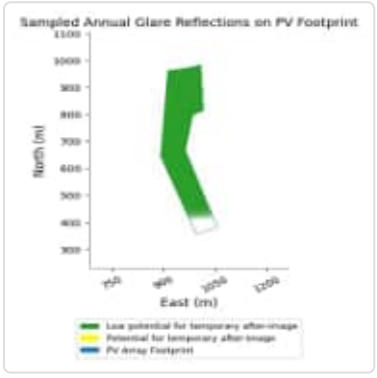
PV array is expected to produce the following glare for this receptor:

- 1,577 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





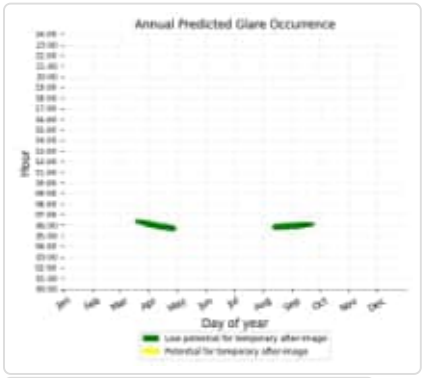




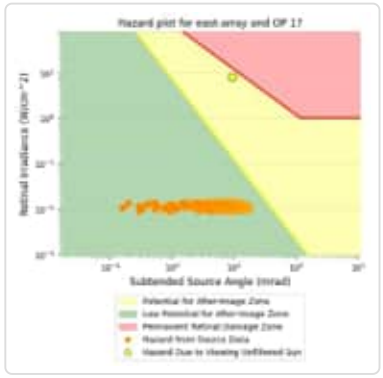
East Array: OP 17

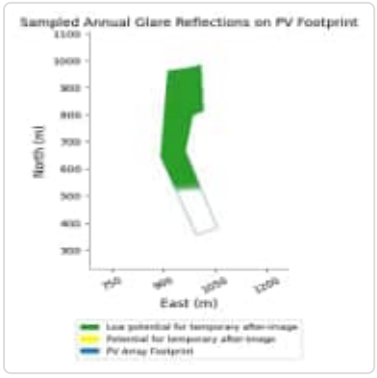
PV array is expected to produce the following glare for this receptor:

- 1,354 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





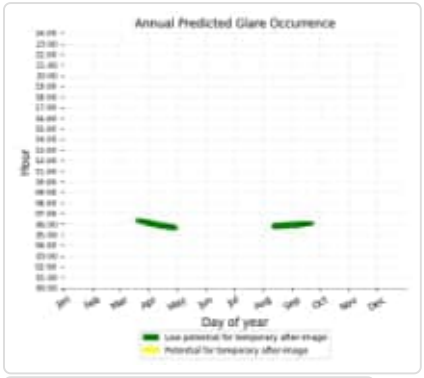




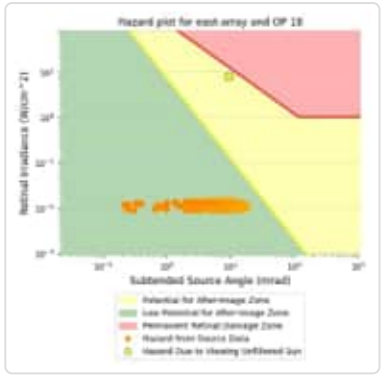
East Array: OP 18

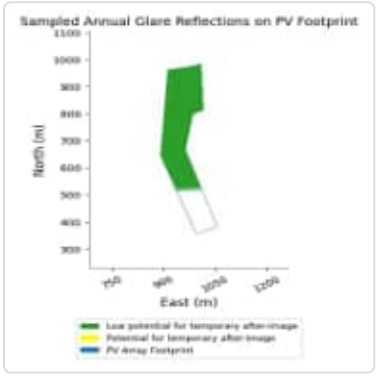
PV array is expected to produce the following glare for this receptor:

- 1,408 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





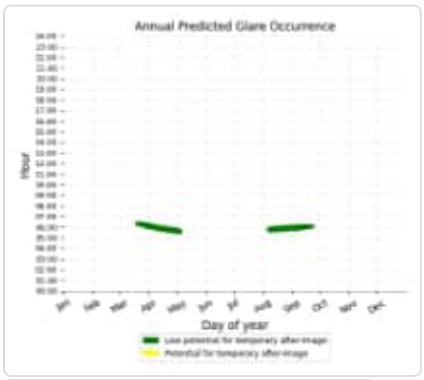


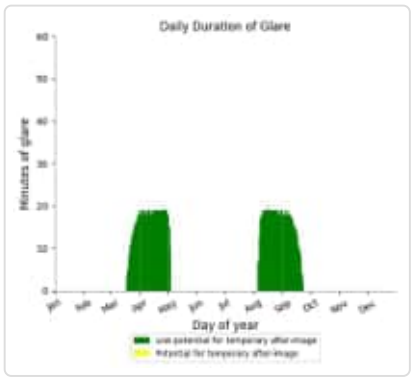


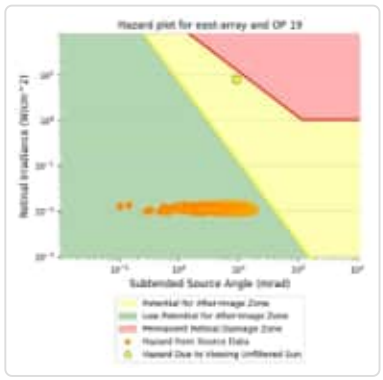
East Array: OP 19

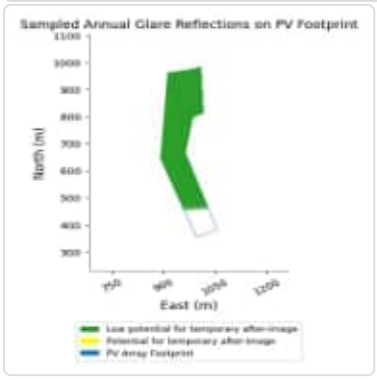
PV array is expected to produce the following glare for this receptor:

- 1,610 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





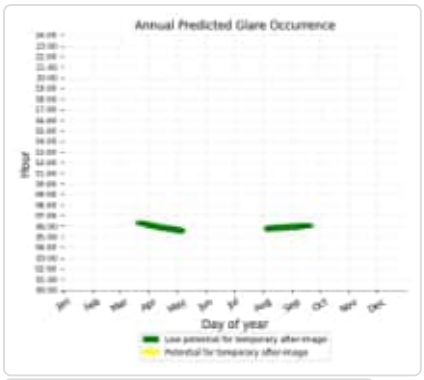




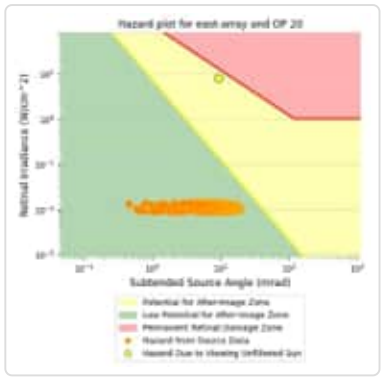
East Array: OP 20

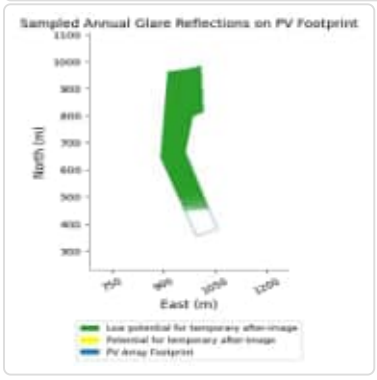
PV array is expected to produce the following glare for this receptor:

- 1,659 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





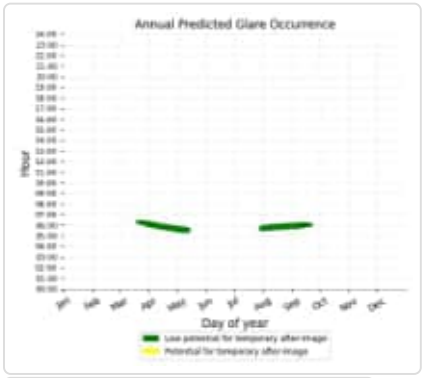




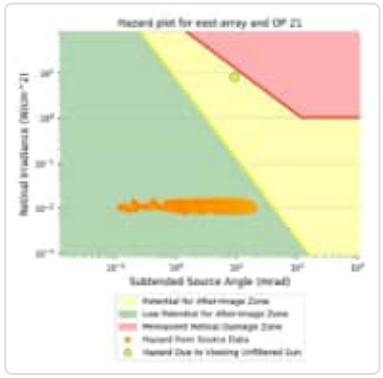
East Array: OP 21

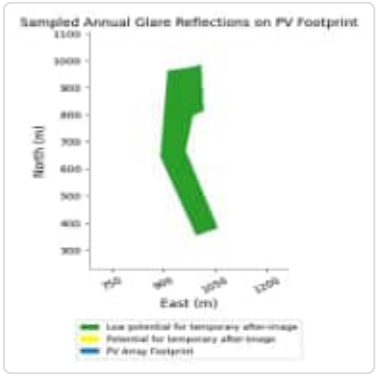
PV array is expected to produce the following glare for this receptor:

- 1,828 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





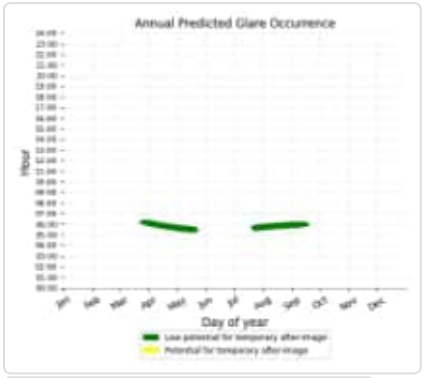


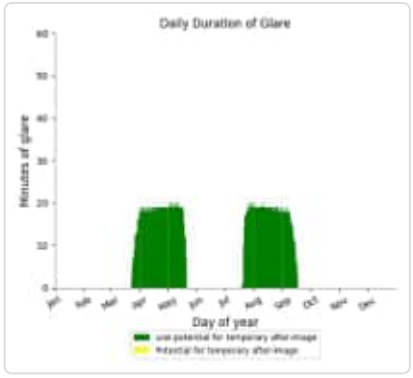


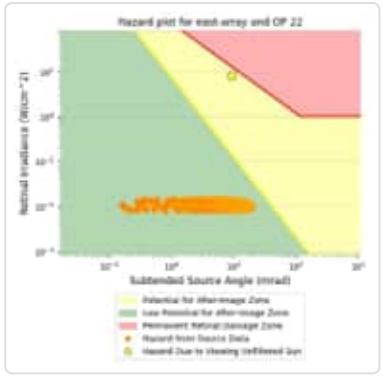
East Array: OP 22

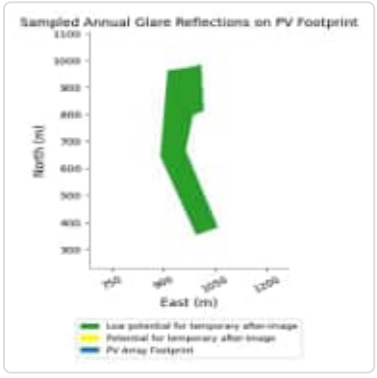
PV array is expected to produce the following glare for this receptor:

- 2,065 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





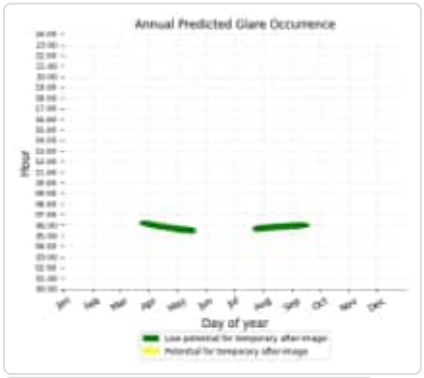


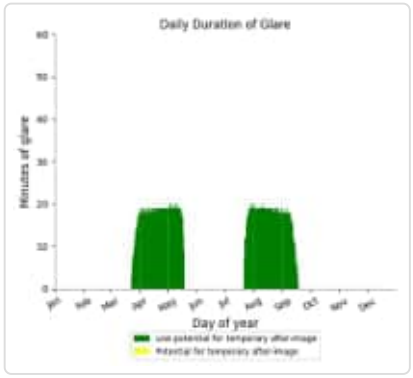


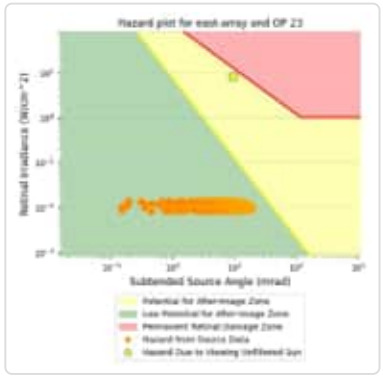
East Array: OP 23

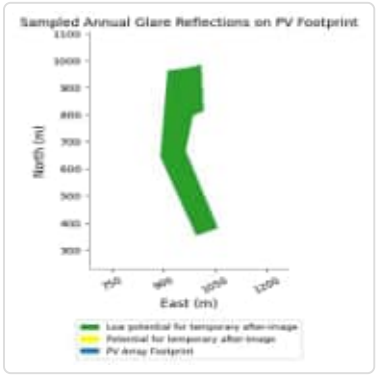
PV array is expected to produce the following glare for this receptor:

- 2,017 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





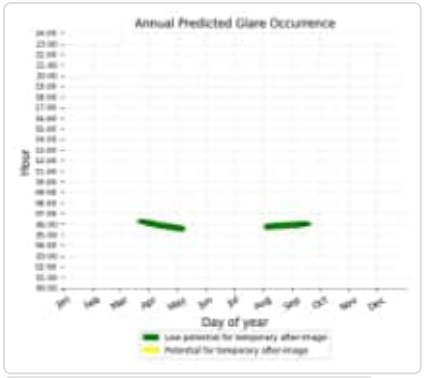




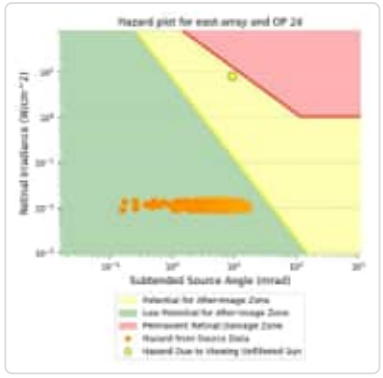
East Array: OP 24

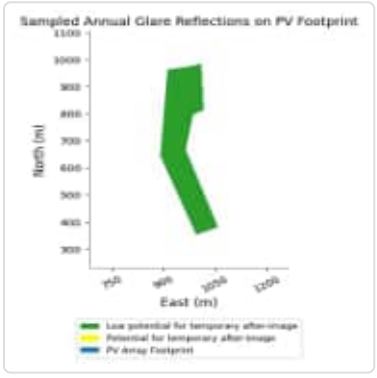
PV array is expected to produce the following glare for this receptor:

- 1,627 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





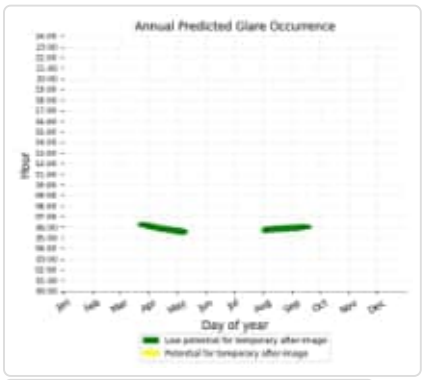




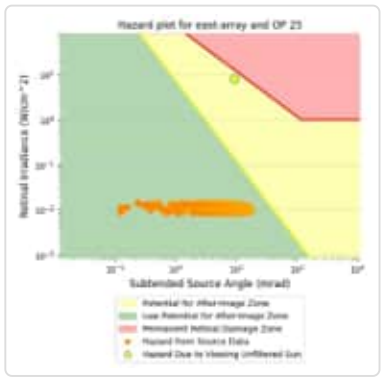
East Array: OP 25

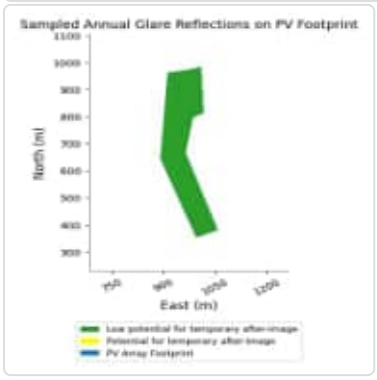
PV array is expected to produce the following glare for this receptor:

- 1,705 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





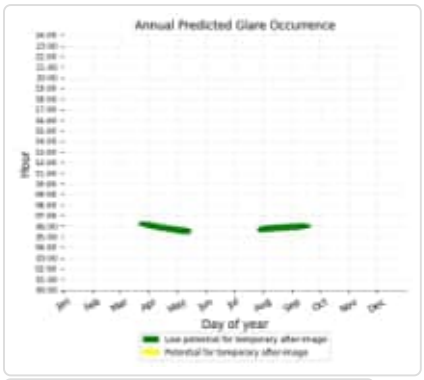




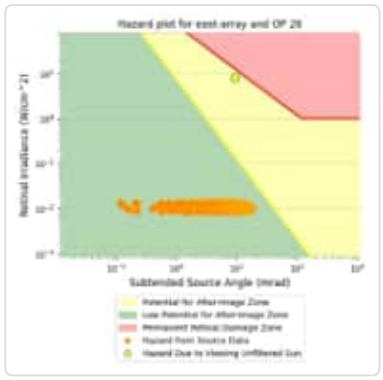
East Array: OP 26

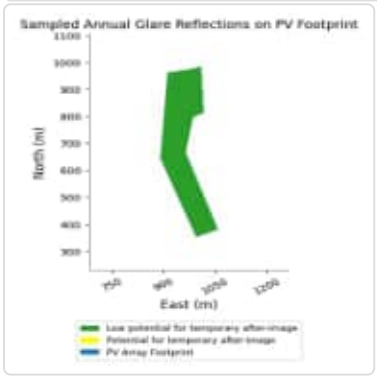
PV array is expected to produce the following glare for this receptor:

- 1,844 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





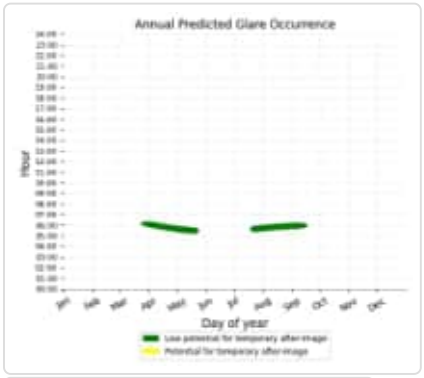




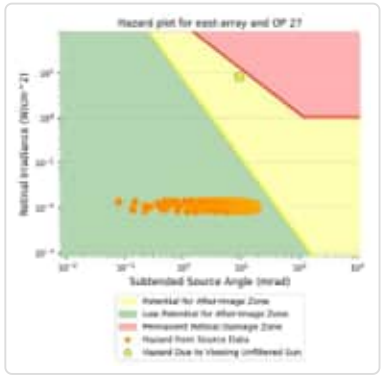
East Array: OP 27

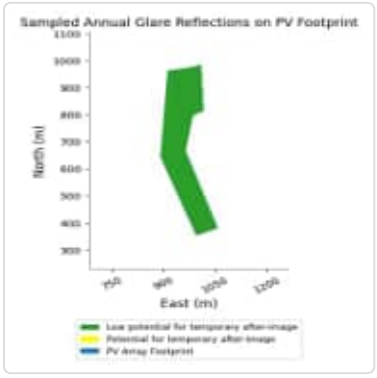
PV array is expected to produce the following glare for this receptor:

- 2,059 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





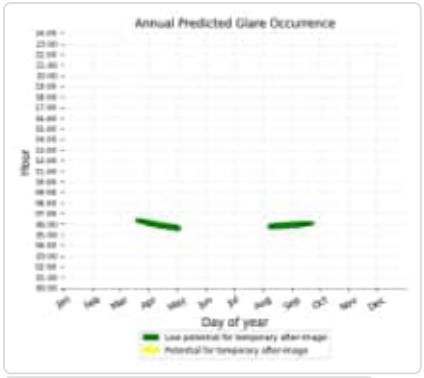




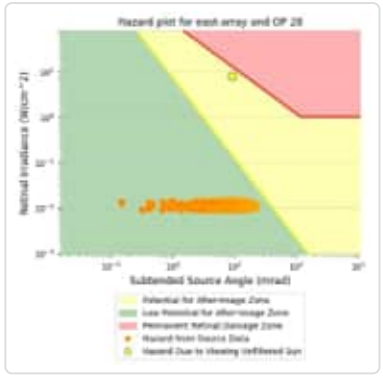
East Array: OP 28

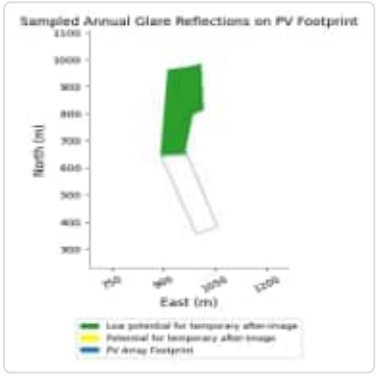
PV array is expected to produce the following glare for this receptor:

- 1,560 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





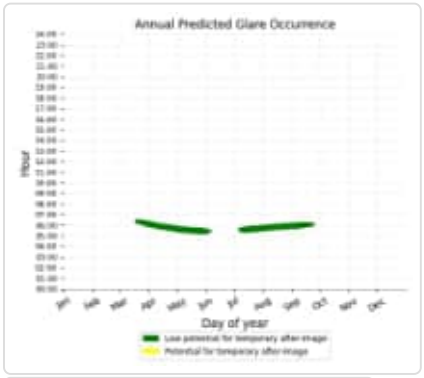


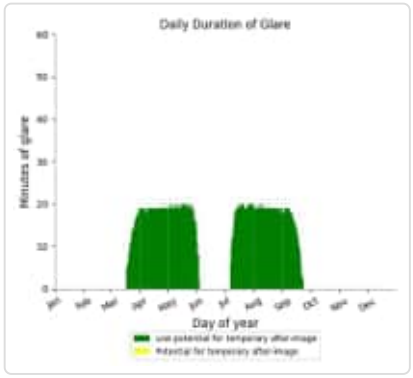


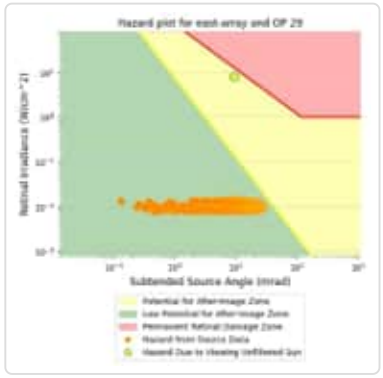
East Array: OP 29

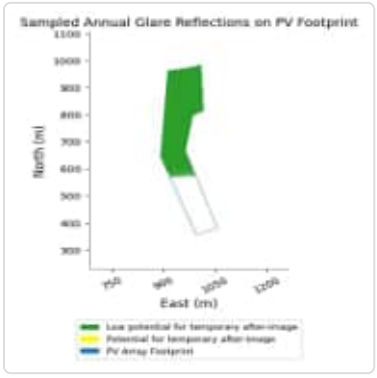
PV array is expected to produce the following glare for this receptor:

- 2,766 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 30

No glare found

East Array: OP 31

No glare found

East Array: OP 32

No glare found

East Array: OP 33

No glare found

East Array: OP 34

No glare found

East Array: OP 35

No glare found

East Array: OP 36

No glare found

East Array: OP 37

No glare found

East Array: OP 38

No glare found

East Array: OP 39

No glare found

East Array: OP 40

No glare found

East Array: OP 41

No glare found

East Array: OP 42

No glare found

East Array: OP 43

No glare found

East Array: OP 44

No glare found

East Array: OP 45

No glare found

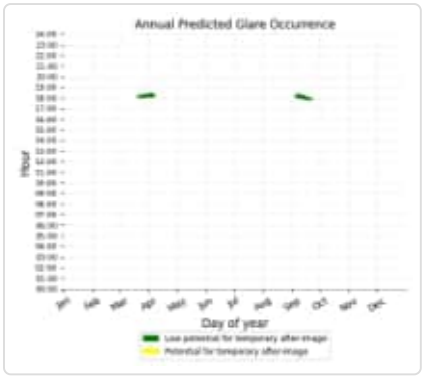
East Array: OP 46

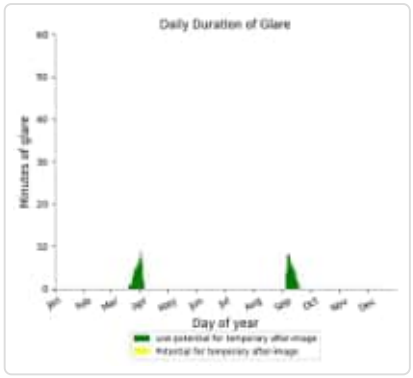
No glare found

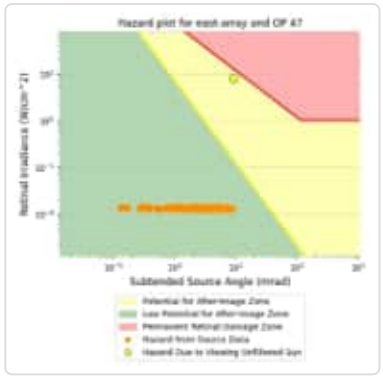
East Array: OP 47

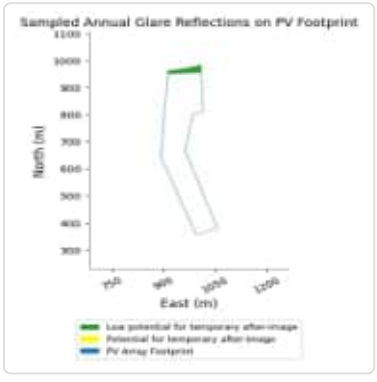
PV array is expected to produce the following glare for this receptor:

- 144 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





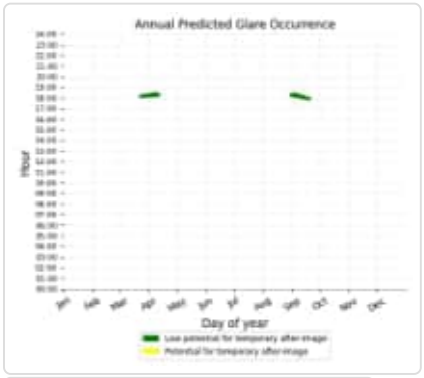




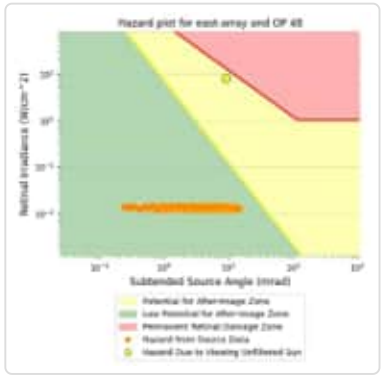
East Array: OP 48

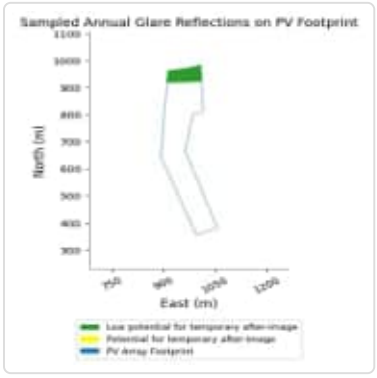
PV array is expected to produce the following glare for this receptor:

- 264 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





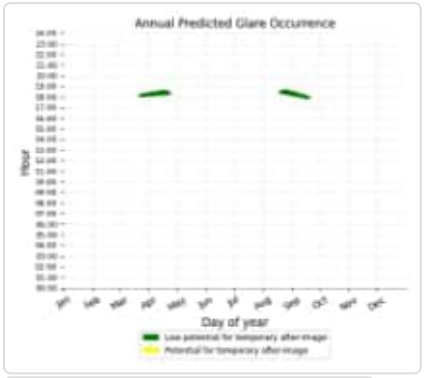




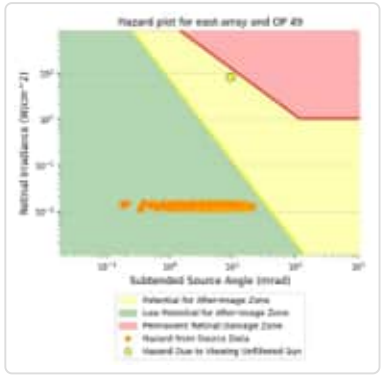
East Array: OP 49

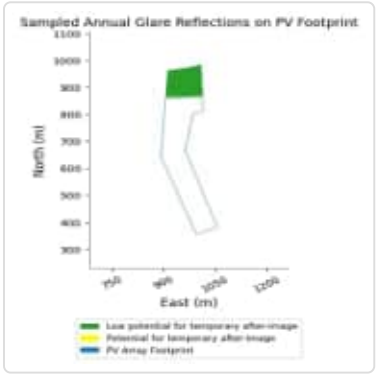
PV array is expected to produce the following glare for this receptor:

- 568 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





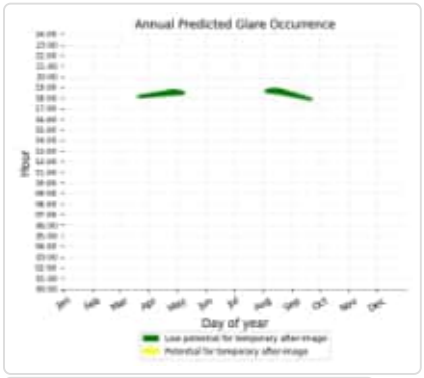




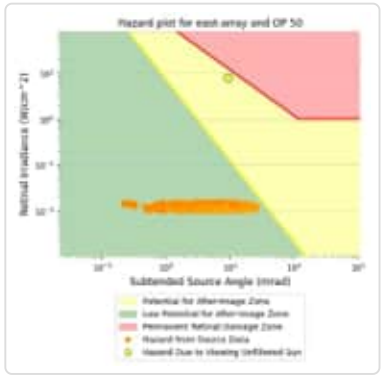
East Array: OP 50

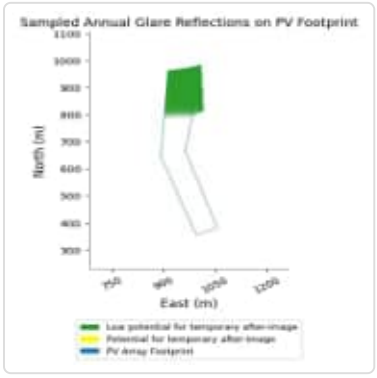
PV array is expected to produce the following glare for this receptor:

- 1,122 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





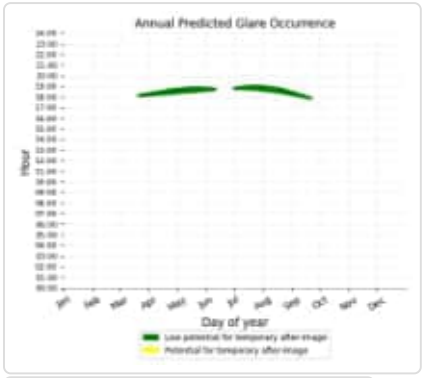




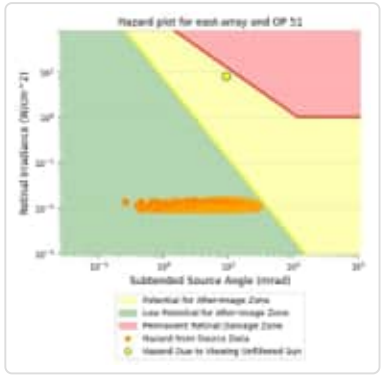
East Array: OP 51

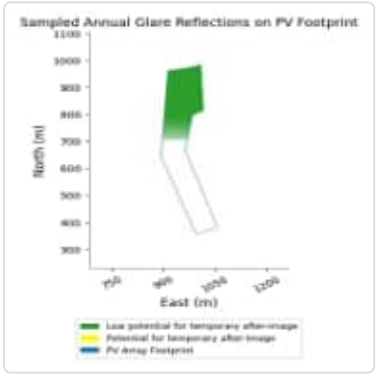
PV array is expected to produce the following glare for this receptor:

- 2,229 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





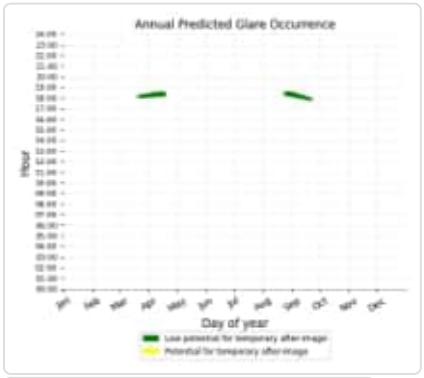




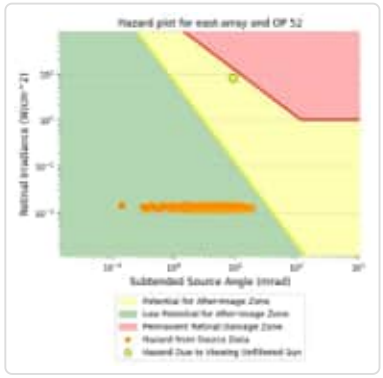
East Array: OP 52

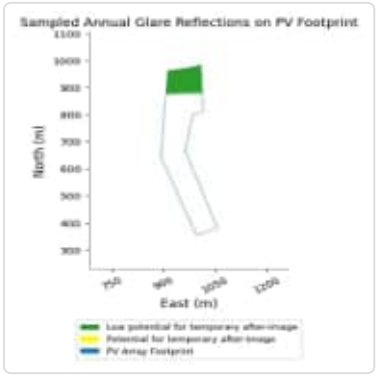
PV array is expected to produce the following glare for this receptor:

- 447 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 53

No glare found

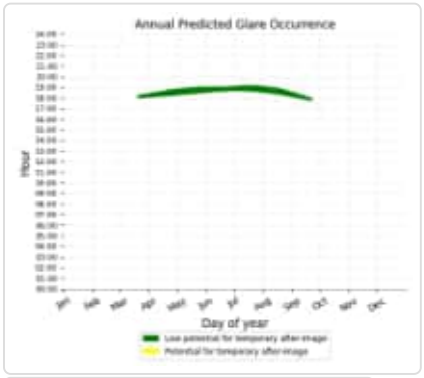
East Array: OP 54

No glare found

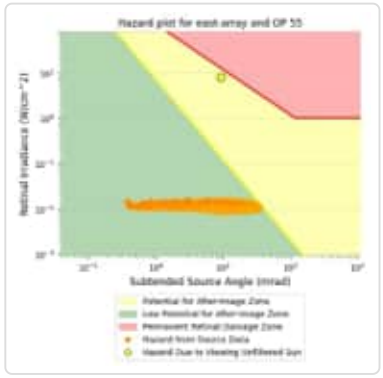
East Array: OP 55

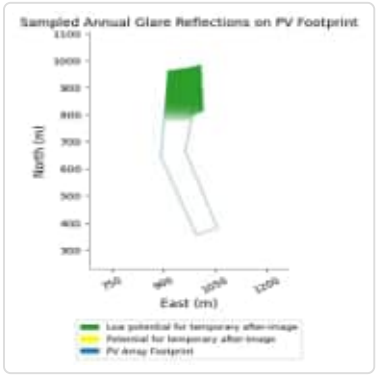
PV array is expected to produce the following glare for this receptor:

- 2,808 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





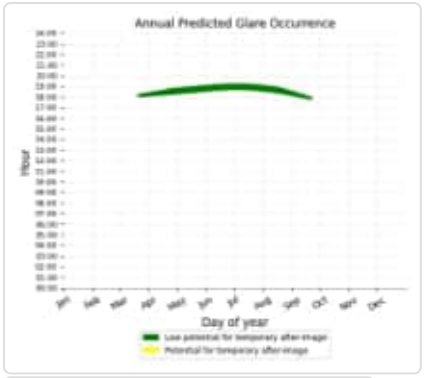




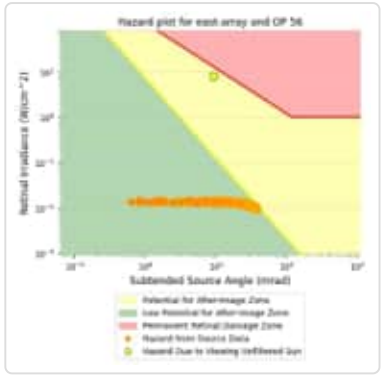
East Array: OP 56

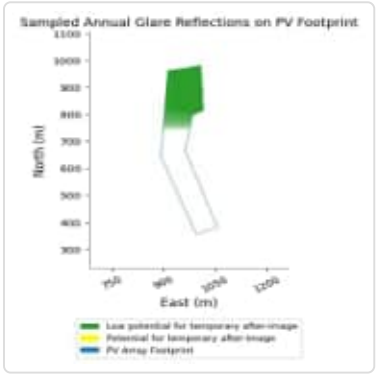
PV array is expected to produce the following glare for this receptor:

- 3,208 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





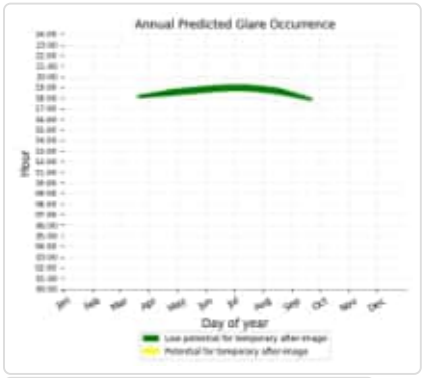




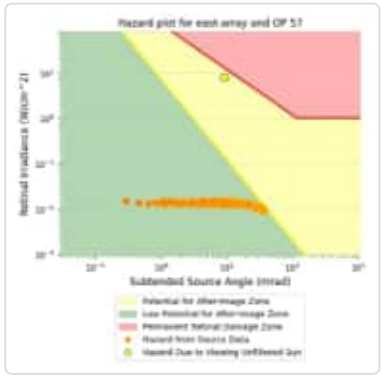
East Array: OP 57

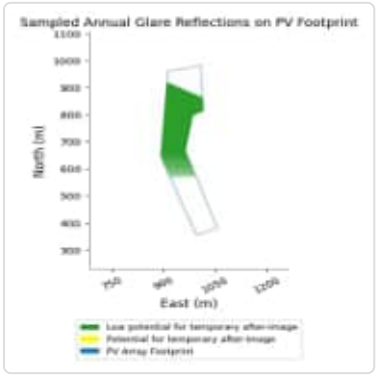
PV array is expected to produce the following glare for this receptor:

- 3,196 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





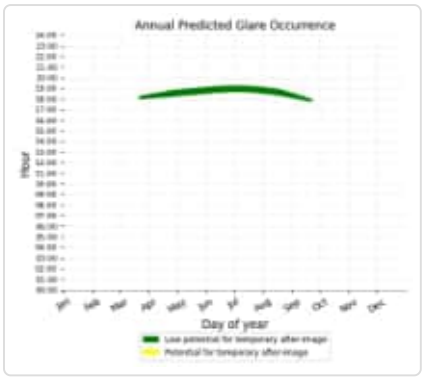




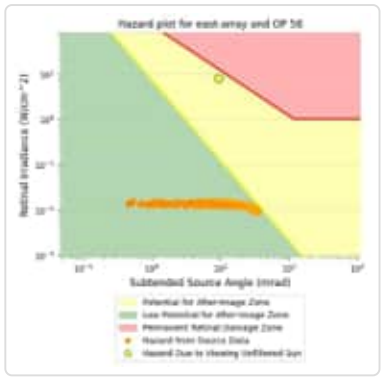
East Array: OP 58

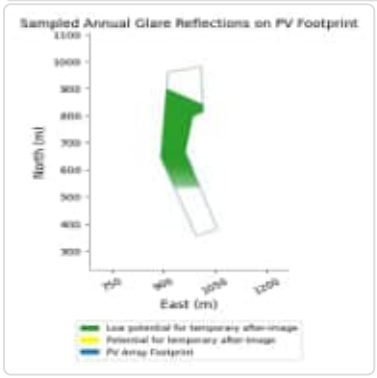
PV array is expected to produce the following glare for this receptor:

- 3,188 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





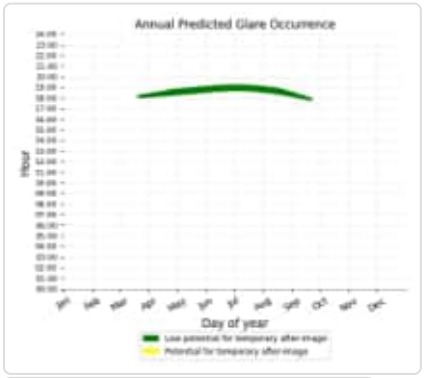




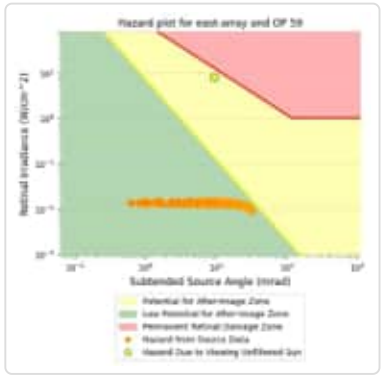
East Array: OP 59

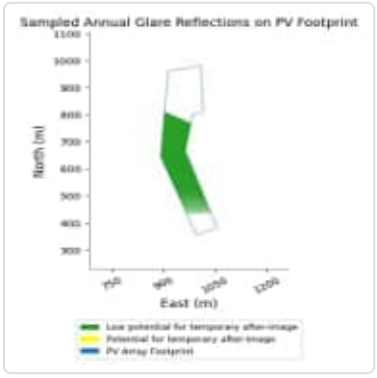
PV array is expected to produce the following glare for this receptor:

- 3,190 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





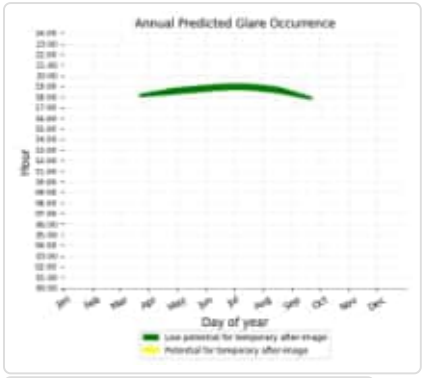




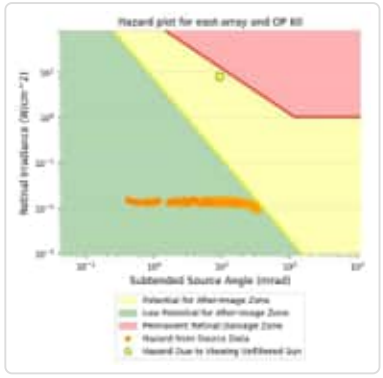
East Array: OP 60

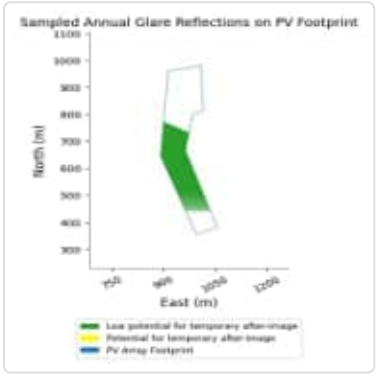
PV array is expected to produce the following glare for this receptor:

- 3,207 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





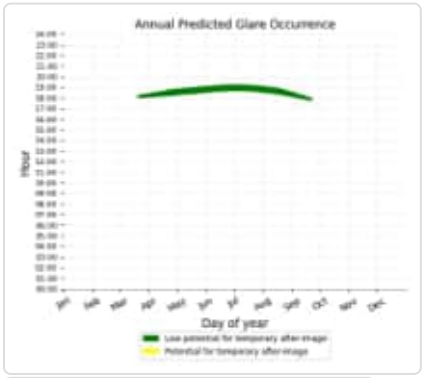




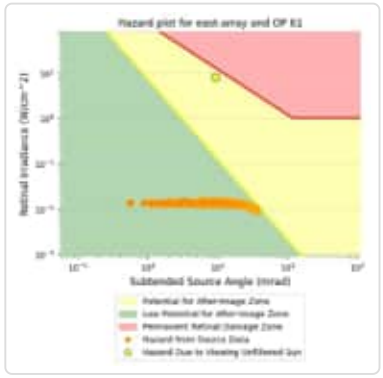
East Array: OP 61

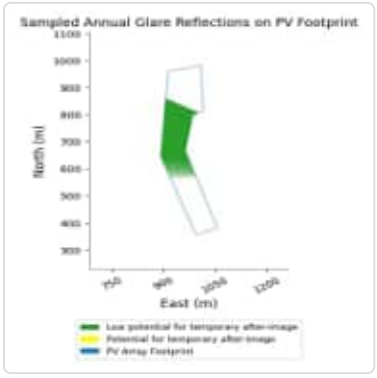
PV array is expected to produce the following glare for this receptor:

- 3,161 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





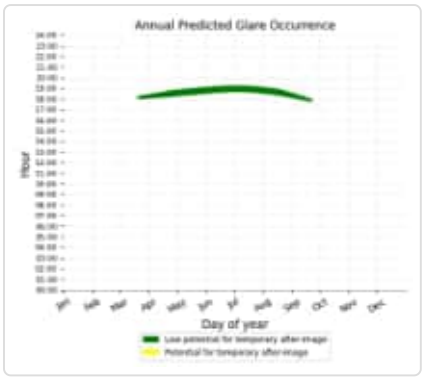




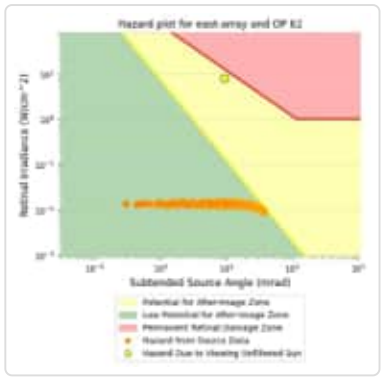
East Array: OP 62

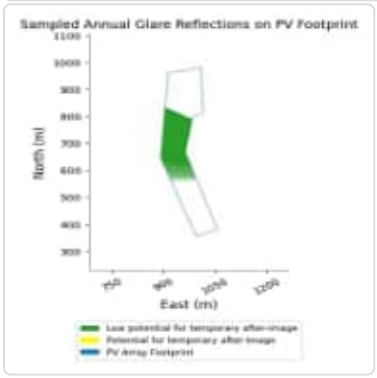
PV array is expected to produce the following glare for this receptor:

- 3,198 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





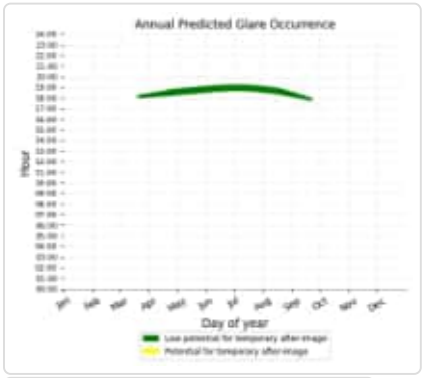




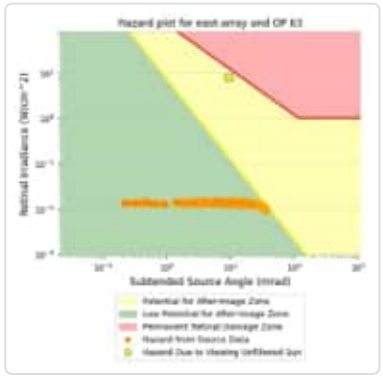
East Array: OP 63

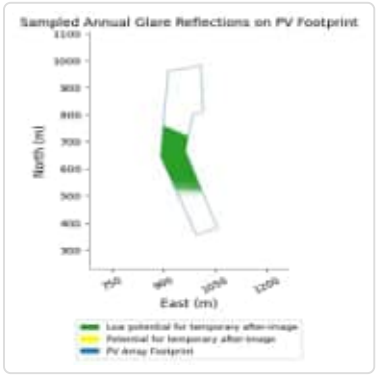
PV array is expected to produce the following glare for this receptor:

- 3,215 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





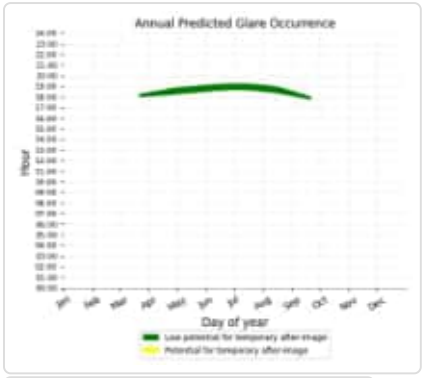




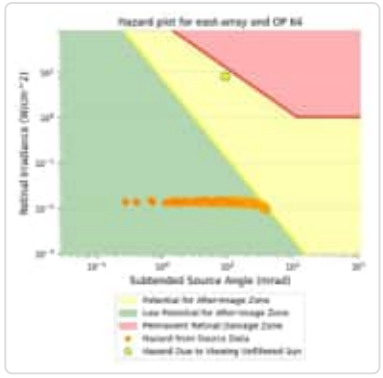
East Array: OP 64

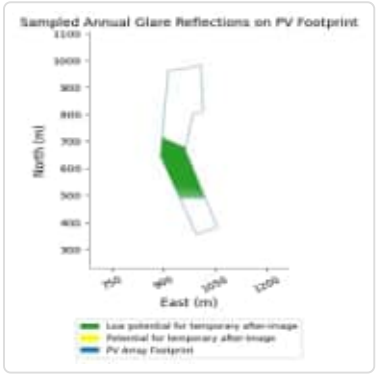
PV array is expected to produce the following glare for this receptor:

- 3,252 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)

OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	1212	365
OP: OP 6	23	0
OP: OP 7	27	0
OP: OP 8	1001	58
OP: OP 9	1235	240
OP: OP 10	1386	867
OP: OP 11	1345	952
OP: OP 12	1217	1232
OP: OP 13	1331	231
OP: OP 14	1441	702
OP: OP 15	1423	569
OP: OP 16	1490	351
OP: OP 17	1027	195
OP: OP 18	1170	209
OP: OP 19	859	27
OP: OP 20	1891	414
OP: OP 21	1642	175
OP: OP 22	1257	33
OP: OP 23	1246	28
OP: OP 24	1463	208
OP: OP 25	1325	112
OP: OP 26	953	19
OP: OP 27	939	7
OP: OP 28	2419	778
OP: OP 29	727	32
OP: OP 30	0	0
OP: OP 31	371	4
OP: OP 32	0	0
OP: OP 33	205	0
OP: OP 34	414	0
OP: OP 35	500	2
OP: OP 36	293	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	24	0
OP: OP 41	22	0
OP: OP 42	25	0
OP: OP 43	0	0
OP: OP 44	19	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	32	0
OP: OP 51	1752	311
OP: OP 52	18	0
OP: OP 53	44	0
OP: OP 54	30	0

OP: OP 55	18	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	15	0
OP: OP 59	0	0
OP: OP 60	19	0
OP: OP 61	0	0
OP: OP 62	0	0
OP: OP 63	0	0
OP: OP 64	0	0

North Array: OP 1

No glare found

North Array: OP 2

No glare found

North Array: OP 3

No glare found

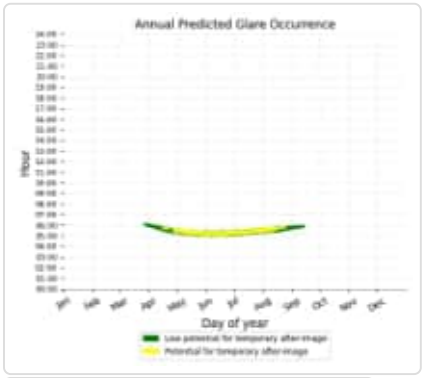
North Array: OP 4

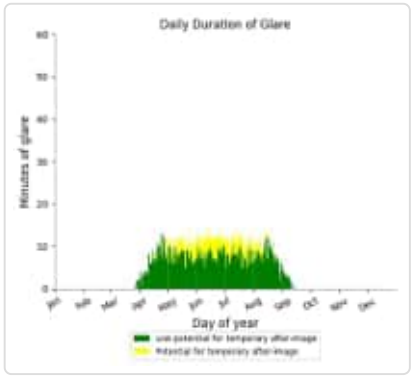
No glare found

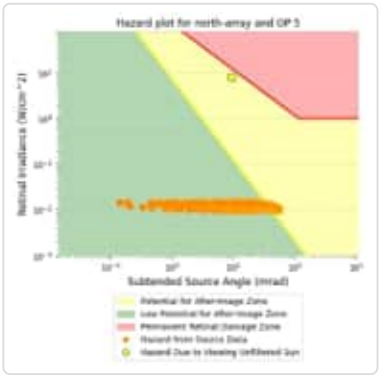
North Array: OP 5

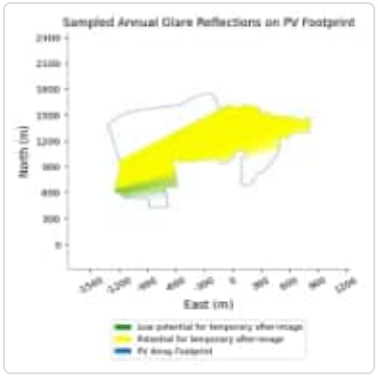
PV array is expected to produce the following glare for this receptor:

- 1,212 minutes of "green" glare with low potential to cause temporary after-image.
- 365 minutes of "yellow" glare with potential to cause temporary after-image.





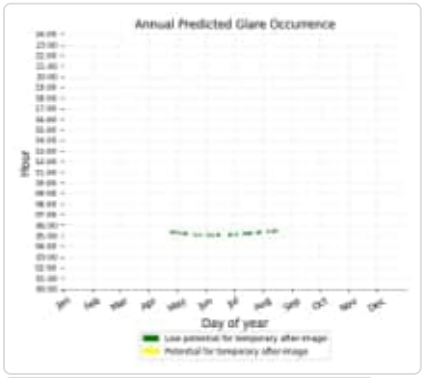


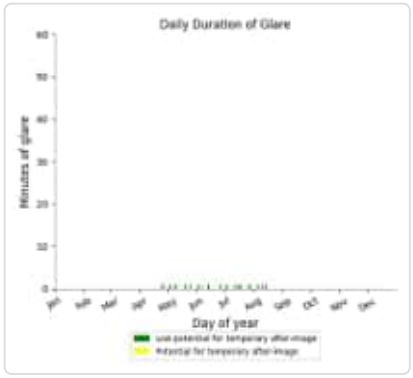


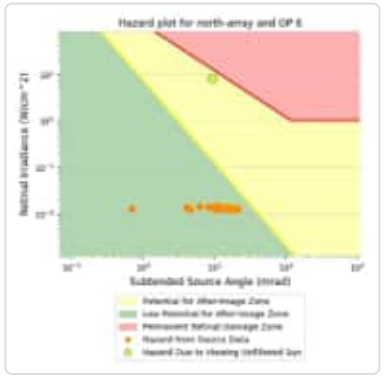
North Array: OP 6

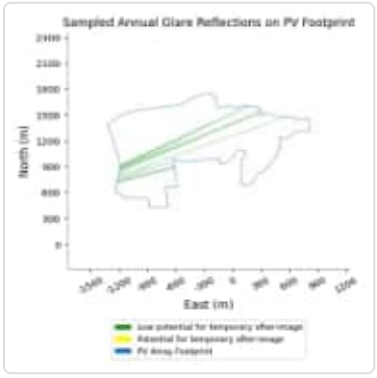
PV array is expected to produce the following glare for this receptor:

- 23 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





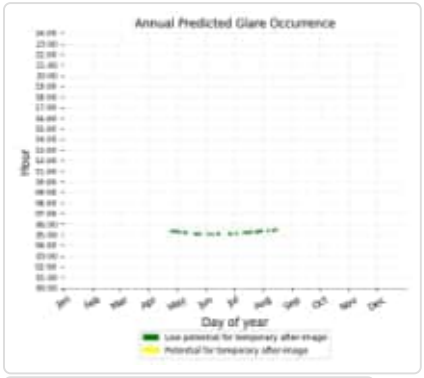


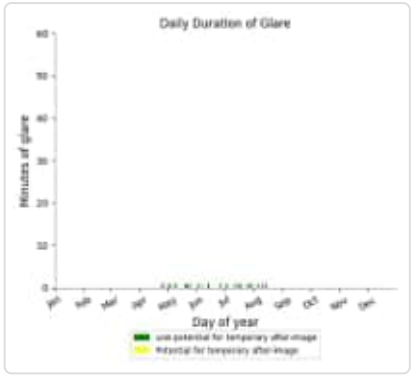


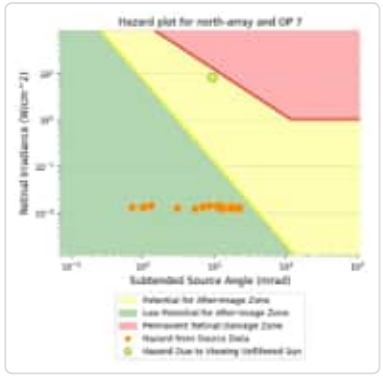
North Array: OP 7

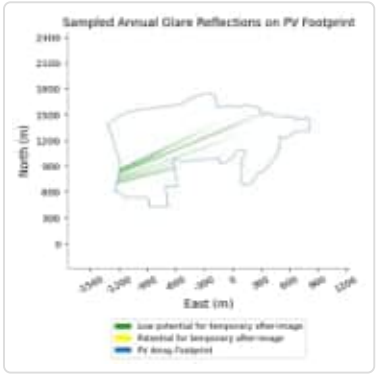
PV array is expected to produce the following glare for this receptor:

- 27 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





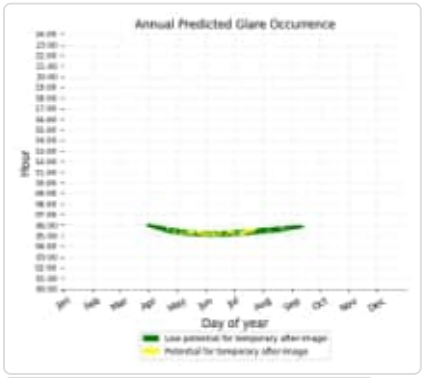


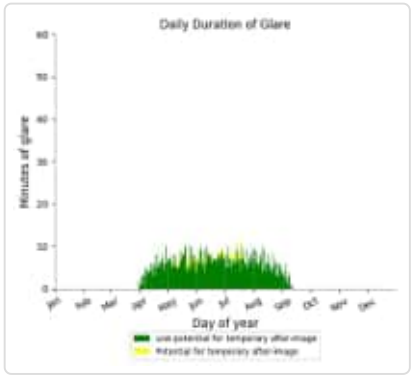


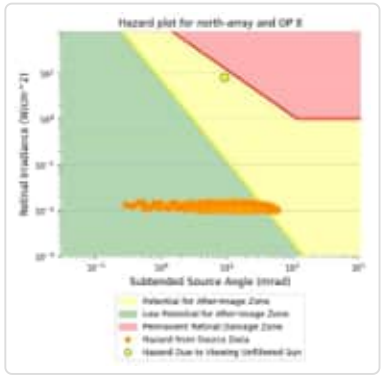
North Array: OP 8

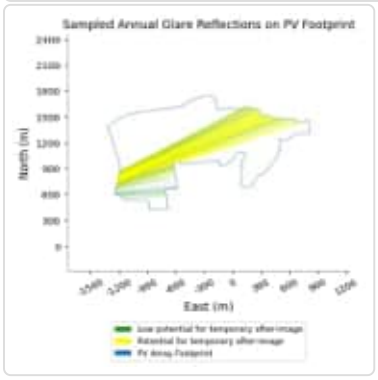
PV array is expected to produce the following glare for this receptor:

- 1,001 minutes of "green" glare with low potential to cause temporary after-image.
- 58 minutes of "yellow" glare with potential to cause temporary after-image.





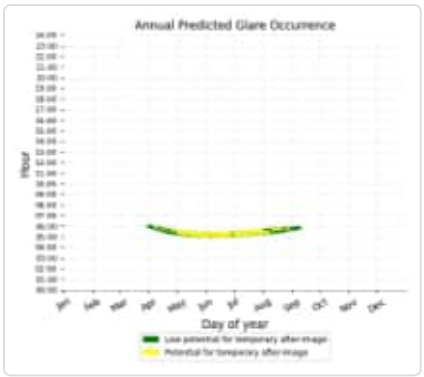


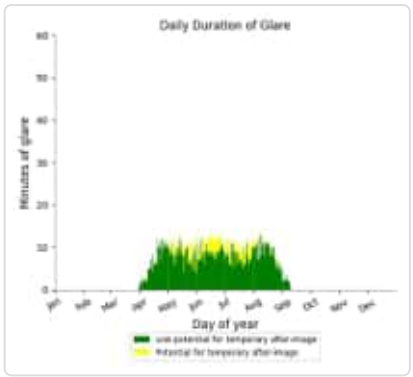


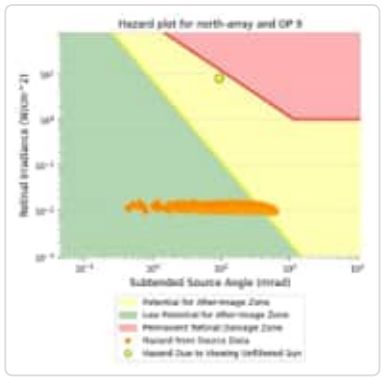
North Array: OP 9

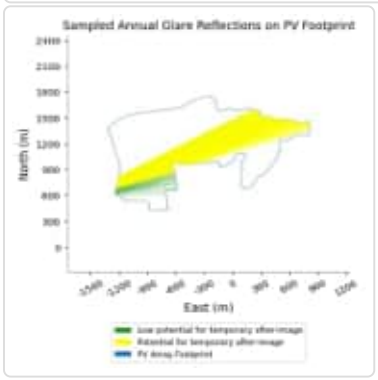
PV array is expected to produce the following glare for this receptor:

- 1,235 minutes of "green" glare with low potential to cause temporary after-image.
- 240 minutes of "yellow" glare with potential to cause temporary after-image.





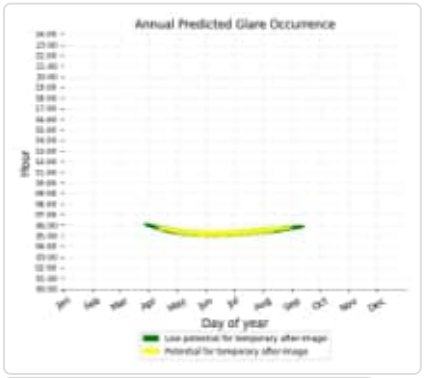


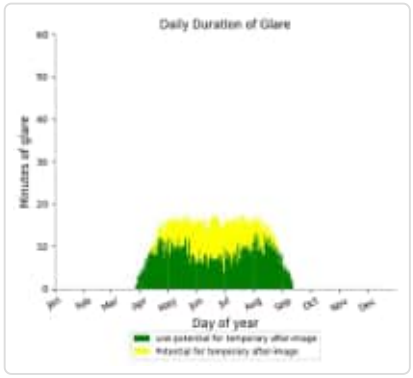


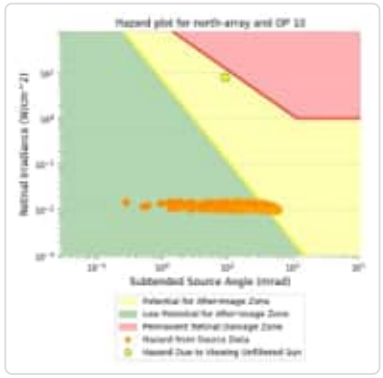
North Array: OP 10

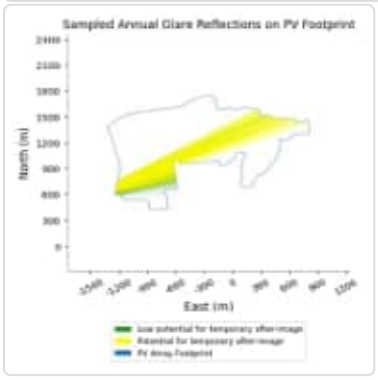
PV array is expected to produce the following glare for this receptor:

- 1,386 minutes of "green" glare with low potential to cause temporary after-image.
- 867 minutes of "yellow" glare with potential to cause temporary after-image.





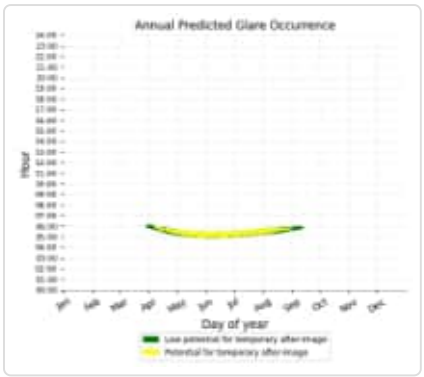


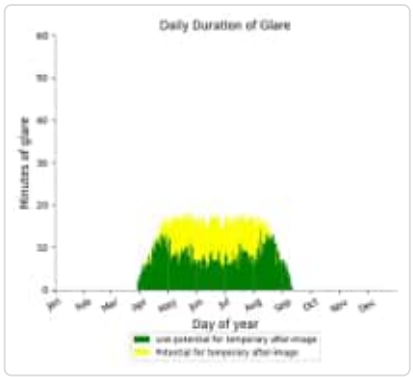


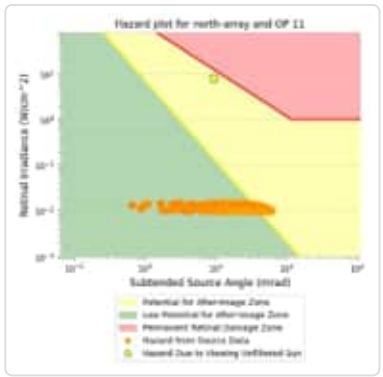
North Array: OP 11

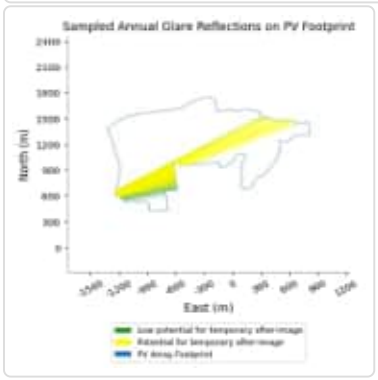
PV array is expected to produce the following glare for this receptor:

- 1,345 minutes of "green" glare with low potential to cause temporary after-image.
- 952 minutes of "yellow" glare with potential to cause temporary after-image.





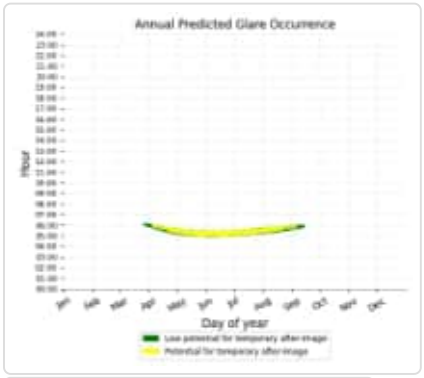


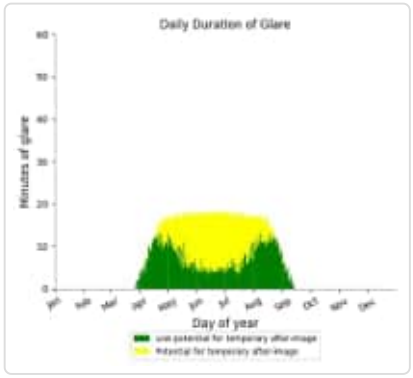


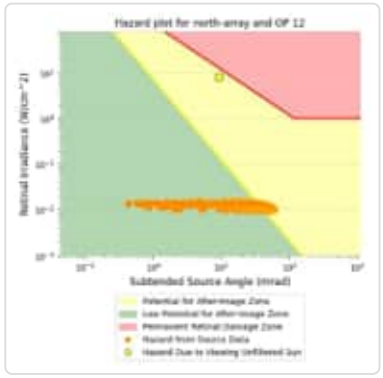
North Array: OP 12

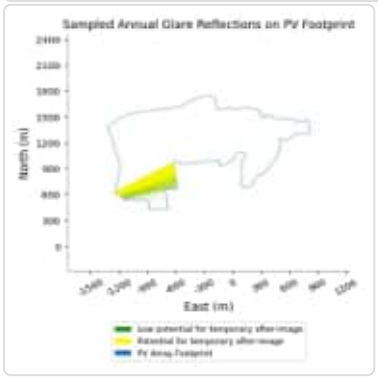
PV array is expected to produce the following glare for this receptor:

- 1,217 minutes of "green" glare with low potential to cause temporary after-image.
- 1,232 minutes of "yellow" glare with potential to cause temporary after-image.





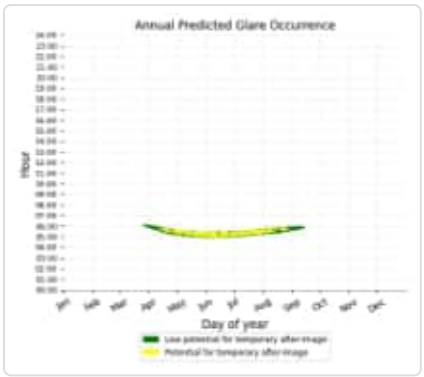


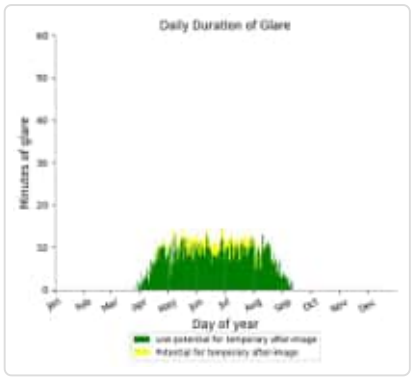


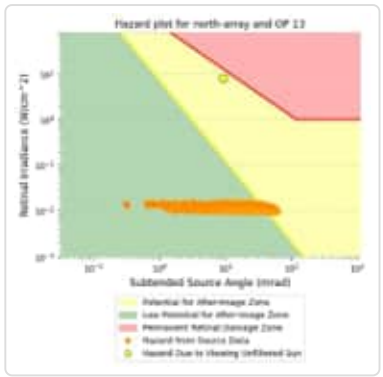
North Array: OP 13

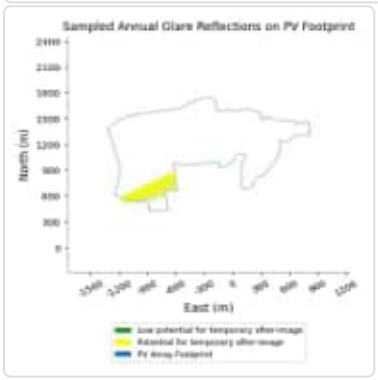
PV array is expected to produce the following glare for this receptor:

- 1,331 minutes of "green" glare with low potential to cause temporary after-image.
- 231 minutes of "yellow" glare with potential to cause temporary after-image.





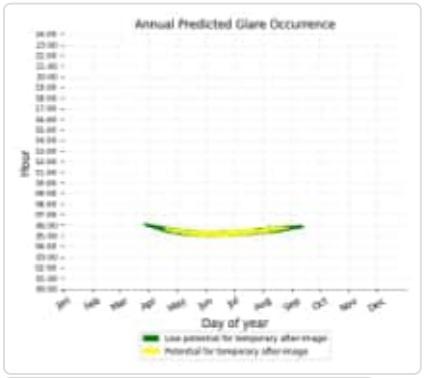


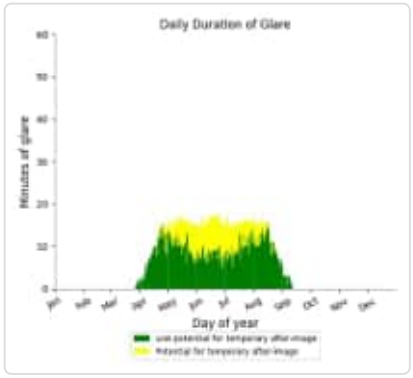


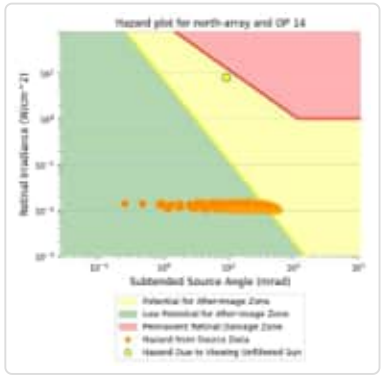
North Array: OP 14

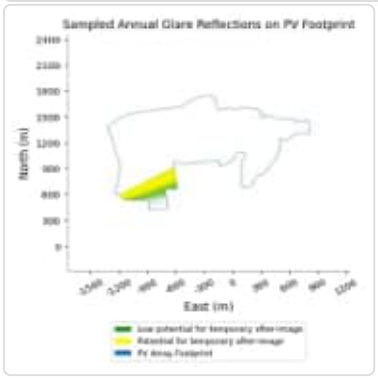
PV array is expected to produce the following glare for this receptor:

- 1,441 minutes of "green" glare with low potential to cause temporary after-image.
- 702 minutes of "yellow" glare with potential to cause temporary after-image.





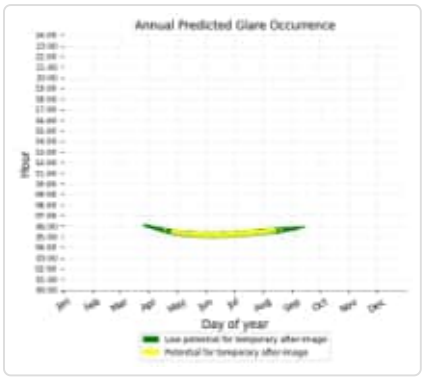


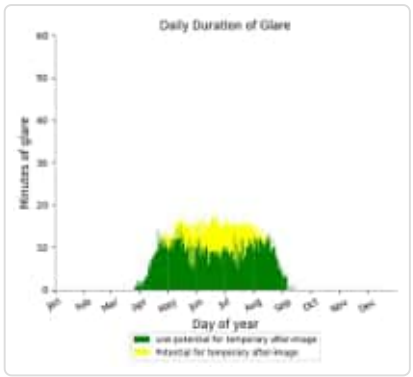


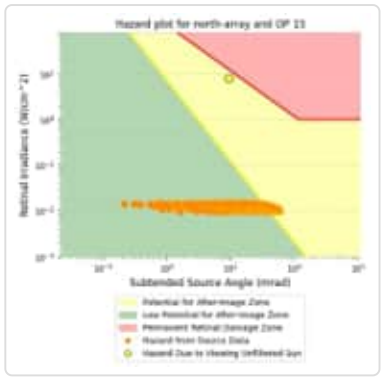
North Array: OP 15

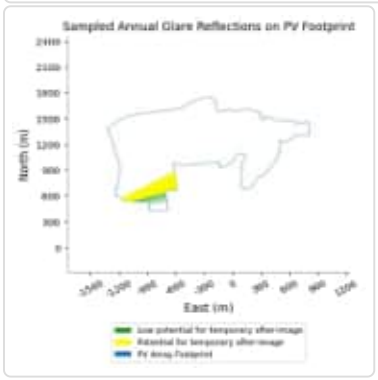
PV array is expected to produce the following glare for this receptor:

- 1,423 minutes of "green" glare with low potential to cause temporary after-image.
- 569 minutes of "yellow" glare with potential to cause temporary after-image.





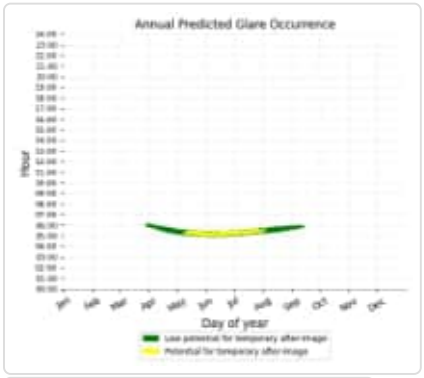


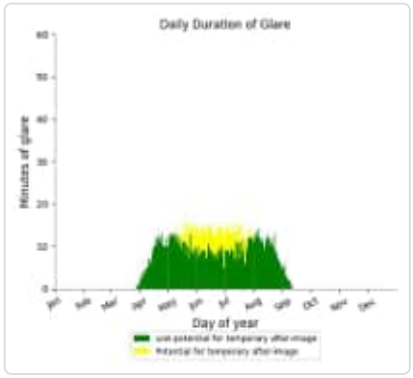


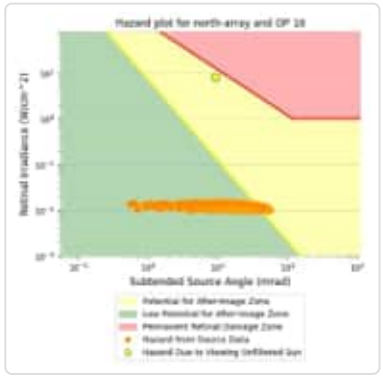
North Array: OP 16

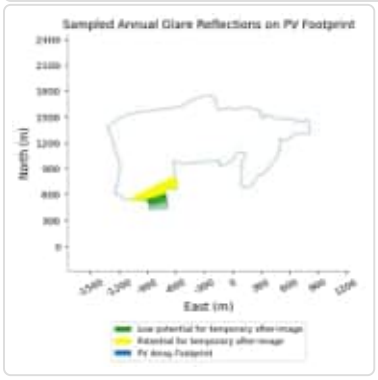
PV array is expected to produce the following glare for this receptor:

- 1,490 minutes of "green" glare with low potential to cause temporary after-image.
- 351 minutes of "yellow" glare with potential to cause temporary after-image.





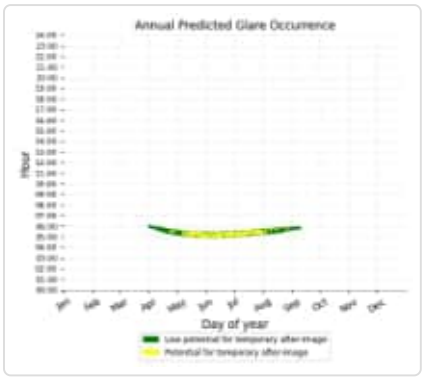


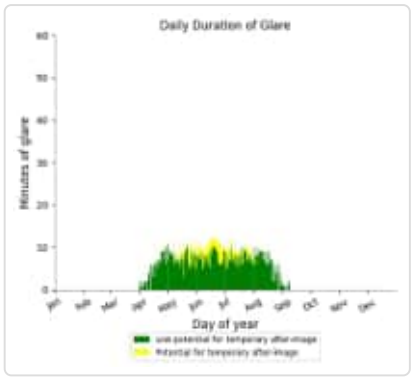


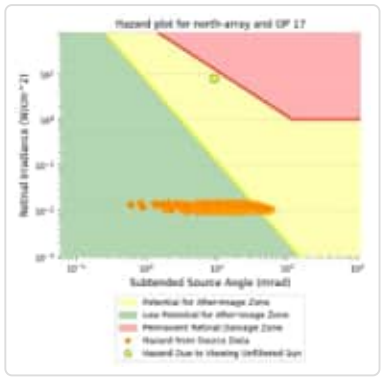
North Array: OP 17

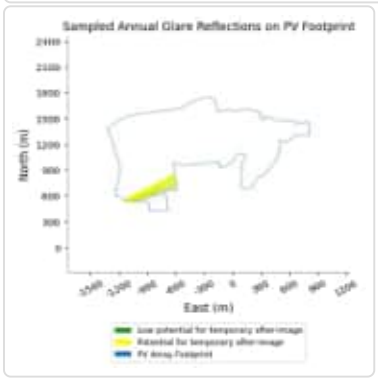
PV array is expected to produce the following glare for this receptor:

- 1,027 minutes of "green" glare with low potential to cause temporary after-image.
- 195 minutes of "yellow" glare with potential to cause temporary after-image.





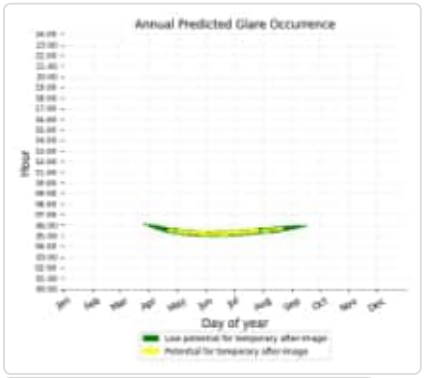


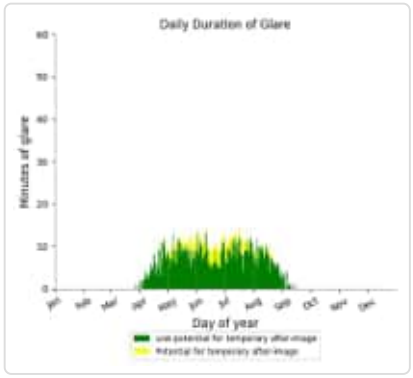


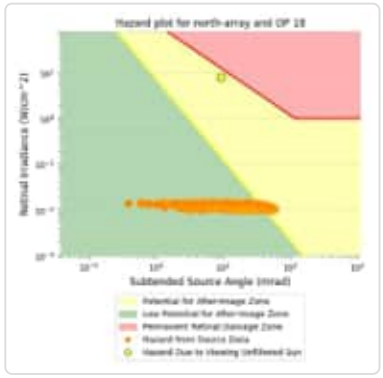
North Array: OP 18

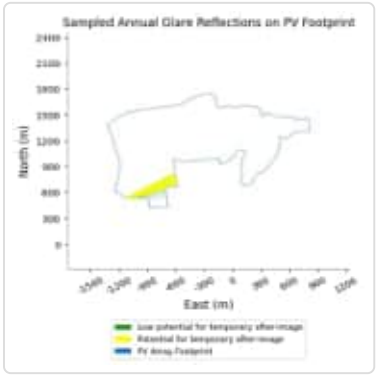
PV array is expected to produce the following glare for this receptor:

- 1,170 minutes of "green" glare with low potential to cause temporary after-image.
- 209 minutes of "yellow" glare with potential to cause temporary after-image.





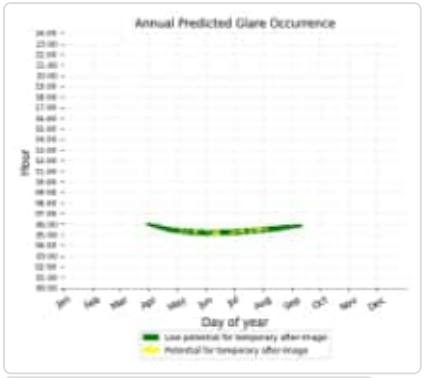


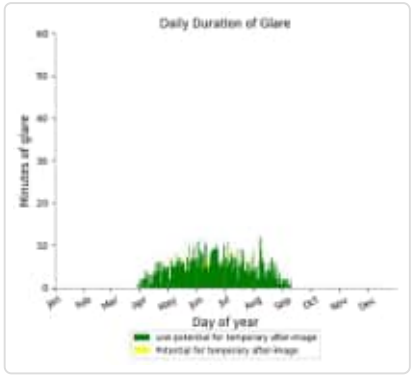


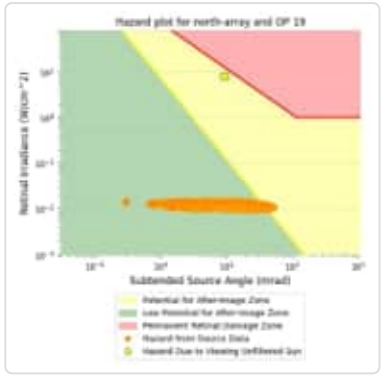
North Array: OP 19

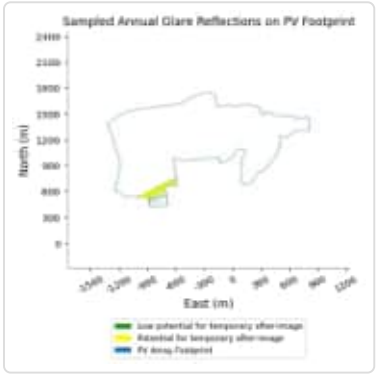
PV array is expected to produce the following glare for this receptor:

- 859 minutes of "green" glare with low potential to cause temporary after-image.
- 27 minutes of "yellow" glare with potential to cause temporary after-image.





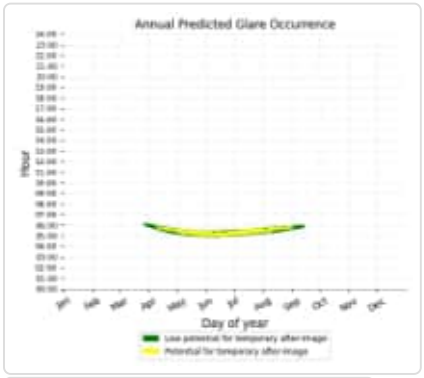


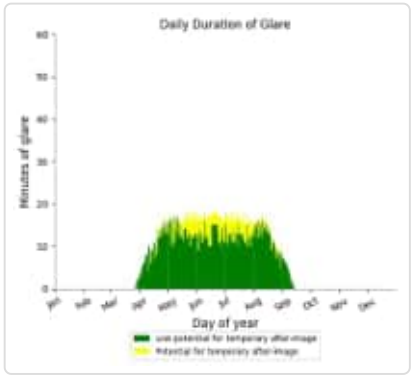


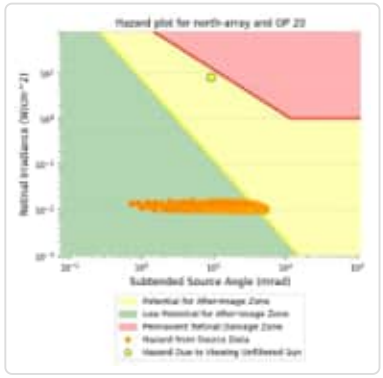
North Array: OP 20

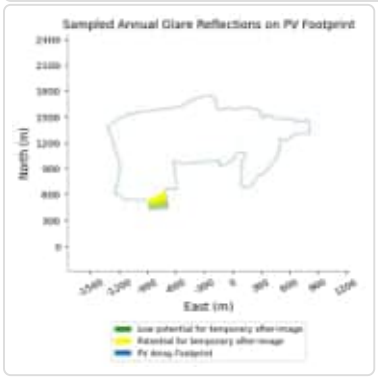
PV array is expected to produce the following glare for this receptor:

- 1,891 minutes of "green" glare with low potential to cause temporary after-image.
- 414 minutes of "yellow" glare with potential to cause temporary after-image.





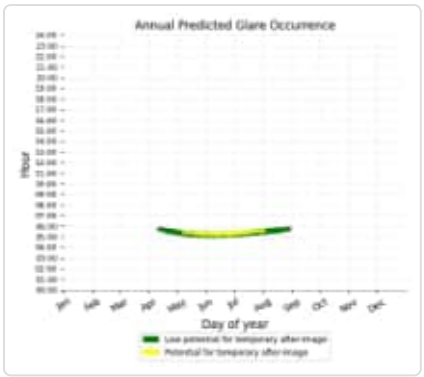


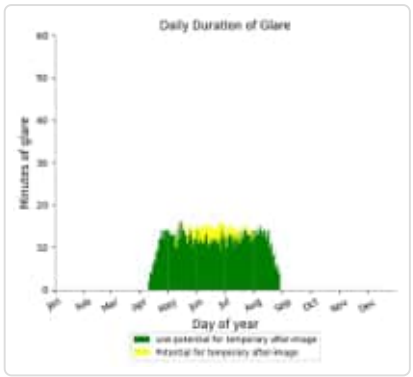


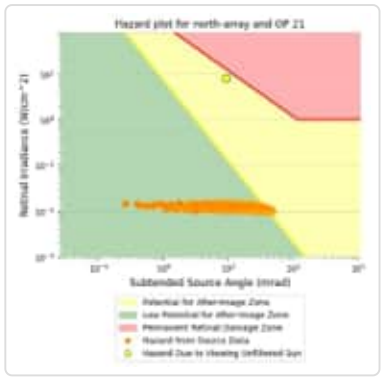
North Array: OP 21

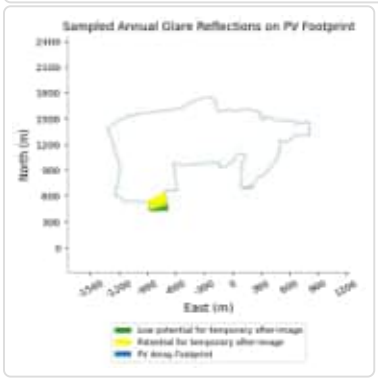
PV array is expected to produce the following glare for this receptor:

- 1,642 minutes of "green" glare with low potential to cause temporary after-image.
- 175 minutes of "yellow" glare with potential to cause temporary after-image.





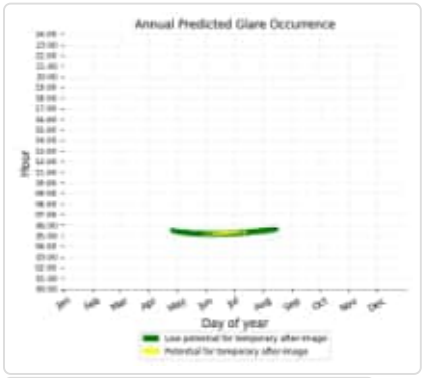


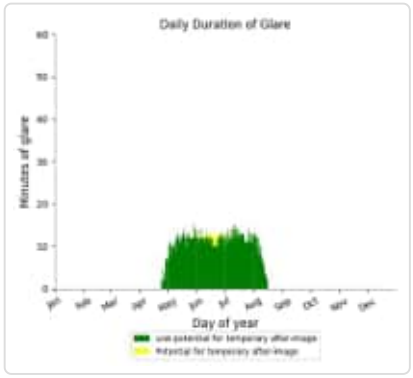


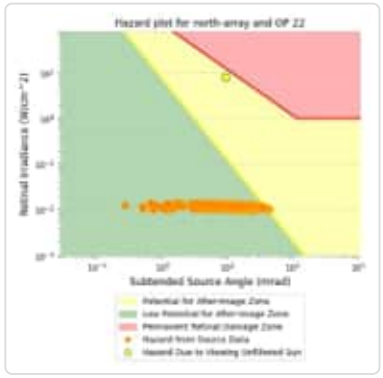
North Array: OP 22

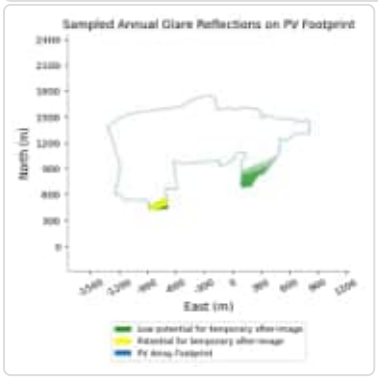
PV array is expected to produce the following glare for this receptor:

- 1,257 minutes of "green" glare with low potential to cause temporary after-image.
- 33 minutes of "yellow" glare with potential to cause temporary after-image.





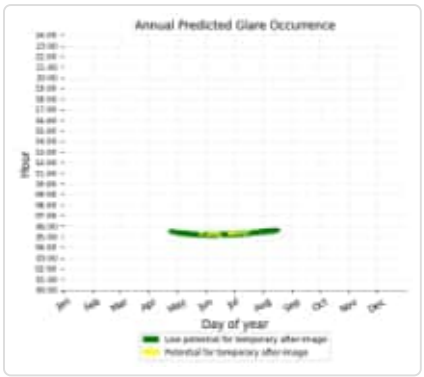


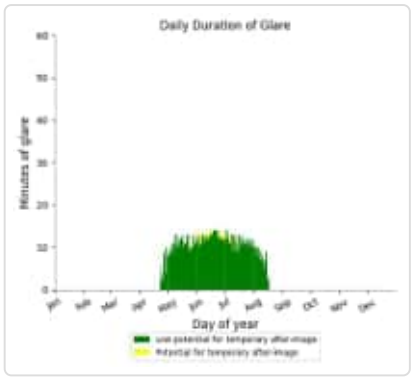


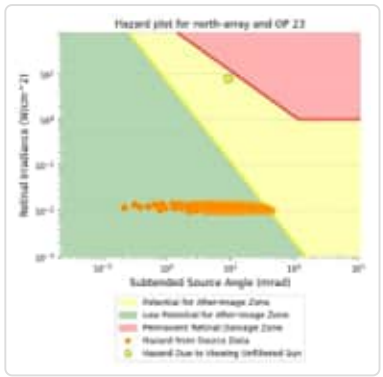
North Array: OP 23

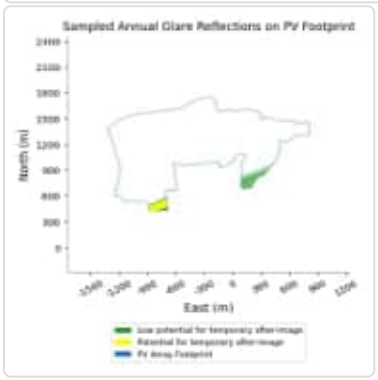
PV array is expected to produce the following glare for this receptor:

- 1,246 minutes of "green" glare with low potential to cause temporary after-image.
- 28 minutes of "yellow" glare with potential to cause temporary after-image.





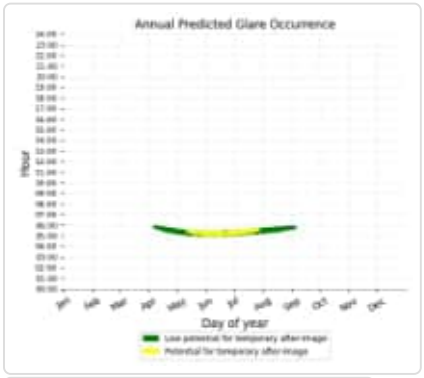


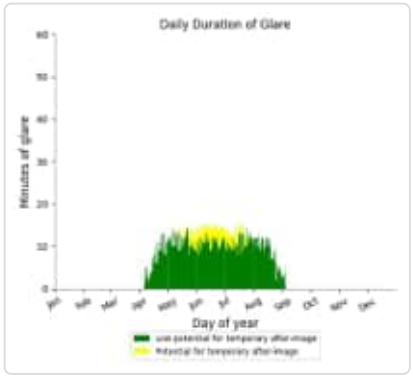


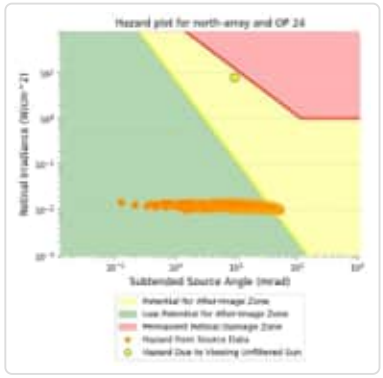
North Array: OP 24

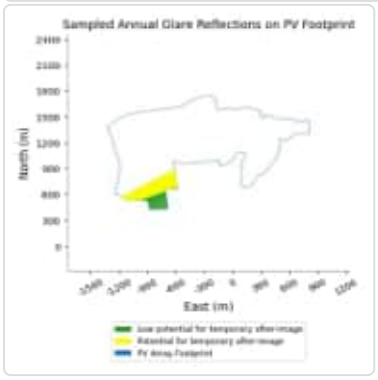
PV array is expected to produce the following glare for this receptor:

- 1,463 minutes of "green" glare with low potential to cause temporary after-image.
- 208 minutes of "yellow" glare with potential to cause temporary after-image.





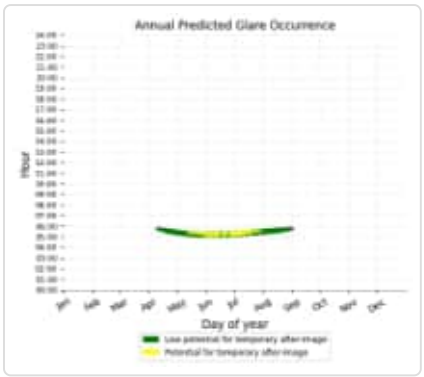


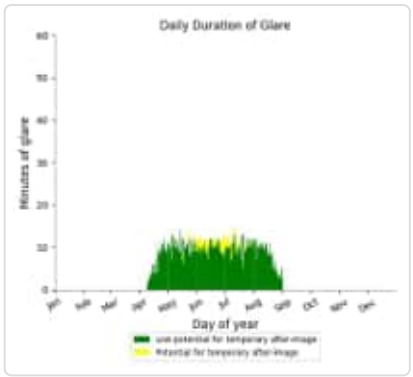


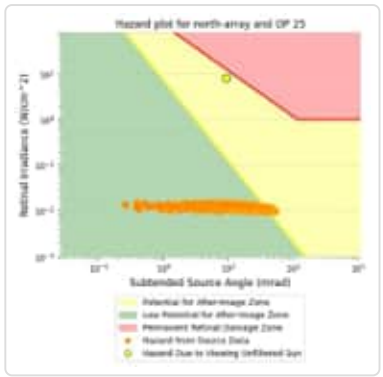
North Array: OP 25

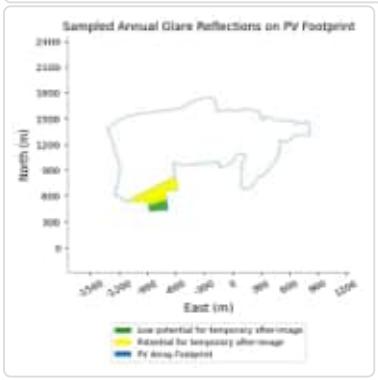
PV array is expected to produce the following glare for this receptor:

- 1,325 minutes of "green" glare with low potential to cause temporary after-image.
- 112 minutes of "yellow" glare with potential to cause temporary after-image.





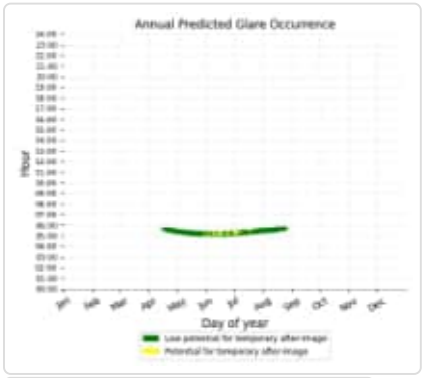


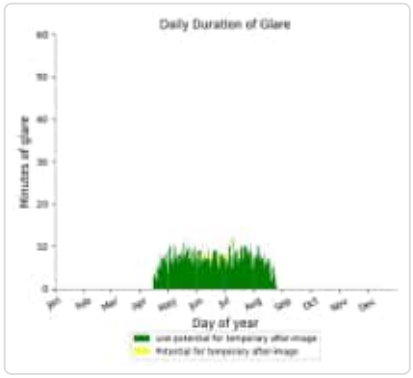


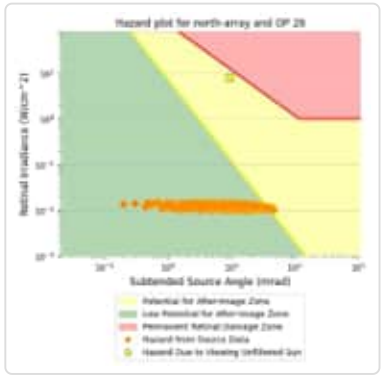
North Array: OP 26

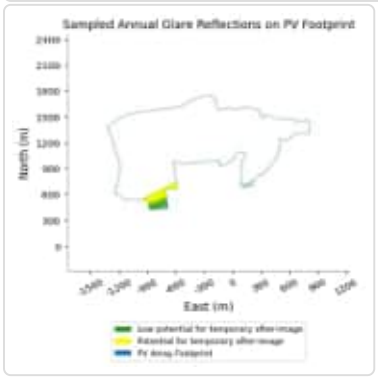
PV array is expected to produce the following glare for this receptor:

- 953 minutes of "green" glare with low potential to cause temporary after-image.
- 19 minutes of "yellow" glare with potential to cause temporary after-image.





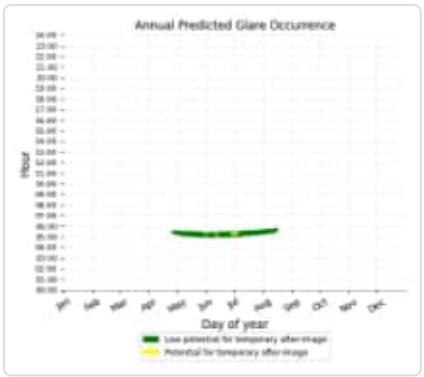


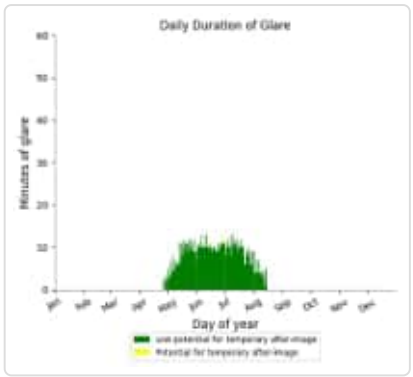


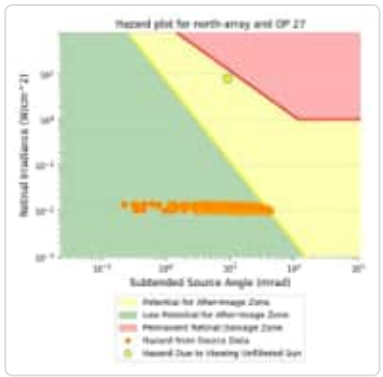
North Array: OP 27

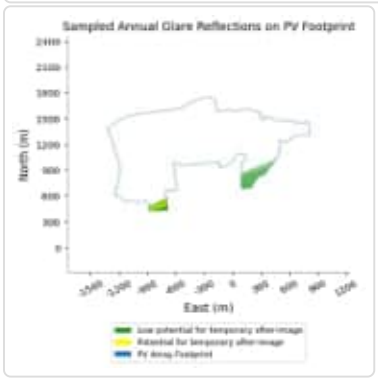
PV array is expected to produce the following glare for this receptor:

- 939 minutes of "green" glare with low potential to cause temporary after-image.
- 7 minutes of "yellow" glare with potential to cause temporary after-image.





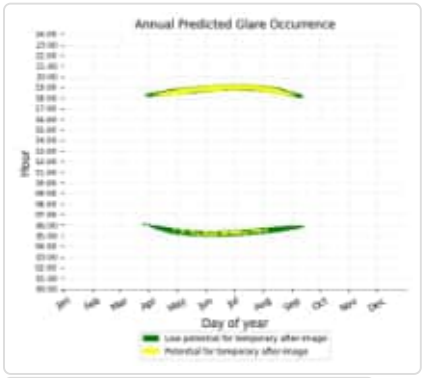


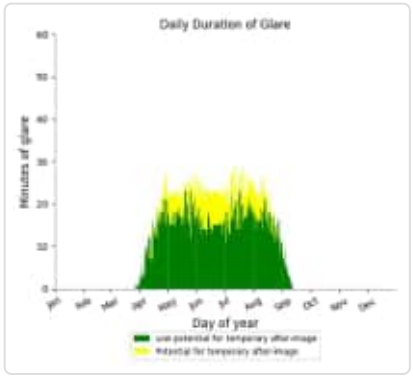


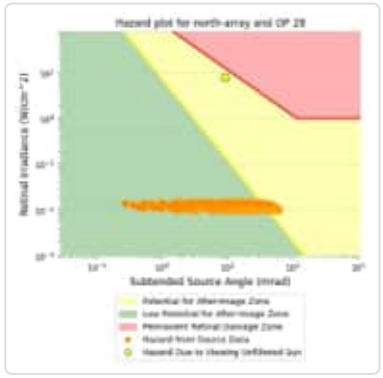
North Array: OP 28

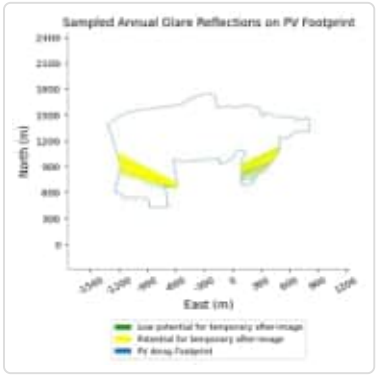
PV array is expected to produce the following glare for this receptor:

- 2,419 minutes of "green" glare with low potential to cause temporary after-image.
- 778 minutes of "yellow" glare with potential to cause temporary after-image.





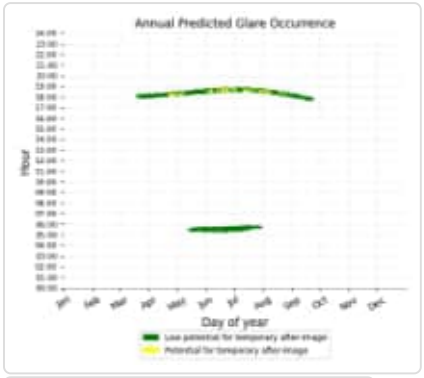


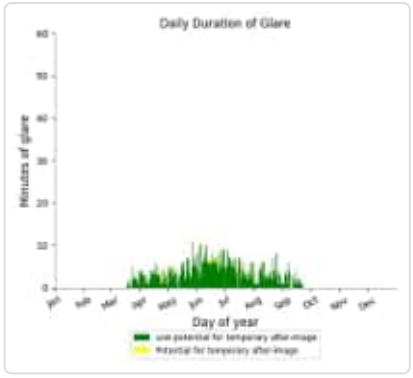


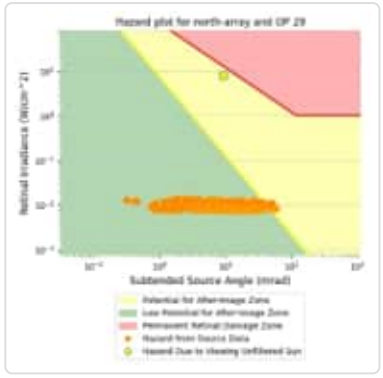
North Array: OP 29

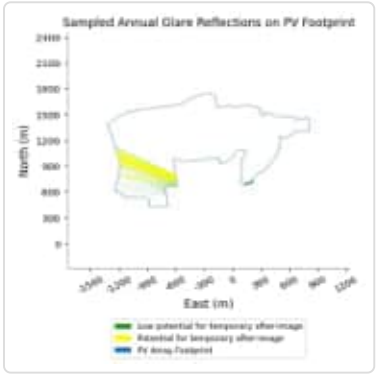
PV array is expected to produce the following glare for this receptor:

- 727 minutes of "green" glare with low potential to cause temporary after-image.
- 32 minutes of "yellow" glare with potential to cause temporary after-image.









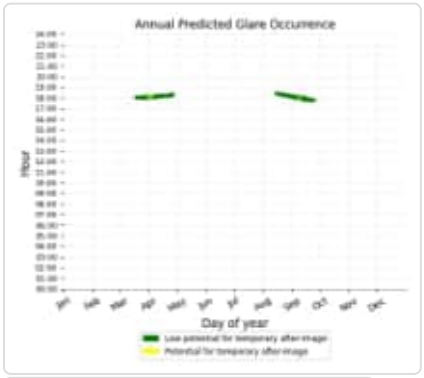
North Array: OP 30

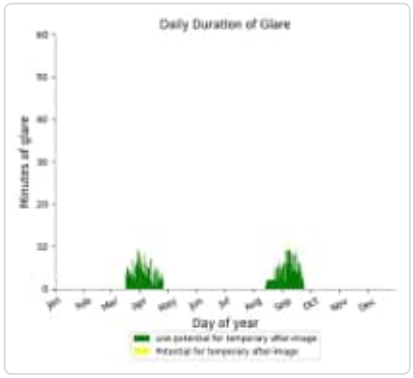
No glare found

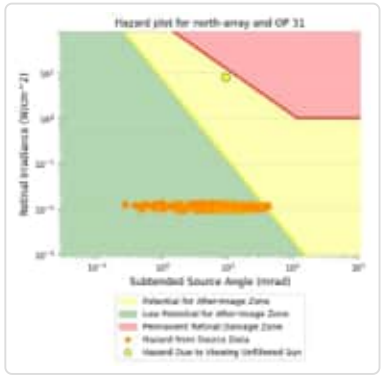
North Array: OP 31

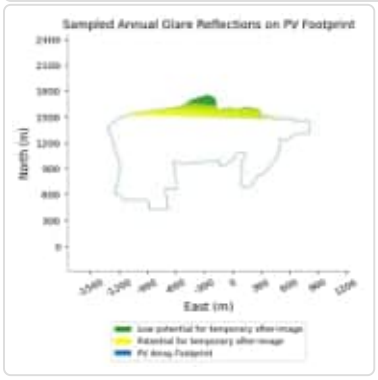
PV array is expected to produce the following glare for this receptor:

- 371 minutes of "green" glare with low potential to cause temporary after-image.
- 4 minutes of "yellow" glare with potential to cause temporary after-image.









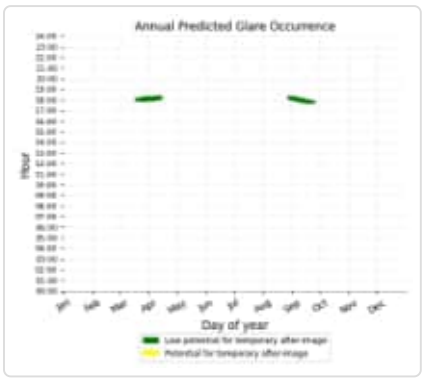
North Array: OP 32

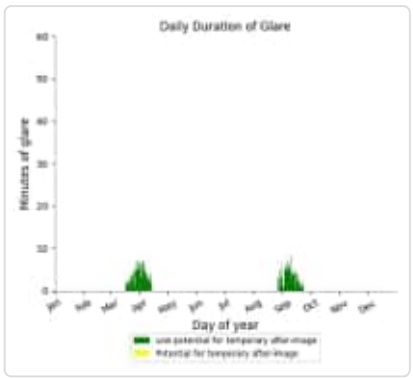
No glare found

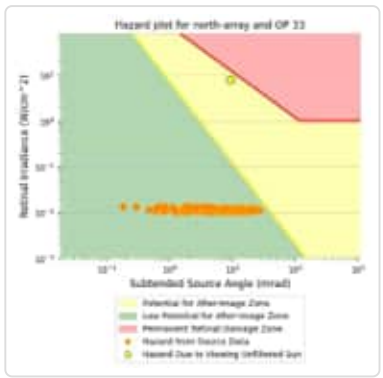
North Array: OP 33

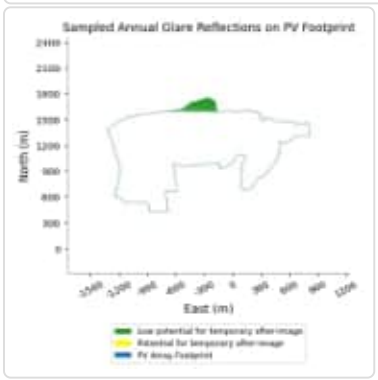
PV array is expected to produce the following glare for this receptor:

- 205 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





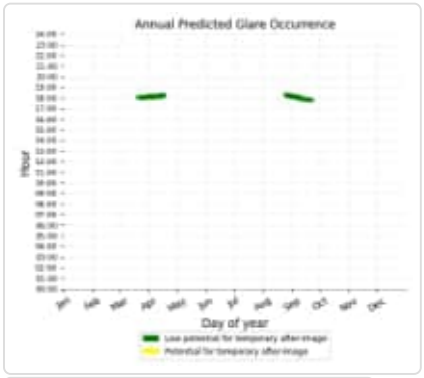


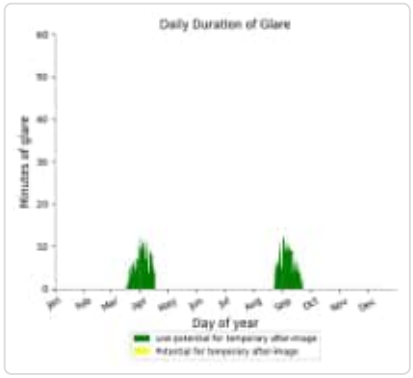


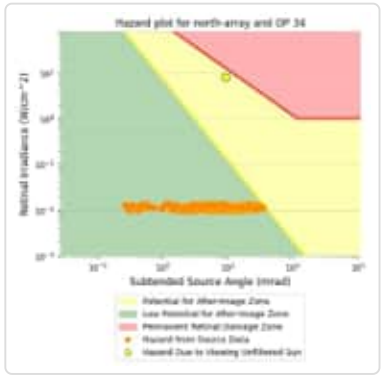
North Array: OP 34

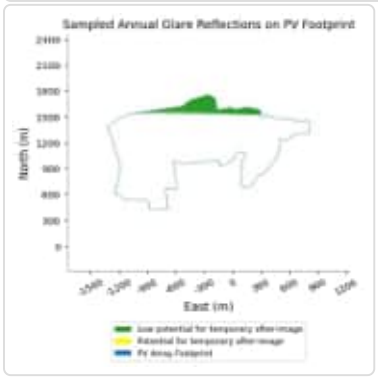
PV array is expected to produce the following glare for this receptor:

- 414 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





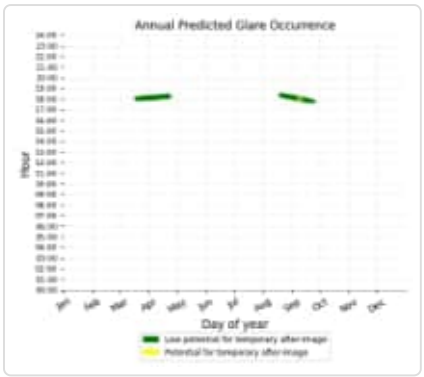


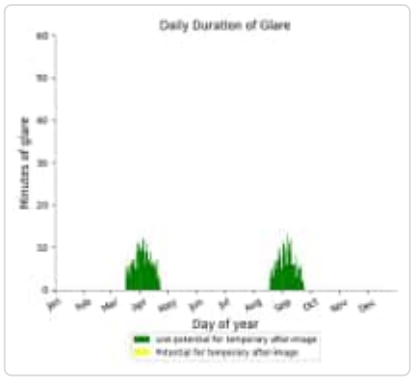


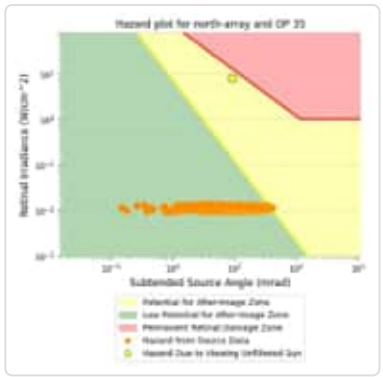
North Array: OP 35

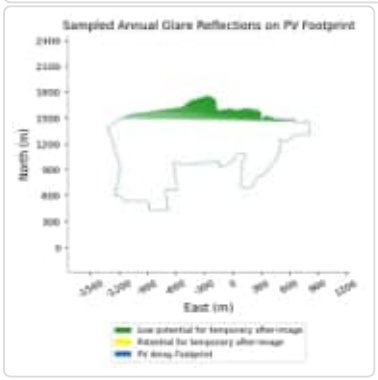
PV array is expected to produce the following glare for this receptor:

- 500 minutes of "green" glare with low potential to cause temporary after-image.
- 2 minutes of "yellow" glare with potential to cause temporary after-image.





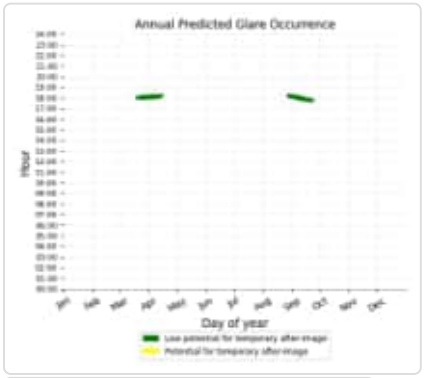




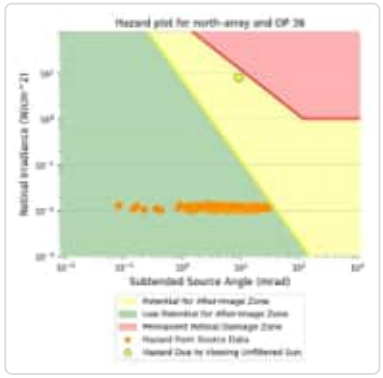
North Array: OP 36

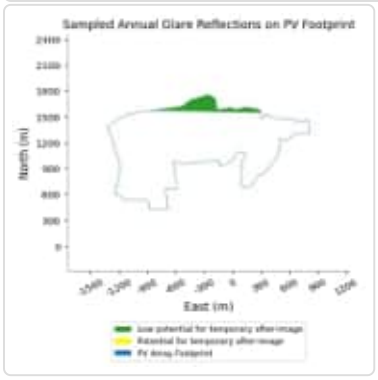
PV array is expected to produce the following glare for this receptor:

- 293 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 37

No glare found

North Array: OP 38

No glare found

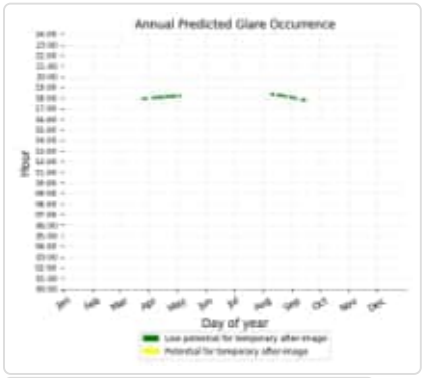
North Array: OP 39

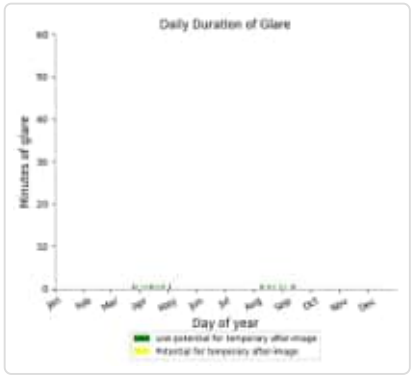
No glare found

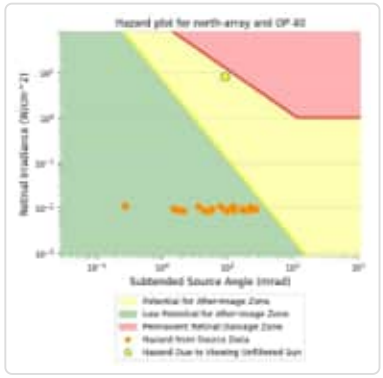
North Array: OP 40

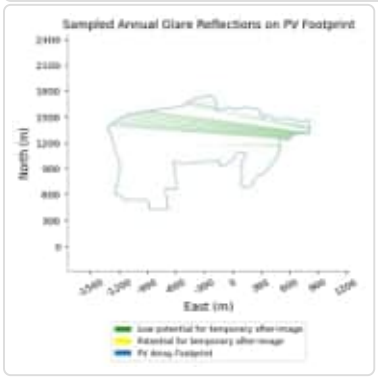
PV array is expected to produce the following glare for this receptor:

- 24 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





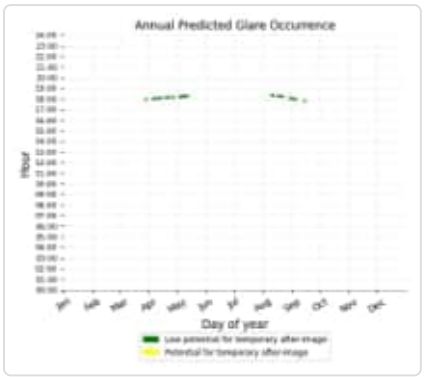


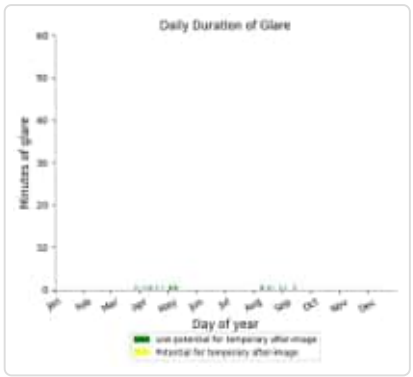


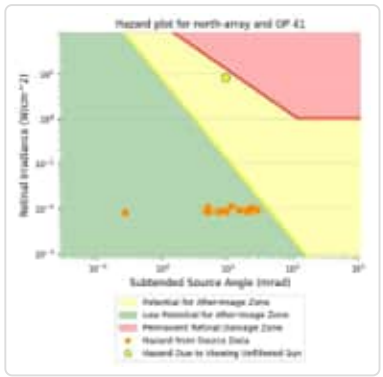
North Array: OP 41

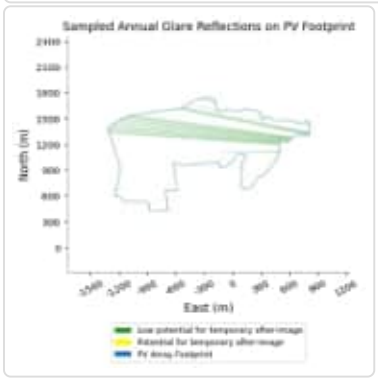
PV array is expected to produce the following glare for this receptor:

- 22 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





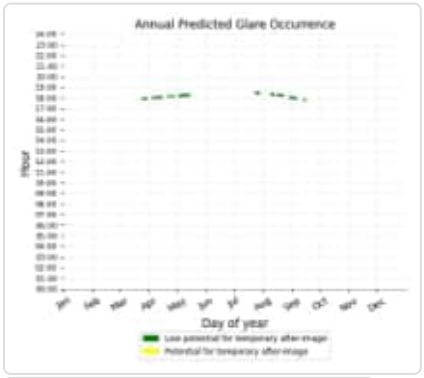


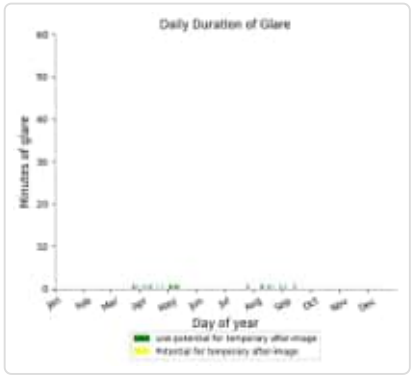


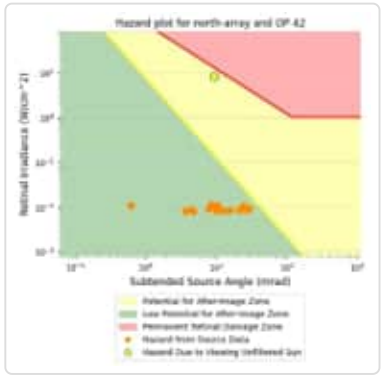
North Array: OP 42

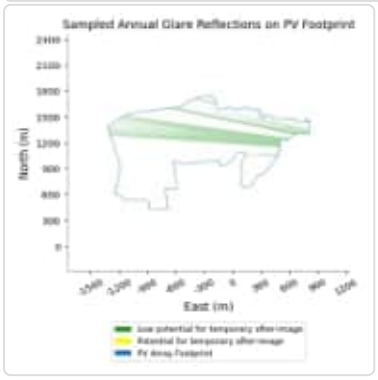
PV array is expected to produce the following glare for this receptor:

- 25 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









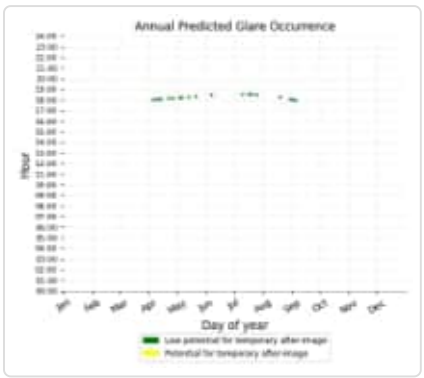
North Array: OP 43

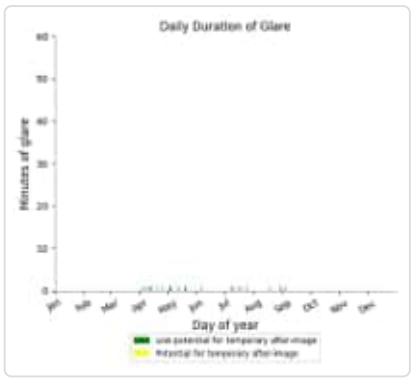
No glare found

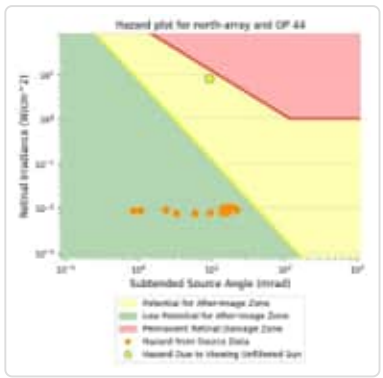
North Array: OP 44

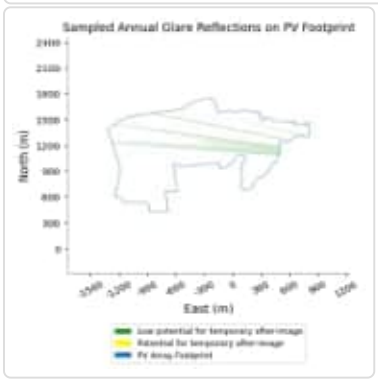
PV array is expected to produce the following glare for this receptor:

- 19 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 45

No glare found

North Array: OP 46

No glare found

North Array: OP 47

No glare found

North Array: OP 48

No glare found

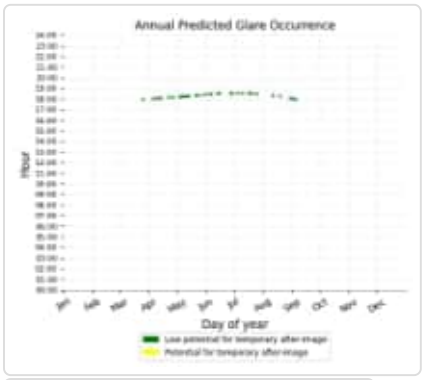
North Array: OP 49

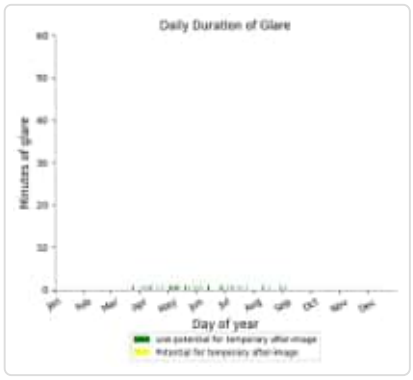
No glare found

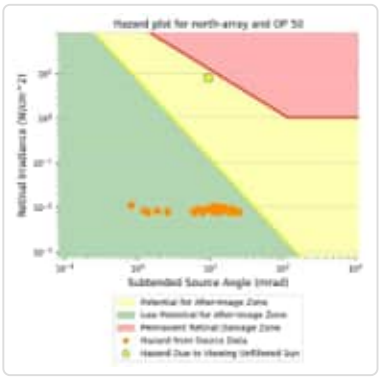
North Array: OP 50

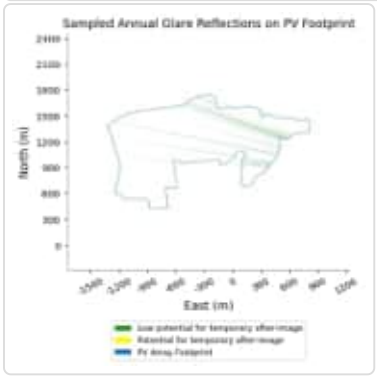
PV array is expected to produce the following glare for this receptor:

- 32 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





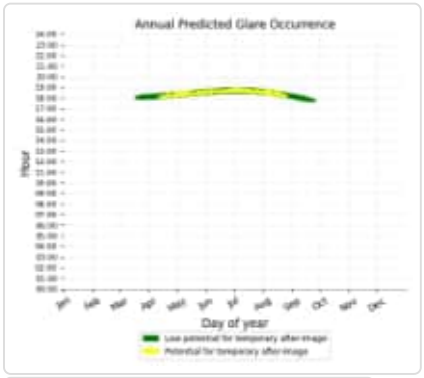


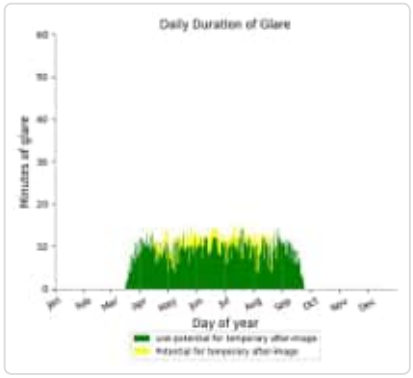


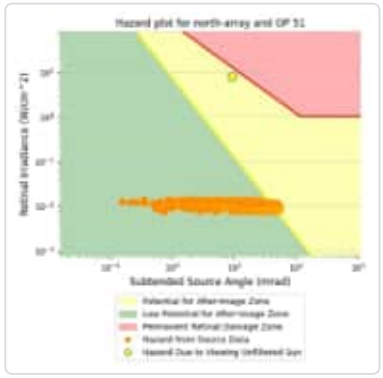
North Array: OP 51

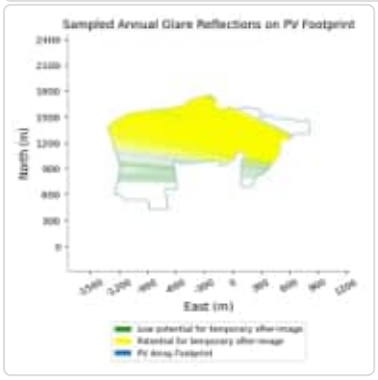
PV array is expected to produce the following glare for this receptor:

- 1,752 minutes of "green" glare with low potential to cause temporary after-image.
- 311 minutes of "yellow" glare with potential to cause temporary after-image.





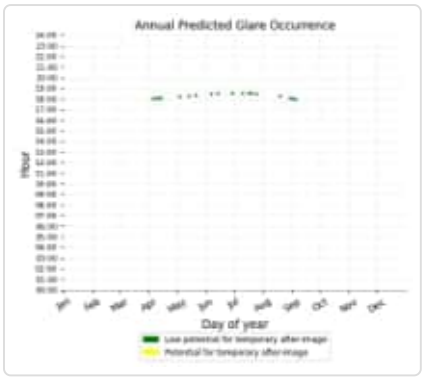


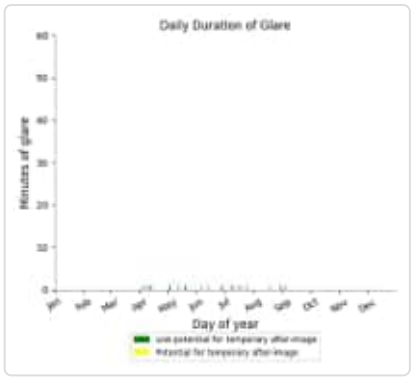


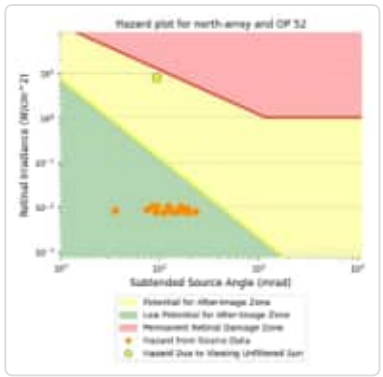
North Array: OP 52

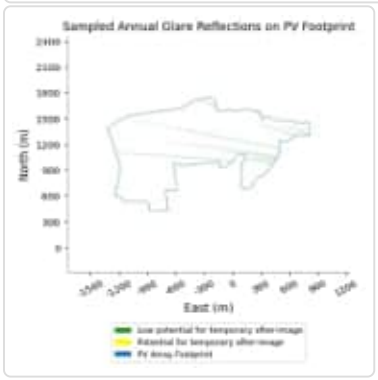
PV array is expected to produce the following glare for this receptor:

- 18 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





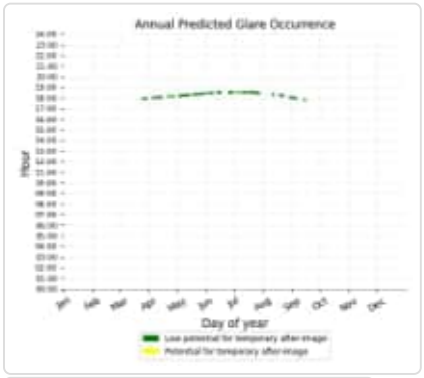


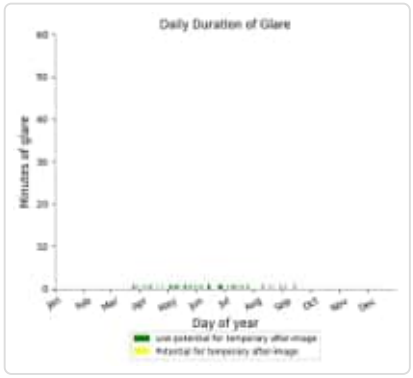


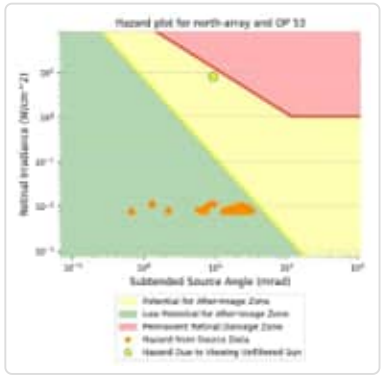
North Array: OP 53

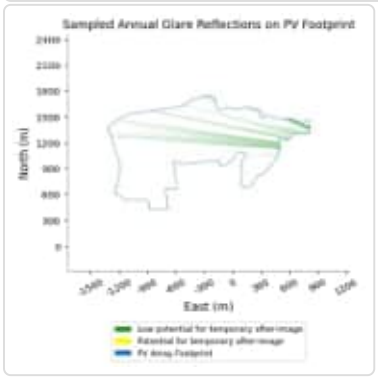
PV array is expected to produce the following glare for this receptor:

- 44 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





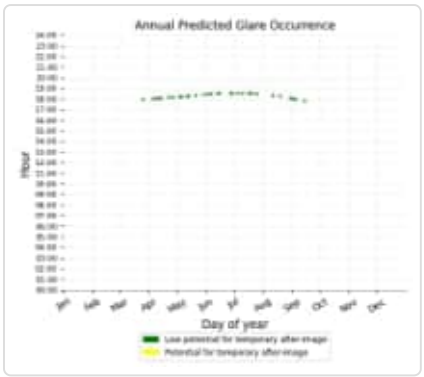


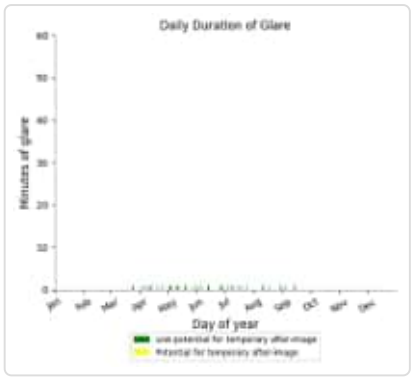


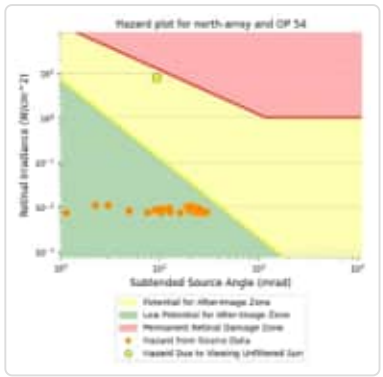
North Array: OP 54

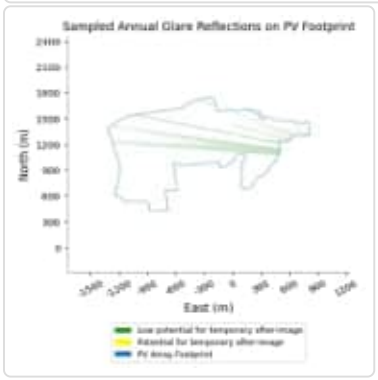
PV array is expected to produce the following glare for this receptor:

- 30 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





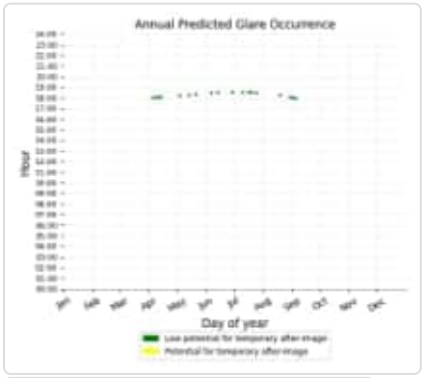


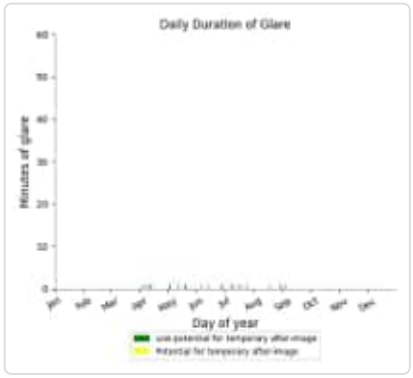


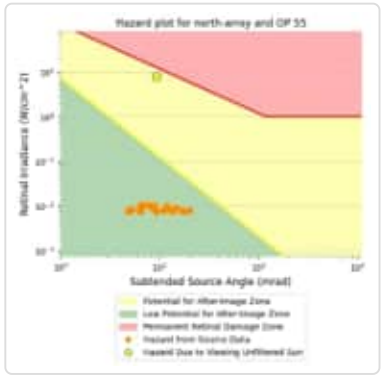
North Array: OP 55

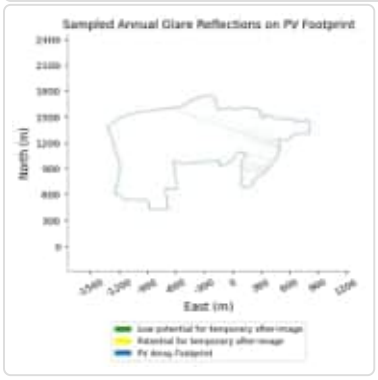
PV array is expected to produce the following glare for this receptor:

- 18 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 56

No glare found

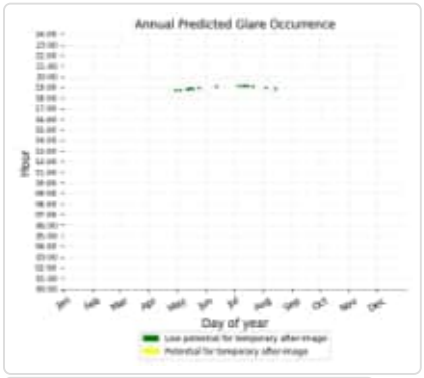
North Array: OP 57

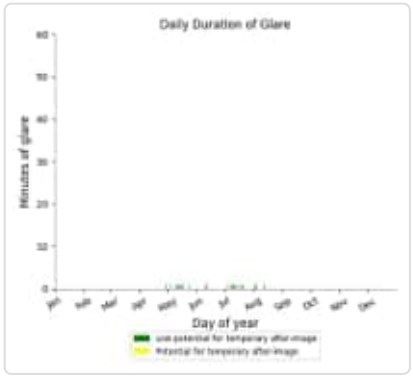
No glare found

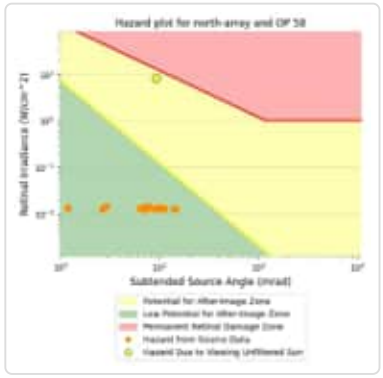
North Array: OP 58

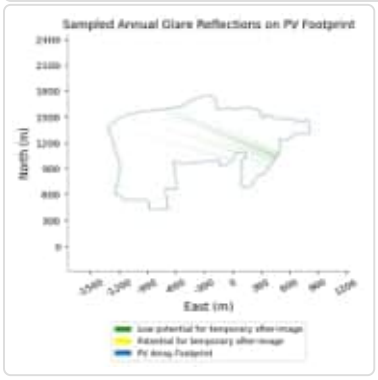
PV array is expected to produce the following glare for this receptor:

- 15 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









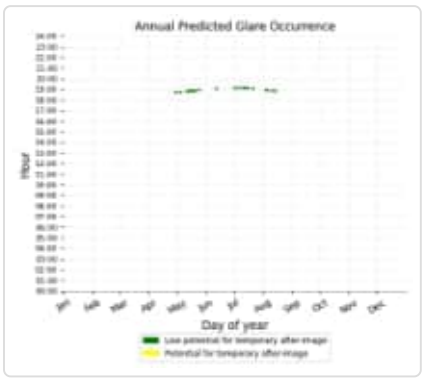
North Array: OP 59

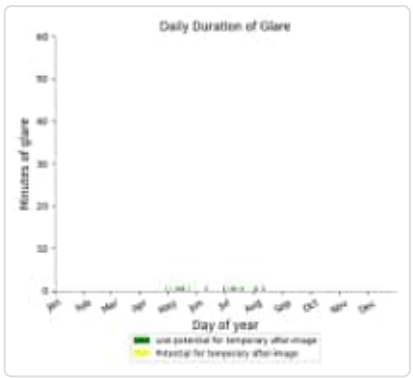
No glare found

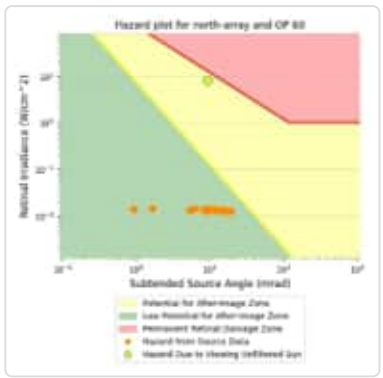
North Array: OP 60

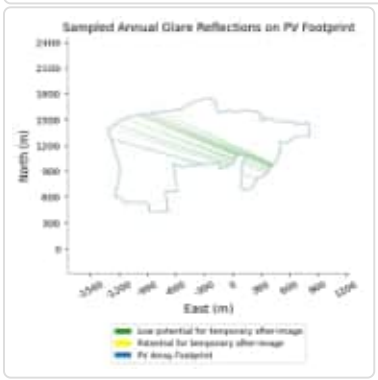
PV array is expected to produce the following glare for this receptor:

- 19 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 61

No glare found

North Array: OP 62

No glare found

North Array: OP 63

No glare found

North Array: OP 64

No glare found

South Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	363	0
OP: OP 22	1290	79
OP: OP 23	1025	29
OP: OP 24	129	0
OP: OP 25	188	0
OP: OP 26	302	0
OP: OP 27	1173	7
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0

OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0
OP: OP 61	0	0
OP: OP 62	0	0
OP: OP 63	0	0
OP: OP 64	0	0

South Array: OP 1

No glare found

South Array: OP 2

No glare found

South Array: OP 3

No glare found

South Array: OP 4

No glare found

South Array: OP 5

No glare found

South Array: OP 6

No glare found

South Array: OP 7

No glare found

South Array: OP 8

No glare found

South Array: OP 9

No glare found

South Array: OP 10

No glare found

South Array: OP 11

No glare found

South Array: OP 12

No glare found

South Array: OP 13

No glare found

South Array: OP 14

No glare found

South Array: OP 15

No glare found

South Array: OP 16

No glare found

South Array: OP 17

No glare found

South Array: OP 18

No glare found

South Array: OP 19

No glare found

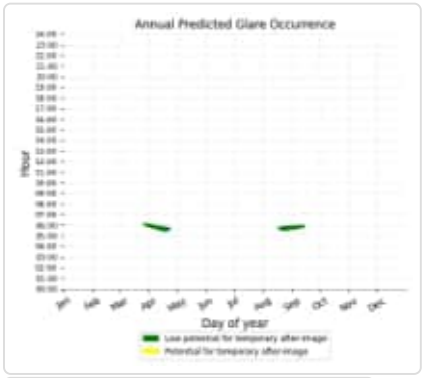
South Array: OP 20

No glare found

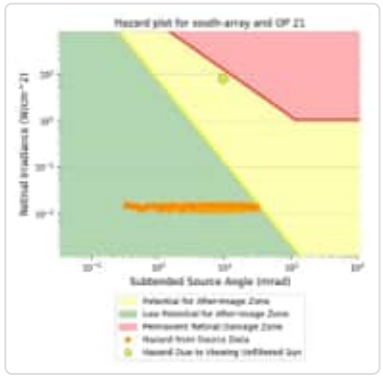
South Array: OP 21

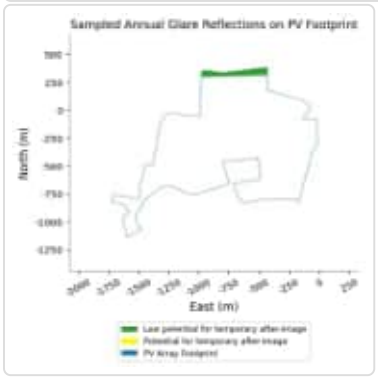
PV array is expected to produce the following glare for this receptor:

- 363 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





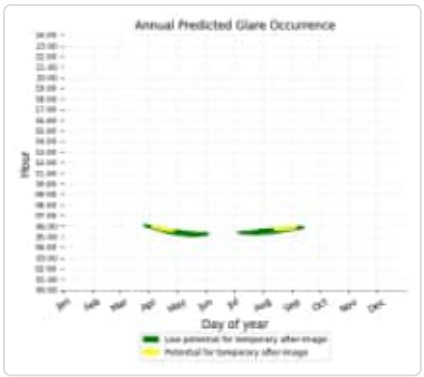


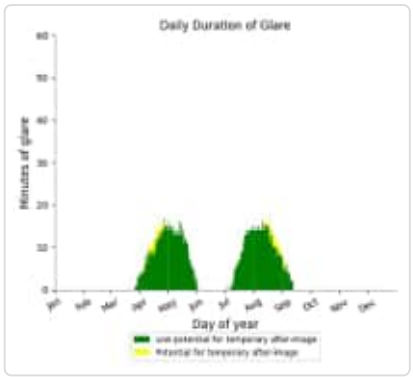


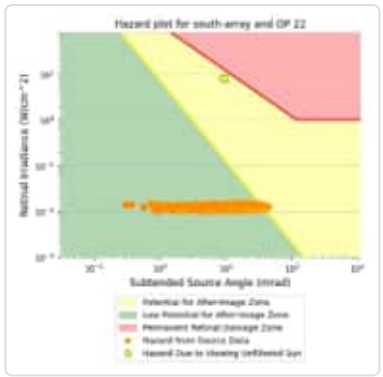
South Array: OP 22

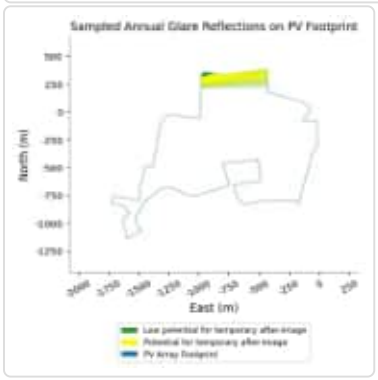
PV array is expected to produce the following glare for this receptor:

- 1,290 minutes of "green" glare with low potential to cause temporary after-image.
- 79 minutes of "yellow" glare with potential to cause temporary after-image.





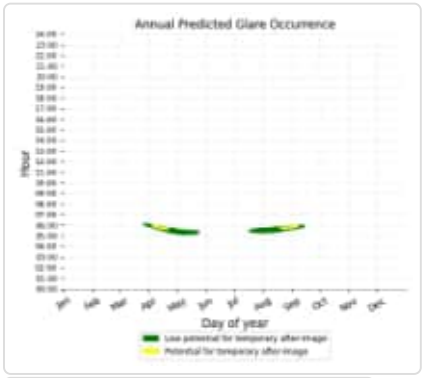




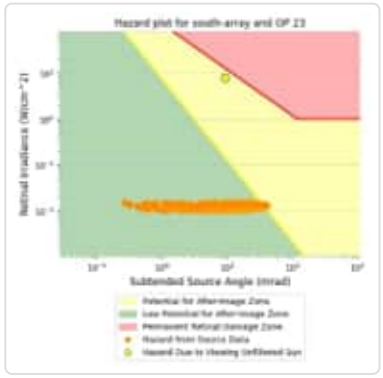
South Array: OP 23

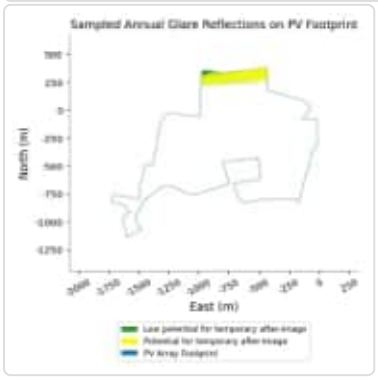
PV array is expected to produce the following glare for this receptor:

- 1,025 minutes of "green" glare with low potential to cause temporary after-image.
- 29 minutes of "yellow" glare with potential to cause temporary after-image.





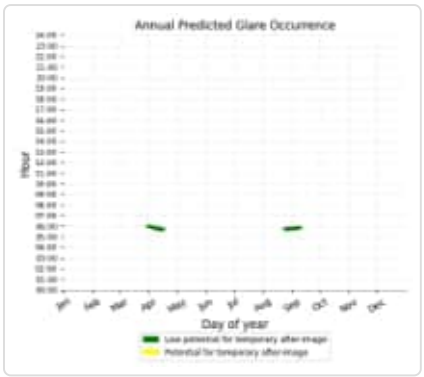


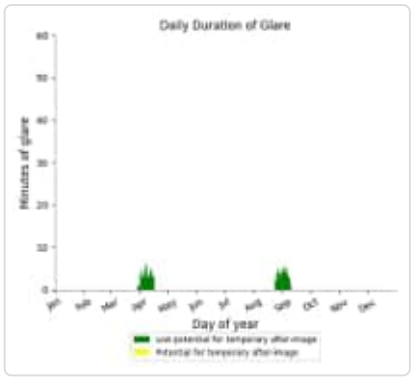


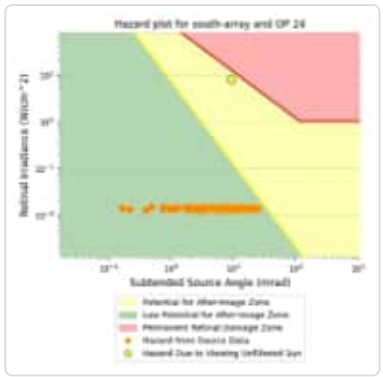
South Array: OP 24

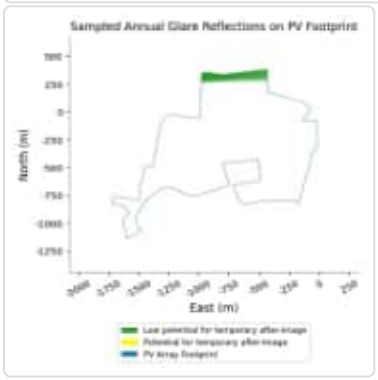
PV array is expected to produce the following glare for this receptor:

- 129 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





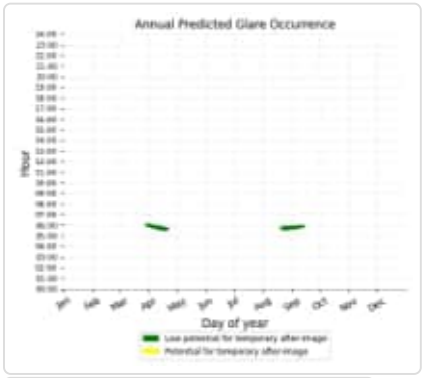


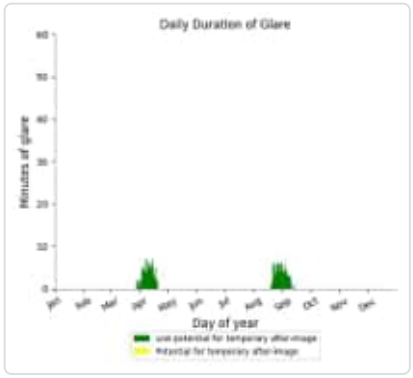


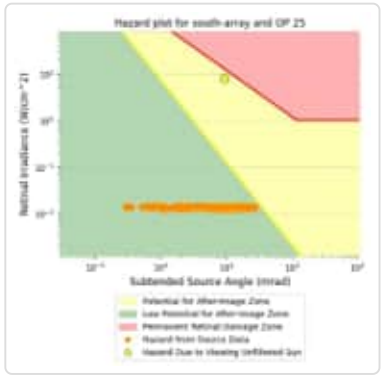
South Array: OP 25

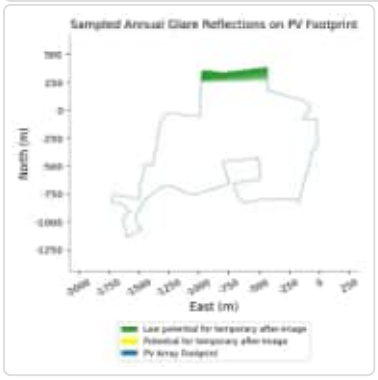
PV array is expected to produce the following glare for this receptor:

- 188 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





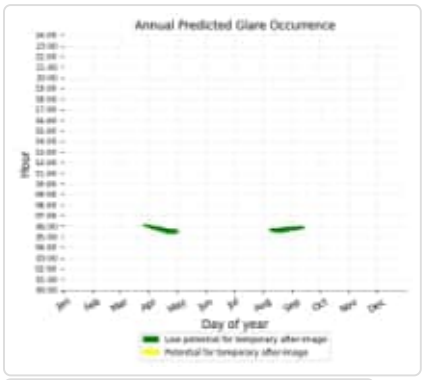


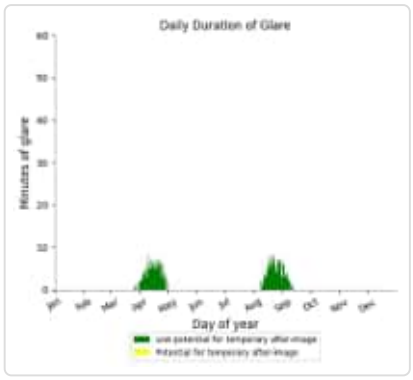


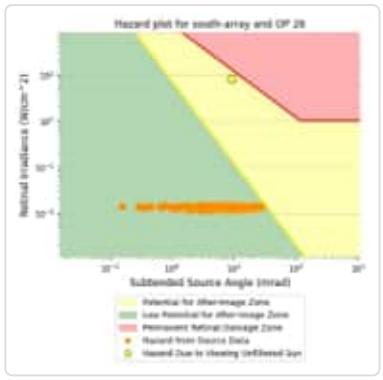
South Array: OP 26

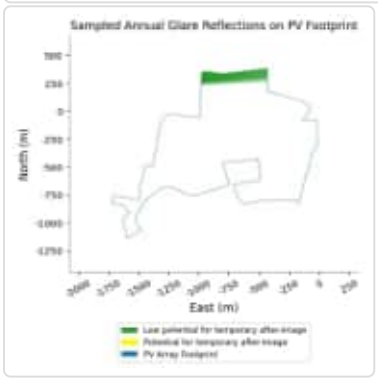
PV array is expected to produce the following glare for this receptor:

- 302 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





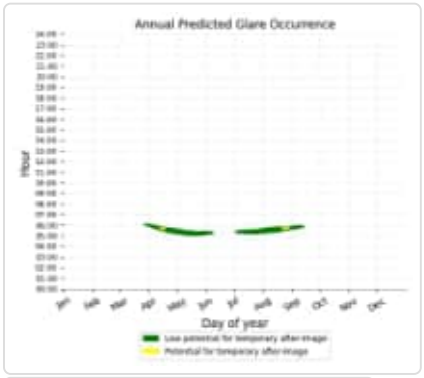




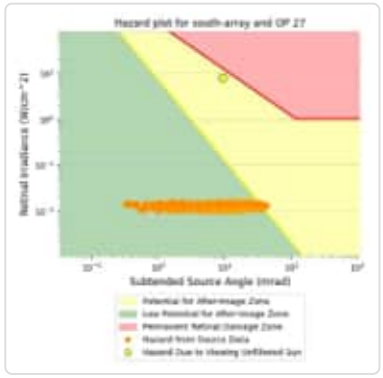
South Array: OP 27

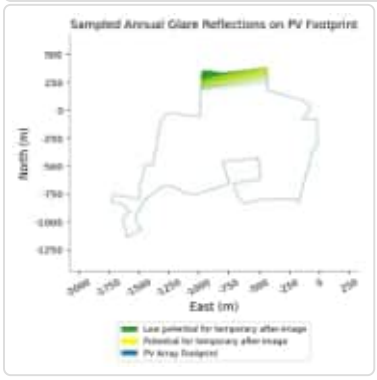
PV array is expected to produce the following glare for this receptor:

- 1,173 minutes of "green" glare with low potential to cause temporary after-image.
- 7 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 28

No glare found

South Array: OP 29

No glare found

South Array: OP 30

No glare found

South Array: OP 31

No glare found

South Array: OP 32

No glare found

South Array: OP 33

No glare found

South Array: OP 34

No glare found

South Array: OP 35

No glare found

South Array: OP 36

No glare found

South Array: OP 37

No glare found

South Array: OP 38

No glare found

South Array: OP 39

No glare found

South Array: OP 40

No glare found

South Array: OP 41

No glare found

South Array: OP 42

No glare found

South Array: OP 43

No glare found

South Array: OP 44

No glare found

South Array: OP 45

No glare found

South Array: OP 46

No glare found

South Array: OP 47

No glare found

South Array: OP 48

No glare found

South Array: OP 49

No glare found

South Array: OP 50

No glare found

South Array: OP 51

No glare found

South Array: OP 52

No glare found

South Array: OP 53

No glare found

South Array: OP 54

No glare found

South Array: OP 55

No glare found

South Array: OP 56

No glare found

South Array: OP 57

No glare found

South Array: OP 58

No glare found

South Array: OP 59

No glare found

South Array: OP 60

No glare found

South Array: OP 61

No glare found

South Array: OP 62

No glare found

South Array: OP 63

No glare found

South Array: OP 64

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.

ANNEX C: RESIDENTIAL RECEPTOR GLARE RESULTS GROUP B (RECEPTORS 65 – 124) (15 DEGREES)

Fenwick Solar Farm

Fenwick Residential Group B 15 degrees

Created Nov 28, 2023
Updated Aug 06, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106534.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	15.0	180.0	11,275	14,852	-
East Array	15.0	180.0	12,743	477	-
North Array	15.0	180.0	7,015	347	-
South Array	15.0	180.0	29,250	2,838	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.636218	-1.057659	7.59	2.00	9.59
OP 2	53.635818	-1.057305	7.97	2.00	9.97
OP 3	53.637690	-1.066750	7.00	2.00	9.00
OP 4	53.637490	-1.066986	7.00	2.00	9.00
OP 5	53.637306	-1.067099	7.00	2.00	9.00
OP 6	53.635957	-1.069357	8.97	2.00	10.97
OP 7	53.635744	-1.069749	8.98	2.00	10.98
OP 8	53.635652	-1.070092	8.57	2.00	10.57
OP 9	53.635286	-1.071627	8.00	2.00	10.00
OP 10	53.634007	-1.074373	6.06	2.00	8.06
OP 11	53.628460	-1.073461	6.96	2.00	8.96
OP 12	53.634059	-1.116895	7.41	2.00	9.41
OP 13	53.633779	-1.116895	7.41	2.00	9.41
OP 14	53.633957	-1.117447	7.00	2.00	9.00
OP 15	53.625580	-1.110388	8.99	2.00	10.99
OP 16	53.624955	-1.111447	8.00	2.00	10.00
OP 17	53.622448	-1.116362	8.00	2.00	10.00
OP 18	53.622441	-1.115659	8.20	2.00	10.20
OP 19	53.622286	-1.113889	9.00	2.00	11.00
OP 20	53.622276	-1.113680	8.99	2.00	10.99
OP 21	53.622403	-1.110349	8.26	2.00	10.26
OP 22	53.622063	-1.109415	8.78	2.00	10.78
OP 23	53.621694	-1.109233	8.25	2.00	10.25
OP 24	53.624775	-1.101250	8.22	2.00	10.22
OP 25	53.623747	-1.101336	8.23	2.00	10.23
OP 26	53.623620	-1.100901	8.02	2.00	10.02
OP 27	53.623108	-1.100971	8.00	2.00	10.00
OP 28	53.622971	-1.099845	8.89	2.00	10.89
OP 29	53.622901	-1.099684	8.99	2.00	10.99
OP 30	53.622083	-1.101331	8.24	2.00	10.24
OP 31	53.622128	-1.100075	9.10	2.00	11.10
OP 32	53.622296	-1.098976	9.00	2.00	11.00
OP 33	53.622128	-1.097871	9.00	2.00	11.00
OP 34	53.621577	-1.101443	8.83	2.00	10.83
OP 35	53.621679	-1.098847	9.24	2.00	11.24
OP 36	53.620432	-1.099255	9.00	2.00	11.00
OP 37	53.620575	-1.097366	9.00	2.00	11.00
OP 38	53.620215	-1.097157	9.00	2.00	11.00
OP 39	53.619601	-1.097817	9.00	2.00	11.00
OP 40	53.620002	-1.096588	9.00	2.00	11.00
OP 41	53.620390	-1.096626	9.00	2.00	11.00
OP 42	53.621129	-1.097146	9.00	2.00	11.00
OP 43	53.622083	-1.097061	8.76	2.00	10.76
OP 44	53.622357	-1.095886	8.00	2.00	10.00
OP 45	53.622669	-1.094604	8.91	2.00	10.91
OP 46	53.622831	-1.093531	8.09	2.00	10.09
OP 47	53.623108	-1.092356	7.73	2.00	9.73
OP 48	53.621708	-1.096138	8.72	2.00	10.72
OP 49	53.621930	-1.094958	9.00	2.00	11.00
OP 50	53.622210	-1.094153	9.00	2.00	11.00
OP 51	53.622334	-1.093048	8.82	2.00	10.82
OP 52	53.623450	-1.087716	8.00	2.00	10.00
OP 53	53.623590	-1.087566	7.89	2.00	9.89
OP 54	53.623485	-1.087281	7.54	2.00	9.54
OP 55	53.623754	-1.084967	7.68	2.00	9.68
OP 56	53.623458	-1.084629	8.00	2.00	10.00
OP 57	53.623519	-1.083234	8.00	2.00	10.00
OP 58	53.622268	-1.086351	8.00	2.00	10.00
OP 59	53.622469	-1.085487	8.00	2.00	10.00
OP 60	53.622653	-1.082799	8.00	2.00	10.00

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	15.0	180.0	11,275	14,852	-	-
East Array	15.0	180.0	12,743	477	-	-
North Array	15.0	180.0	7,015	347	-	-
South Array	15.0	180.0	29,250	2,838	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	11	131	172	149	163	140	42	0	0	0
central-arra (yellow)	0	0	0	23	435	563	522	110	2	0	0	0
east-array (green)	0	0	7	523	1320	1467	1606	602	127	0	0	0
east-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
north-array (green)	0	0	2	357	1030	1024	1098	631	15	0	0	0
north-array (yellow)	0	0	0	0	23	119	51	0	0	0	0	0
south-array (green)	0	0	19	673	1060	1064	1062	899	114	0	0	0
south-array (yellow)	0	0	0	0	8	2	7	1	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array potential temporary after-image

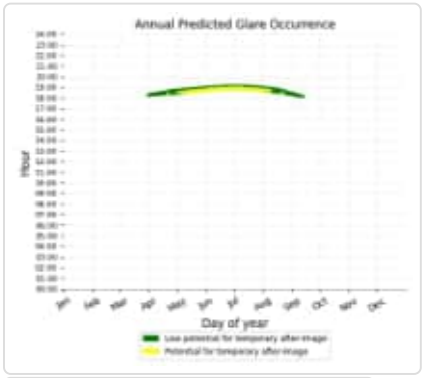
Component	Green glare (min)	Yellow glare (min)
OP: OP 1	1900	303
OP: OP 2	1995	215
OP: OP 3	679	2038
OP: OP 4	860	1913
OP: OP 5	804	1997
OP: OP 6	1221	1196
OP: OP 7	983	1537
OP: OP 8	792	1843
OP: OP 9	697	2183
OP: OP 10	1344	1627
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0

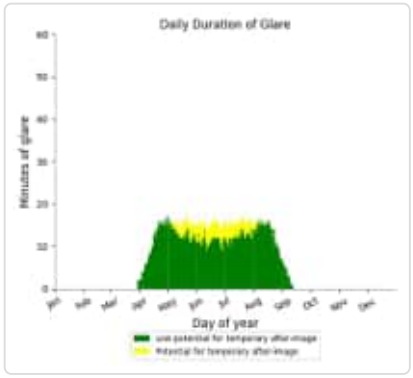
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0

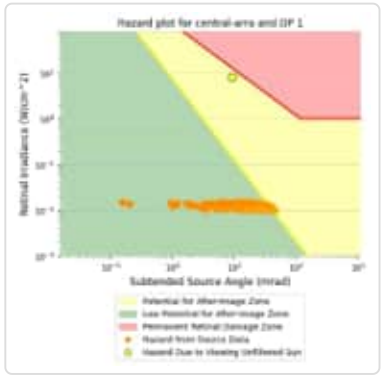
Central Array: OP 1

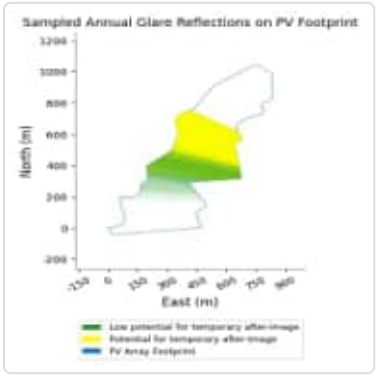
PV array is expected to produce the following glare for this receptor:

- 1,900 minutes of "green" glare with low potential to cause temporary after-image.
- 303 minutes of "yellow" glare with potential to cause temporary after-image.





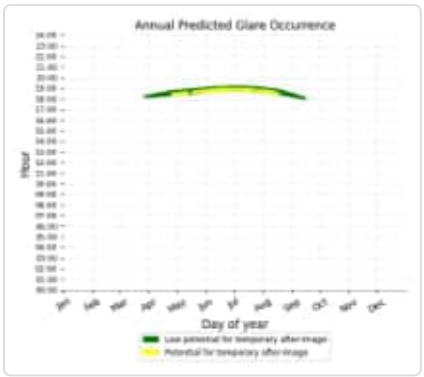


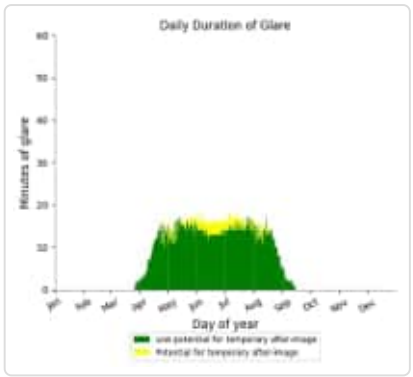


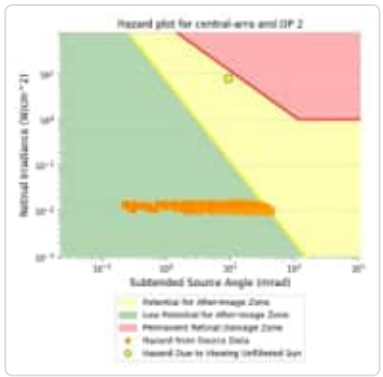
Central Array: OP 2

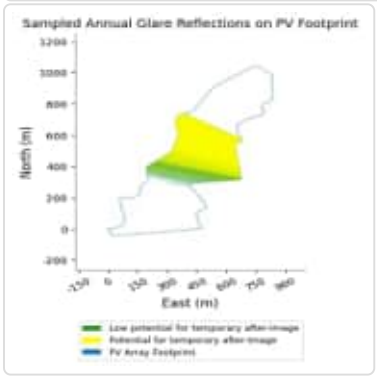
PV array is expected to produce the following glare for this receptor:

- 1,995 minutes of "green" glare with low potential to cause temporary after-image.
- 215 minutes of "yellow" glare with potential to cause temporary after-image.





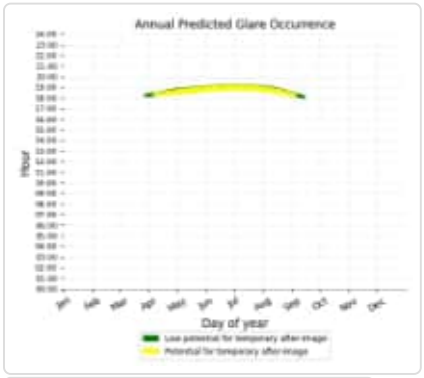


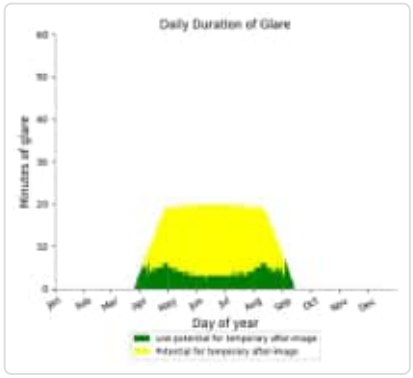


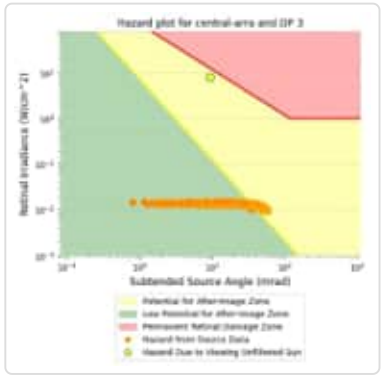
Central Array: OP 3

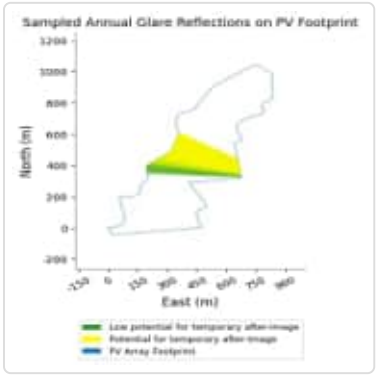
PV array is expected to produce the following glare for this receptor:

- 679 minutes of "green" glare with low potential to cause temporary after-image.
- 2,038 minutes of "yellow" glare with potential to cause temporary after-image.





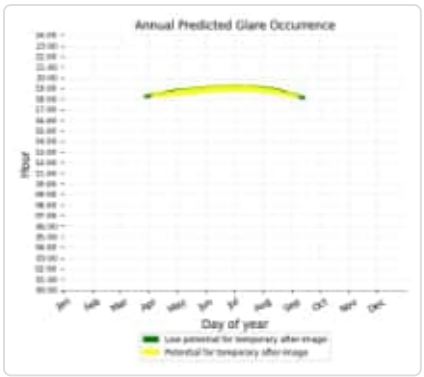


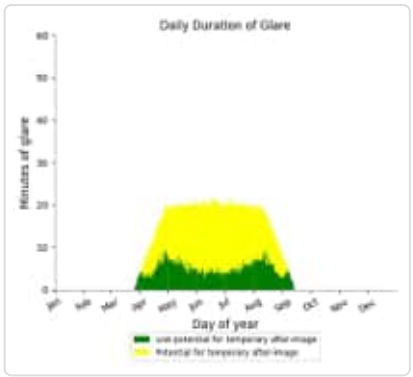


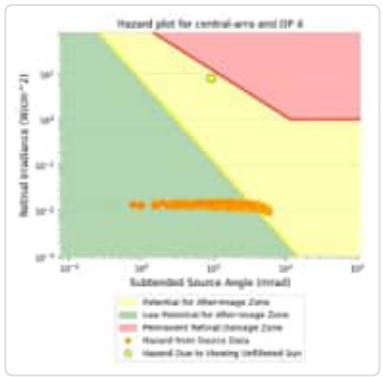
Central Array: OP 4

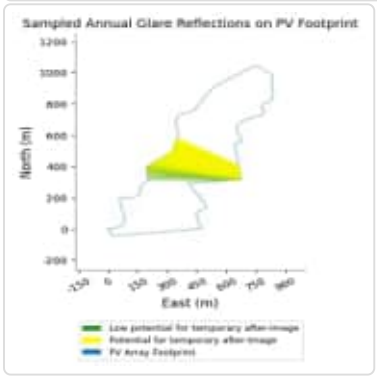
PV array is expected to produce the following glare for this receptor:

- 860 minutes of "green" glare with low potential to cause temporary after-image.
- 1,913 minutes of "yellow" glare with potential to cause temporary after-image.





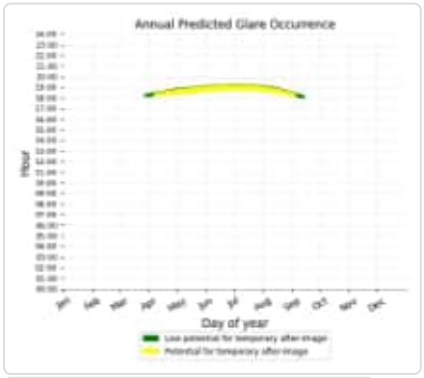


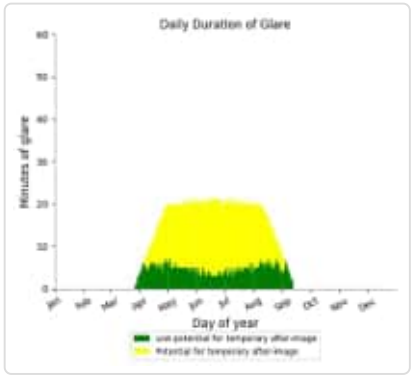


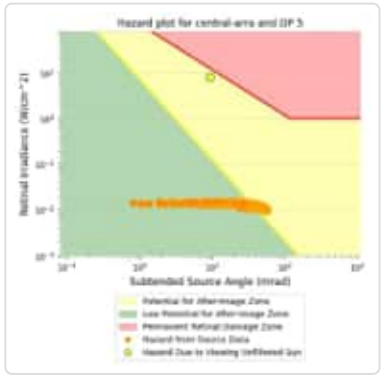
Central Array: OP 5

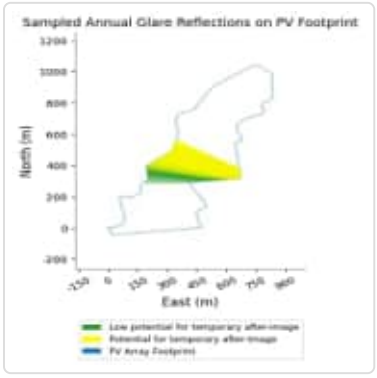
PV array is expected to produce the following glare for this receptor:

- 804 minutes of "green" glare with low potential to cause temporary after-image.
- 1,997 minutes of "yellow" glare with potential to cause temporary after-image.





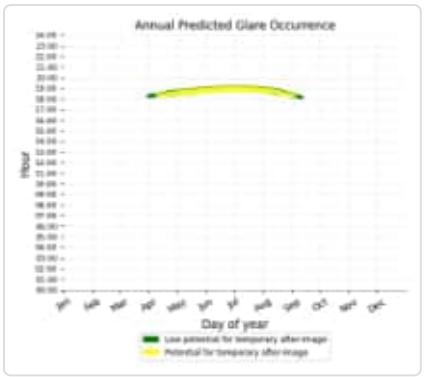


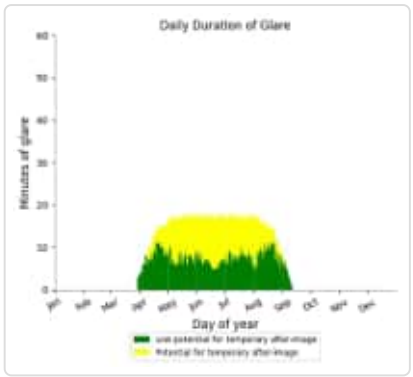


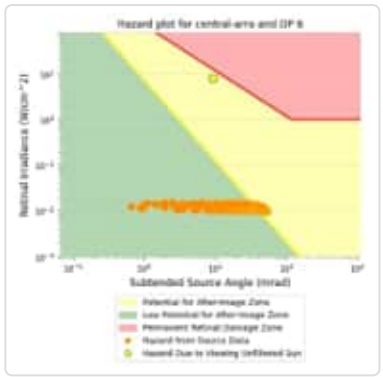
Central Array: OP 6

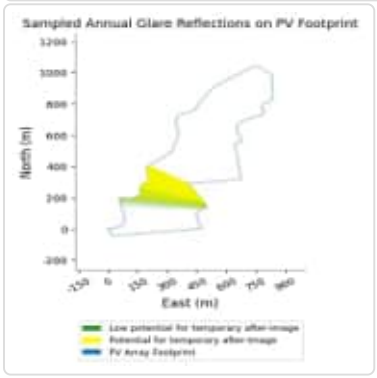
PV array is expected to produce the following glare for this receptor:

- 1,221 minutes of "green" glare with low potential to cause temporary after-image.
- 1,196 minutes of "yellow" glare with potential to cause temporary after-image.





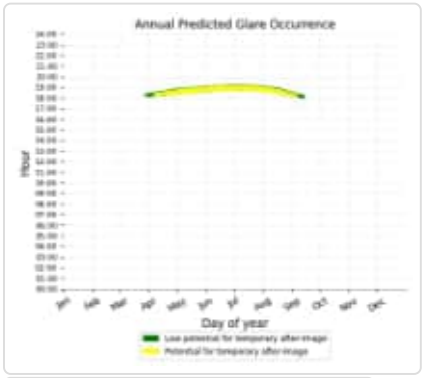


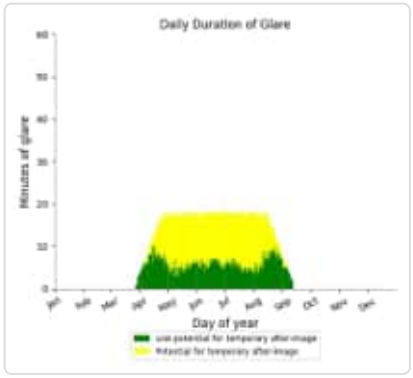


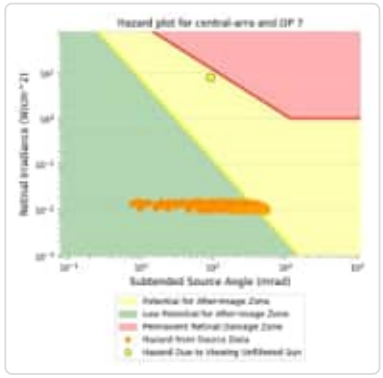
Central Array: OP 7

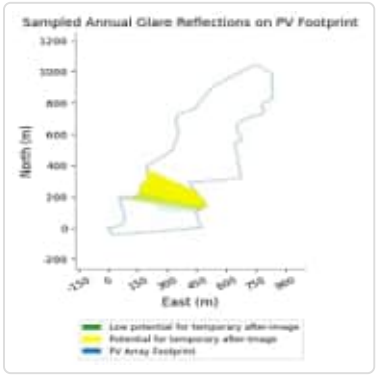
PV array is expected to produce the following glare for this receptor:

- 983 minutes of "green" glare with low potential to cause temporary after-image.
- 1,537 minutes of "yellow" glare with potential to cause temporary after-image.





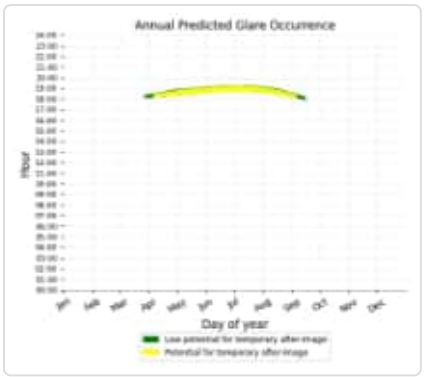


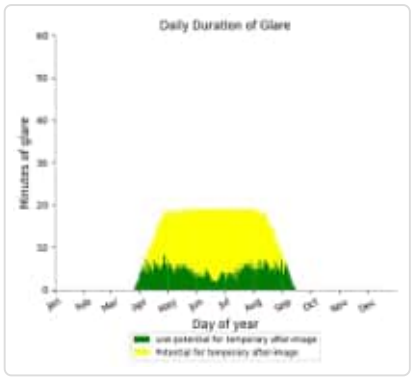


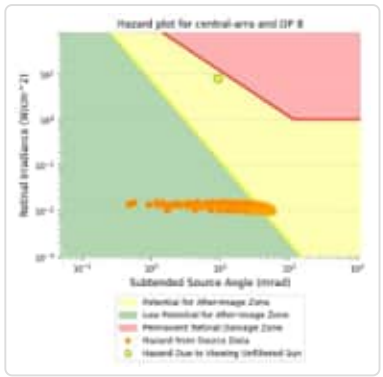
Central Array: OP 8

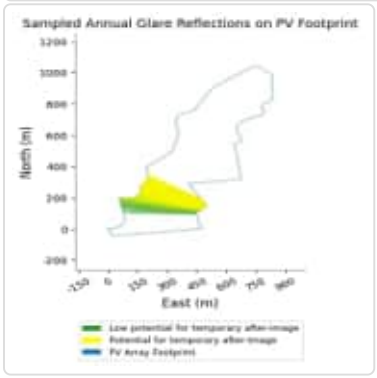
PV array is expected to produce the following glare for this receptor:

- 792 minutes of "green" glare with low potential to cause temporary after-image.
- 1,843 minutes of "yellow" glare with potential to cause temporary after-image.





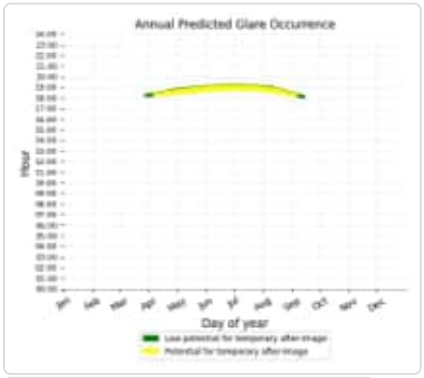


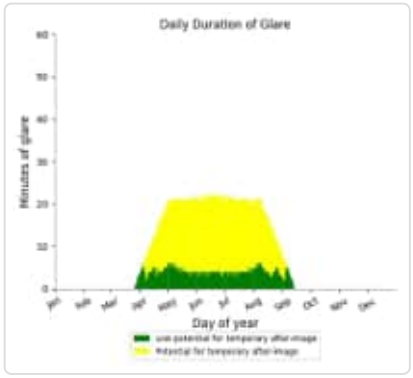


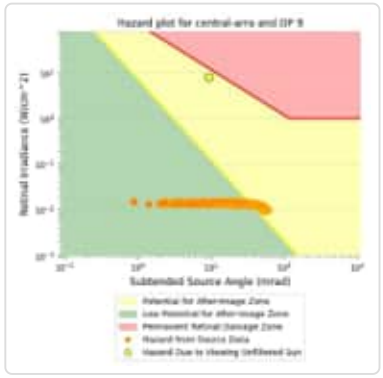
Central Array: OP 9

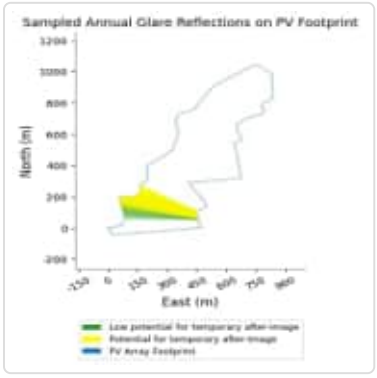
PV array is expected to produce the following glare for this receptor:

- 697 minutes of "green" glare with low potential to cause temporary after-image.
- 2,183 minutes of "yellow" glare with potential to cause temporary after-image.





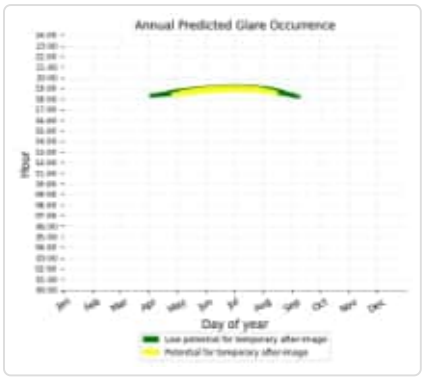


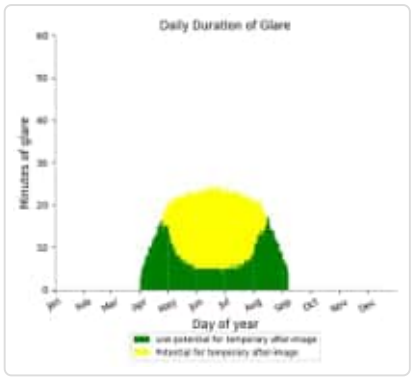


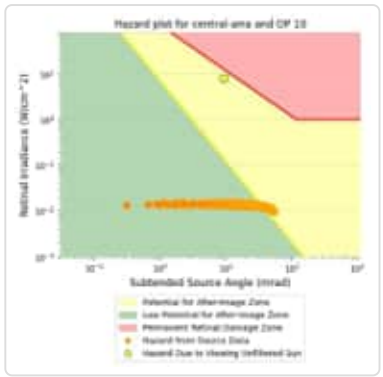
Central Array: OP 10

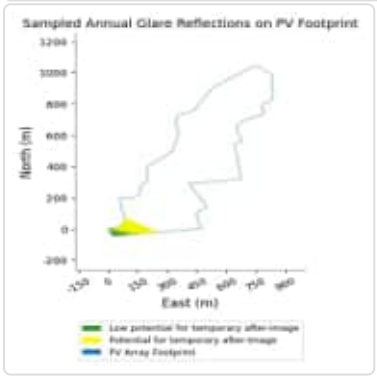
PV array is expected to produce the following glare for this receptor:

- 1,344 minutes of "green" glare with low potential to cause temporary after-image.
- 1,627 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 11

No glare found

Central Array: OP 12
No glare found

Central Array: OP 13
No glare found

Central Array: OP 14
No glare found

Central Array: OP 15
No glare found

Central Array: OP 16
No glare found

Central Array: OP 17
No glare found

Central Array: OP 18
No glare found

Central Array: OP 19
No glare found

Central Array: OP 20
No glare found

Central Array: OP 21
No glare found

Central Array: OP 22
No glare found

Central Array: OP 23
No glare found

Central Array: OP 24
No glare found

Central Array: OP 25
No glare found

Central Array: OP 26
No glare found

Central Array: OP 27
No glare found

Central Array: OP 28

No glare found

Central Array: OP 29

No glare found

Central Array: OP 30

No glare found

Central Array: OP 31

No glare found

Central Array: OP 32

No glare found

Central Array: OP 33

No glare found

Central Array: OP 34

No glare found

Central Array: OP 35

No glare found

Central Array: OP 36

No glare found

Central Array: OP 37

No glare found

Central Array: OP 38

No glare found

Central Array: OP 39

No glare found

Central Array: OP 40

No glare found

Central Array: OP 41

No glare found

Central Array: OP 42

No glare found

Central Array: OP 43

No glare found

Central Array: OP 44

No glare found

Central Array: OP 45

No glare found

Central Array: OP 46

No glare found

Central Array: OP 47

No glare found

Central Array: OP 48

No glare found

Central Array: OP 49

No glare found

Central Array: OP 50

No glare found

Central Array: OP 51

No glare found

Central Array: OP 52

No glare found

Central Array: OP 53

No glare found

Central Array: OP 54

No glare found

Central Array: OP 55

No glare found

Central Array: OP 56

No glare found

Central Array: OP 57

No glare found

Central Array: OP 58

No glare found

Central Array: OP 59

No glare found

Central Array: OP 60

No glare found

East Array potential temporary after-image

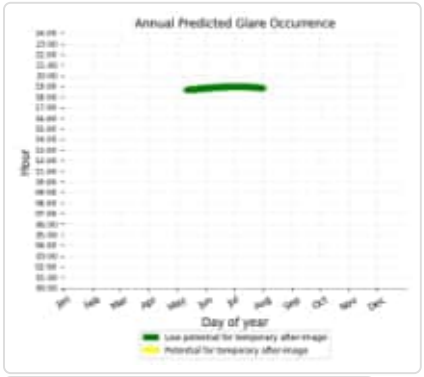
Component	Green glare (min)	Yellow glare (min)
OP: OP 1	1838	0
OP: OP 2	1275	0
OP: OP 3	1039	477
OP: OP 4	697	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	1646	0
OP: OP 13	1664	0
OP: OP 14	1579	0
OP: OP 15	1058	0
OP: OP 16	782	0
OP: OP 17	428	0
OP: OP 18	434	0
OP: OP 19	166	0
OP: OP 20	137	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0

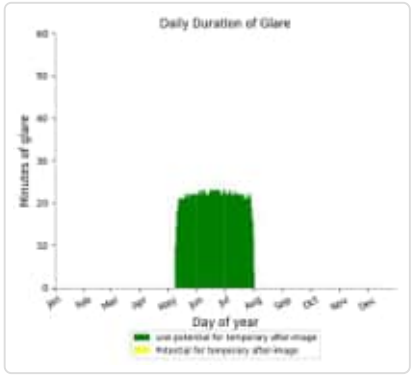
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0

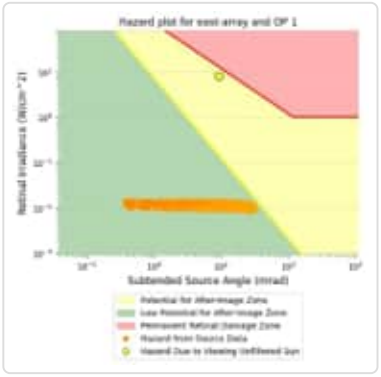
East Array: OP 1

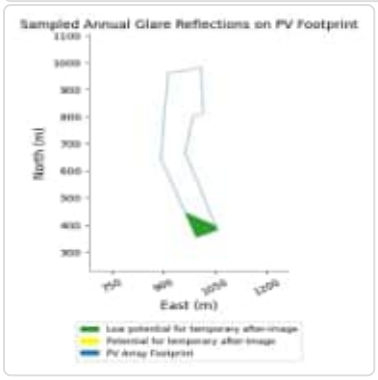
PV array is expected to produce the following glare for this receptor:

- 1,838 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





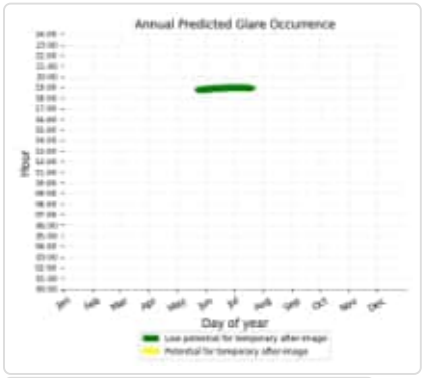


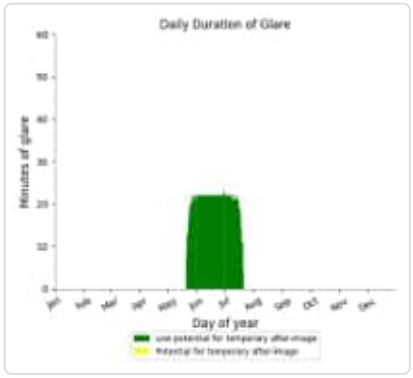


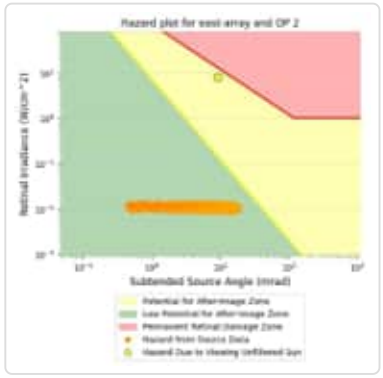
East Array: OP 2

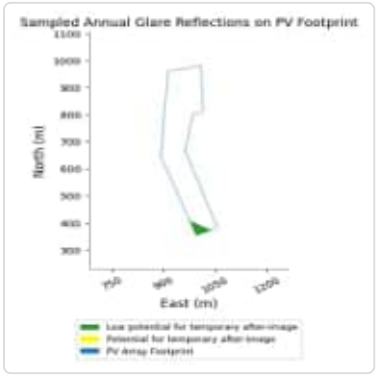
PV array is expected to produce the following glare for this receptor:

- 1,275 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





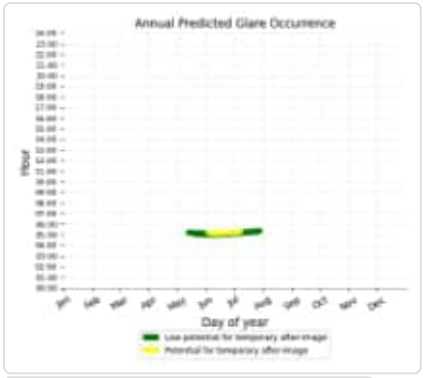


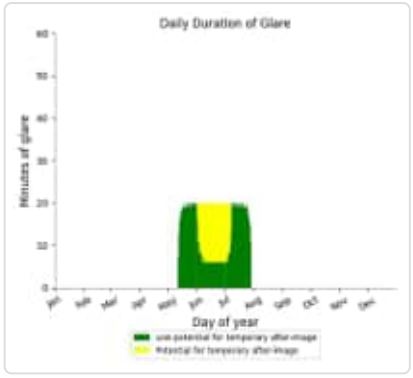


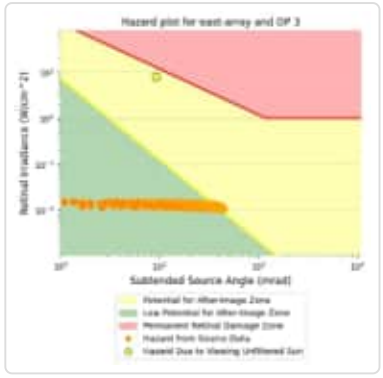
East Array: OP 3

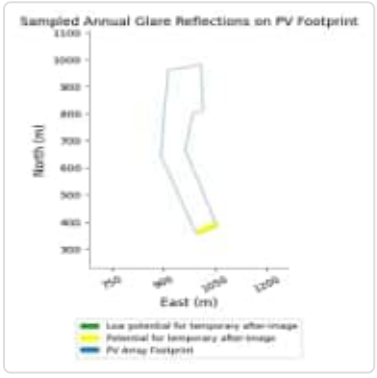
PV array is expected to produce the following glare for this receptor:

- 1,039 minutes of "green" glare with low potential to cause temporary after-image.
- 477 minutes of "yellow" glare with potential to cause temporary after-image.





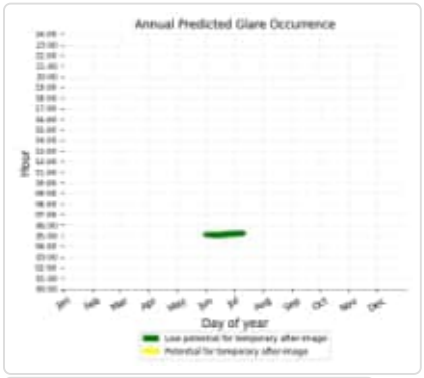


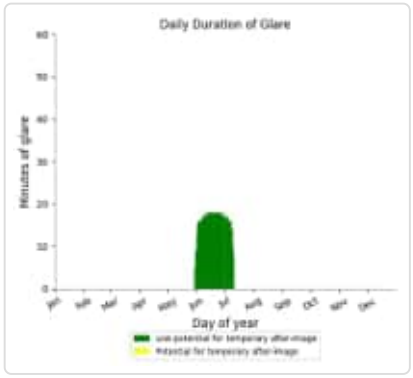


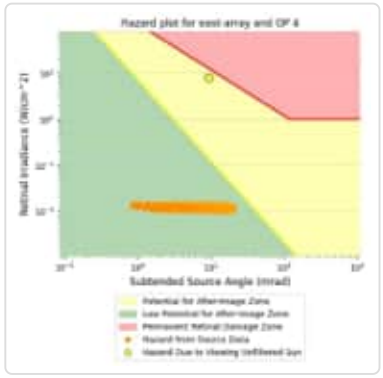
East Array: OP 4

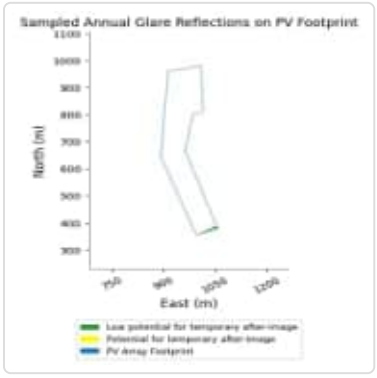
PV array is expected to produce the following glare for this receptor:

- 697 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 5

No glare found

East Array: OP 6

No glare found

East Array: OP 7

No glare found

East Array: OP 8

No glare found

East Array: OP 9

No glare found

East Array: OP 10

No glare found

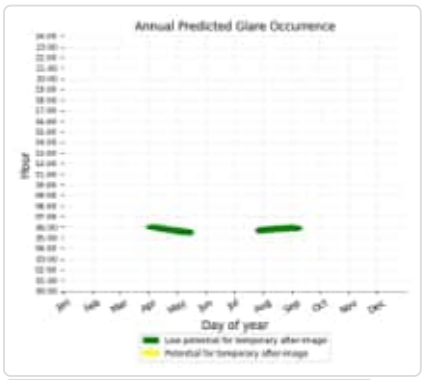
East Array: OP 11

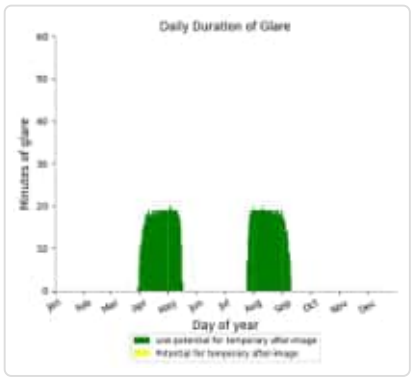
No glare found

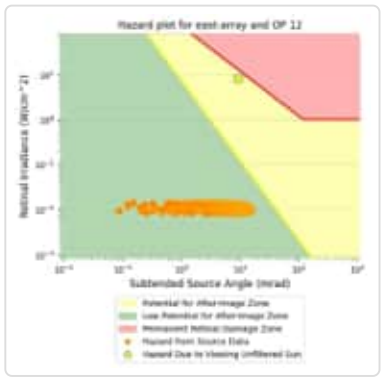
East Array: OP 12

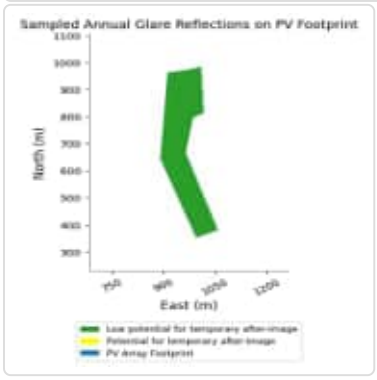
PV array is expected to produce the following glare for this receptor:

- 1,646 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





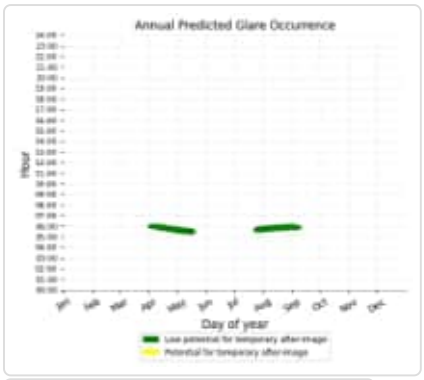


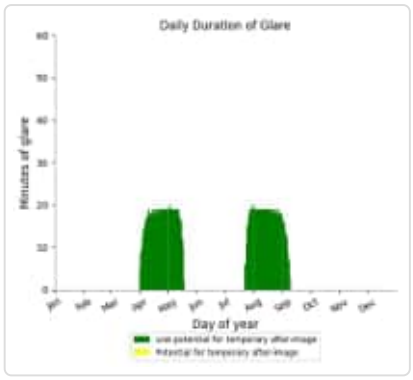


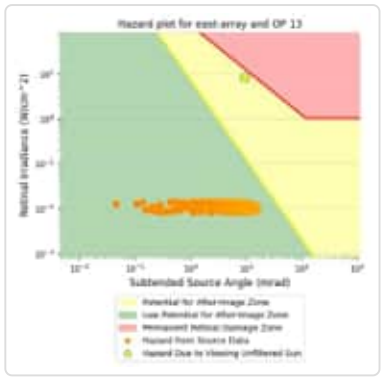
East Array: OP 13

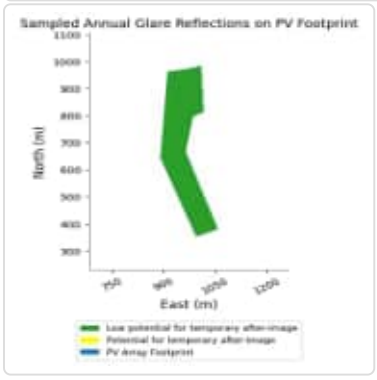
PV array is expected to produce the following glare for this receptor:

- 1,664 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





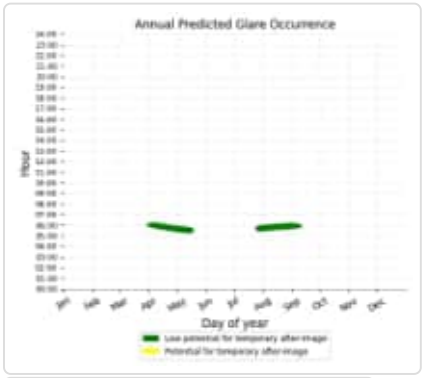




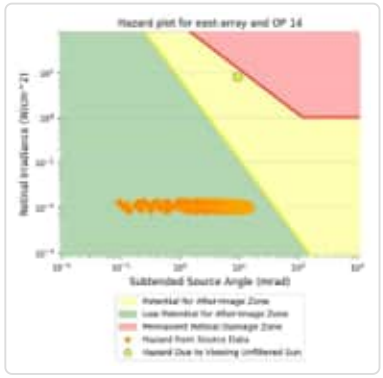
East Array: OP 14

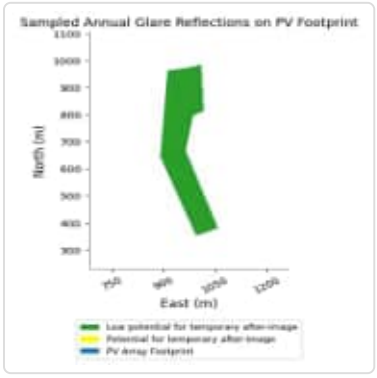
PV array is expected to produce the following glare for this receptor:

- 1,579 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





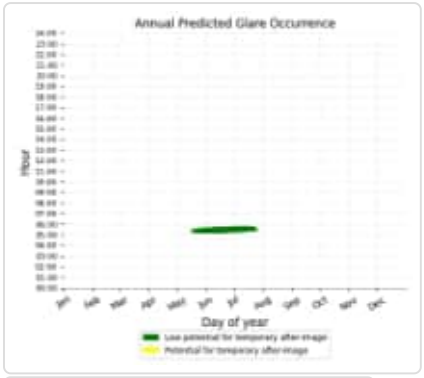




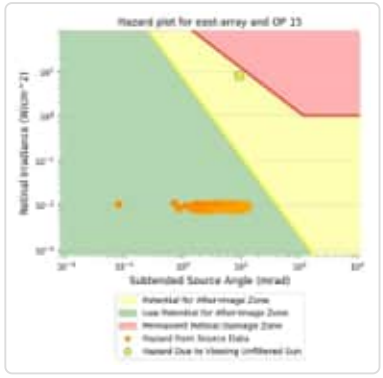
East Array: OP 15

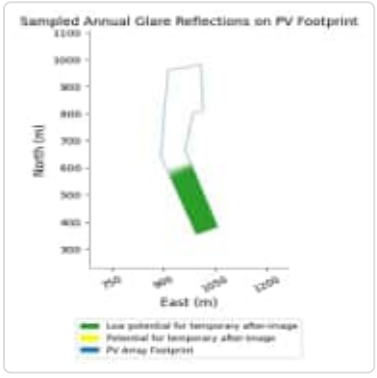
PV array is expected to produce the following glare for this receptor:

- 1,058 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





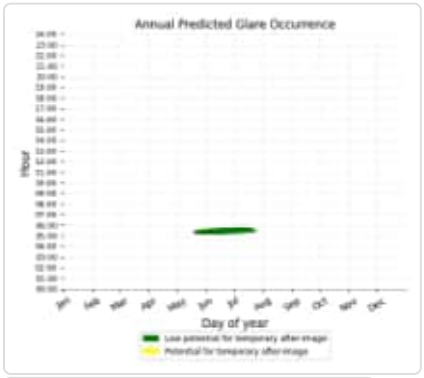




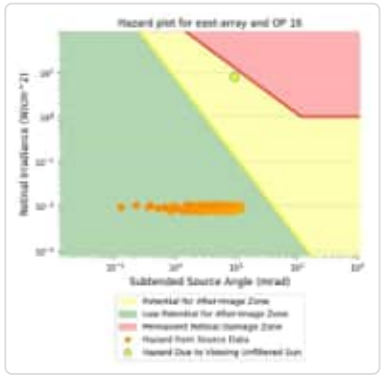
East Array: OP 16

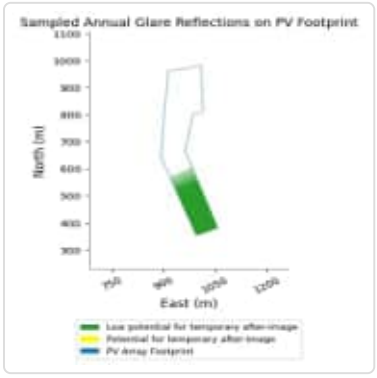
PV array is expected to produce the following glare for this receptor:

- 782 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





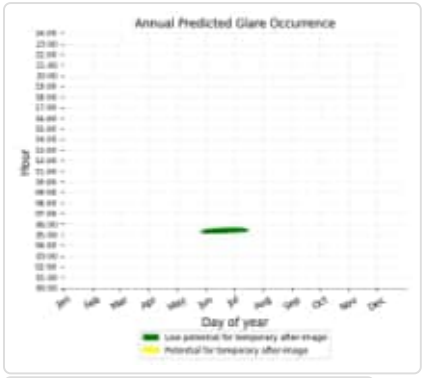


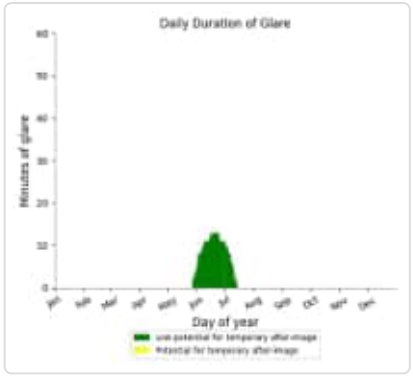


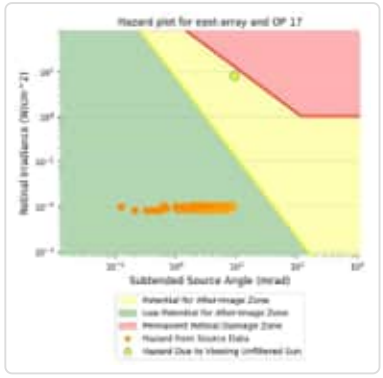
East Array: OP 17

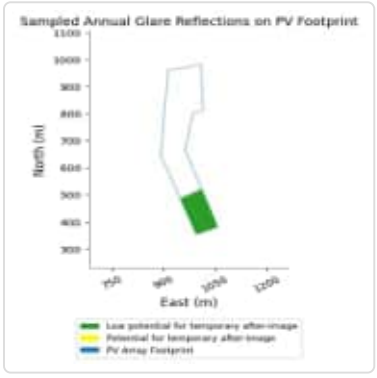
PV array is expected to produce the following glare for this receptor:

- 428 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





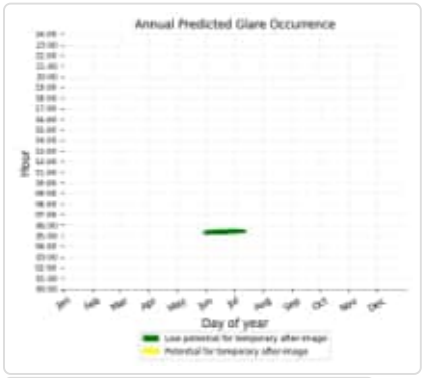


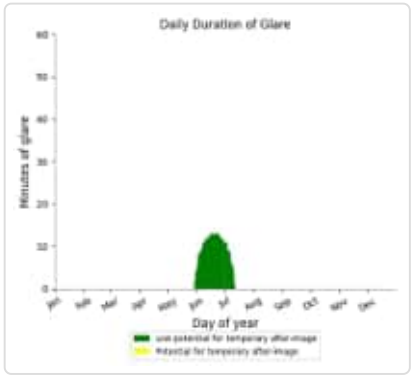


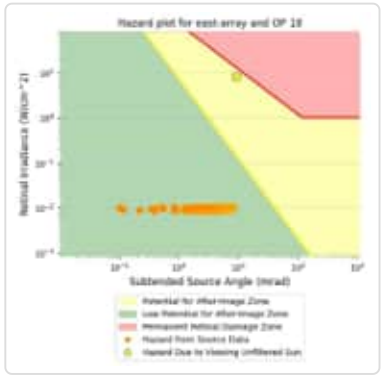
East Array: OP 18

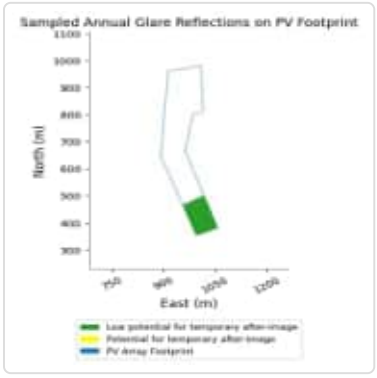
PV array is expected to produce the following glare for this receptor:

- 434 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





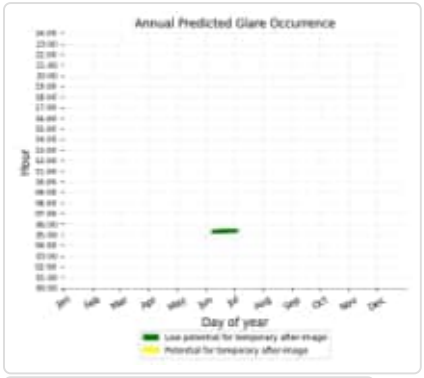


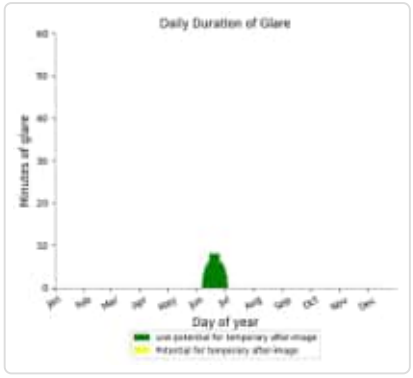


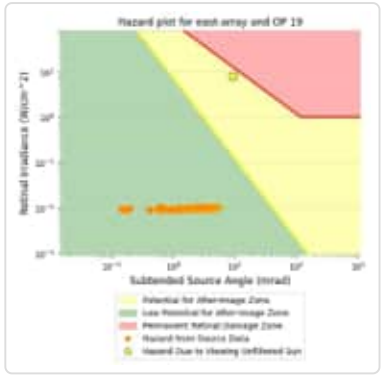
East Array: OP 19

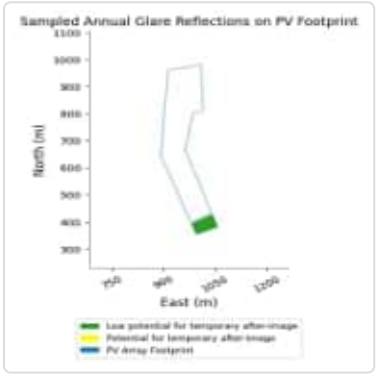
PV array is expected to produce the following glare for this receptor:

- 166 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





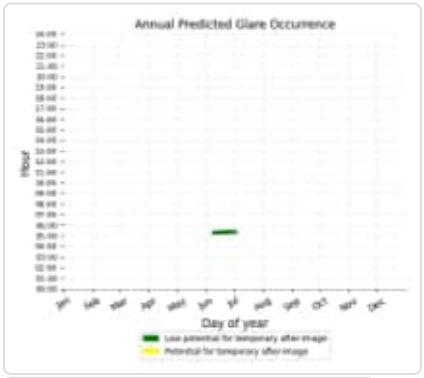


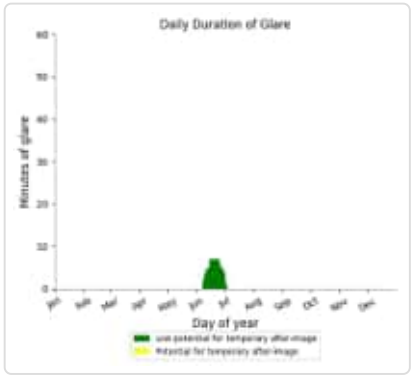


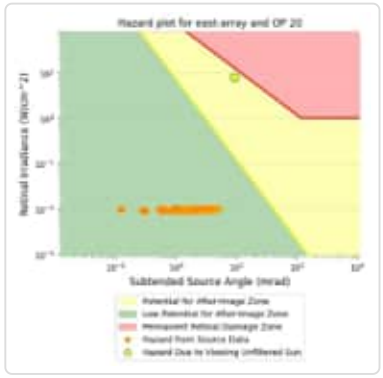
East Array: OP 20

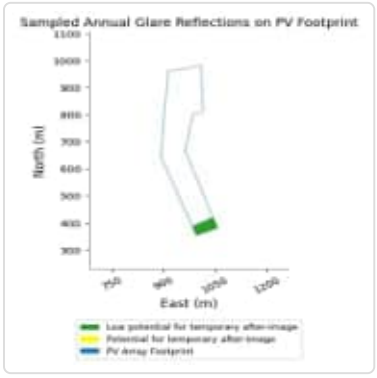
PV array is expected to produce the following glare for this receptor:

- 137 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 21

No glare found

East Array: OP 22

No glare found

East Array: OP 23

No glare found

East Array: OP 24

No glare found

East Array: OP 25

No glare found

East Array: OP 26

No glare found

East Array: OP 27

No glare found

East Array: OP 28

No glare found

East Array: OP 29

No glare found

East Array: OP 30

No glare found

East Array: OP 31

No glare found

East Array: OP 32

No glare found

East Array: OP 33

No glare found

East Array: OP 34

No glare found

East Array: OP 35

No glare found

East Array: OP 36

No glare found

East Array: OP 37

No glare found

East Array: OP 38

No glare found

East Array: OP 39

No glare found

East Array: OP 40

No glare found

East Array: OP 41

No glare found

East Array: OP 42

No glare found

East Array: OP 43

No glare found

East Array: OP 44

No glare found

East Array: OP 45

No glare found

East Array: OP 46
No glare found

East Array: OP 47
No glare found

East Array: OP 48
No glare found

East Array: OP 49
No glare found

East Array: OP 50
No glare found

East Array: OP 51
No glare found

East Array: OP 52
No glare found

East Array: OP 53
No glare found

East Array: OP 54
No glare found

East Array: OP 55
No glare found

East Array: OP 56
No glare found

East Array: OP 57
No glare found

East Array: OP 58
No glare found

East Array: OP 59
No glare found

East Array: OP 60
No glare found

North Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)

OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	595	2
OP: OP 4	559	3
OP: OP 5	596	3
OP: OP 6	701	23
OP: OP 7	476	4
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	812	4
OP: OP 11	0	0
OP: OP 12	1099	95
OP: OP 13	1054	112
OP: OP 14	1123	101
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0

OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0

North Array: OP 1

No glare found

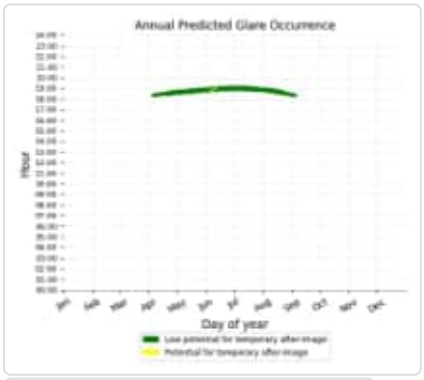
North Array: OP 2

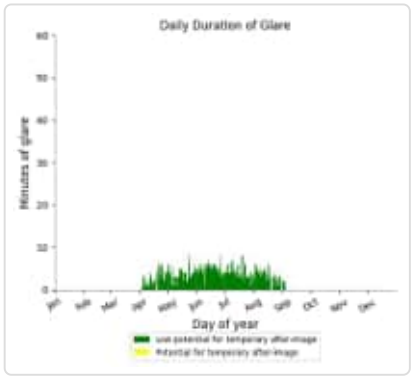
No glare found

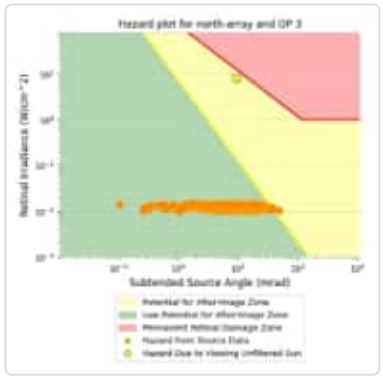
North Array: OP 3

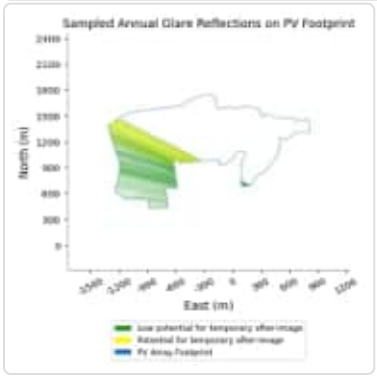
PV array is expected to produce the following glare for this receptor:

- 595 minutes of "green" glare with low potential to cause temporary after-image.
- 2 minutes of "yellow" glare with potential to cause temporary after-image.





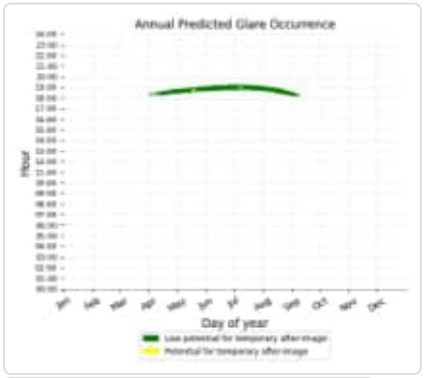


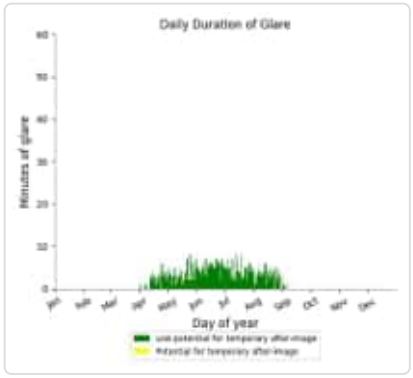


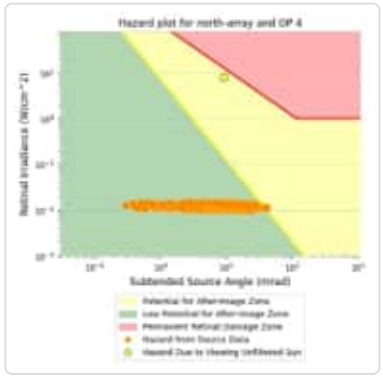
North Array: OP 4

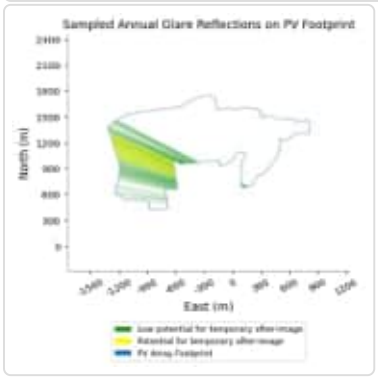
PV array is expected to produce the following glare for this receptor:

- 559 minutes of "green" glare with low potential to cause temporary after-image.
- 3 minutes of "yellow" glare with potential to cause temporary after-image.





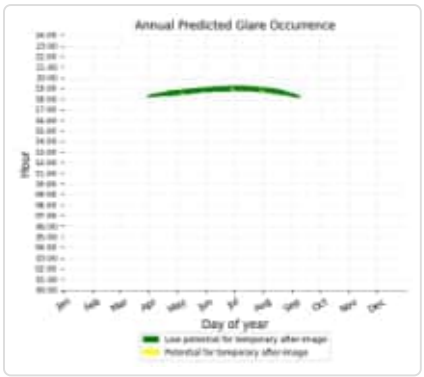


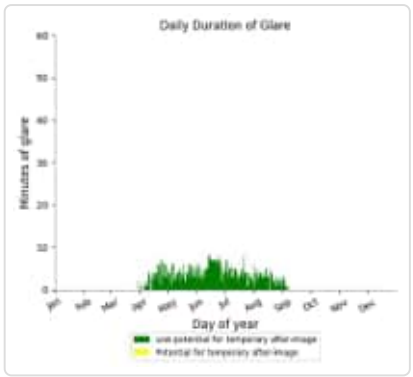


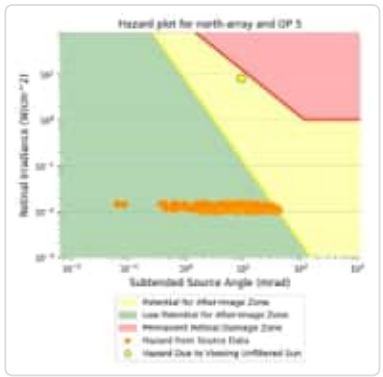
North Array: OP 5

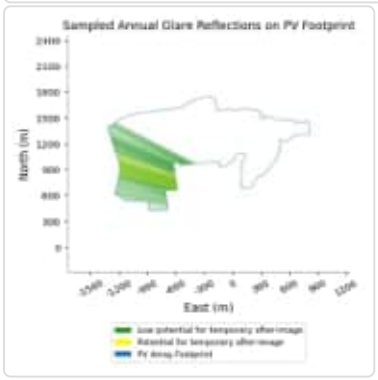
PV array is expected to produce the following glare for this receptor:

- 596 minutes of "green" glare with low potential to cause temporary after-image.
- 3 minutes of "yellow" glare with potential to cause temporary after-image.





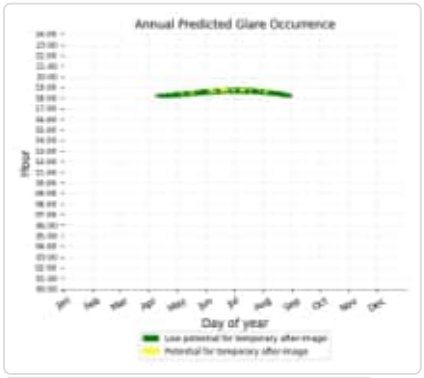


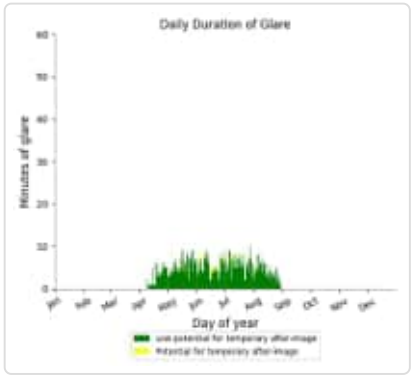


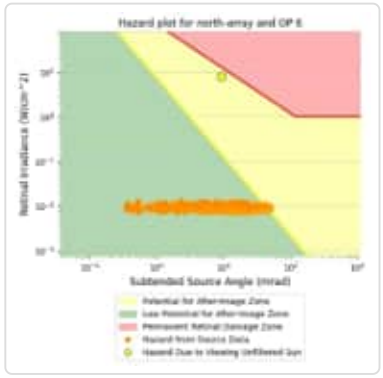
North Array: OP 6

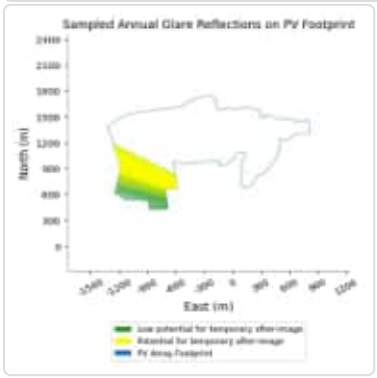
PV array is expected to produce the following glare for this receptor:

- 701 minutes of "green" glare with low potential to cause temporary after-image.
- 23 minutes of "yellow" glare with potential to cause temporary after-image.





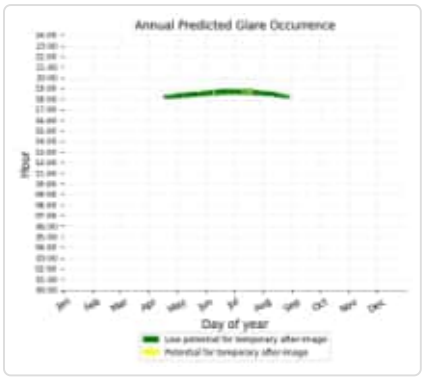


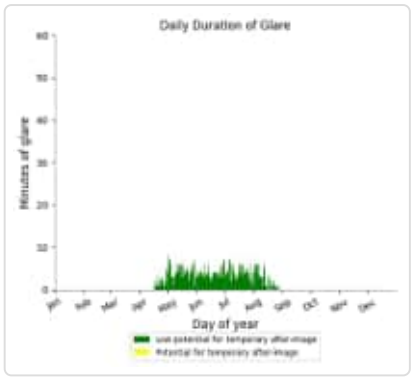


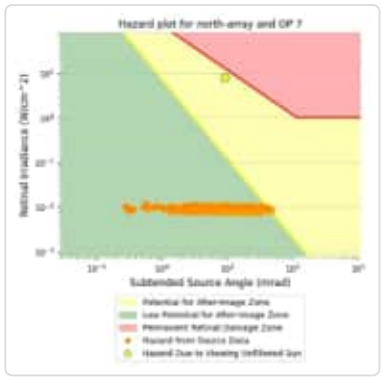
North Array: OP 7

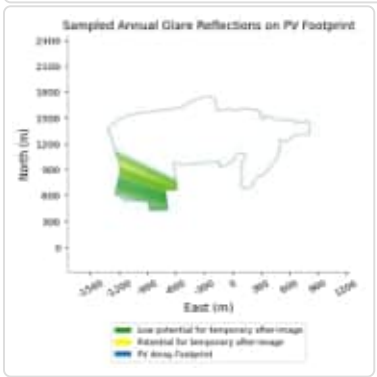
PV array is expected to produce the following glare for this receptor:

- 476 minutes of "green" glare with low potential to cause temporary after-image.
- 4 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 8

No glare found

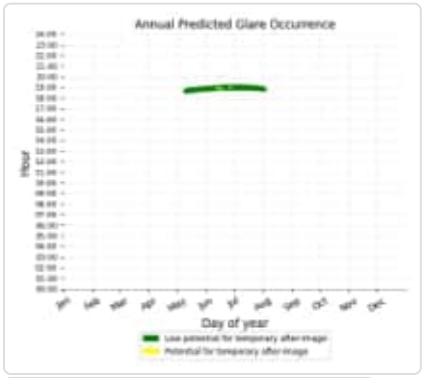
North Array: OP 9

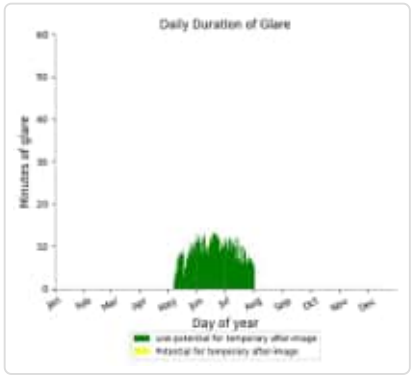
No glare found

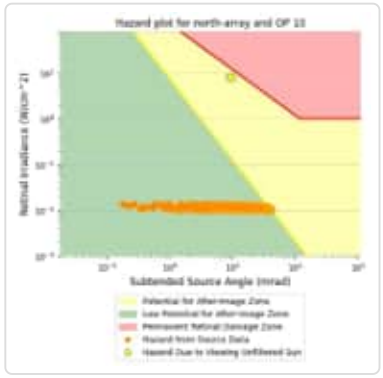
North Array: OP 10

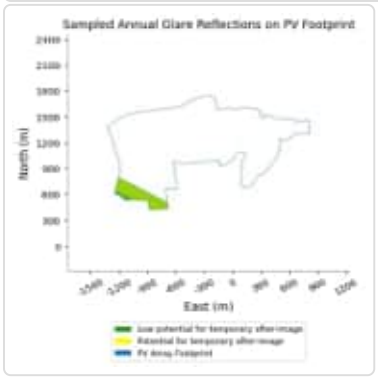
PV array is expected to produce the following glare for this receptor:

- 812 minutes of "green" glare with low potential to cause temporary after-image.
- 4 minutes of "yellow" glare with potential to cause temporary after-image.









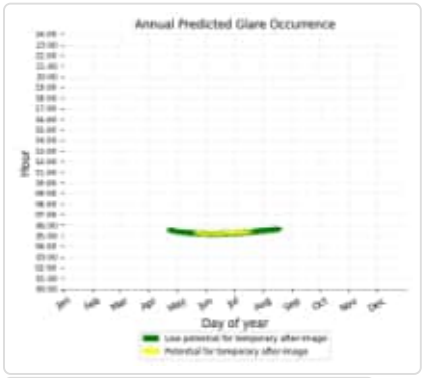
North Array: OP 11

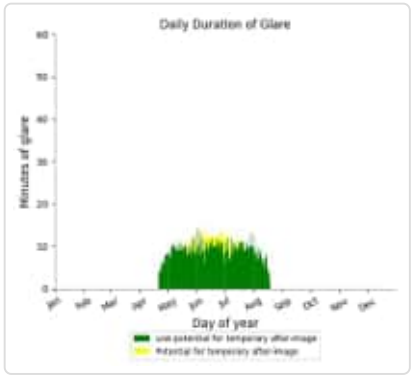
No glare found

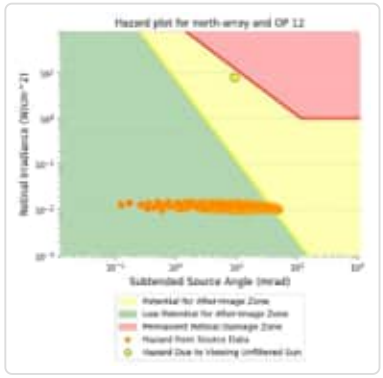
North Array: OP 12

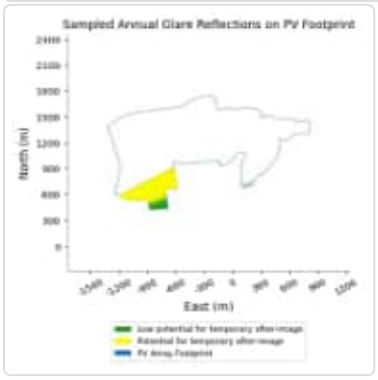
PV array is expected to produce the following glare for this receptor:

- 1,099 minutes of "green" glare with low potential to cause temporary after-image.
- 95 minutes of "yellow" glare with potential to cause temporary after-image.





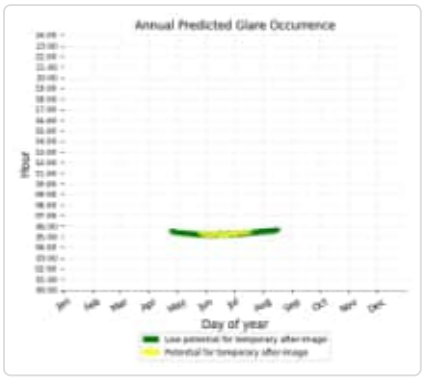


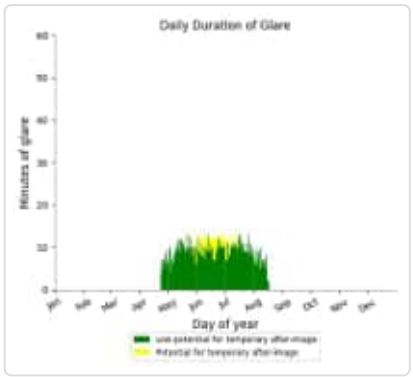


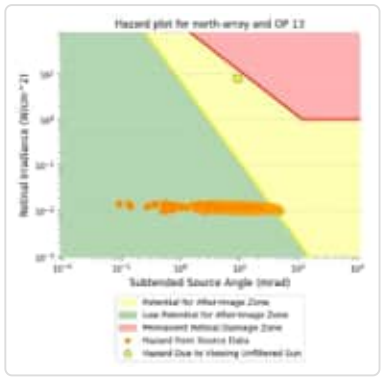
North Array: OP 13

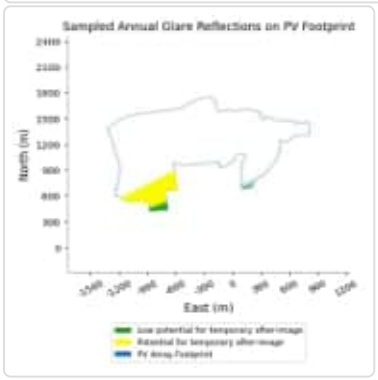
PV array is expected to produce the following glare for this receptor:

- 1,054 minutes of "green" glare with low potential to cause temporary after-image.
- 112 minutes of "yellow" glare with potential to cause temporary after-image.





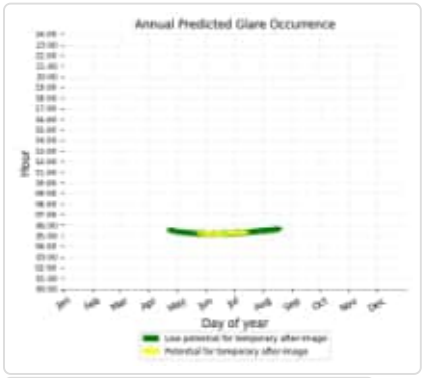


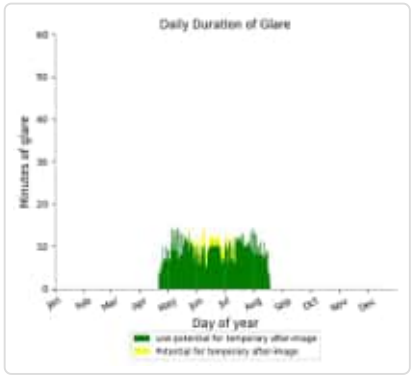


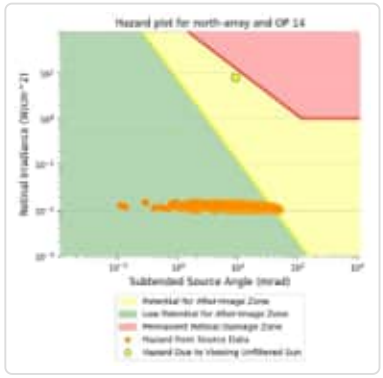
North Array: OP 14

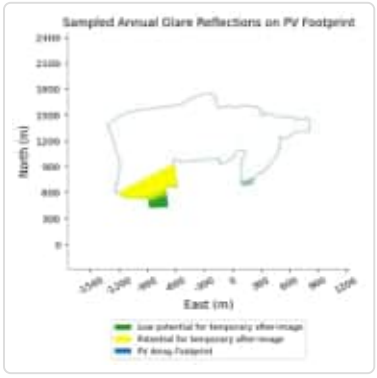
PV array is expected to produce the following glare for this receptor:

- 1,123 minutes of "green" glare with low potential to cause temporary after-image.
- 101 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 15

No glare found

North Array: OP 16

No glare found

North Array: OP 17

No glare found

North Array: OP 18

No glare found

North Array: OP 19

No glare found

North Array: OP 20

No glare found

North Array: OP 21

No glare found

North Array: OP 22

No glare found

North Array: OP 23

No glare found

North Array: OP 24

No glare found

North Array: OP 25

No glare found

North Array: OP 26

No glare found

North Array: OP 27

No glare found

North Array: OP 28

No glare found

North Array: OP 29

No glare found

North Array: OP 30

No glare found

North Array: OP 31

No glare found

North Array: OP 32

No glare found

North Array: OP 33

No glare found

North Array: OP 34

No glare found

North Array: OP 35

No glare found

North Array: OP 36

No glare found

North Array: OP 37

No glare found

North Array: OP 38

No glare found

North Array: OP 39

No glare found

North Array: OP 40

No glare found

North Array: OP 41

No glare found

North Array: OP 42

No glare found

North Array: OP 43

No glare found

North Array: OP 44

No glare found

North Array: OP 45

No glare found

North Array: OP 46

No glare found

North Array: OP 47

No glare found

North Array: OP 48

No glare found

North Array: OP 49

No glare found

North Array: OP 50

No glare found

North Array: OP 51

No glare found

North Array: OP 52

No glare found

North Array: OP 53

No glare found

North Array: OP 54

No glare found

North Array: OP 55

No glare found

North Array: OP 56

No glare found

North Array: OP 57

No glare found

North Array: OP 58

No glare found

North Array: OP 59

No glare found

North Array: OP 60

No glare found

South Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	15	0
OP: OP 5	44	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	385	0
OP: OP 10	1841	383
OP: OP 11	1348	676
OP: OP 12	448	0
OP: OP 13	333	0
OP: OP 14	541	0
OP: OP 15	1293	108
OP: OP 16	1902	154
OP: OP 17	1239	49
OP: OP 18	1140	35
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	595	17
OP: OP 22	322	0
OP: OP 23	507	0
OP: OP 24	2381	1411
OP: OP 25	1391	5
OP: OP 26	1454	0
OP: OP 27	615	0
OP: OP 28	176	0
OP: OP 29	0	0
OP: OP 30	175	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0

OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	629	0
OP: OP 45	0	0
OP: OP 46	1107	0
OP: OP 47	1349	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	1011	0
OP: OP 53	1127	0
OP: OP 54	1237	0
OP: OP 55	977	0
OP: OP 56	870	0
OP: OP 57	726	0
OP: OP 58	853	0
OP: OP 59	667	0
OP: OP 60	552	0

South Array: OP 1

No glare found

South Array: OP 2

No glare found

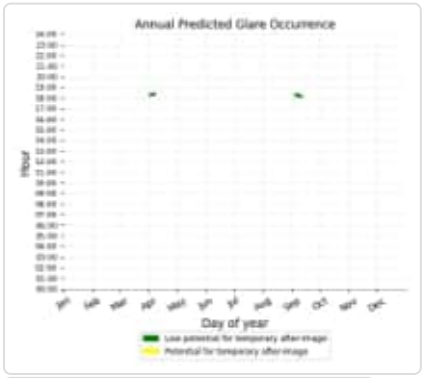
South Array: OP 3

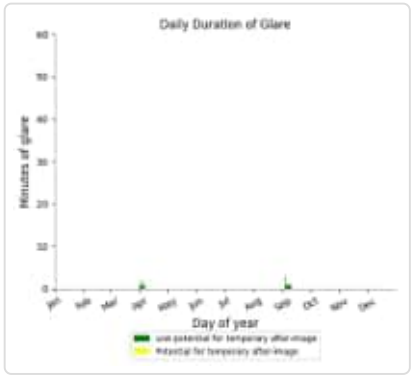
No glare found

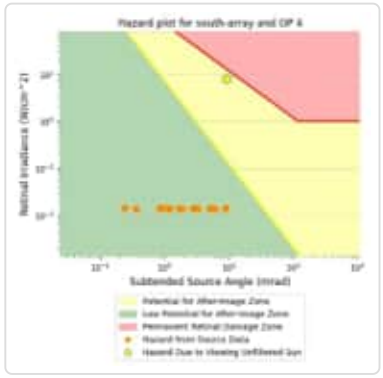
South Array: OP 4

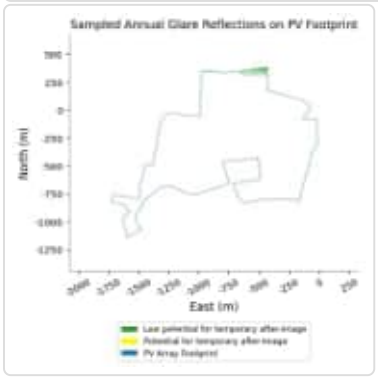
PV array is expected to produce the following glare for this receptor:

- 15 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





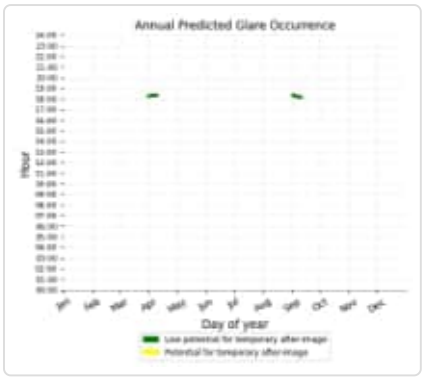


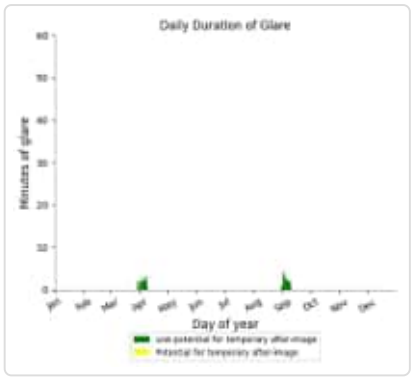


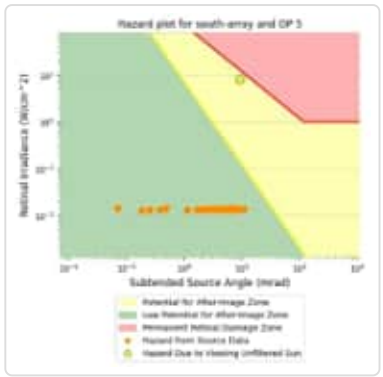
South Array: OP 5

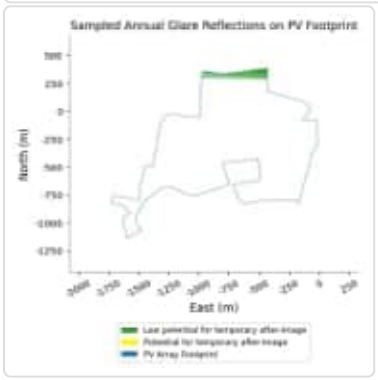
PV array is expected to produce the following glare for this receptor:

- 44 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 6

No glare found

South Array: OP 7

No glare found

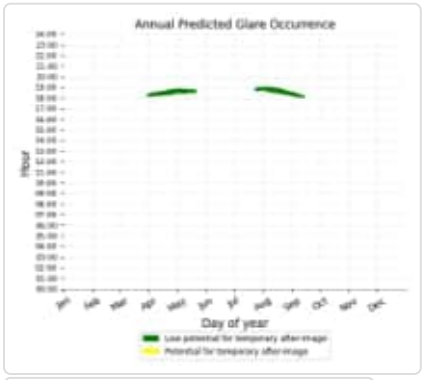
South Array: OP 8

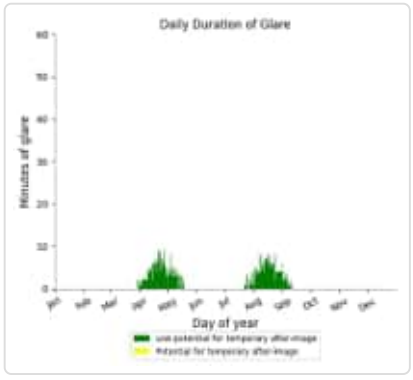
No glare found

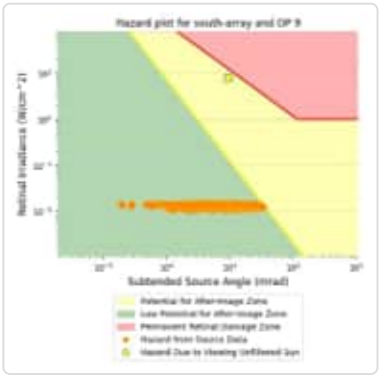
South Array: OP 9

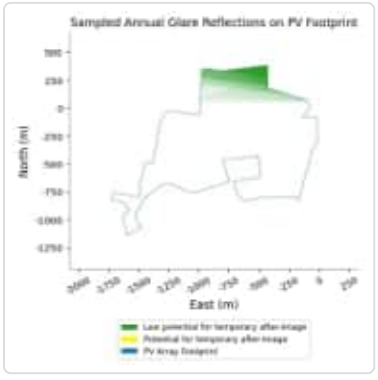
PV array is expected to produce the following glare for this receptor:

- 385 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





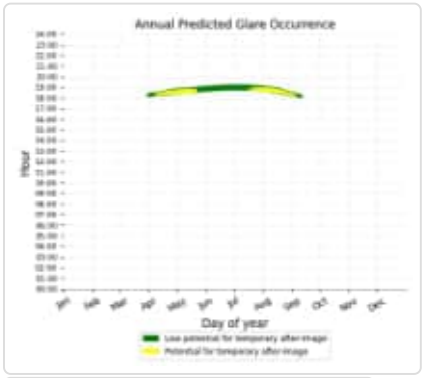


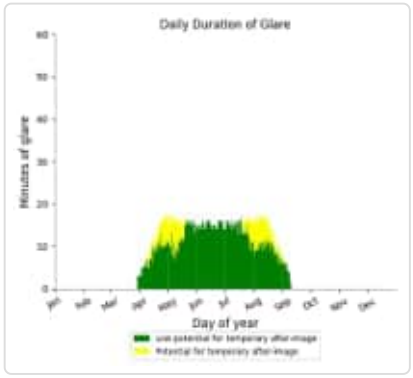


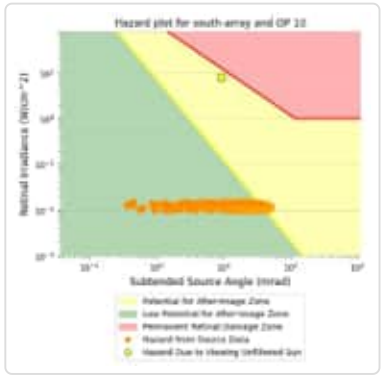
South Array: OP 10

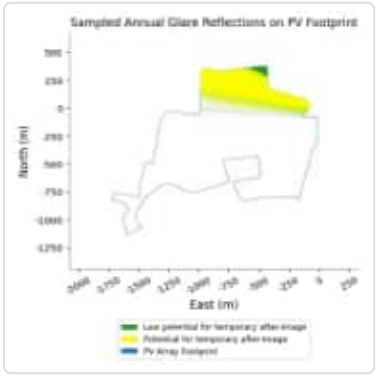
PV array is expected to produce the following glare for this receptor:

- 1,841 minutes of "green" glare with low potential to cause temporary after-image.
- 383 minutes of "yellow" glare with potential to cause temporary after-image.





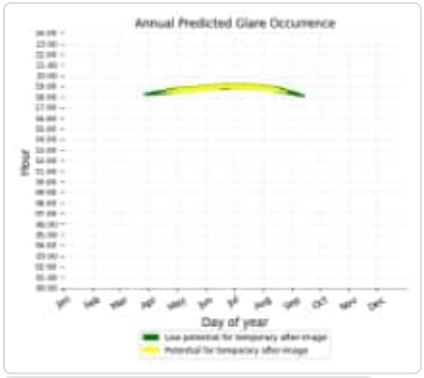


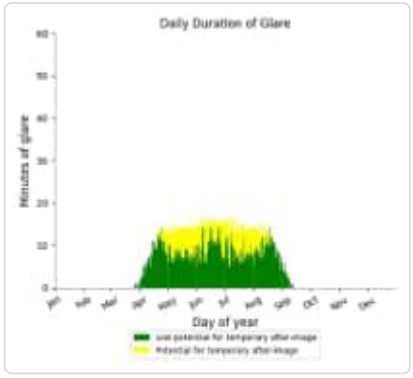


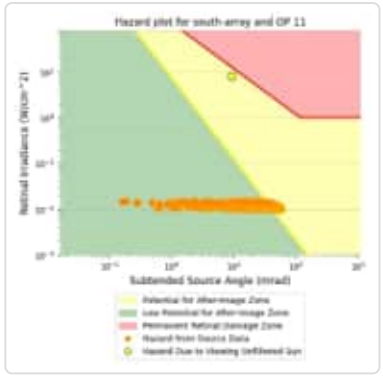
South Array: OP 11

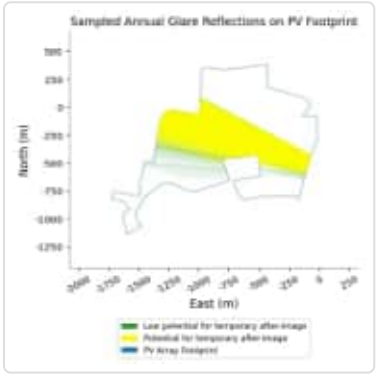
PV array is expected to produce the following glare for this receptor:

- 1,348 minutes of "green" glare with low potential to cause temporary after-image.
- 676 minutes of "yellow" glare with potential to cause temporary after-image.





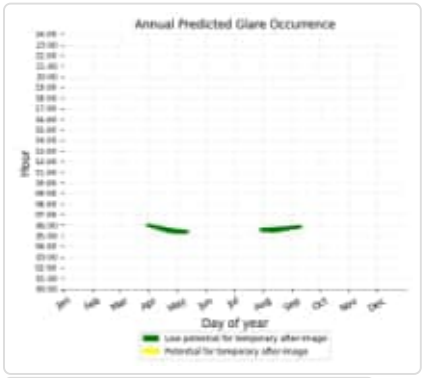


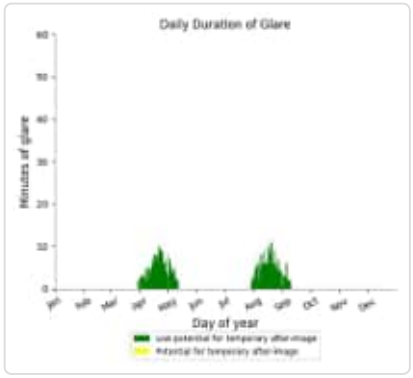


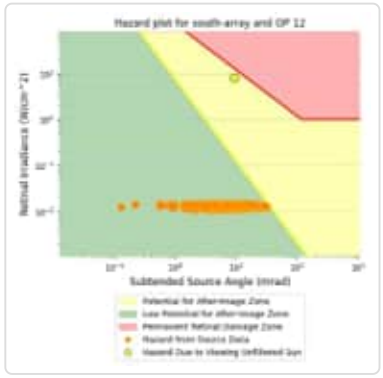
South Array: OP 12

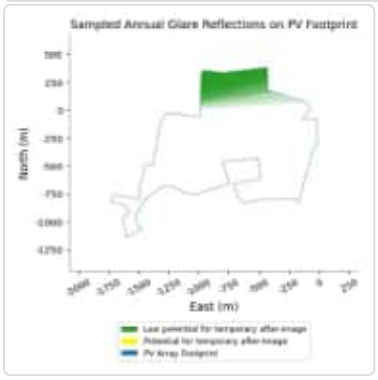
PV array is expected to produce the following glare for this receptor:

- 448 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





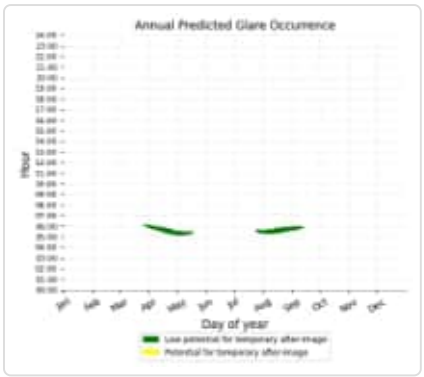


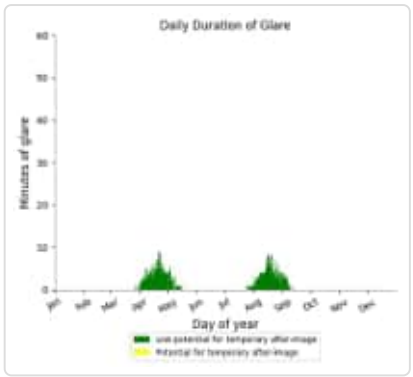


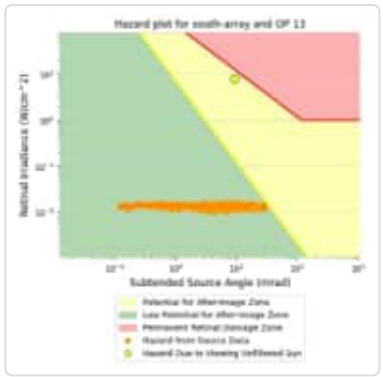
South Array: OP 13

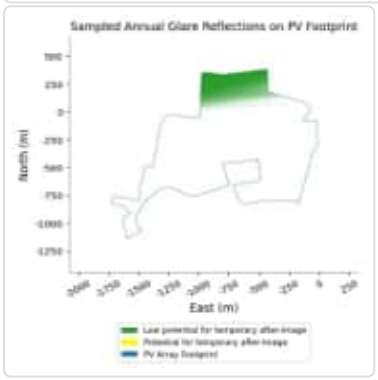
PV array is expected to produce the following glare for this receptor:

- 333 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





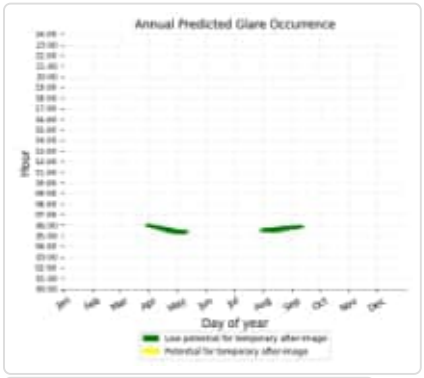


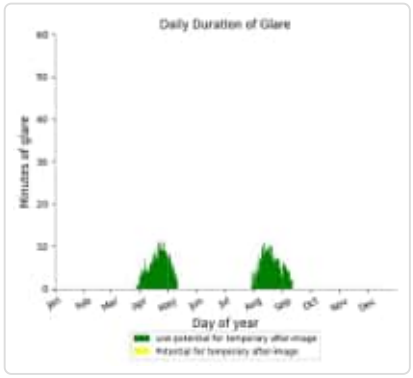


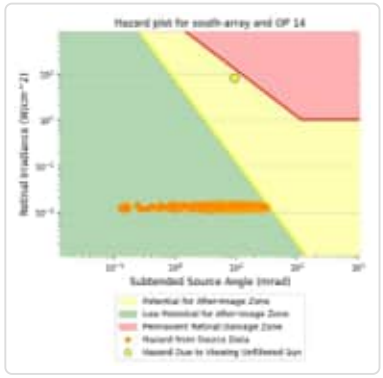
South Array: OP 14

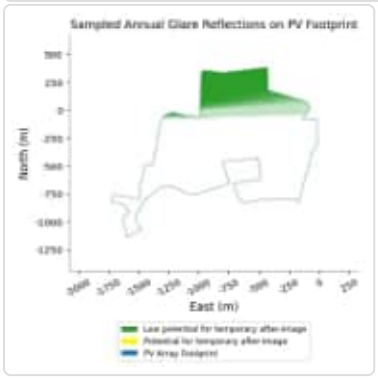
PV array is expected to produce the following glare for this receptor:

- 541 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





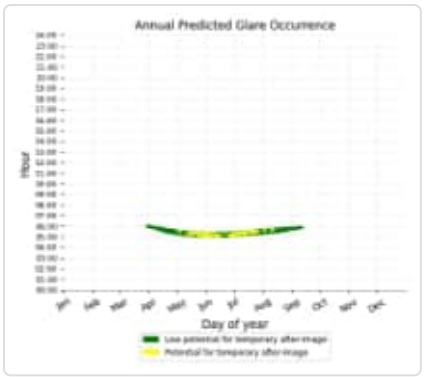


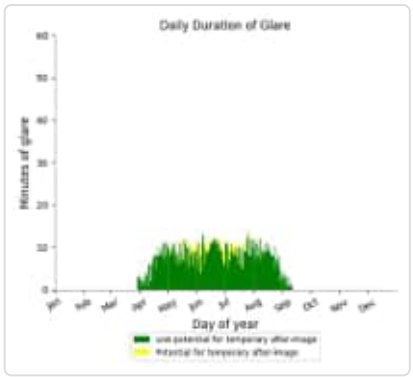


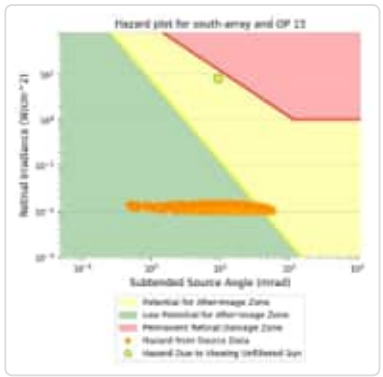
South Array: OP 15

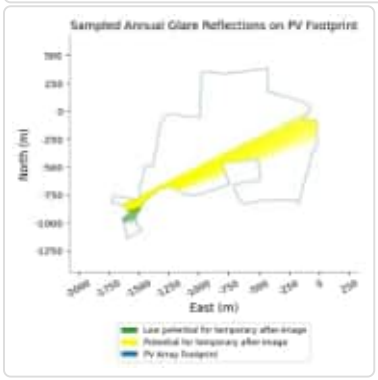
PV array is expected to produce the following glare for this receptor:

- 1,293 minutes of "green" glare with low potential to cause temporary after-image.
- 108 minutes of "yellow" glare with potential to cause temporary after-image.





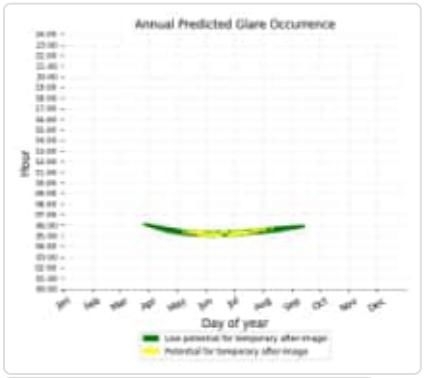


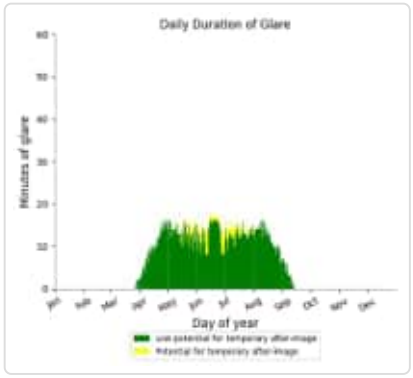


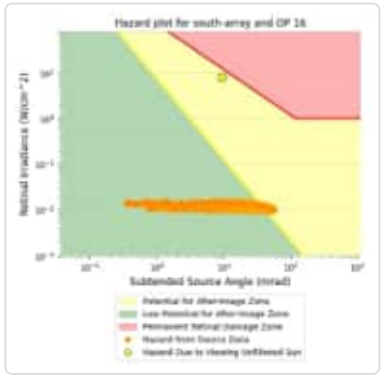
South Array: OP 16

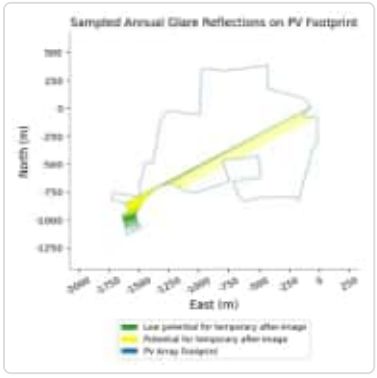
PV array is expected to produce the following glare for this receptor:

- 1,902 minutes of "green" glare with low potential to cause temporary after-image.
- 154 minutes of "yellow" glare with potential to cause temporary after-image.





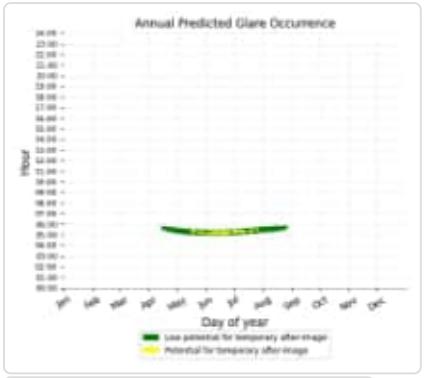


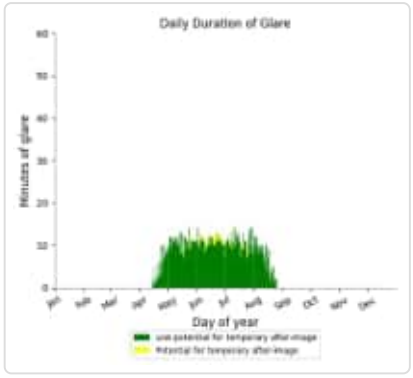


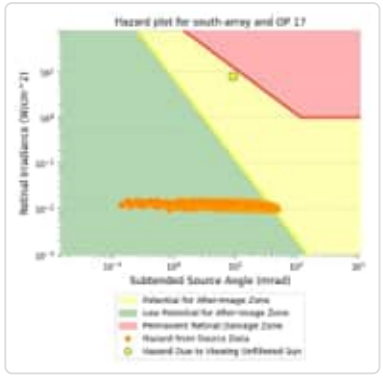
South Array: OP 17

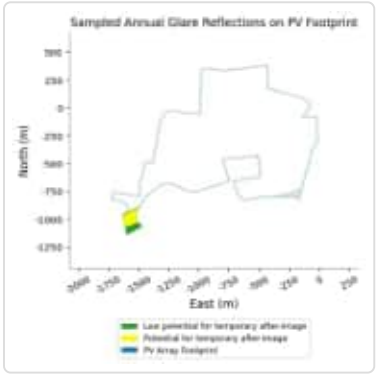
PV array is expected to produce the following glare for this receptor:

- 1,239 minutes of "green" glare with low potential to cause temporary after-image.
- 49 minutes of "yellow" glare with potential to cause temporary after-image.





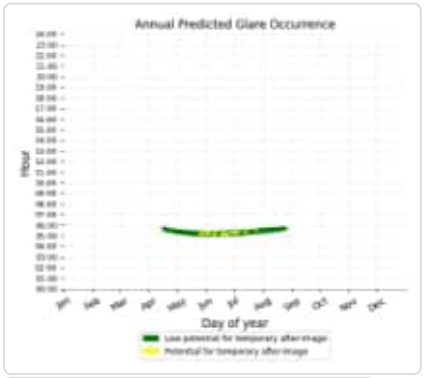


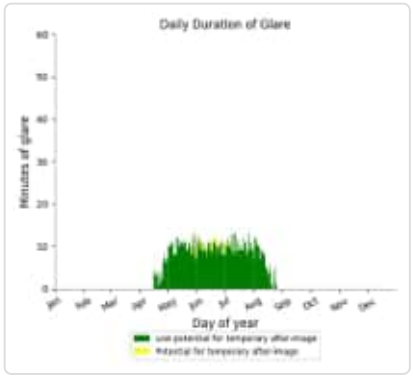


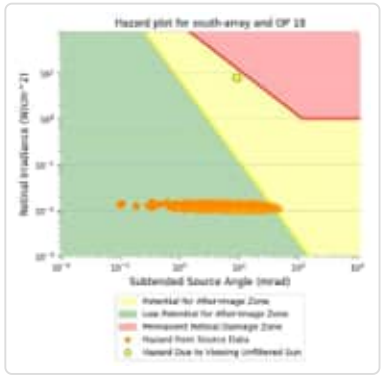
South Array: OP 18

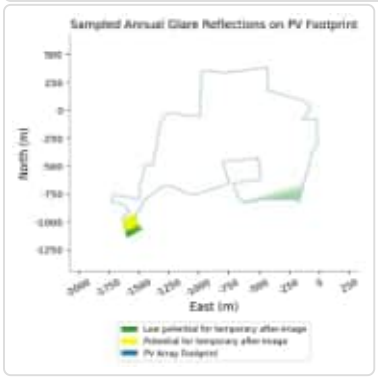
PV array is expected to produce the following glare for this receptor:

- 1,140 minutes of "green" glare with low potential to cause temporary after-image.
- 35 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 19

No glare found

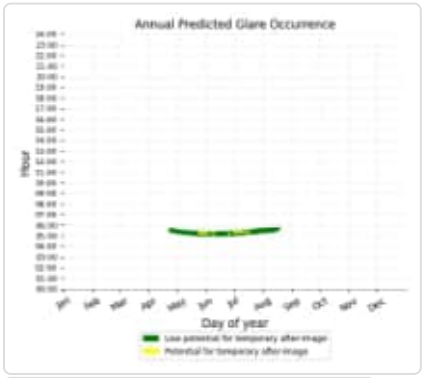
South Array: OP 20

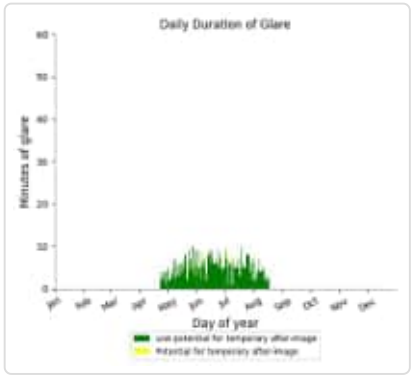
No glare found

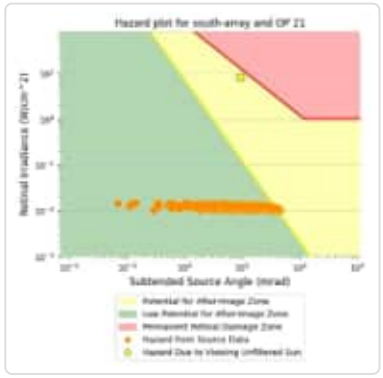
South Array: OP 21

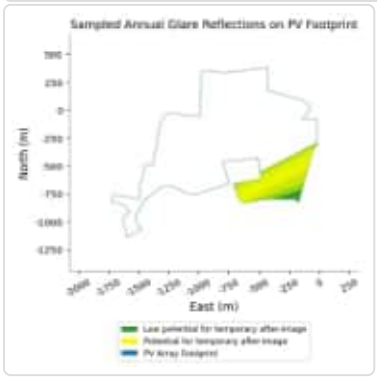
PV array is expected to produce the following glare for this receptor:

- 595 minutes of "green" glare with low potential to cause temporary after-image.
- 17 minutes of "yellow" glare with potential to cause temporary after-image.





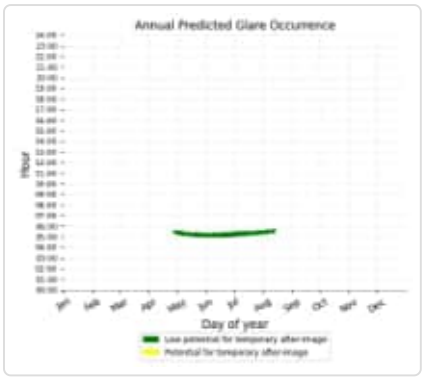


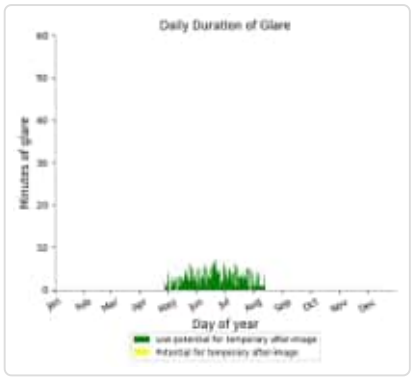


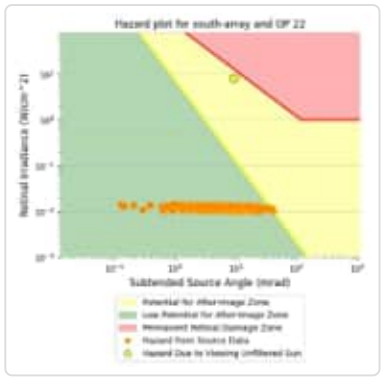
South Array: OP 22

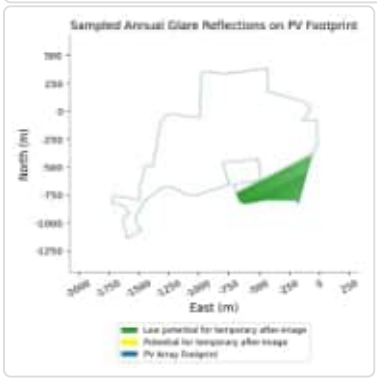
PV array is expected to produce the following glare for this receptor:

- 322 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





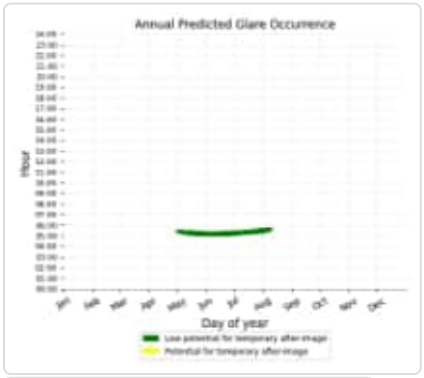


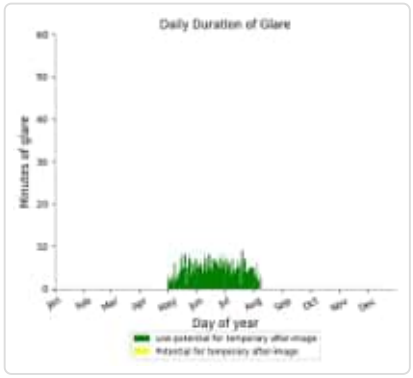


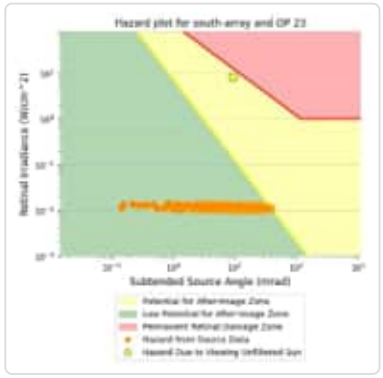
South Array: OP 23

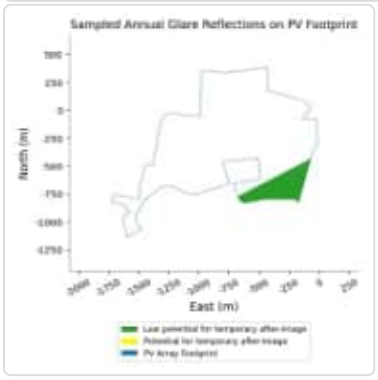
PV array is expected to produce the following glare for this receptor:

- 507 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





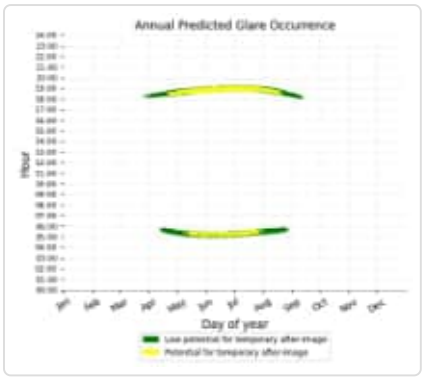


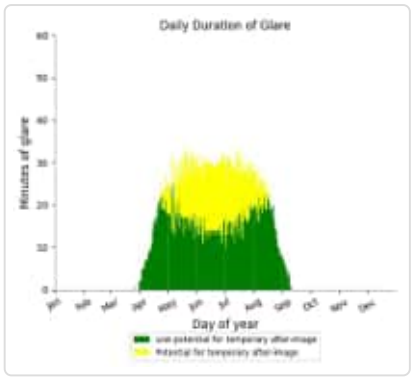


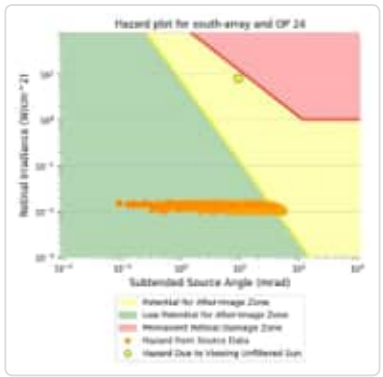
South Array: OP 24

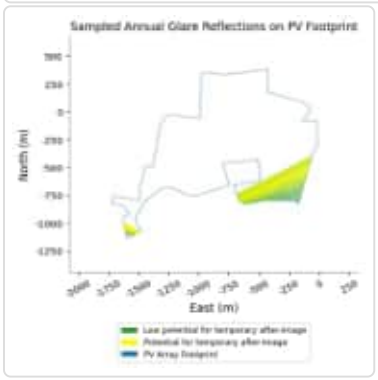
PV array is expected to produce the following glare for this receptor:

- 2,381 minutes of "green" glare with low potential to cause temporary after-image.
- 1,411 minutes of "yellow" glare with potential to cause temporary after-image.





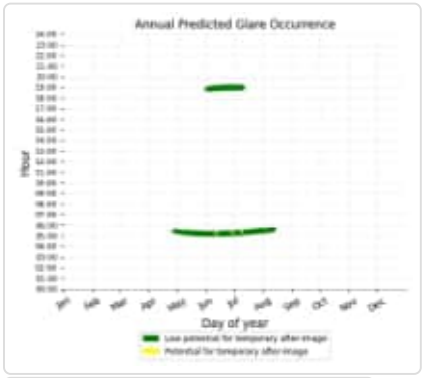


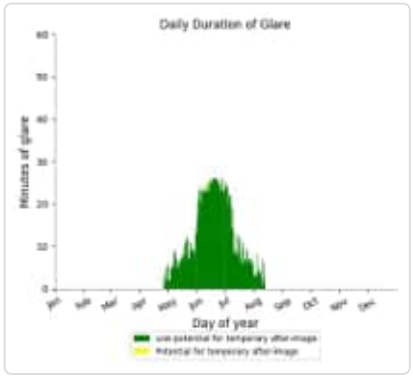


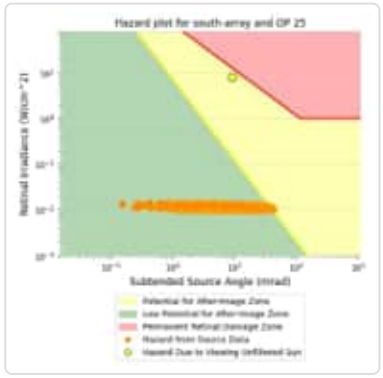
South Array: OP 25

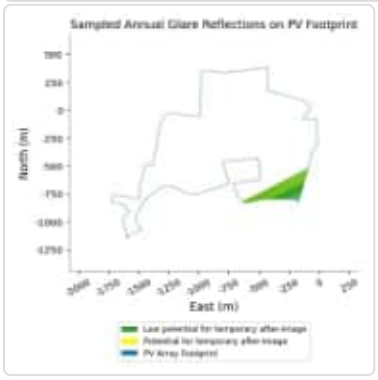
PV array is expected to produce the following glare for this receptor:

- 1,391 minutes of "green" glare with low potential to cause temporary after-image.
- 5 minutes of "yellow" glare with potential to cause temporary after-image.





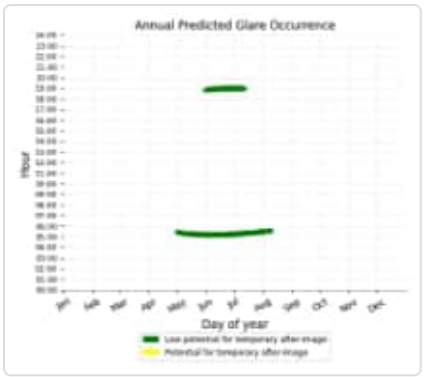


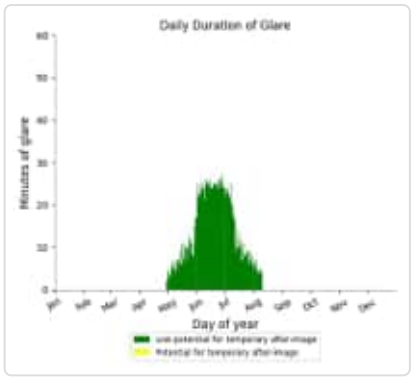


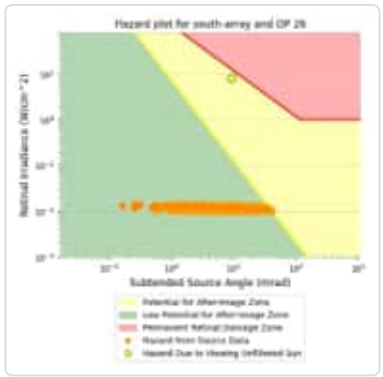
South Array: OP 26

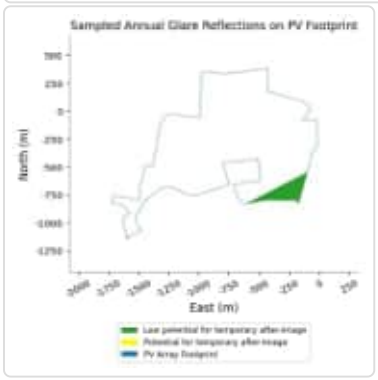
PV array is expected to produce the following glare for this receptor:

- 1,454 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





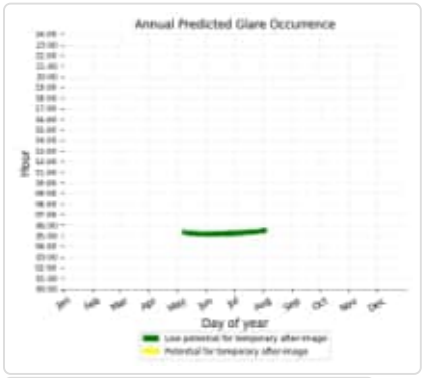


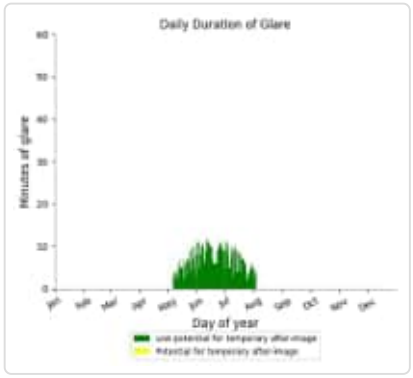


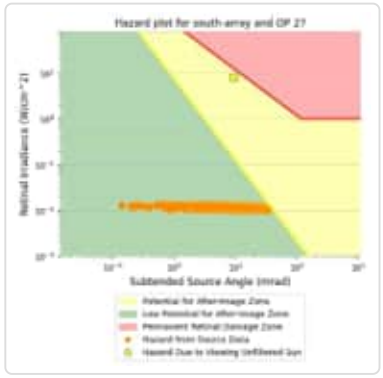
South Array: OP 27

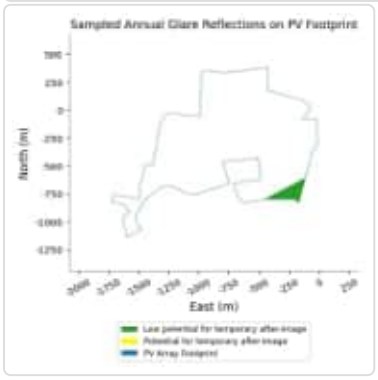
PV array is expected to produce the following glare for this receptor:

- 615 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





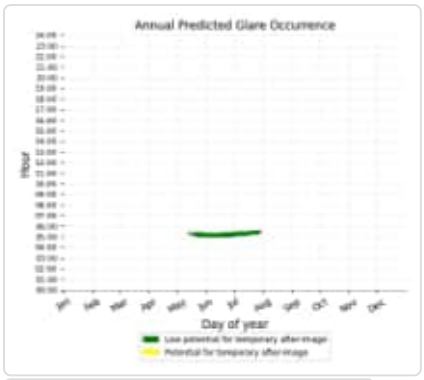


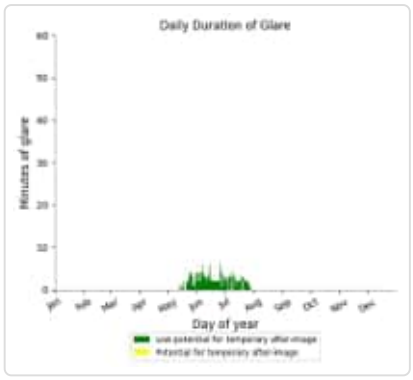


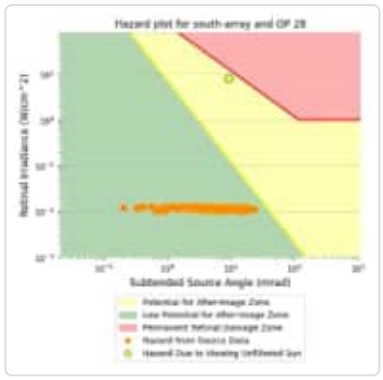
South Array: OP 28

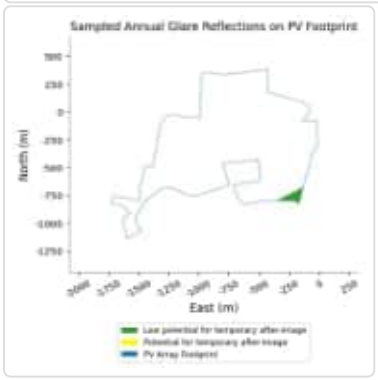
PV array is expected to produce the following glare for this receptor:

- 176 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









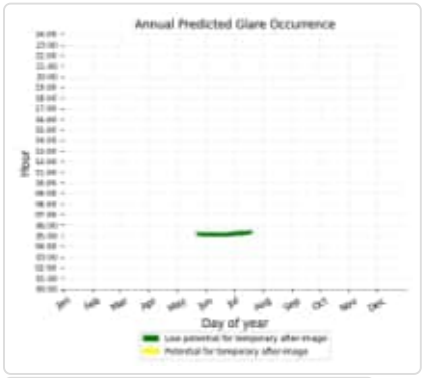
South Array: OP 29

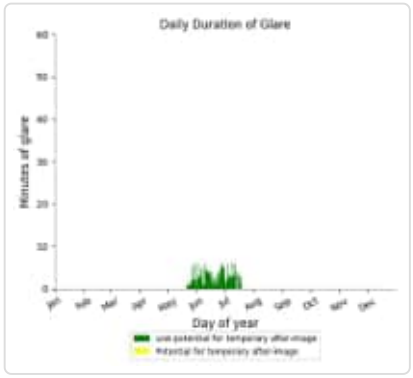
No glare found

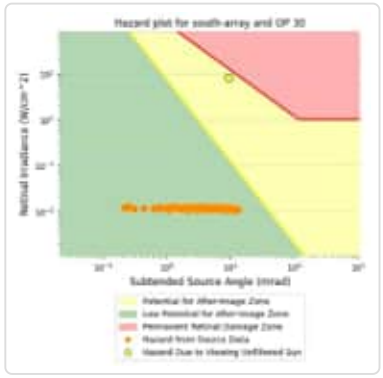
South Array: OP 30

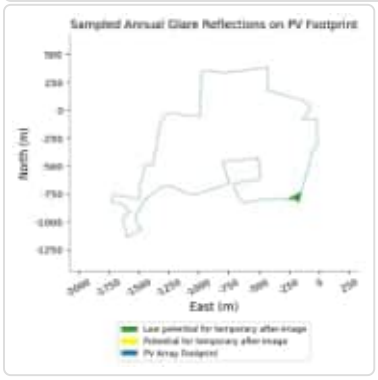
PV array is expected to produce the following glare for this receptor:

- 175 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 31

No glare found

South Array: OP 32

No glare found

South Array: OP 33

No glare found

South Array: OP 34

No glare found

South Array: OP 35

No glare found

South Array: OP 36

No glare found

South Array: OP 37

No glare found

South Array: OP 38

No glare found

South Array: OP 39

No glare found

South Array: OP 40

No glare found

South Array: OP 41

No glare found

South Array: OP 42

No glare found

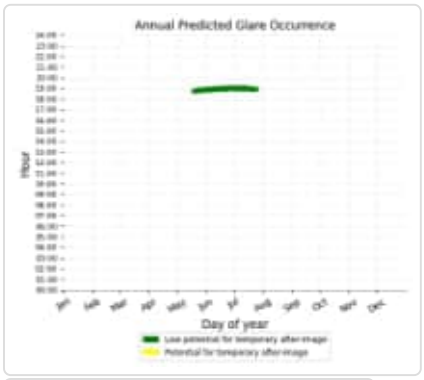
South Array: OP 43

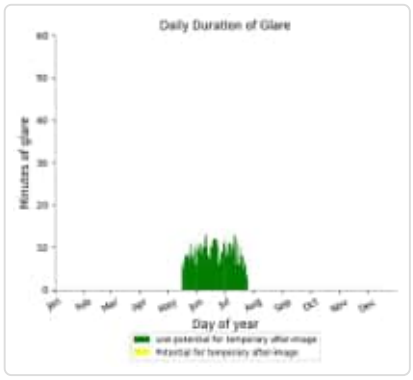
No glare found

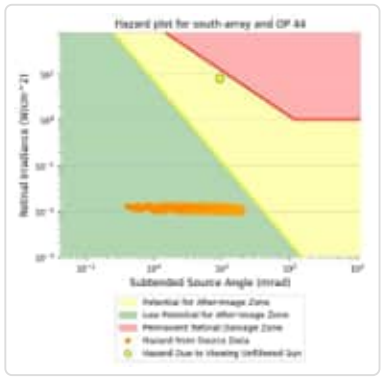
South Array: OP 44

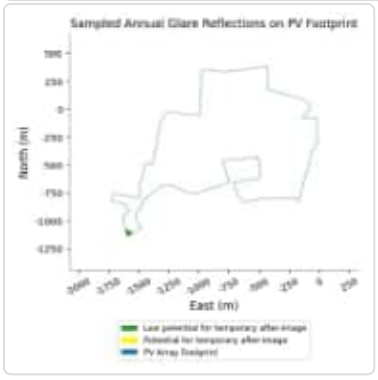
PV array is expected to produce the following glare for this receptor:

- 629 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









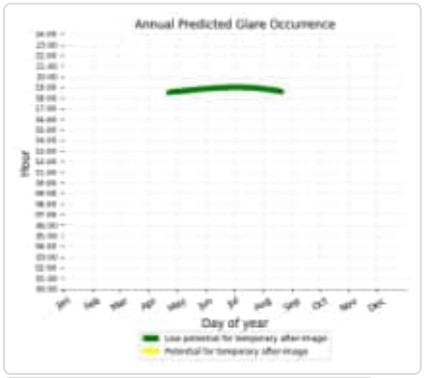
South Array: OP 45

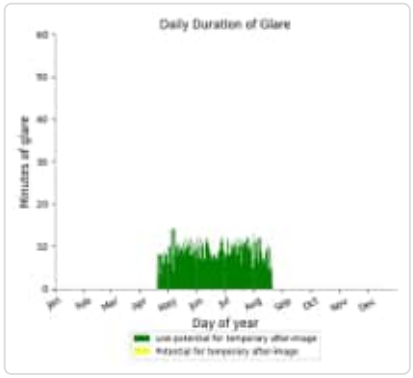
No glare found

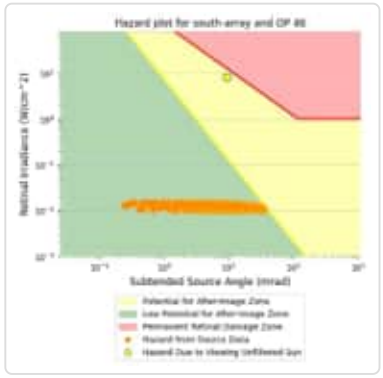
South Array: OP 46

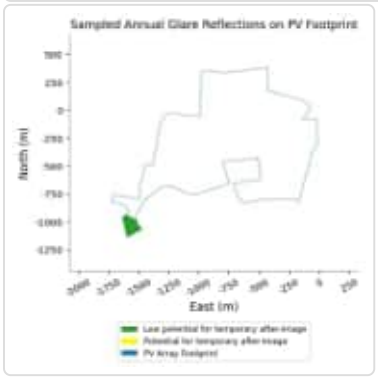
PV array is expected to produce the following glare for this receptor:

- 1,107 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





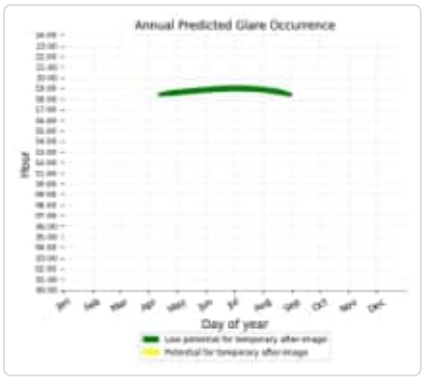


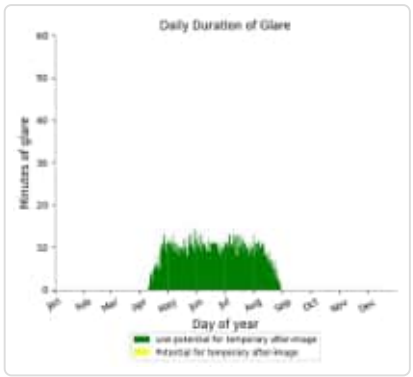


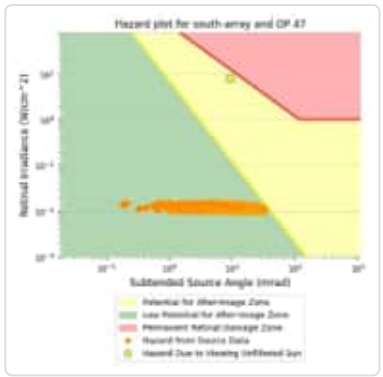
South Array: OP 47

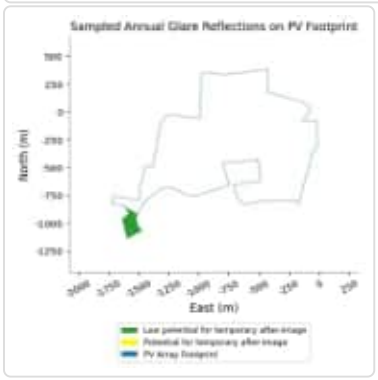
PV array is expected to produce the following glare for this receptor:

- 1,349 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 48

No glare found

South Array: OP 49

No glare found

South Array: OP 50

No glare found

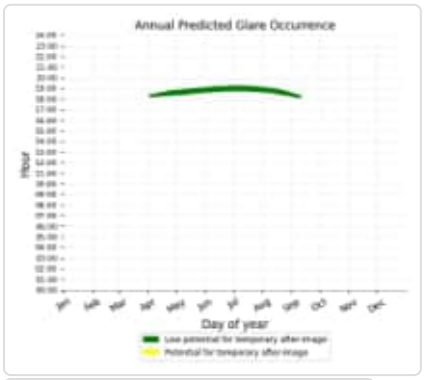
South Array: OP 51

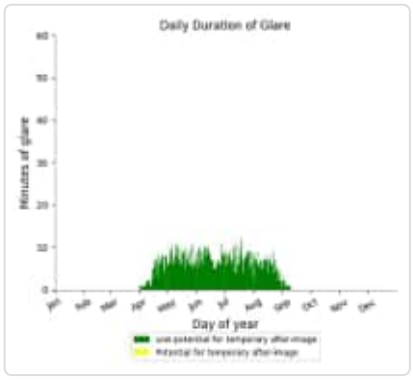
No glare found

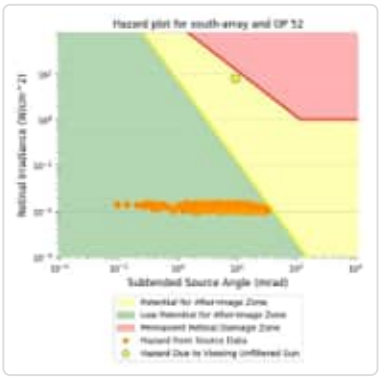
South Array: OP 52

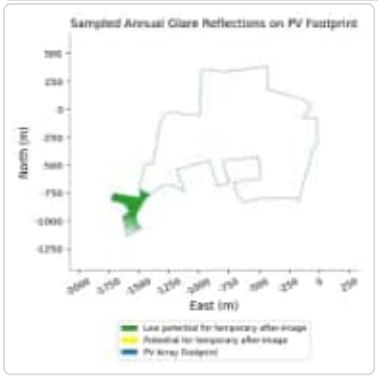
PV array is expected to produce the following glare for this receptor:

- 1,011 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





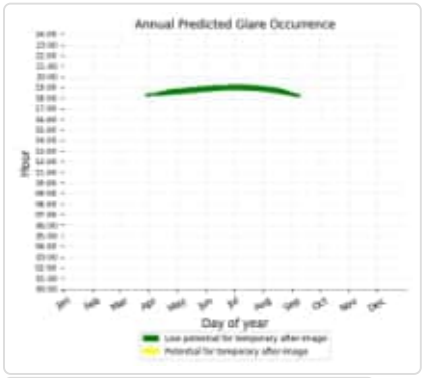


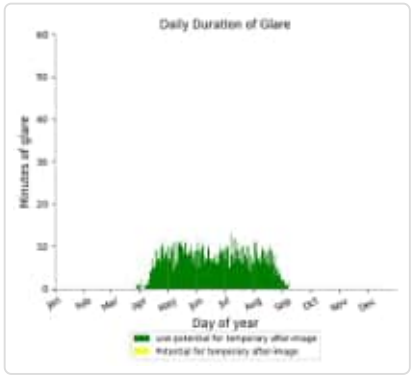


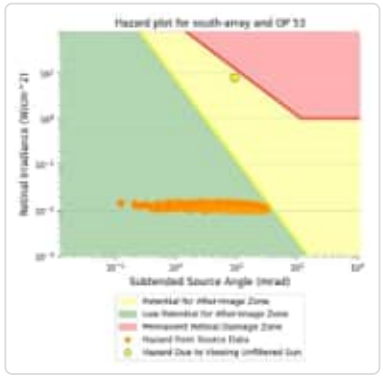
South Array: OP 53

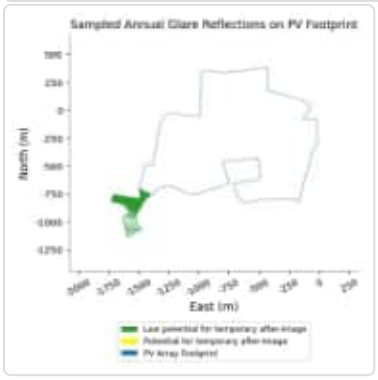
PV array is expected to produce the following glare for this receptor:

- 1,127 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





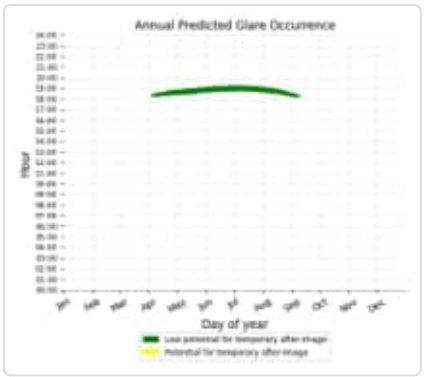


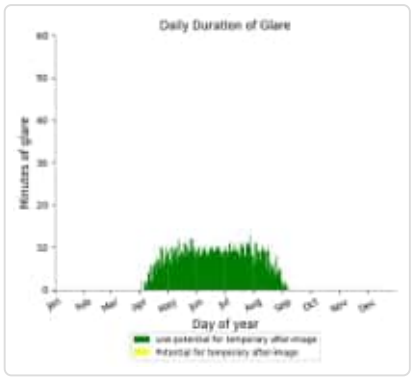


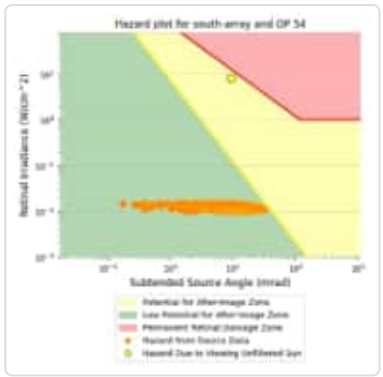
South Array: OP 54

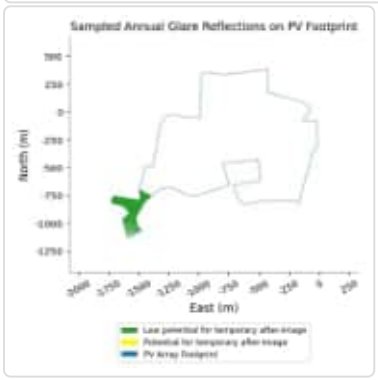
PV array is expected to produce the following glare for this receptor:

- 1,237 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





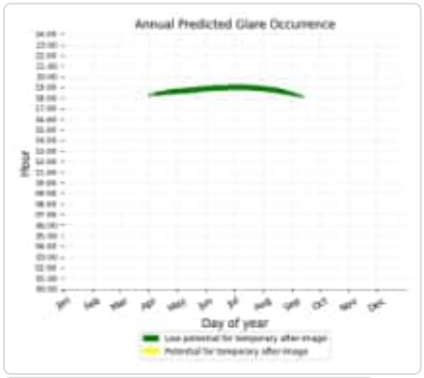


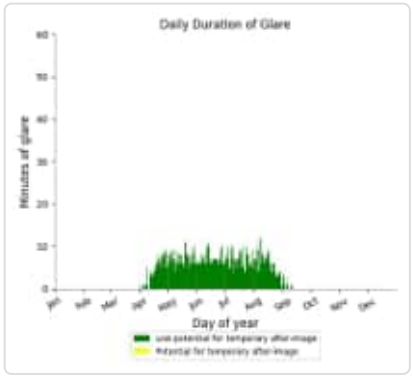


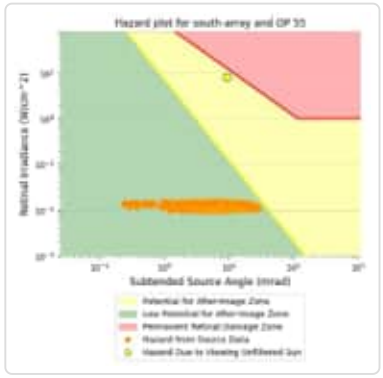
South Array: OP 55

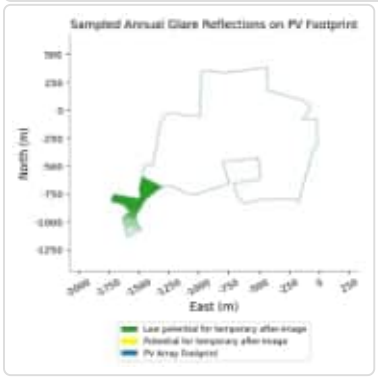
PV array is expected to produce the following glare for this receptor:

- 977 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





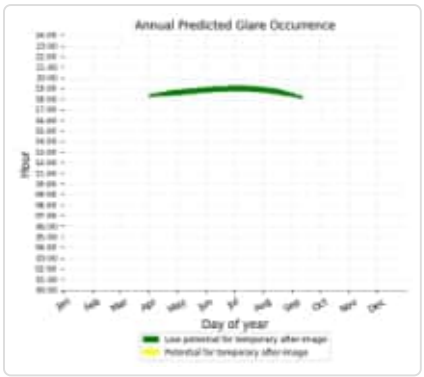


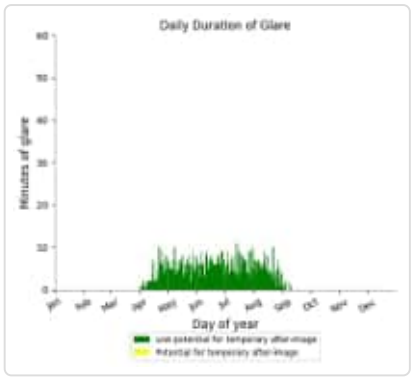


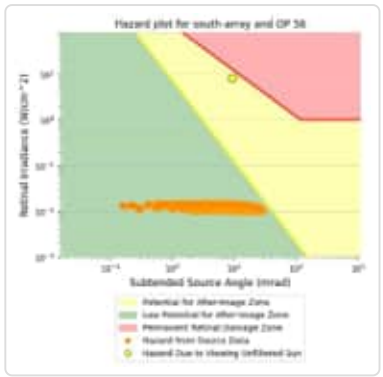
South Array: OP 56

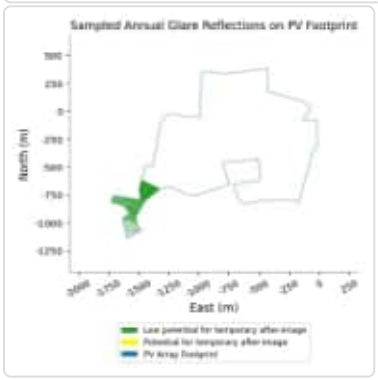
PV array is expected to produce the following glare for this receptor:

- 870 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





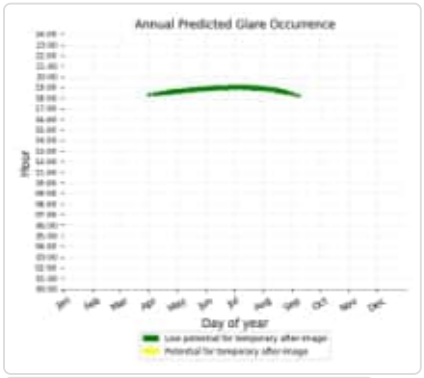


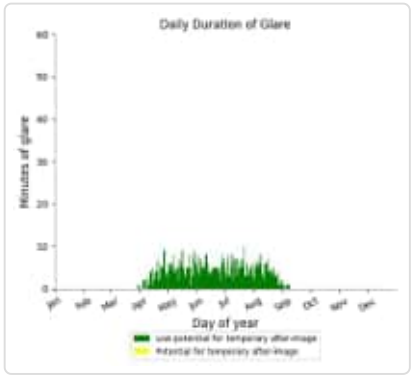


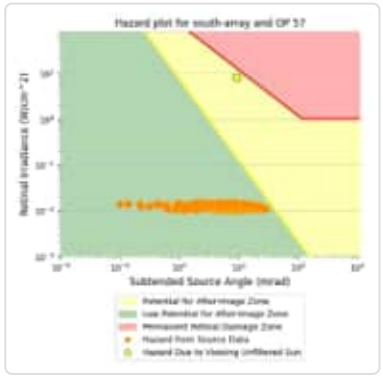
South Array: OP 57

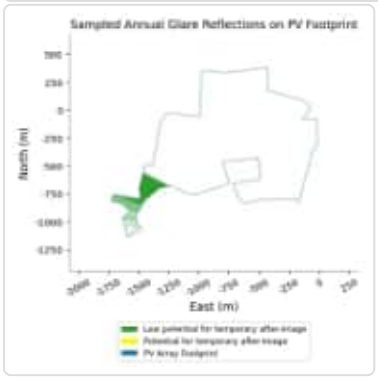
PV array is expected to produce the following glare for this receptor:

- 726 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





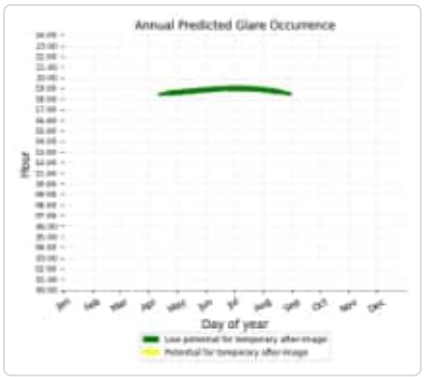


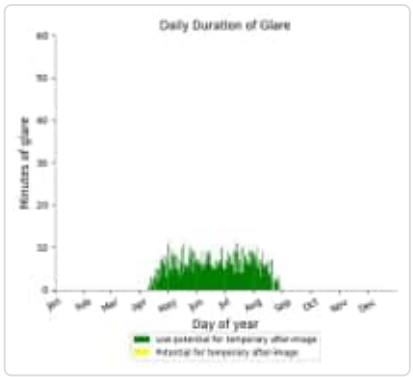


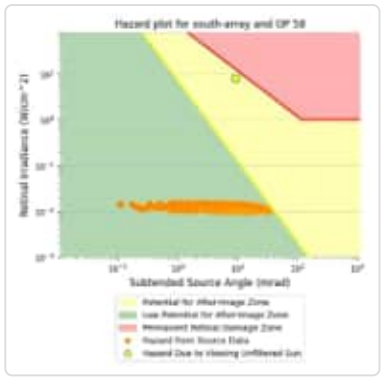
South Array: OP 58

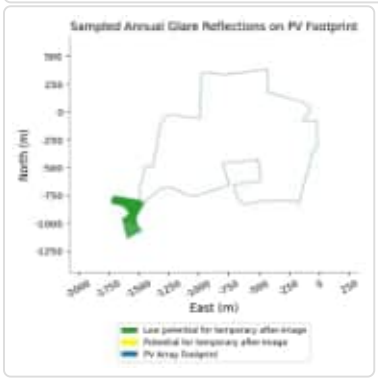
PV array is expected to produce the following glare for this receptor:

- 853 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





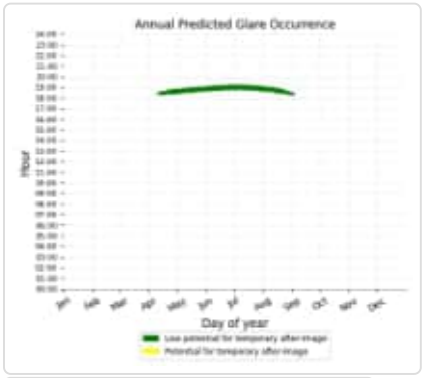


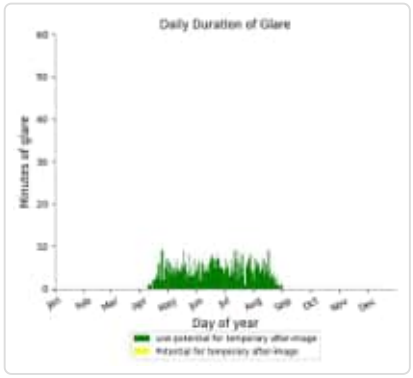


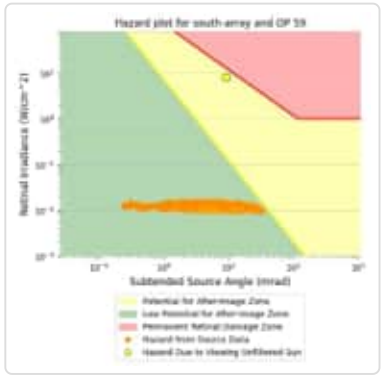
South Array: OP 59

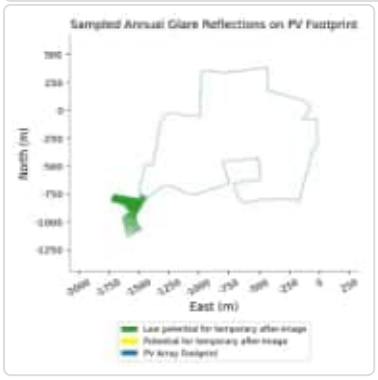
PV array is expected to produce the following glare for this receptor:

- 667 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





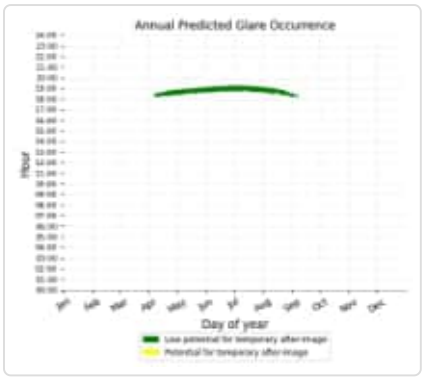


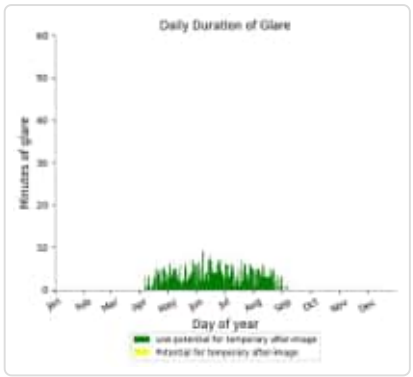


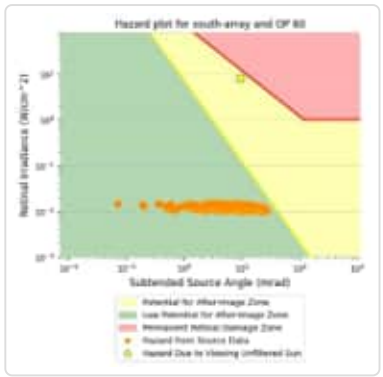
South Array: OP 60

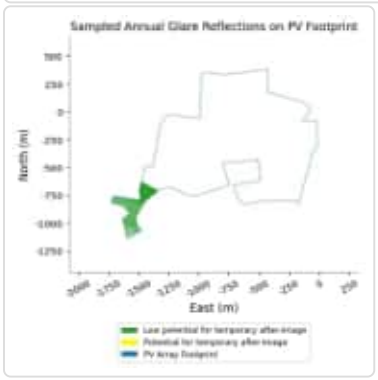
PV array is expected to produce the following glare for this receptor:

- 552 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX D: RESIDENTIAL RECEPTOR GLARE RESULTS GROUP A (RECEPTORS 1 – 64) (35 DEGREES)

Fenwick Solar Farm

Fenwick Residential Group A 35 degrees

Created Nov 28, 2023
Updated Aug 06, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106533.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	35.0	180.0	29,946	2,777	-
East Array	35.0	180.0	78,597	0	-
North Array	35.0	180.0	33,006	8,346	-
South Array	35.0	180.0	6,872	970	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,405 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,919 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630739	-1.092357	7.00	3.50	10.50
39	53.629021	-1.091542	8.67	3.50	12.17
40	53.628715	-1.092958	7.62	3.50	11.12
41	53.628448	-1.094224	8.00	3.50	11.50
42	53.628092	-1.096026	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.655069	-1.107859	6.97	2.00	8.97
OP 2	53.655202	-1.106593	7.25	2.00	9.25
OP 3	53.655031	-1.104179	7.11	2.00	9.11
OP 4	53.655279	-1.100403	6.02	2.00	8.02
OP 5	53.638555	-1.113455	7.81	2.00	9.81
OP 6	53.639255	-1.110762	8.82	2.00	10.82
OP 7	53.639497	-1.108648	8.74	2.00	10.74
OP 8	53.639668	-1.107489	8.61	2.00	10.61
OP 9	53.639757	-1.106084	8.37	2.00	10.37
OP 10	53.639776	-1.104689	7.41	2.00	9.41
OP 11	53.639458	-1.103262	7.87	2.00	9.87
OP 12	53.639592	-1.102082	7.69	2.00	9.69
OP 13	53.639465	-1.100269	8.95	2.00	10.95
OP 14	53.639026	-1.102211	8.00	2.00	10.00
OP 15	53.638943	-1.101256	8.48	2.00	10.48
OP 16	53.638377	-1.101127	8.20	2.00	10.20
OP 17	53.639408	-1.099164	8.99	2.00	10.99
OP 18	53.639325	-1.098649	9.00	2.00	11.00
OP 19	53.638803	-1.098284	9.00	2.00	11.00
OP 20	53.638740	-1.096632	8.15	2.00	10.15
OP 21	53.637483	-1.100636	7.32	2.00	9.32
OP 22	53.636682	-1.100797	7.92	2.00	9.92
OP 23	53.636701	-1.101419	7.90	2.00	9.90
OP 24	53.637066	-1.106955	7.53	2.00	9.53
OP 25	53.637044	-1.105292	8.12	2.00	10.12
OP 26	53.636790	-1.103876	8.76	2.00	10.76
OP 27	53.636262	-1.102379	8.21	2.00	10.21
OP 28	53.640574	-1.086978	7.97	2.00	9.97
OP 29	53.639932	-1.082418	8.62	2.00	10.62
OP 30	53.648429	-1.064104	6.86	2.00	8.86
OP 31	53.648136	-1.063192	7.77	2.00	9.77
OP 32	53.648658	-1.061658	6.55	2.00	8.55
OP 33	53.649033	-1.059609	7.87	2.00	9.87
OP 34	53.648540	-1.058327	9.45	2.00	11.45
OP 35	53.648019	-1.058890	8.54	2.00	10.54
OP 36	53.648779	-1.056728	8.29	2.00	10.29
OP 37	53.648591	-1.054706	7.01	2.00	9.01
OP 38	53.646476	-1.051049	6.65	2.00	8.65
OP 39	53.645986	-1.050658	7.36	2.00	9.36
OP 40	53.645118	-1.050363	7.81	2.00	9.81
OP 41	53.644644	-1.050207	7.49	2.00	9.49
OP 42	53.644241	-1.050116	7.63	2.00	9.63
OP 43	53.644056	-1.051199	7.00	2.00	9.00
OP 44	53.643678	-1.051033	7.00	2.00	9.00
OP 45	53.643741	-1.052031	6.56	2.00	8.56
OP 46	53.643834	-1.053125	6.00	2.00	8.00
OP 47	53.643353	-1.052498	6.36	2.00	8.36
OP 48	53.643051	-1.052712	6.65	2.00	8.65
OP 49	53.642511	-1.053018	7.00	2.00	9.00
OP 50	53.641903	-1.053608	7.75	2.00	9.75
OP 51	53.641178	-1.054246	9.00	2.00	11.00
OP 52	53.642641	-1.052020	7.00	2.00	9.00
OP 53	53.644323	-1.056601	7.63	2.00	9.63
OP 54	53.643894	-1.057385	7.43	2.00	9.43
OP 55	53.641814	-1.057540	7.38	2.00	9.38
OP 56	53.641496	-1.058468	7.05	2.00	9.05
OP 57	53.639852	-1.056542	6.69	2.00	8.69
OP 58	53.639499	-1.056054	6.20	2.00	8.20
OP 59	53.638618	-1.055893	6.35	2.00	8.35
OP 60	53.638647	-1.057052	6.03	2.00	8.03
OP 61	53.639887	-1.058302	7.37	2.00	9.37
OP 62	53.639846	-1.058929	7.00	2.00	9.00
OP 63	53.639260	-1.059235	6.83	2.00	8.83

OP 64	53.639133	-1.060136	6.98	2.00	8.98

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	35.0	180.0	29,946	2,777	-	-
East Array	35.0	180.0	78,597	0	-	-
North Array	35.0	180.0	33,006	8,346	-	-
South Array	35.0	180.0	6,872	970	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	208	721	373	322	288	668	429	0	0	0
central-arra (yellow)	0	0	0	107	140	102	120	151	2	0	0	0
east-array (green)	0	0	281	1131	1191	768	1102	1211	576	0	0	0
east-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
north-array (green)	0	0	226	966	1102	1216	1179	1035	485	0	0	0
north-array (yellow)	0	0	1	167	250	207	232	228	31	0	0	0
south-array (green)	0	0	36	308	477	393	471	356	110	0	0	0
south-array (yellow)	0	0	0	109	6	0	0	101	14	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	15	0
OP: OP 6	535	0
OP: OP 7	500	0
OP: OP 8	552	0
OP: OP 9	414	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	675	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	17	0
OP: OP 17	677	0
OP: OP 18	627	0
OP: OP 19	793	0

OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	19	0
OP: OP 26	26	0
OP: OP 27	21	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	16	0
OP: OP 44	106	0
OP: OP 45	111	0
OP: OP 46	48	0
OP: OP 47	231	0
OP: OP 48	385	0
OP: OP 49	589	0
OP: OP 50	875	0
OP: OP 51	1289	0
OP: OP 52	542	0
OP: OP 53	0	0
OP: OP 54	85	0
OP: OP 55	1612	50
OP: OP 56	1937	116
OP: OP 57	2254	206
OP: OP 58	2384	103
OP: OP 59	2399	15
OP: OP 60	2399	153
OP: OP 61	2026	362
OP: OP 62	2035	531
OP: OP 63	1860	658
OP: OP 64	1892	583

Central Array: OP 1

No glare found

Central Array: OP 2

No glare found

Central Array: OP 3

No glare found

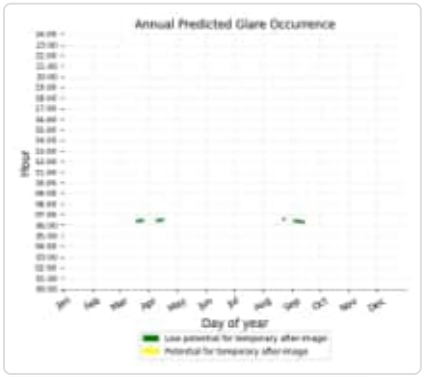
Central Array: OP 4

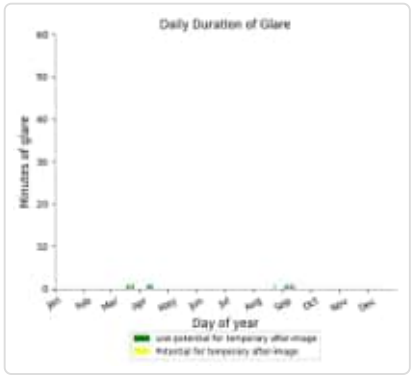
No glare found

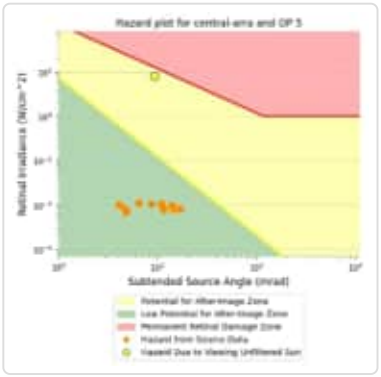
Central Array: OP 5

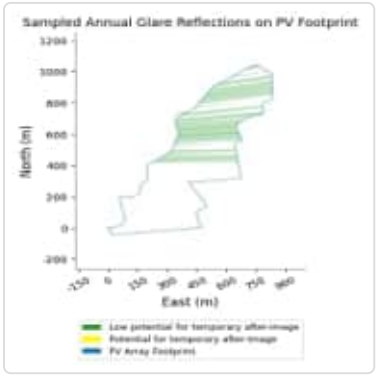
PV array is expected to produce the following glare for this receptor:

- 15 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





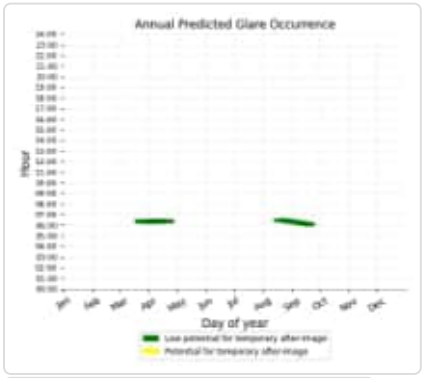


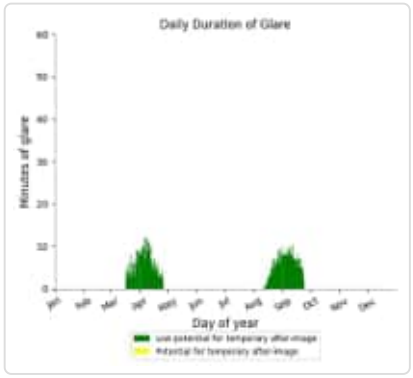


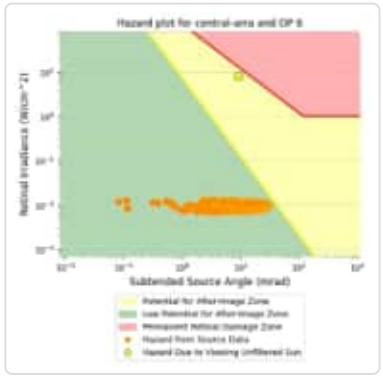
Central Array: OP 6

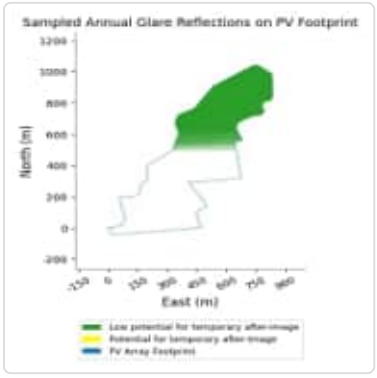
PV array is expected to produce the following glare for this receptor:

- 535 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





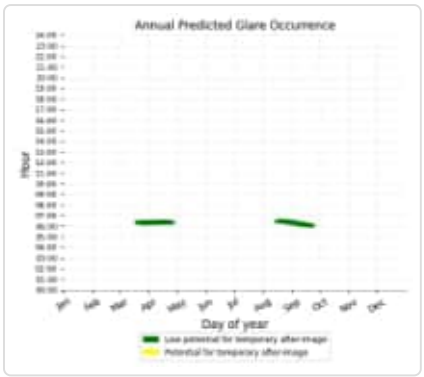


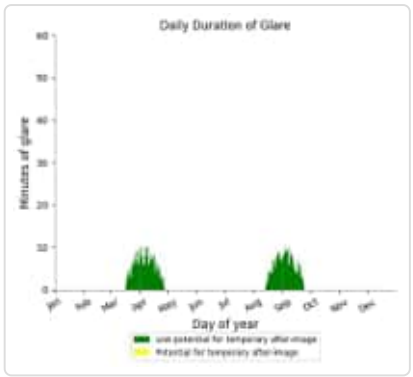


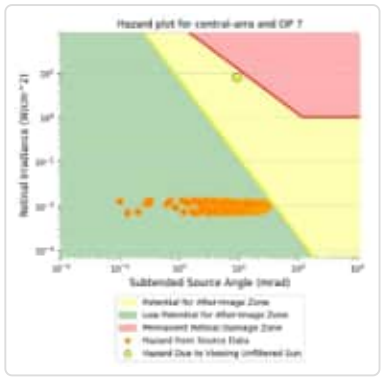
Central Array: OP 7

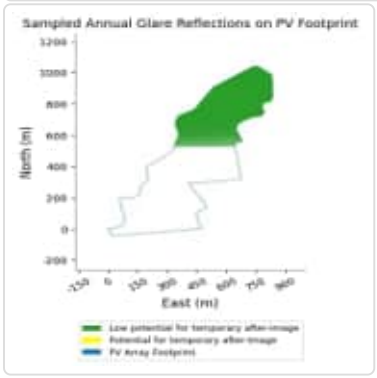
PV array is expected to produce the following glare for this receptor:

- 500 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





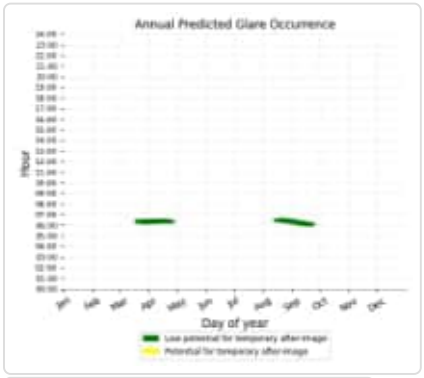


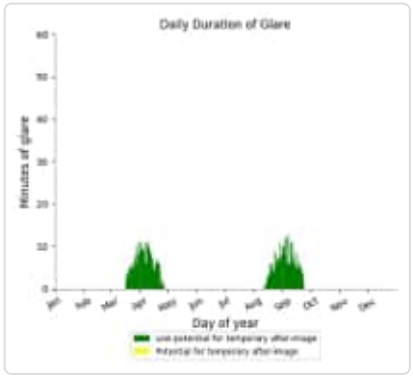


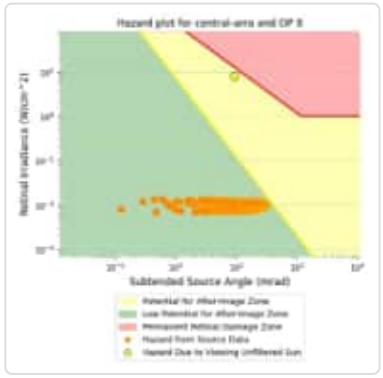
Central Array: OP 8

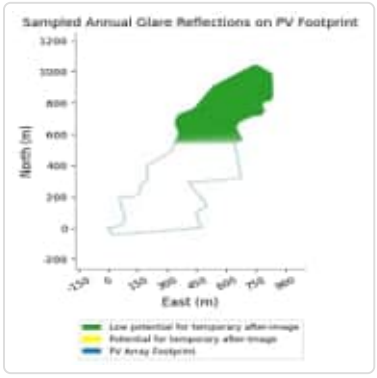
PV array is expected to produce the following glare for this receptor:

- 552 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





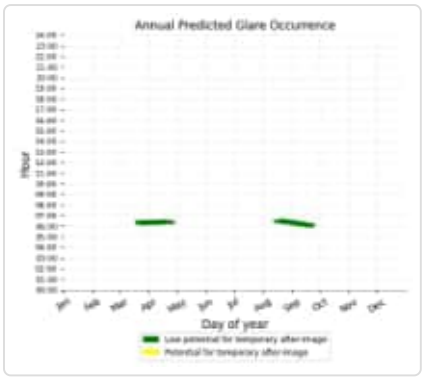


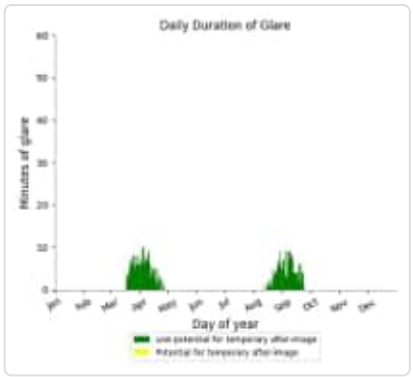


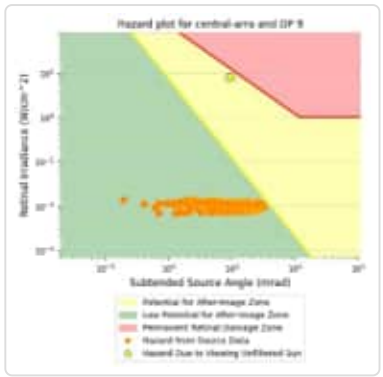
Central Array: OP 9

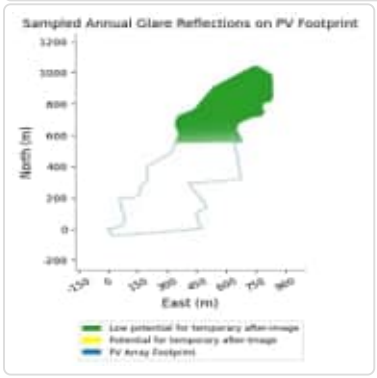
PV array is expected to produce the following glare for this receptor:

- 414 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 10

No glare found

Central Array: OP 11

No glare found

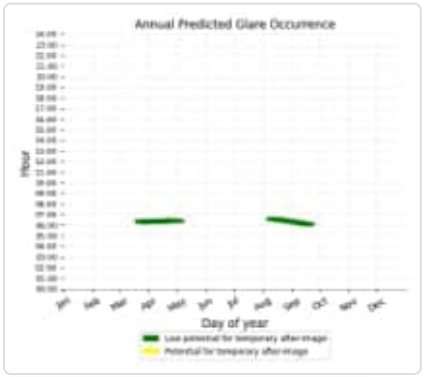
Central Array: OP 12

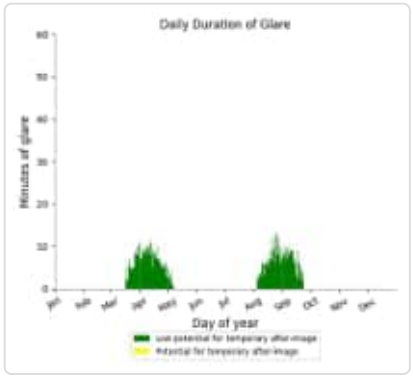
No glare found

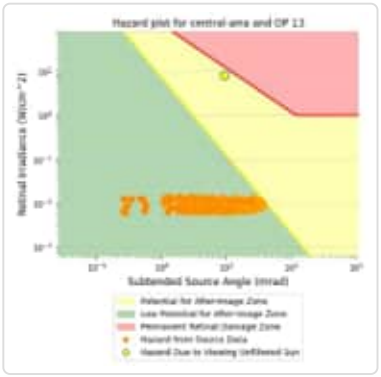
Central Array: OP 13

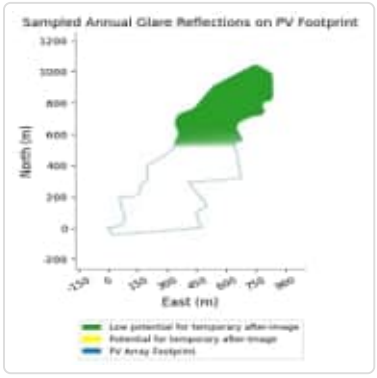
PV array is expected to produce the following glare for this receptor:

- 675 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 14

No glare found

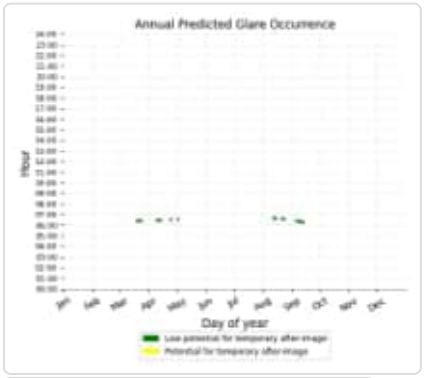
Central Array: OP 15

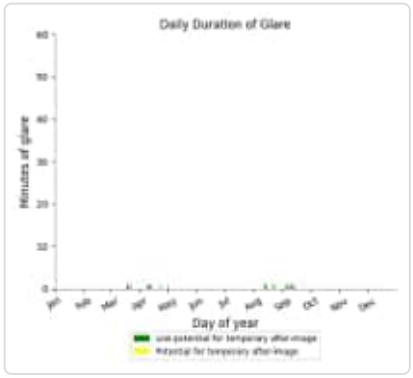
No glare found

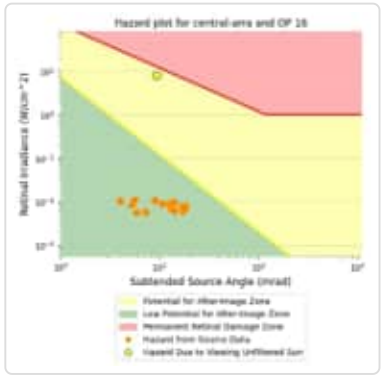
Central Array: OP 16

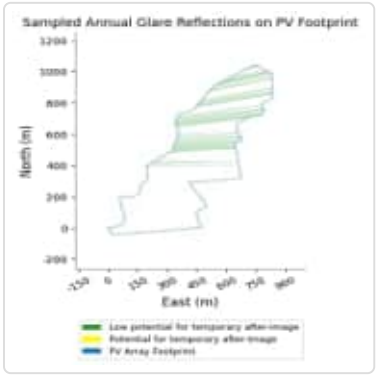
PV array is expected to produce the following glare for this receptor:

- 17 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





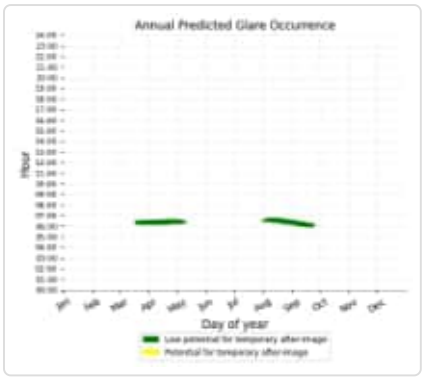


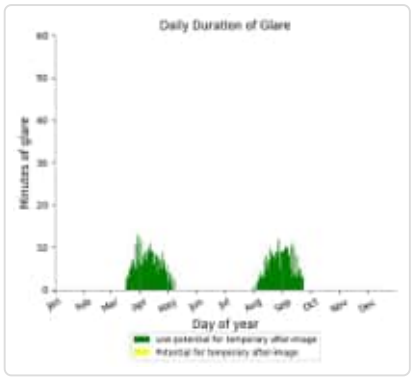


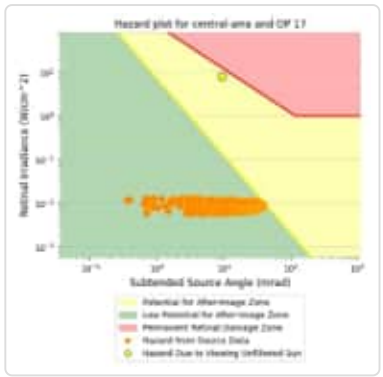
Central Array: OP 17

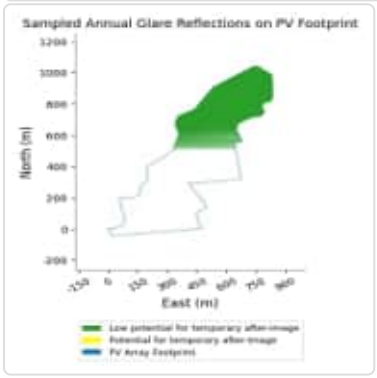
PV array is expected to produce the following glare for this receptor:

- 677 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





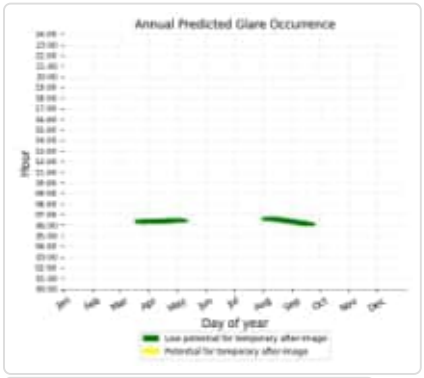


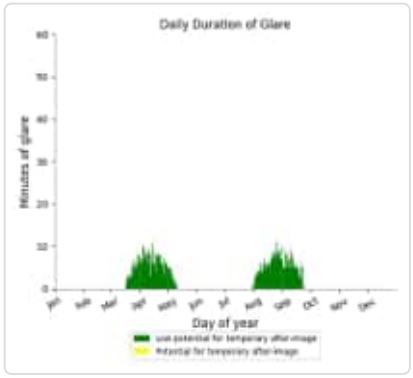


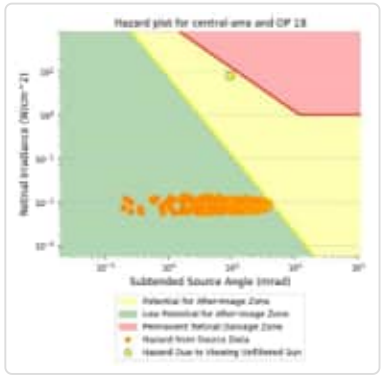
Central Array: OP 18

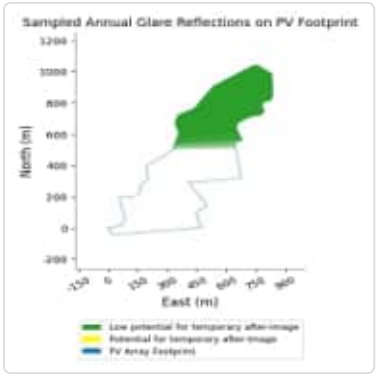
PV array is expected to produce the following glare for this receptor:

- 627 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





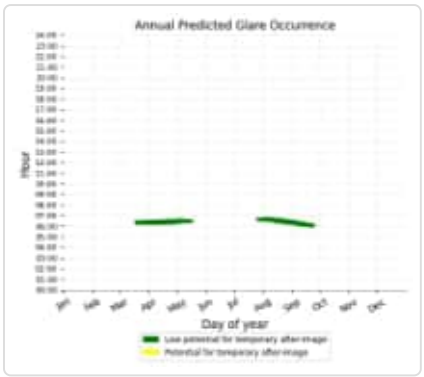


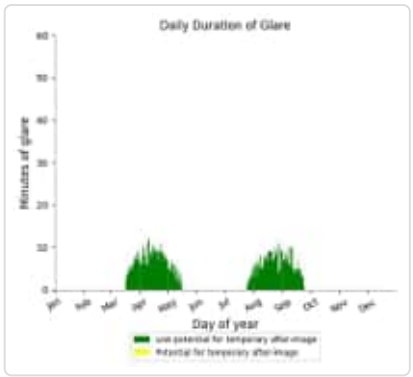


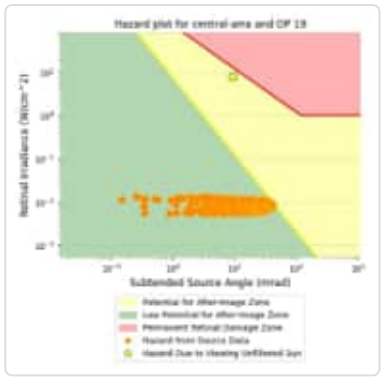
Central Array: OP 19

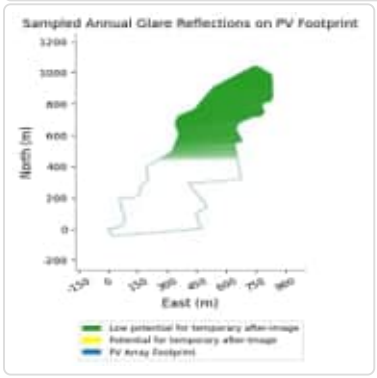
PV array is expected to produce the following glare for this receptor:

- 793 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 20

No glare found

Central Array: OP 21

No glare found

Central Array: OP 22

No glare found

Central Array: OP 23

No glare found

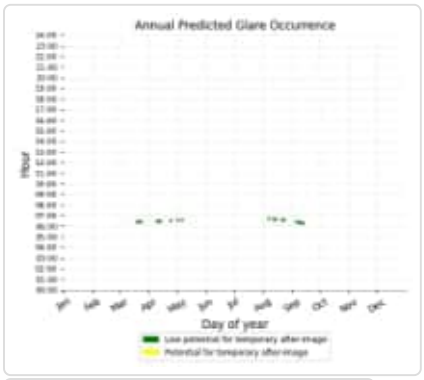
Central Array: OP 24

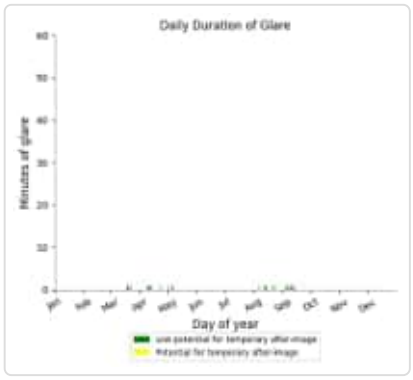
No glare found

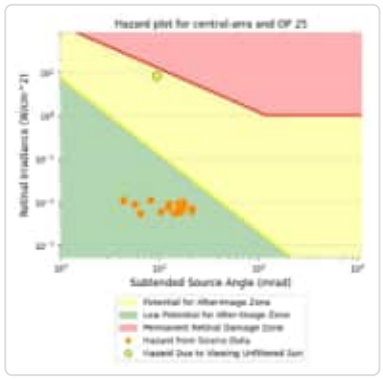
Central Array: OP 25

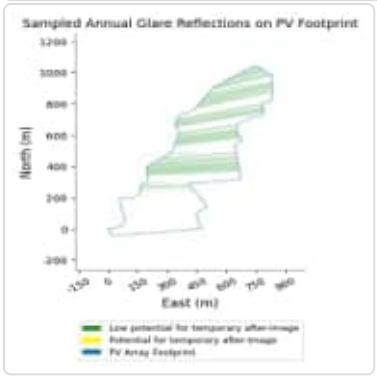
PV array is expected to produce the following glare for this receptor:

- 19 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





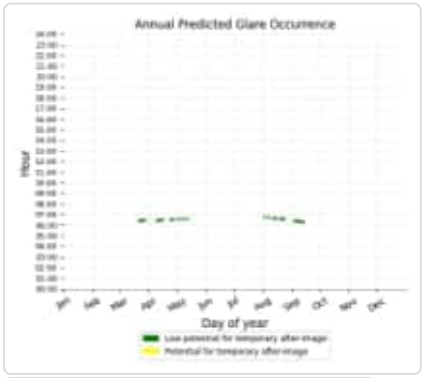


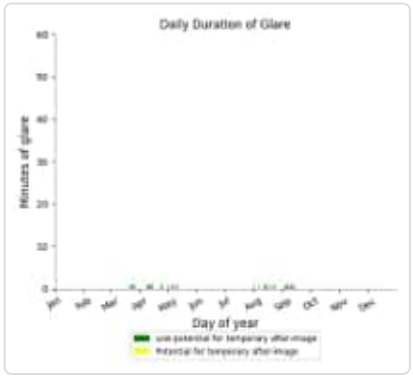


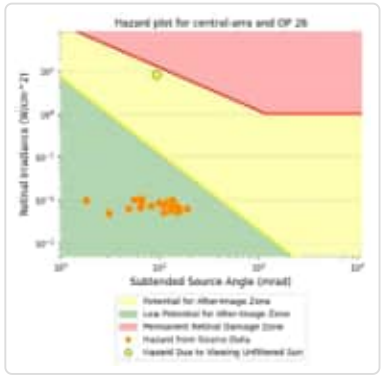
Central Array: OP 26

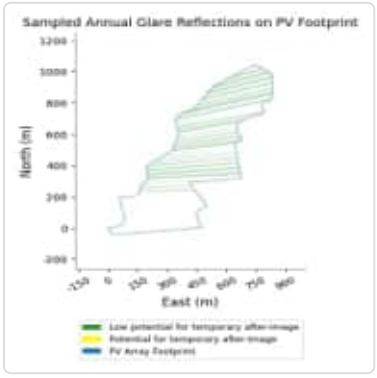
PV array is expected to produce the following glare for this receptor:

- 26 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





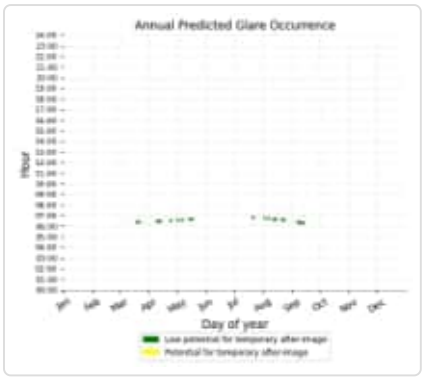


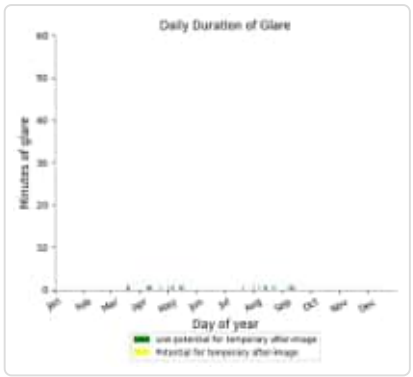


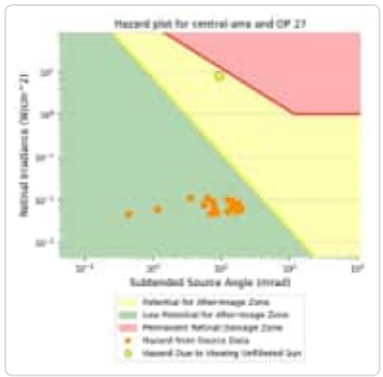
Central Array: OP 27

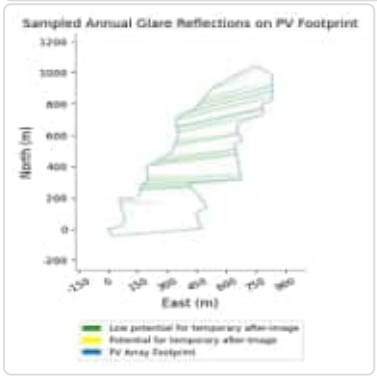
PV array is expected to produce the following glare for this receptor:

- 21 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 28

No glare found

Central Array: OP 29

No glare found

Central Array: OP 30

No glare found

Central Array: OP 31

No glare found

Central Array: OP 32

No glare found

Central Array: OP 33

No glare found

Central Array: OP 34

No glare found

Central Array: OP 35

No glare found

Central Array: OP 36

No glare found

Central Array: OP 37

No glare found

Central Array: OP 38

No glare found

Central Array: OP 39

No glare found

Central Array: OP 40

No glare found

Central Array: OP 41

No glare found

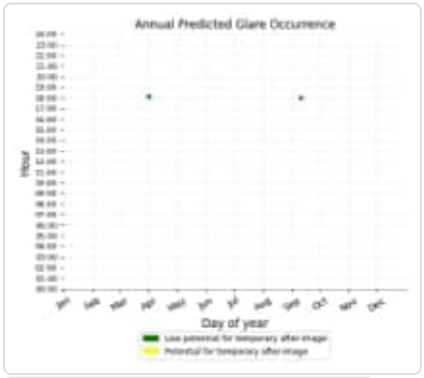
Central Array: OP 42

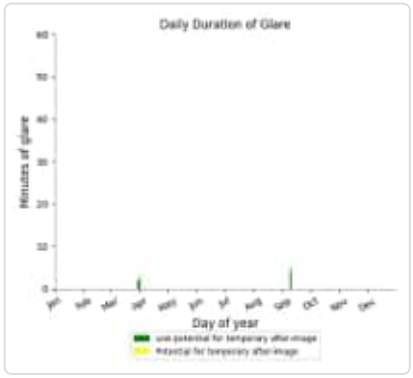
No glare found

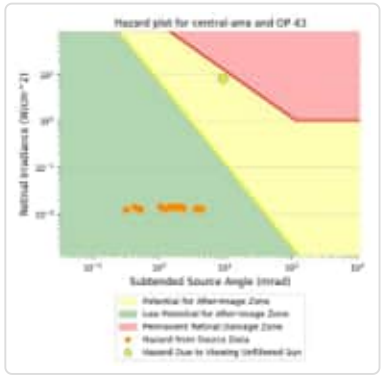
Central Array: OP 43

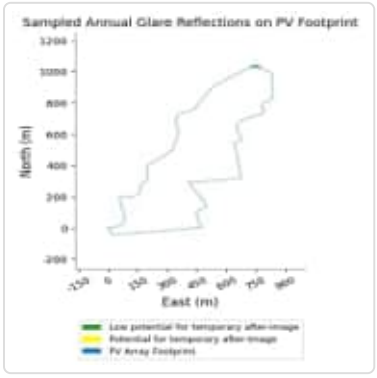
PV array is expected to produce the following glare for this receptor:

- 16 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





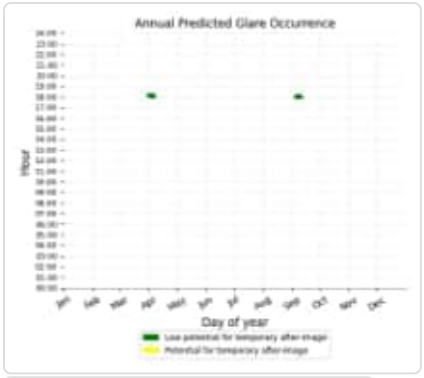




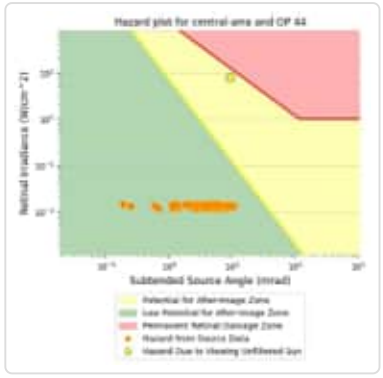
Central Array: OP 44

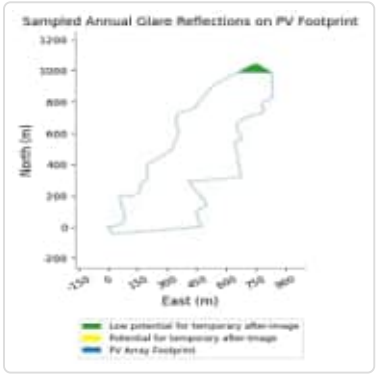
PV array is expected to produce the following glare for this receptor:

- 106 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





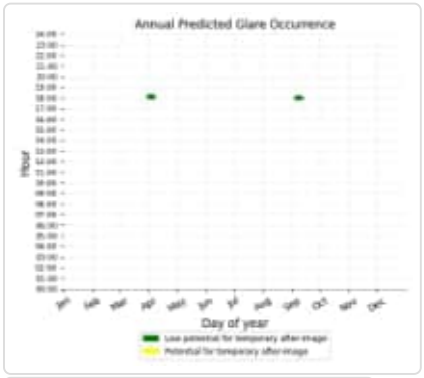




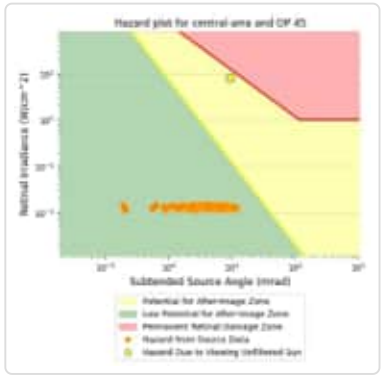
Central Array: OP 45

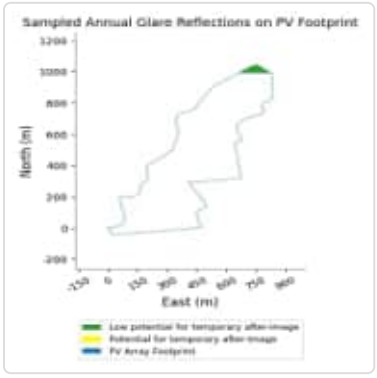
PV array is expected to produce the following glare for this receptor:

- 111 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





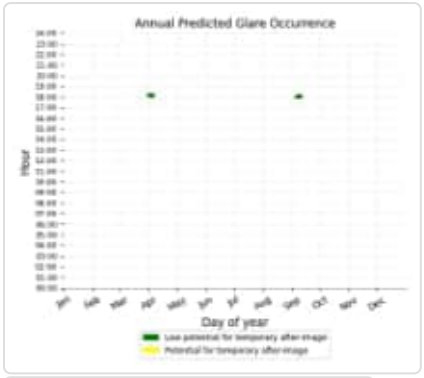


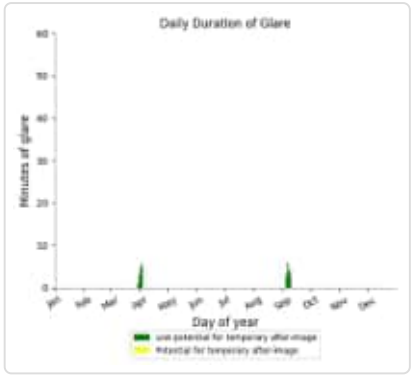


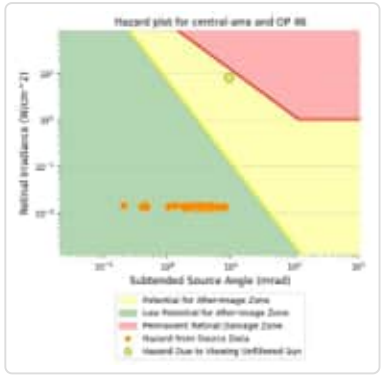
Central Array: OP 46

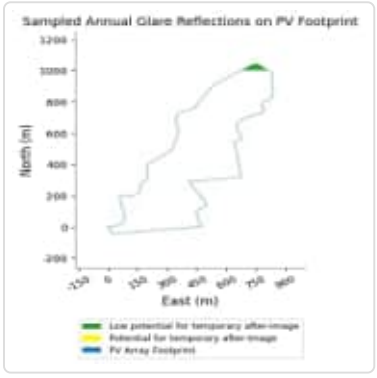
PV array is expected to produce the following glare for this receptor:

- 48 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





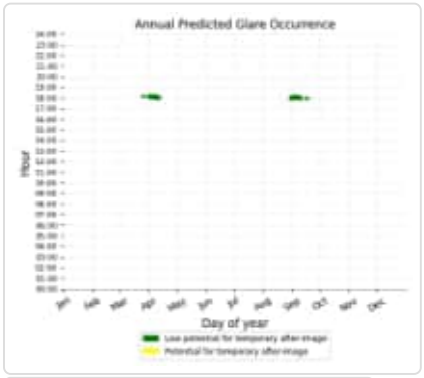




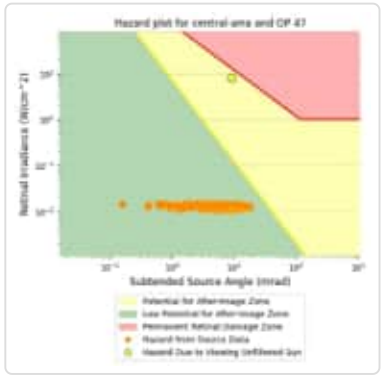
Central Array: OP 47

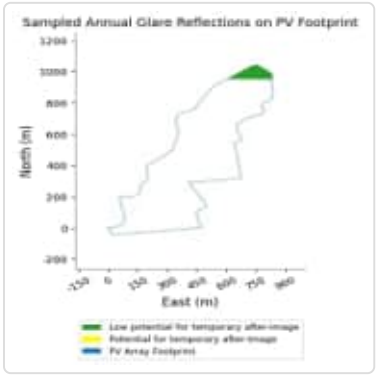
PV array is expected to produce the following glare for this receptor:

- 231 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





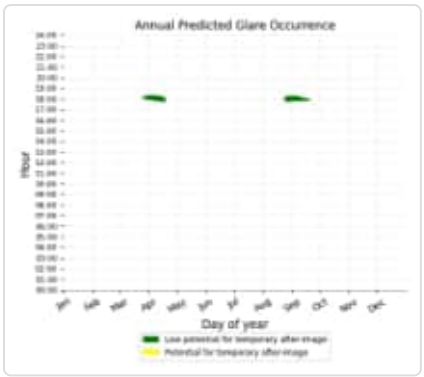


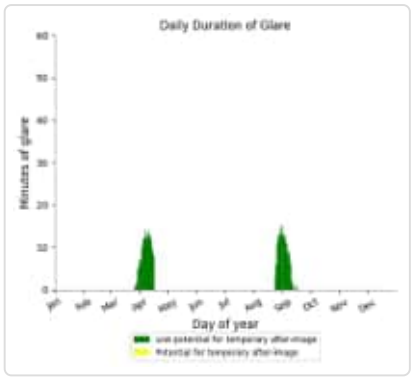


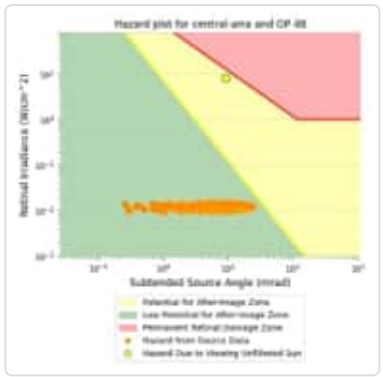
Central Array: OP 48

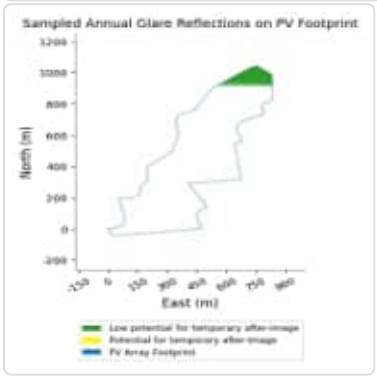
PV array is expected to produce the following glare for this receptor:

- 385 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





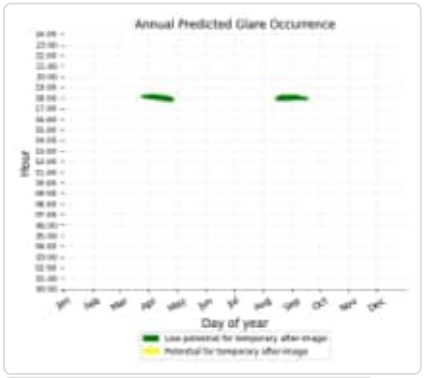


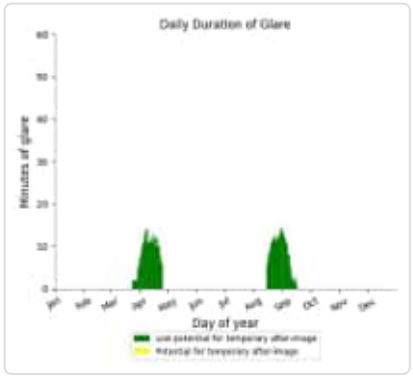


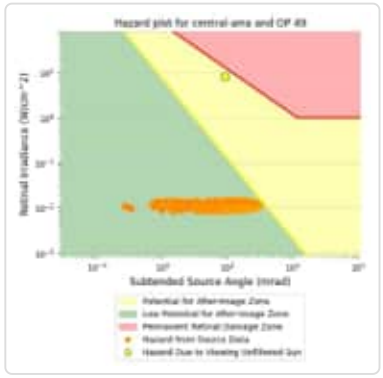
Central Array: OP 49

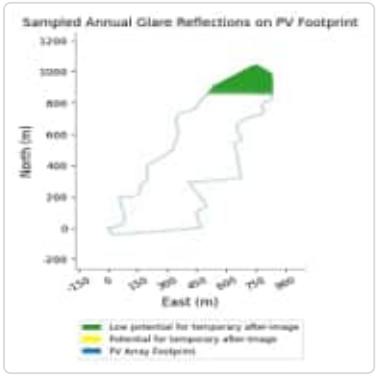
PV array is expected to produce the following glare for this receptor:

- 589 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





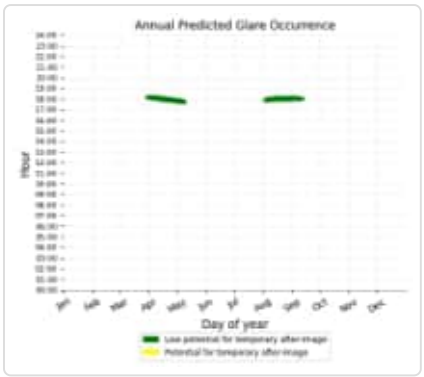


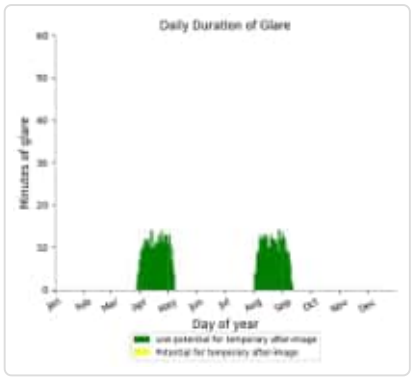


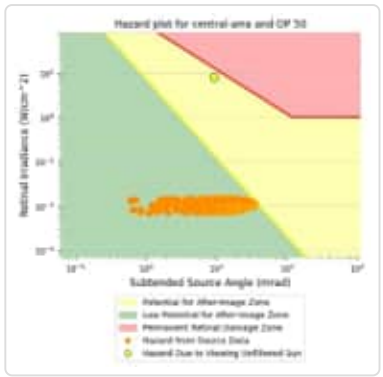
Central Array: OP 50

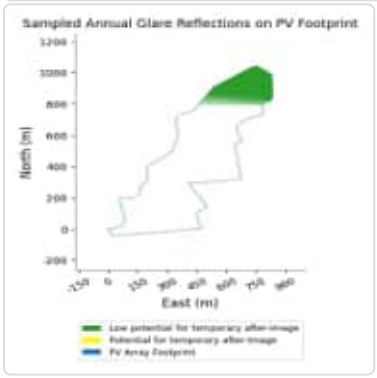
PV array is expected to produce the following glare for this receptor:

- 875 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





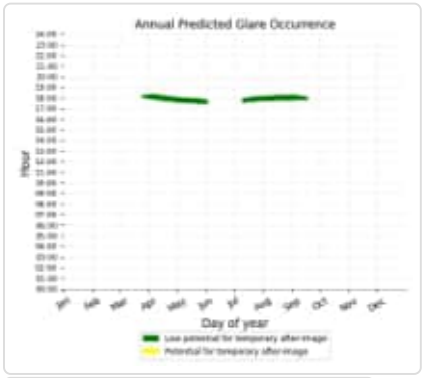


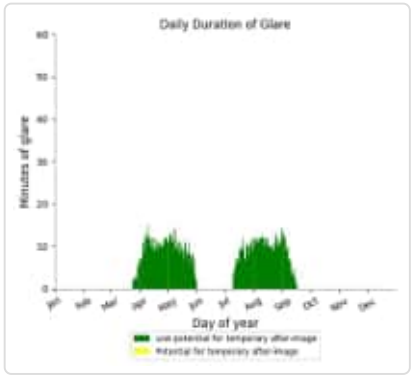


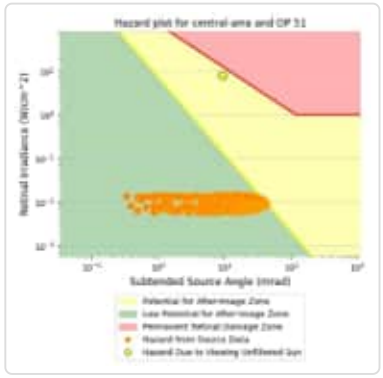
Central Array: OP 51

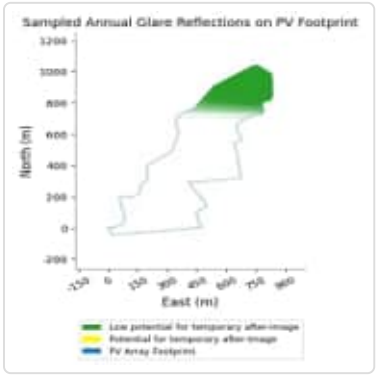
PV array is expected to produce the following glare for this receptor:

- 1,289 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





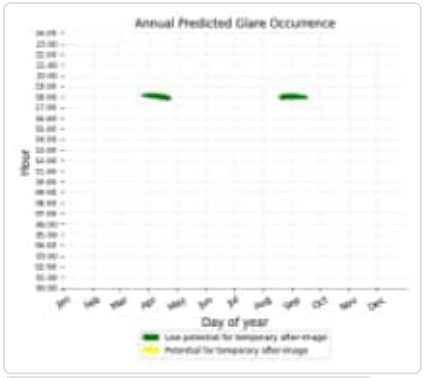


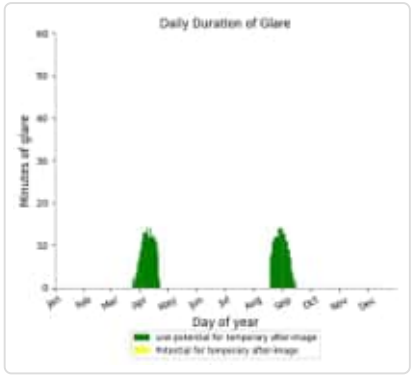


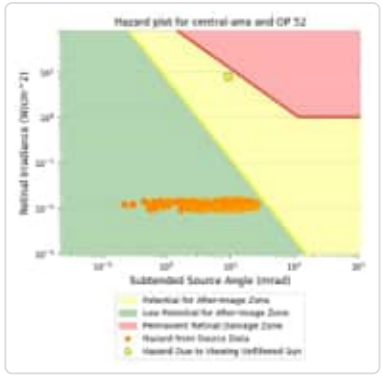
Central Array: OP 52

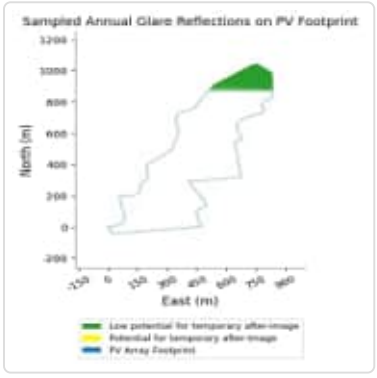
PV array is expected to produce the following glare for this receptor:

- 542 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









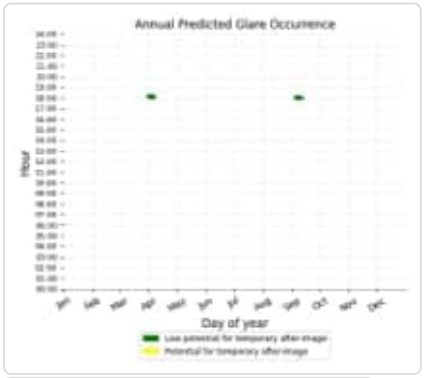
Central Array: OP 53

No glare found

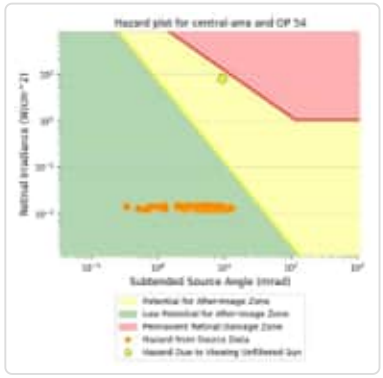
Central Array: OP 54

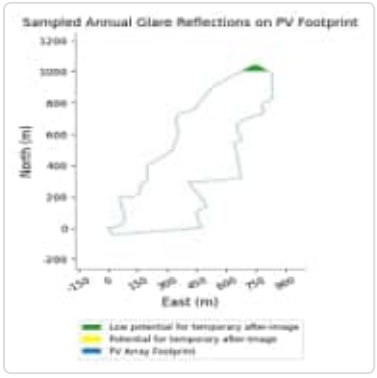
PV array is expected to produce the following glare for this receptor:

- 85 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





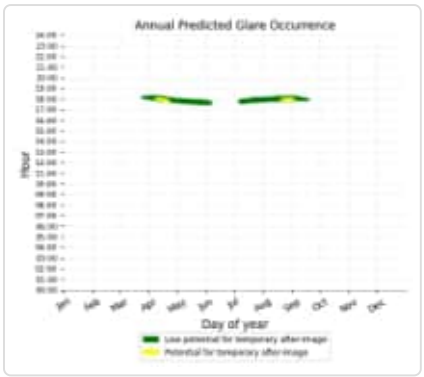


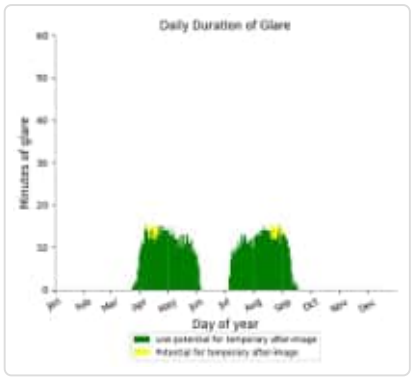


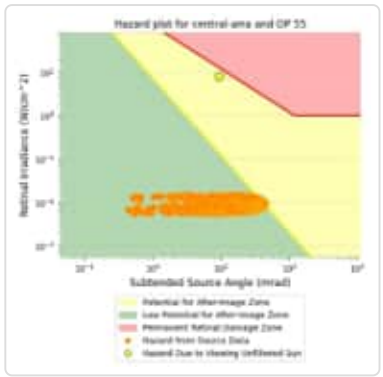
Central Array: OP 55

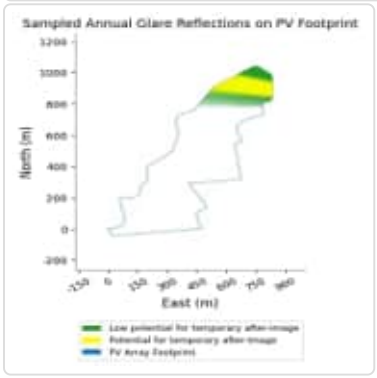
PV array is expected to produce the following glare for this receptor:

- 1,612 minutes of "green" glare with low potential to cause temporary after-image.
- 50 minutes of "yellow" glare with potential to cause temporary after-image.





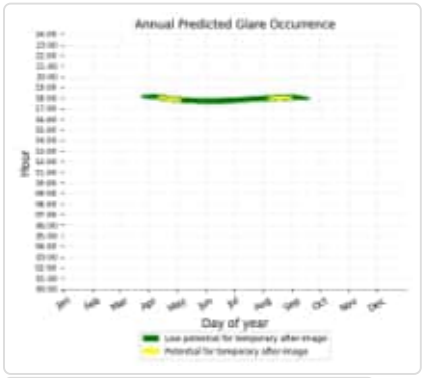


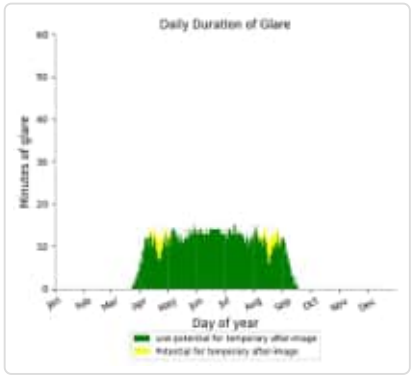


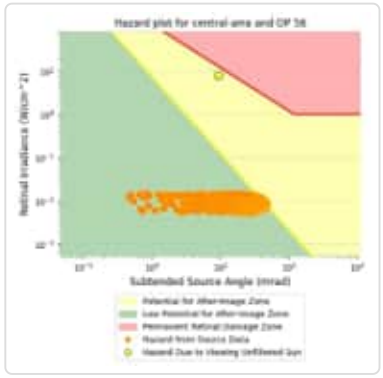
Central Array: OP 56

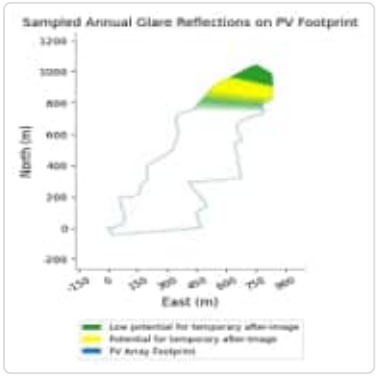
PV array is expected to produce the following glare for this receptor:

- 1,937 minutes of "green" glare with low potential to cause temporary after-image.
- 116 minutes of "yellow" glare with potential to cause temporary after-image.





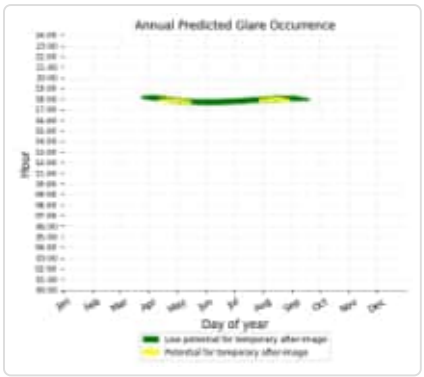


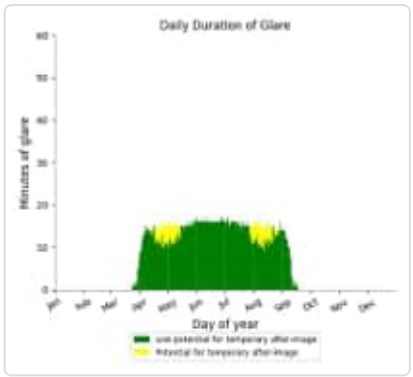


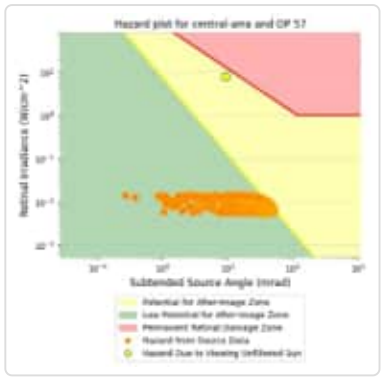
Central Array: OP 57

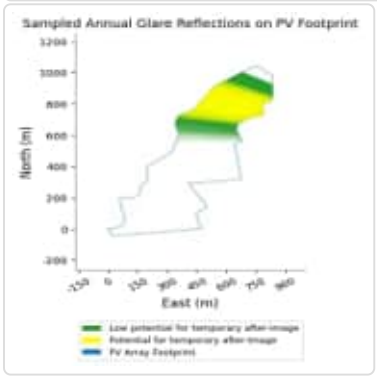
PV array is expected to produce the following glare for this receptor:

- 2,254 minutes of "green" glare with low potential to cause temporary after-image.
- 206 minutes of "yellow" glare with potential to cause temporary after-image.





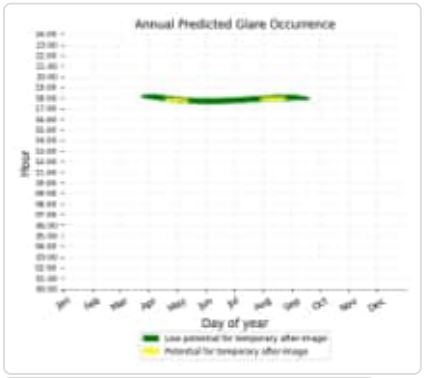


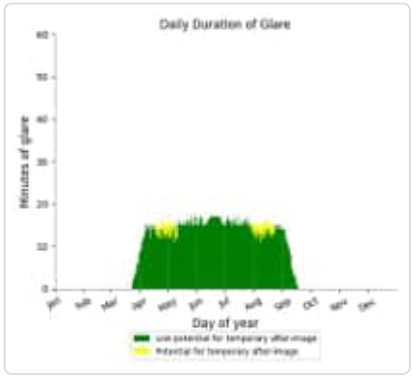


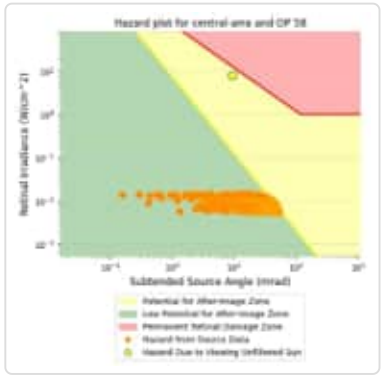
Central Array: OP 58

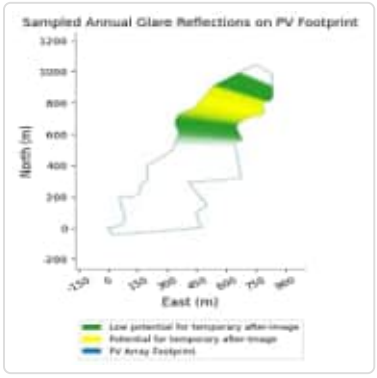
PV array is expected to produce the following glare for this receptor:

- 2,384 minutes of "green" glare with low potential to cause temporary after-image.
- 103 minutes of "yellow" glare with potential to cause temporary after-image.





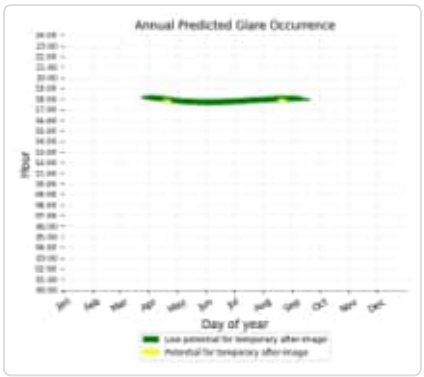


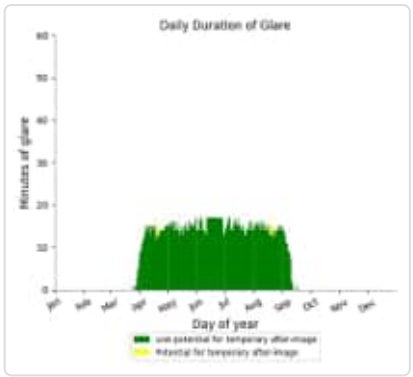


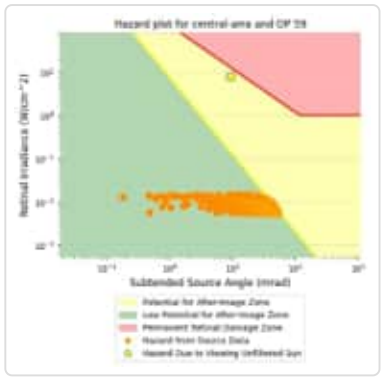
Central Array: OP 59

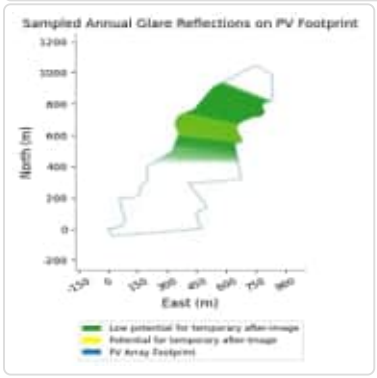
PV array is expected to produce the following glare for this receptor:

- 2,399 minutes of "green" glare with low potential to cause temporary after-image.
- 15 minutes of "yellow" glare with potential to cause temporary after-image.





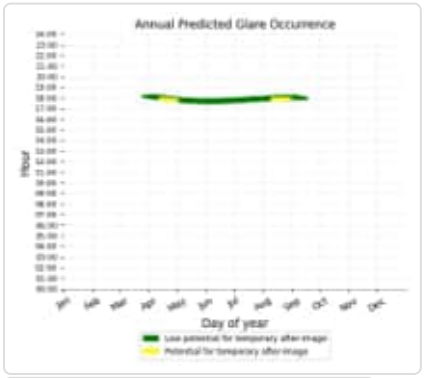


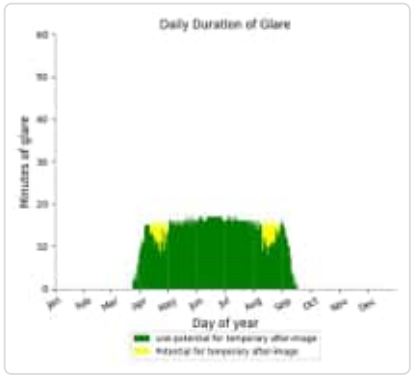


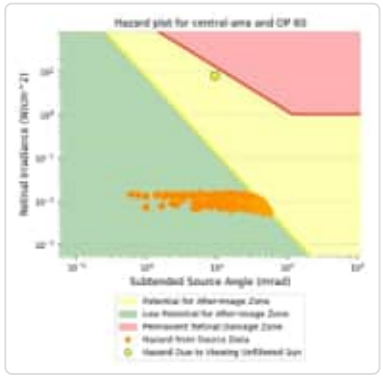
Central Array: OP 60

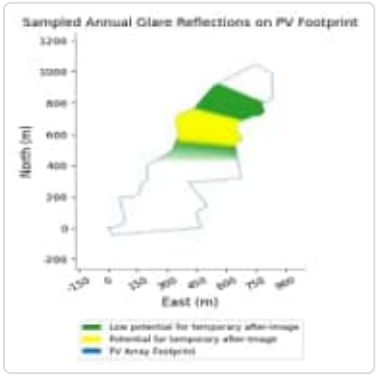
PV array is expected to produce the following glare for this receptor:

- 2,399 minutes of "green" glare with low potential to cause temporary after-image.
- 153 minutes of "yellow" glare with potential to cause temporary after-image.





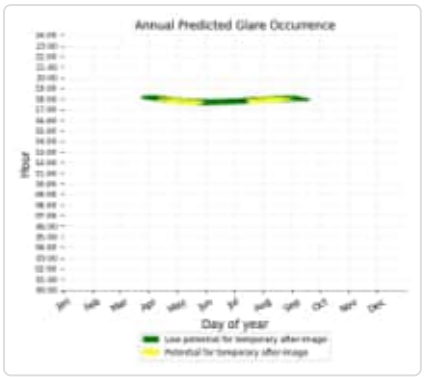


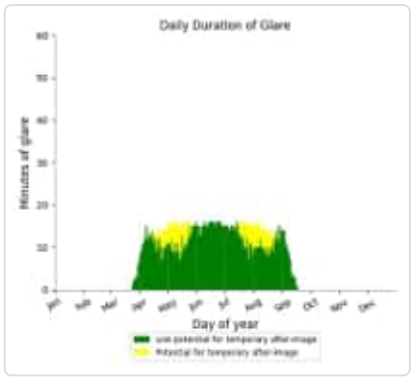


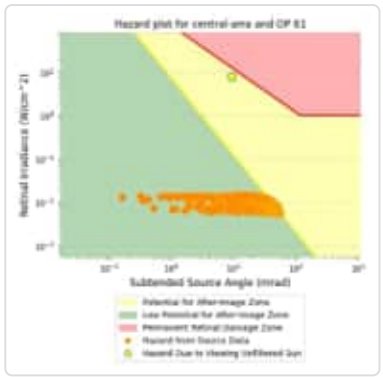
Central Array: OP 61

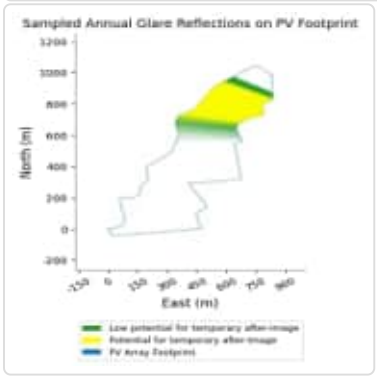
PV array is expected to produce the following glare for this receptor:

- 2,026 minutes of "green" glare with low potential to cause temporary after-image.
- 362 minutes of "yellow" glare with potential to cause temporary after-image.





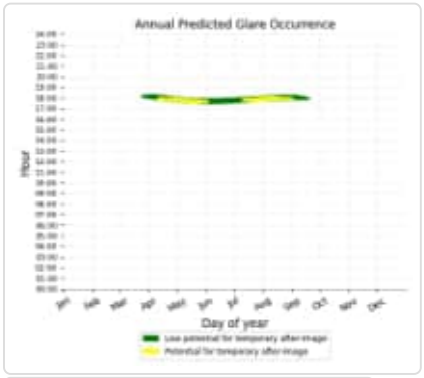


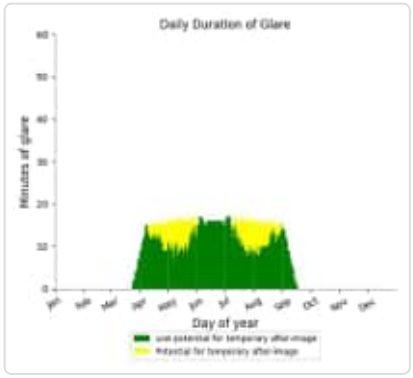


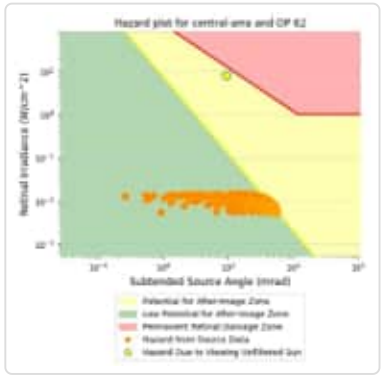
Central Array: OP 62

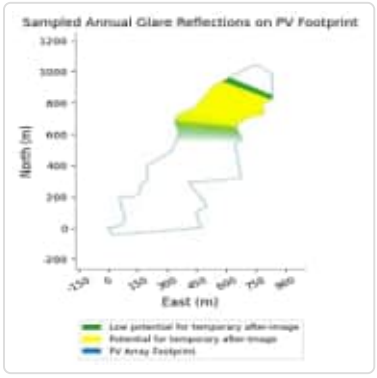
PV array is expected to produce the following glare for this receptor:

- 2,035 minutes of "green" glare with low potential to cause temporary after-image.
- 531 minutes of "yellow" glare with potential to cause temporary after-image.





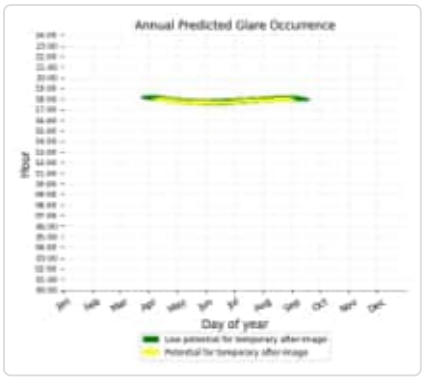


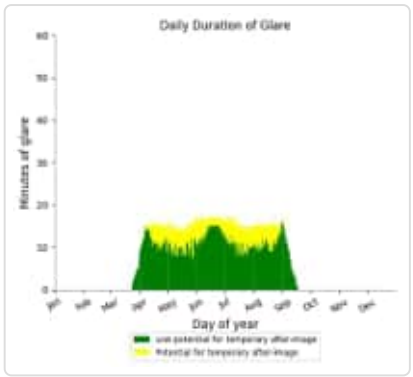


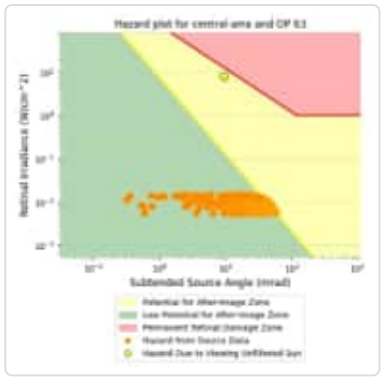
Central Array: OP 63

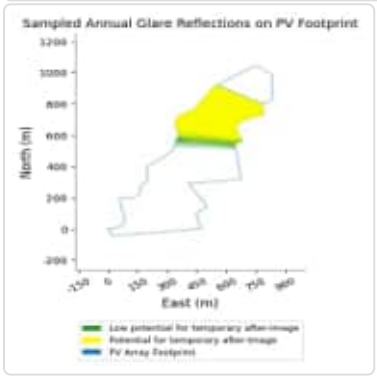
PV array is expected to produce the following glare for this receptor:

- 1,860 minutes of "green" glare with low potential to cause temporary after-image.
- 658 minutes of "yellow" glare with potential to cause temporary after-image.





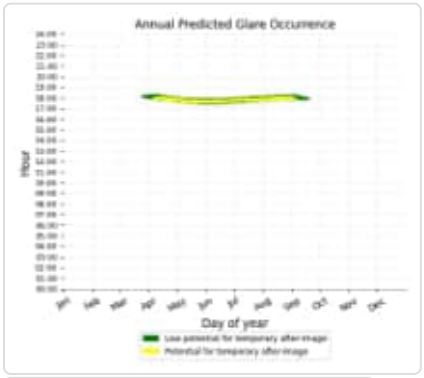


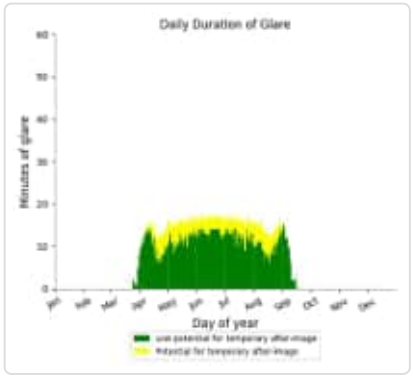


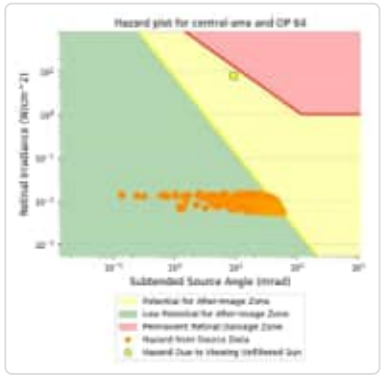
Central Array: OP 64

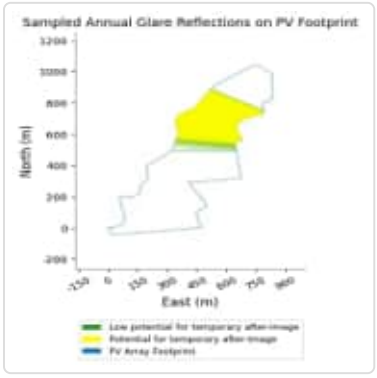
PV array is expected to produce the following glare for this receptor:

- 1,892 minutes of "green" glare with low potential to cause temporary after-image.
- 583 minutes of "yellow" glare with potential to cause temporary after-image.









East Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	1126	0
OP: OP 6	1040	0
OP: OP 7	1069	0
OP: OP 8	1069	0
OP: OP 9	1076	0
OP: OP 10	1080	0
OP: OP 11	1213	0
OP: OP 12	1213	0
OP: OP 13	1310	0
OP: OP 14	1359	0
OP: OP 15	1420	0
OP: OP 16	1581	0
OP: OP 17	1362	0
OP: OP 18	1412	0
OP: OP 19	1603	0
OP: OP 20	1700	0
OP: OP 21	1853	0
OP: OP 22	2106	0
OP: OP 23	2049	0
OP: OP 24	1660	0
OP: OP 25	1719	0

OP: OP 26	1873	0
OP: OP 27	2092	0
OP: OP 28	1549	0
OP: OP 29	2823	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	234	0
OP: OP 48	493	0
OP: OP 49	930	0
OP: OP 50	1556	0
OP: OP 51	3088	0
OP: OP 52	755	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	3250	0
OP: OP 56	3324	0
OP: OP 57	3284	0
OP: OP 58	3292	0
OP: OP 59	3325	0
OP: OP 60	3352	0
OP: OP 61	3267	0
OP: OP 62	3304	0
OP: OP 63	3355	0
OP: OP 64	3431	0

East Array: OP 1

No glare found

East Array: OP 2

No glare found

East Array: OP 3

No glare found

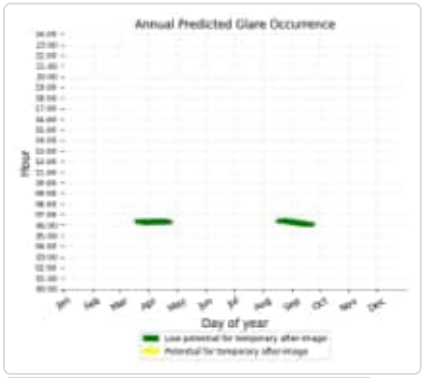
East Array: OP 4

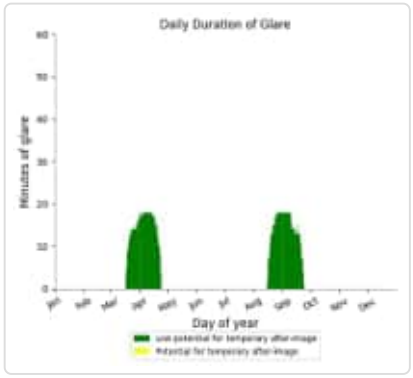
No glare found

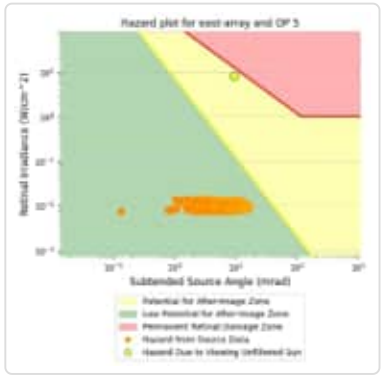
East Array: OP 5

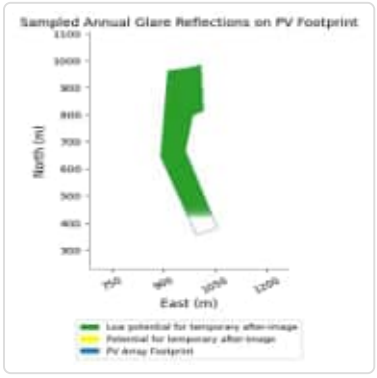
PV array is expected to produce the following glare for this receptor:

- 1,126 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





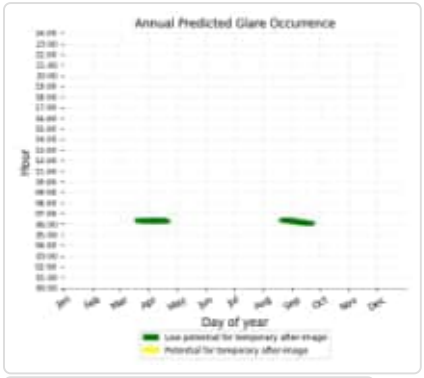




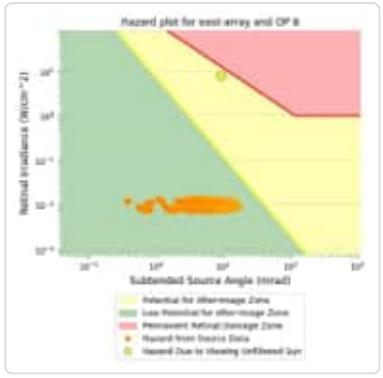
East Array: OP 6

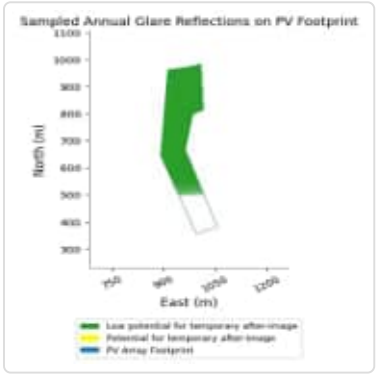
PV array is expected to produce the following glare for this receptor:

- 1,040 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





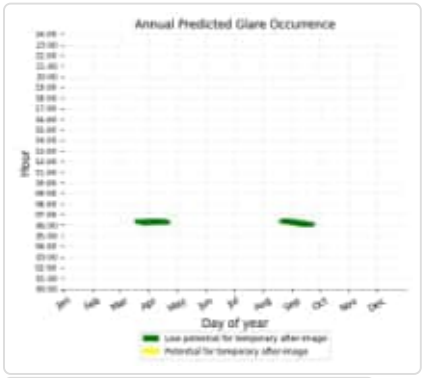


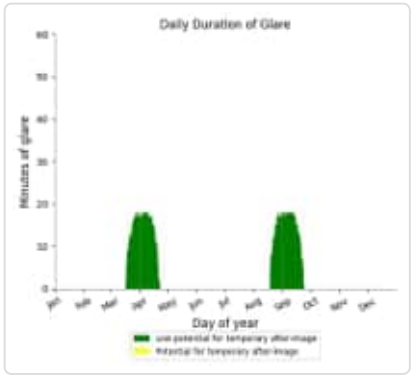


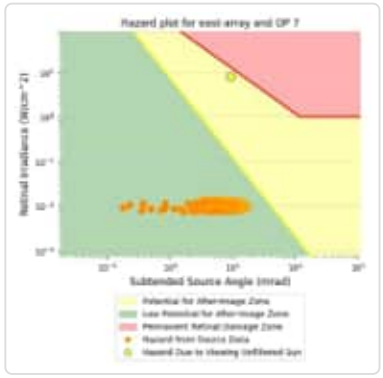
East Array: OP 7

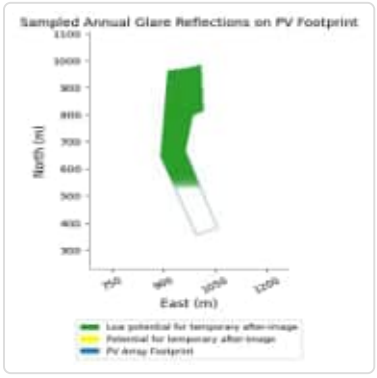
PV array is expected to produce the following glare for this receptor:

- 1,069 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





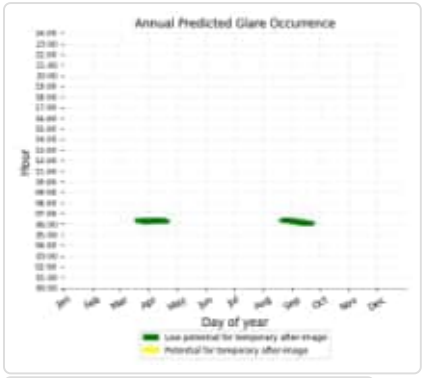




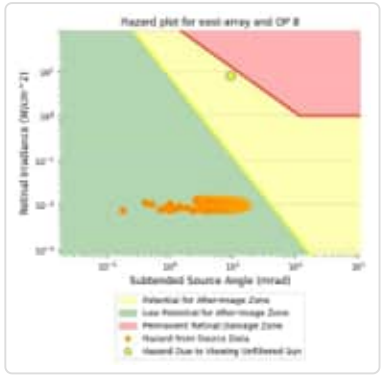
East Array: OP 8

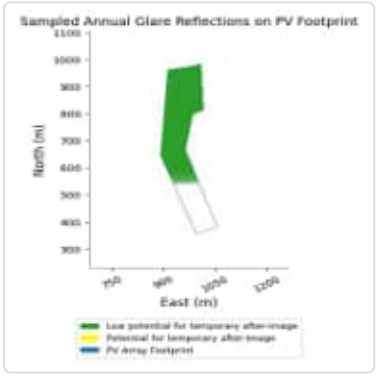
PV array is expected to produce the following glare for this receptor:

- 1,069 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





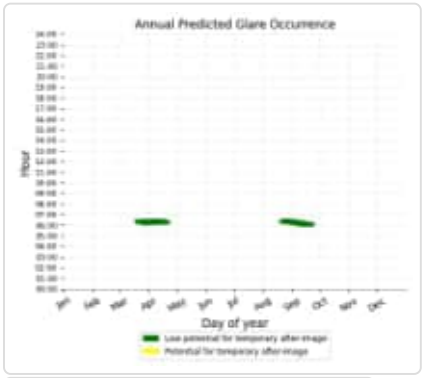


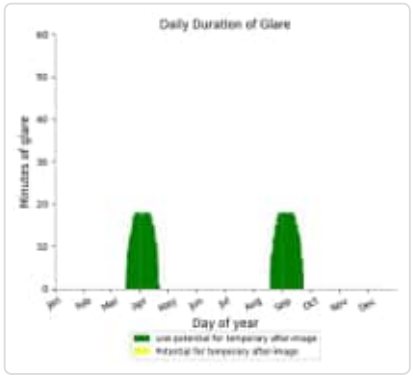


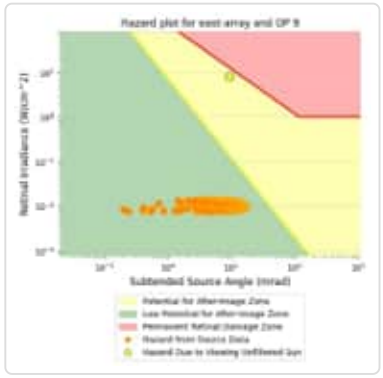
East Array: OP 9

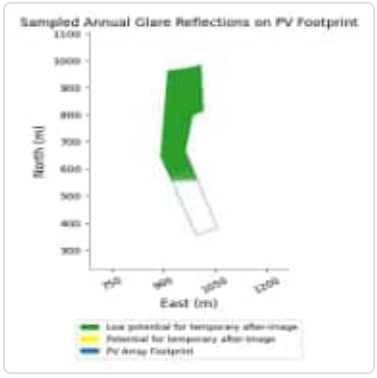
PV array is expected to produce the following glare for this receptor:

- 1,076 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





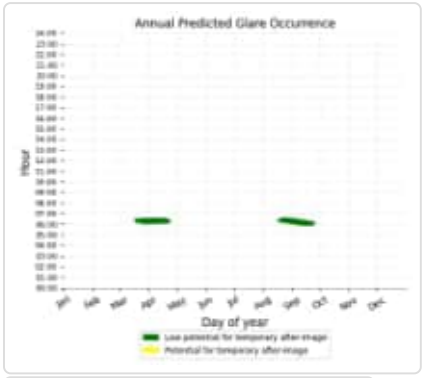


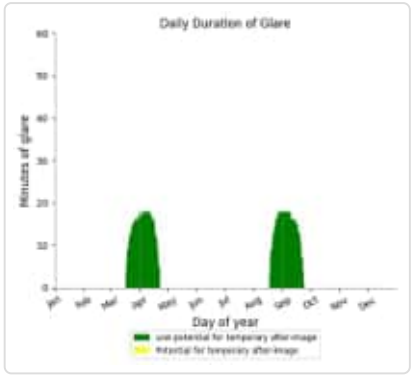


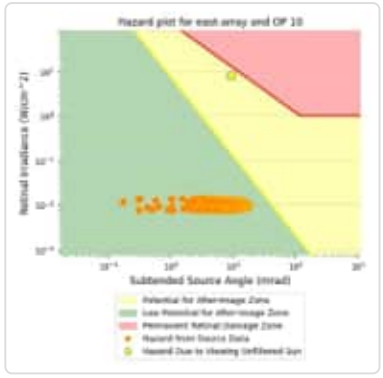
East Array: OP 10

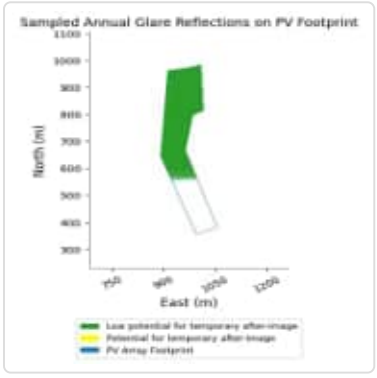
PV array is expected to produce the following glare for this receptor:

- 1,080 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





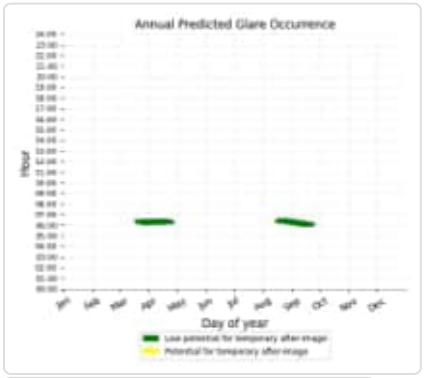


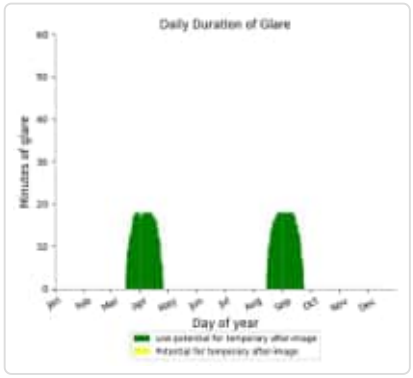


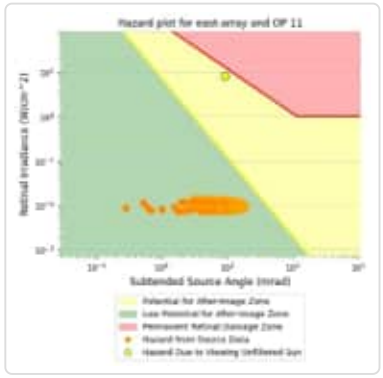
East Array: OP 11

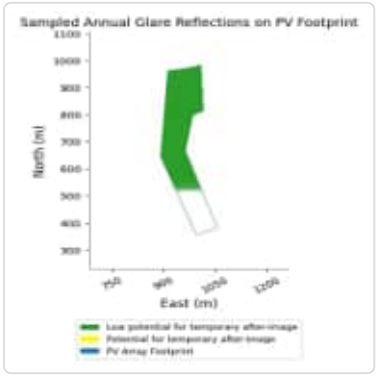
PV array is expected to produce the following glare for this receptor:

- 1,213 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





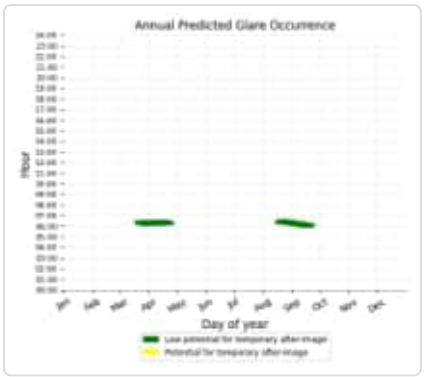




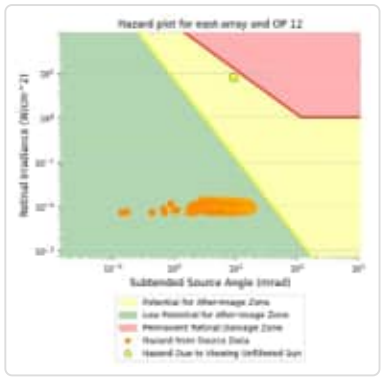
East Array: OP 12

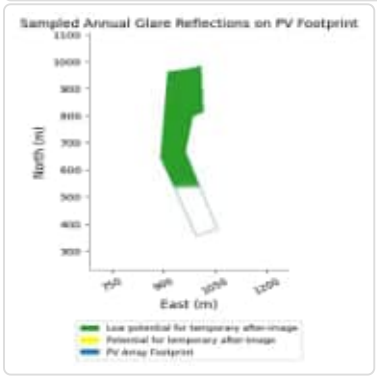
PV array is expected to produce the following glare for this receptor:

- 1,213 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





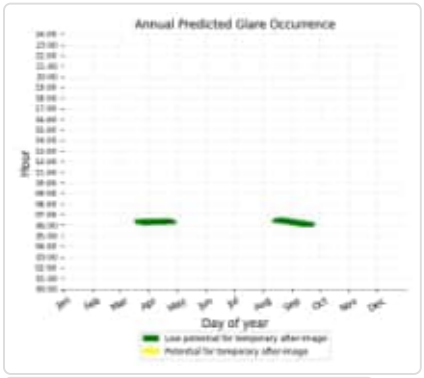


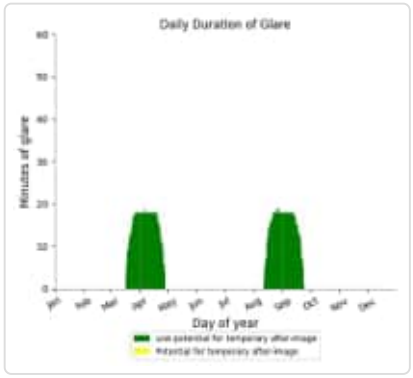


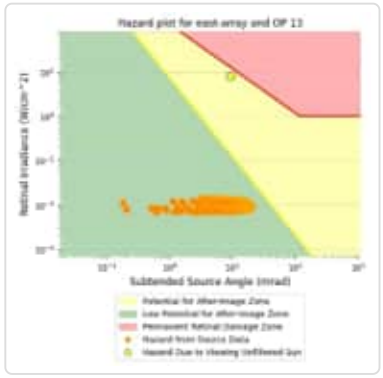
East Array: OP 13

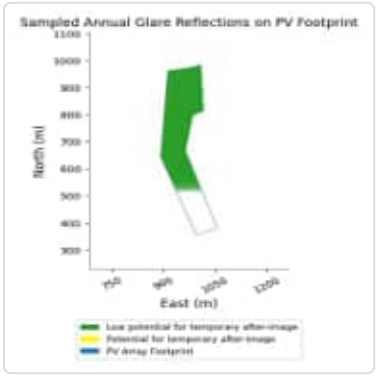
PV array is expected to produce the following glare for this receptor:

- 1,310 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





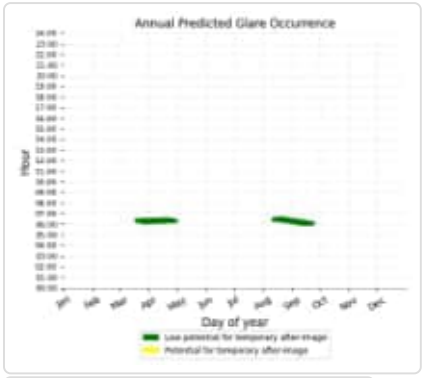




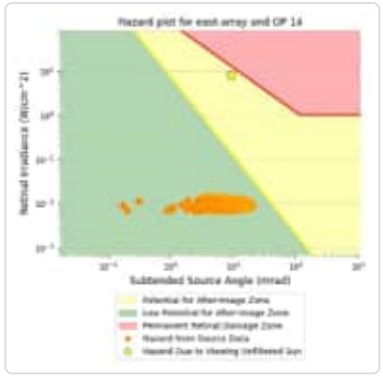
East Array: OP 14

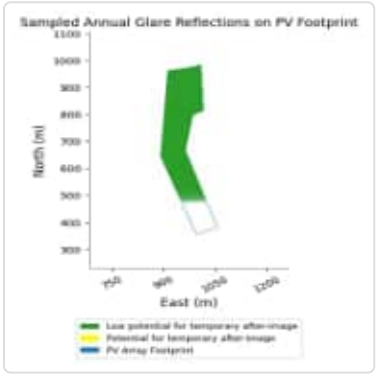
PV array is expected to produce the following glare for this receptor:

- 1,359 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





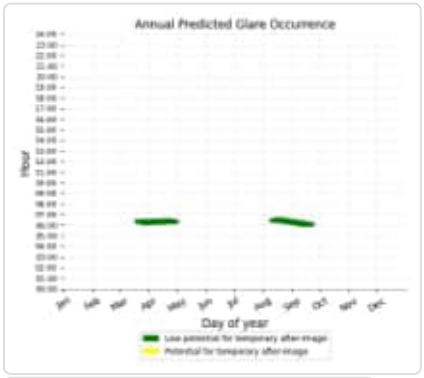


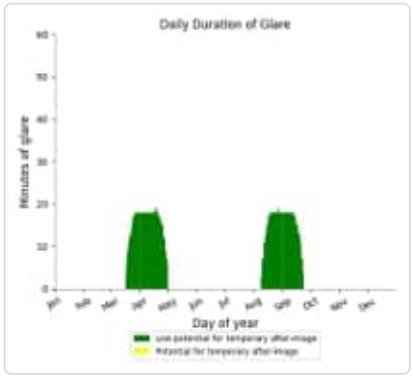


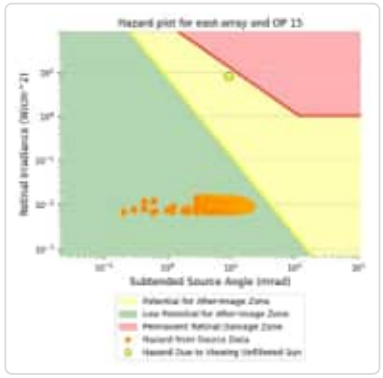
East Array: OP 15

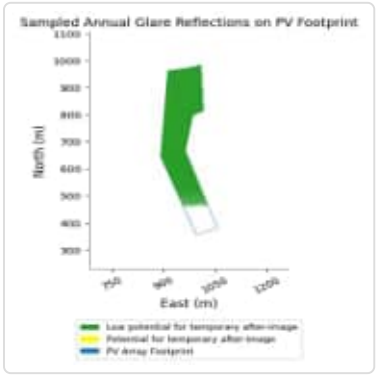
PV array is expected to produce the following glare for this receptor:

- 1,420 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





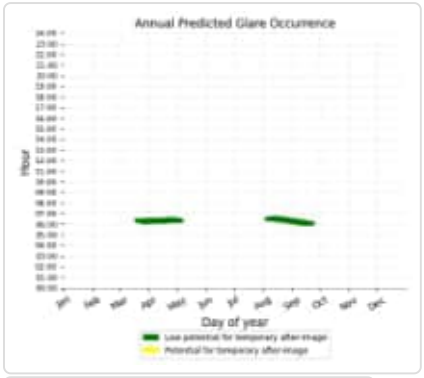




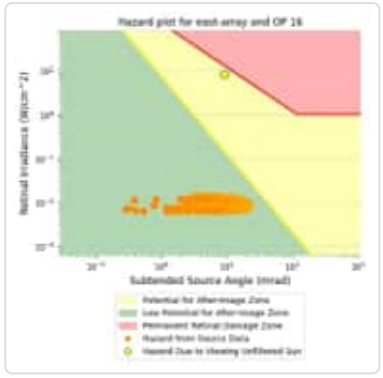
East Array: OP 16

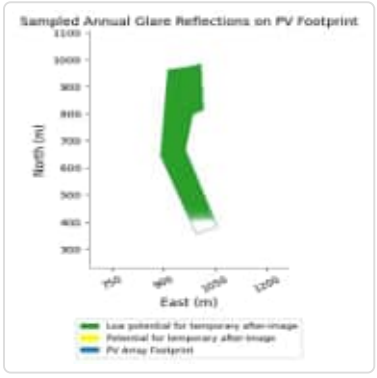
PV array is expected to produce the following glare for this receptor:

- 1,581 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





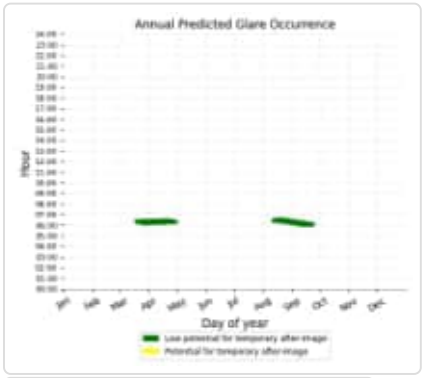


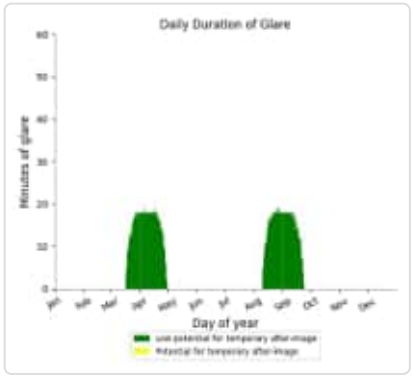


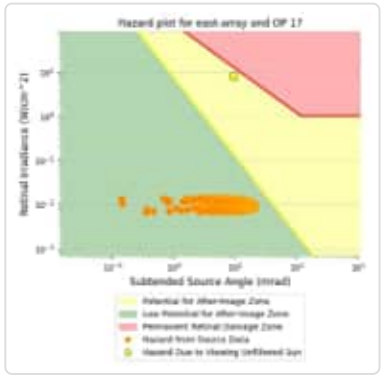
East Array: OP 17

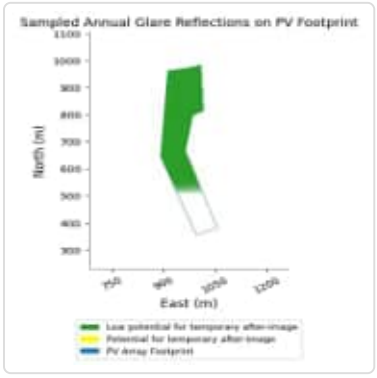
PV array is expected to produce the following glare for this receptor:

- 1,362 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





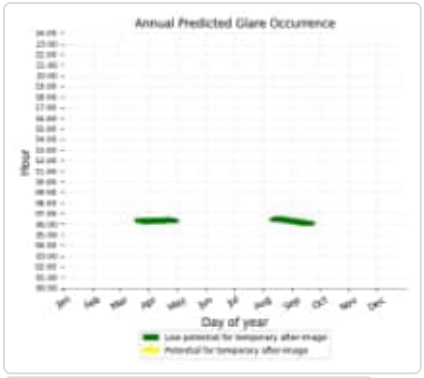




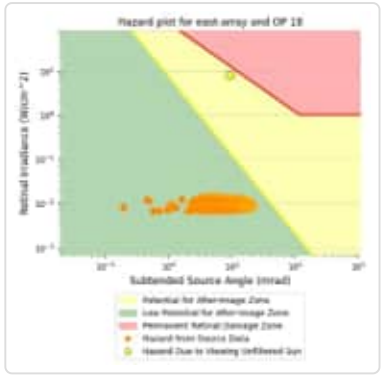
East Array: OP 18

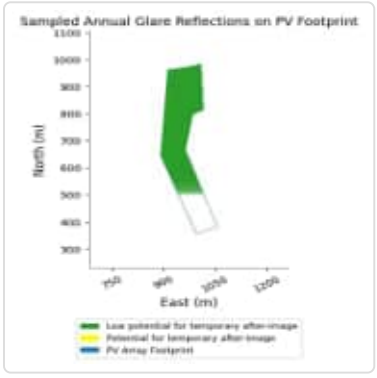
PV array is expected to produce the following glare for this receptor:

- 1,412 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





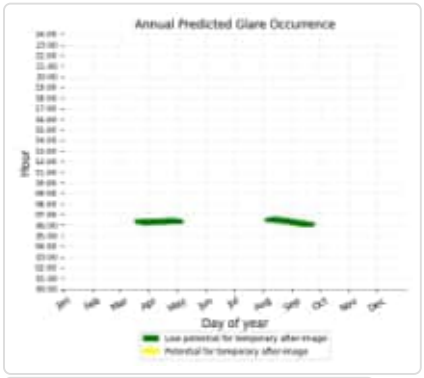


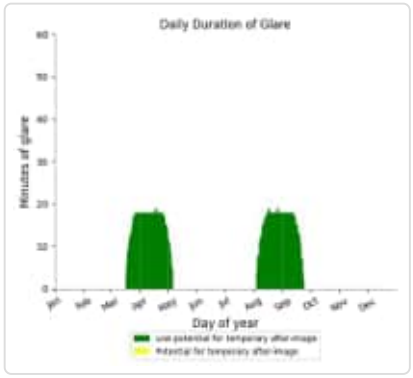


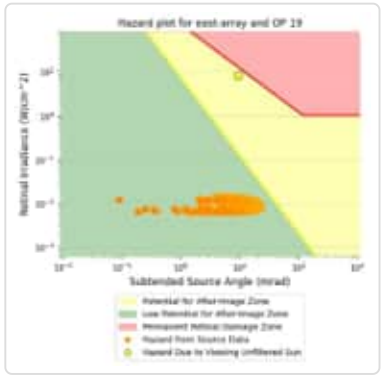
East Array: OP 19

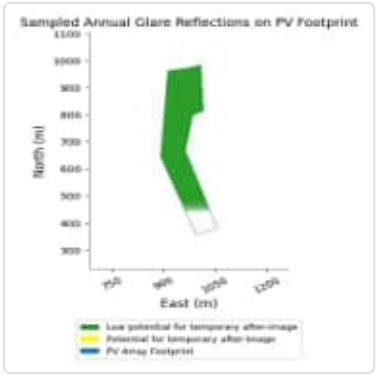
PV array is expected to produce the following glare for this receptor:

- 1,603 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





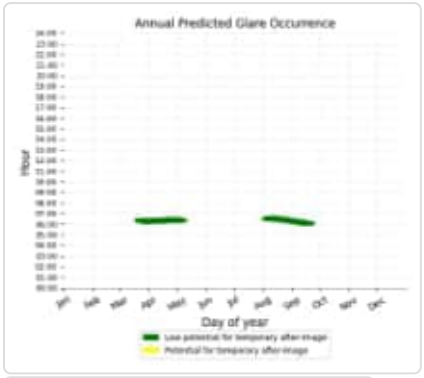




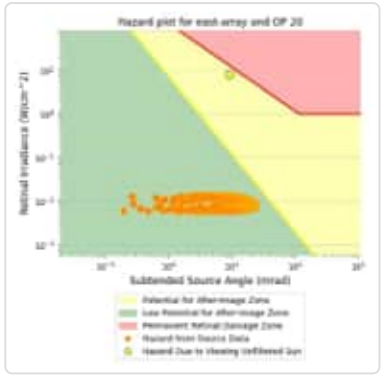
East Array: OP 20

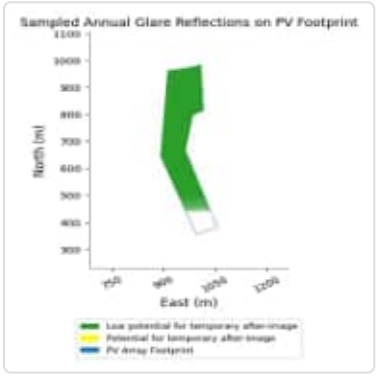
PV array is expected to produce the following glare for this receptor:

- 1,700 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





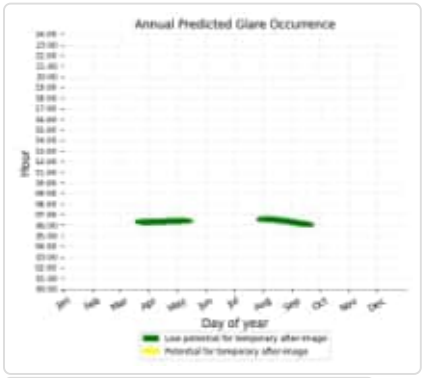




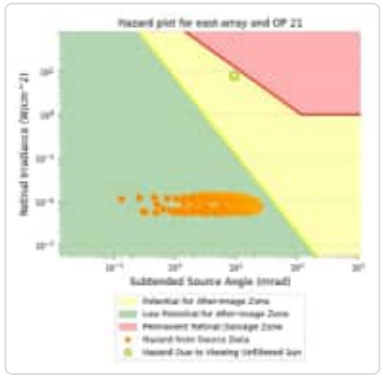
East Array: OP 21

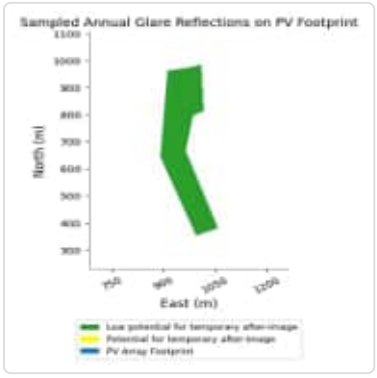
PV array is expected to produce the following glare for this receptor:

- 1,853 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





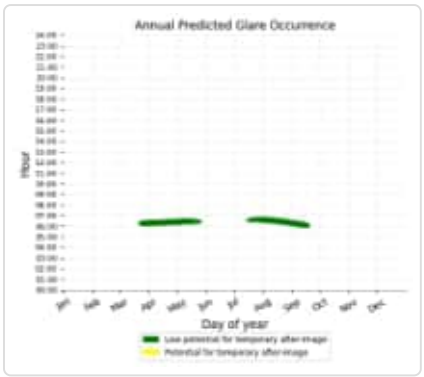


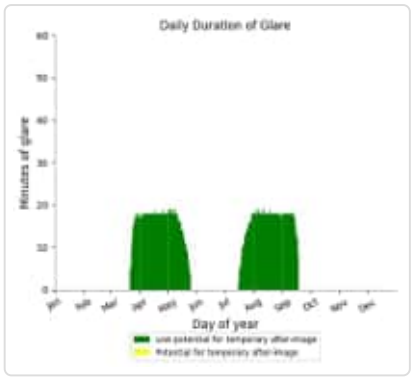


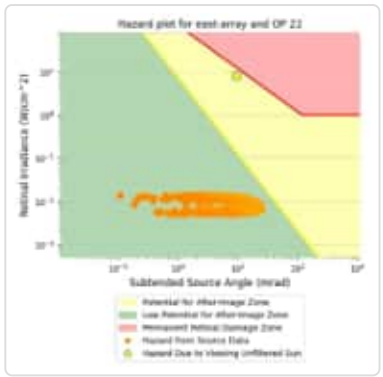
East Array: OP 22

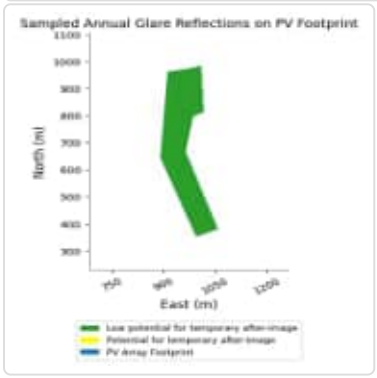
PV array is expected to produce the following glare for this receptor:

- 2,106 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





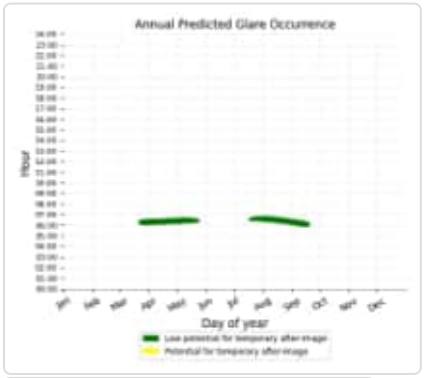




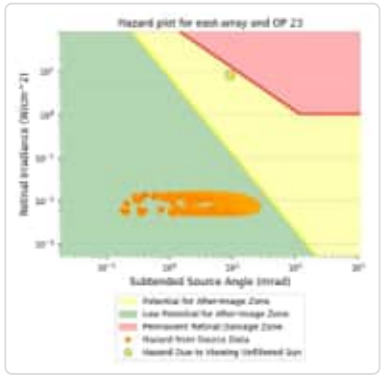
East Array: OP 23

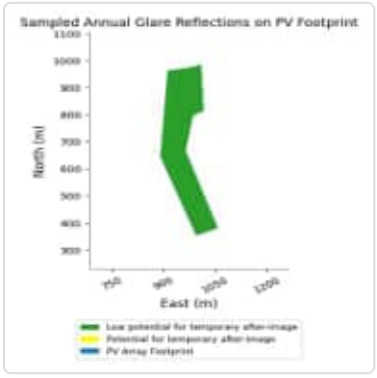
PV array is expected to produce the following glare for this receptor:

- 2,049 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





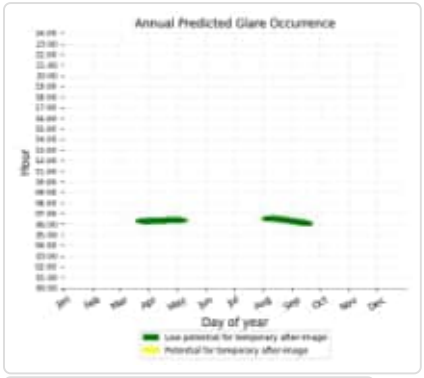




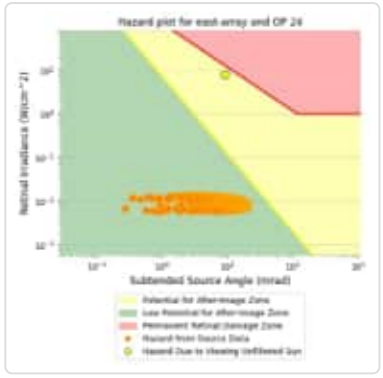
East Array: OP 24

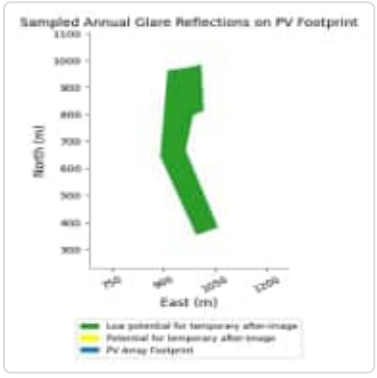
PV array is expected to produce the following glare for this receptor:

- 1,660 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





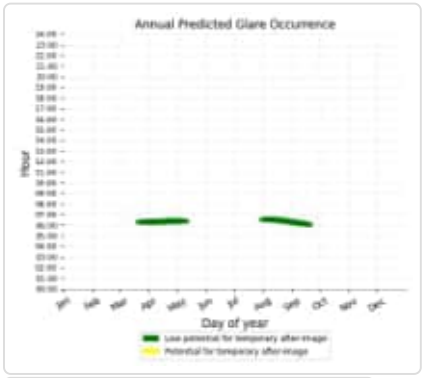




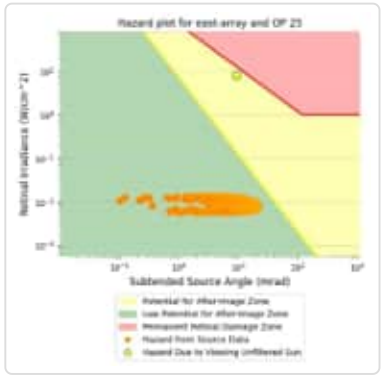
East Array: OP 25

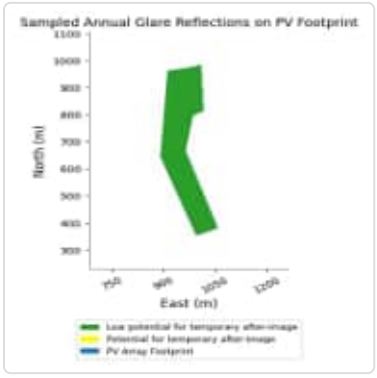
PV array is expected to produce the following glare for this receptor:

- 1,719 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





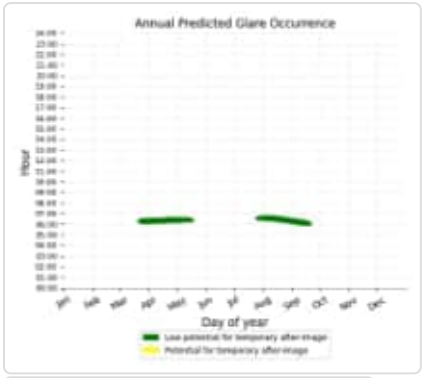




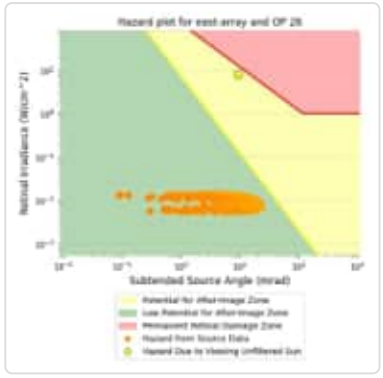
East Array: OP 26

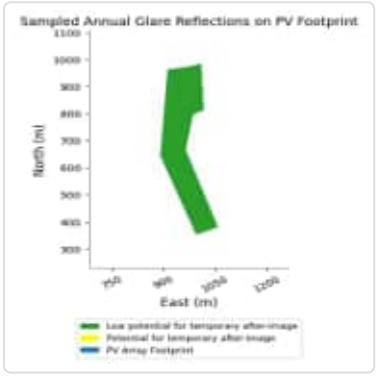
PV array is expected to produce the following glare for this receptor:

- 1,873 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





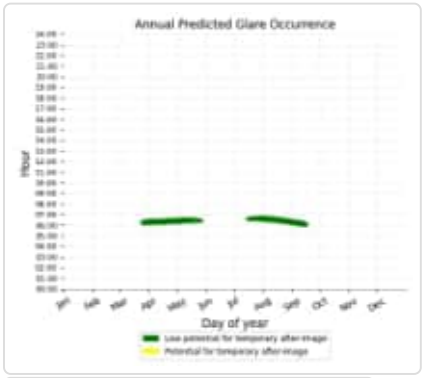


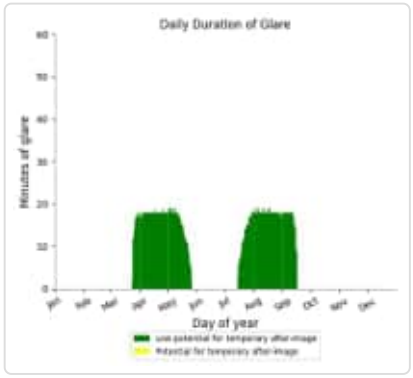


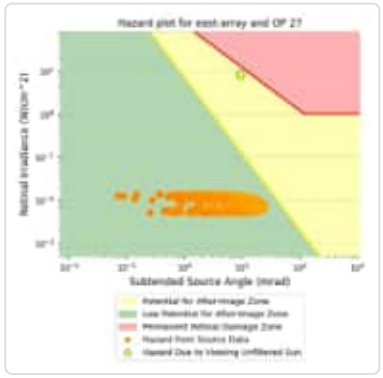
East Array: OP 27

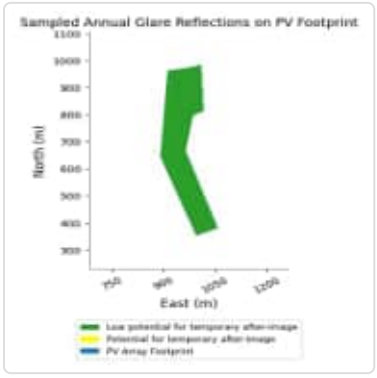
PV array is expected to produce the following glare for this receptor:

- 2,092 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





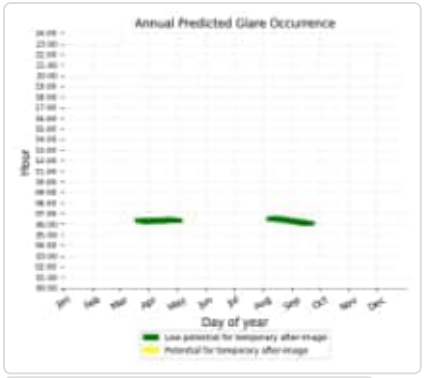


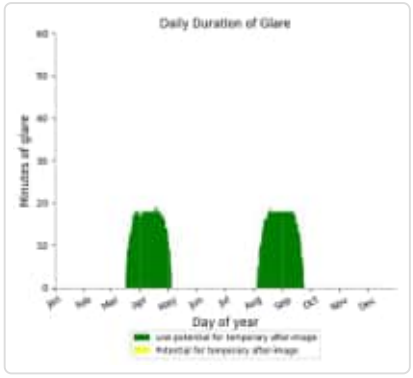


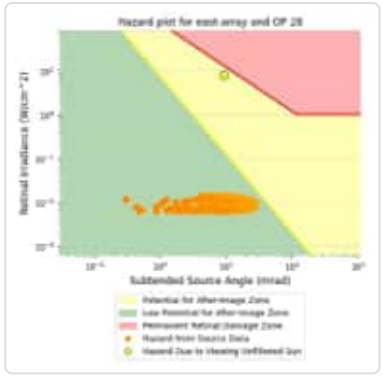
East Array: OP 28

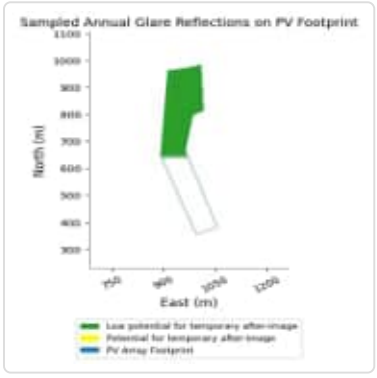
PV array is expected to produce the following glare for this receptor:

- 1,549 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





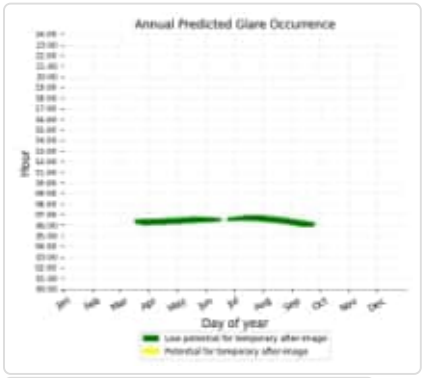


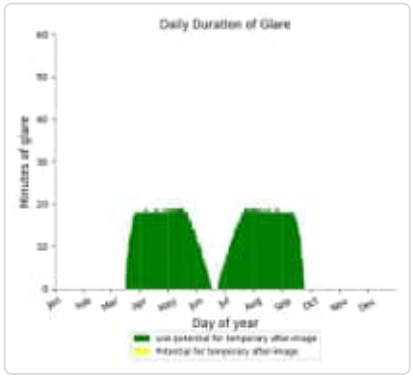


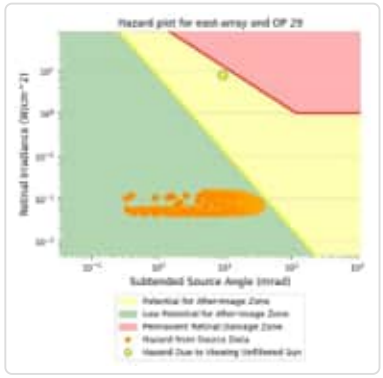
East Array: OP 29

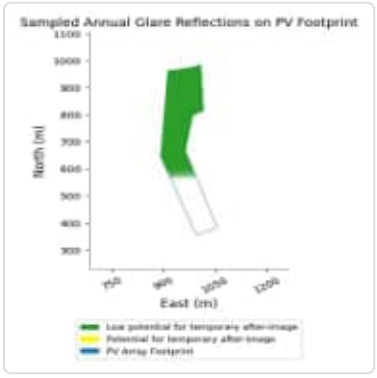
PV array is expected to produce the following glare for this receptor:

- 2,823 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 30

No glare found

East Array: OP 31

No glare found

East Array: OP 32

No glare found

East Array: OP 33

No glare found

East Array: OP 34

No glare found

East Array: OP 35

No glare found

East Array: OP 36

No glare found

East Array: OP 37

No glare found

East Array: OP 38

No glare found

East Array: OP 39

No glare found

East Array: OP 40

No glare found

East Array: OP 41

No glare found

East Array: OP 42

No glare found

East Array: OP 43

No glare found

East Array: OP 44

No glare found

East Array: OP 45

No glare found

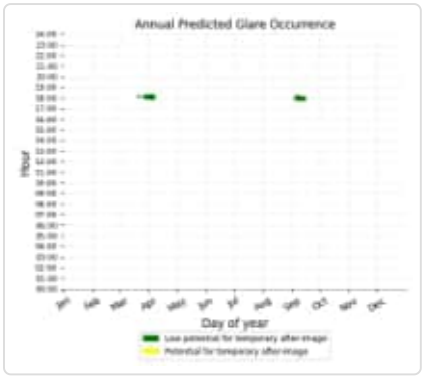
East Array: OP 46

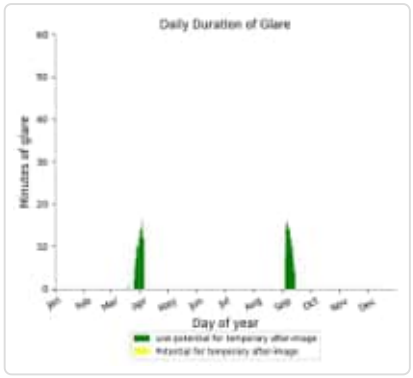
No glare found

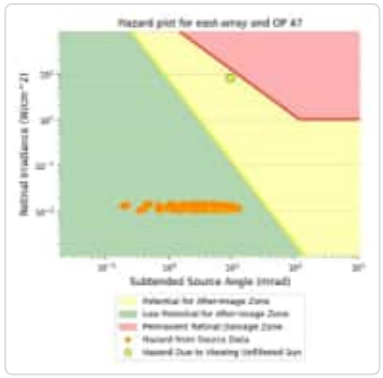
East Array: OP 47

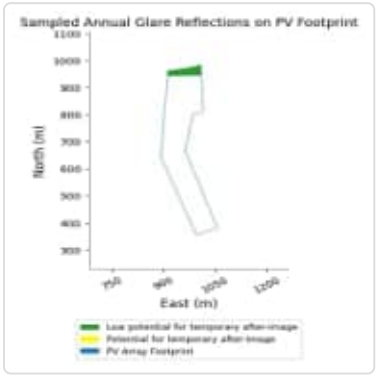
PV array is expected to produce the following glare for this receptor:

- 234 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





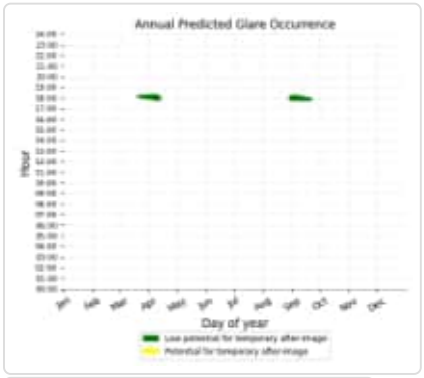


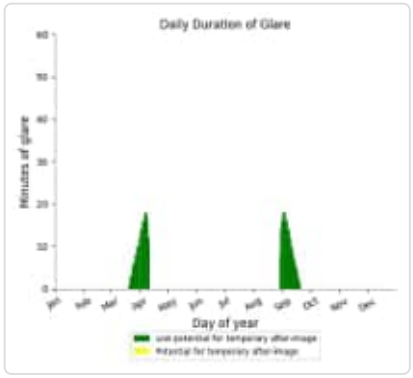


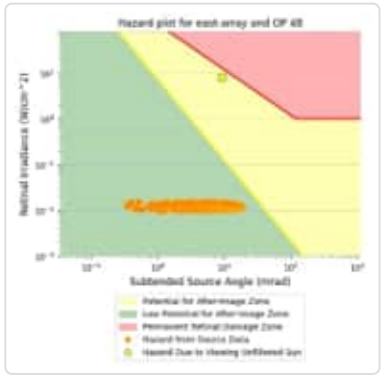
East Array: OP 48

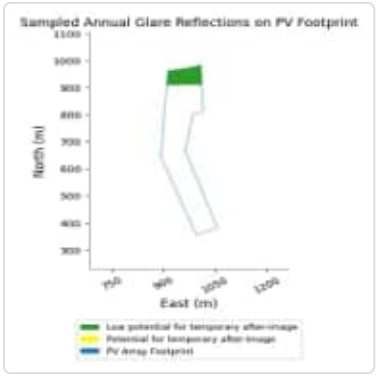
PV array is expected to produce the following glare for this receptor:

- 493 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





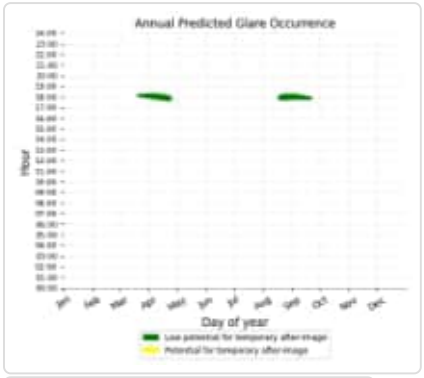


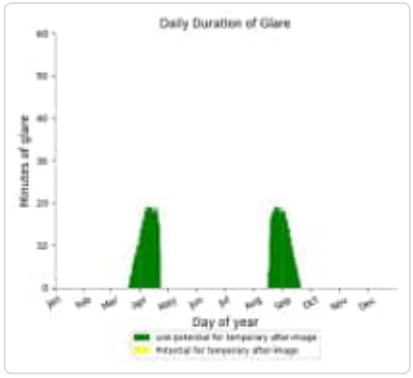


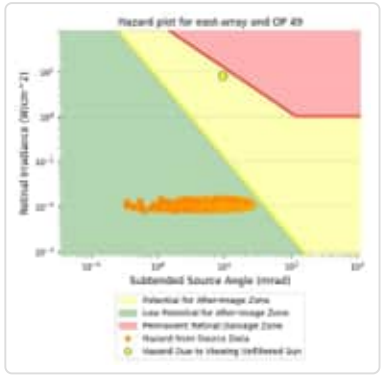
East Array: OP 49

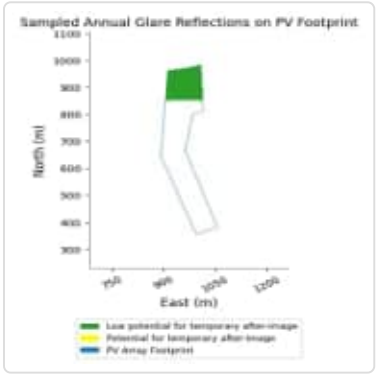
PV array is expected to produce the following glare for this receptor:

- 930 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





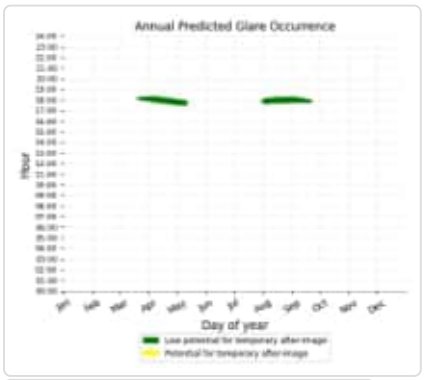


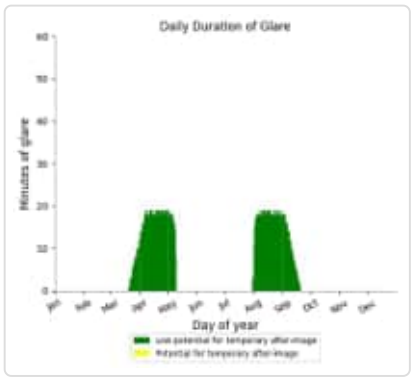


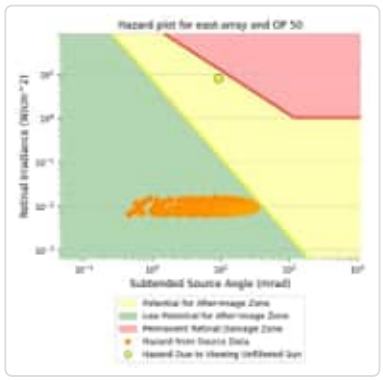
East Array: OP 50

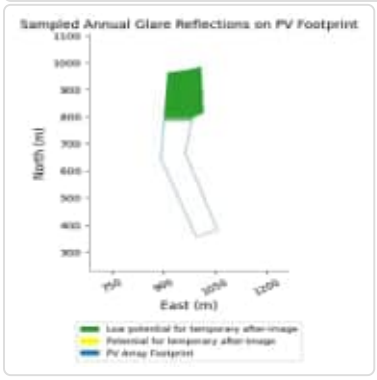
PV array is expected to produce the following glare for this receptor:

- 1,556 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





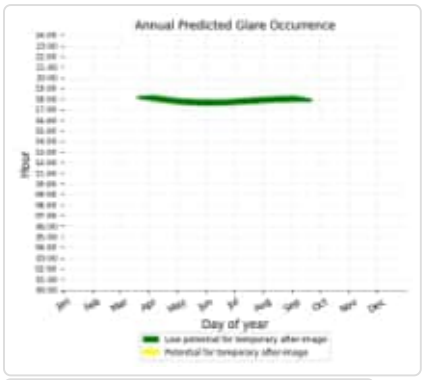


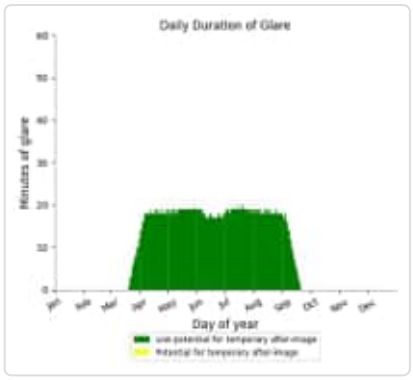


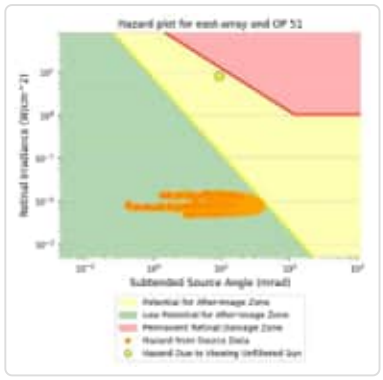
East Array: OP 51

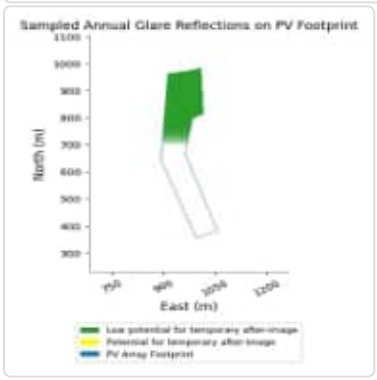
PV array is expected to produce the following glare for this receptor:

- 3,088 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





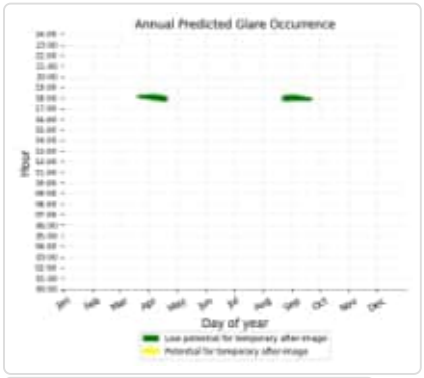


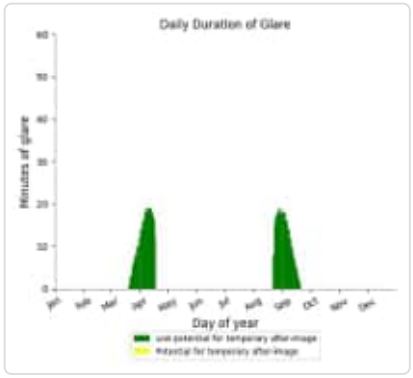


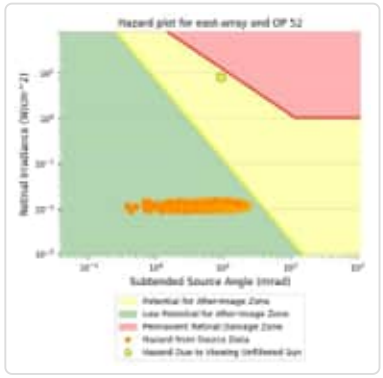
East Array: OP 52

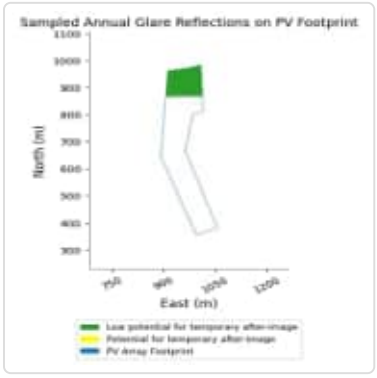
PV array is expected to produce the following glare for this receptor:

- 755 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 53

No glare found

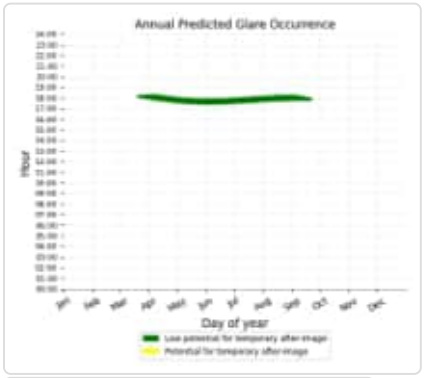
East Array: OP 54

No glare found

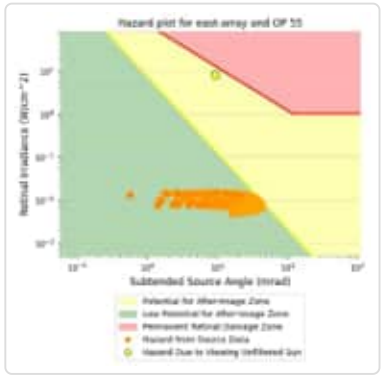
East Array: OP 55

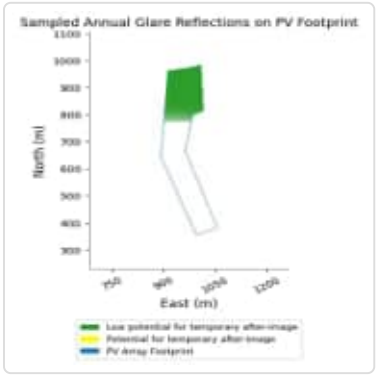
PV array is expected to produce the following glare for this receptor:

- 3,250 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





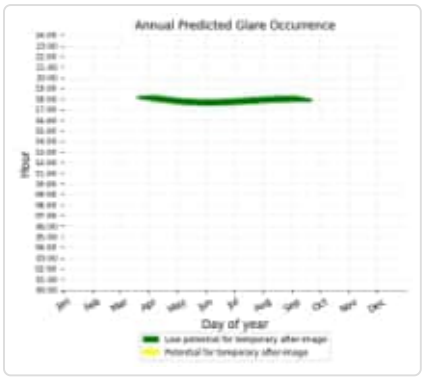




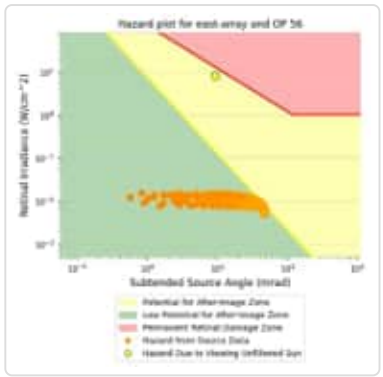
East Array: OP 56

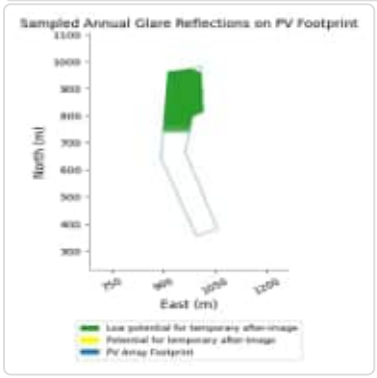
PV array is expected to produce the following glare for this receptor:

- 3,324 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





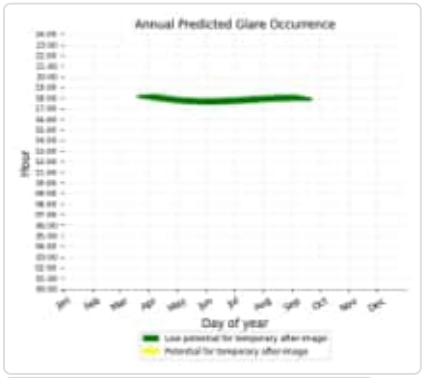




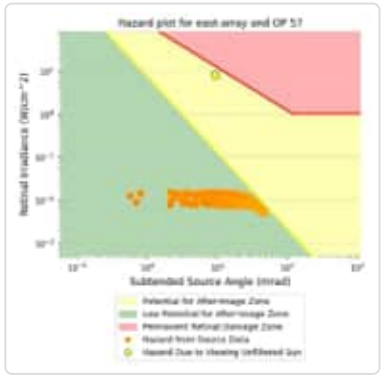
East Array: OP 57

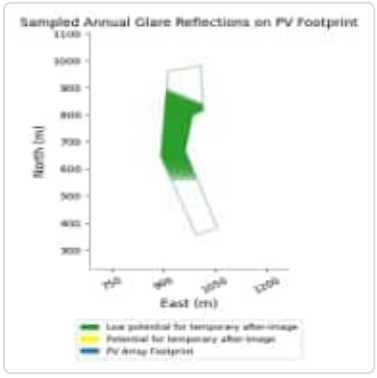
PV array is expected to produce the following glare for this receptor:

- 3,284 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





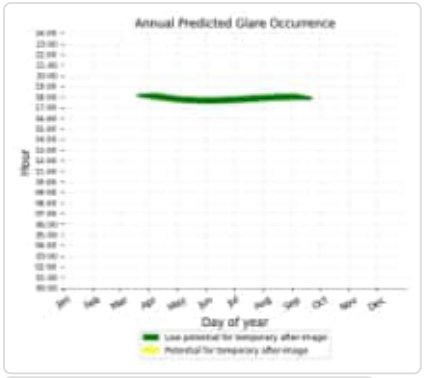




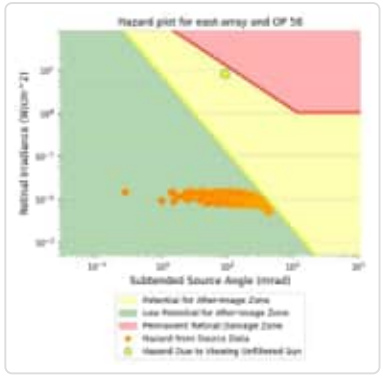
East Array: OP 58

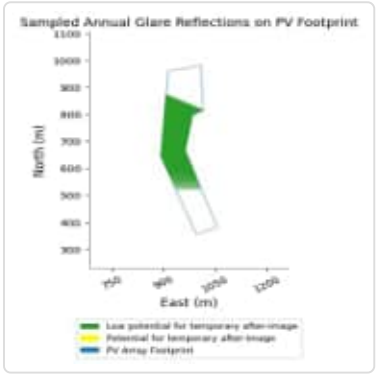
PV array is expected to produce the following glare for this receptor:

- 3,292 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





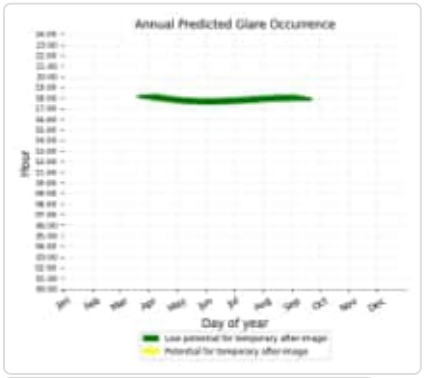




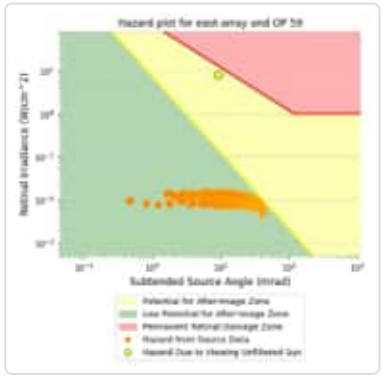
East Array: OP 59

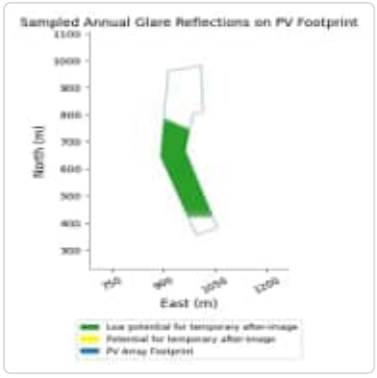
PV array is expected to produce the following glare for this receptor:

- 3,325 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





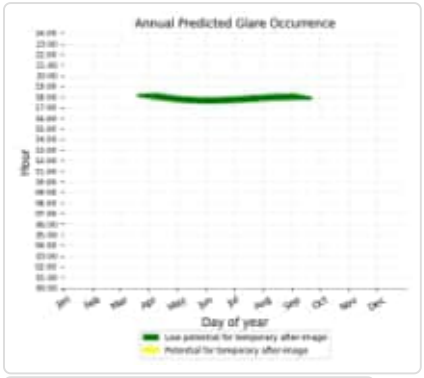




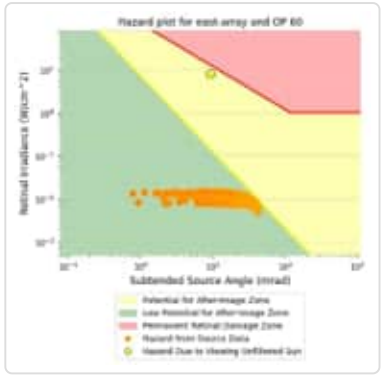
East Array: OP 60

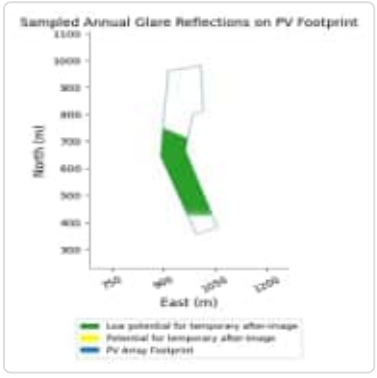
PV array is expected to produce the following glare for this receptor:

- 3,352 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





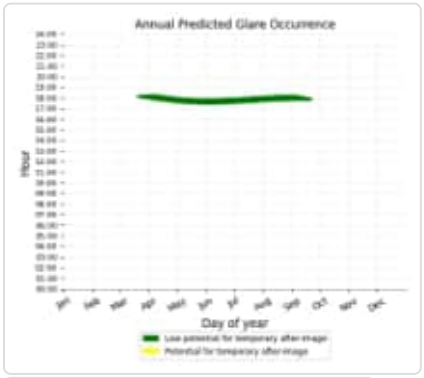




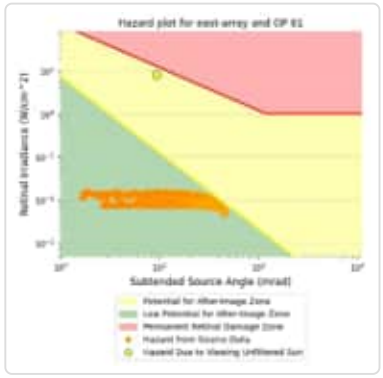
East Array: OP 61

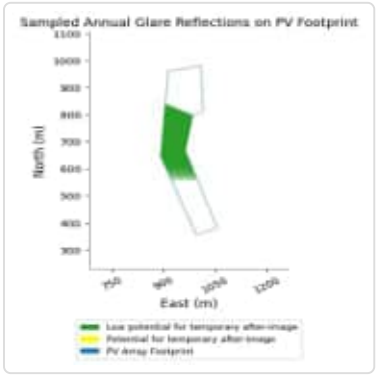
PV array is expected to produce the following glare for this receptor:

- 3,267 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





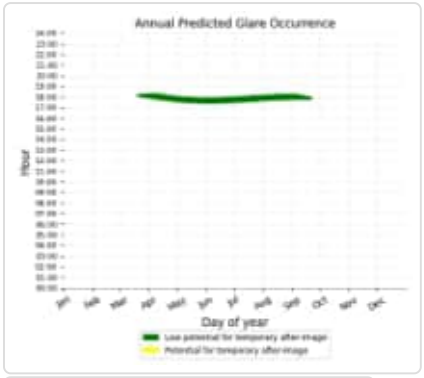




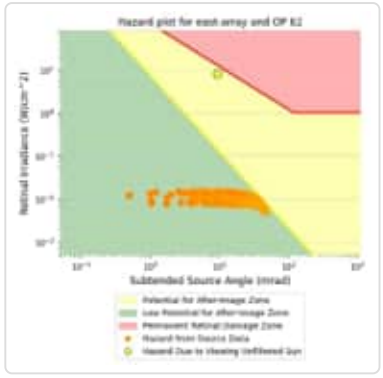
East Array: OP 62

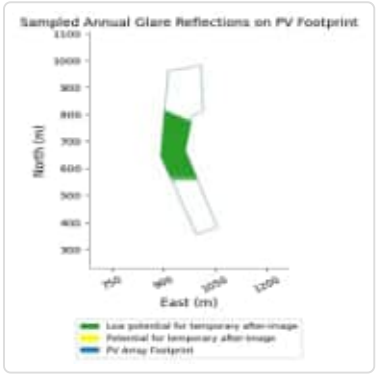
PV array is expected to produce the following glare for this receptor:

- 3,304 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





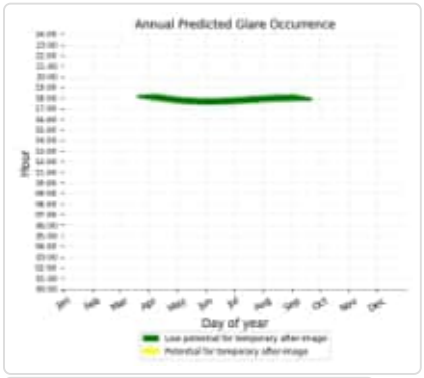




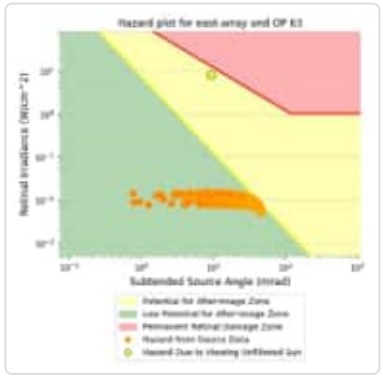
East Array: OP 63

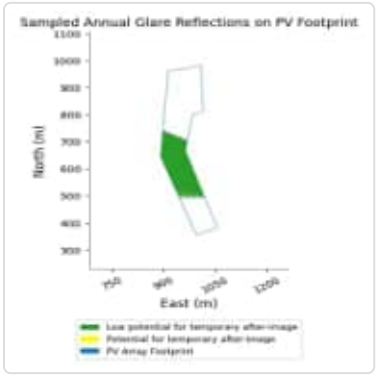
PV array is expected to produce the following glare for this receptor:

- 3,355 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





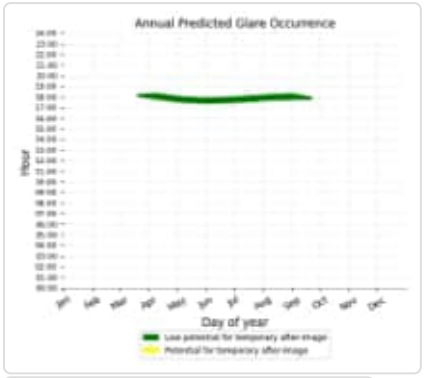




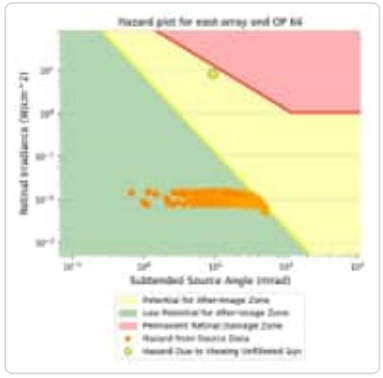
East Array: OP 64

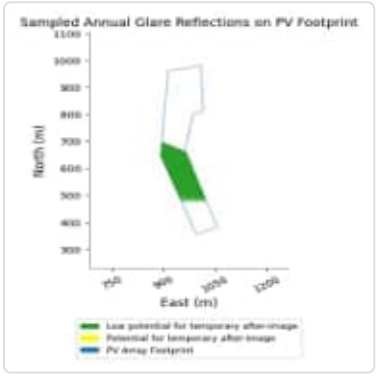
PV array is expected to produce the following glare for this receptor:

- 3,431 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)

OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	1250	379
OP: OP 6	27	0
OP: OP 7	31	0
OP: OP 8	1061	85
OP: OP 9	1190	353
OP: OP 10	1351	1053
OP: OP 11	1331	1103
OP: OP 12	1228	1325
OP: OP 13	1310	266
OP: OP 14	1445	772
OP: OP 15	1443	552
OP: OP 16	1570	252
OP: OP 17	964	195
OP: OP 18	1188	190
OP: OP 19	875	36
OP: OP 20	1874	540
OP: OP 21	1574	30
OP: OP 22	1031	0
OP: OP 23	989	0
OP: OP 24	1431	93
OP: OP 25	1286	37
OP: OP 26	876	0
OP: OP 27	711	0
OP: OP 28	2495	892
OP: OP 29	762	24
OP: OP 30	0	0
OP: OP 31	313	8
OP: OP 32	0	0
OP: OP 33	190	0
OP: OP 34	398	0
OP: OP 35	460	6
OP: OP 36	280	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	22	0
OP: OP 41	20	0
OP: OP 42	24	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	34	0
OP: OP 51	1854	155
OP: OP 52	0	0
OP: OP 53	50	0
OP: OP 54	32	0

OP: OP 55	15	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	21	0
OP: OP 61	0	0
OP: OP 62	0	0
OP: OP 63	0	0
OP: OP 64	0	0

North Array: OP 1

No glare found

North Array: OP 2

No glare found

North Array: OP 3

No glare found

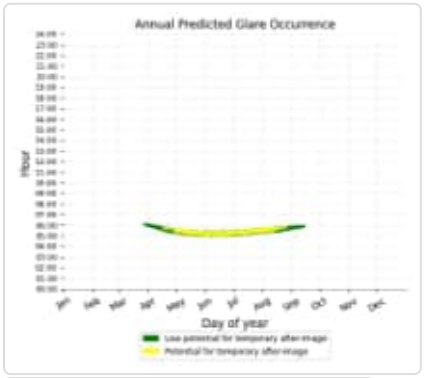
North Array: OP 4

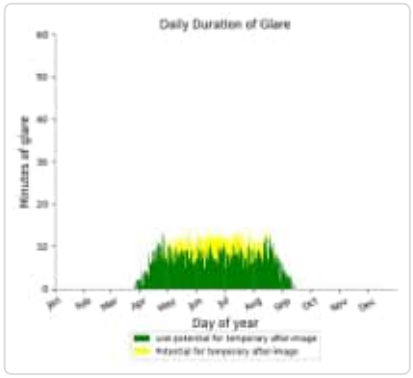
No glare found

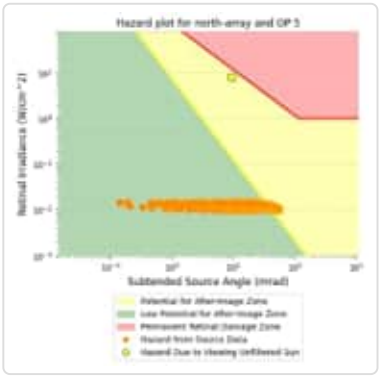
North Array: OP 5

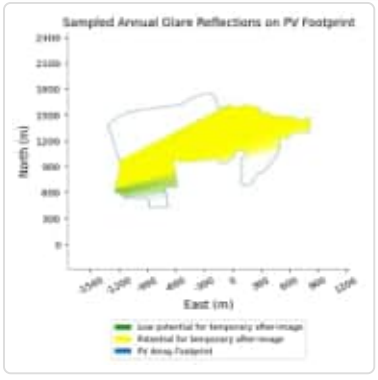
PV array is expected to produce the following glare for this receptor:

- 1,250 minutes of "green" glare with low potential to cause temporary after-image.
- 379 minutes of "yellow" glare with potential to cause temporary after-image.





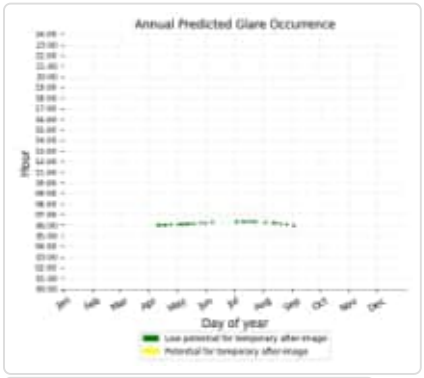


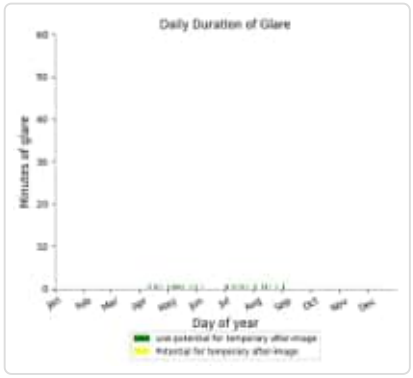


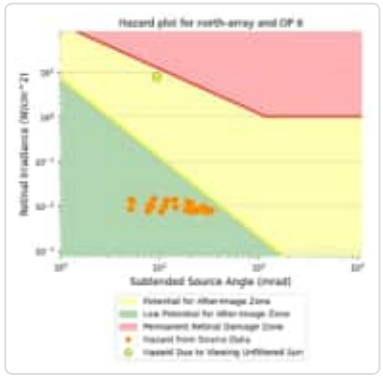
North Array: OP 6

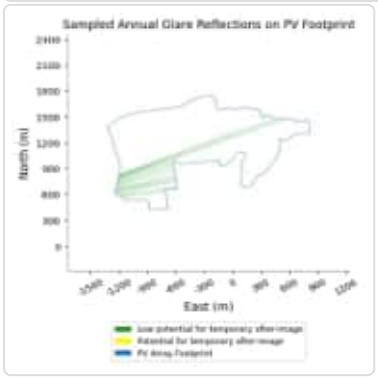
PV array is expected to produce the following glare for this receptor:

- 27 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





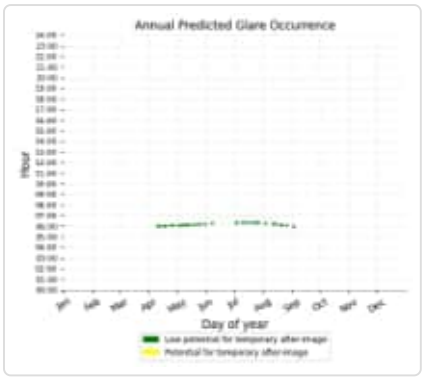


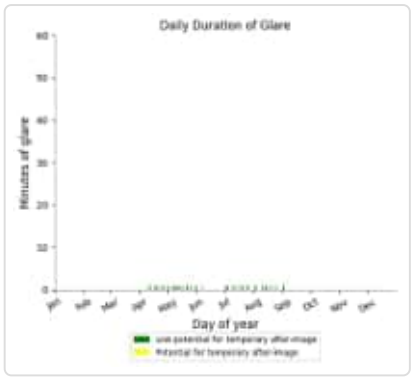


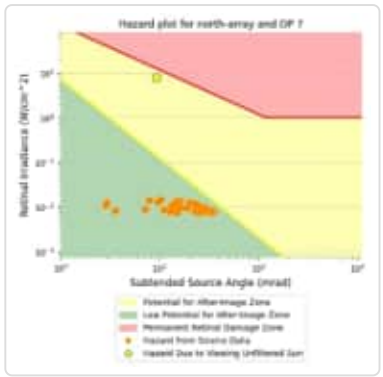
North Array: OP 7

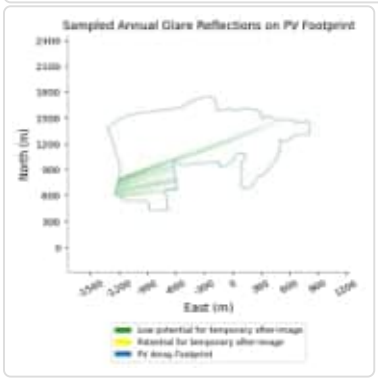
PV array is expected to produce the following glare for this receptor:

- 31 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





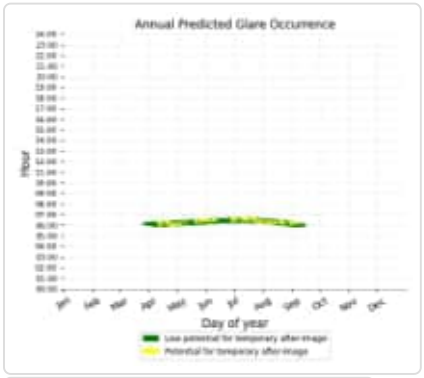


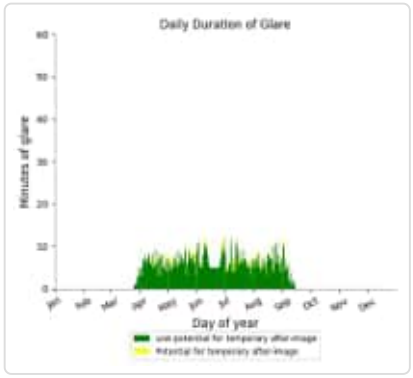


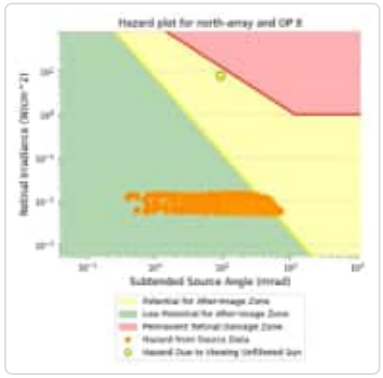
North Array: OP 8

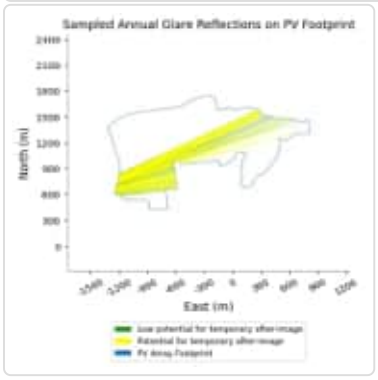
PV array is expected to produce the following glare for this receptor:

- 1,061 minutes of "green" glare with low potential to cause temporary after-image.
- 85 minutes of "yellow" glare with potential to cause temporary after-image.





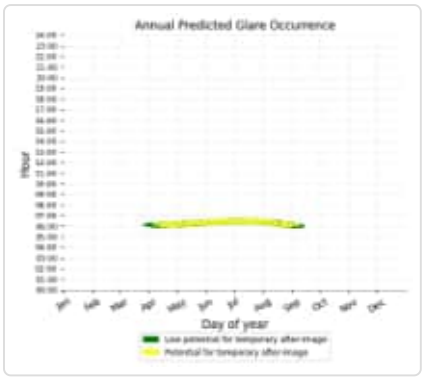


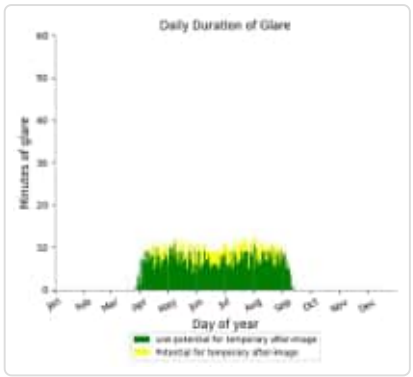


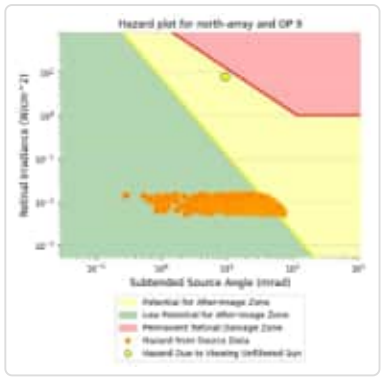
North Array: OP 9

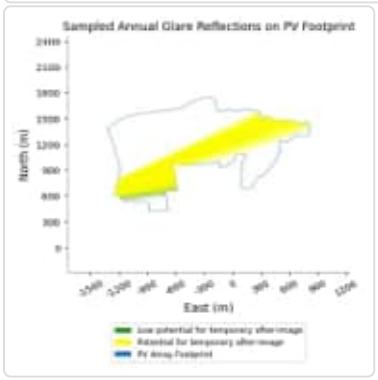
PV array is expected to produce the following glare for this receptor:

- 1,190 minutes of "green" glare with low potential to cause temporary after-image.
- 353 minutes of "yellow" glare with potential to cause temporary after-image.





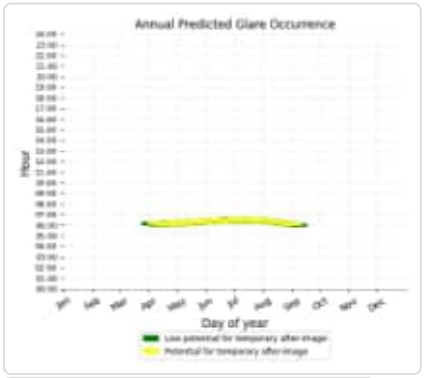


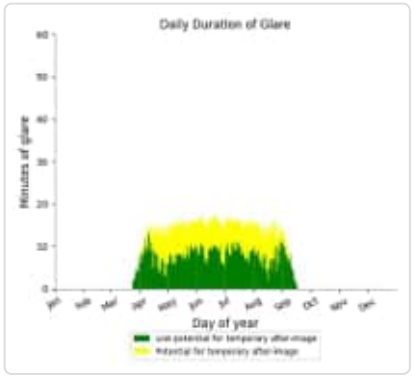


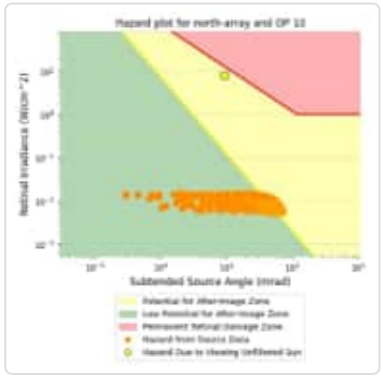
North Array: OP 10

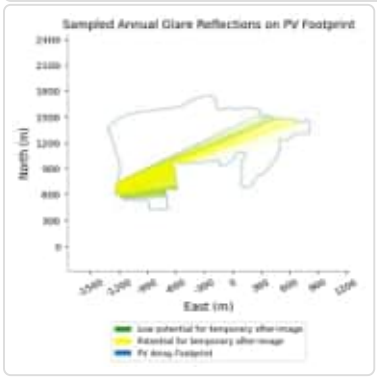
PV array is expected to produce the following glare for this receptor:

- 1,351 minutes of "green" glare with low potential to cause temporary after-image.
- 1,053 minutes of "yellow" glare with potential to cause temporary after-image.





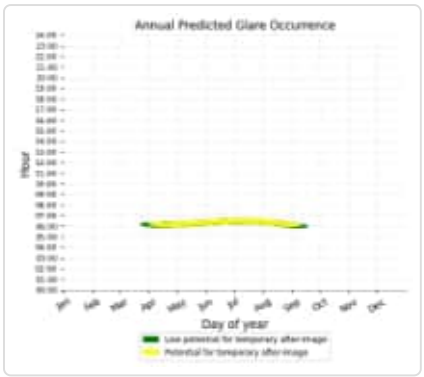


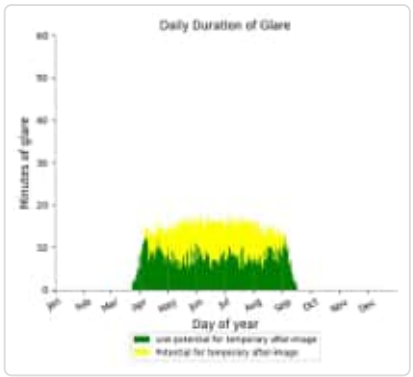


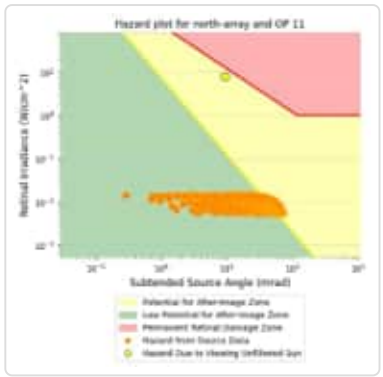
North Array: OP 11

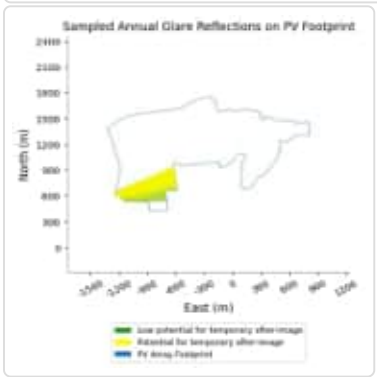
PV array is expected to produce the following glare for this receptor:

- 1,331 minutes of "green" glare with low potential to cause temporary after-image.
- 1,103 minutes of "yellow" glare with potential to cause temporary after-image.





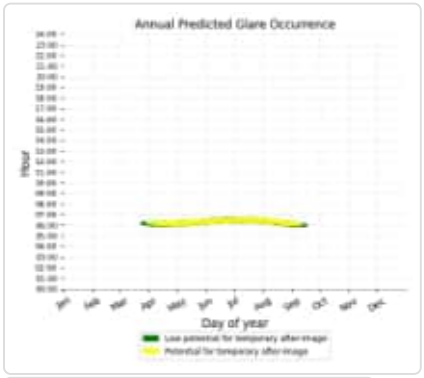


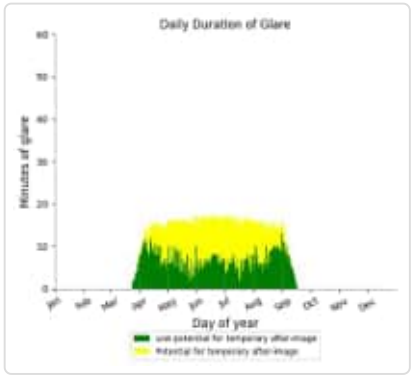


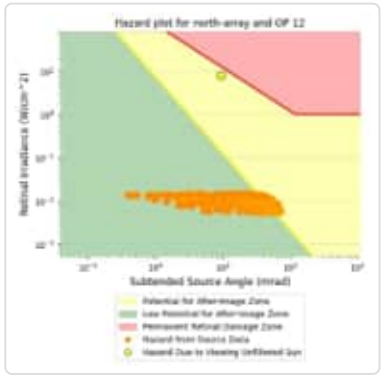
North Array: OP 12

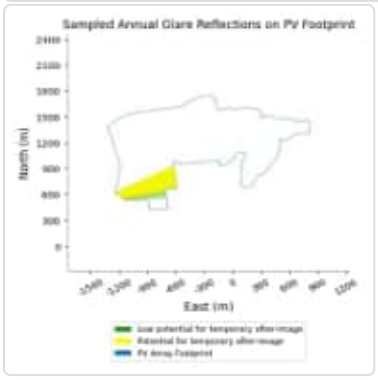
PV array is expected to produce the following glare for this receptor:

- 1,228 minutes of "green" glare with low potential to cause temporary after-image.
- 1,325 minutes of "yellow" glare with potential to cause temporary after-image.





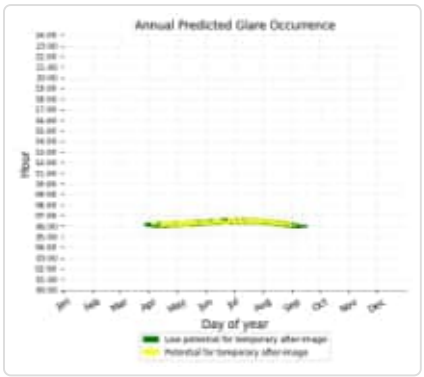


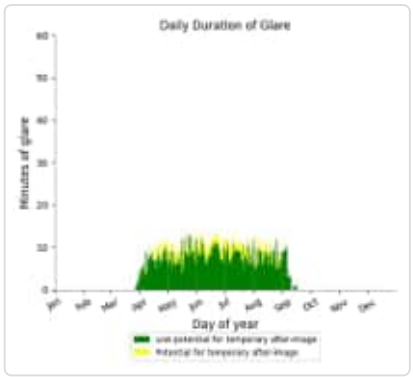


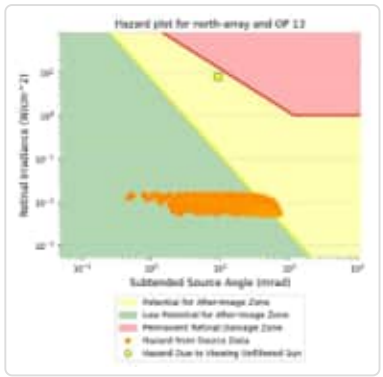
North Array: OP 13

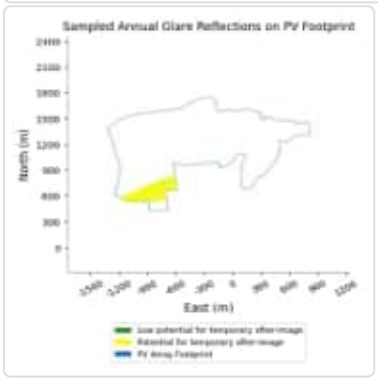
PV array is expected to produce the following glare for this receptor:

- 1,310 minutes of "green" glare with low potential to cause temporary after-image.
- 266 minutes of "yellow" glare with potential to cause temporary after-image.





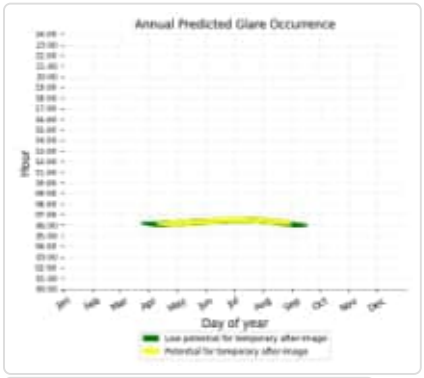


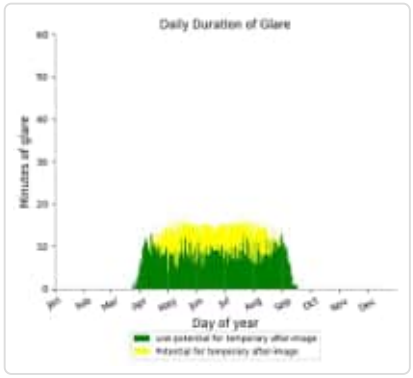


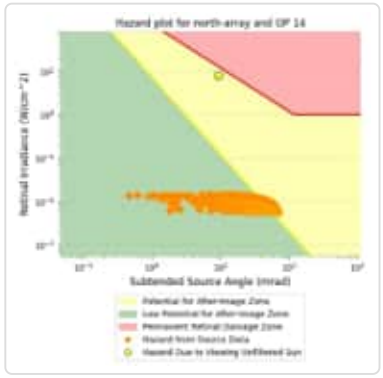
North Array: OP 14

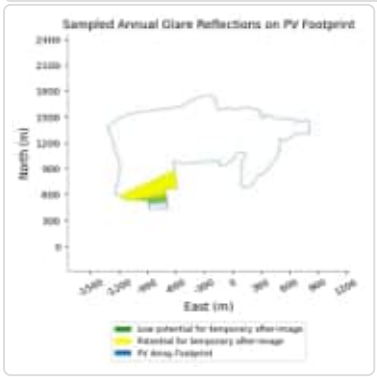
PV array is expected to produce the following glare for this receptor:

- 1,445 minutes of "green" glare with low potential to cause temporary after-image.
- 772 minutes of "yellow" glare with potential to cause temporary after-image.





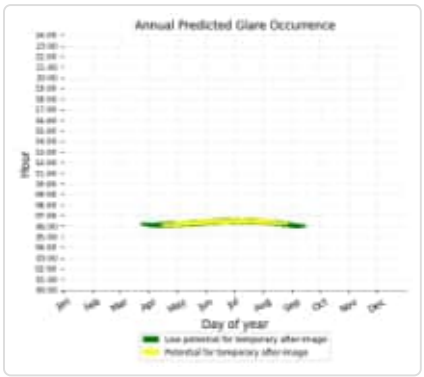


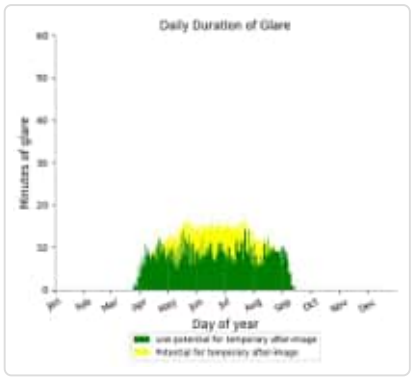


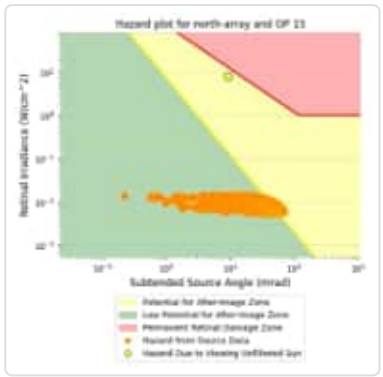
North Array: OP 15

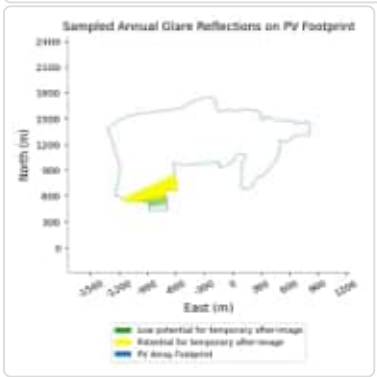
PV array is expected to produce the following glare for this receptor:

- 1,443 minutes of "green" glare with low potential to cause temporary after-image.
- 552 minutes of "yellow" glare with potential to cause temporary after-image.





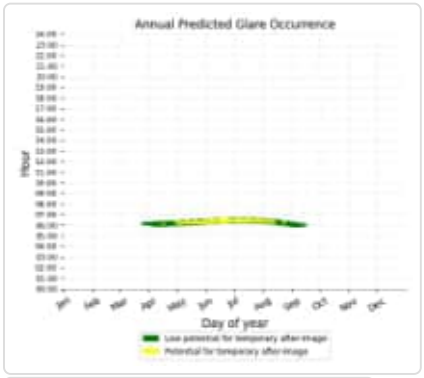


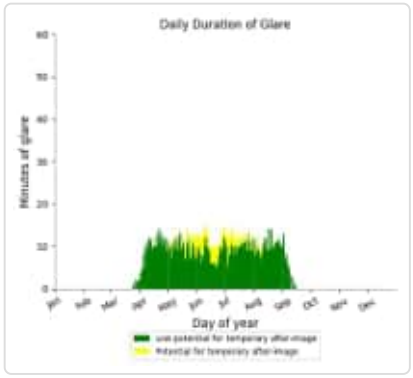


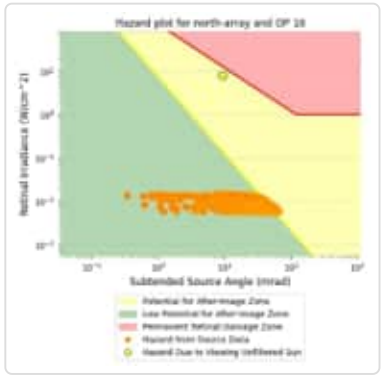
North Array: OP 16

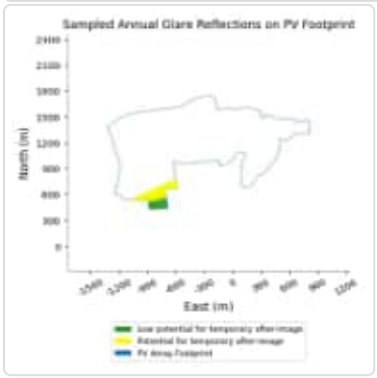
PV array is expected to produce the following glare for this receptor:

- 1,570 minutes of "green" glare with low potential to cause temporary after-image.
- 252 minutes of "yellow" glare with potential to cause temporary after-image.





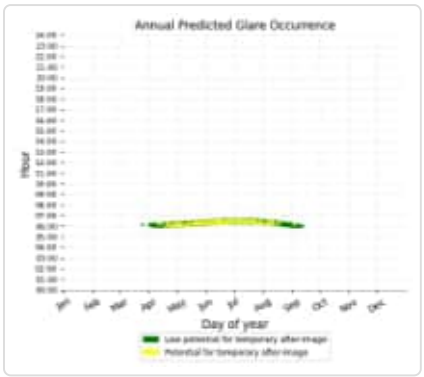


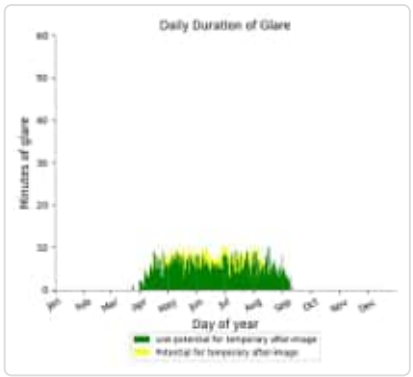


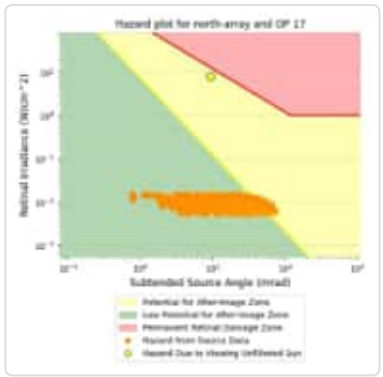
North Array: OP 17

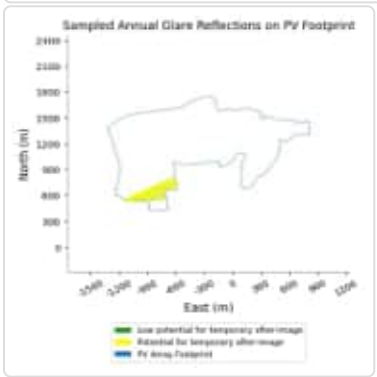
PV array is expected to produce the following glare for this receptor:

- 964 minutes of "green" glare with low potential to cause temporary after-image.
- 195 minutes of "yellow" glare with potential to cause temporary after-image.





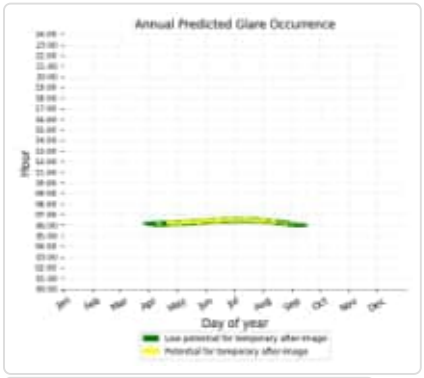


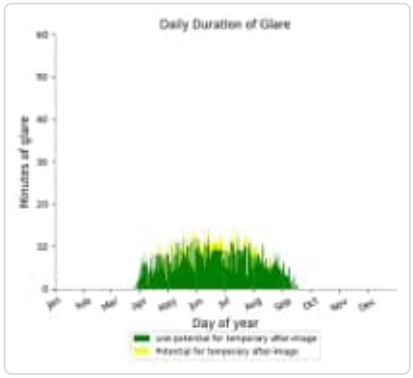


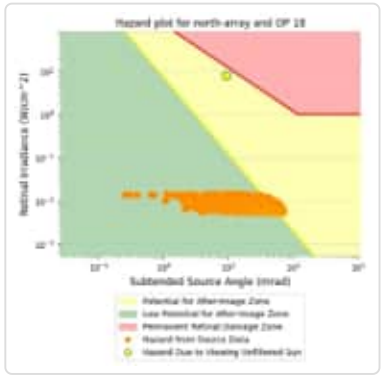
North Array: OP 18

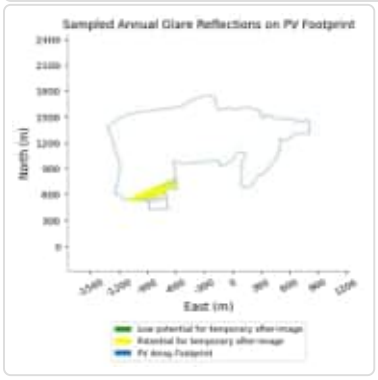
PV array is expected to produce the following glare for this receptor:

- 1,188 minutes of "green" glare with low potential to cause temporary after-image.
- 190 minutes of "yellow" glare with potential to cause temporary after-image.





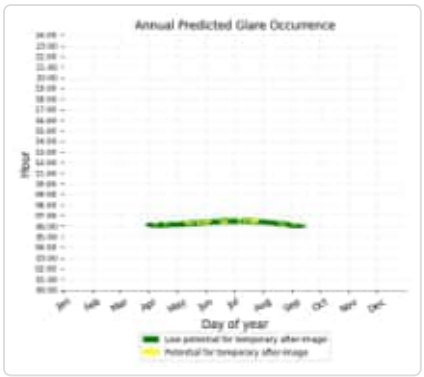


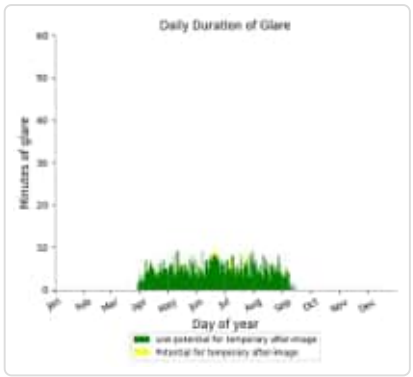


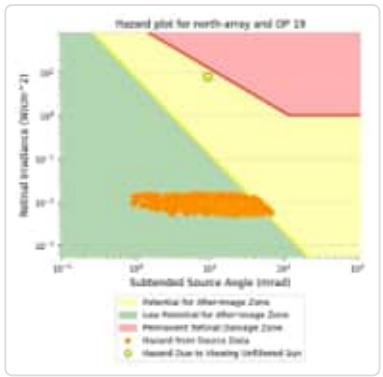
North Array: OP 19

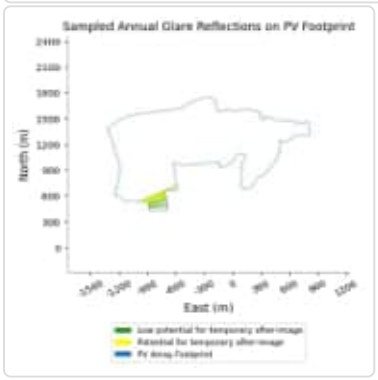
PV array is expected to produce the following glare for this receptor:

- 875 minutes of "green" glare with low potential to cause temporary after-image.
- 36 minutes of "yellow" glare with potential to cause temporary after-image.





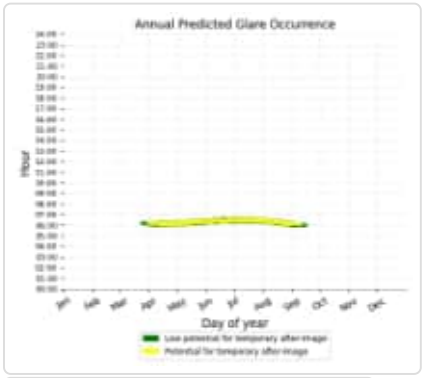


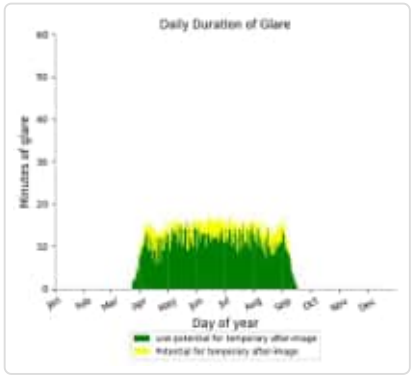


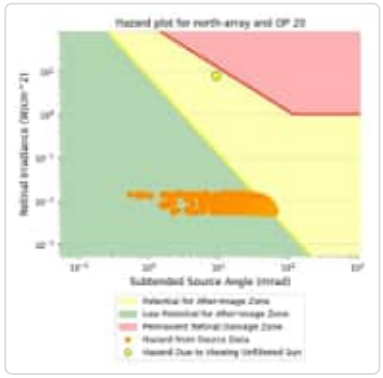
North Array: OP 20

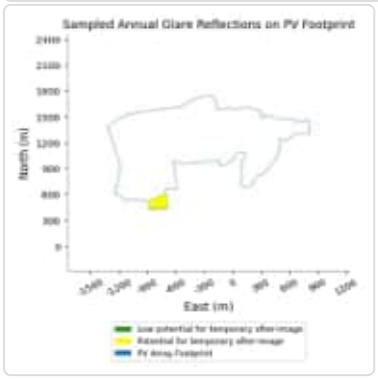
PV array is expected to produce the following glare for this receptor:

- 1,874 minutes of "green" glare with low potential to cause temporary after-image.
- 540 minutes of "yellow" glare with potential to cause temporary after-image.





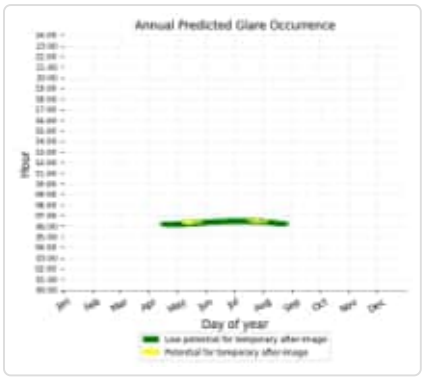


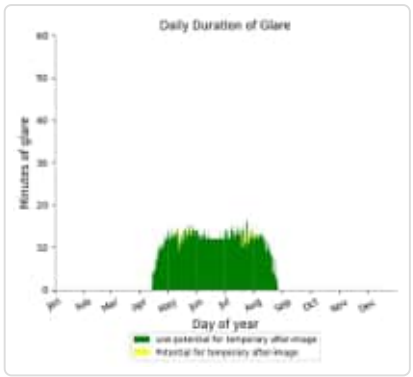


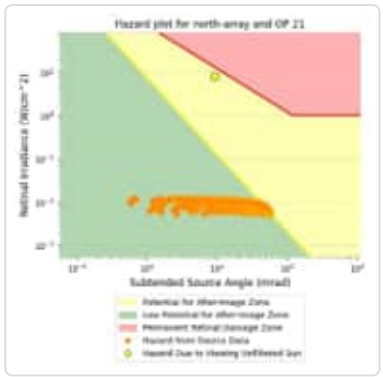
North Array: OP 21

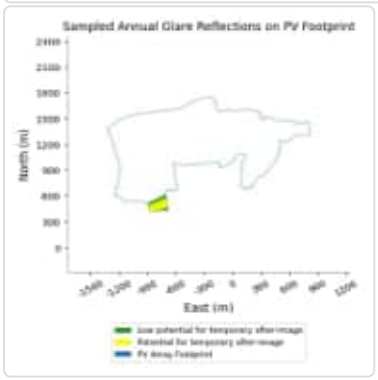
PV array is expected to produce the following glare for this receptor:

- 1,574 minutes of "green" glare with low potential to cause temporary after-image.
- 30 minutes of "yellow" glare with potential to cause temporary after-image.





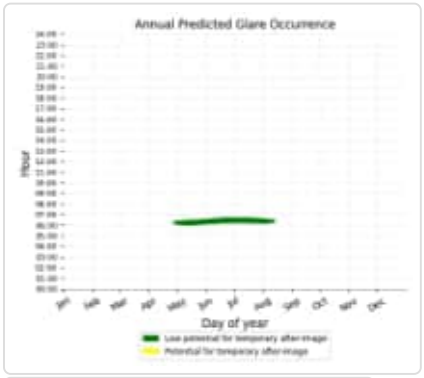


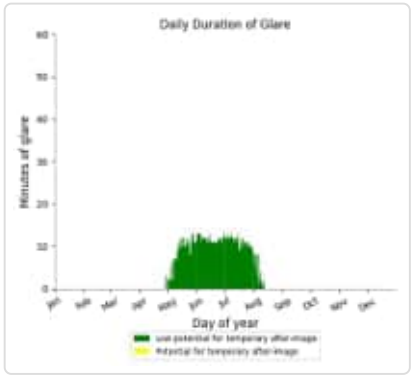


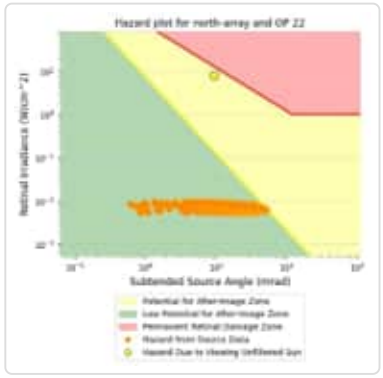
North Array: OP 22

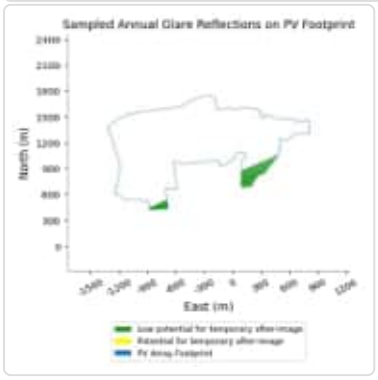
PV array is expected to produce the following glare for this receptor:

- 1,031 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





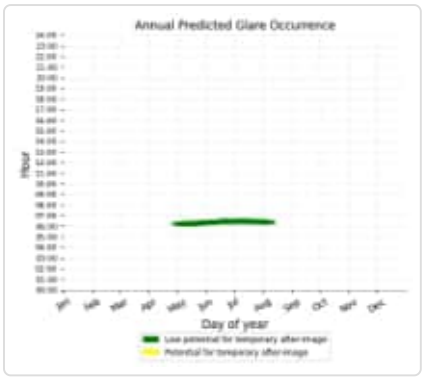


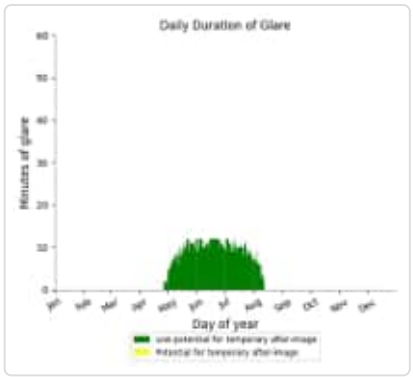


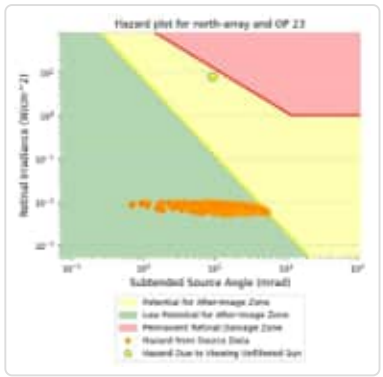
North Array: OP 23

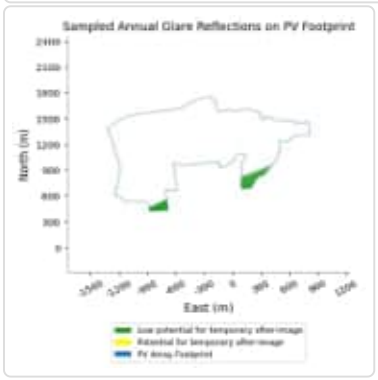
PV array is expected to produce the following glare for this receptor:

- 989 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





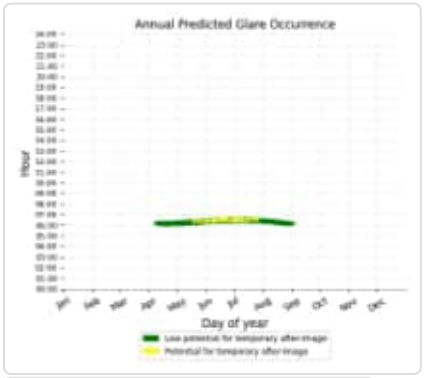


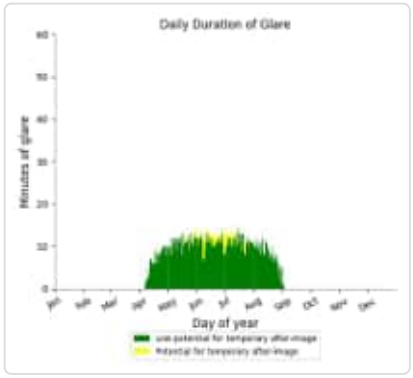


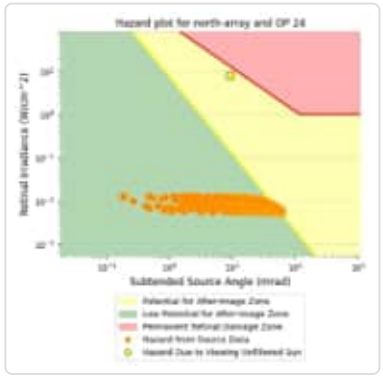
North Array: OP 24

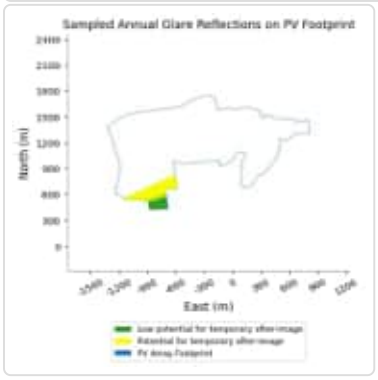
PV array is expected to produce the following glare for this receptor:

- 1,431 minutes of "green" glare with low potential to cause temporary after-image.
- 93 minutes of "yellow" glare with potential to cause temporary after-image.





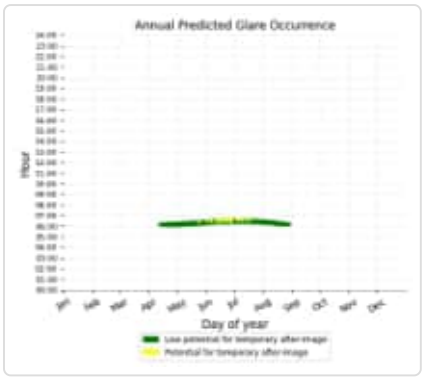


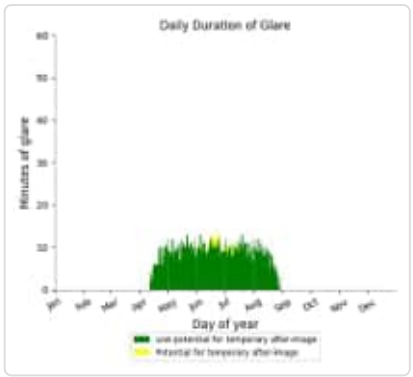


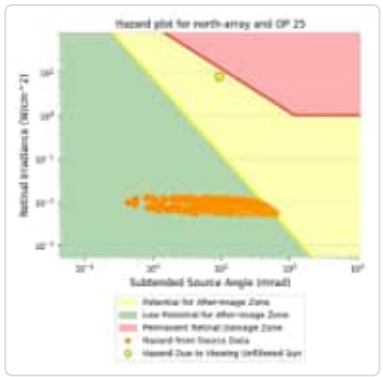
North Array: OP 25

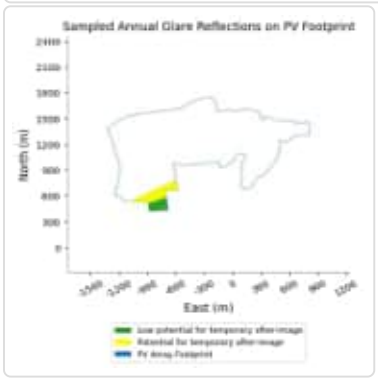
PV array is expected to produce the following glare for this receptor:

- 1,286 minutes of "green" glare with low potential to cause temporary after-image.
- 37 minutes of "yellow" glare with potential to cause temporary after-image.





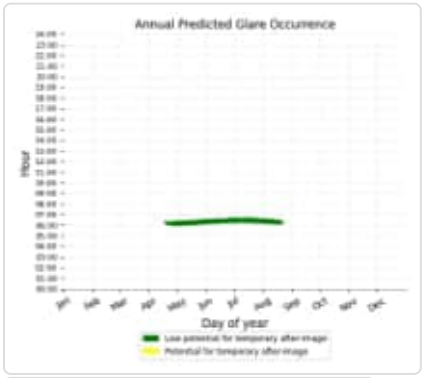


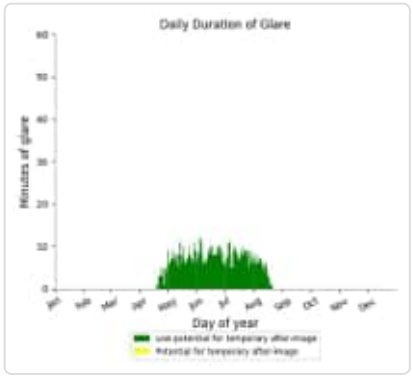


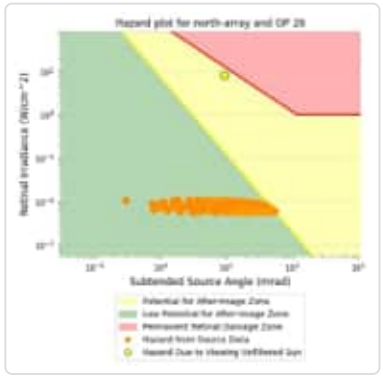
North Array: OP 26

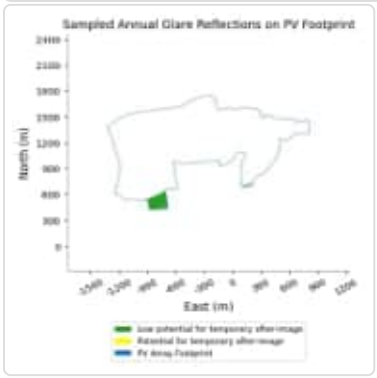
PV array is expected to produce the following glare for this receptor:

- 876 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





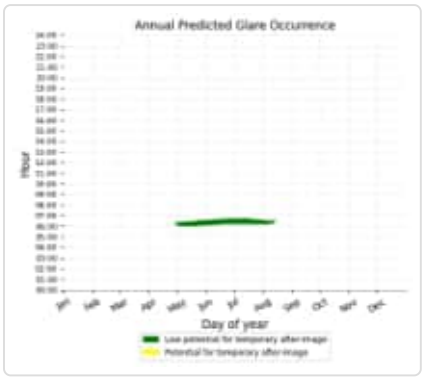




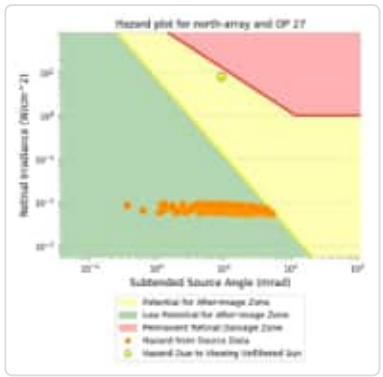
North Array: OP 27

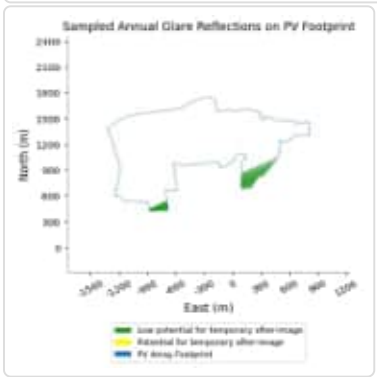
PV array is expected to produce the following glare for this receptor:

- 711 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





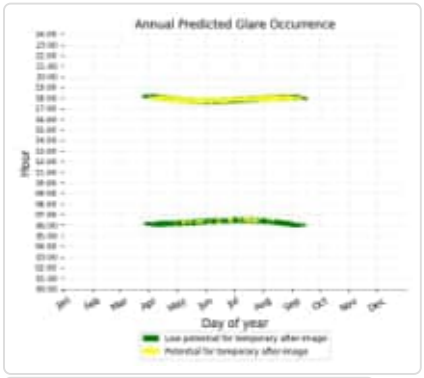


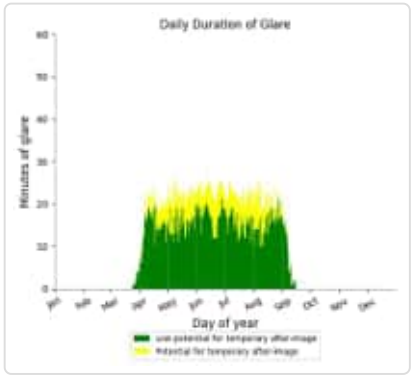


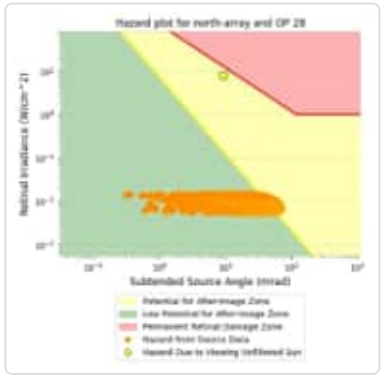
North Array: OP 28

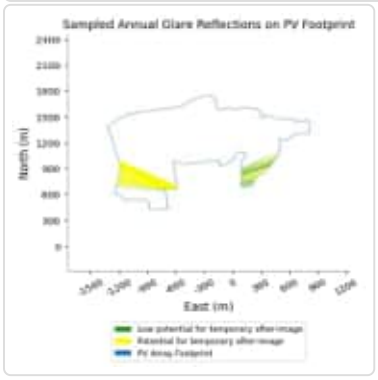
PV array is expected to produce the following glare for this receptor:

- 2,495 minutes of "green" glare with low potential to cause temporary after-image.
- 892 minutes of "yellow" glare with potential to cause temporary after-image.





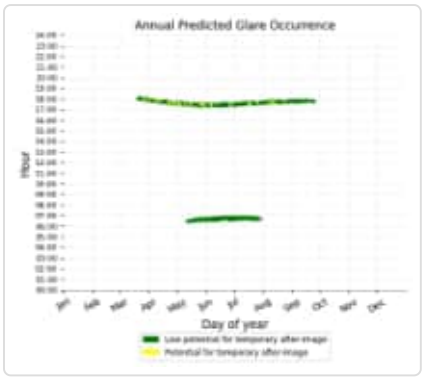


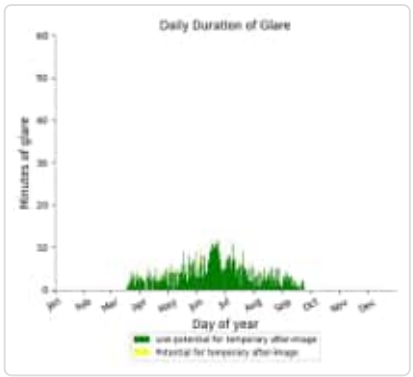


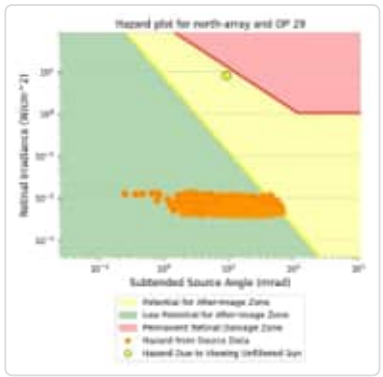
North Array: OP 29

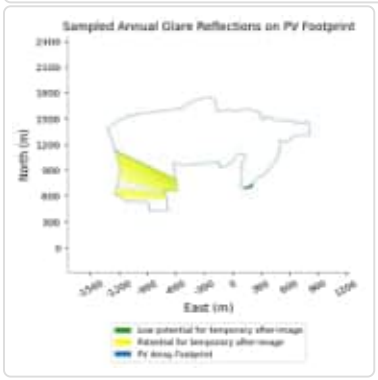
PV array is expected to produce the following glare for this receptor:

- 762 minutes of "green" glare with low potential to cause temporary after-image.
- 24 minutes of "yellow" glare with potential to cause temporary after-image.









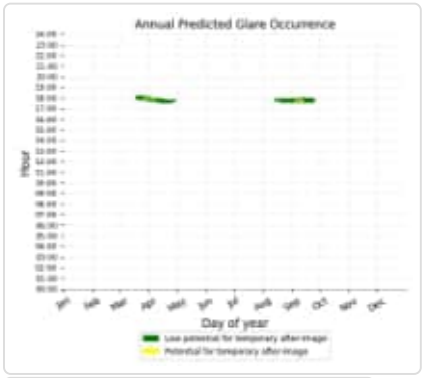
North Array: OP 30

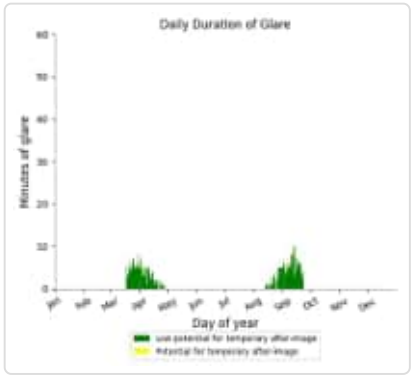
No glare found

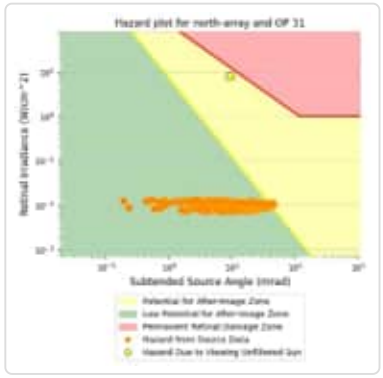
North Array: OP 31

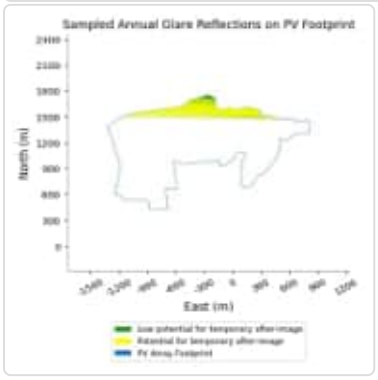
PV array is expected to produce the following glare for this receptor:

- 313 minutes of "green" glare with low potential to cause temporary after-image.
- 8 minutes of "yellow" glare with potential to cause temporary after-image.









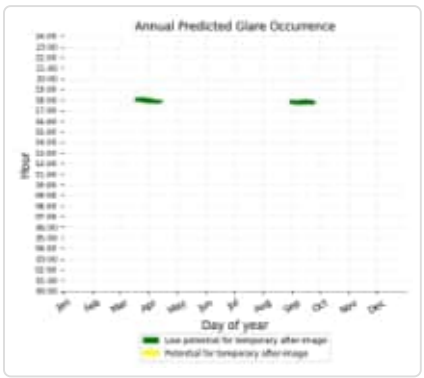
North Array: OP 32

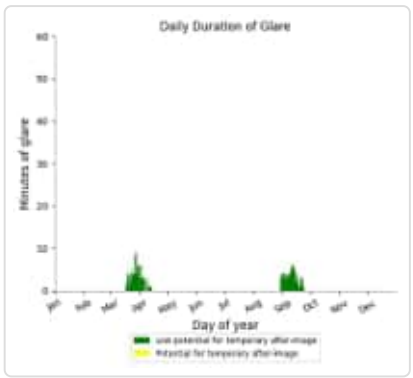
No glare found

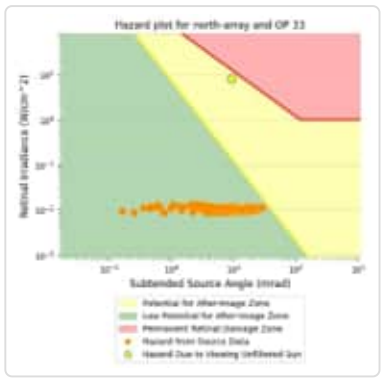
North Array: OP 33

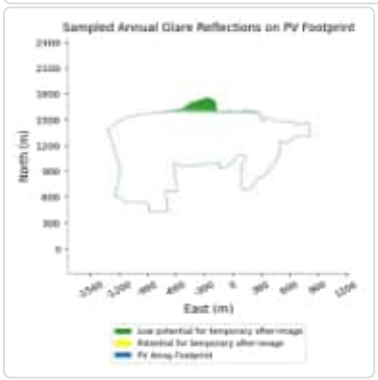
PV array is expected to produce the following glare for this receptor:

- 190 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





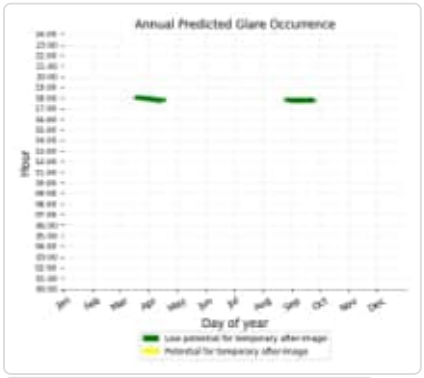




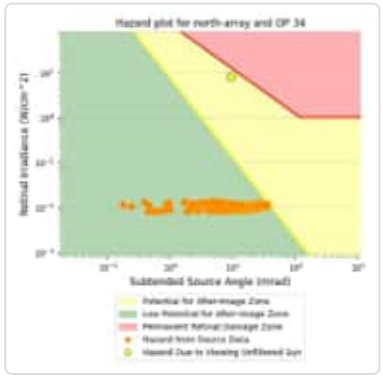
North Array: OP 34

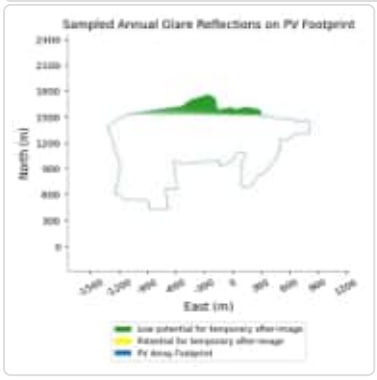
PV array is expected to produce the following glare for this receptor:

- 398 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





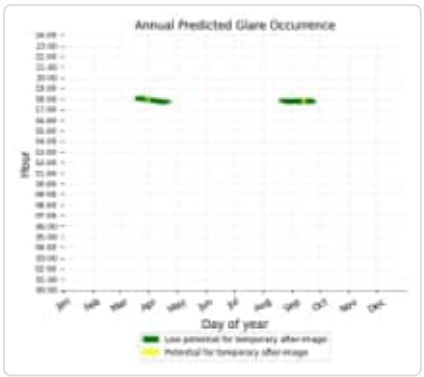


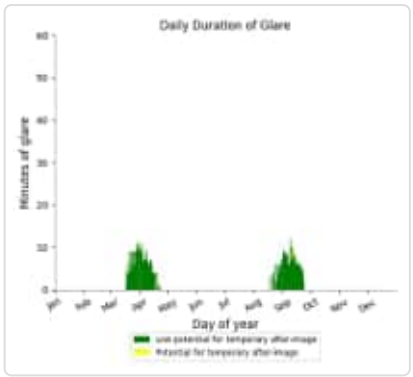


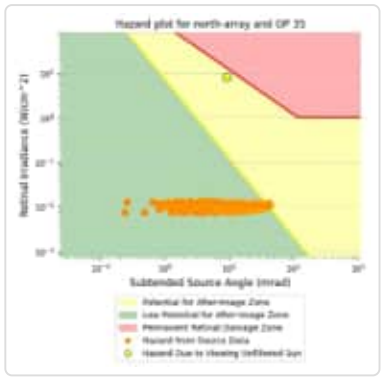
North Array: OP 35

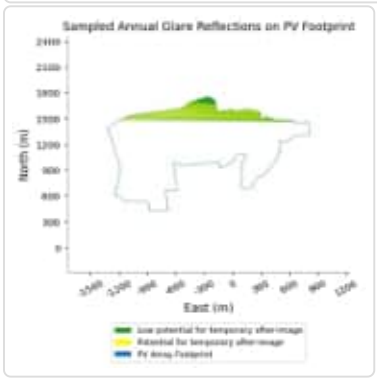
PV array is expected to produce the following glare for this receptor:

- 460 minutes of "green" glare with low potential to cause temporary after-image.
- 6 minutes of "yellow" glare with potential to cause temporary after-image.





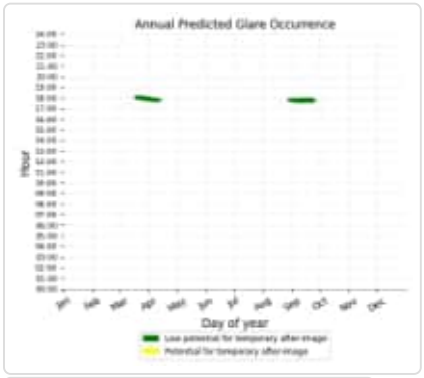


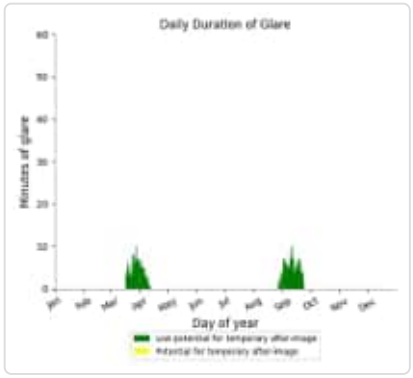


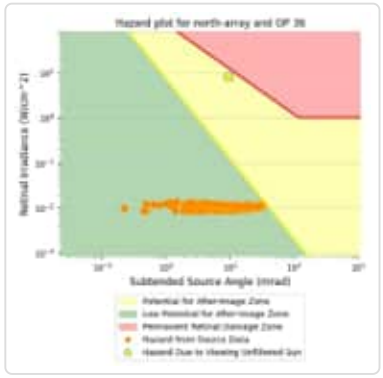
North Array: OP 36

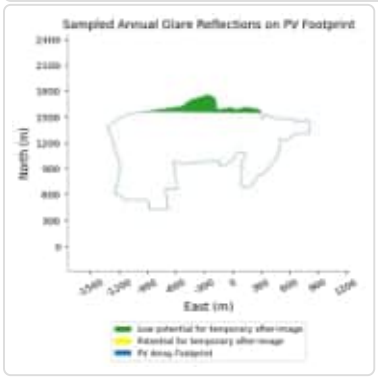
PV array is expected to produce the following glare for this receptor:

- 280 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 37

No glare found

North Array: OP 38

No glare found

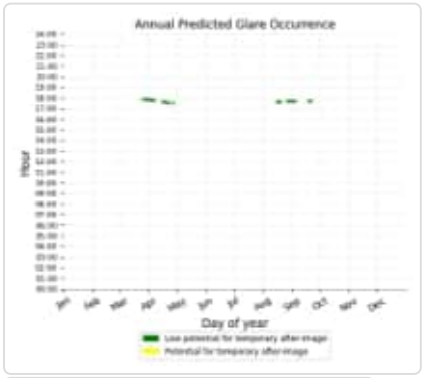
North Array: OP 39

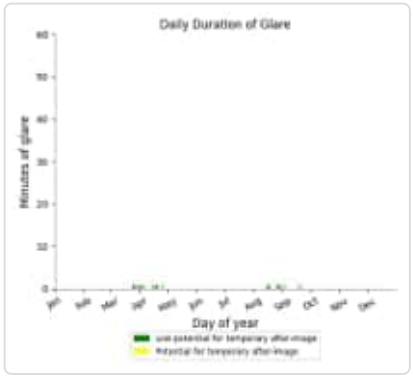
No glare found

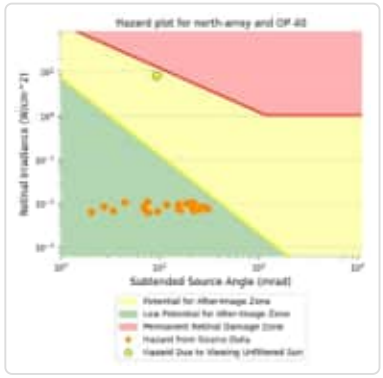
North Array: OP 40

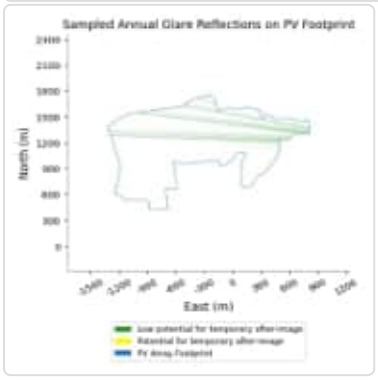
PV array is expected to produce the following glare for this receptor:

- 22 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





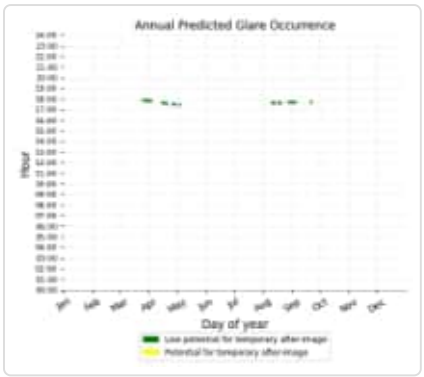


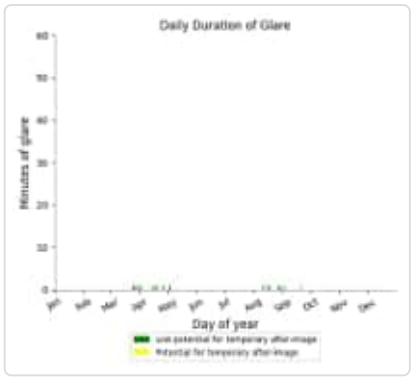


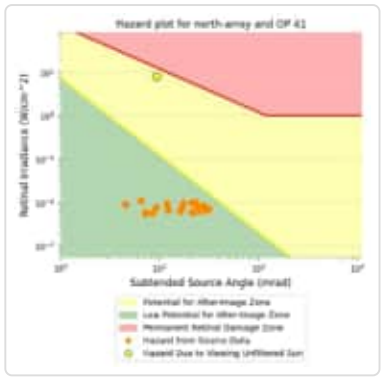
North Array: OP 41

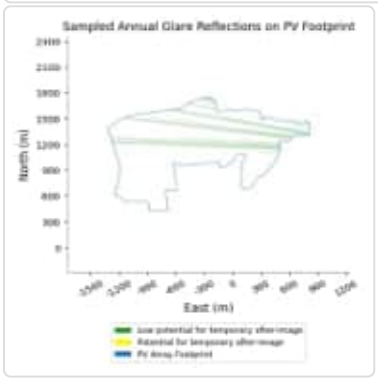
PV array is expected to produce the following glare for this receptor:

- 20 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





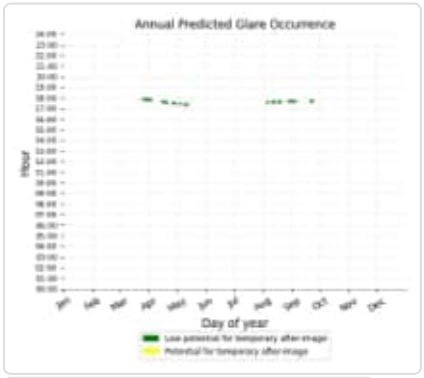


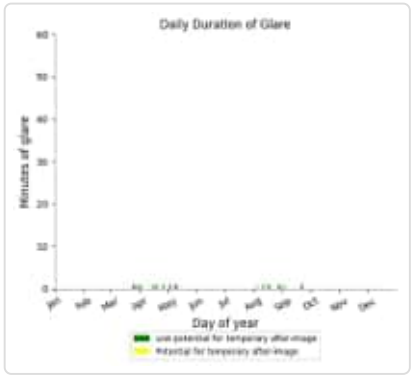


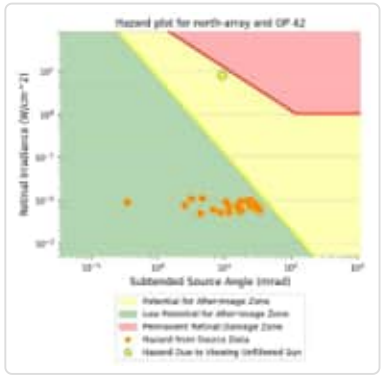
North Array: OP 42

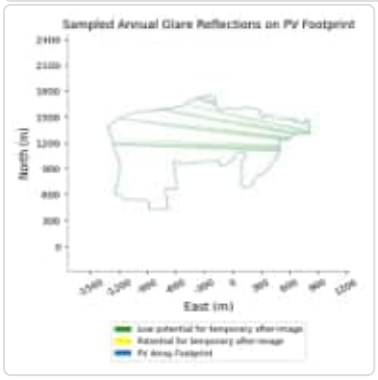
PV array is expected to produce the following glare for this receptor:

- 24 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 43

No glare found

North Array: OP 44

No glare found

North Array: OP 45

No glare found

North Array: OP 46

No glare found

North Array: OP 47

No glare found

North Array: OP 48

No glare found

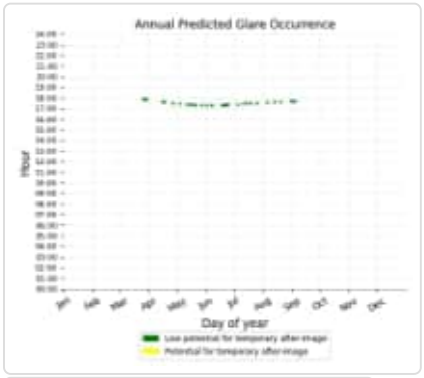
North Array: OP 49

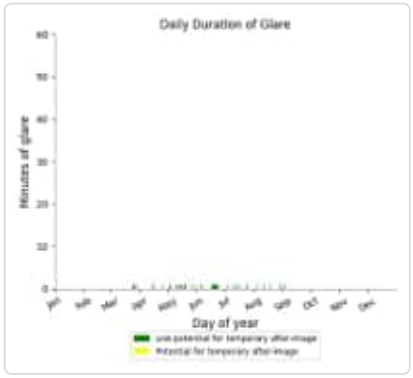
No glare found

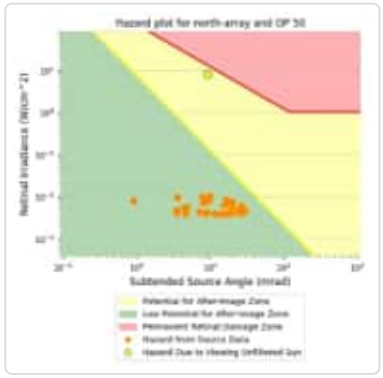
North Array: OP 50

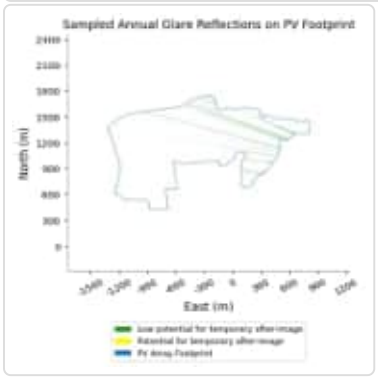
PV array is expected to produce the following glare for this receptor:

- 34 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





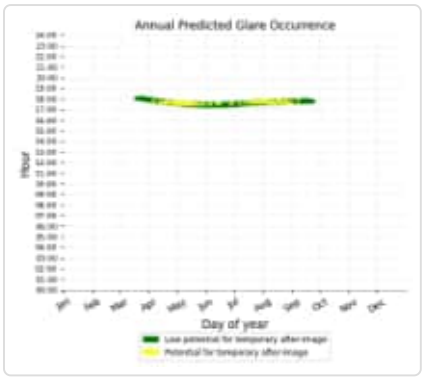


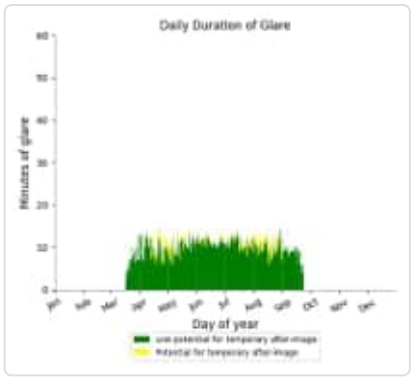


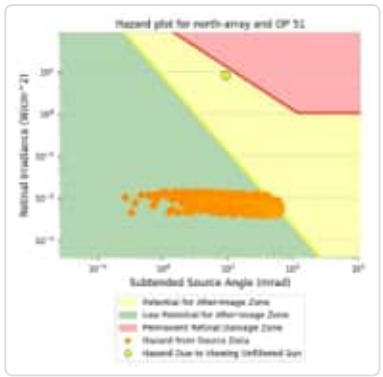
North Array: OP 51

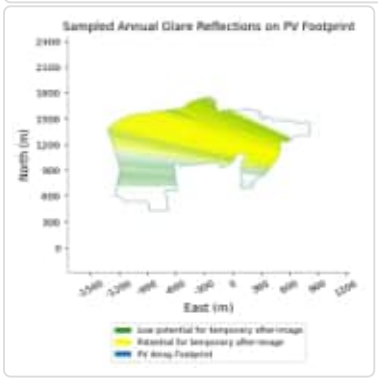
PV array is expected to produce the following glare for this receptor:

- 1,854 minutes of "green" glare with low potential to cause temporary after-image.
- 155 minutes of "yellow" glare with potential to cause temporary after-image.









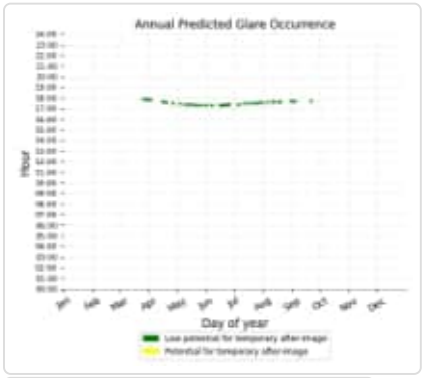
North Array: OP 52

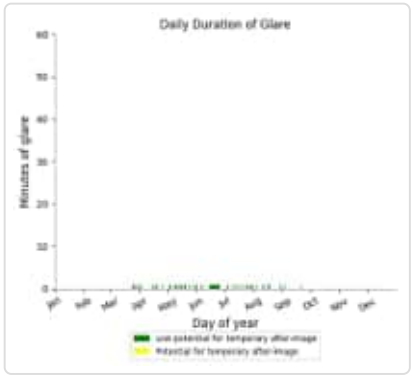
No glare found

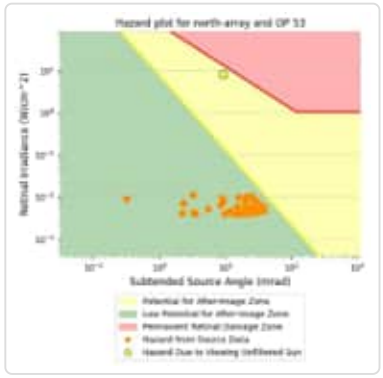
North Array: OP 53

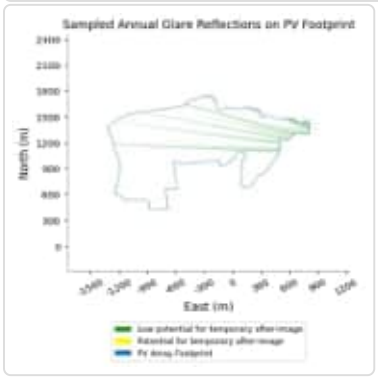
PV array is expected to produce the following glare for this receptor:

- 50 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





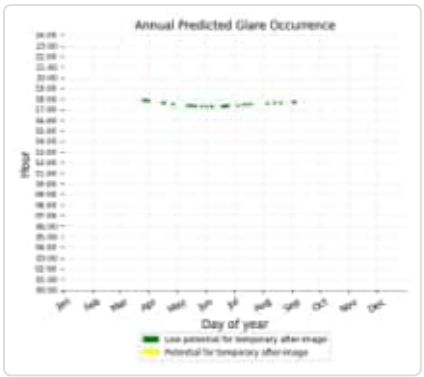


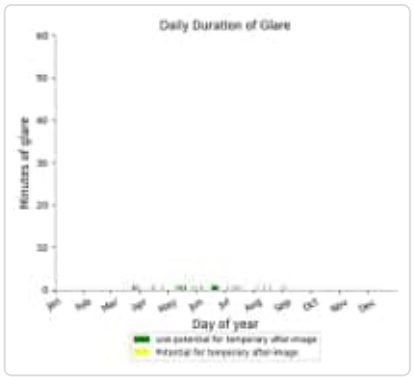


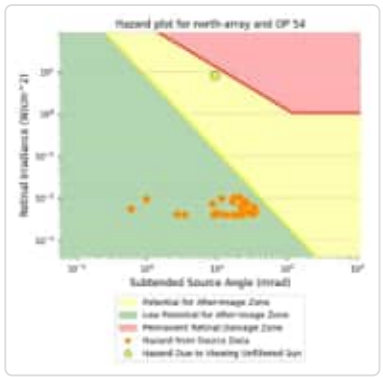
North Array: OP 54

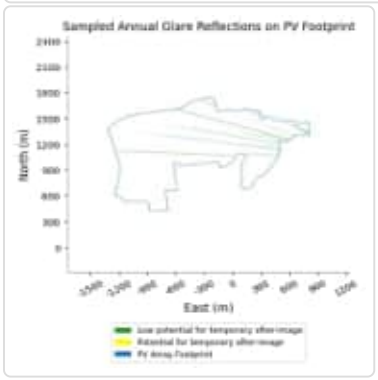
PV array is expected to produce the following glare for this receptor:

- 32 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





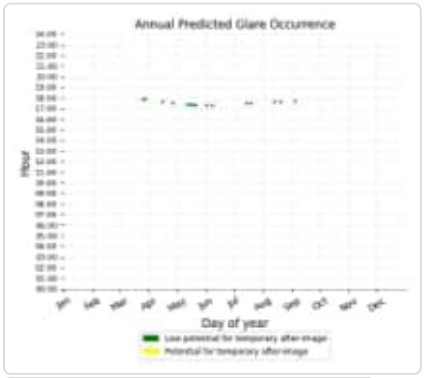


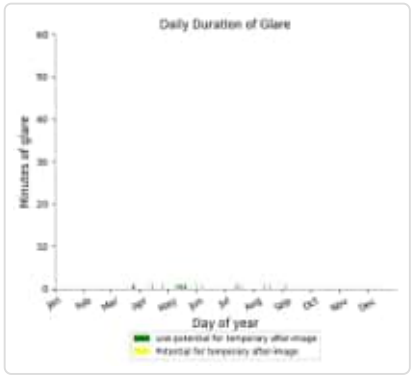


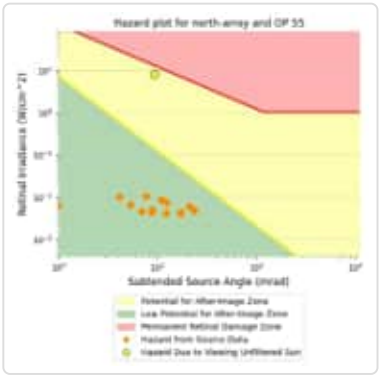
North Array: OP 55

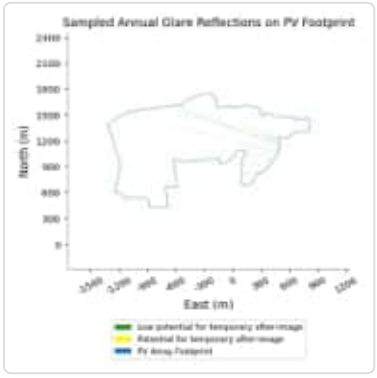
PV array is expected to produce the following glare for this receptor:

- 15 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 56

No glare found

North Array: OP 57

No glare found

North Array: OP 58

No glare found

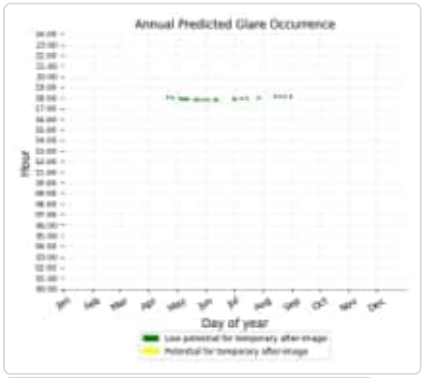
North Array: OP 59

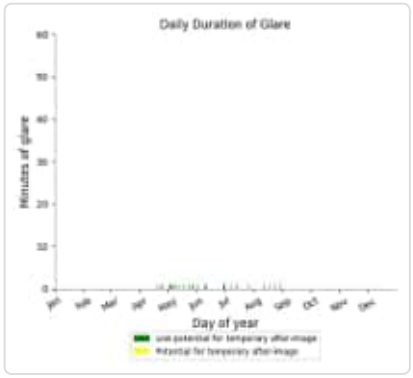
No glare found

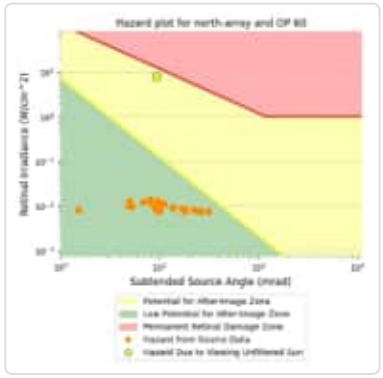
North Array: OP 60

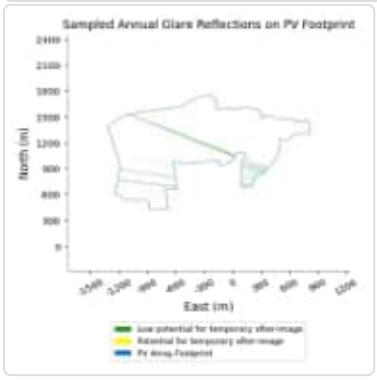
PV array is expected to produce the following glare for this receptor:

- 21 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 61

No glare found

North Array: OP 62

No glare found

North Array: OP 63

No glare found

North Array: OP 64

No glare found

South Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0

OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	707	49
OP: OP 22	1688	468
OP: OP 23	1389	223
OP: OP 24	389	0
OP: OP 25	455	3
OP: OP 26	574	17
OP: OP 27	1670	210
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0
OP: OP 61	0	0
OP: OP 62	0	0
OP: OP 63	0	0
OP: OP 64	0	0

South Array: OP 1

No glare found

South Array: OP 2

No glare found

South Array: OP 3

No glare found

South Array: OP 4

No glare found

South Array: OP 5

No glare found

South Array: OP 6

No glare found

South Array: OP 7

No glare found

South Array: OP 8

No glare found

South Array: OP 9

No glare found

South Array: OP 10

No glare found

South Array: OP 11

No glare found

South Array: OP 12

No glare found

South Array: OP 13

No glare found

South Array: OP 14

No glare found

South Array: OP 15

No glare found

South Array: OP 16

No glare found

South Array: OP 17

No glare found

South Array: OP 18

No glare found

South Array: OP 19

No glare found

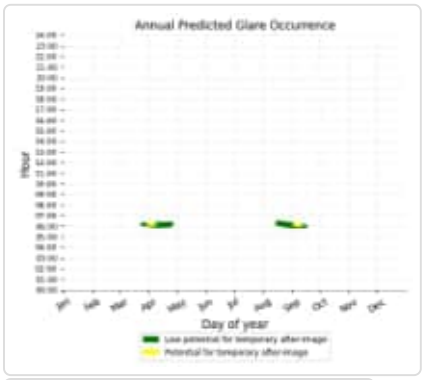
South Array: OP 20

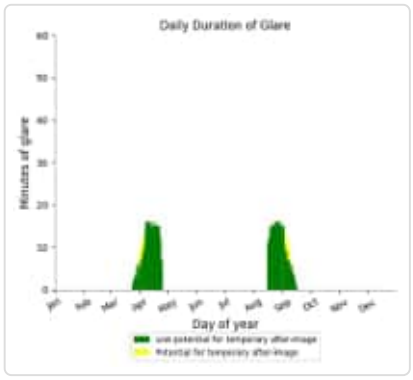
No glare found

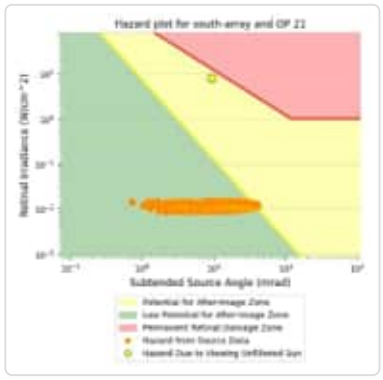
South Array: OP 21

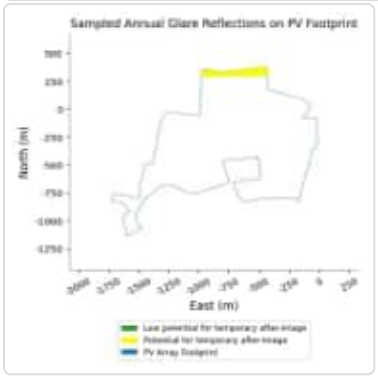
PV array is expected to produce the following glare for this receptor:

- 707 minutes of "green" glare with low potential to cause temporary after-image.
- 49 minutes of "yellow" glare with potential to cause temporary after-image.





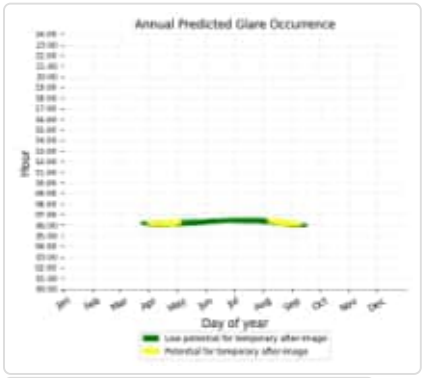


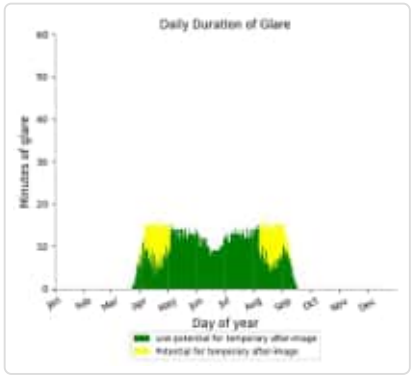


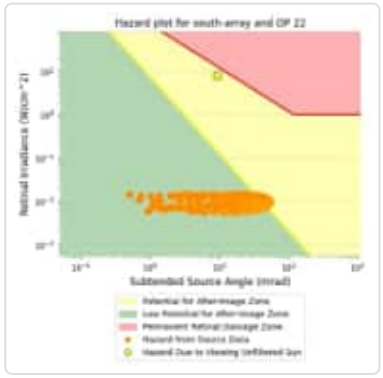
South Array: OP 22

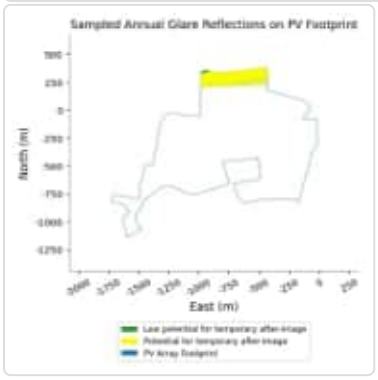
PV array is expected to produce the following glare for this receptor:

- 1,688 minutes of "green" glare with low potential to cause temporary after-image.
- 468 minutes of "yellow" glare with potential to cause temporary after-image.





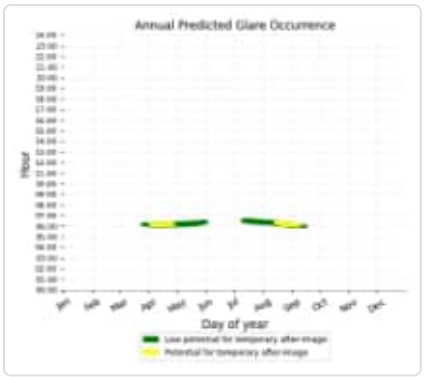


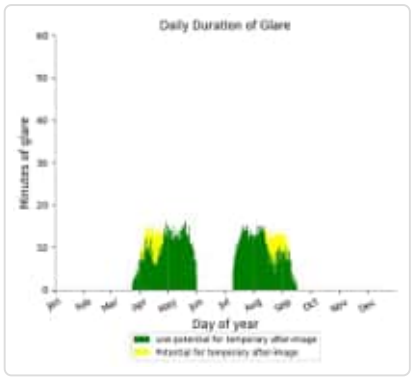


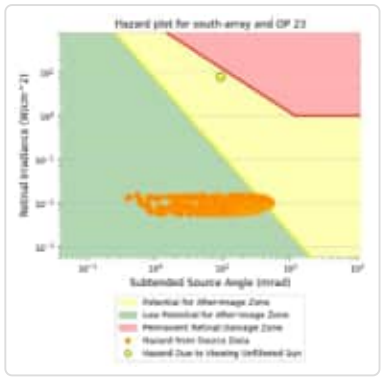
South Array: OP 23

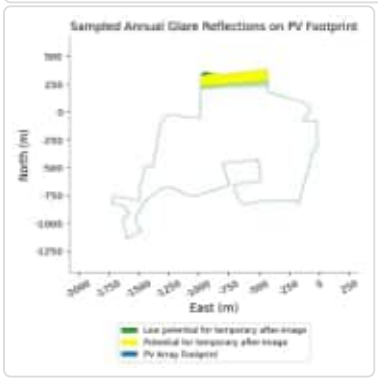
PV array is expected to produce the following glare for this receptor:

- 1,389 minutes of "green" glare with low potential to cause temporary after-image.
- 223 minutes of "yellow" glare with potential to cause temporary after-image.





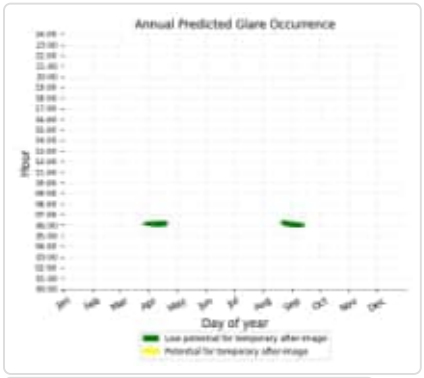


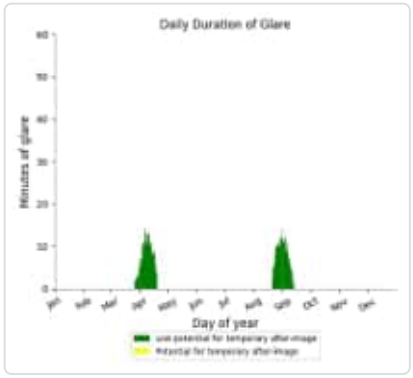


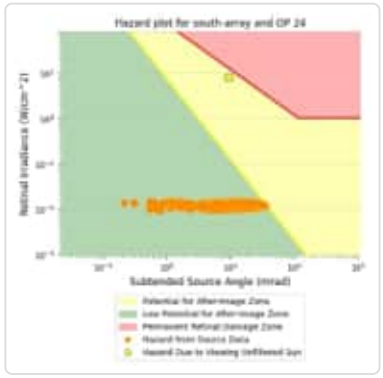
South Array: OP 24

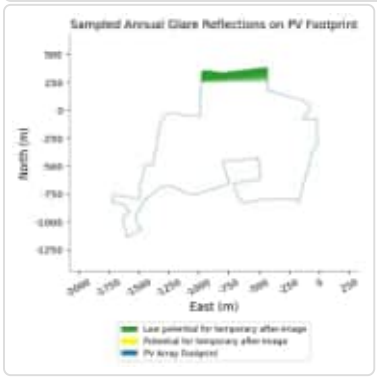
PV array is expected to produce the following glare for this receptor:

- 389 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





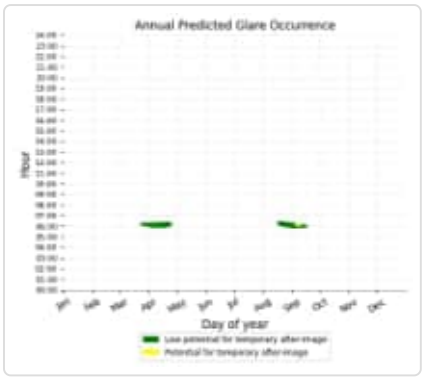




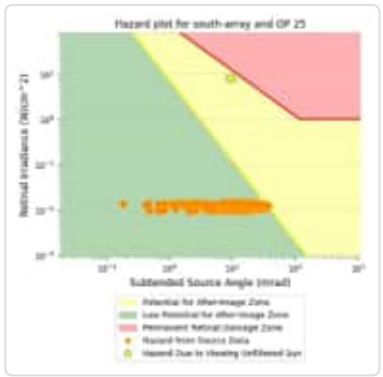
South Array: OP 25

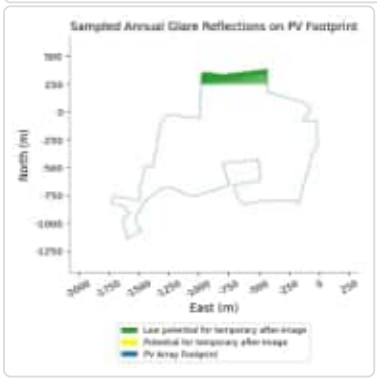
PV array is expected to produce the following glare for this receptor:

- 455 minutes of "green" glare with low potential to cause temporary after-image.
- 3 minutes of "yellow" glare with potential to cause temporary after-image.





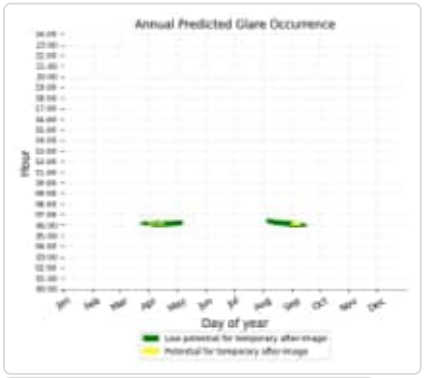


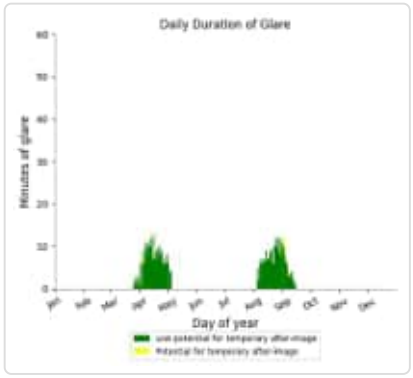


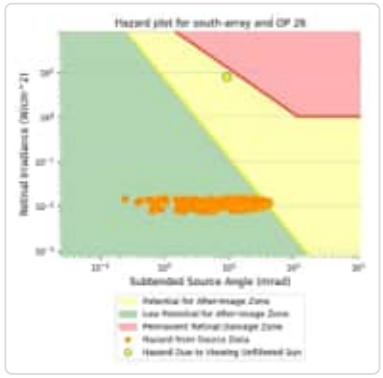
South Array: OP 26

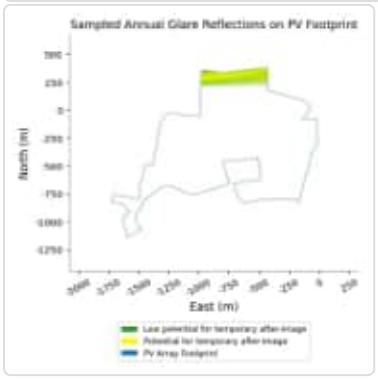
PV array is expected to produce the following glare for this receptor:

- 574 minutes of "green" glare with low potential to cause temporary after-image.
- 17 minutes of "yellow" glare with potential to cause temporary after-image.





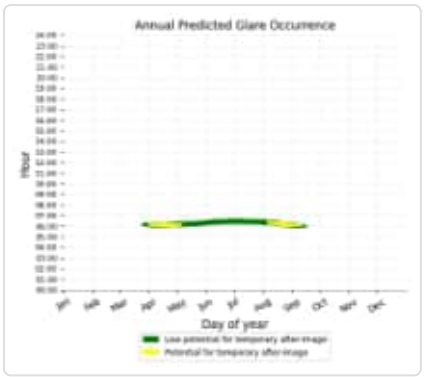


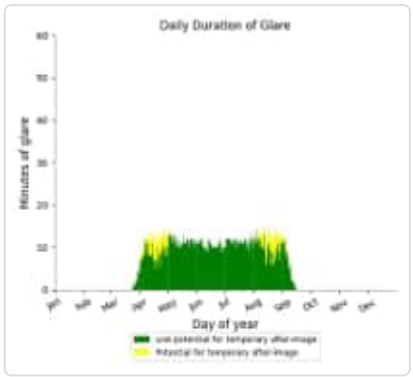


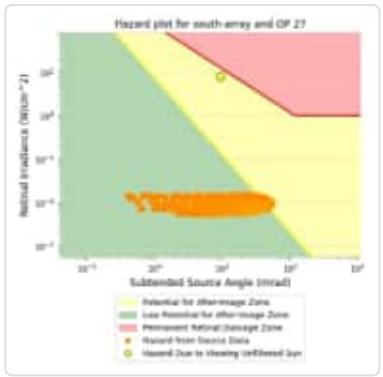
South Array: OP 27

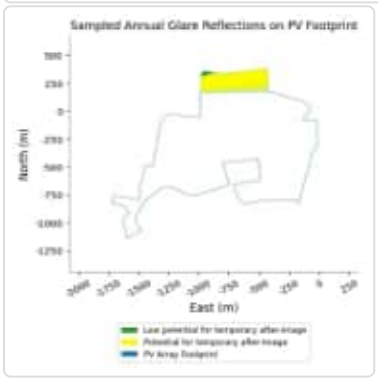
PV array is expected to produce the following glare for this receptor:

- 1,670 minutes of "green" glare with low potential to cause temporary after-image.
- 210 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 28

No glare found

South Array: OP 29

No glare found

South Array: OP 30

No glare found

South Array: OP 31

No glare found

South Array: OP 32

No glare found

South Array: OP 33

No glare found

South Array: OP 34

No glare found

South Array: OP 35

No glare found

South Array: OP 36

No glare found

South Array: OP 37

No glare found

South Array: OP 38

No glare found

South Array: OP 39

No glare found

South Array: OP 40

No glare found

South Array: OP 41

No glare found

South Array: OP 42

No glare found

South Array: OP 43

No glare found

South Array: OP 44

No glare found

South Array: OP 45
No glare found

South Array: OP 46
No glare found

South Array: OP 47
No glare found

South Array: OP 48
No glare found

South Array: OP 49
No glare found

South Array: OP 50
No glare found

South Array: OP 51
No glare found

South Array: OP 52
No glare found

South Array: OP 53
No glare found

South Array: OP 54
No glare found

South Array: OP 55
No glare found

South Array: OP 56
No glare found

South Array: OP 57
No glare found

South Array: OP 58
No glare found

South Array: OP 59
No glare found

South Array: OP 60
No glare found

South Array: OP 61

No glare found

South Array: OP 62

No glare found

South Array: OP 63

No glare found

South Array: OP 64

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX E: RESIDENTIAL RECEPTOR GLARE RESULTS GROUP B (RECEPTORS 65 – 124) (35 DEGREES)

Fenwick Solar Farm

Fenwick Residential Group B 35 degrees

Created Nov 28, 2023
Updated Aug 06, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106534.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	35.0	180.0	10,185	17,548	-
East Array	35.0	180.0	10,084	0	-
North Array	35.0	180.0	6,247	38	-
South Array	35.0	180.0	26,749	3,509	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.636218	-1.057659	7.59	2.00	9.59
OP 2	53.635818	-1.057305	7.97	2.00	9.97
OP 3	53.637690	-1.066750	7.00	2.00	9.00
OP 4	53.637490	-1.066986	7.00	2.00	9.00
OP 5	53.637306	-1.067099	7.00	2.00	9.00
OP 6	53.635957	-1.069357	8.97	2.00	10.97
OP 7	53.635744	-1.069749	8.98	2.00	10.98
OP 8	53.635652	-1.070092	8.57	2.00	10.57
OP 9	53.635286	-1.071627	8.00	2.00	10.00
OP 10	53.634007	-1.074373	6.06	2.00	8.06
OP 11	53.628460	-1.073461	6.96	2.00	8.96
OP 12	53.634059	-1.116895	7.41	2.00	9.41
OP 13	53.633779	-1.116895	7.41	2.00	9.41
OP 14	53.633957	-1.117447	7.00	2.00	9.00
OP 15	53.625580	-1.110388	8.99	2.00	10.99
OP 16	53.624955	-1.111447	8.00	2.00	10.00
OP 17	53.622448	-1.116362	8.00	2.00	10.00
OP 18	53.622441	-1.115659	8.20	2.00	10.20
OP 19	53.622286	-1.113889	9.00	2.00	11.00
OP 20	53.622276	-1.113680	8.99	2.00	10.99
OP 21	53.622403	-1.110349	8.26	2.00	10.26
OP 22	53.622063	-1.109415	8.78	2.00	10.78
OP 23	53.621694	-1.109233	8.25	2.00	10.25
OP 24	53.624775	-1.101250	8.22	2.00	10.22
OP 25	53.623747	-1.101336	8.23	2.00	10.23
OP 26	53.623620	-1.100901	8.02	2.00	10.02
OP 27	53.623108	-1.100971	8.00	2.00	10.00
OP 28	53.622971	-1.099845	8.89	2.00	10.89
OP 29	53.622901	-1.099684	8.99	2.00	10.99
OP 30	53.622083	-1.101331	8.24	2.00	10.24
OP 31	53.622128	-1.100075	9.10	2.00	11.10
OP 32	53.622296	-1.098976	9.00	2.00	11.00
OP 33	53.622128	-1.097871	9.00	2.00	11.00
OP 34	53.621577	-1.101443	8.83	2.00	10.83
OP 35	53.621679	-1.098847	9.24	2.00	11.24
OP 36	53.620432	-1.099255	9.00	2.00	11.00
OP 37	53.620575	-1.097366	9.00	2.00	11.00
OP 38	53.620215	-1.097157	9.00	2.00	11.00
OP 39	53.619601	-1.097817	9.00	2.00	11.00
OP 40	53.620002	-1.096588	9.00	2.00	11.00
OP 41	53.620390	-1.096626	9.00	2.00	11.00
OP 42	53.621129	-1.097146	9.00	2.00	11.00
OP 43	53.622083	-1.097061	8.76	2.00	10.76
OP 44	53.622357	-1.095886	8.00	2.00	10.00
OP 45	53.622669	-1.094604	8.91	2.00	10.91
OP 46	53.622831	-1.093531	8.09	2.00	10.09
OP 47	53.623108	-1.092356	7.73	2.00	9.73
OP 48	53.621708	-1.096138	8.72	2.00	10.72
OP 49	53.621930	-1.094958	9.00	2.00	11.00
OP 50	53.622210	-1.094153	9.00	2.00	11.00
OP 51	53.622334	-1.093048	8.82	2.00	10.82
OP 52	53.623450	-1.087716	8.00	2.00	10.00
OP 53	53.623590	-1.087566	7.89	2.00	9.89
OP 54	53.623485	-1.087281	7.54	2.00	9.54
OP 55	53.623754	-1.084967	7.68	2.00	9.68
OP 56	53.623458	-1.084629	8.00	2.00	10.00
OP 57	53.623519	-1.083234	8.00	2.00	10.00
OP 58	53.622268	-1.086351	8.00	2.00	10.00
OP 59	53.622469	-1.085487	8.00	2.00	10.00
OP 60	53.622653	-1.082799	8.00	2.00	10.00

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	35.0	180.0	10,185	17,548	-	-
East Array	35.0	180.0	10,084	0	-	-
North Array	35.0	180.0	6,247	38	-	-
South Array	35.0	180.0	26,749	3,509	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	28	116	96	104	98	116	60	0	0	0
central-arra (yellow)	0	0	7	98	491	532	520	202	33	0	0	0
east-array (green)	0	0	9	534	814	1661	1153	560	148	0	0	0
east-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
north-array (green)	0	0	5	344	946	1090	1033	533	46	0	0	0
north-array (yellow)	0	0	0	5	4	11	4	5	0	0	0	0
south-array (green)	0	0	67	845	1001	997	1011	951	269	0	0	0
south-array (yellow)	0	0	0	5	9	13	6	3	3	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array potential temporary after-image

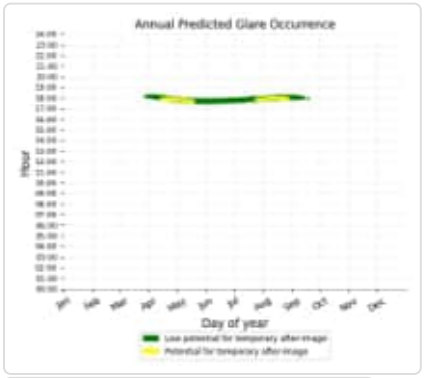
Component	Green glare (min)	Yellow glare (min)
OP: OP 1	2023	318
OP: OP 2	2117	182
OP: OP 3	493	2443
OP: OP 4	683	2332
OP: OP 5	683	2324
OP: OP 6	1034	1545
OP: OP 7	759	1909
OP: OP 8	679	2125
OP: OP 9	589	2588
OP: OP 10	1095	1782
OP: OP 11	0	0
OP: OP 12	15	0
OP: OP 13	15	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0

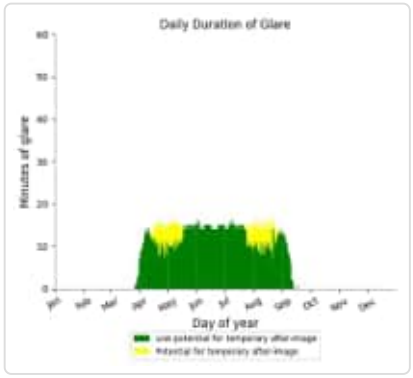
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0

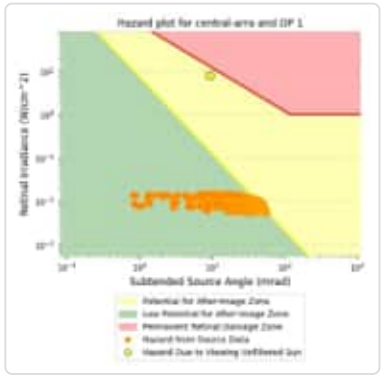
Central Array: OP 1

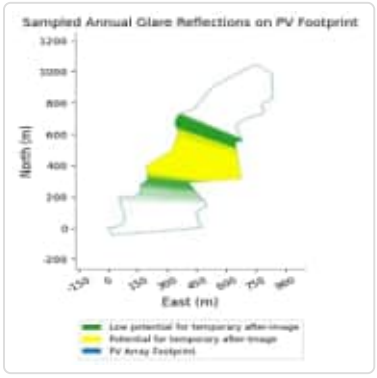
PV array is expected to produce the following glare for this receptor:

- 2,023 minutes of "green" glare with low potential to cause temporary after-image.
- 318 minutes of "yellow" glare with potential to cause temporary after-image.





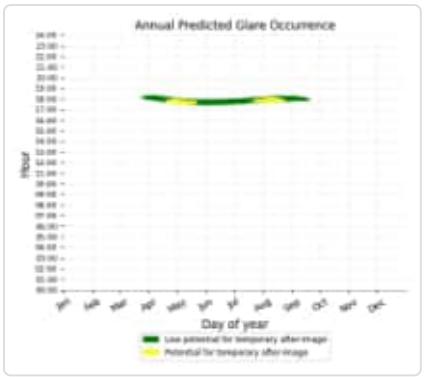


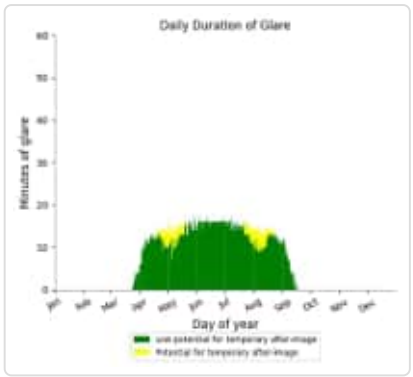


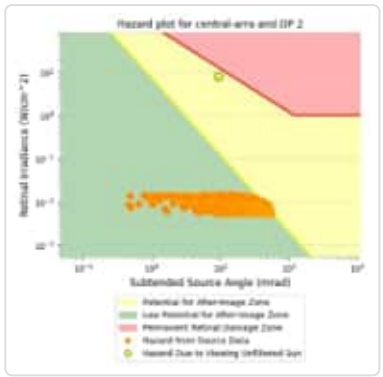
Central Array: OP 2

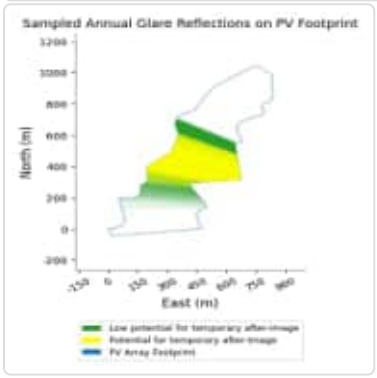
PV array is expected to produce the following glare for this receptor:

- 2,117 minutes of "green" glare with low potential to cause temporary after-image.
- 182 minutes of "yellow" glare with potential to cause temporary after-image.





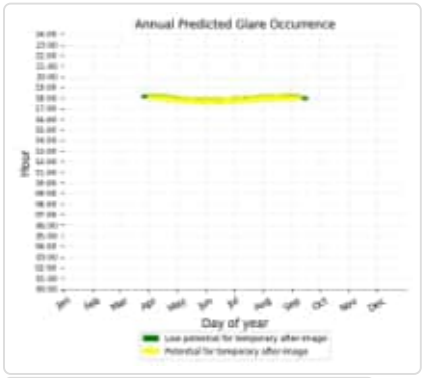


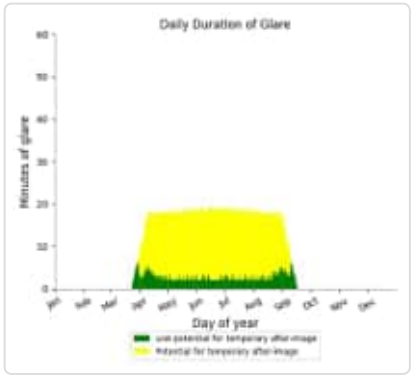


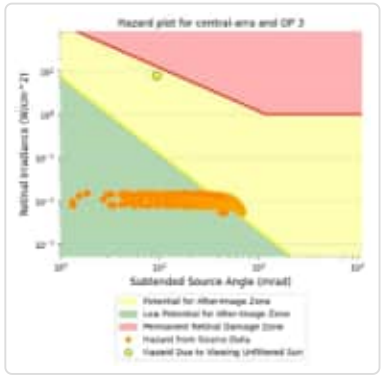
Central Array: OP 3

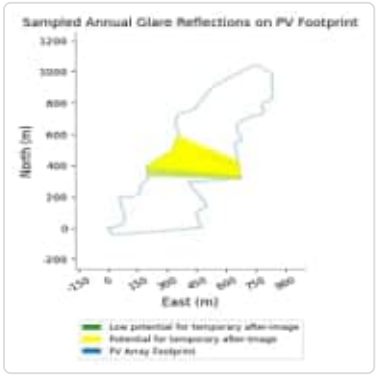
PV array is expected to produce the following glare for this receptor:

- 493 minutes of "green" glare with low potential to cause temporary after-image.
- 2,443 minutes of "yellow" glare with potential to cause temporary after-image.





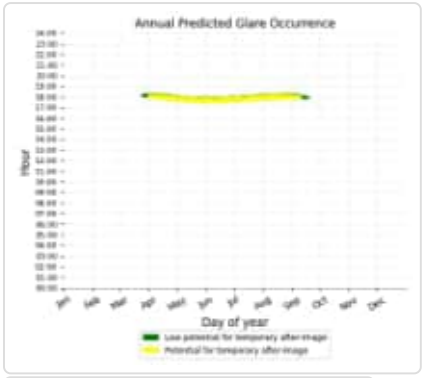


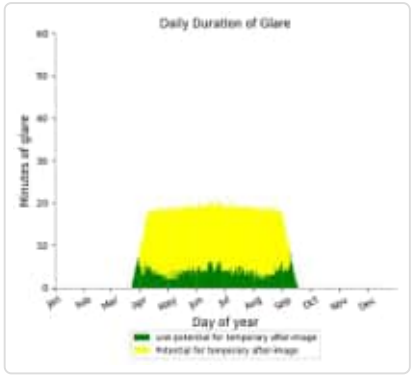


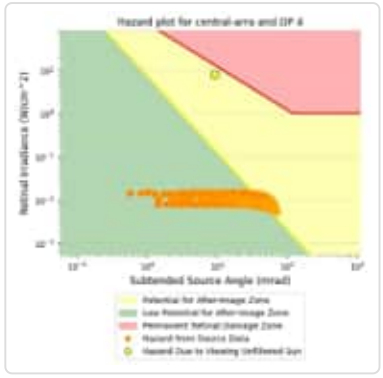
Central Array: OP 4

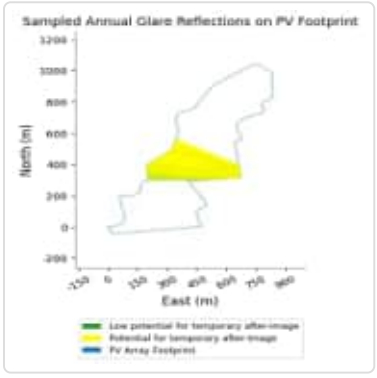
PV array is expected to produce the following glare for this receptor:

- 683 minutes of "green" glare with low potential to cause temporary after-image.
- 2,332 minutes of "yellow" glare with potential to cause temporary after-image.





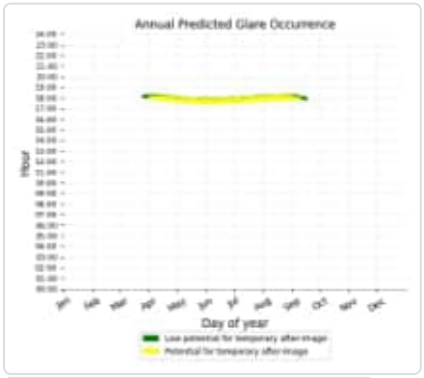


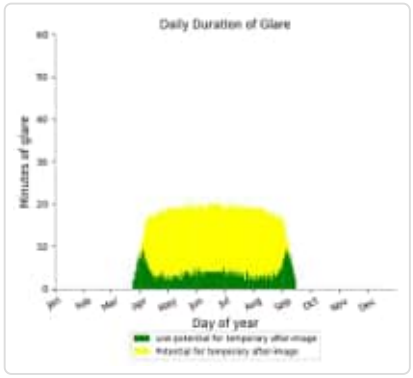


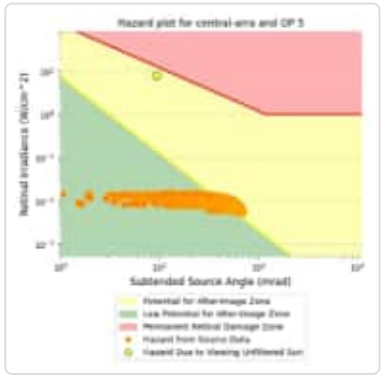
Central Array: OP 5

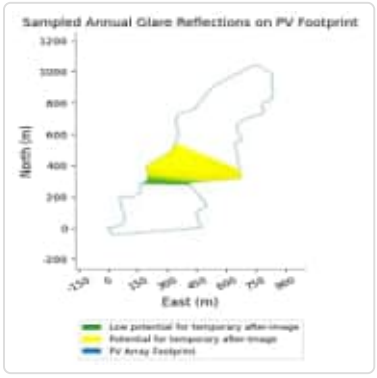
PV array is expected to produce the following glare for this receptor:

- 683 minutes of "green" glare with low potential to cause temporary after-image.
- 2,324 minutes of "yellow" glare with potential to cause temporary after-image.





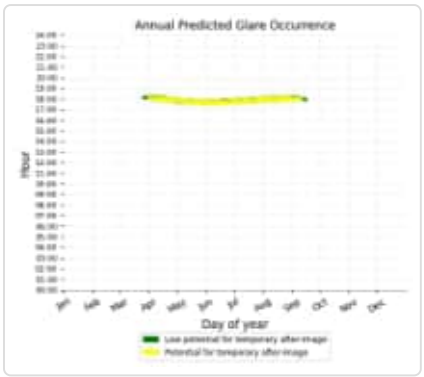


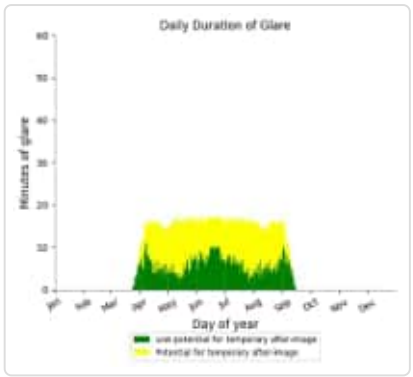


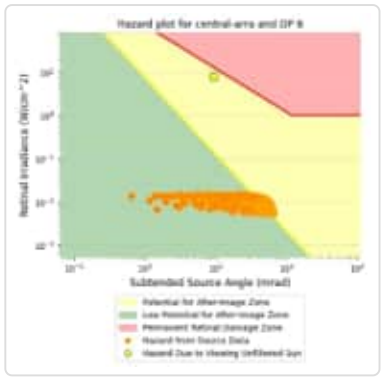
Central Array: OP 6

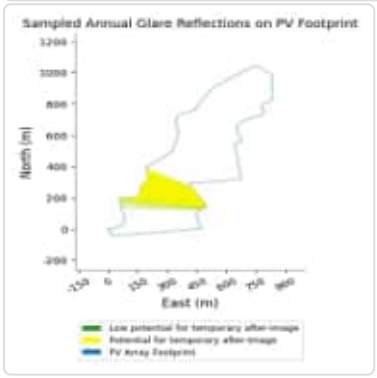
PV array is expected to produce the following glare for this receptor:

- 1,034 minutes of "green" glare with low potential to cause temporary after-image.
- 1,545 minutes of "yellow" glare with potential to cause temporary after-image.





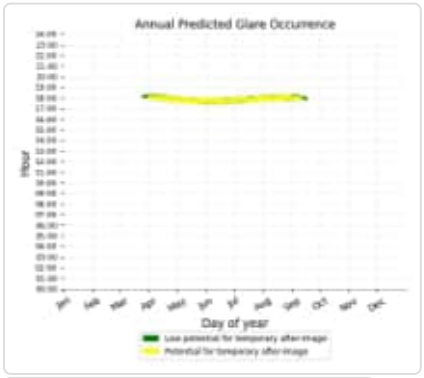


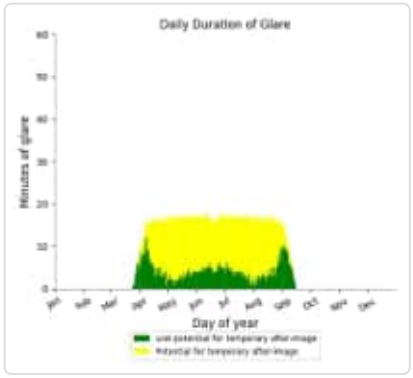


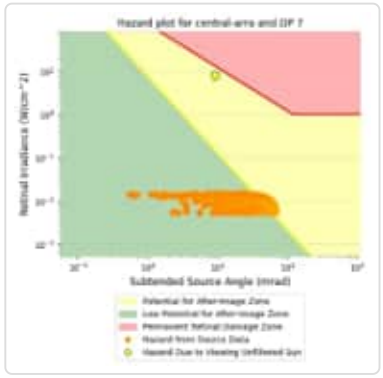
Central Array: OP 7

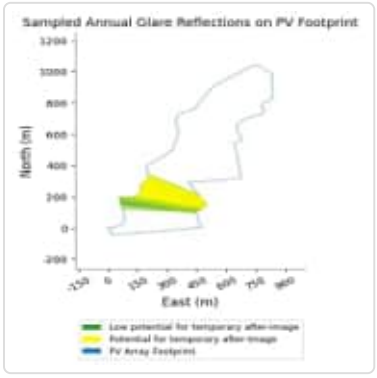
PV array is expected to produce the following glare for this receptor:

- 759 minutes of "green" glare with low potential to cause temporary after-image.
- 1,909 minutes of "yellow" glare with potential to cause temporary after-image.





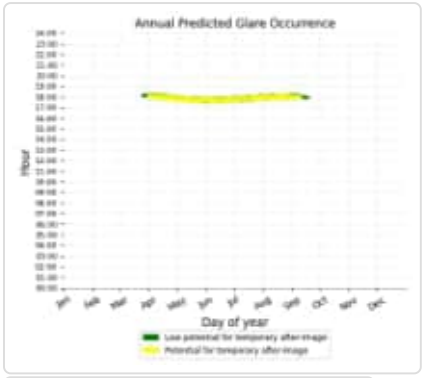


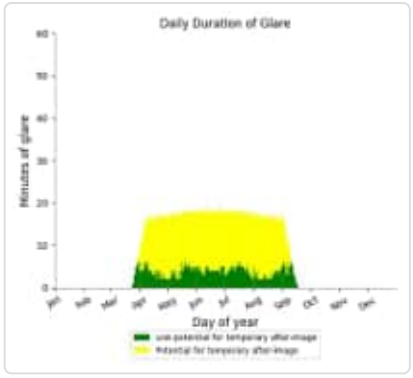


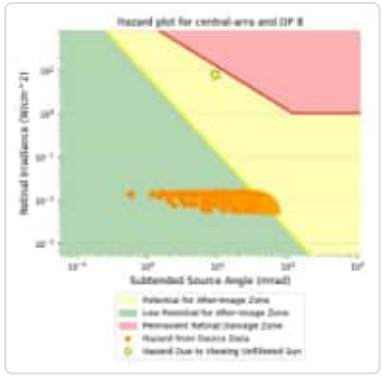
Central Array: OP 8

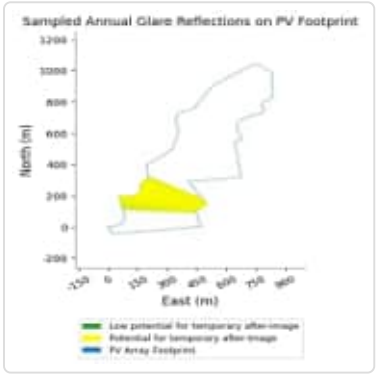
PV array is expected to produce the following glare for this receptor:

- 679 minutes of "green" glare with low potential to cause temporary after-image.
- 2,125 minutes of "yellow" glare with potential to cause temporary after-image.





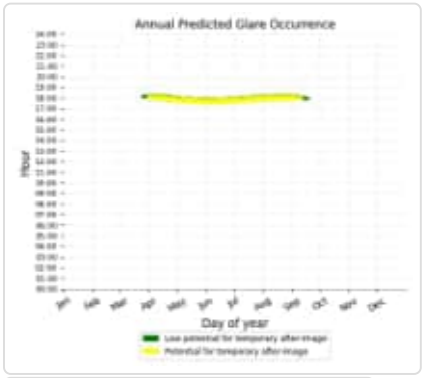


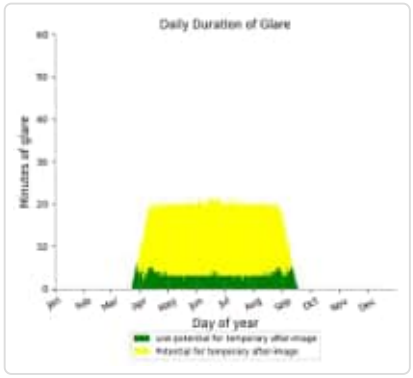


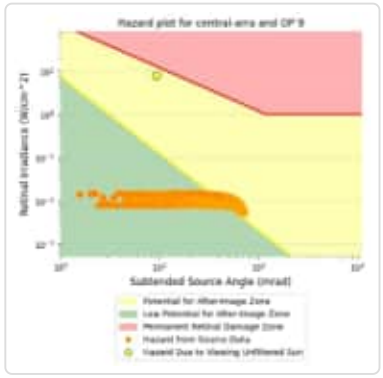
Central Array: OP 9

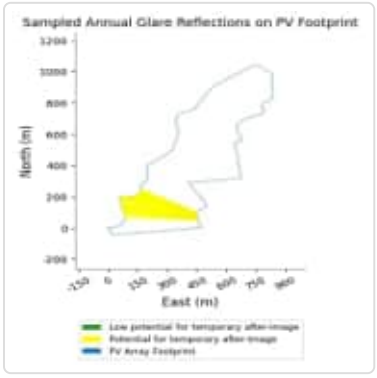
PV array is expected to produce the following glare for this receptor:

- 589 minutes of "green" glare with low potential to cause temporary after-image.
- 2,588 minutes of "yellow" glare with potential to cause temporary after-image.





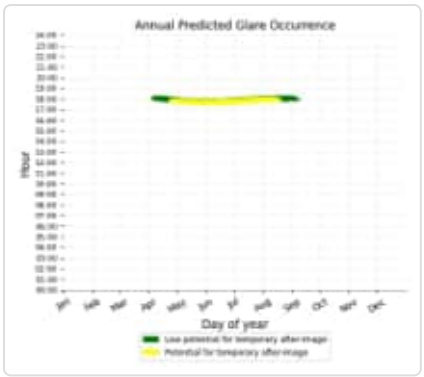


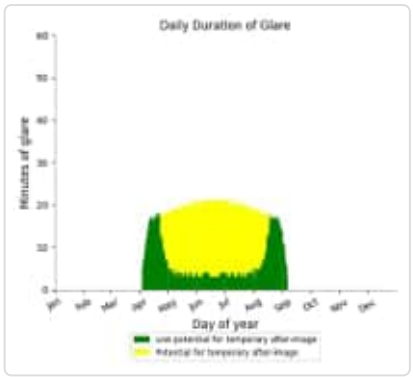


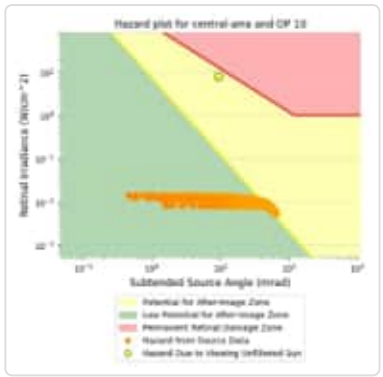
Central Array: OP 10

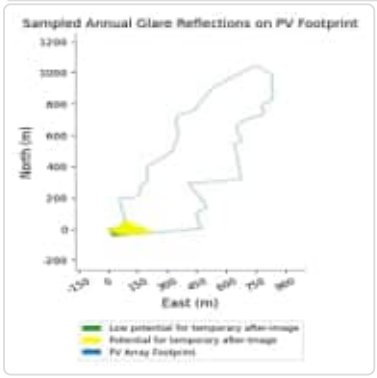
PV array is expected to produce the following glare for this receptor:

- 1,095 minutes of "green" glare with low potential to cause temporary after-image.
- 1,782 minutes of "yellow" glare with potential to cause temporary after-image.









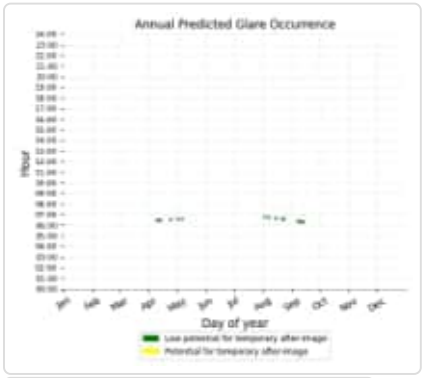
Central Array: OP 11

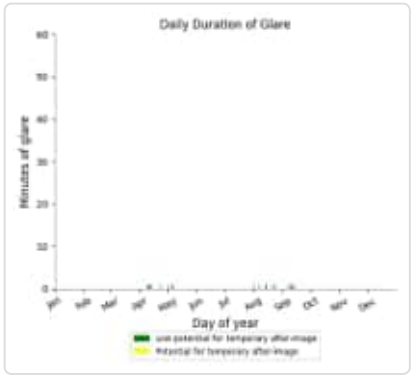
No glare found

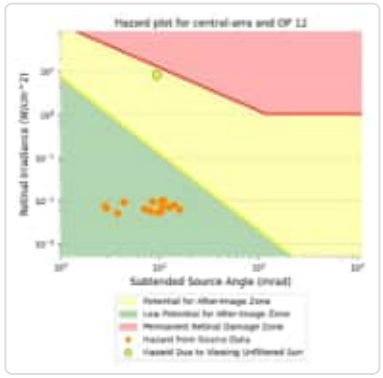
Central Array: OP 12

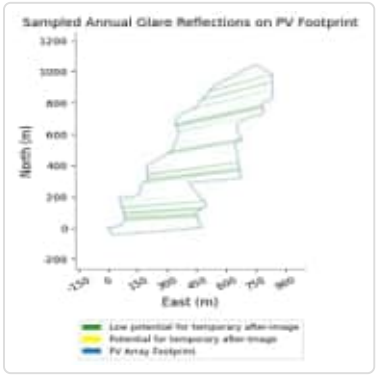
PV array is expected to produce the following glare for this receptor:

- 15 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





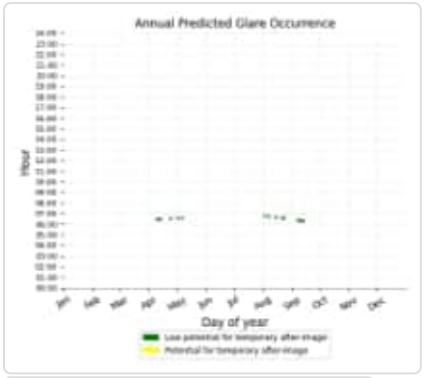


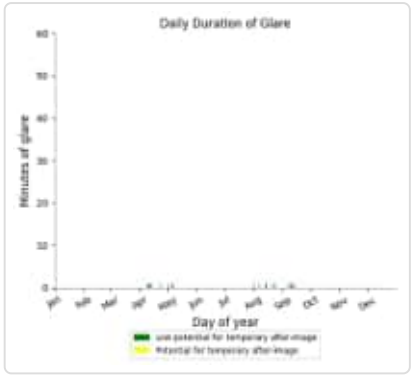


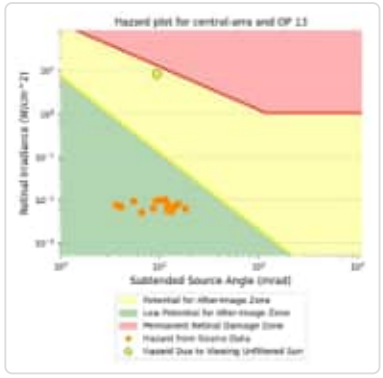
Central Array: OP 13

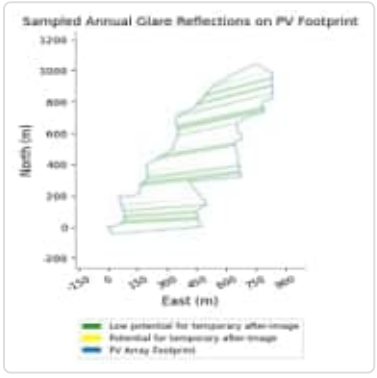
PV array is expected to produce the following glare for this receptor:

- 15 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 14

No glare found

Central Array: OP 15
No glare found

Central Array: OP 16
No glare found

Central Array: OP 17
No glare found

Central Array: OP 18
No glare found

Central Array: OP 19
No glare found

Central Array: OP 20
No glare found

Central Array: OP 21
No glare found

Central Array: OP 22
No glare found

Central Array: OP 23
No glare found

Central Array: OP 24
No glare found

Central Array: OP 25
No glare found

Central Array: OP 26
No glare found

Central Array: OP 27
No glare found

Central Array: OP 28
No glare found

Central Array: OP 29
No glare found

Central Array: OP 30
No glare found

Central Array: OP 31
No glare found

Central Array: OP 32
No glare found

Central Array: OP 33
No glare found

Central Array: OP 34
No glare found

Central Array: OP 35
No glare found

Central Array: OP 36
No glare found

Central Array: OP 37
No glare found

Central Array: OP 38
No glare found

Central Array: OP 39
No glare found

Central Array: OP 40
No glare found

Central Array: OP 41
No glare found

Central Array: OP 42
No glare found

Central Array: OP 43
No glare found

Central Array: OP 44
No glare found

Central Array: OP 45
No glare found

Central Array: OP 46
No glare found

Central Array: OP 47
No glare found

Central Array: OP 48
No glare found

Central Array: OP 49
No glare found

Central Array: OP 50
No glare found

Central Array: OP 51
No glare found

Central Array: OP 52
No glare found

Central Array: OP 53
No glare found

Central Array: OP 54
No glare found

Central Array: OP 55
No glare found

Central Array: OP 56
No glare found

Central Array: OP 57
No glare found

Central Array: OP 58
No glare found

Central Array: OP 59
No glare found

Central Array: OP 60
No glare found

East Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	1365	0
OP: OP 2	603	0
OP: OP 3	774	0

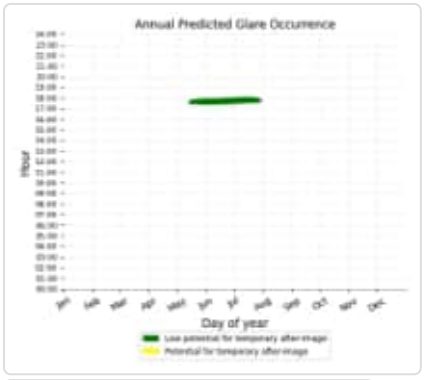
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	1639	0
OP: OP 13	1661	0
OP: OP 14	1571	0
OP: OP 15	1029	0
OP: OP 16	748	0
OP: OP 17	390	0
OP: OP 18	304	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0

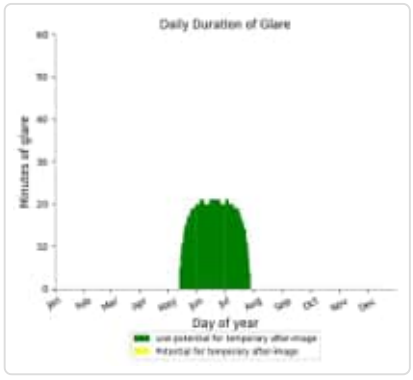
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0

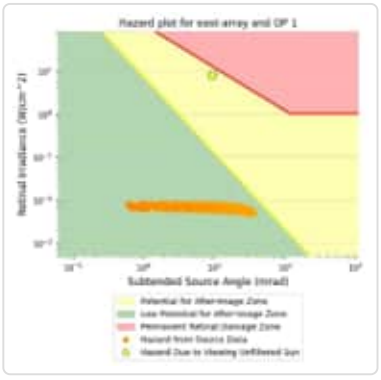
East Array: OP 1

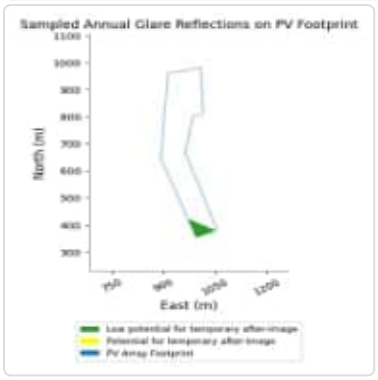
PV array is expected to produce the following glare for this receptor:

- 1,365 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





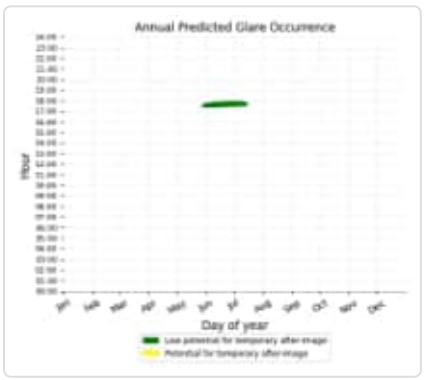




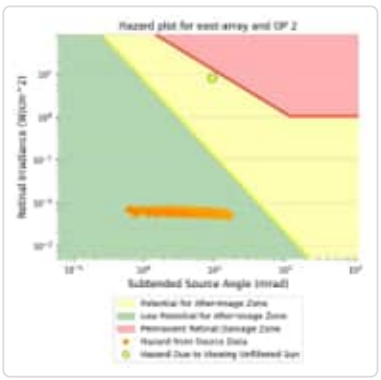
East Array: OP 2

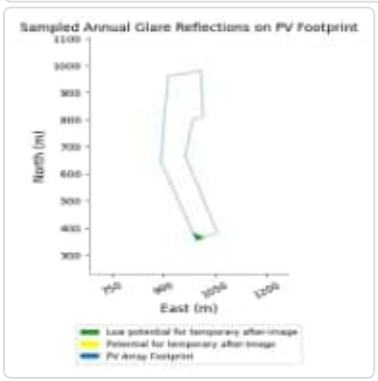
PV array is expected to produce the following glare for this receptor:

- 603 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





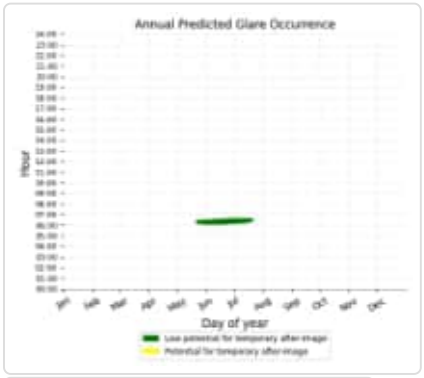




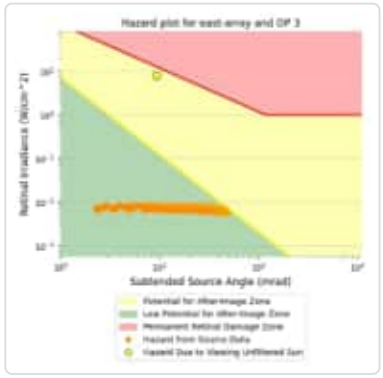
East Array: OP 3

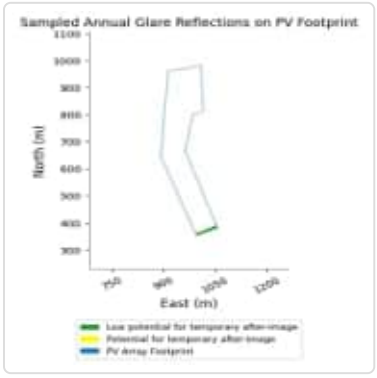
PV array is expected to produce the following glare for this receptor:

- 774 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 4

No glare found

East Array: OP 5

No glare found

East Array: OP 6

No glare found

East Array: OP 7

No glare found

East Array: OP 8

No glare found

East Array: OP 9

No glare found

East Array: OP 10

No glare found

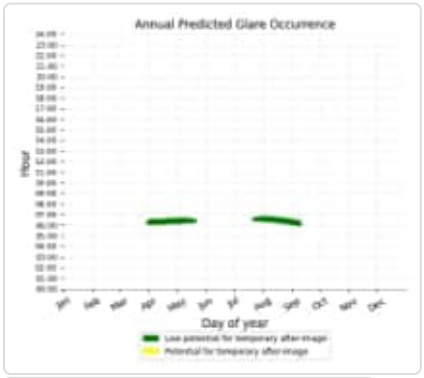
East Array: OP 11

No glare found

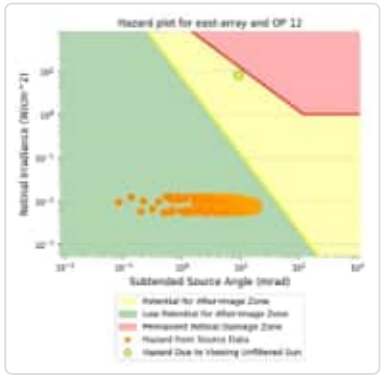
East Array: OP 12

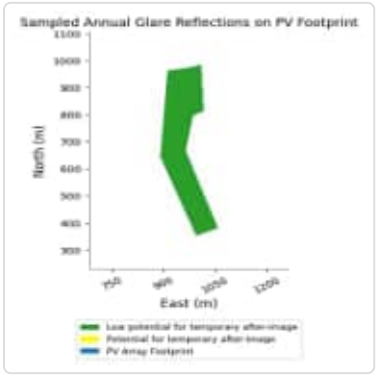
PV array is expected to produce the following glare for this receptor:

- 1,639 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





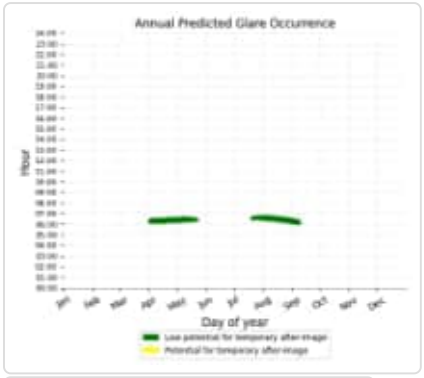




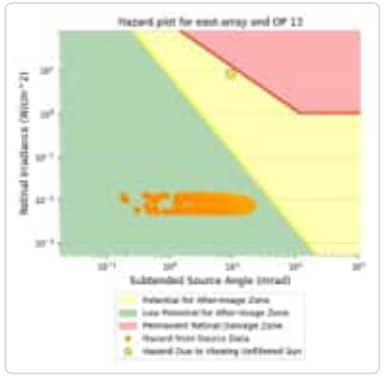
East Array: OP 13

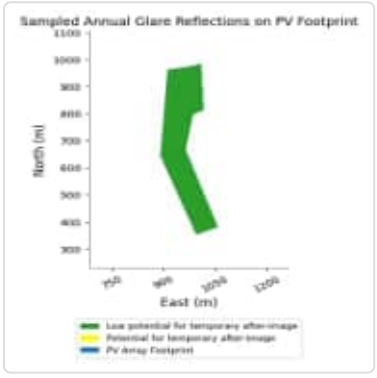
PV array is expected to produce the following glare for this receptor:

- 1,661 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





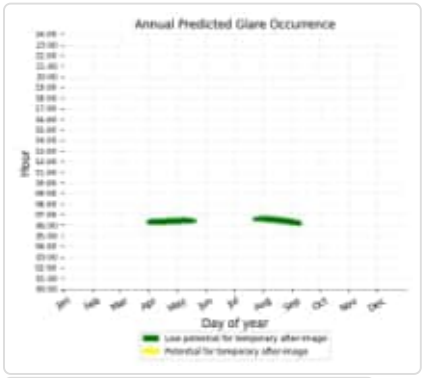


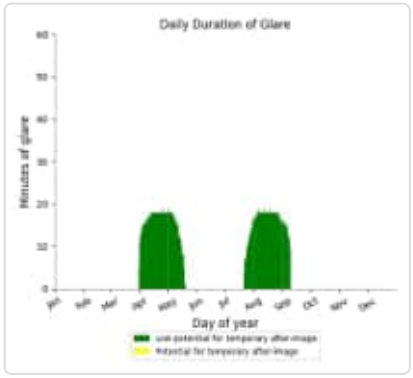


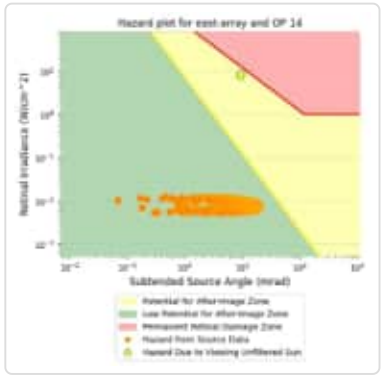
East Array: OP 14

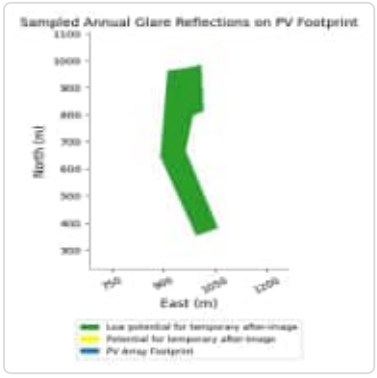
PV array is expected to produce the following glare for this receptor:

- 1,571 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





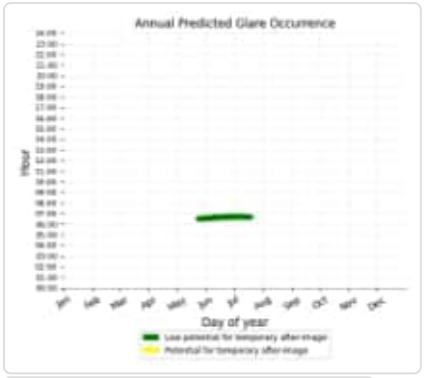


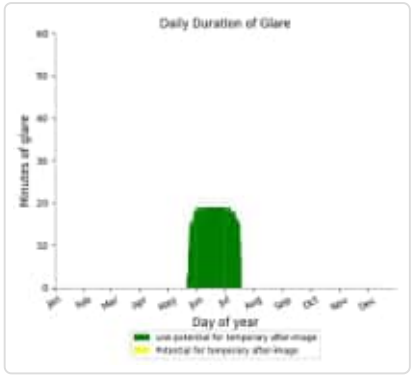


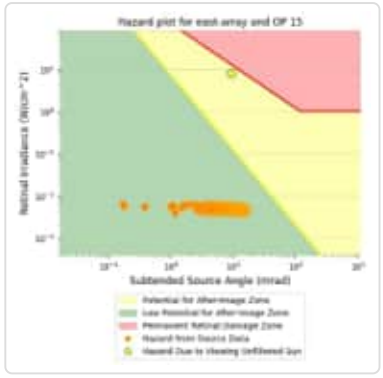
East Array: OP 15

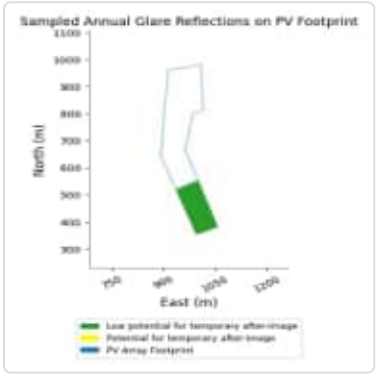
PV array is expected to produce the following glare for this receptor:

- 1,029 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





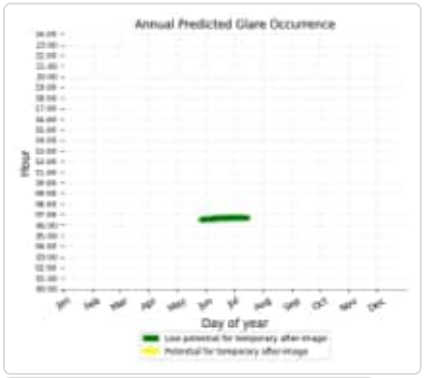


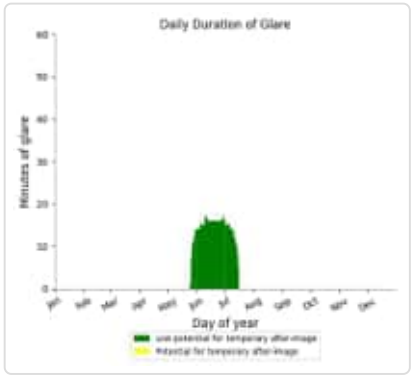


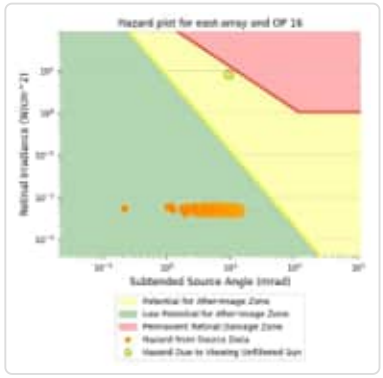
East Array: OP 16

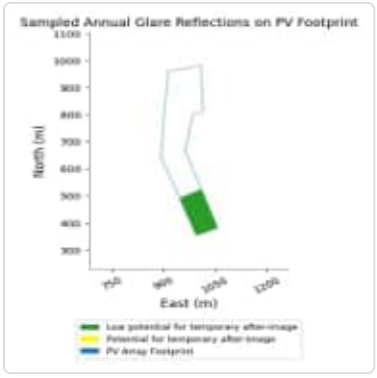
PV array is expected to produce the following glare for this receptor:

- 748 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





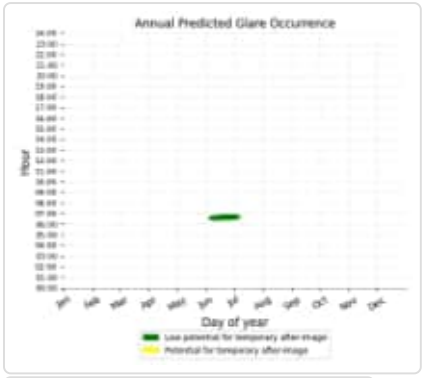


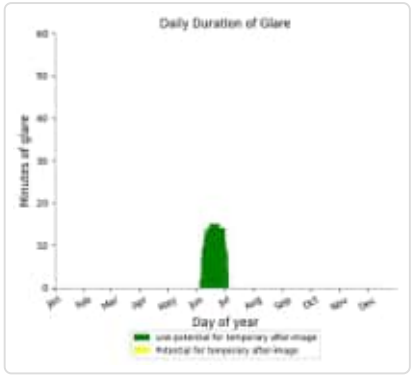


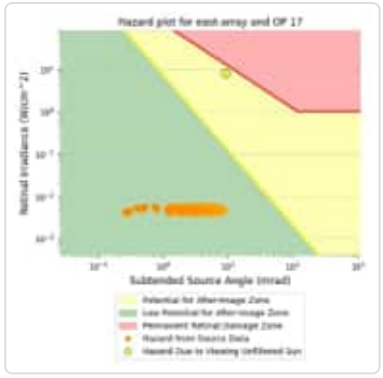
East Array: OP 17

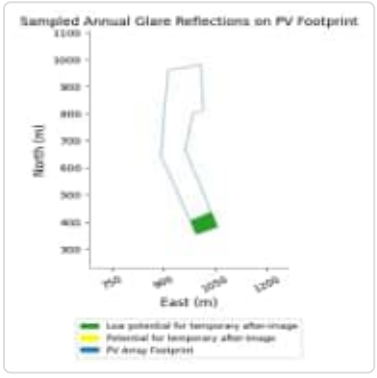
PV array is expected to produce the following glare for this receptor:

- 390 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





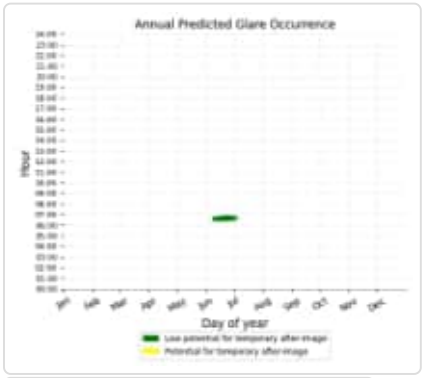




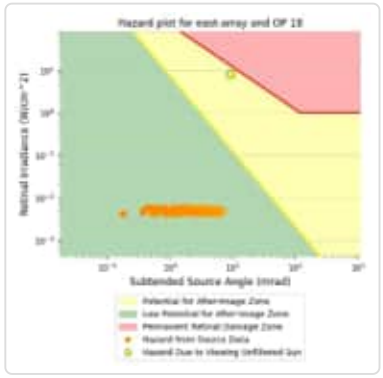
East Array: OP 18

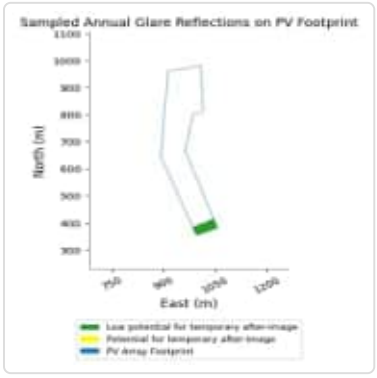
PV array is expected to produce the following glare for this receptor:

- 304 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 19

No glare found

East Array: OP 20

No glare found

East Array: OP 21

No glare found

East Array: OP 22

No glare found

East Array: OP 23

No glare found

East Array: OP 24

No glare found

East Array: OP 25

No glare found

East Array: OP 26

No glare found

East Array: OP 27

No glare found

East Array: OP 28

No glare found

East Array: OP 29

No glare found

East Array: OP 30

No glare found

East Array: OP 31

No glare found

East Array: OP 32

No glare found

East Array: OP 33

No glare found

East Array: OP 34

No glare found

East Array: OP 35

No glare found

East Array: OP 36

No glare found

East Array: OP 37

No glare found

East Array: OP 38

No glare found

East Array: OP 39

No glare found

East Array: OP 40

No glare found

East Array: OP 41

No glare found

East Array: OP 42

No glare found

East Array: OP 43

No glare found

East Array: OP 44

No glare found

East Array: OP 45

No glare found

East Array: OP 46

No glare found

East Array: OP 47

No glare found

East Array: OP 48

No glare found

East Array: OP 49

No glare found

East Array: OP 50

No glare found

East Array: OP 51

No glare found

East Array: OP 52

No glare found

East Array: OP 53

No glare found

East Array: OP 54

No glare found

East Array: OP 55

No glare found

East Array: OP 56

No glare found

East Array: OP 57

No glare found

East Array: OP 58

No glare found

East Array: OP 59

No glare found

East Array: OP 60

No glare found

North Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	561	2
OP: OP 4	534	6
OP: OP 5	578	12
OP: OP 6	772	1
OP: OP 7	486	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	458	0
OP: OP 11	0	0
OP: OP 12	938	4
OP: OP 13	917	0
OP: OP 14	1003	13
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0

OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0

North Array: OP 1

No glare found

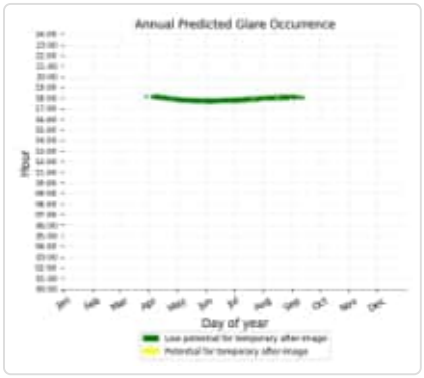
North Array: OP 2

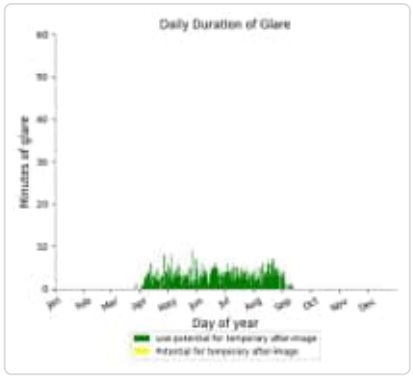
No glare found

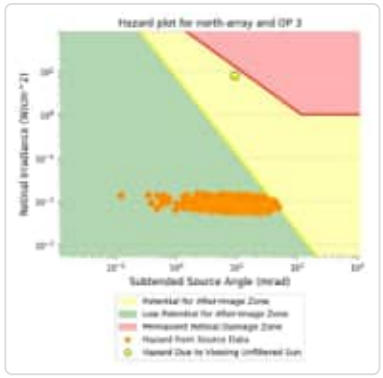
North Array: OP 3

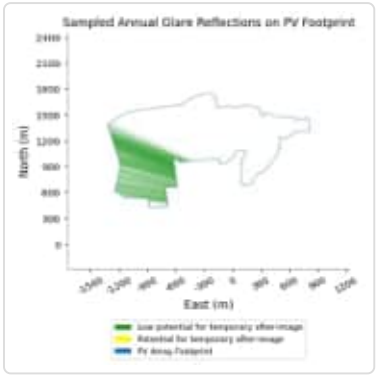
PV array is expected to produce the following glare for this receptor:

- 561 minutes of "green" glare with low potential to cause temporary after-image.
- 2 minutes of "yellow" glare with potential to cause temporary after-image.





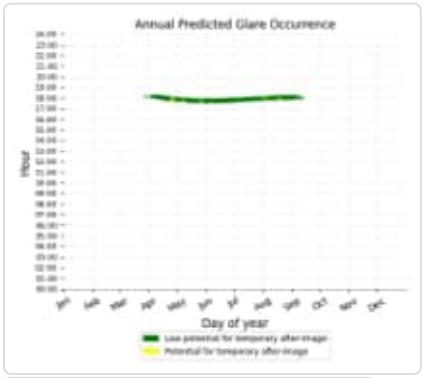


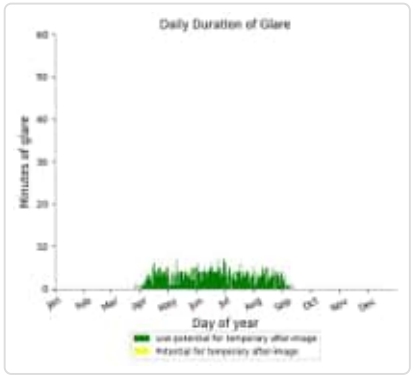


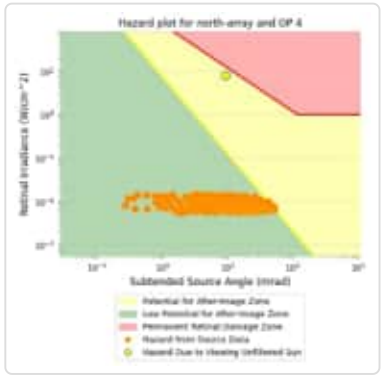
North Array: OP 4

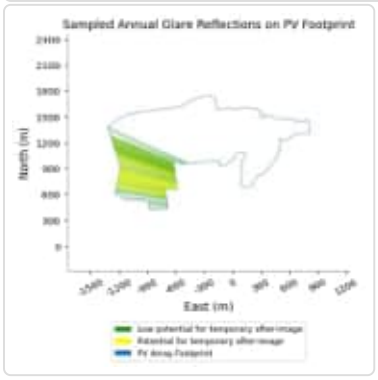
PV array is expected to produce the following glare for this receptor:

- 534 minutes of "green" glare with low potential to cause temporary after-image.
- 6 minutes of "yellow" glare with potential to cause temporary after-image.





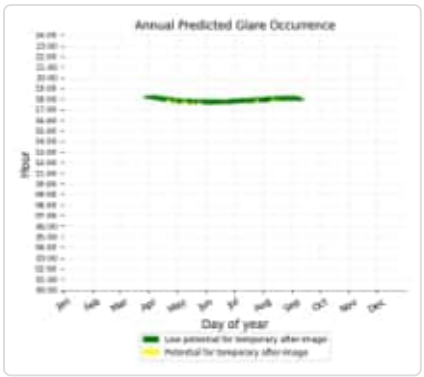


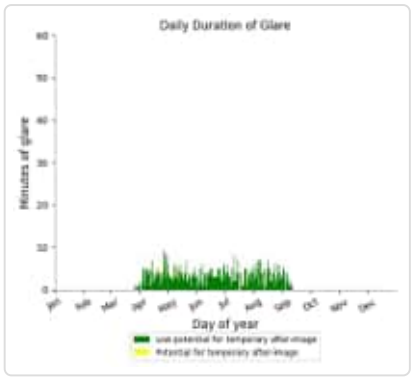


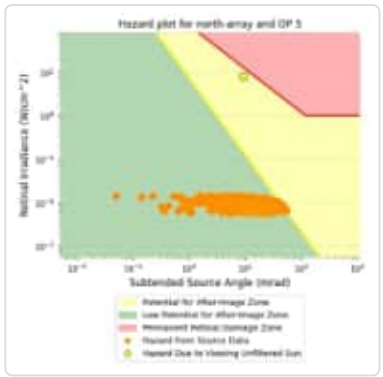
North Array: OP 5

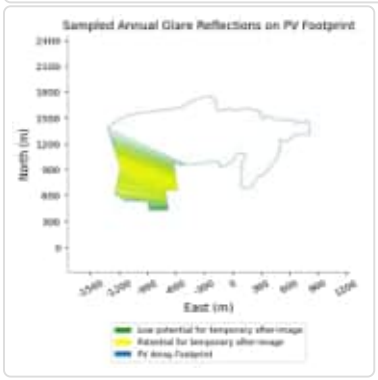
PV array is expected to produce the following glare for this receptor:

- 578 minutes of "green" glare with low potential to cause temporary after-image.
- 12 minutes of "yellow" glare with potential to cause temporary after-image.





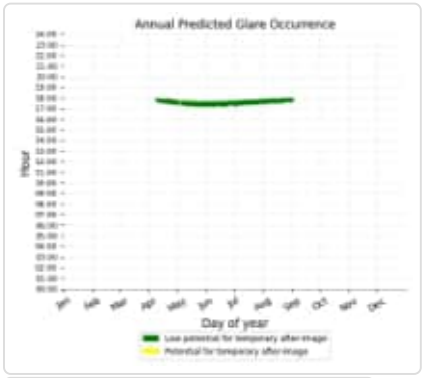


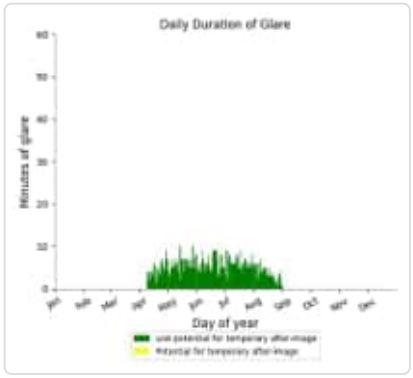


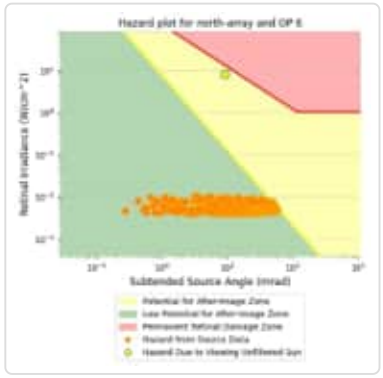
North Array: OP 6

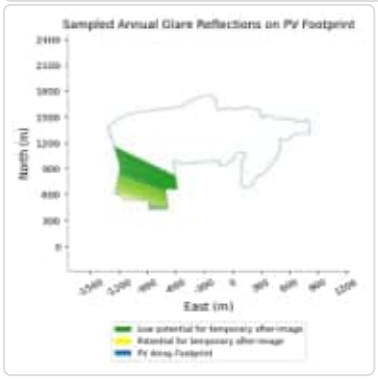
PV array is expected to produce the following glare for this receptor:

- 772 minutes of "green" glare with low potential to cause temporary after-image.
- 1 minutes of "yellow" glare with potential to cause temporary after-image.





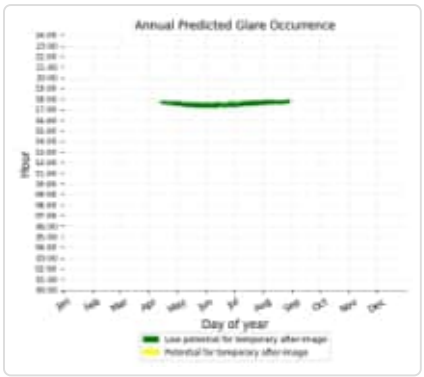


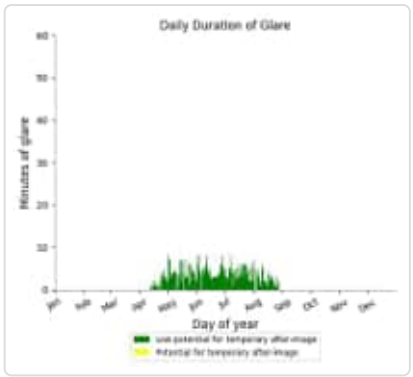


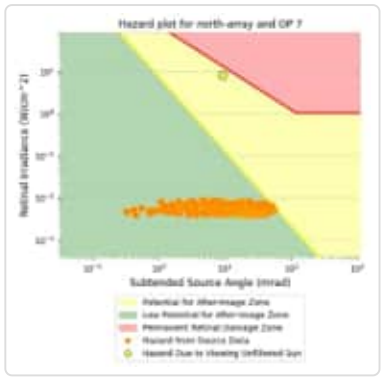
North Array: OP 7

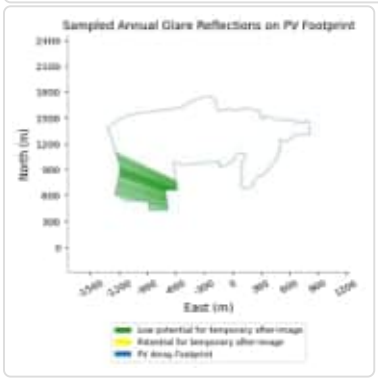
PV array is expected to produce the following glare for this receptor:

- 486 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 8

No glare found

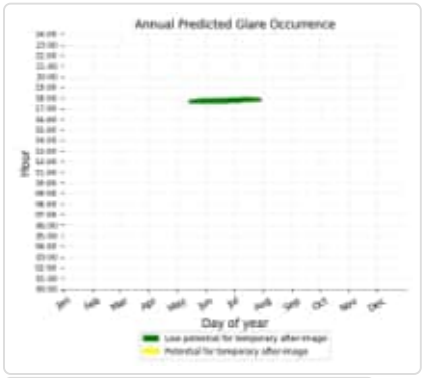
North Array: OP 9

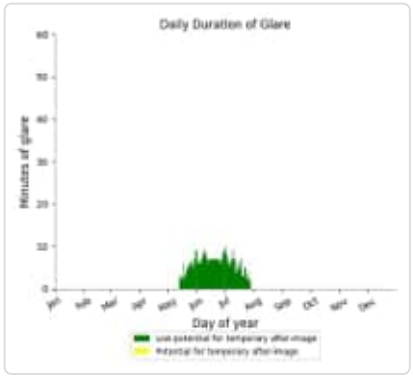
No glare found

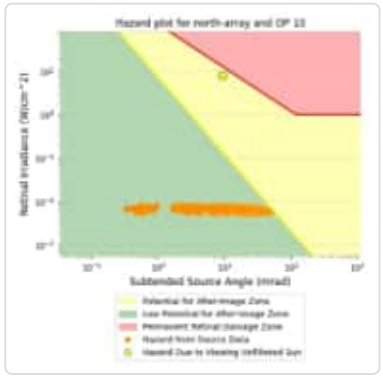
North Array: OP 10

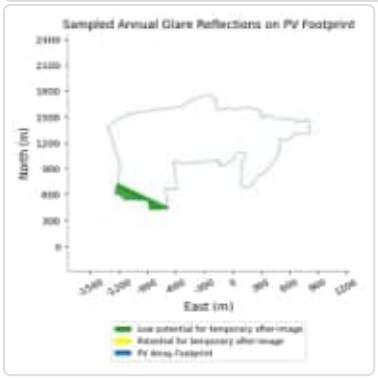
PV array is expected to produce the following glare for this receptor:

- 458 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









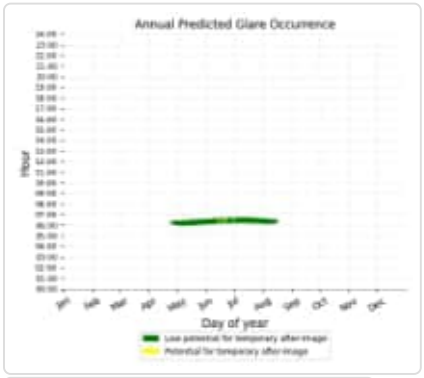
North Array: OP 11

No glare found

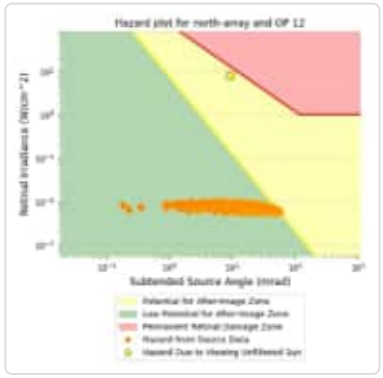
North Array: OP 12

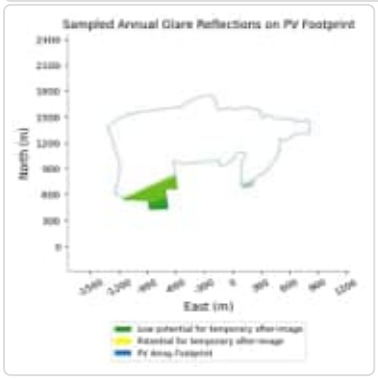
PV array is expected to produce the following glare for this receptor:

- 938 minutes of "green" glare with low potential to cause temporary after-image.
- 4 minutes of "yellow" glare with potential to cause temporary after-image.





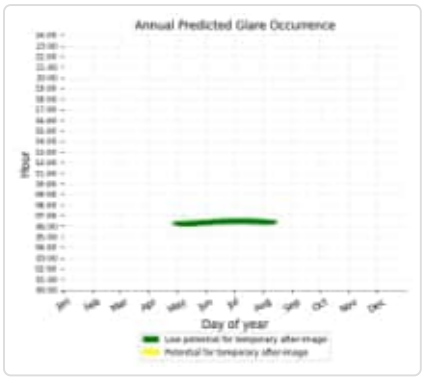


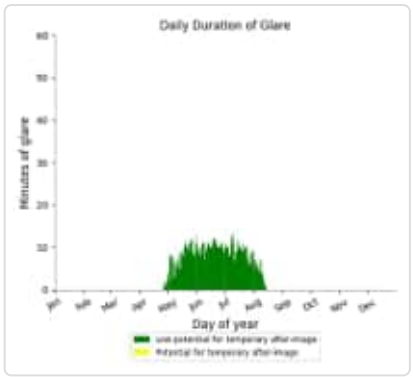


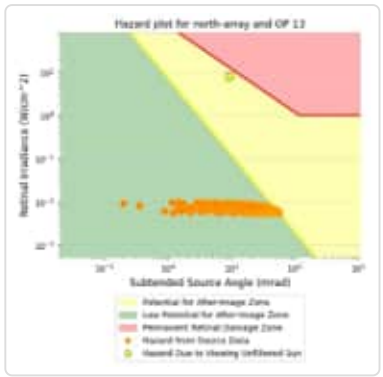
North Array: OP 13

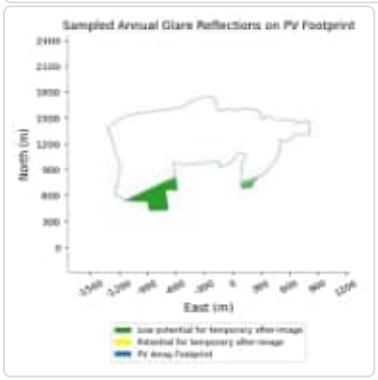
PV array is expected to produce the following glare for this receptor:

- 917 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





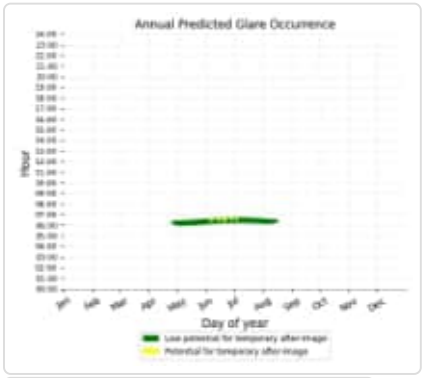


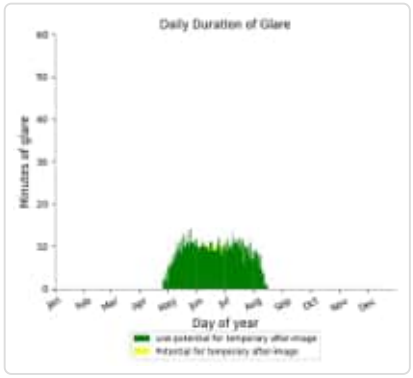


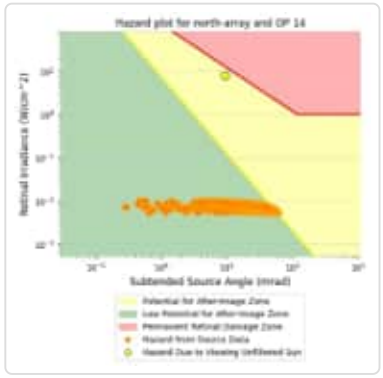
North Array: OP 14

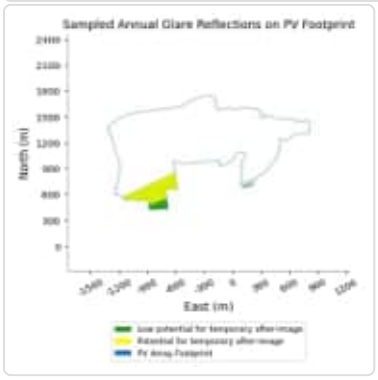
PV array is expected to produce the following glare for this receptor:

- 1,003 minutes of "green" glare with low potential to cause temporary after-image.
- 13 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 15

No glare found

North Array: OP 16

No glare found

North Array: OP 17

No glare found

North Array: OP 18

No glare found

North Array: OP 19

No glare found

North Array: OP 20

No glare found

North Array: OP 21

No glare found

North Array: OP 22

No glare found

North Array: OP 23

No glare found

North Array: OP 24

No glare found

North Array: OP 25

No glare found

North Array: OP 26

No glare found

North Array: OP 27

No glare found

North Array: OP 28

No glare found

North Array: OP 29

No glare found

North Array: OP 30

No glare found

North Array: OP 31

No glare found

North Array: OP 32

No glare found

North Array: OP 33

No glare found

North Array: OP 34

No glare found

North Array: OP 35

No glare found

North Array: OP 36

No glare found

North Array: OP 37

No glare found

North Array: OP 38

No glare found

North Array: OP 39

No glare found

North Array: OP 40

No glare found

North Array: OP 41

No glare found

North Array: OP 42

No glare found

North Array: OP 43

No glare found

North Array: OP 44

No glare found

North Array: OP 45

No glare found

North Array: OP 46

No glare found

North Array: OP 47

No glare found

North Array: OP 48

No glare found

North Array: OP 49

No glare found

North Array: OP 50

No glare found

North Array: OP 51

No glare found

North Array: OP 52

No glare found

North Array: OP 53

No glare found

North Array: OP 54

No glare found

North Array: OP 55

No glare found

North Array: OP 56

No glare found

North Array: OP 57

No glare found

North Array: OP 58

No glare found

North Array: OP 59

No glare found

North Array: OP 60

No glare found

South Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	49	0
OP: OP 4	71	0
OP: OP 5	103	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	649	7
OP: OP 10	1523	905
OP: OP 11	1296	836
OP: OP 12	748	6
OP: OP 13	611	2
OP: OP 14	871	33
OP: OP 15	1398	77
OP: OP 16	2062	101
OP: OP 17	1036	5
OP: OP 18	950	3
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	505	0
OP: OP 22	221	0
OP: OP 23	365	0
OP: OP 24	2173	1534
OP: OP 25	626	0
OP: OP 26	662	0
OP: OP 27	331	0
OP: OP 28	76	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	0	0
OP: OP 33	0	0

OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	278	0
OP: OP 45	0	0
OP: OP 46	974	0
OP: OP 47	1209	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	997	0
OP: OP 53	1180	0
OP: OP 54	1266	0
OP: OP 55	1051	0
OP: OP 56	878	0
OP: OP 57	740	0
OP: OP 58	733	0
OP: OP 59	583	0
OP: OP 60	534	0

South Array: OP 1

No glare found

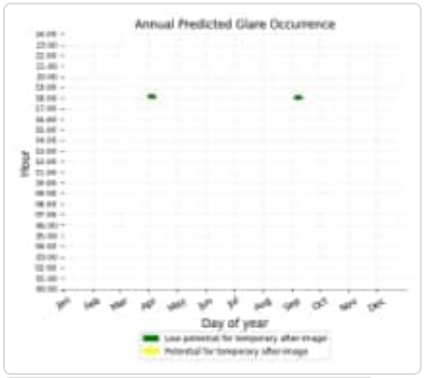
South Array: OP 2

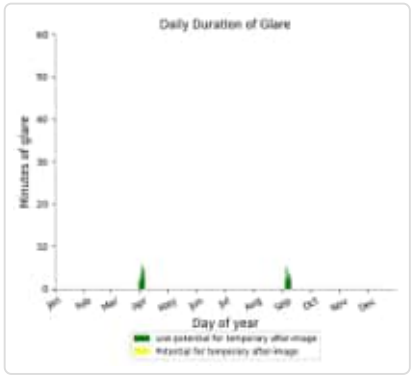
No glare found

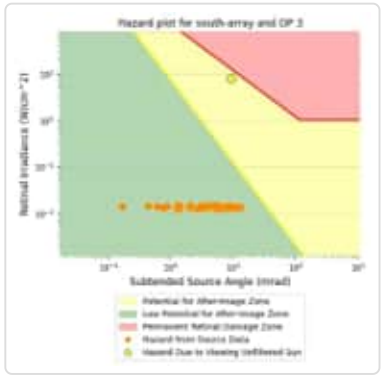
South Array: OP 3

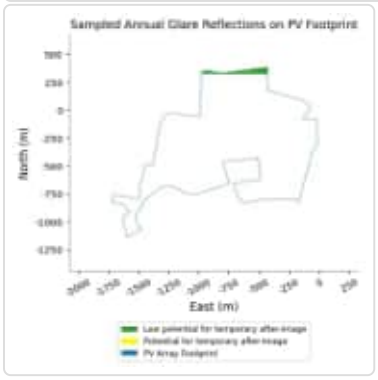
PV array is expected to produce the following glare for this receptor:

- 49 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





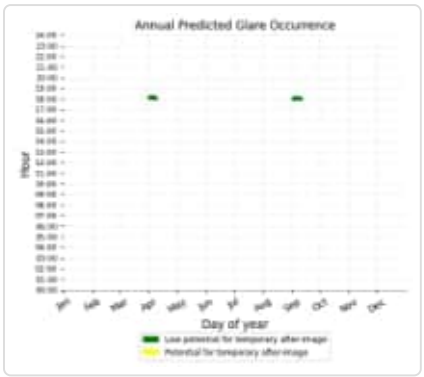


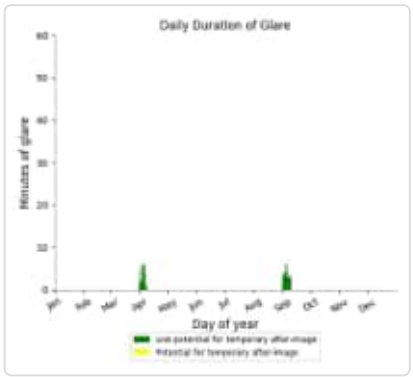


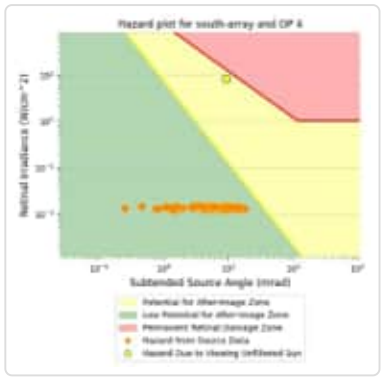
South Array: OP 4

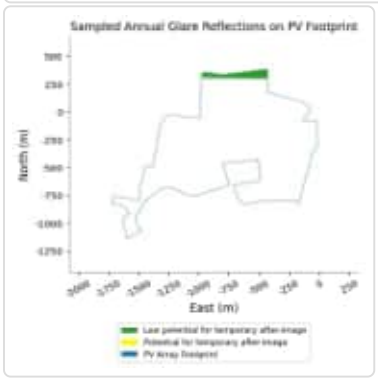
PV array is expected to produce the following glare for this receptor:

- 71 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





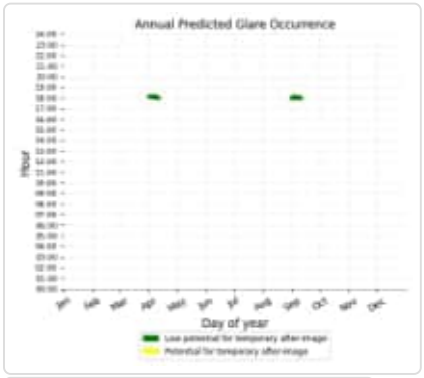


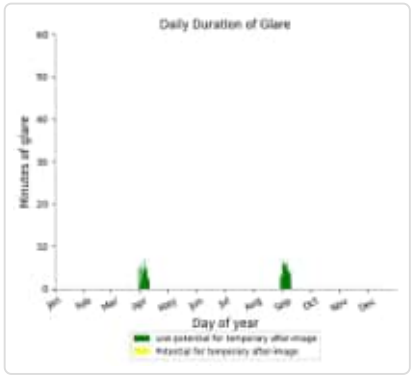


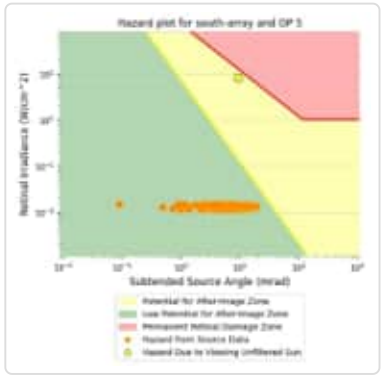
South Array: OP 5

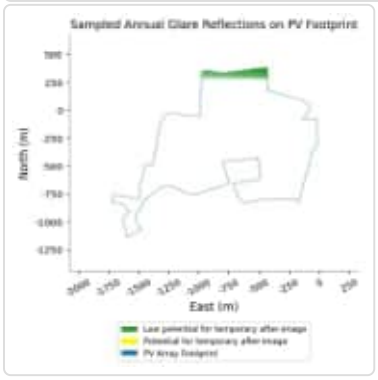
PV array is expected to produce the following glare for this receptor:

- 103 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 6

No glare found

South Array: OP 7

No glare found

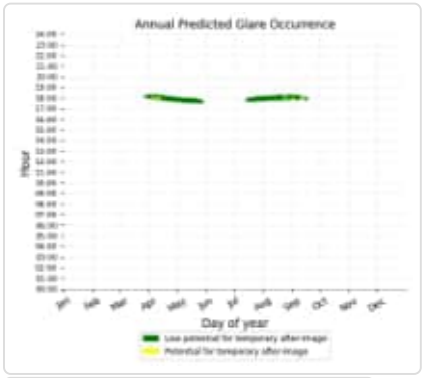
South Array: OP 8

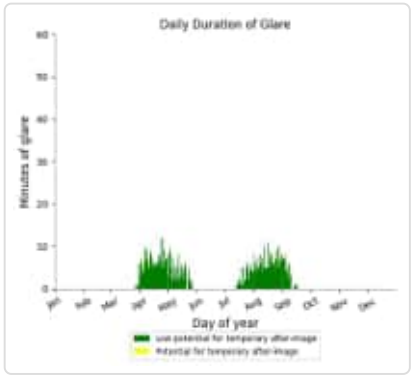
No glare found

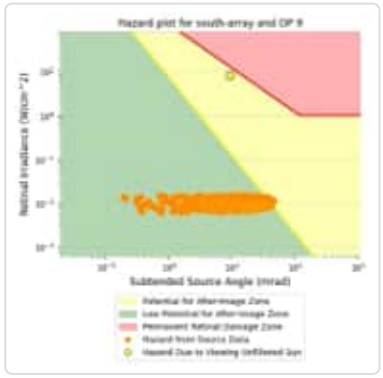
South Array: OP 9

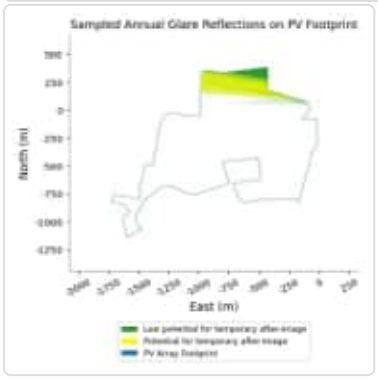
PV array is expected to produce the following glare for this receptor:

- 649 minutes of "green" glare with low potential to cause temporary after-image.
- 7 minutes of "yellow" glare with potential to cause temporary after-image.





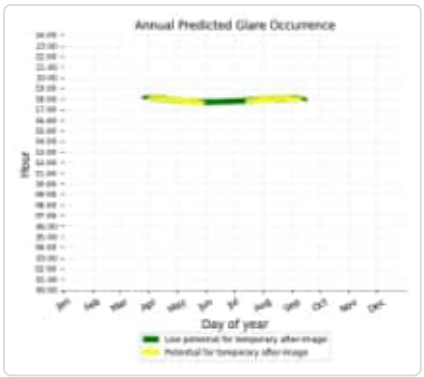


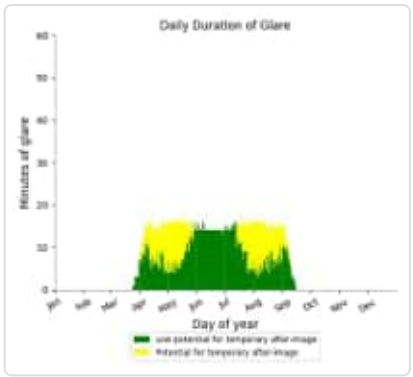


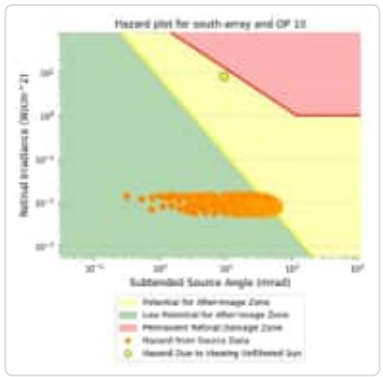
South Array: OP 10

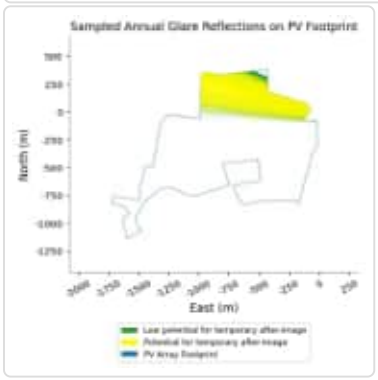
PV array is expected to produce the following glare for this receptor:

- 1,523 minutes of "green" glare with low potential to cause temporary after-image.
- 905 minutes of "yellow" glare with potential to cause temporary after-image.





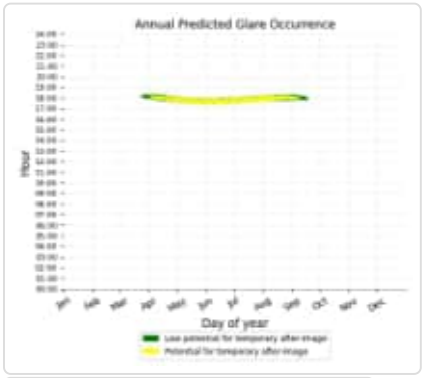


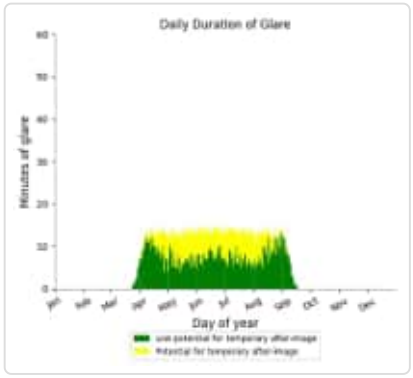


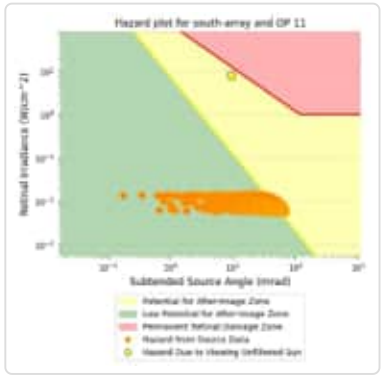
South Array: OP 11

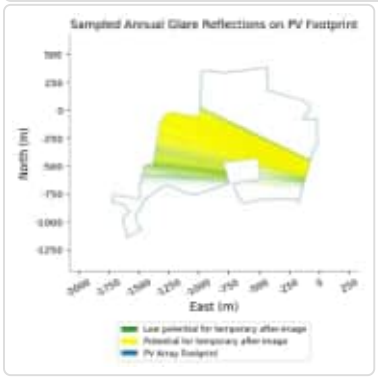
PV array is expected to produce the following glare for this receptor:

- 1,296 minutes of "green" glare with low potential to cause temporary after-image.
- 836 minutes of "yellow" glare with potential to cause temporary after-image.





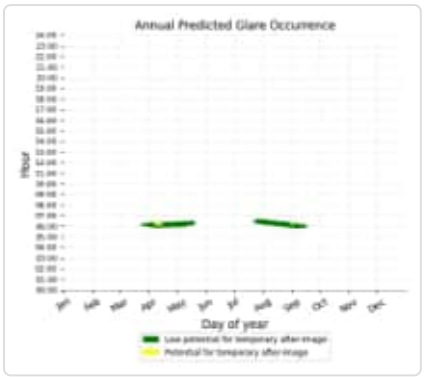


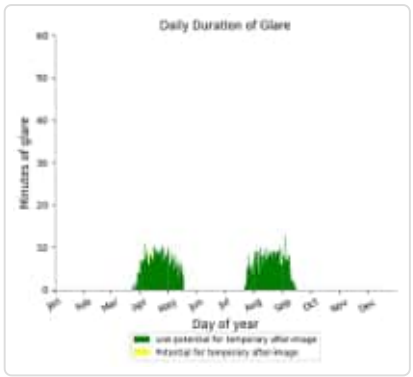


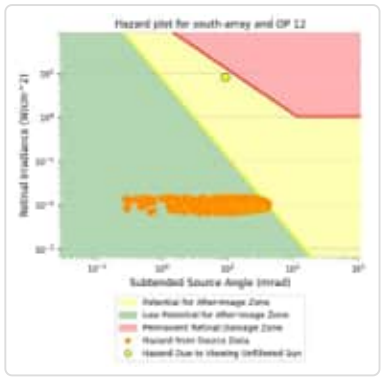
South Array: OP 12

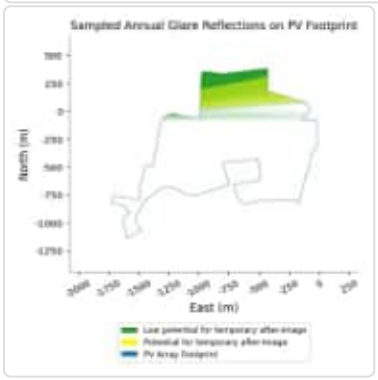
PV array is expected to produce the following glare for this receptor:

- 748 minutes of "green" glare with low potential to cause temporary after-image.
- 6 minutes of "yellow" glare with potential to cause temporary after-image.





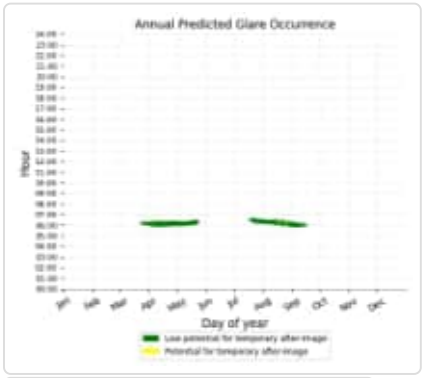


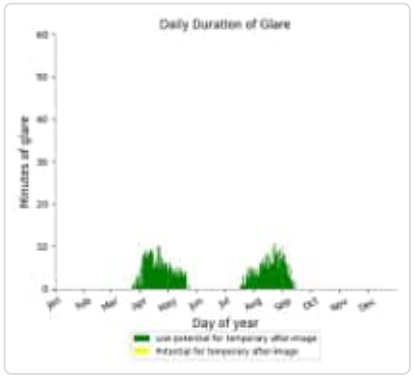


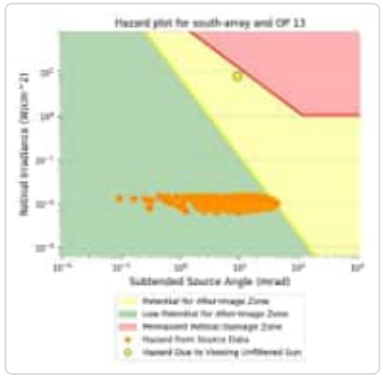
South Array: OP 13

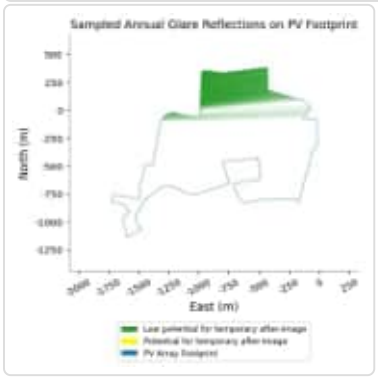
PV array is expected to produce the following glare for this receptor:

- 611 minutes of "green" glare with low potential to cause temporary after-image.
- 2 minutes of "yellow" glare with potential to cause temporary after-image.





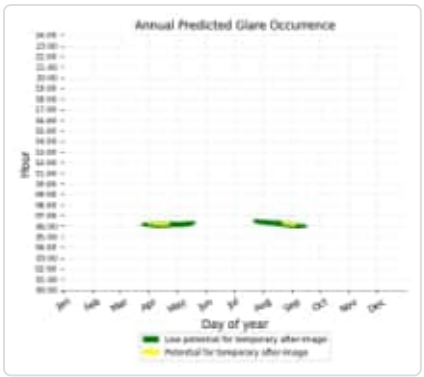


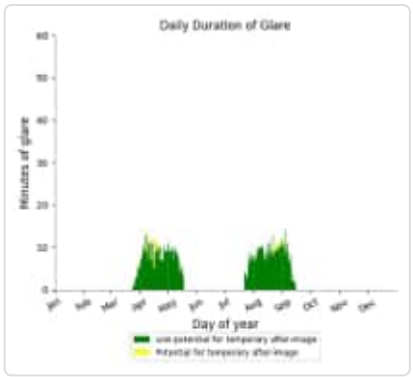


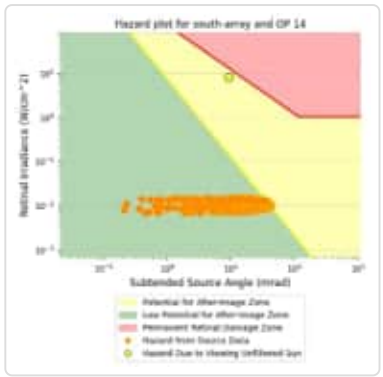
South Array: OP 14

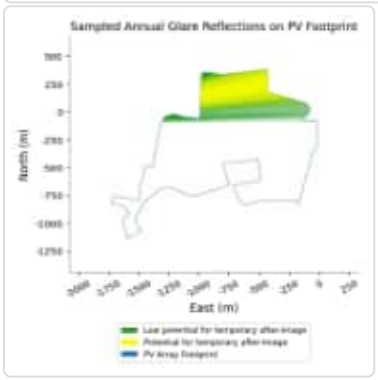
PV array is expected to produce the following glare for this receptor:

- 871 minutes of "green" glare with low potential to cause temporary after-image.
- 33 minutes of "yellow" glare with potential to cause temporary after-image.





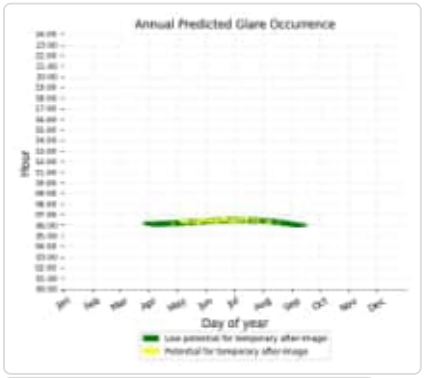


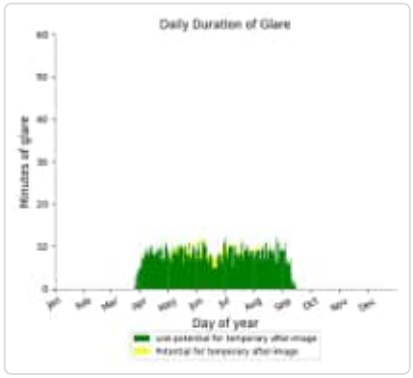


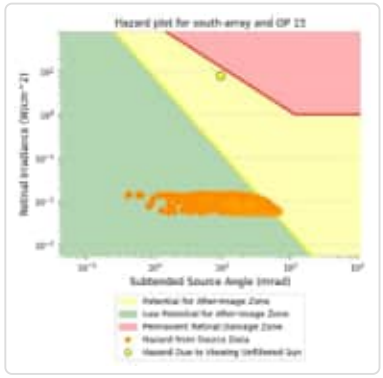
South Array: OP 15

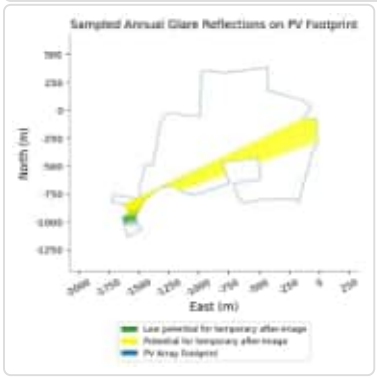
PV array is expected to produce the following glare for this receptor:

- 1,398 minutes of "green" glare with low potential to cause temporary after-image.
- 77 minutes of "yellow" glare with potential to cause temporary after-image.





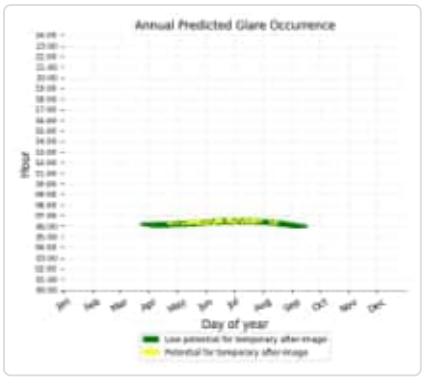


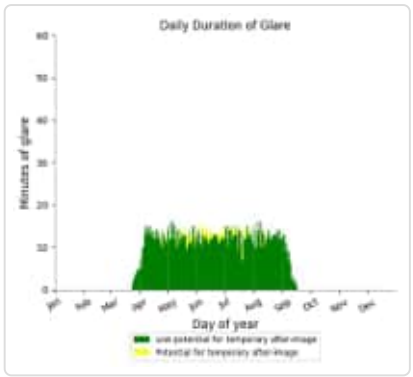


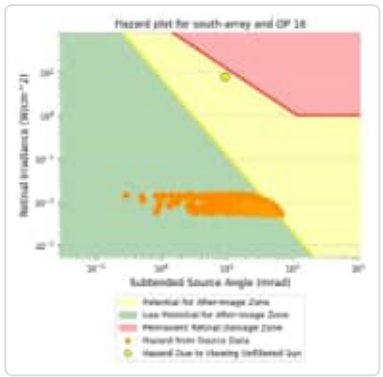
South Array: OP 16

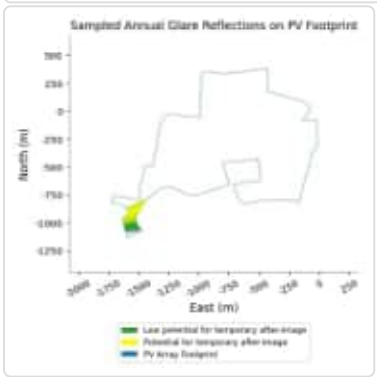
PV array is expected to produce the following glare for this receptor:

- 2,062 minutes of "green" glare with low potential to cause temporary after-image.
- 101 minutes of "yellow" glare with potential to cause temporary after-image.





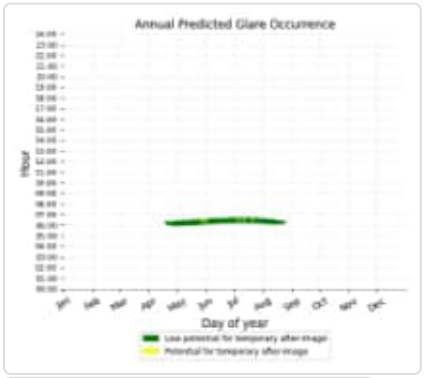


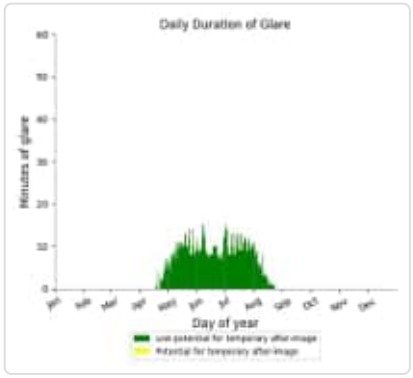


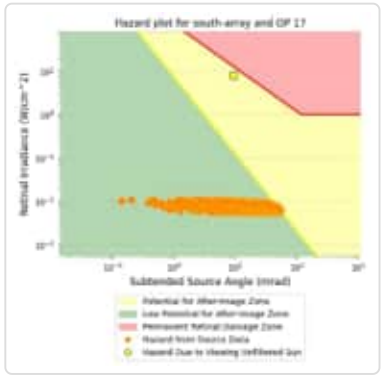
South Array: OP 17

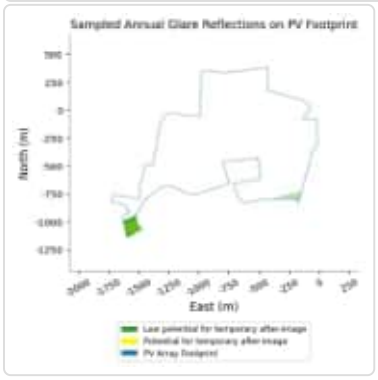
PV array is expected to produce the following glare for this receptor:

- 1,036 minutes of "green" glare with low potential to cause temporary after-image.
- 5 minutes of "yellow" glare with potential to cause temporary after-image.





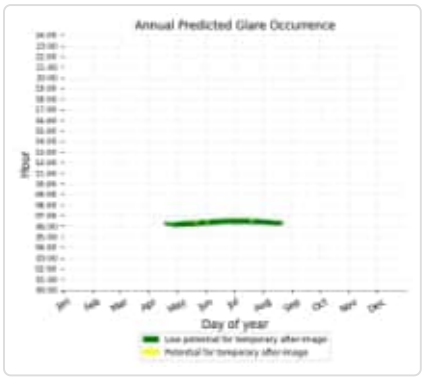


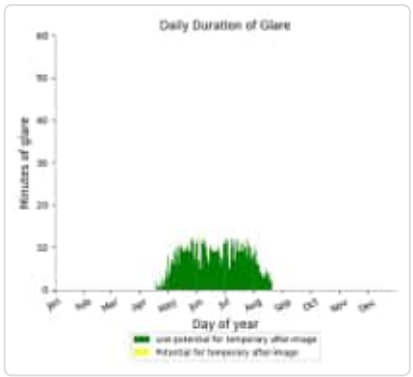


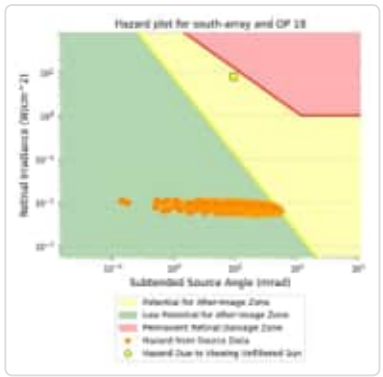
South Array: OP 18

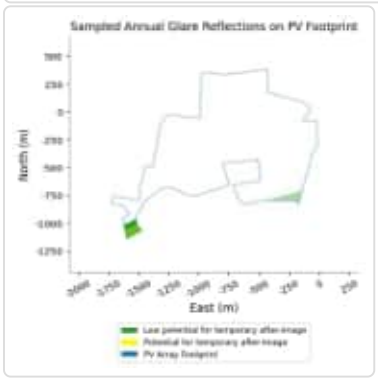
PV array is expected to produce the following glare for this receptor:

- 950 minutes of "green" glare with low potential to cause temporary after-image.
- 3 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 19

No glare found

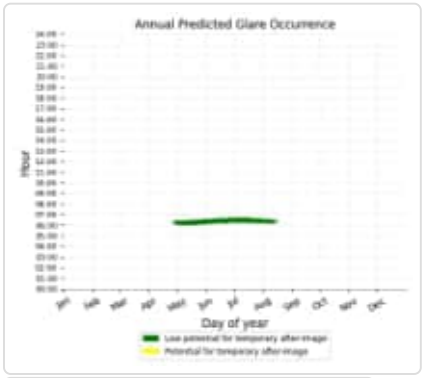
South Array: OP 20

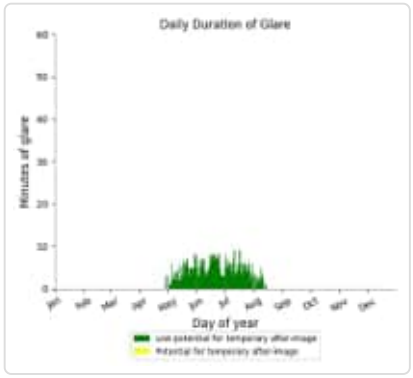
No glare found

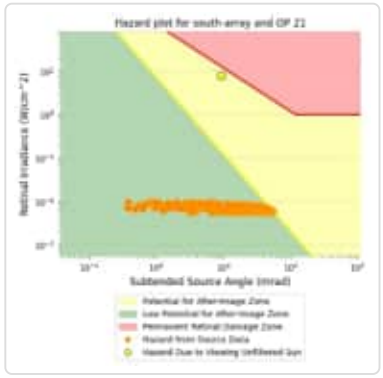
South Array: OP 21

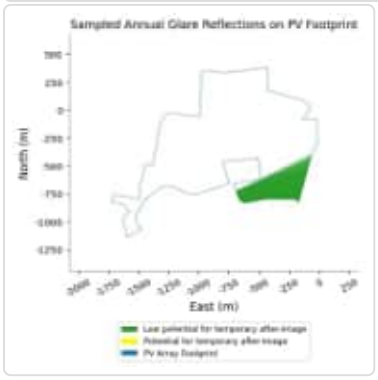
PV array is expected to produce the following glare for this receptor:

- 505 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





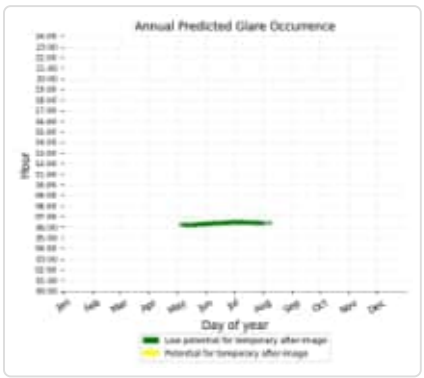


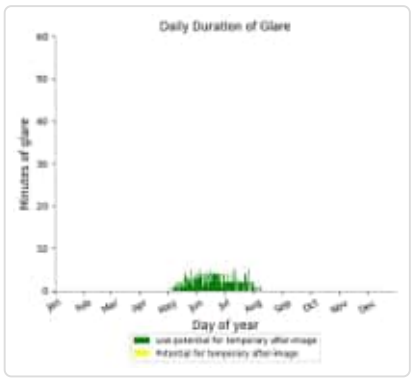


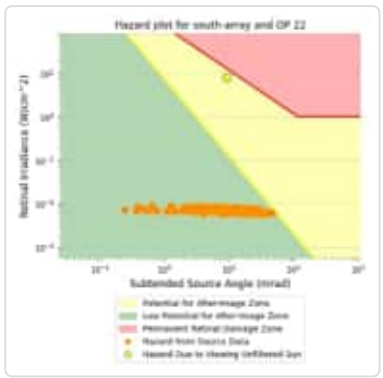
South Array: OP 22

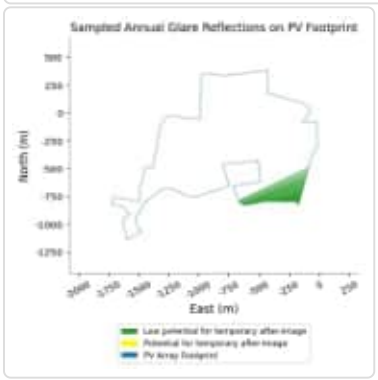
PV array is expected to produce the following glare for this receptor:

- 221 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





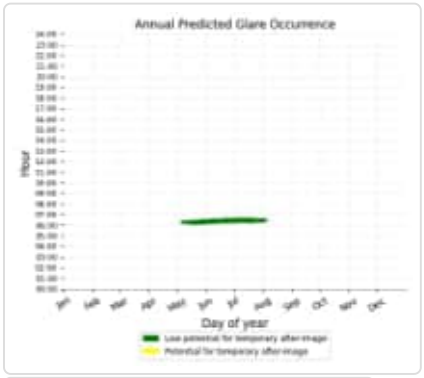


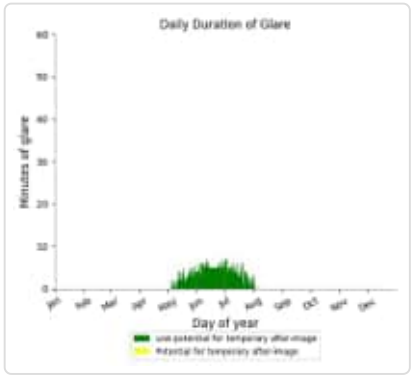


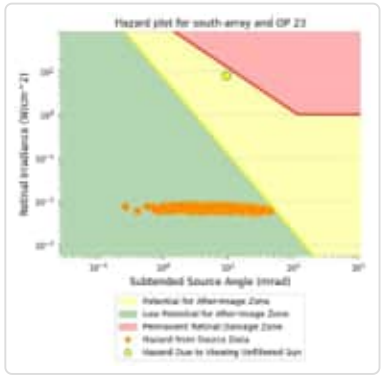
South Array: OP 23

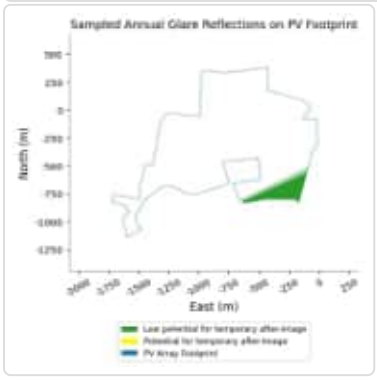
PV array is expected to produce the following glare for this receptor:

- 365 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





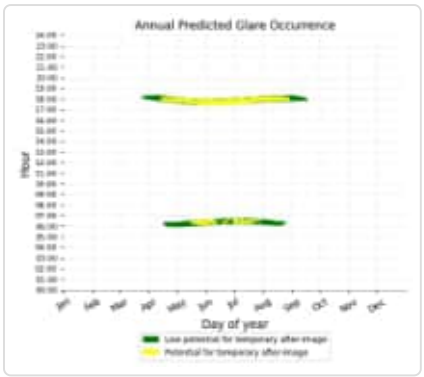


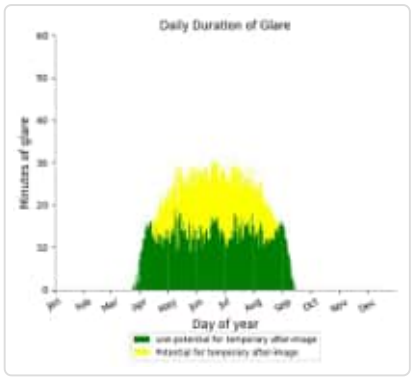


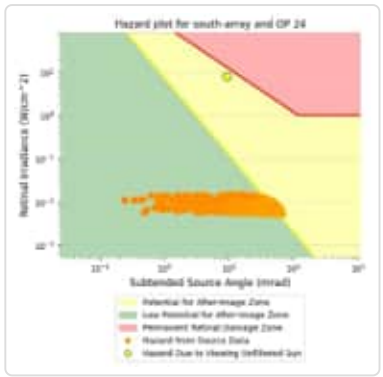
South Array: OP 24

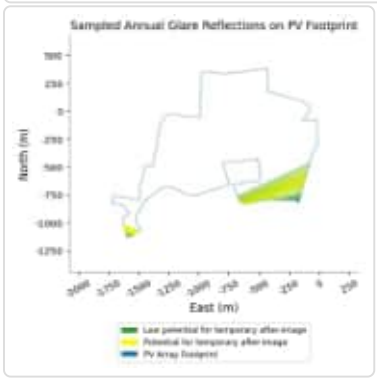
PV array is expected to produce the following glare for this receptor:

- 2,173 minutes of "green" glare with low potential to cause temporary after-image.
- 1,534 minutes of "yellow" glare with potential to cause temporary after-image.





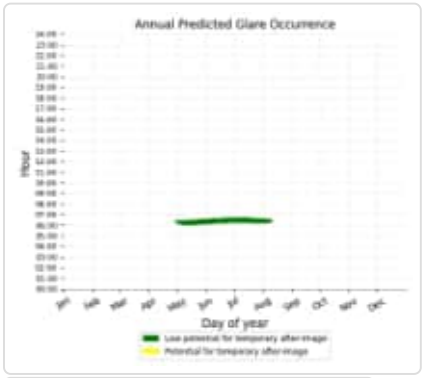


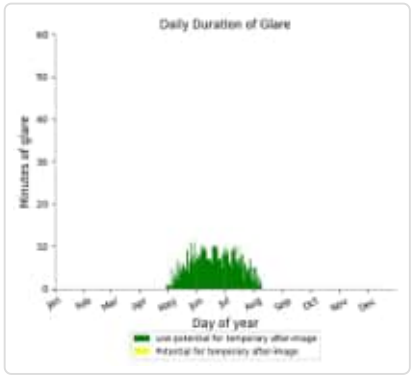


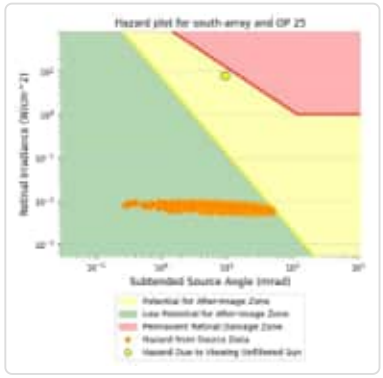
South Array: OP 25

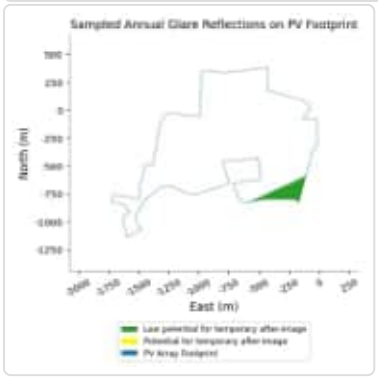
PV array is expected to produce the following glare for this receptor:

- 626 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





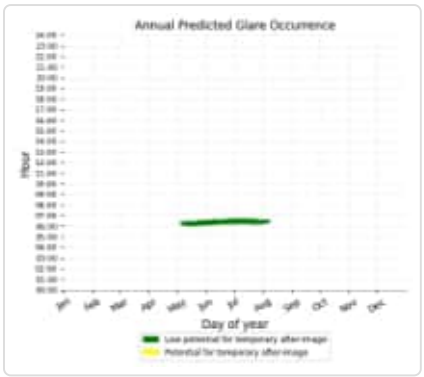


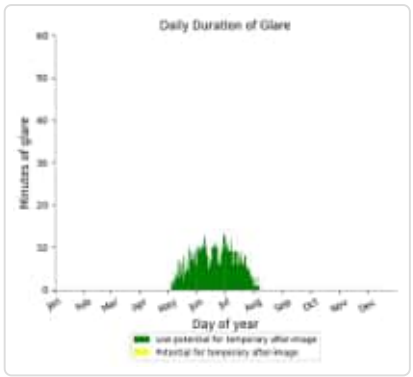


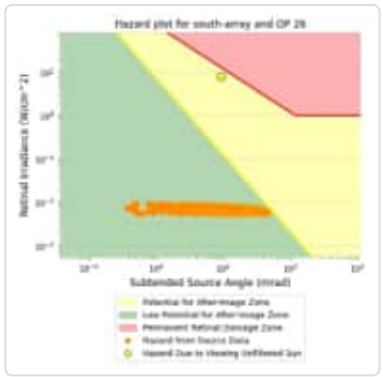
South Array: OP 26

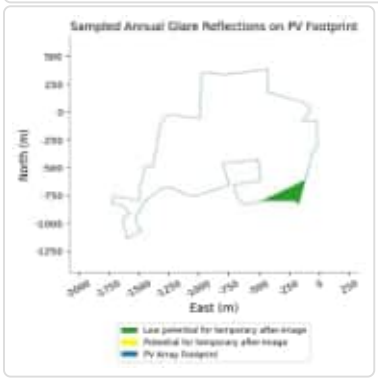
PV array is expected to produce the following glare for this receptor:

- 662 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





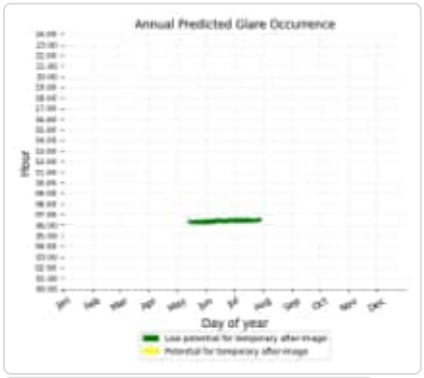


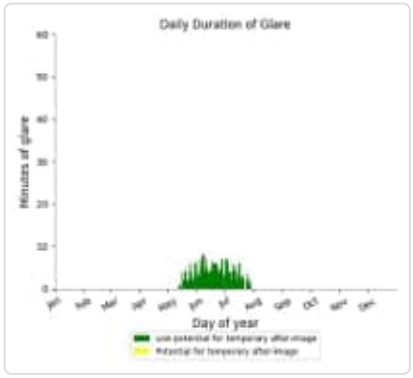


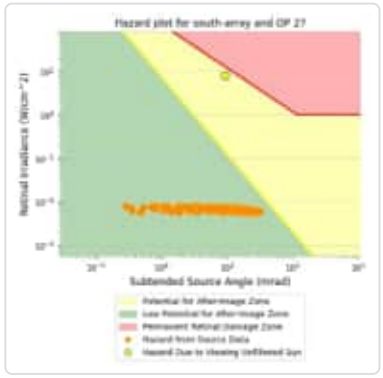
South Array: OP 27

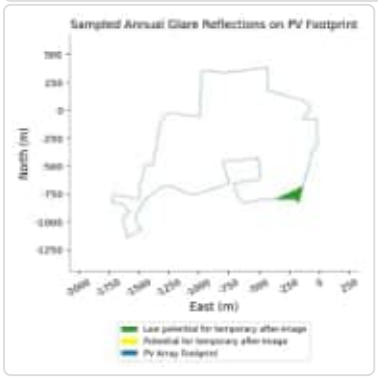
PV array is expected to produce the following glare for this receptor:

- 331 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





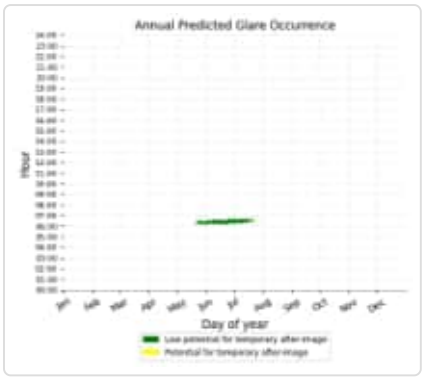


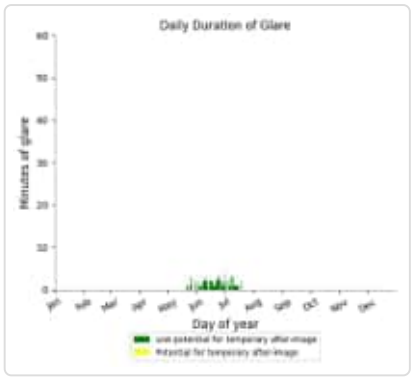


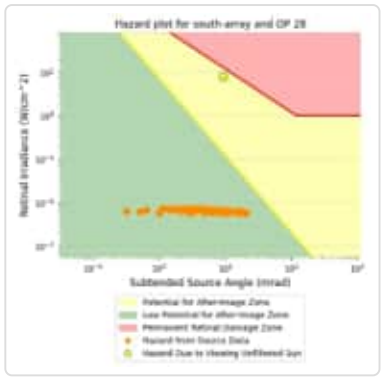
South Array: OP 28

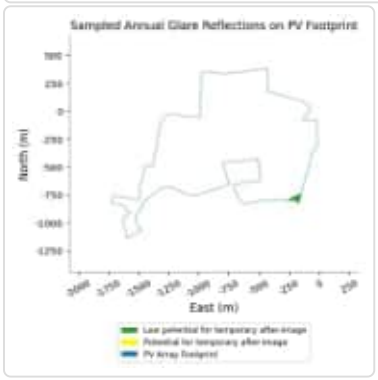
PV array is expected to produce the following glare for this receptor:

- 76 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 29

No glare found

South Array: OP 30

No glare found

South Array: OP 31

No glare found

South Array: OP 32

No glare found

South Array: OP 33

No glare found

South Array: OP 34

No glare found

South Array: OP 35

No glare found

South Array: OP 36

No glare found

South Array: OP 37

No glare found

South Array: OP 38

No glare found

South Array: OP 39

No glare found

South Array: OP 40

No glare found

South Array: OP 41

No glare found

South Array: OP 42

No glare found

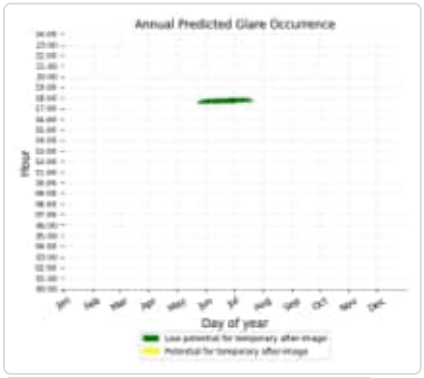
South Array: OP 43

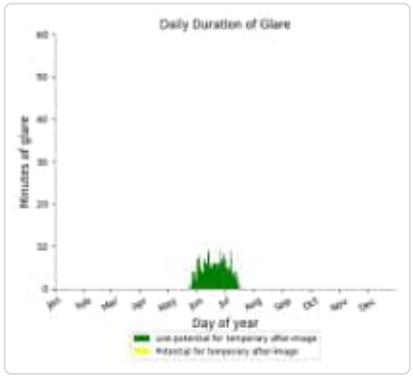
No glare found

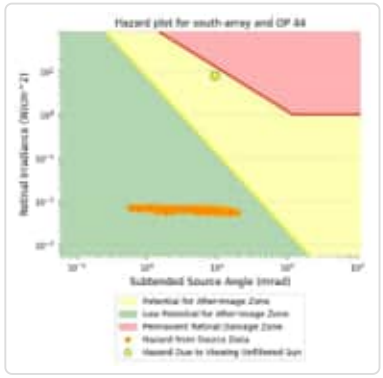
South Array: OP 44

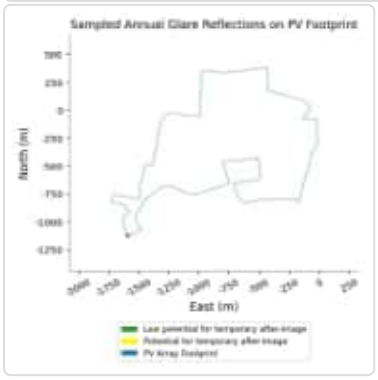
PV array is expected to produce the following glare for this receptor:

- 278 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









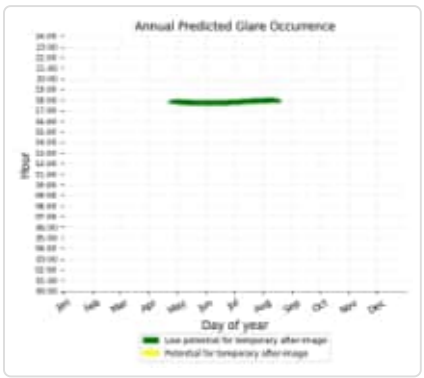
South Array: OP 45

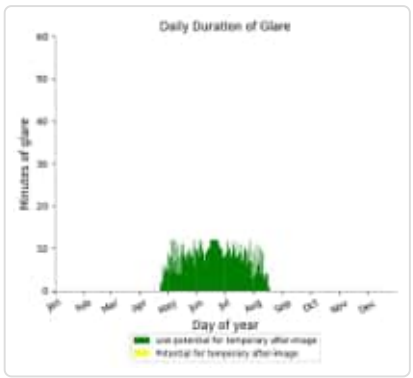
No glare found

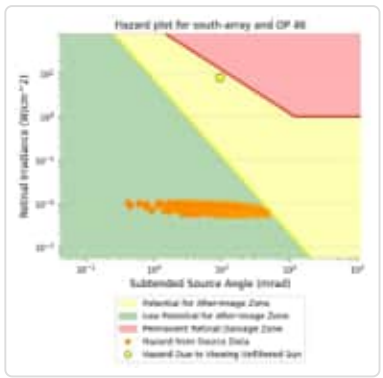
South Array: OP 46

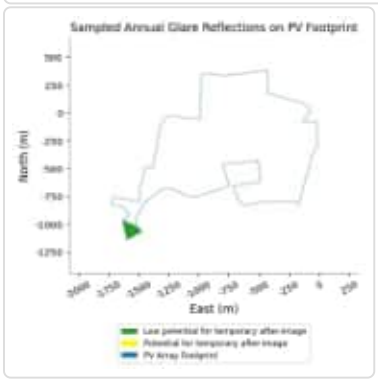
PV array is expected to produce the following glare for this receptor:

- 974 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





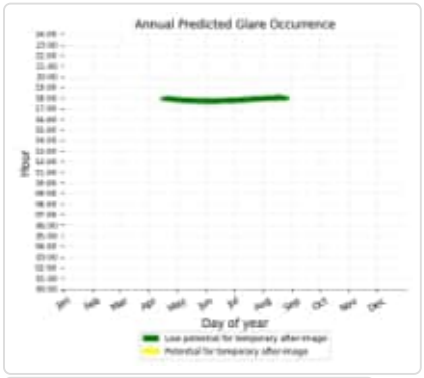


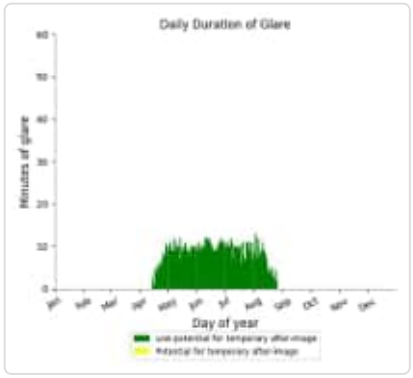


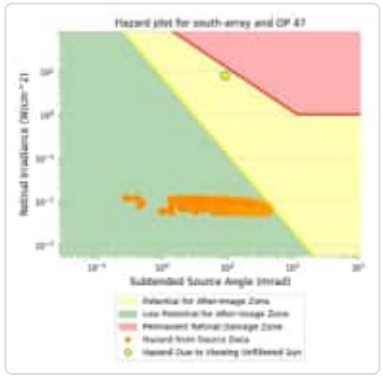
South Array: OP 47

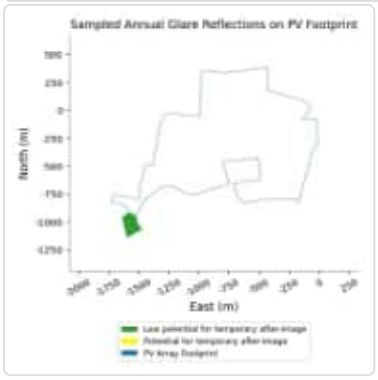
PV array is expected to produce the following glare for this receptor:

- 1,209 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 48

No glare found

South Array: OP 49

No glare found

South Array: OP 50

No glare found

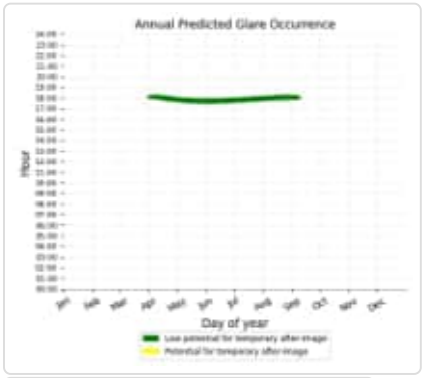
South Array: OP 51

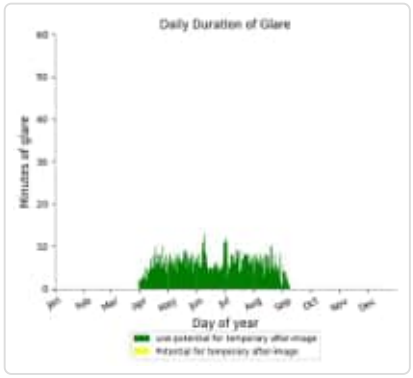
No glare found

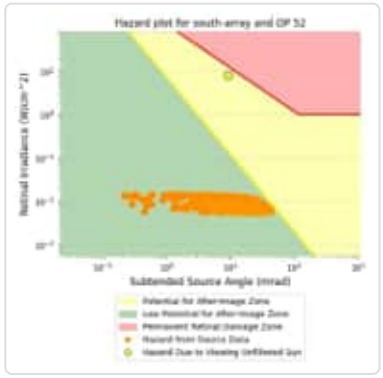
South Array: OP 52

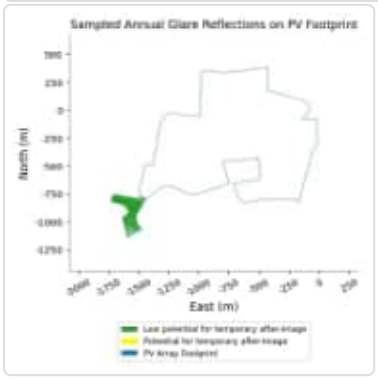
PV array is expected to produce the following glare for this receptor:

- 997 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





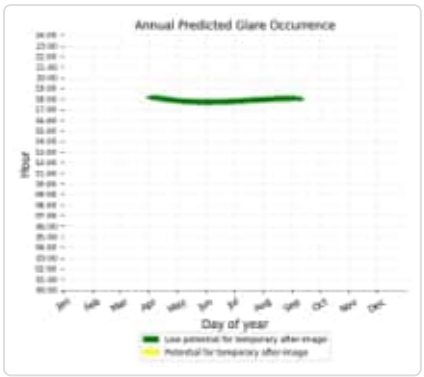


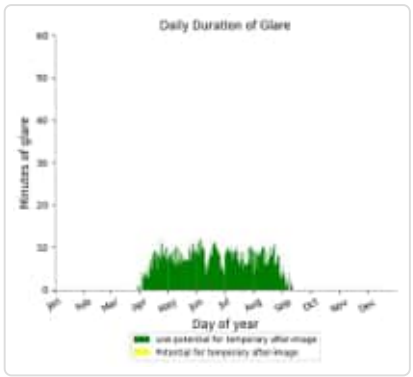


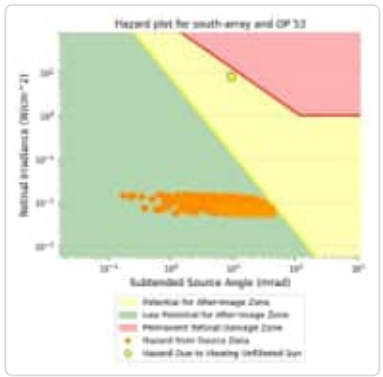
South Array: OP 53

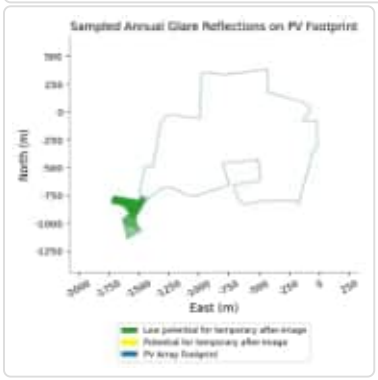
PV array is expected to produce the following glare for this receptor:

- 1,180 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





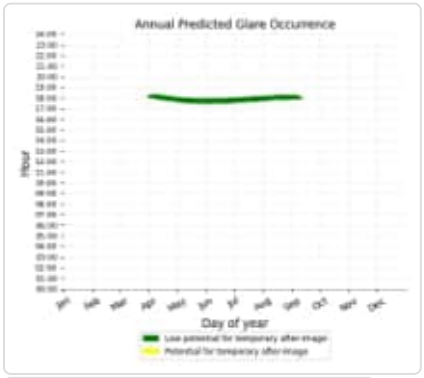


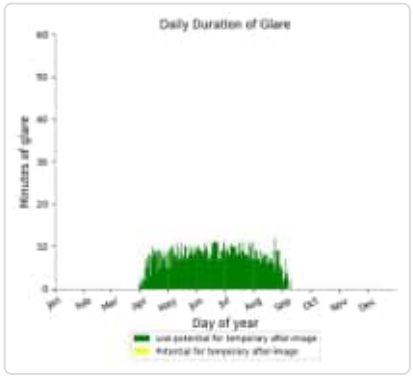


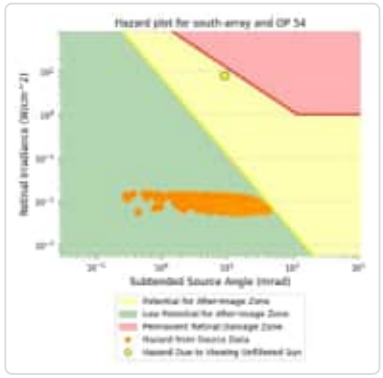
South Array: OP 54

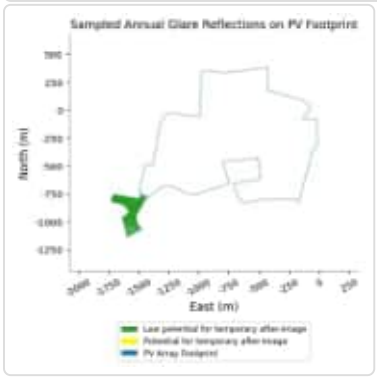
PV array is expected to produce the following glare for this receptor:

- 1,266 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





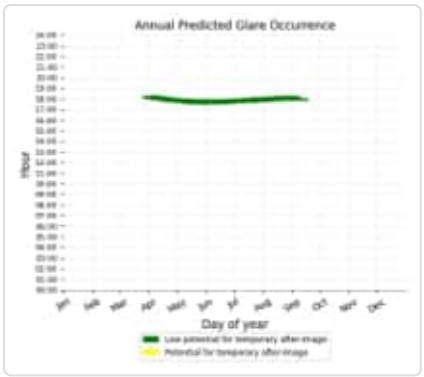


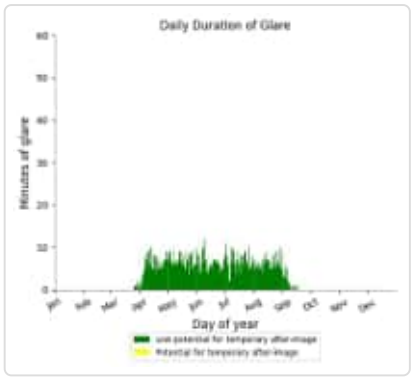


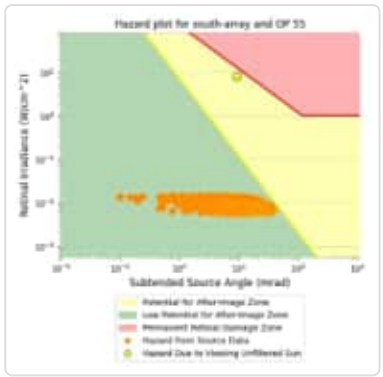
South Array: OP 55

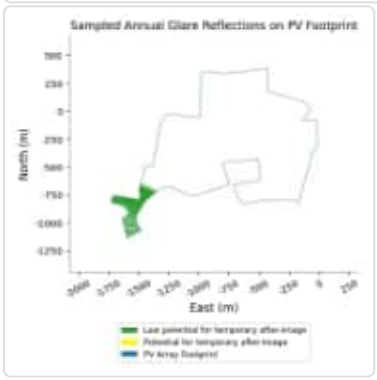
PV array is expected to produce the following glare for this receptor:

- 1,051 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





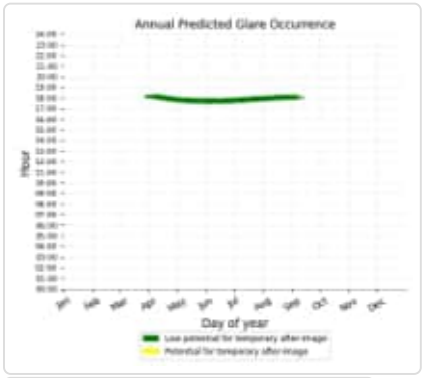


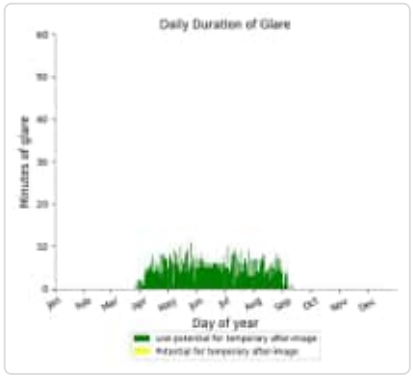


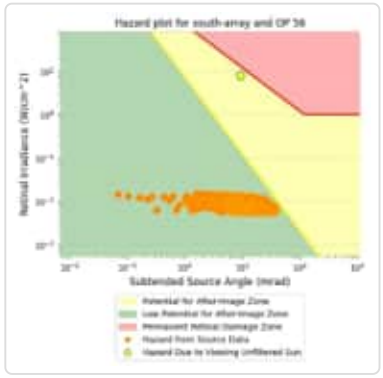
South Array: OP 56

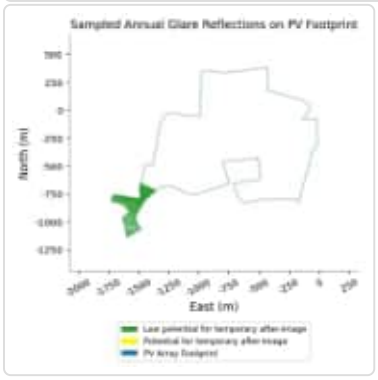
PV array is expected to produce the following glare for this receptor:

- 878 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





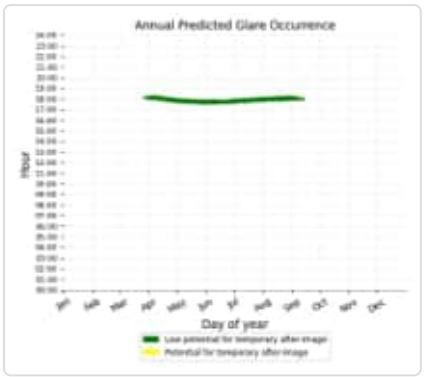


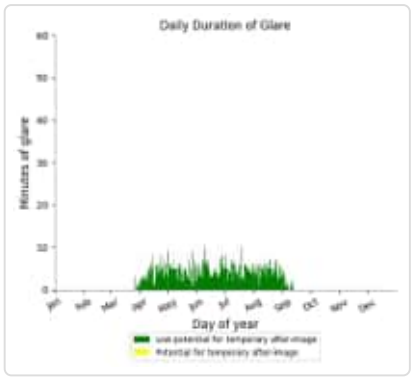


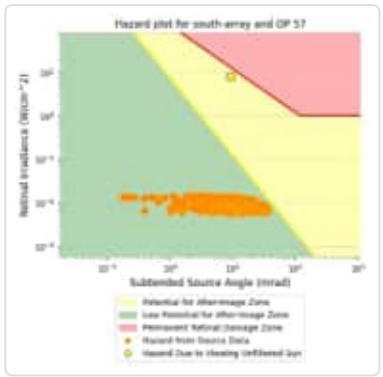
South Array: OP 57

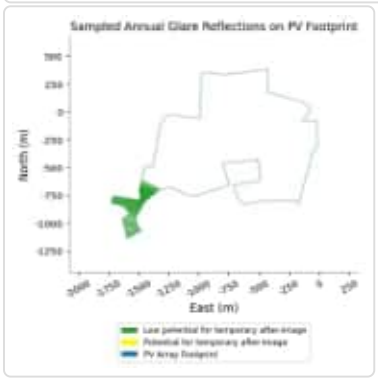
PV array is expected to produce the following glare for this receptor:

- 740 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





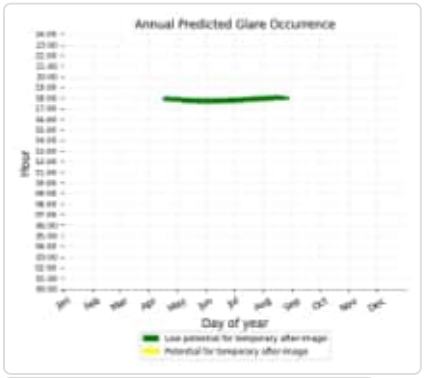


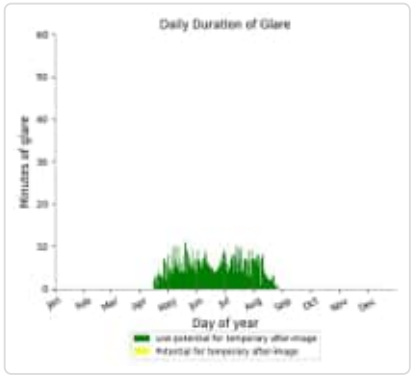


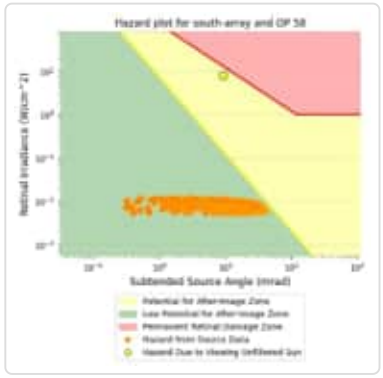
South Array: OP 58

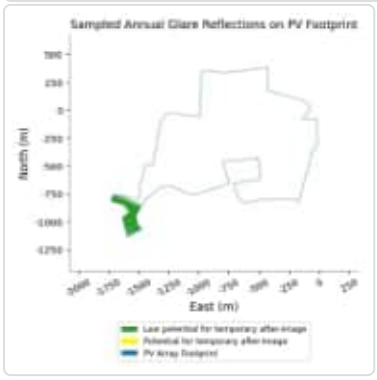
PV array is expected to produce the following glare for this receptor:

- 733 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





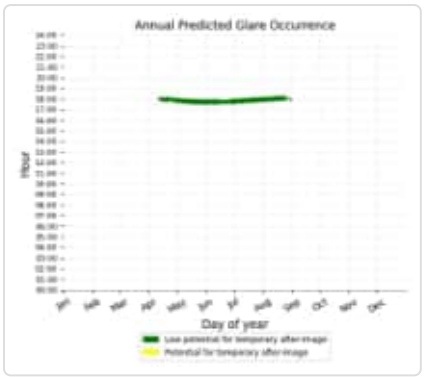


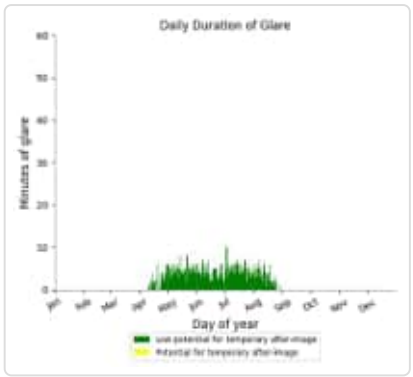


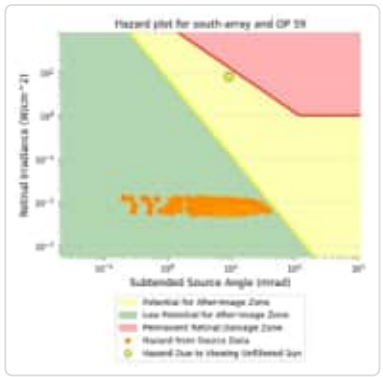
South Array: OP 59

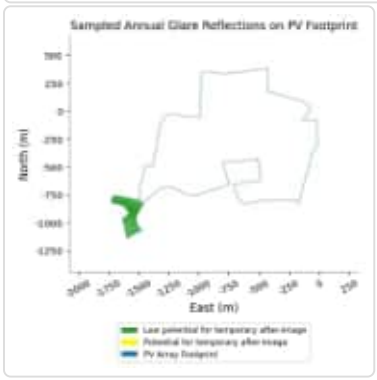
PV array is expected to produce the following glare for this receptor:

- 583 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





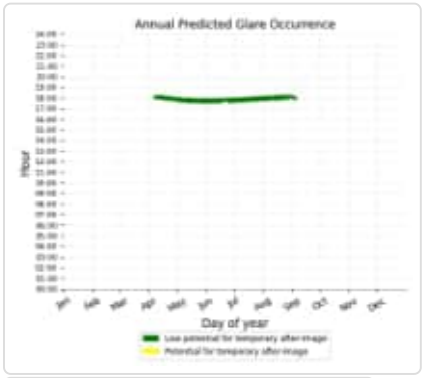


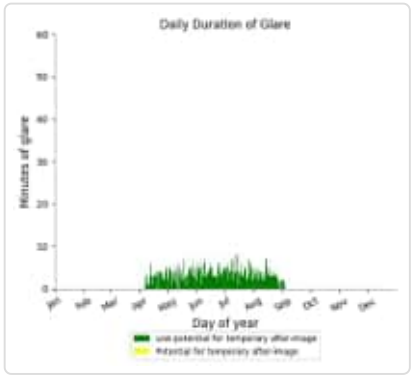


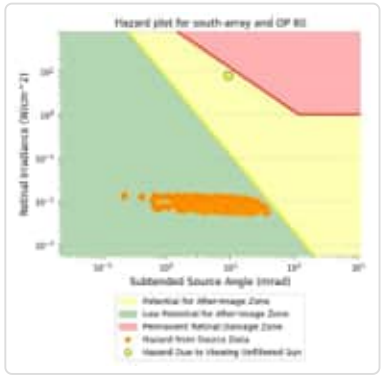
South Array: OP 60

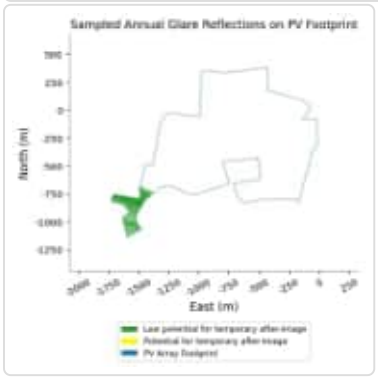
PV array is expected to produce the following glare for this receptor:

- 534 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX F: ROAD RECEPTOR GLARE RESULTS (15 DEGREES)

Fenwick Solar Farm

Fenwick Road 15 degrees

Created Nov 28, 2023
Updated Aug 08, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106535.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	15.0	180.0	17,227	8,816	-
East Array	15.0	180.0	57,108	3,291	-
North Array	15.0	180.0	19,812	3,314	-
South Array	15.0	180.0	43,499	9,071	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.655195	-1.107752	6.50	1.50	8.00
OP 2	53.655094	-1.104663	6.48	1.50	7.98
OP 3	53.655323	-1.101680	5.67	1.50	7.17
OP 4	53.622346	-1.118859	7.00	1.50	8.50
OP 5	53.622740	-1.116069	8.00	1.50	9.50
OP 6	53.622473	-1.113237	8.72	1.50	10.22
OP 7	53.622524	-1.110190	8.55	1.50	10.05
OP 8	53.621849	-1.101199	8.65	1.50	10.15
OP 9	53.621862	-1.098259	9.00	1.50	10.50
OP 10	53.622167	-1.095341	8.81	1.50	10.31
OP 11	53.622804	-1.092487	8.14	1.50	9.64
OP 12	53.623224	-1.089676	8.00	1.50	9.50
OP 13	53.623224	-1.086694	7.53	1.50	9.03
OP 14	53.623351	-1.083733	8.00	1.50	9.50
OP 15	53.622816	-1.081201	8.00	1.50	9.50
OP 16	53.621213	-1.080171	7.50	1.50	9.00
OP 17	53.619596	-1.079033	7.09	1.50	8.59
OP 18	53.619762	-1.075514	7.00	1.50	8.50
OP 19	53.621276	-1.074248	7.00	1.50	8.50
OP 20	53.622689	-1.073004	7.00	1.50	8.50
OP 21	53.624025	-1.071223	7.03	1.50	8.53
OP 22	53.625273	-1.070965	5.94	1.50	7.44
OP 23	53.626800	-1.072253	8.58	1.50	10.08
OP 24	53.627869	-1.069850	6.25	1.50	7.75
OP 25	53.629205	-1.068090	8.09	1.50	9.59
OP 26	53.630910	-1.068691	8.00	1.50	9.50
OP 27	53.631826	-1.070922	7.63	1.50	9.13
OP 28	53.633531	-1.071437	8.20	1.50	9.70
OP 29	53.635159	-1.071437	8.00	1.50	9.50
OP 30	53.636419	-1.069077	8.29	1.50	9.79
OP 31	53.637271	-1.066803	7.00	1.50	8.50
OP 32	53.638098	-1.064056	8.35	1.50	9.85
OP 33	53.638811	-1.060966	7.00	1.50	8.50
OP 34	53.639396	-1.058498	6.59	1.50	8.09
OP 35	53.640070	-1.055602	7.01	1.50	8.51
OP 36	53.641380	-1.053799	8.71	1.50	10.21
OP 37	53.642792	-1.052533	7.00	1.50	8.50
OP 38	53.644153	-1.050559	7.01	1.50	8.51
OP 39	53.627481	-1.121702	7.32	1.50	8.82
OP 40	53.629097	-1.120544	8.00	1.50	9.50
OP 41	53.630624	-1.119428	7.75	1.50	9.25
OP 42	53.632253	-1.118183	7.67	1.50	9.17
OP 43	53.633882	-1.116660	7.75	1.50	9.25
OP 44	53.638678	-1.113892	7.99	1.50	9.49
OP 45	53.639072	-1.110823	8.56	1.50	10.06
OP 46	53.639352	-1.108098	8.97	1.50	10.47
OP 47	53.639454	-1.105094	7.93	1.50	9.43
OP 48	53.639289	-1.101940	8.16	1.50	9.66
OP 49	53.637698	-1.107648	6.94	1.50	8.44
OP 50	53.636833	-1.105437	8.06	1.50	9.56
OP 51	53.636083	-1.102712	8.19	1.50	9.69
OP 52	53.638004	-1.100481	8.31	1.50	9.81
OP 53	53.636757	-1.100309	7.91	1.50	9.41
OP 54	53.634620	-1.103871	7.95	1.50	9.45
OP 55	53.632877	-1.105287	7.00	1.50	8.50
OP 56	53.631388	-1.106575	7.00	1.50	8.50
OP 57	53.629581	-1.108141	7.00	1.50	8.50
OP 58	53.627889	-1.109536	7.28	1.50	8.78
OP 59	53.626234	-1.110630	8.14	1.50	9.64
OP 60	53.624668	-1.111213	8.28	1.50	9.78
OP 61	53.623153	-1.111792	7.16	1.50	8.66
OP 62	53.620532	-1.097115	9.00	1.50	10.50
OP 63	53.641107	-1.058037	7.06	1.50	8.56

OP 64	53.642774	-1.057329	7.01	1.50	8.51
OP 65	53.644377	-1.057157	7.11	1.50	8.61
OP 66	53.646056	-1.057608	7.12	1.50	8.62
OP 67	53.647811	-1.058187	8.54	1.50	10.04
OP 68	53.643753	-1.054754	6.00	1.50	7.50

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	15.0	180.0	17,227	8,816	-	-
East Array	15.0	180.0	57,108	3,291	-	-
North Array	15.0	180.0	19,812	3,314	-	-
South Array	15.0	180.0	43,499	9,071	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	76	549	655	568	633	636	196	0	0	0
central-arra (yellow)	0	0	0	0	4	18	12	1	0	0	0	0
east-array (green)	0	0	230	1040	1454	1515	1503	1229	471	0	0	0
east-array (yellow)	0	0	0	0	59	180	111	0	0	0	0	0
north-array (green)	0	0	95	574	714	722	735	658	222	0	0	0
north-array (yellow)	0	0	3	2	10	17	8	2	3	0	0	0
south-array (green)	0	0	19	612	824	691	762	789	111	0	0	0
south-array (yellow)	0	0	0	17	65	155	104	36	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0

OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	500	0
OP: OP 27	840	0
OP: OP 28	1458	952
OP: OP 29	688	2242
OP: OP 30	1323	1245
OP: OP 31	745	2056
OP: OP 32	1272	1233
OP: OP 33	1854	645
OP: OP 34	2063	442
OP: OP 35	2359	0
OP: OP 36	772	0
OP: OP 37	145	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	510	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0
OP: OP 61	0	0
OP: OP 62	0	0
OP: OP 63	2248	1
OP: OP 64	418	0
OP: OP 65	0	0
OP: OP 66	0	0
OP: OP 67	0	0
OP: OP 68	32	0

Central Array: OP 1

No glare found

Central Array: OP 2
No glare found

Central Array: OP 3
No glare found

Central Array: OP 4
No glare found

Central Array: OP 5
No glare found

Central Array: OP 6
No glare found

Central Array: OP 7
No glare found

Central Array: OP 8
No glare found

Central Array: OP 9
No glare found

Central Array: OP 10
No glare found

Central Array: OP 11
No glare found

Central Array: OP 12
No glare found

Central Array: OP 13
No glare found

Central Array: OP 14
No glare found

Central Array: OP 15
No glare found

Central Array: OP 16
No glare found

Central Array: OP 17
No glare found

Central Array: OP 18

No glare found

Central Array: OP 19

No glare found

Central Array: OP 20

No glare found

Central Array: OP 21

No glare found

Central Array: OP 22

No glare found

Central Array: OP 23

No glare found

Central Array: OP 24

No glare found

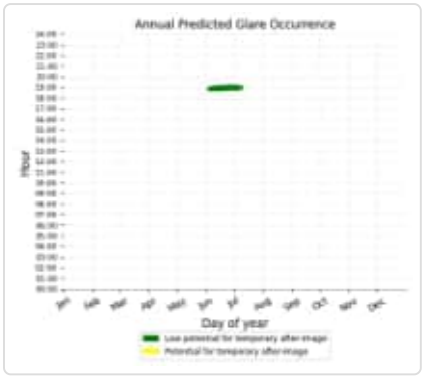
Central Array: OP 25

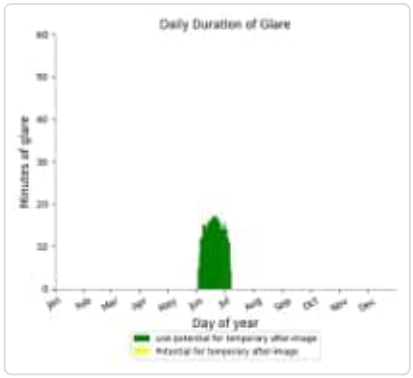
No glare found

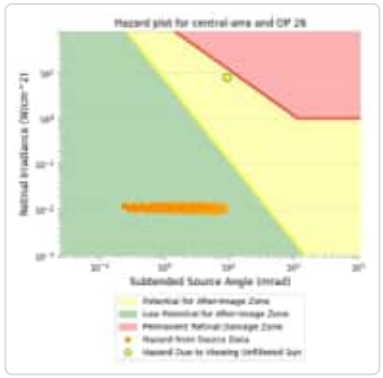
Central Array: OP 26

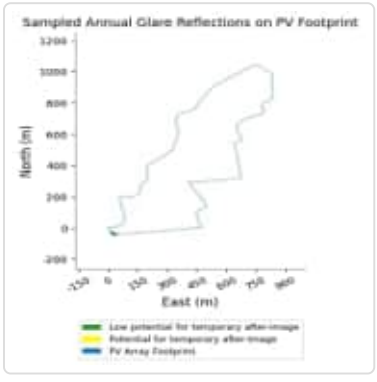
PV array is expected to produce the following glare for this receptor:

- 500 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





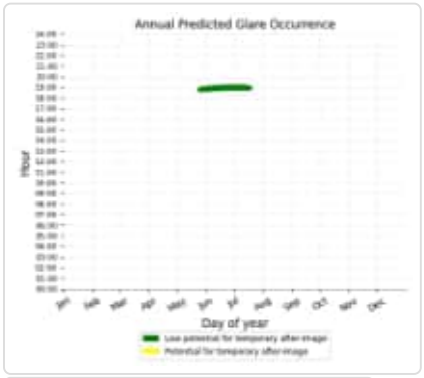


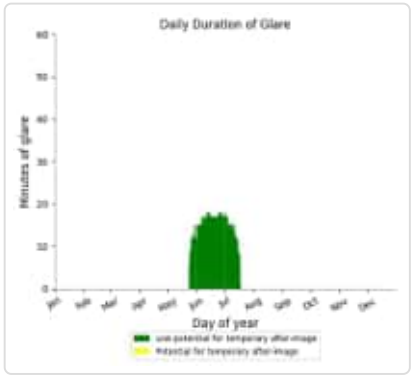


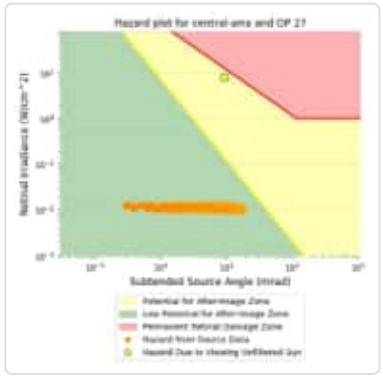
Central Array: OP 27

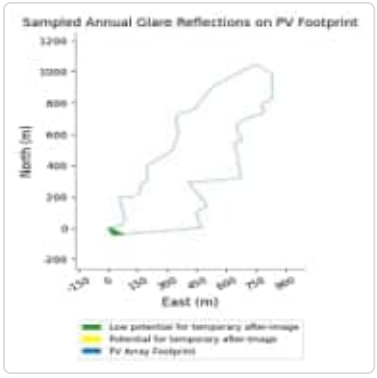
PV array is expected to produce the following glare for this receptor:

- 840 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





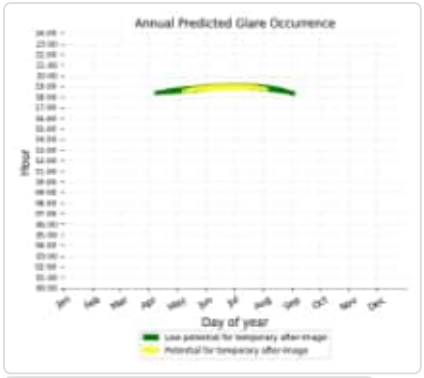


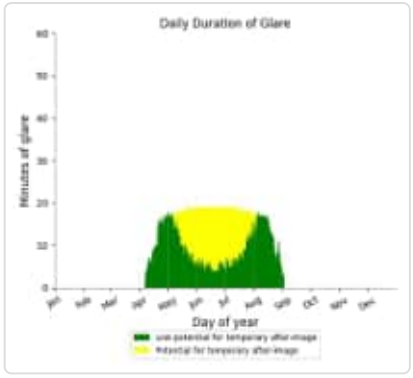


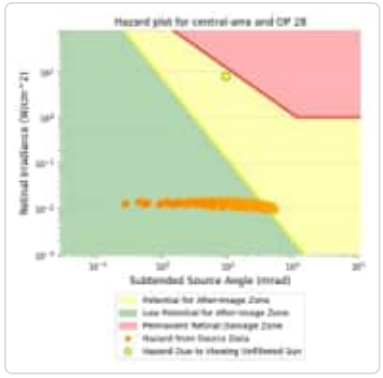
Central Array: OP 28

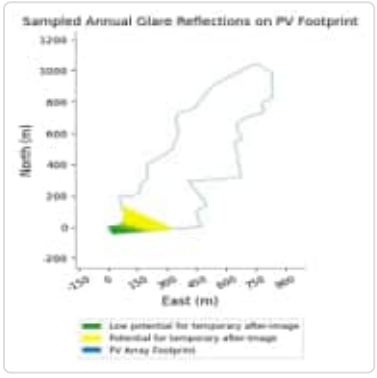
PV array is expected to produce the following glare for this receptor:

- 1,458 minutes of "green" glare with low potential to cause temporary after-image.
- 952 minutes of "yellow" glare with potential to cause temporary after-image.





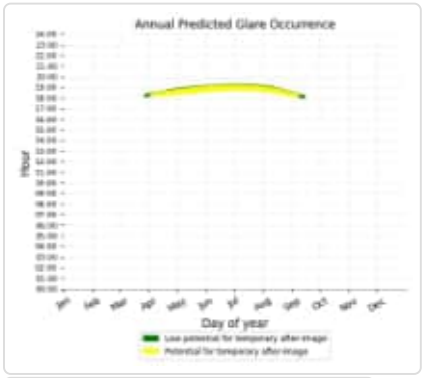


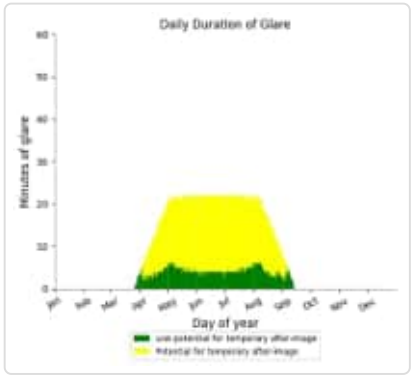


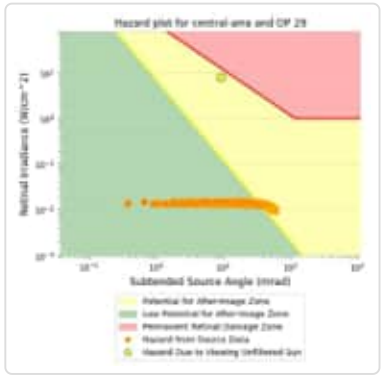
Central Array: OP 29

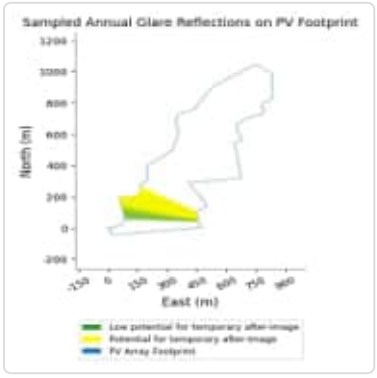
PV array is expected to produce the following glare for this receptor:

- 688 minutes of "green" glare with low potential to cause temporary after-image.
- 2,242 minutes of "yellow" glare with potential to cause temporary after-image.





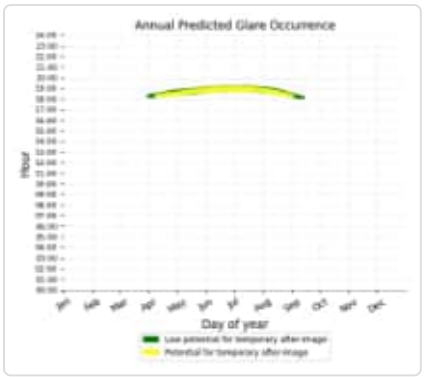


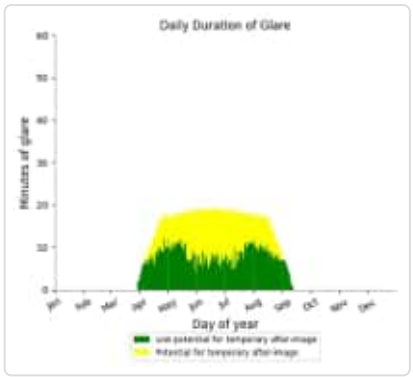


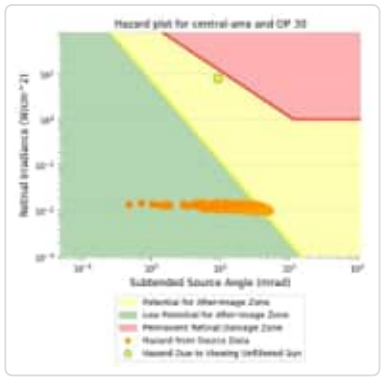
Central Array: OP 30

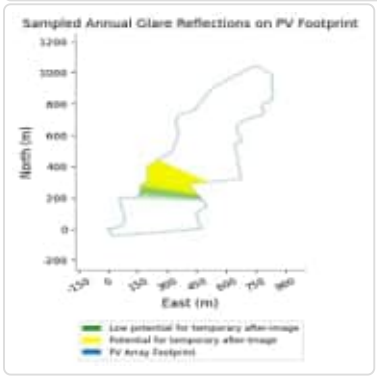
PV array is expected to produce the following glare for this receptor:

- 1,323 minutes of "green" glare with low potential to cause temporary after-image.
- 1,245 minutes of "yellow" glare with potential to cause temporary after-image.





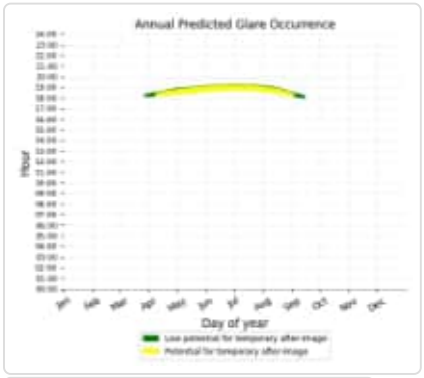


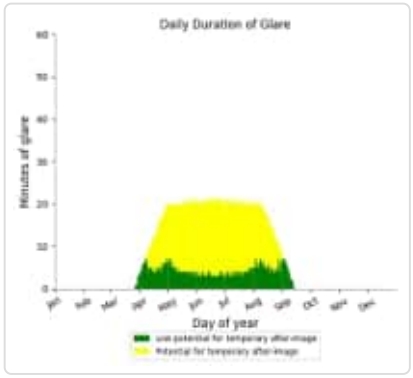


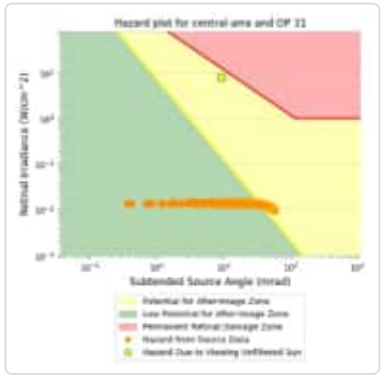
Central Array: OP 31

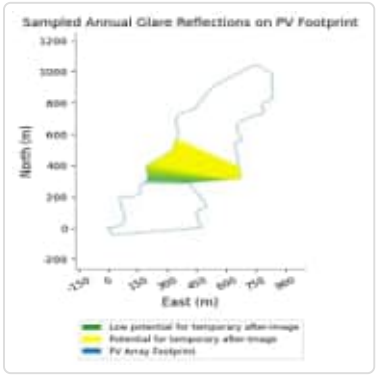
PV array is expected to produce the following glare for this receptor:

- 745 minutes of "green" glare with low potential to cause temporary after-image.
- 2,056 minutes of "yellow" glare with potential to cause temporary after-image.





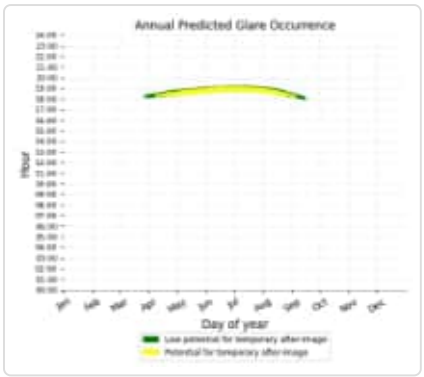


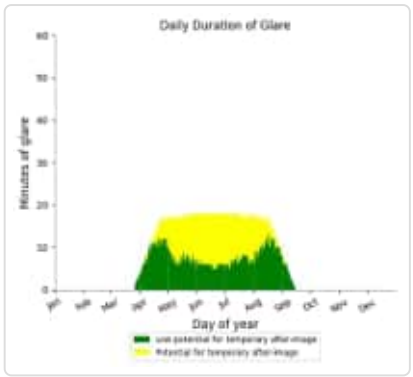


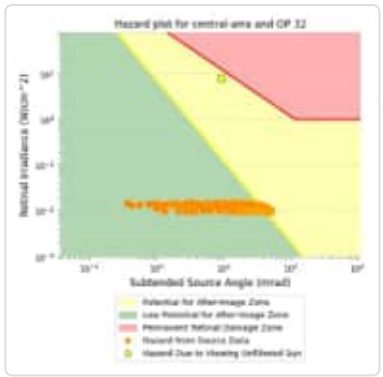
Central Array: OP 32

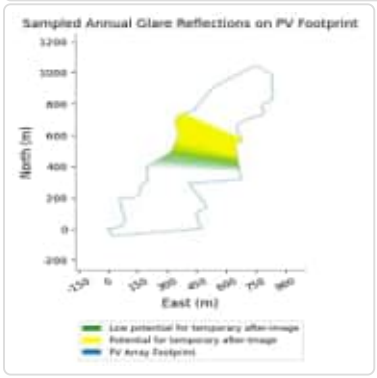
PV array is expected to produce the following glare for this receptor:

- 1,272 minutes of "green" glare with low potential to cause temporary after-image.
- 1,233 minutes of "yellow" glare with potential to cause temporary after-image.





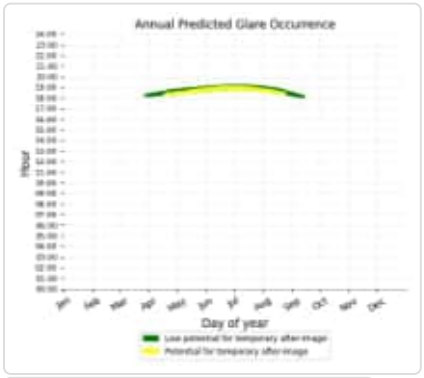


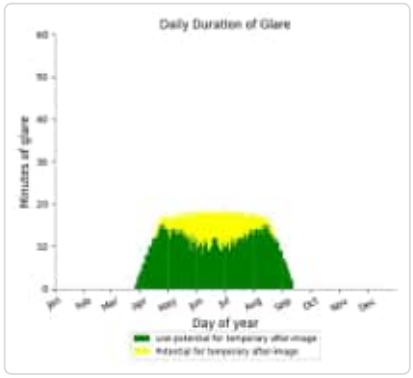


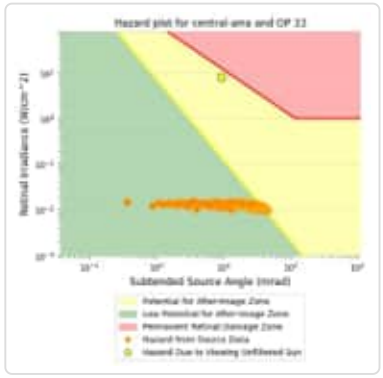
Central Array: OP 33

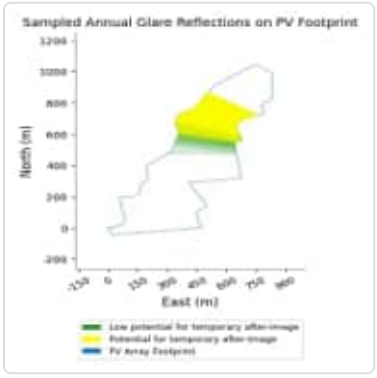
PV array is expected to produce the following glare for this receptor:

- 1,854 minutes of "green" glare with low potential to cause temporary after-image.
- 645 minutes of "yellow" glare with potential to cause temporary after-image.





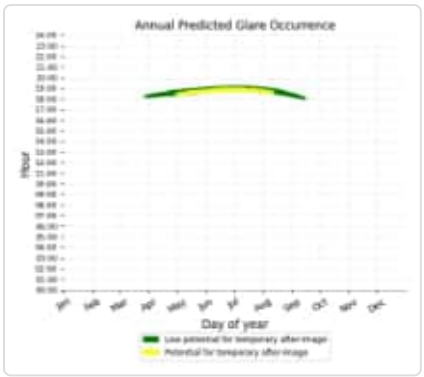


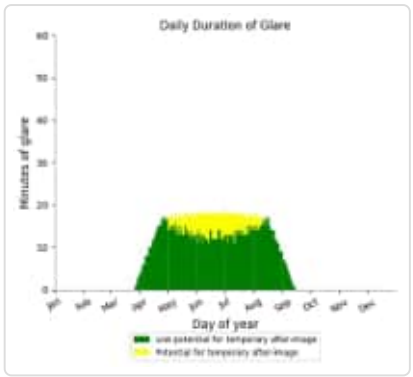


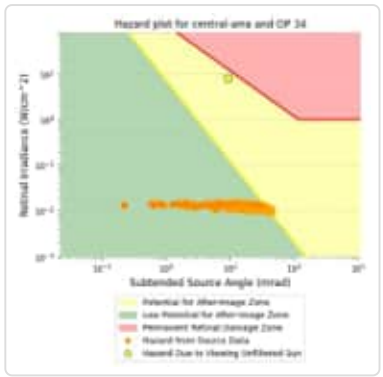
Central Array: OP 34

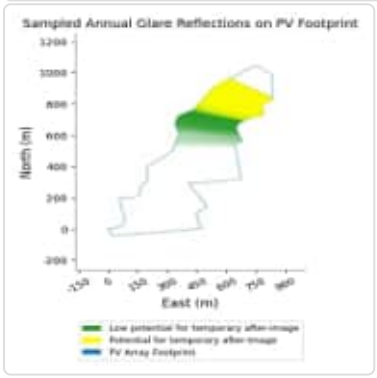
PV array is expected to produce the following glare for this receptor:

- 2,063 minutes of "green" glare with low potential to cause temporary after-image.
- 442 minutes of "yellow" glare with potential to cause temporary after-image.





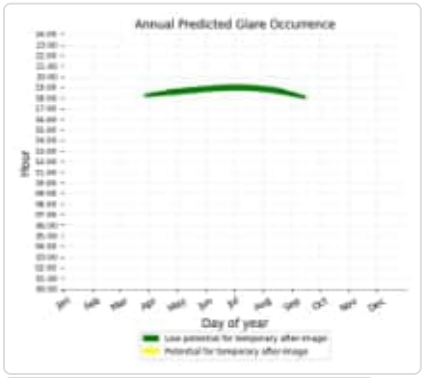




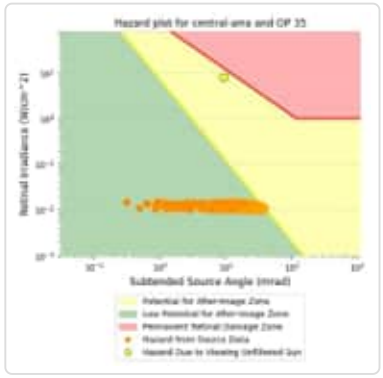
Central Array: OP 35

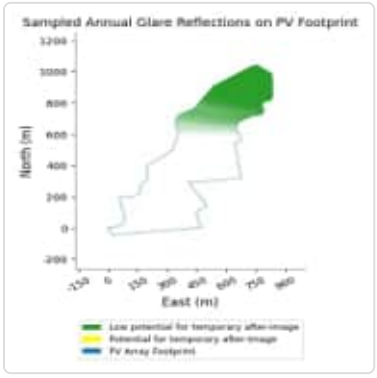
PV array is expected to produce the following glare for this receptor:

- 2,359 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





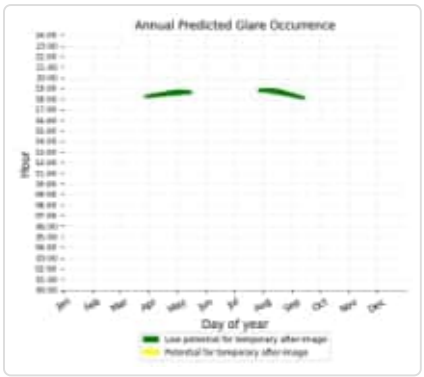


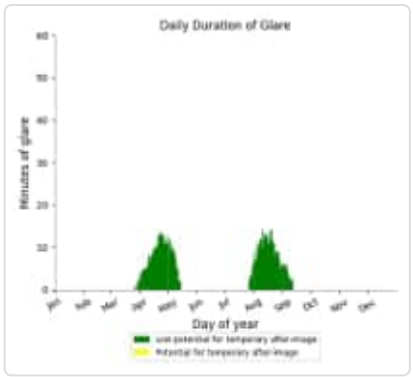


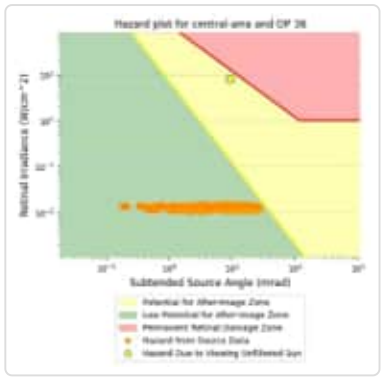
Central Array: OP 36

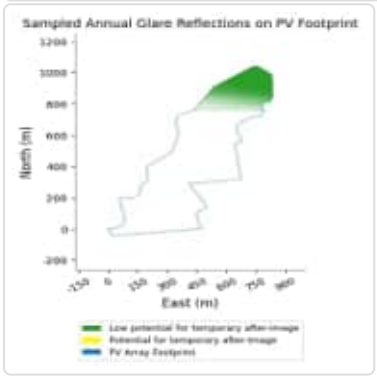
PV array is expected to produce the following glare for this receptor:

- 772 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





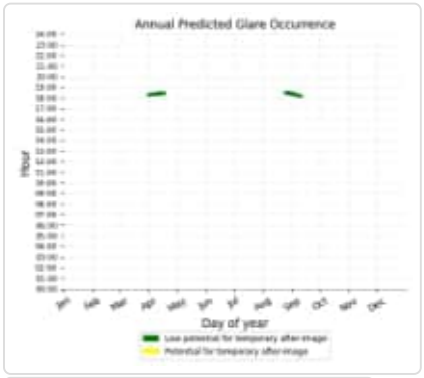




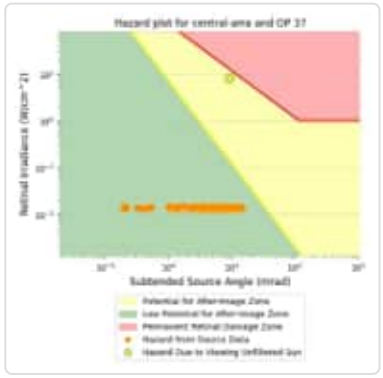
Central Array: OP 37

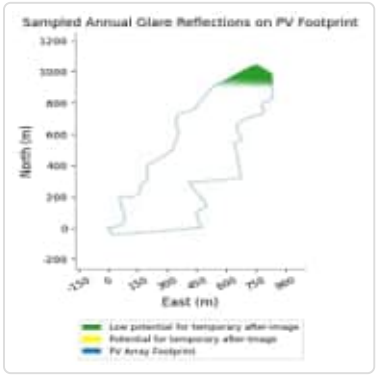
PV array is expected to produce the following glare for this receptor:

- 145 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 38

No glare found

Central Array: OP 39

No glare found

Central Array: OP 40

No glare found

Central Array: OP 41

No glare found

Central Array: OP 42

No glare found

Central Array: OP 43

No glare found

Central Array: OP 44

No glare found

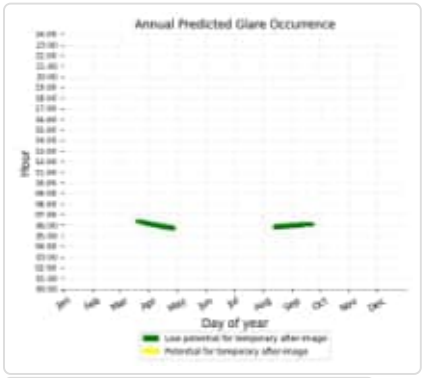
Central Array: OP 45

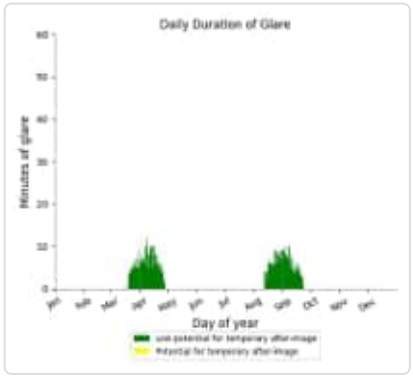
No glare found

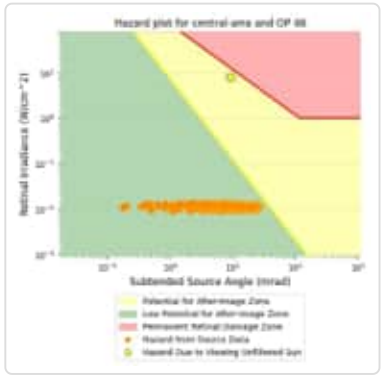
Central Array: OP 46

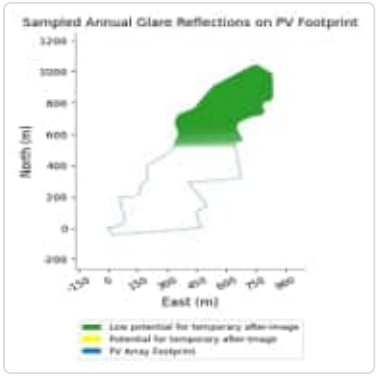
PV array is expected to produce the following glare for this receptor:

- 510 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 47

No glare found

Central Array: OP 48

No glare found

Central Array: OP 49

No glare found

Central Array: OP 50

No glare found

Central Array: OP 51

No glare found

Central Array: OP 52

No glare found

Central Array: OP 53

No glare found

Central Array: OP 54

No glare found

Central Array: OP 55

No glare found

Central Array: OP 56

No glare found

Central Array: OP 57

No glare found

Central Array: OP 58

No glare found

Central Array: OP 59

No glare found

Central Array: OP 60

No glare found

Central Array: OP 61

No glare found

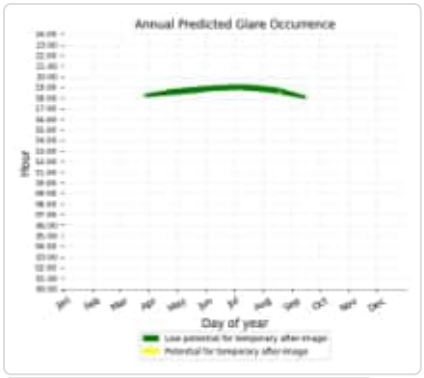
Central Array: OP 62

No glare found

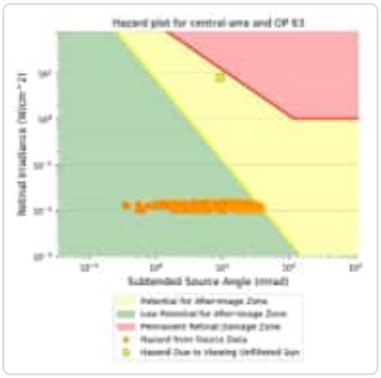
Central Array: OP 63

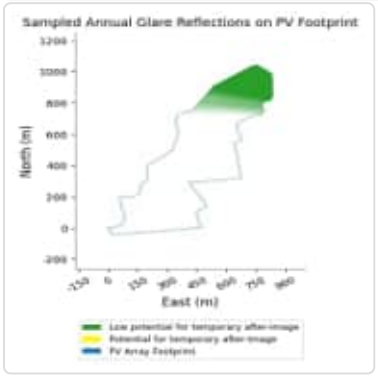
PV array is expected to produce the following glare for this receptor:

- 2,248 minutes of "green" glare with low potential to cause temporary after-image.
- 1 minutes of "yellow" glare with potential to cause temporary after-image.





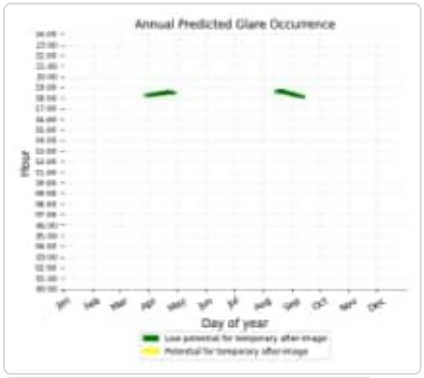


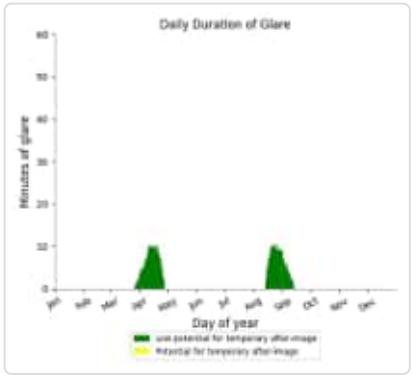


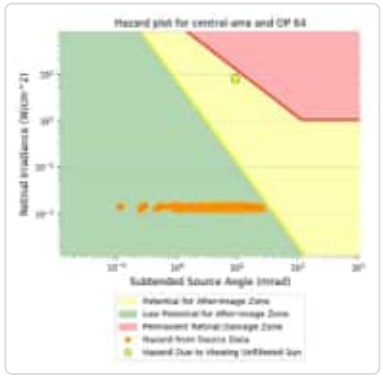
Central Array: OP 64

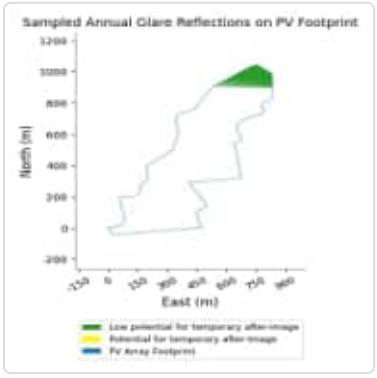
PV array is expected to produce the following glare for this receptor:

- 418 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 65

No glare found

Central Array: OP 66

No glare found

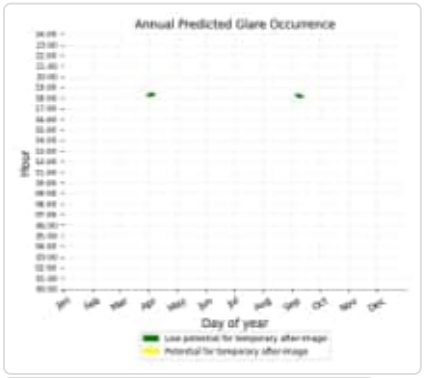
Central Array: OP 67

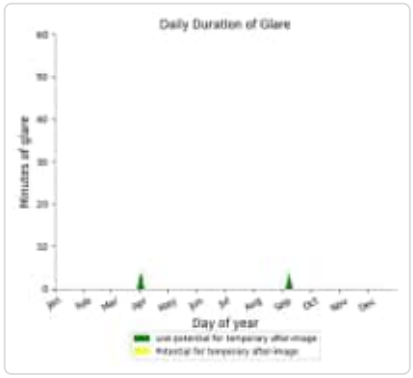
No glare found

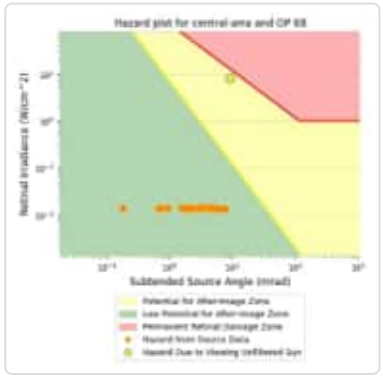
Central Array: OP 68

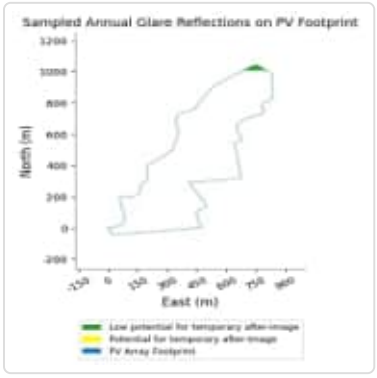
PV array is expected to produce the following glare for this receptor:

- 32 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	748	0
OP: OP 5	590	0
OP: OP 6	140	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0

OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	1573	2747
OP: OP 33	2853	544
OP: OP 34	3234	0
OP: OP 35	3192	0
OP: OP 36	1730	0
OP: OP 37	391	0
OP: OP 38	0	0
OP: OP 39	2094	0
OP: OP 40	2322	0
OP: OP 41	2425	0
OP: OP 42	1845	0
OP: OP 43	1672	0
OP: OP 44	1136	0
OP: OP 45	1120	0
OP: OP 46	1114	0
OP: OP 47	1149	0
OP: OP 48	1303	0
OP: OP 49	1491	0
OP: OP 50	1737	0
OP: OP 51	2059	0
OP: OP 52	1739	0
OP: OP 53	2082	0
OP: OP 54	2584	0
OP: OP 55	2598	0
OP: OP 56	2298	0
OP: OP 57	1983	0
OP: OP 58	1653	0
OP: OP 59	1229	0
OP: OP 60	784	0
OP: OP 61	240	0
OP: OP 62	0	0
OP: OP 63	3230	0
OP: OP 64	770	0
OP: OP 65	0	0
OP: OP 66	0	0
OP: OP 67	0	0
OP: OP 68	0	0

East Array: OP 1

No glare found

East Array: OP 2

No glare found

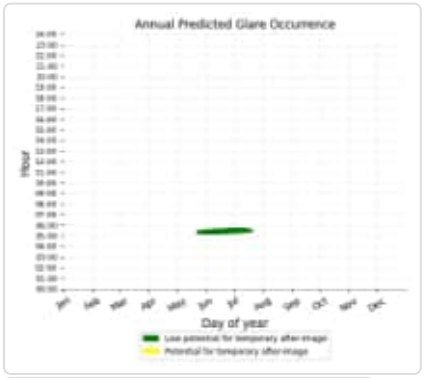
East Array: OP 3

No glare found

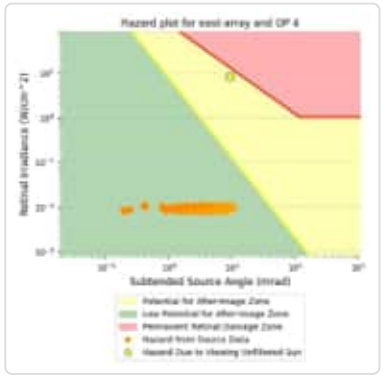
East Array: OP 4

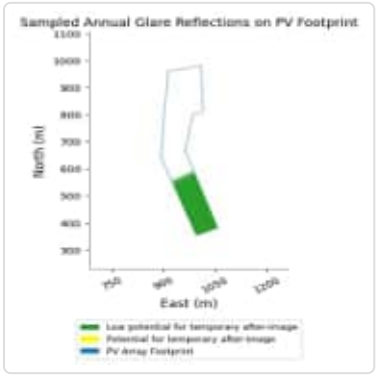
PV array is expected to produce the following glare for this receptor:

- 748 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





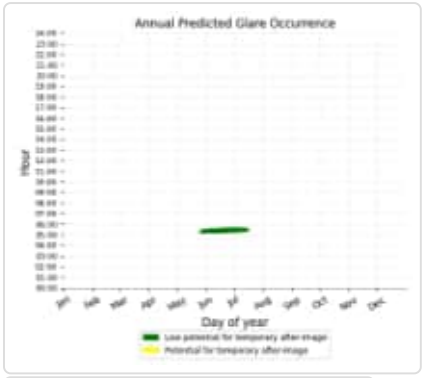




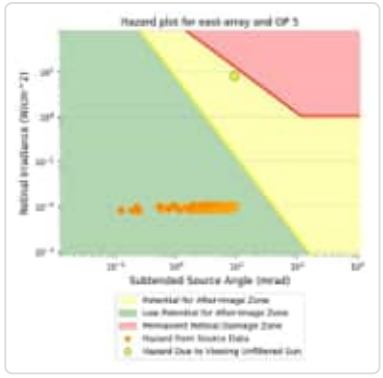
East Array: OP 5

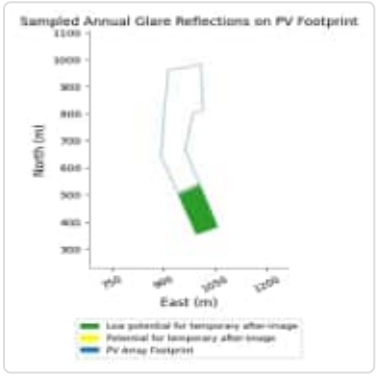
PV array is expected to produce the following glare for this receptor:

- 590 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





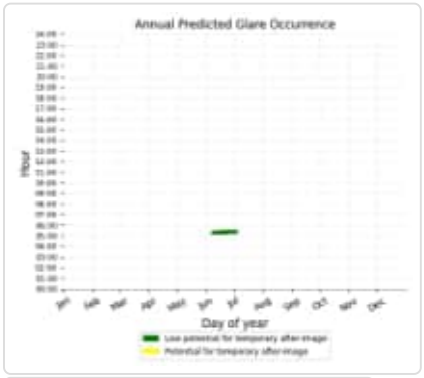


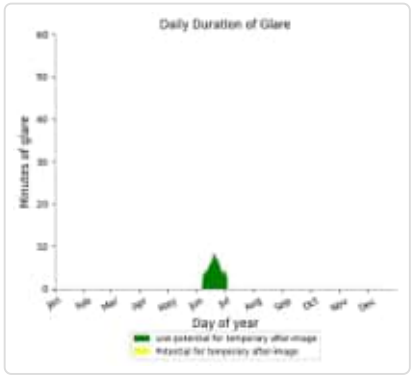


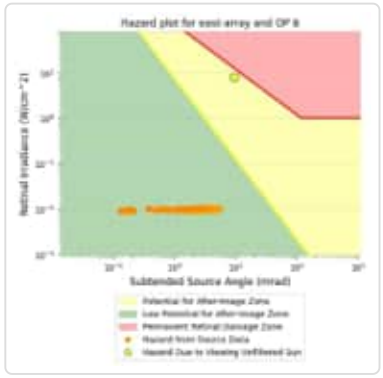
East Array: OP 6

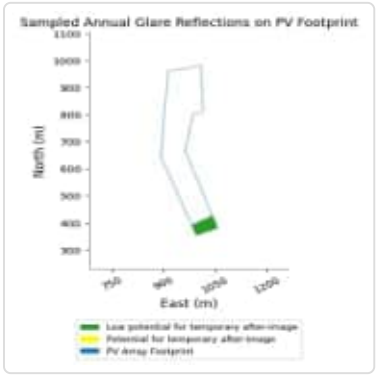
PV array is expected to produce the following glare for this receptor:

- 140 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 7

No glare found

East Array: OP 8

No glare found

East Array: OP 9

No glare found

East Array: OP 10

No glare found

East Array: OP 11

No glare found

East Array: OP 12

No glare found

East Array: OP 13

No glare found

East Array: OP 14

No glare found

East Array: OP 15

No glare found

East Array: OP 16

No glare found

East Array: OP 17

No glare found

East Array: OP 18

No glare found

East Array: OP 19

No glare found

East Array: OP 20

No glare found

East Array: OP 21

No glare found

East Array: OP 22

No glare found

East Array: OP 23

No glare found

East Array: OP 24

No glare found

East Array: OP 25

No glare found

East Array: OP 26

No glare found

East Array: OP 27

No glare found

East Array: OP 28

No glare found

East Array: OP 29

No glare found

East Array: OP 30

No glare found

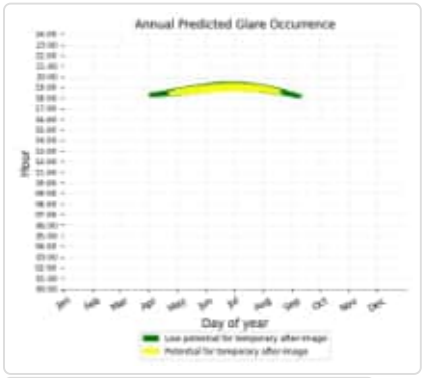
East Array: OP 31

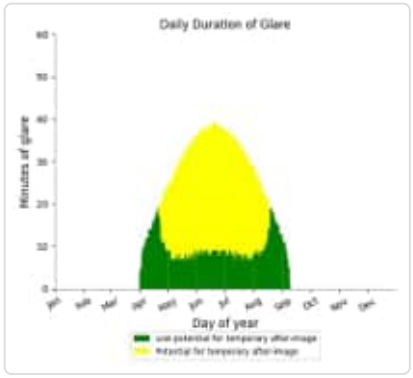
No glare found

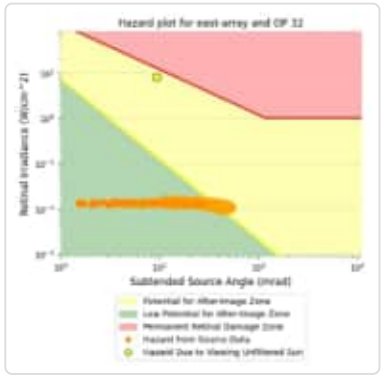
East Array: OP 32

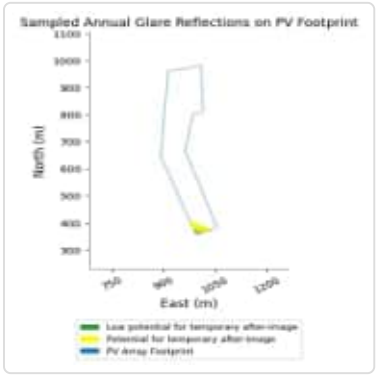
PV array is expected to produce the following glare for this receptor:

- 1,573 minutes of "green" glare with low potential to cause temporary after-image.
- 2,747 minutes of "yellow" glare with potential to cause temporary after-image.





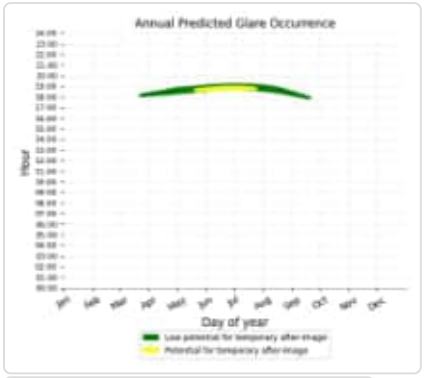


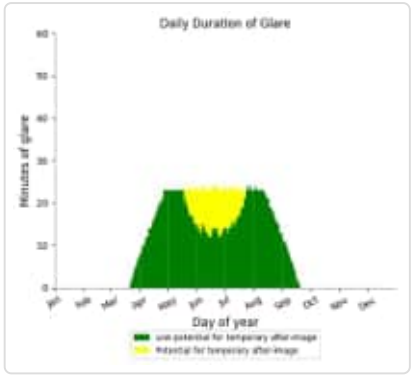


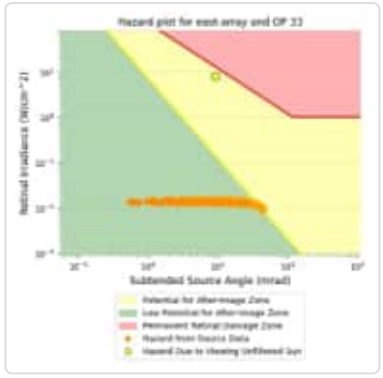
East Array: OP 33

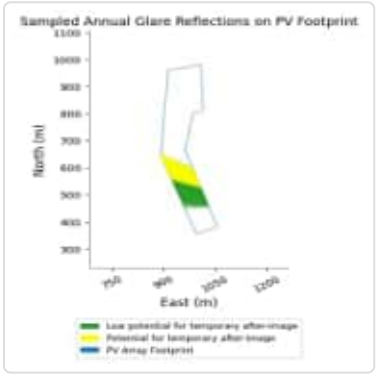
PV array is expected to produce the following glare for this receptor:

- 2,853 minutes of "green" glare with low potential to cause temporary after-image.
- 544 minutes of "yellow" glare with potential to cause temporary after-image.





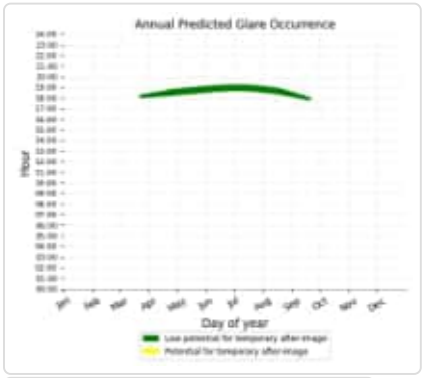




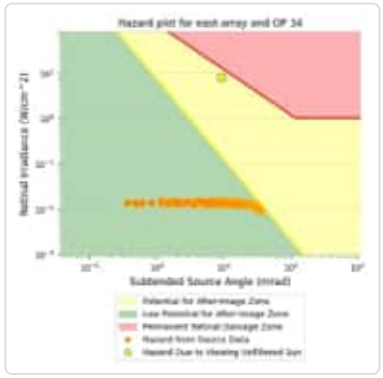
East Array: OP 34

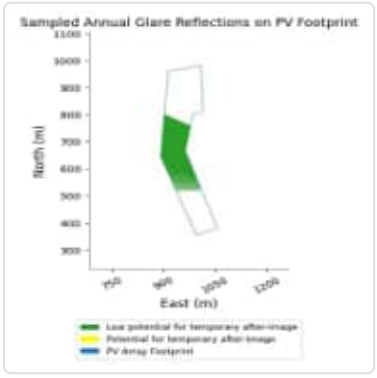
PV array is expected to produce the following glare for this receptor:

- 3,234 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





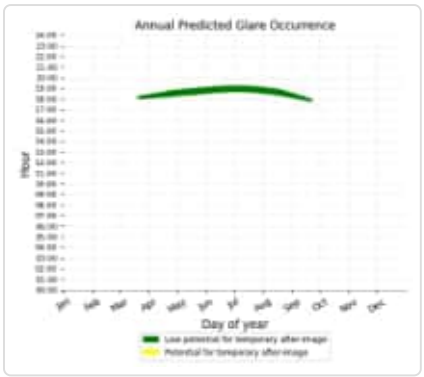




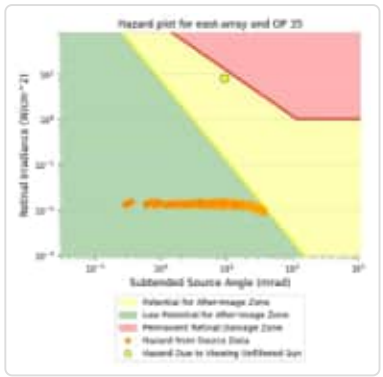
East Array: OP 35

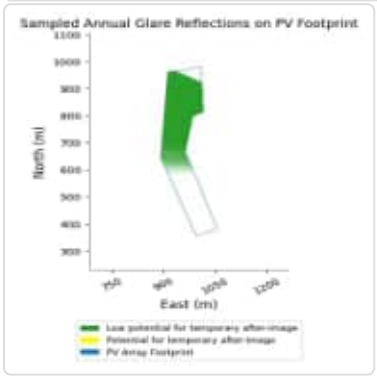
PV array is expected to produce the following glare for this receptor:

- 3,192 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





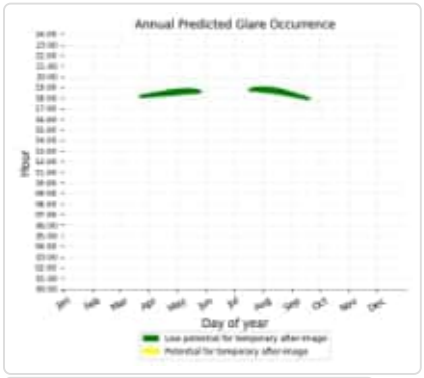




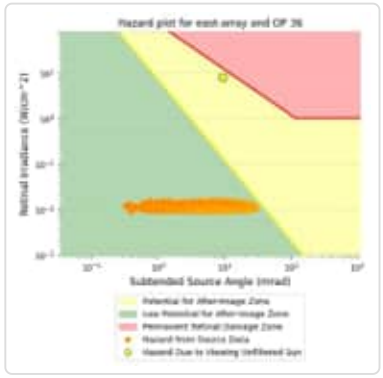
East Array: OP 36

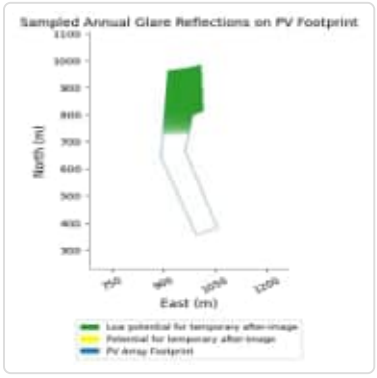
PV array is expected to produce the following glare for this receptor:

- 1,730 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





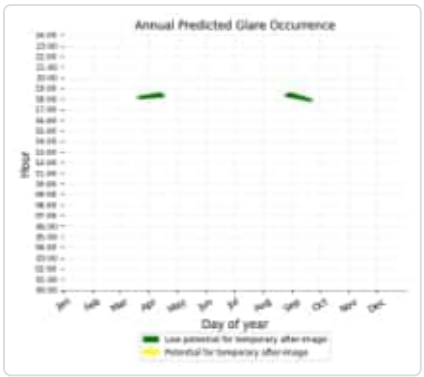




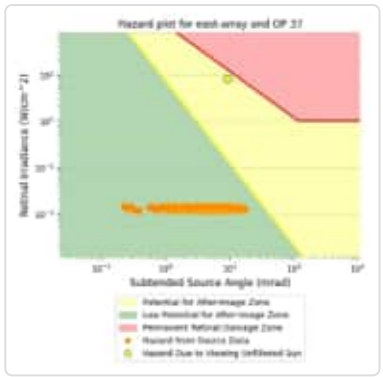
East Array: OP 37

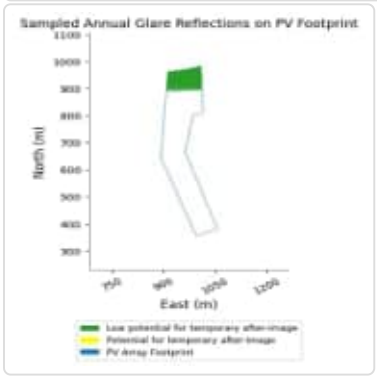
PV array is expected to produce the following glare for this receptor:

- 391 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









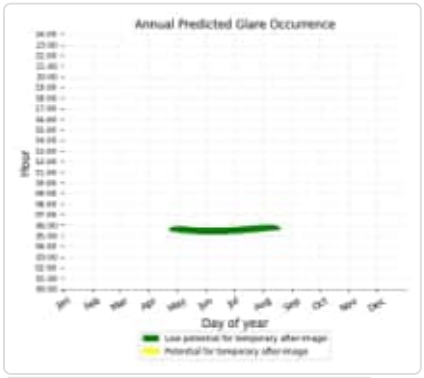
East Array: OP 38

No glare found

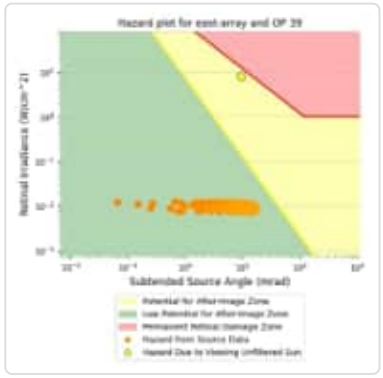
East Array: OP 39

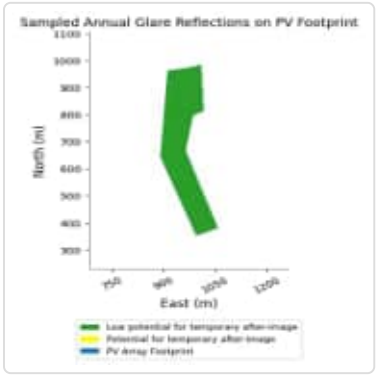
PV array is expected to produce the following glare for this receptor:

- 2,094 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





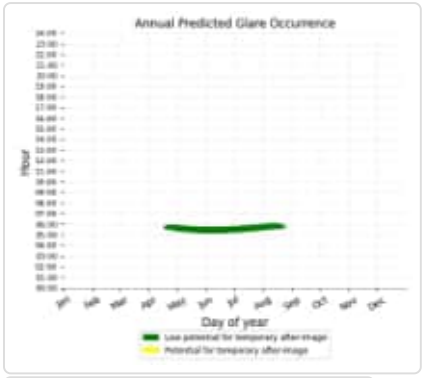




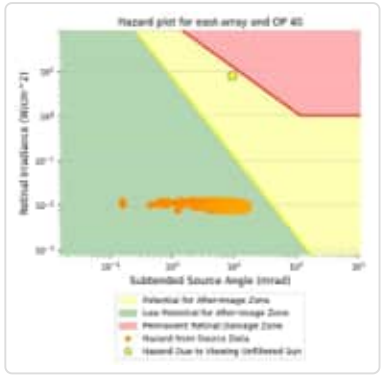
East Array: OP 40

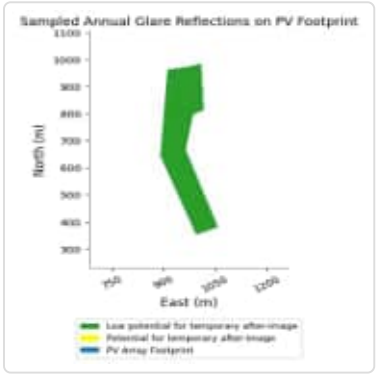
PV array is expected to produce the following glare for this receptor:

- 2,322 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





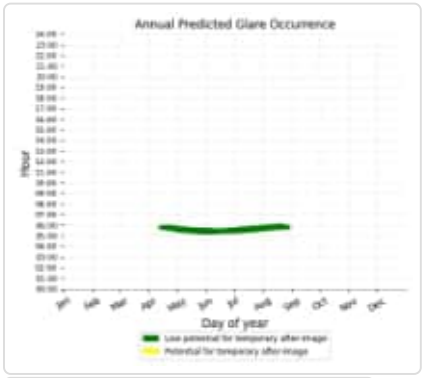




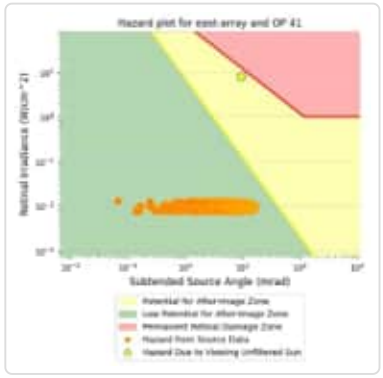
East Array: OP 41

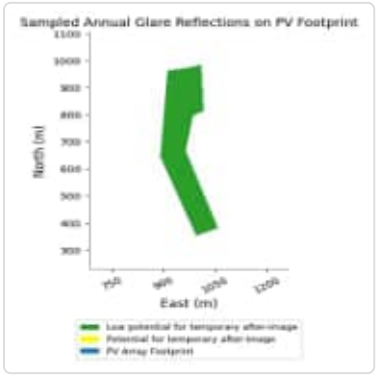
PV array is expected to produce the following glare for this receptor:

- 2,425 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





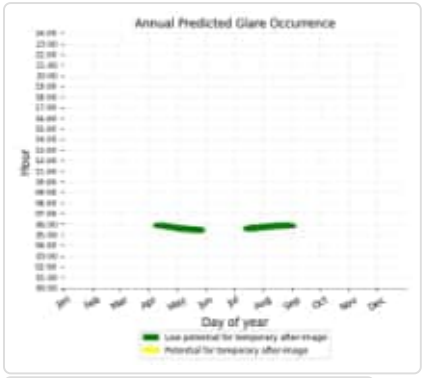




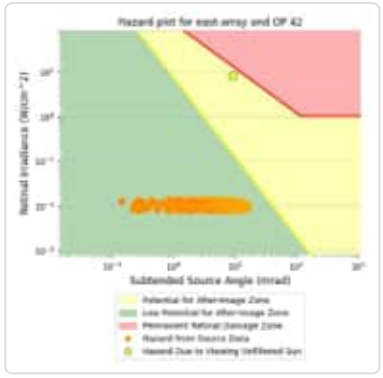
East Array: OP 42

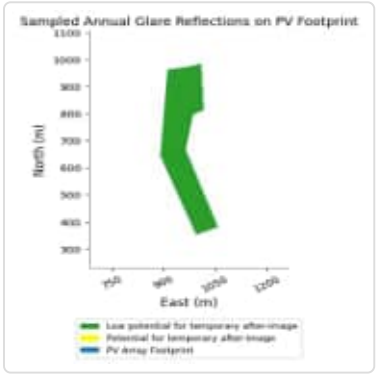
PV array is expected to produce the following glare for this receptor:

- 1,845 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





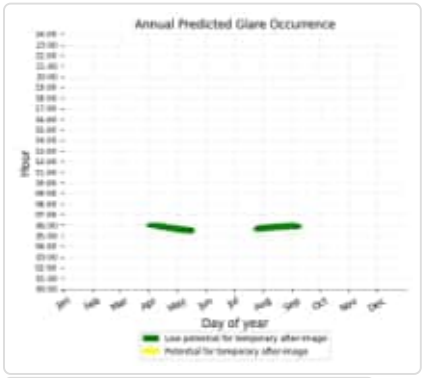




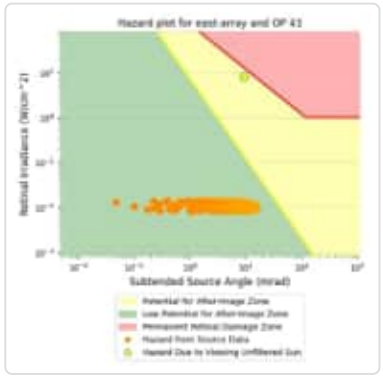
East Array: OP 43

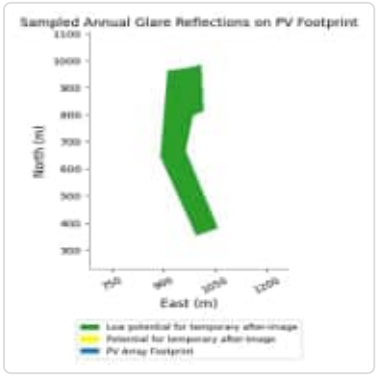
PV array is expected to produce the following glare for this receptor:

- 1,672 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





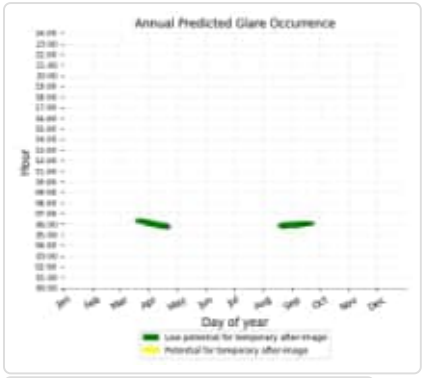




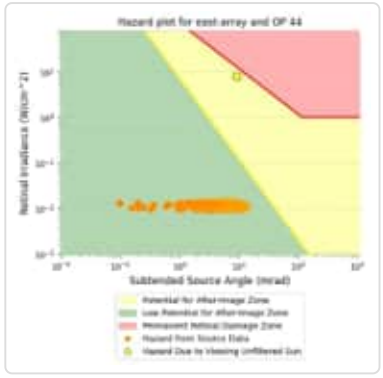
East Array: OP 44

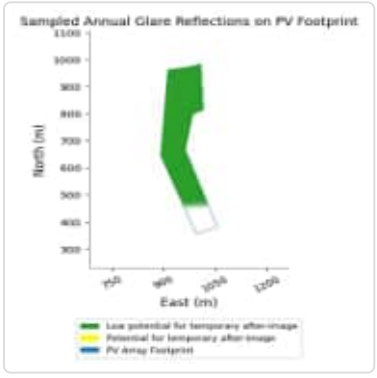
PV array is expected to produce the following glare for this receptor:

- 1,136 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





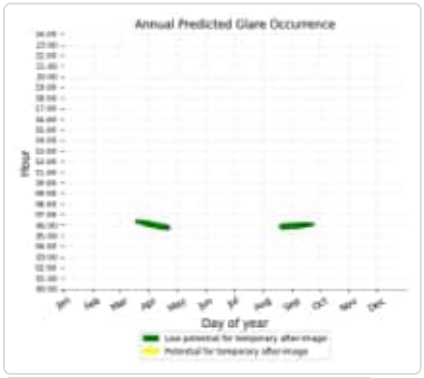




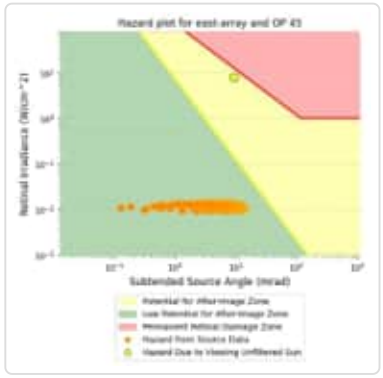
East Array: OP 45

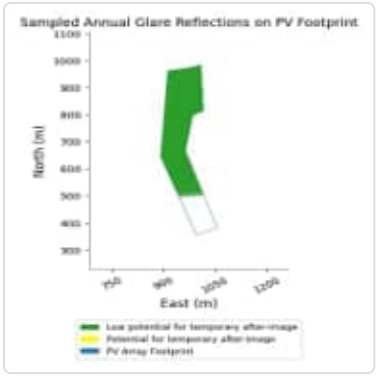
PV array is expected to produce the following glare for this receptor:

- 1,120 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





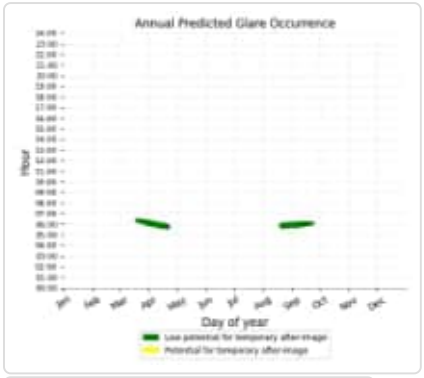




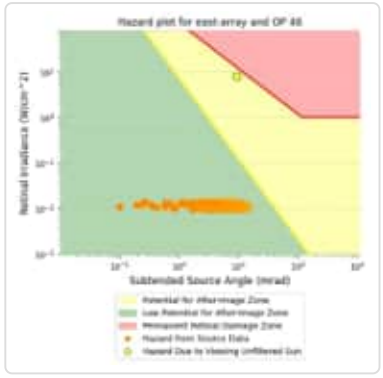
East Array: OP 46

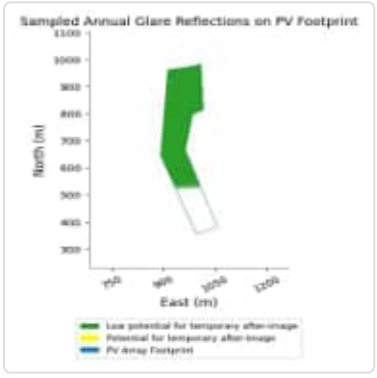
PV array is expected to produce the following glare for this receptor:

- 1,114 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





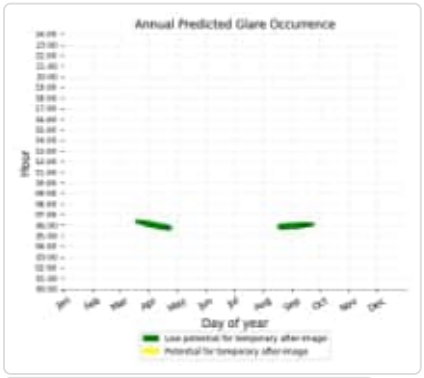


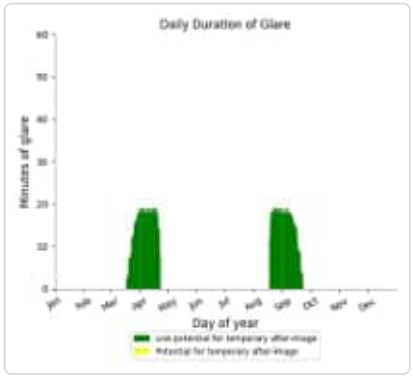


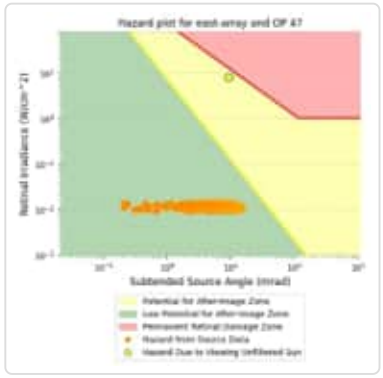
East Array: OP 47

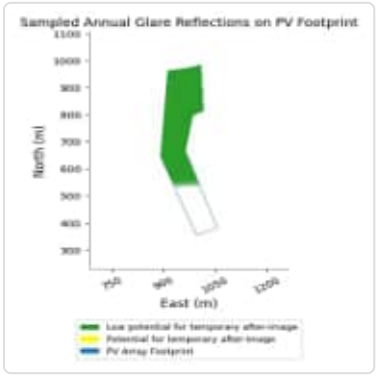
PV array is expected to produce the following glare for this receptor:

- 1,149 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





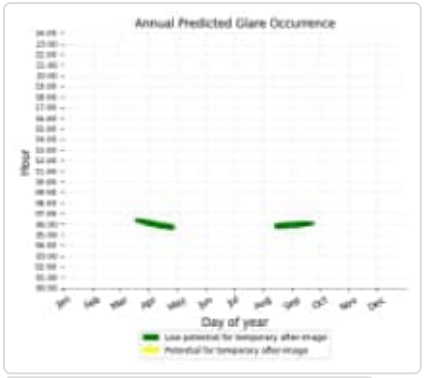




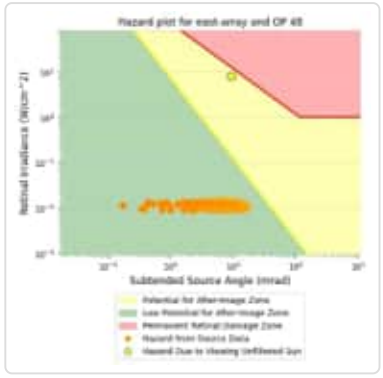
East Array: OP 48

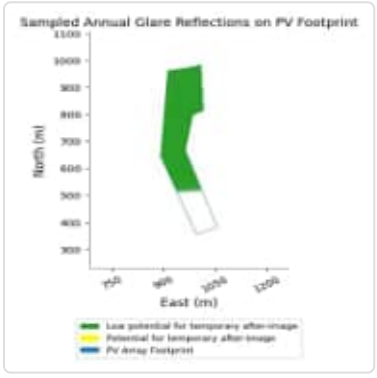
PV array is expected to produce the following glare for this receptor:

- 1,303 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





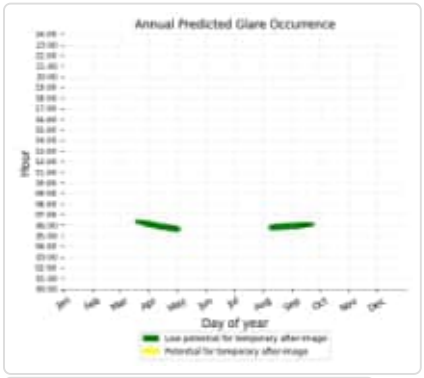




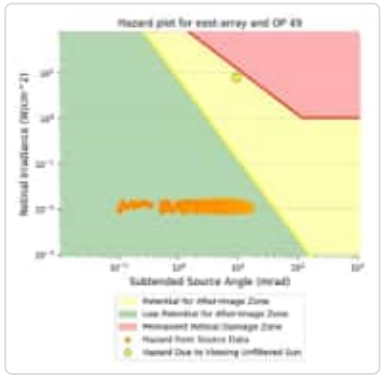
East Array: OP 49

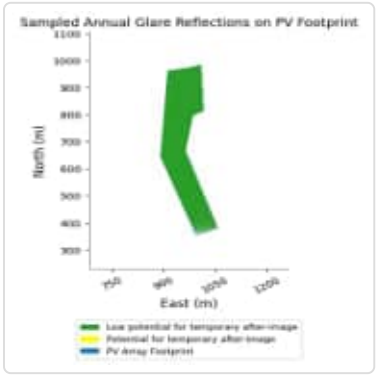
PV array is expected to produce the following glare for this receptor:

- 1,491 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





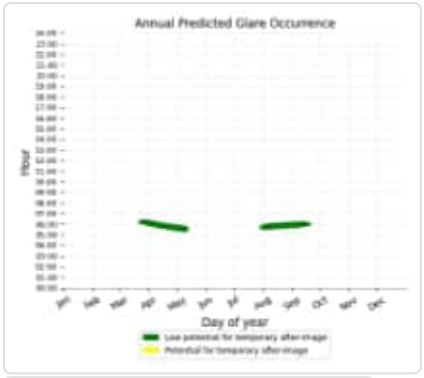




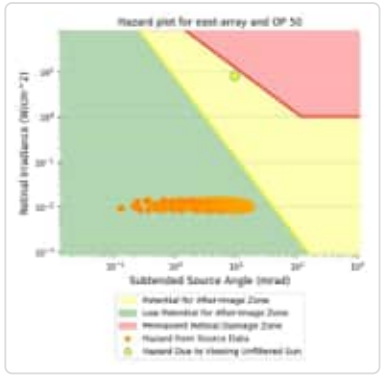
East Array: OP 50

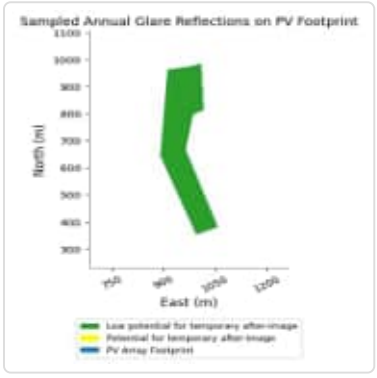
PV array is expected to produce the following glare for this receptor:

- 1,737 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





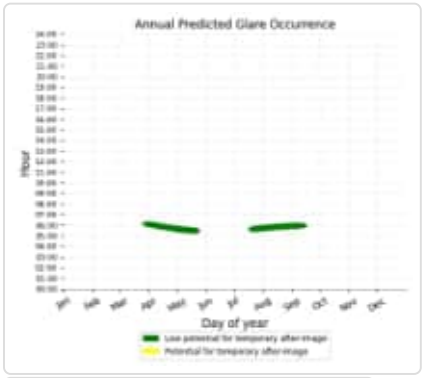




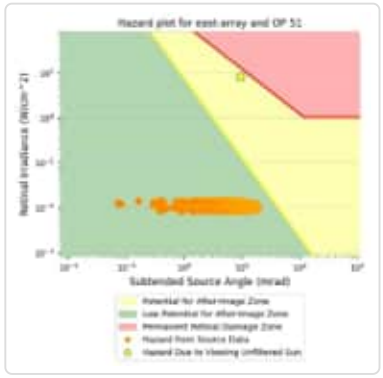
East Array: OP 51

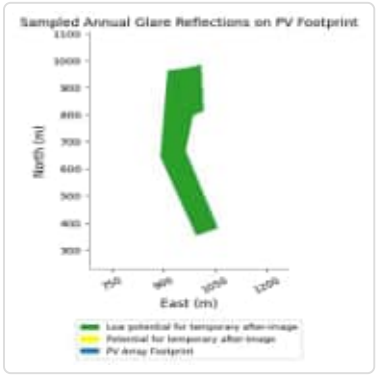
PV array is expected to produce the following glare for this receptor:

- 2,059 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





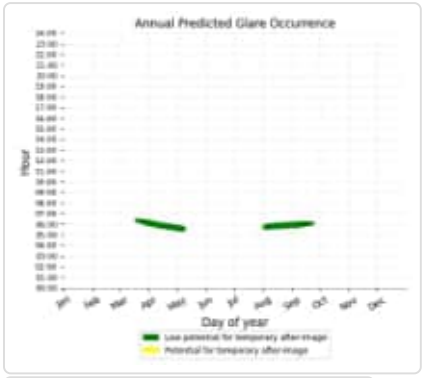




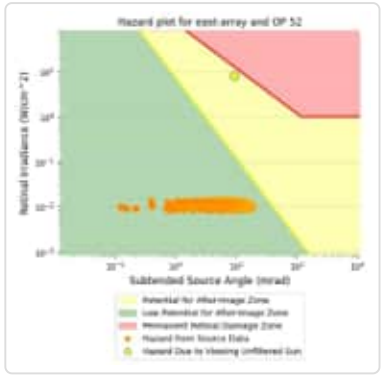
East Array: OP 52

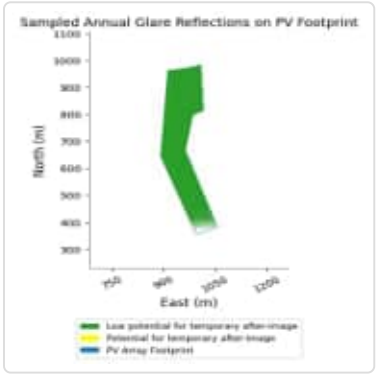
PV array is expected to produce the following glare for this receptor:

- 1,739 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





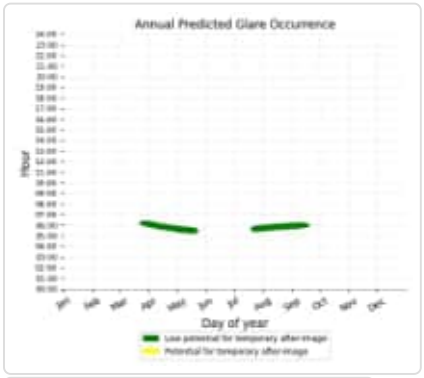


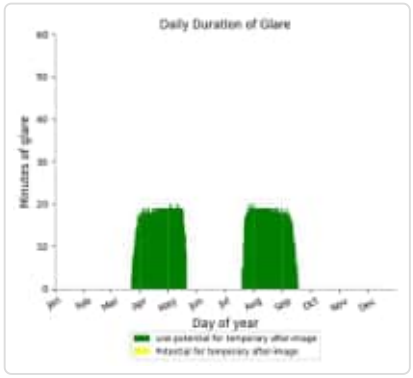


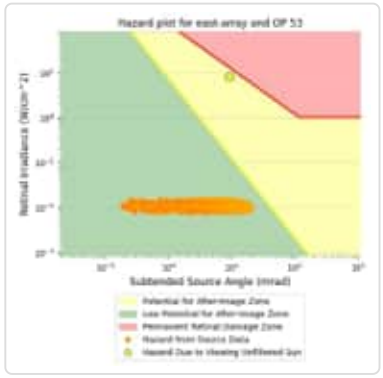
East Array: OP 53

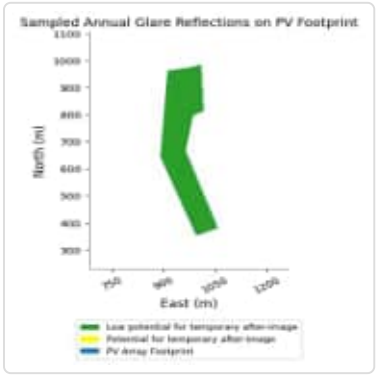
PV array is expected to produce the following glare for this receptor:

- 2,082 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





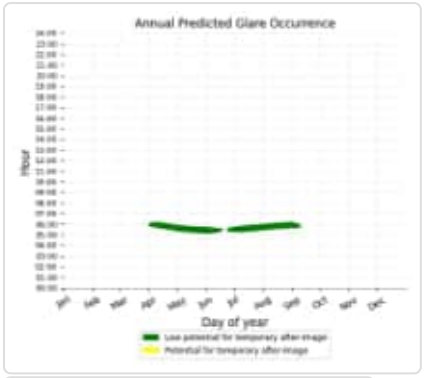




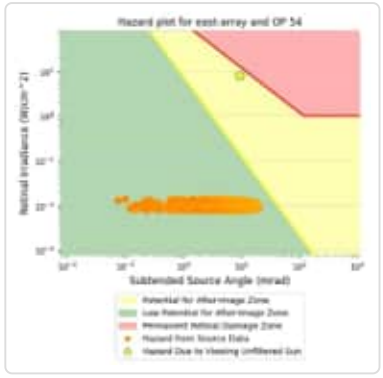
East Array: OP 54

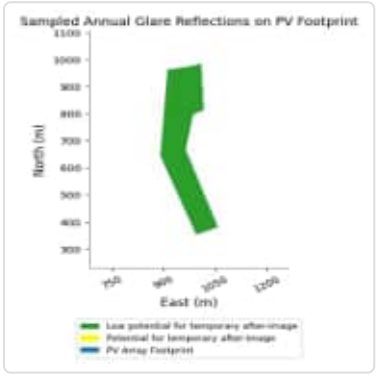
PV array is expected to produce the following glare for this receptor:

- 2,584 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





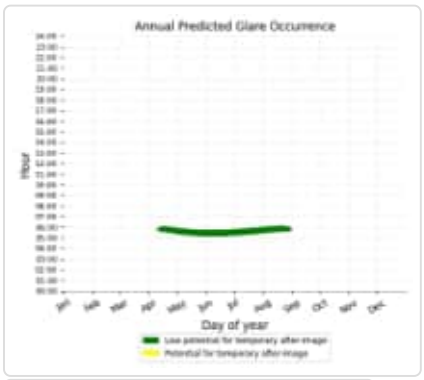




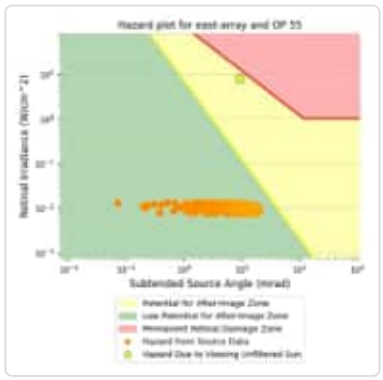
East Array: OP 55

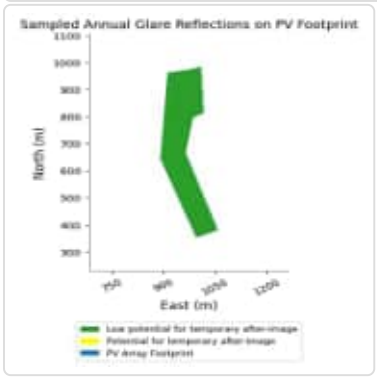
PV array is expected to produce the following glare for this receptor:

- 2,598 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





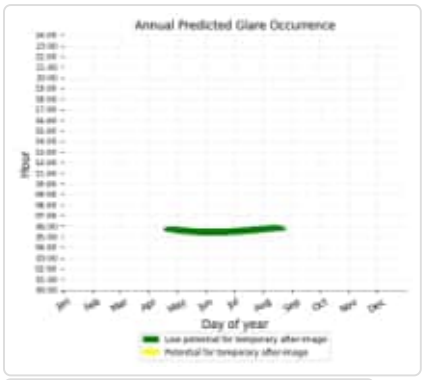


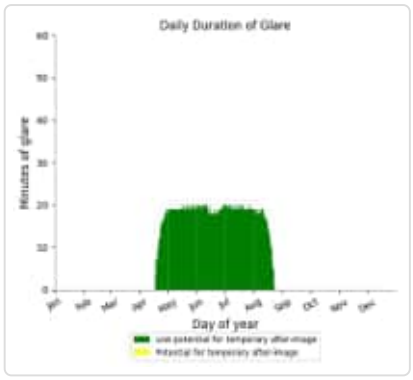


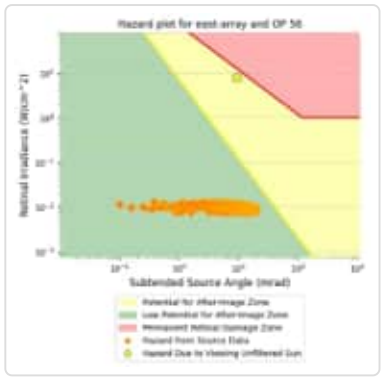
East Array: OP 56

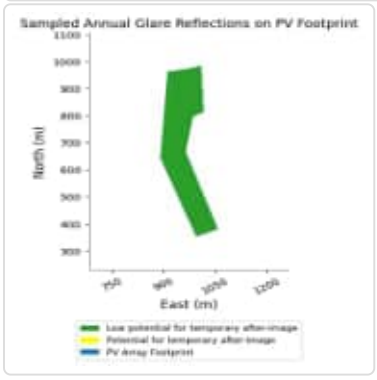
PV array is expected to produce the following glare for this receptor:

- 2,298 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





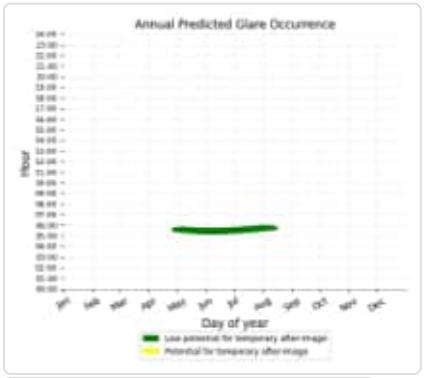




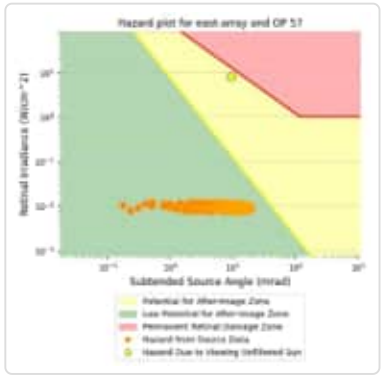
East Array: OP 57

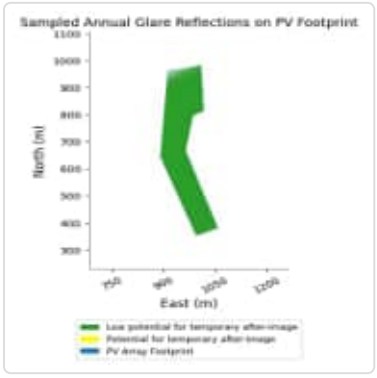
PV array is expected to produce the following glare for this receptor:

- 1,983 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





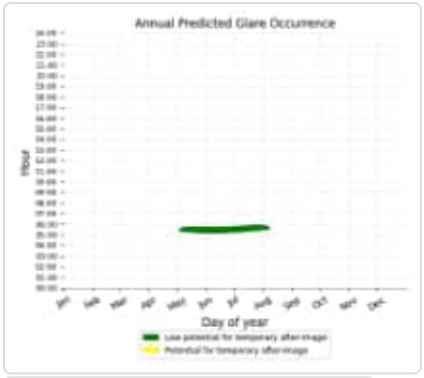




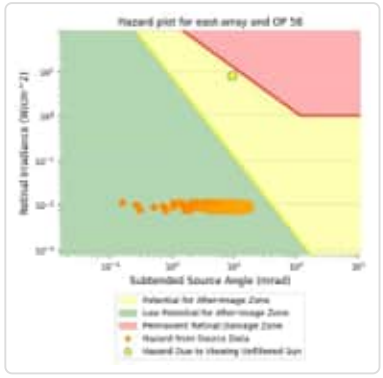
East Array: OP 58

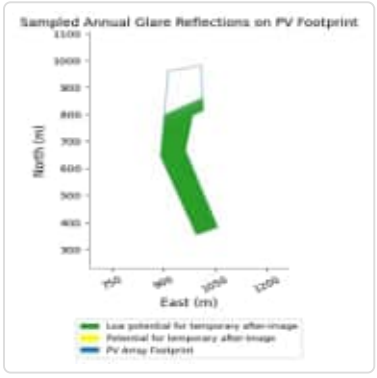
PV array is expected to produce the following glare for this receptor:

- 1,653 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





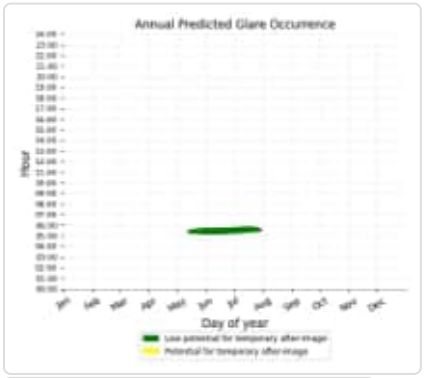




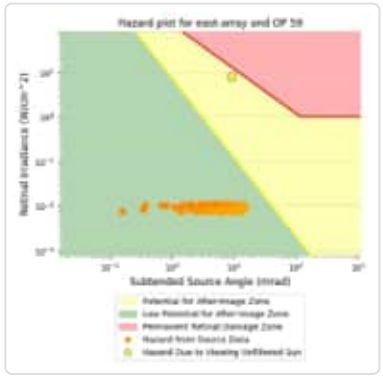
East Array: OP 59

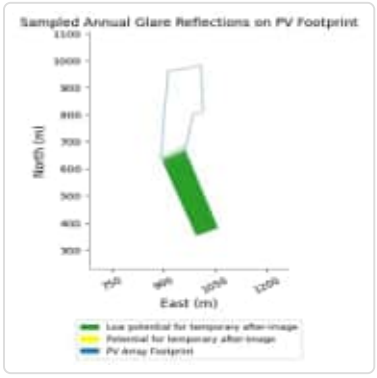
PV array is expected to produce the following glare for this receptor:

- 1,229 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





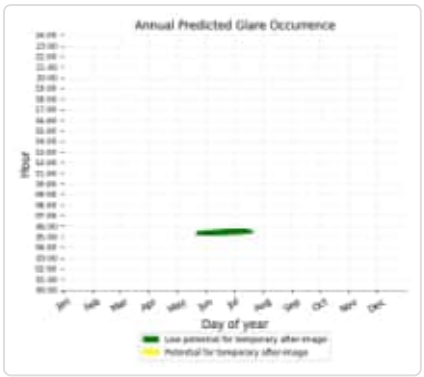




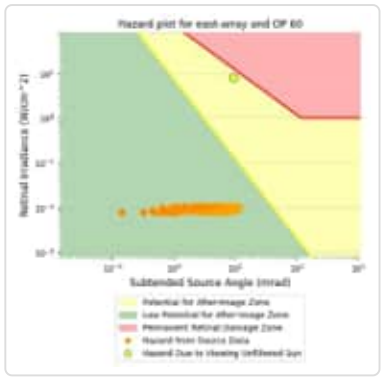
East Array: OP 60

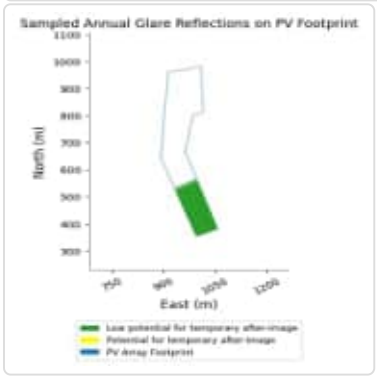
PV array is expected to produce the following glare for this receptor:

- 784 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





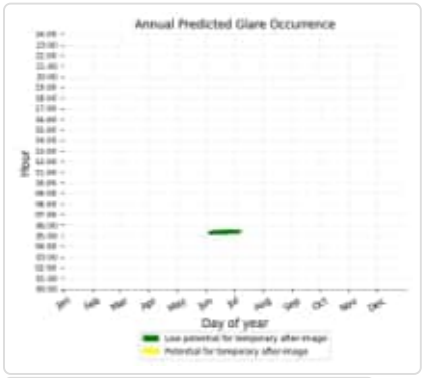




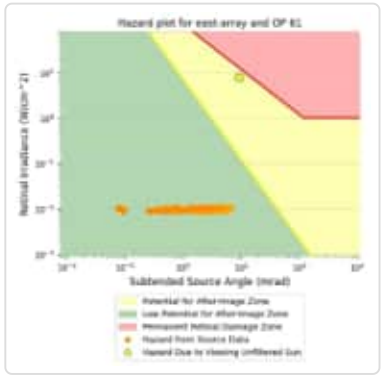
East Array: OP 61

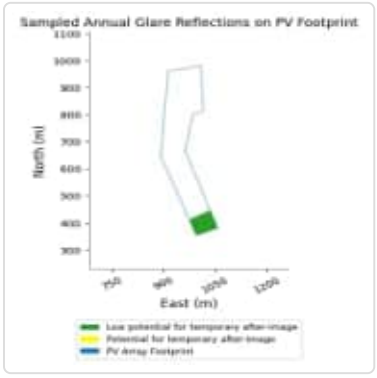
PV array is expected to produce the following glare for this receptor:

- 240 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









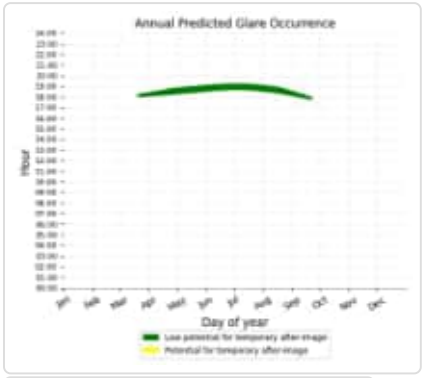
East Array: OP 62

No glare found

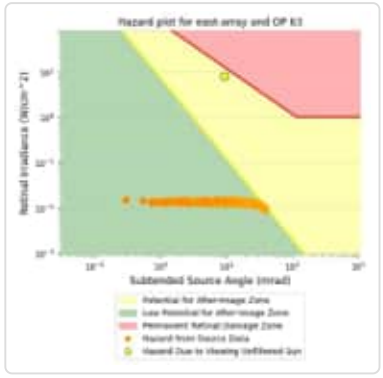
East Array: OP 63

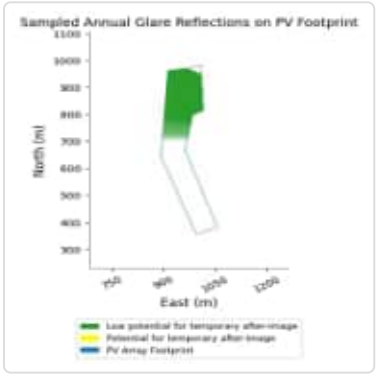
PV array is expected to produce the following glare for this receptor:

- 3,230 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





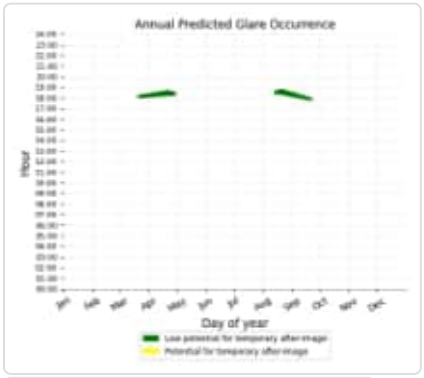




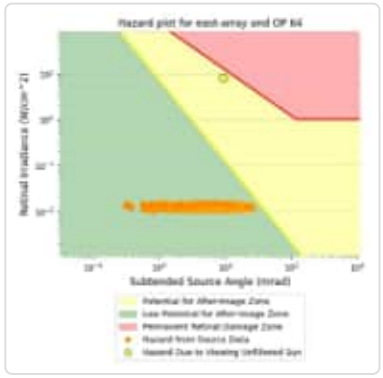
East Array: OP 64

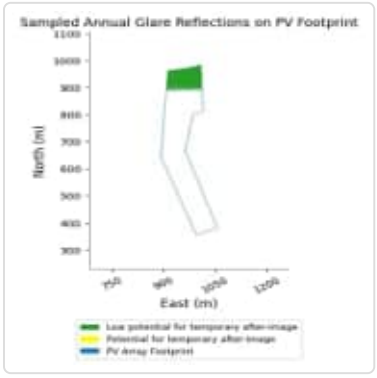
PV array is expected to produce the following glare for this receptor:

- 770 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 65

No glare found

East Array: OP 66

No glare found

East Array: OP 67

No glare found

East Array: OP 68

No glare found

North Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0

OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	863	18
OP: OP 32	0	0
OP: OP 33	17	0
OP: OP 34	18	0
OP: OP 35	0	0
OP: OP 36	49	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	238	0
OP: OP 40	343	0
OP: OP 41	467	0
OP: OP 42	769	0
OP: OP 43	1136	88
OP: OP 44	1410	239
OP: OP 45	1315	191
OP: OP 46	1448	160
OP: OP 47	1393	886
OP: OP 48	1385	1031
OP: OP 49	1591	425
OP: OP 50	1491	117
OP: OP 51	1175	26
OP: OP 52	1671	72
OP: OP 53	1521	53
OP: OP 54	672	0
OP: OP 55	312	0
OP: OP 56	55	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0
OP: OP 61	0	0
OP: OP 62	0	0
OP: OP 63	0	0
OP: OP 64	0	0
OP: OP 65	0	0
OP: OP 66	0	0

OP: OP 67	446	8
OP: OP 68	27	0

North Array: OP 1
No glare found

North Array: OP 2
No glare found

North Array: OP 3
No glare found

North Array: OP 4
No glare found

North Array: OP 5
No glare found

North Array: OP 6
No glare found

North Array: OP 7
No glare found

North Array: OP 8
No glare found

North Array: OP 9
No glare found

North Array: OP 10
No glare found

North Array: OP 11
No glare found

North Array: OP 12
No glare found

North Array: OP 13
No glare found

North Array: OP 14
No glare found

North Array: OP 15
No glare found

North Array: OP 16

No glare found

North Array: OP 17

No glare found

North Array: OP 18

No glare found

North Array: OP 19

No glare found

North Array: OP 20

No glare found

North Array: OP 21

No glare found

North Array: OP 22

No glare found

North Array: OP 23

No glare found

North Array: OP 24

No glare found

North Array: OP 25

No glare found

North Array: OP 26

No glare found

North Array: OP 27

No glare found

North Array: OP 28

No glare found

North Array: OP 29

No glare found

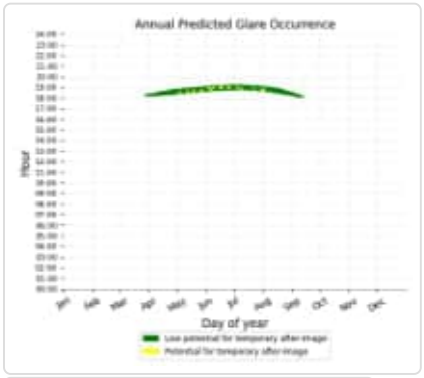
North Array: OP 30

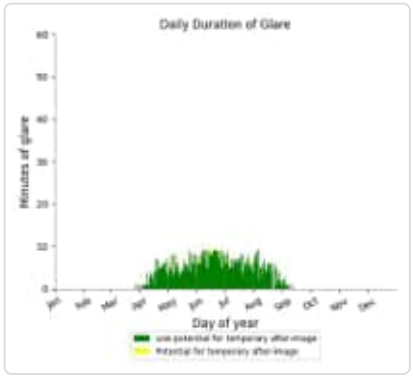
No glare found

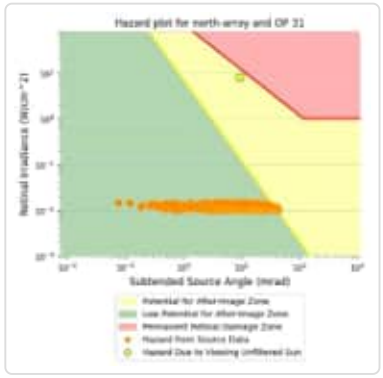
North Array: OP 31

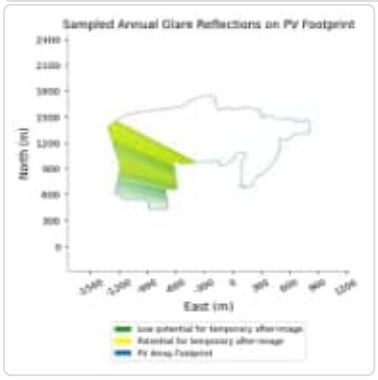
PV array is expected to produce the following glare for this receptor:

- 863 minutes of "green" glare with low potential to cause temporary after-image.
- 18 minutes of "yellow" glare with potential to cause temporary after-image.









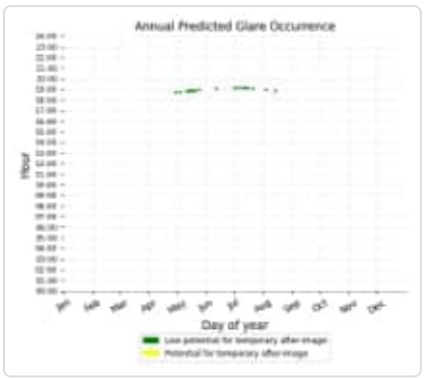
North Array: OP 32

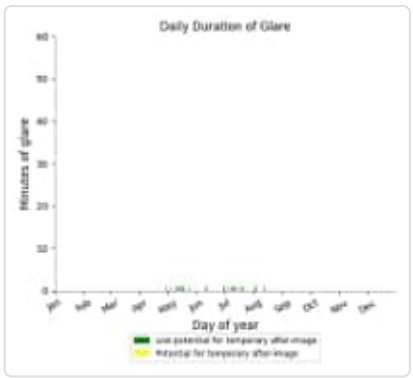
No glare found

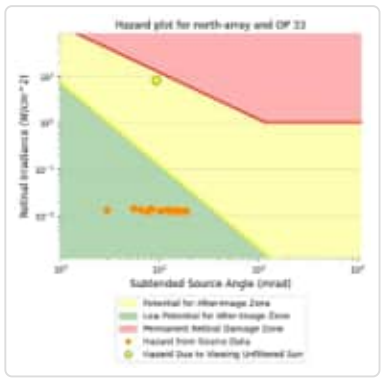
North Array: OP 33

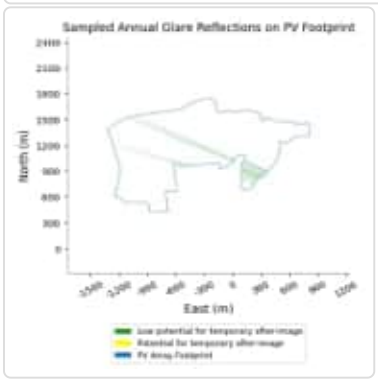
PV array is expected to produce the following glare for this receptor:

- 17 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





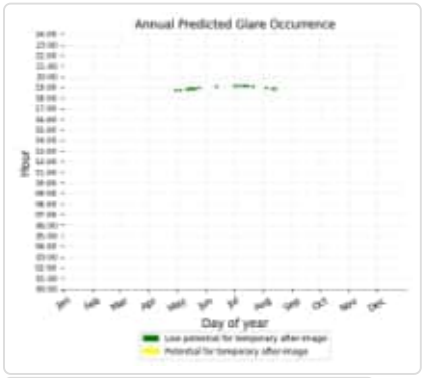


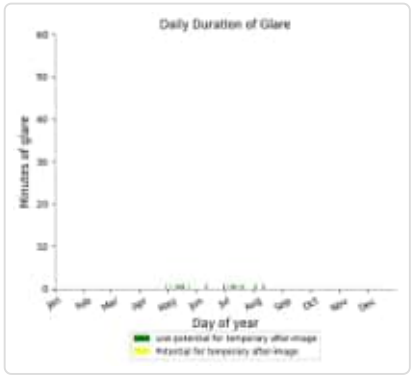


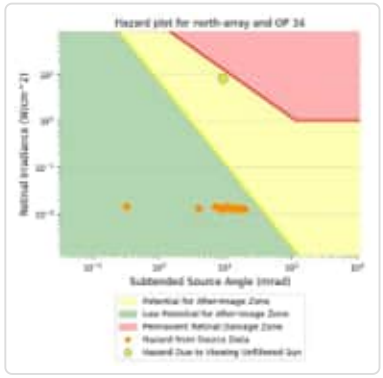
North Array: OP 34

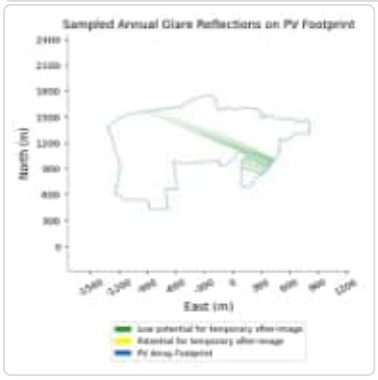
PV array is expected to produce the following glare for this receptor:

- 18 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









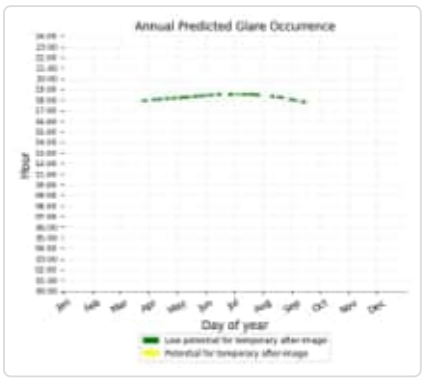
North Array: OP 35

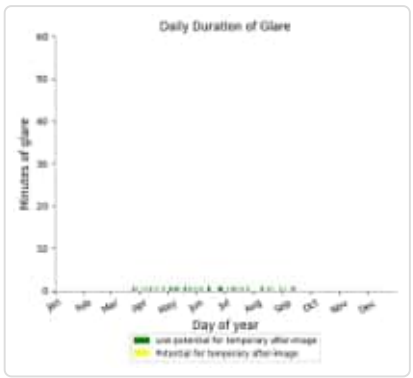
No glare found

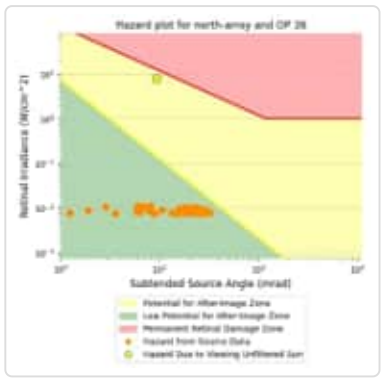
North Array: OP 36

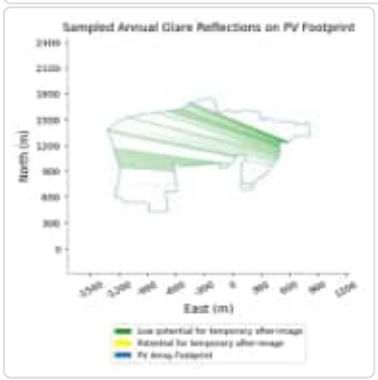
PV array is expected to produce the following glare for this receptor:

- 49 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 37

No glare found

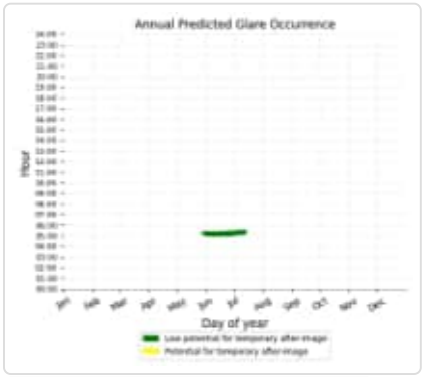
North Array: OP 38

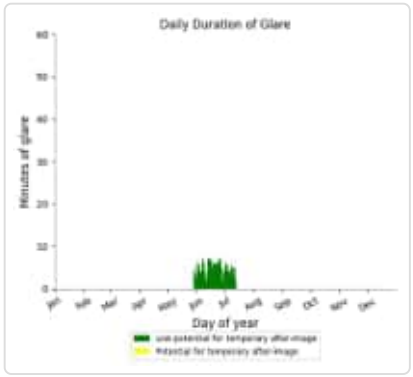
No glare found

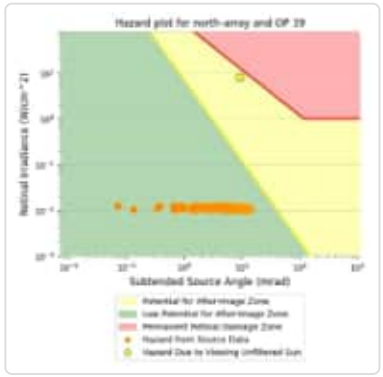
North Array: OP 39

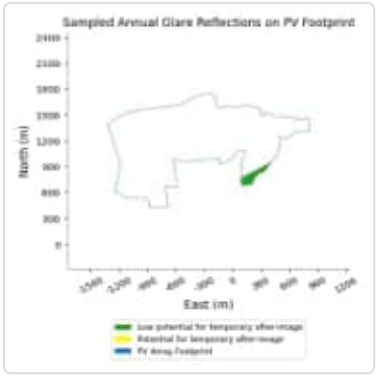
PV array is expected to produce the following glare for this receptor:

- 238 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





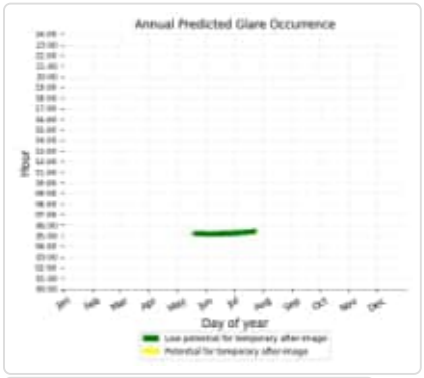


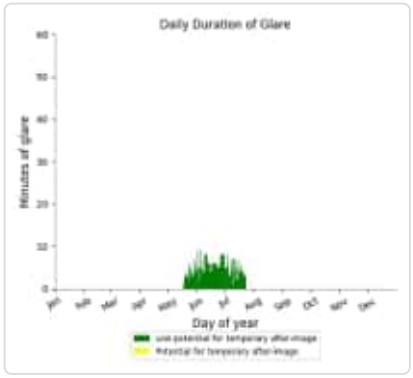


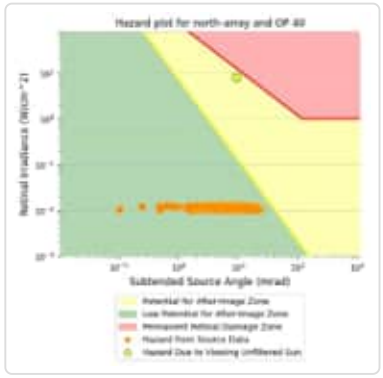
North Array: OP 40

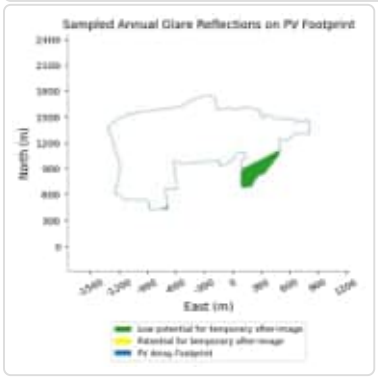
PV array is expected to produce the following glare for this receptor:

- 343 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





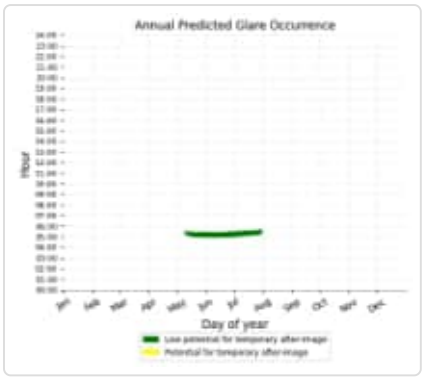


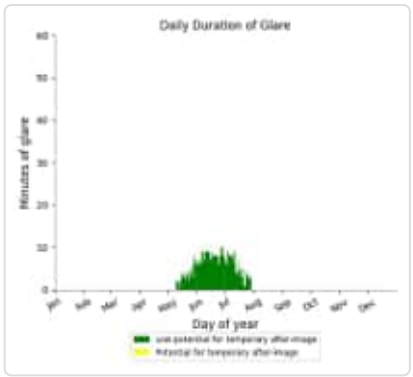


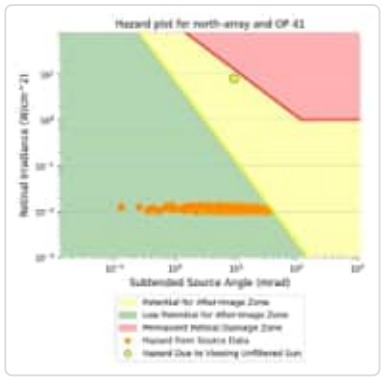
North Array: OP 41

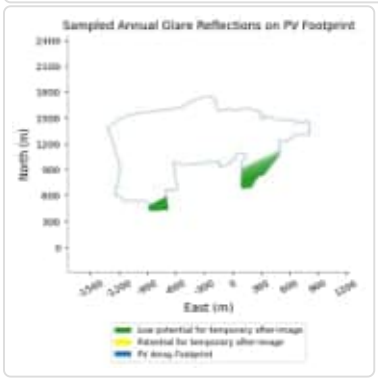
PV array is expected to produce the following glare for this receptor:

- 467 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





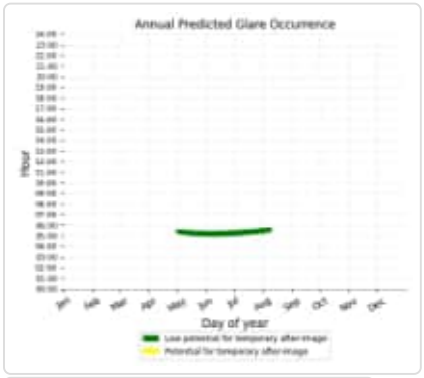


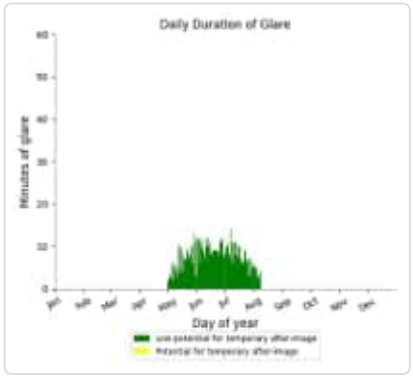


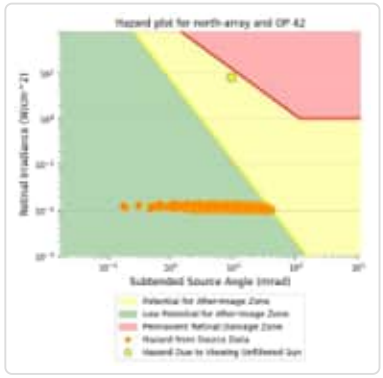
North Array: OP 42

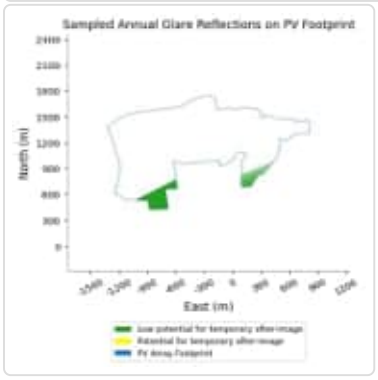
PV array is expected to produce the following glare for this receptor:

- 769 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





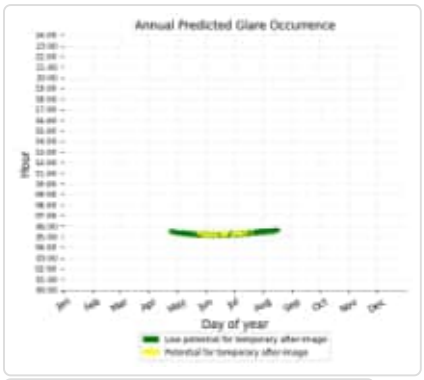


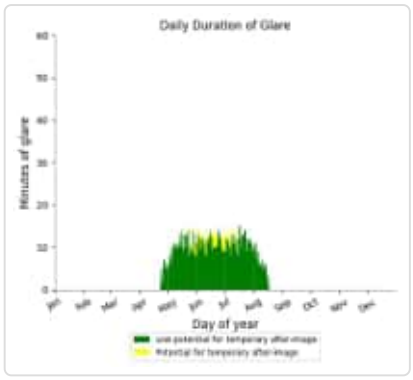


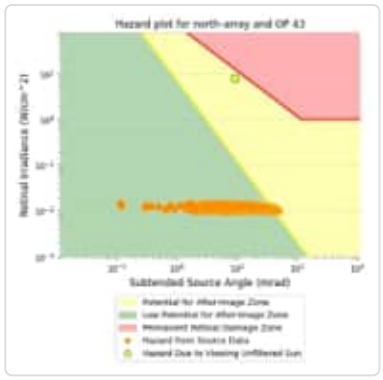
North Array: OP 43

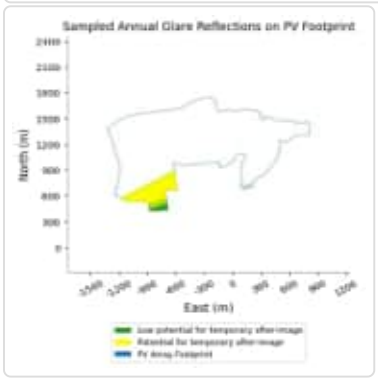
PV array is expected to produce the following glare for this receptor:

- 1,136 minutes of "green" glare with low potential to cause temporary after-image.
- 88 minutes of "yellow" glare with potential to cause temporary after-image.





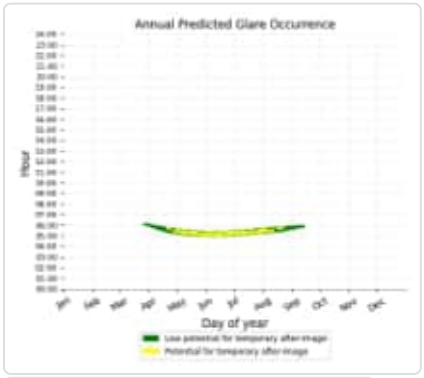


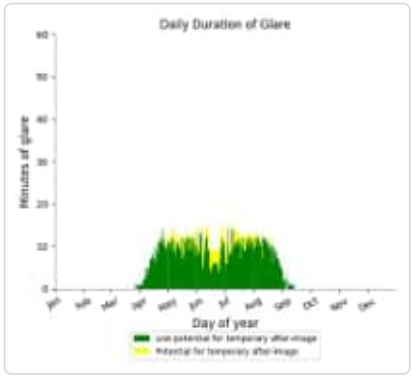


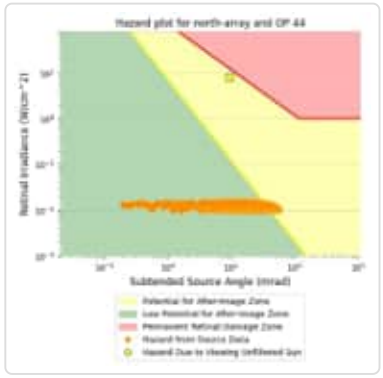
North Array: OP 44

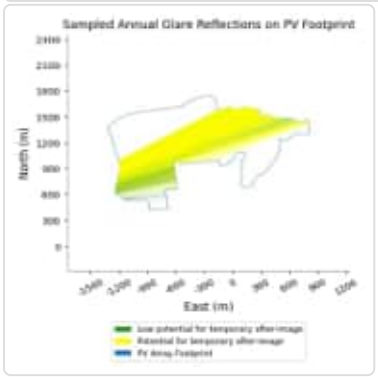
PV array is expected to produce the following glare for this receptor:

- 1,410 minutes of "green" glare with low potential to cause temporary after-image.
- 239 minutes of "yellow" glare with potential to cause temporary after-image.





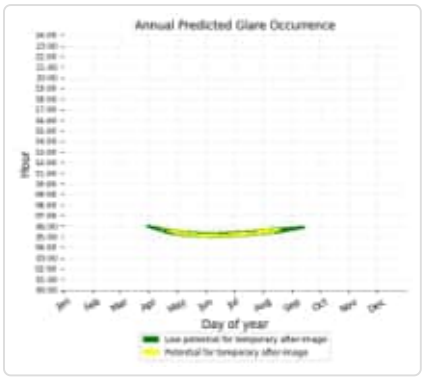


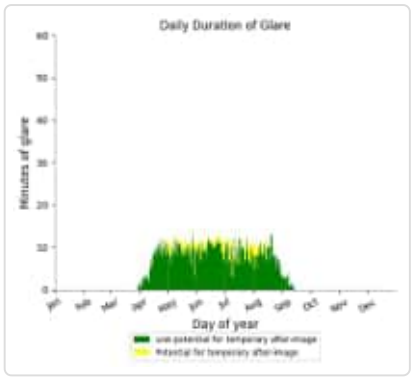


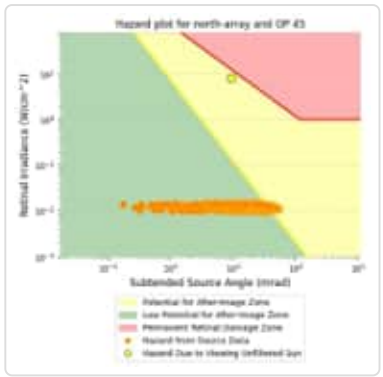
North Array: OP 45

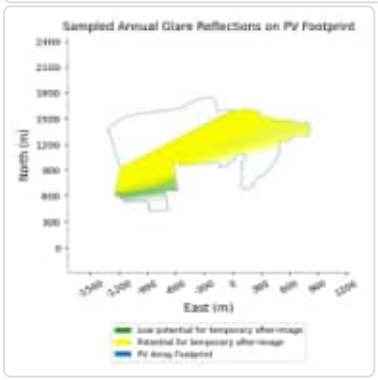
PV array is expected to produce the following glare for this receptor:

- 1,315 minutes of "green" glare with low potential to cause temporary after-image.
- 191 minutes of "yellow" glare with potential to cause temporary after-image.





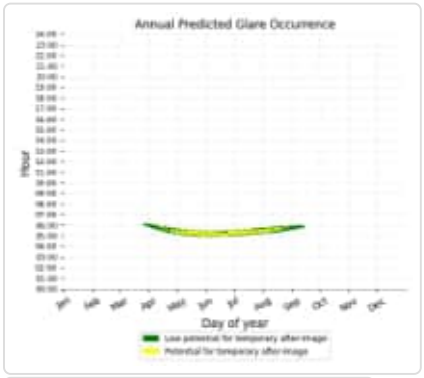


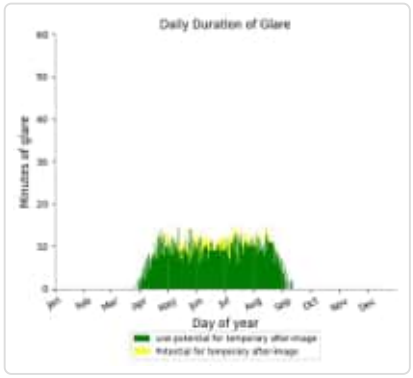


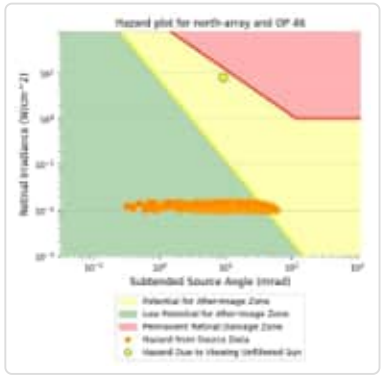
North Array: OP 46

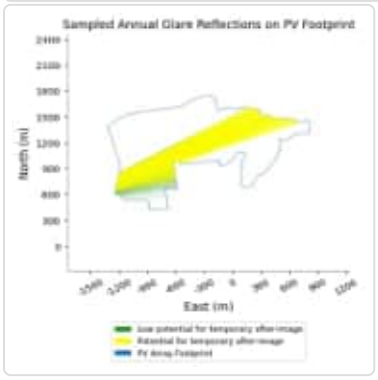
PV array is expected to produce the following glare for this receptor:

- 1,448 minutes of "green" glare with low potential to cause temporary after-image.
- 160 minutes of "yellow" glare with potential to cause temporary after-image.





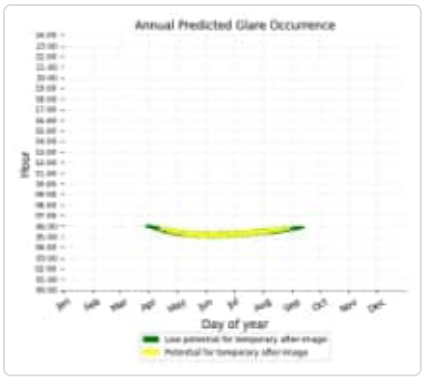


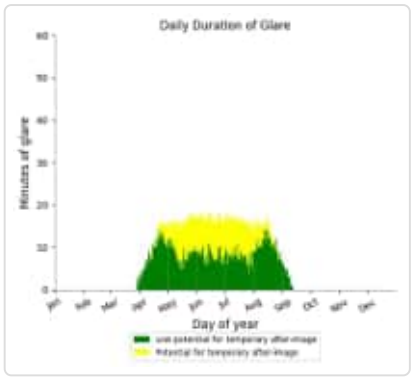


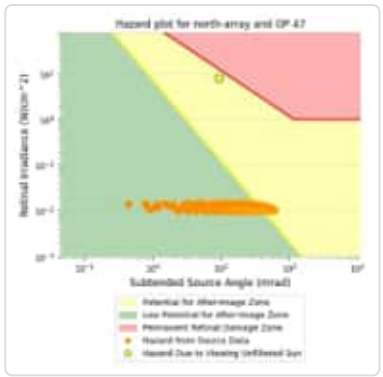
North Array: OP 47

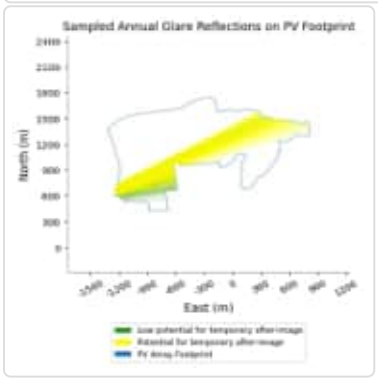
PV array is expected to produce the following glare for this receptor:

- 1,393 minutes of "green" glare with low potential to cause temporary after-image.
- 886 minutes of "yellow" glare with potential to cause temporary after-image.





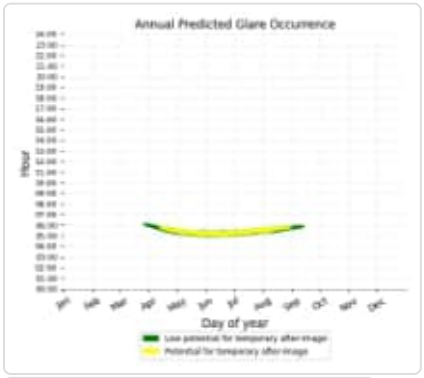


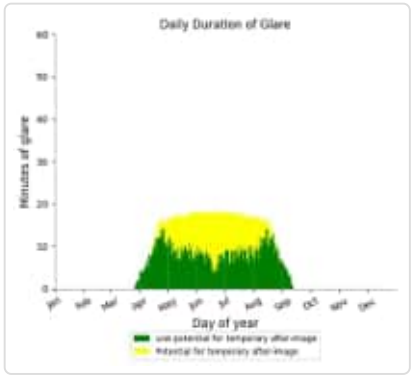


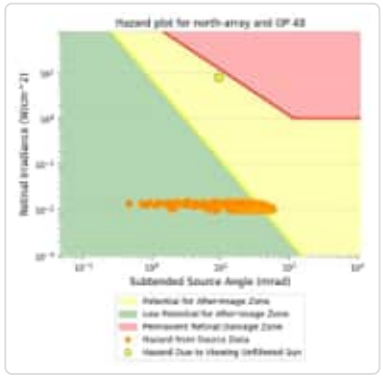
North Array: OP 48

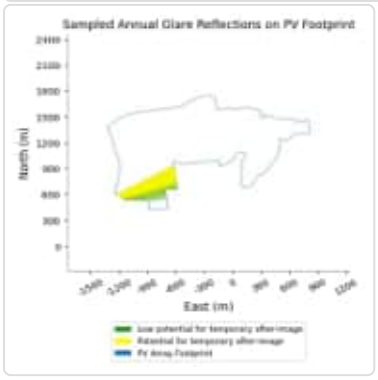
PV array is expected to produce the following glare for this receptor:

- 1,385 minutes of "green" glare with low potential to cause temporary after-image.
- 1,031 minutes of "yellow" glare with potential to cause temporary after-image.





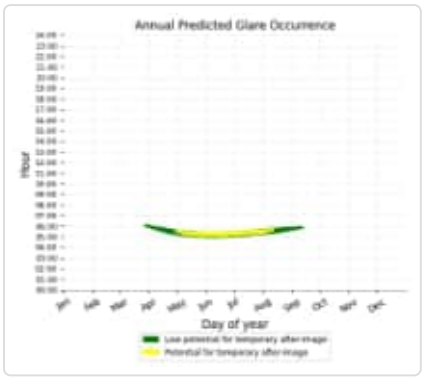


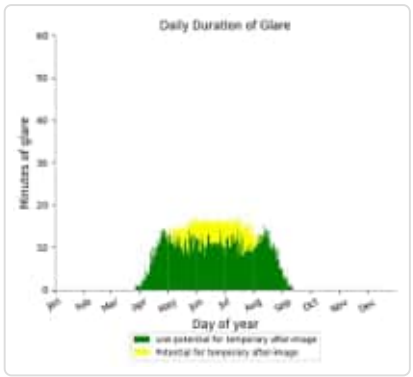


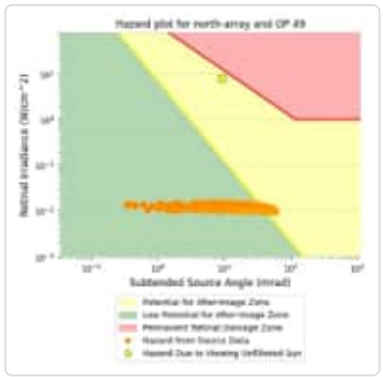
North Array: OP 49

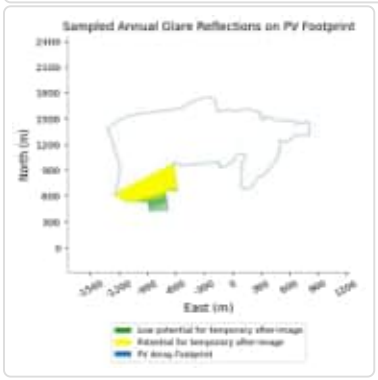
PV array is expected to produce the following glare for this receptor:

- 1,591 minutes of "green" glare with low potential to cause temporary after-image.
- 425 minutes of "yellow" glare with potential to cause temporary after-image.





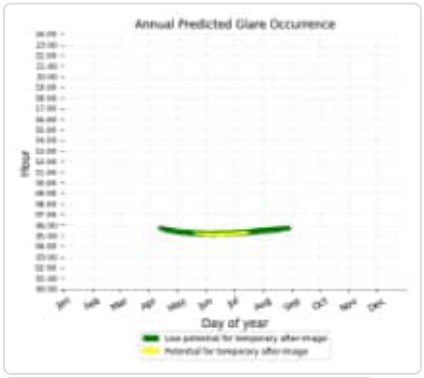


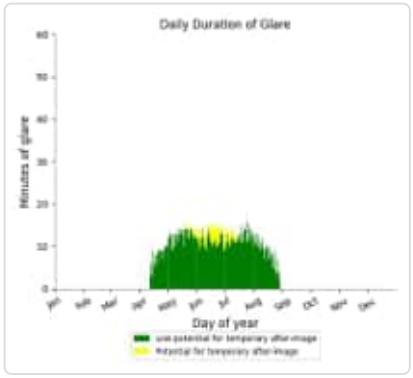


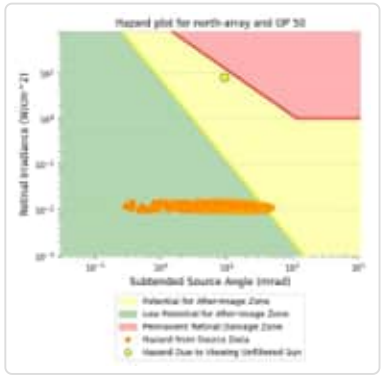
North Array: OP 50

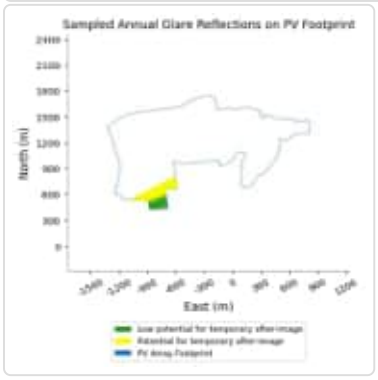
PV array is expected to produce the following glare for this receptor:

- 1,491 minutes of "green" glare with low potential to cause temporary after-image.
- 117 minutes of "yellow" glare with potential to cause temporary after-image.





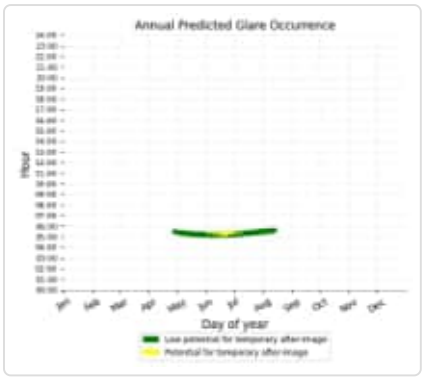


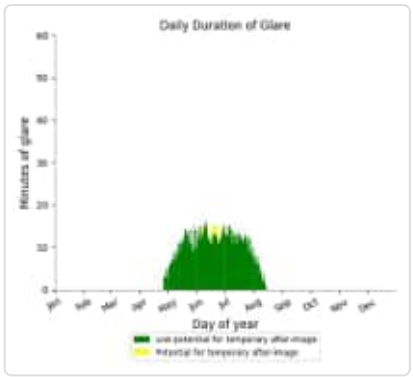


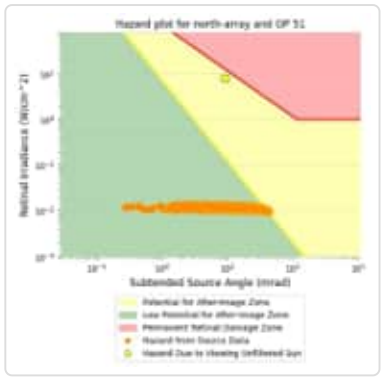
North Array: OP 51

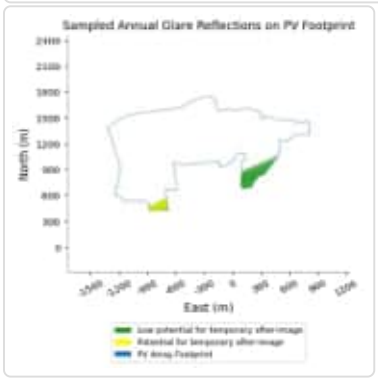
PV array is expected to produce the following glare for this receptor:

- 1,175 minutes of "green" glare with low potential to cause temporary after-image.
- 26 minutes of "yellow" glare with potential to cause temporary after-image.





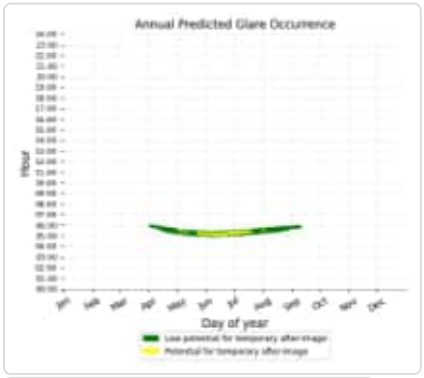


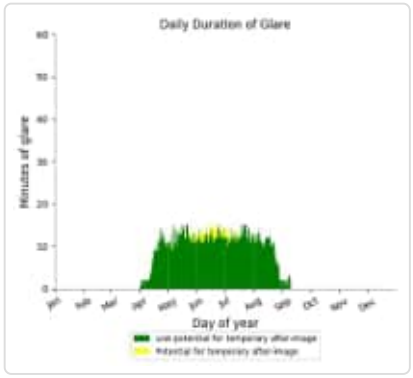


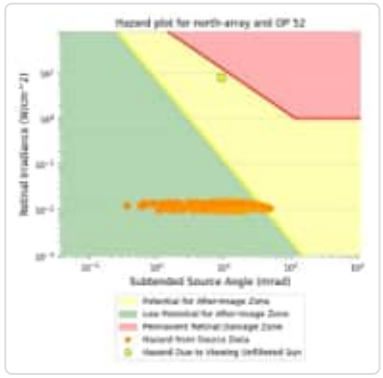
North Array: OP 52

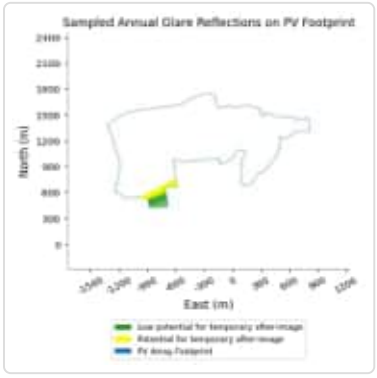
PV array is expected to produce the following glare for this receptor:

- 1,671 minutes of "green" glare with low potential to cause temporary after-image.
- 72 minutes of "yellow" glare with potential to cause temporary after-image.





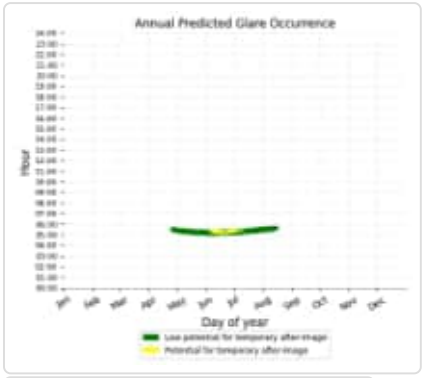




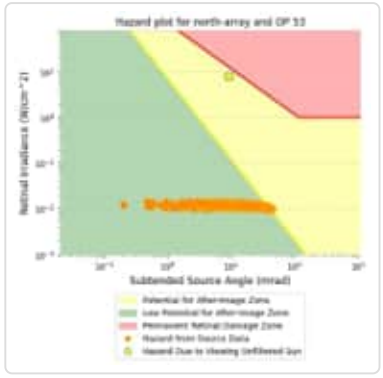
North Array: OP 53

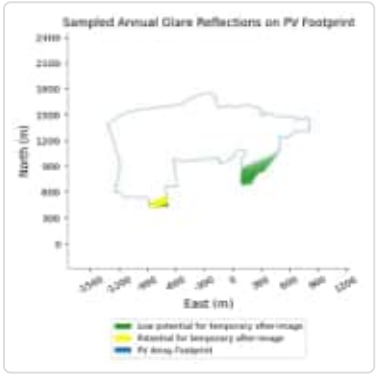
PV array is expected to produce the following glare for this receptor:

- 1,521 minutes of "green" glare with low potential to cause temporary after-image.
- 53 minutes of "yellow" glare with potential to cause temporary after-image.





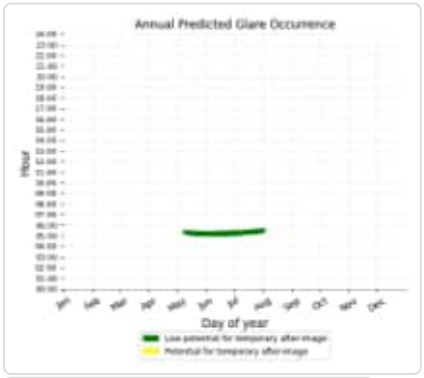


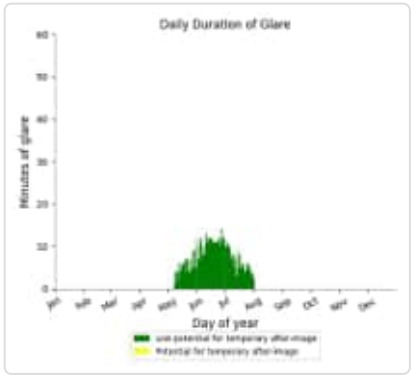


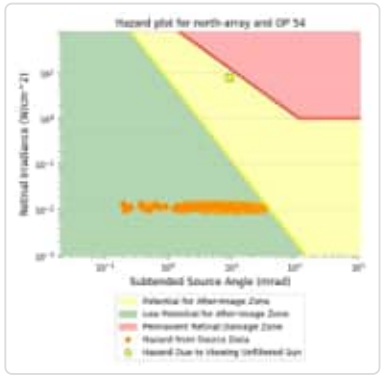
North Array: OP 54

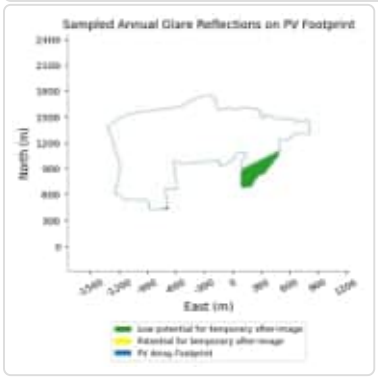
PV array is expected to produce the following glare for this receptor:

- 672 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





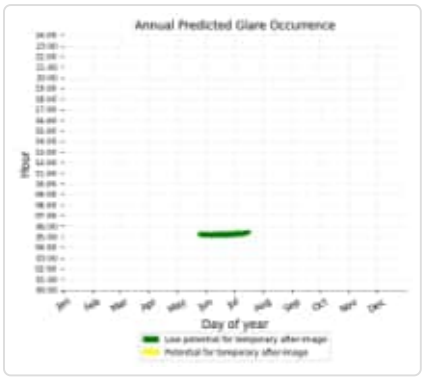


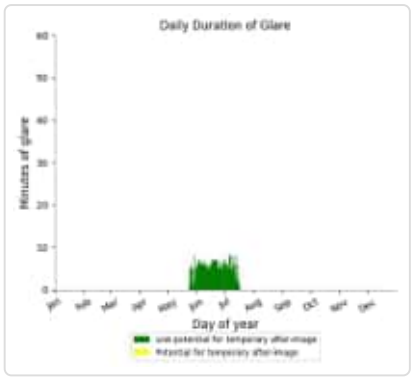


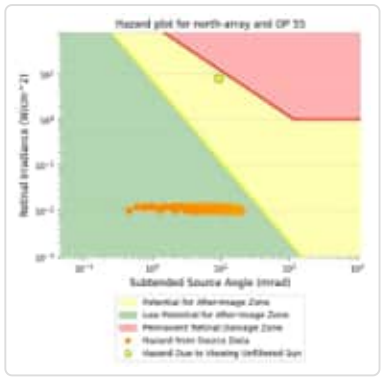
North Array: OP 55

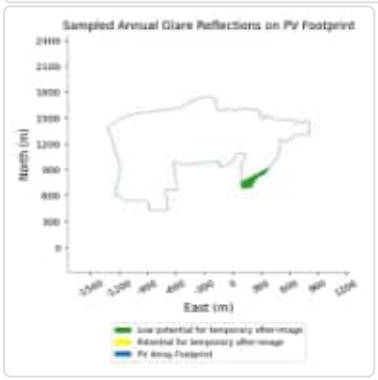
PV array is expected to produce the following glare for this receptor:

- 312 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





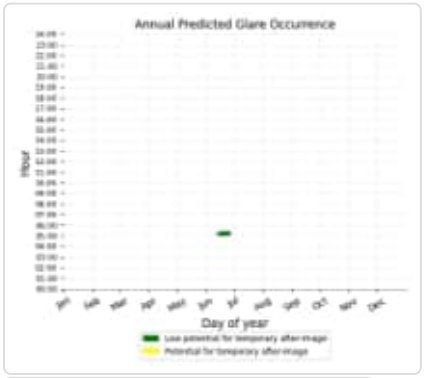


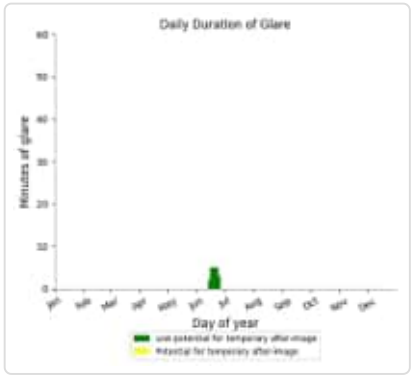


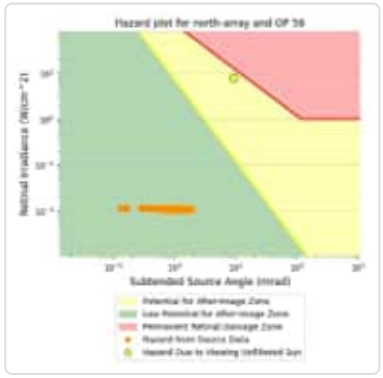
North Array: OP 56

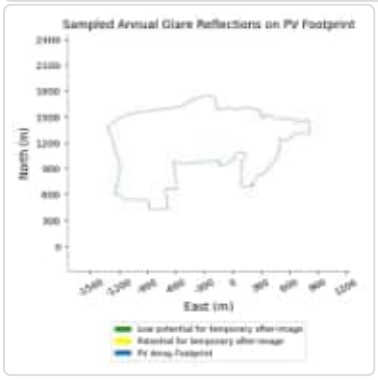
PV array is expected to produce the following glare for this receptor:

- 55 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 57

No glare found

North Array: OP 58

No glare found

North Array: OP 59

No glare found

North Array: OP 60

No glare found

North Array: OP 61

No glare found

North Array: OP 62

No glare found

North Array: OP 63

No glare found

North Array: OP 64

No glare found

North Array: OP 65

No glare found

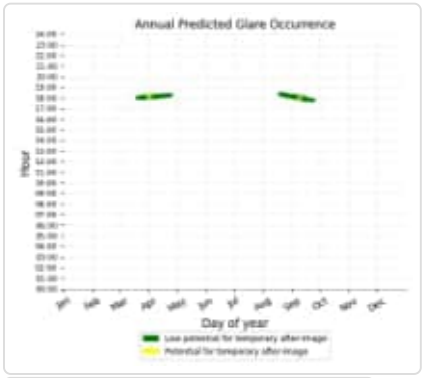
North Array: OP 66

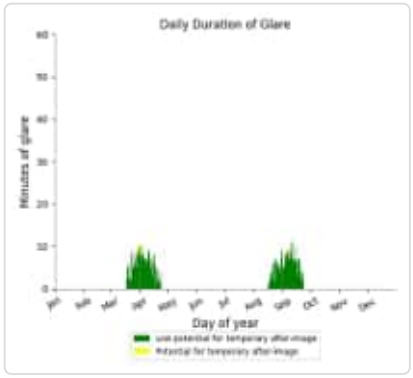
No glare found

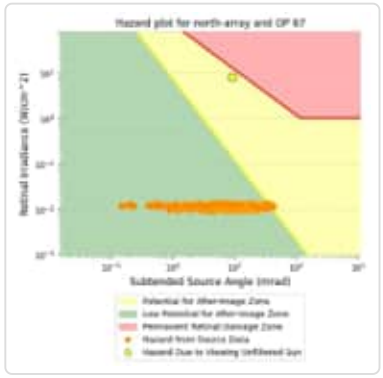
North Array: OP 67

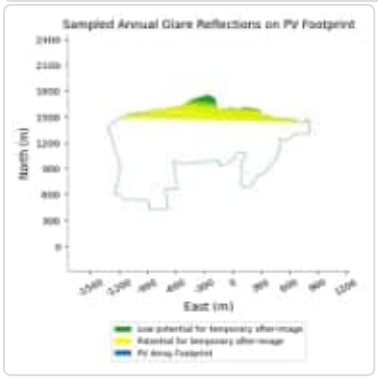
PV array is expected to produce the following glare for this receptor:

- 446 minutes of "green" glare with low potential to cause temporary after-image.
- 8 minutes of "yellow" glare with potential to cause temporary after-image.





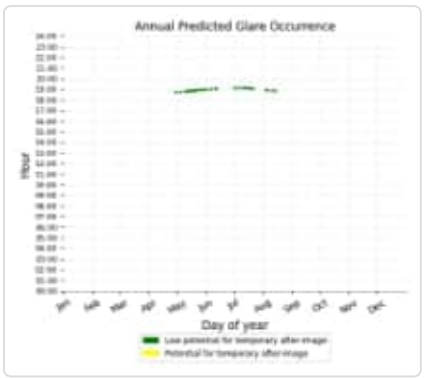


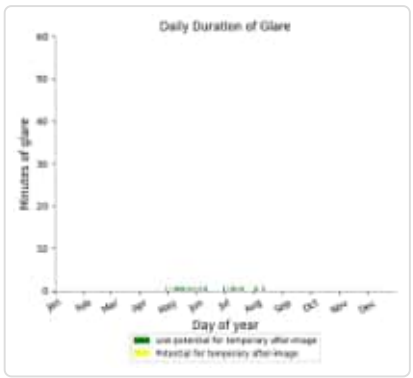


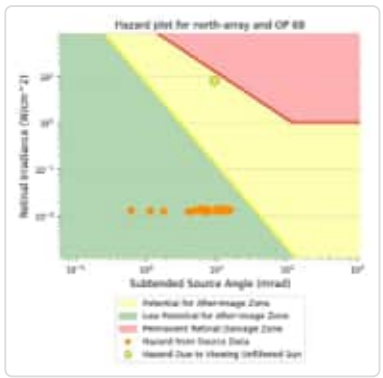
North Array: OP 68

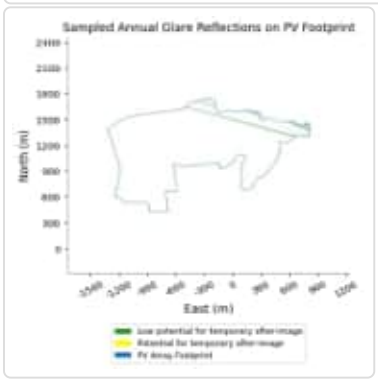
PV array is expected to produce the following glare for this receptor:

- 27 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	1571	191
OP: OP 5	1339	65
OP: OP 6	997	1
OP: OP 7	685	22
OP: OP 8	176	0
OP: OP 9	0	0
OP: OP 10	440	0
OP: OP 11	1346	0
OP: OP 12	1234	0
OP: OP 13	1641	0
OP: OP 14	1168	0
OP: OP 15	853	0
OP: OP 16	919	0
OP: OP 17	772	0
OP: OP 18	781	0
OP: OP 19	834	0
OP: OP 20	1092	59
OP: OP 21	1241	81
OP: OP 22	1544	498
OP: OP 23	24	0
OP: OP 24	1468	586
OP: OP 25	28	0
OP: OP 26	39	0
OP: OP 27	1400	383
OP: OP 28	1209	32
OP: OP 29	703	0
OP: OP 30	0	0
OP: OP 31	17	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	1263	92
OP: OP 40	1345	19
OP: OP 41	1425	33
OP: OP 42	944	0
OP: OP 43	572	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	18	0
OP: OP 50	270	0

OP: OP 51	1534	36
OP: OP 52	16	0
OP: OP 53	1283	104
OP: OP 54	1806	289
OP: OP 55	1405	1064
OP: OP 56	662	1830
OP: OP 57	1093	1333
OP: OP 58	1076	1205
OP: OP 59	1464	931
OP: OP 60	1981	153
OP: OP 61	1821	64
OP: OP 62	0	0
OP: OP 63	0	0
OP: OP 64	0	0
OP: OP 65	0	0
OP: OP 66	0	0
OP: OP 67	0	0
OP: OP 68	0	0

South Array: OP 1

No glare found

South Array: OP 2

No glare found

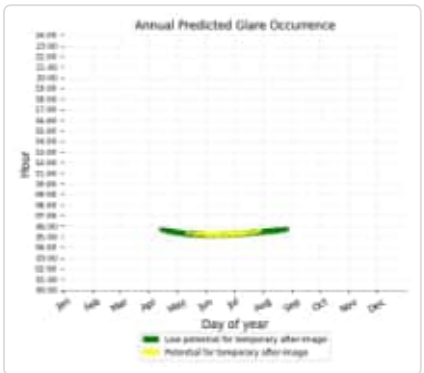
South Array: OP 3

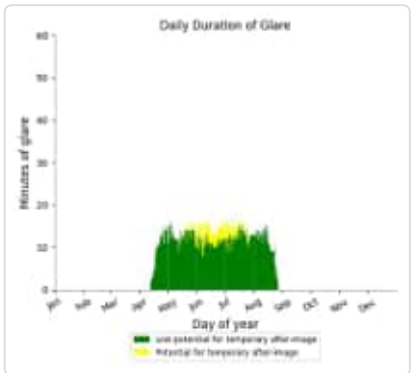
No glare found

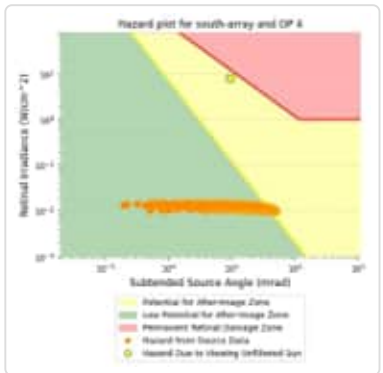
South Array: OP 4

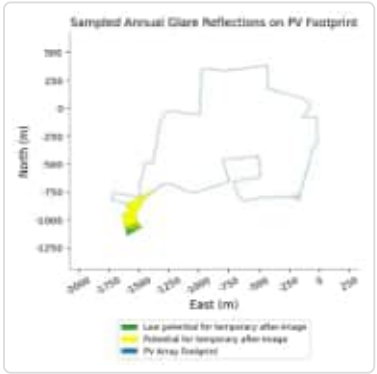
PV array is expected to produce the following glare for this receptor:

- 1,571 minutes of "green" glare with low potential to cause temporary after-image.
- 191 minutes of "yellow" glare with potential to cause temporary after-image.





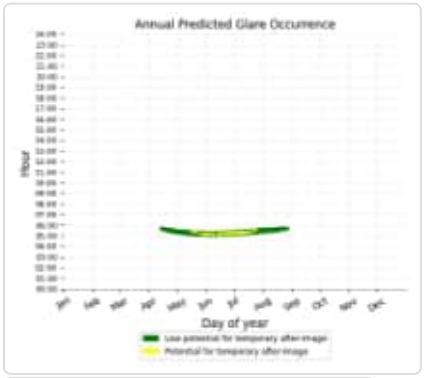


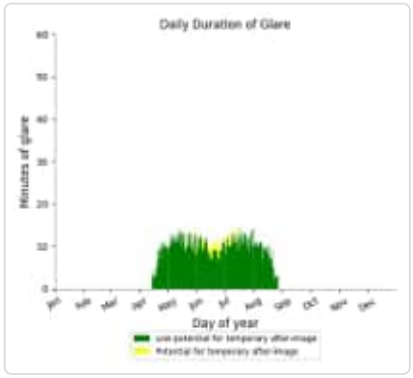


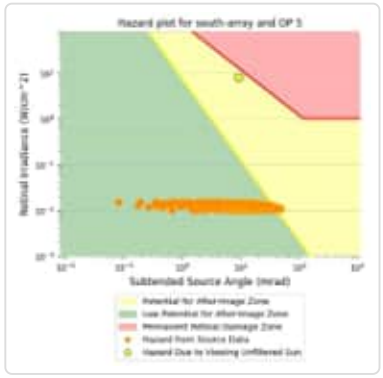
South Array: OP 5

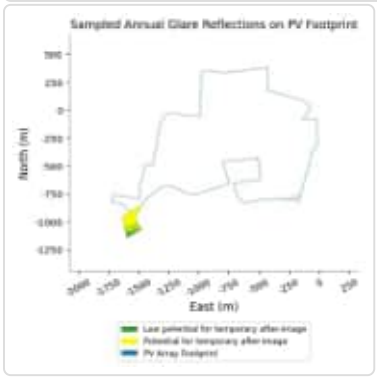
PV array is expected to produce the following glare for this receptor:

- 1,339 minutes of "green" glare with low potential to cause temporary after-image.
- 65 minutes of "yellow" glare with potential to cause temporary after-image.





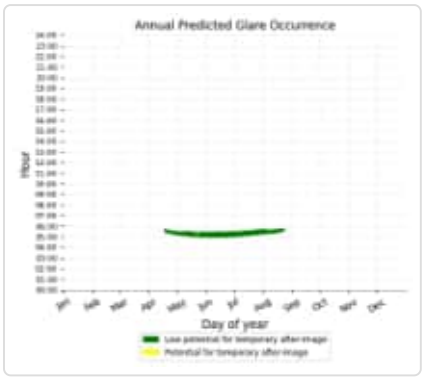


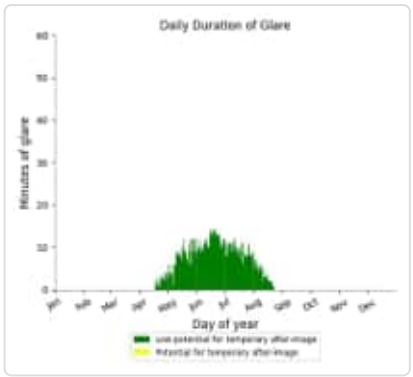


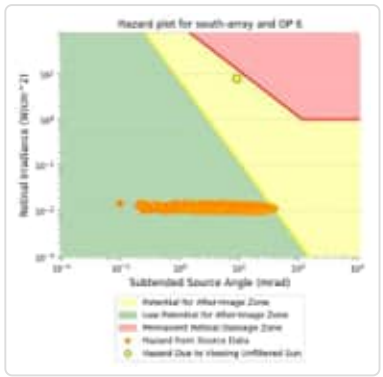
South Array: OP 6

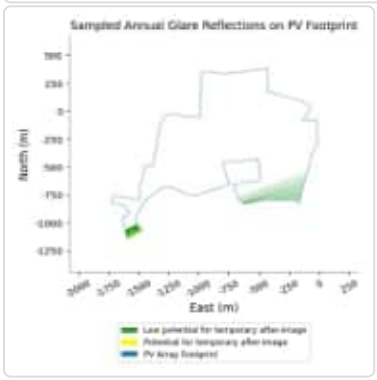
PV array is expected to produce the following glare for this receptor:

- 997 minutes of "green" glare with low potential to cause temporary after-image.
- 1 minutes of "yellow" glare with potential to cause temporary after-image.





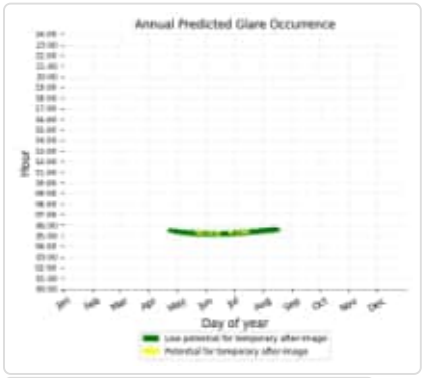


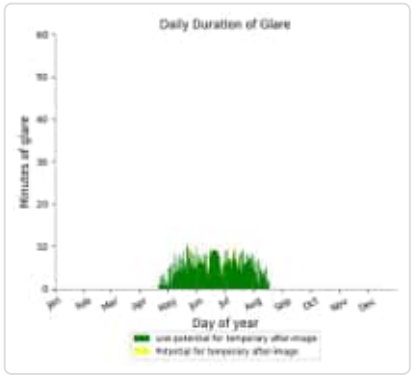


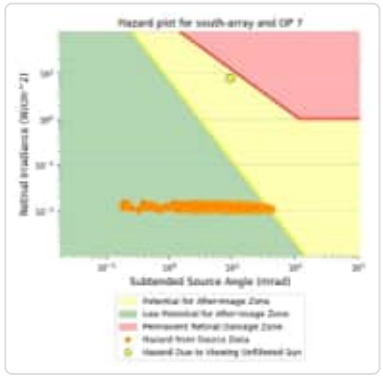
South Array: OP 7

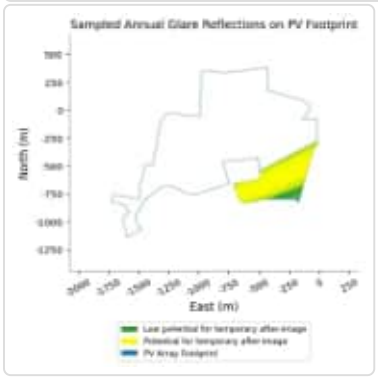
PV array is expected to produce the following glare for this receptor:

- 685 minutes of "green" glare with low potential to cause temporary after-image.
- 22 minutes of "yellow" glare with potential to cause temporary after-image.





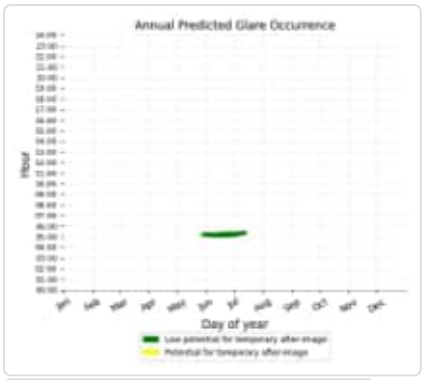


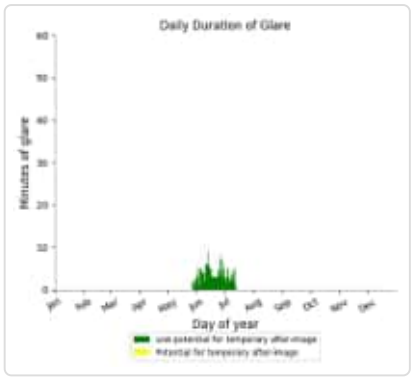


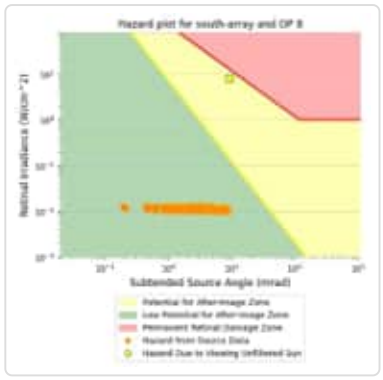
South Array: OP 8

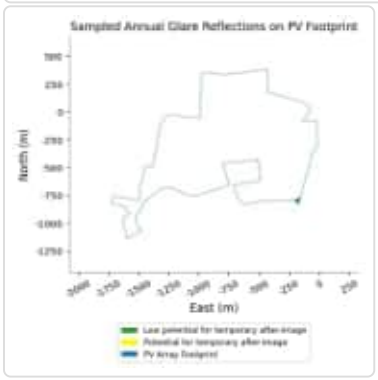
PV array is expected to produce the following glare for this receptor:

- 176 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









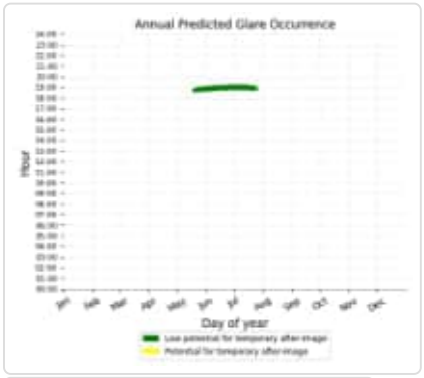
South Array: OP 9

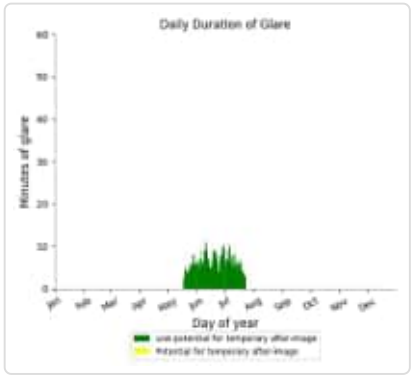
No glare found

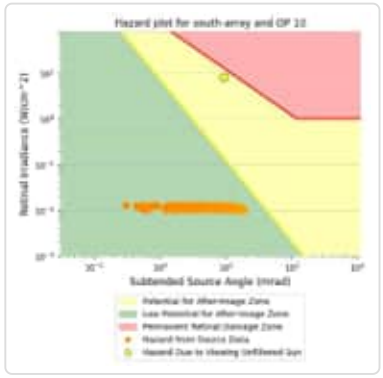
South Array: OP 10

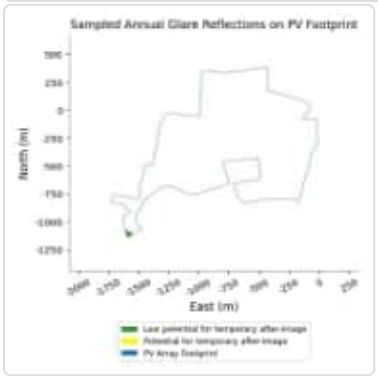
PV array is expected to produce the following glare for this receptor:

- 440 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





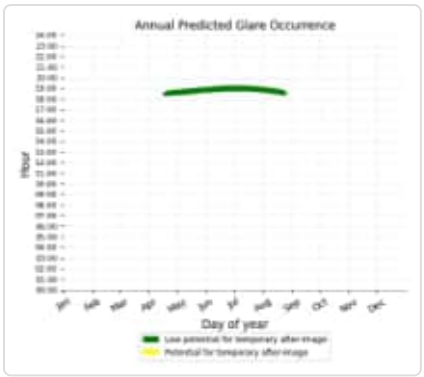


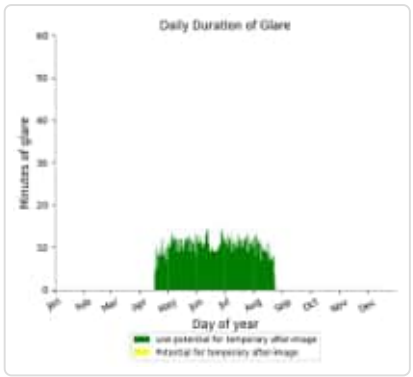


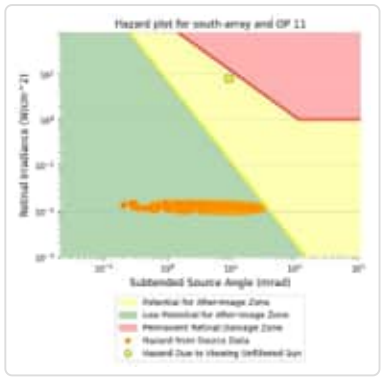
South Array: OP 11

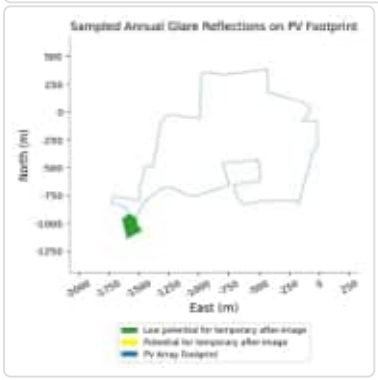
PV array is expected to produce the following glare for this receptor:

- 1,346 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





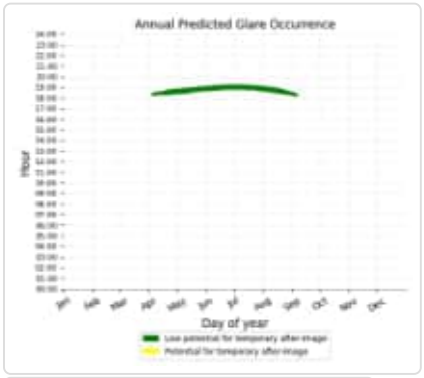


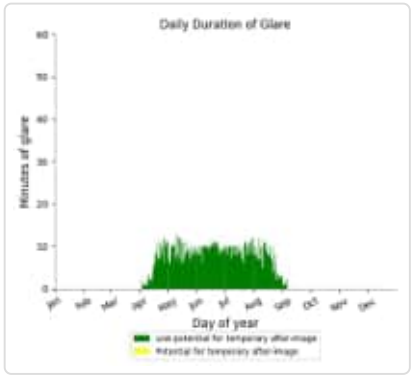


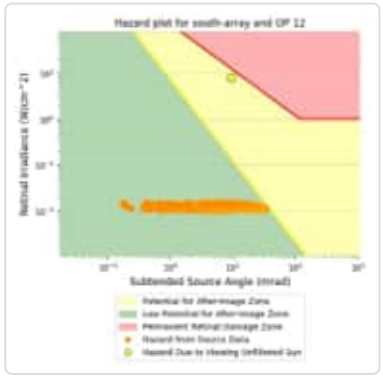
South Array: OP 12

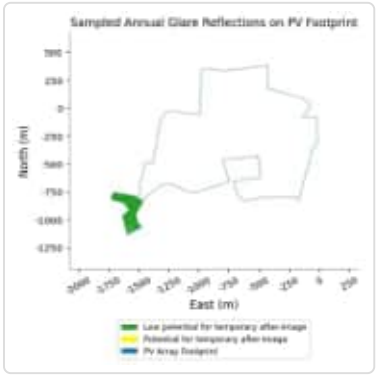
PV array is expected to produce the following glare for this receptor:

- 1,234 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





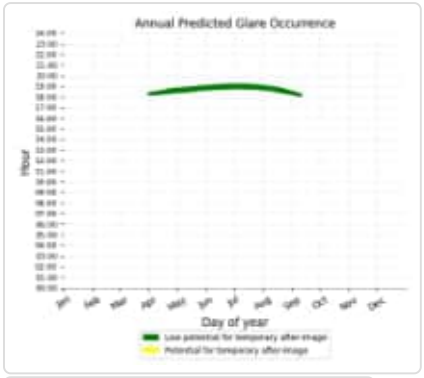


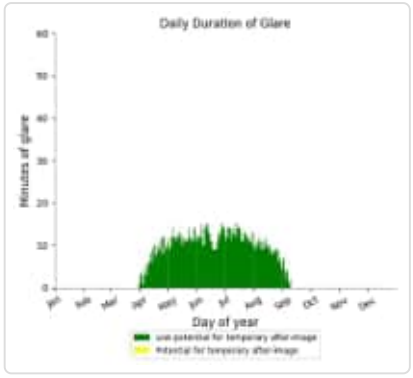


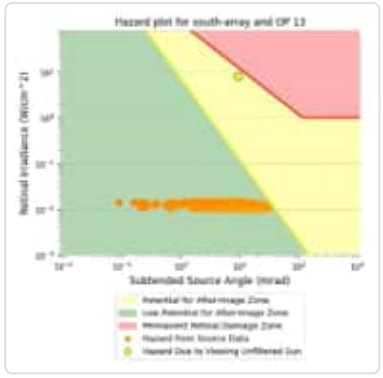
South Array: OP 13

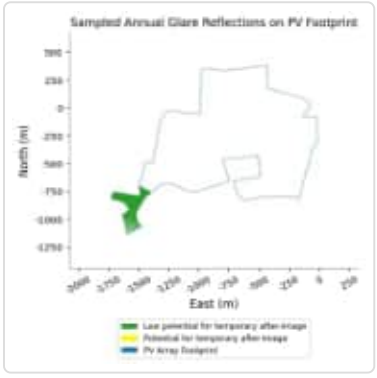
PV array is expected to produce the following glare for this receptor:

- 1,641 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





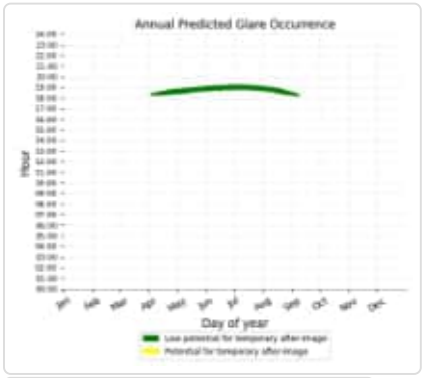


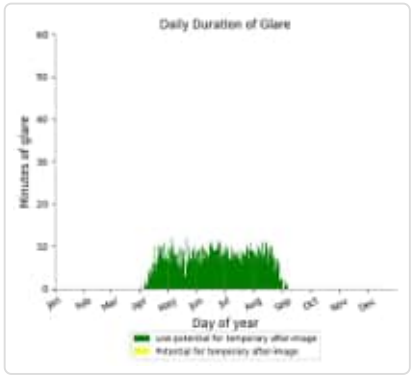


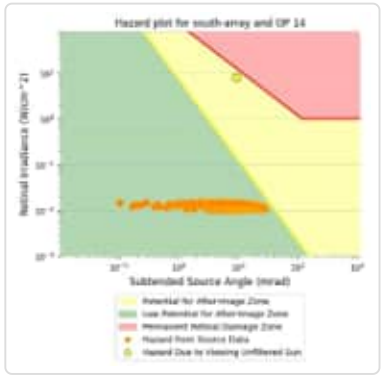
South Array: OP 14

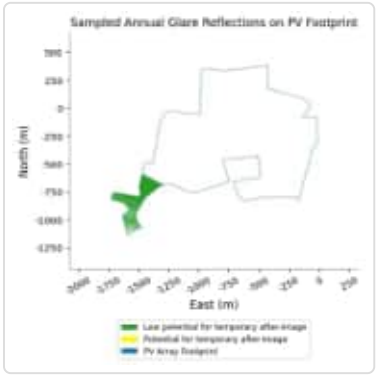
PV array is expected to produce the following glare for this receptor:

- 1,168 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





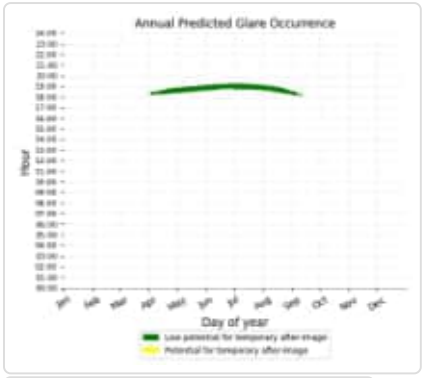


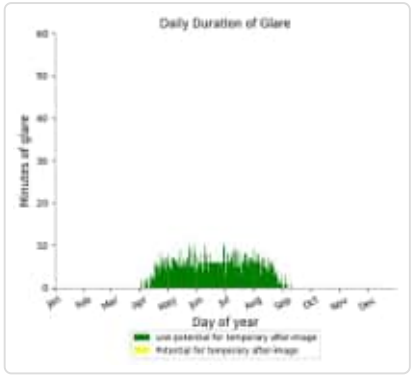


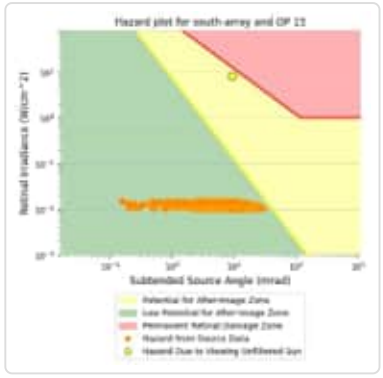
South Array: OP 15

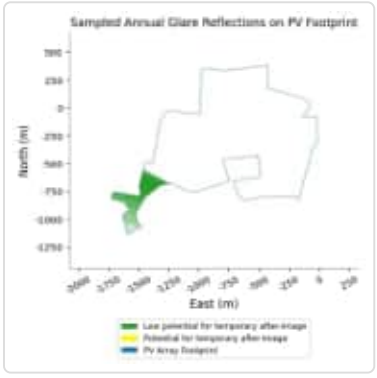
PV array is expected to produce the following glare for this receptor:

- 853 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





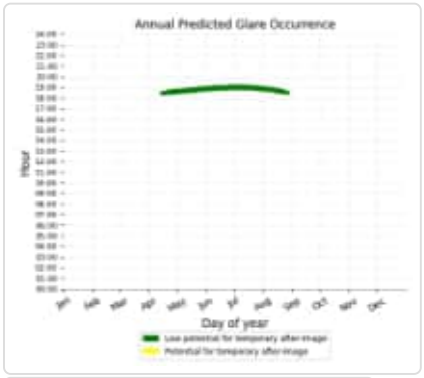


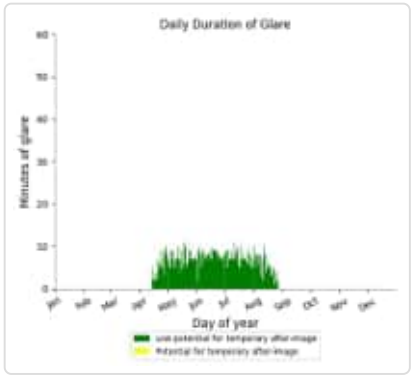


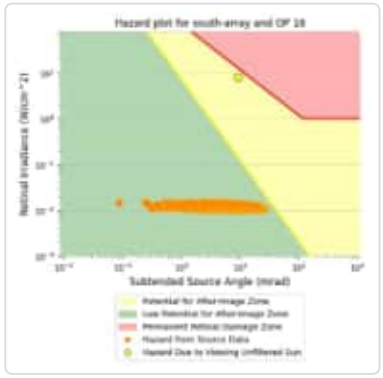
South Array: OP 16

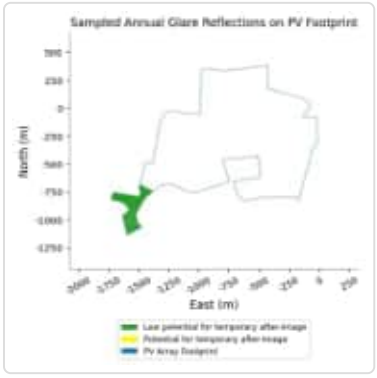
PV array is expected to produce the following glare for this receptor:

- 919 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





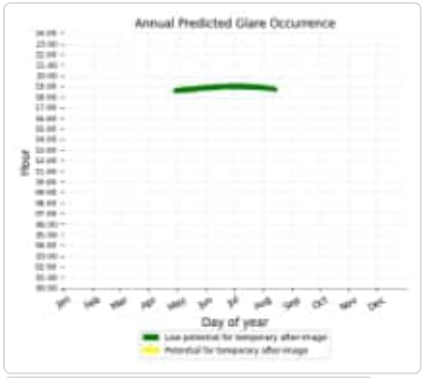


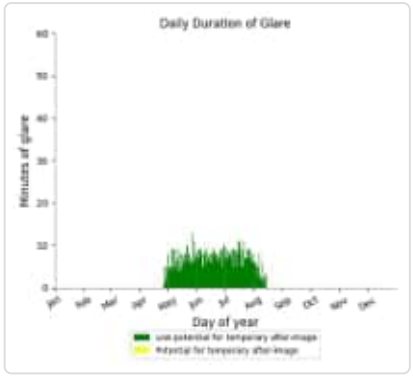


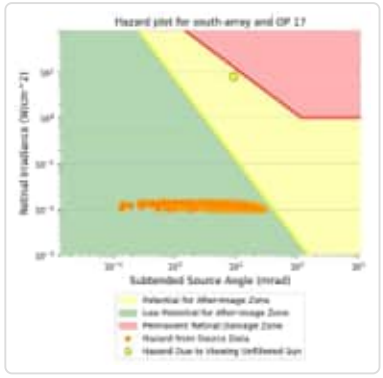
South Array: OP 17

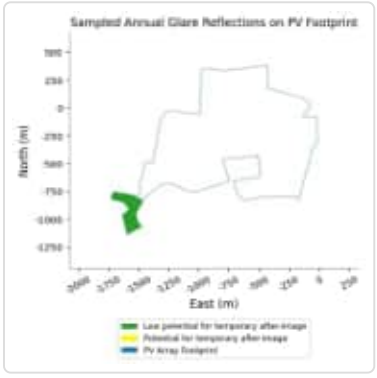
PV array is expected to produce the following glare for this receptor:

- 772 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





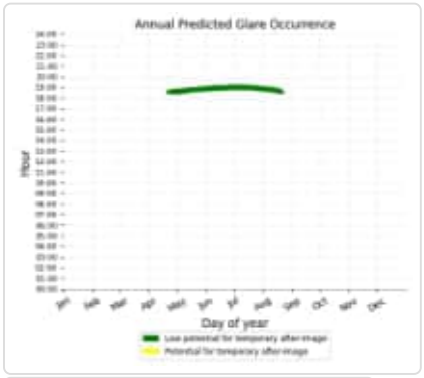


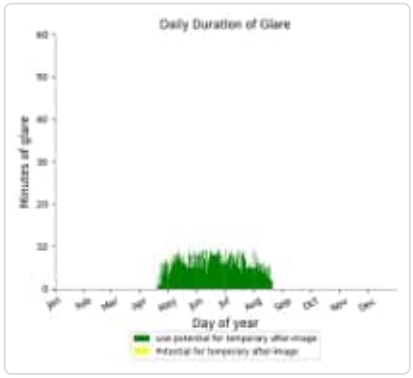


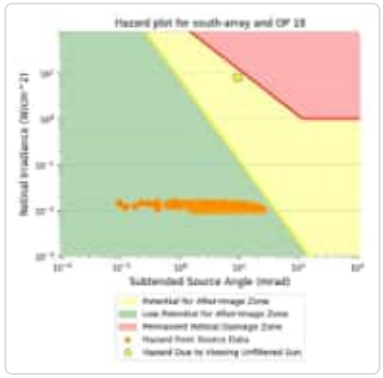
South Array: OP 18

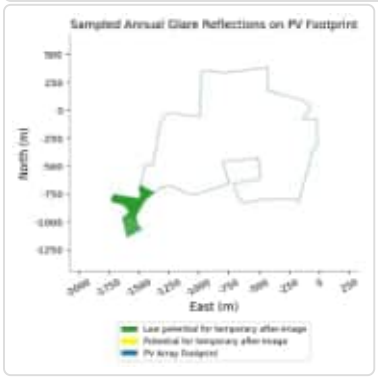
PV array is expected to produce the following glare for this receptor:

- 781 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





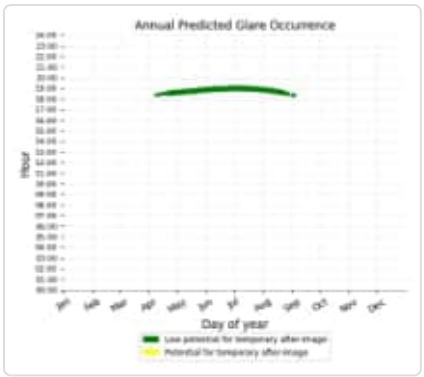


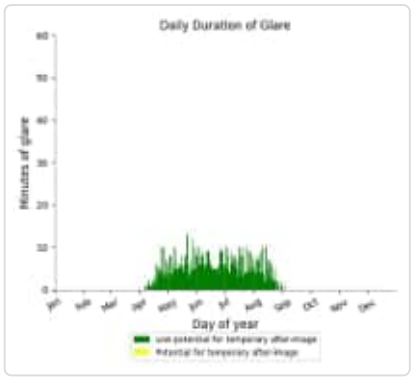


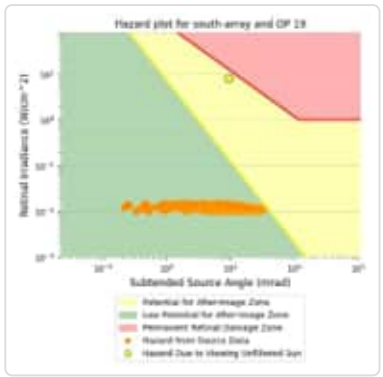
South Array: OP 19

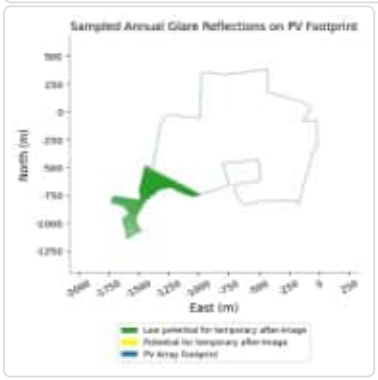
PV array is expected to produce the following glare for this receptor:

- 834 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





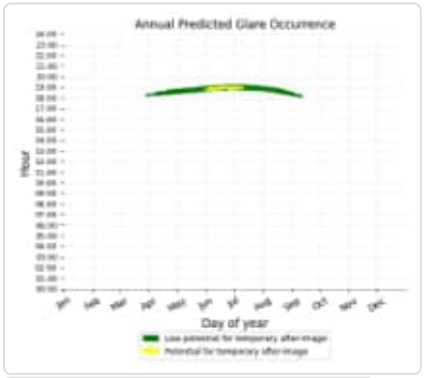


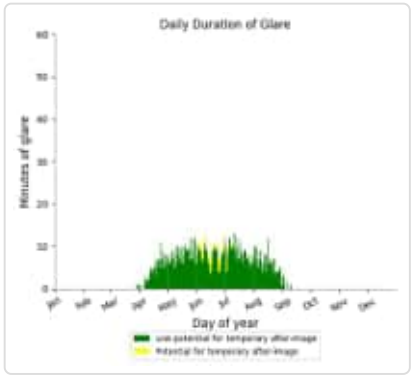


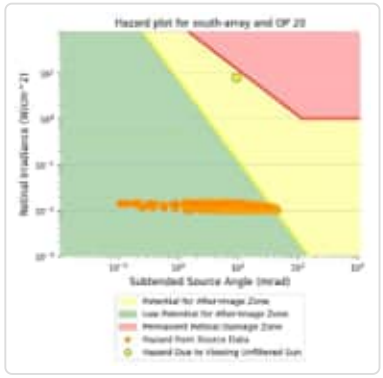
South Array: OP 20

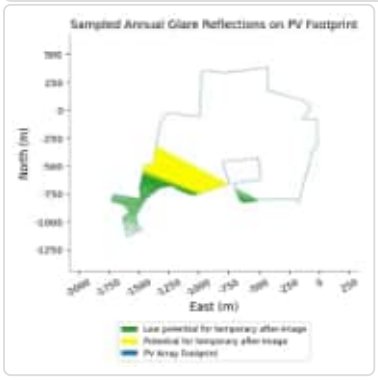
PV array is expected to produce the following glare for this receptor:

- 1,092 minutes of "green" glare with low potential to cause temporary after-image.
- 59 minutes of "yellow" glare with potential to cause temporary after-image.





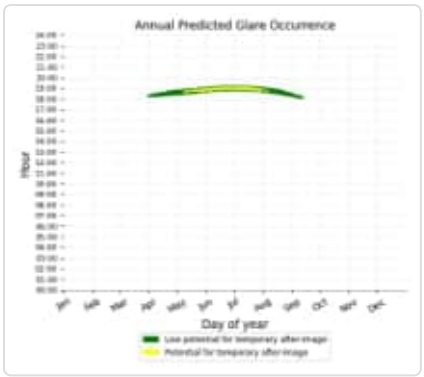


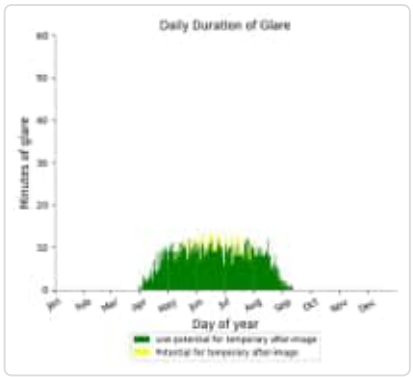


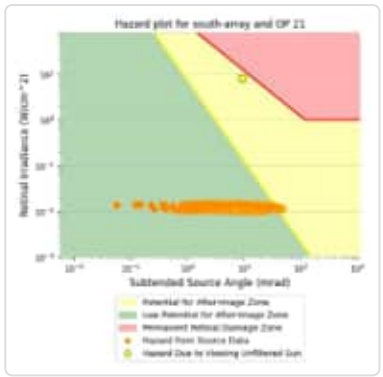
South Array: OP 21

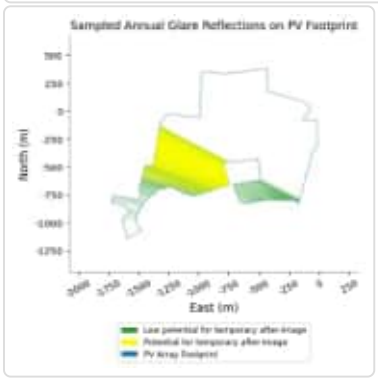
PV array is expected to produce the following glare for this receptor:

- 1,241 minutes of "green" glare with low potential to cause temporary after-image.
- 81 minutes of "yellow" glare with potential to cause temporary after-image.





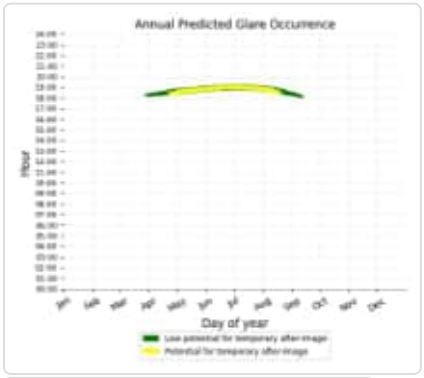


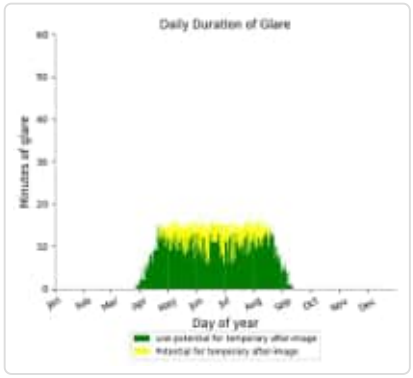


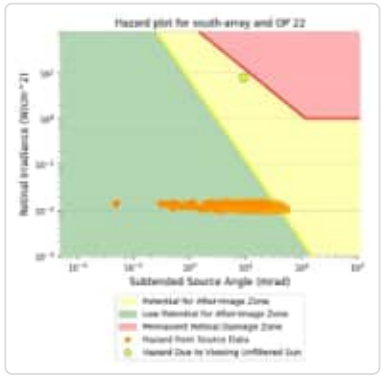
South Array: OP 22

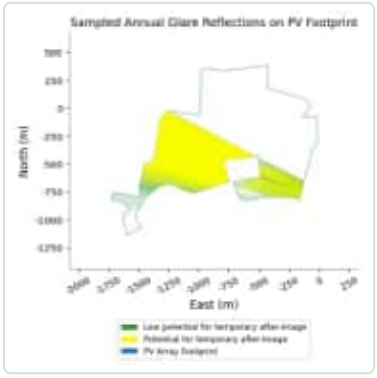
PV array is expected to produce the following glare for this receptor:

- 1,544 minutes of "green" glare with low potential to cause temporary after-image.
- 498 minutes of "yellow" glare with potential to cause temporary after-image.





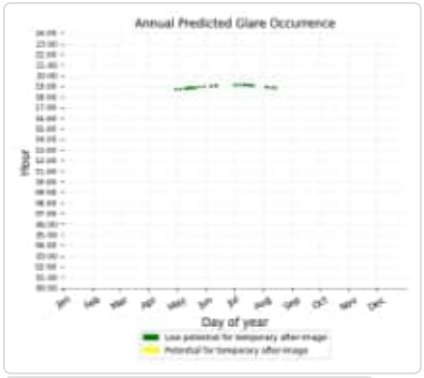


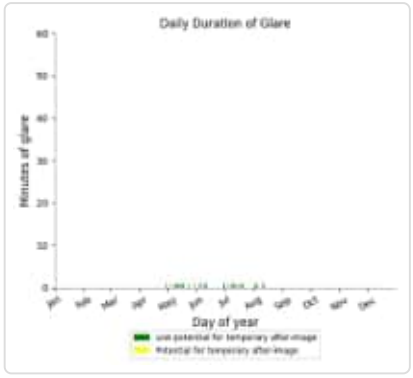


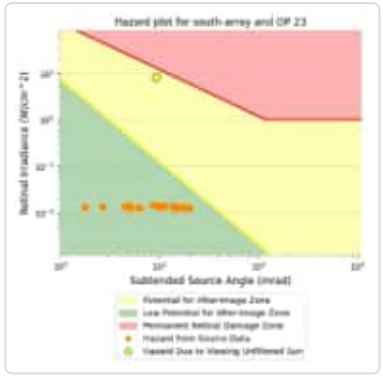
South Array: OP 23

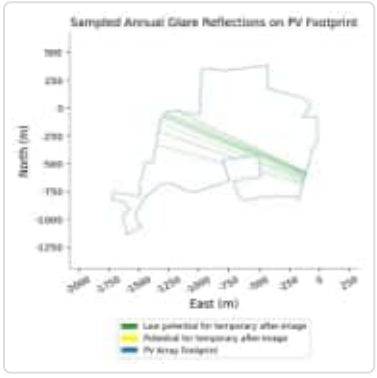
PV array is expected to produce the following glare for this receptor:

- 24 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





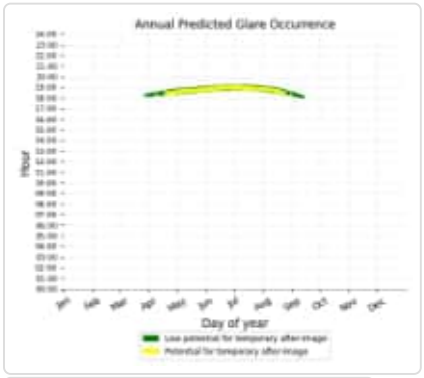


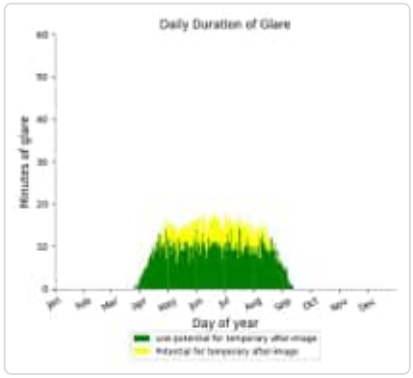


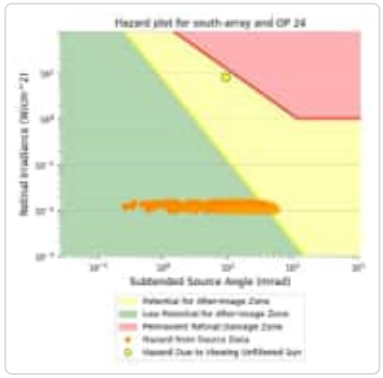
South Array: OP 24

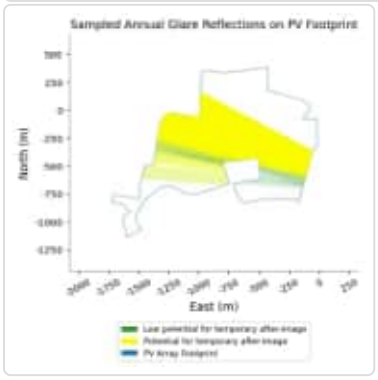
PV array is expected to produce the following glare for this receptor:

- 1,468 minutes of "green" glare with low potential to cause temporary after-image.
- 586 minutes of "yellow" glare with potential to cause temporary after-image.





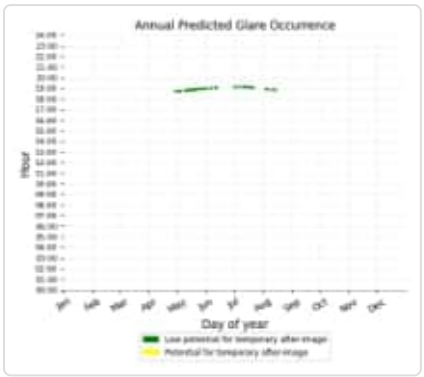


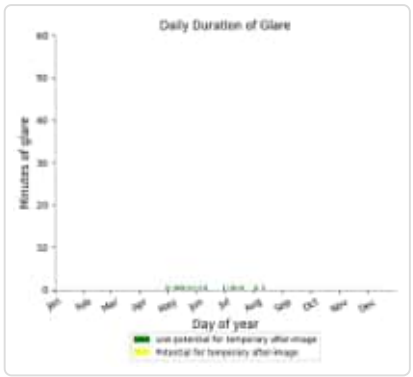


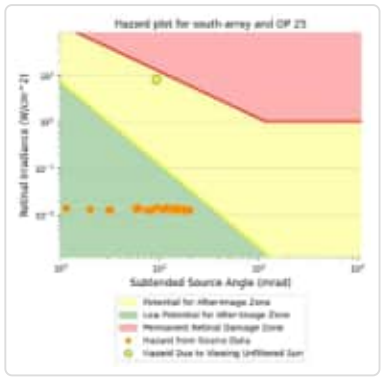
South Array: OP 25

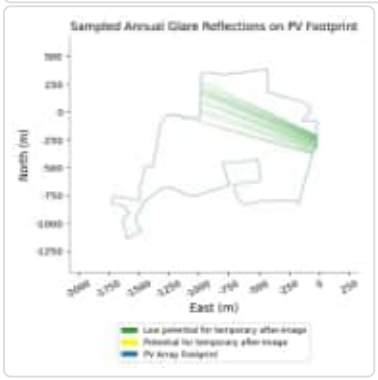
PV array is expected to produce the following glare for this receptor:

- 28 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





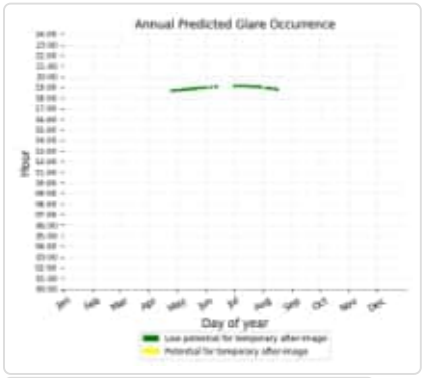


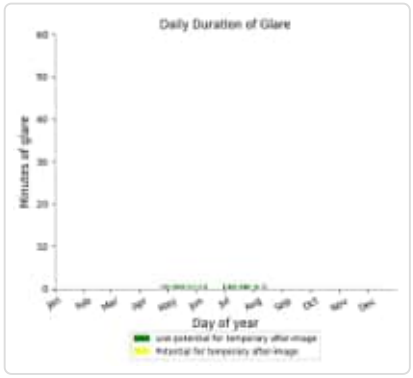


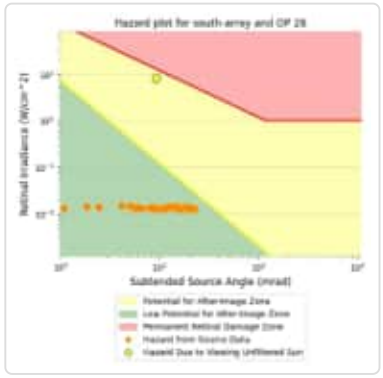
South Array: OP 26

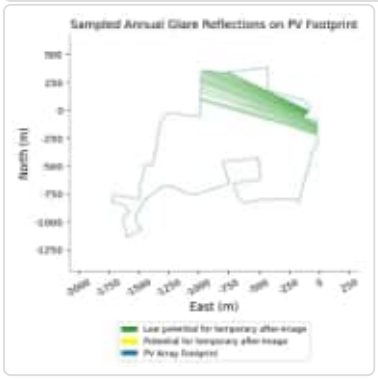
PV array is expected to produce the following glare for this receptor:

- 39 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





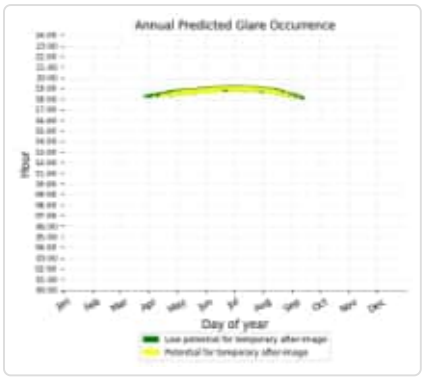


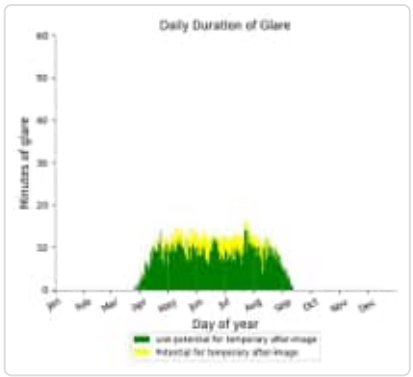


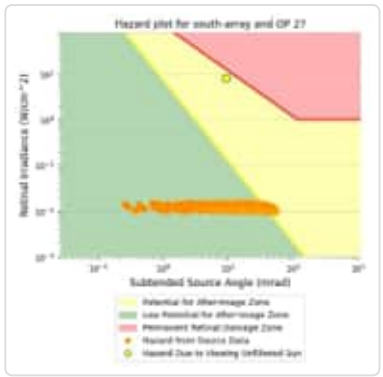
South Array: OP 27

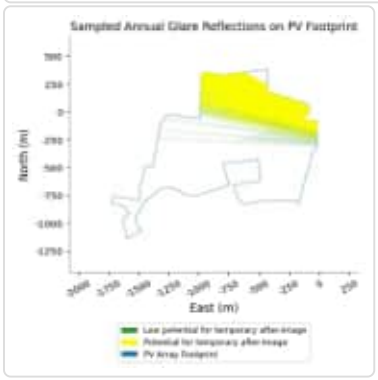
PV array is expected to produce the following glare for this receptor:

- 1,400 minutes of "green" glare with low potential to cause temporary after-image.
- 383 minutes of "yellow" glare with potential to cause temporary after-image.





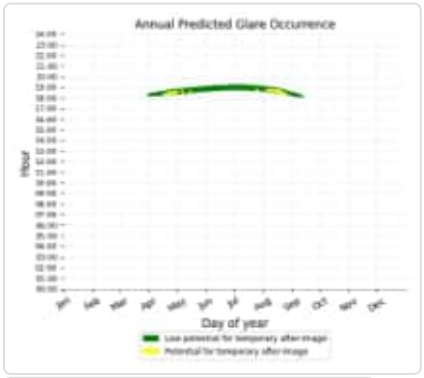


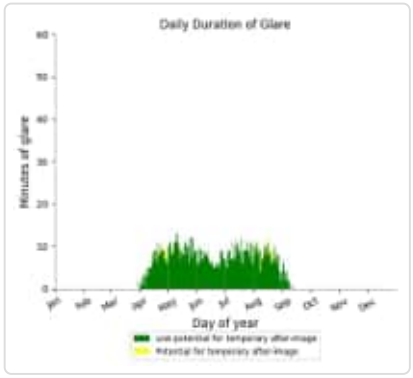


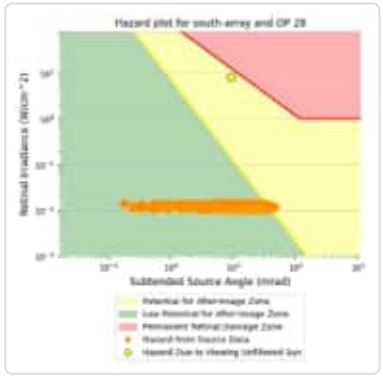
South Array: OP 28

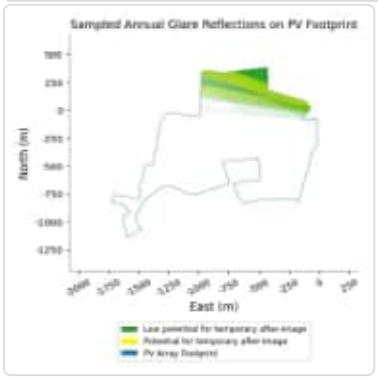
PV array is expected to produce the following glare for this receptor:

- 1,209 minutes of "green" glare with low potential to cause temporary after-image.
- 32 minutes of "yellow" glare with potential to cause temporary after-image.





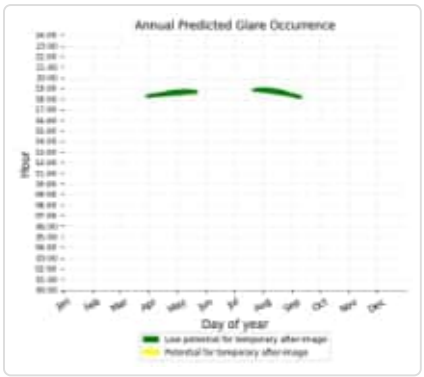


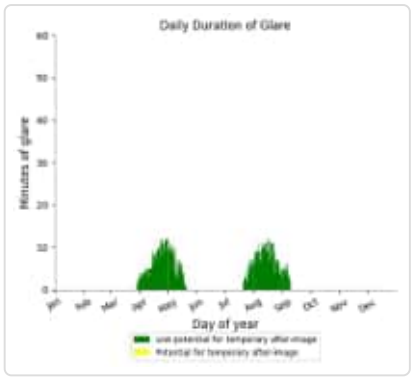


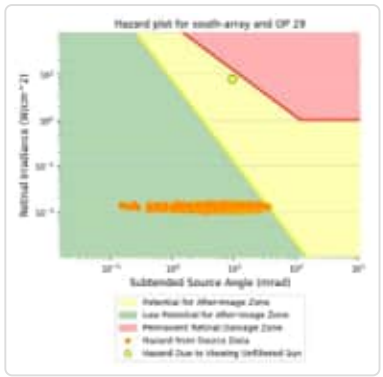
South Array: OP 29

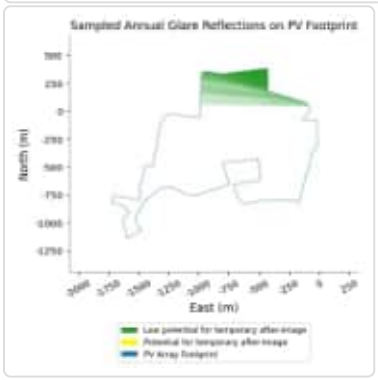
PV array is expected to produce the following glare for this receptor:

- 703 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









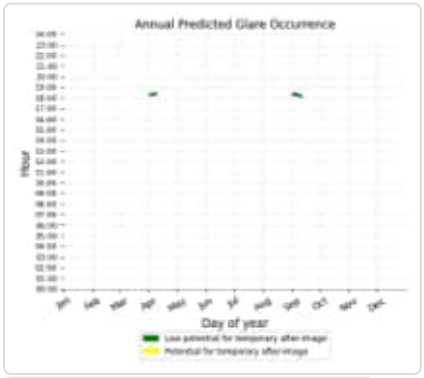
South Array: OP 30

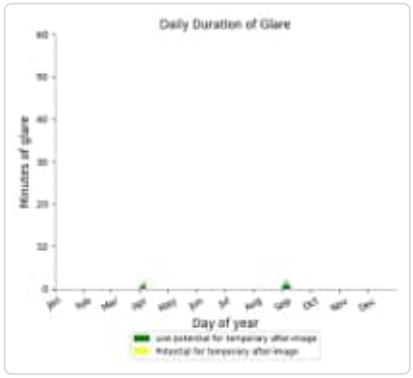
No glare found

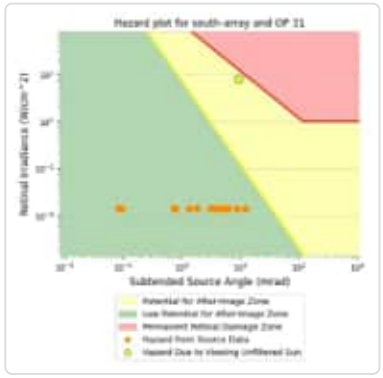
South Array: OP 31

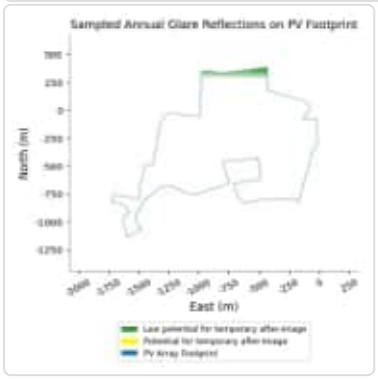
PV array is expected to produce the following glare for this receptor:

- 17 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 32

No glare found

South Array: OP 33

No glare found

South Array: OP 34

No glare found

South Array: OP 35

No glare found

South Array: OP 36

No glare found

South Array: OP 37

No glare found

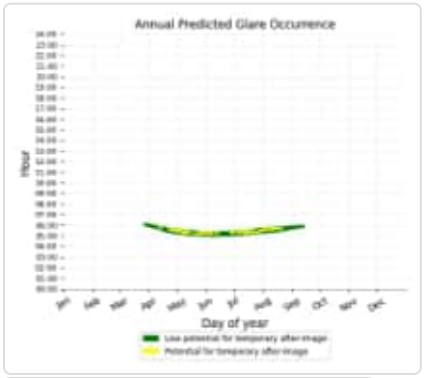
South Array: OP 38

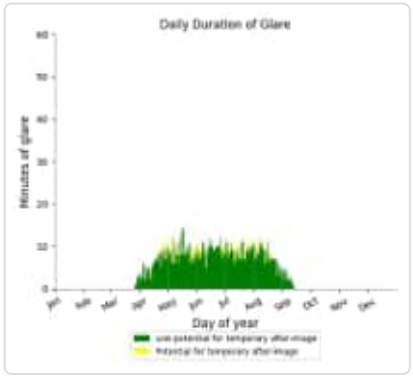
No glare found

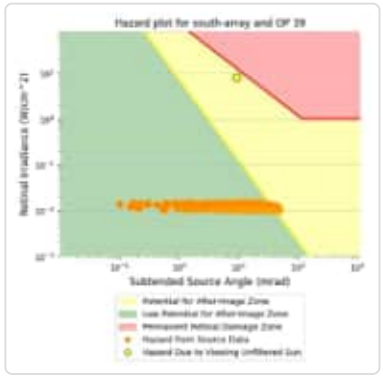
South Array: OP 39

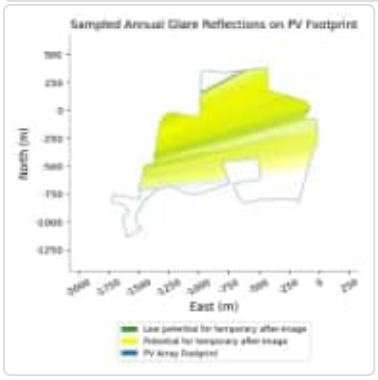
PV array is expected to produce the following glare for this receptor:

- 1,263 minutes of "green" glare with low potential to cause temporary after-image.
- 92 minutes of "yellow" glare with potential to cause temporary after-image.





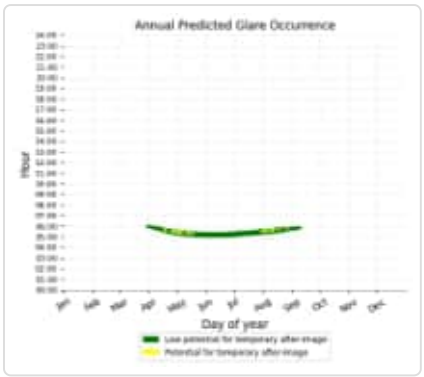


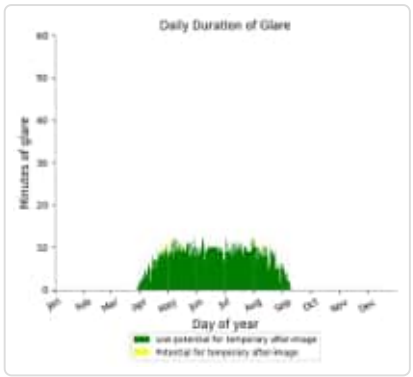


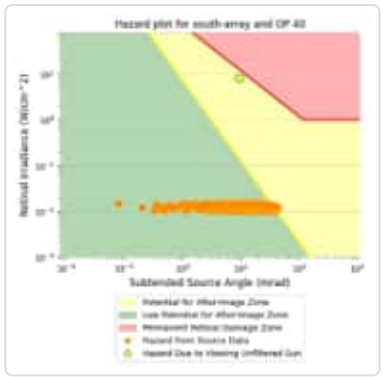
South Array: OP 40

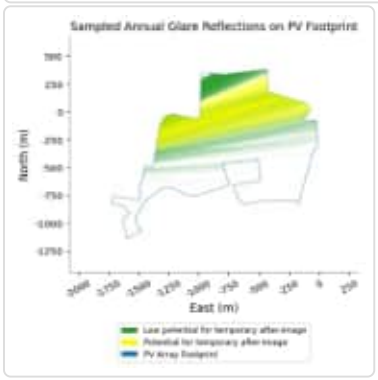
PV array is expected to produce the following glare for this receptor:

- 1,345 minutes of "green" glare with low potential to cause temporary after-image.
- 19 minutes of "yellow" glare with potential to cause temporary after-image.





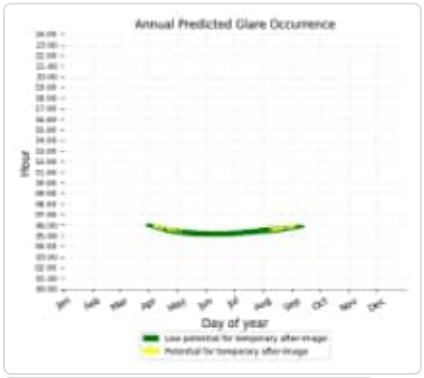


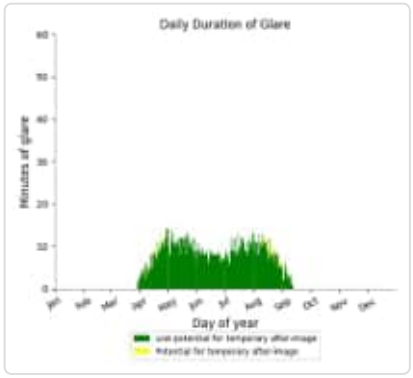


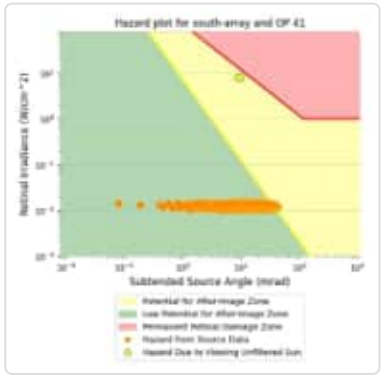
South Array: OP 41

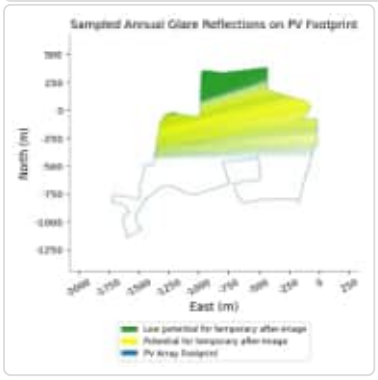
PV array is expected to produce the following glare for this receptor:

- 1,425 minutes of "green" glare with low potential to cause temporary after-image.
- 33 minutes of "yellow" glare with potential to cause temporary after-image.





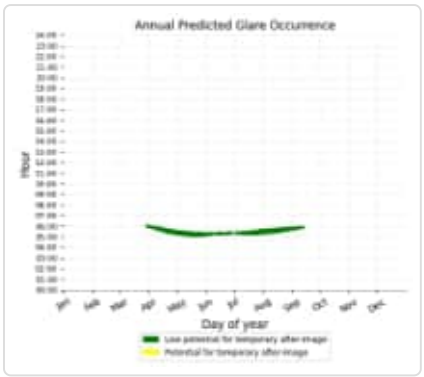


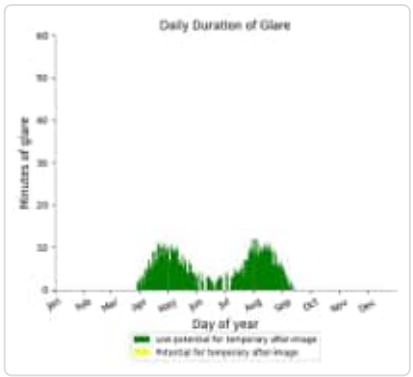


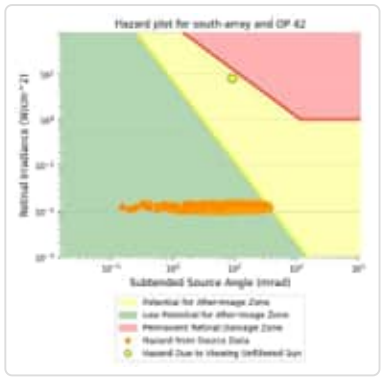
South Array: OP 42

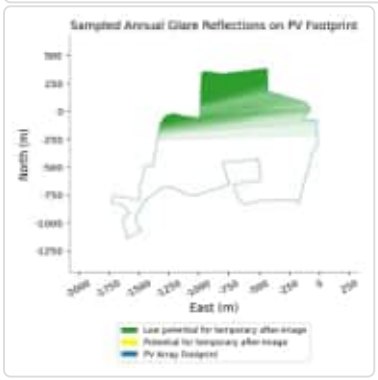
PV array is expected to produce the following glare for this receptor:

- 944 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





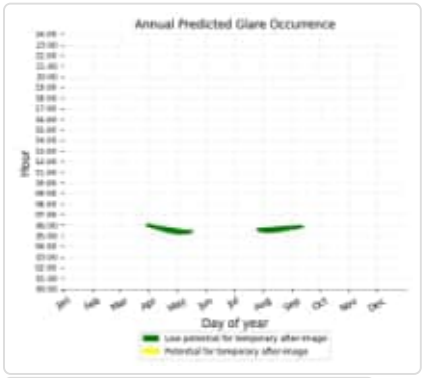


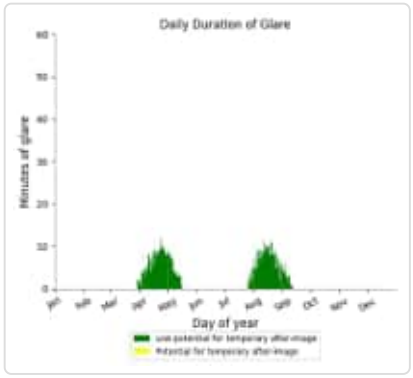


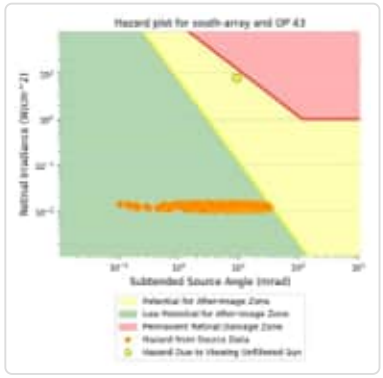
South Array: OP 43

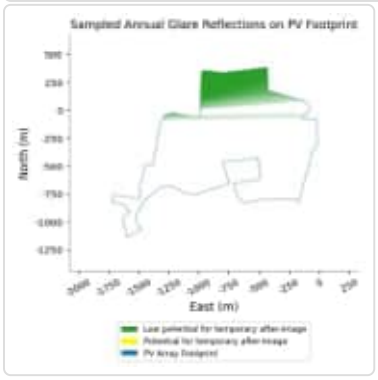
PV array is expected to produce the following glare for this receptor:

- 572 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 44

No glare found

South Array: OP 45

No glare found

South Array: OP 46

No glare found

South Array: OP 47

No glare found

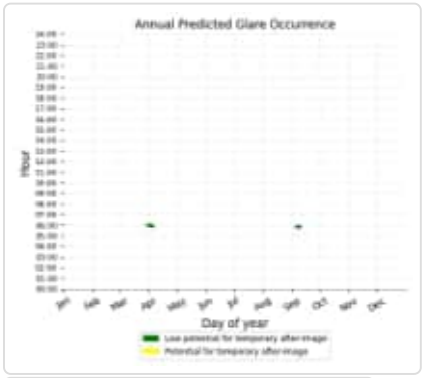
South Array: OP 48

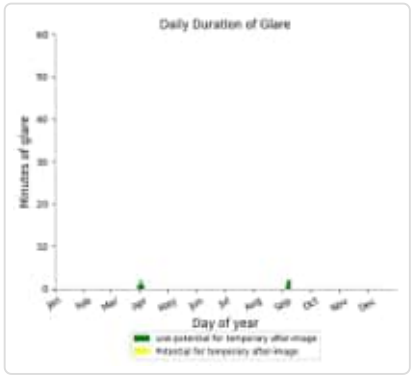
No glare found

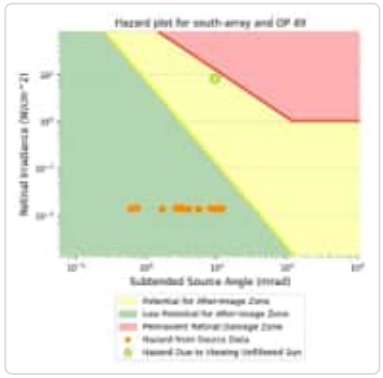
South Array: OP 49

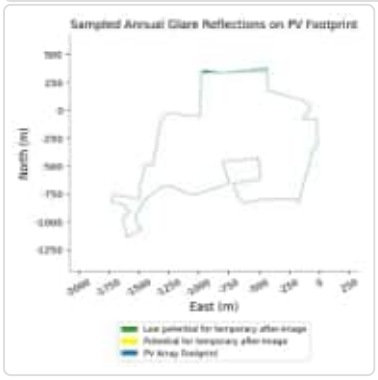
PV array is expected to produce the following glare for this receptor:

- 18 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





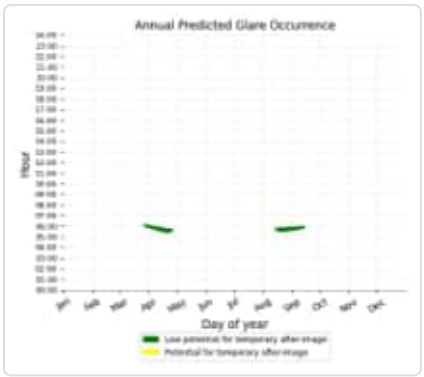


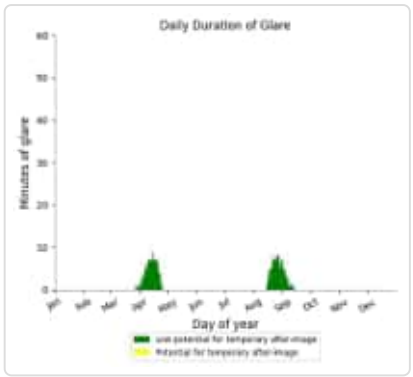


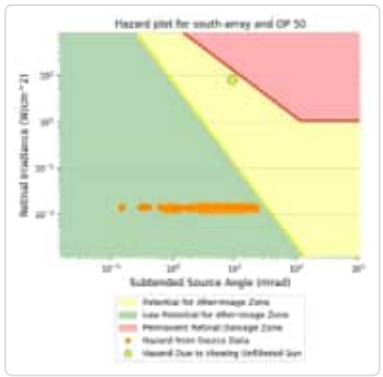
South Array: OP 50

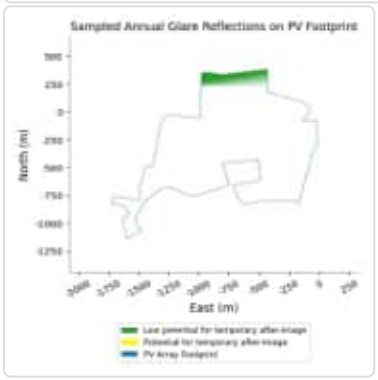
PV array is expected to produce the following glare for this receptor:

- 270 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





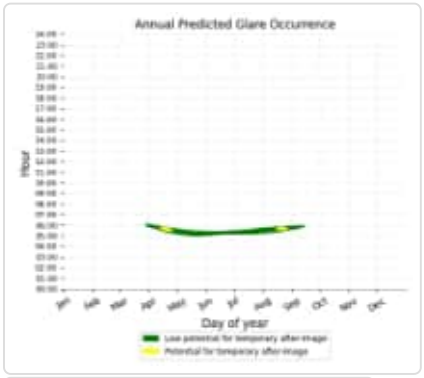




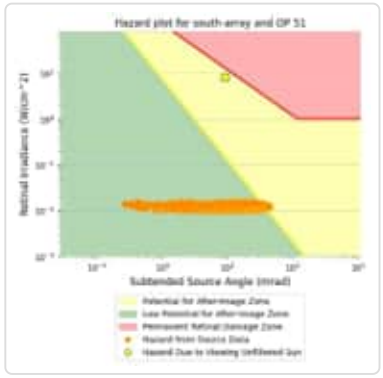
South Array: OP 51

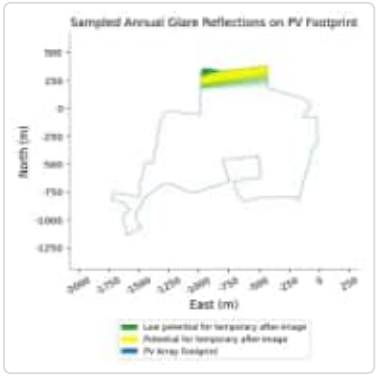
PV array is expected to produce the following glare for this receptor:

- 1,534 minutes of "green" glare with low potential to cause temporary after-image.
- 36 minutes of "yellow" glare with potential to cause temporary after-image.





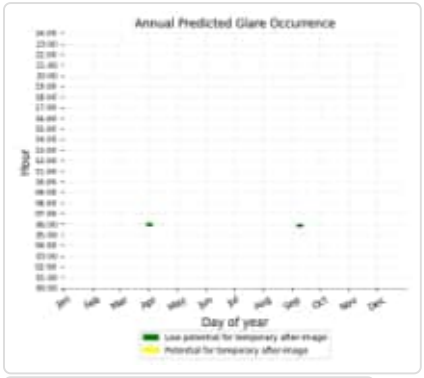


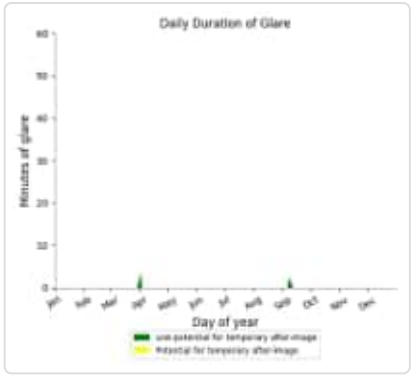


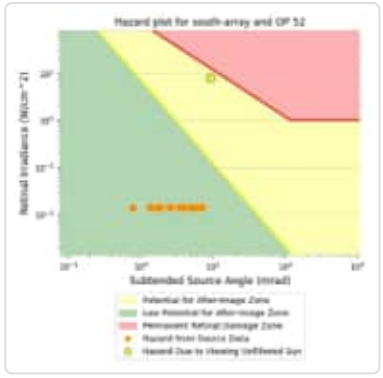
South Array: OP 52

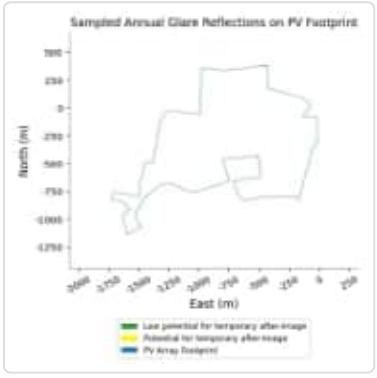
PV array is expected to produce the following glare for this receptor:

- 16 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





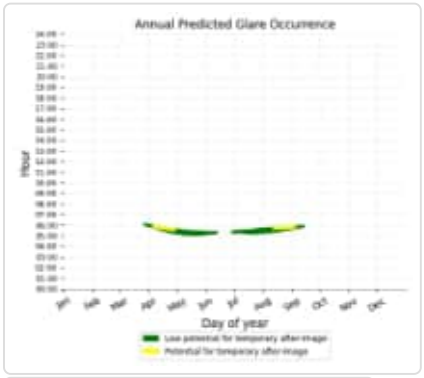




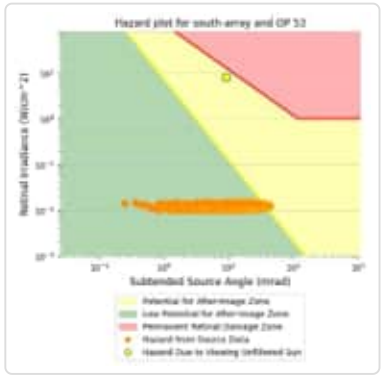
South Array: OP 53

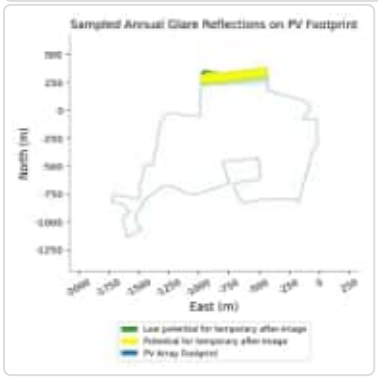
PV array is expected to produce the following glare for this receptor:

- 1,283 minutes of "green" glare with low potential to cause temporary after-image.
- 104 minutes of "yellow" glare with potential to cause temporary after-image.





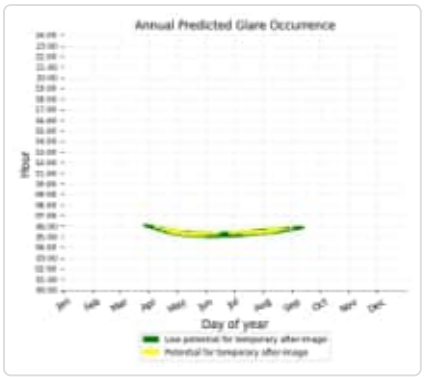


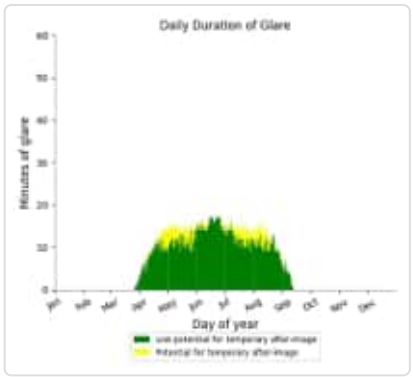


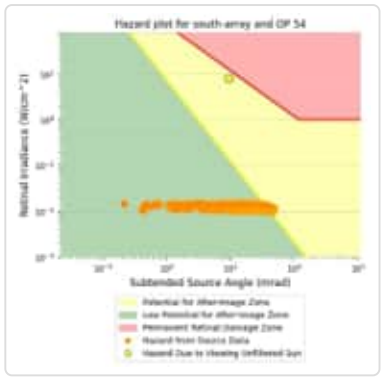
South Array: OP 54

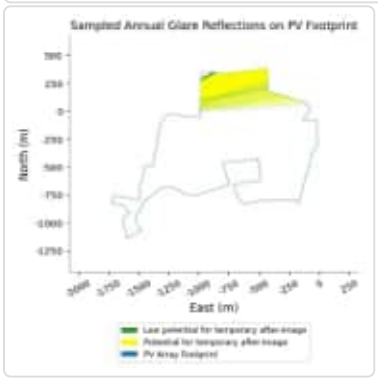
PV array is expected to produce the following glare for this receptor:

- 1,806 minutes of "green" glare with low potential to cause temporary after-image.
- 289 minutes of "yellow" glare with potential to cause temporary after-image.





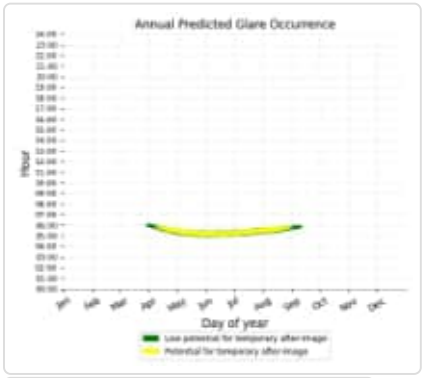


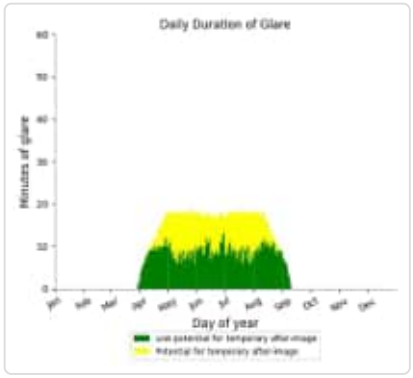


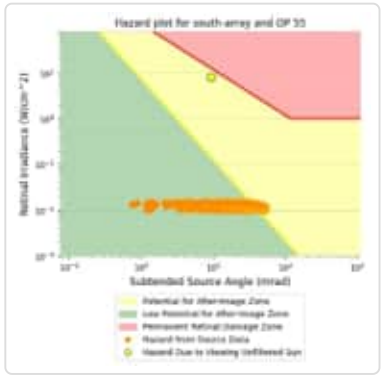
South Array: OP 55

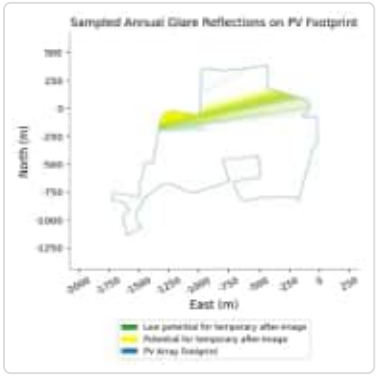
PV array is expected to produce the following glare for this receptor:

- 1,405 minutes of "green" glare with low potential to cause temporary after-image.
- 1,064 minutes of "yellow" glare with potential to cause temporary after-image.





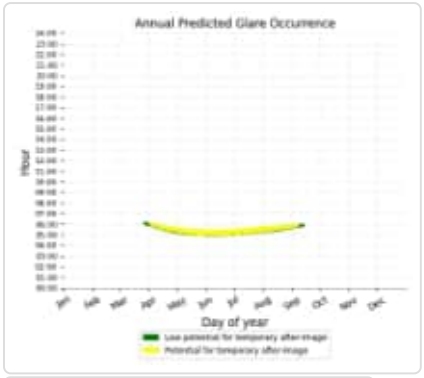


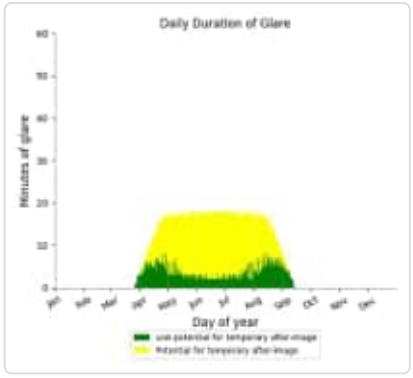


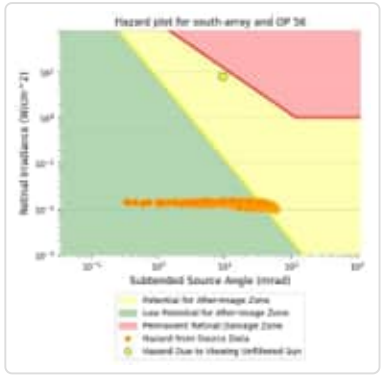
South Array: OP 56

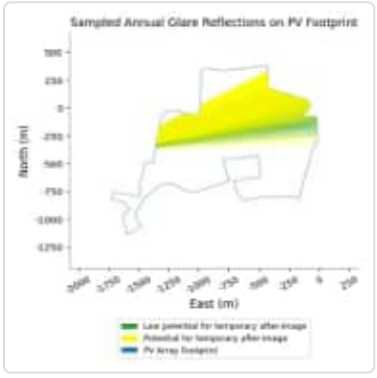
PV array is expected to produce the following glare for this receptor:

- 662 minutes of "green" glare with low potential to cause temporary after-image.
- 1,830 minutes of "yellow" glare with potential to cause temporary after-image.





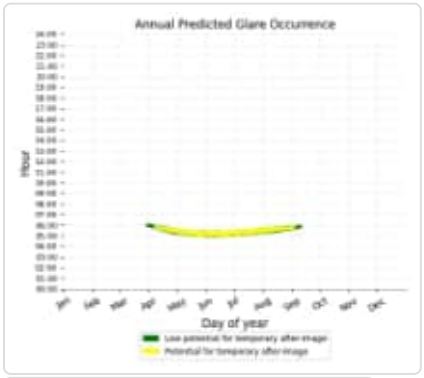


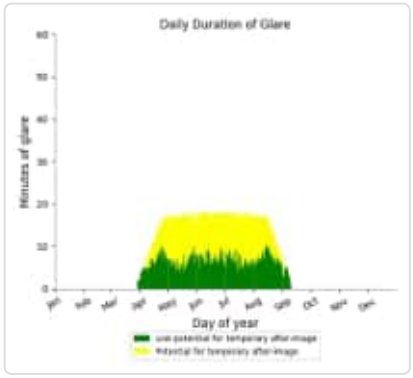


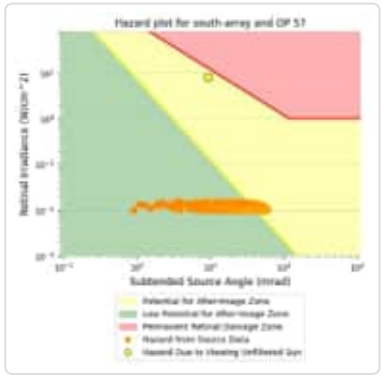
South Array: OP 57

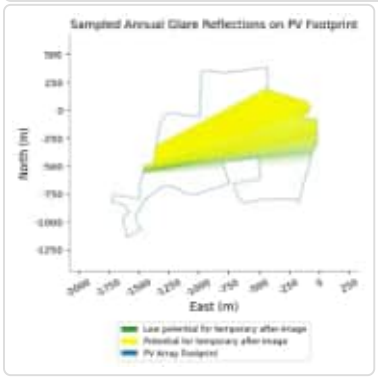
PV array is expected to produce the following glare for this receptor:

- 1,093 minutes of "green" glare with low potential to cause temporary after-image.
- 1,333 minutes of "yellow" glare with potential to cause temporary after-image.





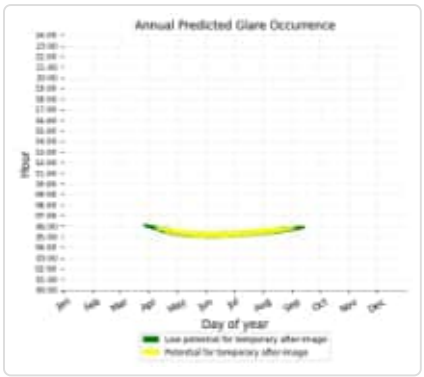


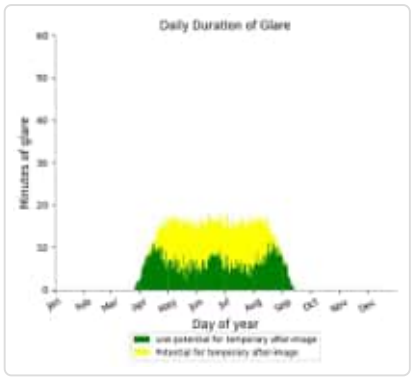


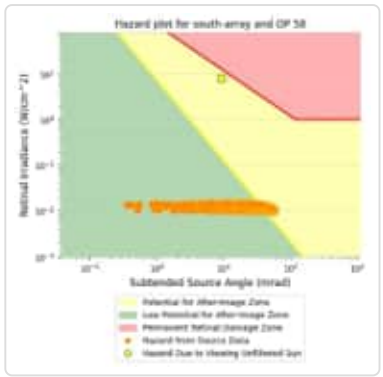
South Array: OP 58

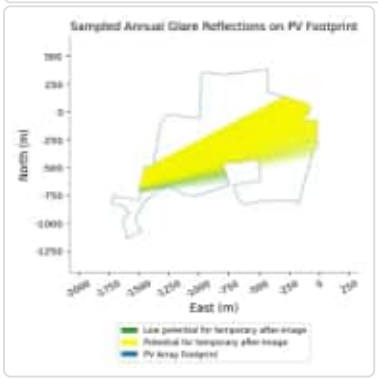
PV array is expected to produce the following glare for this receptor:

- 1,076 minutes of "green" glare with low potential to cause temporary after-image.
- 1,205 minutes of "yellow" glare with potential to cause temporary after-image.





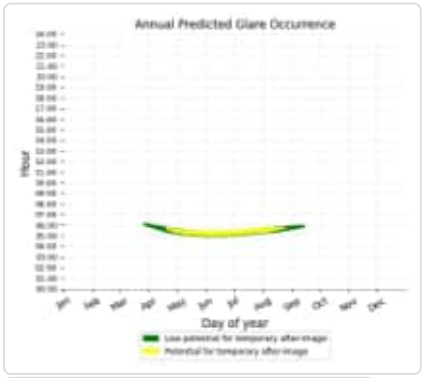


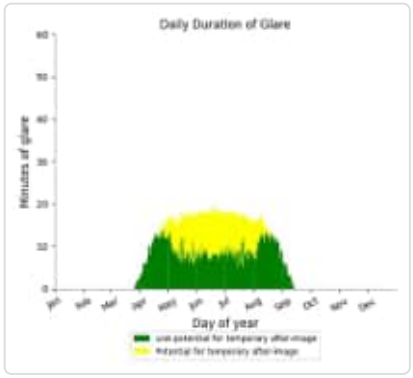


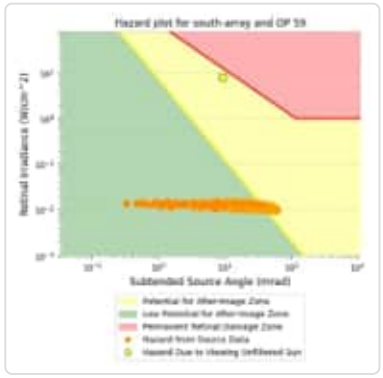
South Array: OP 59

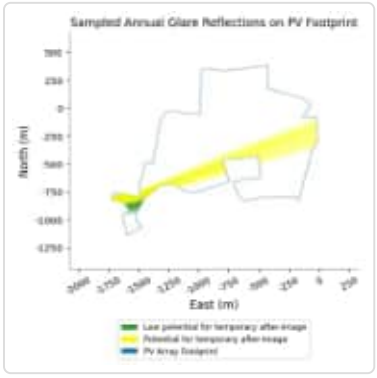
PV array is expected to produce the following glare for this receptor:

- 1,464 minutes of "green" glare with low potential to cause temporary after-image.
- 931 minutes of "yellow" glare with potential to cause temporary after-image.





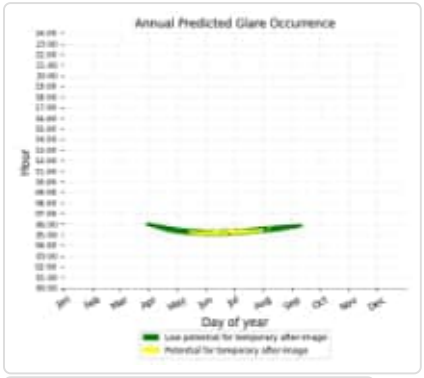


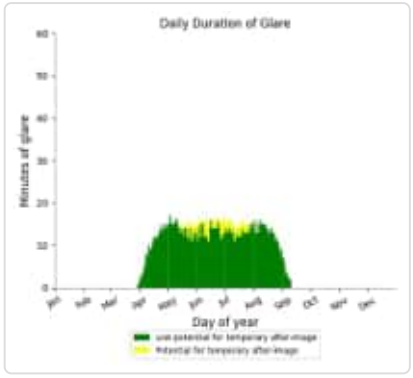


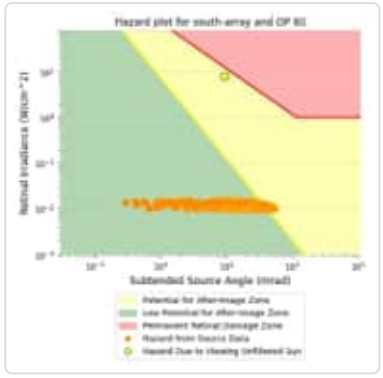
South Array: OP 60

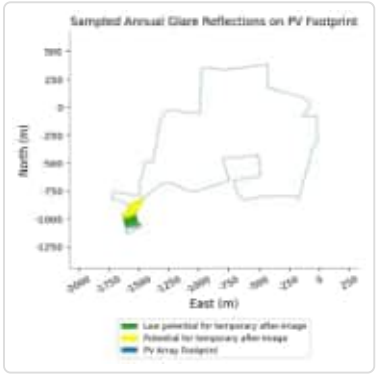
PV array is expected to produce the following glare for this receptor:

- 1,981 minutes of "green" glare with low potential to cause temporary after-image.
- 153 minutes of "yellow" glare with potential to cause temporary after-image.





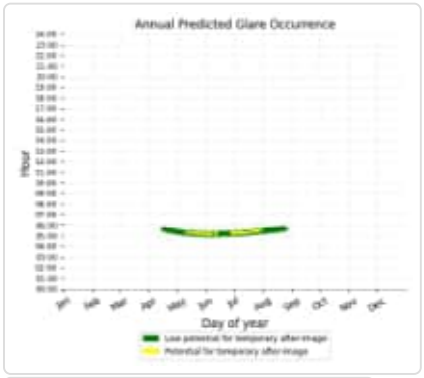


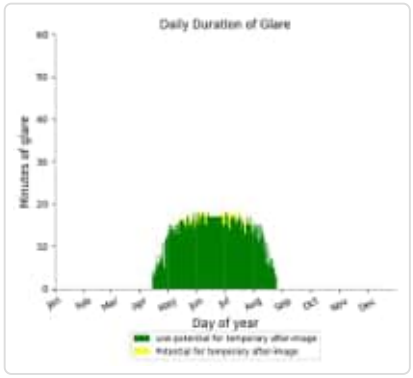


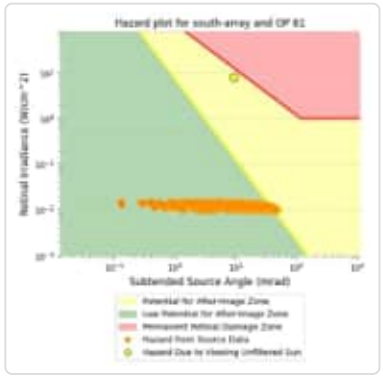
South Array: OP 61

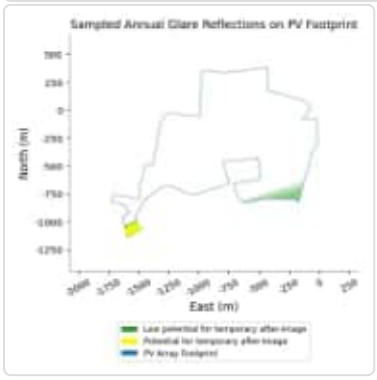
PV array is expected to produce the following glare for this receptor:

- 1,821 minutes of "green" glare with low potential to cause temporary after-image.
- 64 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 62

No glare found

South Array: OP 63

No glare found

South Array: OP 64

No glare found

South Array: OP 65

No glare found

South Array: OP 66

No glare found

South Array: OP 67

No glare found

South Array: OP 68

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX G: ROAD RECEPTOR GLARE RESULTS (35 DEGREES)

Fenwick Solar Farm

Fenwick Road 35 degrees

Created Nov 28, 2023
Updated Aug 08, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106535.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	35.0	180.0	16,489	10,770	-
East Array	35.0	180.0	58,995	3,350	-
North Array	35.0	180.0	17,393	3,423	-
South Array	35.0	180.0	42,643	12,206	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.655195	-1.107752	6.50	1.50	8.00
OP 2	53.655094	-1.104663	6.48	1.50	7.98
OP 3	53.655323	-1.101680	5.67	1.50	7.17
OP 4	53.622346	-1.118859	7.00	1.50	8.50
OP 5	53.622740	-1.116069	8.00	1.50	9.50
OP 6	53.622473	-1.113237	8.72	1.50	10.22
OP 7	53.622524	-1.110190	8.55	1.50	10.05
OP 8	53.621849	-1.101199	8.65	1.50	10.15
OP 9	53.621862	-1.098259	9.00	1.50	10.50
OP 10	53.622167	-1.095341	8.81	1.50	10.31
OP 11	53.622804	-1.092487	8.14	1.50	9.64
OP 12	53.623224	-1.089676	8.00	1.50	9.50
OP 13	53.623224	-1.086694	7.53	1.50	9.03
OP 14	53.623351	-1.083733	8.00	1.50	9.50
OP 15	53.622816	-1.081201	8.00	1.50	9.50
OP 16	53.621213	-1.080171	7.50	1.50	9.00
OP 17	53.619596	-1.079033	7.09	1.50	8.59
OP 18	53.619762	-1.075514	7.00	1.50	8.50
OP 19	53.621276	-1.074248	7.00	1.50	8.50
OP 20	53.622689	-1.073004	7.00	1.50	8.50
OP 21	53.624025	-1.071223	7.03	1.50	8.53
OP 22	53.625273	-1.070965	5.94	1.50	7.44
OP 23	53.626800	-1.072253	8.58	1.50	10.08
OP 24	53.627869	-1.069850	6.25	1.50	7.75
OP 25	53.629205	-1.068090	8.09	1.50	9.59
OP 26	53.630910	-1.068691	8.00	1.50	9.50
OP 27	53.631826	-1.070922	7.63	1.50	9.13
OP 28	53.633531	-1.071437	8.20	1.50	9.70
OP 29	53.635159	-1.071437	8.00	1.50	9.50
OP 30	53.636419	-1.069077	8.29	1.50	9.79
OP 31	53.637271	-1.066803	7.00	1.50	8.50
OP 32	53.638098	-1.064056	8.35	1.50	9.85
OP 33	53.638811	-1.060966	7.00	1.50	8.50
OP 34	53.639396	-1.058498	6.59	1.50	8.09
OP 35	53.640070	-1.055602	7.01	1.50	8.51
OP 36	53.641380	-1.053799	8.71	1.50	10.21
OP 37	53.642792	-1.052533	7.00	1.50	8.50
OP 38	53.644153	-1.050559	7.01	1.50	8.51
OP 39	53.627481	-1.121702	7.32	1.50	8.82
OP 40	53.629097	-1.120544	8.00	1.50	9.50
OP 41	53.630624	-1.119428	7.75	1.50	9.25
OP 42	53.632253	-1.118183	7.67	1.50	9.17
OP 43	53.633882	-1.116660	7.75	1.50	9.25
OP 44	53.638678	-1.113892	7.99	1.50	9.49
OP 45	53.639072	-1.110823	8.56	1.50	10.06
OP 46	53.639352	-1.108098	8.97	1.50	10.47
OP 47	53.639454	-1.105094	7.93	1.50	9.43
OP 48	53.639289	-1.101940	8.16	1.50	9.66
OP 49	53.637698	-1.107648	6.94	1.50	8.44
OP 50	53.636833	-1.105437	8.06	1.50	9.56
OP 51	53.636083	-1.102712	8.19	1.50	9.69
OP 52	53.638004	-1.100481	8.31	1.50	9.81
OP 53	53.636757	-1.100309	7.91	1.50	9.41
OP 54	53.634620	-1.103871	7.95	1.50	9.45
OP 55	53.632877	-1.105287	7.00	1.50	8.50
OP 56	53.631388	-1.106575	7.00	1.50	8.50
OP 57	53.629581	-1.108141	7.00	1.50	8.50
OP 58	53.627889	-1.109536	7.28	1.50	8.78
OP 59	53.626234	-1.110630	8.14	1.50	9.64
OP 60	53.624668	-1.111213	8.28	1.50	9.78
OP 61	53.623153	-1.111792	7.16	1.50	8.66
OP 62	53.620532	-1.097115	9.00	1.50	10.50
OP 63	53.641107	-1.058037	7.06	1.50	8.56

OP 64	53.642774	-1.057329	7.01	1.50	8.51
OP 65	53.644377	-1.057157	7.11	1.50	8.61
OP 66	53.646056	-1.057608	7.12	1.50	8.62
OP 67	53.647811	-1.058187	8.54	1.50	10.04
OP 68	53.643753	-1.054754	6.00	1.50	7.50

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	35.0	180.0	16,489	10,770	-	-
East Array	35.0	180.0	58,995	3,350	-	-
North Array	35.0	180.0	17,393	3,423	-	-
South Array	35.0	180.0	42,643	12,206	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	114	562	550	622	607	530	284	0	0	0
central-arra (yellow)	0	0	0	26	58	1	5	75	0	0	0	0
east-array (green)	0	0	281	1269	1426	1407	1436	1406	573	0	0	0
east-array (yellow)	0	0	0	14	178	238	212	54	0	0	0	0
north-array (green)	0	0	139	613	643	700	671	639	321	0	0	0
north-array (yellow)	0	0	6	23	14	0	6	21	16	0	0	0
south-array (green)	0	0	63	709	770	702	773	749	255	0	0	0
south-array (yellow)	0	0	0	51	78	66	73	76	8	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0

OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	182	0
OP: OP 28	1414	781
OP: OP 29	596	2650
OP: OP 30	1022	1701
OP: OP 31	629	2384
OP: OP 32	1055	1593
OP: OP 33	1982	647
OP: OP 34	2141	465
OP: OP 35	2303	195
OP: OP 36	1199	0
OP: OP 37	420	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	0	0
OP: OP 41	0	0
OP: OP 42	0	0
OP: OP 43	0	0
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	480	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	0	0
OP: OP 50	0	0
OP: OP 51	0	0
OP: OP 52	0	0
OP: OP 53	0	0
OP: OP 54	0	0
OP: OP 55	0	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0
OP: OP 61	0	0
OP: OP 62	0	0
OP: OP 63	2129	354
OP: OP 64	791	0
OP: OP 65	0	0
OP: OP 66	0	0
OP: OP 67	0	0
OP: OP 68	146	0

Central Array: OP 1

No glare found

Central Array: OP 2
No glare found

Central Array: OP 3
No glare found

Central Array: OP 4
No glare found

Central Array: OP 5
No glare found

Central Array: OP 6
No glare found

Central Array: OP 7
No glare found

Central Array: OP 8
No glare found

Central Array: OP 9
No glare found

Central Array: OP 10
No glare found

Central Array: OP 11
No glare found

Central Array: OP 12
No glare found

Central Array: OP 13
No glare found

Central Array: OP 14
No glare found

Central Array: OP 15
No glare found

Central Array: OP 16
No glare found

Central Array: OP 17
No glare found

Central Array: OP 18

No glare found

Central Array: OP 19

No glare found

Central Array: OP 20

No glare found

Central Array: OP 21

No glare found

Central Array: OP 22

No glare found

Central Array: OP 23

No glare found

Central Array: OP 24

No glare found

Central Array: OP 25

No glare found

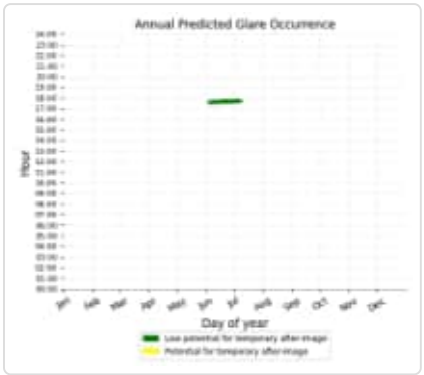
Central Array: OP 26

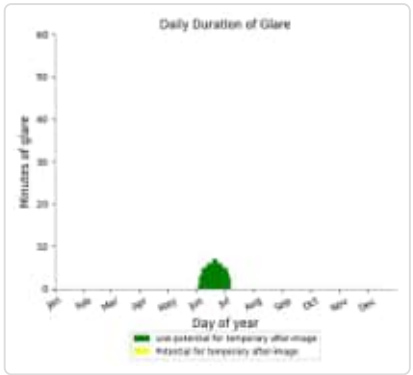
No glare found

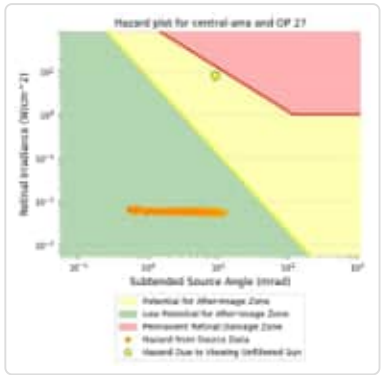
Central Array: OP 27

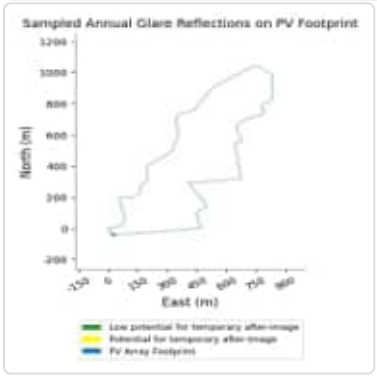
PV array is expected to produce the following glare for this receptor:

- 182 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





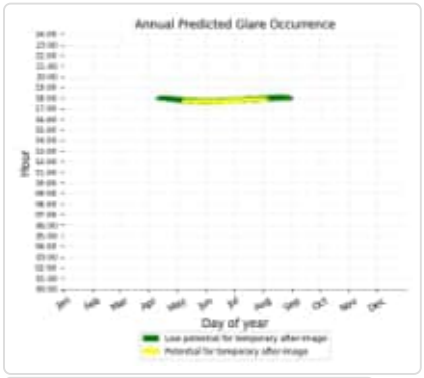


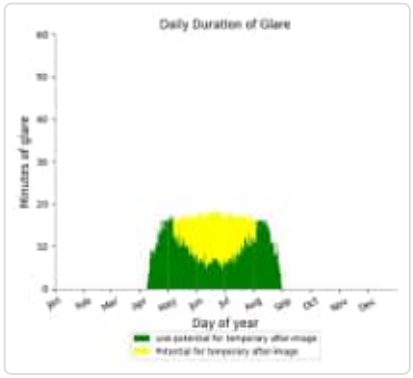


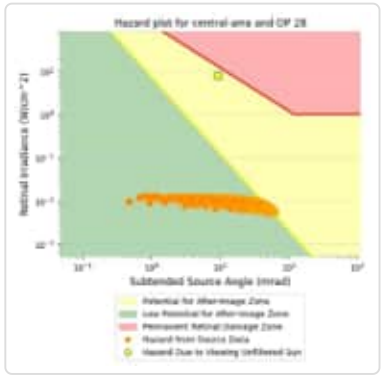
Central Array: OP 28

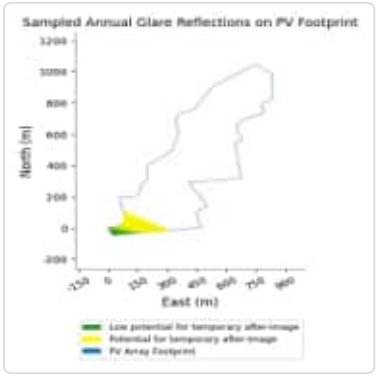
PV array is expected to produce the following glare for this receptor:

- 1,414 minutes of "green" glare with low potential to cause temporary after-image.
- 781 minutes of "yellow" glare with potential to cause temporary after-image.





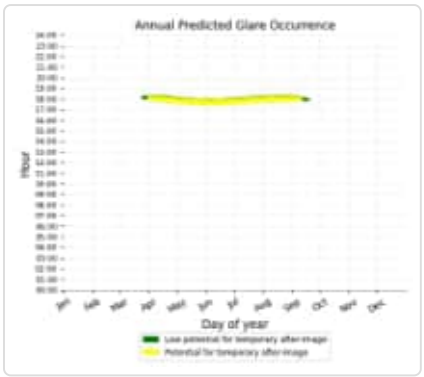


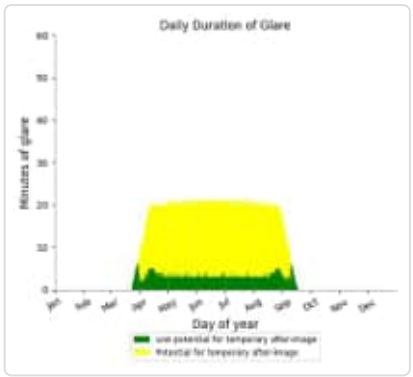


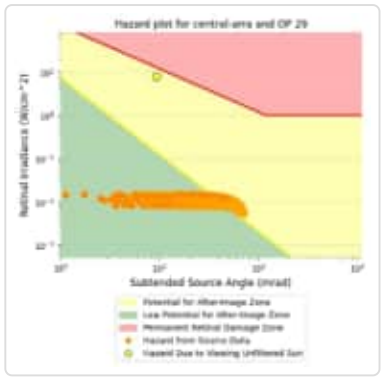
Central Array: OP 29

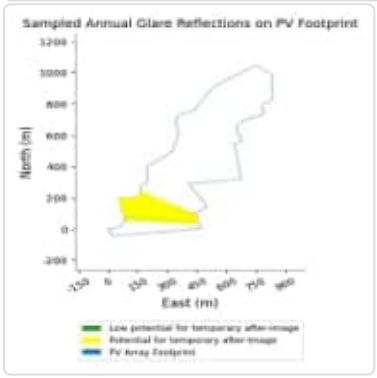
PV array is expected to produce the following glare for this receptor:

- 596 minutes of "green" glare with low potential to cause temporary after-image.
- 2,650 minutes of "yellow" glare with potential to cause temporary after-image.





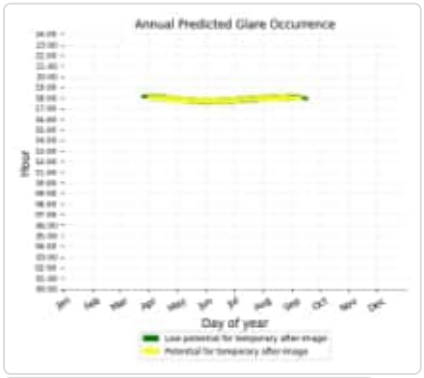


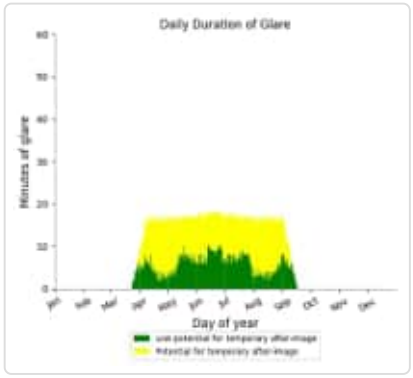


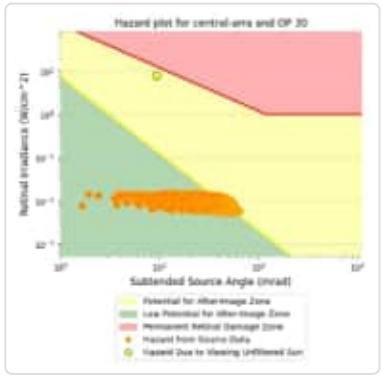
Central Array: OP 30

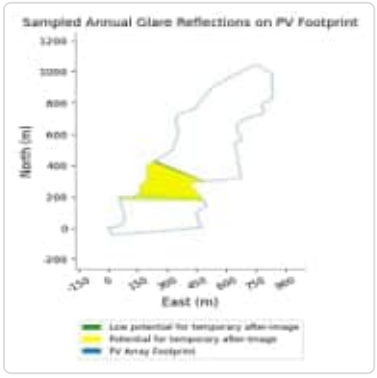
PV array is expected to produce the following glare for this receptor:

- 1,022 minutes of "green" glare with low potential to cause temporary after-image.
- 1,701 minutes of "yellow" glare with potential to cause temporary after-image.





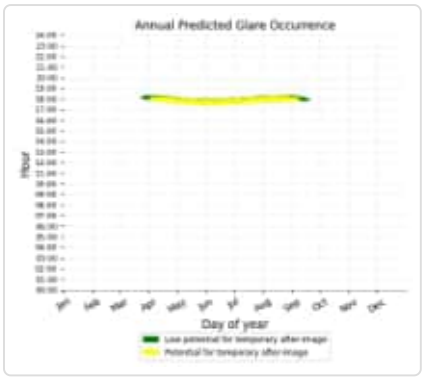


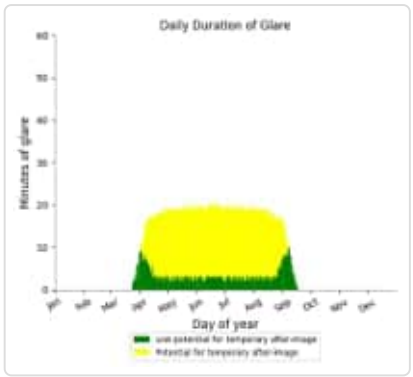


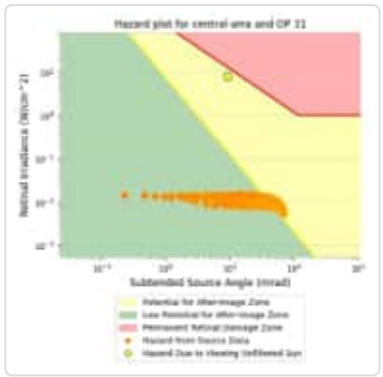
Central Array: OP 31

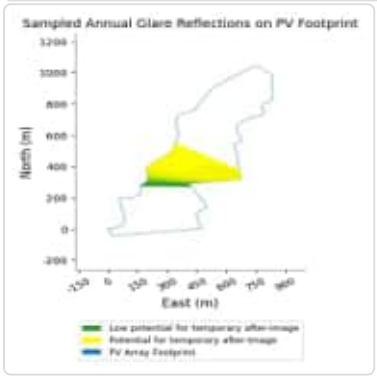
PV array is expected to produce the following glare for this receptor:

- 629 minutes of "green" glare with low potential to cause temporary after-image.
- 2,384 minutes of "yellow" glare with potential to cause temporary after-image.





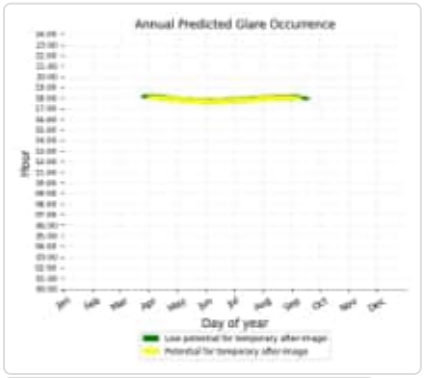


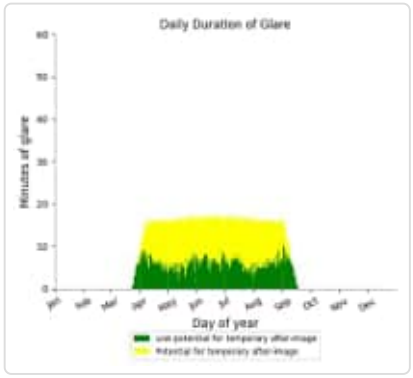


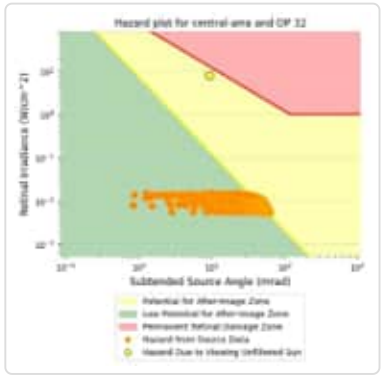
Central Array: OP 32

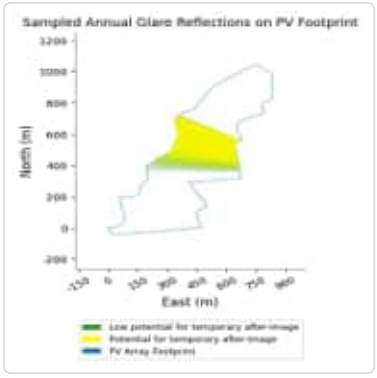
PV array is expected to produce the following glare for this receptor:

- 1,055 minutes of "green" glare with low potential to cause temporary after-image.
- 1,593 minutes of "yellow" glare with potential to cause temporary after-image.





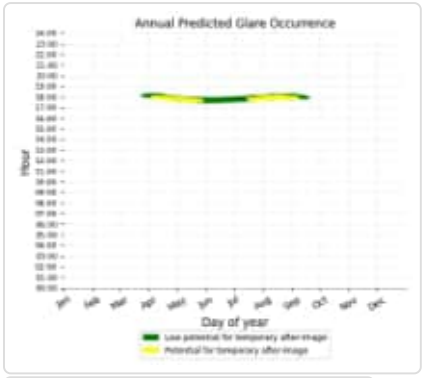


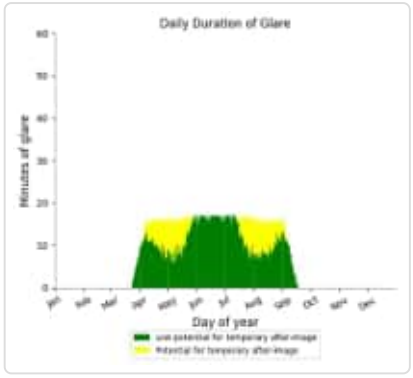


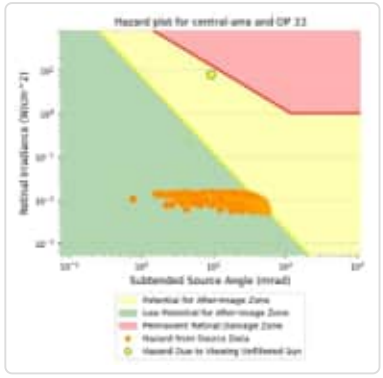
Central Array: OP 33

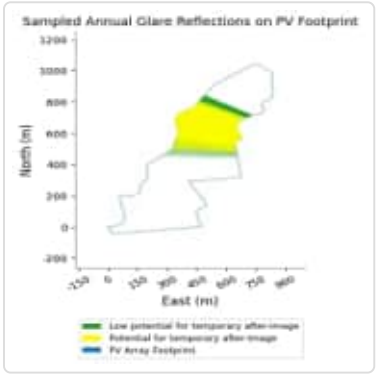
PV array is expected to produce the following glare for this receptor:

- 1,982 minutes of "green" glare with low potential to cause temporary after-image.
- 647 minutes of "yellow" glare with potential to cause temporary after-image.





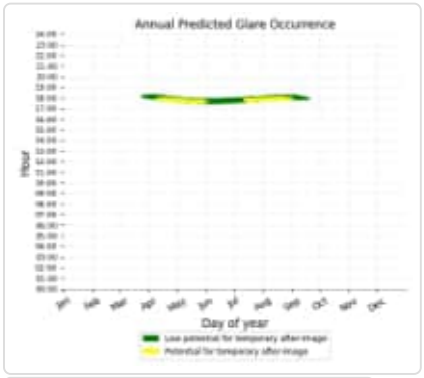


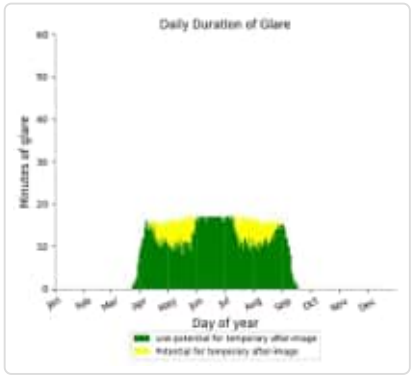


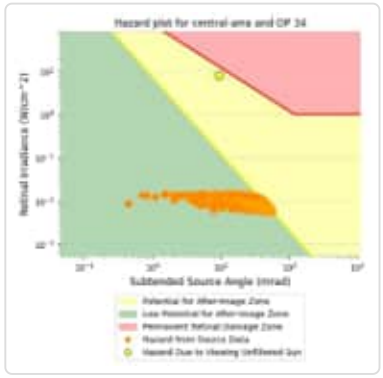
Central Array: OP 34

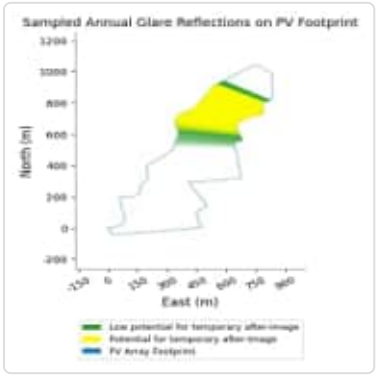
PV array is expected to produce the following glare for this receptor:

- 2,141 minutes of "green" glare with low potential to cause temporary after-image.
- 465 minutes of "yellow" glare with potential to cause temporary after-image.





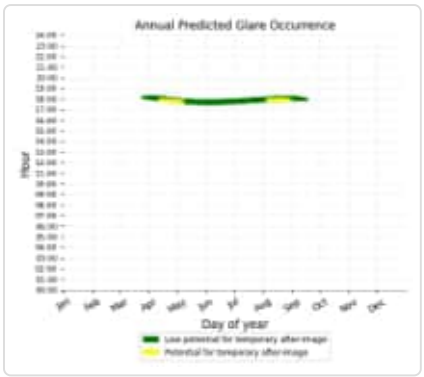


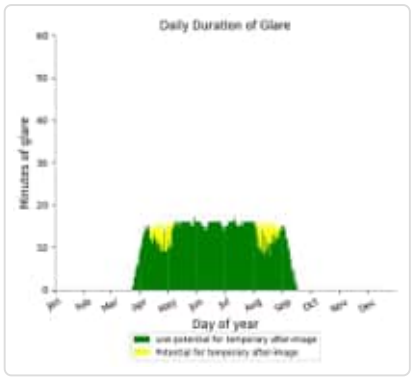


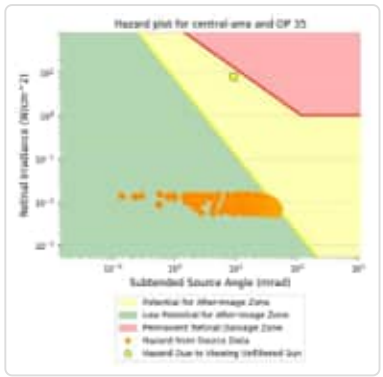
Central Array: OP 35

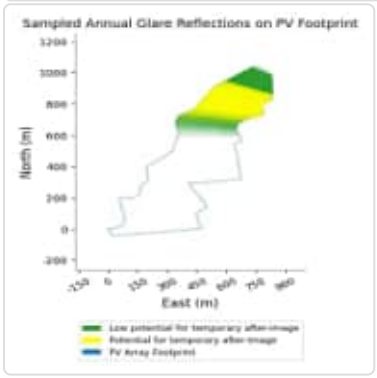
PV array is expected to produce the following glare for this receptor:

- 2,303 minutes of "green" glare with low potential to cause temporary after-image.
- 195 minutes of "yellow" glare with potential to cause temporary after-image.





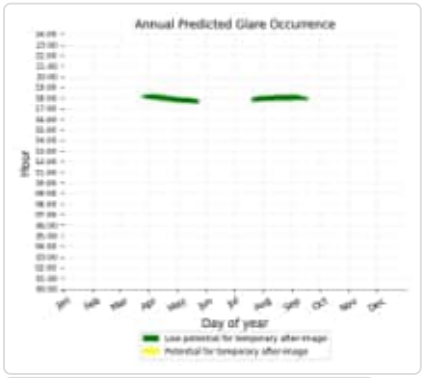


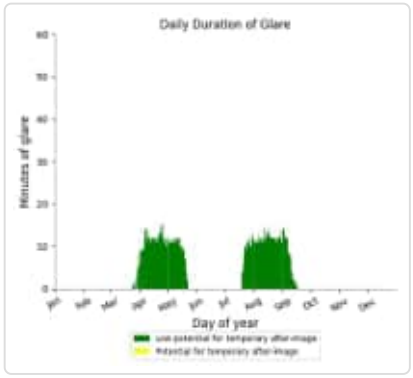


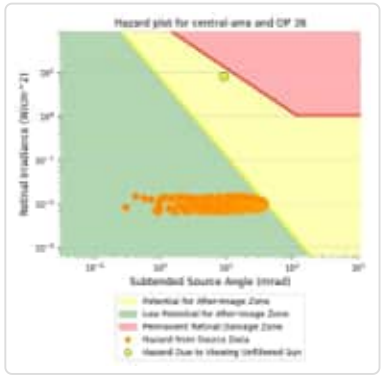
Central Array: OP 36

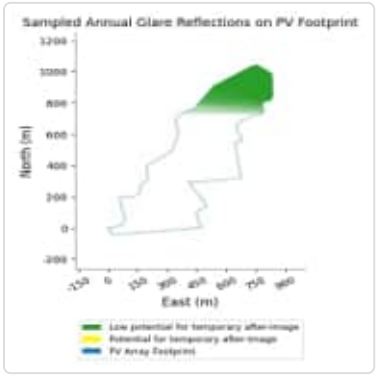
PV array is expected to produce the following glare for this receptor:

- 1,199 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





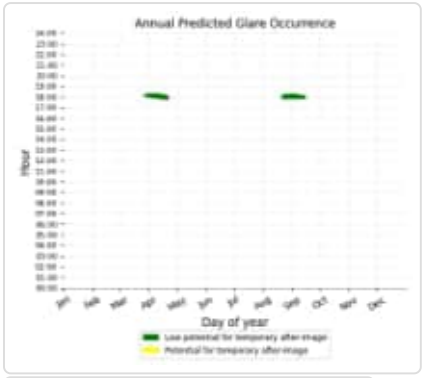




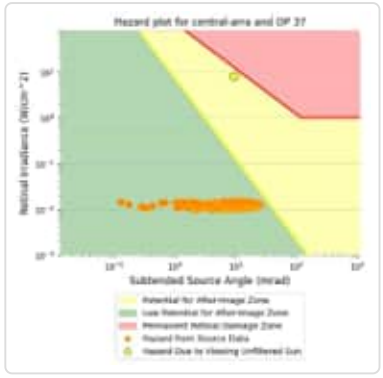
Central Array: OP 37

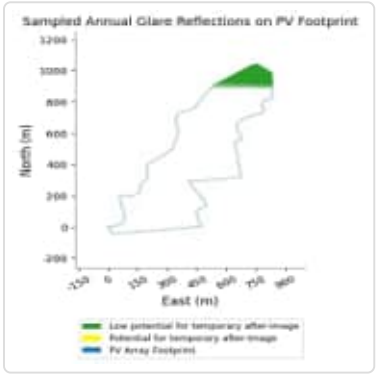
PV array is expected to produce the following glare for this receptor:

- 420 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 38

No glare found

Central Array: OP 39

No glare found

Central Array: OP 40

No glare found

Central Array: OP 41

No glare found

Central Array: OP 42

No glare found

Central Array: OP 43

No glare found

Central Array: OP 44

No glare found

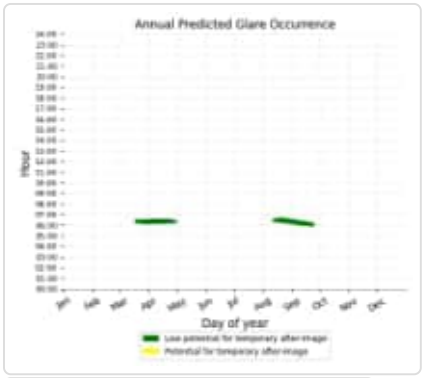
Central Array: OP 45

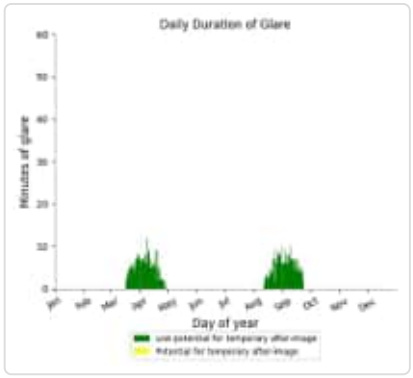
No glare found

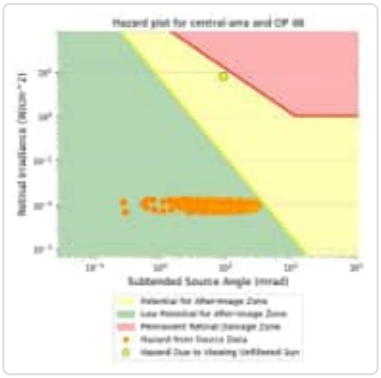
Central Array: OP 46

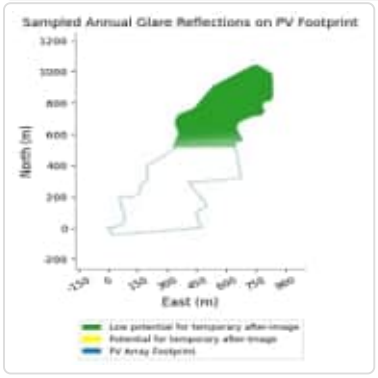
PV array is expected to produce the following glare for this receptor:

- 480 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 47

No glare found

Central Array: OP 48

No glare found

Central Array: OP 49

No glare found

Central Array: OP 50

No glare found

Central Array: OP 51

No glare found

Central Array: OP 52

No glare found

Central Array: OP 53

No glare found

Central Array: OP 54

No glare found

Central Array: OP 55

No glare found

Central Array: OP 56

No glare found

Central Array: OP 57

No glare found

Central Array: OP 58

No glare found

Central Array: OP 59

No glare found

Central Array: OP 60

No glare found

Central Array: OP 61

No glare found

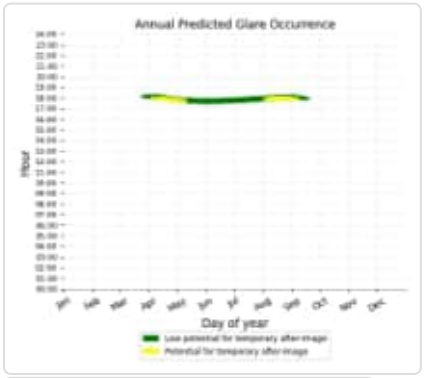
Central Array: OP 62

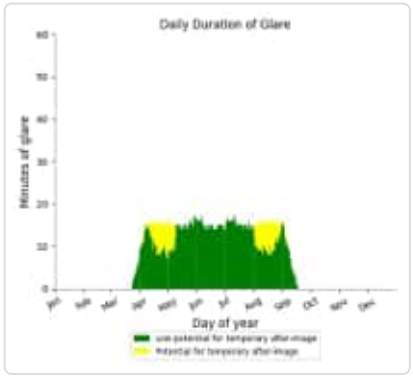
No glare found

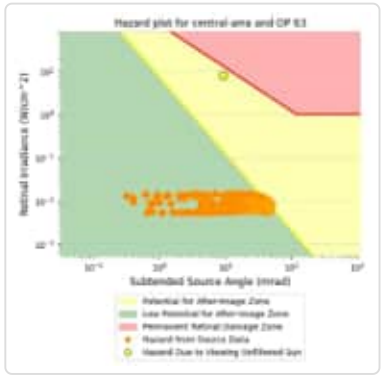
Central Array: OP 63

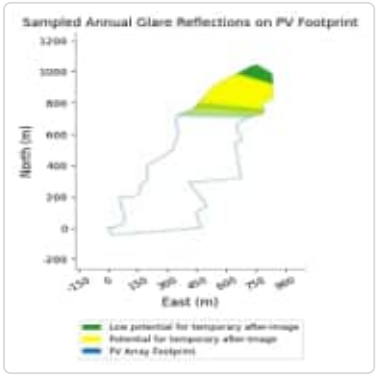
PV array is expected to produce the following glare for this receptor:

- 2,129 minutes of "green" glare with low potential to cause temporary after-image.
- 354 minutes of "yellow" glare with potential to cause temporary after-image.





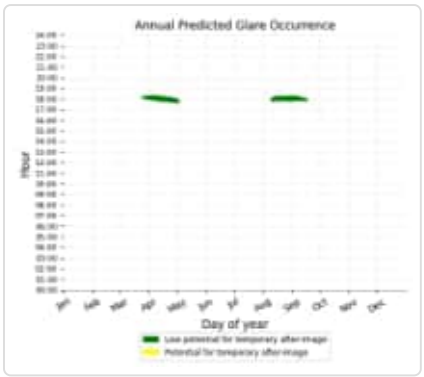




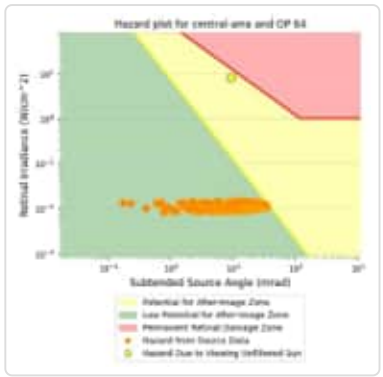
Central Array: OP 64

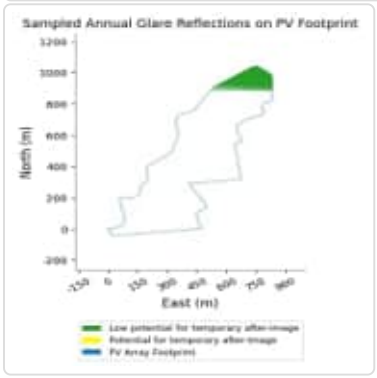
PV array is expected to produce the following glare for this receptor:

- 791 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 65

No glare found

Central Array: OP 66

No glare found

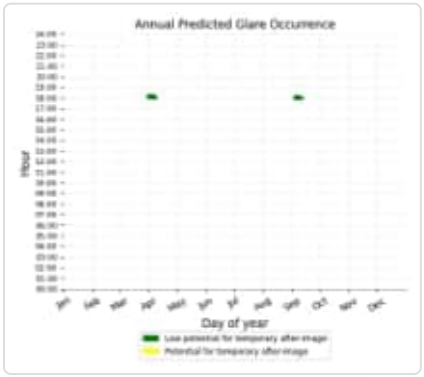
Central Array: OP 67

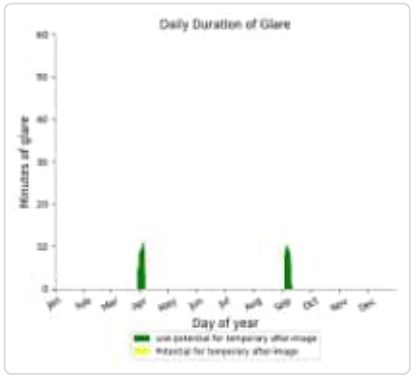
No glare found

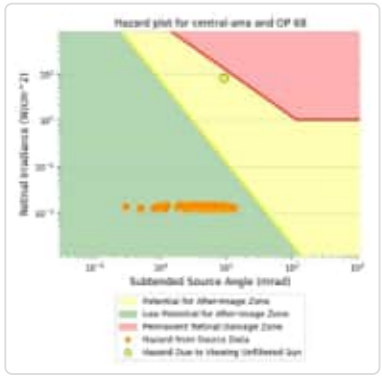
Central Array: OP 68

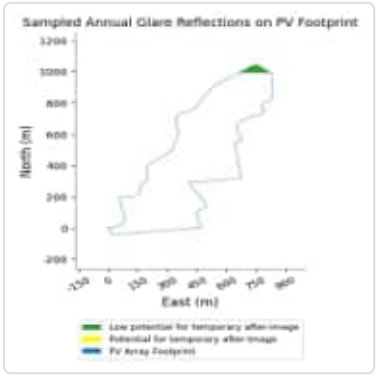
PV array is expected to produce the following glare for this receptor:

- 146 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	737	0
OP: OP 5	547	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0

OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	0	0
OP: OP 32	2056	3231
OP: OP 33	3517	119
OP: OP 34	3379	0
OP: OP 35	3287	0
OP: OP 36	2306	0
OP: OP 37	679	0
OP: OP 38	0	0
OP: OP 39	2035	0
OP: OP 40	2241	0
OP: OP 41	2272	0
OP: OP 42	1866	0
OP: OP 43	1670	0
OP: OP 44	1136	0
OP: OP 45	1118	0
OP: OP 46	1118	0
OP: OP 47	1158	0
OP: OP 48	1294	0
OP: OP 49	1493	0
OP: OP 50	1772	0
OP: OP 51	2088	0
OP: OP 52	1729	0
OP: OP 53	2113	0
OP: OP 54	2587	0
OP: OP 55	2533	0
OP: OP 56	2257	0
OP: OP 57	1933	0
OP: OP 58	1605	0
OP: OP 59	1169	0
OP: OP 60	774	0
OP: OP 61	0	0
OP: OP 62	0	0
OP: OP 63	3339	0
OP: OP 64	1187	0
OP: OP 65	0	0
OP: OP 66	0	0
OP: OP 67	0	0
OP: OP 68	0	0

East Array: OP 1

No glare found

East Array: OP 2

No glare found

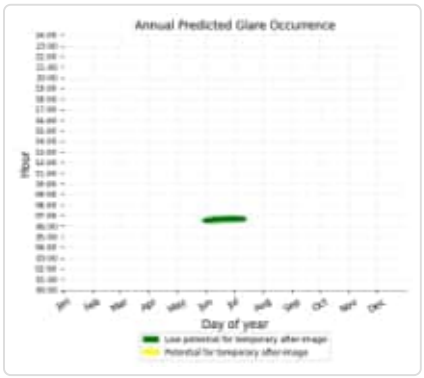
East Array: OP 3

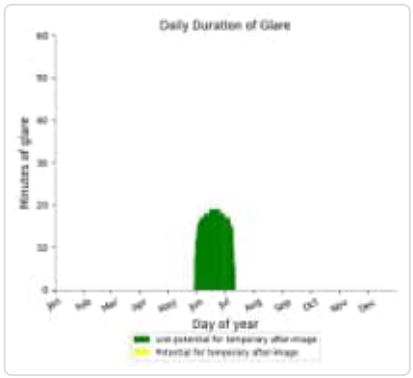
No glare found

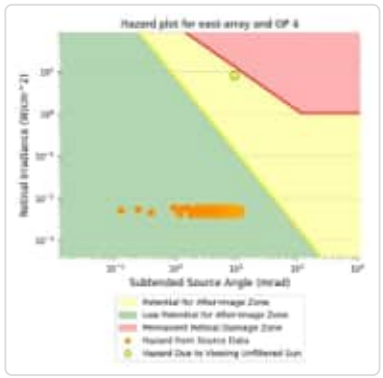
East Array: OP 4

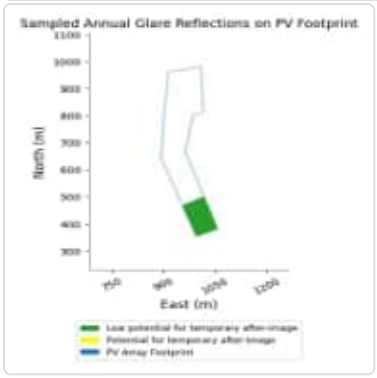
PV array is expected to produce the following glare for this receptor:

- 737 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





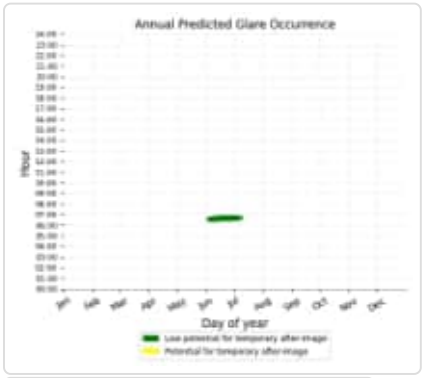


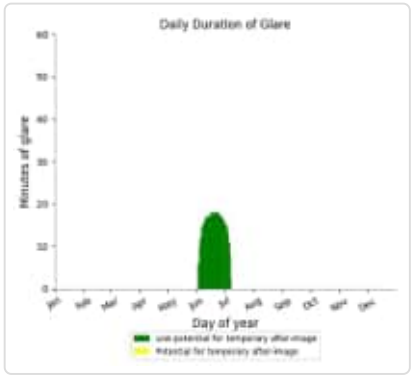


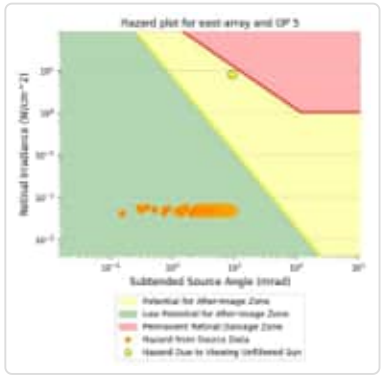
East Array: OP 5

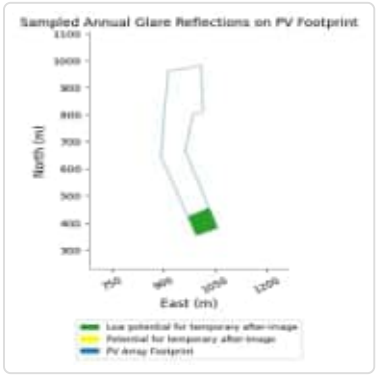
PV array is expected to produce the following glare for this receptor:

- 547 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 6

No glare found

East Array: OP 7

No glare found

East Array: OP 8

No glare found

East Array: OP 9

No glare found

East Array: OP 10

No glare found

East Array: OP 11

No glare found

East Array: OP 12

No glare found

East Array: OP 13

No glare found

East Array: OP 14

No glare found

East Array: OP 15

No glare found

East Array: OP 16

No glare found

East Array: OP 17

No glare found

East Array: OP 18

No glare found

East Array: OP 19

No glare found

East Array: OP 20

No glare found

East Array: OP 21

No glare found

East Array: OP 22

No glare found

East Array: OP 23

No glare found

East Array: OP 24

No glare found

East Array: OP 25

No glare found

East Array: OP 26

No glare found

East Array: OP 27

No glare found

East Array: OP 28

No glare found

East Array: OP 29

No glare found

East Array: OP 30

No glare found

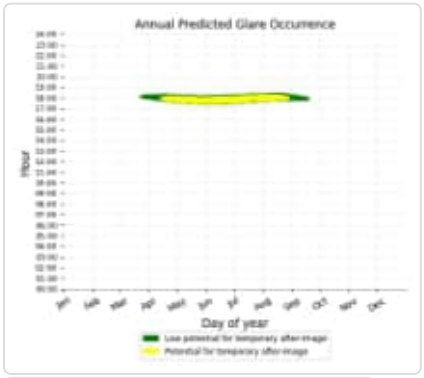
East Array: OP 31

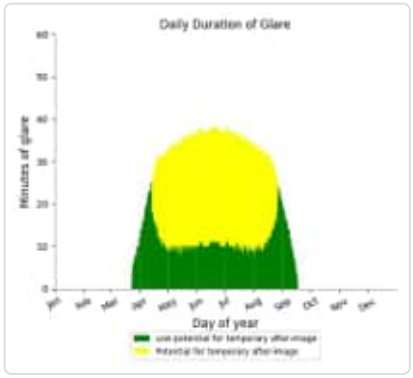
No glare found

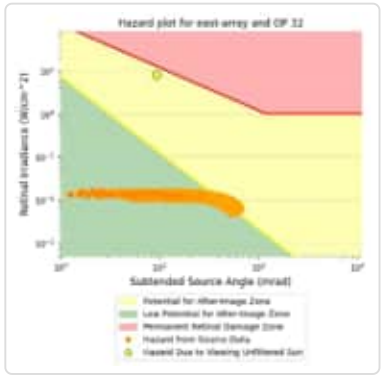
East Array: OP 32

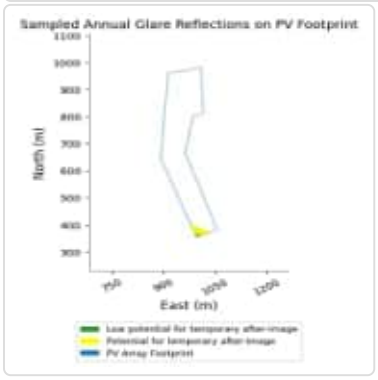
PV array is expected to produce the following glare for this receptor:

- 2,056 minutes of "green" glare with low potential to cause temporary after-image.
- 3,231 minutes of "yellow" glare with potential to cause temporary after-image.





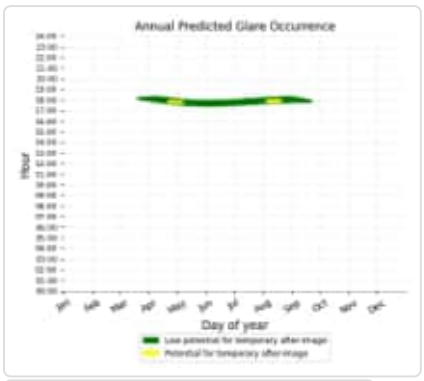


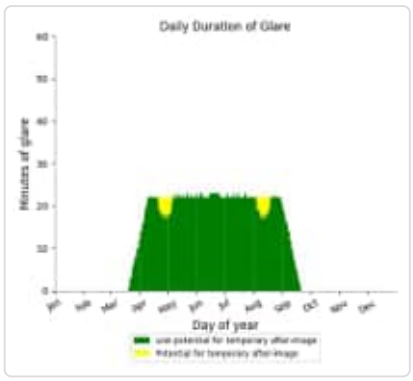


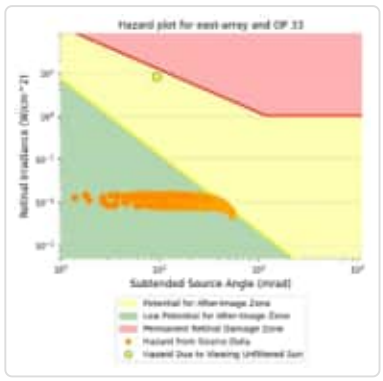
East Array: OP 33

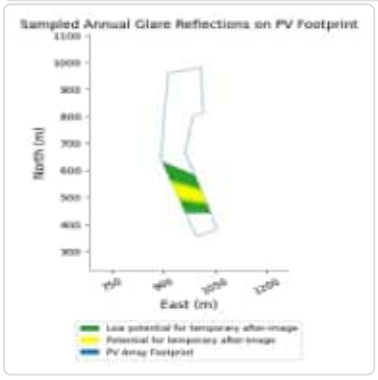
PV array is expected to produce the following glare for this receptor:

- 3,517 minutes of "green" glare with low potential to cause temporary after-image.
- 119 minutes of "yellow" glare with potential to cause temporary after-image.





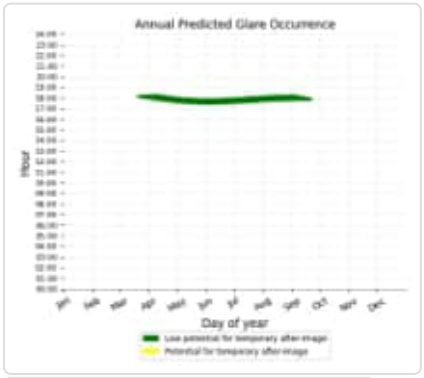




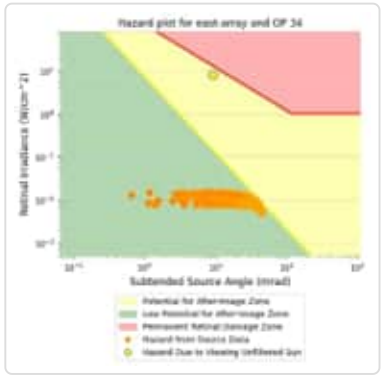
East Array: OP 34

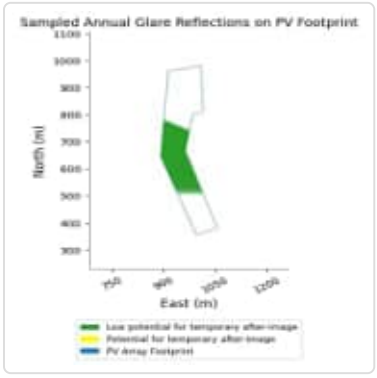
PV array is expected to produce the following glare for this receptor:

- 3,379 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





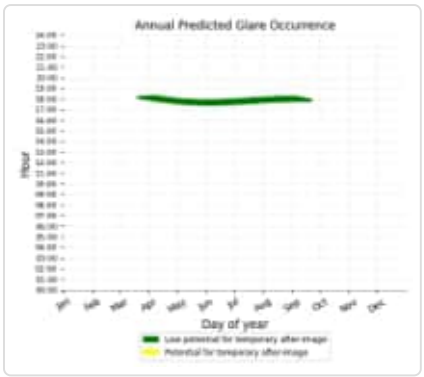




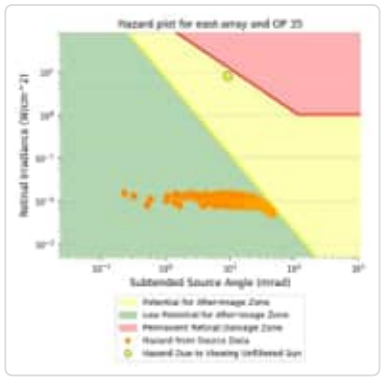
East Array: OP 35

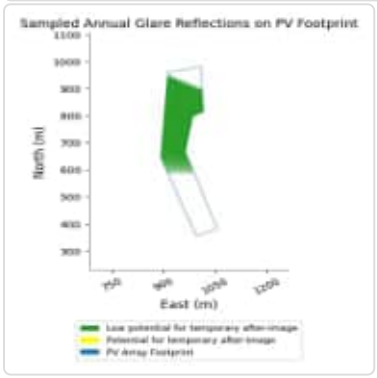
PV array is expected to produce the following glare for this receptor:

- 3,287 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





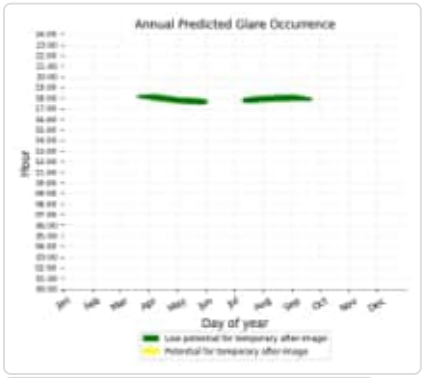




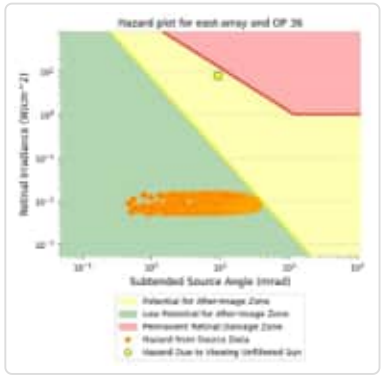
East Array: OP 36

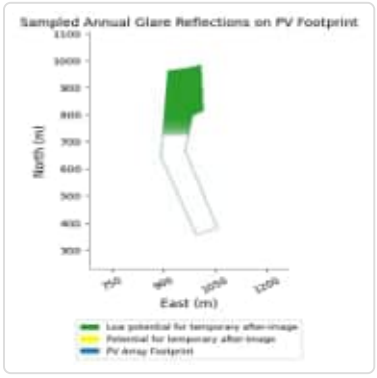
PV array is expected to produce the following glare for this receptor:

- 2,306 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





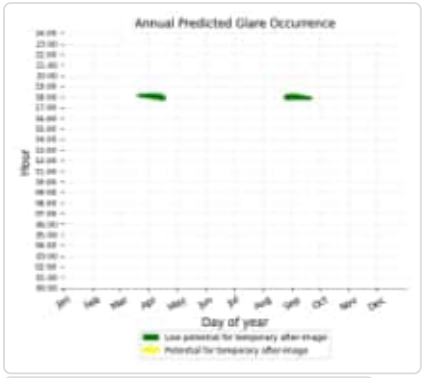


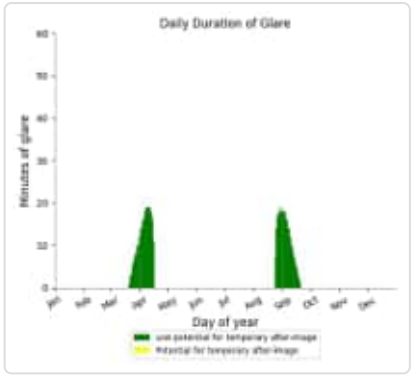


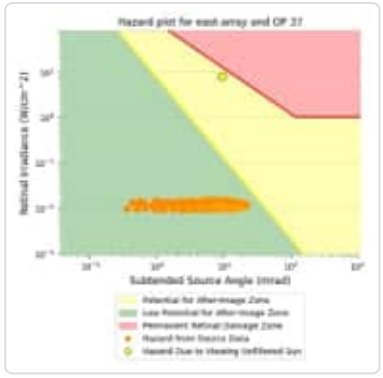
East Array: OP 37

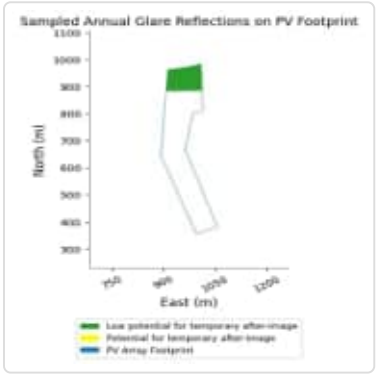
PV array is expected to produce the following glare for this receptor:

- 679 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









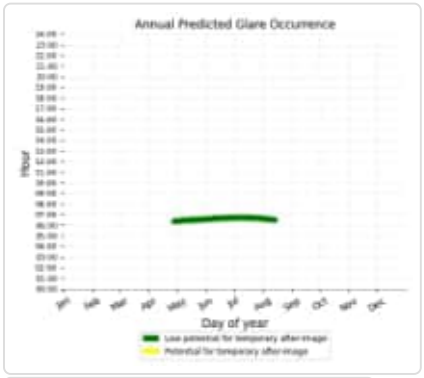
East Array: OP 38

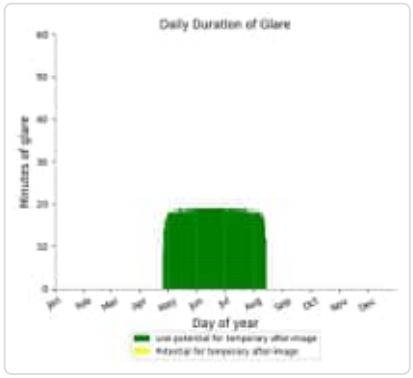
No glare found

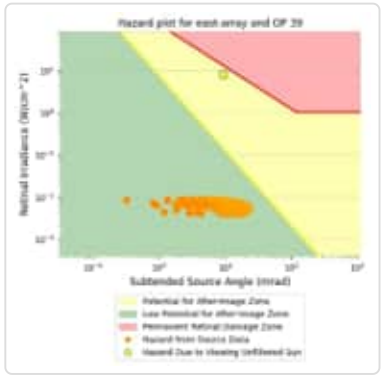
East Array: OP 39

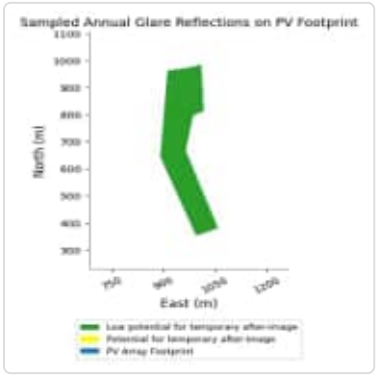
PV array is expected to produce the following glare for this receptor:

- 2,035 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





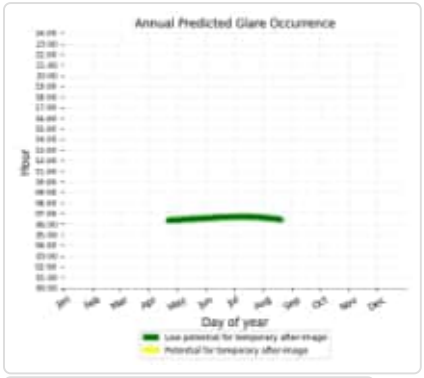




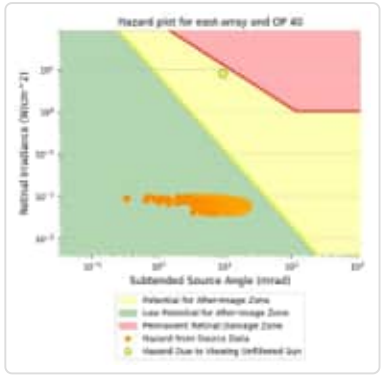
East Array: OP 40

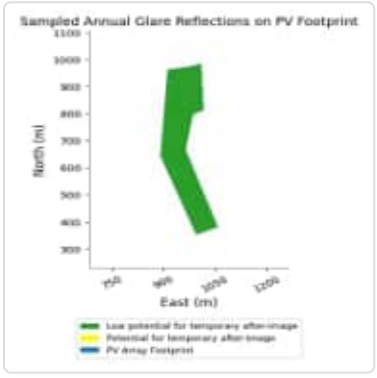
PV array is expected to produce the following glare for this receptor:

- 2,241 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





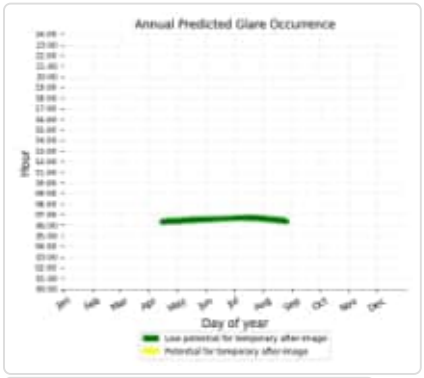




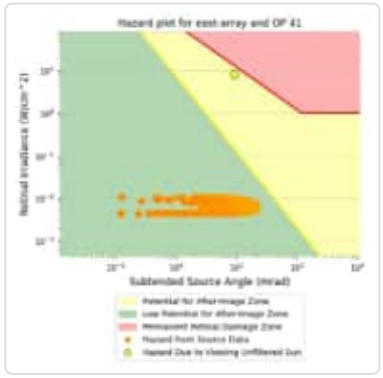
East Array: OP 41

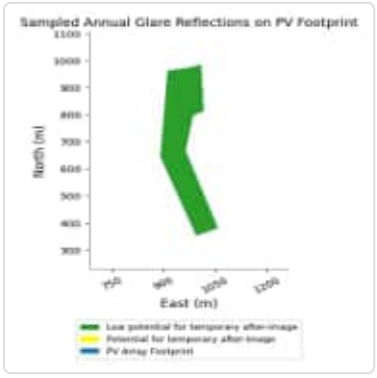
PV array is expected to produce the following glare for this receptor:

- 2,272 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





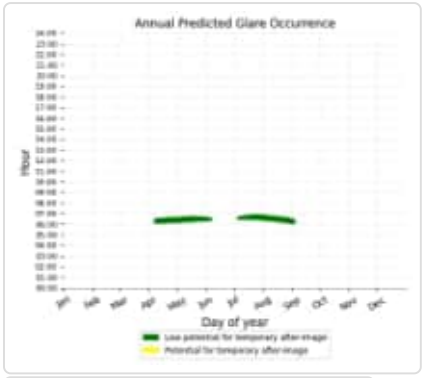




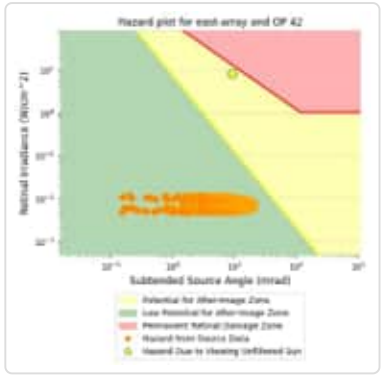
East Array: OP 42

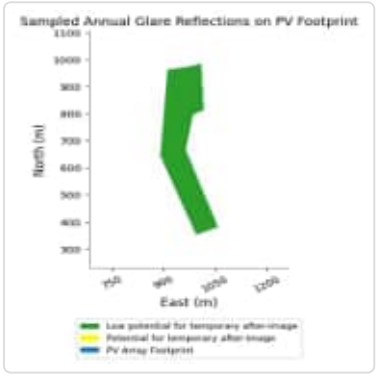
PV array is expected to produce the following glare for this receptor:

- 1,866 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





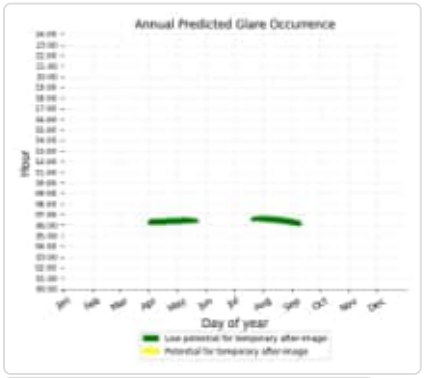




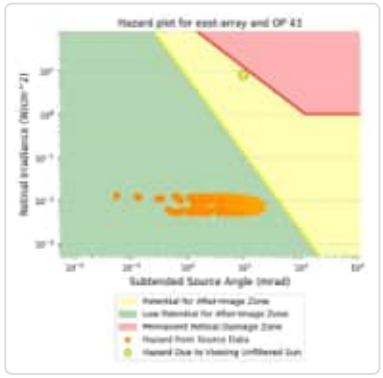
East Array: OP 43

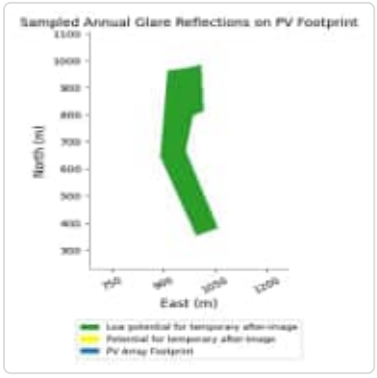
PV array is expected to produce the following glare for this receptor:

- 1,670 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





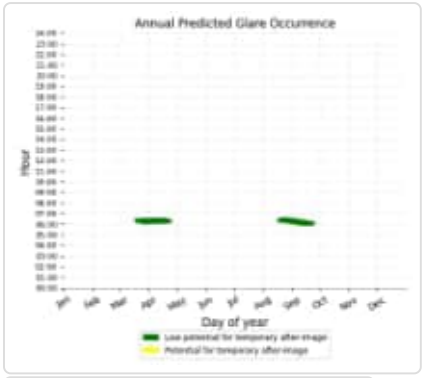




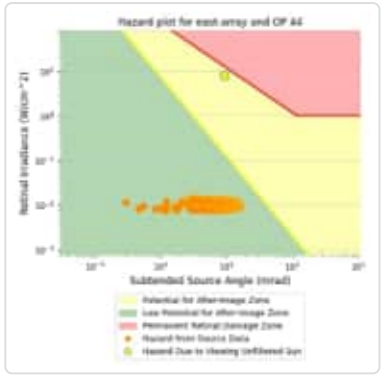
East Array: OP 44

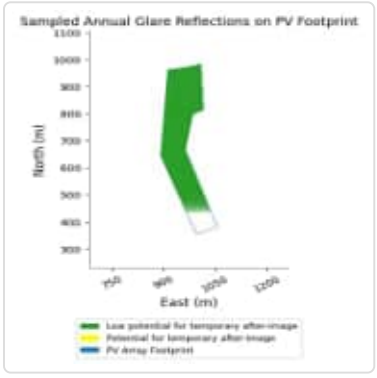
PV array is expected to produce the following glare for this receptor:

- 1,136 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





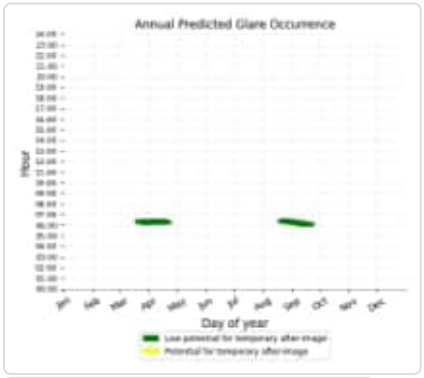


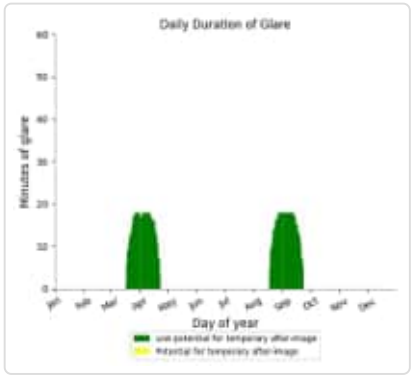


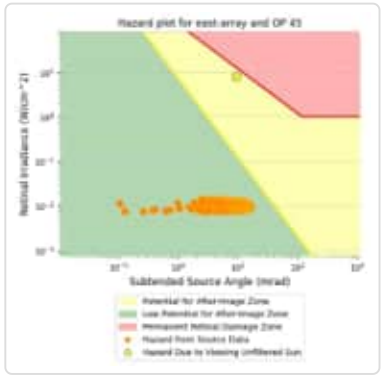
East Array: OP 45

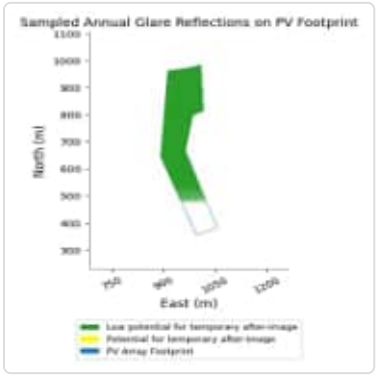
PV array is expected to produce the following glare for this receptor:

- 1,118 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





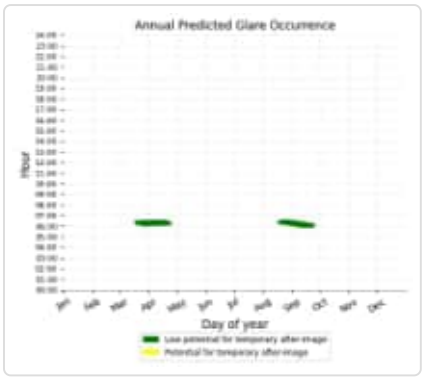




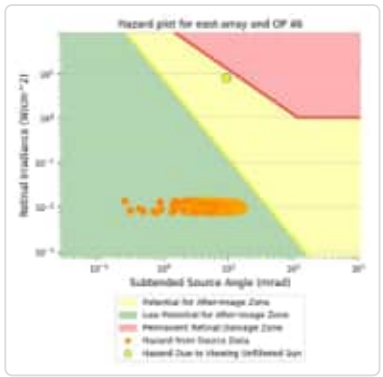
East Array: OP 46

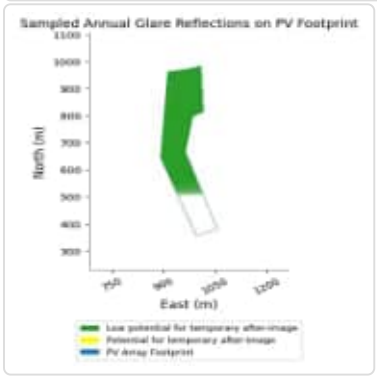
PV array is expected to produce the following glare for this receptor:

- 1,118 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





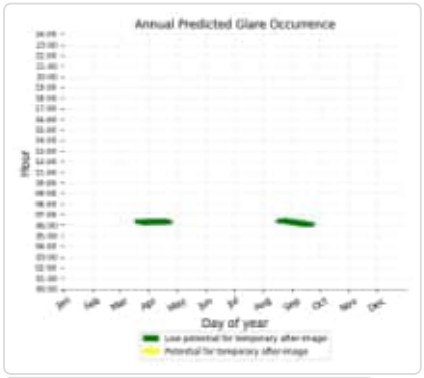


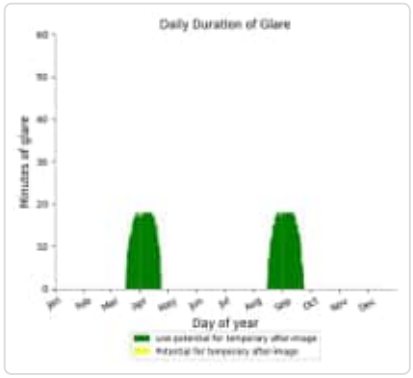


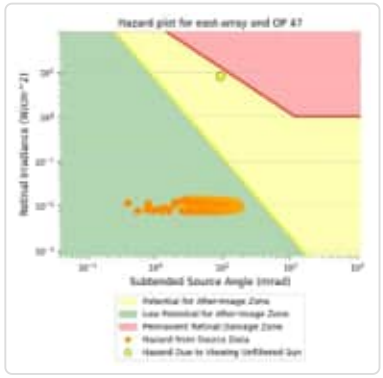
East Array: OP 47

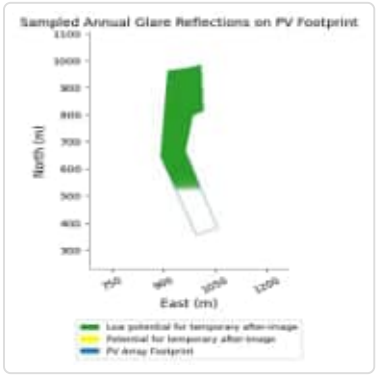
PV array is expected to produce the following glare for this receptor:

- 1,158 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





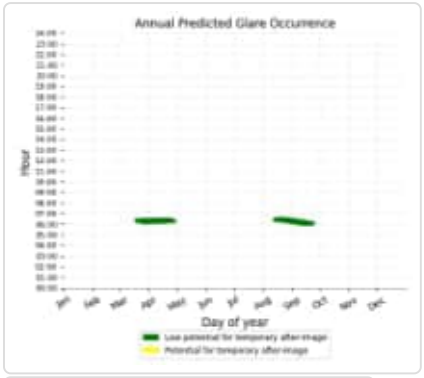




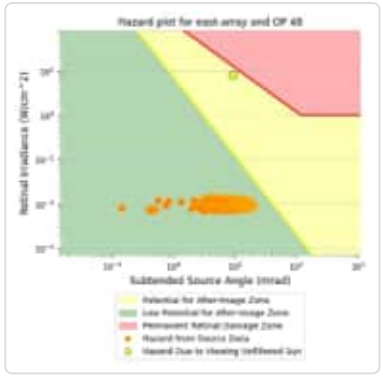
East Array: OP 48

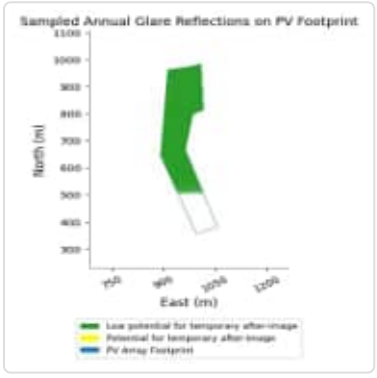
PV array is expected to produce the following glare for this receptor:

- 1,294 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





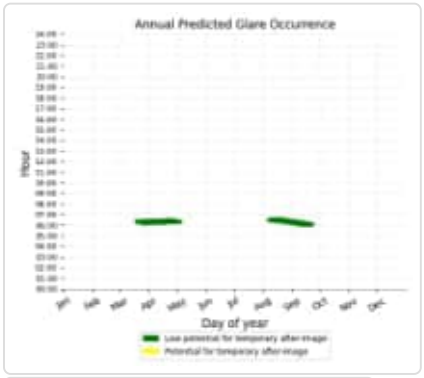


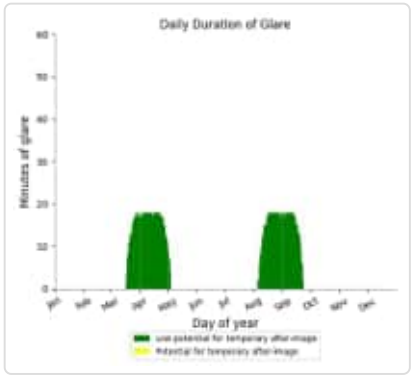


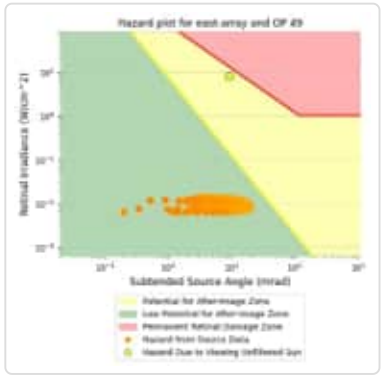
East Array: OP 49

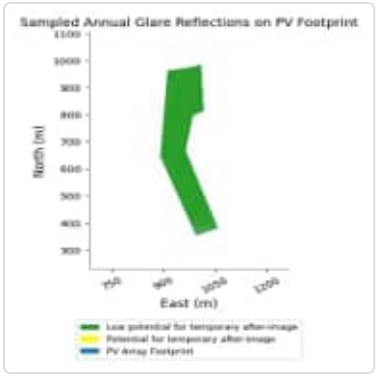
PV array is expected to produce the following glare for this receptor:

- 1,493 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





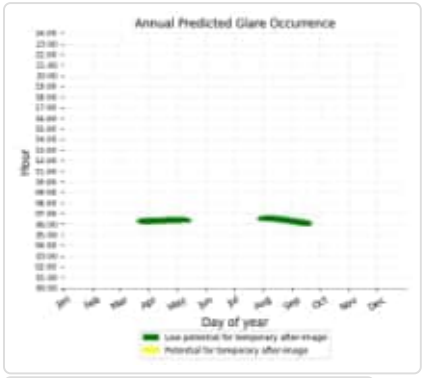




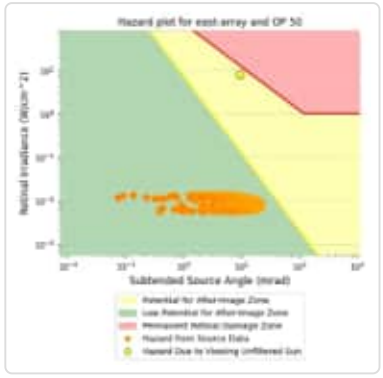
East Array: OP 50

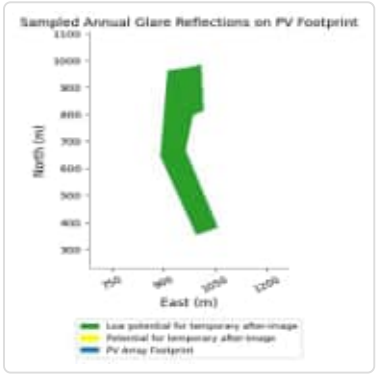
PV array is expected to produce the following glare for this receptor:

- 1,772 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





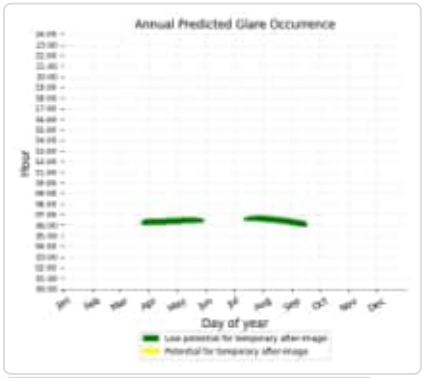




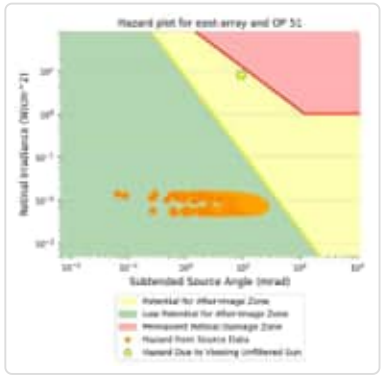
East Array: OP 51

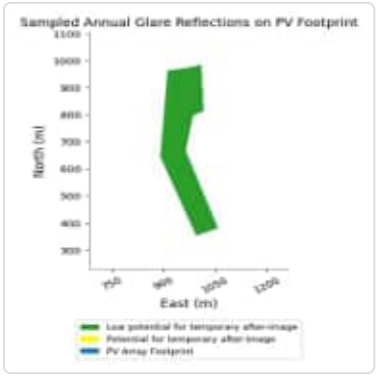
PV array is expected to produce the following glare for this receptor:

- 2,088 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





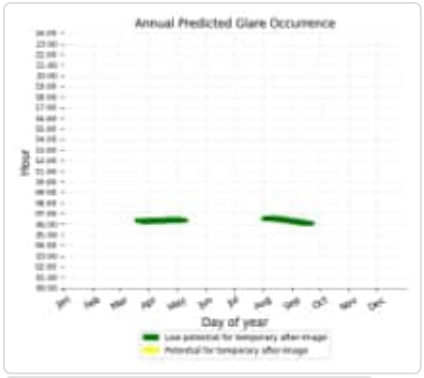




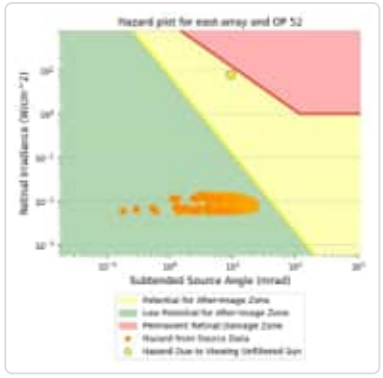
East Array: OP 52

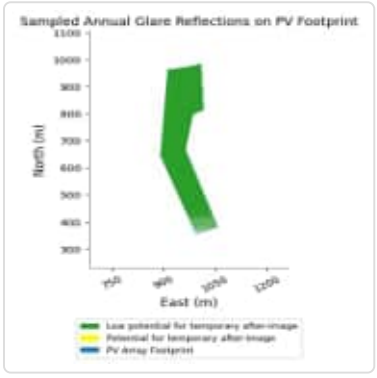
PV array is expected to produce the following glare for this receptor:

- 1,729 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





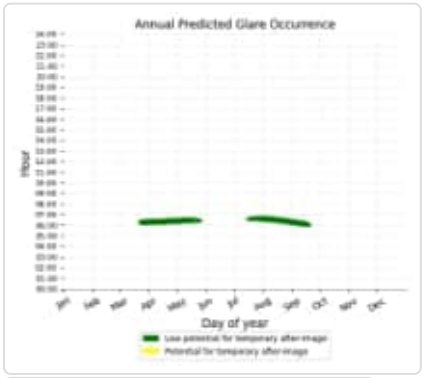


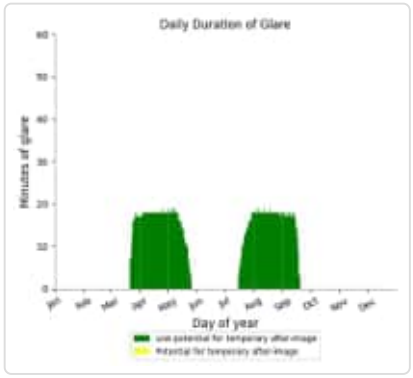


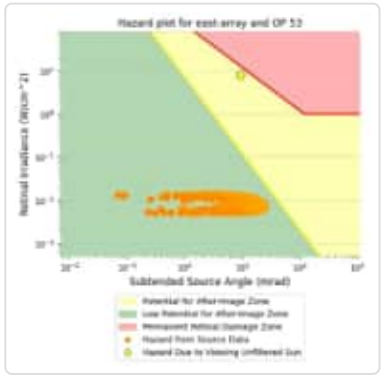
East Array: OP 53

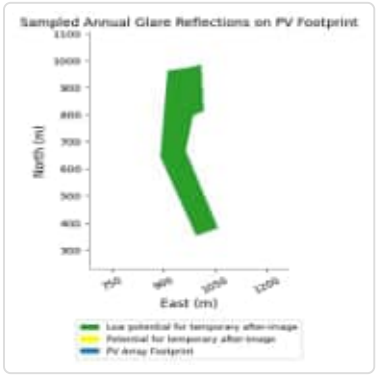
PV array is expected to produce the following glare for this receptor:

- 2,113 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





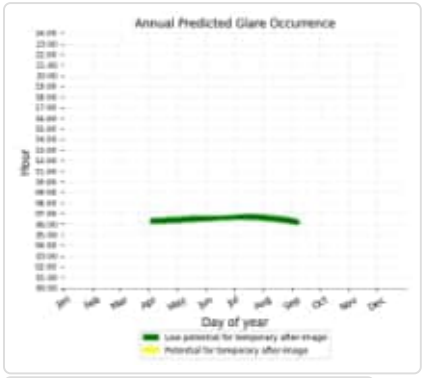




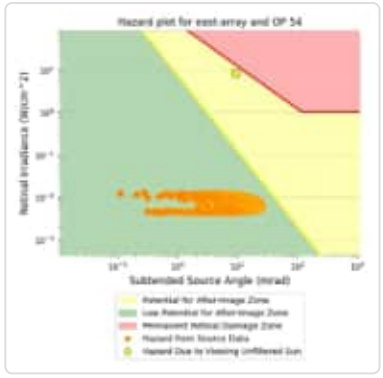
East Array: OP 54

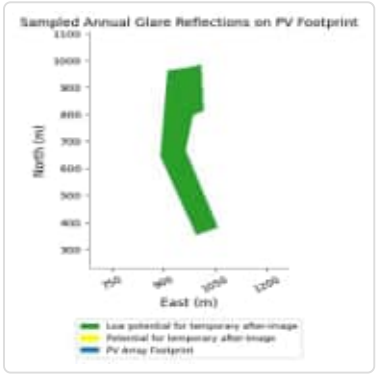
PV array is expected to produce the following glare for this receptor:

- 2,587 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





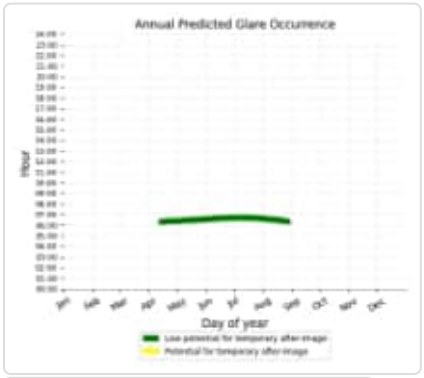




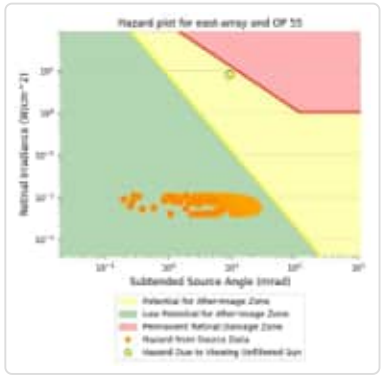
East Array: OP 55

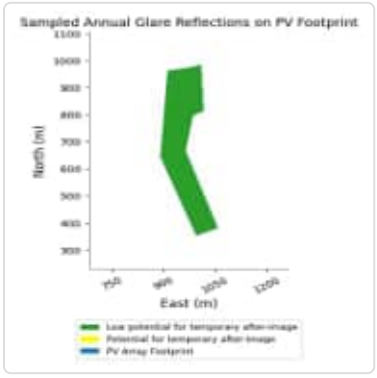
PV array is expected to produce the following glare for this receptor:

- 2,533 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





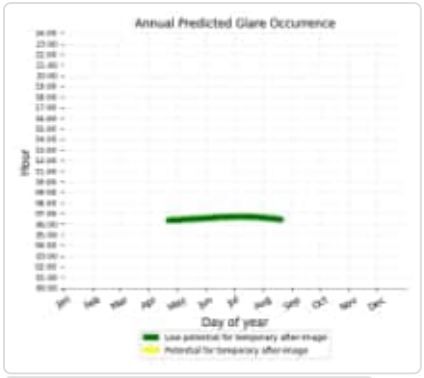




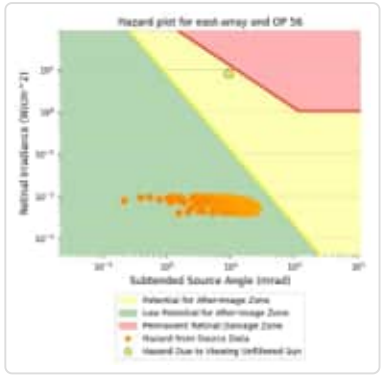
East Array: OP 56

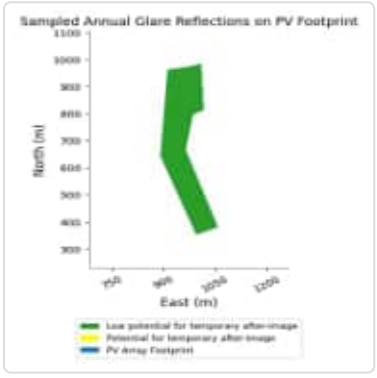
PV array is expected to produce the following glare for this receptor:

- 2,257 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





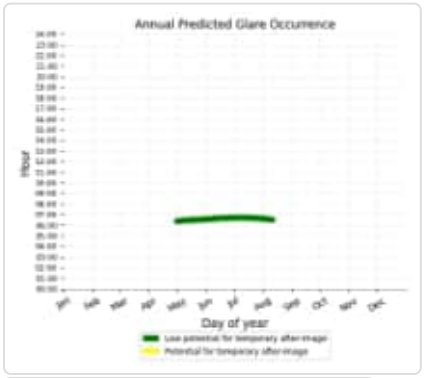


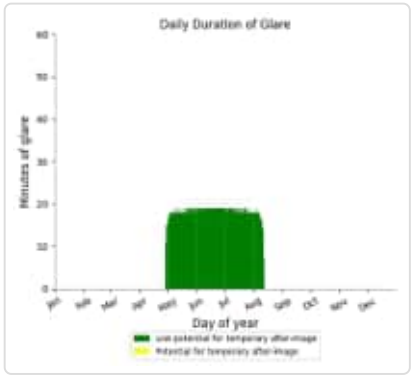


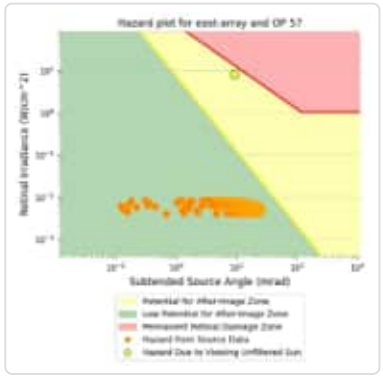
East Array: OP 57

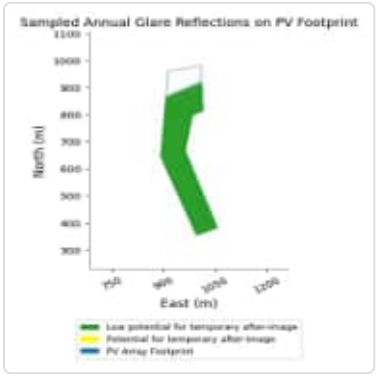
PV array is expected to produce the following glare for this receptor:

- 1,933 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





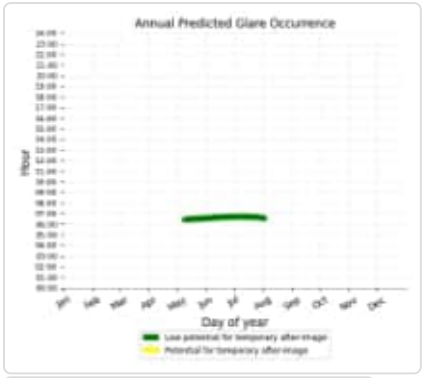




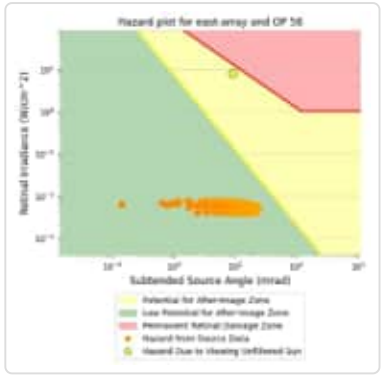
East Array: OP 58

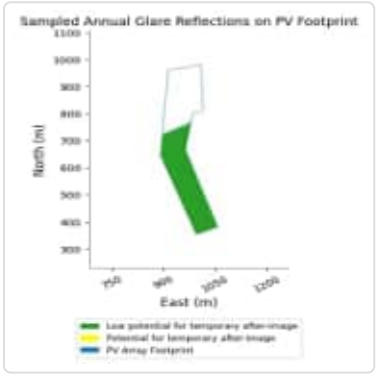
PV array is expected to produce the following glare for this receptor:

- 1,605 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





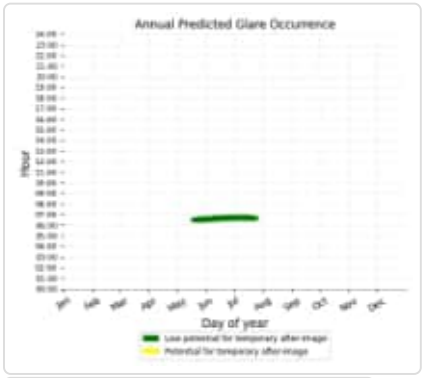




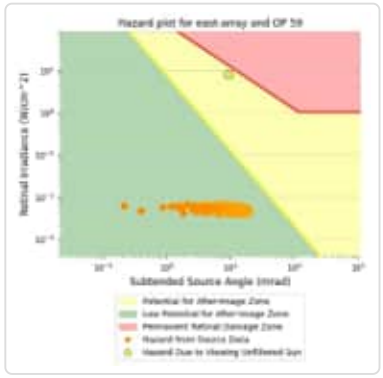
East Array: OP 59

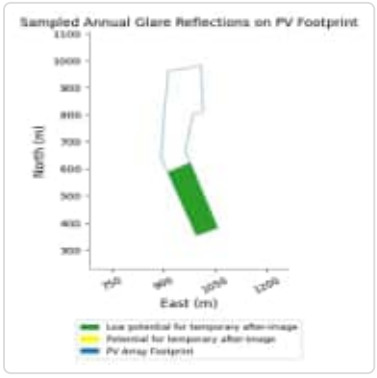
PV array is expected to produce the following glare for this receptor:

- 1,169 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





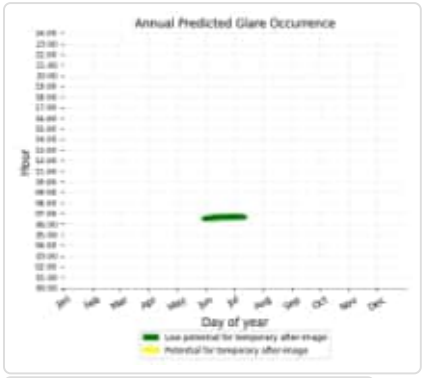




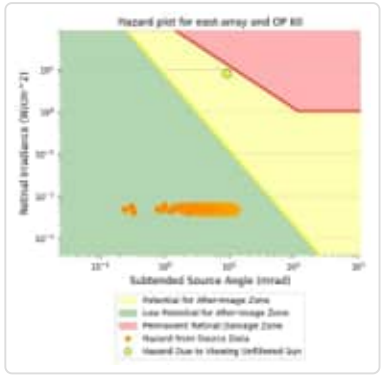
East Array: OP 60

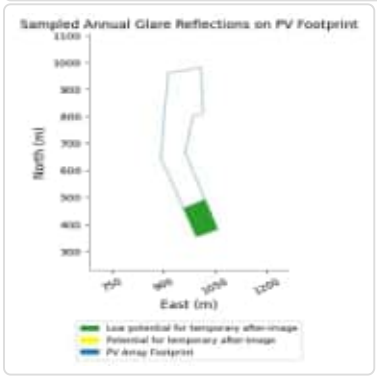
PV array is expected to produce the following glare for this receptor:

- 774 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 61

No glare found

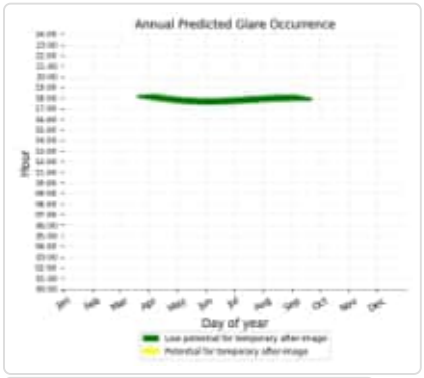
East Array: OP 62

No glare found

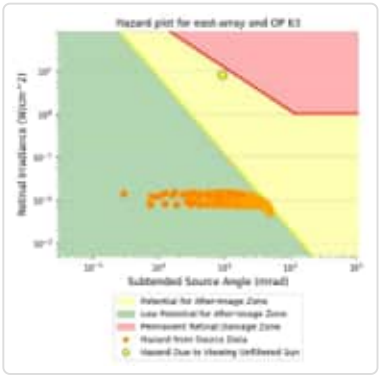
East Array: OP 63

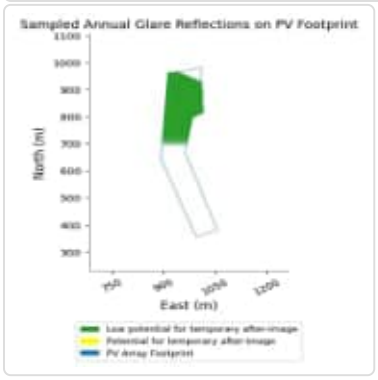
PV array is expected to produce the following glare for this receptor:

- 3,339 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





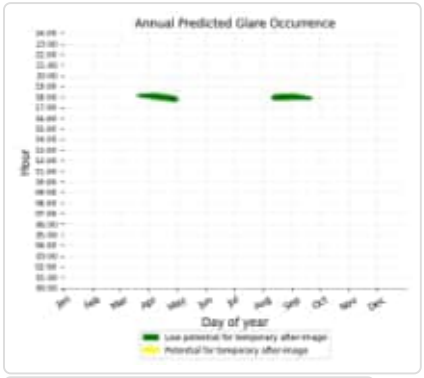


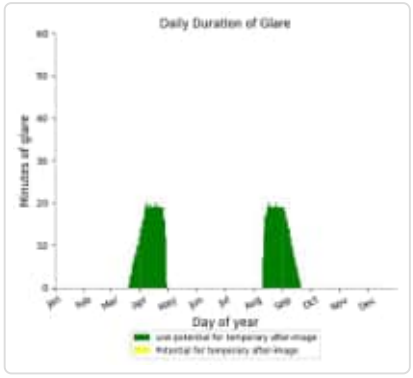


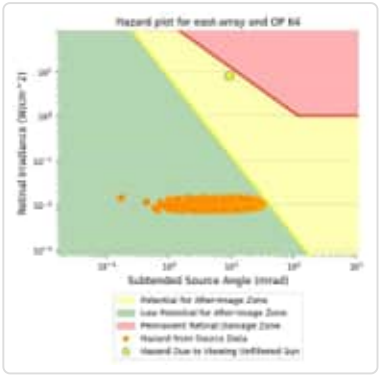
East Array: OP 64

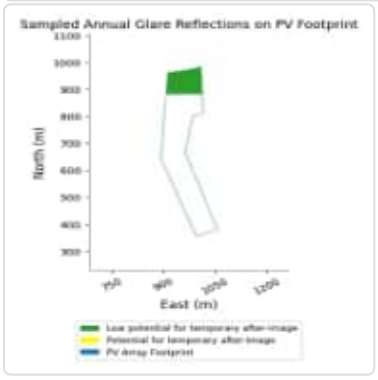
PV array is expected to produce the following glare for this receptor:

- 1,187 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 65

No glare found

East Array: OP 66

No glare found

East Array: OP 67

No glare found

East Array: OP 68

No glare found

North Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
OP: OP 31	838	15
OP: OP 32	0	0
OP: OP 33	16	0
OP: OP 34	21	0
OP: OP 35	0	0
OP: OP 36	55	0

OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	0	0
OP: OP 40	121	0
OP: OP 41	164	0
OP: OP 42	514	0
OP: OP 43	989	0
OP: OP 44	1504	285
OP: OP 45	1290	300
OP: OP 46	1493	189
OP: OP 47	1383	964
OP: OP 48	1290	1206
OP: OP 49	1611	402
OP: OP 50	1411	6
OP: OP 51	887	0
OP: OP 52	1658	34
OP: OP 53	1290	0
OP: OP 54	345	0
OP: OP 55	70	0
OP: OP 56	0	0
OP: OP 57	0	0
OP: OP 58	0	0
OP: OP 59	0	0
OP: OP 60	0	0
OP: OP 61	0	0
OP: OP 62	0	0
OP: OP 63	0	0
OP: OP 64	0	0
OP: OP 65	0	0
OP: OP 66	0	0
OP: OP 67	414	22
OP: OP 68	29	0

North Array: OP 1

No glare found

North Array: OP 2

No glare found

North Array: OP 3

No glare found

North Array: OP 4

No glare found

North Array: OP 5

No glare found

North Array: OP 6

No glare found

North Array: OP 7
No glare found

North Array: OP 8
No glare found

North Array: OP 9
No glare found

North Array: OP 10
No glare found

North Array: OP 11
No glare found

North Array: OP 12
No glare found

North Array: OP 13
No glare found

North Array: OP 14
No glare found

North Array: OP 15
No glare found

North Array: OP 16
No glare found

North Array: OP 17
No glare found

North Array: OP 18
No glare found

North Array: OP 19
No glare found

North Array: OP 20
No glare found

North Array: OP 21
No glare found

North Array: OP 22
No glare found

North Array: OP 23

No glare found

North Array: OP 24

No glare found

North Array: OP 25

No glare found

North Array: OP 26

No glare found

North Array: OP 27

No glare found

North Array: OP 28

No glare found

North Array: OP 29

No glare found

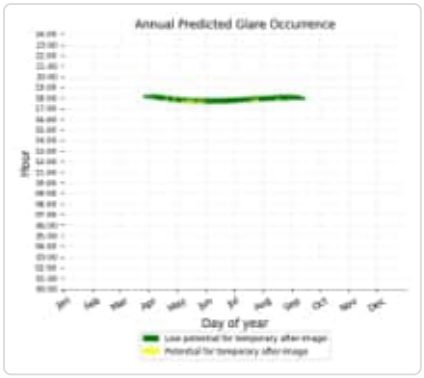
North Array: OP 30

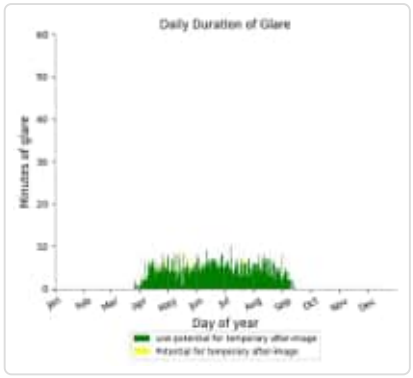
No glare found

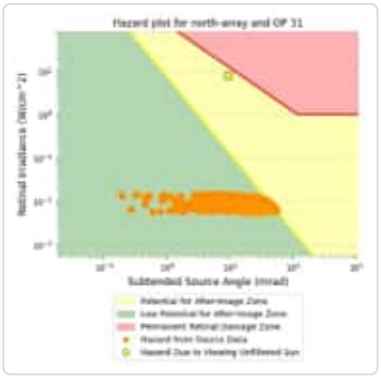
North Array: OP 31

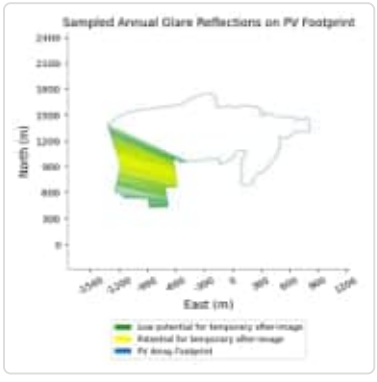
PV array is expected to produce the following glare for this receptor:

- 838 minutes of "green" glare with low potential to cause temporary after-image.
- 15 minutes of "yellow" glare with potential to cause temporary after-image.









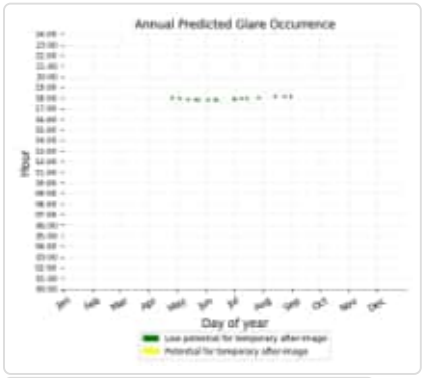
North Array: OP 32

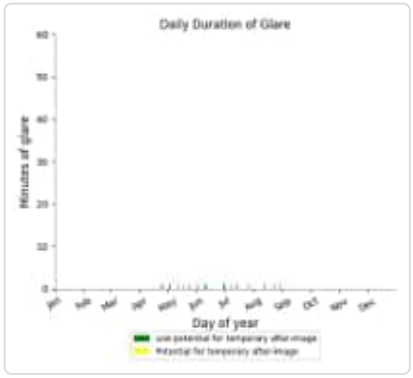
No glare found

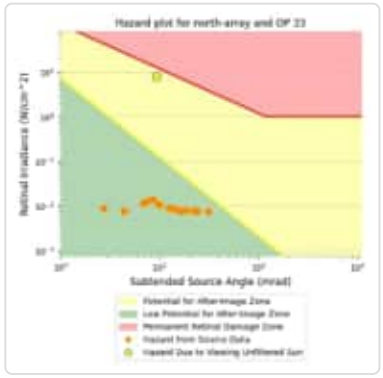
North Array: OP 33

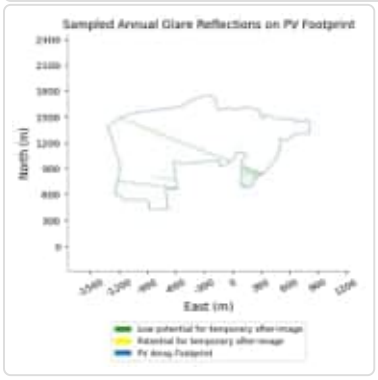
PV array is expected to produce the following glare for this receptor:

- 16 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





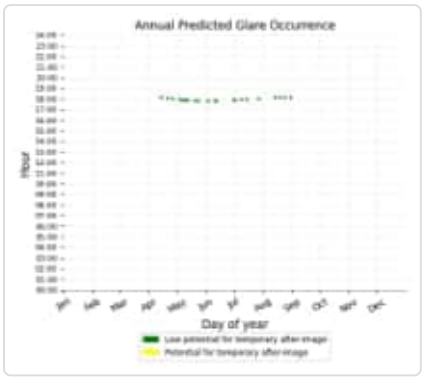


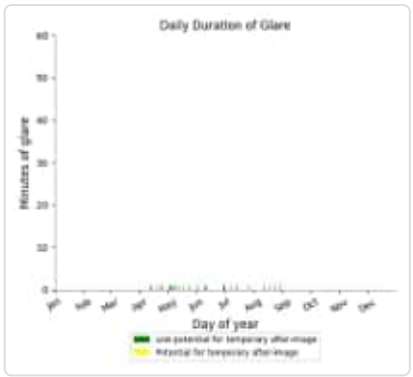


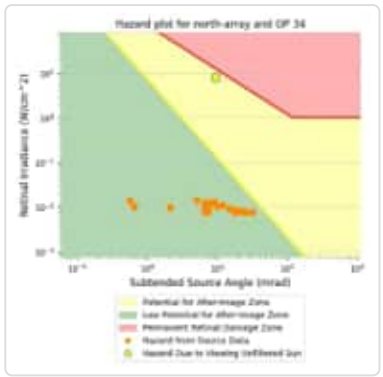
North Array: OP 34

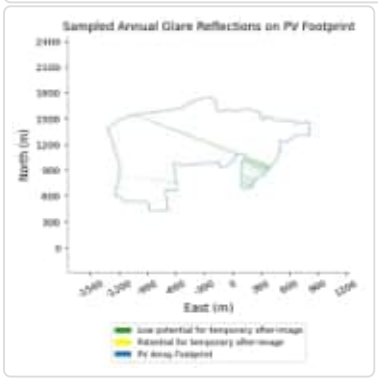
PV array is expected to produce the following glare for this receptor:

- 21 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









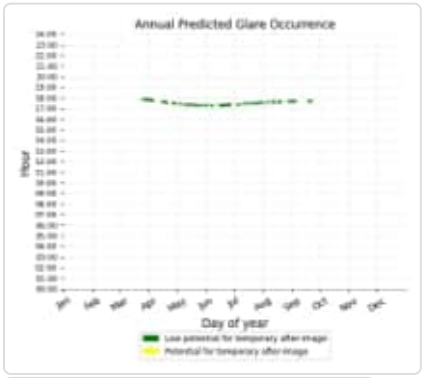
North Array: OP 35

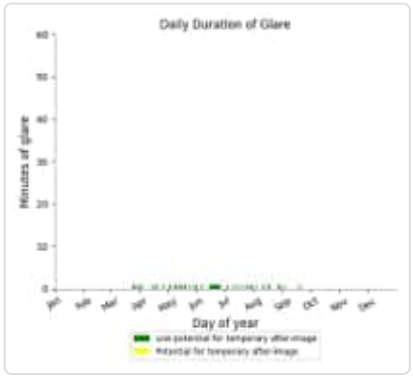
No glare found

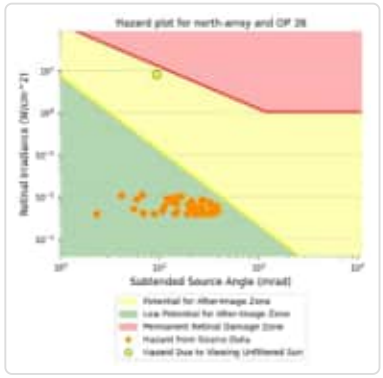
North Array: OP 36

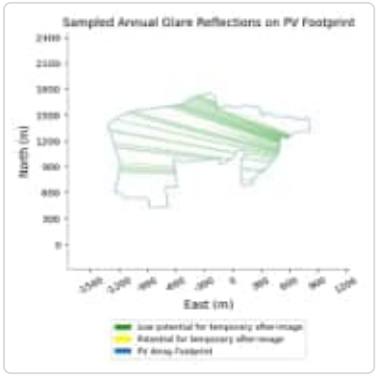
PV array is expected to produce the following glare for this receptor:

- 55 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 37

No glare found

North Array: OP 38

No glare found

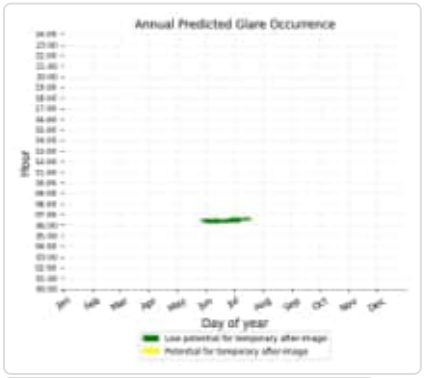
North Array: OP 39

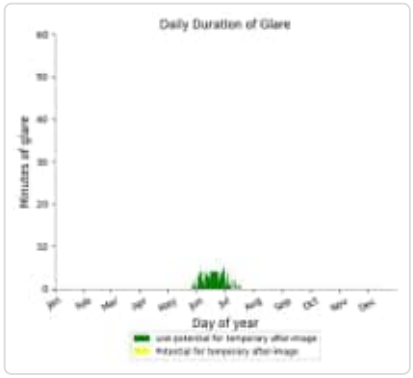
No glare found

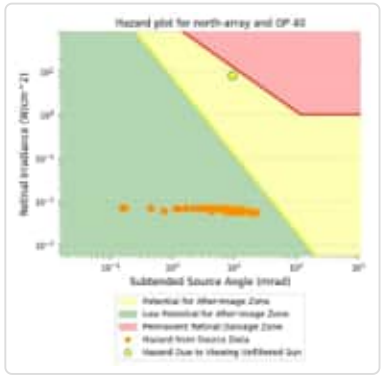
North Array: OP 40

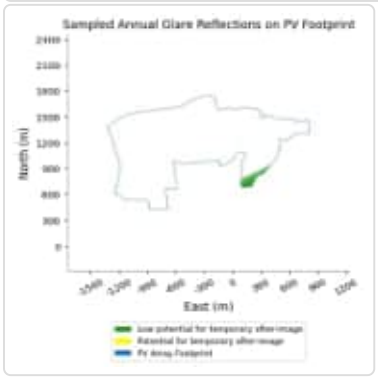
PV array is expected to produce the following glare for this receptor:

- 121 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





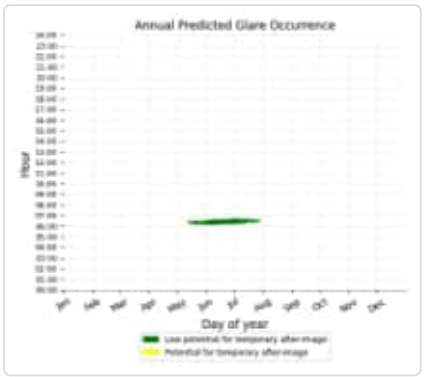


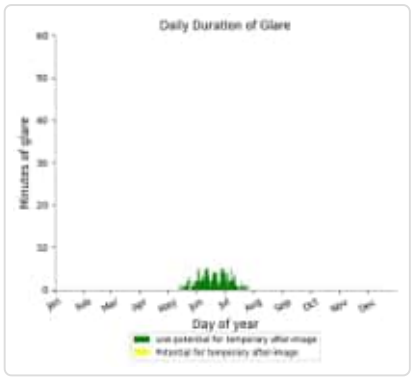


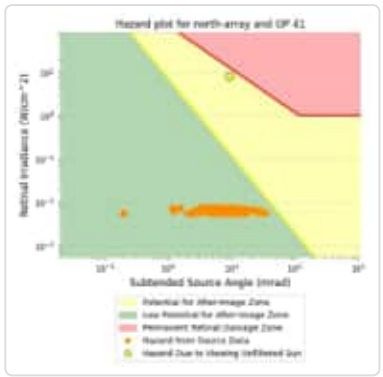
North Array: OP 41

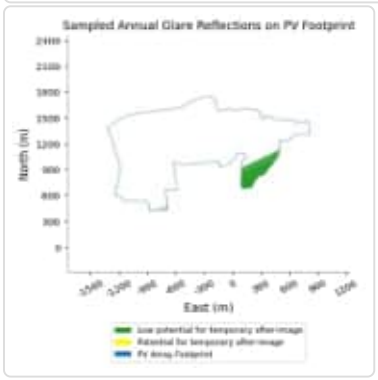
PV array is expected to produce the following glare for this receptor:

- 164 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





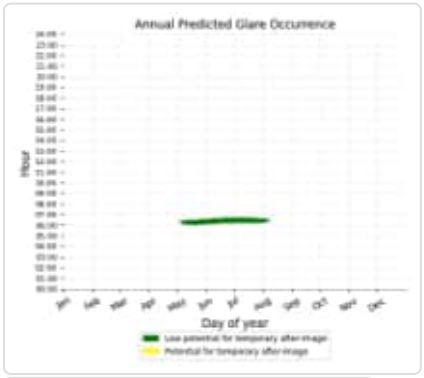


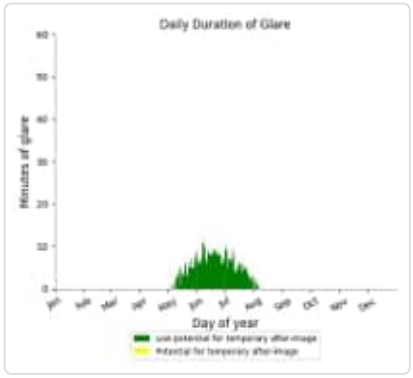


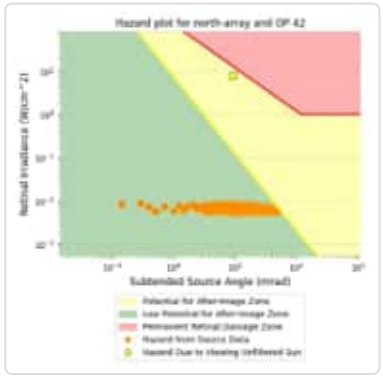
North Array: OP 42

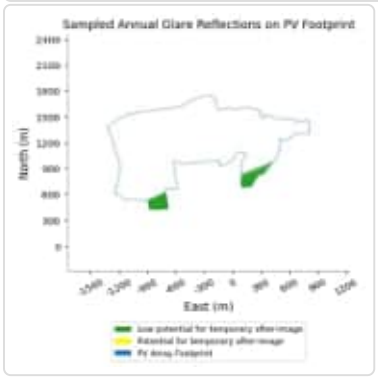
PV array is expected to produce the following glare for this receptor:

- 514 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





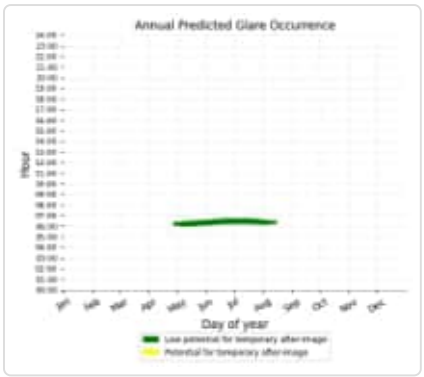


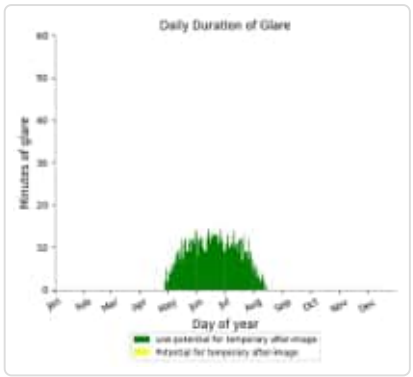


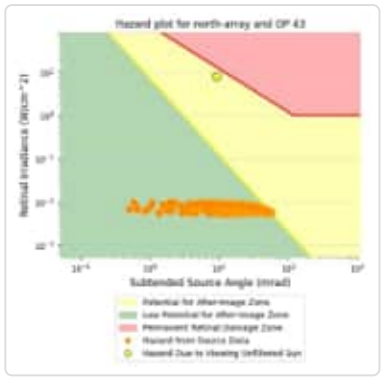
North Array: OP 43

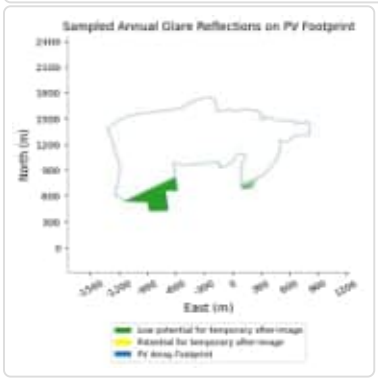
PV array is expected to produce the following glare for this receptor:

- 989 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





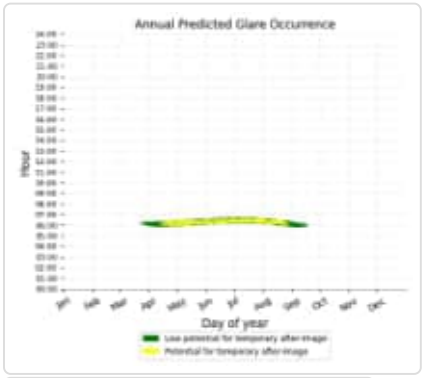


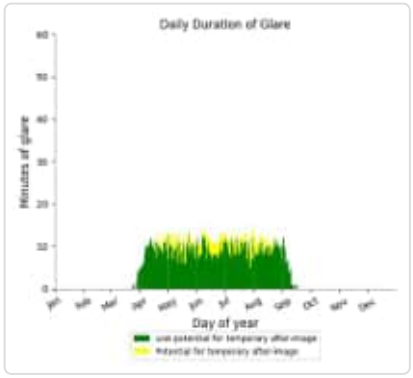


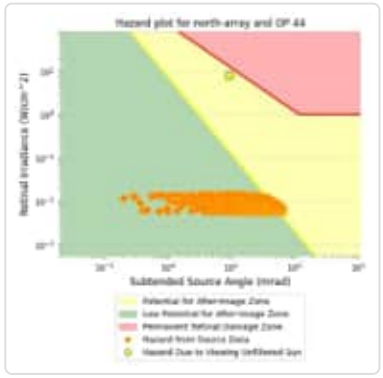
North Array: OP 44

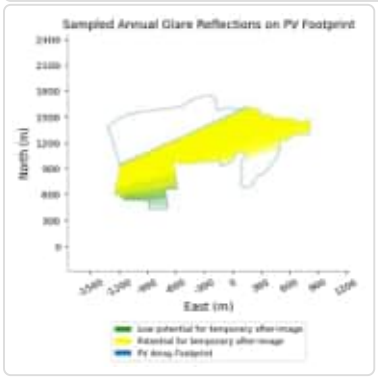
PV array is expected to produce the following glare for this receptor:

- 1,504 minutes of "green" glare with low potential to cause temporary after-image.
- 285 minutes of "yellow" glare with potential to cause temporary after-image.





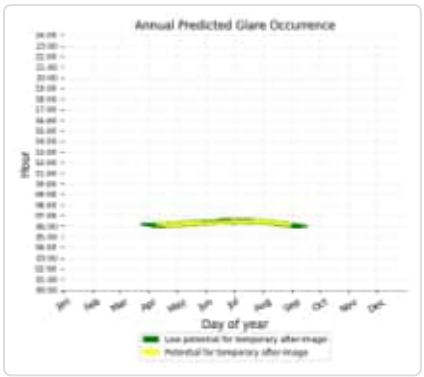


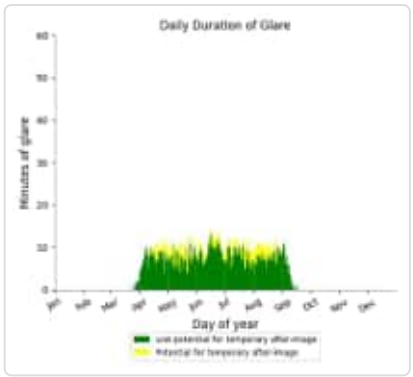


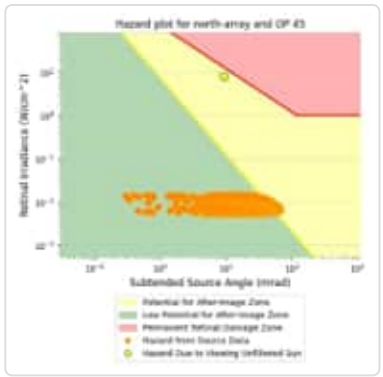
North Array: OP 45

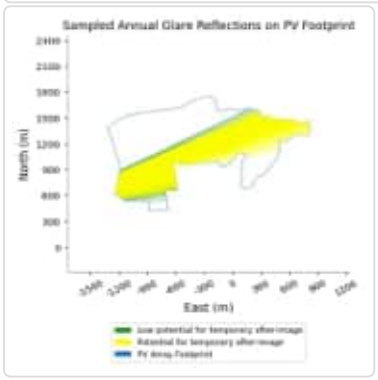
PV array is expected to produce the following glare for this receptor:

- 1,290 minutes of "green" glare with low potential to cause temporary after-image.
- 300 minutes of "yellow" glare with potential to cause temporary after-image.





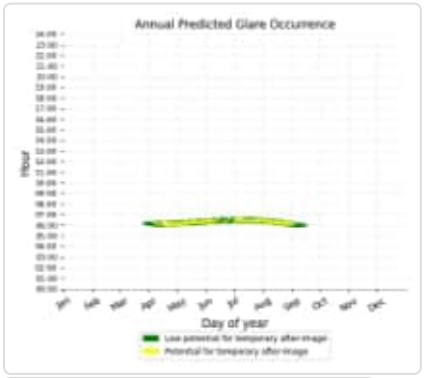


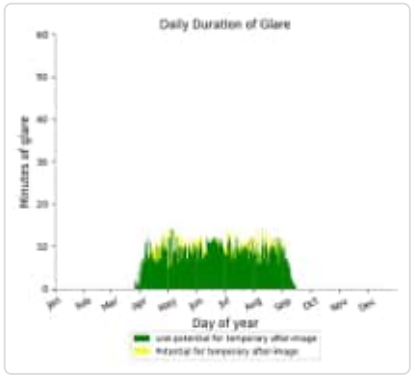


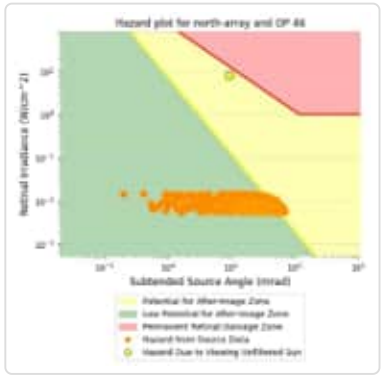
North Array: OP 46

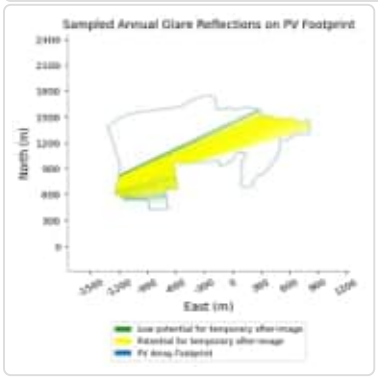
PV array is expected to produce the following glare for this receptor:

- 1,493 minutes of "green" glare with low potential to cause temporary after-image.
- 189 minutes of "yellow" glare with potential to cause temporary after-image.





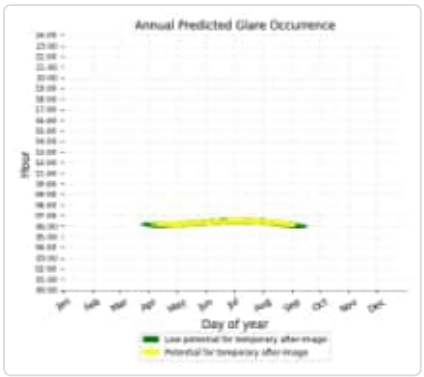


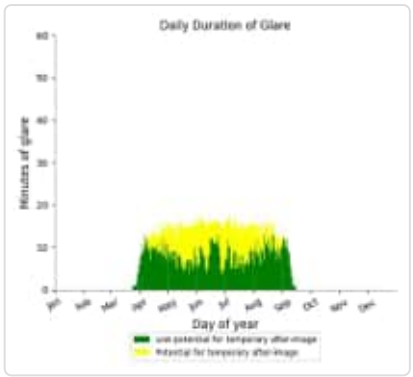


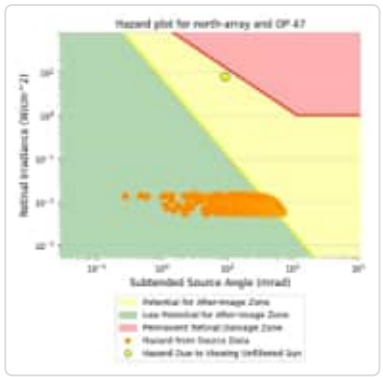
North Array: OP 47

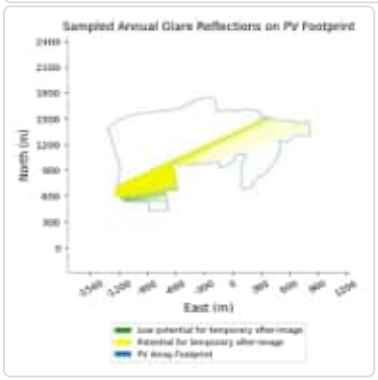
PV array is expected to produce the following glare for this receptor:

- 1,383 minutes of "green" glare with low potential to cause temporary after-image.
- 964 minutes of "yellow" glare with potential to cause temporary after-image.





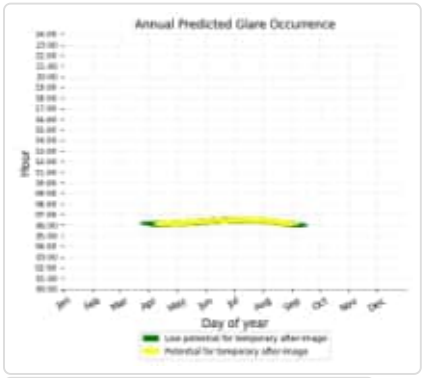


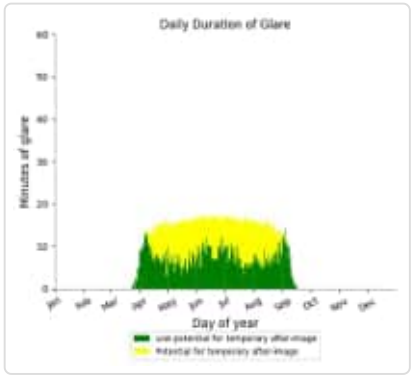


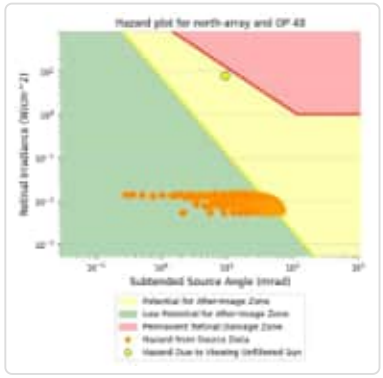
North Array: OP 48

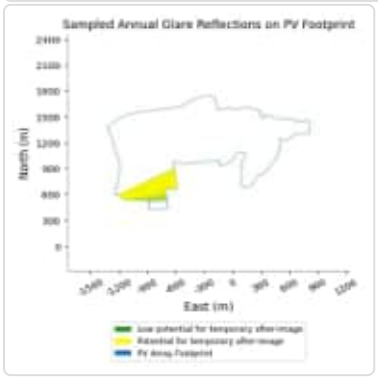
PV array is expected to produce the following glare for this receptor:

- 1,290 minutes of "green" glare with low potential to cause temporary after-image.
- 1,206 minutes of "yellow" glare with potential to cause temporary after-image.





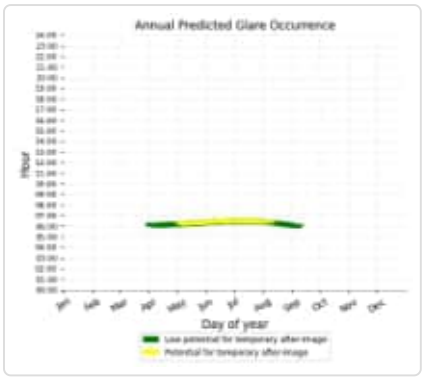


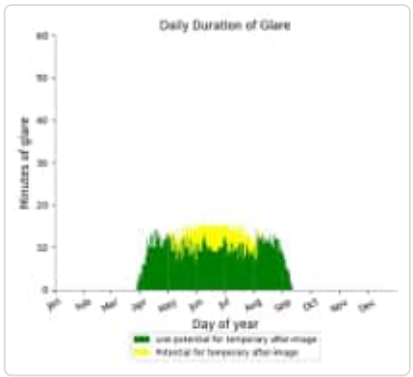


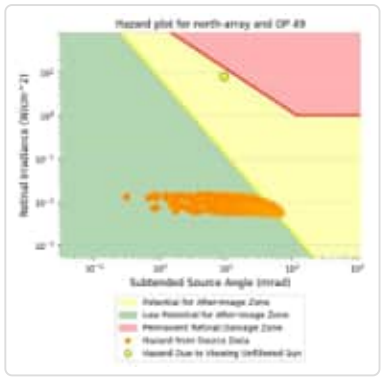
North Array: OP 49

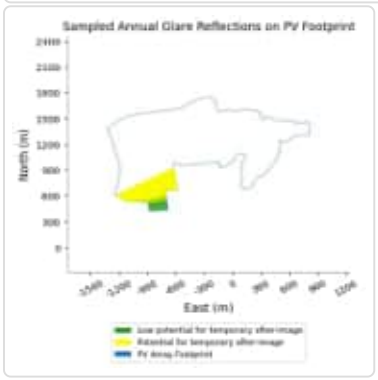
PV array is expected to produce the following glare for this receptor:

- 1,611 minutes of "green" glare with low potential to cause temporary after-image.
- 402 minutes of "yellow" glare with potential to cause temporary after-image.





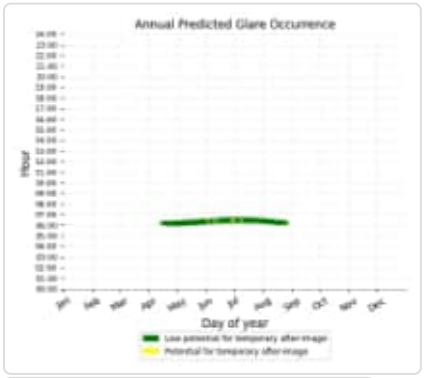


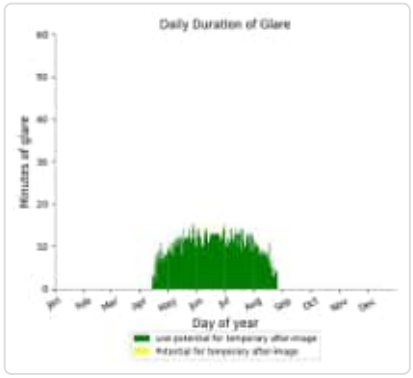


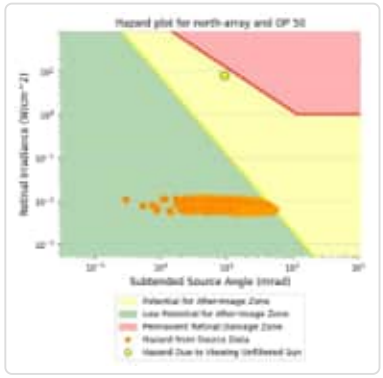
North Array: OP 50

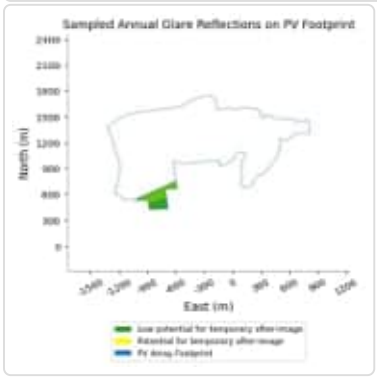
PV array is expected to produce the following glare for this receptor:

- 1,411 minutes of "green" glare with low potential to cause temporary after-image.
- 6 minutes of "yellow" glare with potential to cause temporary after-image.





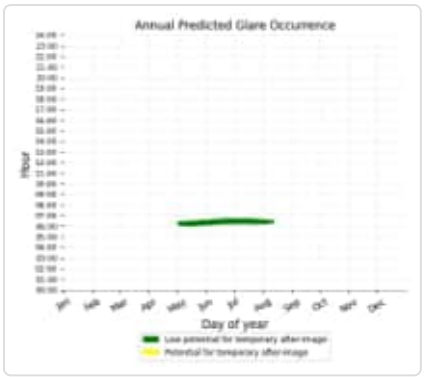


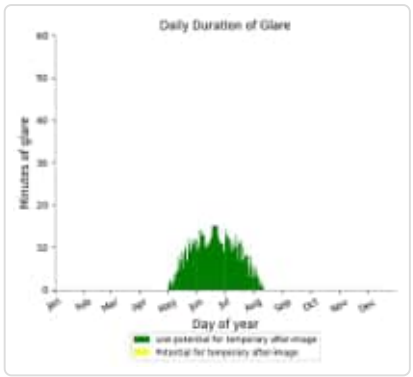


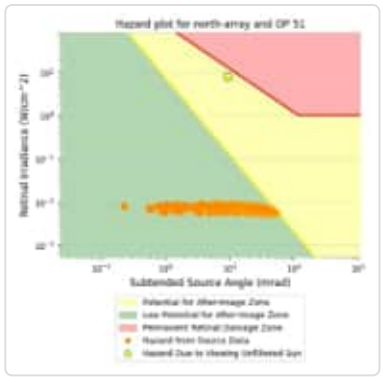
North Array: OP 51

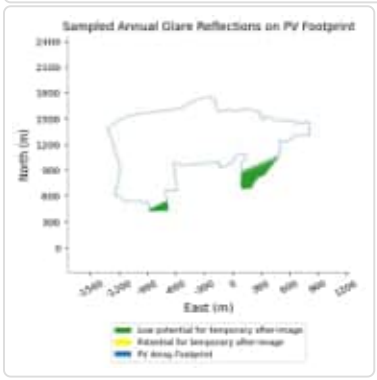
PV array is expected to produce the following glare for this receptor:

- 887 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





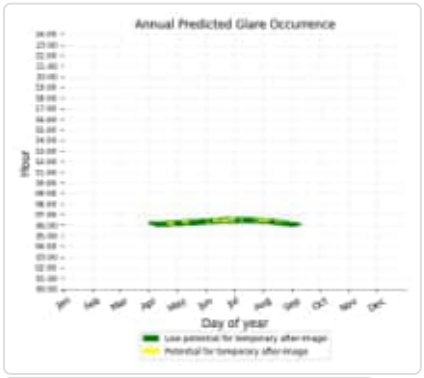


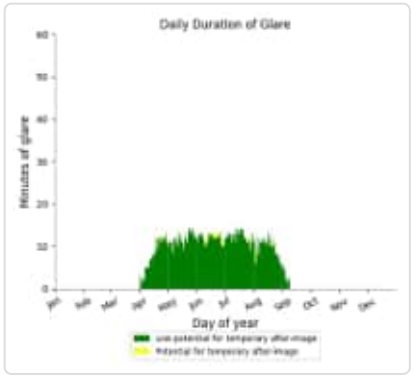


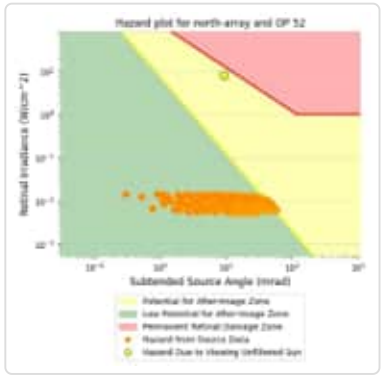
North Array: OP 52

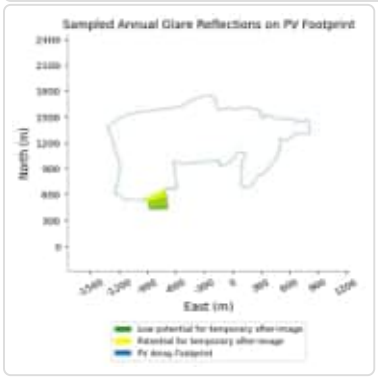
PV array is expected to produce the following glare for this receptor:

- 1,658 minutes of "green" glare with low potential to cause temporary after-image.
- 34 minutes of "yellow" glare with potential to cause temporary after-image.





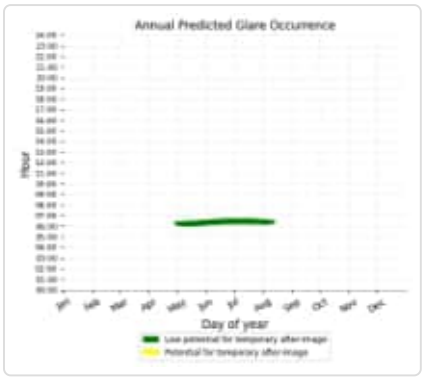


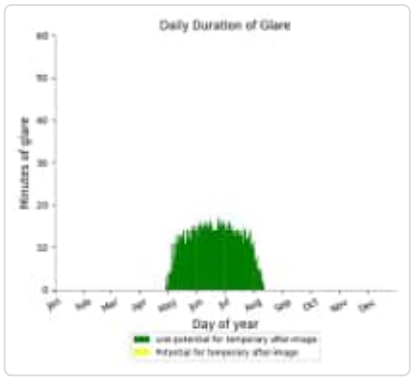


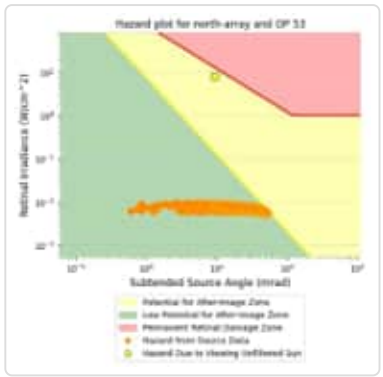
North Array: OP 53

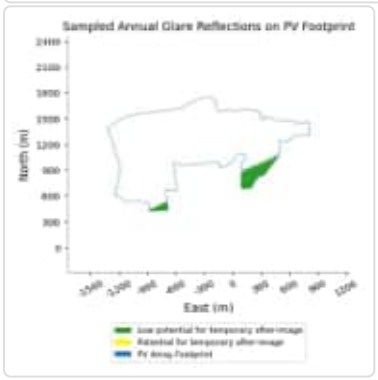
PV array is expected to produce the following glare for this receptor:

- 1,290 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





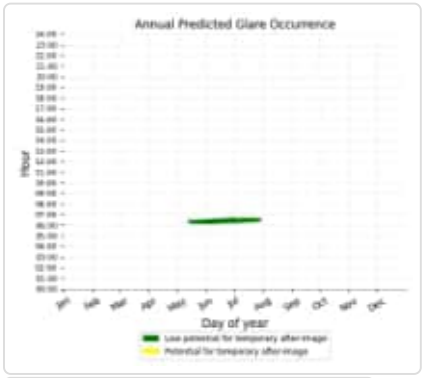


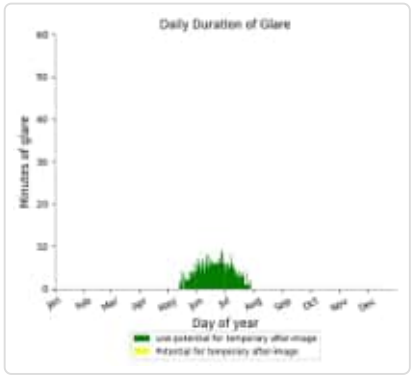


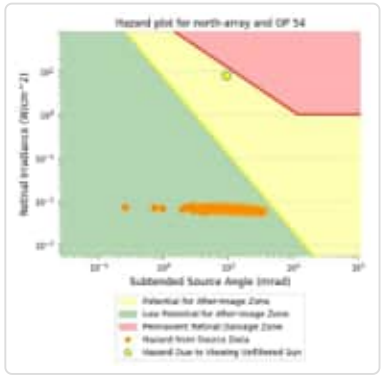
North Array: OP 54

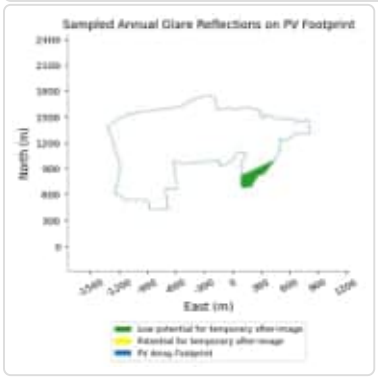
PV array is expected to produce the following glare for this receptor:

- 345 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





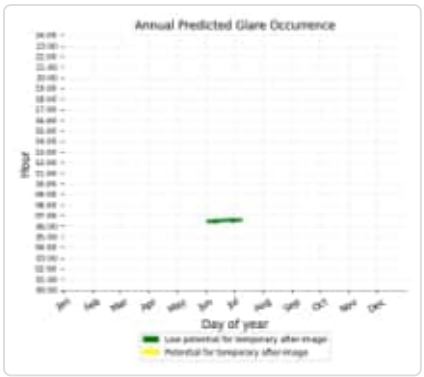


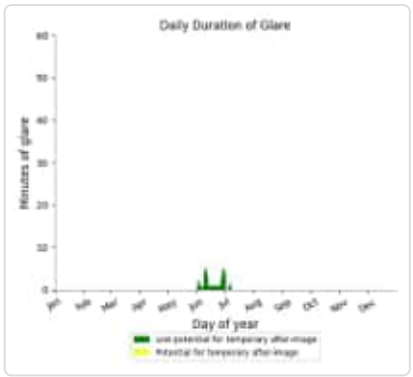


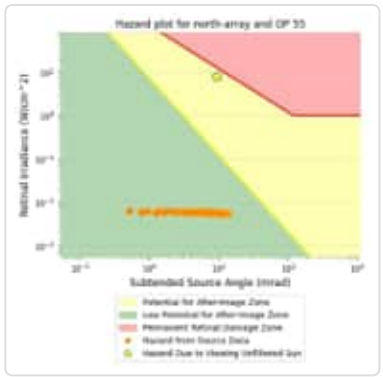
North Array: OP 55

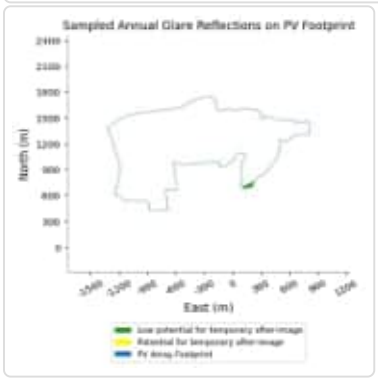
PV array is expected to produce the following glare for this receptor:

- 70 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 56

No glare found

North Array: OP 57

No glare found

North Array: OP 58

No glare found

North Array: OP 59

No glare found

North Array: OP 60

No glare found

North Array: OP 61

No glare found

North Array: OP 62

No glare found

North Array: OP 63

No glare found

North Array: OP 64

No glare found

North Array: OP 65

No glare found

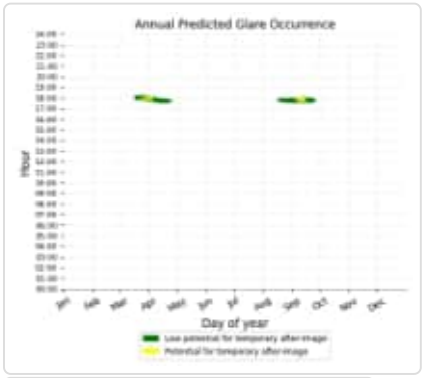
North Array: OP 66

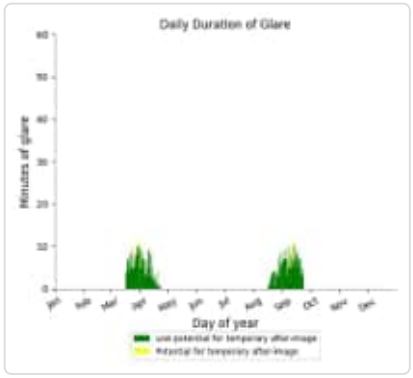
No glare found

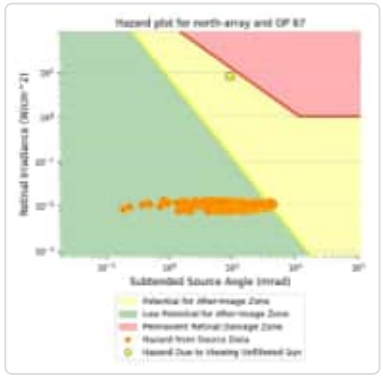
North Array: OP 67

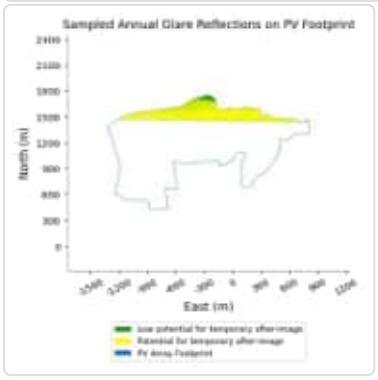
PV array is expected to produce the following glare for this receptor:

- 414 minutes of "green" glare with low potential to cause temporary after-image.
- 22 minutes of "yellow" glare with potential to cause temporary after-image.





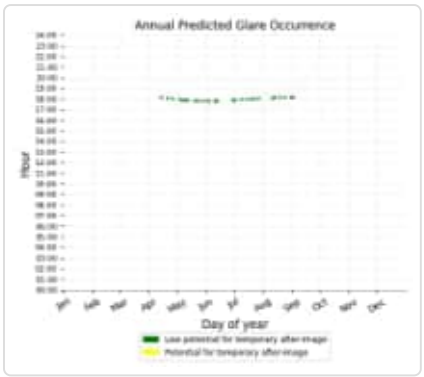


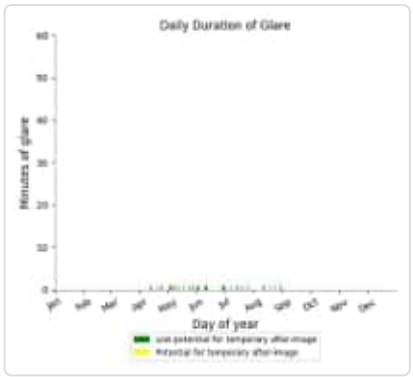


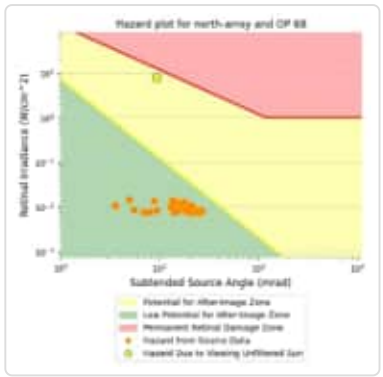
North Array: OP 68

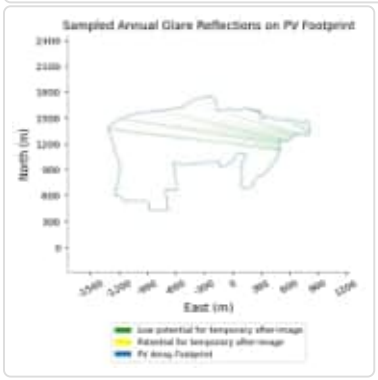
PV array is expected to produce the following glare for this receptor:

- 29 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)

OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	1443	81
OP: OP 5	1220	14
OP: OP 6	725	0
OP: OP 7	525	0
OP: OP 8	22	0
OP: OP 9	0	0
OP: OP 10	166	0
OP: OP 11	1154	0
OP: OP 12	1159	0
OP: OP 13	1597	0
OP: OP 14	1195	0
OP: OP 15	849	0
OP: OP 16	767	0
OP: OP 17	626	0
OP: OP 18	646	0
OP: OP 19	780	0
OP: OP 20	1117	0
OP: OP 21	1218	65
OP: OP 22	1429	630
OP: OP 23	27	0
OP: OP 24	1360	802
OP: OP 25	35	0
OP: OP 26	53	0
OP: OP 27	1472	442
OP: OP 28	1259	176
OP: OP 29	1032	38
OP: OP 30	0	0
OP: OP 31	102	0
OP: OP 32	0	0
OP: OP 33	0	0
OP: OP 34	0	0
OP: OP 35	0	0
OP: OP 36	0	0
OP: OP 37	0	0
OP: OP 38	0	0
OP: OP 39	1326	158
OP: OP 40	1361	117
OP: OP 41	1496	183
OP: OP 42	1283	98
OP: OP 43	877	15
OP: OP 44	0	0
OP: OP 45	0	0
OP: OP 46	0	0
OP: OP 47	0	0
OP: OP 48	0	0
OP: OP 49	83	0
OP: OP 50	560	3
OP: OP 51	1710	344
OP: OP 52	64	0
OP: OP 53	1688	475
OP: OP 54	1513	658

OP: OP 55	1213	1473
OP: OP 56	461	2188
OP: OP 57	878	1704
OP: OP 58	1006	1438
OP: OP 59	1499	929
OP: OP 60	2108	139
OP: OP 61	1539	36
OP: OP 62	0	0
OP: OP 63	0	0
OP: OP 64	0	0
OP: OP 65	0	0
OP: OP 66	0	0
OP: OP 67	0	0
OP: OP 68	0	0

South Array: OP 1

No glare found

South Array: OP 2

No glare found

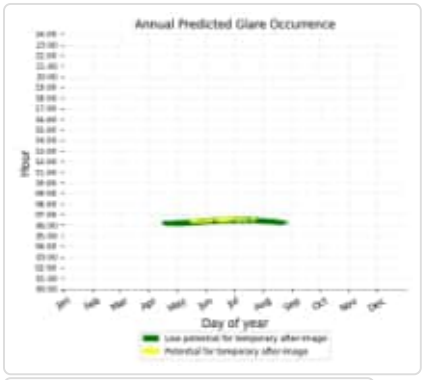
South Array: OP 3

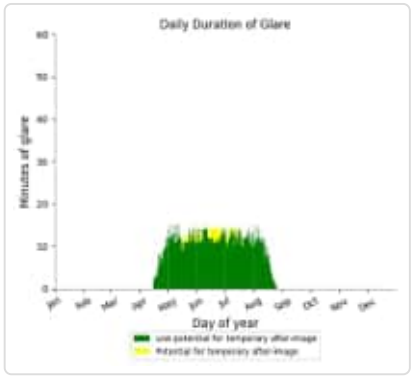
No glare found

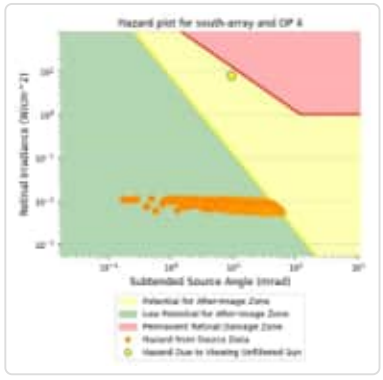
South Array: OP 4

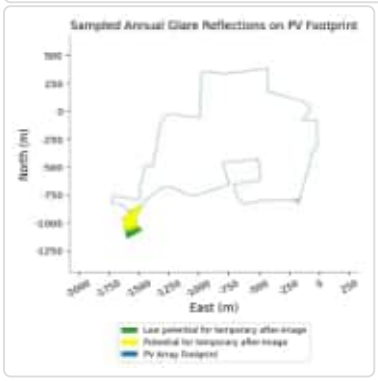
PV array is expected to produce the following glare for this receptor:

- 1,443 minutes of "green" glare with low potential to cause temporary after-image.
- 81 minutes of "yellow" glare with potential to cause temporary after-image.





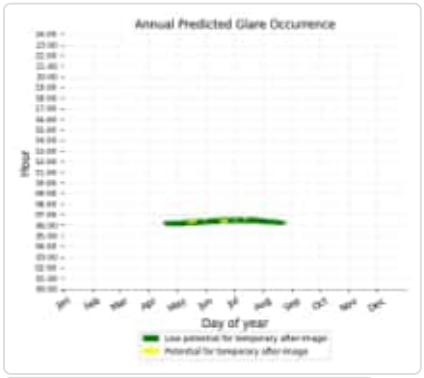


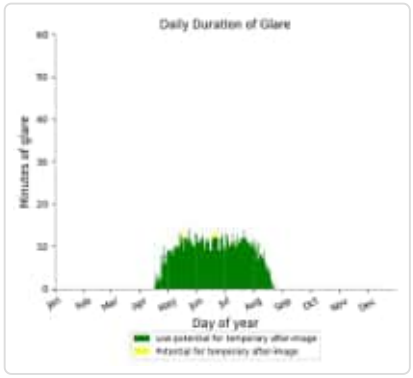


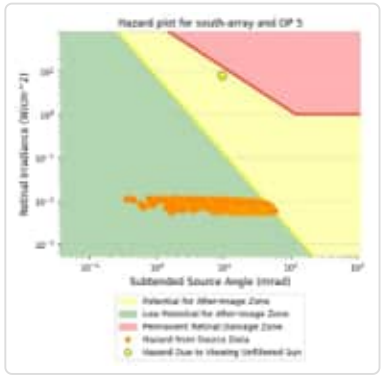
South Array: OP 5

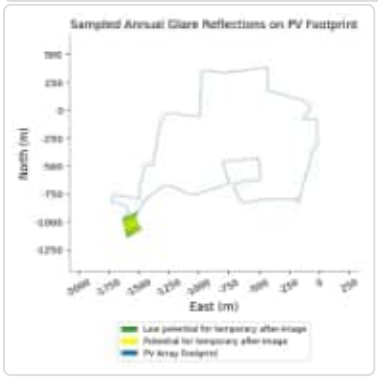
PV array is expected to produce the following glare for this receptor:

- 1,220 minutes of "green" glare with low potential to cause temporary after-image.
- 14 minutes of "yellow" glare with potential to cause temporary after-image.





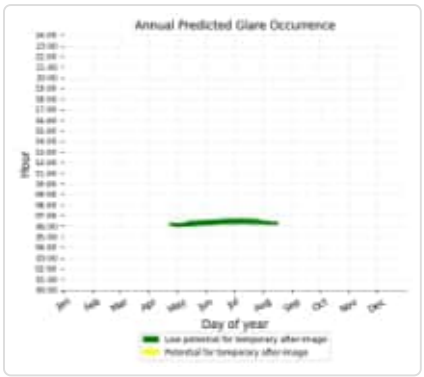


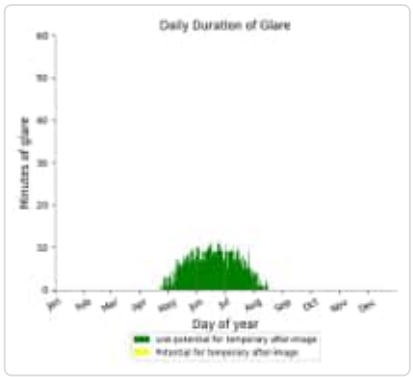


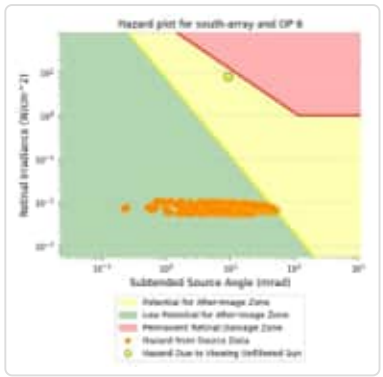
South Array: OP 6

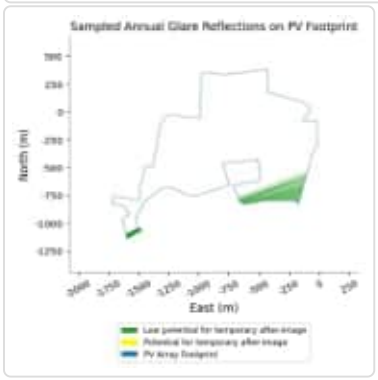
PV array is expected to produce the following glare for this receptor:

- 725 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





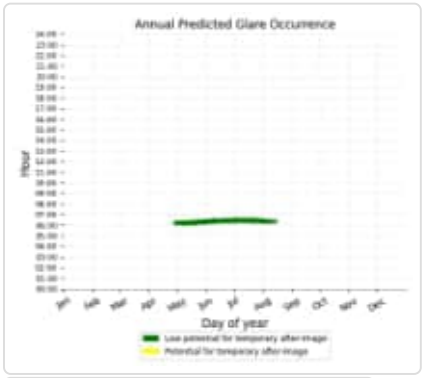


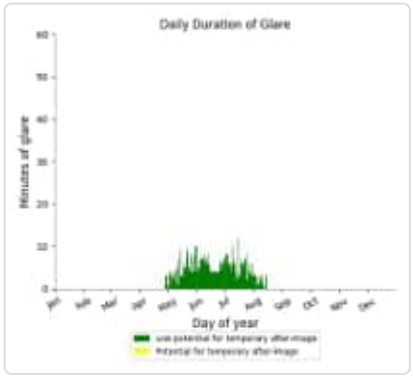


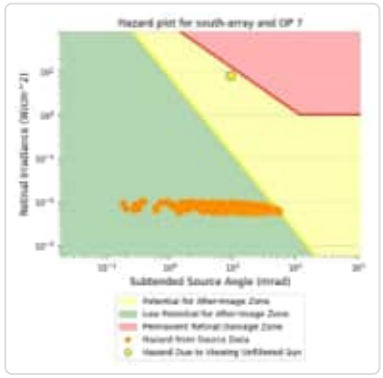
South Array: OP 7

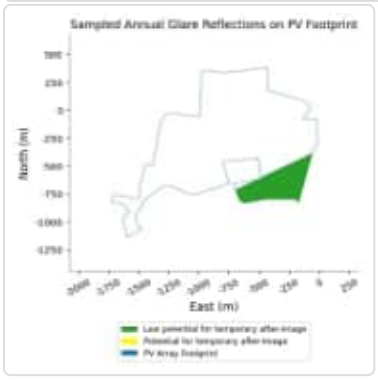
PV array is expected to produce the following glare for this receptor:

- 525 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





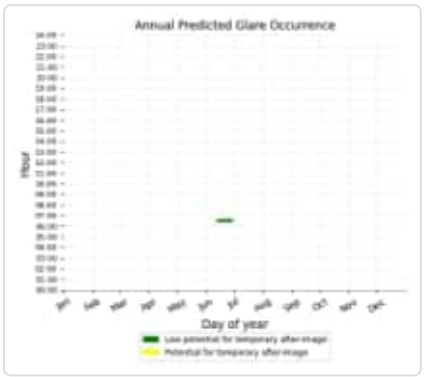




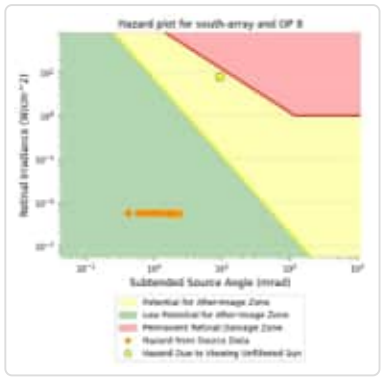
South Array: OP 8

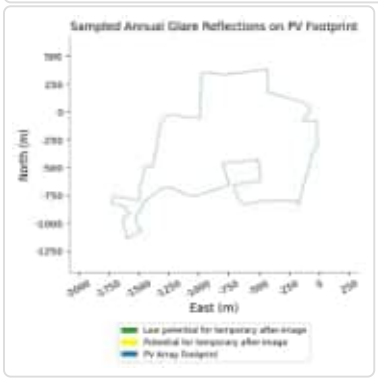
PV array is expected to produce the following glare for this receptor:

- 22 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









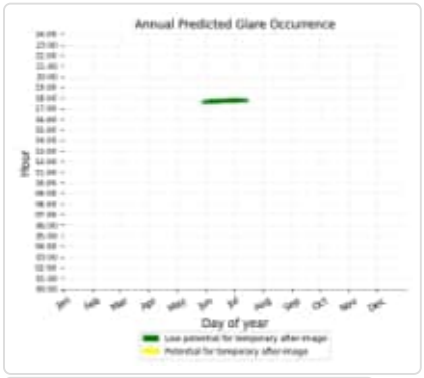
South Array: OP 9

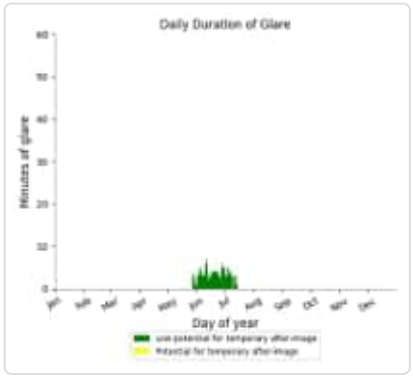
No glare found

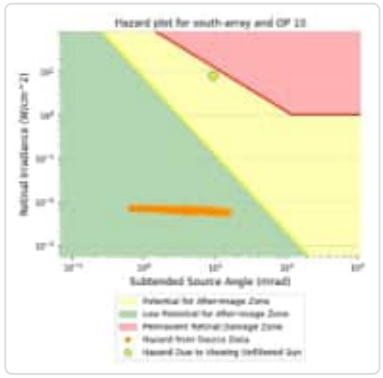
South Array: OP 10

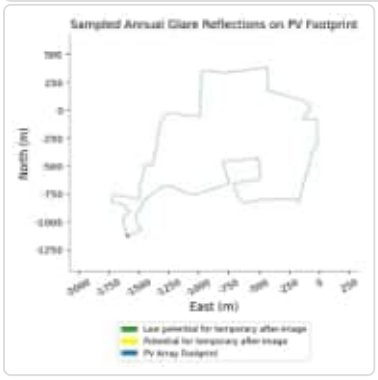
PV array is expected to produce the following glare for this receptor:

- 166 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





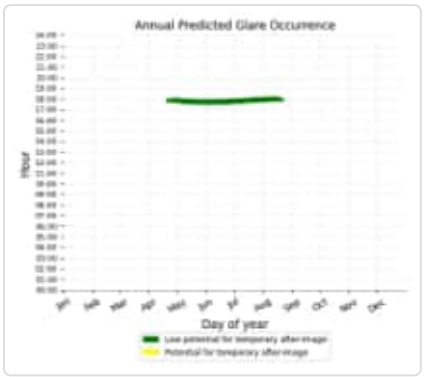


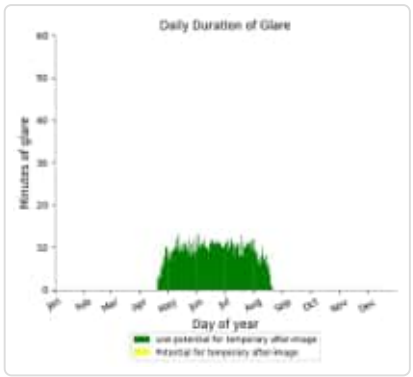


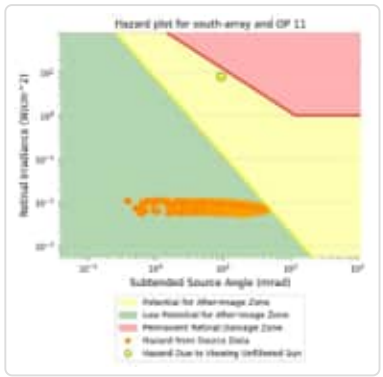
South Array: OP 11

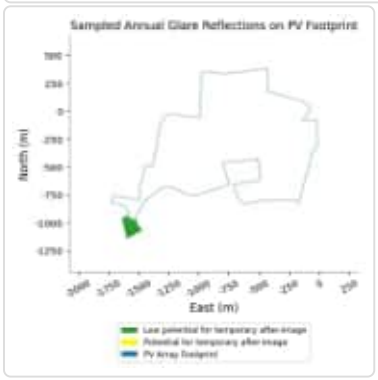
PV array is expected to produce the following glare for this receptor:

- 1,154 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





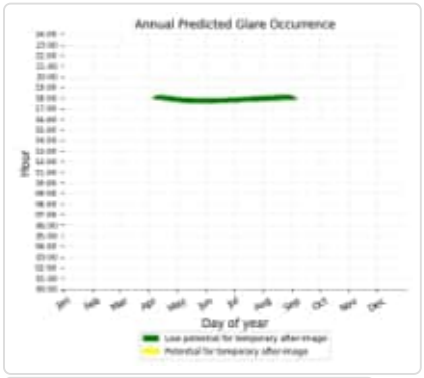


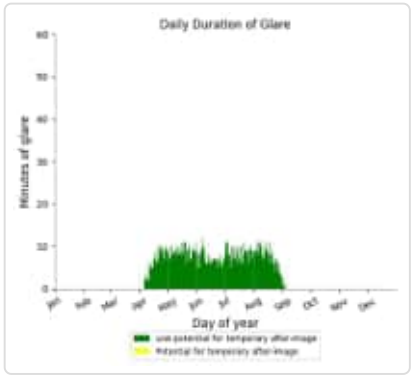


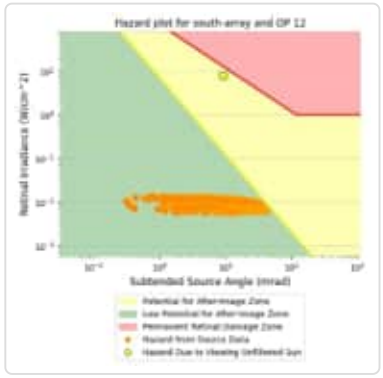
South Array: OP 12

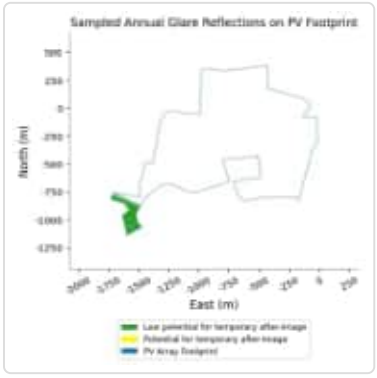
PV array is expected to produce the following glare for this receptor:

- 1,159 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





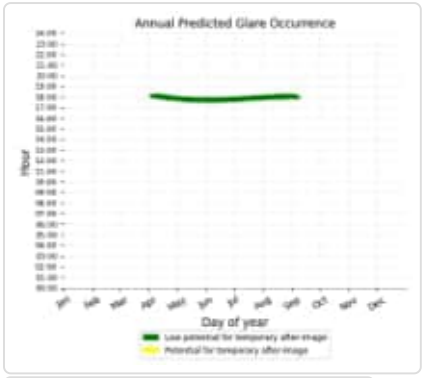


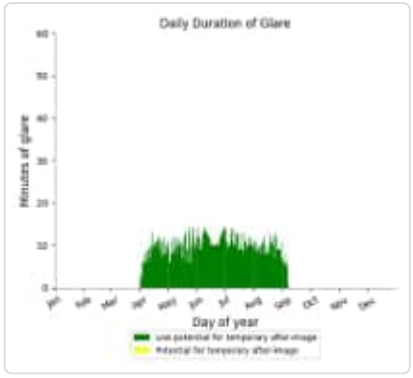


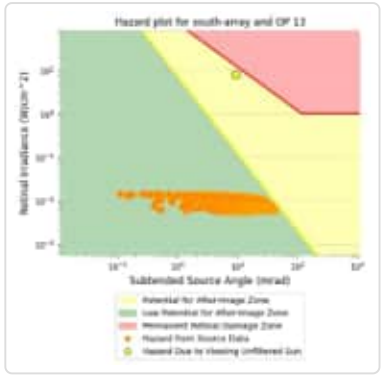
South Array: OP 13

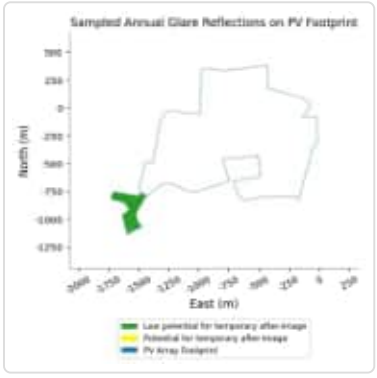
PV array is expected to produce the following glare for this receptor:

- 1,597 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





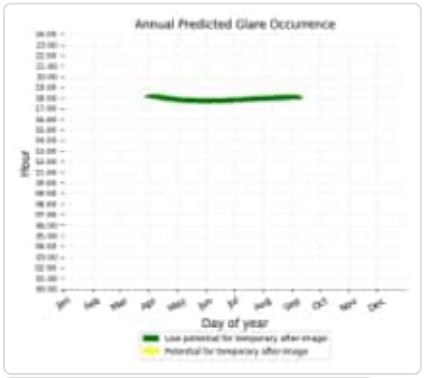


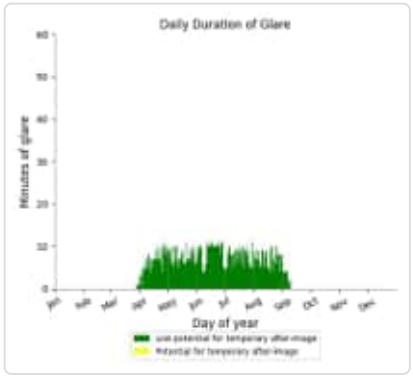


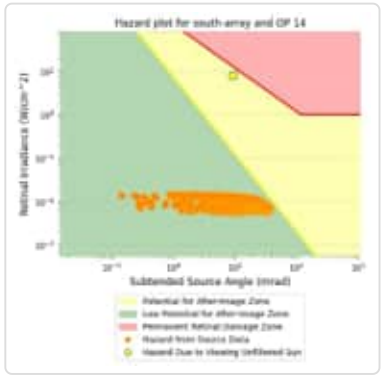
South Array: OP 14

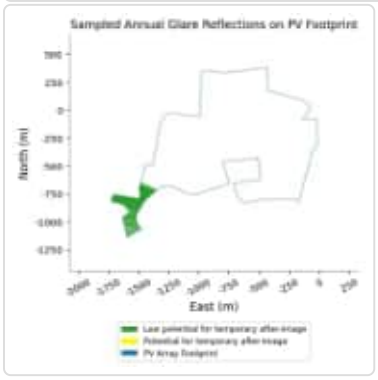
PV array is expected to produce the following glare for this receptor:

- 1,195 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





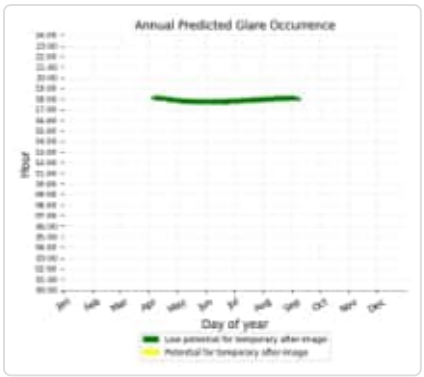


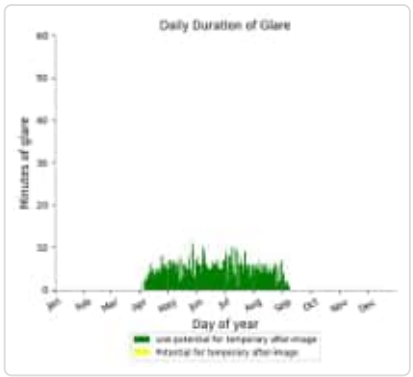


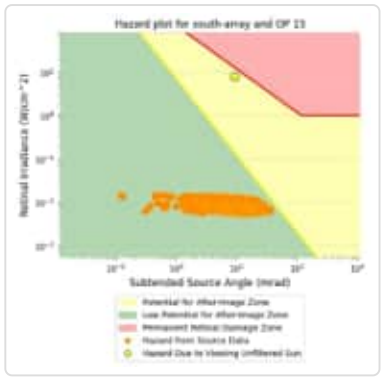
South Array: OP 15

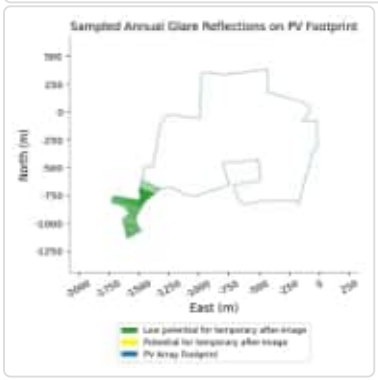
PV array is expected to produce the following glare for this receptor:

- 849 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





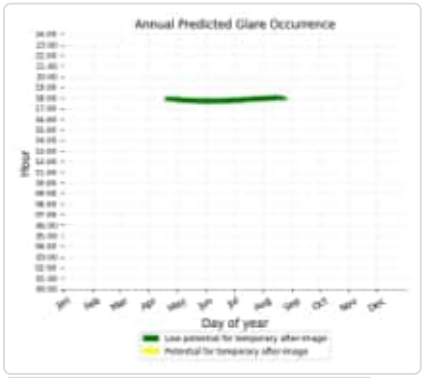


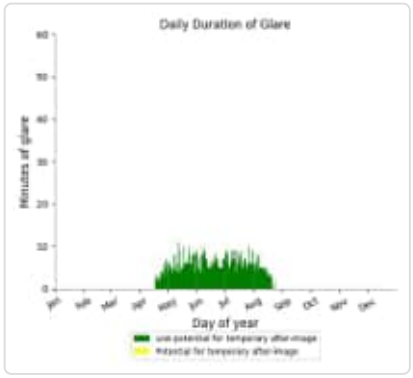


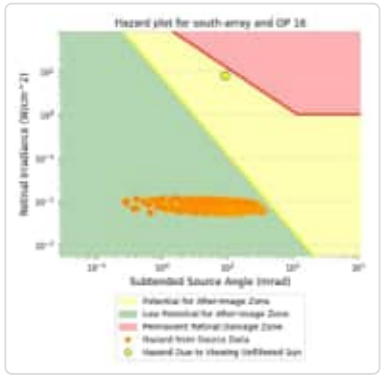
South Array: OP 16

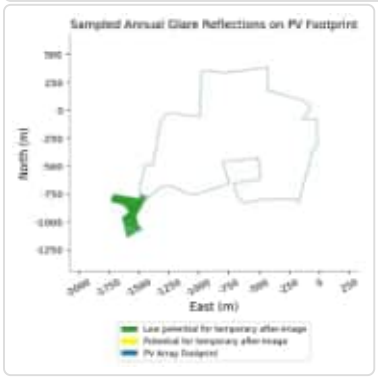
PV array is expected to produce the following glare for this receptor:

- 767 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





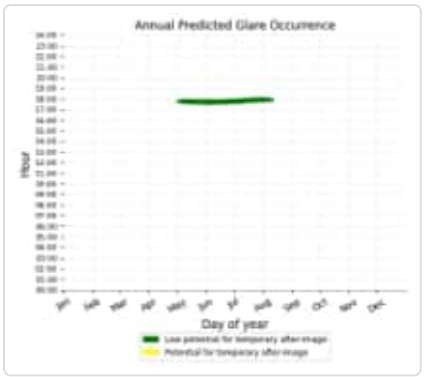


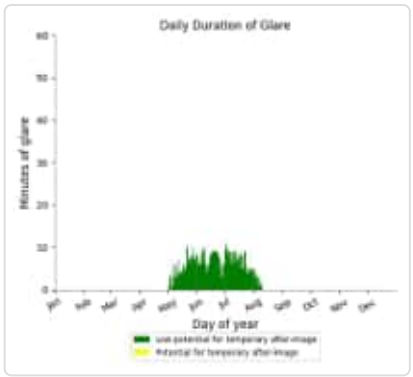


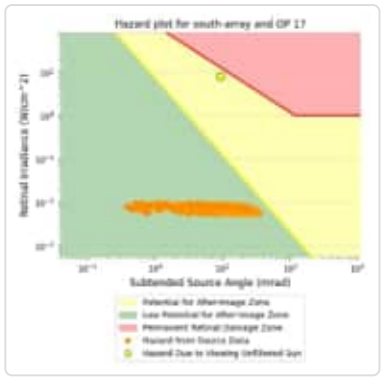
South Array: OP 17

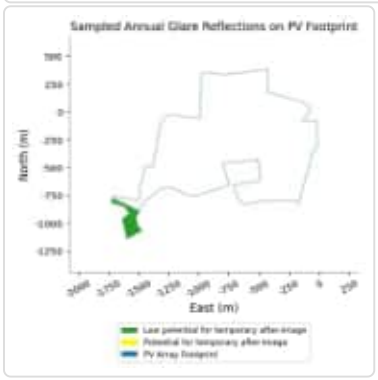
PV array is expected to produce the following glare for this receptor:

- 626 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





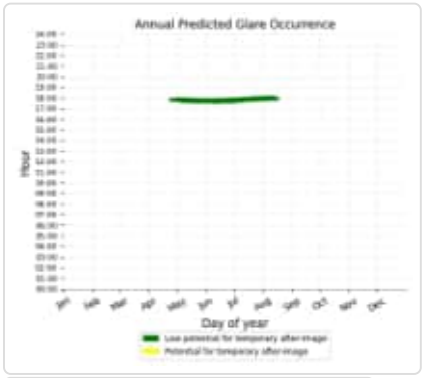


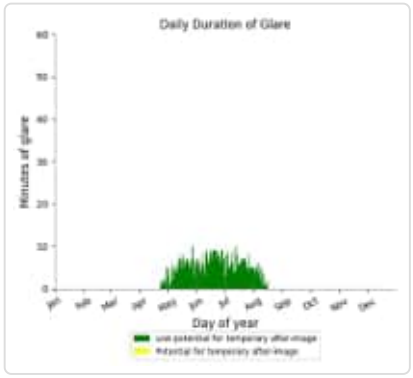


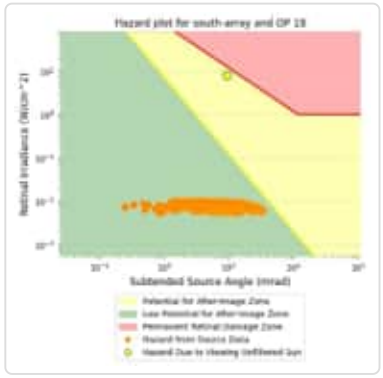
South Array: OP 18

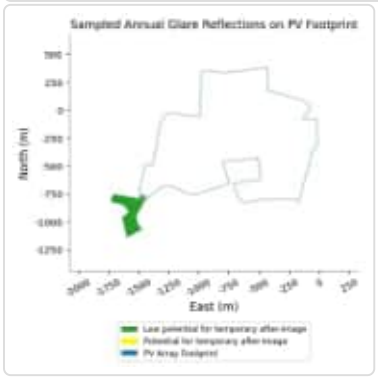
PV array is expected to produce the following glare for this receptor:

- 646 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





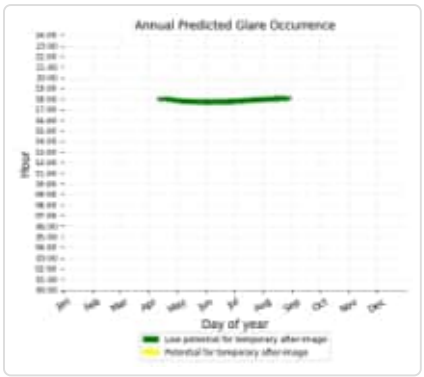


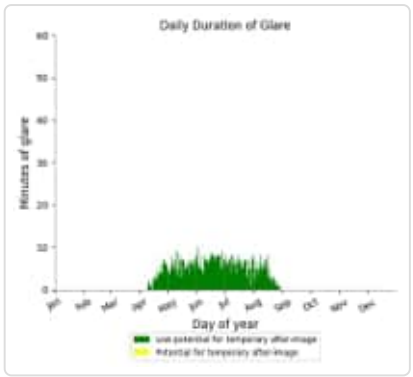


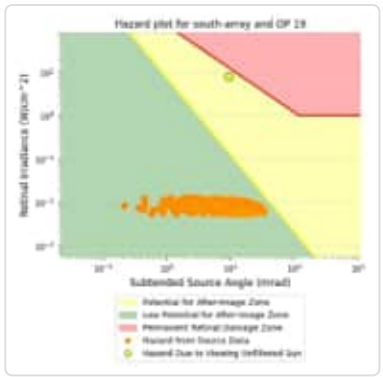
South Array: OP 19

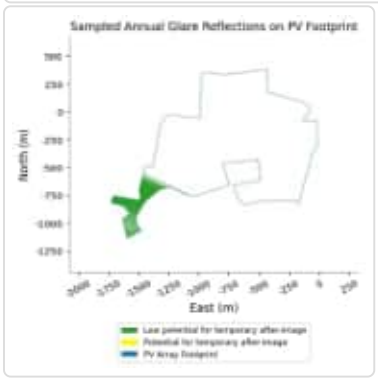
PV array is expected to produce the following glare for this receptor:

- 780 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





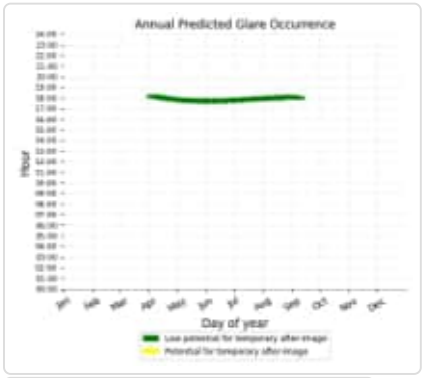


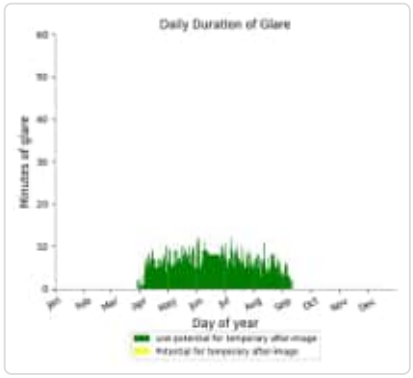


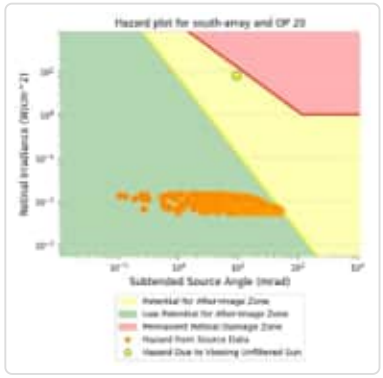
South Array: OP 20

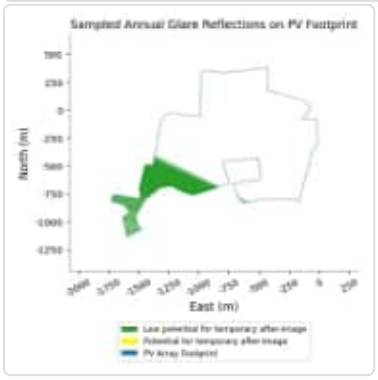
PV array is expected to produce the following glare for this receptor:

- 1,117 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





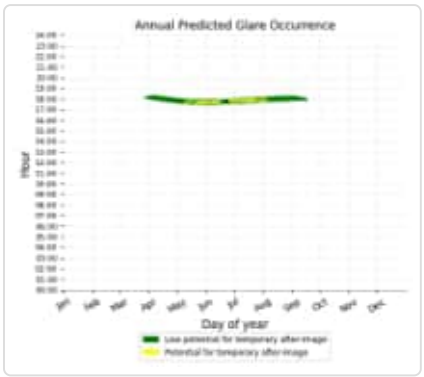


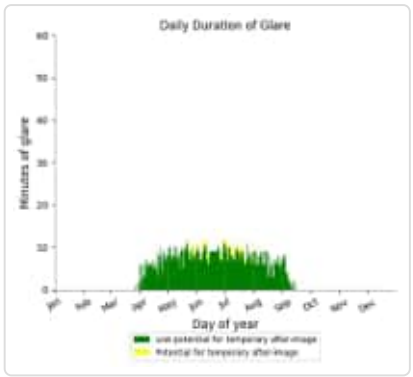


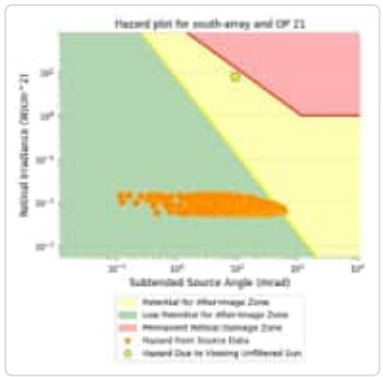
South Array: OP 21

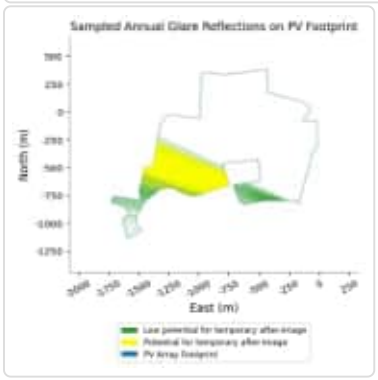
PV array is expected to produce the following glare for this receptor:

- 1,218 minutes of "green" glare with low potential to cause temporary after-image.
- 65 minutes of "yellow" glare with potential to cause temporary after-image.





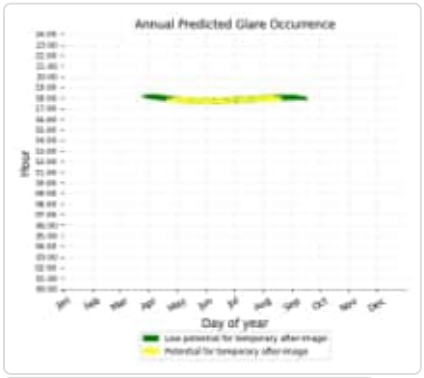


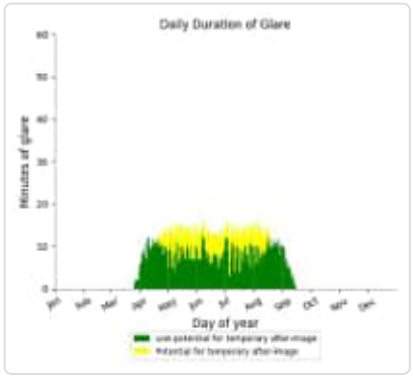


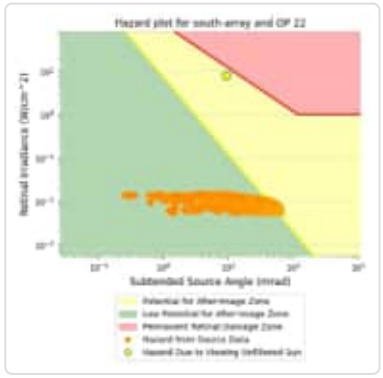
South Array: OP 22

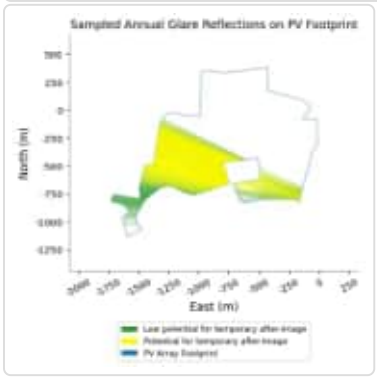
PV array is expected to produce the following glare for this receptor:

- 1,429 minutes of "green" glare with low potential to cause temporary after-image.
- 630 minutes of "yellow" glare with potential to cause temporary after-image.





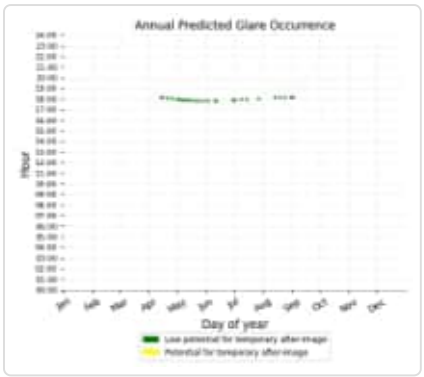


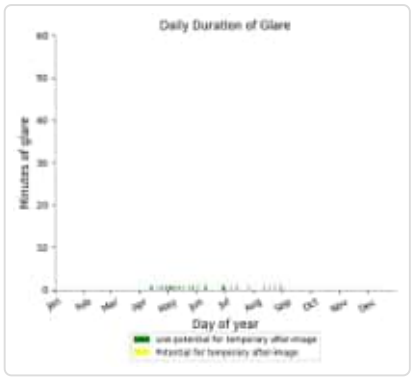


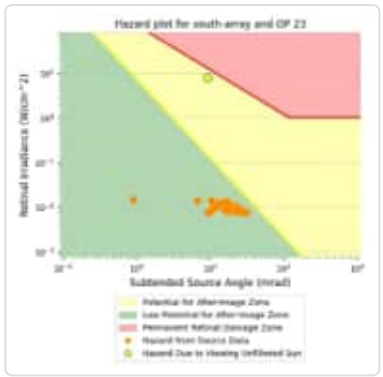
South Array: OP 23

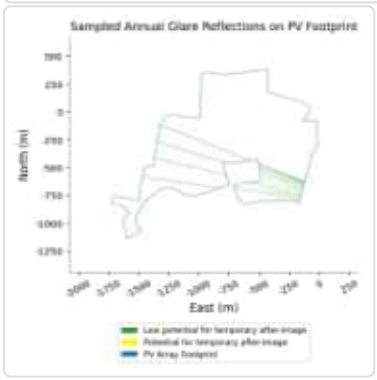
PV array is expected to produce the following glare for this receptor:

- 27 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





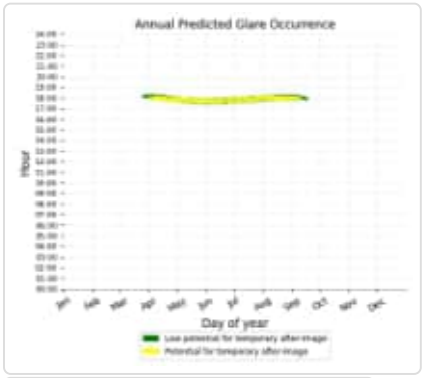


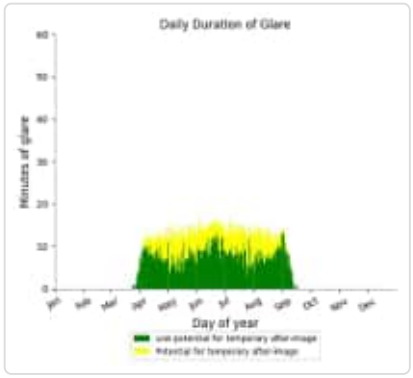


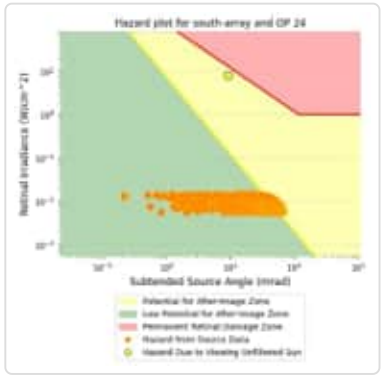
South Array: OP 24

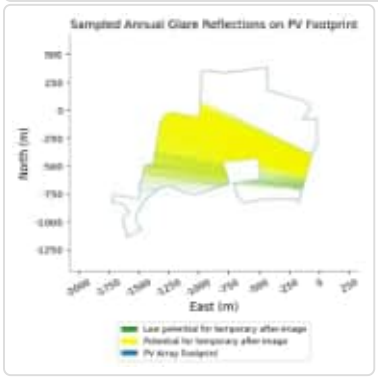
PV array is expected to produce the following glare for this receptor:

- 1,360 minutes of "green" glare with low potential to cause temporary after-image.
- 802 minutes of "yellow" glare with potential to cause temporary after-image.





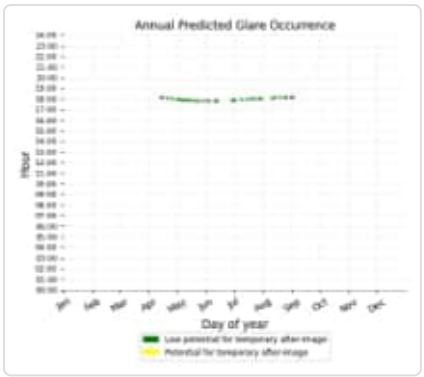


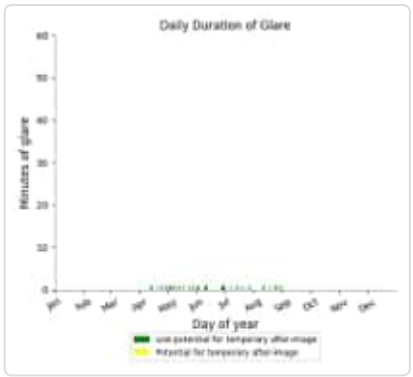


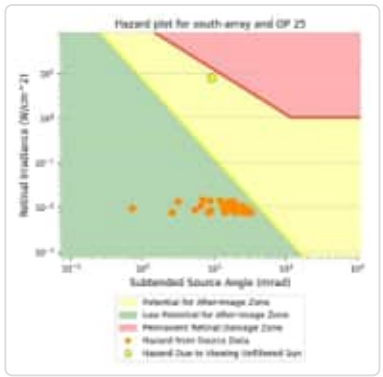
South Array: OP 25

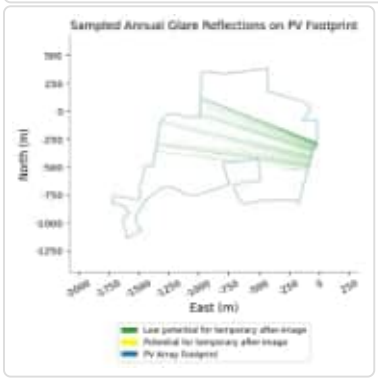
PV array is expected to produce the following glare for this receptor:

- 35 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





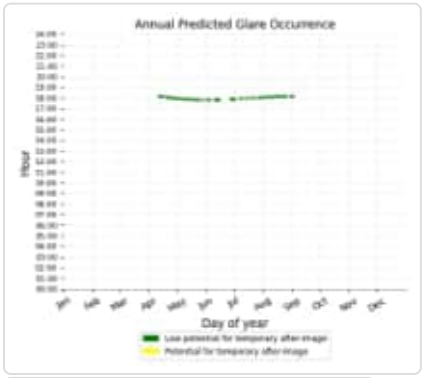


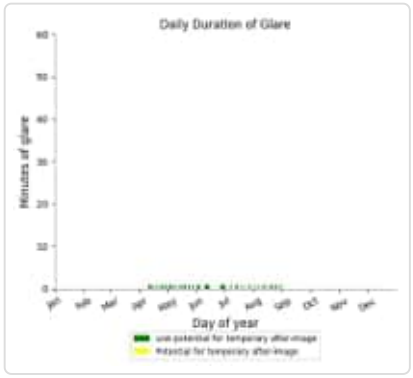


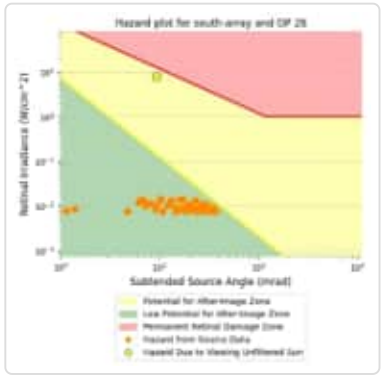
South Array: OP 26

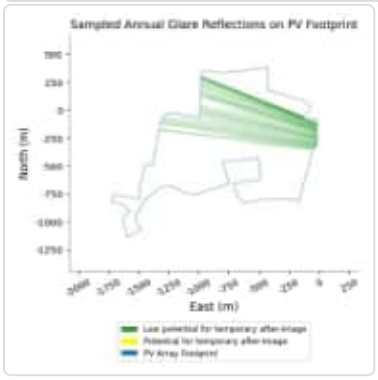
PV array is expected to produce the following glare for this receptor:

- 53 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





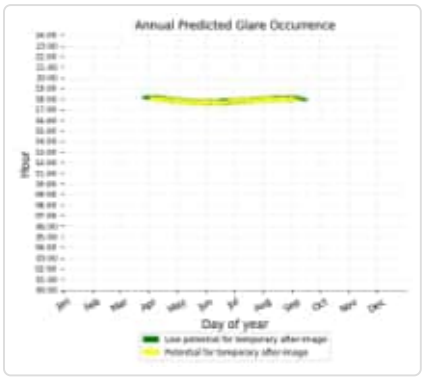


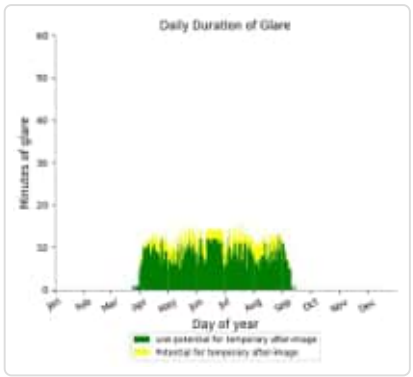


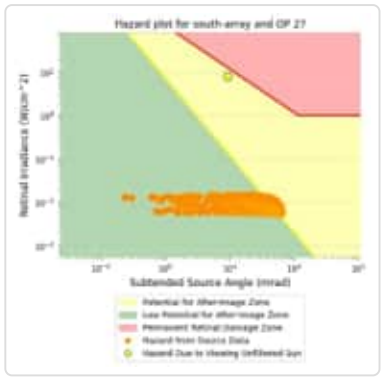
South Array: OP 27

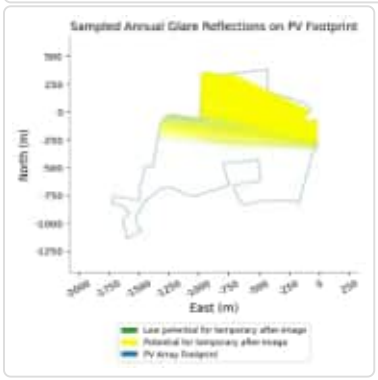
PV array is expected to produce the following glare for this receptor:

- 1,472 minutes of "green" glare with low potential to cause temporary after-image.
- 442 minutes of "yellow" glare with potential to cause temporary after-image.





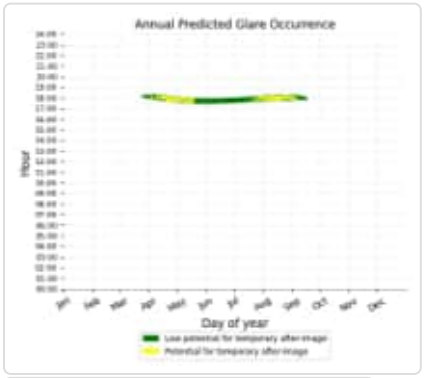


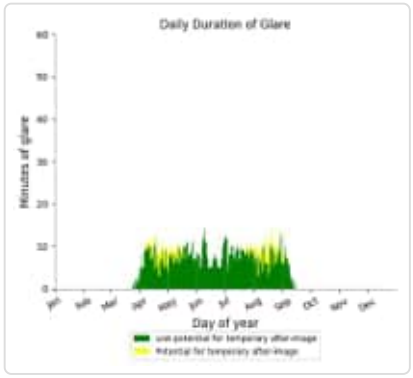


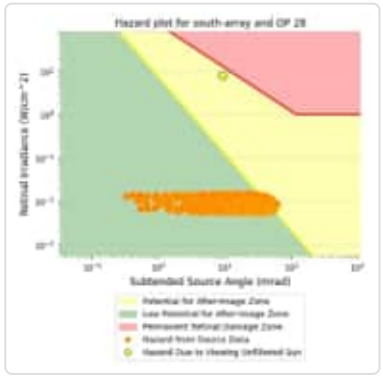
South Array: OP 28

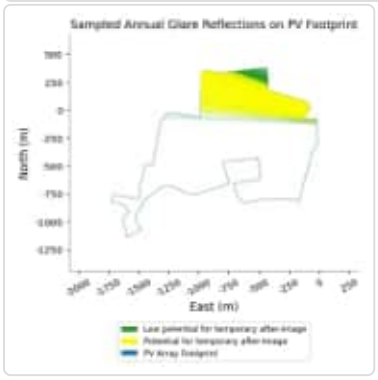
PV array is expected to produce the following glare for this receptor:

- 1,259 minutes of "green" glare with low potential to cause temporary after-image.
- 176 minutes of "yellow" glare with potential to cause temporary after-image.





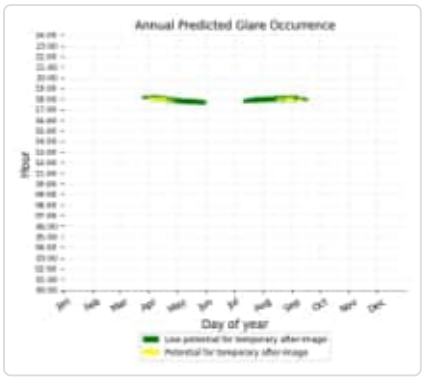


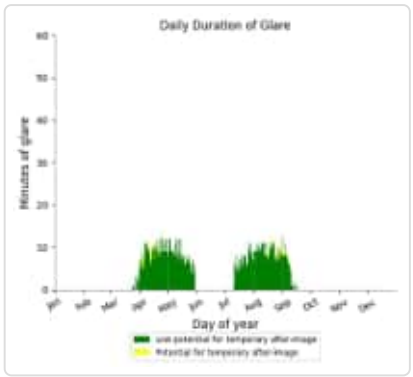


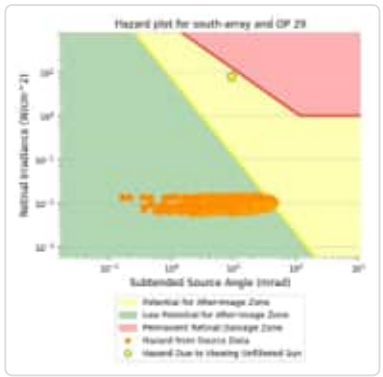
South Array: OP 29

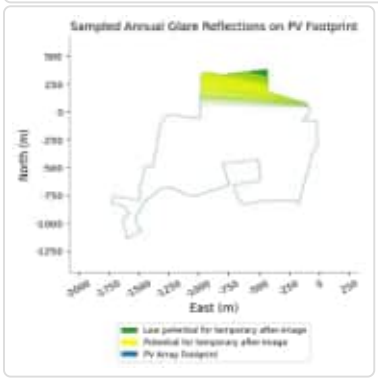
PV array is expected to produce the following glare for this receptor:

- 1,032 minutes of "green" glare with low potential to cause temporary after-image.
- 38 minutes of "yellow" glare with potential to cause temporary after-image.









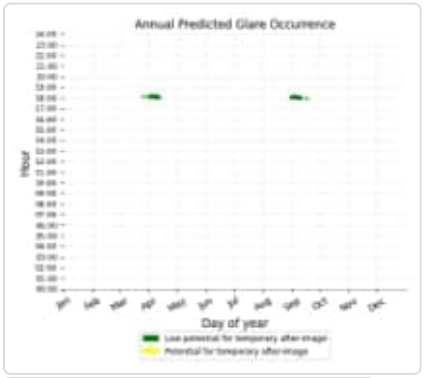
South Array: OP 30

No glare found

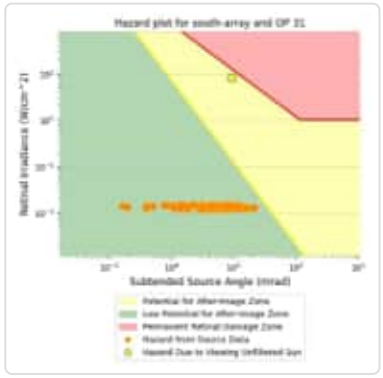
South Array: OP 31

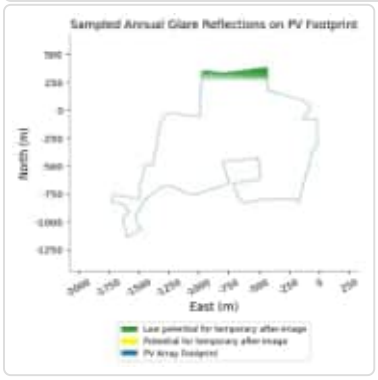
PV array is expected to produce the following glare for this receptor:

- 102 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 32

No glare found

South Array: OP 33

No glare found

South Array: OP 34

No glare found

South Array: OP 35

No glare found

South Array: OP 36

No glare found

South Array: OP 37

No glare found

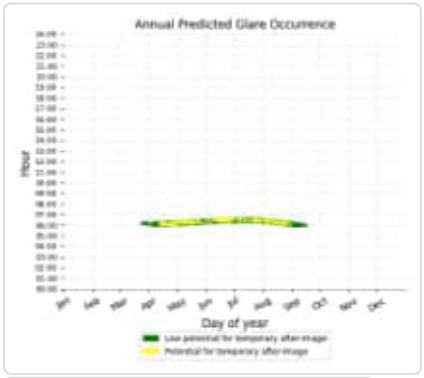
South Array: OP 38

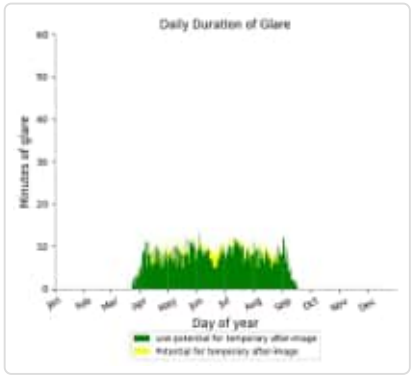
No glare found

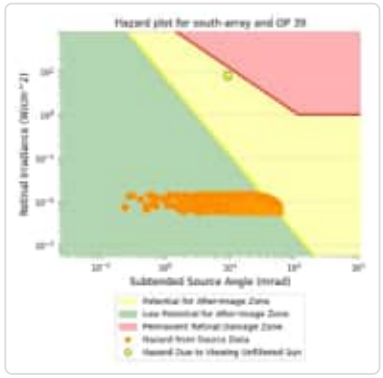
South Array: OP 39

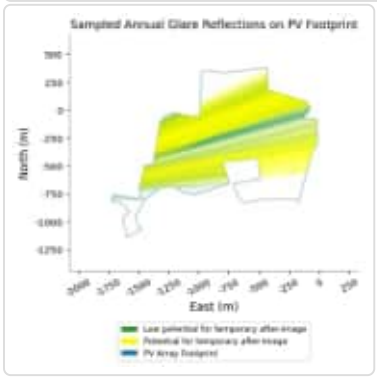
PV array is expected to produce the following glare for this receptor:

- 1,326 minutes of "green" glare with low potential to cause temporary after-image.
- 158 minutes of "yellow" glare with potential to cause temporary after-image.





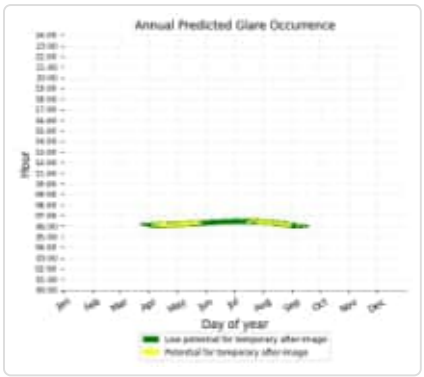


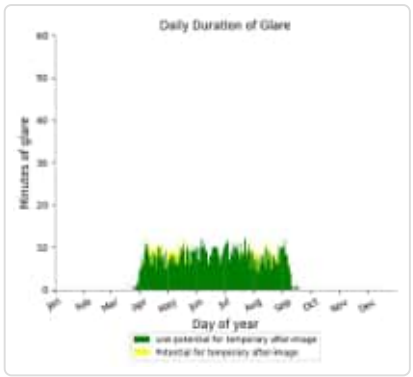


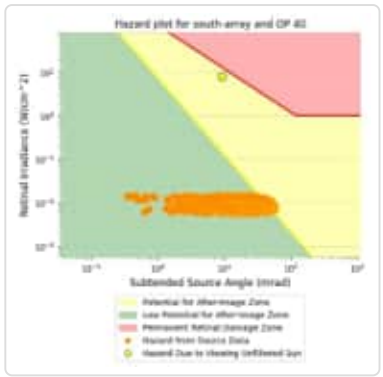
South Array: OP 40

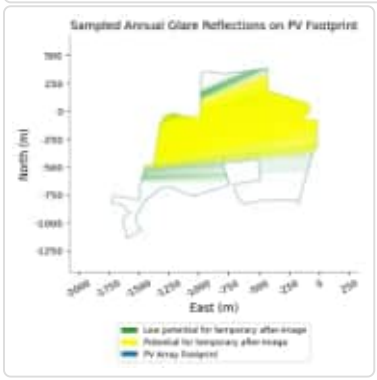
PV array is expected to produce the following glare for this receptor:

- 1,361 minutes of "green" glare with low potential to cause temporary after-image.
- 117 minutes of "yellow" glare with potential to cause temporary after-image.





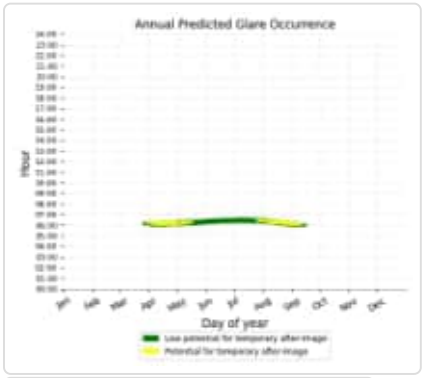


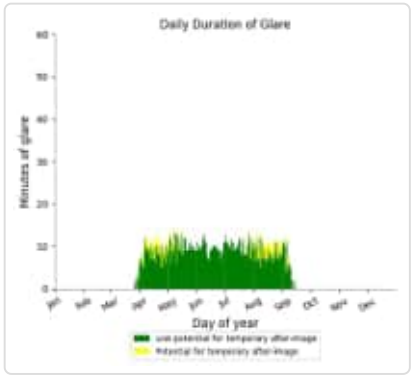


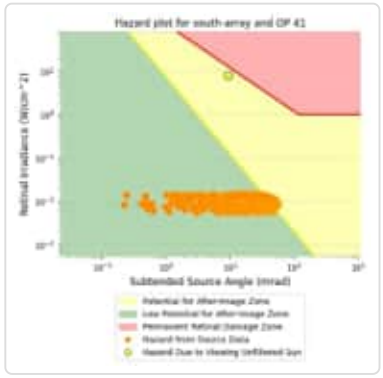
South Array: OP 41

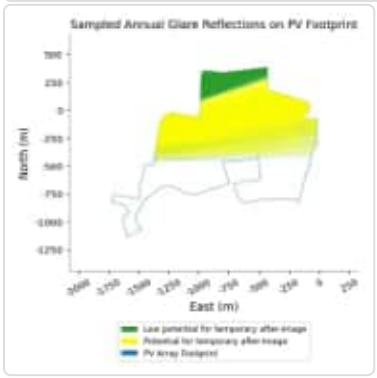
PV array is expected to produce the following glare for this receptor:

- 1,496 minutes of "green" glare with low potential to cause temporary after-image.
- 183 minutes of "yellow" glare with potential to cause temporary after-image.





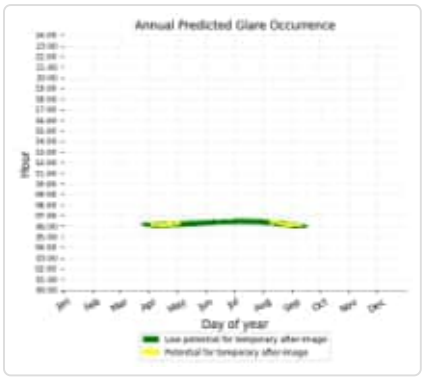


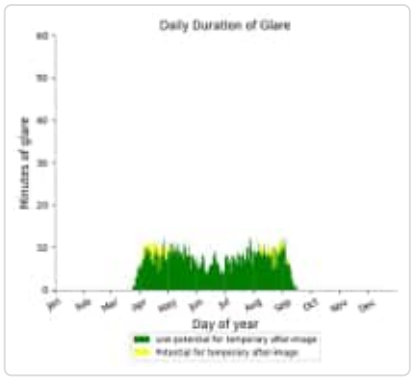


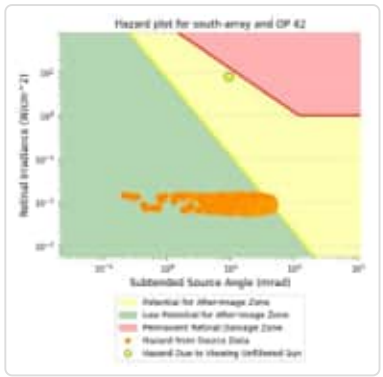
South Array: OP 42

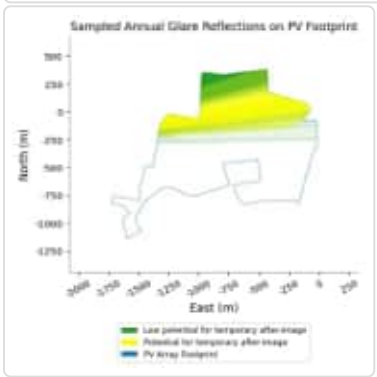
PV array is expected to produce the following glare for this receptor:

- 1,283 minutes of "green" glare with low potential to cause temporary after-image.
- 98 minutes of "yellow" glare with potential to cause temporary after-image.





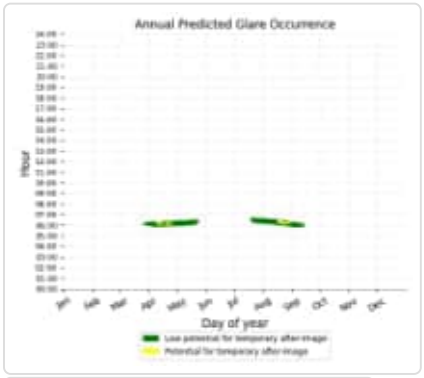


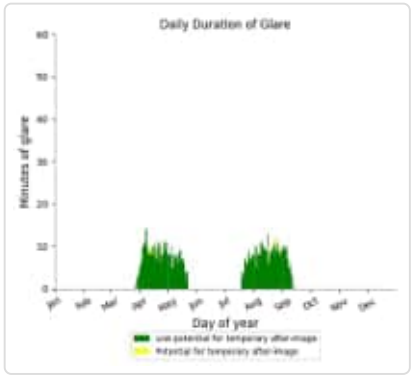


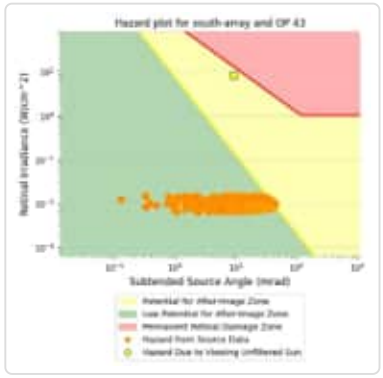
South Array: OP 43

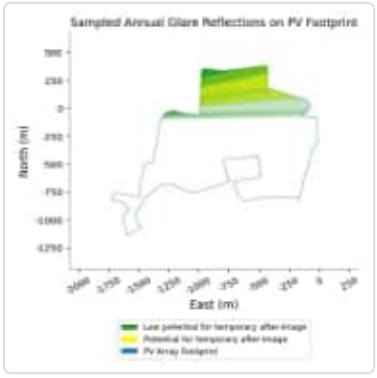
PV array is expected to produce the following glare for this receptor:

- 877 minutes of "green" glare with low potential to cause temporary after-image.
- 15 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 44

No glare found

South Array: OP 45

No glare found

South Array: OP 46

No glare found

South Array: OP 47

No glare found

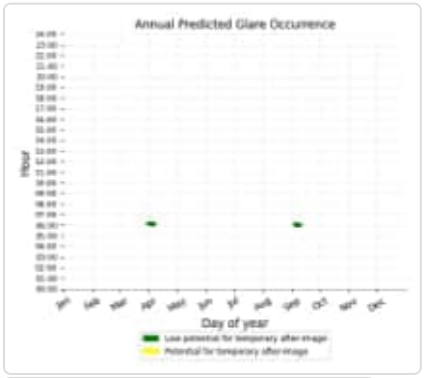
South Array: OP 48

No glare found

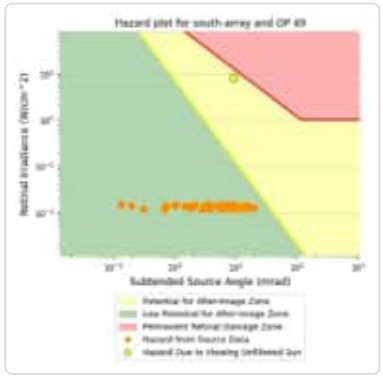
South Array: OP 49

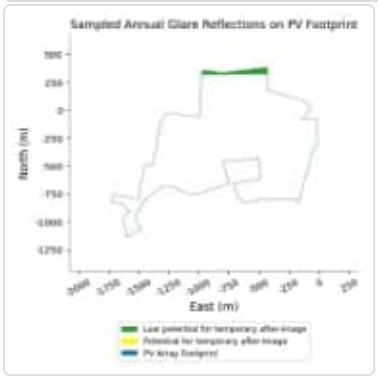
PV array is expected to produce the following glare for this receptor:

- 83 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





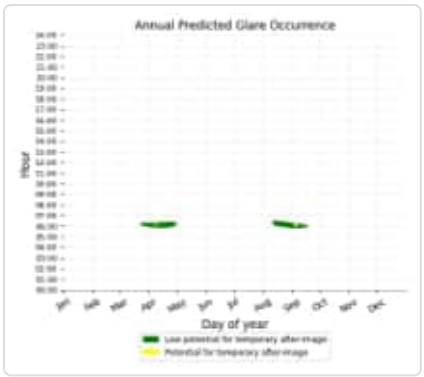


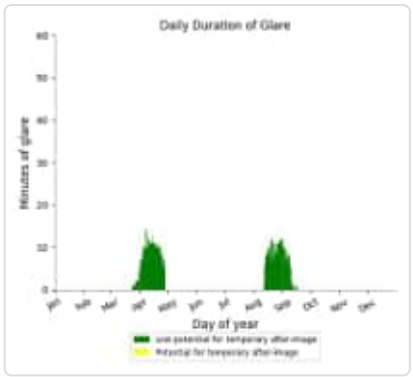


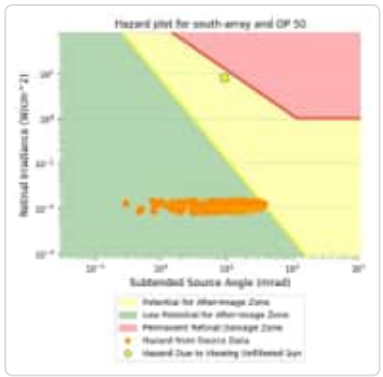
South Array: OP 50

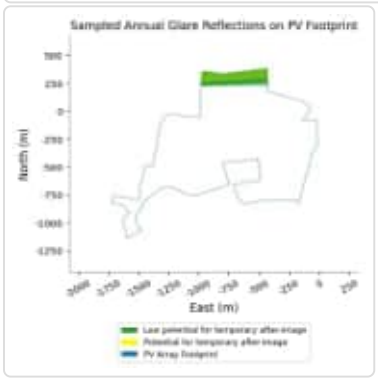
PV array is expected to produce the following glare for this receptor:

- 560 minutes of "green" glare with low potential to cause temporary after-image.
- 3 minutes of "yellow" glare with potential to cause temporary after-image.





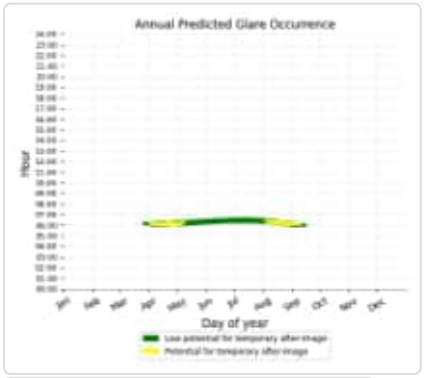


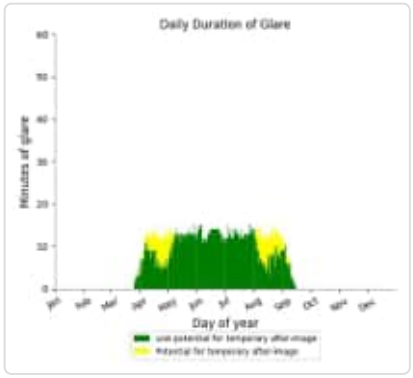


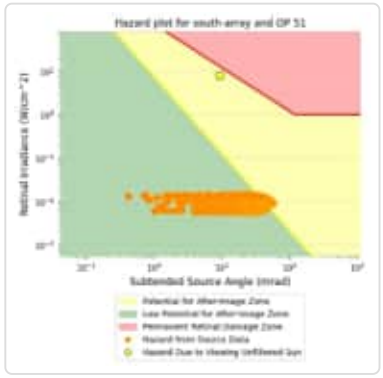
South Array: OP 51

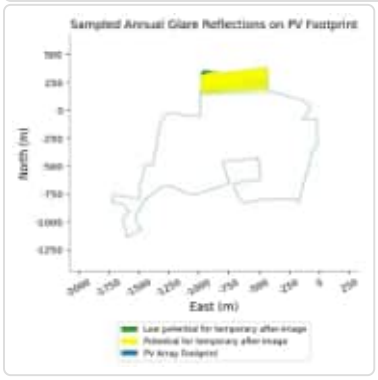
PV array is expected to produce the following glare for this receptor:

- 1,710 minutes of "green" glare with low potential to cause temporary after-image.
- 344 minutes of "yellow" glare with potential to cause temporary after-image.





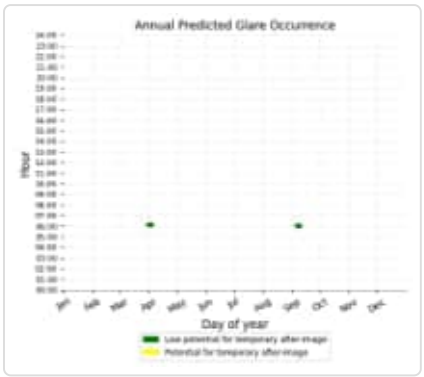


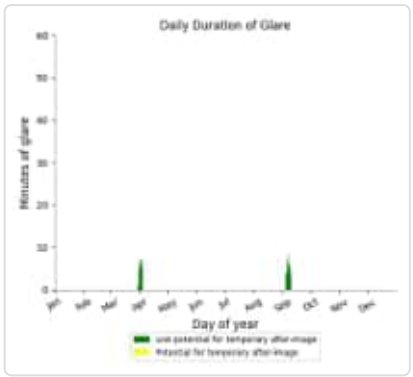


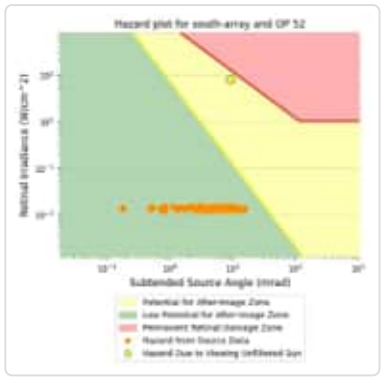
South Array: OP 52

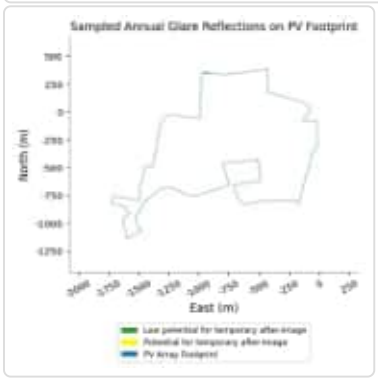
PV array is expected to produce the following glare for this receptor:

- 64 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





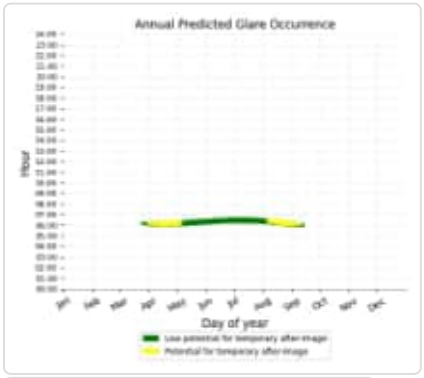


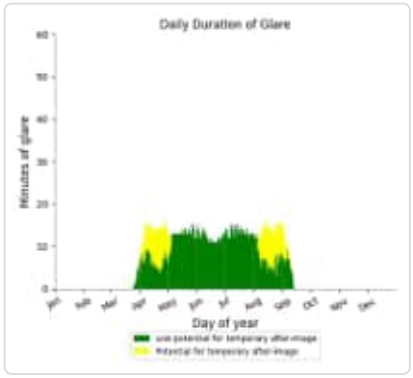


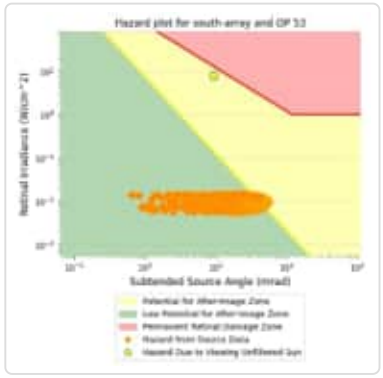
South Array: OP 53

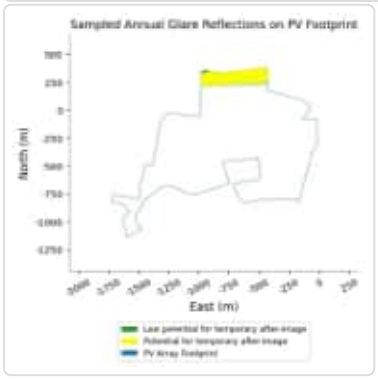
PV array is expected to produce the following glare for this receptor:

- 1,688 minutes of "green" glare with low potential to cause temporary after-image.
- 475 minutes of "yellow" glare with potential to cause temporary after-image.





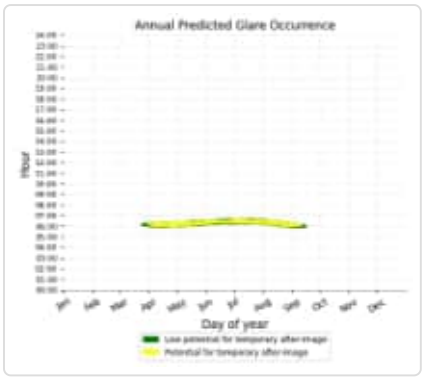


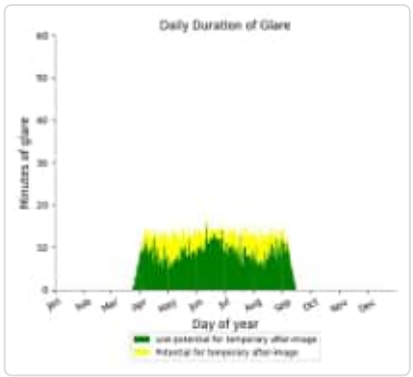


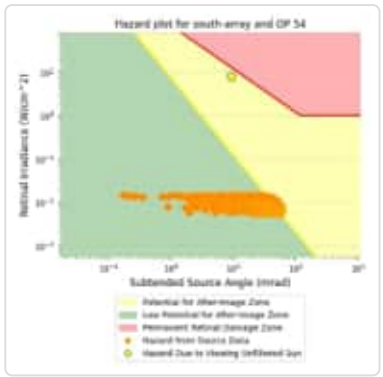
South Array: OP 54

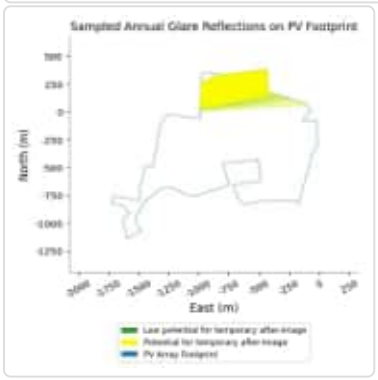
PV array is expected to produce the following glare for this receptor:

- 1,513 minutes of "green" glare with low potential to cause temporary after-image.
- 658 minutes of "yellow" glare with potential to cause temporary after-image.





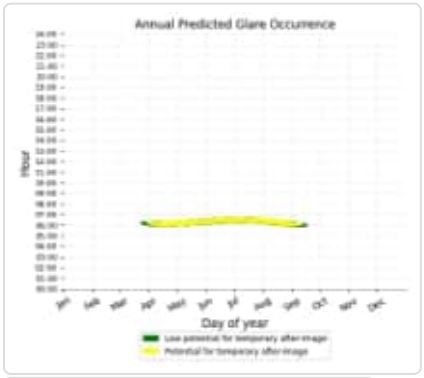


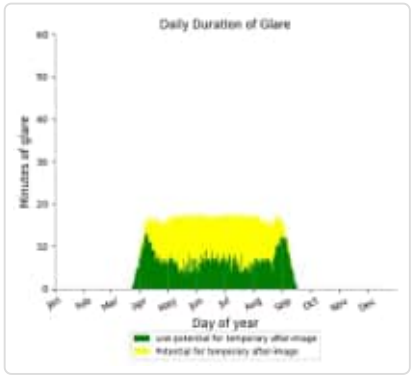


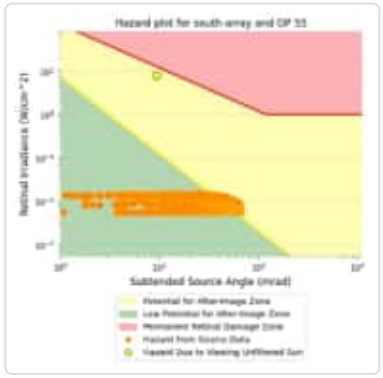
South Array: OP 55

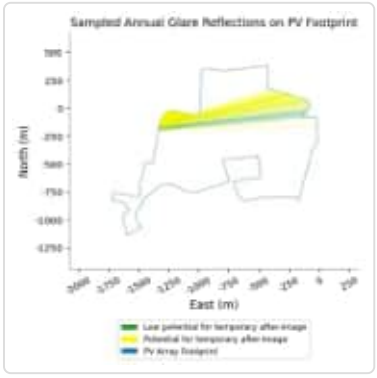
PV array is expected to produce the following glare for this receptor:

- 1,213 minutes of "green" glare with low potential to cause temporary after-image.
- 1,473 minutes of "yellow" glare with potential to cause temporary after-image.





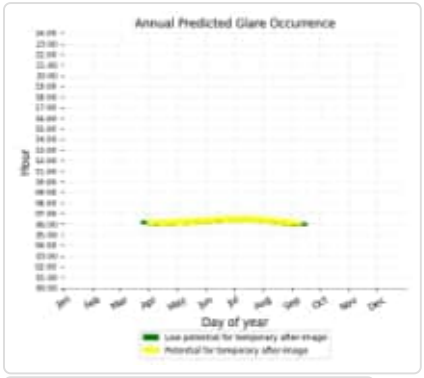


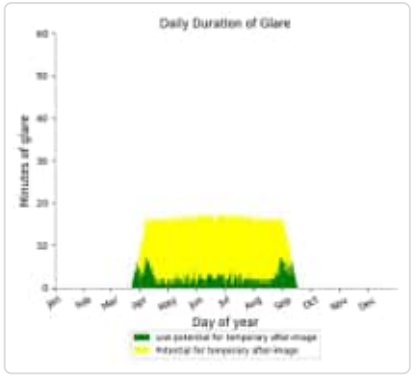


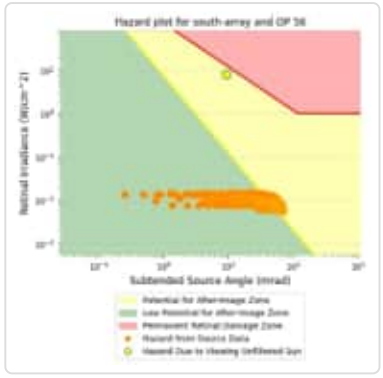
South Array: OP 56

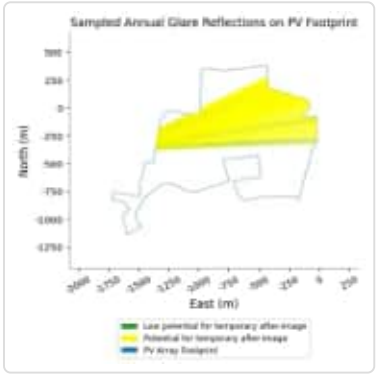
PV array is expected to produce the following glare for this receptor:

- 461 minutes of "green" glare with low potential to cause temporary after-image.
- 2,188 minutes of "yellow" glare with potential to cause temporary after-image.





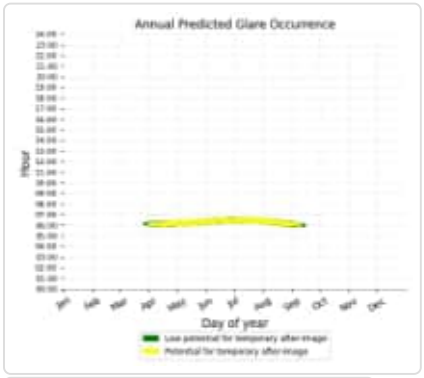


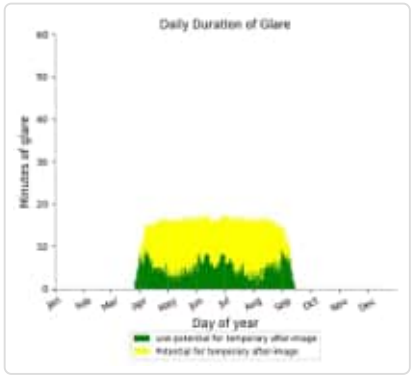


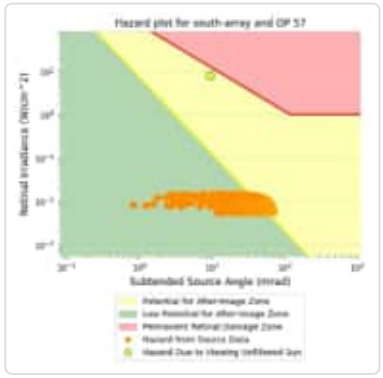
South Array: OP 57

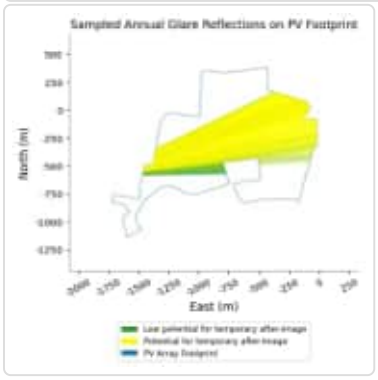
PV array is expected to produce the following glare for this receptor:

- 878 minutes of "green" glare with low potential to cause temporary after-image.
- 1,704 minutes of "yellow" glare with potential to cause temporary after-image.





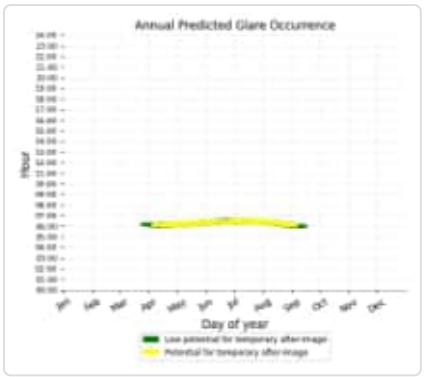


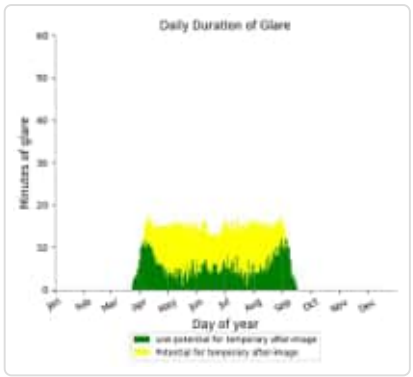


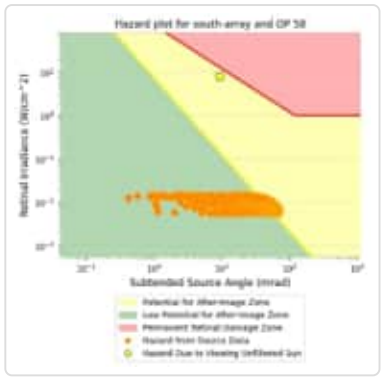
South Array: OP 58

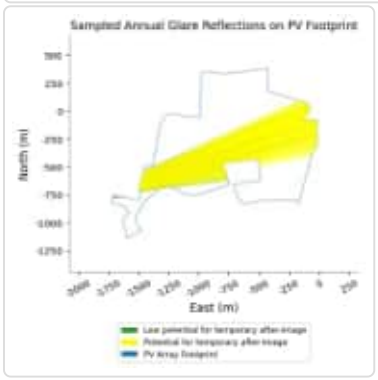
PV array is expected to produce the following glare for this receptor:

- 1,006 minutes of "green" glare with low potential to cause temporary after-image.
- 1,438 minutes of "yellow" glare with potential to cause temporary after-image.





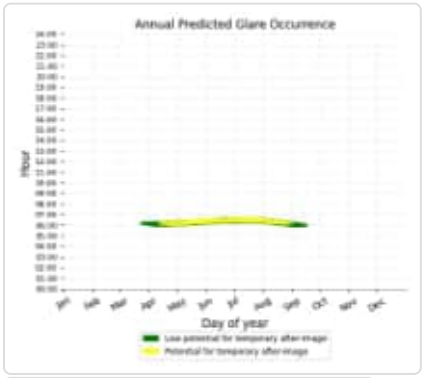


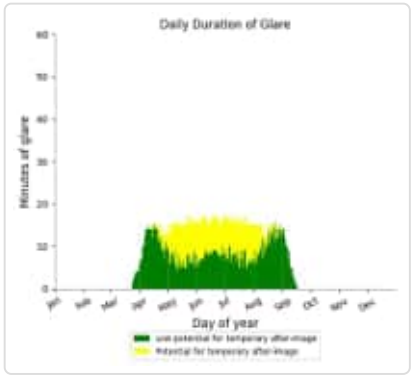


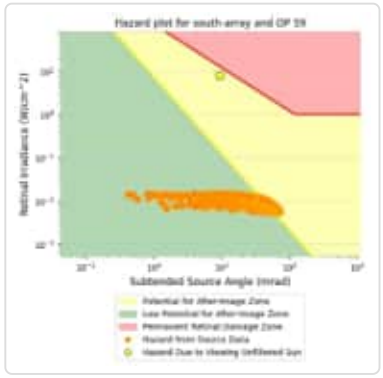
South Array: OP 59

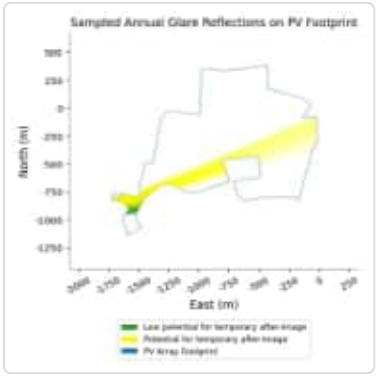
PV array is expected to produce the following glare for this receptor:

- 1,499 minutes of "green" glare with low potential to cause temporary after-image.
- 929 minutes of "yellow" glare with potential to cause temporary after-image.





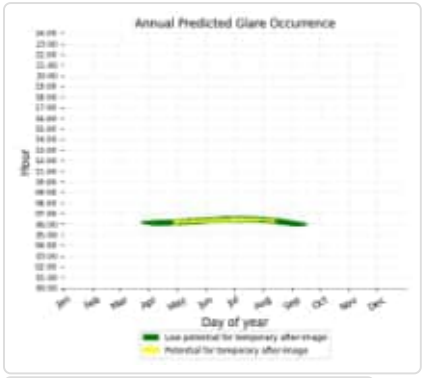


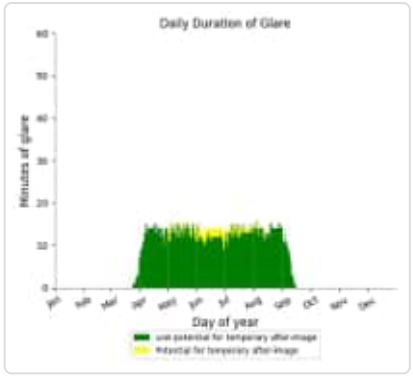


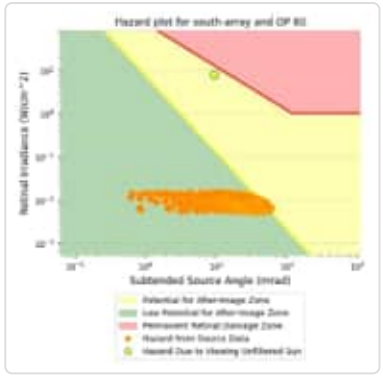
South Array: OP 60

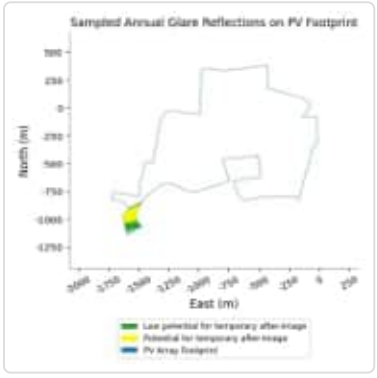
PV array is expected to produce the following glare for this receptor:

- 2,108 minutes of "green" glare with low potential to cause temporary after-image.
- 139 minutes of "yellow" glare with potential to cause temporary after-image.





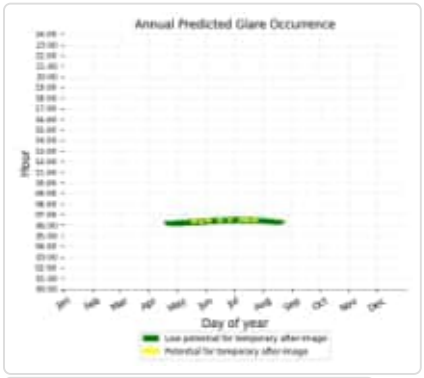


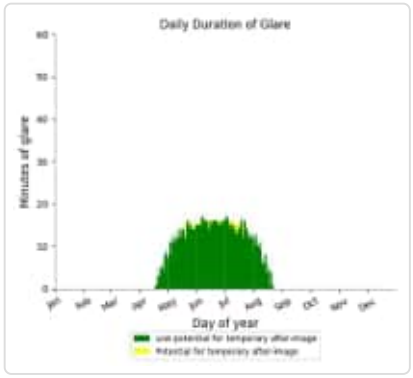


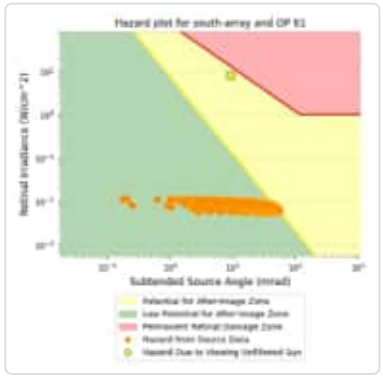
South Array: OP 61

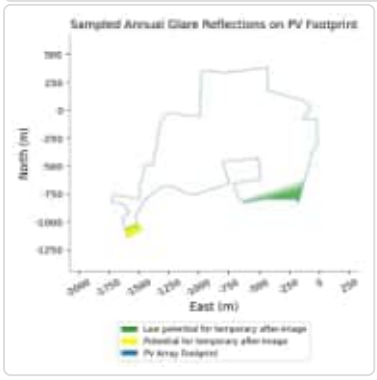
PV array is expected to produce the following glare for this receptor:

- 1,539 minutes of "green" glare with low potential to cause temporary after-image.
- 36 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 62

No glare found

South Array: OP 63

No glare found

South Array: OP 64

No glare found

South Array: OP 65

No glare found

South Array: OP 66

No glare found

South Array: OP 67

No glare found

South Array: OP 68

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX H: RAIL RECEPTOR GLARE RESULTS (15 DEGREES)

Fenwick Solar Farm

Fenwick Rail 15 degrees

Created Nov 28, 2023
Updated Aug 08, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106536.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	15.0	180.0	1,031	0	-
East Array	15.0	180.0	17,124	0	-
North Array	15.0	180.0	5,763	733	-
South Array	15.0	180.0	9,086	691	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.655661	-1.106791	6.72	2.75	9.47
OP 2	53.653829	-1.107134	7.00	2.75	9.75
OP 3	53.652125	-1.107435	6.69	2.75	9.44
OP 4	53.650447	-1.107735	6.87	2.75	9.62
OP 5	53.648539	-1.108078	7.35	2.75	10.10
OP 6	53.646733	-1.108443	7.09	2.75	9.84
OP 7	53.644901	-1.108787	7.05	2.75	9.80
OP 8	53.643298	-1.109044	7.28	2.75	10.03
OP 9	53.641556	-1.109387	8.00	2.75	10.75
OP 10	53.639673	-1.109752	8.57	2.75	11.32
OP 11	53.637879	-1.110053	7.82	2.75	10.57
OP 12	53.636022	-1.110396	7.12	2.75	9.87
OP 13	53.634318	-1.110779	7.00	2.75	9.75
OP 14	53.632486	-1.111079	6.03	2.75	8.78
OP 15	53.630730	-1.111337	8.00	2.75	10.75
OP 16	53.629076	-1.111637	7.99	2.75	10.74
OP 17	53.627116	-1.112066	8.00	2.75	10.75
OP 18	53.625436	-1.112367	8.00	2.75	10.75
OP 19	53.623706	-1.112624	8.00	2.75	10.75
OP 20	53.621860	-1.112946	8.85	2.75	11.60
OP 21	53.620104	-1.113289	8.00	2.75	10.75

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	15.0	180.0	1,031	0	-	-
East Array	15.0	180.0	17,124	0	-	-
North Array	15.0	180.0	5,763	733	-	-
South Array	15.0	180.0	9,086	691	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	127	239	1	0	0	135	238	0	0	0
central-arra (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
east-array (green)	0	0	188	566	605	599	610	589	342	0	0	0
east-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
north-array (green)	0	0	8	280	411	421	418	369	49	0	0	0
north-array (yellow)	0	0	0	19	18	13	21	23	4	0	0	0
south-array (green)	0	0	10	326	418	416	395	405	60	0	0	0
south-array (yellow)	0	0	0	5	22	39	44	10	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	107	0
OP: OP 9	293	0
OP: OP 10	608	0
OP: OP 11	23	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0

OP: OP 20	0	0
OP: OP 21	0	0

Central Array: OP 1

No glare found

Central Array: OP 2

No glare found

Central Array: OP 3

No glare found

Central Array: OP 4

No glare found

Central Array: OP 5

No glare found

Central Array: OP 6

No glare found

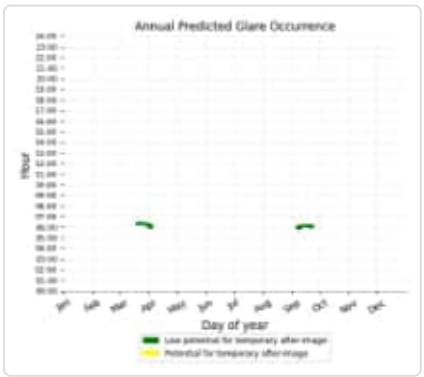
Central Array: OP 7

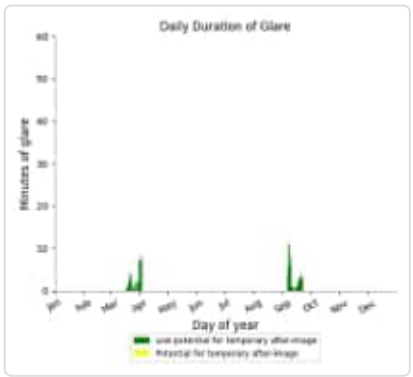
No glare found

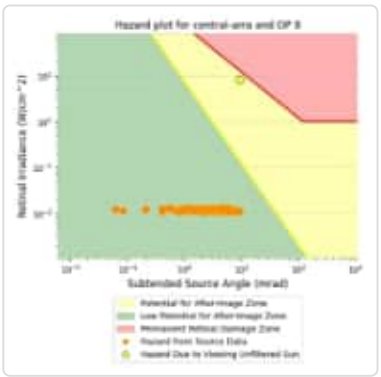
Central Array: OP 8

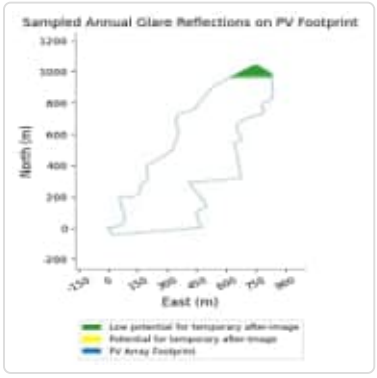
PV array is expected to produce the following glare for this receptor:

- 107 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





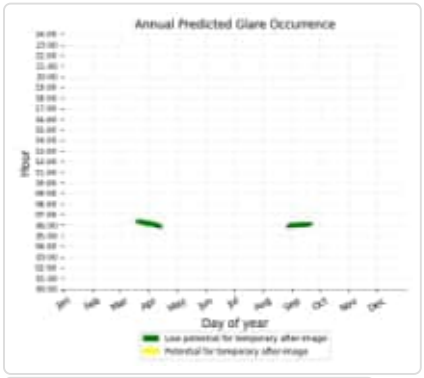


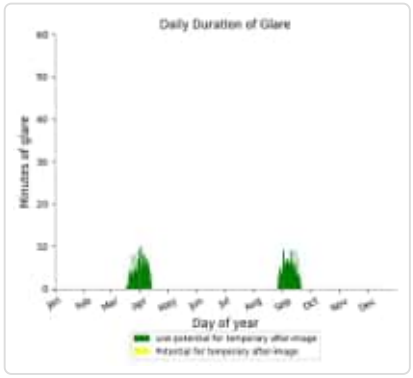


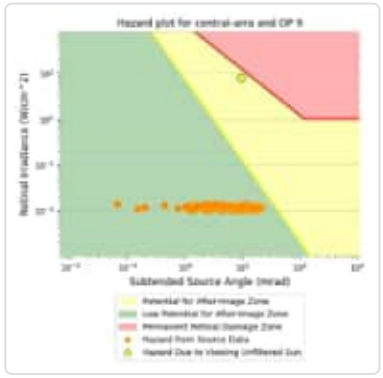
Central Array: OP 9

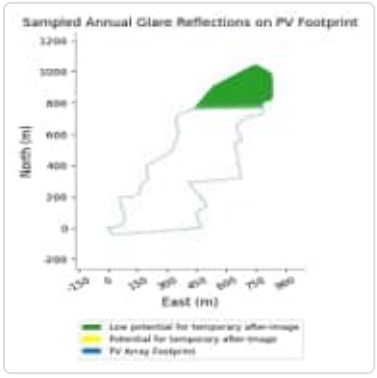
PV array is expected to produce the following glare for this receptor:

- 293 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





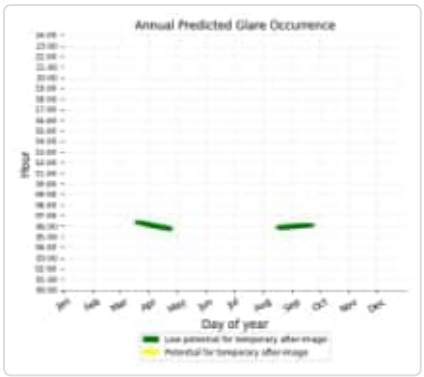


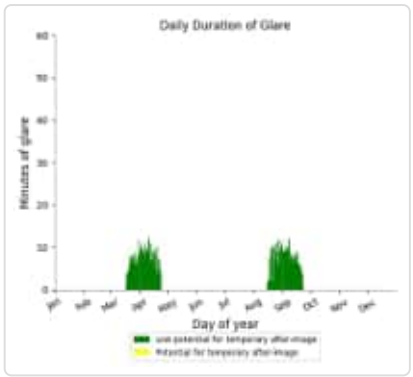


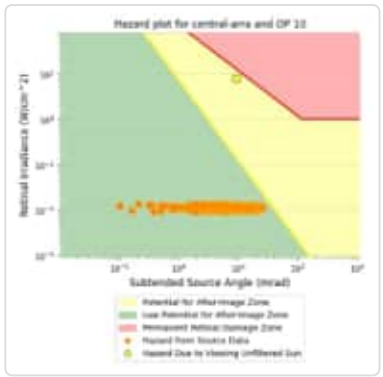
Central Array: OP 10

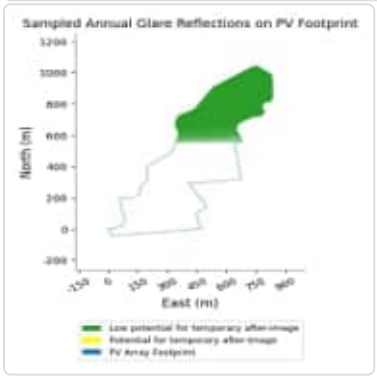
PV array is expected to produce the following glare for this receptor:

- 608 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





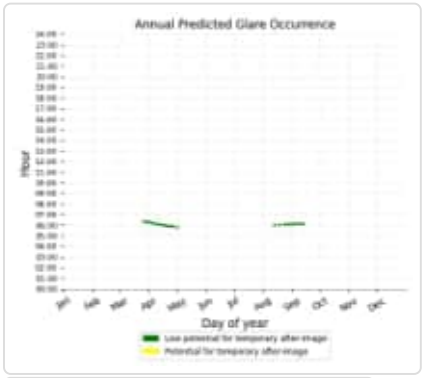


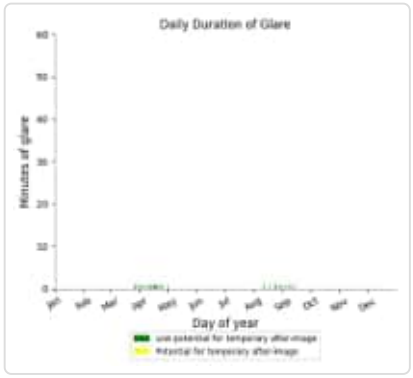


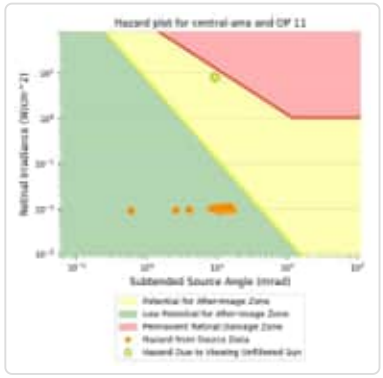
Central Array: OP 11

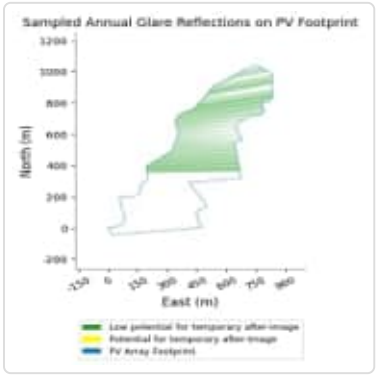
PV array is expected to produce the following glare for this receptor:

- 23 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 12

No glare found

Central Array: OP 13

No glare found

Central Array: OP 14

No glare found

Central Array: OP 15

No glare found

Central Array: OP 16

No glare found

Central Array: OP 17

No glare found

Central Array: OP 18

No glare found

Central Array: OP 19

No glare found

Central Array: OP 20

No glare found

Central Array: OP 21

No glare found

East Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	130	0
OP: OP 9	656	0
OP: OP 10	1027	0
OP: OP 11	1399	0
OP: OP 12	1655	0
OP: OP 13	1899	0
OP: OP 14	2617	0
OP: OP 15	2361	0
OP: OP 16	2037	0
OP: OP 17	1610	0
OP: OP 18	1191	0
OP: OP 19	542	0
OP: OP 20	0	0
OP: OP 21	0	0

East Array: OP 1

No glare found

East Array: OP 2

No glare found

East Array: OP 3

No glare found

East Array: OP 4

No glare found

East Array: OP 5

No glare found

East Array: OP 6

No glare found

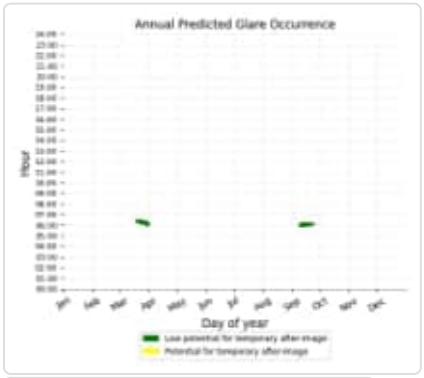
East Array: OP 7

No glare found

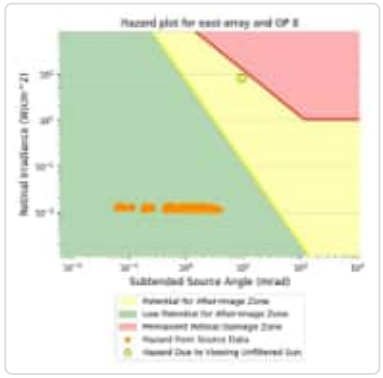
East Array: OP 8

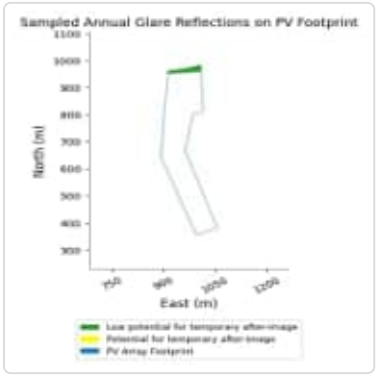
PV array is expected to produce the following glare for this receptor:

- 130 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





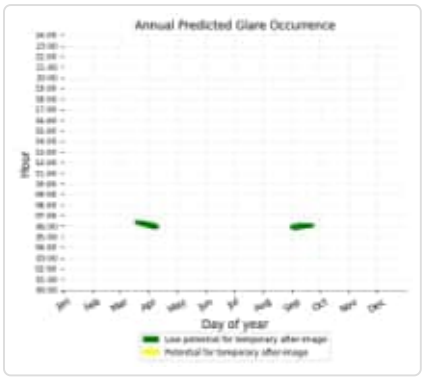




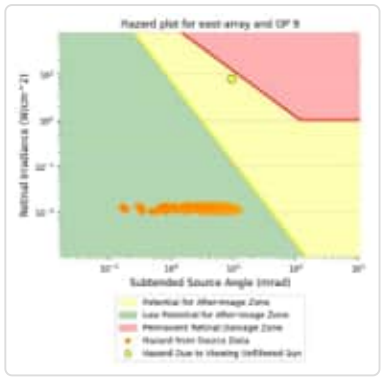
East Array: OP 9

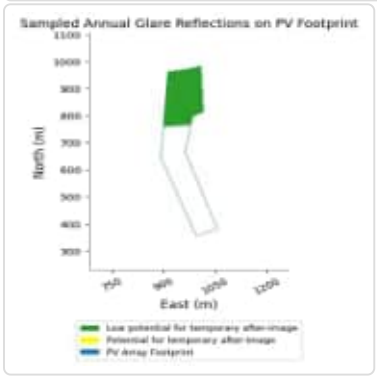
PV array is expected to produce the following glare for this receptor:

- 656 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





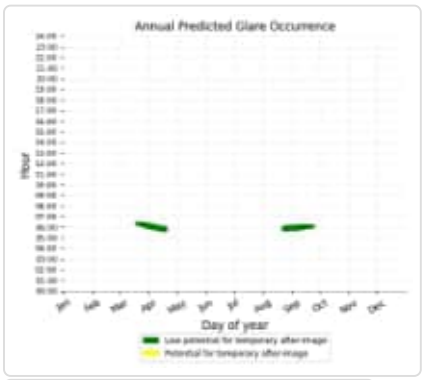


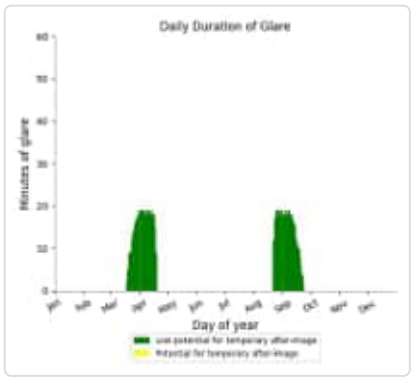


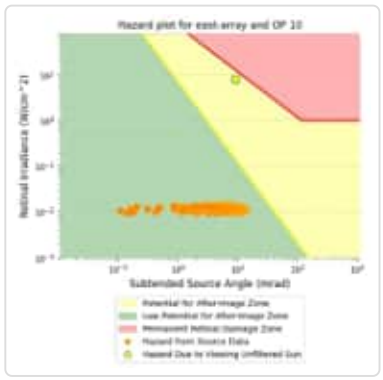
East Array: OP 10

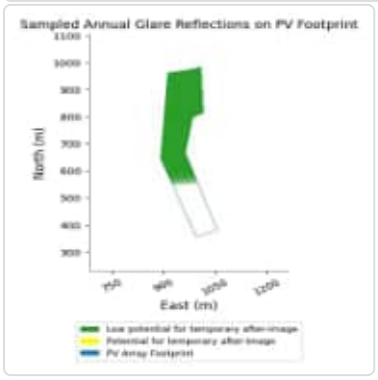
PV array is expected to produce the following glare for this receptor:

- 1,027 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





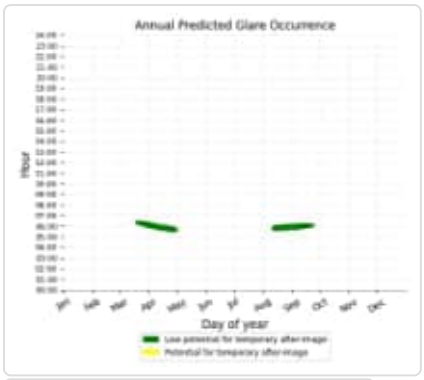




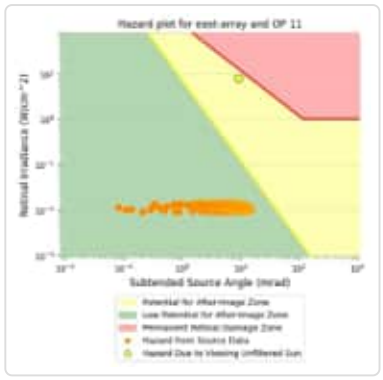
East Array: OP 11

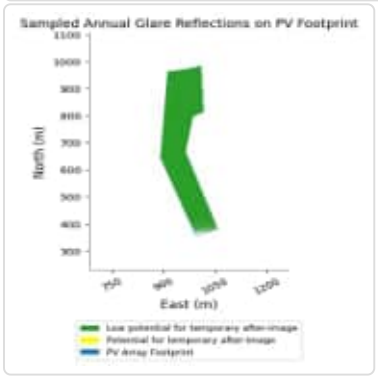
PV array is expected to produce the following glare for this receptor:

- 1,399 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





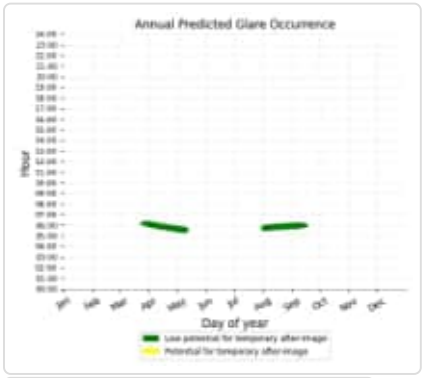




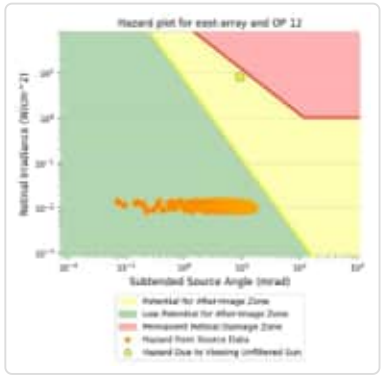
East Array: OP 12

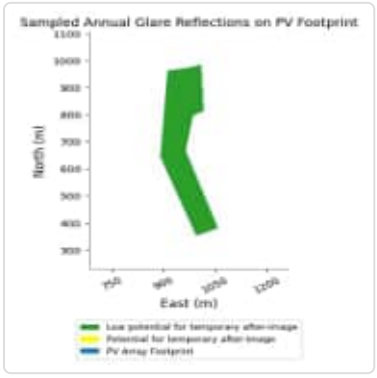
PV array is expected to produce the following glare for this receptor:

- 1,655 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





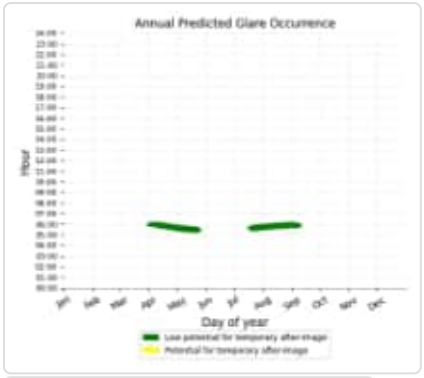




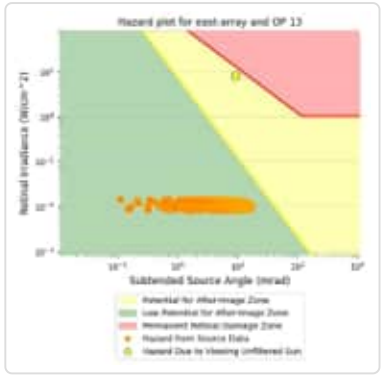
East Array: OP 13

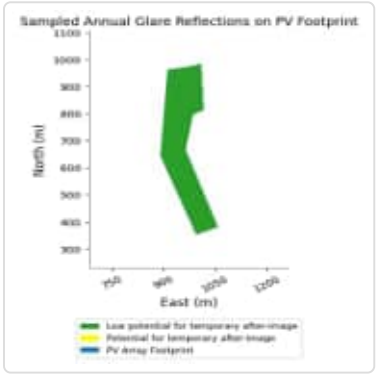
PV array is expected to produce the following glare for this receptor:

- 1,899 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





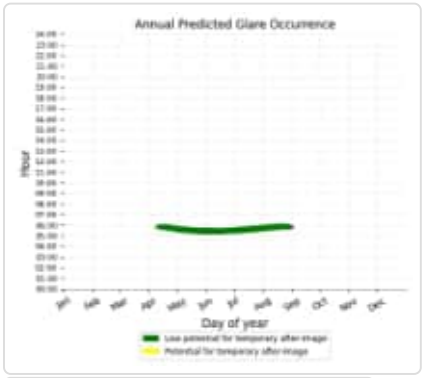




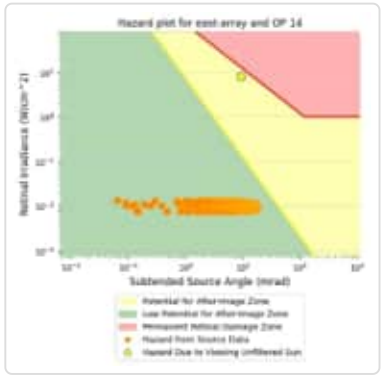
East Array: OP 14

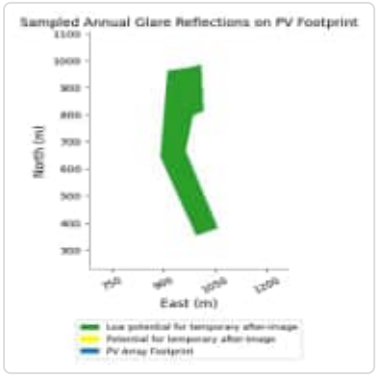
PV array is expected to produce the following glare for this receptor:

- 2,617 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





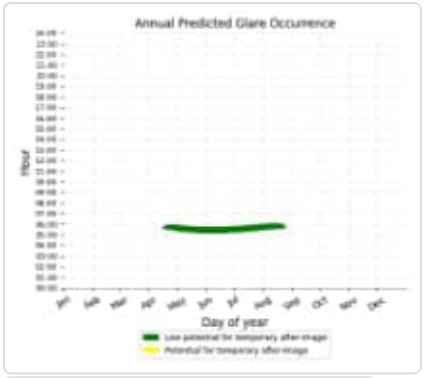




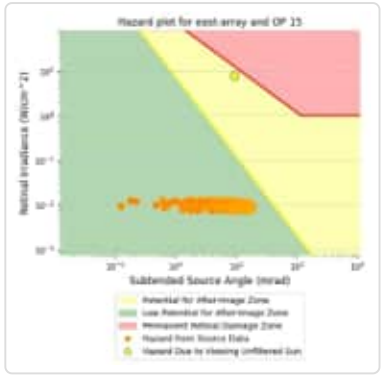
East Array: OP 15

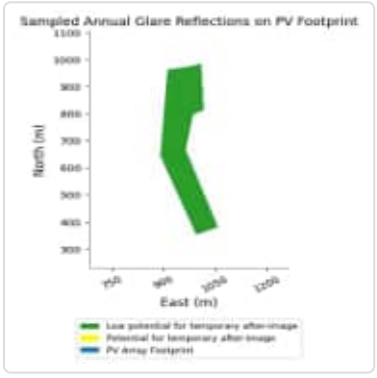
PV array is expected to produce the following glare for this receptor:

- 2,361 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





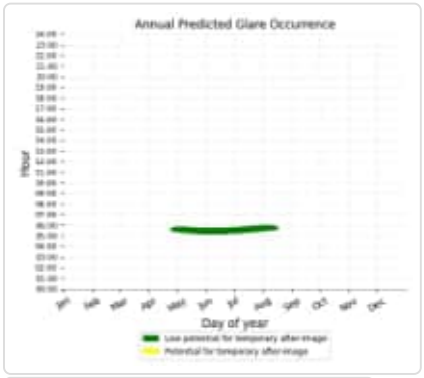




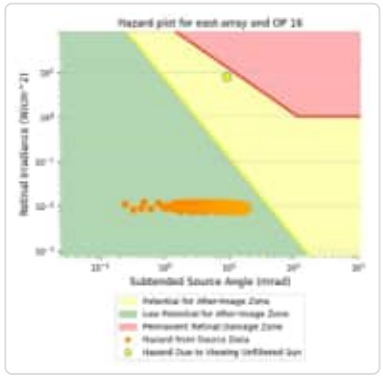
East Array: OP 16

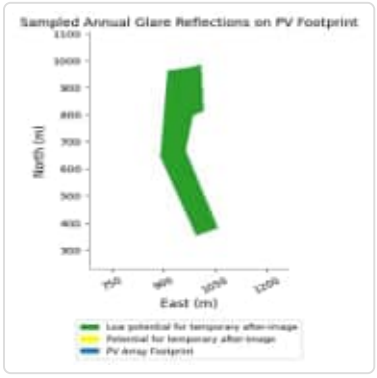
PV array is expected to produce the following glare for this receptor:

- 2,037 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





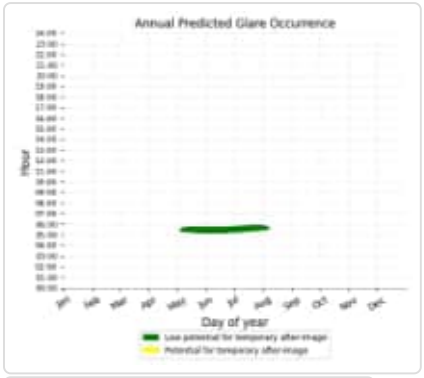




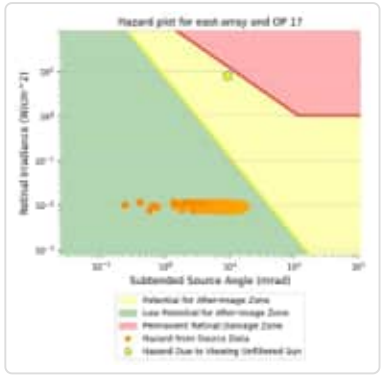
East Array: OP 17

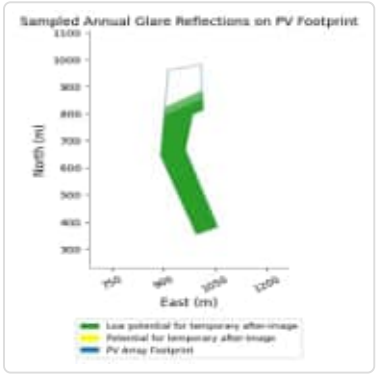
PV array is expected to produce the following glare for this receptor:

- 1,610 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





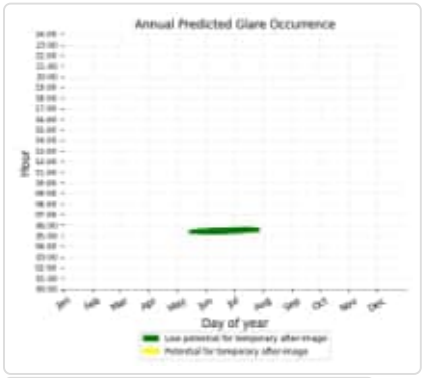




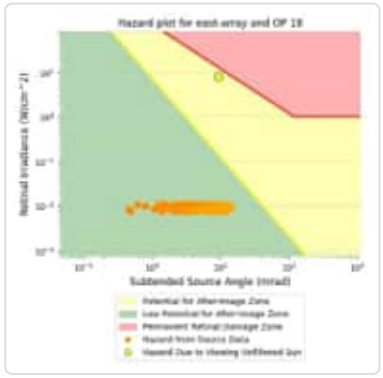
East Array: OP 18

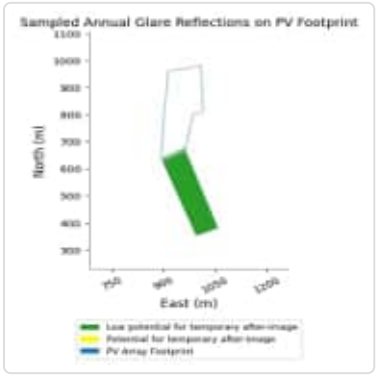
PV array is expected to produce the following glare for this receptor:

- 1,191 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





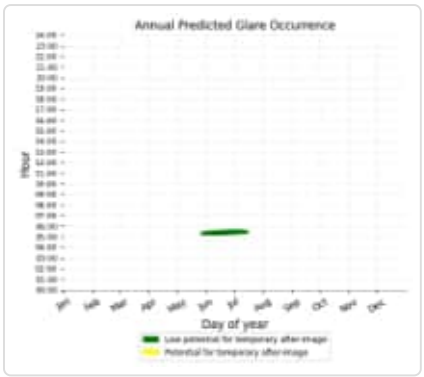


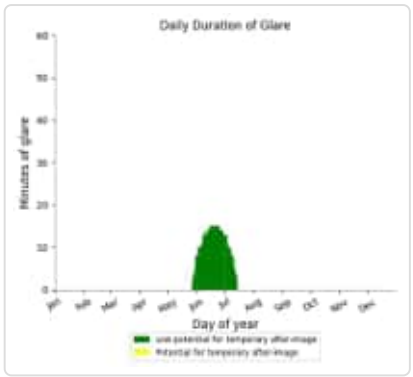


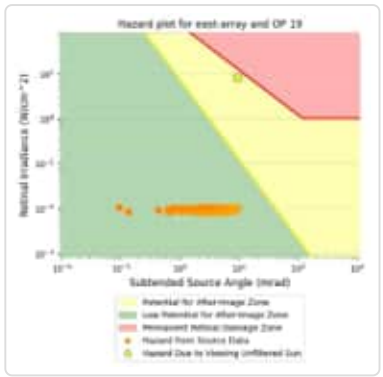
East Array: OP 19

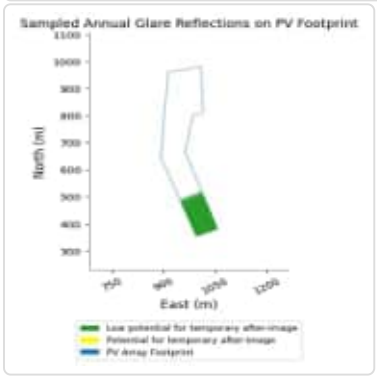
PV array is expected to produce the following glare for this receptor:

- 542 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 20

No glare found

East Array: OP 21

No glare found

North Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	384	19
OP: OP 7	1395	315
OP: OP 8	1161	252
OP: OP 9	19	0
OP: OP 10	0	0
OP: OP 11	37	0
OP: OP 12	1157	138
OP: OP 13	957	9
OP: OP 14	653	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0

North Array: OP 1

No glare found

North Array: OP 2

No glare found

North Array: OP 3

No glare found

North Array: OP 4

No glare found

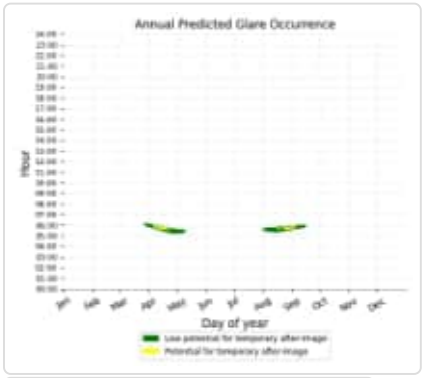
North Array: OP 5

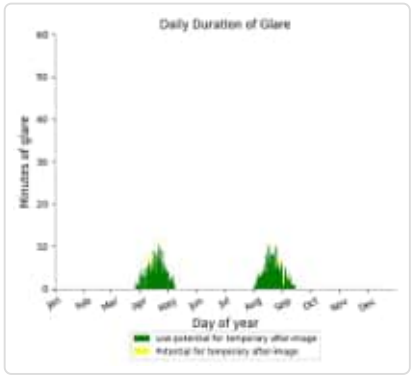
No glare found

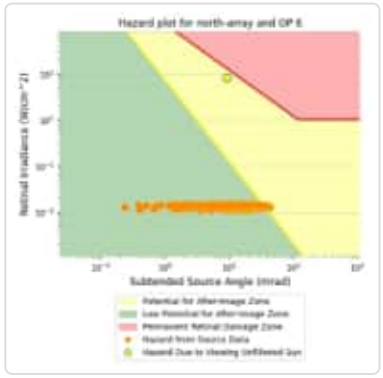
North Array: OP 6

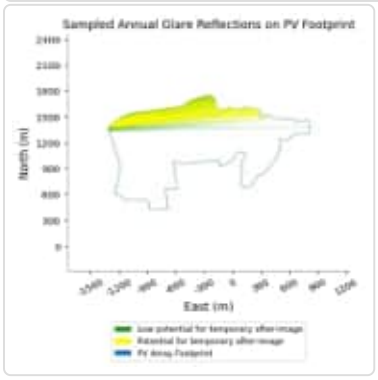
PV array is expected to produce the following glare for this receptor:

- 384 minutes of "green" glare with low potential to cause temporary after-image.
- 19 minutes of "yellow" glare with potential to cause temporary after-image.





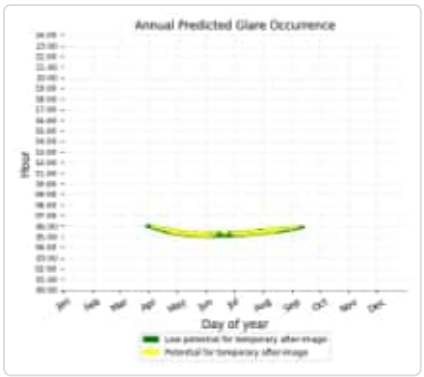


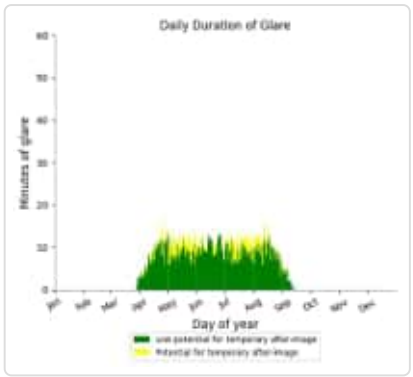


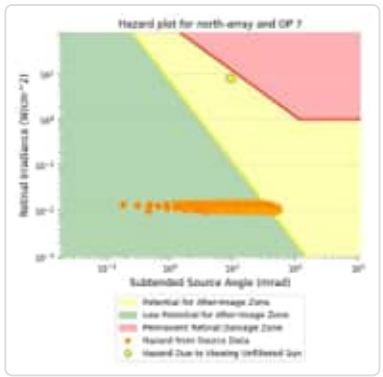
North Array: OP 7

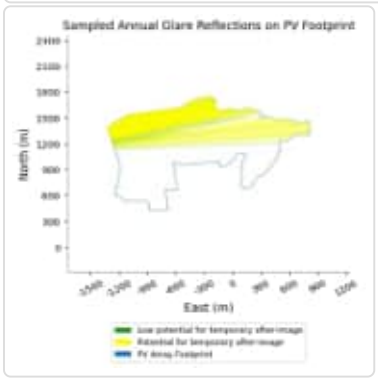
PV array is expected to produce the following glare for this receptor:

- 1,395 minutes of "green" glare with low potential to cause temporary after-image.
- 315 minutes of "yellow" glare with potential to cause temporary after-image.





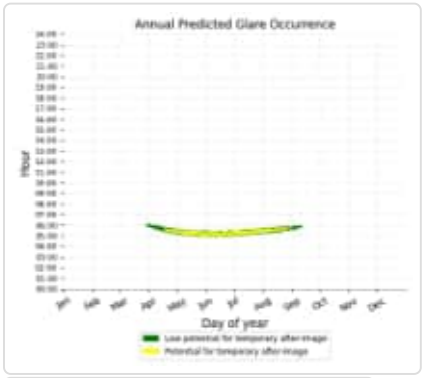


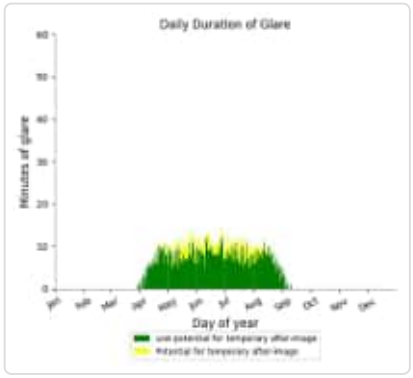


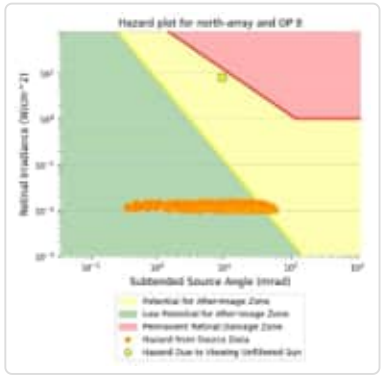
North Array: OP 8

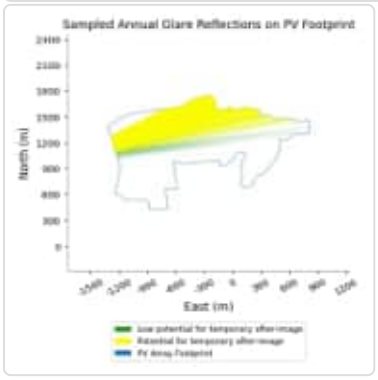
PV array is expected to produce the following glare for this receptor:

- 1,161 minutes of "green" glare with low potential to cause temporary after-image.
- 252 minutes of "yellow" glare with potential to cause temporary after-image.





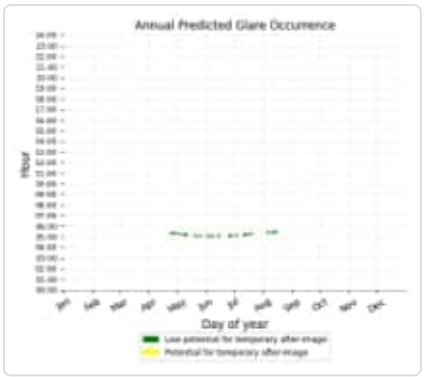


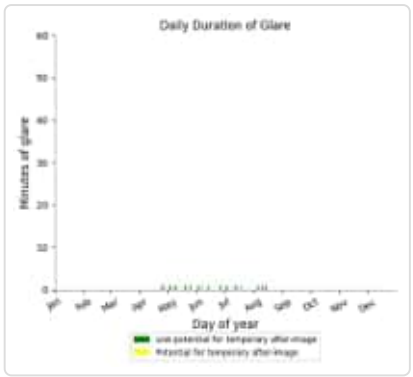


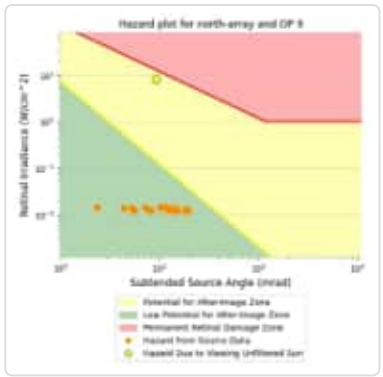
North Array: OP 9

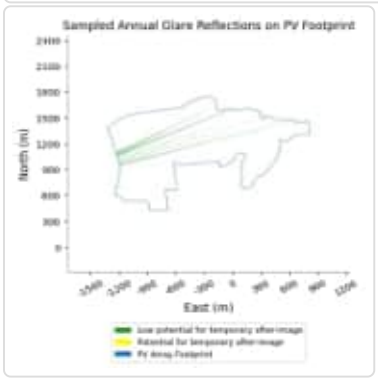
PV array is expected to produce the following glare for this receptor:

- 19 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









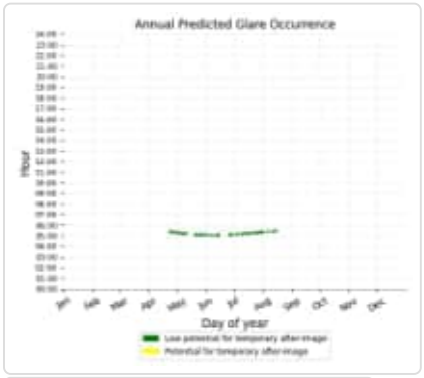
North Array: OP 10

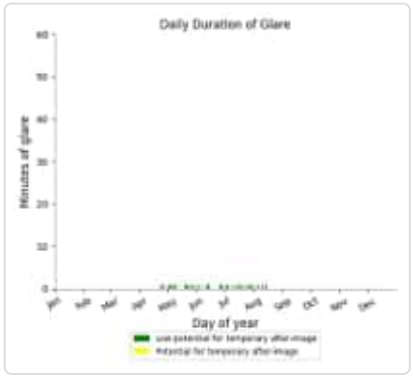
No glare found

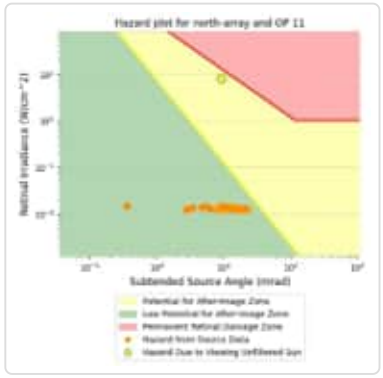
North Array: OP 11

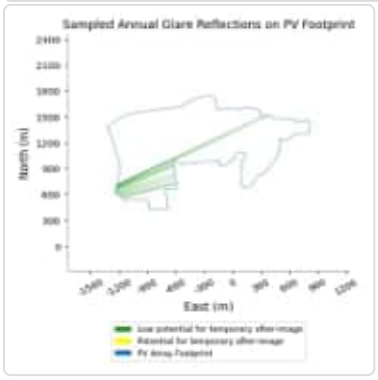
PV array is expected to produce the following glare for this receptor:

- 37 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





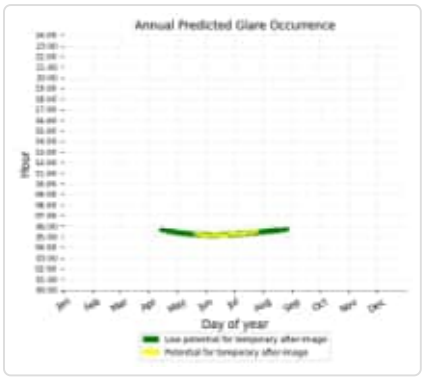


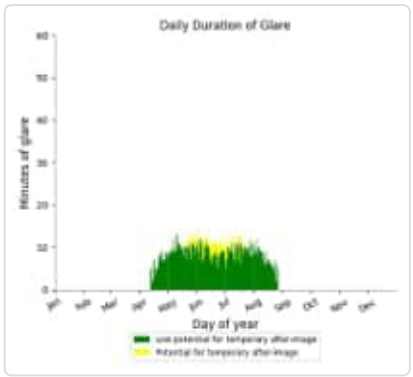


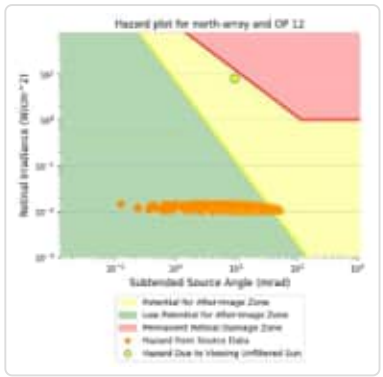
North Array: OP 12

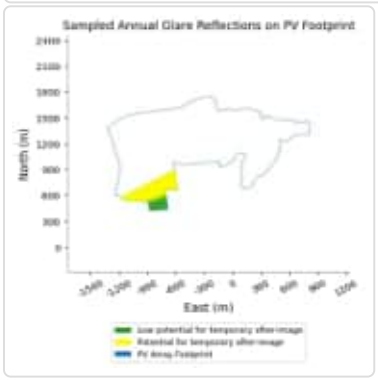
PV array is expected to produce the following glare for this receptor:

- 1,157 minutes of "green" glare with low potential to cause temporary after-image.
- 138 minutes of "yellow" glare with potential to cause temporary after-image.





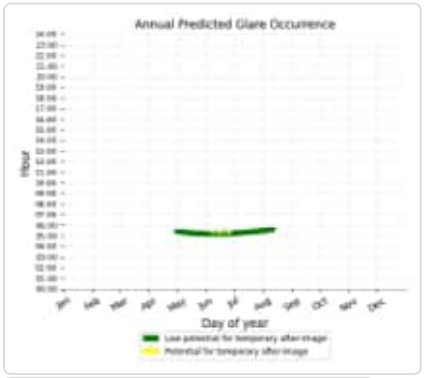


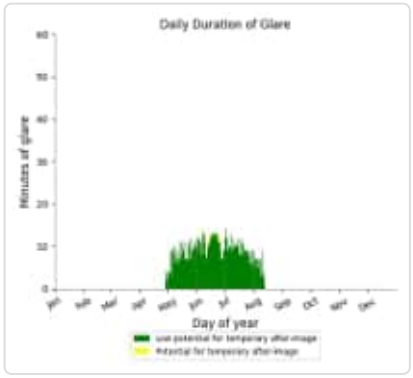


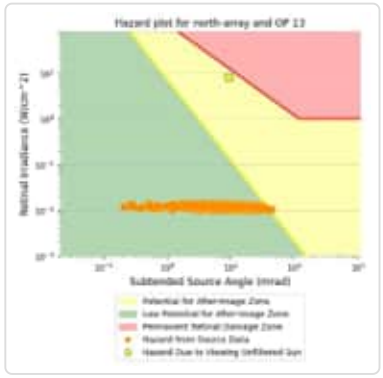
North Array: OP 13

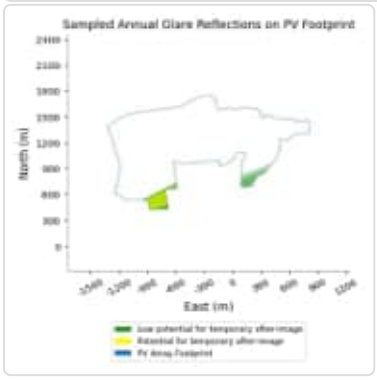
PV array is expected to produce the following glare for this receptor:

- 957 minutes of "green" glare with low potential to cause temporary after-image.
- 9 minutes of "yellow" glare with potential to cause temporary after-image.





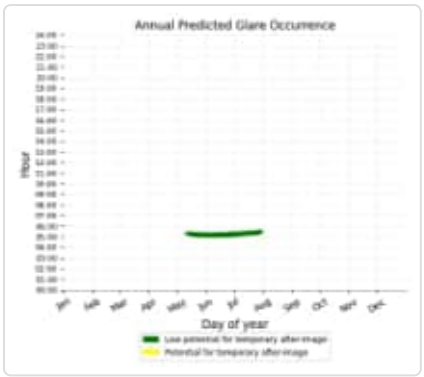


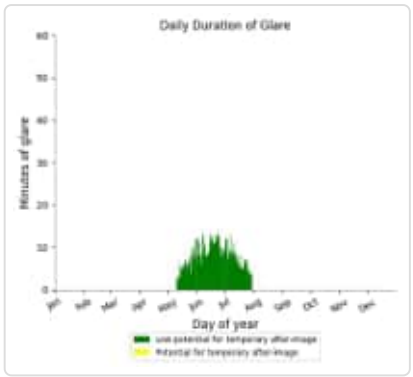


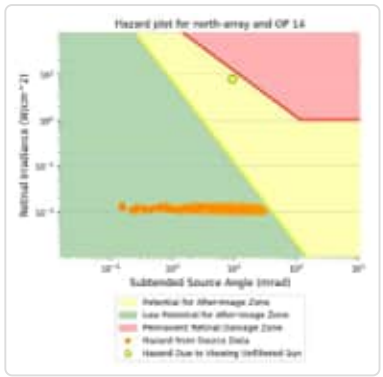
North Array: OP 14

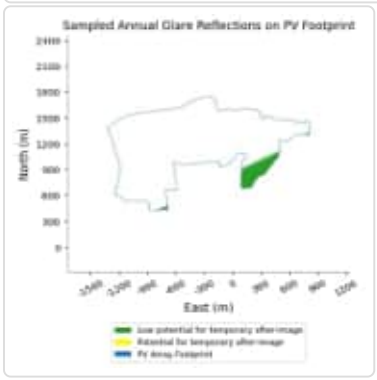
PV array is expected to produce the following glare for this receptor:

- 653 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 15

No glare found

North Array: OP 16

No glare found

North Array: OP 17

No glare found

North Array: OP 18

No glare found

North Array: OP 19

No glare found

North Array: OP 20

No glare found

North Array: OP 21

No glare found

South Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	267	0
OP: OP 13	881	1
OP: OP 14	1879	75
OP: OP 15	1285	201
OP: OP 16	1144	105
OP: OP 17	1237	159
OP: OP 18	1181	121
OP: OP 19	1212	29
OP: OP 20	0	0
OP: OP 21	0	0

South Array: OP 1

No glare found

South Array: OP 2

No glare found

South Array: OP 3

No glare found

South Array: OP 4

No glare found

South Array: OP 5

No glare found

South Array: OP 6

No glare found

South Array: OP 7

No glare found

South Array: OP 8

No glare found

South Array: OP 9

No glare found

South Array: OP 10

No glare found

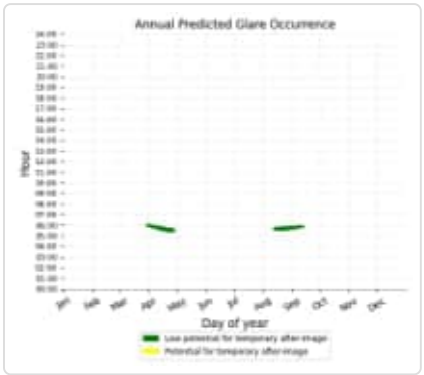
South Array: OP 11

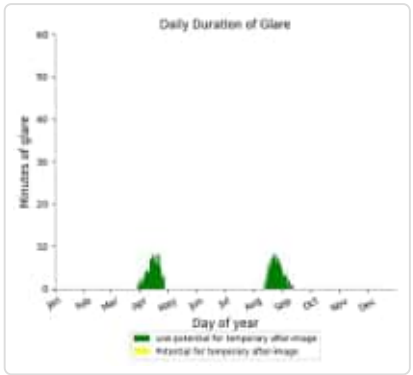
No glare found

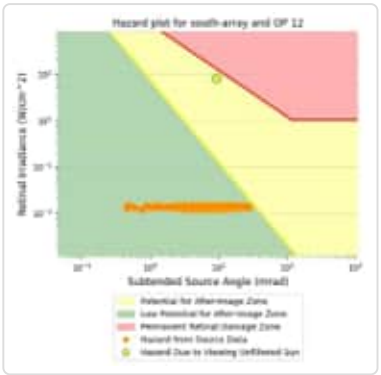
South Array: OP 12

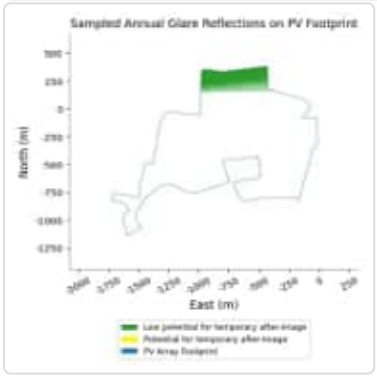
PV array is expected to produce the following glare for this receptor:

- 267 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





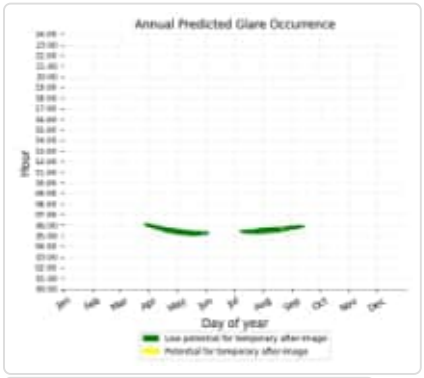


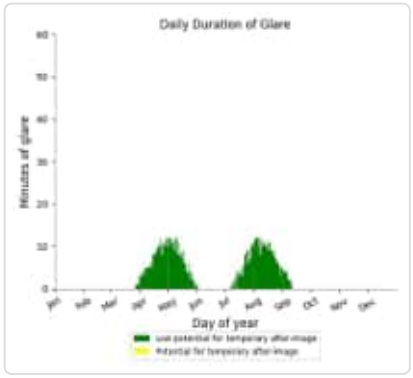


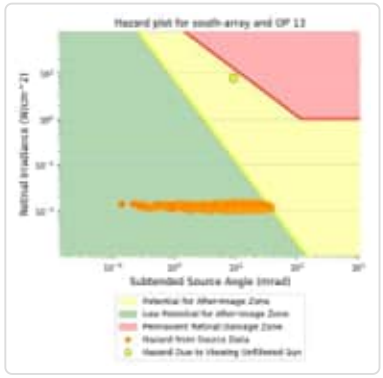
South Array: OP 13

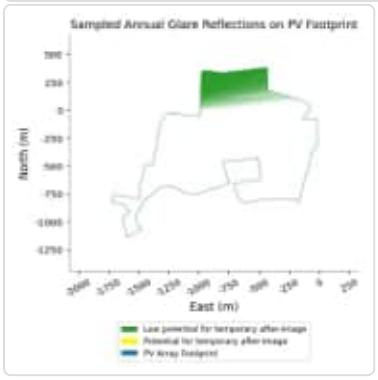
PV array is expected to produce the following glare for this receptor:

- 881 minutes of "green" glare with low potential to cause temporary after-image.
- 1 minutes of "yellow" glare with potential to cause temporary after-image.





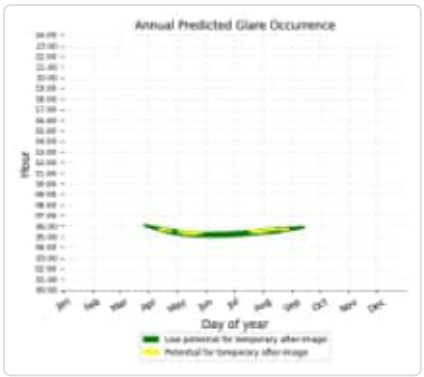


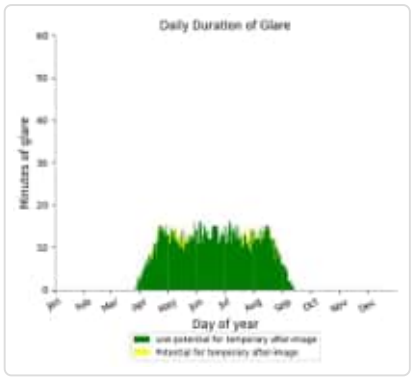


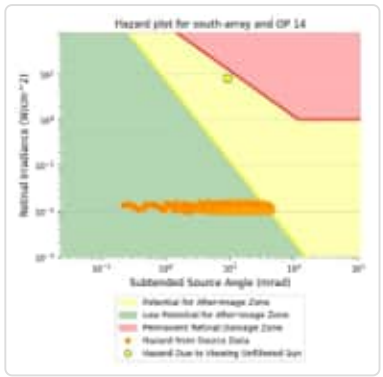
South Array: OP 14

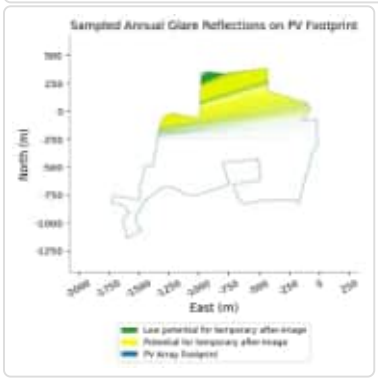
PV array is expected to produce the following glare for this receptor:

- 1,879 minutes of "green" glare with low potential to cause temporary after-image.
- 75 minutes of "yellow" glare with potential to cause temporary after-image.





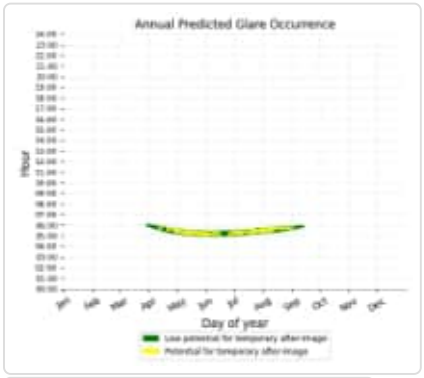


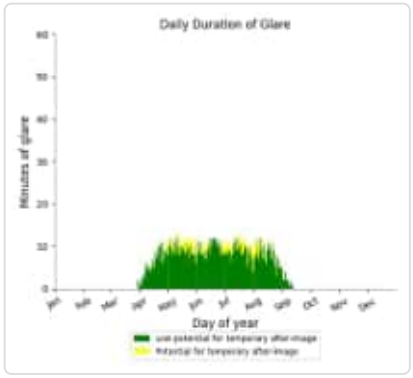


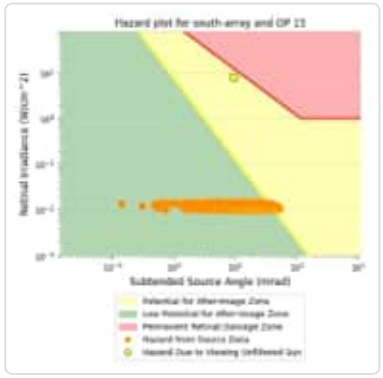
South Array: OP 15

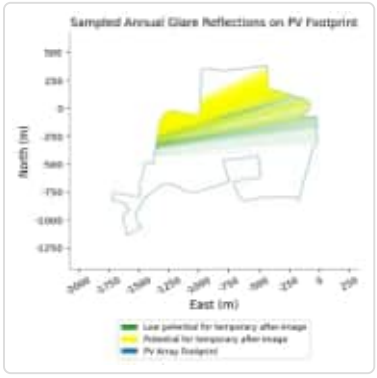
PV array is expected to produce the following glare for this receptor:

- 1,285 minutes of "green" glare with low potential to cause temporary after-image.
- 201 minutes of "yellow" glare with potential to cause temporary after-image.





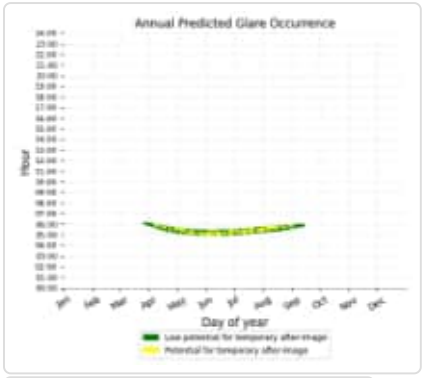


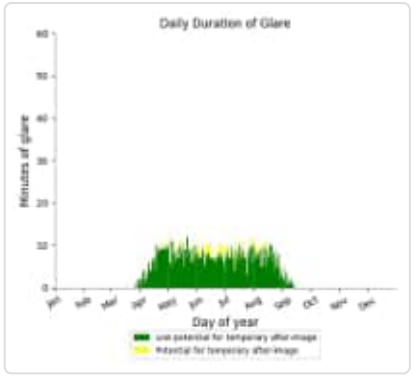


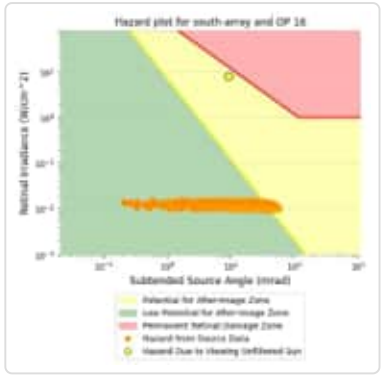
South Array: OP 16

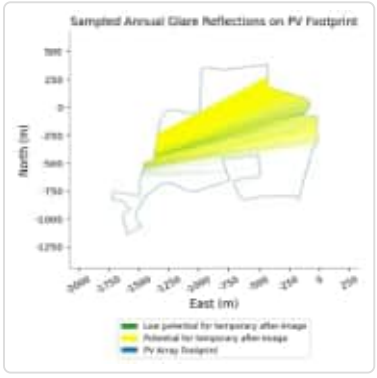
PV array is expected to produce the following glare for this receptor:

- 1,144 minutes of "green" glare with low potential to cause temporary after-image.
- 105 minutes of "yellow" glare with potential to cause temporary after-image.





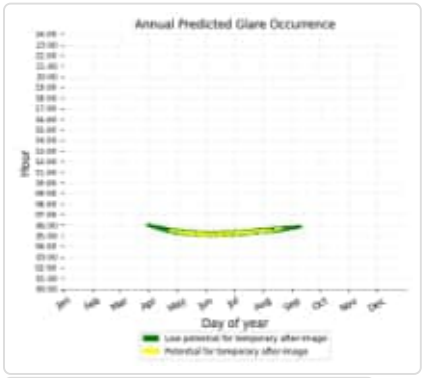


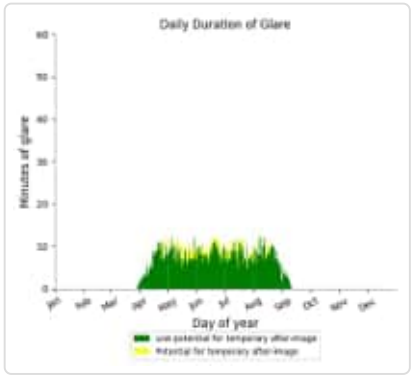


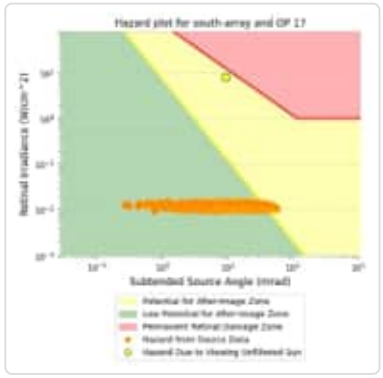
South Array: OP 17

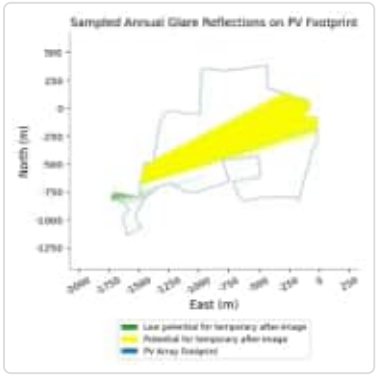
PV array is expected to produce the following glare for this receptor:

- 1,237 minutes of "green" glare with low potential to cause temporary after-image.
- 159 minutes of "yellow" glare with potential to cause temporary after-image.





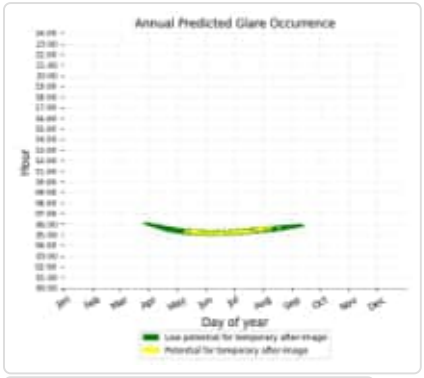


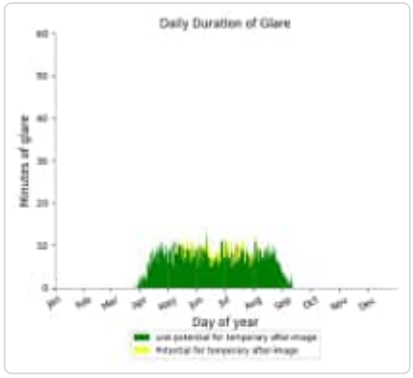


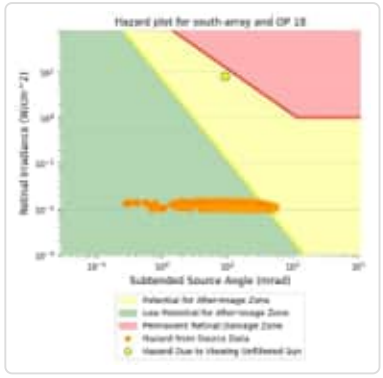
South Array: OP 18

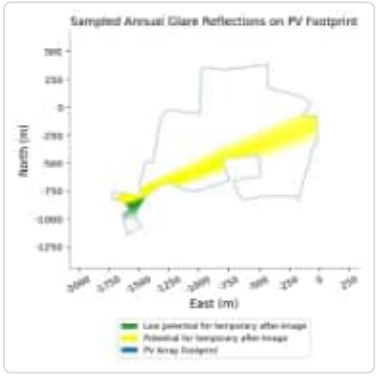
PV array is expected to produce the following glare for this receptor:

- 1,181 minutes of "green" glare with low potential to cause temporary after-image.
- 121 minutes of "yellow" glare with potential to cause temporary after-image.





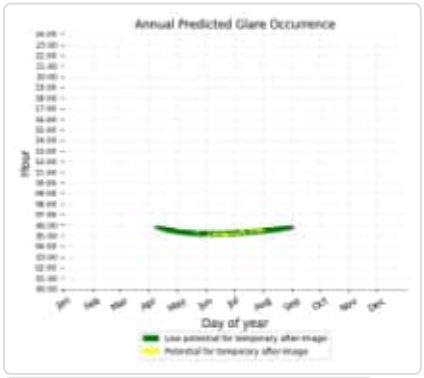


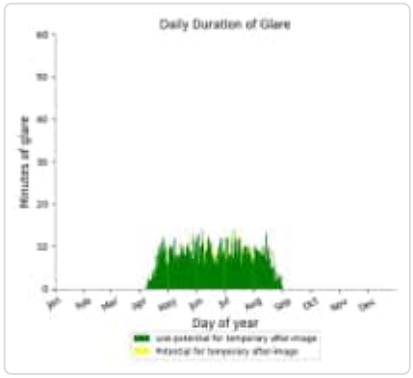


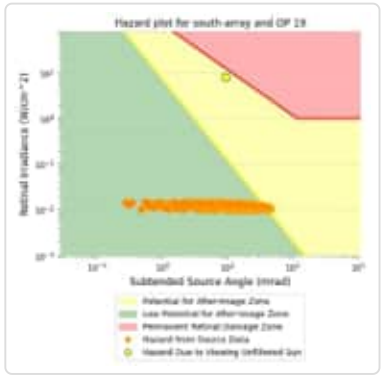
South Array: OP 19

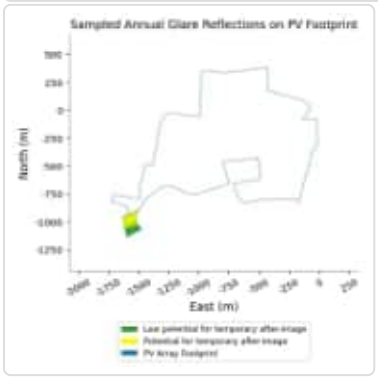
PV array is expected to produce the following glare for this receptor:

- 1,212 minutes of "green" glare with low potential to cause temporary after-image.
- 29 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 20

No glare found

South Array: OP 21

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX I: RAIL RECEPTOR GLARE RESULTS (35 DEGREES)

Fenwick Solar Farm

Fenwick Rail 35 degrees

Created Nov 28, 2023
Updated Aug 08, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106536.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	35.0	180.0	1,027	0	-
East Array	35.0	180.0	16,745	0	-
North Array	35.0	180.0	5,100	1,015	-
South Array	35.0	180.0	9,864	1,255	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.655661	-1.106791	6.72	2.75	9.47
OP 2	53.653829	-1.107134	7.00	2.75	9.75
OP 3	53.652125	-1.107435	6.69	2.75	9.44
OP 4	53.650447	-1.107735	6.87	2.75	9.62
OP 5	53.648539	-1.108078	7.35	2.75	10.10
OP 6	53.646733	-1.108443	7.09	2.75	9.84
OP 7	53.644901	-1.108787	7.05	2.75	9.80
OP 8	53.643298	-1.109044	7.28	2.75	10.03
OP 9	53.641556	-1.109387	8.00	2.75	10.75
OP 10	53.639673	-1.109752	8.57	2.75	11.32
OP 11	53.637879	-1.110053	7.82	2.75	10.57
OP 12	53.636022	-1.110396	7.12	2.75	9.87
OP 13	53.634318	-1.110779	7.00	2.75	9.75
OP 14	53.632486	-1.111079	6.03	2.75	8.78
OP 15	53.630730	-1.111337	8.00	2.75	10.75
OP 16	53.629076	-1.111637	7.99	2.75	10.74
OP 17	53.627116	-1.112066	8.00	2.75	10.75
OP 18	53.625436	-1.112367	8.00	2.75	10.75
OP 19	53.623706	-1.112624	8.00	2.75	10.75
OP 20	53.621860	-1.112946	8.85	2.75	11.60
OP 21	53.620104	-1.113289	8.00	2.75	10.75

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	35.0	180.0	1,027	0	-	-
East Array	35.0	180.0	16,745	0	-	-
North Array	35.0	180.0	5,100	1,015	-	-
South Array	35.0	180.0	9,864	1,255	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	150	201	5	2	4	107	239	0	0	0
central-arra (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
east-array (green)	0	0	207	544	580	580	583	565	364	0	0	0
east-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
north-array (green)	0	0	27	285	345	390	385	306	102	0	0	0
north-array (yellow)	0	0	0	70	29	19	17	74	11	0	0	0
south-array (green)	0	0	35	373	399	383	395	387	137	0	0	0
south-array (yellow)	0	0	1	19	22	28	26	14	2	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	103	0
OP: OP 9	274	0
OP: OP 10	579	0
OP: OP 11	20	0
OP: OP 12	18	0
OP: OP 13	17	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	16	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0

OP: OP 20	0	0
OP: OP 21	0	0

Central Array: OP 1

No glare found

Central Array: OP 2

No glare found

Central Array: OP 3

No glare found

Central Array: OP 4

No glare found

Central Array: OP 5

No glare found

Central Array: OP 6

No glare found

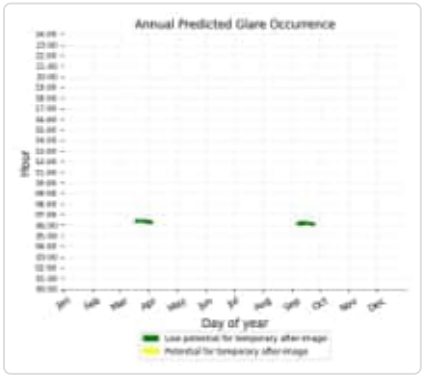
Central Array: OP 7

No glare found

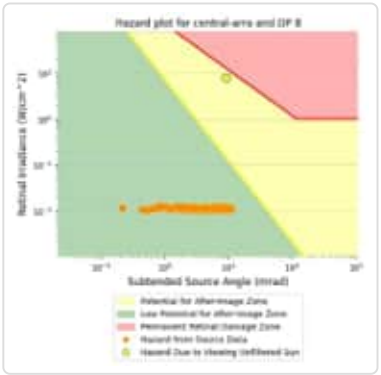
Central Array: OP 8

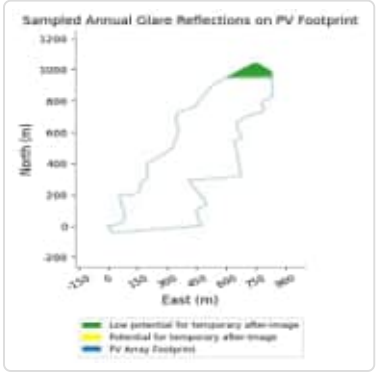
PV array is expected to produce the following glare for this receptor:

- 103 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





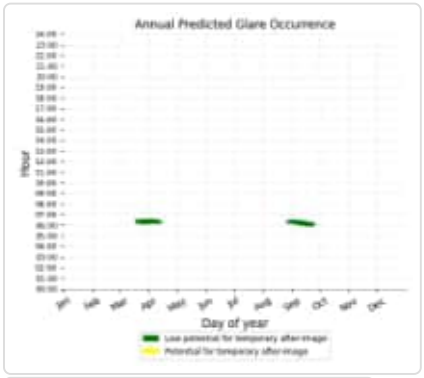




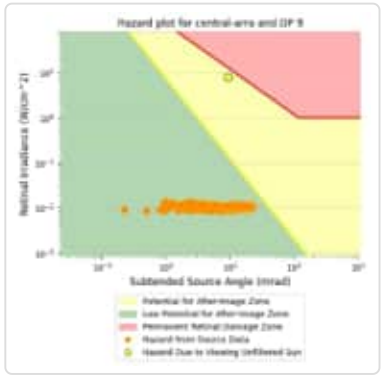
Central Array: OP 9

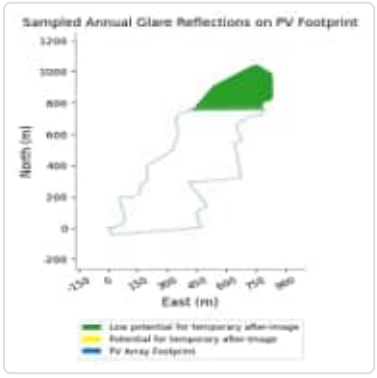
PV array is expected to produce the following glare for this receptor:

- 274 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





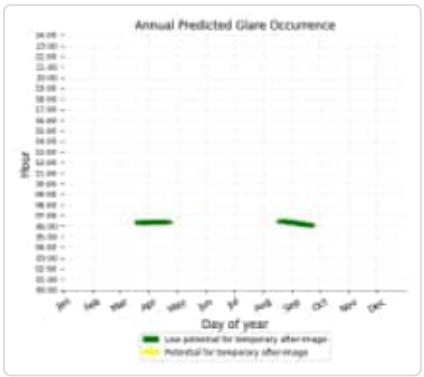


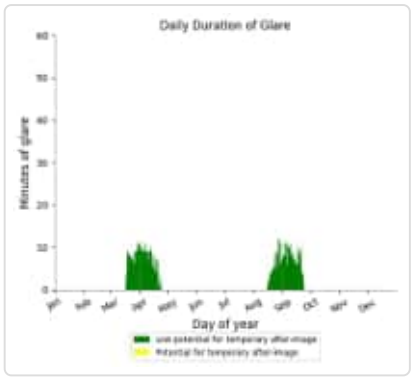


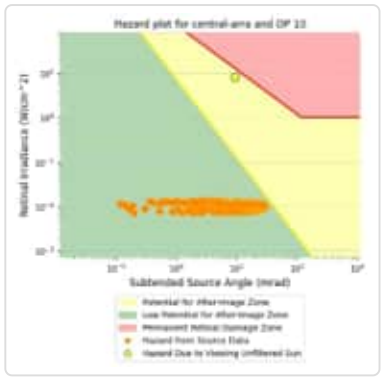
Central Array: OP 10

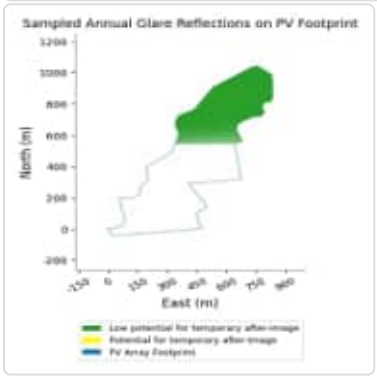
PV array is expected to produce the following glare for this receptor:

- 579 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





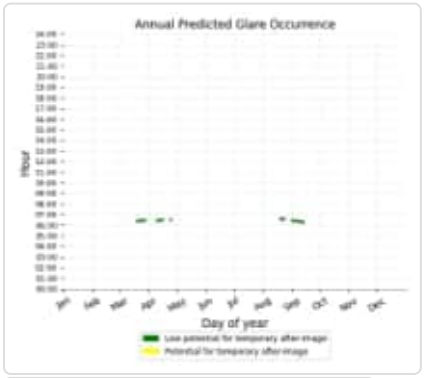


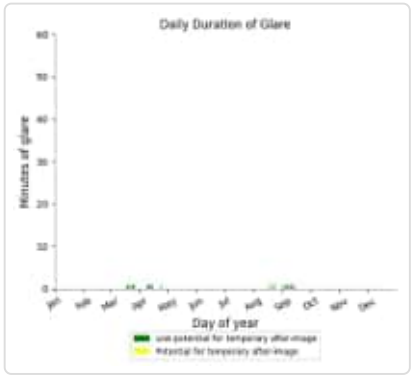


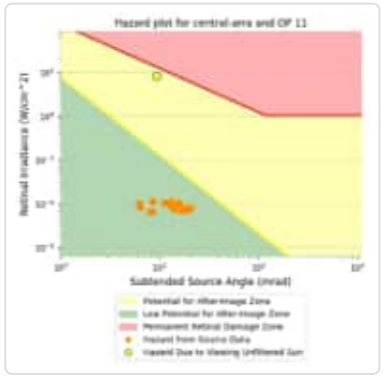
Central Array: OP 11

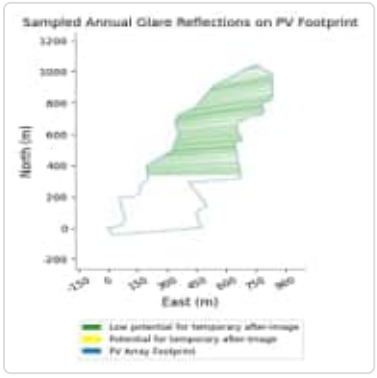
PV array is expected to produce the following glare for this receptor:

- 20 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





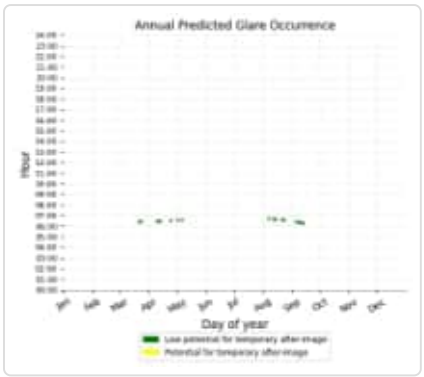


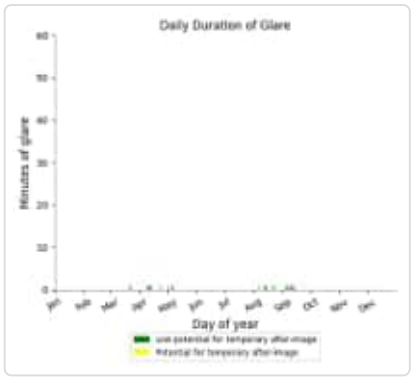


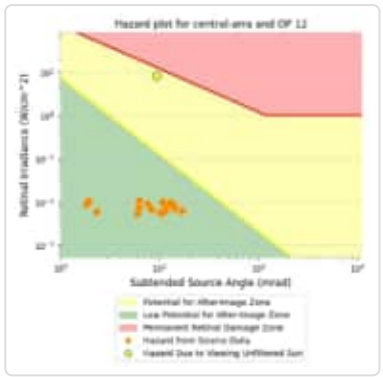
Central Array: OP 12

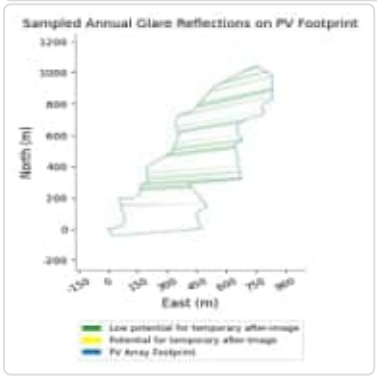
PV array is expected to produce the following glare for this receptor:

- 18 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





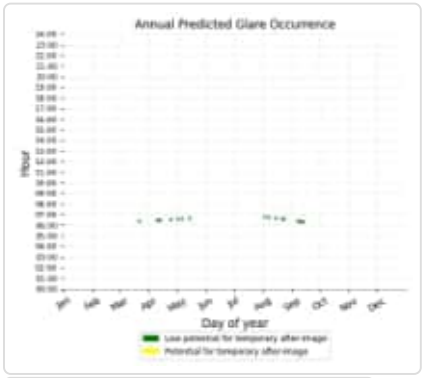


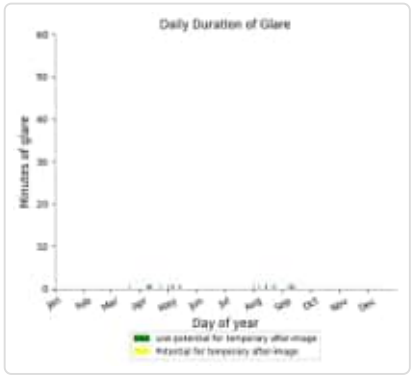


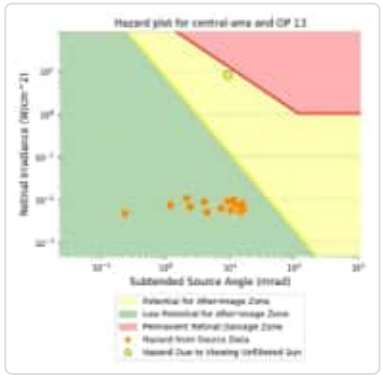
Central Array: OP 13

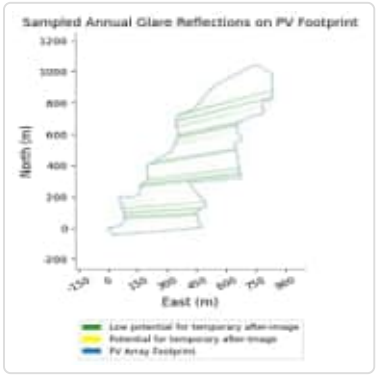
PV array is expected to produce the following glare for this receptor:

- 17 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 14

No glare found

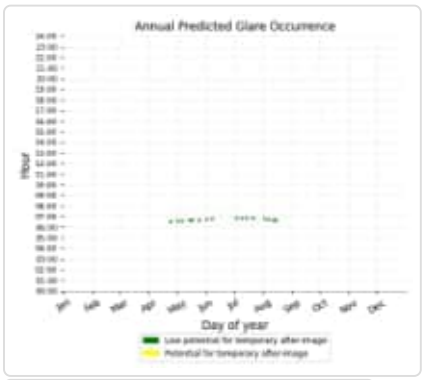
Central Array: OP 15

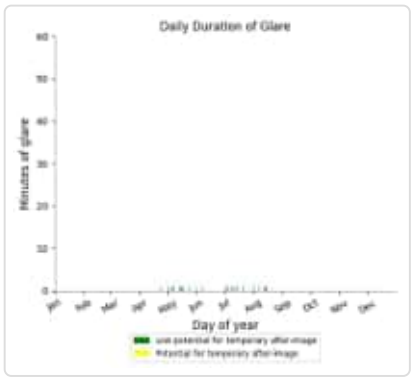
No glare found

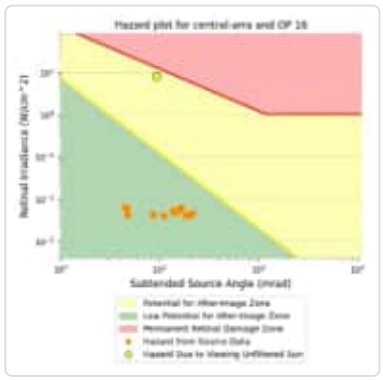
Central Array: OP 16

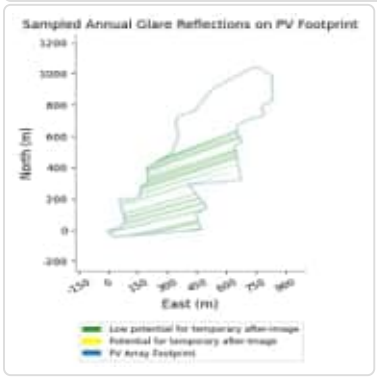
PV array is expected to produce the following glare for this receptor:

- 16 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









Central Array: OP 17

No glare found

Central Array: OP 18

No glare found

Central Array: OP 19

No glare found

Central Array: OP 20

No glare found

Central Array: OP 21

No glare found

East Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	122	0

OP: OP 9	656	0
OP: OP 10	1029	0
OP: OP 11	1399	0
OP: OP 12	1685	0
OP: OP 13	1900	0
OP: OP 14	2441	0
OP: OP 15	2303	0
OP: OP 16	1986	0
OP: OP 17	1571	0
OP: OP 18	1162	0
OP: OP 19	491	0
OP: OP 20	0	0
OP: OP 21	0	0

East Array: OP 1

No glare found

East Array: OP 2

No glare found

East Array: OP 3

No glare found

East Array: OP 4

No glare found

East Array: OP 5

No glare found

East Array: OP 6

No glare found

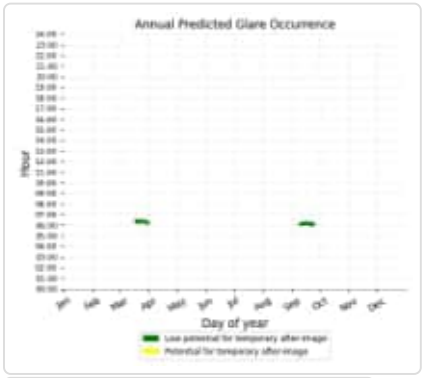
East Array: OP 7

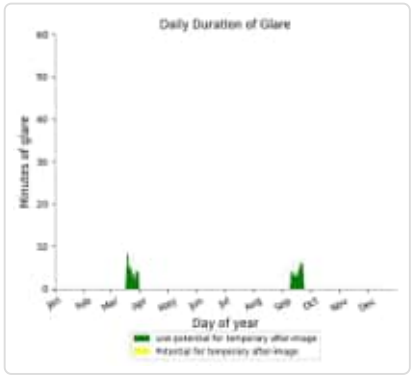
No glare found

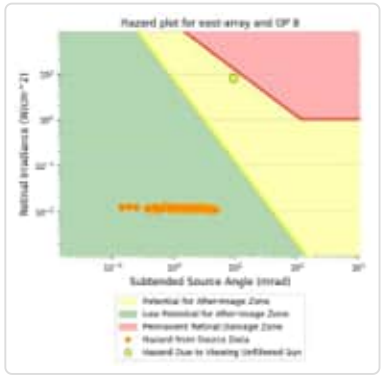
East Array: OP 8

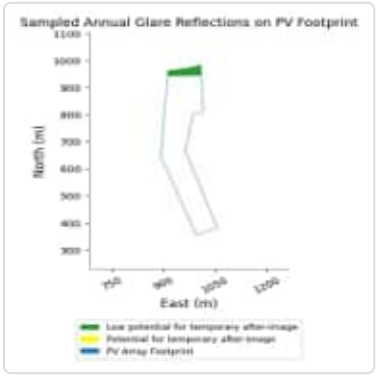
PV array is expected to produce the following glare for this receptor:

- 122 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





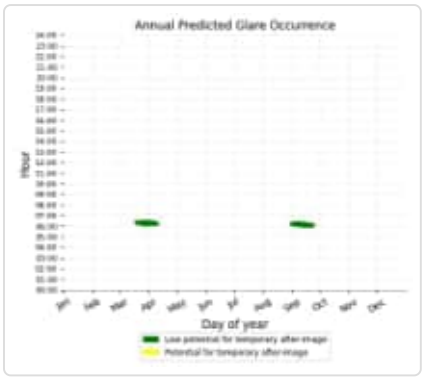




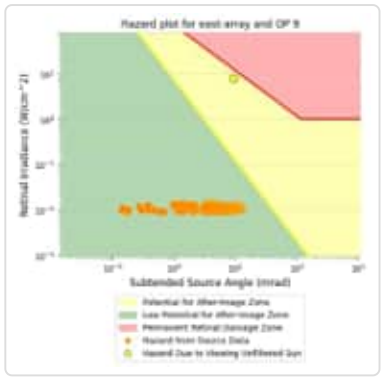
East Array: OP 9

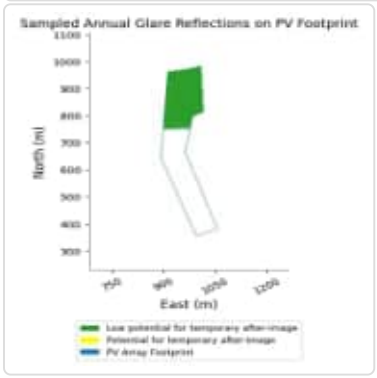
PV array is expected to produce the following glare for this receptor:

- 656 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





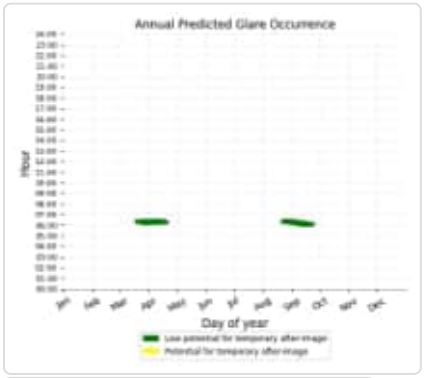


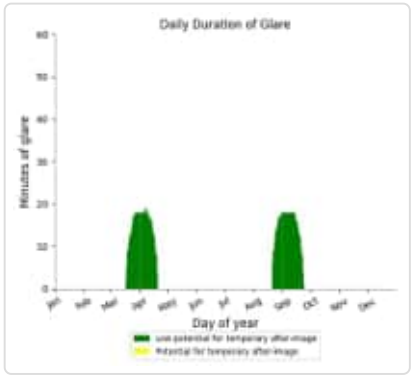


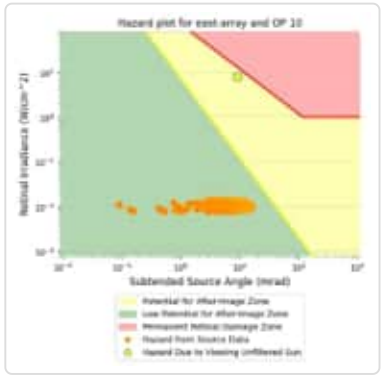
East Array: OP 10

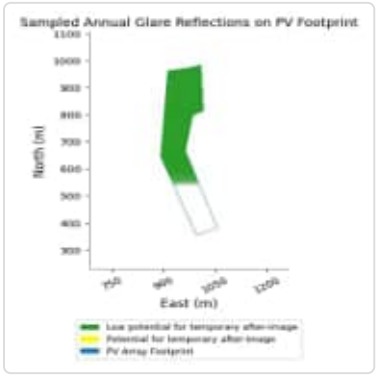
PV array is expected to produce the following glare for this receptor:

- 1,029 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





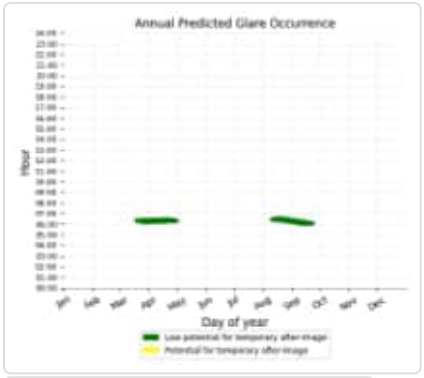


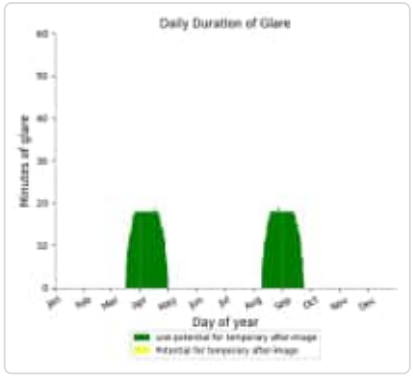


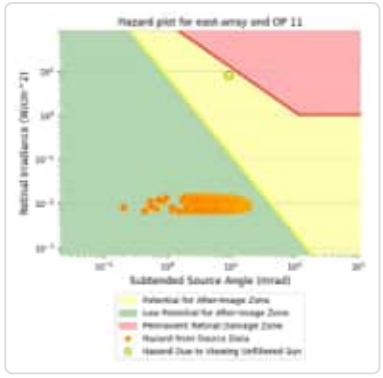
East Array: OP 11

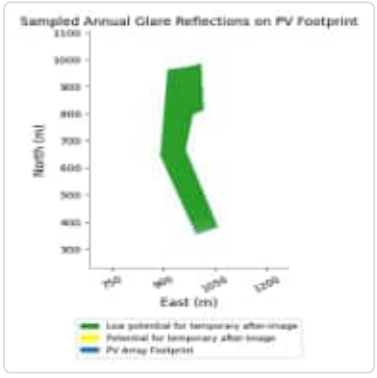
PV array is expected to produce the following glare for this receptor:

- 1,399 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





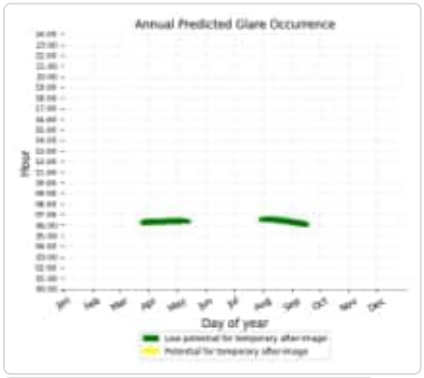


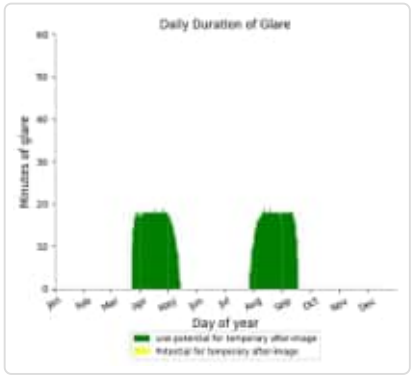


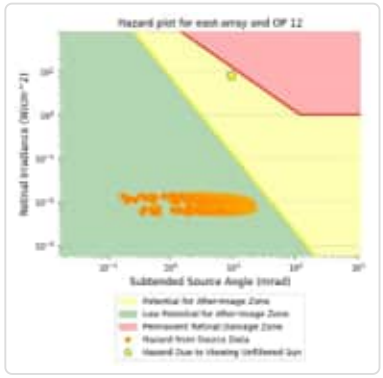
East Array: OP 12

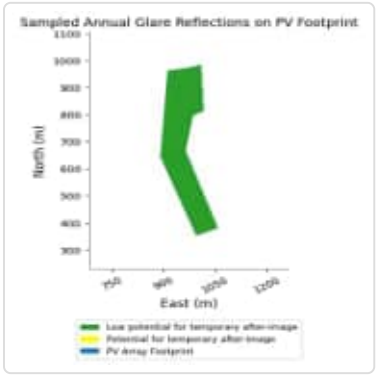
PV array is expected to produce the following glare for this receptor:

- 1,685 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





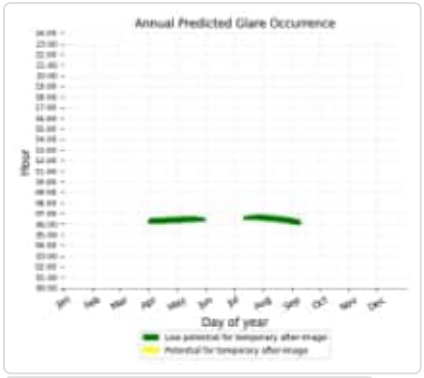




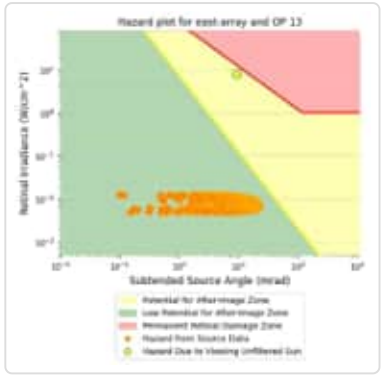
East Array: OP 13

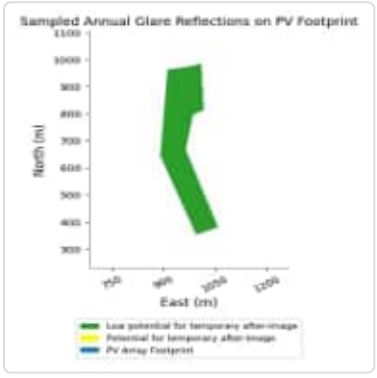
PV array is expected to produce the following glare for this receptor:

- 1,900 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





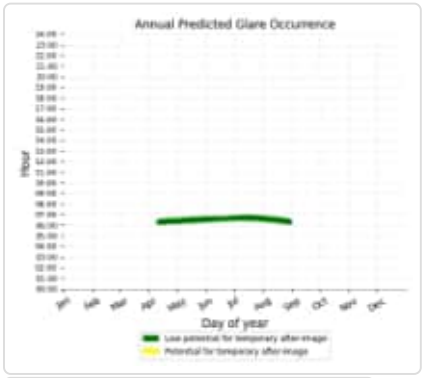


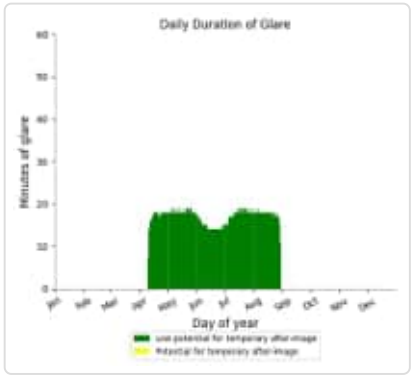


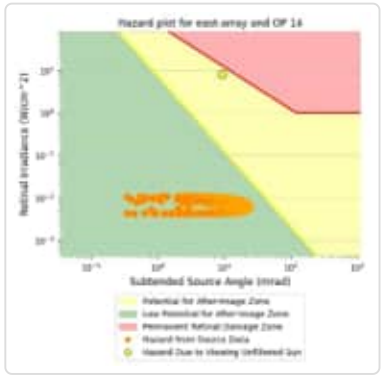
East Array: OP 14

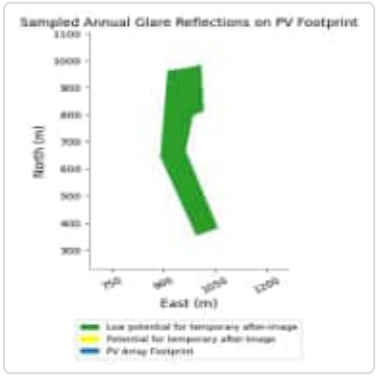
PV array is expected to produce the following glare for this receptor:

- 2,441 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





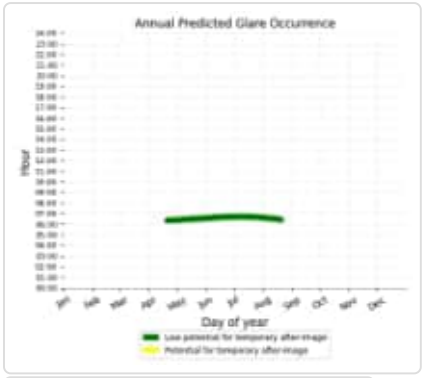




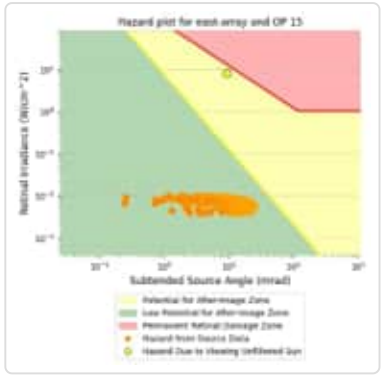
East Array: OP 15

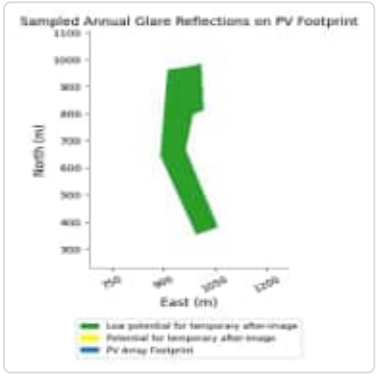
PV array is expected to produce the following glare for this receptor:

- 2,303 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





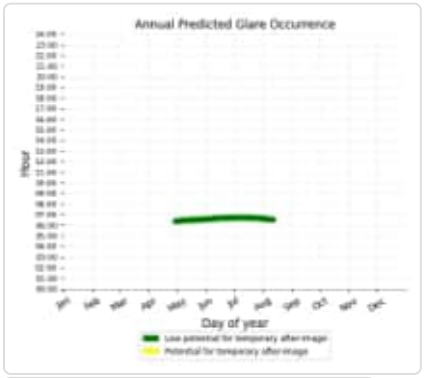




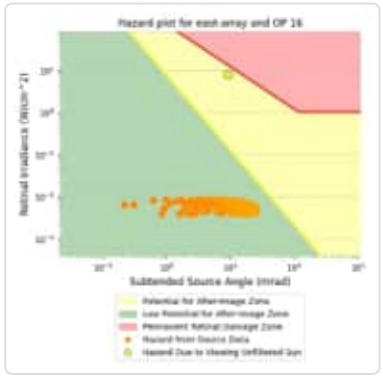
East Array: OP 16

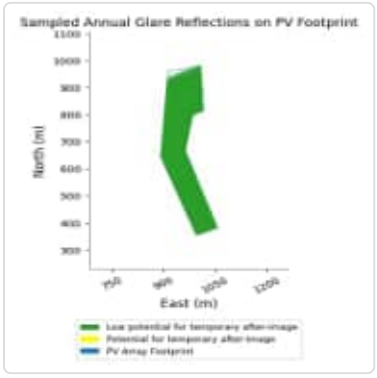
PV array is expected to produce the following glare for this receptor:

- 1,986 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





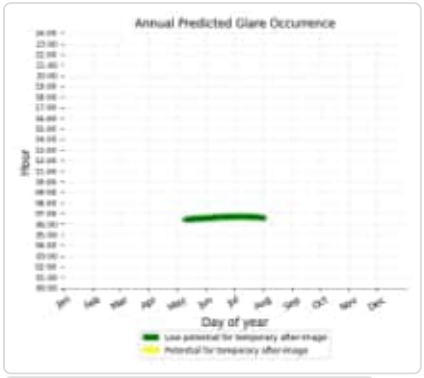


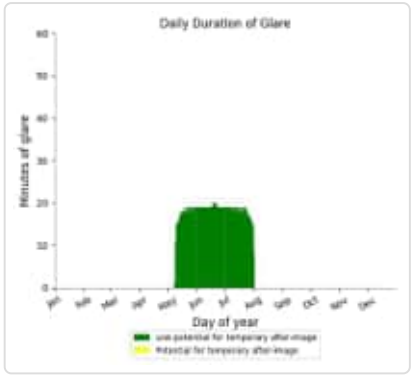


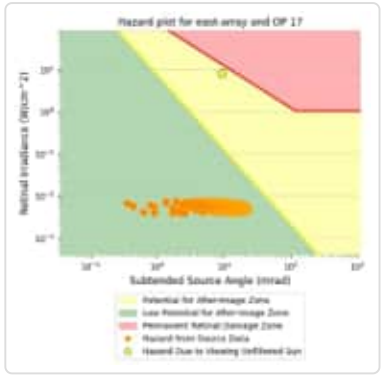
East Array: OP 17

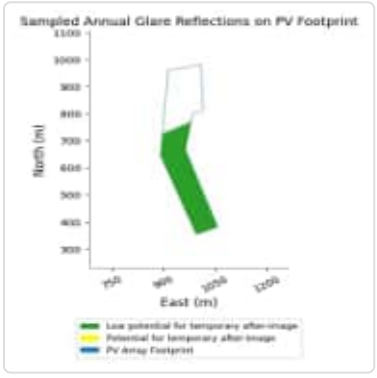
PV array is expected to produce the following glare for this receptor:

- 1,571 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





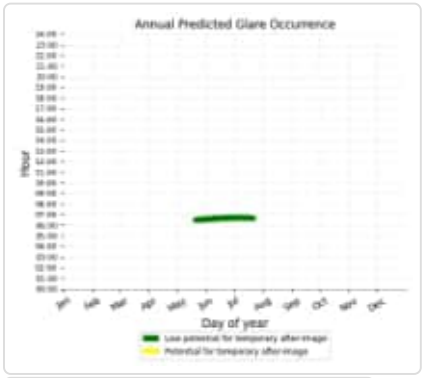


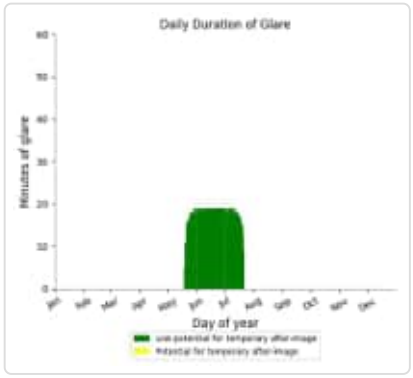


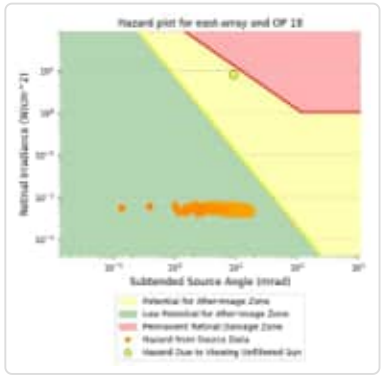
East Array: OP 18

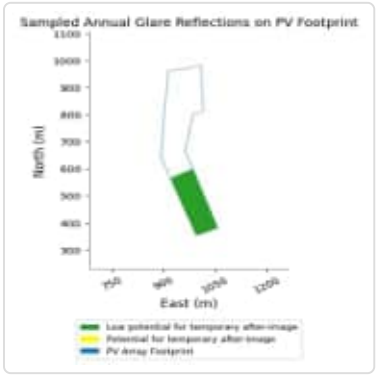
PV array is expected to produce the following glare for this receptor:

- 1,162 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





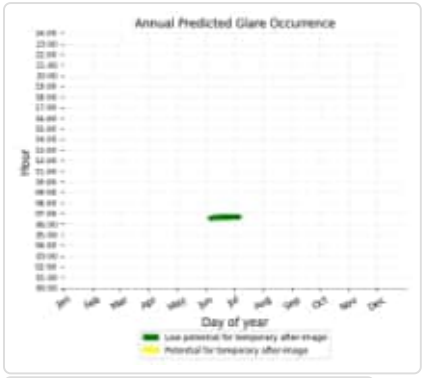


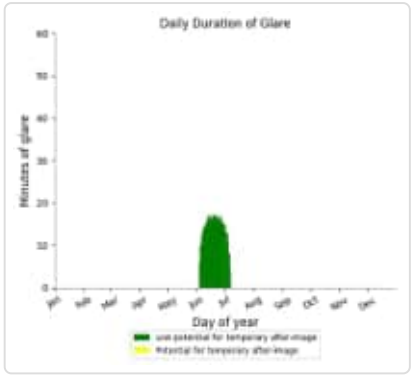


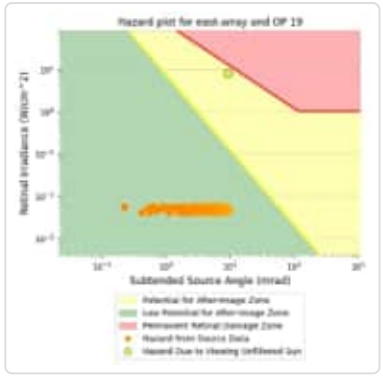
East Array: OP 19

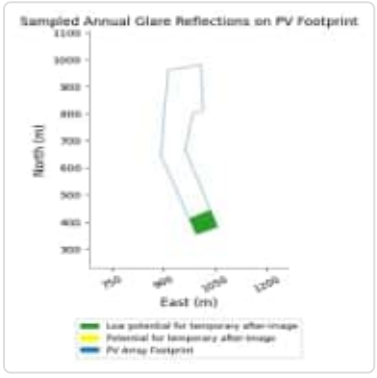
PV array is expected to produce the following glare for this receptor:

- 491 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









East Array: OP 20

No glare found

East Array: OP 21

No glare found

North Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	621	90
OP: OP 7	1301	519
OP: OP 8	1084	362
OP: OP 9	22	0
OP: OP 10	0	0
OP: OP 11	35	0
OP: OP 12	1048	44
OP: OP 13	682	0
OP: OP 14	307	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0

North Array: OP 1

No glare found

North Array: OP 2

No glare found

North Array: OP 3

No glare found

North Array: OP 4

No glare found

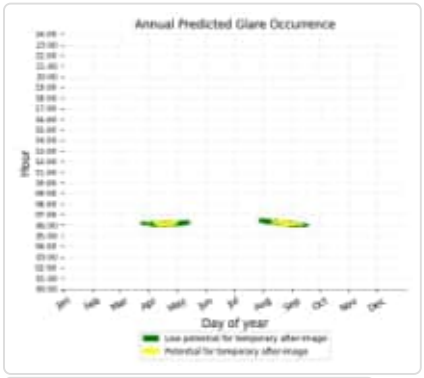
North Array: OP 5

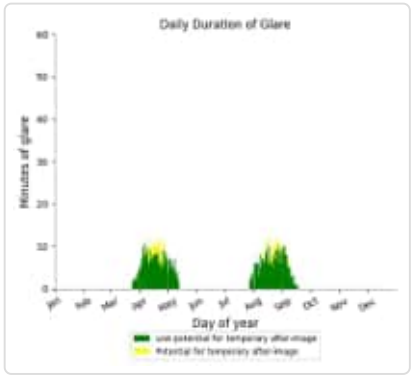
No glare found

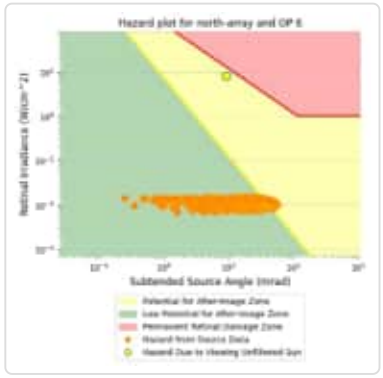
North Array: OP 6

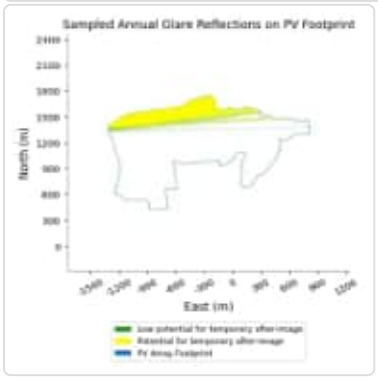
PV array is expected to produce the following glare for this receptor:

- 621 minutes of "green" glare with low potential to cause temporary after-image.
- 90 minutes of "yellow" glare with potential to cause temporary after-image.





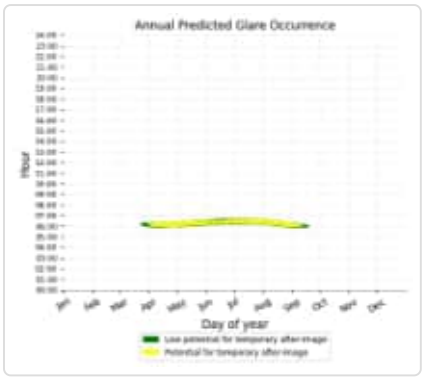


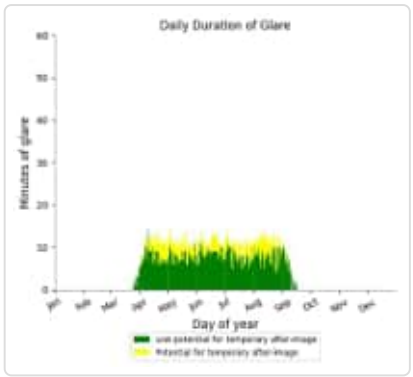


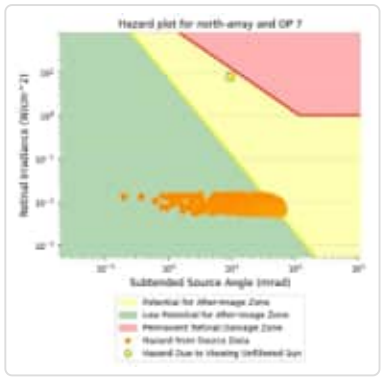
North Array: OP 7

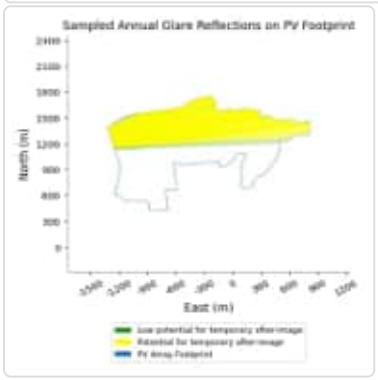
PV array is expected to produce the following glare for this receptor:

- 1,301 minutes of "green" glare with low potential to cause temporary after-image.
- 519 minutes of "yellow" glare with potential to cause temporary after-image.





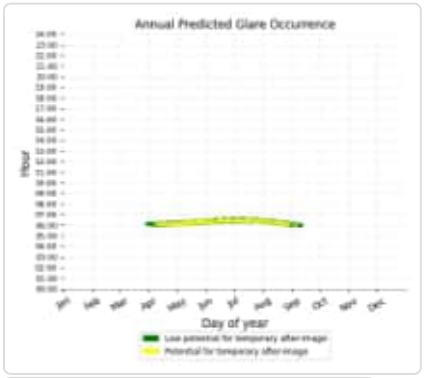


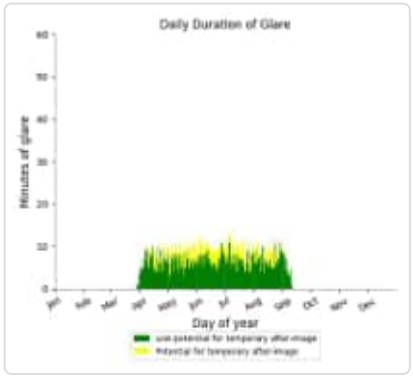


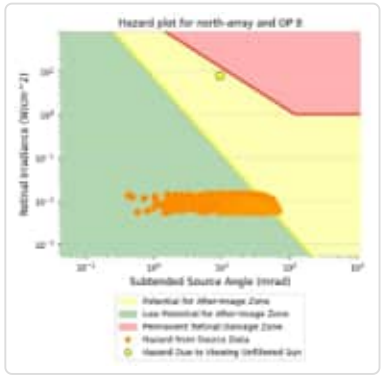
North Array: OP 8

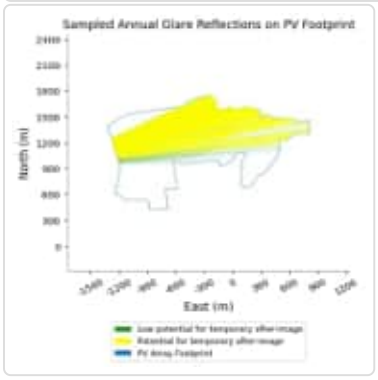
PV array is expected to produce the following glare for this receptor:

- 1,084 minutes of "green" glare with low potential to cause temporary after-image.
- 362 minutes of "yellow" glare with potential to cause temporary after-image.





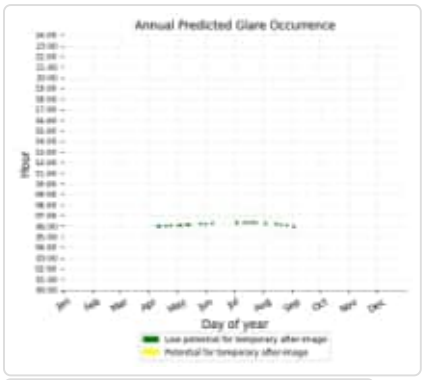


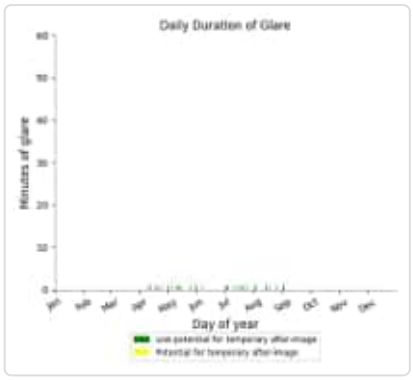


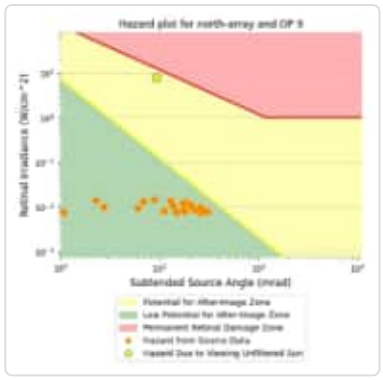
North Array: OP 9

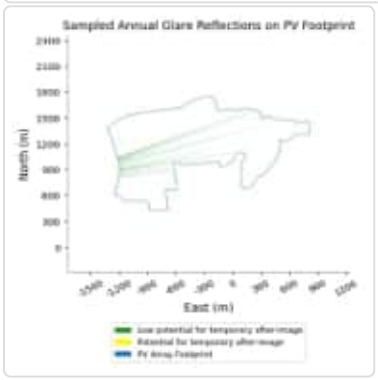
PV array is expected to produce the following glare for this receptor:

- 22 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









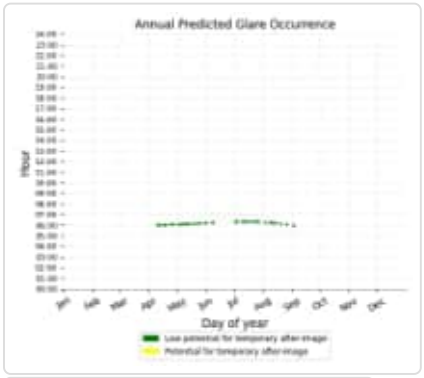
North Array: OP 10

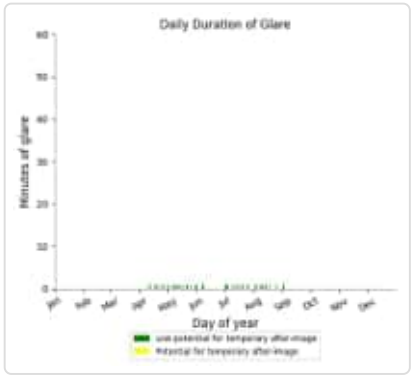
No glare found

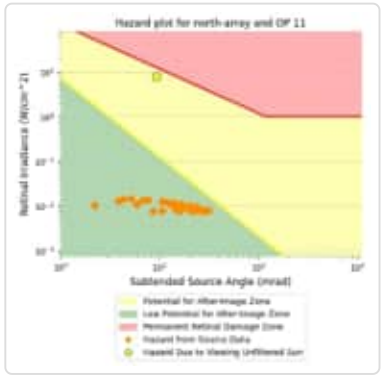
North Array: OP 11

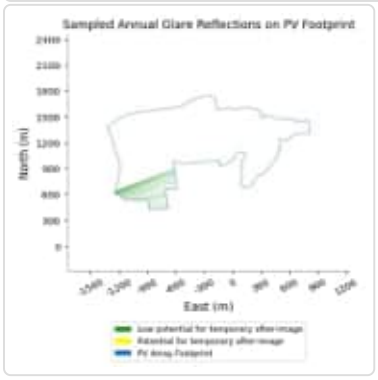
PV array is expected to produce the following glare for this receptor:

- 35 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





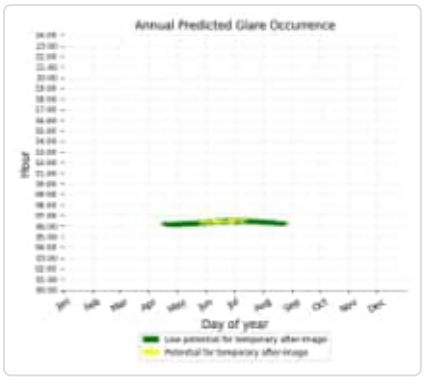


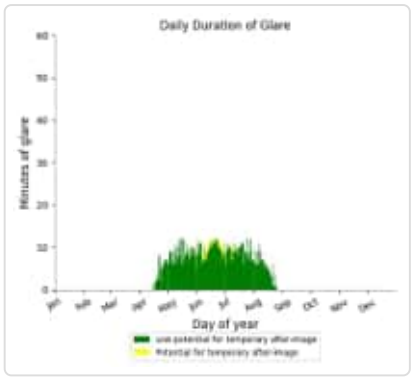


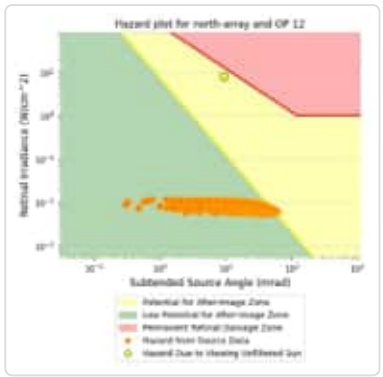
North Array: OP 12

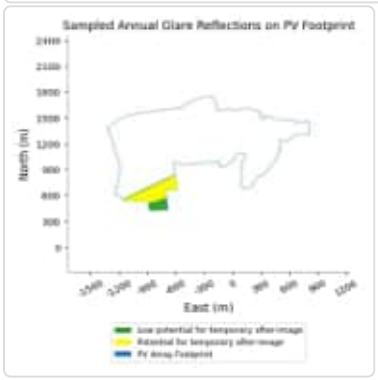
PV array is expected to produce the following glare for this receptor:

- 1,048 minutes of "green" glare with low potential to cause temporary after-image.
- 44 minutes of "yellow" glare with potential to cause temporary after-image.





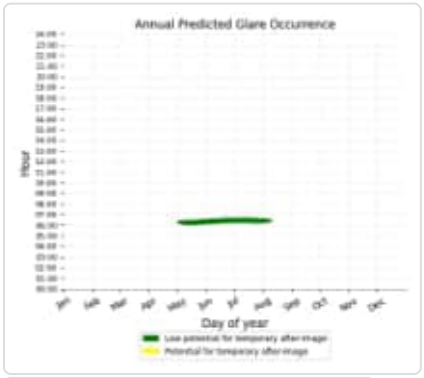


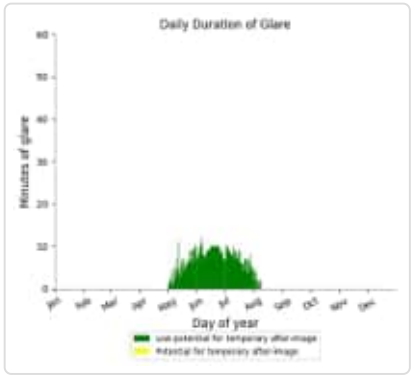


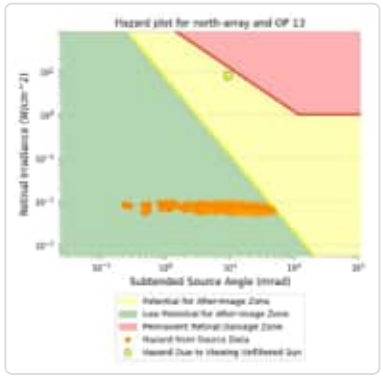
North Array: OP 13

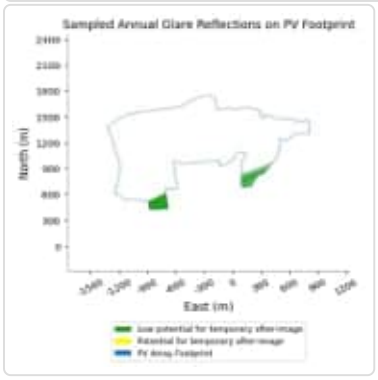
PV array is expected to produce the following glare for this receptor:

- 682 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





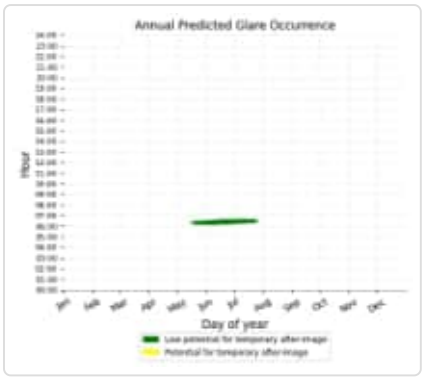


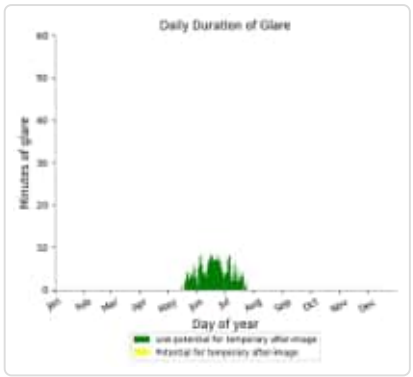


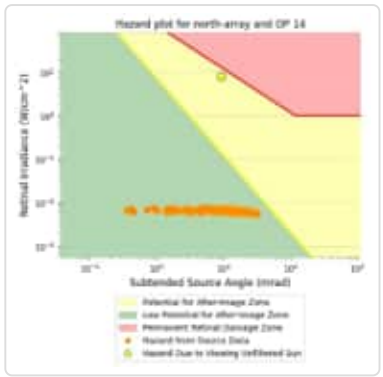
North Array: OP 14

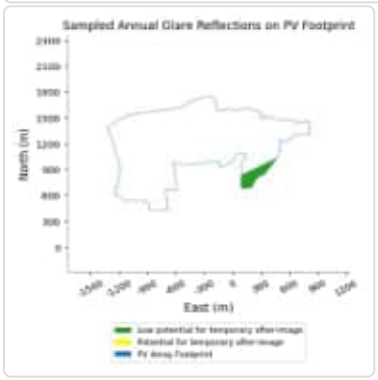
PV array is expected to produce the following glare for this receptor:

- 307 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 15

No glare found

North Array: OP 16

No glare found

North Array: OP 17

No glare found

North Array: OP 18

No glare found

North Array: OP 19

No glare found

North Array: OP 20

No glare found

North Array: OP 21

No glare found

South Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	20	0
OP: OP 12	508	13
OP: OP 13	1353	83
OP: OP 14	1723	383
OP: OP 15	1325	284
OP: OP 16	1252	148
OP: OP 17	1290	225
OP: OP 18	1314	105
OP: OP 19	1079	14
OP: OP 20	0	0
OP: OP 21	0	0

South Array: OP 1

No glare found

South Array: OP 2

No glare found

South Array: OP 3

No glare found

South Array: OP 4

No glare found

South Array: OP 5

No glare found

South Array: OP 6

No glare found

South Array: OP 7

No glare found

South Array: OP 8

No glare found

South Array: OP 9

No glare found

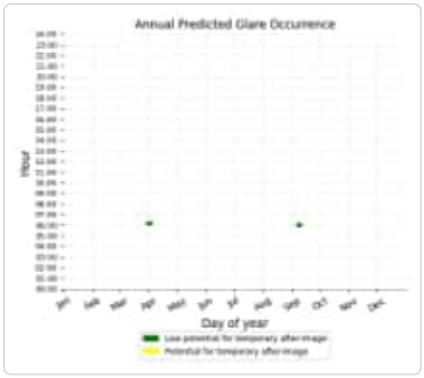
South Array: OP 10

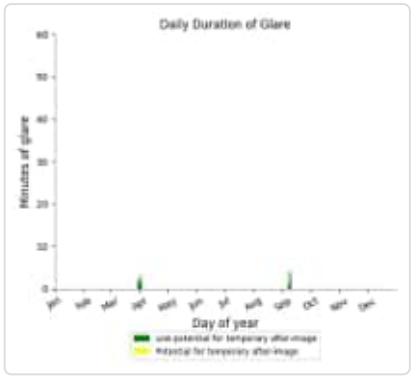
No glare found

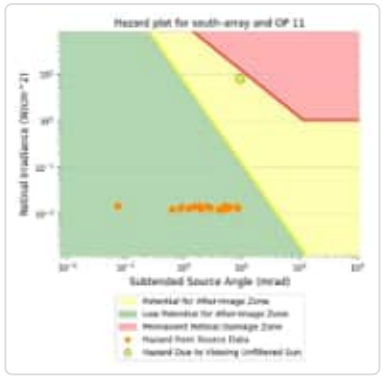
South Array: OP 11

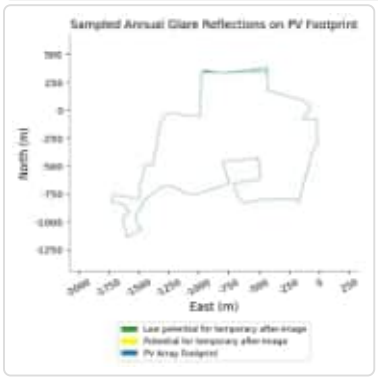
PV array is expected to produce the following glare for this receptor:

- 20 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.





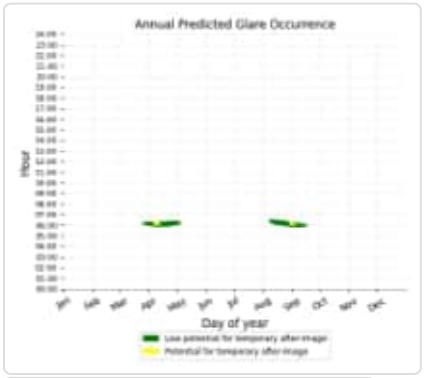


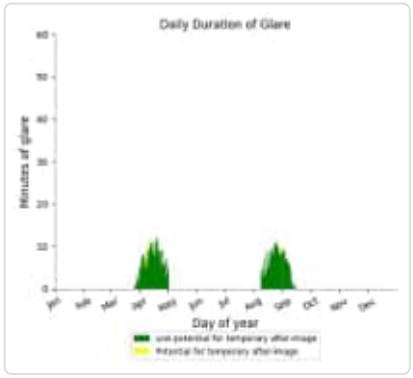


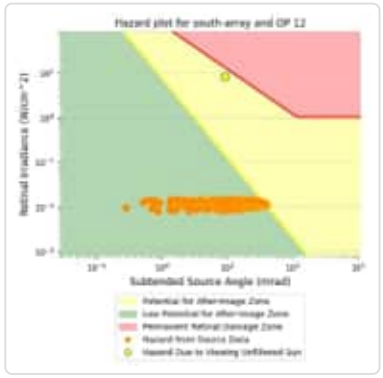
South Array: OP 12

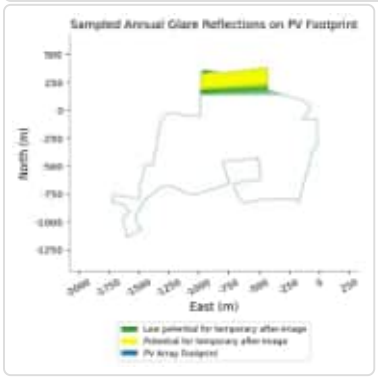
PV array is expected to produce the following glare for this receptor:

- 508 minutes of "green" glare with low potential to cause temporary after-image.
- 13 minutes of "yellow" glare with potential to cause temporary after-image.





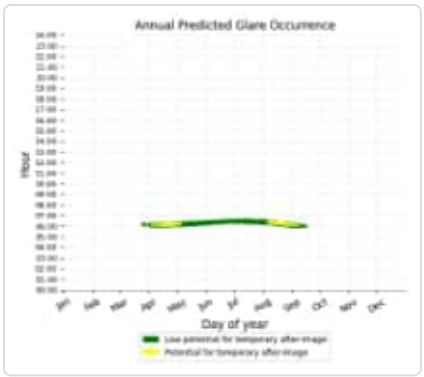


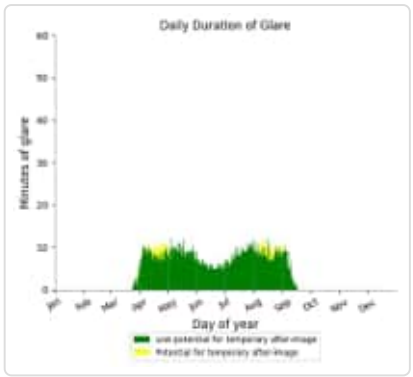


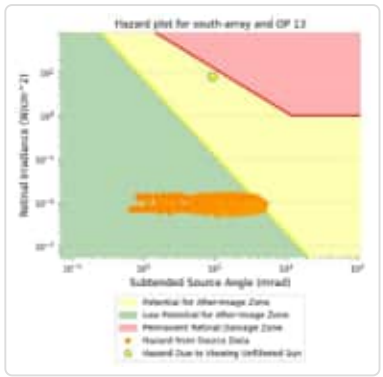
South Array: OP 13

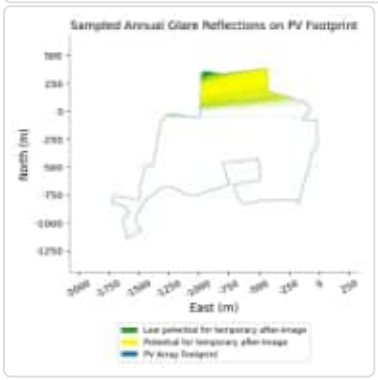
PV array is expected to produce the following glare for this receptor:

- 1,353 minutes of "green" glare with low potential to cause temporary after-image.
- 83 minutes of "yellow" glare with potential to cause temporary after-image.





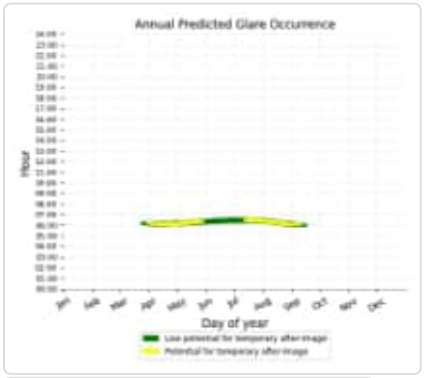


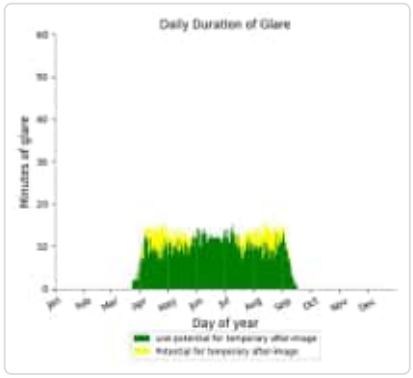


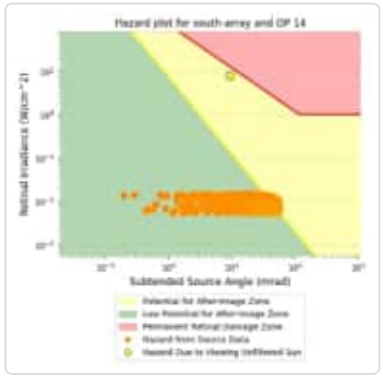
South Array: OP 14

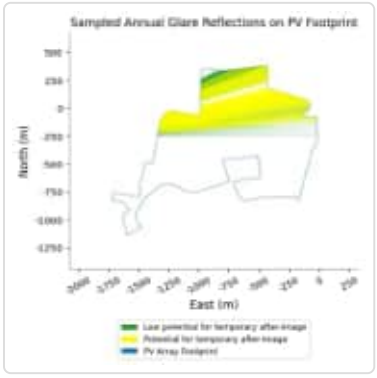
PV array is expected to produce the following glare for this receptor:

- 1,723 minutes of "green" glare with low potential to cause temporary after-image.
- 383 minutes of "yellow" glare with potential to cause temporary after-image.





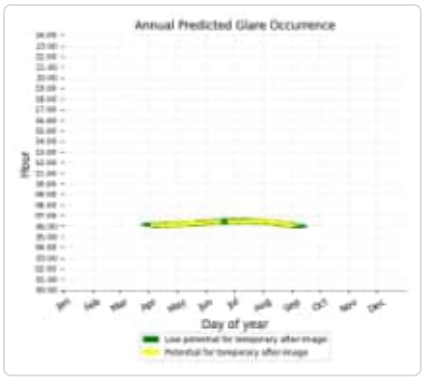


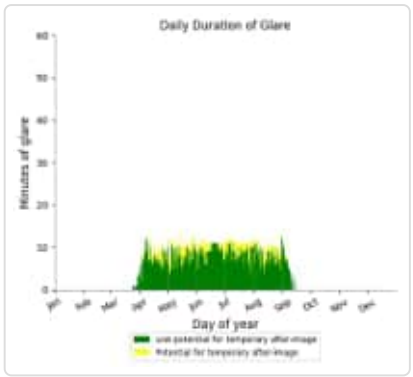


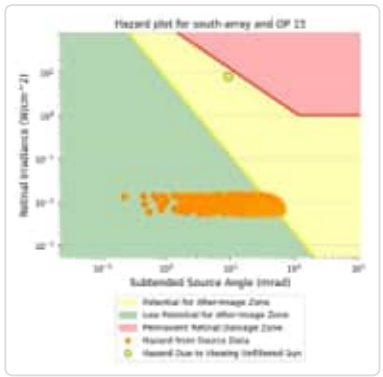
South Array: OP 15

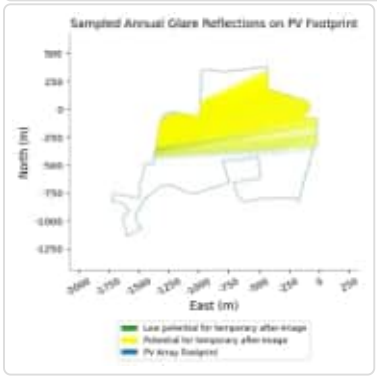
PV array is expected to produce the following glare for this receptor:

- 1,325 minutes of "green" glare with low potential to cause temporary after-image.
- 284 minutes of "yellow" glare with potential to cause temporary after-image.





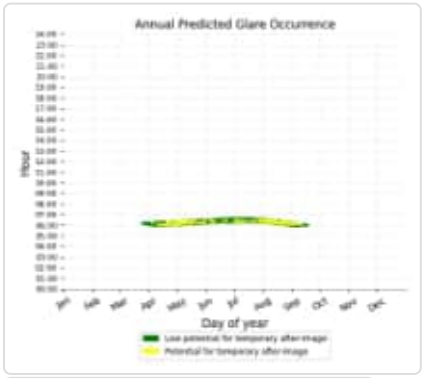


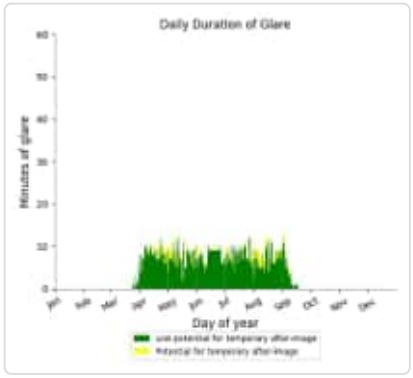


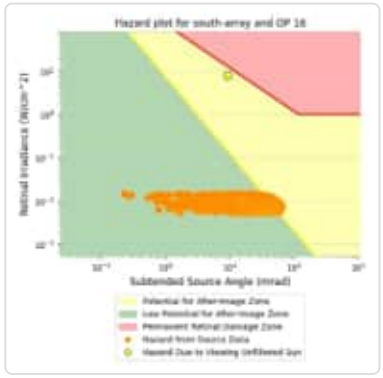
South Array: OP 16

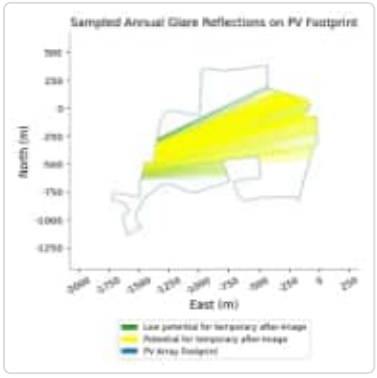
PV array is expected to produce the following glare for this receptor:

- 1,252 minutes of "green" glare with low potential to cause temporary after-image.
- 148 minutes of "yellow" glare with potential to cause temporary after-image.





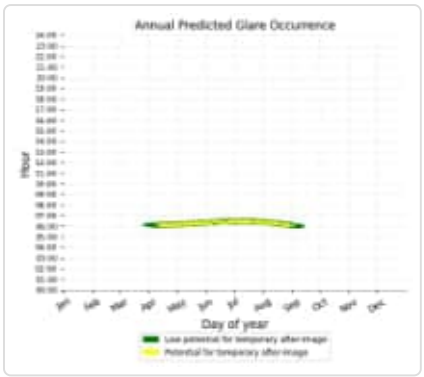


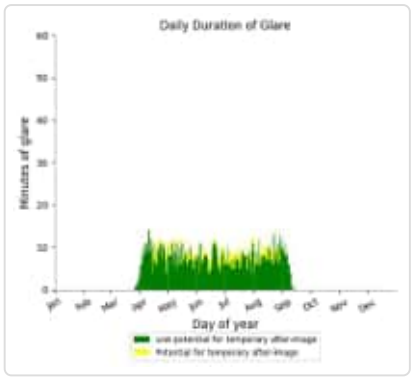


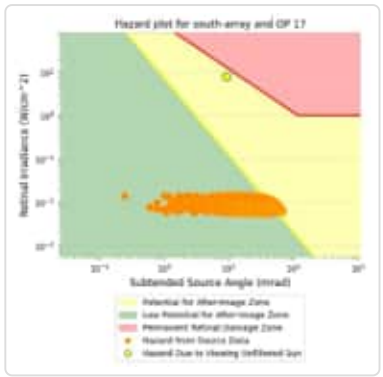
South Array: OP 17

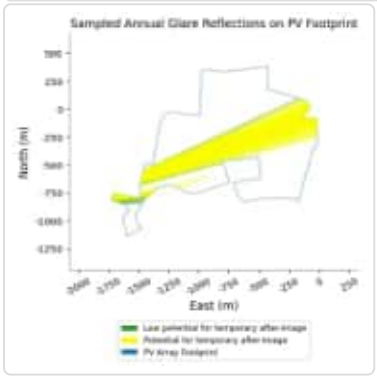
PV array is expected to produce the following glare for this receptor:

- 1,290 minutes of "green" glare with low potential to cause temporary after-image.
- 225 minutes of "yellow" glare with potential to cause temporary after-image.





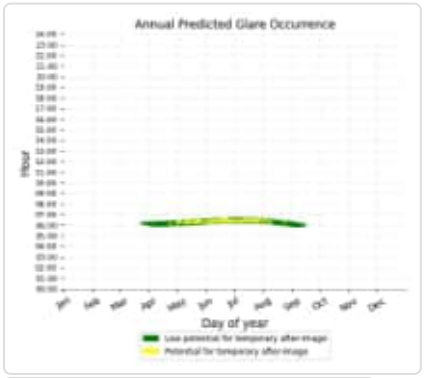


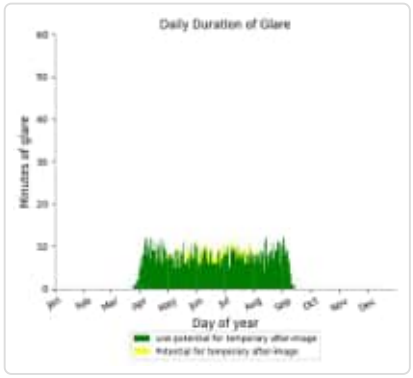


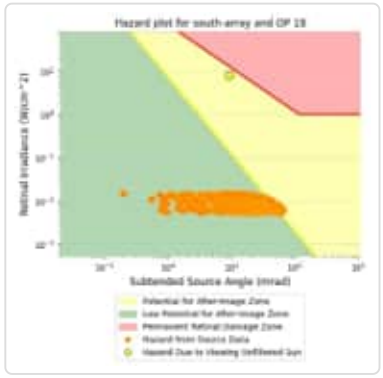
South Array: OP 18

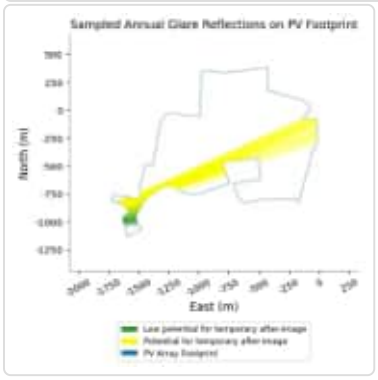
PV array is expected to produce the following glare for this receptor:

- 1,314 minutes of "green" glare with low potential to cause temporary after-image.
- 105 minutes of "yellow" glare with potential to cause temporary after-image.





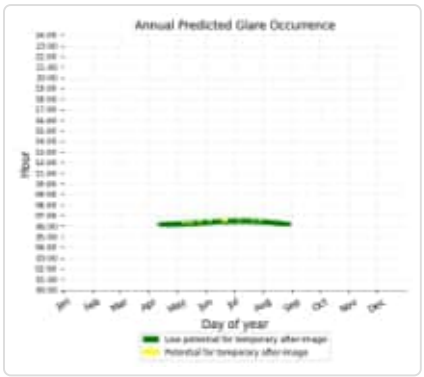


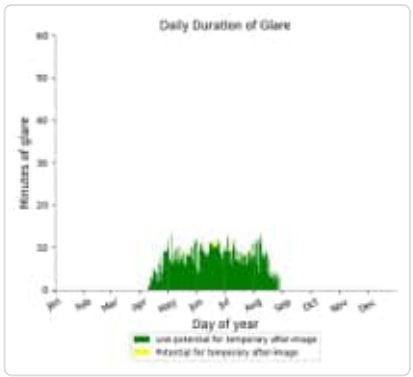


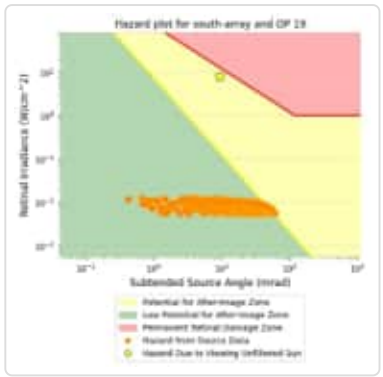
South Array: OP 19

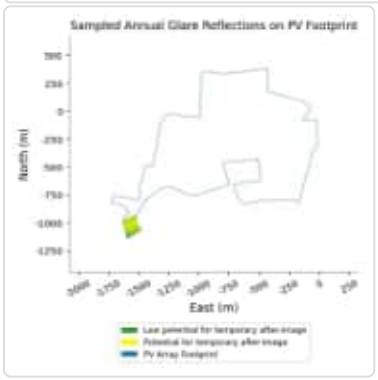
PV array is expected to produce the following glare for this receptor:

- 1,079 minutes of "green" glare with low potential to cause temporary after-image.
- 14 minutes of "yellow" glare with potential to cause temporary after-image.









South Array: OP 20

No glare found

South Array: OP 21

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX J: BRIDLEWAY RECEPTOR GLARE RESULTS (15 DEGREES)

Fenwick Solar Farm

Fenwick Bridleway 15 degrees

Created Dec 07, 2023
Updated Aug 08, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 107376.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with low potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	15.0	180.0	0	0	-
East Array	15.0	180.0	0	0	-
North Array	15.0	180.0	24	0	-
South Array	15.0	180.0	0	0	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.649337	-1.064074	5.00	2.50	7.50
OP 2	53.651092	-1.064696	6.00	2.50	8.50
OP 3	53.652758	-1.065426	5.92	2.50	8.42
OP 4	53.654628	-1.065877	3.90	2.50	6.40

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	15.0	180.0	0	0	-	-
East Array	15.0	180.0	0	0	-	-
North Array	15.0	180.0	24	0	-	-
South Array	15.0	180.0	0	0	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
north-array (green)	0	0	1	10	0	0	0	5	8	0	0	0
north-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array no glare found

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

No glare found

East Array no glare found

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

No glare found

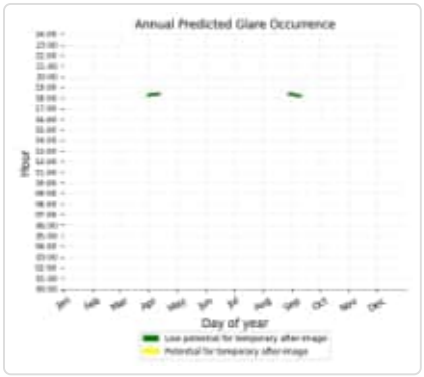
North Array low potential for temporary after-image

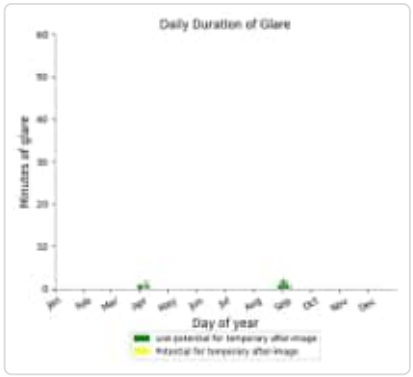
Component	Green glare (min)	Yellow glare (min)
OP: OP 1	24	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

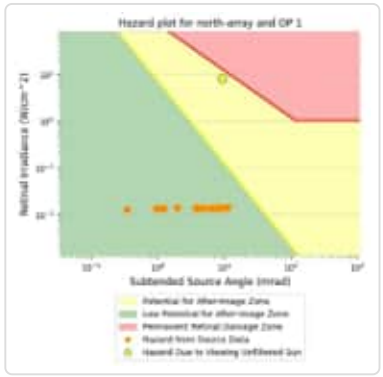
North Array: OP 1

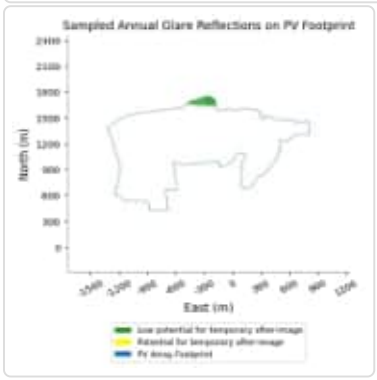
PV array is expected to produce the following glare for this receptor:

- 24 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 2

No glare found

North Array: OP 3

No glare found

North Array: OP 4

No glare found

South Array no glare found

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX K: BRIDLEWAY RECEPTOR GLARE RESULTS (35 DEGREES)

Fenwick Solar Farm

Fenwick Bridleway 35 degrees

Created Dec 07, 2023
Updated Aug 08, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 107376.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with low potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	35.0	180.0	0	0	-
East Array	35.0	180.0	0	0	-
North Array	35.0	180.0	70	0	-
South Array	35.0	180.0	0	0	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	53.649337	-1.064074	5.00	2.50	7.50
OP 2	53.651092	-1.064696	6.00	2.50	8.50
OP 3	53.652758	-1.065426	5.92	2.50	8.42
OP 4	53.654628	-1.065877	3.90	2.50	6.40

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	35.0	180.0	0	0	-	-
East Array	35.0	180.0	0	0	-	-
North Array	35.0	180.0	70	0	-	-
South Array	35.0	180.0	0	0	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
north-array (green)	0	0	3	30	0	0	0	11	26	0	0	0
north-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array no glare found

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

No glare found

East Array no glare found

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

No glare found

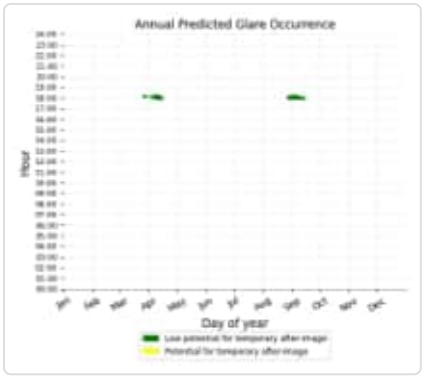
North Array low potential for temporary after-image

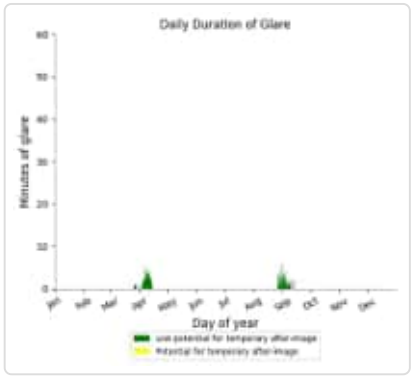
Component	Green glare (min)	Yellow glare (min)
OP: OP 1	70	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

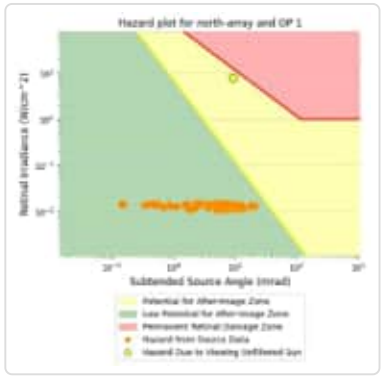
North Array: OP 1

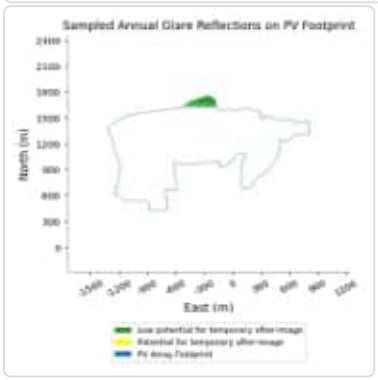
PV array is expected to produce the following glare for this receptor:

- 70 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.









North Array: OP 2

No glare found

North Array: OP 3

No glare found

North Array: OP 4

No glare found

South Array no glare found

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX L: AVIATION RECEPTOR GLARE RESULTS (15 DEGREES)

Fenwick Solar Farm

Fenwick Aviation 15 degrees

Created Nov 28, 2023
Updated Aug 08, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106537.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	15.0	180.0	1,348	0	-
East Array	15.0	180.0	1,433	0	-
North Array	15.0	180.0	0	0	-
South Array	15.0	180.0	1,513	553	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 15.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

2-Mile Flight Path Receptor(s)

Name: Bridge Cottage RWY 01
Description:
Threshold height : 15 m
Direction: 12.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.677869	-1.101465	4.76	15.24	20.00
2-mile point	53.649599	-1.111709	6.10	182.58	188.69



Name: Bridge Cottage RWY 18
Description:
Threshold height : 15 m
Direction: 182.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.681246	-1.101429	6.58	15.24	21.82
2-mile point	53.710133	-1.099382	6.56	183.94	190.50



Name: Bridge Cottage RWY 19
Description:
Threshold height : 15 m
Direction: 192.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.681842	-1.100141	8.75	15.24	23.99
2-mile point	53.710112	-1.089897	3.52	189.16	192.68



Name: Bridge Cottage RWY 36
Description:
Threshold height : 15 m
Direction: 2.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.677925	-1.101794	4.84	15.24	20.08
2-mile point	53.649038	-1.103840	7.54	181.23	188.76



Name: Church Farm RWY 08
Description:
Threshold height : 15 m
Direction: 80.8 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.609998	-1.138201	7.49	15.24	22.73
2-mile point	53.605376	-1.186364	28.03	163.38	191.41



Name: Church Farm RWY 26
Description:
Threshold height : 15 m
Direction: 260.8 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.610800	-1.129725	7.00	15.24	22.24
2-mile point	53.615423	-1.081561	7.02	183.91	190.92



Name: Doncaster RWY 02
Description:
Threshold height : 15 m
Direction: 17.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.464224	-1.010083	18.16	15.24	33.40
2-mile point	53.436680	-1.024866	25.38	176.70	202.08



Name: Doncaster RWY 20
Description:
Threshold height : 15 m
Direction: 197.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.486379	-0.998242	9.77	15.24	25.01
2-mile point	53.513923	-0.983452	2.29	191.40	193.70



Name: Sherburn RWY 01
Description:
Threshold height : 15 m
Direction: 8.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.784505	-1.213780	7.16	15.24	22.40
2-mile point	53.755881	-1.220683	8.35	182.73	191.08



Name: Sherburn RWY 06
Description:
Threshold height : 15 m
Direction: 58.5 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.786654	-1.222353	7.65	15.24	22.89
2-mile point	53.771547	-1.264128	38.37	153.20	191.57



Name: Sherburn RWY 10
Description:
Threshold height : 15 m
Direction: 103.2 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.785095	-1.223796	7.96	15.24	23.20
2-mile point	53.791697	-1.271495	23.80	168.09	191.89



Name: Sherburn RWY 10G
Description:
Threshold height : 15 m
Direction: 103.2 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.785694	-1.223034	7.82	15.24	23.06
2-mile point	53.792296	-1.270734	30.34	161.41	191.75



Name: Sherburn RWY 19
Description:
Threshold height : 15 m
Direction: 188.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.789165	-1.212695	6.86	15.24	22.10
2-mile point	53.817789	-1.205791	7.62	183.17	190.79



Name: Sherburn RWY 24
Description:
Threshold height : 15 m
Direction: 238.5 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.789709	-1.213941	7.46	15.24	22.70
2-mile point	53.804816	-1.172162	6.82	184.57	191.38



Name: Sherburn RWY 28
Description:
Threshold height : 15 m
Direction: 283.2 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.783833	-1.214746	8.09	15.24	23.33
2-mile point	53.777231	-1.167048	9.16	182.85	192.01



Name: Sherburn RWY 28G
Description:
Threshold height : 15 m
Direction: 283.3 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.784429	-1.213866	7.13	15.24	22.37
2-mile point	53.777778	-1.166187	8.01	183.04	191.06



Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
1-ATCT	53.481456	-0.996000	7.99	12.00	19.99

1-ATCT map image



Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	15.0	180.0	1,348	0	-	-
East Array	15.0	180.0	1,433	0	-	-
North Array	15.0	180.0	0	0	-	-
South Array	15.0	180.0	1,513	553	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	0	0	251	645	452	0	0	0	0	0
central-arra (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
east-array (green)	0	0	0	0	243	726	464	0	0	0	0	0
east-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
south-array (green)	0	0	0	0	548	298	584	83	0	0	0	0
south-array (yellow)	0	0	0	0	9	429	115	0	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: Bridge Cottage RWY 01	0	0
FP: Bridge Cottage RWY 18	0	0
FP: Bridge Cottage RWY 19	0	0
FP: Bridge Cottage RWY 36	0	0
FP: Church Farm RWY 08	1348	0
FP: Church Farm RWY 26	0	0
FP: Doncaster RWY 02	0	0
FP: Doncaster RWY 20	0	0
FP: Sherburn RWY 01	0	0
FP: Sherburn RWY 06	0	0
FP: Sherburn RWY 10	0	0
FP: Sherburn RWY 10G	0	0
FP: Sherburn RWY 19	0	0
FP: Sherburn RWY 24	0	0
FP: Sherburn RWY 28	0	0
FP: Sherburn RWY 28G	0	0
OP: 1-ATCT	0	0

Central Array: Bridge Cottage RWY 01

No glare found

Central Array: Bridge Cottage RWY 18

No glare found

Central Array: Bridge Cottage RWY 19

No glare found

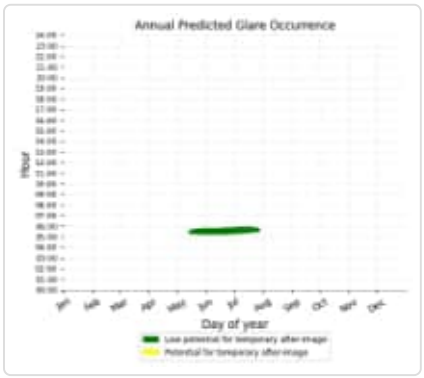
Central Array: Bridge Cottage RWY 36

No glare found

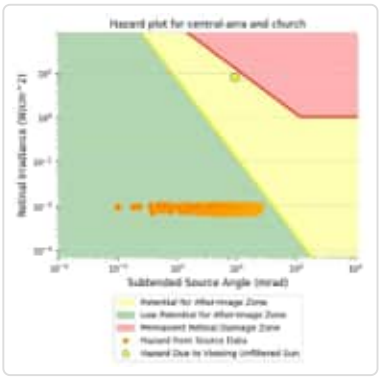
Central Array: Church Farm RWY 08

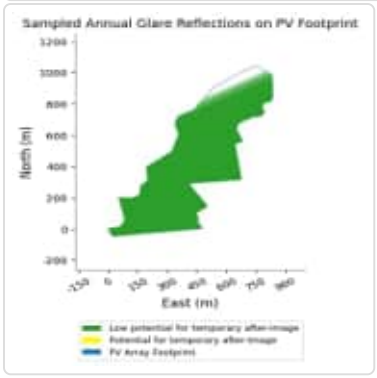
PV array is expected to produce the following glare for this receptor:

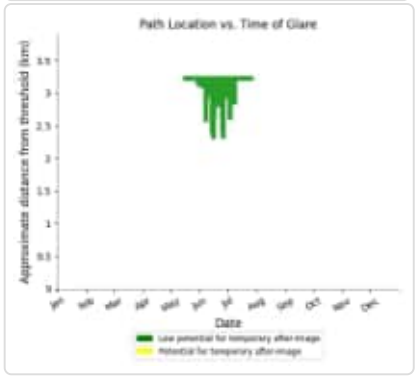
- 1,348 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.

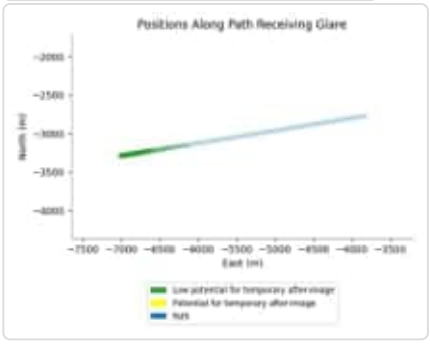












Central Array: Church Farm RWY 26

No glare found

Central Array: Doncaster RWY 02

No glare found

Central Array: Doncaster RWY 20

No glare found

Central Array: Sherburn RWY 01

No glare found

Central Array: Sherburn RWY 06

No glare found

Central Array: Sherburn RWY 10

No glare found

Central Array: Sherburn RWY 10G

No glare found

Central Array: Sherburn RWY 19

No glare found

Central Array: Sherburn RWY 24

No glare found

Central Array: Sherburn RWY 28

No glare found

Central Array: Sherburn RWY 28G

No glare found

Central Array: 1-ATCT

No glare found

East Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: Bridge Cottage RWY 01	0	0
FP: Bridge Cottage RWY 18	0	0
FP: Bridge Cottage RWY 19	0	0
FP: Bridge Cottage RWY 36	0	0
FP: Church Farm RWY 08	1433	0
FP: Church Farm RWY 26	0	0
FP: Doncaster RWY 02	0	0
FP: Doncaster RWY 20	0	0
FP: Sherburn RWY 01	0	0
FP: Sherburn RWY 06	0	0
FP: Sherburn RWY 10	0	0
FP: Sherburn RWY 10G	0	0
FP: Sherburn RWY 19	0	0
FP: Sherburn RWY 24	0	0
FP: Sherburn RWY 28	0	0
FP: Sherburn RWY 28G	0	0
OP: 1-ATCT	0	0

East Array: Bridge Cottage RWY 01

No glare found

East Array: Bridge Cottage RWY 18

No glare found

East Array: Bridge Cottage RWY 19

No glare found

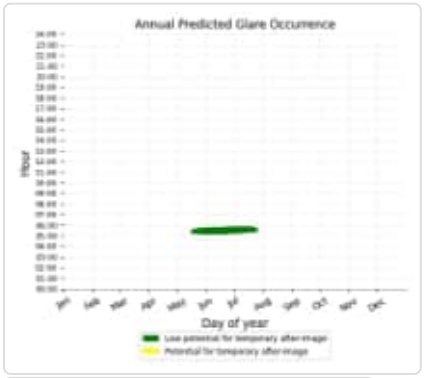
East Array: Bridge Cottage RWY 36

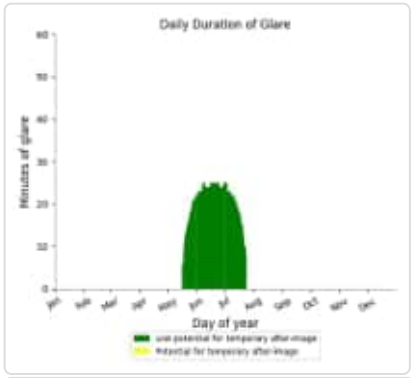
No glare found

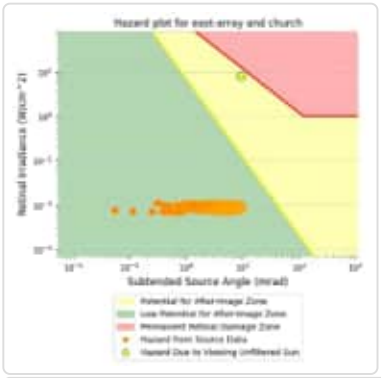
East Array: Church Farm RWY 08

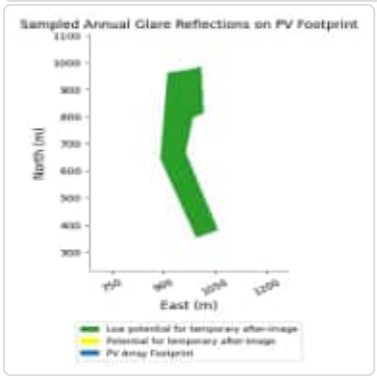
PV array is expected to produce the following glare for this receptor:

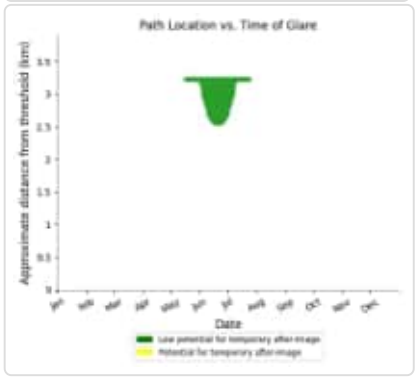
- 1,433 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.

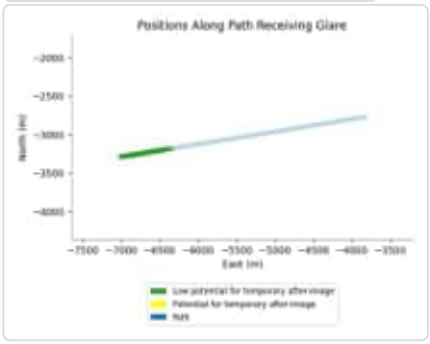












East Array: Church Farm RWY 26

No glare found

East Array: Doncaster RWY 02

No glare found

East Array: Doncaster RWY 20

No glare found

East Array: Sherburn RWY 01

No glare found

East Array: Sherburn RWY 06

No glare found

East Array: Sherburn RWY 10

No glare found

East Array: Sherburn RWY 10G

No glare found

East Array: Sherburn RWY 19

No glare found

East Array: Sherburn RWY 24

No glare found

East Array: Sherburn RWY 28

No glare found

East Array: Sherburn RWY 28G

No glare found

East Array: 1-ATCT

No glare found

North Array no glare found

Component	Green glare (min)	Yellow glare (min)
FP: Bridge Cottage RWY 01	0	0
FP: Bridge Cottage RWY 18	0	0
FP: Bridge Cottage RWY 19	0	0
FP: Bridge Cottage RWY 36	0	0
FP: Church Farm RWY 08	0	0
FP: Church Farm RWY 26	0	0
FP: Doncaster RWY 02	0	0
FP: Doncaster RWY 20	0	0
FP: Sherburn RWY 01	0	0
FP: Sherburn RWY 06	0	0
FP: Sherburn RWY 10	0	0
FP: Sherburn RWY 10G	0	0
FP: Sherburn RWY 19	0	0
FP: Sherburn RWY 24	0	0
FP: Sherburn RWY 28	0	0
FP: Sherburn RWY 28G	0	0
OP: 1-ATCT	0	0

No glare found

South Array potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: Bridge Cottage RWY 01	0	0
FP: Bridge Cottage RWY 18	0	0
FP: Bridge Cottage RWY 19	0	0
FP: Bridge Cottage RWY 36	0	0
FP: Church Farm RWY 08	1513	553
FP: Church Farm RWY 26	0	0
FP: Doncaster RWY 02	0	0
FP: Doncaster RWY 20	0	0
FP: Sherburn RWY 01	0	0
FP: Sherburn RWY 06	0	0

FP: Sherburn RWY 10	0	0
FP: Sherburn RWY 10G	0	0
FP: Sherburn RWY 19	0	0
FP: Sherburn RWY 24	0	0
FP: Sherburn RWY 28	0	0
FP: Sherburn RWY 28G	0	0
OP: 1-ATCT	0	0

South Array: Bridge Cottage RWY 01

No glare found

South Array: Bridge Cottage RWY 18

No glare found

South Array: Bridge Cottage RWY 19

No glare found

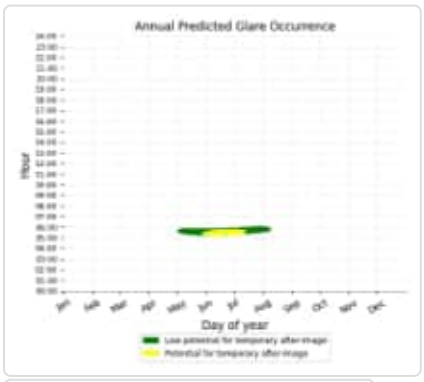
South Array: Bridge Cottage RWY 36

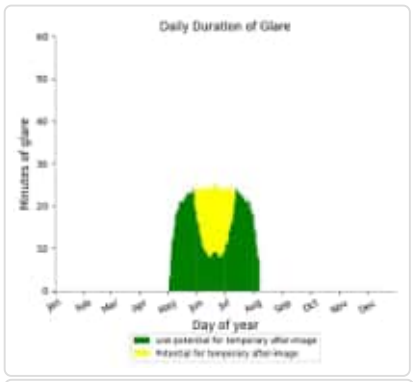
No glare found

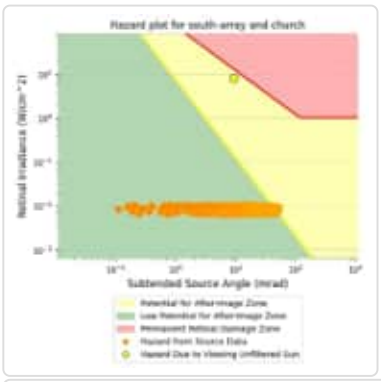
South Array: Church Farm RWY 08

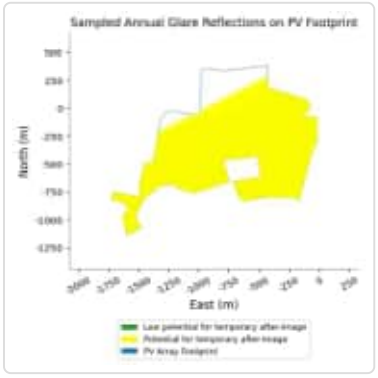
PV array is expected to produce the following glare for this receptor:

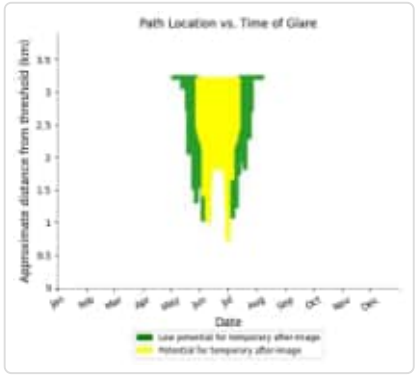
- 1,513 minutes of "green" glare with low potential to cause temporary after-image.
- 553 minutes of "yellow" glare with potential to cause temporary after-image.

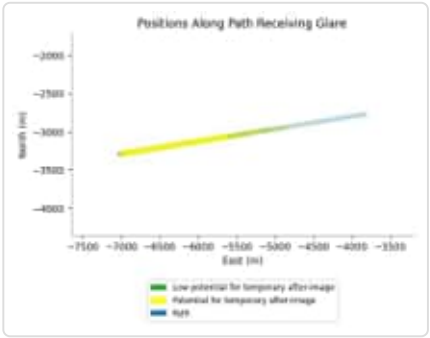












South Array: Church Farm RWY 26

No glare found

South Array: Doncaster RWY 02

No glare found

South Array: Doncaster RWY 20

No glare found

South Array: Sherburn RWY 01

No glare found

South Array: Sherburn RWY 06

No glare found

South Array: Sherburn RWY 10

No glare found

South Array: Sherburn RWY 10G

No glare found

South Array: Sherburn RWY 19

No glare found

South Array: Sherburn RWY 24

No glare found

South Array: Sherburn RWY 28

No glare found

South Array: Sherburn RWY 28G

No glare found

South Array: 1-ATCT

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX M: AVIATION RECEPTOR GLARE RESULTS (35 DEGREES)

Fenwick Solar Farm

Fenwick Aviation 35 degrees

Created Nov 28, 2023
Updated Aug 08, 2024
Time-step 1 minute
Timezone offset UTC0
Minimum sun altitude 0.0 deg
Site ID 106537.18426

Project type Advanced
Project status: active
Category 10 MW to 100 MW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

PV Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results

Glare with low potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Central Array	35.0	180.0	1,432	0	-
East Array	35.0	180.0	1,489	0	-
North Array	35.0	180.0	0	0	-
South Array	35.0	180.0	2,227	0	-

Component Data

PV Array(s)

Total PV footprint area: 3,073,357 m^2

Name: Central Array
Footprint area: 359,990 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.634922	-1.080276	8.37	3.50	11.87
2	53.634515	-1.079933	7.92	3.50	11.42
3	53.634960	-1.073088	7.57	3.50	11.07
4	53.635329	-1.073431	7.66	3.50	11.16
5	53.635533	-1.073367	7.56	3.50	11.06
6	53.635838	-1.073581	7.51	3.50	11.01
7	53.636232	-1.072680	6.58	3.50	10.08
8	53.637543	-1.074139	6.22	3.50	9.72
9	53.637772	-1.070084	6.34	3.50	9.84
10	53.639833	-1.070577	6.00	3.50	9.50
11	53.639966	-1.069977	6.73	3.50	10.23
12	53.640653	-1.070459	6.03	3.50	9.53
13	53.640939	-1.070363	6.18	3.50	9.68
14	53.641143	-1.069912	6.83	3.50	10.33
15	53.641385	-1.069108	7.00	3.50	10.50
16	53.641416	-1.068571	7.77	3.50	11.27
17	53.641690	-1.068271	7.63	3.50	11.13
18	53.641887	-1.068517	7.29	3.50	10.79
19	53.642192	-1.068346	7.00	3.50	10.50
20	53.642237	-1.067884	7.00	3.50	10.50
21	53.642485	-1.067659	7.00	3.50	10.50
22	53.643795	-1.067734	6.45	3.50	9.95
23	53.644266	-1.068807	6.43	3.50	9.93
24	53.644253	-1.069193	5.88	3.50	9.38
25	53.643083	-1.072197	6.00	3.50	9.50
26	53.641798	-1.073678	6.00	3.50	9.50
27	53.641416	-1.074923	6.00	3.50	9.50
28	53.640971	-1.075159	6.00	3.50	9.50
29	53.640373	-1.074858	6.55	3.50	10.05
30	53.639368	-1.075395	7.00	3.50	10.50
31	53.638478	-1.077347	6.00	3.50	9.50
32	53.637804	-1.077219	5.95	3.50	9.45
33	53.637587	-1.077390	6.00	3.50	9.50
34	53.637460	-1.077755	6.00	3.50	9.50
35	53.636888	-1.077862	6.00	3.50	9.50
36	53.636684	-1.078506	6.69	3.50	10.19
37	53.636709	-1.079450	7.93	3.50	11.43
38	53.635425	-1.078978	8.38	3.50	11.88
39	53.635056	-1.079343	8.62	3.50	12.12

Name: East Array
Footprint area: 49,691 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.643744	-1.065031	7.30	3.50	10.80
2	53.643630	-1.065760	7.70	3.50	11.20
3	53.643566	-1.066468	7.00	3.50	10.50
4	53.640717	-1.066790	6.66	3.50	10.16
5	53.638109	-1.065224	7.72	3.50	11.22
6	53.638351	-1.064301	8.00	3.50	11.50
7	53.640908	-1.065717	6.46	3.50	9.96
8	53.642091	-1.065395	8.38	3.50	11.88
9	53.642243	-1.064923	9.00	3.50	12.50

Name: North Array
Footprint area: 1,458,806 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.638745	-1.093505	7.52	3.50	11.02
2	53.639470	-1.093634	7.65	3.50	11.15
3	53.639712	-1.093955	7.51	3.50	11.01
4	53.639775	-1.097603	8.41	3.50	11.91
5	53.640043	-1.097861	8.03	3.50	11.53
6	53.640310	-1.098419	8.00	3.50	11.50
7	53.640361	-1.099062	8.08	3.50	11.58
8	53.642930	-1.098204	7.52	3.50	11.02
9	53.643668	-1.098354	7.00	3.50	10.50
10	53.647395	-1.100200	7.58	3.50	11.08
11	53.648298	-1.098140	6.00	3.50	9.50
12	53.648756	-1.096595	5.65	3.50	9.15
13	53.649481	-1.088312	5.72	3.50	9.22
14	53.650129	-1.087003	5.96	3.50	9.46
15	53.650689	-1.084149	5.91	3.50	9.41
16	53.650320	-1.083055	5.71	3.50	9.21
17	53.649239	-1.082776	6.00	3.50	9.50
18	53.649125	-1.082368	6.00	3.50	9.50
19	53.649392	-1.080437	6.09	3.50	9.59
20	53.649125	-1.079858	5.19	3.50	8.69
21	53.649404	-1.078120	5.00	3.50	8.50
22	53.649290	-1.076982	5.00	3.50	8.50
23	53.649048	-1.075781	5.00	3.50	8.50
24	53.648387	-1.075738	6.44	3.50	9.94
25	53.648272	-1.075566	6.41	3.50	9.91
26	53.648387	-1.075244	5.87	3.50	9.37
27	53.648667	-1.075137	5.46	3.50	8.96
28	53.648272	-1.073313	6.00	3.50	9.50
29	53.648158	-1.070309	5.80	3.50	9.30
30	53.647904	-1.070288	5.42	3.50	8.92
31	53.647904	-1.068678	6.62	3.50	10.12
32	53.648069	-1.068678	6.62	3.50	10.12
33	53.648069	-1.068056	7.18	3.50	10.68
34	53.647369	-1.067927	7.36	3.50	10.86
35	53.646632	-1.068056	6.30	3.50	9.80
36	53.646670	-1.070137	5.50	3.50	9.00
37	53.646008	-1.071511	5.00	3.50	8.50
38	53.646008	-1.072262	5.59	3.50	9.09
39	53.646110	-1.072820	6.00	3.50	9.50
40	53.645004	-1.072605	6.00	3.50	9.50
41	53.644993	-1.072906	6.00	3.50	9.50
42	53.644472	-1.072863	6.27	3.50	9.77
43	53.642488	-1.075287	6.00	3.50	9.50
44	53.642322	-1.076146	5.00	3.50	8.50
45	53.641546	-1.077047	5.47	3.50	8.97
46	53.641254	-1.077047	5.84	3.50	9.34
47	53.641063	-1.078163	6.54	3.50	10.04
48	53.641165	-1.078892	6.30	3.50	9.80
49	53.643950	-1.078742	7.02	3.50	10.52
50	53.644205	-1.078120	7.03	3.50	10.53
51	53.644612	-1.078163	7.63	3.50	11.13
52	53.644777	-1.078935	7.91	3.50	11.41
53	53.644765	-1.079343	7.98	3.50	11.48
54	53.644459	-1.079772	8.00	3.50	11.50
55	53.644103	-1.079965	7.88	3.50	11.38
56	53.643518	-1.081102	7.94	3.50	11.44
57	53.643225	-1.082197	6.97	3.50	10.47
58	53.643861	-1.082347	7.00	3.50	10.50
59	53.643493	-1.088763	7.38	3.50	10.88
60	53.643785	-1.089042	7.00	3.50	10.50
61	53.643798	-1.089728	7.00	3.50	10.50
62	53.640910	-1.089085	6.24	3.50	9.74
63	53.640885	-1.090973	6.87	3.50	10.37
64	53.638837	-1.090565	7.61	3.50	11.11

Name: South Array
Footprint area: 1,204,870 m^2
Axis tracking: Fixed (no rotation)
Tilt: 35.0 deg
Orientation: 180.0 deg

Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
1	53.624699	-1.104362	8.00	3.50	11.50
2	53.626277	-1.104942	7.94	3.50	11.44
3	53.626710	-1.104040	7.87	3.50	11.37
4	53.627295	-1.104748	7.58	3.50	11.08
5	53.627601	-1.106401	8.00	3.50	11.50
6	53.628135	-1.106057	7.29	3.50	10.79
7	53.627792	-1.102817	7.13	3.50	10.63
8	53.628123	-1.102688	7.65	3.50	11.15
9	53.628581	-1.102860	7.72	3.50	11.22
10	53.630540	-1.102088	7.00	3.50	10.50
11	53.630489	-1.101101	7.62	3.50	11.12
12	53.633899	-1.100221	8.00	3.50	11.50
13	53.634523	-1.099620	8.00	3.50	11.50
14	53.634764	-1.098612	8.00	3.50	11.50
15	53.634523	-1.097174	7.87	3.50	11.37
16	53.634394	-1.095243	7.00	3.50	10.50
17	53.637975	-1.095018	7.97	3.50	11.47
18	53.638141	-1.094610	8.00	3.50	11.50
19	53.637937	-1.092400	7.92	3.50	11.42
20	53.638370	-1.086778	8.00	3.50	11.50
21	53.636538	-1.086692	7.00	3.50	10.50
22	53.635622	-1.081821	7.49	3.50	10.99
23	53.635062	-1.081328	7.77	3.50	11.27
24	53.634235	-1.082358	7.00	3.50	10.50
25	53.634225	-1.080555	7.49	3.50	10.99
26	53.632087	-1.080512	6.87	3.50	10.37
27	53.631782	-1.080984	6.00	3.50	9.50
28	53.627494	-1.082851	7.01	3.50	10.51
29	53.627748	-1.083237	7.54	3.50	11.04
30	53.627774	-1.086928	8.76	3.50	12.26
31	53.627456	-1.089610	8.00	3.50	11.50
32	53.627659	-1.090233	8.00	3.50	11.50
33	53.628995	-1.091048	7.96	3.50	11.46
34	53.629390	-1.087550	7.40	3.50	10.90
35	53.631095	-1.087937	7.00	3.50	10.50
36	53.630929	-1.089589	7.00	3.50	10.50
37	53.630777	-1.092056	7.00	3.50	10.50
38	53.630740	-1.092360	7.00	3.50	10.50
39	53.629020	-1.091540	8.67	3.50	12.17
40	53.628720	-1.092960	7.62	3.50	11.12
41	53.628450	-1.094220	8.00	3.50	11.50
42	53.628090	-1.096030	7.43	3.50	10.93
43	53.628283	-1.097142	7.72	3.50	11.22
44	53.628830	-1.098837	7.66	3.50	11.16
45	53.628677	-1.100232	8.67	3.50	12.17
46	53.627697	-1.102142	7.89	3.50	11.39
47	53.626387	-1.103300	7.00	3.50	10.50
48	53.625725	-1.103064	7.00	3.50	10.50
49	53.625356	-1.102528	7.41	3.50	10.91

2-Mile Flight Path Receptor(s)

Name: Bridge Cottage RWY 01
Description:
Threshold height : 15 m
Direction: 12.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.677869	-1.101465	4.76	15.24	20.00
2-mile point	53.649599	-1.111709	6.10	182.58	188.69



Name: Bridge Cottage RWY 18
Description:
Threshold height : 15 m
Direction: 182.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.681246	-1.101429	6.58	15.24	21.82
2-mile point	53.710133	-1.099382	6.56	183.94	190.50



Name: Bridge Cottage RWY 19
Description:
Threshold height : 15 m
Direction: 192.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.681842	-1.100141	8.75	15.24	23.99
2-mile point	53.710112	-1.089897	3.52	189.16	192.68



Name: Bridge Cottage RWY 36
Description:
Threshold height : 15 m
Direction: 2.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.677925	-1.101794	4.84	15.24	20.08
2-mile point	53.649038	-1.103840	7.54	181.23	188.76



Name: Church Farm RWY 08
Description:
Threshold height : 15 m
Direction: 80.8 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.609998	-1.138201	7.49	15.24	22.73
2-mile point	53.605376	-1.186364	28.03	163.38	191.41



Name: Church Farm RWY 26
Description:
Threshold height : 15 m
Direction: 260.8 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.610800	-1.129725	7.00	15.24	22.24
2-mile point	53.615423	-1.081561	7.02	183.91	190.92



Name: Doncaster RWY 02
Description:
Threshold height : 15 m
Direction: 17.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.464224	-1.010083	18.16	15.24	33.40
2-mile point	53.436680	-1.024866	25.38	176.70	202.08



Name: Doncaster RWY 20
Description:
Threshold height : 15 m
Direction: 197.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.486379	-0.998242	9.77	15.24	25.01
2-mile point	53.513923	-0.983452	2.29	191.40	193.70



Name: Sherburn RWY 01
Description:
Threshold height : 15 m
Direction: 8.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.784505	-1.213780	7.16	15.24	22.40
2-mile point	53.755881	-1.220683	8.35	182.73	191.08



Name: Sherburn RWY 06
Description:
Threshold height : 15 m
Direction: 58.5 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.786654	-1.222353	7.65	15.24	22.89
2-mile point	53.771547	-1.264128	38.37	153.20	191.57



Name: Sherburn RWY 10
Description:
Threshold height : 15 m
Direction: 103.2 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.785095	-1.223796	7.96	15.24	23.20
2-mile point	53.791697	-1.271495	23.80	168.09	191.89



Name: Sherburn RWY 10G
Description:
Threshold height : 15 m
Direction: 103.2 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.785694	-1.223034	7.82	15.24	23.06
2-mile point	53.792296	-1.270734	30.34	161.41	191.75



Name: Sherburn RWY 19
Description:
Threshold height : 15 m
Direction: 188.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.789165	-1.212695	6.86	15.24	22.10
2-mile point	53.817789	-1.205791	7.62	183.17	190.79



Name: Sherburn RWY 24
Description:
Threshold height : 15 m
Direction: 238.5 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.789709	-1.213941	7.46	15.24	22.70
2-mile point	53.804816	-1.172162	6.82	184.57	191.38



Name: Sherburn RWY 28
Description:
Threshold height : 15 m
Direction: 283.2 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.783833	-1.214746	8.09	15.24	23.33
2-mile point	53.777231	-1.167048	9.16	182.85	192.01



Name: Sherburn RWY 28G
Description:
Threshold height : 15 m
Direction: 283.3 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	53.784429	-1.213866	7.13	15.24	22.37
2-mile point	53.777778	-1.166187	8.01	183.04	191.06



Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
1-ATCT	53.481456	-0.996000	7.99	12.00	19.99

1-ATCT map image



Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Central Array	35.0	180.0	1,432	0	-	-
East Array	35.0	180.0	1,489	0	-	-
North Array	35.0	180.0	0	0	-	-
South Array	35.0	180.0	2,227	0	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
central-arra (green)	0	0	0	0	313	611	508	0	0	0	0	0
central-arra (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
east-array (green)	0	0	0	0	275	715	499	0	0	0	0	0
east-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
south-array (green)	0	0	0	0	656	701	706	164	0	0	0	0
south-array (yellow)	0	0	0	0	0	0	0	0	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

Central Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: Bridge Cottage RWY 01	0	0
FP: Bridge Cottage RWY 18	0	0
FP: Bridge Cottage RWY 19	0	0
FP: Bridge Cottage RWY 36	0	0
FP: Church Farm RWY 08	1432	0
FP: Church Farm RWY 26	0	0
FP: Doncaster RWY 02	0	0
FP: Doncaster RWY 20	0	0
FP: Sherburn RWY 01	0	0
FP: Sherburn RWY 06	0	0
FP: Sherburn RWY 10	0	0
FP: Sherburn RWY 10G	0	0
FP: Sherburn RWY 19	0	0
FP: Sherburn RWY 24	0	0
FP: Sherburn RWY 28	0	0
FP: Sherburn RWY 28G	0	0
OP: 1-ATCT	0	0

Central Array: Bridge Cottage RWY 01

No glare found

Central Array: Bridge Cottage RWY 18

No glare found

Central Array: Bridge Cottage RWY 19

No glare found

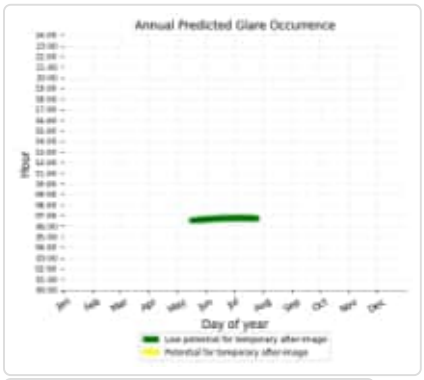
Central Array: Bridge Cottage RWY 36

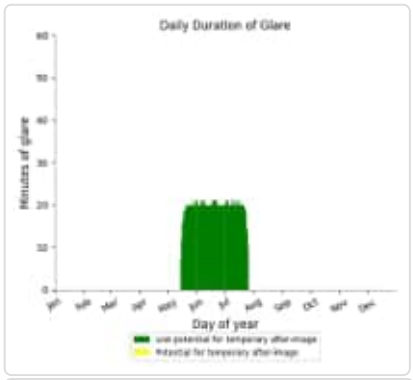
No glare found

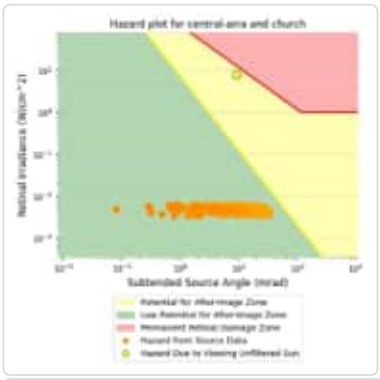
Central Array: Church Farm RWY 08

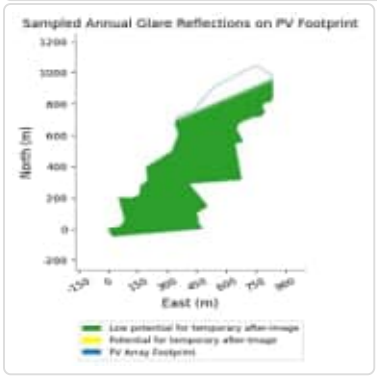
PV array is expected to produce the following glare for this receptor:

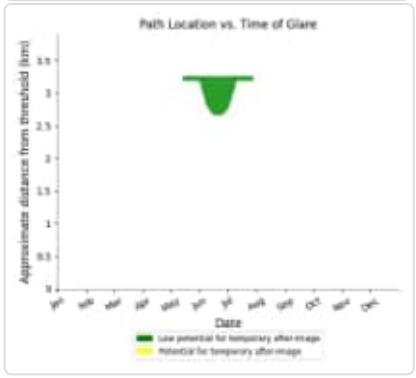
- 1,432 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.

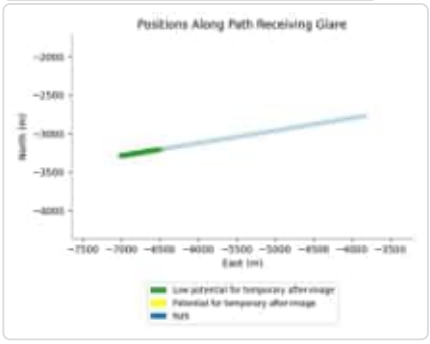












Central Array: Church Farm RWY 26

No glare found

Central Array: Doncaster RWY 02

No glare found

Central Array: Doncaster RWY 20

No glare found

Central Array: Sherburn RWY 01

No glare found

Central Array: Sherburn RWY 06

No glare found

Central Array: Sherburn RWY 10

No glare found

Central Array: Sherburn RWY 10G

No glare found

Central Array: Sherburn RWY 19

No glare found

Central Array: Sherburn RWY 24

No glare found

Central Array: Sherburn RWY 28

No glare found

Central Array: Sherburn RWY 28G

No glare found

Central Array: 1-ATCT

No glare found

East Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: Bridge Cottage RWY 01	0	0
FP: Bridge Cottage RWY 18	0	0
FP: Bridge Cottage RWY 19	0	0
FP: Bridge Cottage RWY 36	0	0
FP: Church Farm RWY 08	1489	0
FP: Church Farm RWY 26	0	0
FP: Doncaster RWY 02	0	0
FP: Doncaster RWY 20	0	0
FP: Sherburn RWY 01	0	0
FP: Sherburn RWY 06	0	0
FP: Sherburn RWY 10	0	0
FP: Sherburn RWY 10G	0	0
FP: Sherburn RWY 19	0	0
FP: Sherburn RWY 24	0	0
FP: Sherburn RWY 28	0	0
FP: Sherburn RWY 28G	0	0
OP: 1-ATCT	0	0

East Array: Bridge Cottage RWY 01

No glare found

East Array: Bridge Cottage RWY 18

No glare found

East Array: Bridge Cottage RWY 19

No glare found

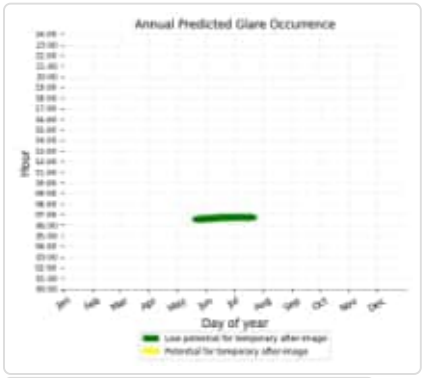
East Array: Bridge Cottage RWY 36

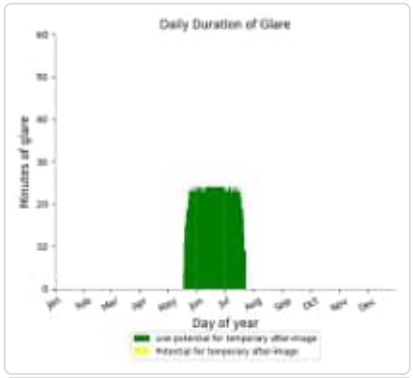
No glare found

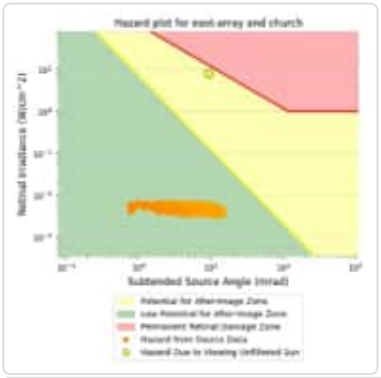
East Array: Church Farm RWY 08

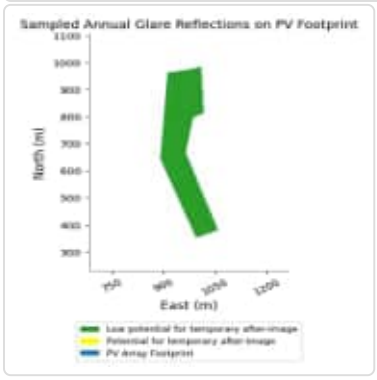
PV array is expected to produce the following glare for this receptor:

- 1,489 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.

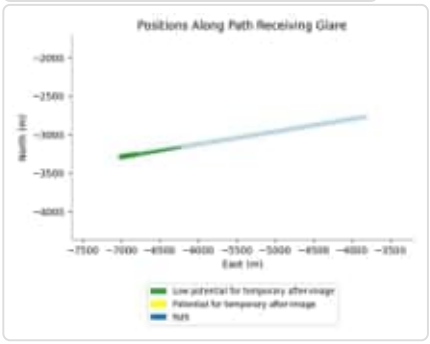












East Array: Church Farm RWY 26

No glare found

East Array: Doncaster RWY 02

No glare found

East Array: Doncaster RWY 20

No glare found

East Array: Sherburn RWY 01

No glare found

East Array: Sherburn RWY 06

No glare found

East Array: Sherburn RWY 10

No glare found

East Array: Sherburn RWY 10G

No glare found

East Array: Sherburn RWY 19

No glare found

East Array: Sherburn RWY 24

No glare found

East Array: Sherburn RWY 28

No glare found

East Array: Sherburn RWY 28G

No glare found

East Array: 1-ATCT

No glare found

North Array no glare found

Component	Green glare (min)	Yellow glare (min)
FP: Bridge Cottage RWY 01	0	0
FP: Bridge Cottage RWY 18	0	0
FP: Bridge Cottage RWY 19	0	0
FP: Bridge Cottage RWY 36	0	0
FP: Church Farm RWY 08	0	0
FP: Church Farm RWY 26	0	0
FP: Doncaster RWY 02	0	0
FP: Doncaster RWY 20	0	0
FP: Sherburn RWY 01	0	0
FP: Sherburn RWY 06	0	0
FP: Sherburn RWY 10	0	0
FP: Sherburn RWY 10G	0	0
FP: Sherburn RWY 19	0	0
FP: Sherburn RWY 24	0	0
FP: Sherburn RWY 28	0	0
FP: Sherburn RWY 28G	0	0
OP: 1-ATCT	0	0

No glare found

South Array low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: Bridge Cottage RWY 01	0	0
FP: Bridge Cottage RWY 18	0	0
FP: Bridge Cottage RWY 19	0	0
FP: Bridge Cottage RWY 36	0	0
FP: Church Farm RWY 08	2227	0
FP: Church Farm RWY 26	0	0
FP: Doncaster RWY 02	0	0
FP: Doncaster RWY 20	0	0
FP: Sherburn RWY 01	0	0
FP: Sherburn RWY 06	0	0

FP: Sherburn RWY 10	0	0
FP: Sherburn RWY 10G	0	0
FP: Sherburn RWY 19	0	0
FP: Sherburn RWY 24	0	0
FP: Sherburn RWY 28	0	0
FP: Sherburn RWY 28G	0	0
OP: 1-ATCT	0	0

South Array: Bridge Cottage RWY 01

No glare found

South Array: Bridge Cottage RWY 18

No glare found

South Array: Bridge Cottage RWY 19

No glare found

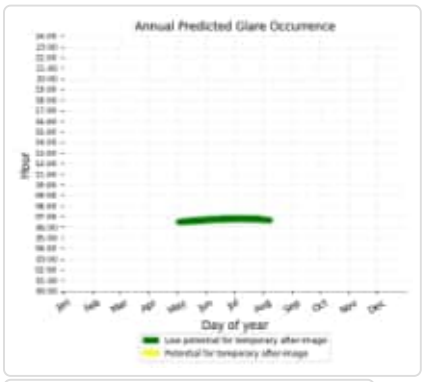
South Array: Bridge Cottage RWY 36

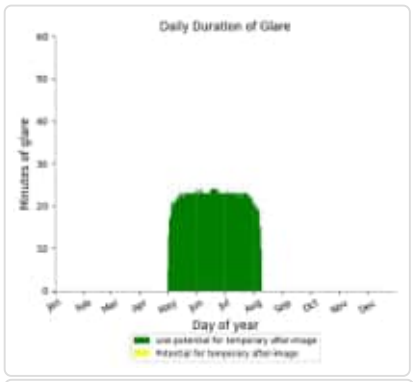
No glare found

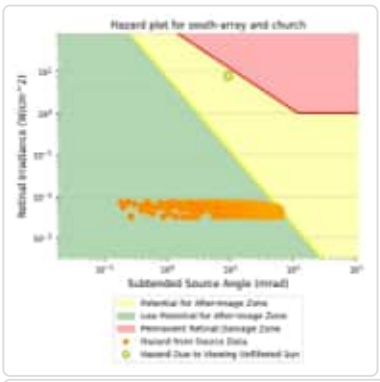
South Array: Church Farm RWY 08

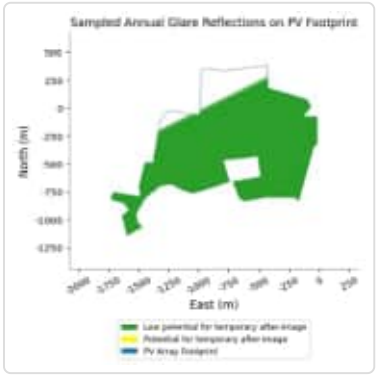
PV array is expected to produce the following glare for this receptor:

- 2,227 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.

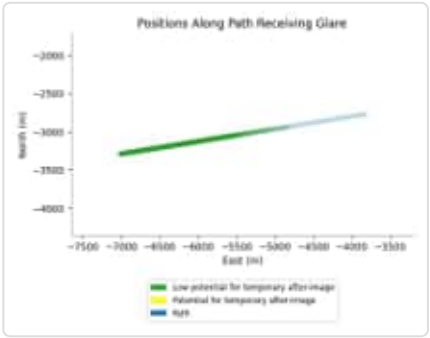












South Array: Church Farm RWY 26

No glare found

South Array: Doncaster RWY 02

No glare found

South Array: Doncaster RWY 20

No glare found

South Array: Sherburn RWY 01

No glare found

South Array: Sherburn RWY 06

No glare found

South Array: Sherburn RWY 10

No glare found

South Array: Sherburn RWY 10G

No glare found

South Array: Sherburn RWY 19

No glare found

South Array: Sherburn RWY 24

No glare found

South Array: Sherburn RWY 28

No glare found

South Array: Sherburn RWY 28G

No glare found

South Array: 1-ATCT

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results fo large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.

ANNEX N: VISIBILITY ASSESSMENT EVIDENCE

Annex N: Visibility Assessment Evidence



Residential Receptors

Receptor 5





Receptors 8 – 10





Receptors 11, 12 and 14 – 16





Receptor 13



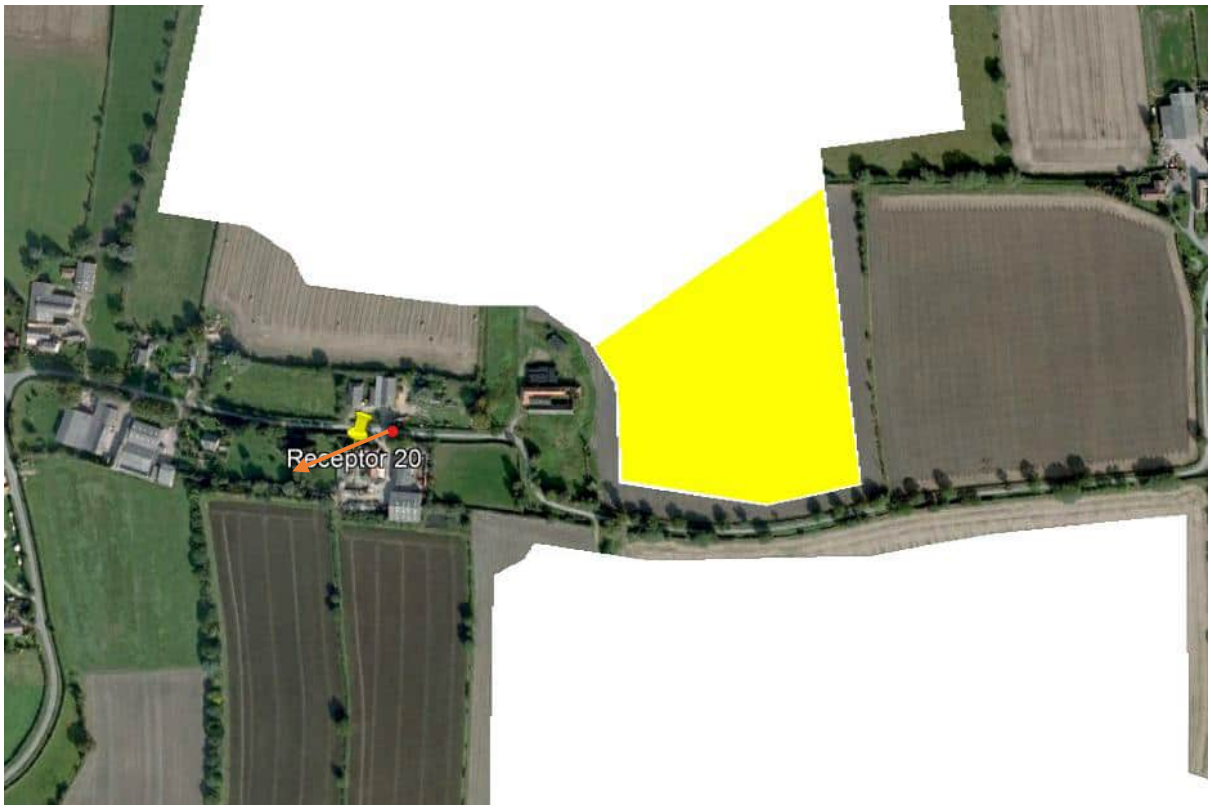


Receptors 18 and 19





Receptor 20





Receptors 21 – 27





Receptor 28





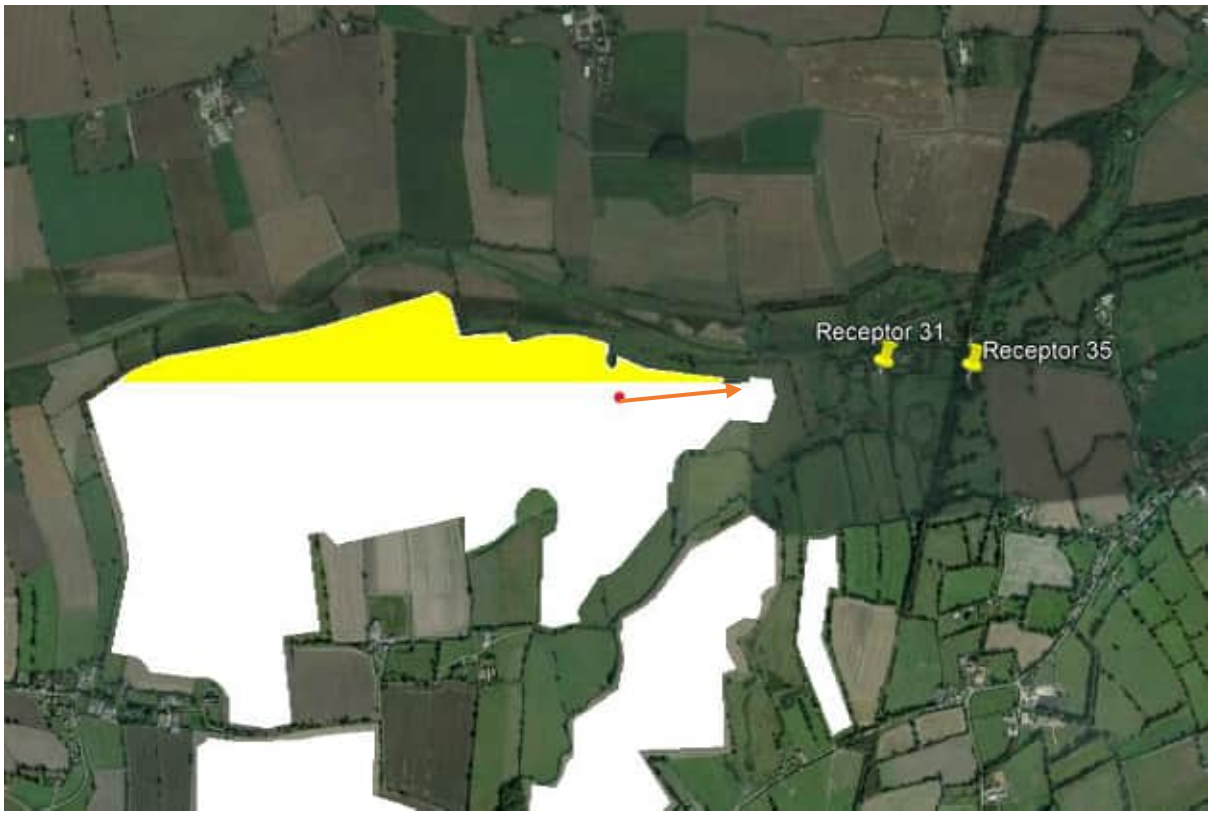


Receptor 29



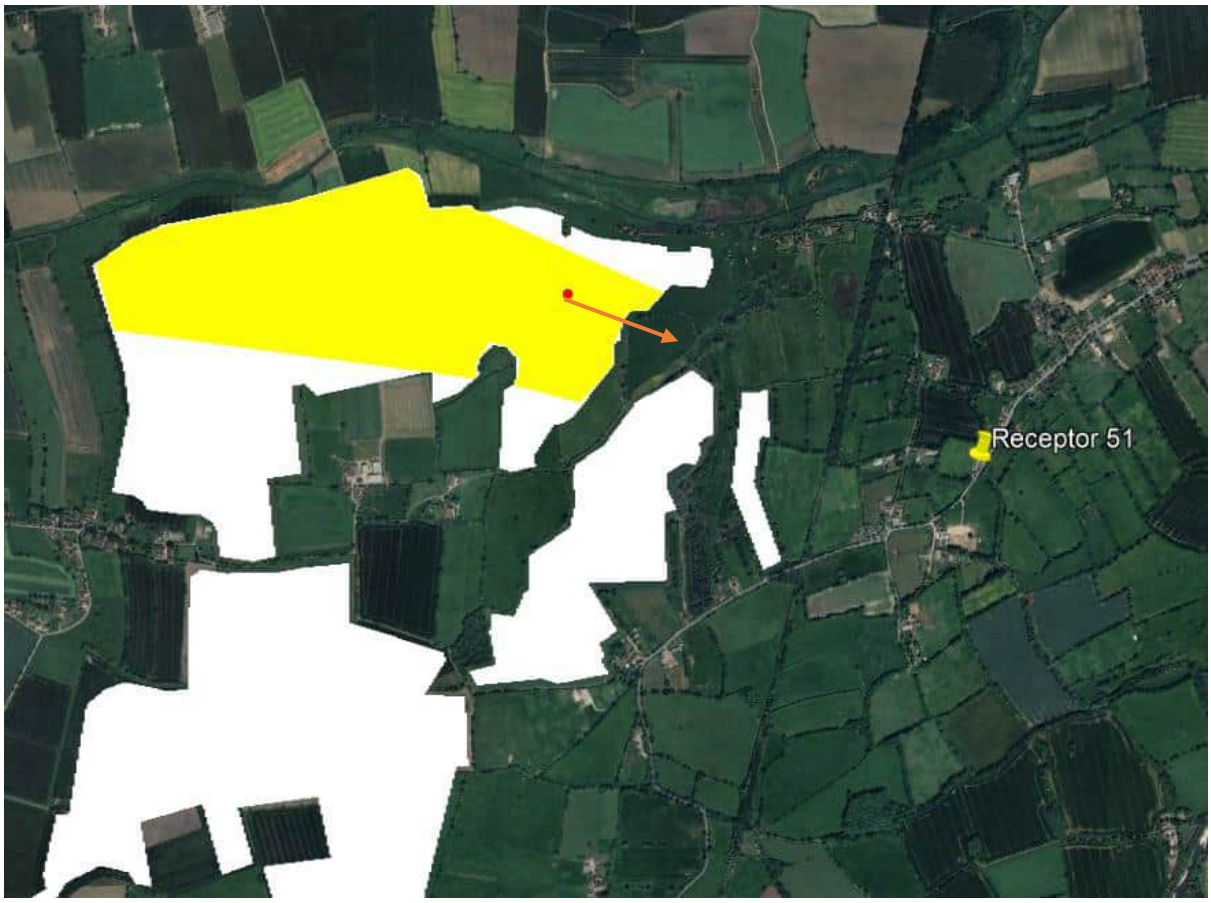


Receptors 31 and 35





Receptor 51



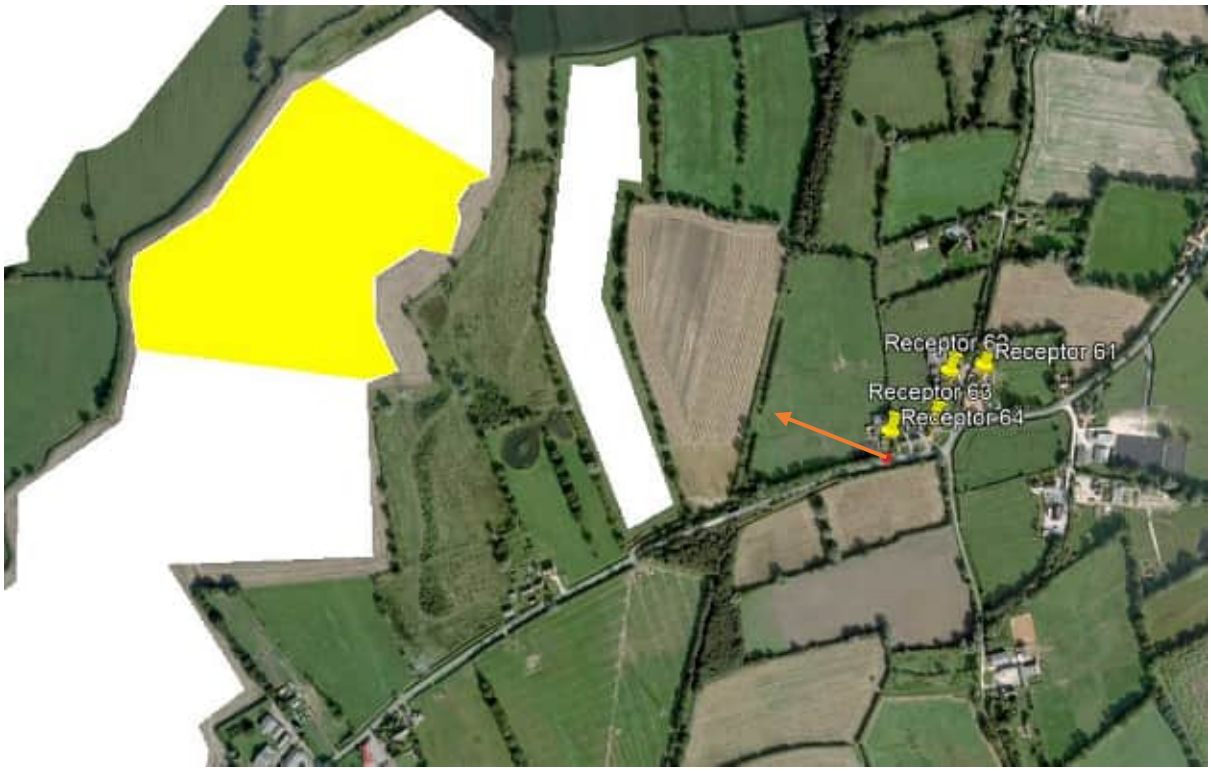


Receptors 59 and 60



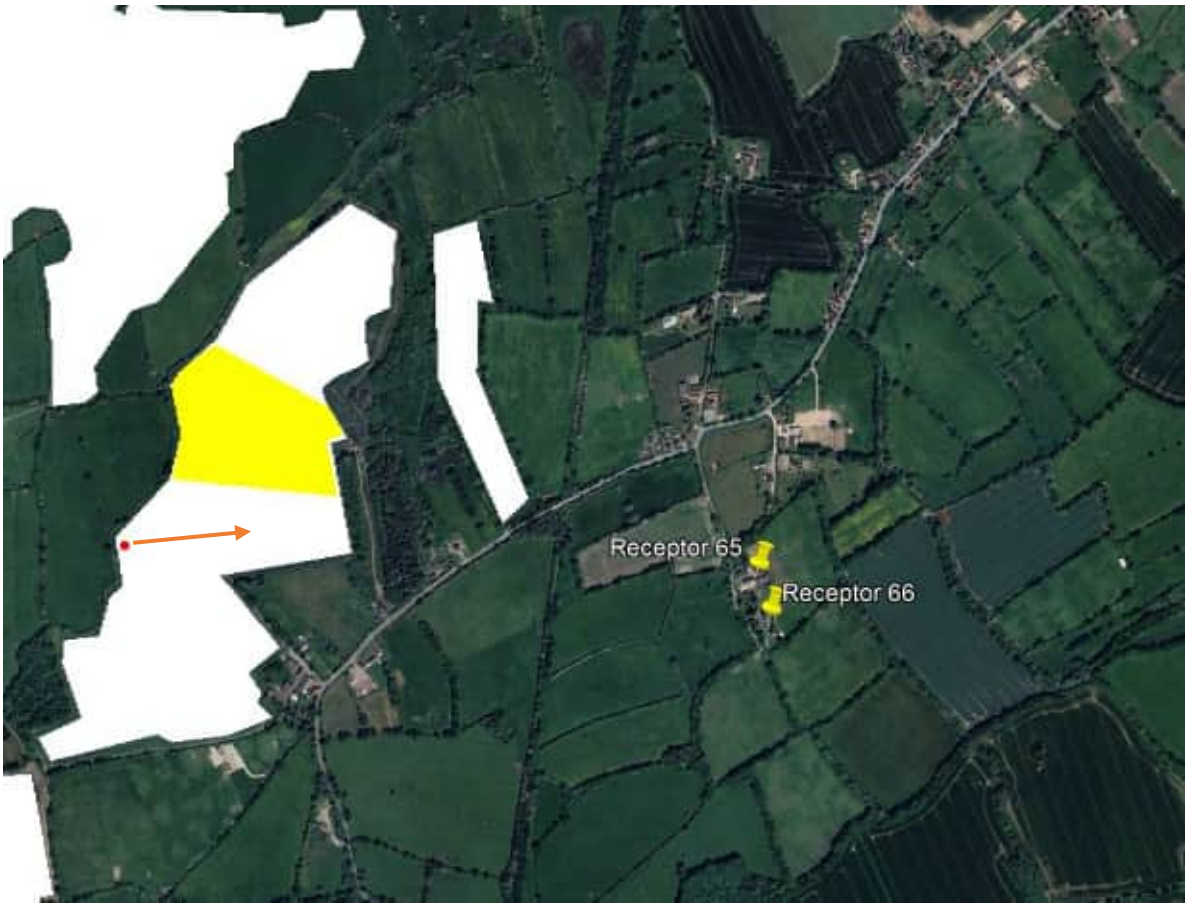


Receptors 61 – 64





Receptors 65 and 66





Receptors 67 – 69



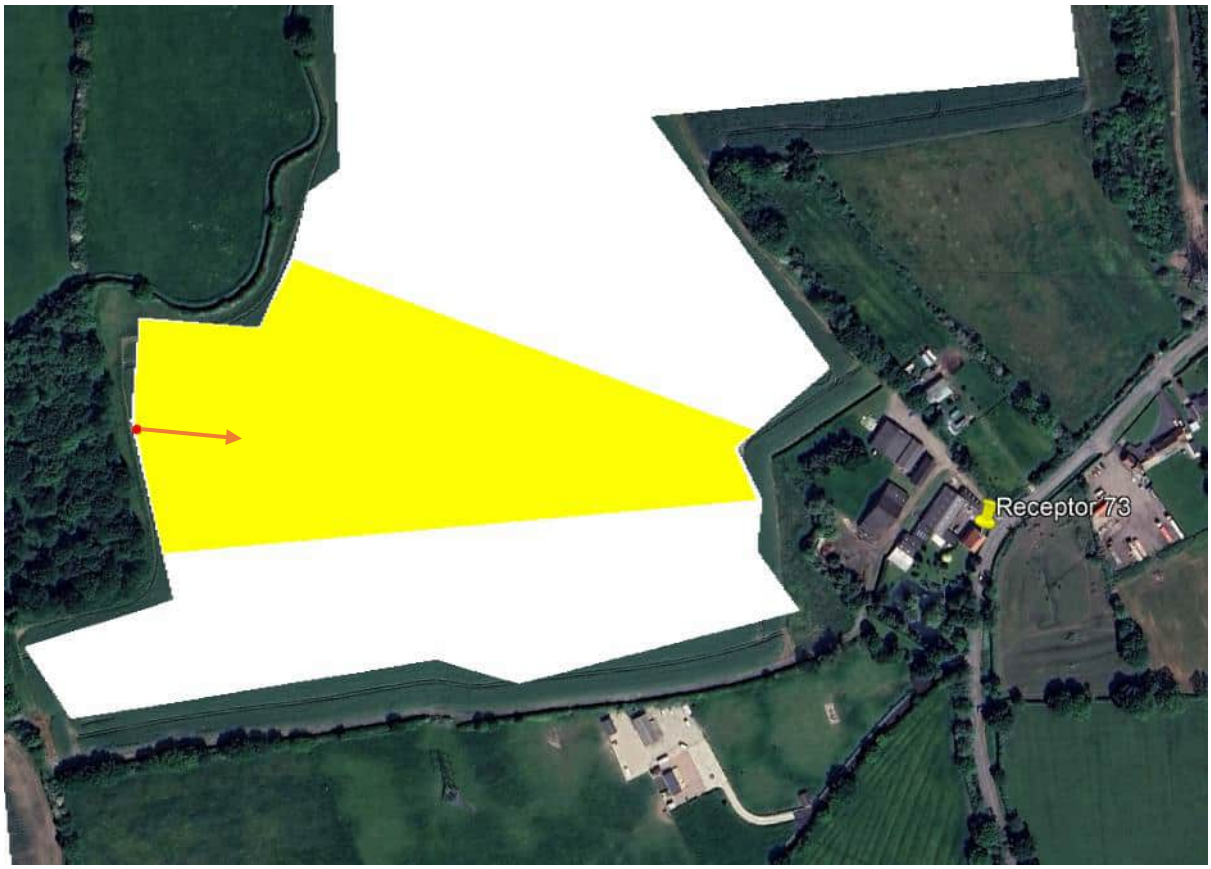


Receptors 70 – 72



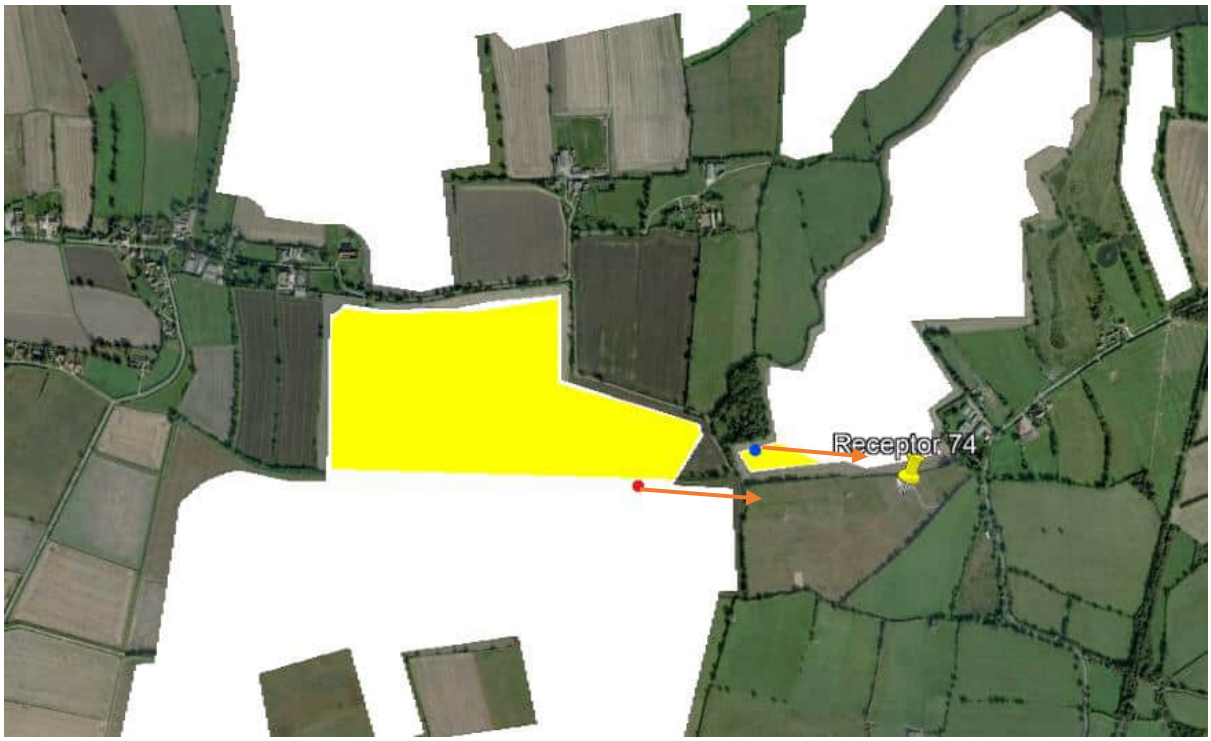


Receptor 73





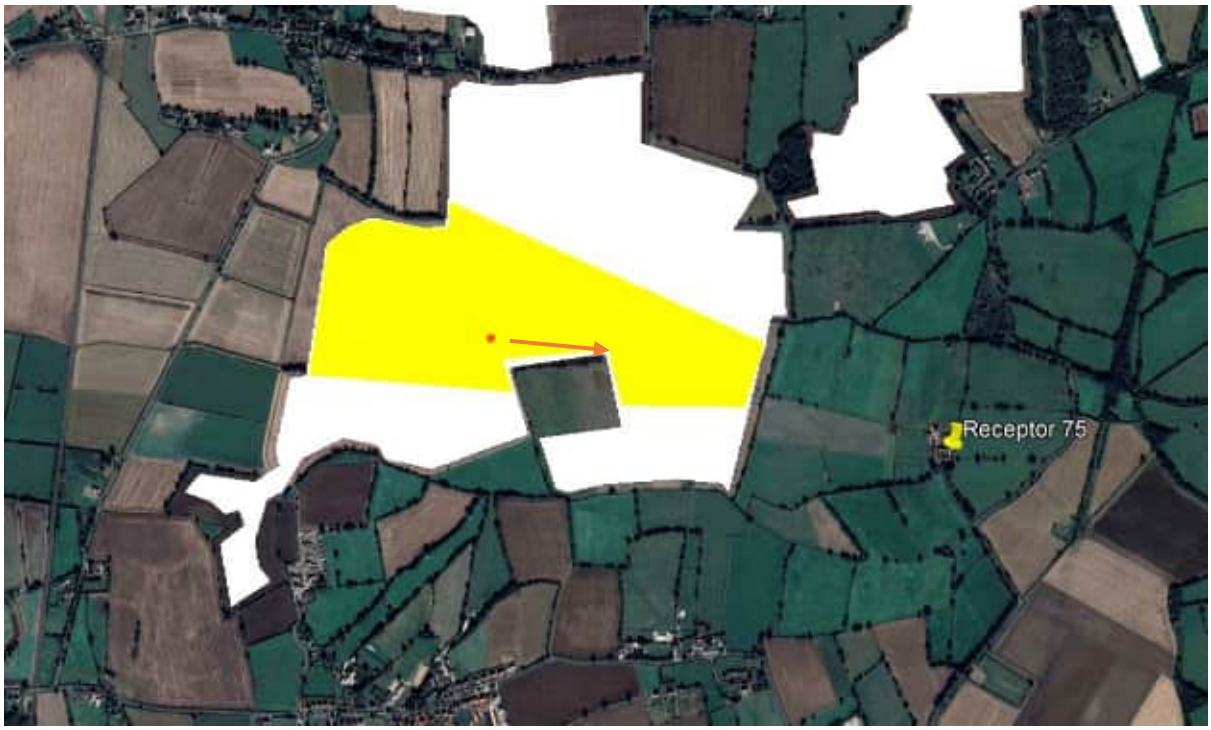
Receptor 74







Receptor 75





Receptors 76 – 78



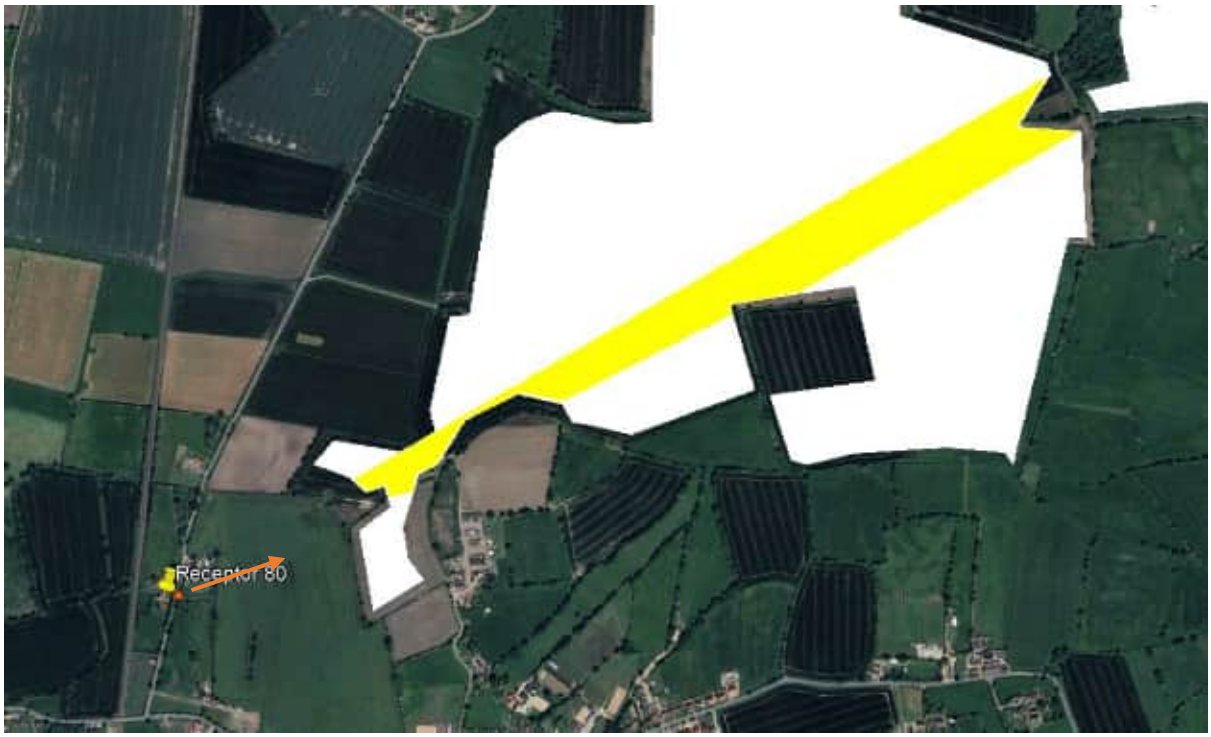


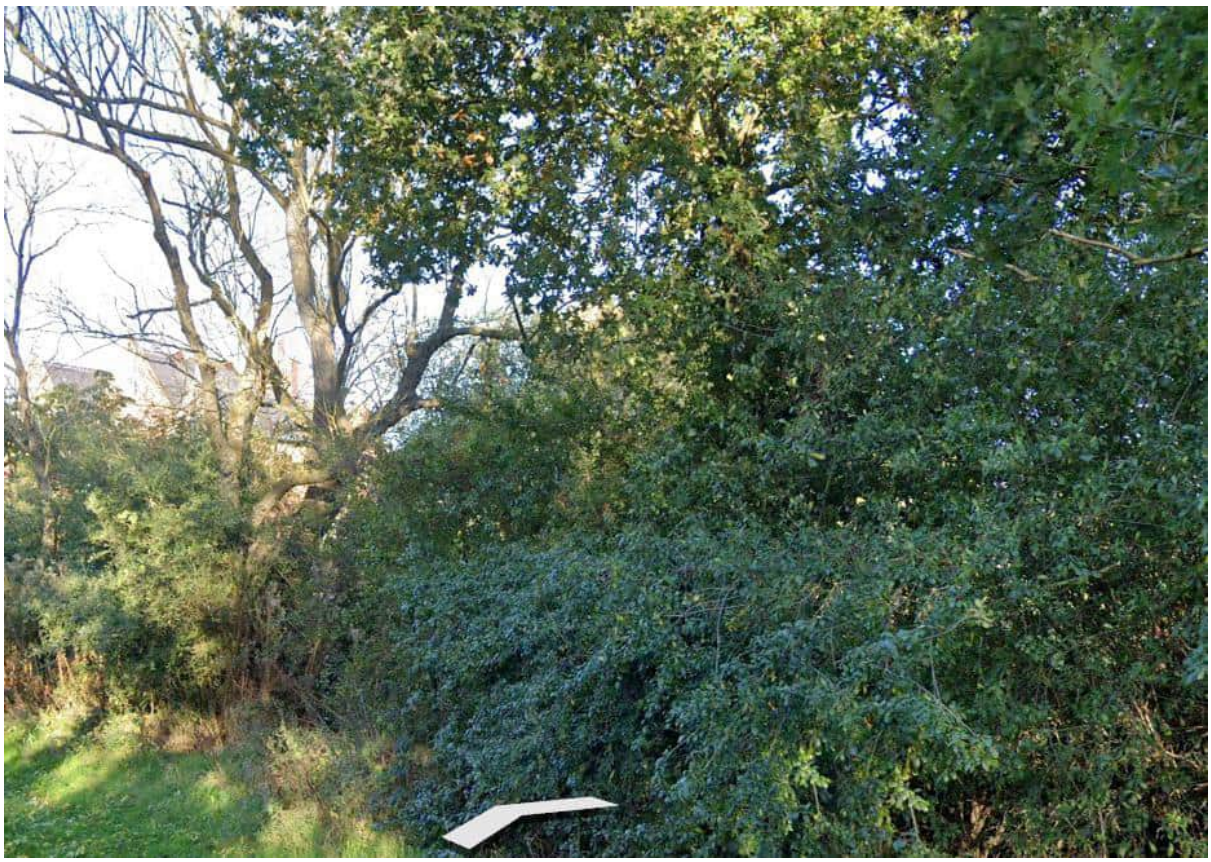
Receptor 79





Receptor 80





Receptors 81 and 82



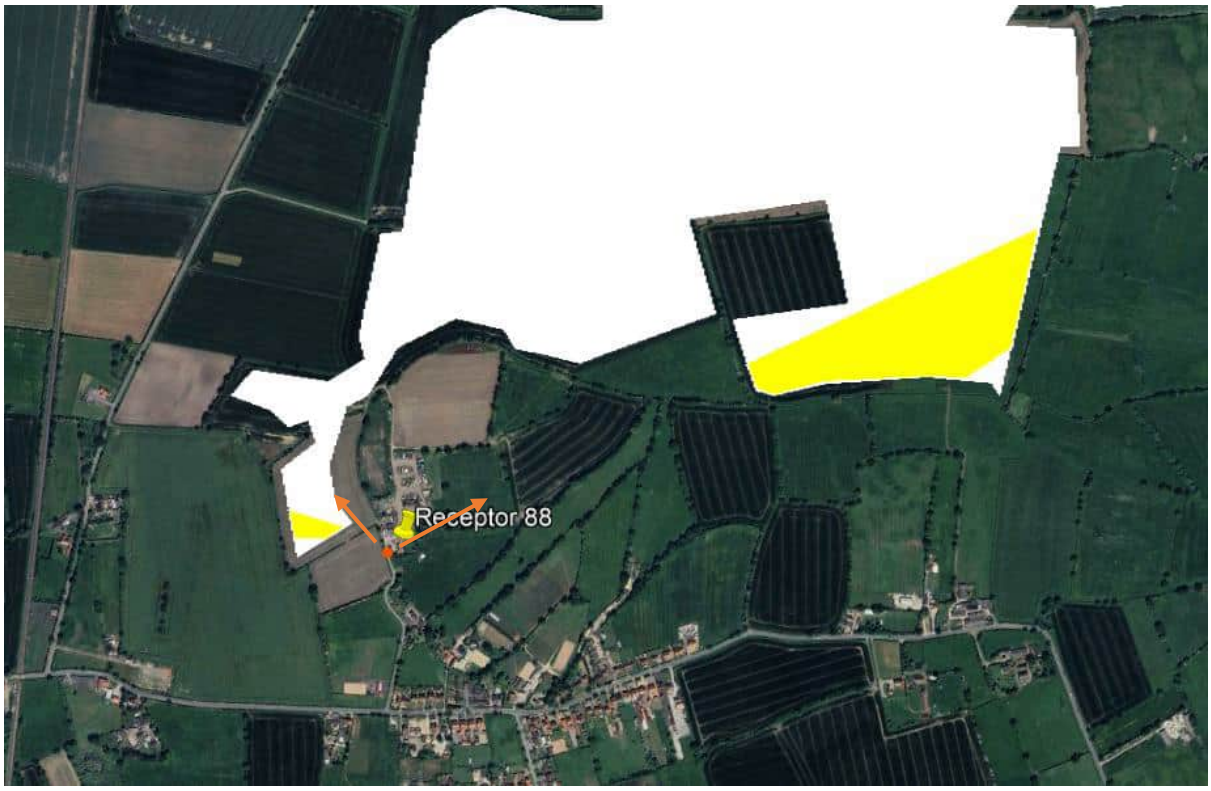


Receptor 85





Receptor 88







Receptor 89





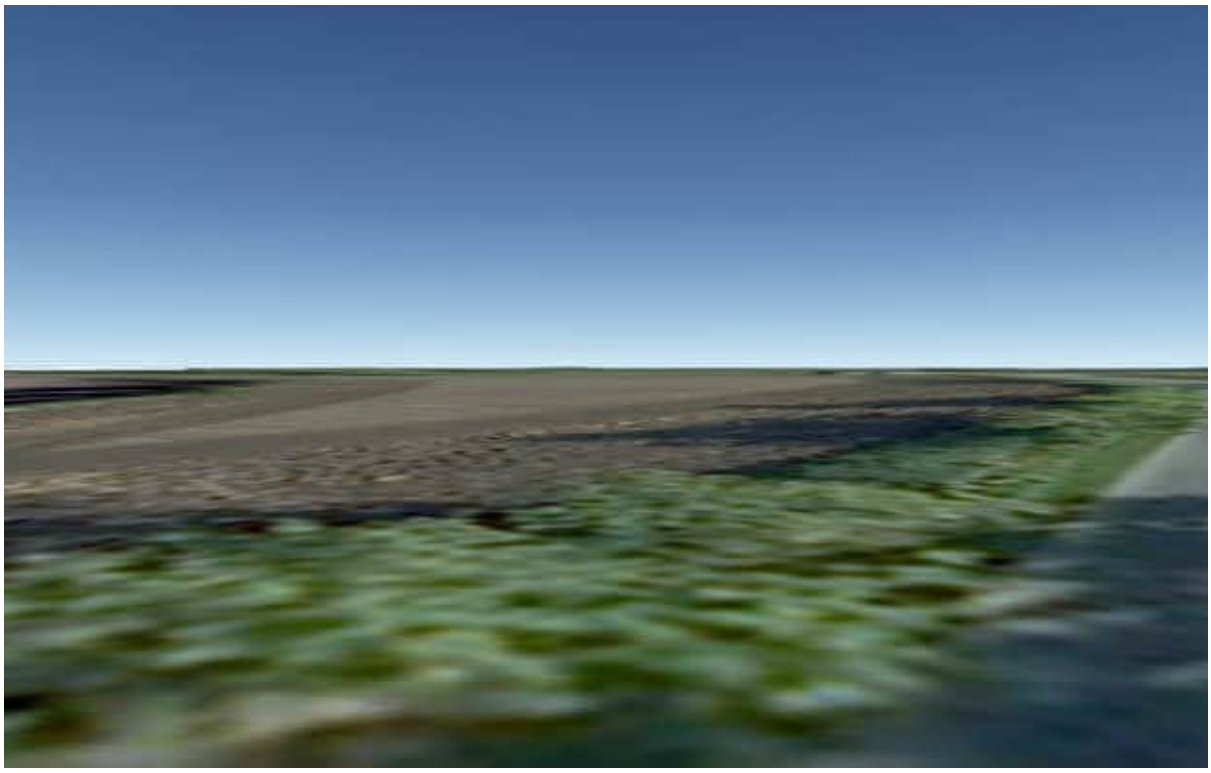
Road Receptors

Receptor 4





Receptor 5



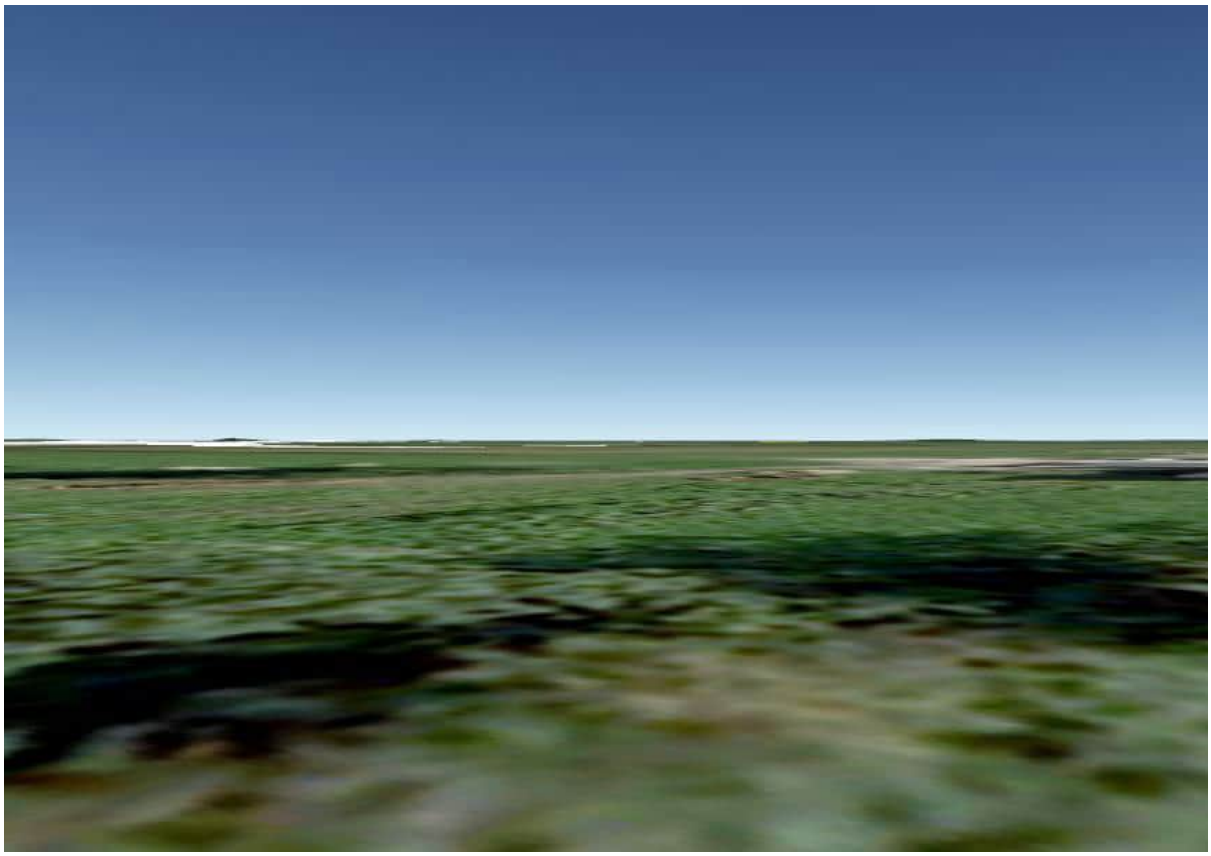


Receptor 6



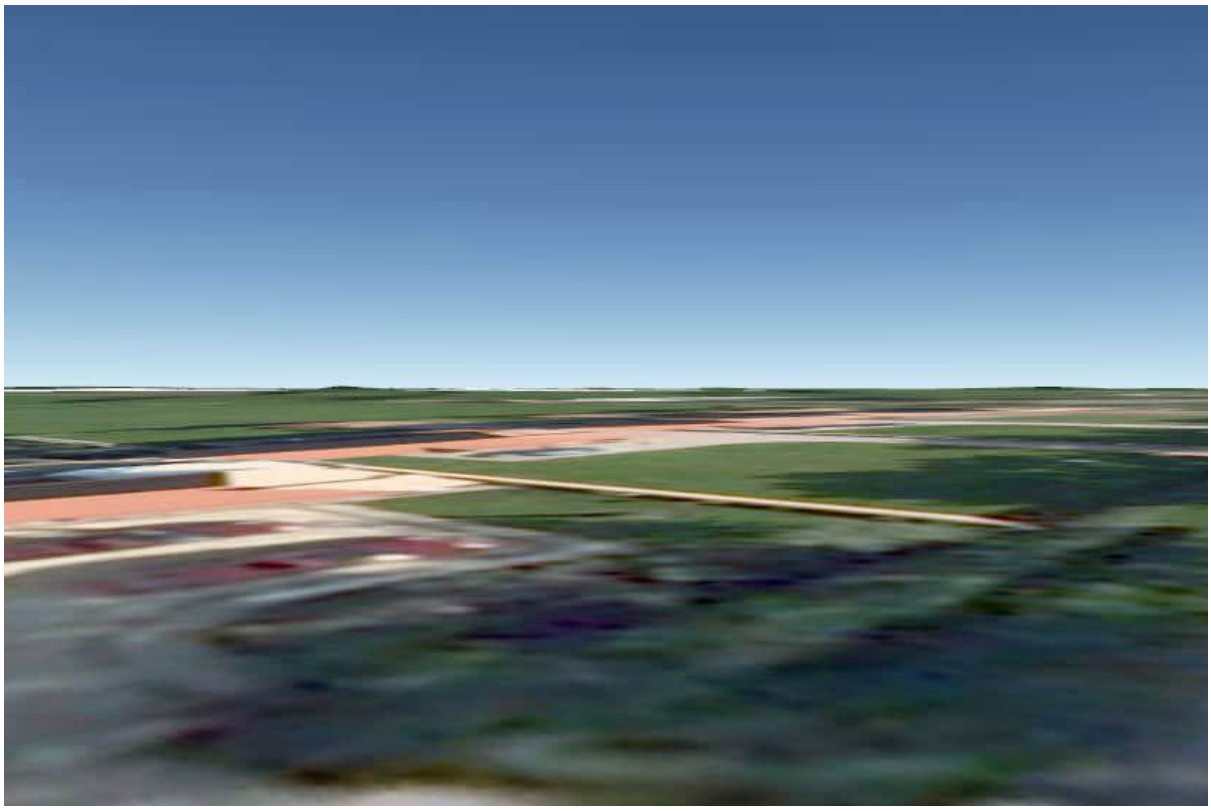


Receptor 7



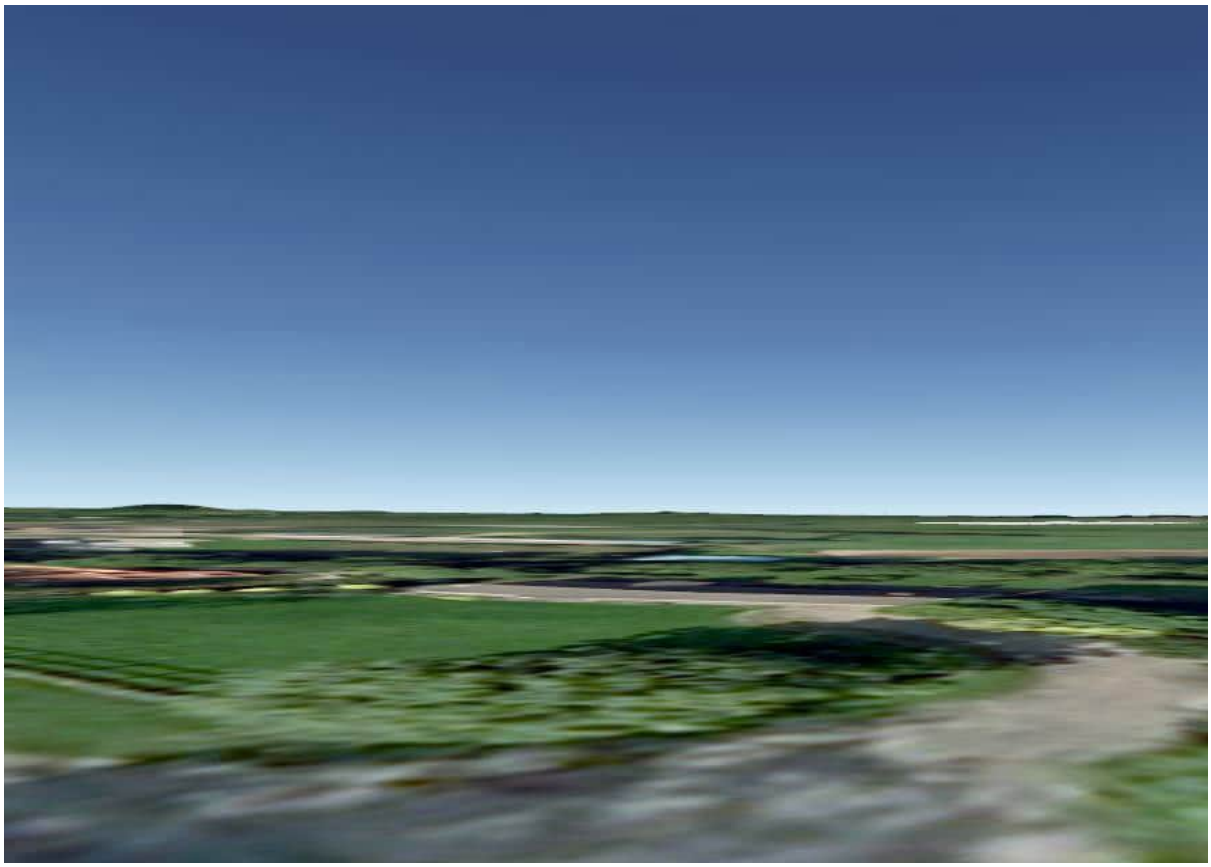


Receptor 8



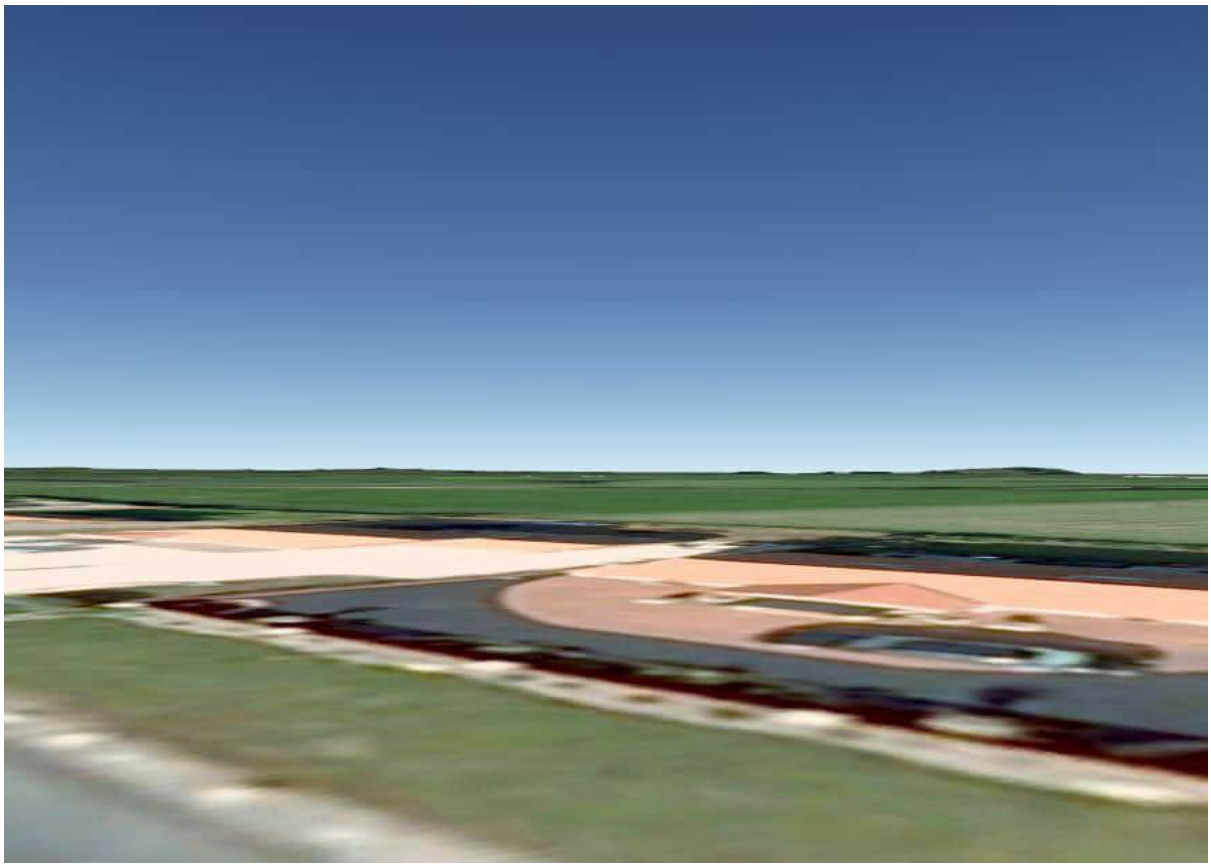


Receptor 10



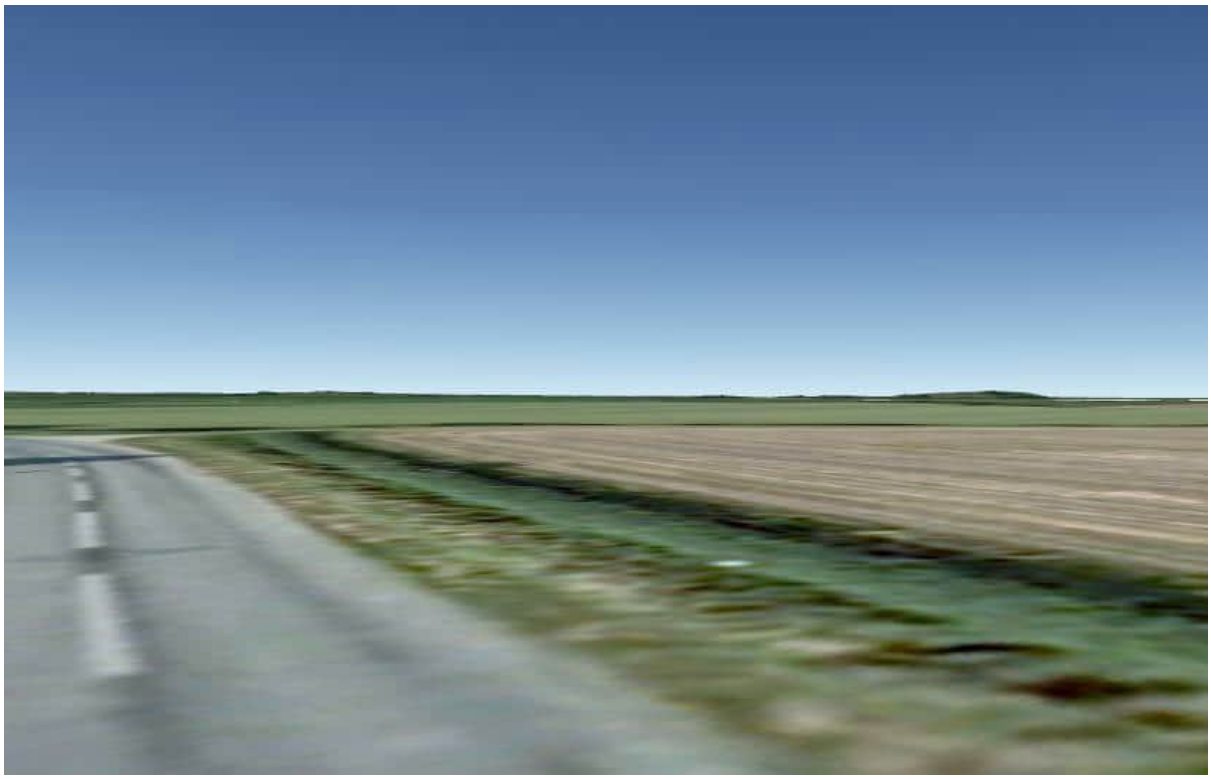


Receptor 11



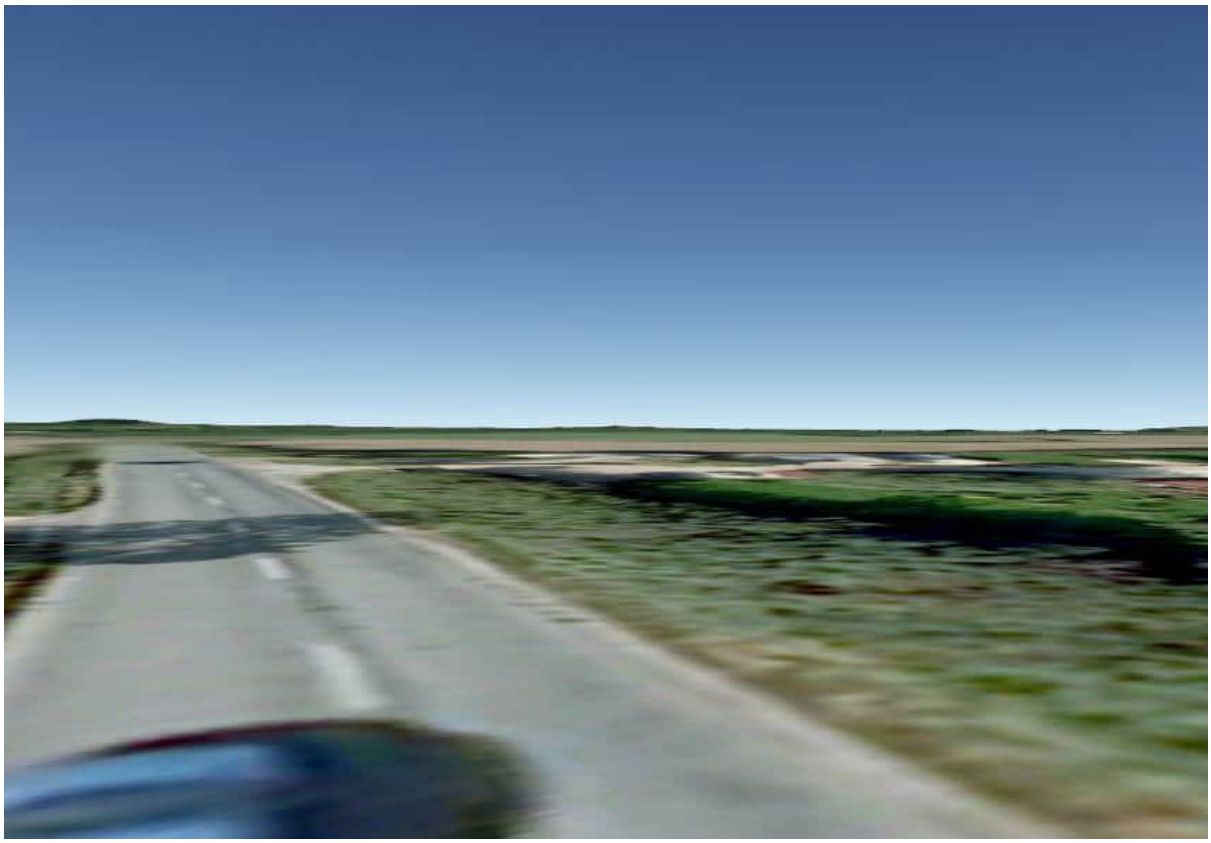


Receptor 12



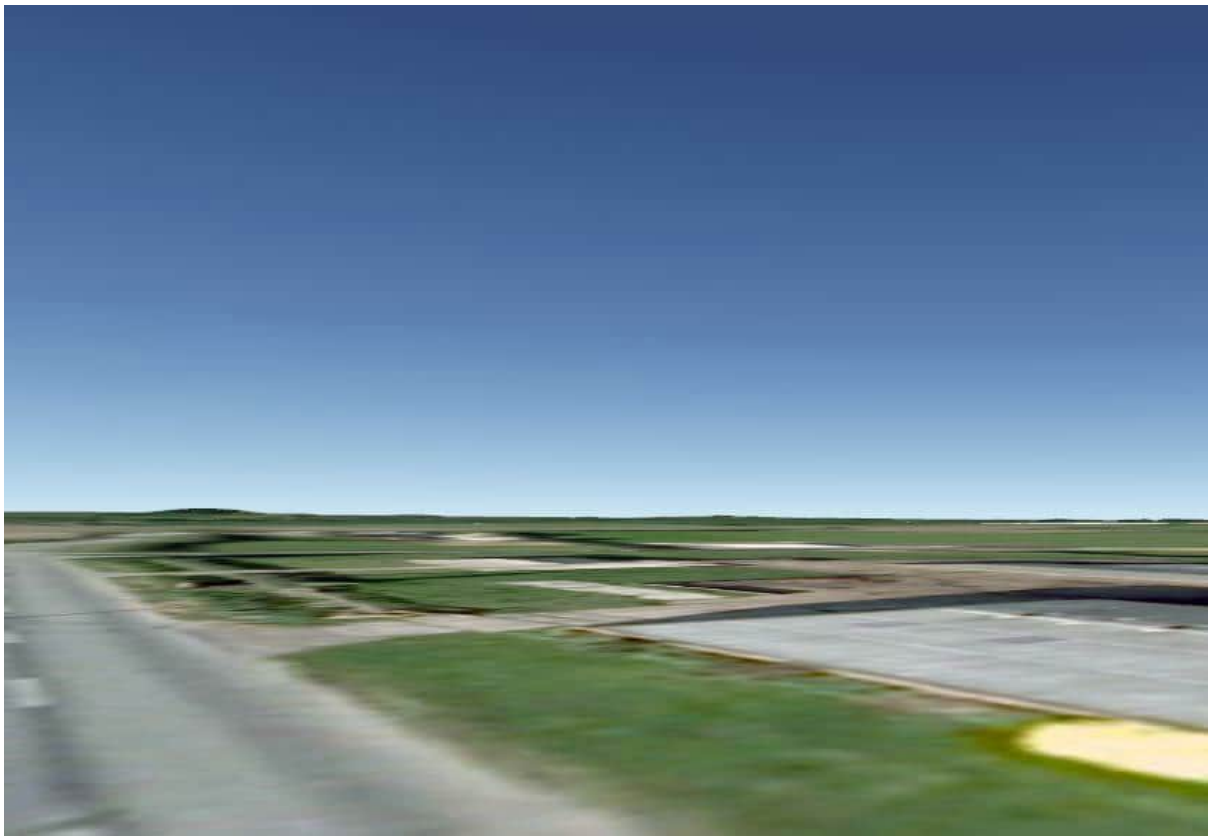


Receptor 13



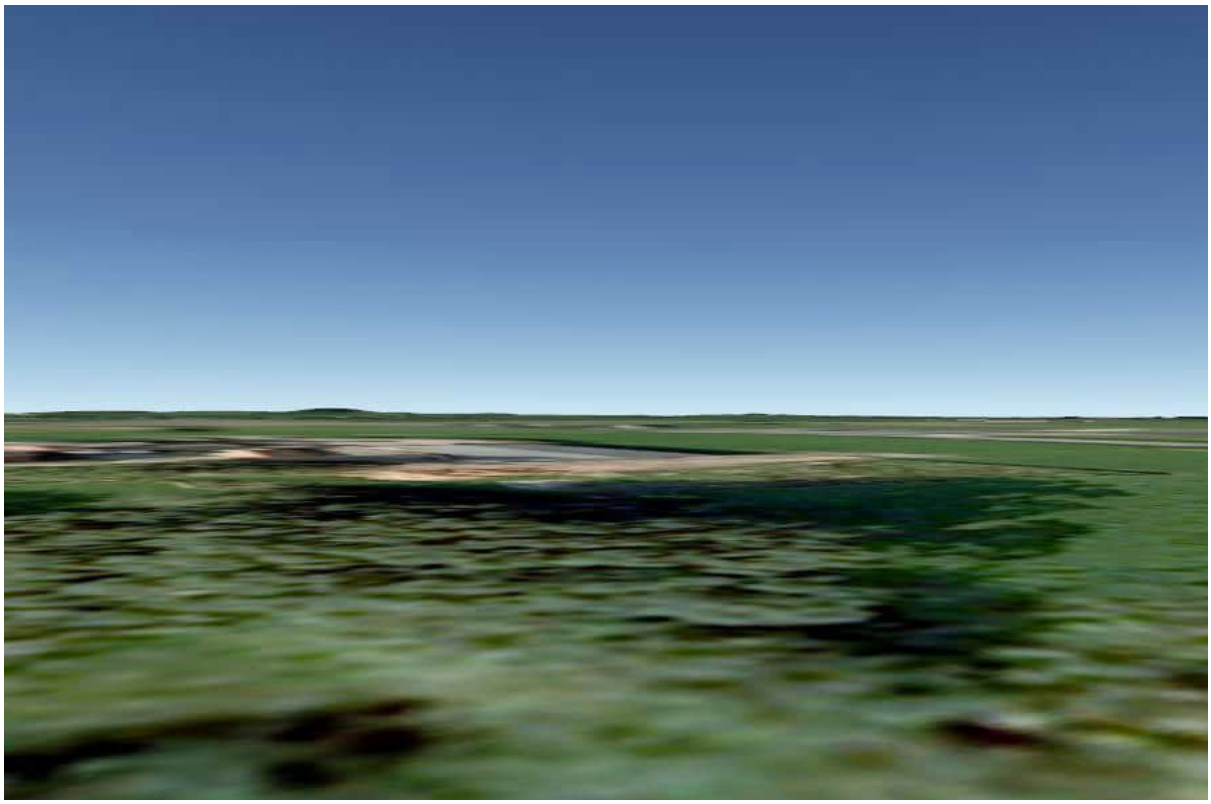


Receptor 14



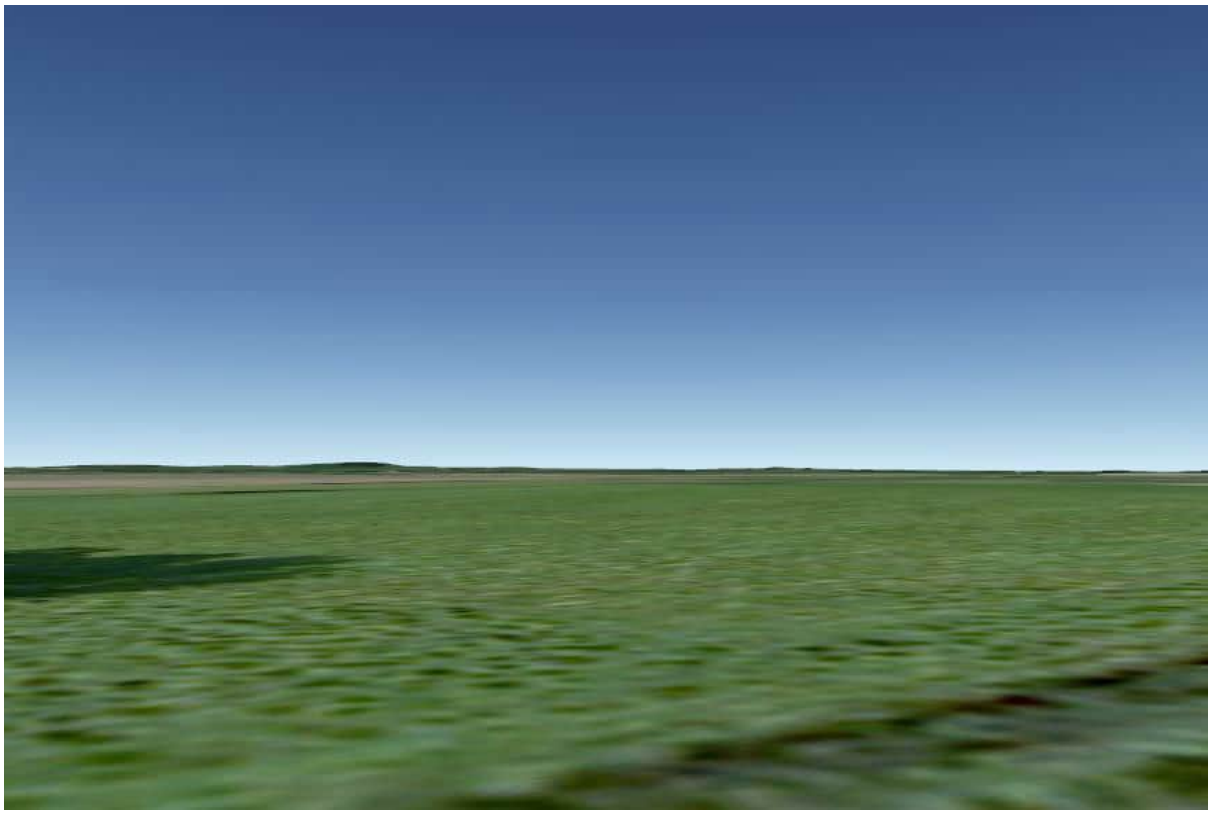


Receptor 15



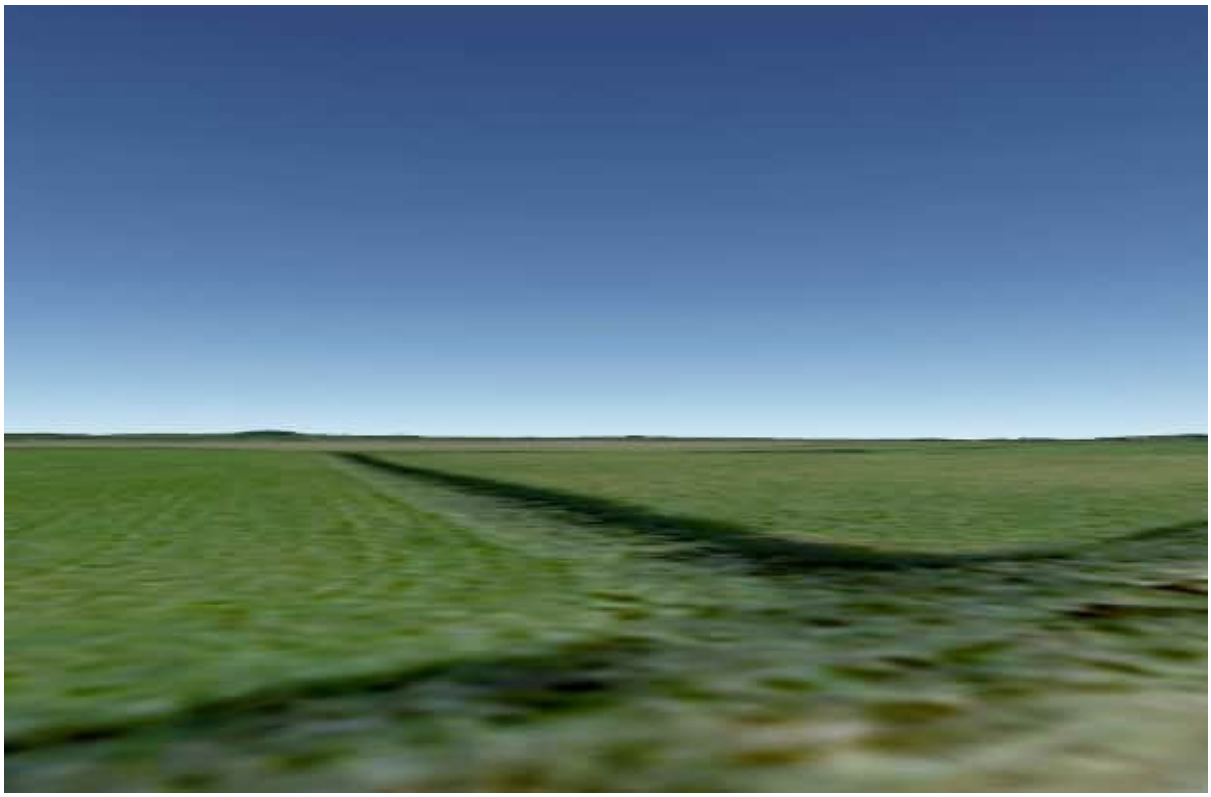


Receptor 16



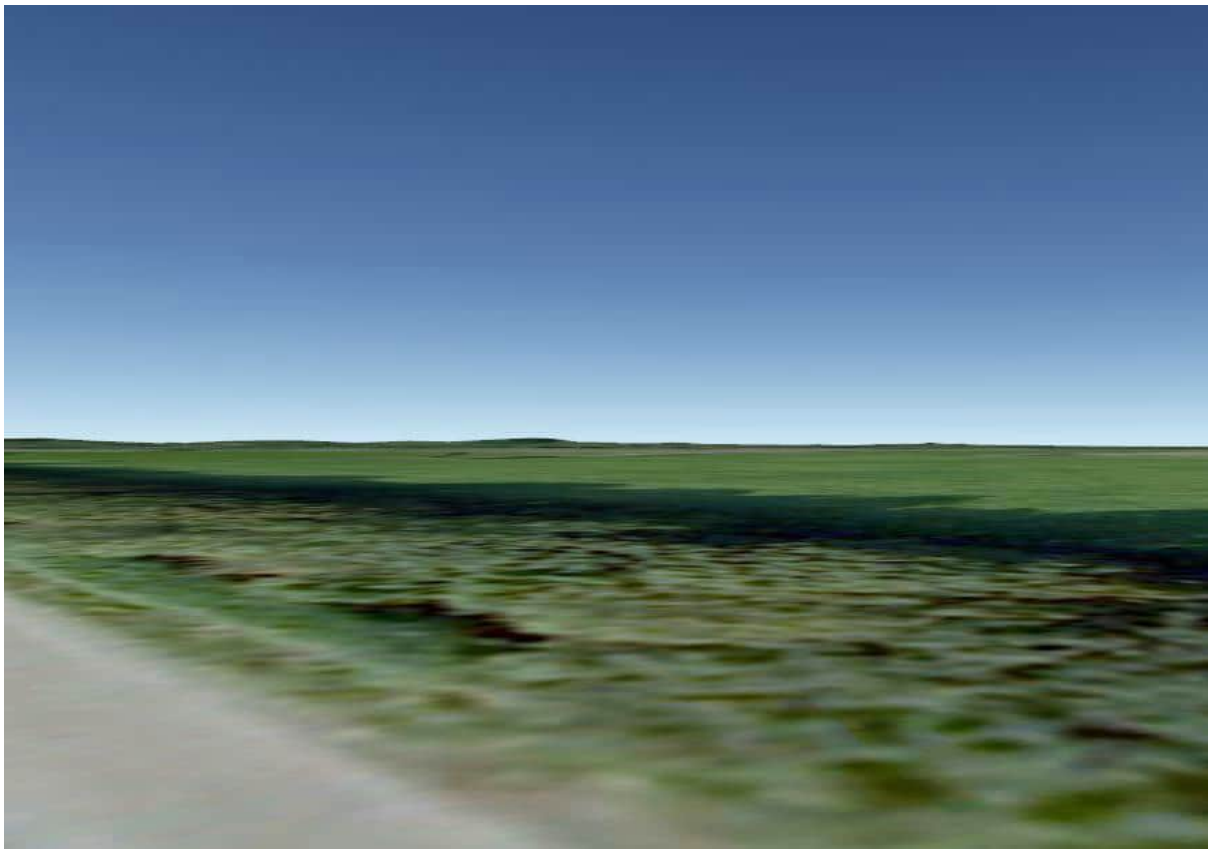


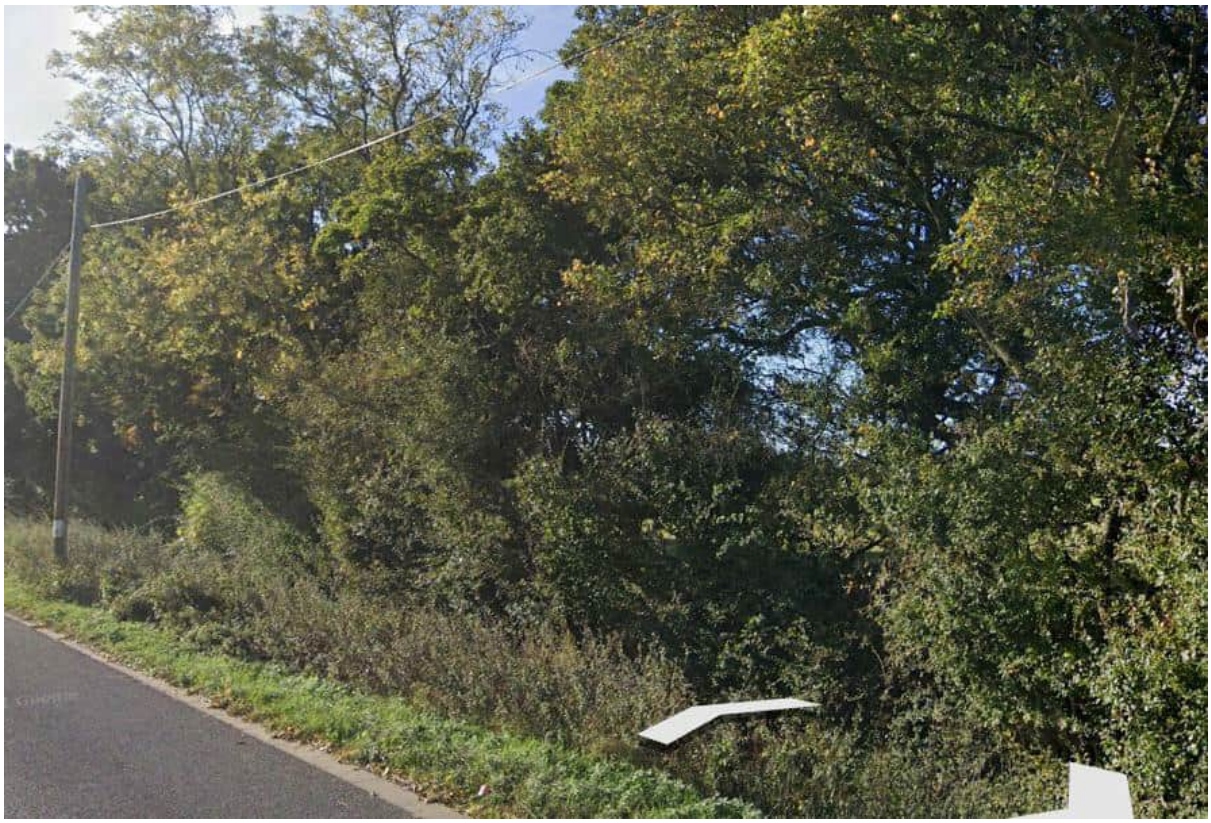
Receptor 17



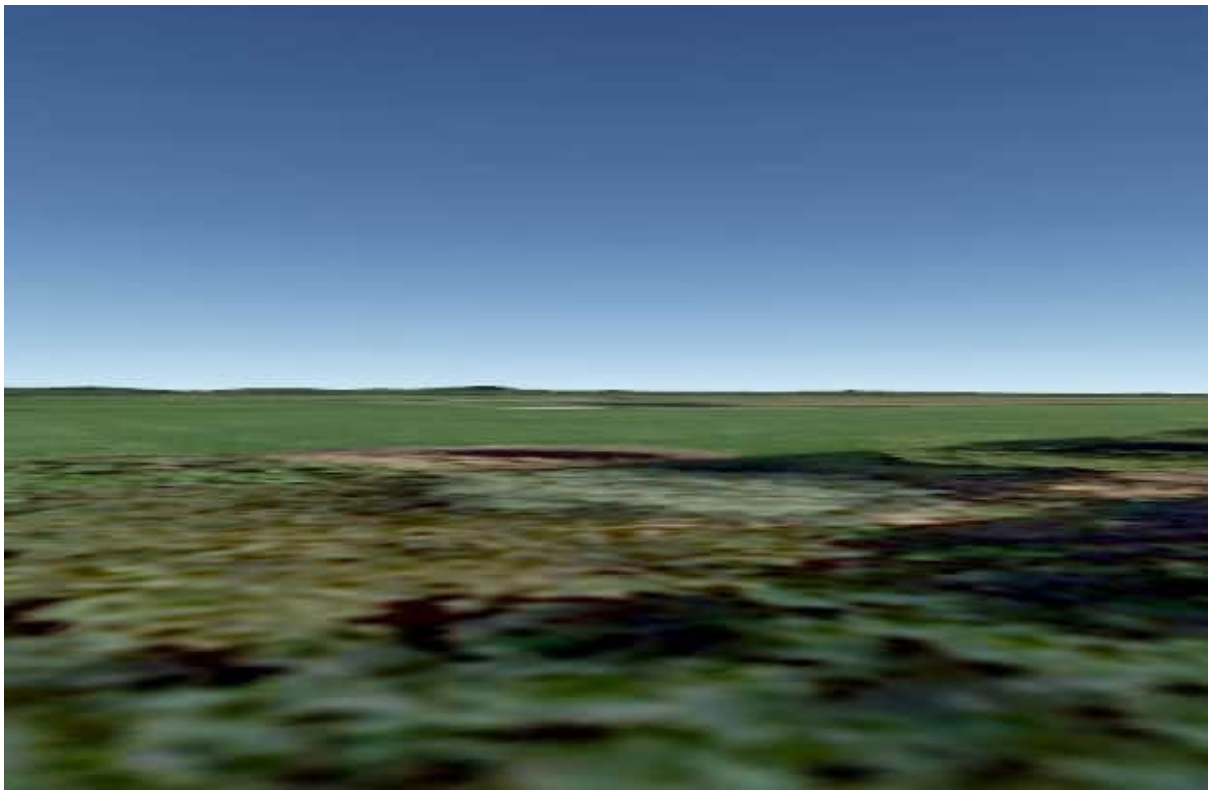


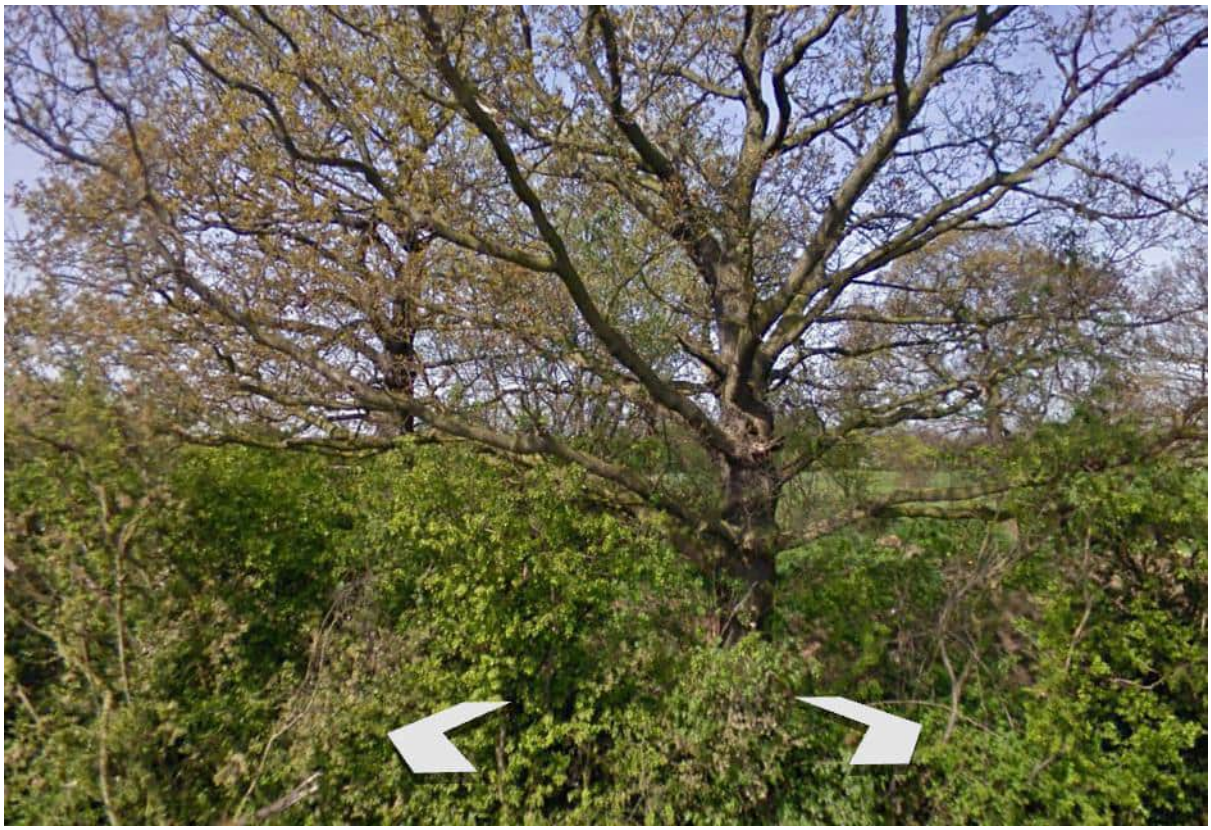
Receptor 18



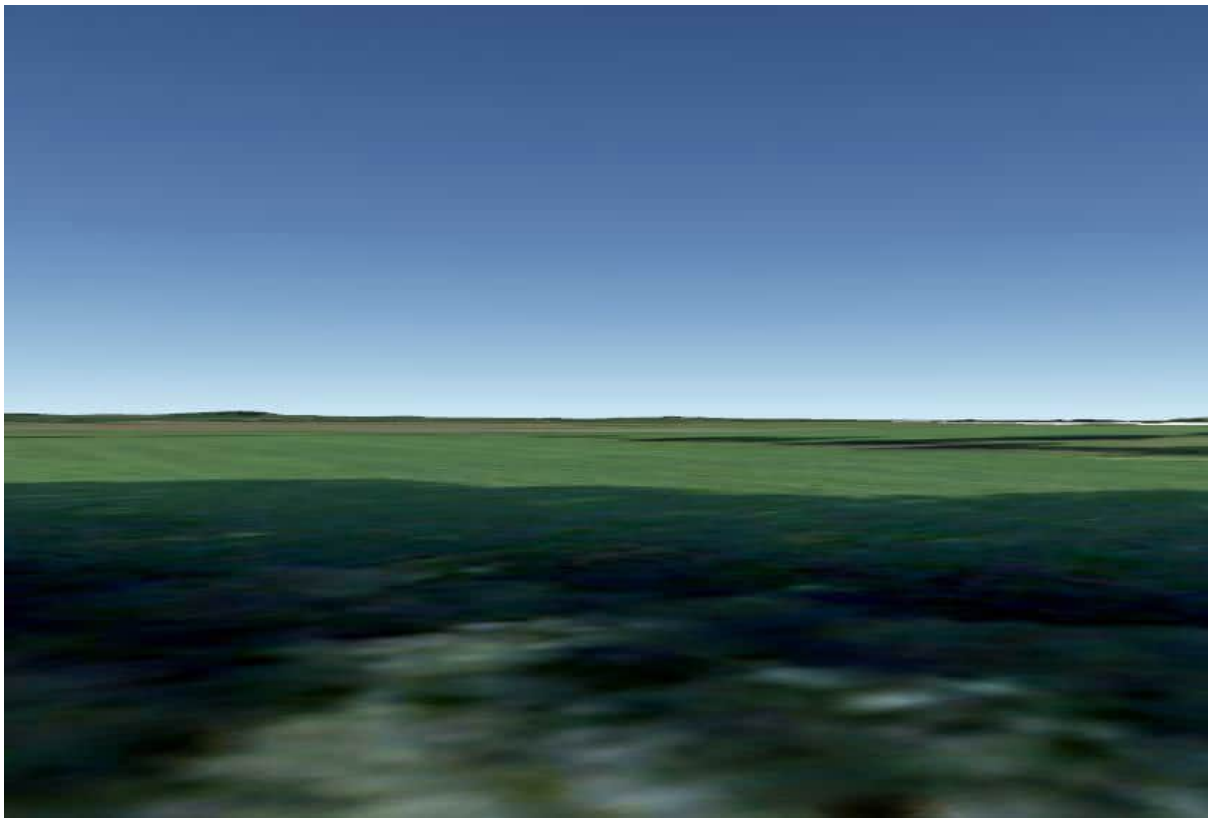


Receptor 19



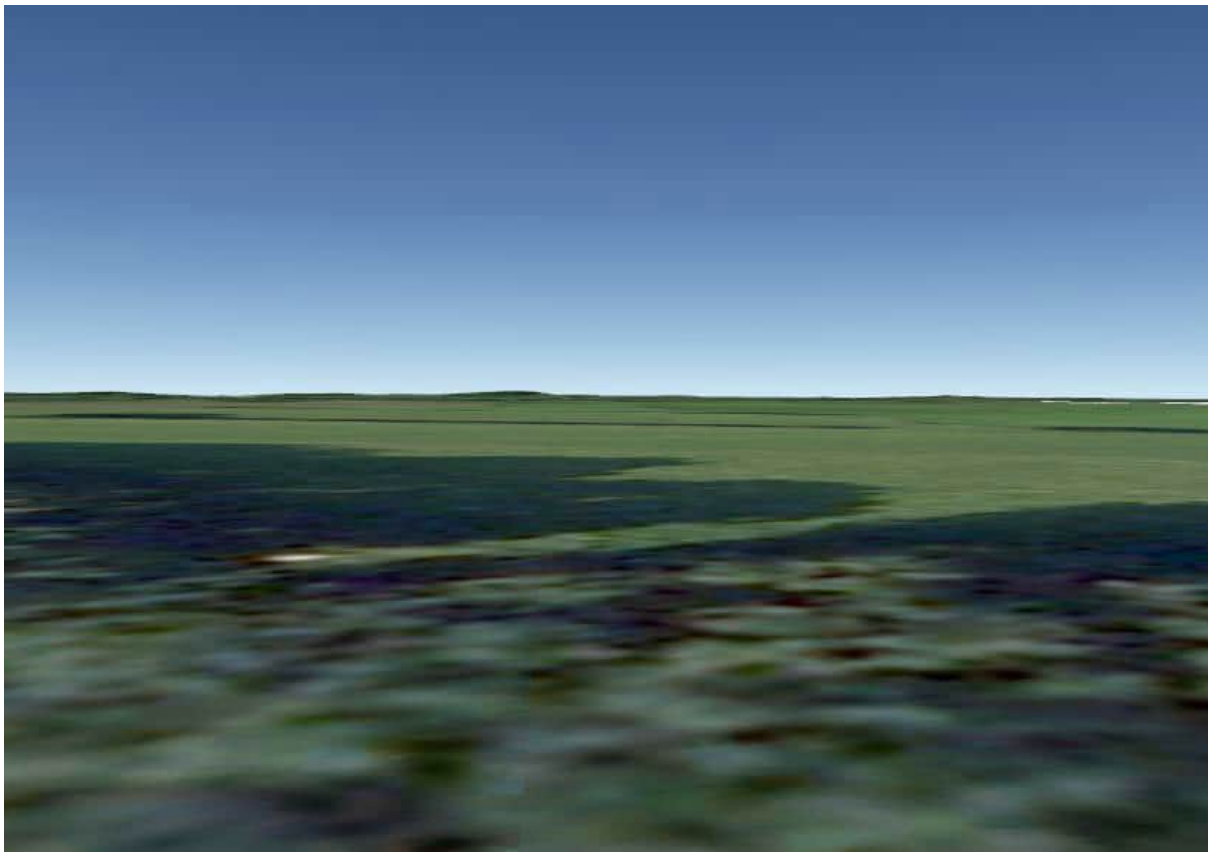


Receptor 20



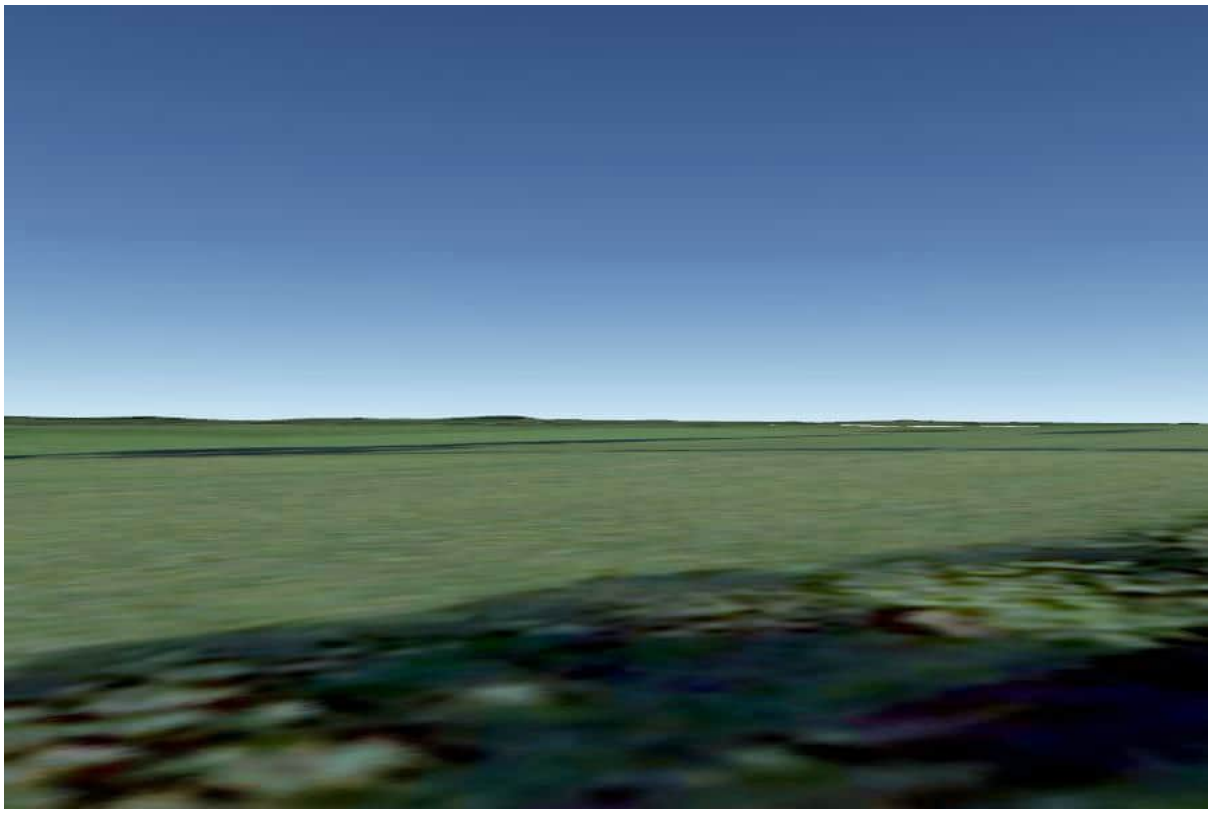


Receptor 21



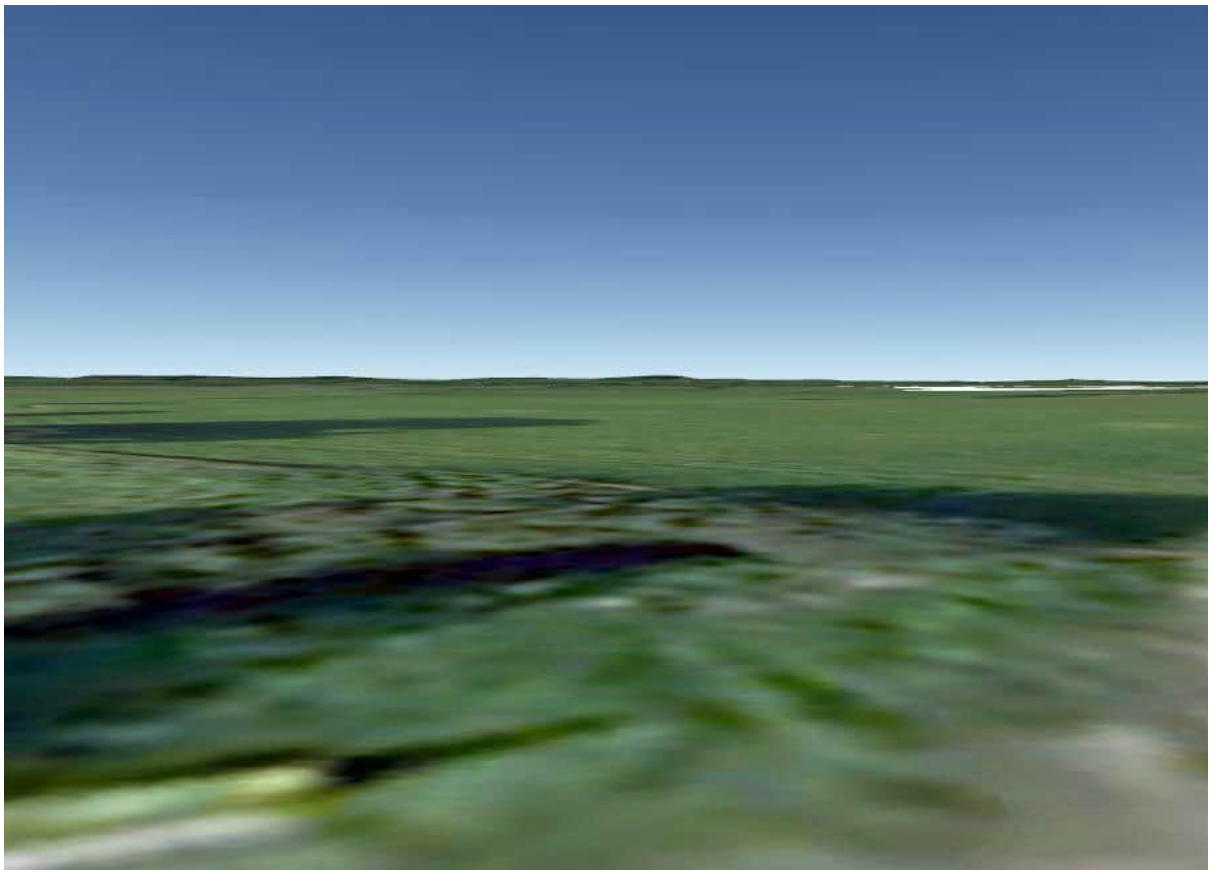


Receptor 22



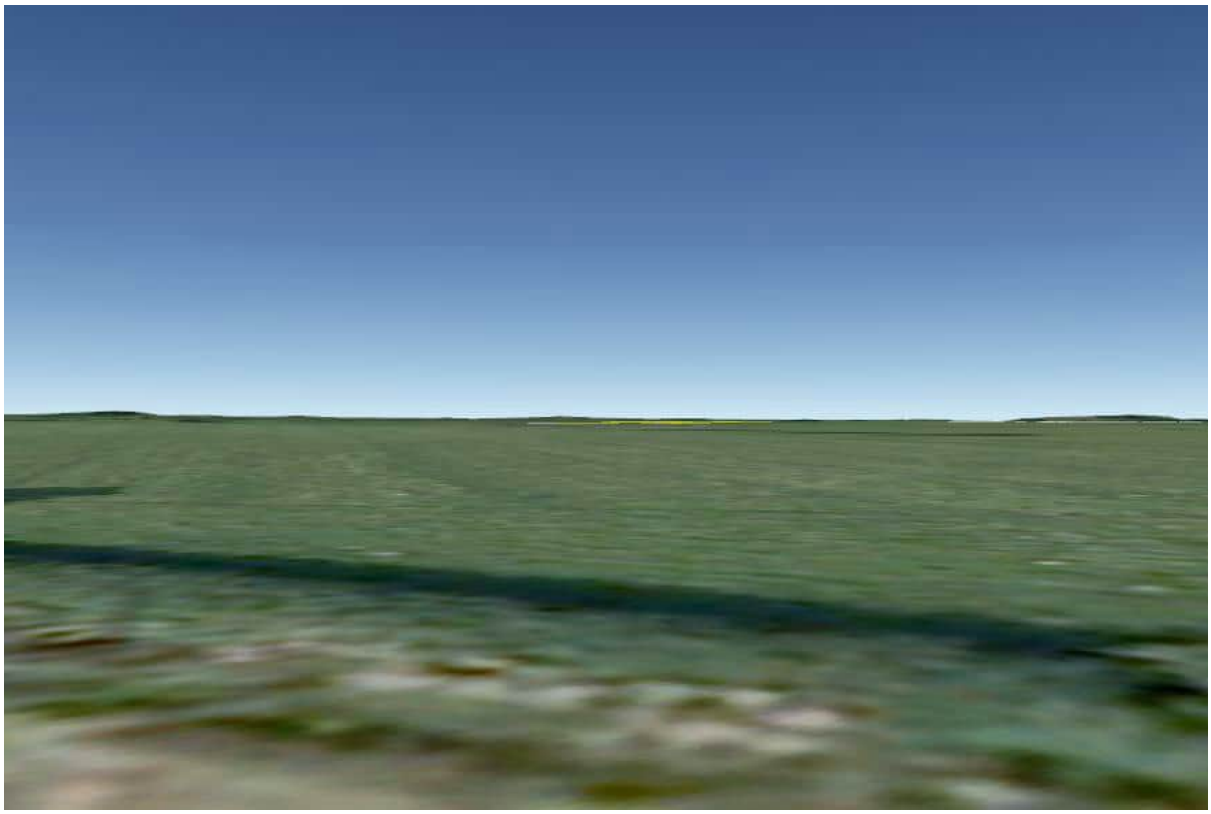


Receptor 23



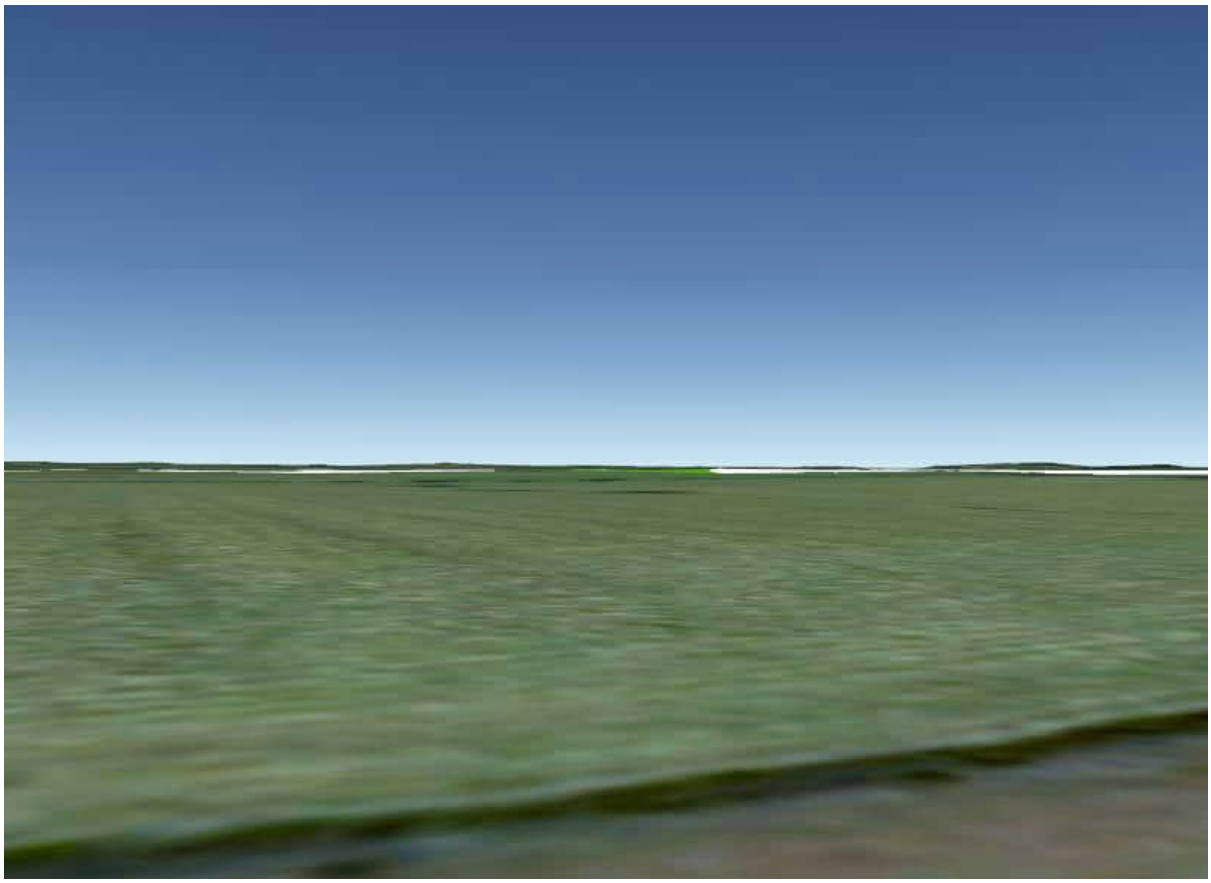


Receptor 24



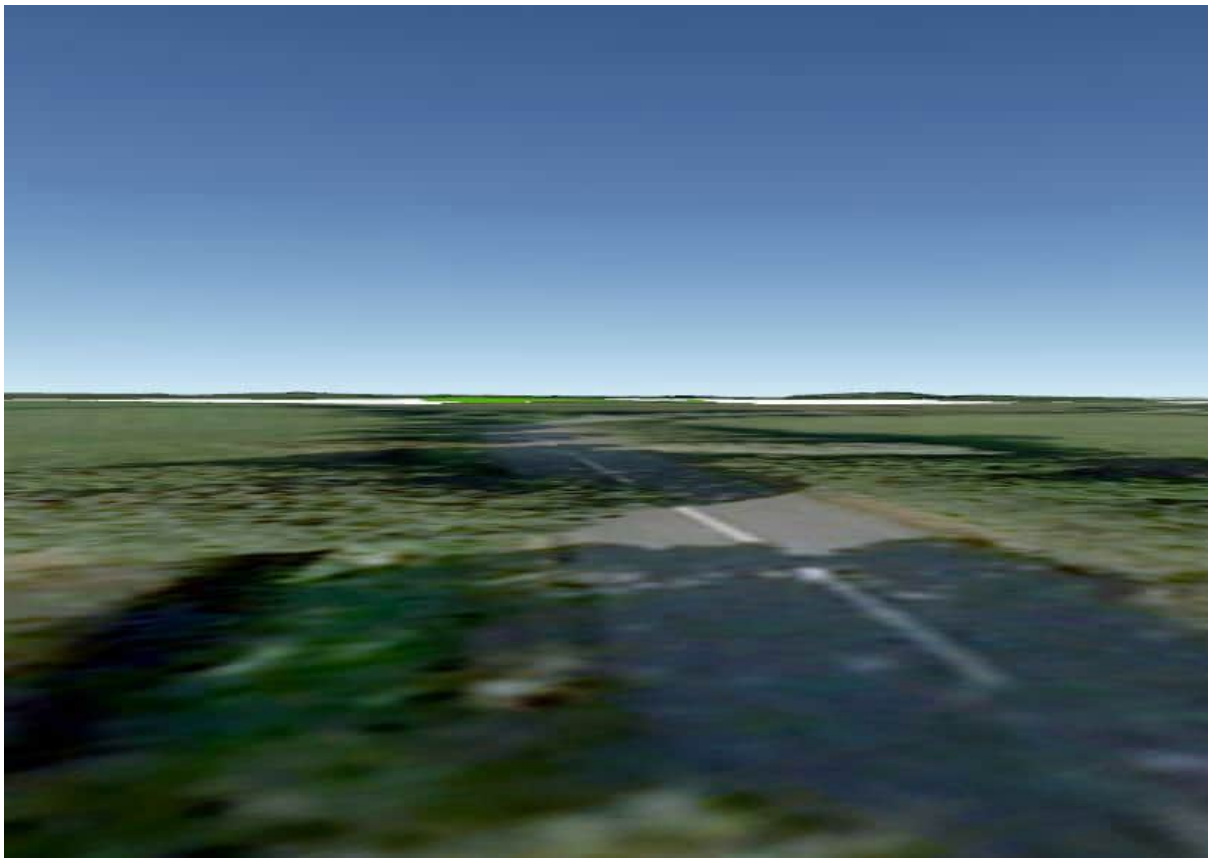


Receptor 25



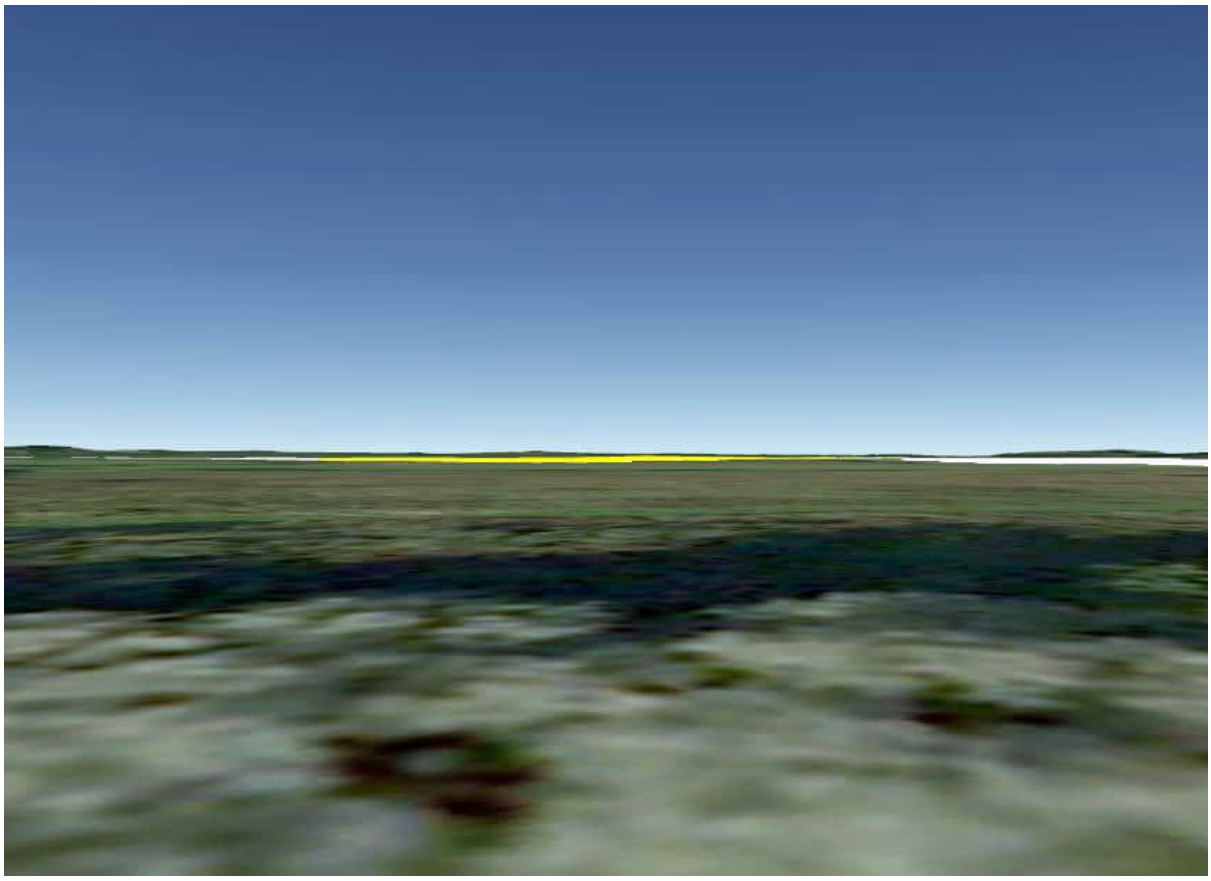


Receptor 26



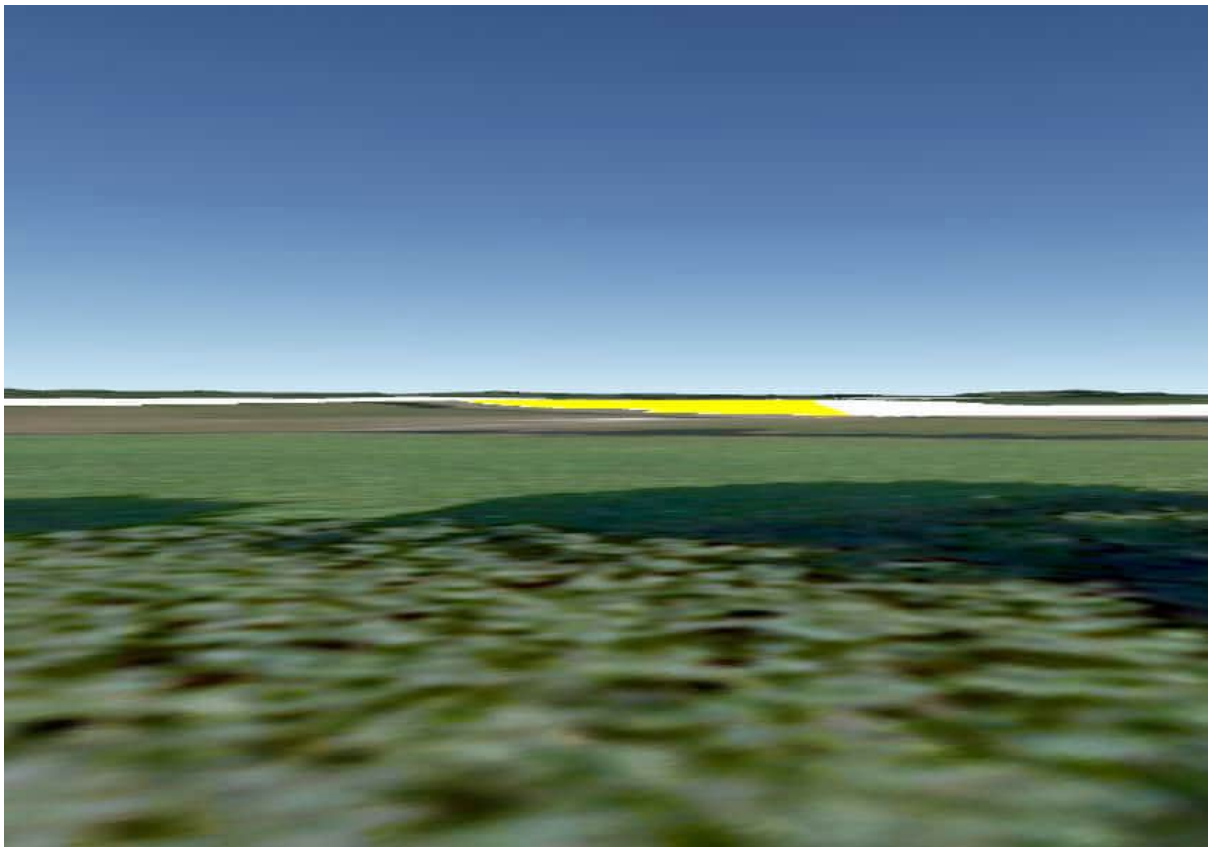


Receptor 27



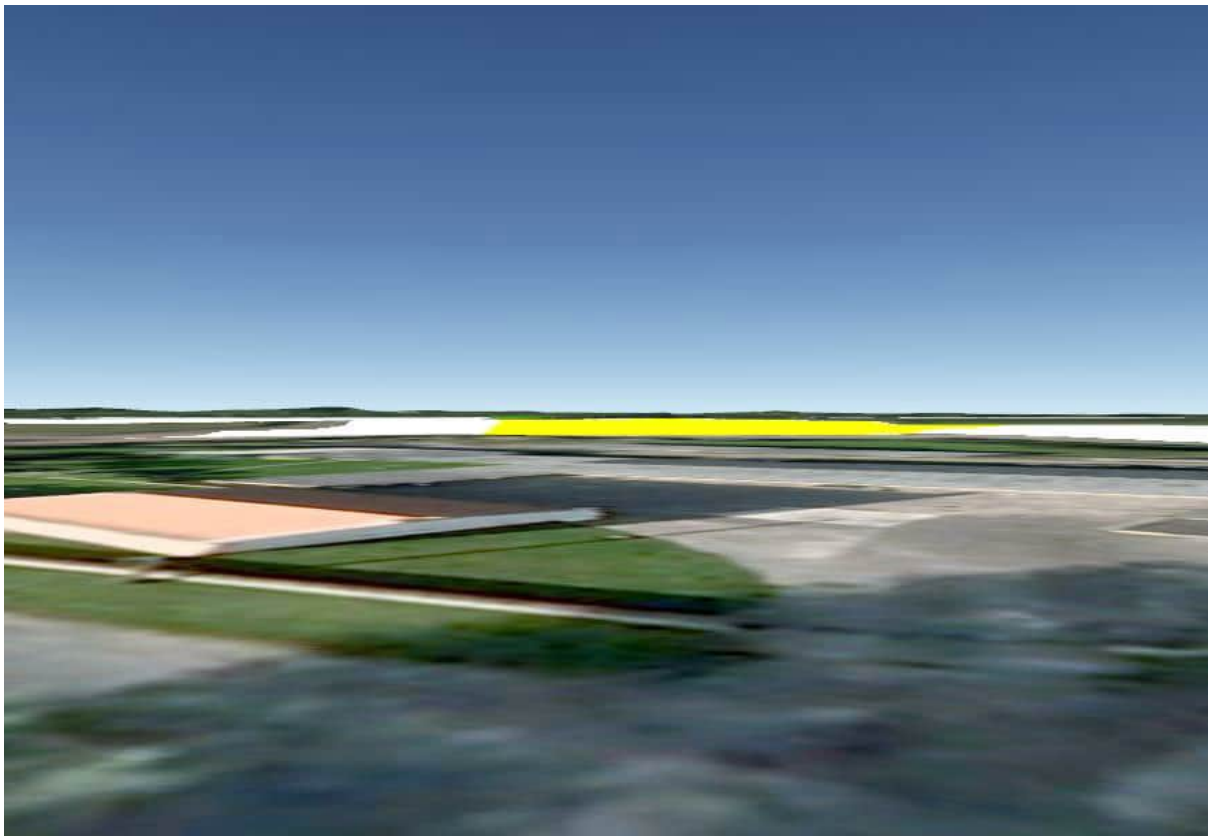


Receptor 28



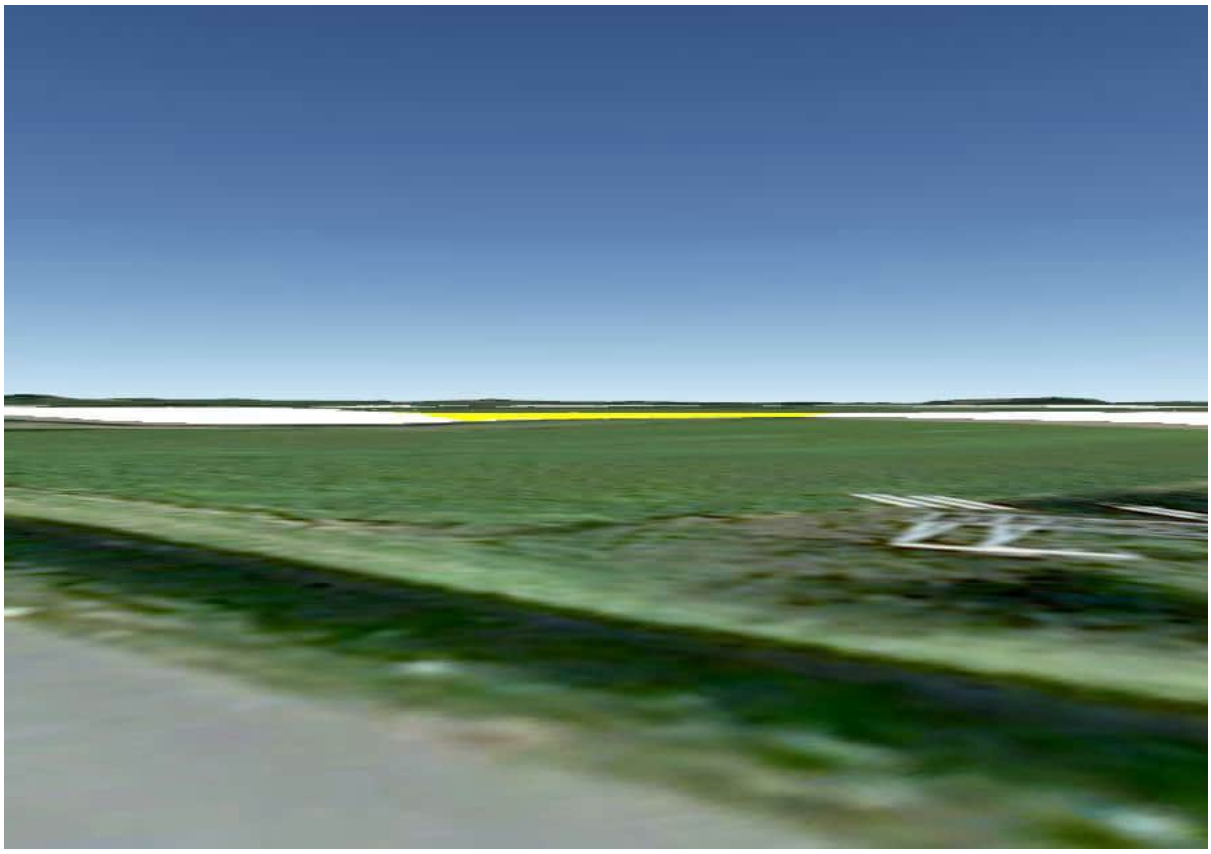


Receptor 29



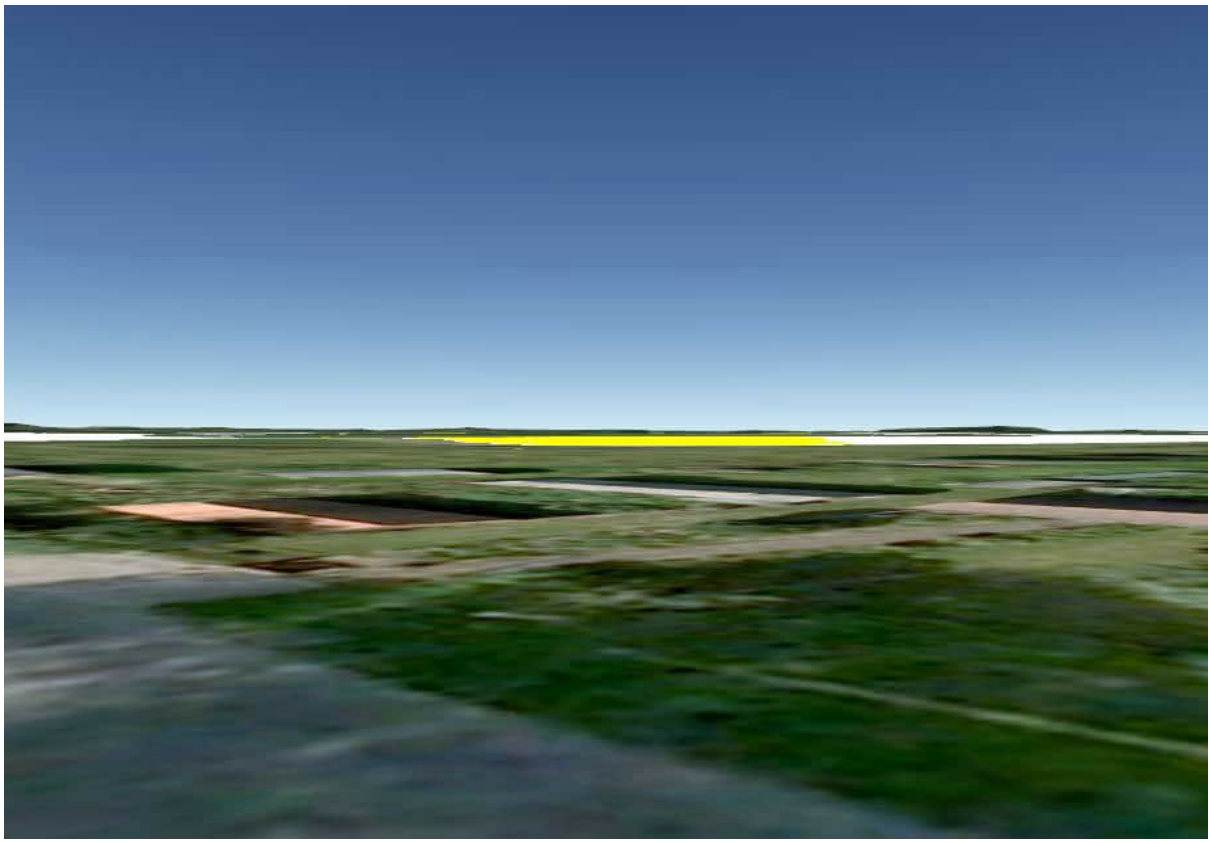


Receptor 30





Receptor 31



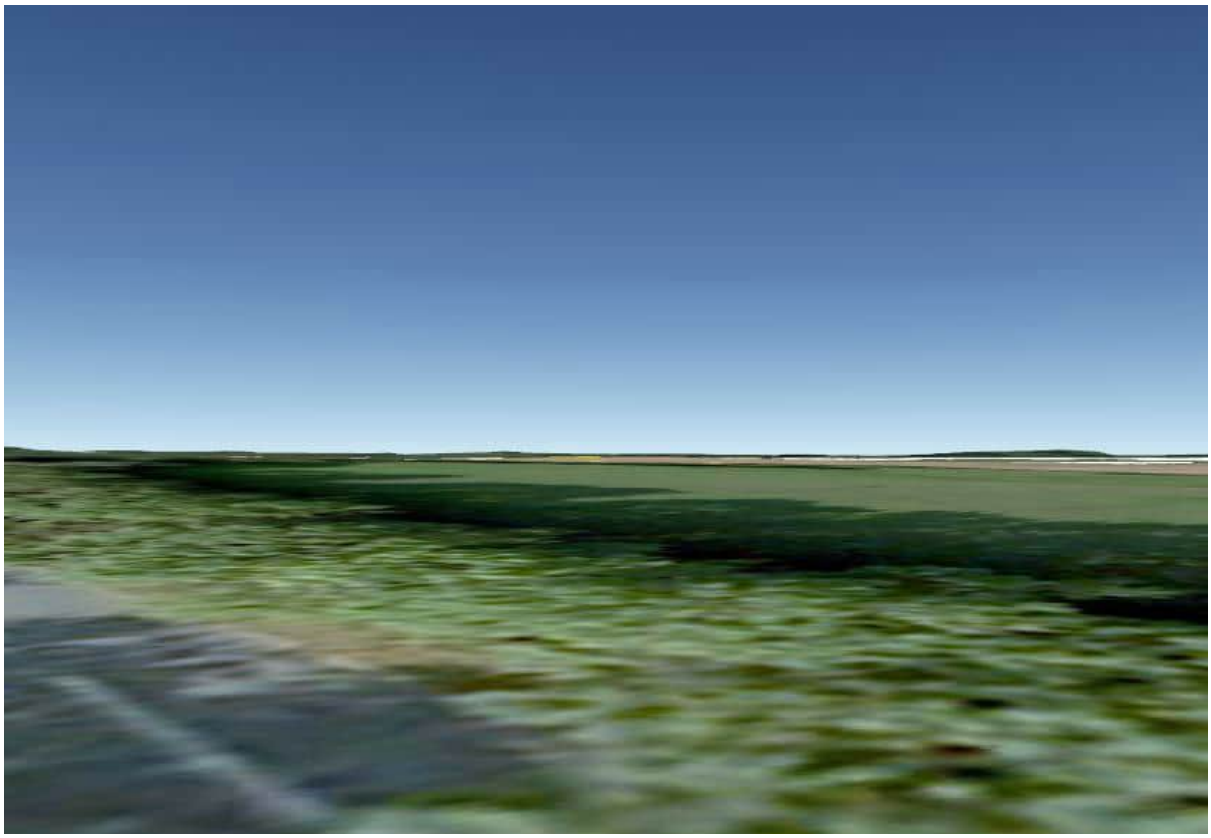


Receptor 32



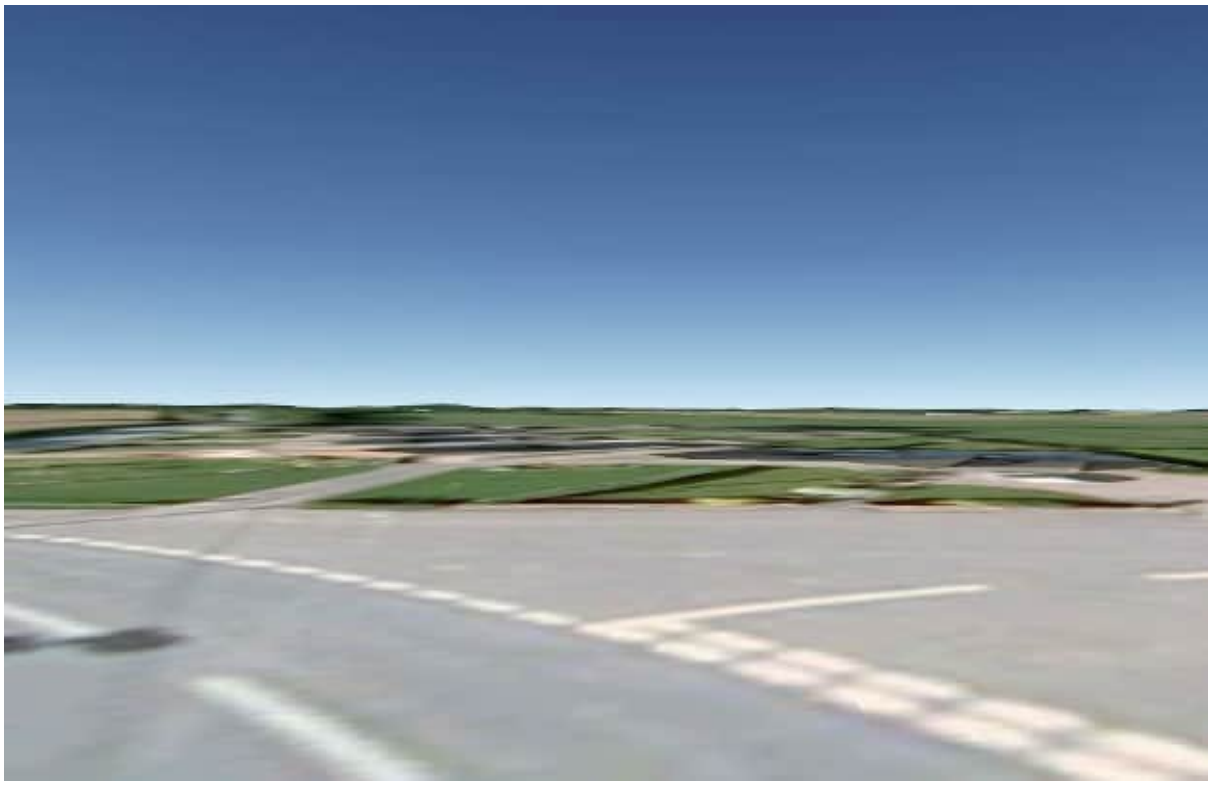


Receptor 33



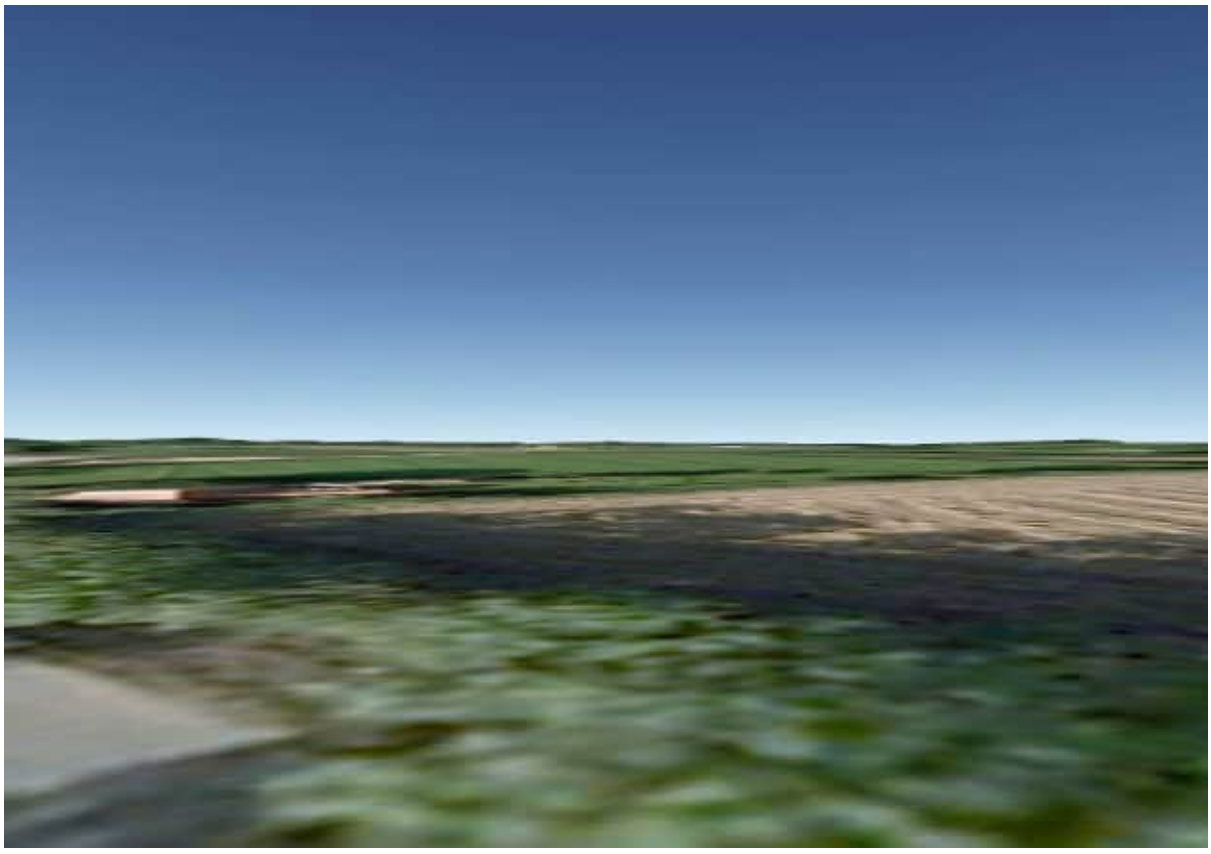


Receptor 34



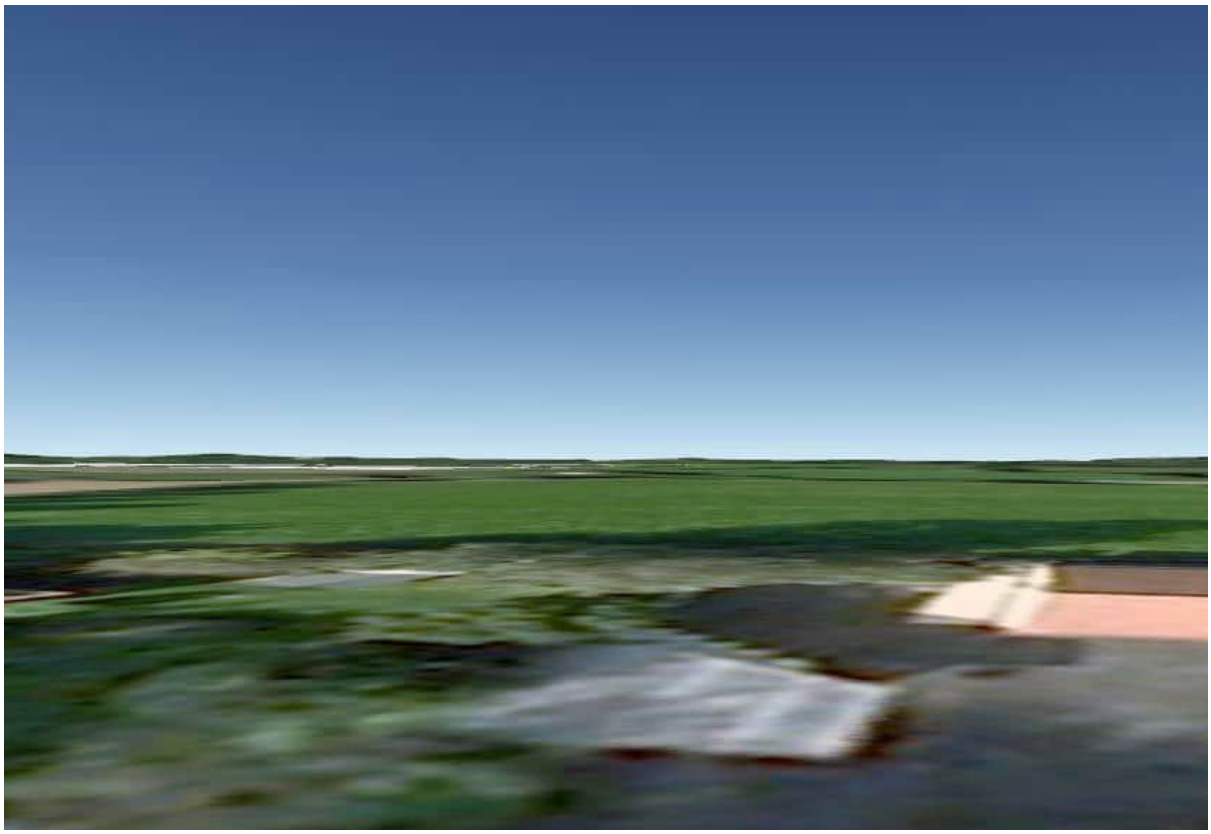


Receptor 35



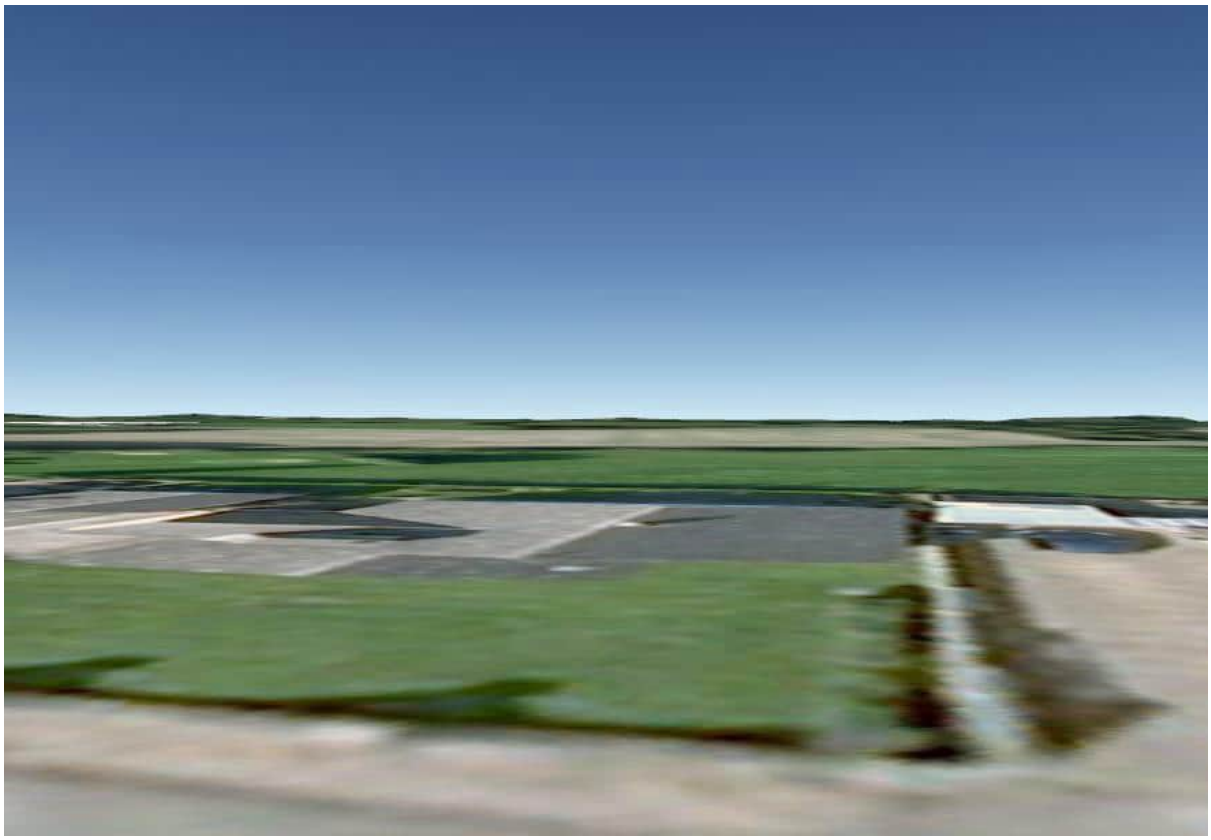


Receptor 36



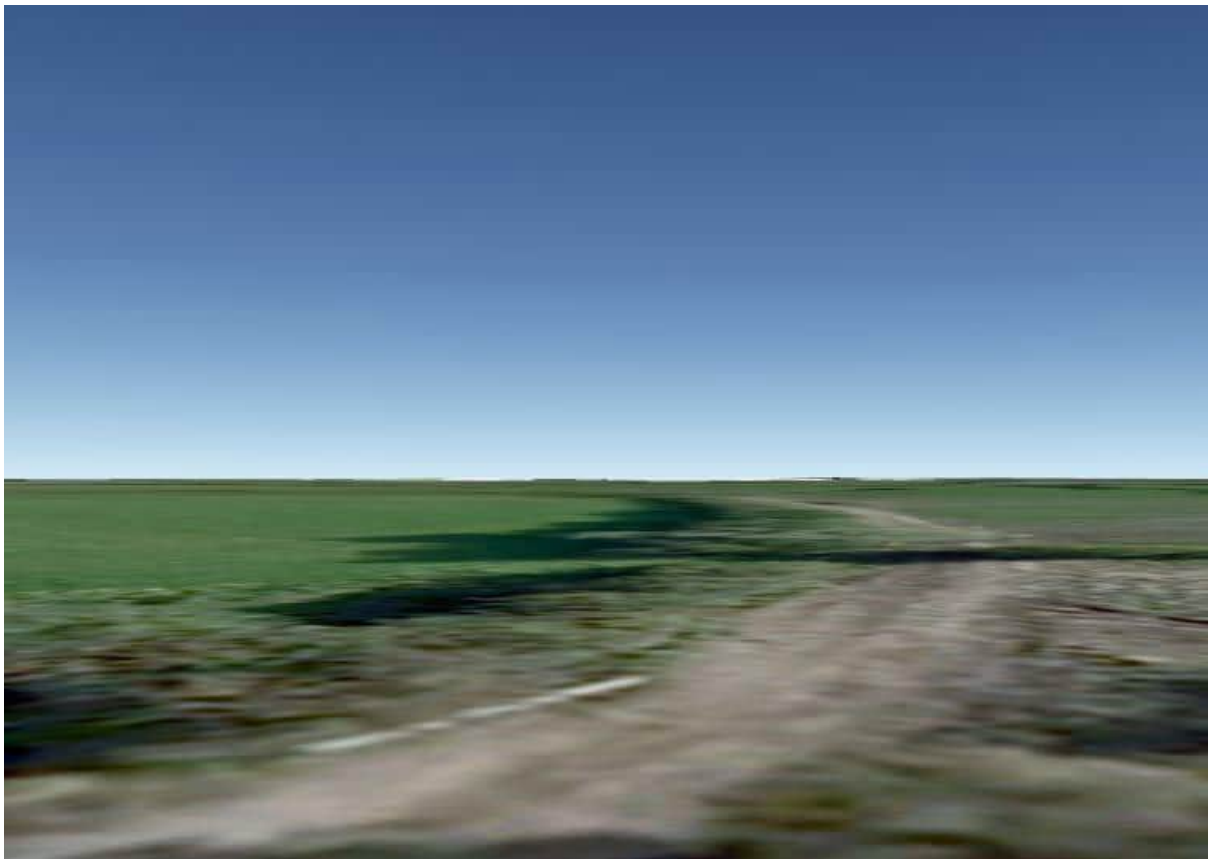


Receptor 37



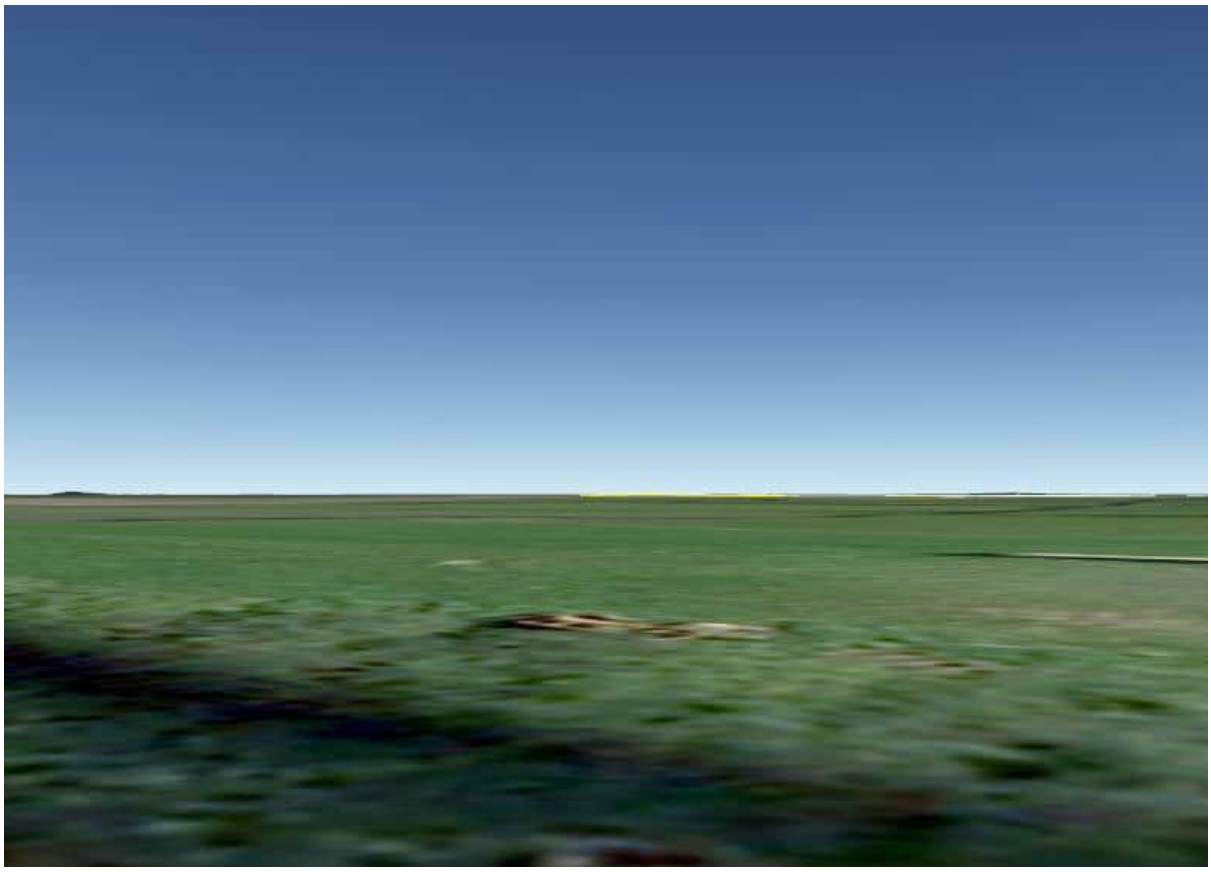


Receptor 39



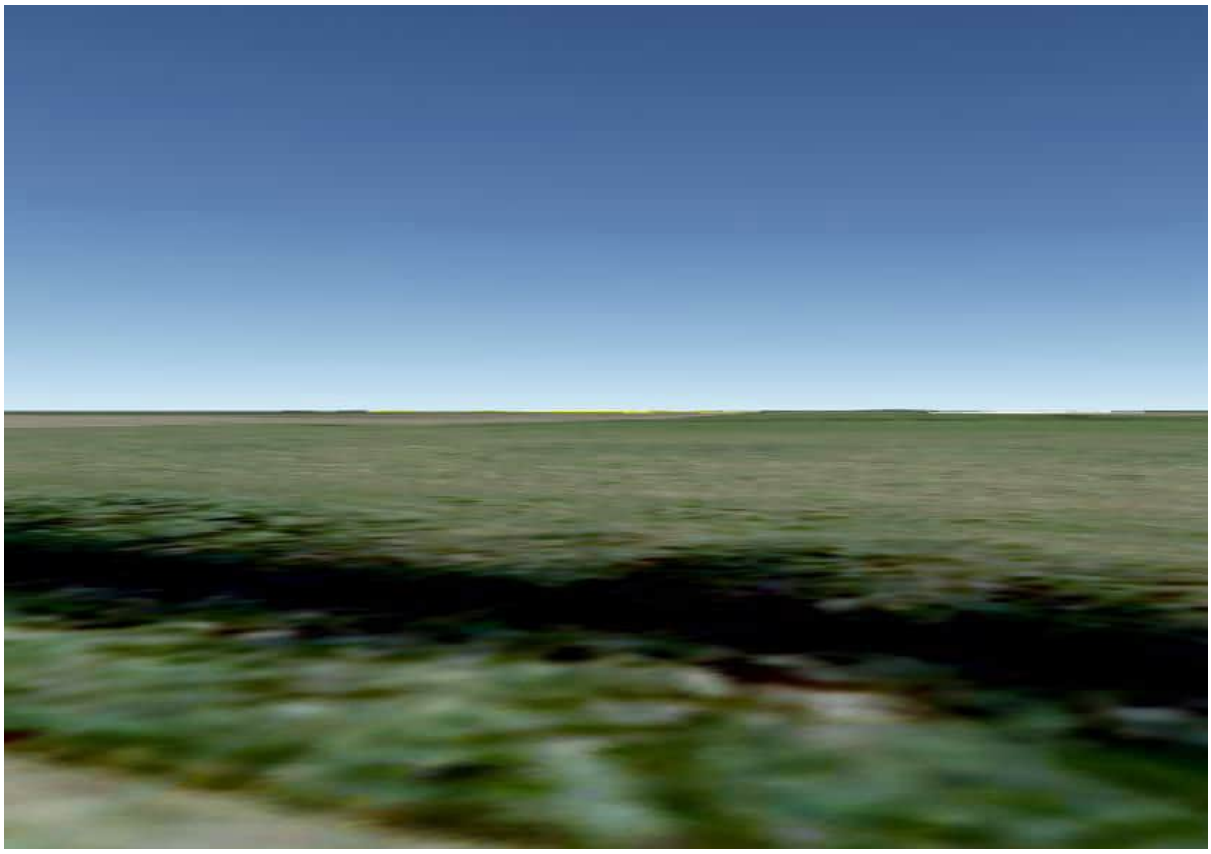


Receptor 40



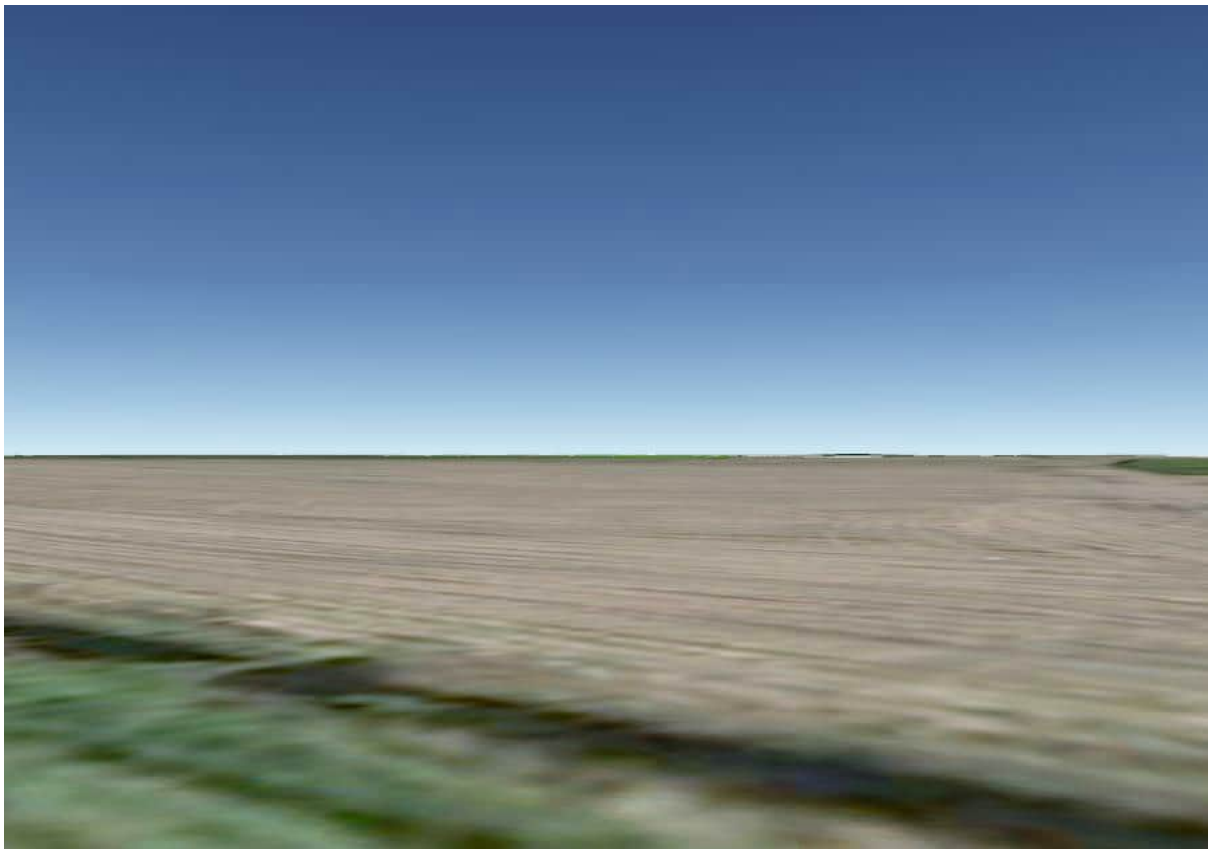


Receptor 41



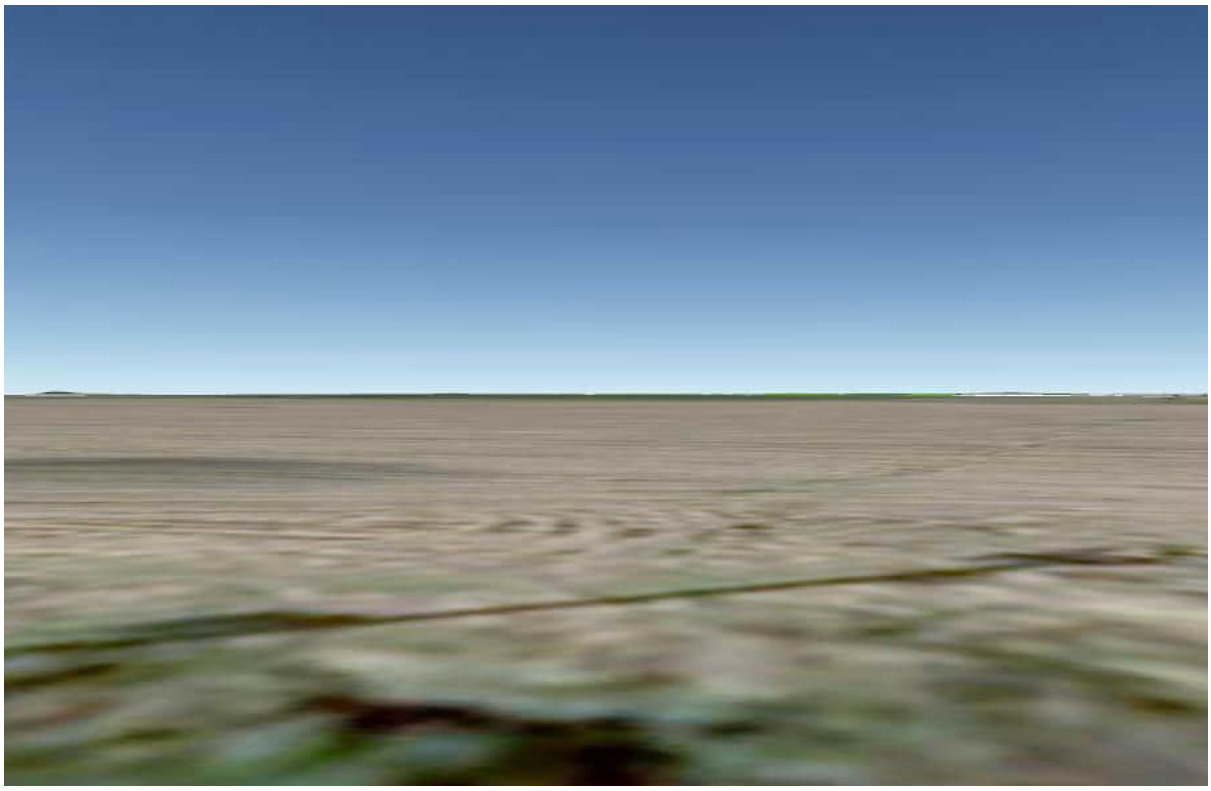


Receptor 42



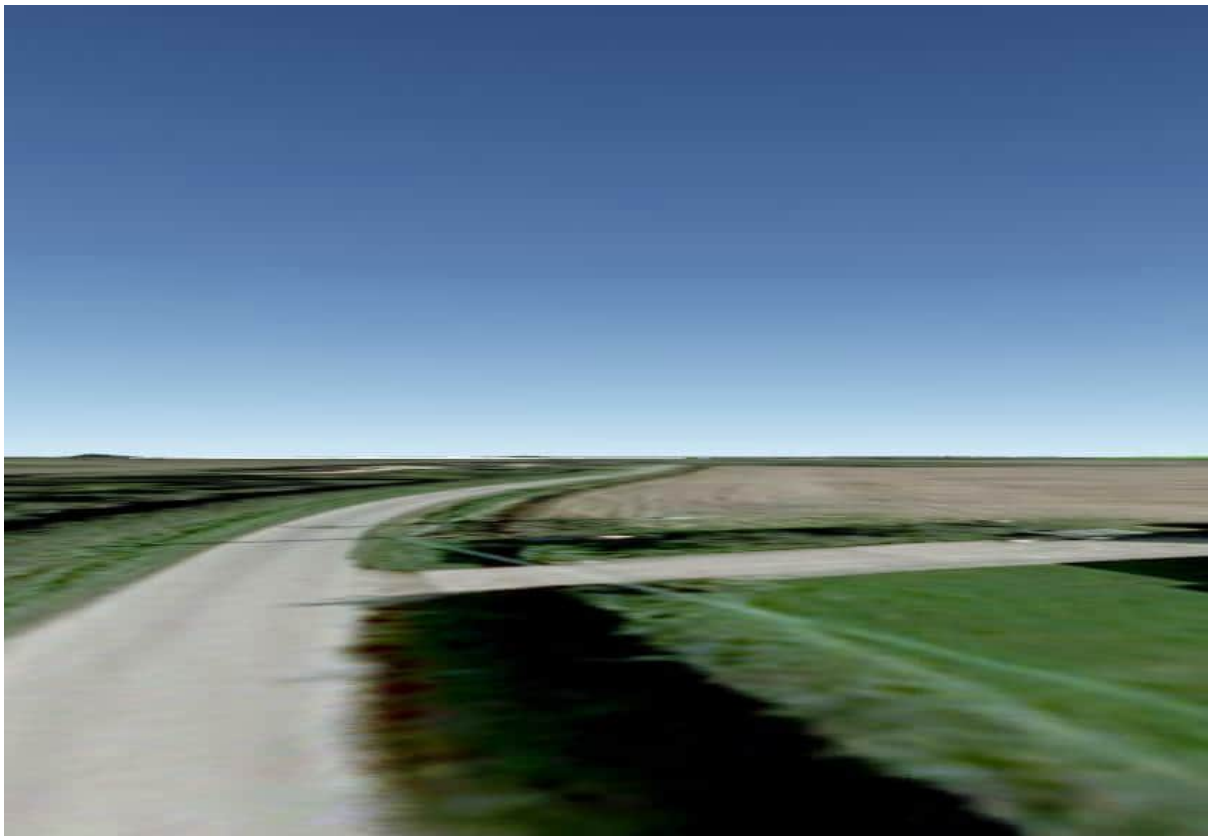


Receptor 43



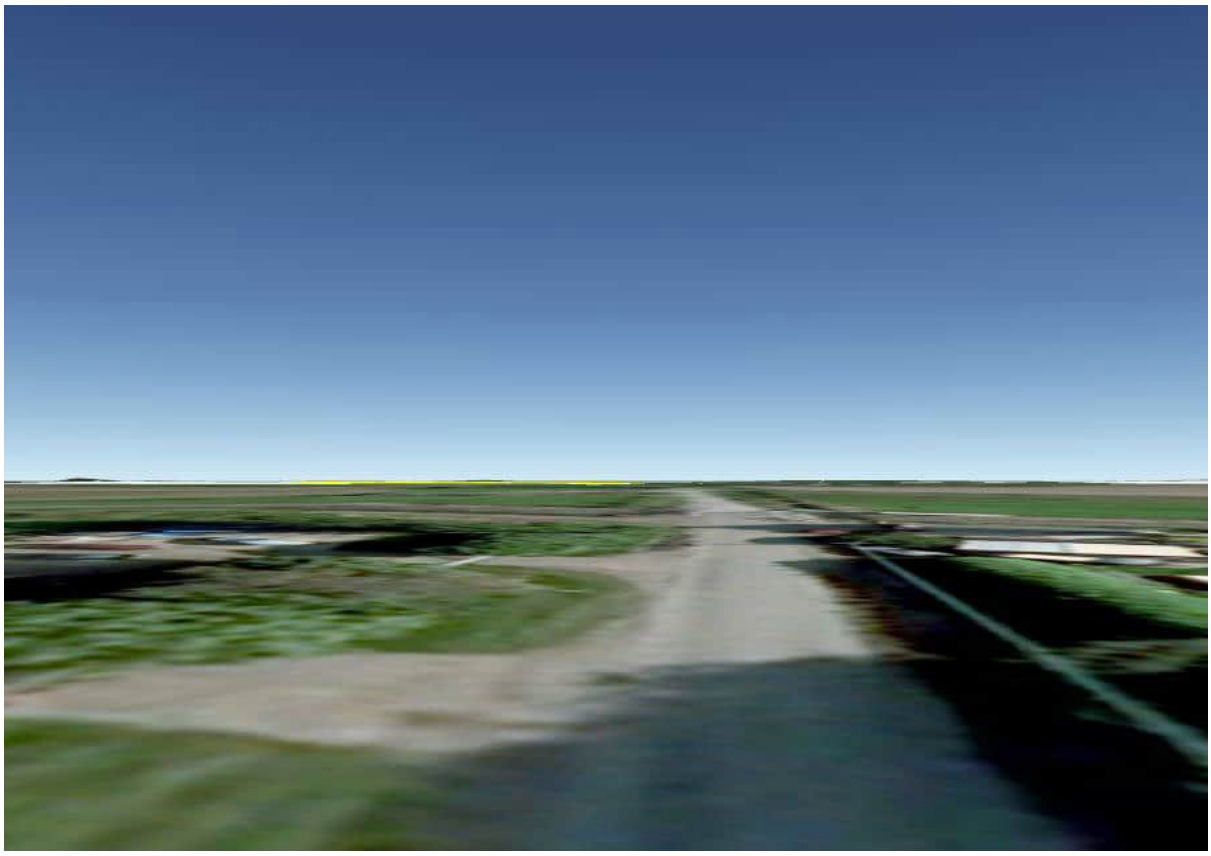


Receptor 44





Receptor 45



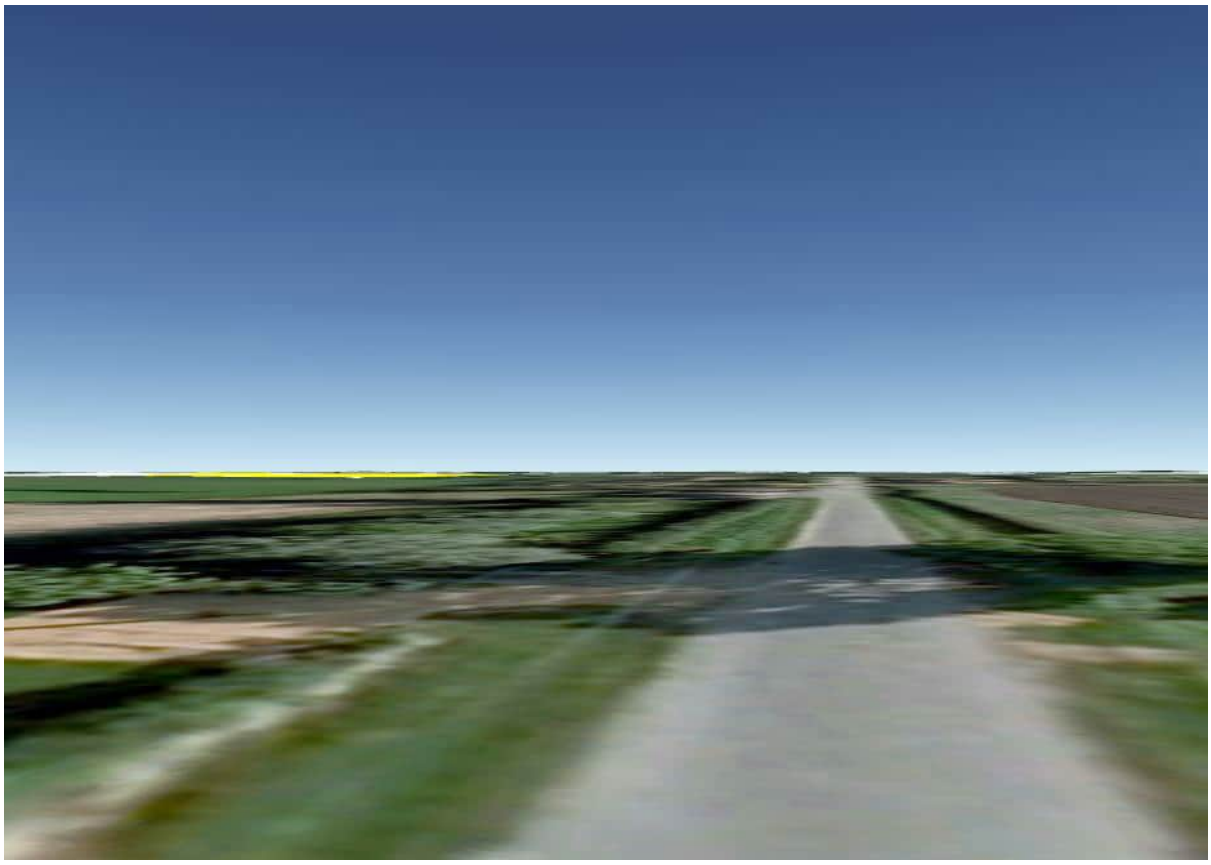


Receptor 46



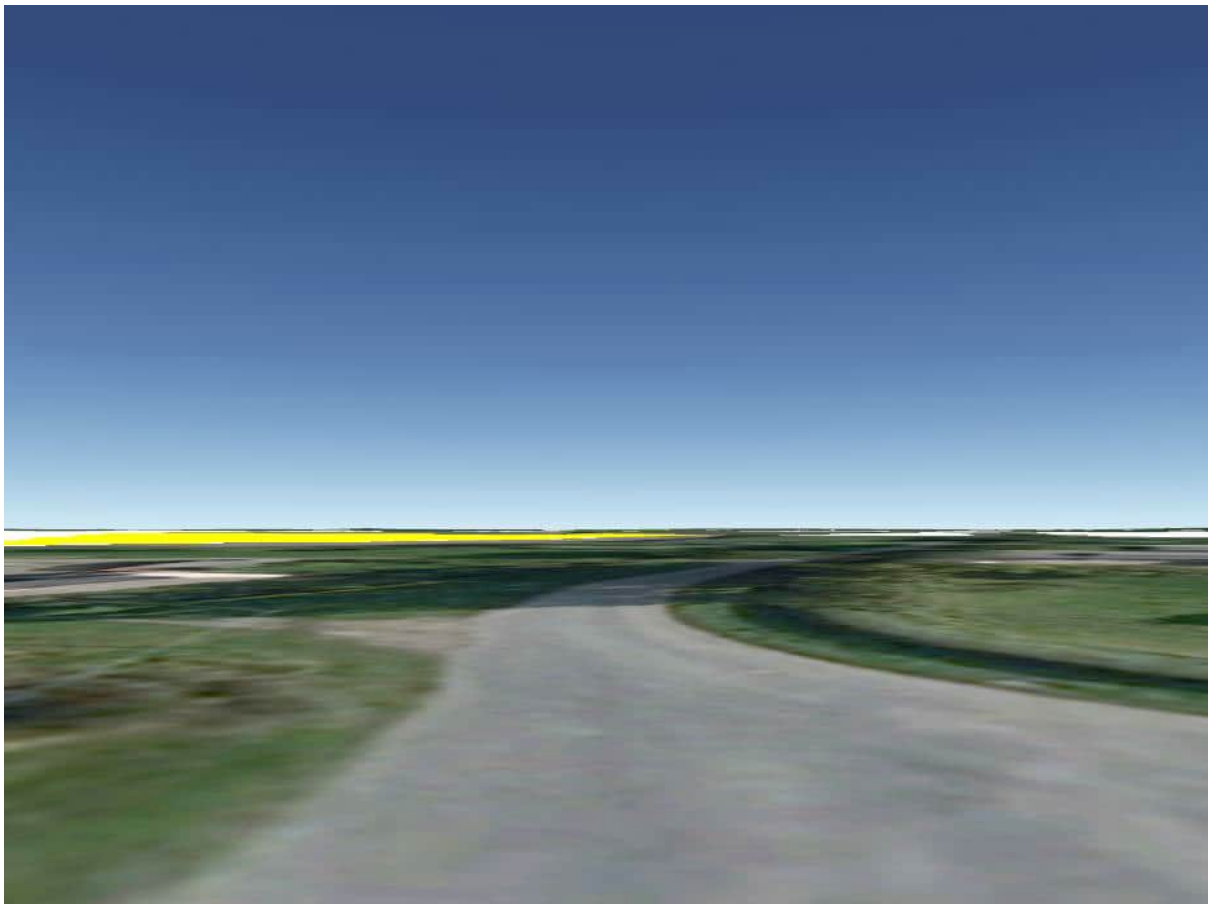


Receptor 47





Receptor 48



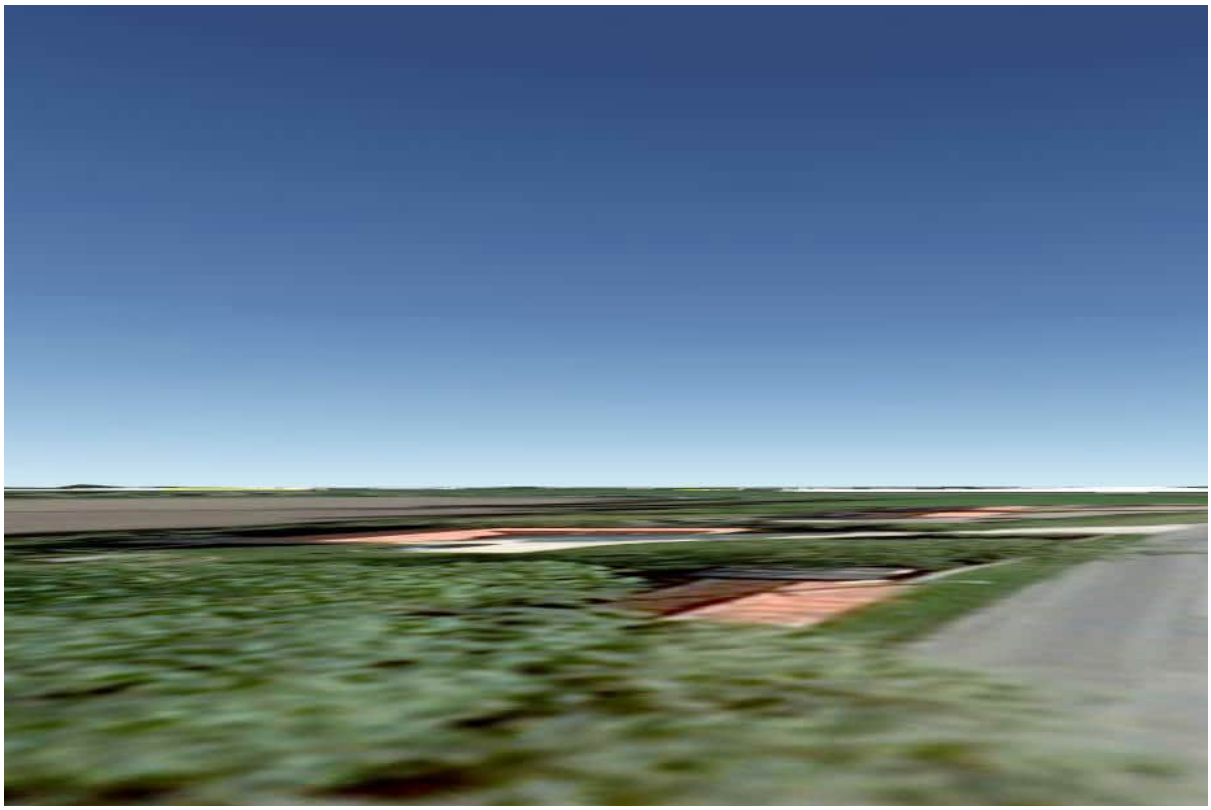


Receptor 49





Receptor 50





Receptor 51



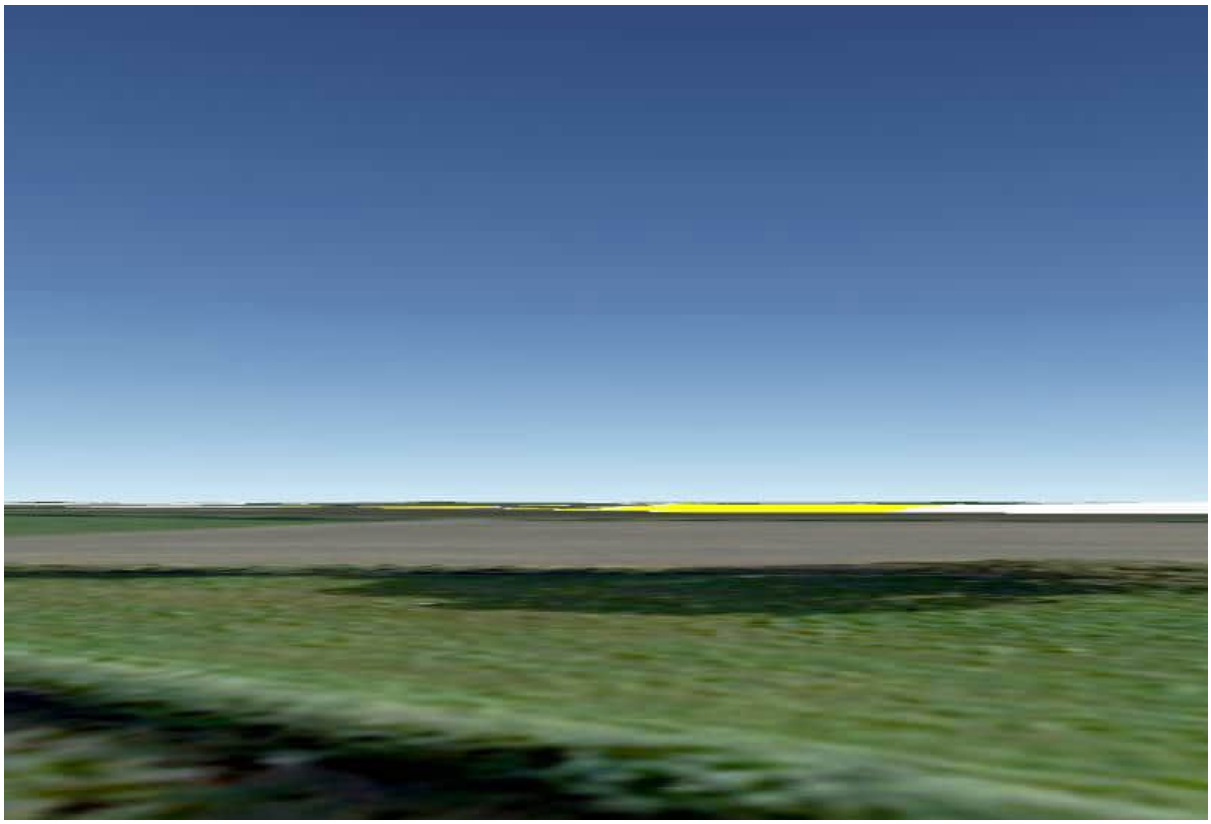


Receptor 52



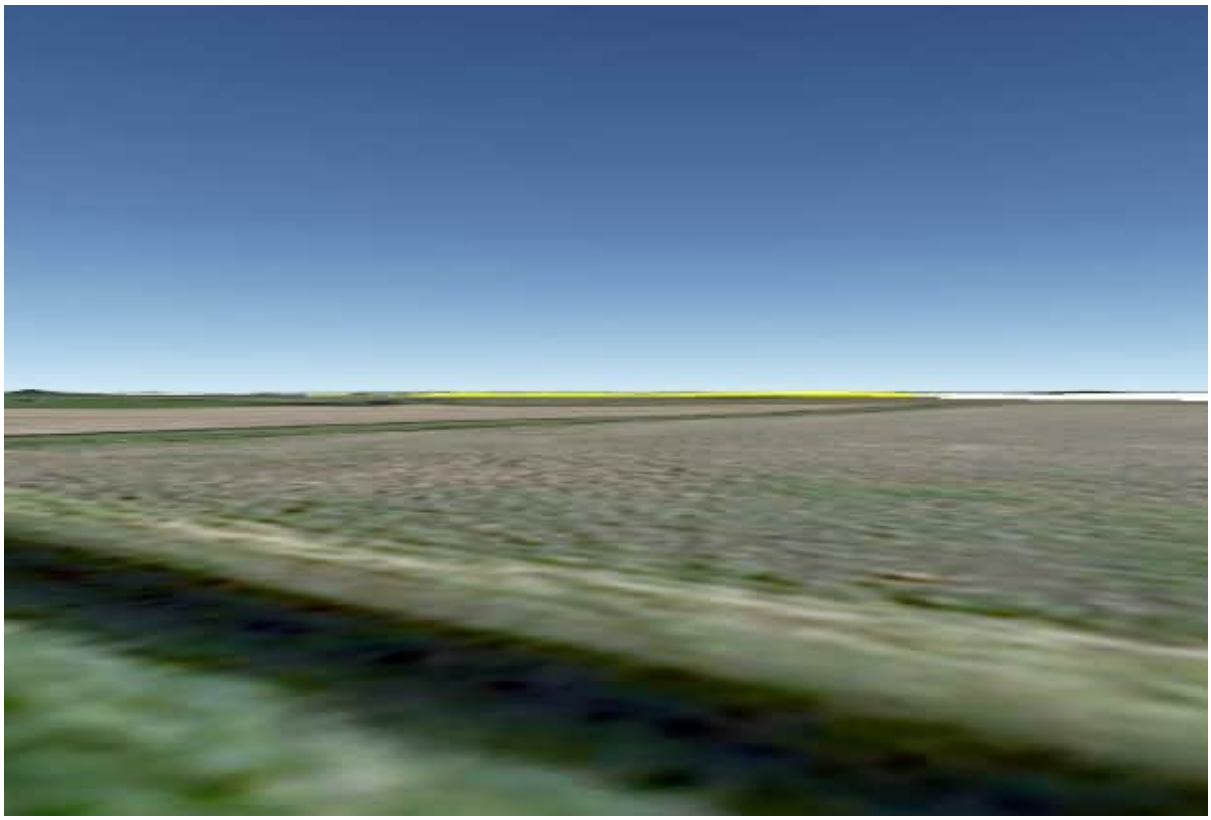


Receptor 53



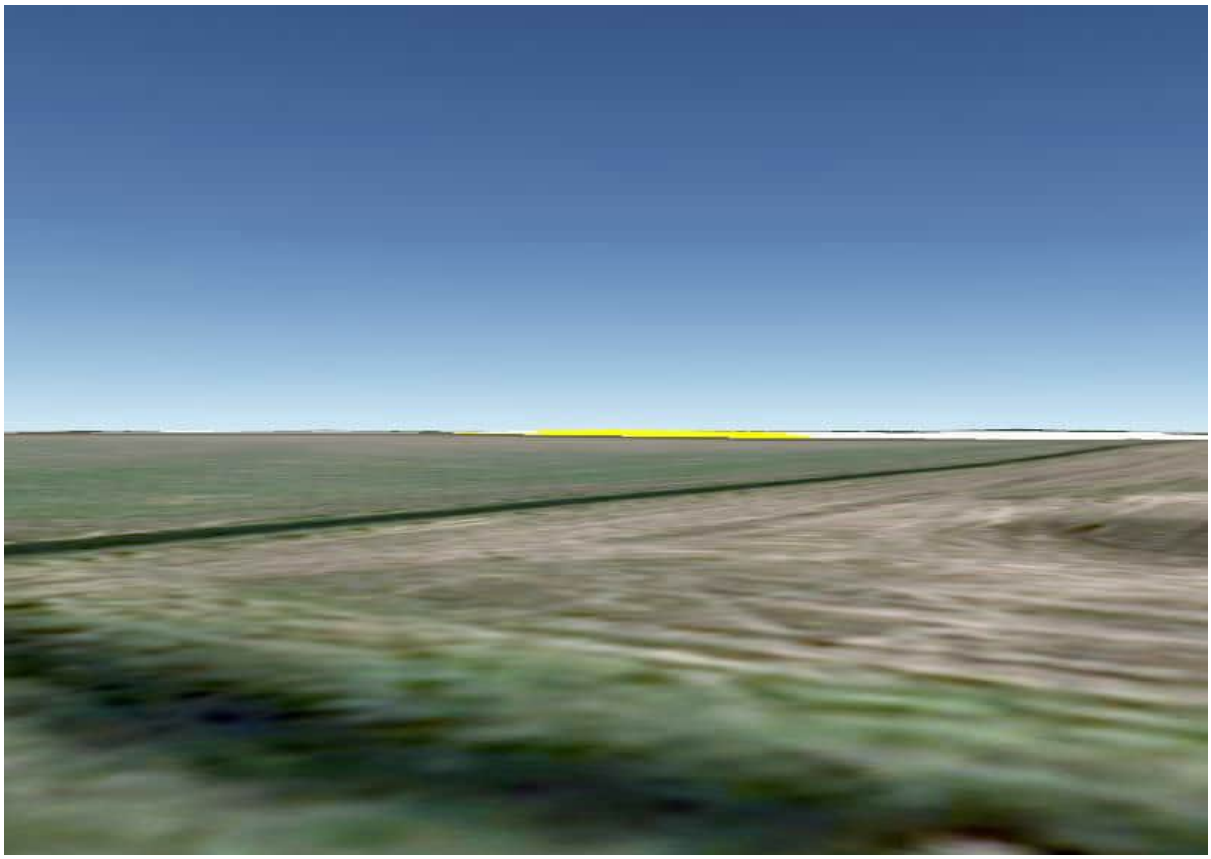


Receptor 54



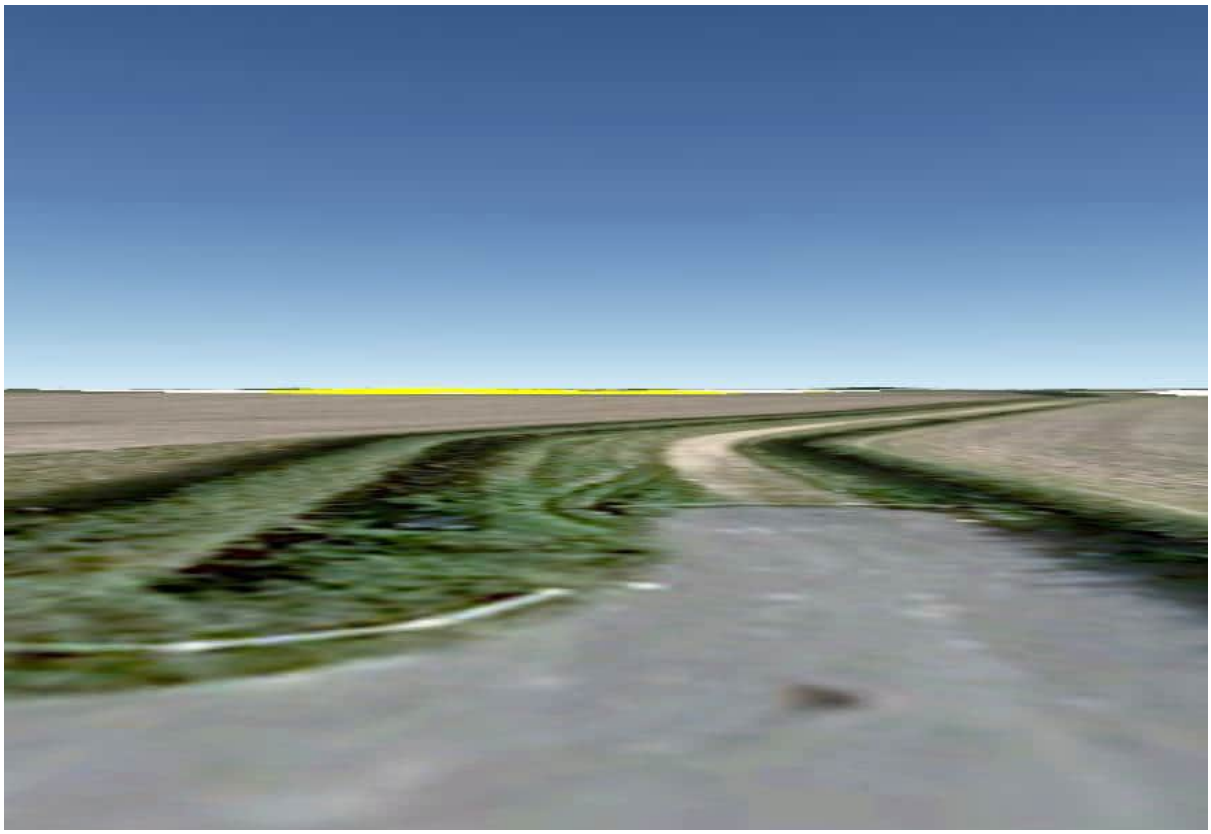


Receptor 55



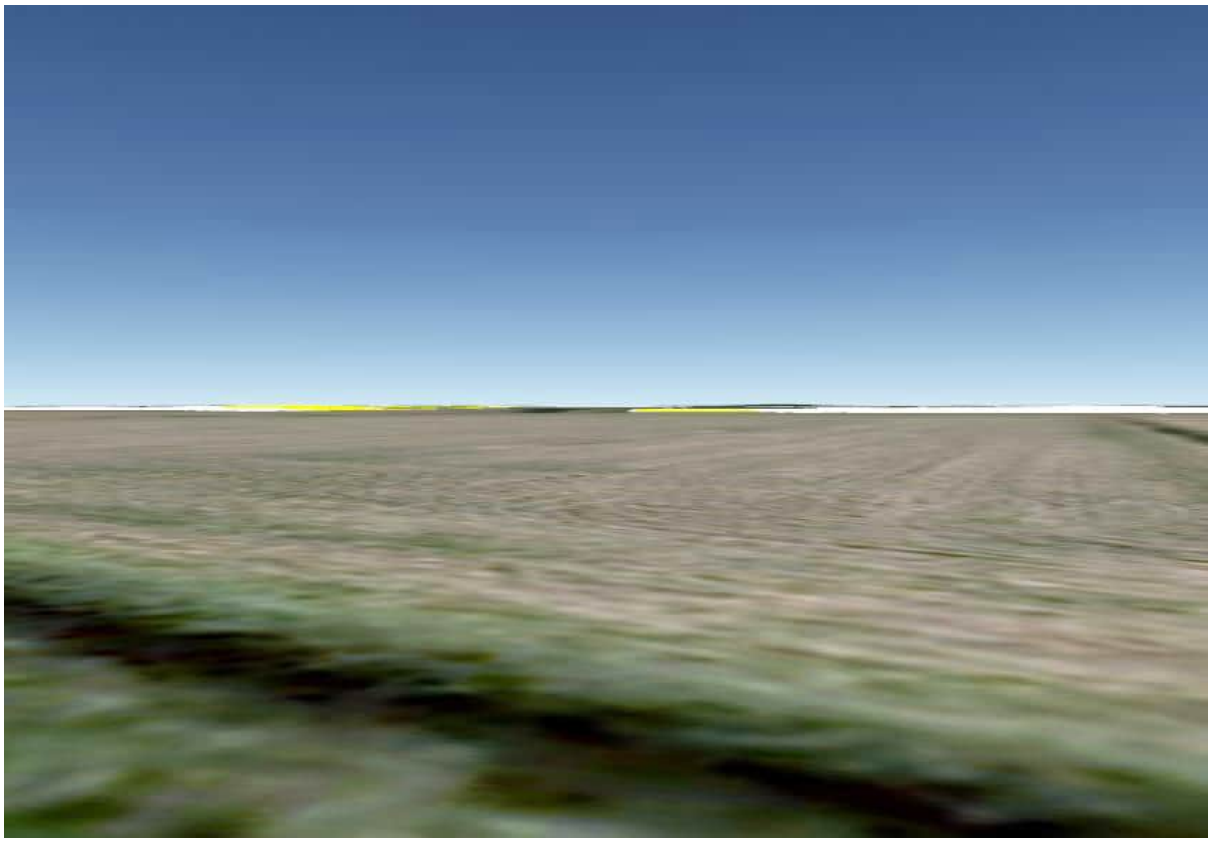


Receptor 56



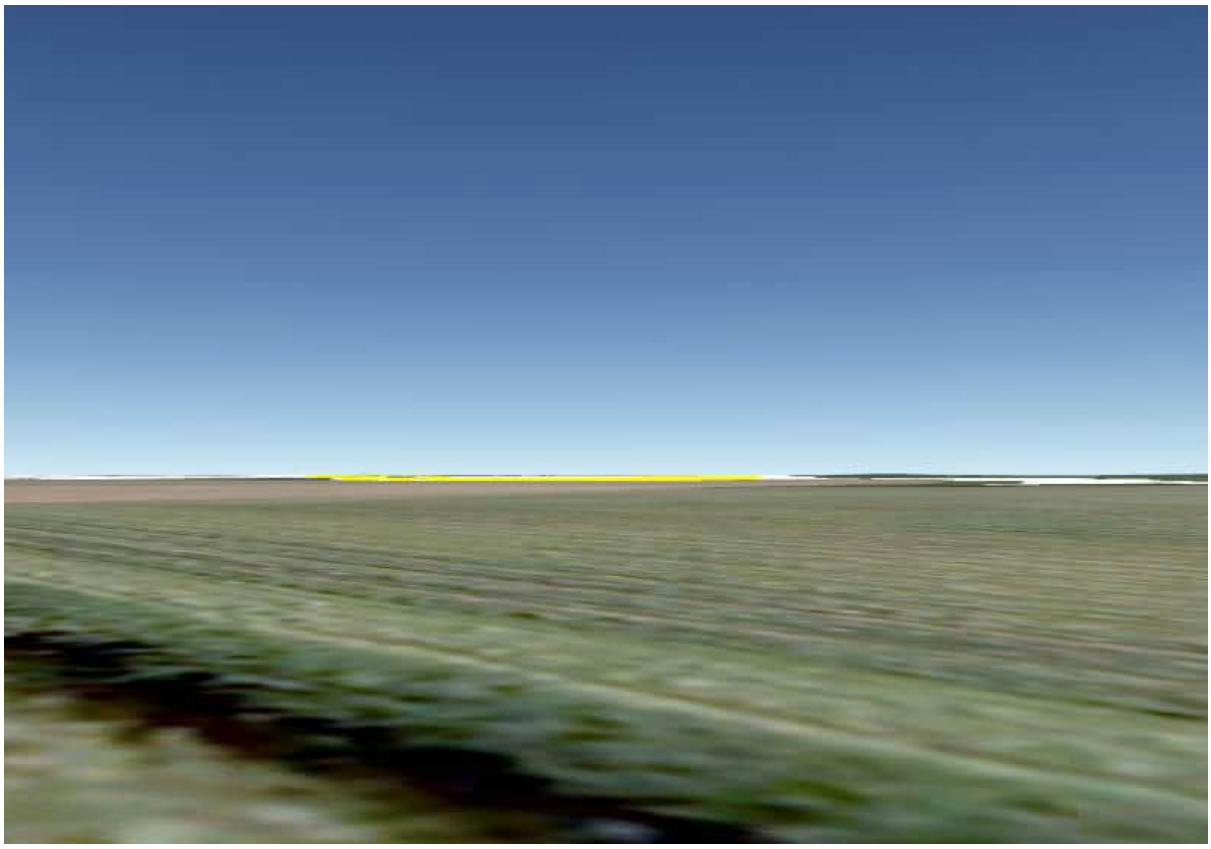


Receptor 57



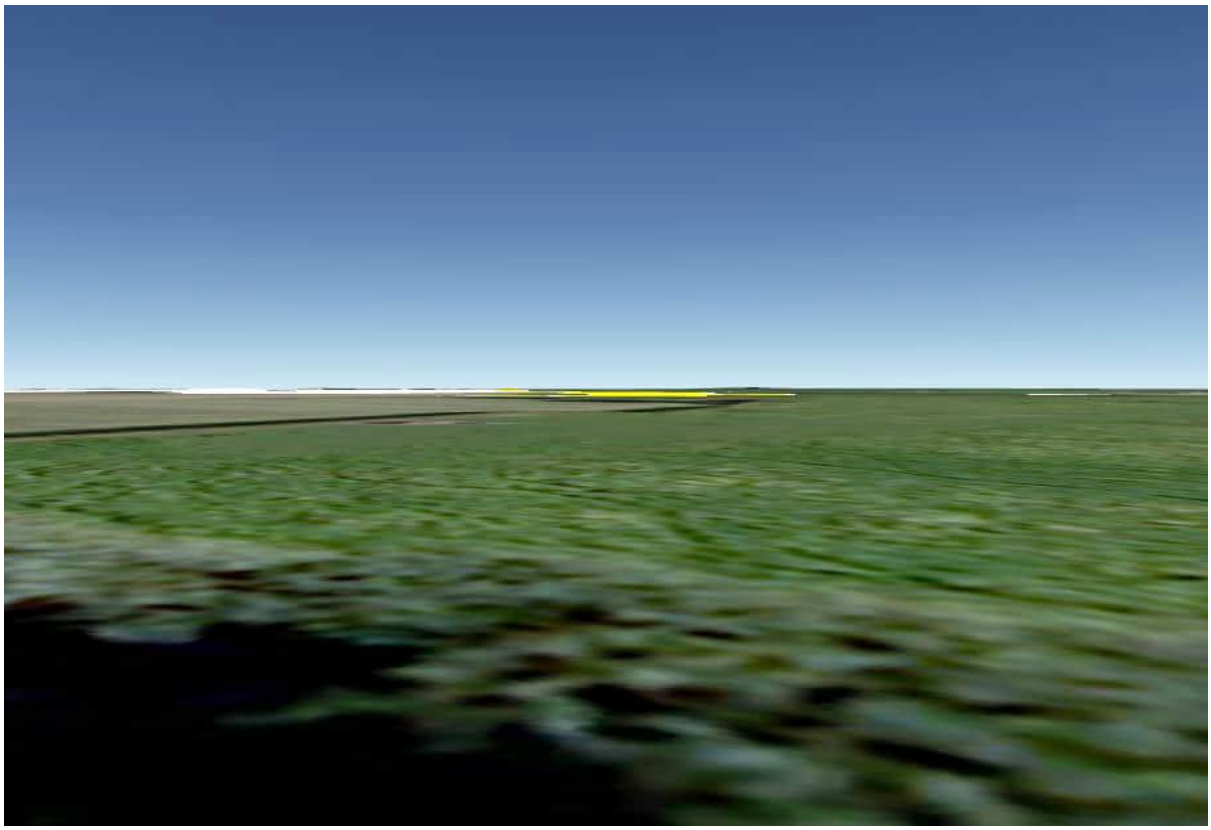


Receptor 58



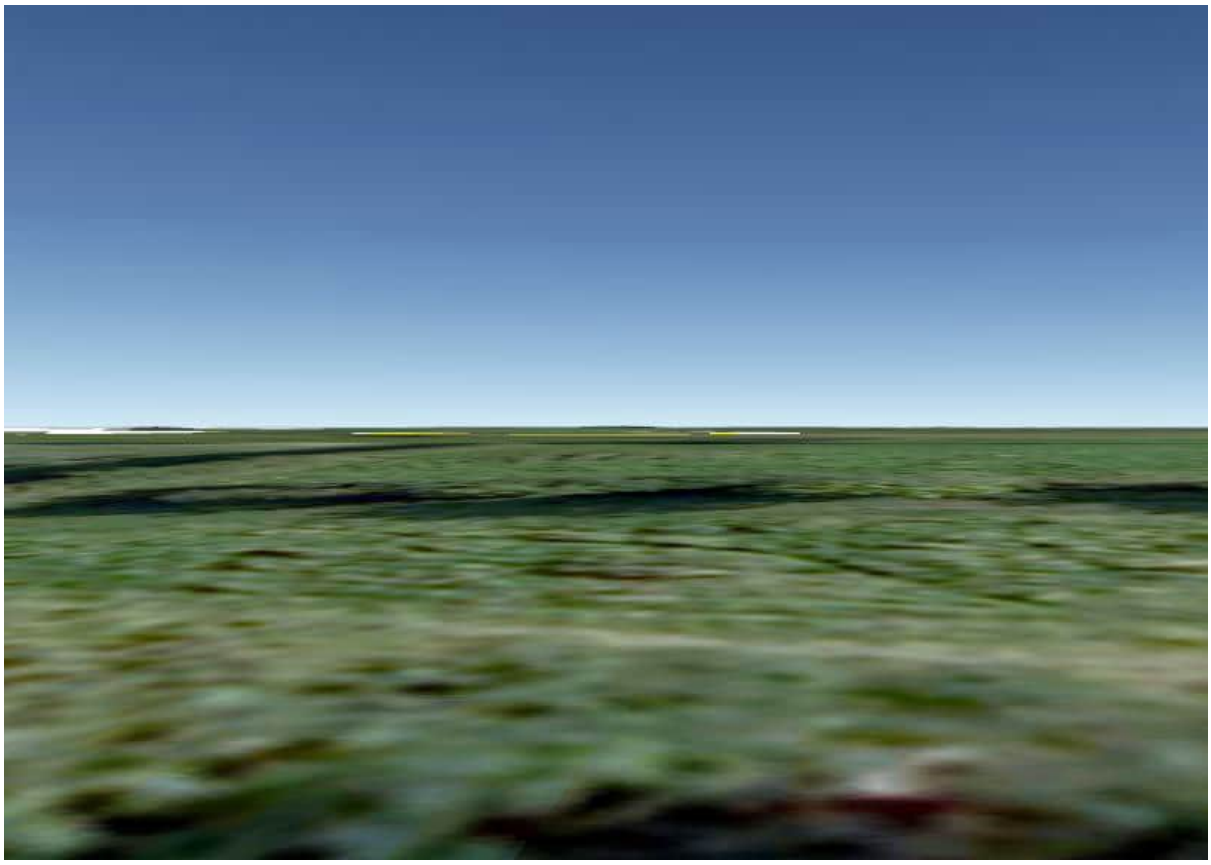


Receptor 59





Receptor 60



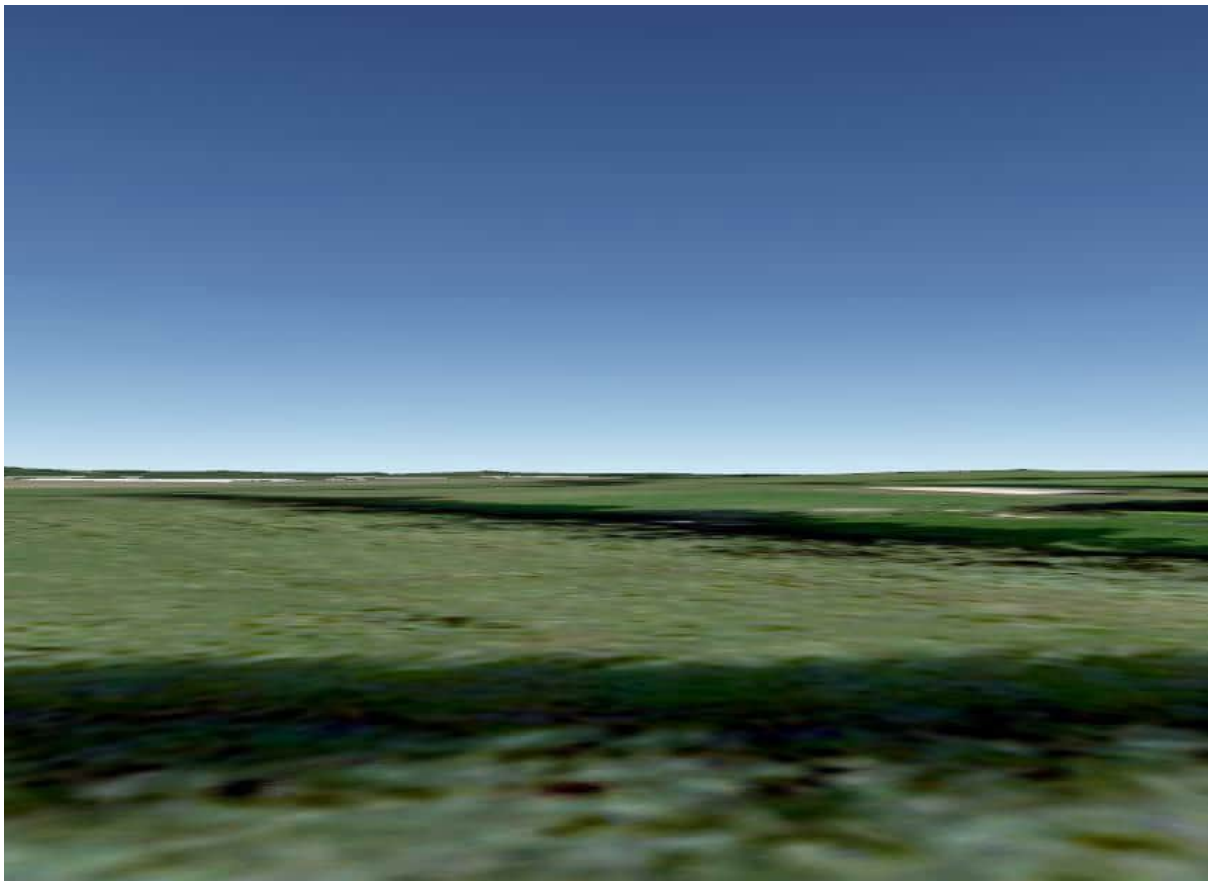


Receptor 61



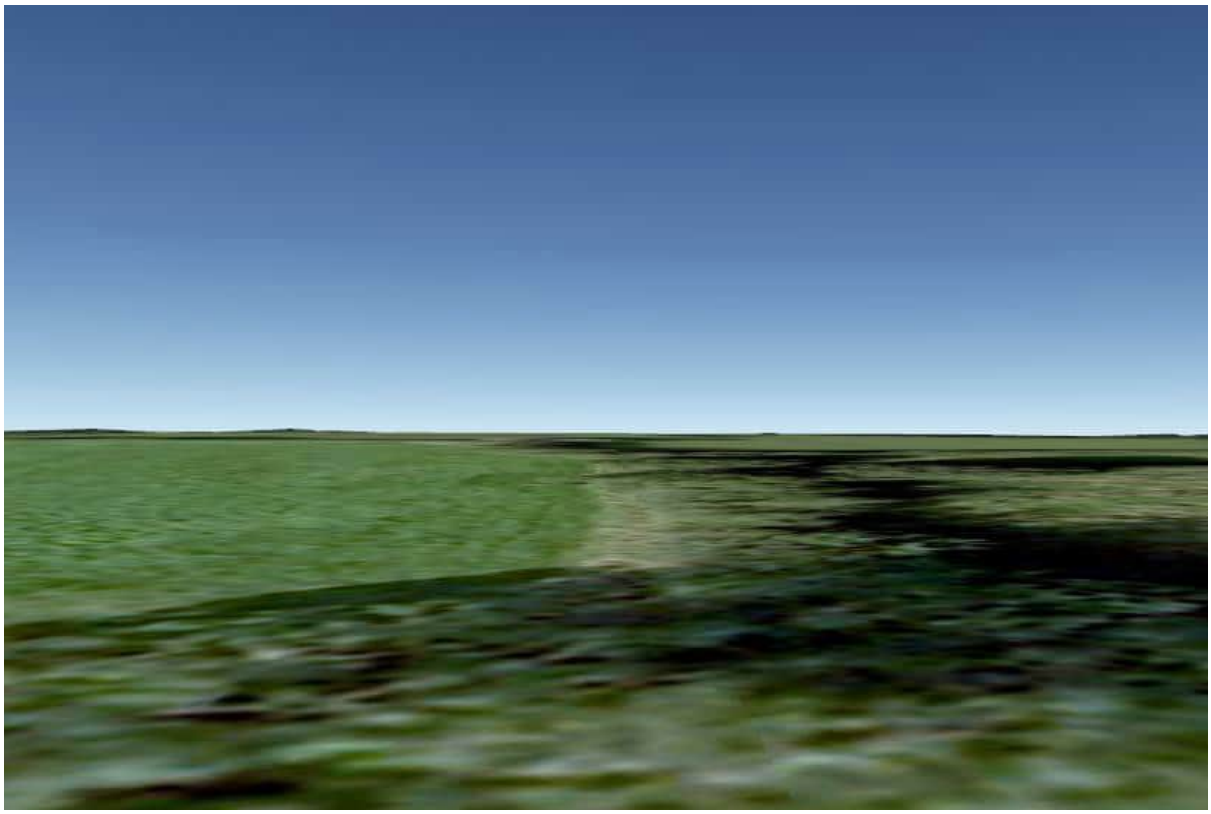


Receptor 63



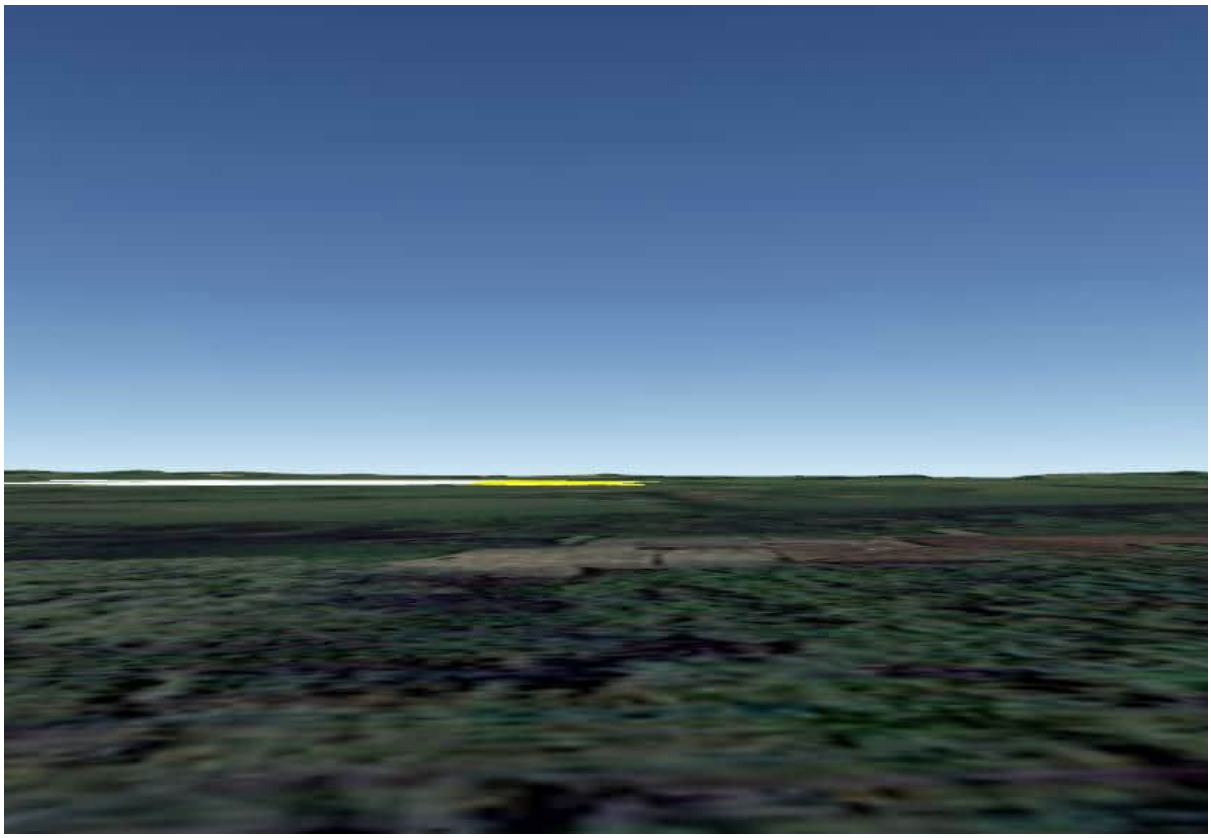


Receptor 64



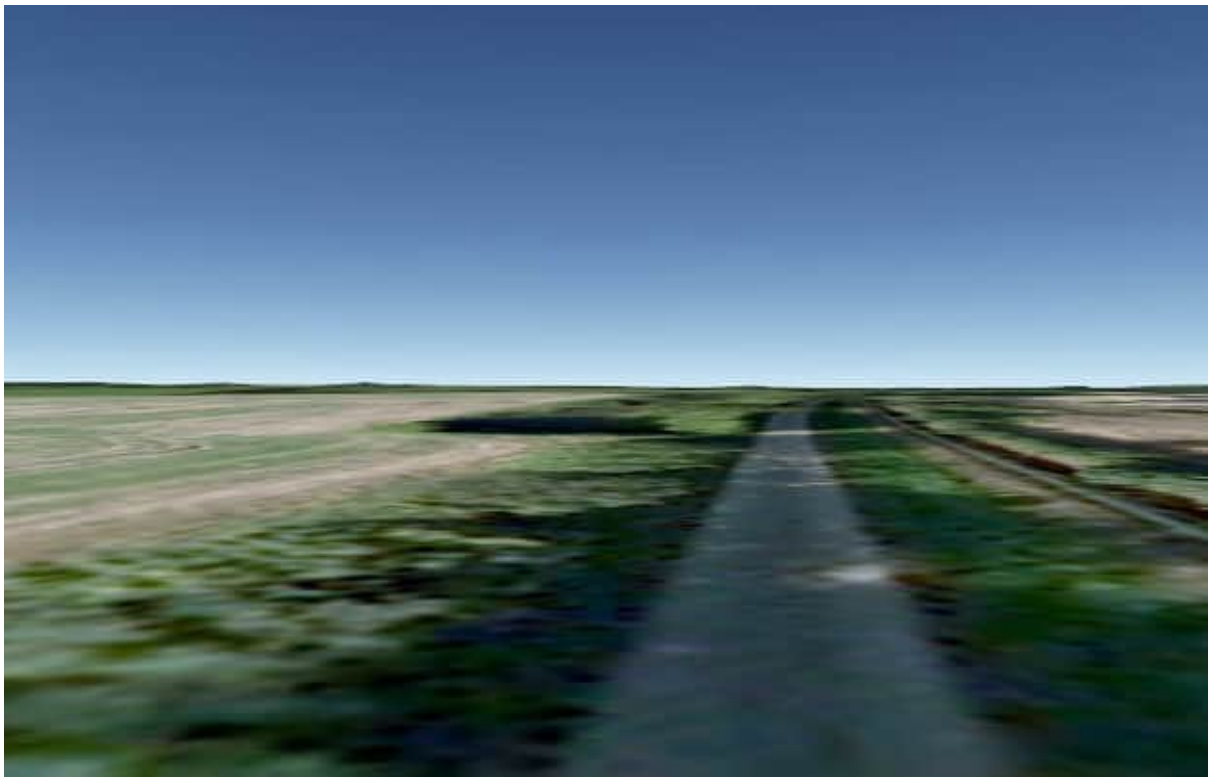


Receptor 67





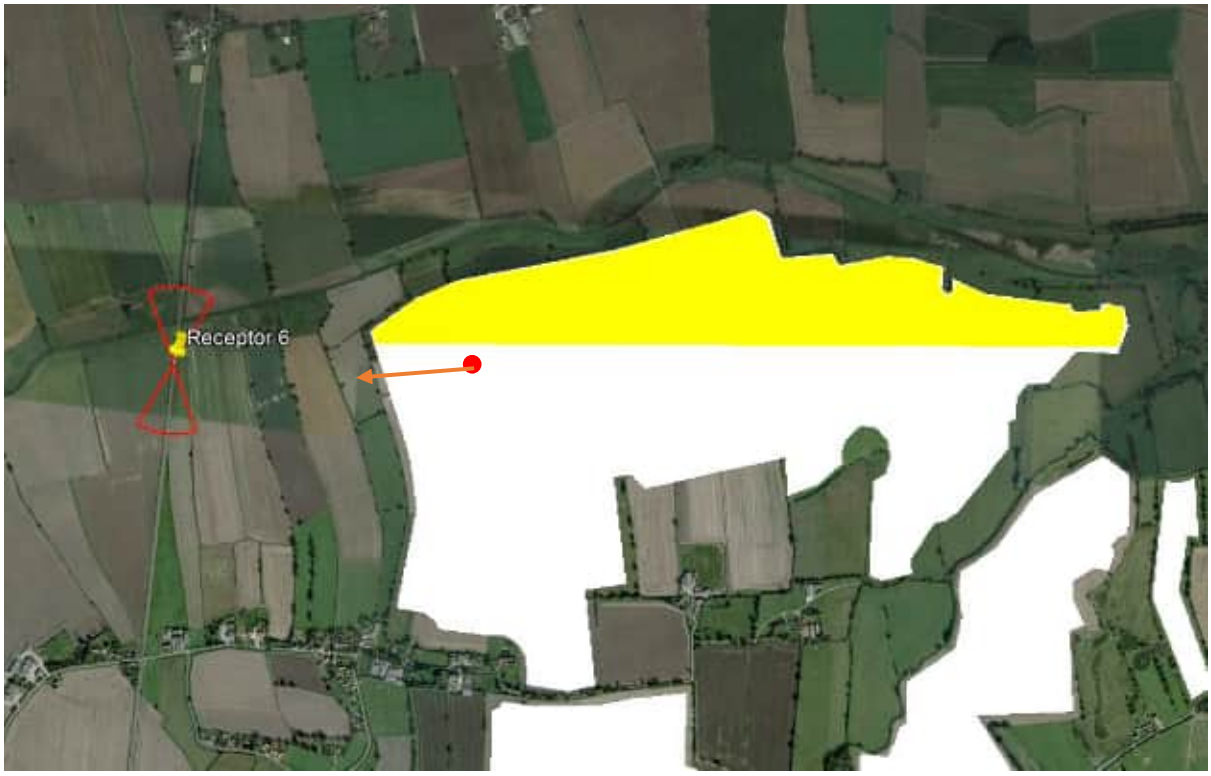
Receptor 68





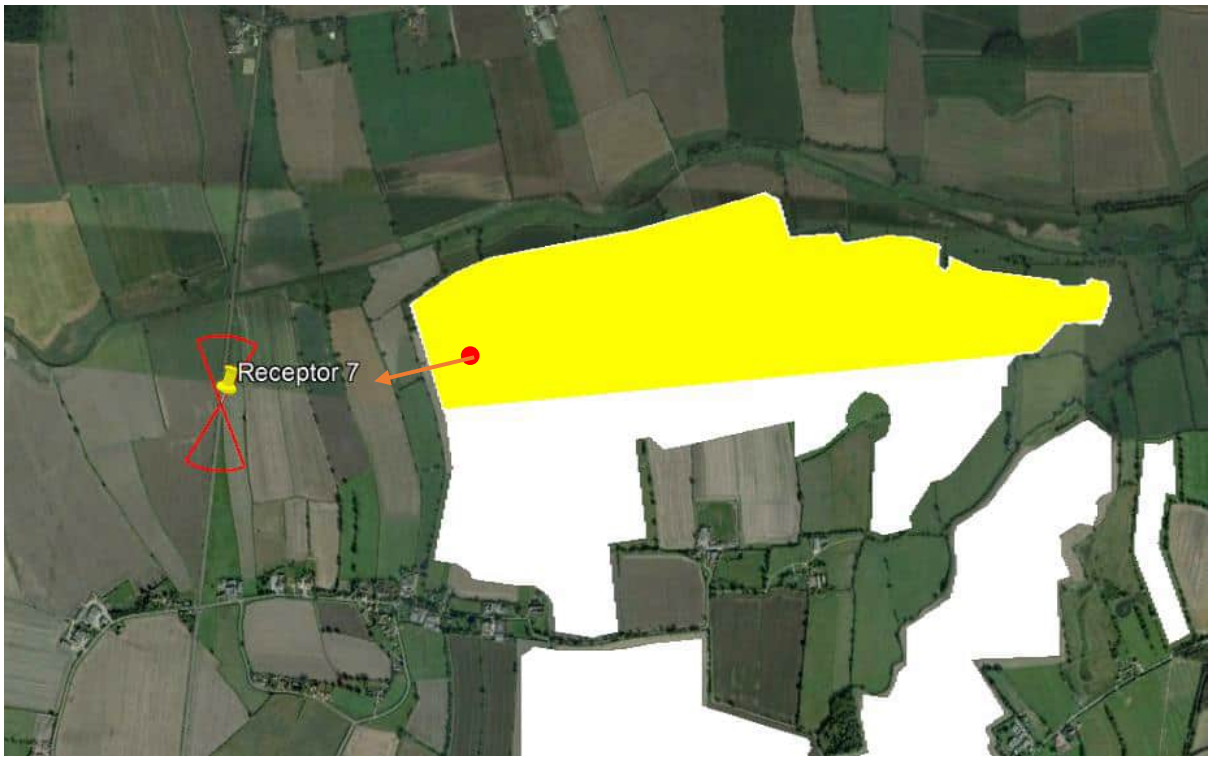
Rail Receptors

Receptor 6



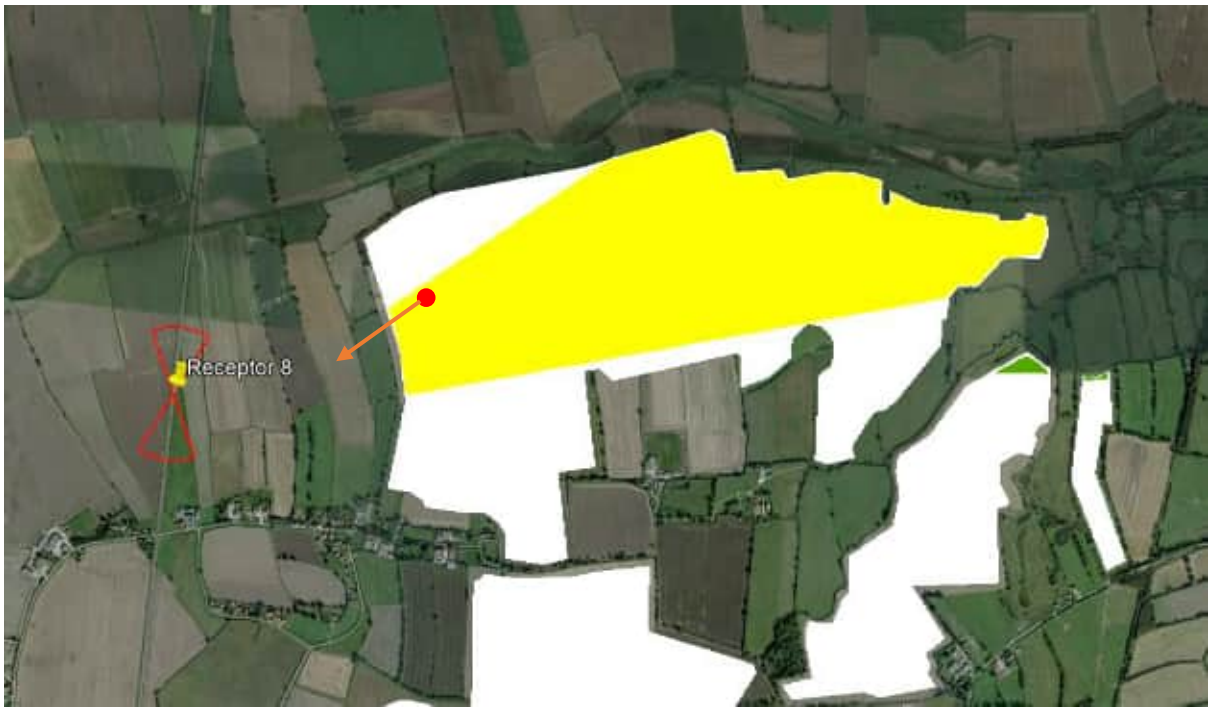


Receptor 7





Receptor 8





Receptor 9





Receptor 10





Receptor 11



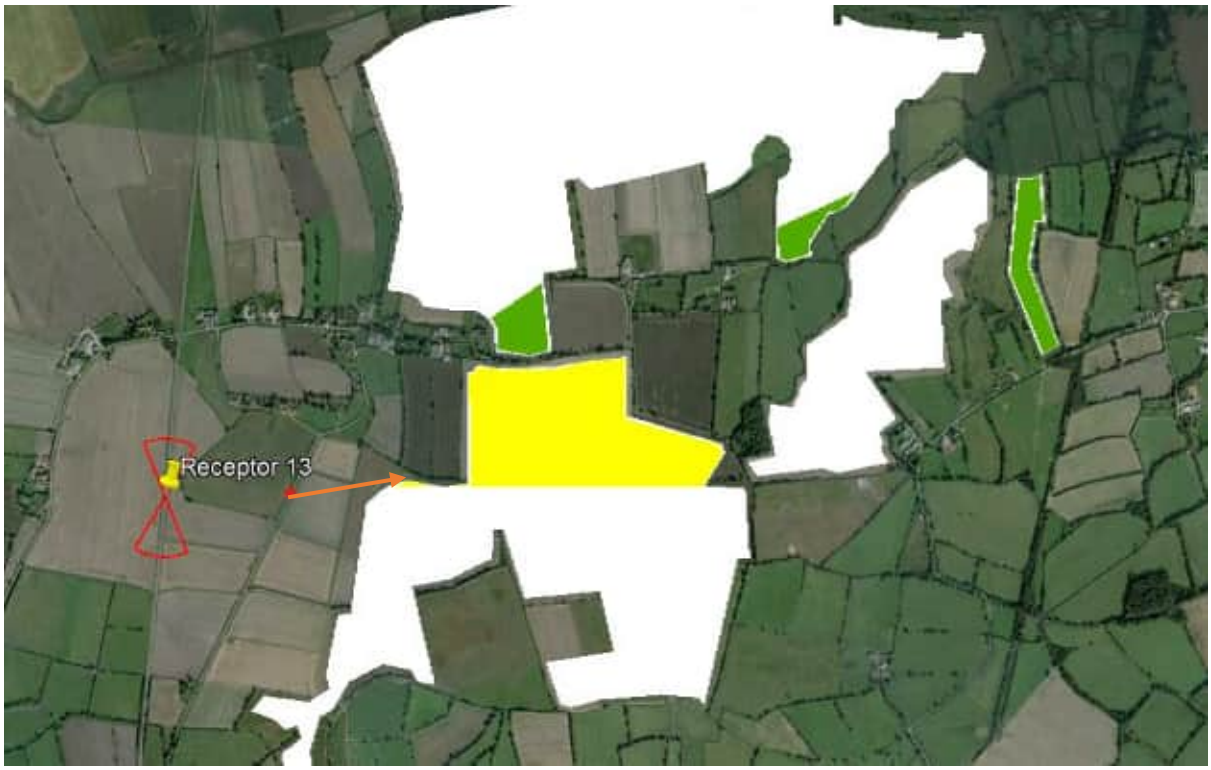


Receptor 12



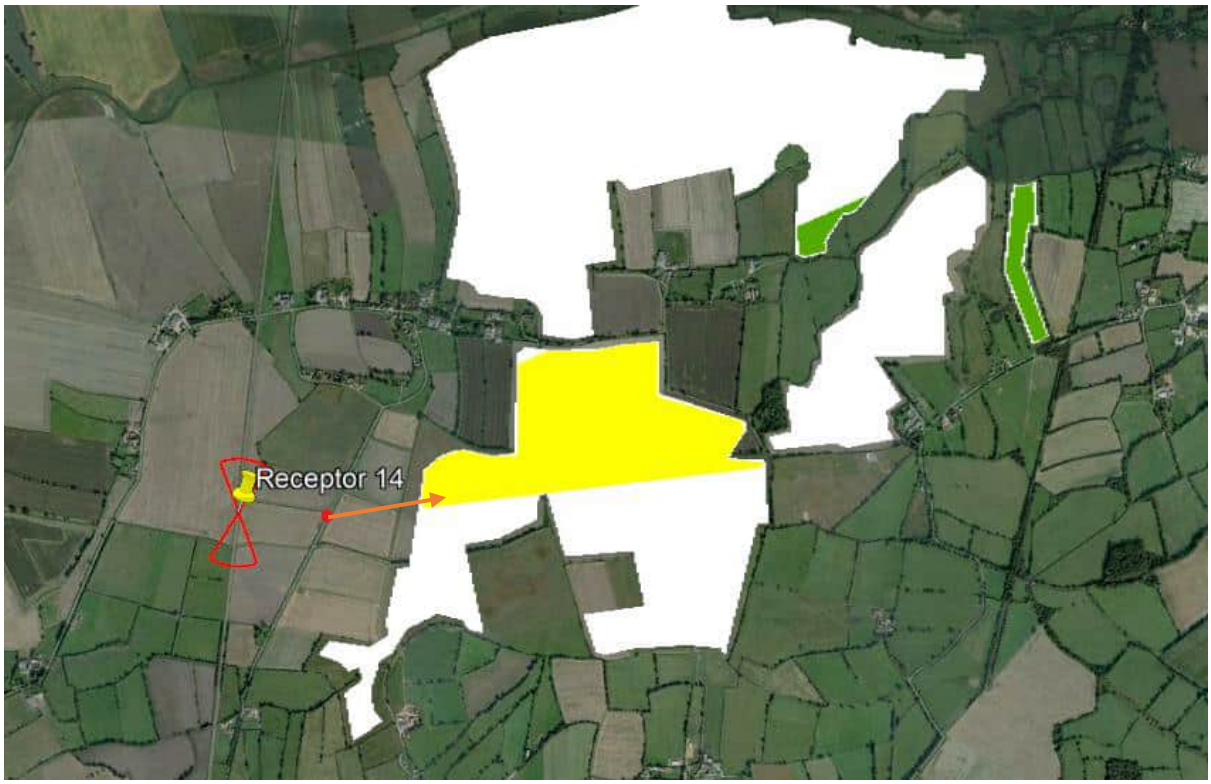


Receptor 13



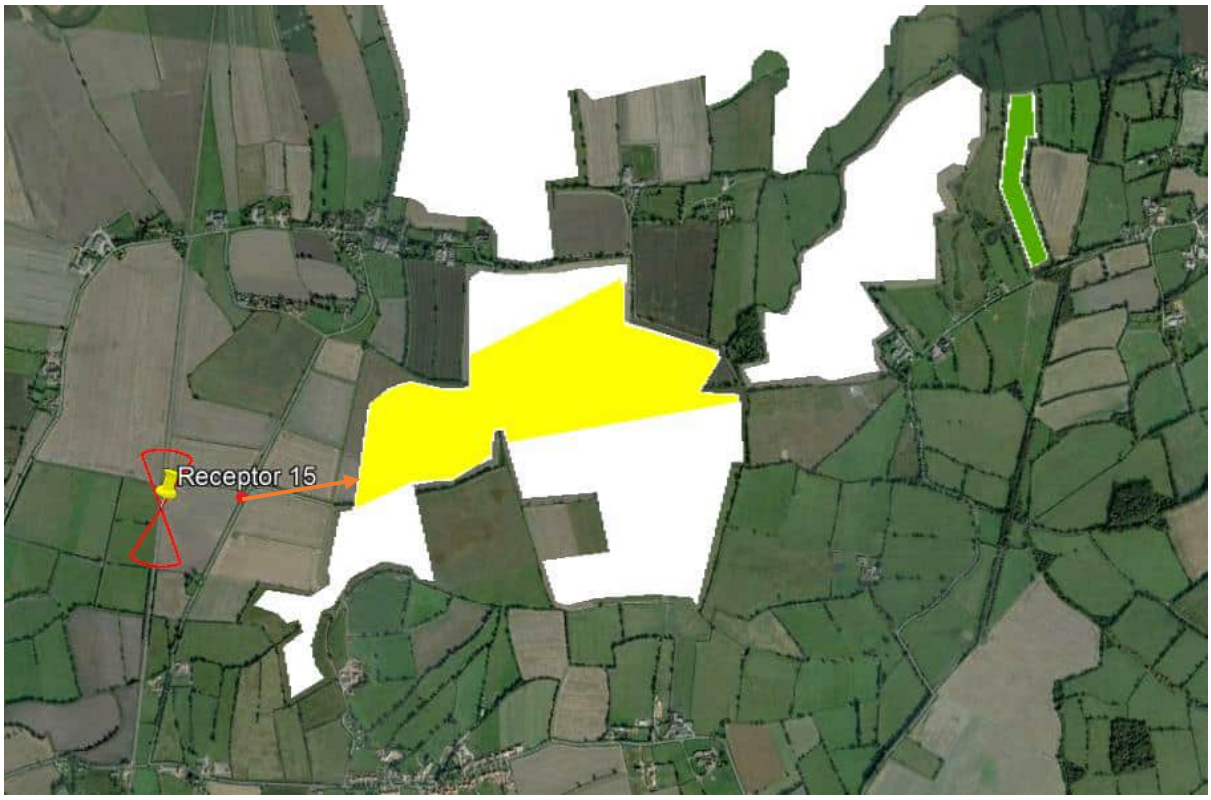


Receptor 14



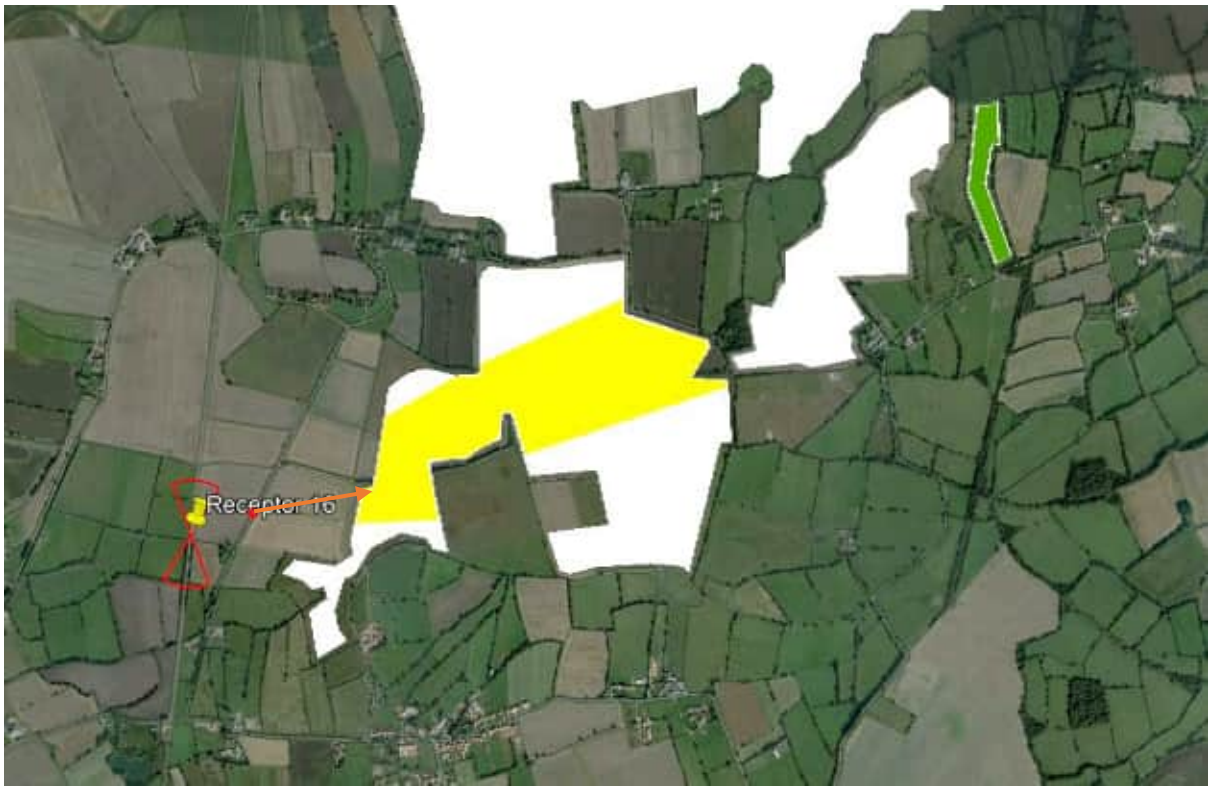


Receptor 15



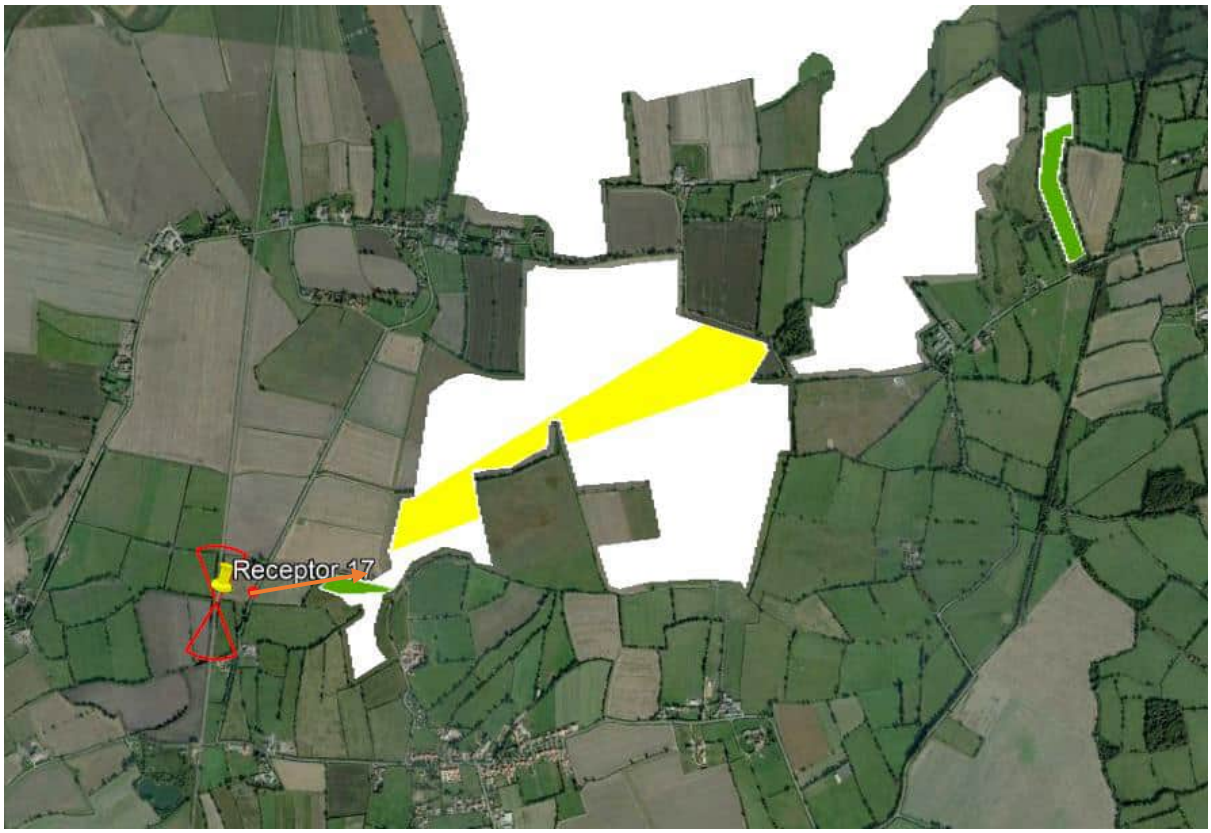


Receptor 16





Receptor 17





Receptor 18





Receptor 19





Bridleway Receptors

Receptor 1

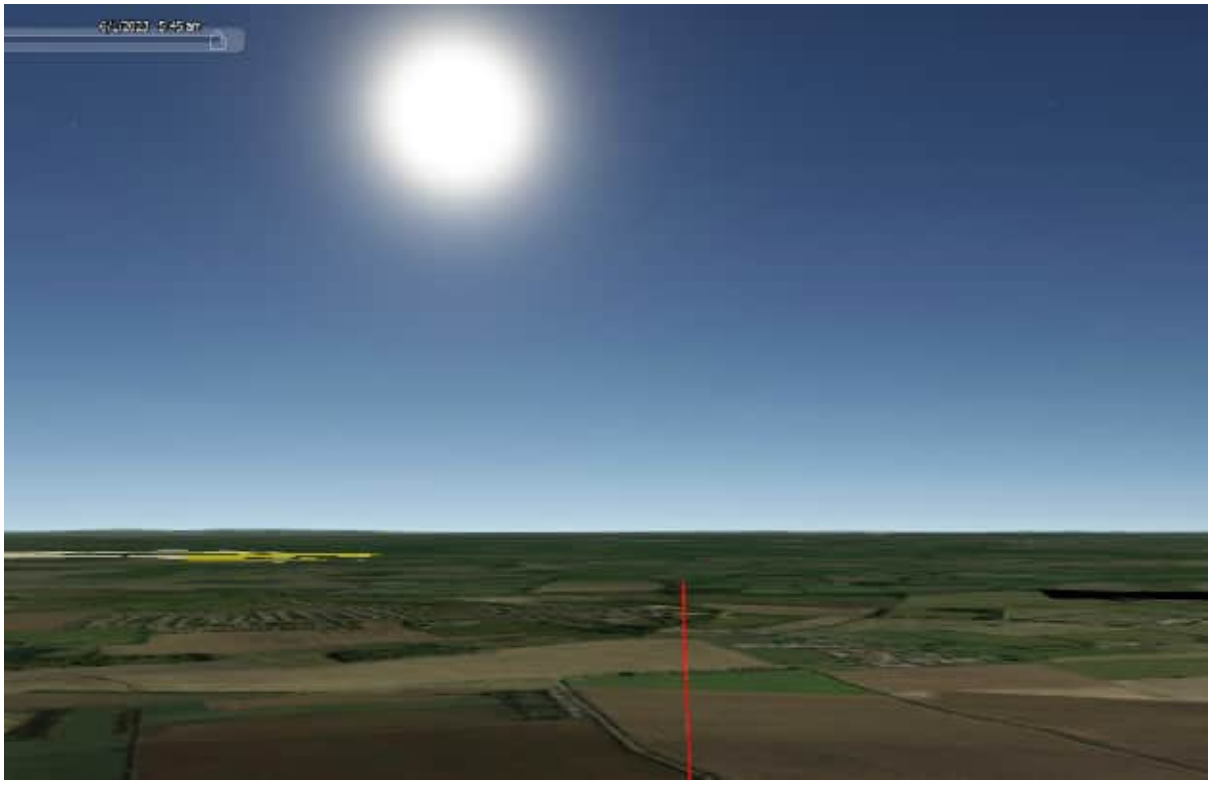




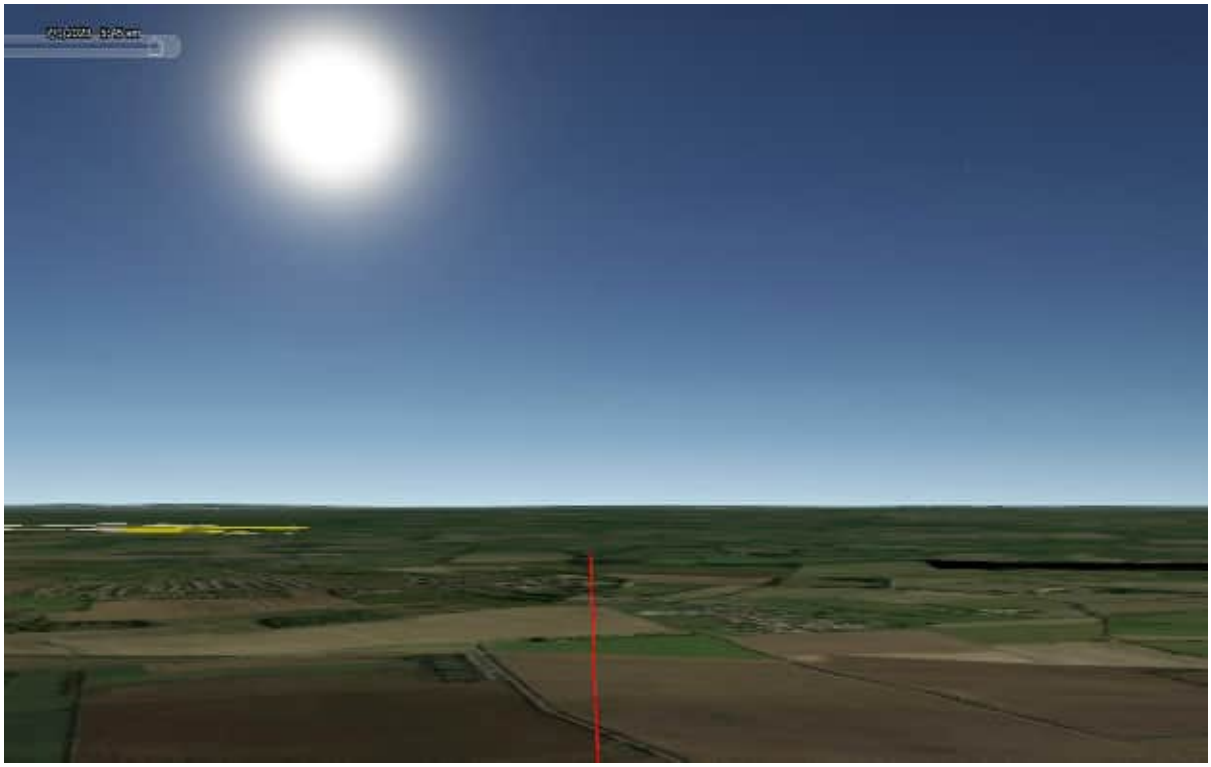
Aviation Receptors

Church Farm Runway 08 Approach

June 1st 05:45 UTC



July 1st 05:45 UTC



ANNEX O SOLAR MODULE GLARE AND REFLECTANCE TECHNICAL MEMO

Appendix O

Solar Module Glare and Reflectance Technical Memo

Technical Notification

TITLE: SunPower Solar Module Glare and Reflectance
AUTHORS: Technical Support
APPLICATION: Residential/ Commercial
SCOPE: SunPower Modules

SUMMARY:

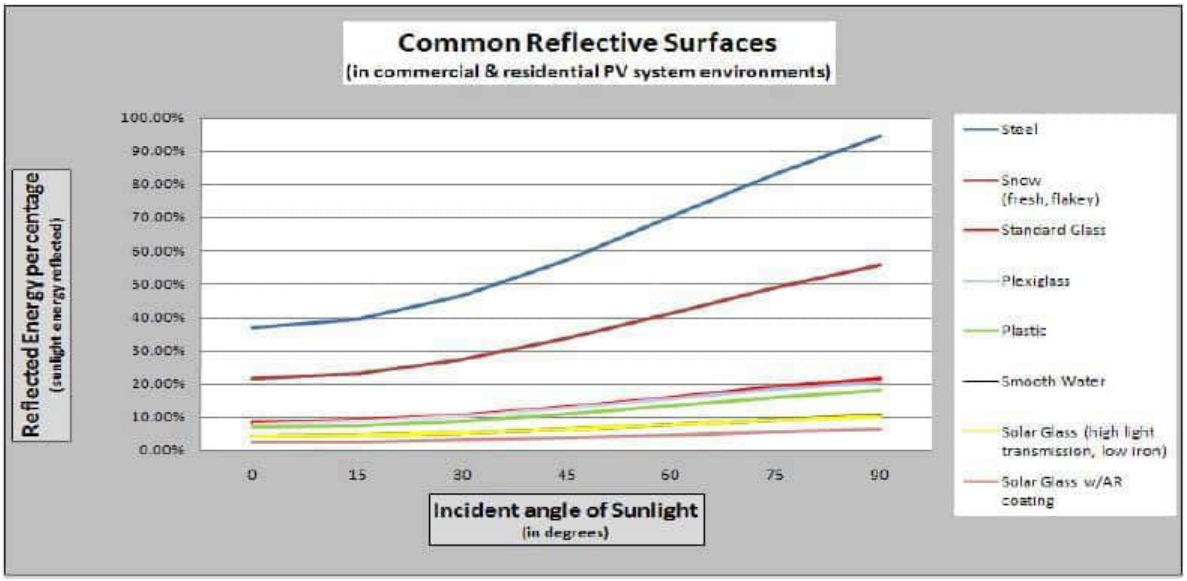
The objective of this document is to increase awareness concerning the possible glare and reflectance impact of PV Systems on their surrounding environment.

The glare and reflectance levels from a given PV system are decisively lower than the glare andreflectance generated by the standard glass and other common reflective surfaces in the environments surrounding the given PV system. Concerning random glare and reflectance observed from the air: SunPower has several large projects installed near airports or on air force bases. Each of these large projects has passed FAA or Air Force standards and all projects have been determined as "No Hazard toAir Navigation". Although the possible glare and reflectance from PV systems are at safe levels and are usually decisively lower than other standard residential and commercial reflective surfaces, SunPower suggests that customers and installers discuss any possible concerns with the neighbors/cohabitants near the planned PV system installation.

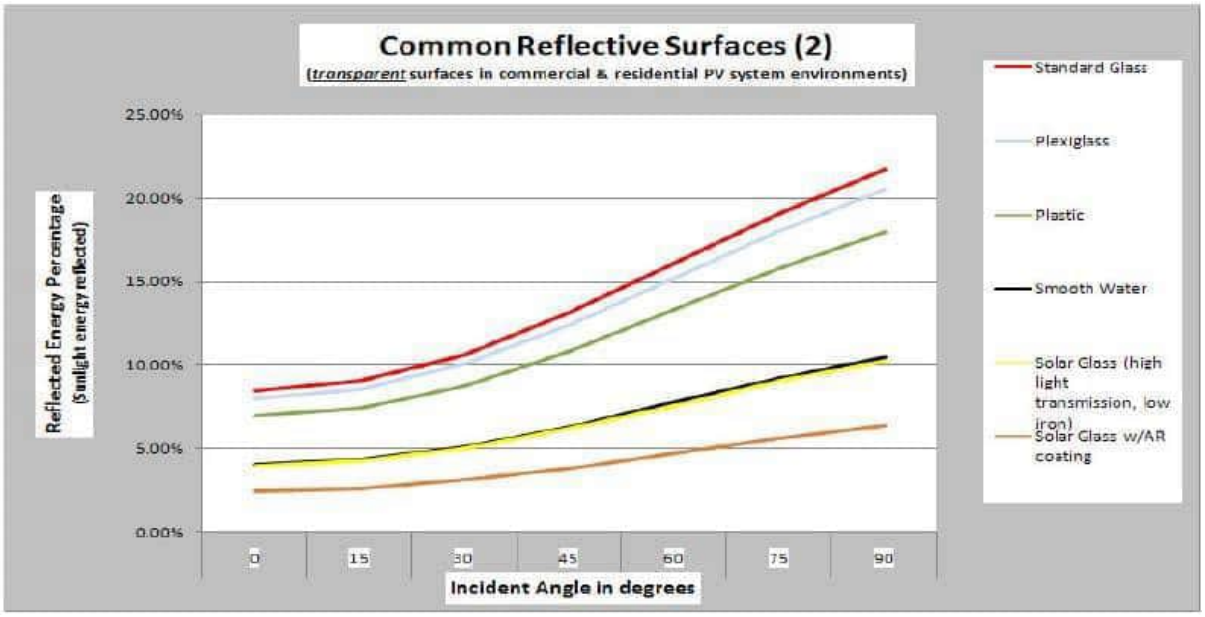
DETAILED EXPLANATION:

In general, since the whole concept of efficient solar power is to absorb as much light as possible while reflecting as little light as possible, standard solar module produces less glare and reflectance than standard window glass. This is pointed out very well in US Patent #6359212 which explains the differences in the refraction and reflection of solar module glass versus standard window glass. Solar modules use "high-transmission, low iron glass" which absorbs more light, producing small amounts of glare and reflectance than normal glass.

In the graph below, we show the reflected energy percentages of sunlight, of some common residential and commercial surfaces. The legend and the graph lists the items from top to bottom in order of the highest percentage of reflected energy.



It should be noted that the reflected energy percentage of Solar Glass is far below that of a standard glass and more on the level of smooth water. Also, below are the ratios of the common reflective surfaces:



Light beam physics resolves that the least amount of light is reflected when the beam is the normal, in other words, least light energy is reflected when the beam is at 0 degrees to the normal. The chart below is a result of light beam physics calculations:

Common Reflective Surfaces (in surrounding environments for PV systems)		Incident angle in degrees						
		0	15	30	45	60	75	90
Material Reflectivity (percent of incident light reflected)	Steel	36.78%	39.22%	46.34%	57.11%	70.02%	83.15%	94.40%
	Snow (fresh, flakey)	21.63%	23.09%	27.29%	33.63%	41.23%	48.96%	55.59%
	Standard Glass	8.44%	9.01%	10.65%	13.12%	16.09%	19.10%	21.69%
	Plexiglass	8.00%	8.54%	10.09%	12.44%	15.25%	18.11%	20.56%
	Plastic	6.99%	7.46%	8.82%	10.87%	13.33%	15.83%	17.97%
	Smooth Water	4.07%	4.35%	5.14%	6.33%	7.76%	9.22%	10.47%
	Solar Glass (high light transmission, low iron)	3.99%	4.26%	5.03%	6.20%	7.61%	9.03%	10.26%
	Solar Glass w/AR coating	2.47%	2.64%	3.12%	3.84%	4.71%	5.59%	6.35%

(Note: Index of refraction values may vary slightly depending on suppliers and reference documentation. The values for the above calculations are averages or single values obtained from the list of references for this document).

Important reference – "Stipples glass": In addition to the superior refractive/reflective properties of solar glass versus standard glass, SunPower uses stippled solar glass for our modules. Stippled glass is used with high powered telescopes and powerful beacons and lights. The basic concept behind stippling is for the surfaces of the glass to be textured with small types of indentations. As a result, stippling allows more light energy to be channeled/ transmitted through the glass while diffusing the reflected lightenergy. This concept is why the reflection of off a SunPower solar module will look hazy and less-defined than the reflection from standard glass, this occurs because the stippled SunPower glass is transmitting a larger percentage of light to the solar cell while breaking up the intensity of the reflected light energy.

SUMMARY/ACTION REQUIRED:

The studies, data and light beam physics behind the charts and graphs prove beyond a reasonable doubt that solar glass has less glare and reflectance than standard glass. The figures also make it clear that the difference is very decisive between solar glass and other common residential/commercial glasses. In addition, not to be lost in the standard light/glass equations and calculations, the SunPower solar glass is stippled and has a very photon-absorbent solar cell attached to the back side, contributing two additional factors which results in even less light energy being reflected.

REGIONAL CONTACTS:

****

EU Toll Free number: SunPower Technical Support, **00800–SUNPOWER (00800–78676937)**

- **For inquiries by e-mail, please use**:
  - Spain: SunPower – Soporte Técnico España: soportetecnico@sunpowercorp.com
  - Germany: SunPower – Technischer Support: technischersupport@sunpowercorp.com
  - Italy: SunPower – Servizio Tecnico Italia: serviziotecnico@sunpowercorp.com
  - France: SunPower – Support Technique France: supporttechnique@sunpowercorp.com

USA Toll Free number: SunPower Technical Support, **1-800–SUNPOWER (786-76937)**

- **For inquiries by e-mail, please use:** Technicalsupport@Sunpowercorp.com

Australia (Sunpower Corporation Australia PTY LTD) contact number: +**61-8-9477-5888**.

Korea – SPK (SunPower Korea) contact number: (02) 3453-0941

REFERENCES:

- Center for Sustainable Building Research. College of Dean – University of Minnesota. All rights Reserved. JDP activity by the University of Minnesota and Lawrence Berkeley National Laboratory
- H.K Pulker, Coatings on Glass, (1999), 2ed, Elsevier, Amsterdam
- C.G Granqvist, Materials Science for Solar Energy Conversion Systems, (1991), Pergamon, G.B
- D. Chen, anti-reflection (AR) coatings made by sol-gel processes: A review, Solar energy Materials and Solar Cells, 68, (2000), 313-336
- P. Nostell, A. Roos, B. Karlsson, Antireflection of glazings for solar energy applications, Solar Energy Materials and Solar Cells, 54, (1998), 23-233
- M. Fukawa, T. Ikeda, T. Yonedaans K. Sato, Antireflective coatings y single layer with refractive index of 1.3, Proceedings of the 3rd International Conference on Coatings on Glass (ICGG), (2000), 257-264
- J. Karlsson and A. Roos, Modeling the angular behavior of the solar energy transmittance of windows, Solar Energy, 69, 4, (2000)
- J. Karlsson, B. Karlsson and A. Roos, A Simple model for assessing the energy efficiency of windows, In Press, Energy and Buildings



BOOM
POWER

BUILD | OWN | OPERATE | MAINTAIN

BOOM-POWER.CO.UK