



Appendix 6B - Residential Receptor Glare Results (10 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Residential Receptors 10deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 73007.12854

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



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

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
PV array 1	10.0	180.0	0	231,985	-

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 10.0 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	52.977416	-0.868813	20.30	2.80	23.10
2	52.978501	-0.867955	20.00	2.80	22.80
3	52.978398	-0.866989	20.39	2.80	23.19
4	52.978450	-0.865830	20.46	2.80	23.26
5	52.978191	-0.863856	20.00	2.80	22.80
6	52.977584	-0.862376	19.95	2.80	22.75
7	52.984483	-0.858556	24.76	2.80	27.56
8	52.984612	-0.859200	25.60	2.80	28.40
9	52.984431	-0.859865	26.00	2.80	28.80
10	52.985335	-0.861732	25.02	2.80	27.82
11	52.987777	-0.860380	19.95	2.80	22.75
12	52.987828	-0.860659	19.88	2.80	22.68
13	52.986317	-0.862998	21.01	2.80	23.81
14	52.985568	-0.864972	20.25	2.80	23.05
15	52.985723	-0.865337	19.79	2.80	22.59
16	52.986007	-0.865358	20.07	2.80	22.87
17	52.986911	-0.864371	20.22	2.80	23.02
18	52.987893	-0.866152	18.00	2.80	20.80
19	52.987841	-0.866581	18.05	2.80	20.85
20	52.987893	-0.866774	18.33	2.80	21.13
21	52.988074	-0.866603	18.08	2.80	20.88
22	52.989779	-0.870723	22.00	2.80	24.80
23	52.989908	-0.871280	22.00	2.80	24.80
24	52.987738	-0.873448	22.05	2.80	24.85
25	52.986924	-0.874778	22.79	2.80	25.59
26	52.986395	-0.875894	22.62	2.80	25.42
27	52.985516	-0.875293	21.94	2.80	24.74
28	52.984522	-0.875551	21.38	2.80	24.18
29	52.984121	-0.874006	20.15	2.80	22.95
30	52.984845	-0.872310	20.21	2.80	23.01
31	52.985012	-0.871474	20.01	2.80	22.81
32	52.984793	-0.870873	20.22	2.80	23.02
33	52.984909	-0.870358	20.19	2.80	22.99
34	52.985167	-0.870208	19.84	2.80	22.64
35	52.984638	-0.868233	20.05	2.80	22.85
36	52.983914	-0.867182	19.95	2.80	22.75
37	52.983759	-0.867332	20.03	2.80	22.83
38	52.983540	-0.868448	20.67	2.80	23.47
39	52.981460	-0.869113	21.77	2.80	24.57
40	52.981615	-0.870765	23.94	2.80	26.74
41	52.978966	-0.872439	24.87	2.80	27.67
42	52.978088	-0.871924	23.83	2.80	26.63

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	52.991878	-0.860633	18.00	2.00	20.00
OP 2	52.989789	-0.847463	22.03	2.00	24.03
OP 3	52.989172	-0.848995	23.42	2.00	25.42
OP 4	52.989028	-0.848850	23.70	2.00	25.70
OP 5	52.989004	-0.849217	23.33	2.00	25.33
OP 6	52.988773	-0.850092	22.99	2.00	24.99
OP 7	52.988676	-0.850427	22.75	2.00	24.75
OP 8	52.987971	-0.852160	22.68	2.00	24.68
OP 9	52.981609	-0.852149	20.00	2.00	22.00
OP 10	52.980817	-0.851548	21.77	2.00	23.77
OP 11	52.980685	-0.851822	21.32	2.00	23.32
OP 12	52.980591	-0.851666	21.38	2.00	23.38
OP 13	52.976479	-0.862465	22.41	2.00	24.41
OP 14	52.976388	-0.862516	22.54	2.00	24.54
OP 15	52.975518	-0.861988	22.36	2.00	24.36
OP 16	52.975783	-0.862733	23.00	2.00	25.00
OP 17	52.975881	-0.863506	23.16	2.00	25.16
OP 18	52.975411	-0.863812	23.97	2.00	25.97
OP 19	52.975096	-0.864166	24.00	2.00	26.00
OP 20	52.975274	-0.865689	23.25	2.00	25.25
OP 21	52.979075	-0.884707	23.36	2.00	25.36
OP 22	52.979295	-0.885147	23.62	2.00	25.62
OP 23	52.979734	-0.884481	23.96	2.00	25.96
OP 24	52.979979	-0.883854	24.55	2.00	26.55
OP 25	52.980118	-0.882336	23.89	2.00	25.89
OP 26	52.981507	-0.881847	23.29	2.00	25.29
OP 27	52.981919	-0.877057	23.15	2.00	25.15
OP 28	52.982271	-0.877234	23.01	2.00	25.01
OP 29	52.982653	-0.877186	23.29	2.00	25.29
OP 30	52.982552	-0.877578	23.43	2.00	25.43
OP 31	52.982643	-0.878264	23.62	2.00	25.62
OP 32	52.982323	-0.878071	23.10	2.00	25.10
OP 33	52.982019	-0.878007	23.34	2.00	25.34
OP 34	52.981971	-0.878275	23.46	2.00	25.46
OP 35	52.982191	-0.878329	23.24	2.00	25.24
OP 36	52.982268	-0.878559	23.52	2.00	25.52
OP 37	52.982326	-0.878817	23.99	2.00	25.99
OP 38	52.982229	-0.879144	24.00	2.00	26.00
OP 39	52.982401	-0.879149	24.21	2.00	26.21
OP 40	52.982785	-0.879772	24.77	2.00	26.77
OP 41	52.982966	-0.879836	25.00	2.00	27.00
OP 42	52.982753	-0.880292	24.71	2.00	26.71
OP 43	52.982414	-0.880163	24.23	2.00	26.23
OP 44	52.982556	-0.880780	24.12	2.00	26.12
OP 45	52.982388	-0.881129	24.00	2.00	26.00
OP 46	52.982591	-0.881746	24.00	2.00	26.00
OP 47	52.982653	-0.881392	24.00	2.00	26.00
OP 48	52.982921	-0.881349	24.00	2.00	26.00
OP 49	52.983221	-0.881070	24.35	2.00	26.35
OP 50	52.983363	-0.880737	24.74	2.00	26.74
OP 51	52.983470	-0.880962	24.77	2.00	26.77
OP 52	52.983579	-0.881193	24.63	2.00	26.63
OP 53	52.983731	-0.881038	24.76	2.00	26.76
OP 54	52.983851	-0.880866	24.68	2.00	26.68
OP 55	52.983744	-0.880641	24.84	2.00	26.84
OP 56	52.983831	-0.880244	24.70	2.00	26.70
OP 57	52.983644	-0.880136	24.98	2.00	26.98
OP 58	52.983744	-0.879391	24.84	2.00	26.84
OP 59	52.983612	-0.878854	25.00	2.00	27.00
OP 60	52.983570	-0.878007	24.64	2.00	26.64
OP 61	52.983886	-0.878779	24.69	2.00	26.69
OP 62	52.983967	-0.879198	24.50	2.00	26.50
OP 63	52.984161	-0.879149	24.22	2.00	26.22
OP 64	52.984177	-0.878650	24.50	2.00	26.50

OP 65	52.984393	-0.878726	24.37	2.00	26.37
OP 66	52.984487	-0.878345	25.08	2.00	27.08
OP 67	52.984258	-0.877170	23.47	2.00	25.47
OP 68	52.984736	-0.878473	25.26	2.00	27.26
OP 69	52.984681	-0.878903	24.54	2.00	26.54
OP 70	52.984871	-0.879198	24.81	2.00	26.81
OP 71	52.985004	-0.879026	25.00	2.00	27.00
OP 72	52.985143	-0.879332	24.80	2.00	26.80
OP 73	52.985236	-0.877819	25.07	2.00	27.07
OP 74	52.985272	-0.877497	24.53	2.00	26.53
OP 75	52.985391	-0.877427	24.22	2.00	26.22

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	
PV array 1	10.0	180.0	0	231,985	-	-

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
pv-array-1 (green)	0	0	0	0	0	0	0	0	0	0	0	0
pv-array-1 (yellow)	0	6	869	1290	1419	1429	1448	1369	1190	141	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	483
OP: OP 3	0	684
OP: OP 4	0	751
OP: OP 5	0	765
OP: OP 6	0	860
OP: OP 7	0	766
OP: OP 8	0	1159
OP: OP 9	0	2364
OP: OP 10	0	3281
OP: OP 11	0	2819
OP: OP 12	0	3198
OP: OP 13	0	1986
OP: OP 14	0	1812
OP: OP 15	0	749
OP: OP 16	0	1200
OP: OP 17	0	1257
OP: OP 18	0	230
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	2561
OP: OP 22	0	2285
OP: OP 23	0	2698
OP: OP 24	0	2799
OP: OP 25	0	2949
OP: OP 26	0	2679
OP: OP 27	0	3256
OP: OP 28	0	3076
OP: OP 29	0	3234

OP: OP 30	0	3449
OP: OP 31	0	3395
OP: OP 32	0	3050
OP: OP 33	0	3210
OP: OP 34	0	3298
OP: OP 35	0	3242
OP: OP 36	0	3301
OP: OP 37	0	3433
OP: OP 38	0	3344
OP: OP 39	0	3547
OP: OP 40	0	3536
OP: OP 41	0	3768
OP: OP 42	0	3636
OP: OP 43	0	3549
OP: OP 44	0	3464
OP: OP 45	0	3356
OP: OP 46	0	3468
OP: OP 47	0	3314
OP: OP 48	0	3529
OP: OP 49	0	3664
OP: OP 50	0	3755
OP: OP 51	0	3833
OP: OP 52	0	3771
OP: OP 53	0	3864
OP: OP 54	0	3829
OP: OP 55	0	3923
OP: OP 56	0	3972
OP: OP 57	0	3941
OP: OP 58	0	4086
OP: OP 59	0	4144
OP: OP 60	0	4106
OP: OP 61	0	4242
OP: OP 62	0	4141
OP: OP 63	0	4156
OP: OP 64	0	4366
OP: OP 65	0	4364
OP: OP 66	0	4789
OP: OP 67	0	4924
OP: OP 68	0	4883
OP: OP 69	0	4482
OP: OP 70	0	4492
OP: OP 71	0	4630
OP: OP 72	0	4489
OP: OP 73	0	5390
OP: OP 74	0	5495
OP: OP 75	0	5464

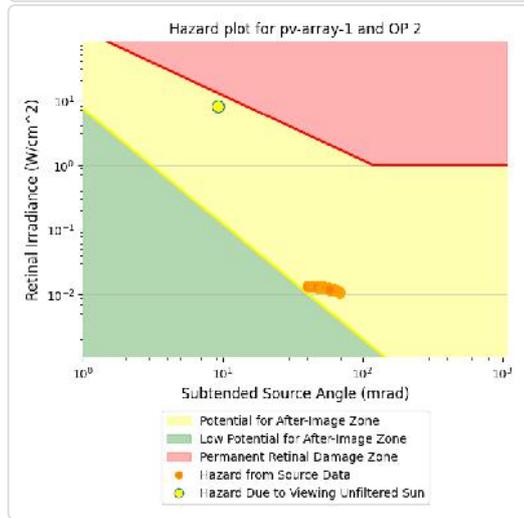
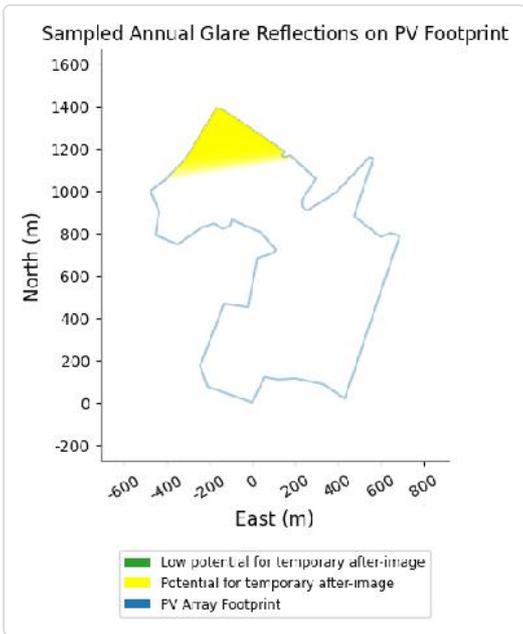
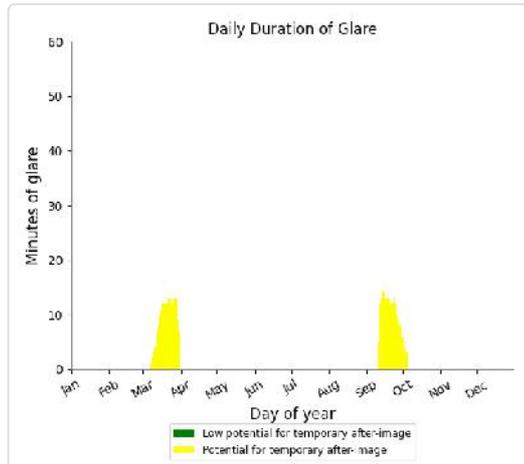
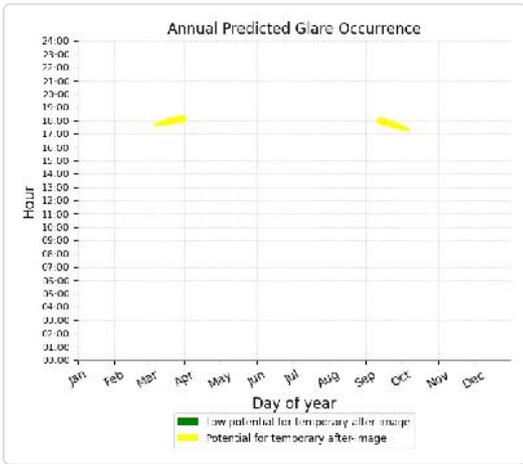
PV array 1 - OP Receptor (OP 1)

No glare found

PV array 1 - OP Receptor (OP 2)

PV array is expected to produce the following glare for receptors at this location:

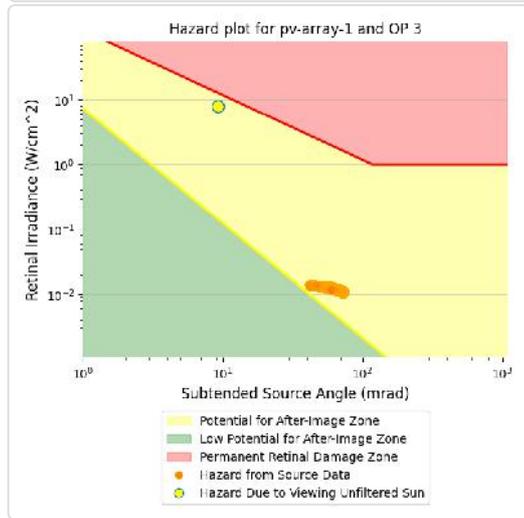
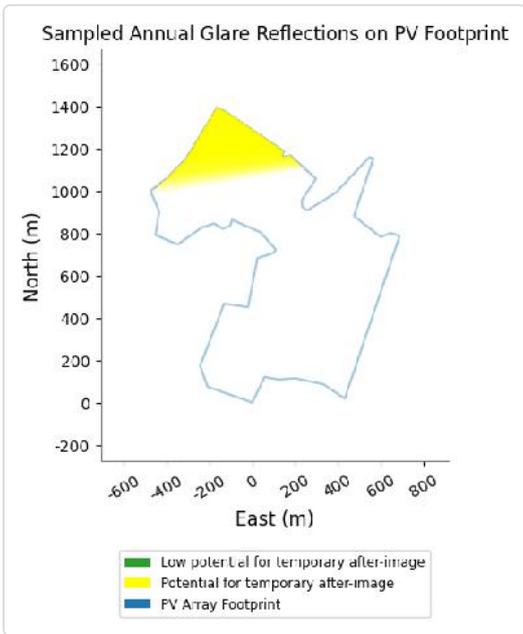
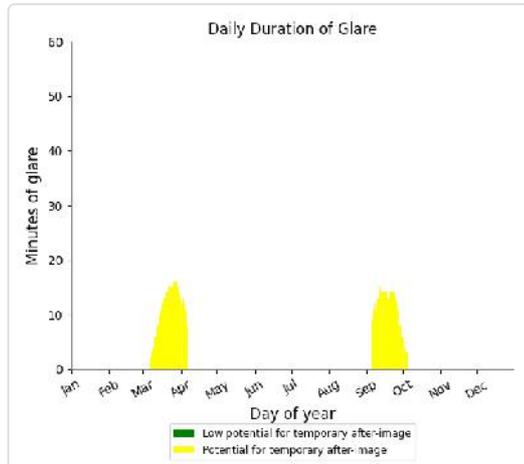
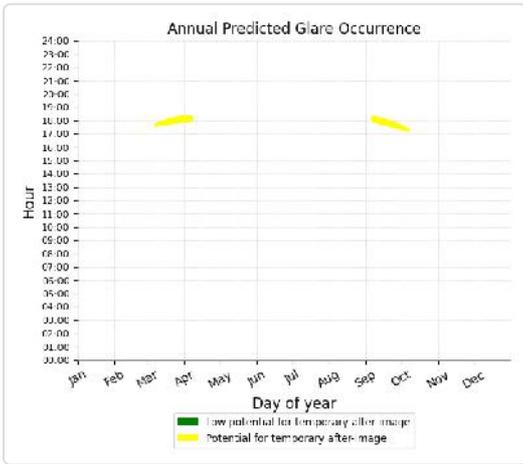
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 483 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:

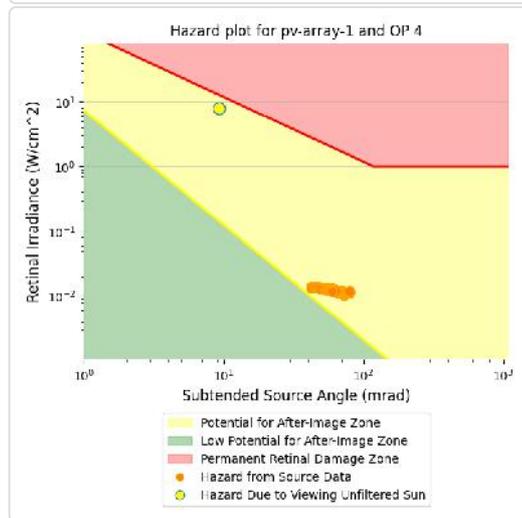
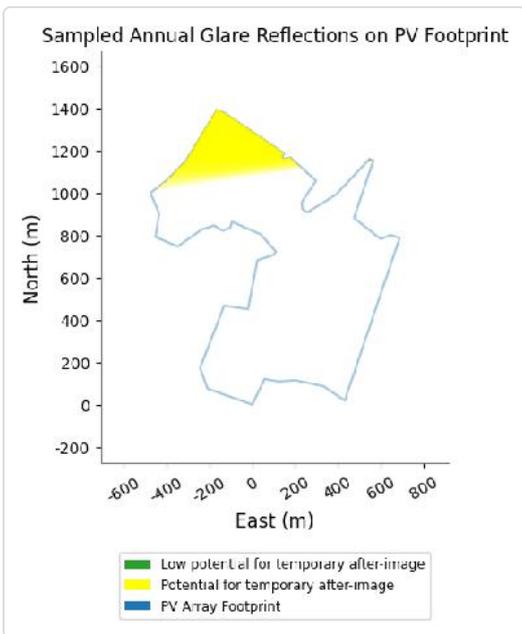
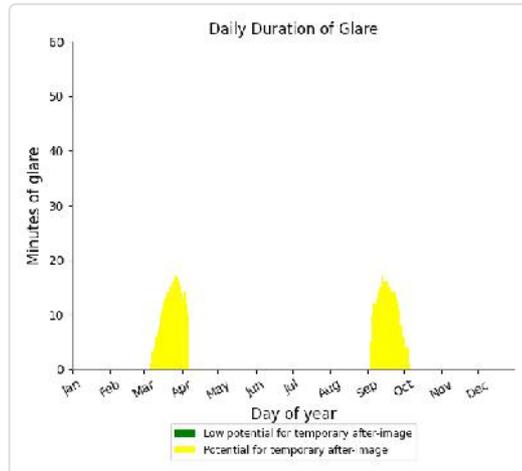
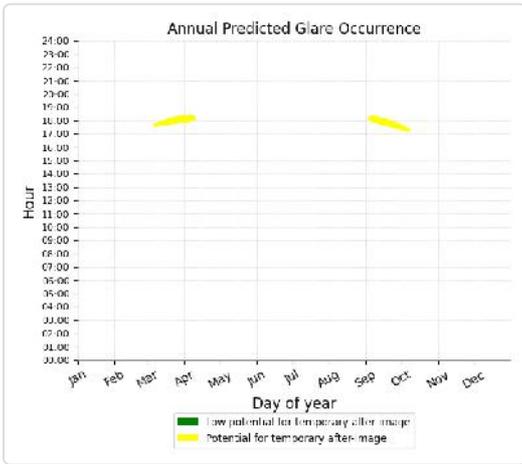
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 684 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 4)

PV array is expected to produce the following glare for receptors at this location:

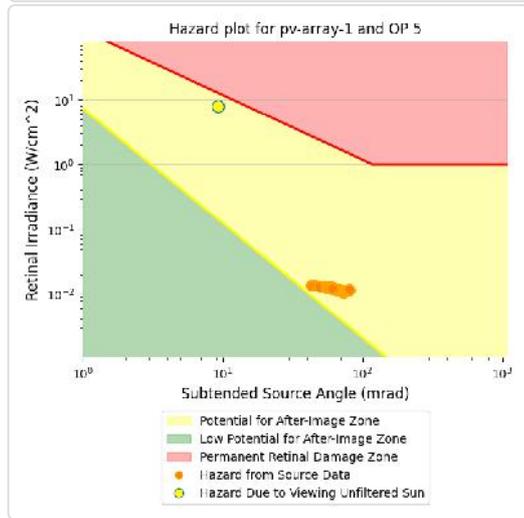
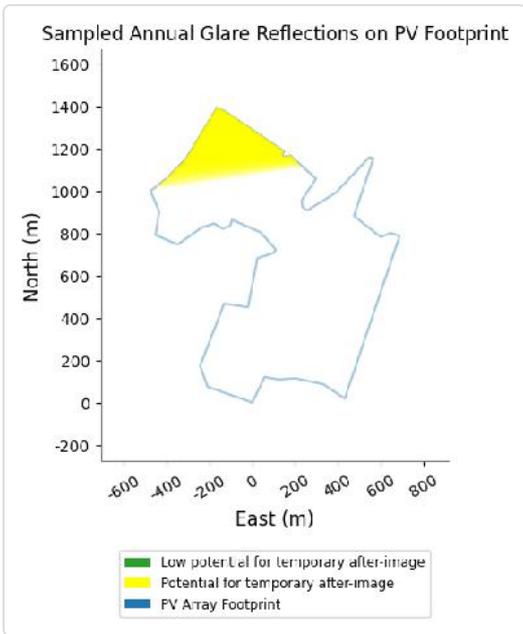
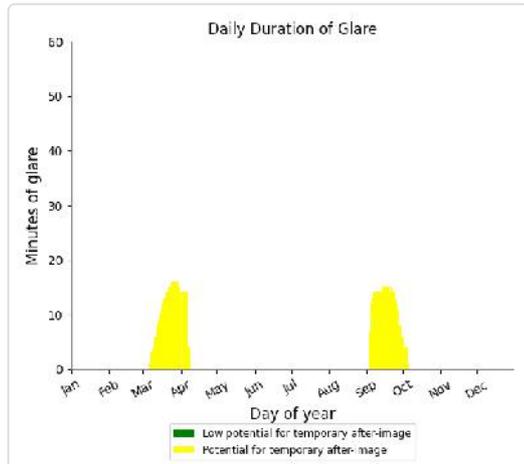
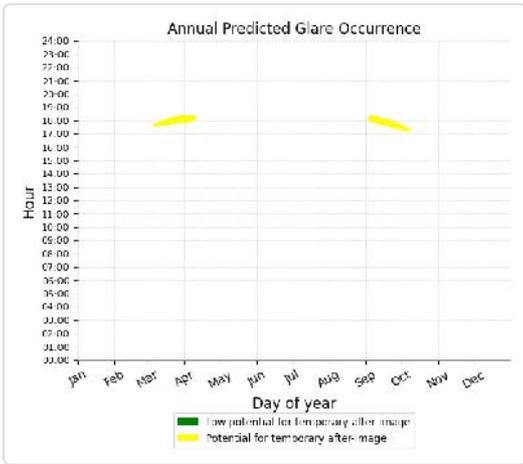
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 751 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:

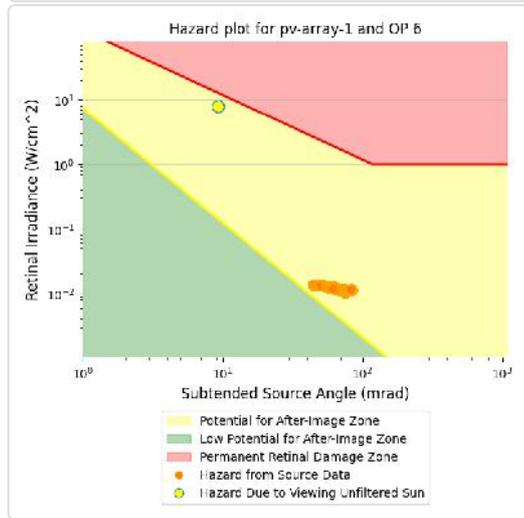
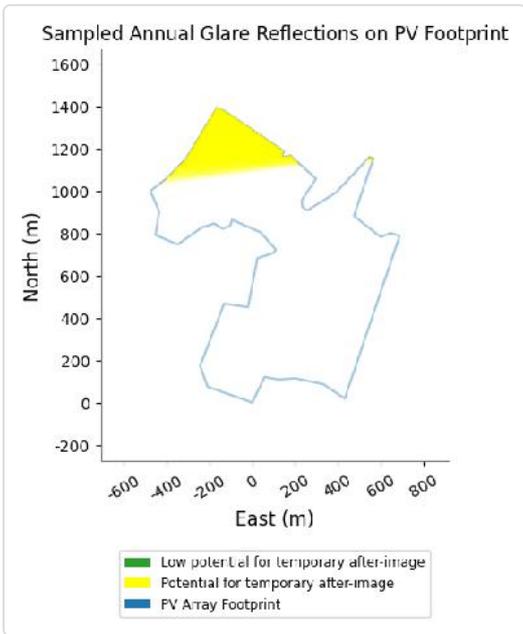
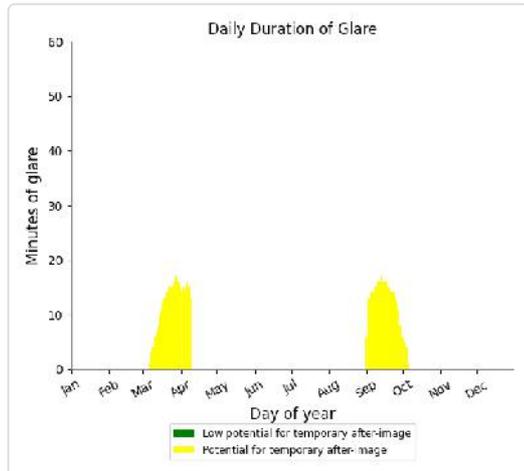
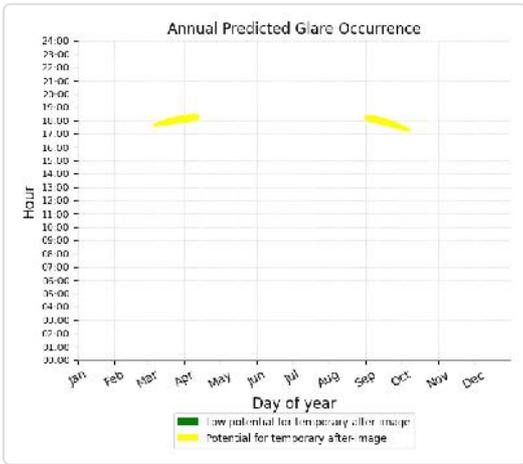
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 765 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 6)

PV array is expected to produce the following glare for receptors at this location:

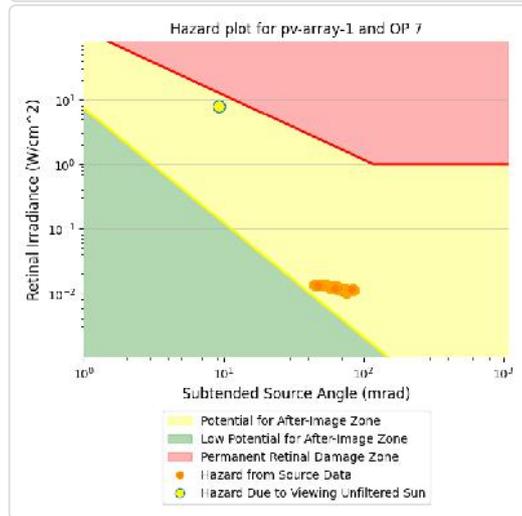
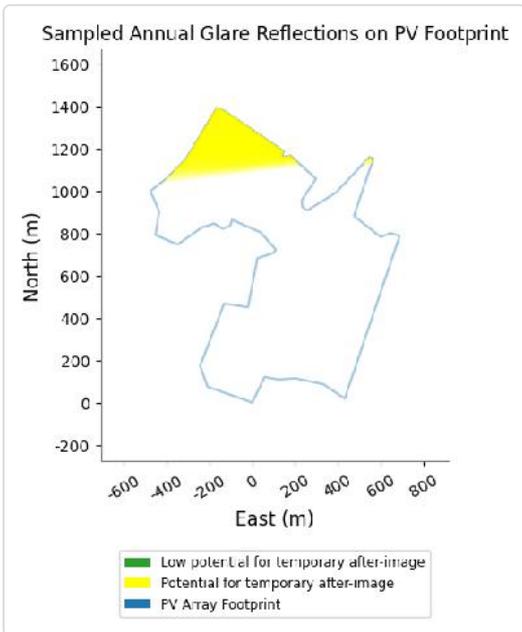
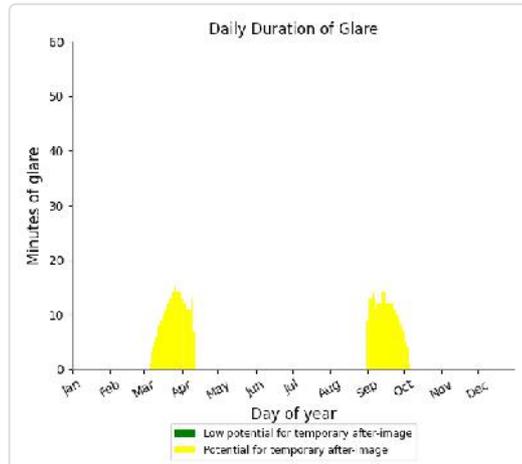
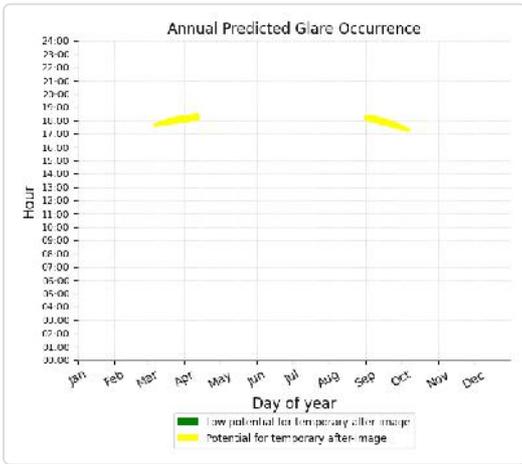
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 860 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 7)

PV array is expected to produce the following glare for receptors at this location:

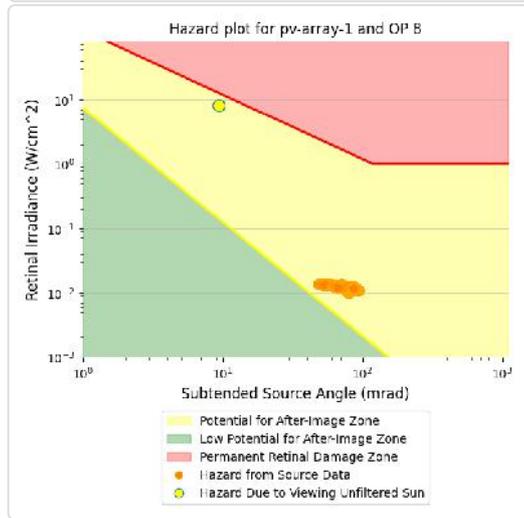
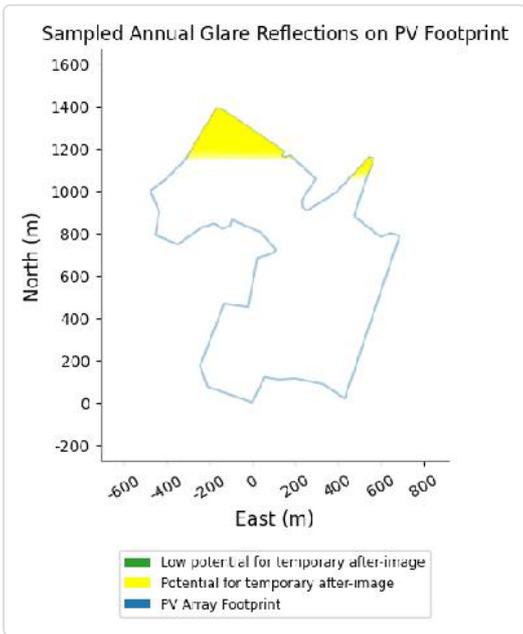
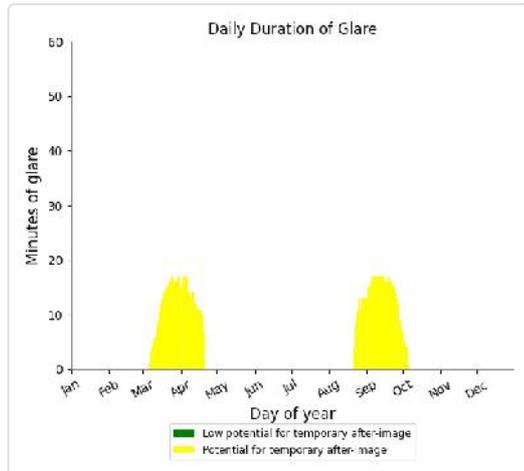
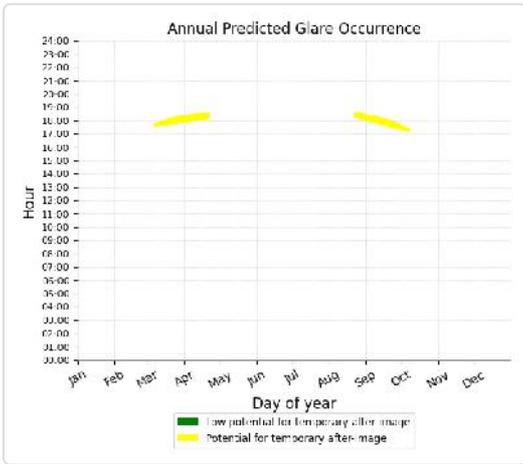
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 766 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 8)

PV array is expected to produce the following glare for receptors at this location:

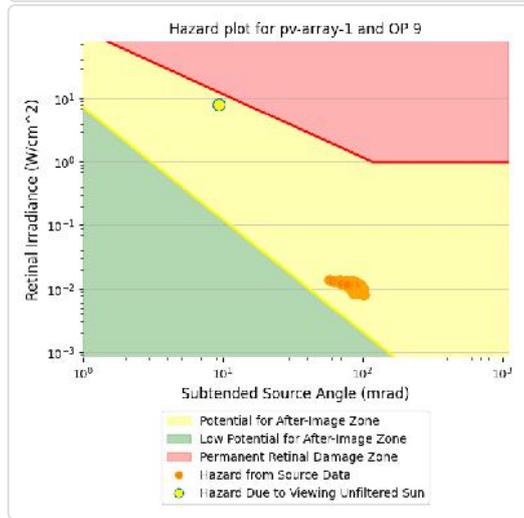
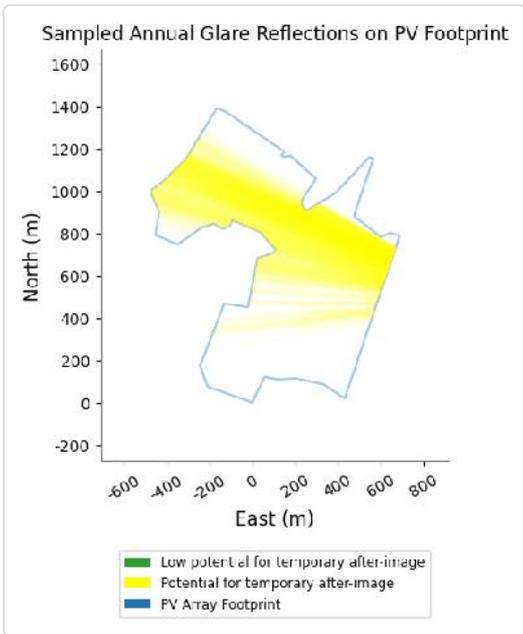
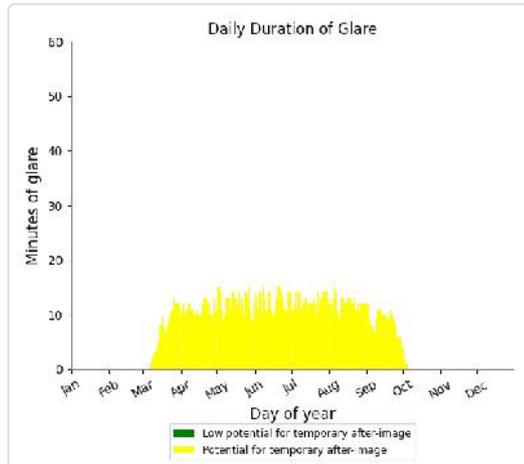
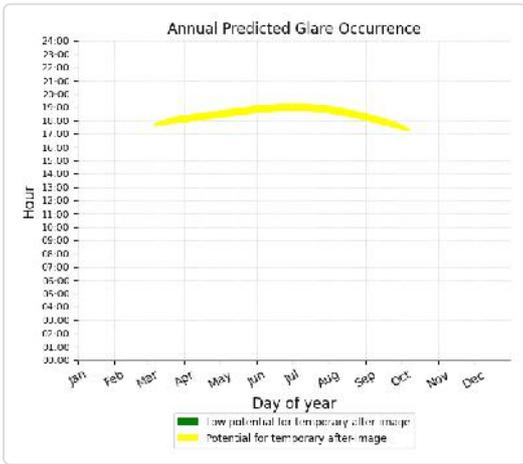
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,159 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 9)

PV array is expected to produce the following glare for receptors at this location:

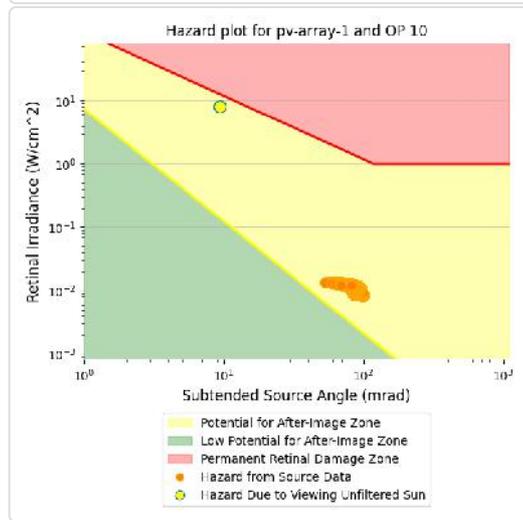
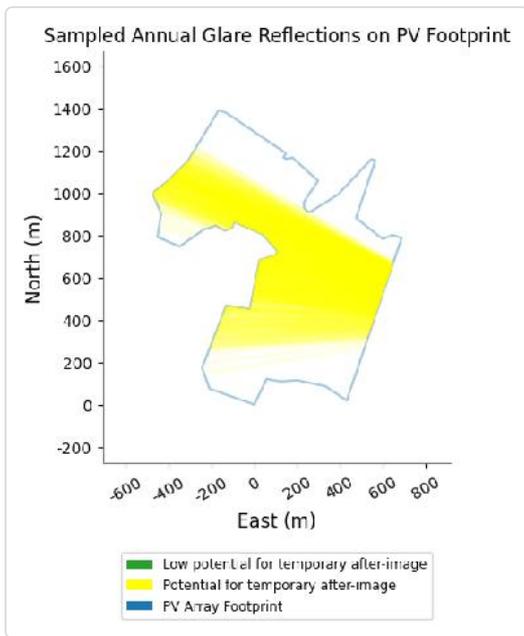
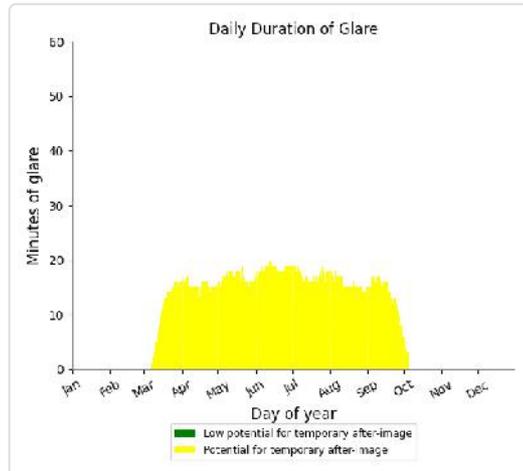
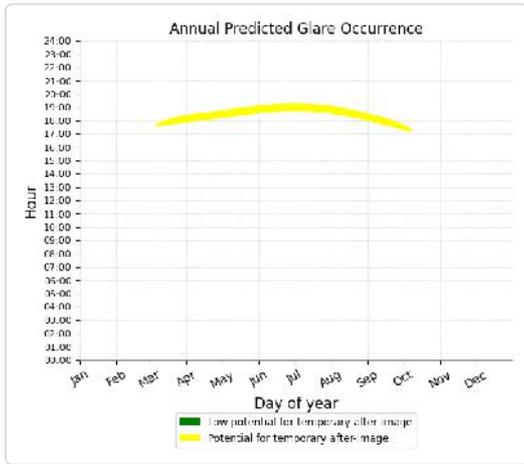
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,364 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 10)

PV array is expected to produce the following glare for receptors at this location:

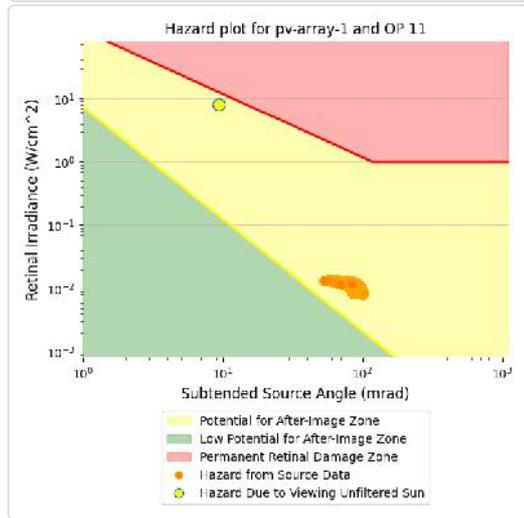
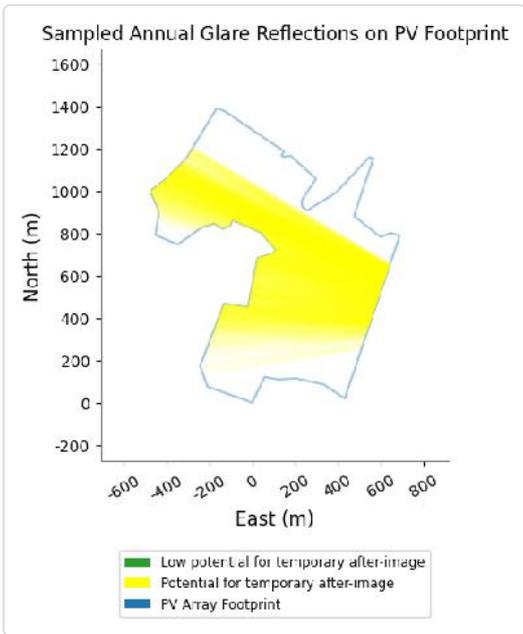
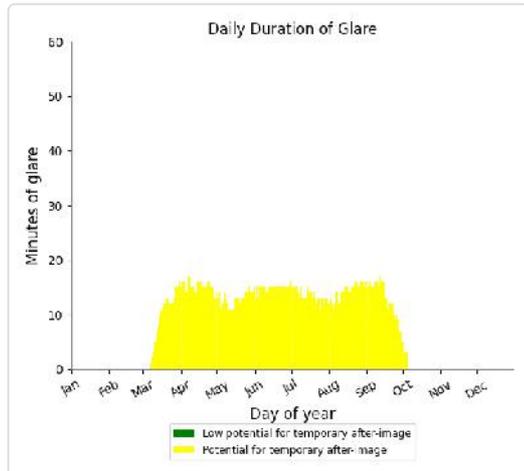
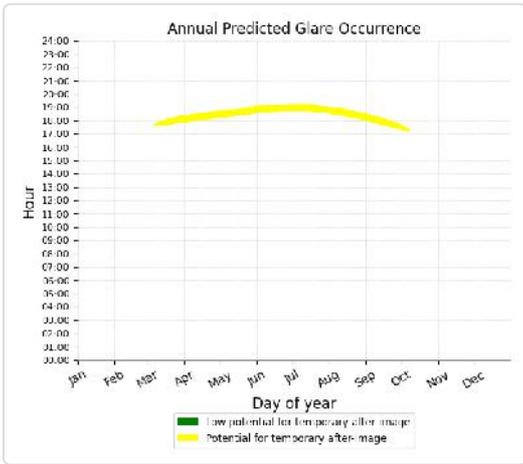
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,281 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 11)

PV array is expected to produce the following glare for receptors at this location:

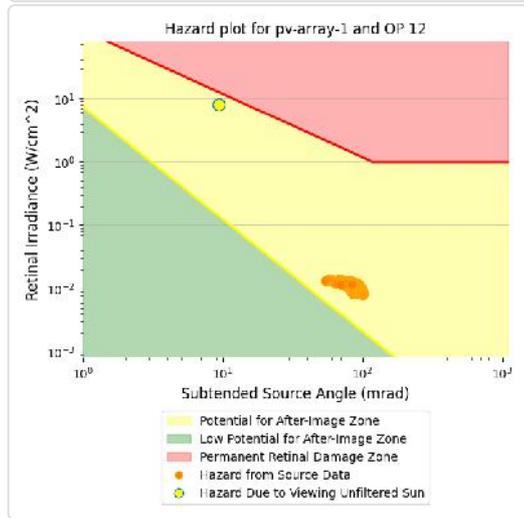
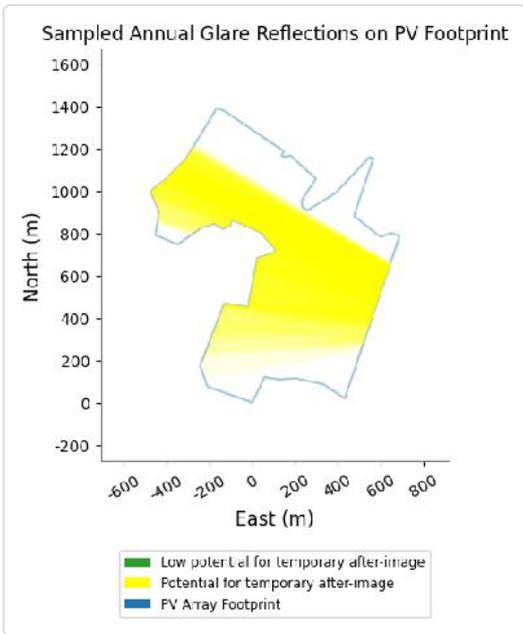
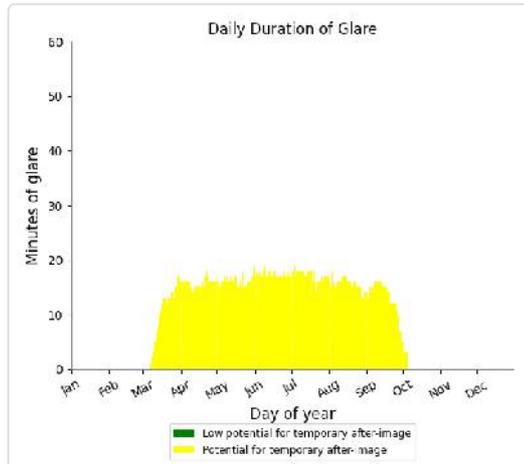
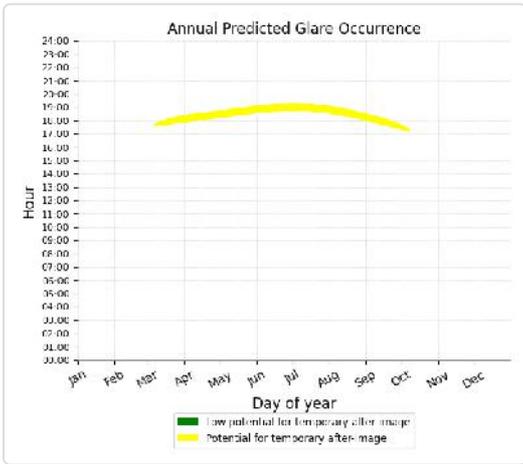
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,819 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 12)

PV array is expected to produce the following glare for receptors at this location:

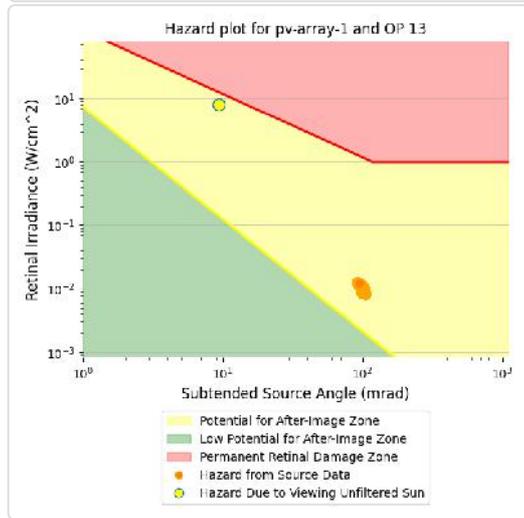
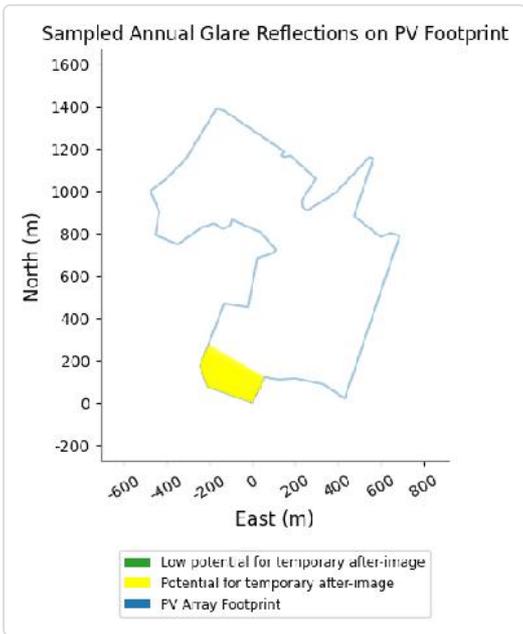
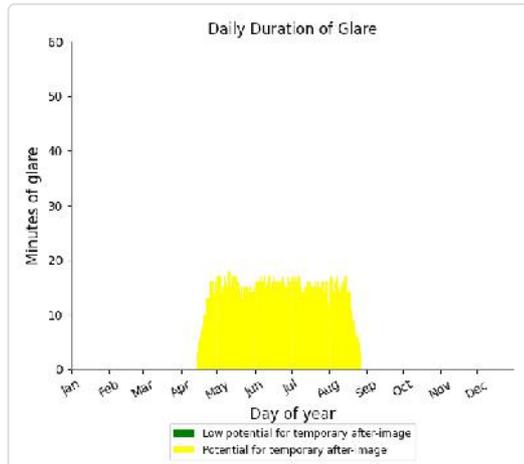
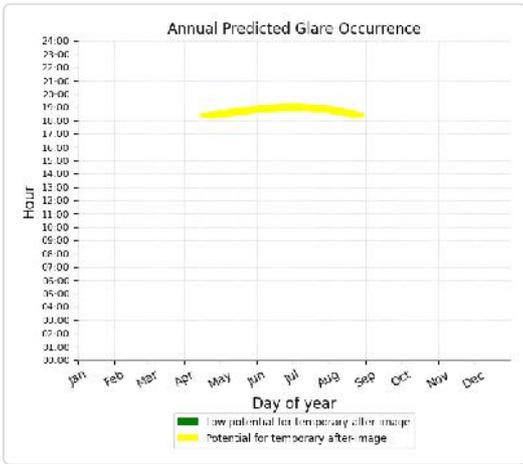
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,198 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 13)

PV array is expected to produce the following glare for receptors at this location:

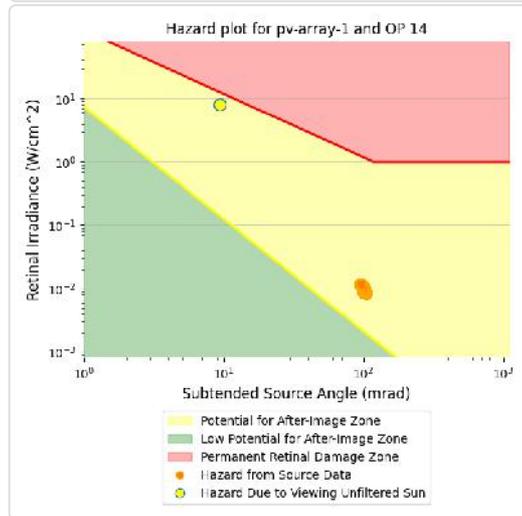
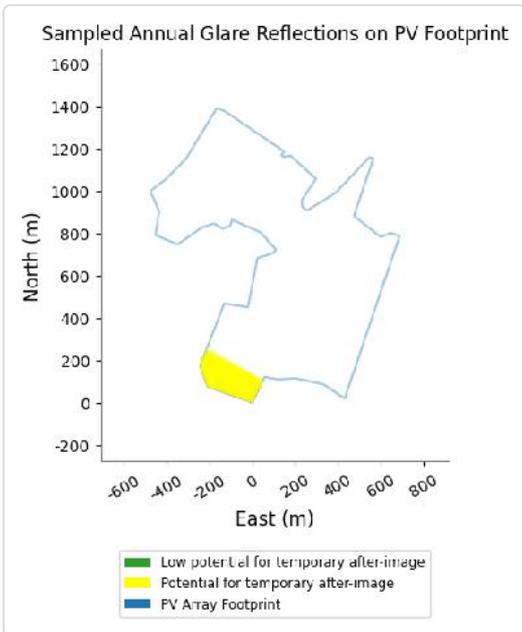
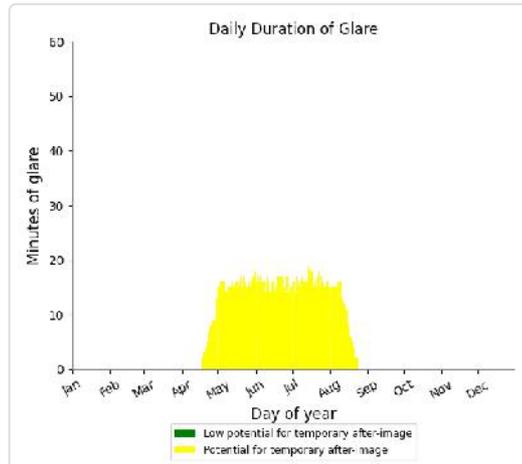
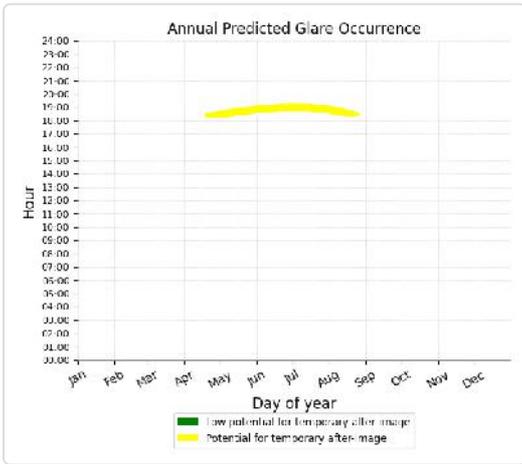
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,986 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 14)

PV array is expected to produce the following glare for receptors at this location:

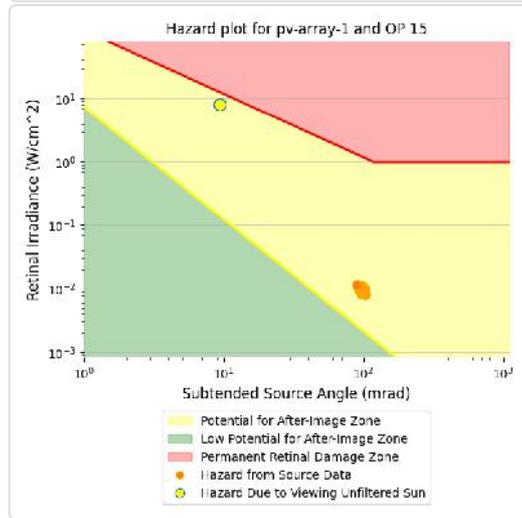
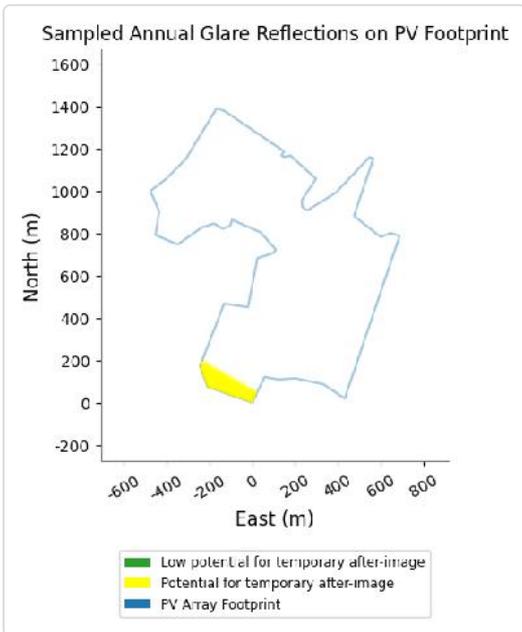
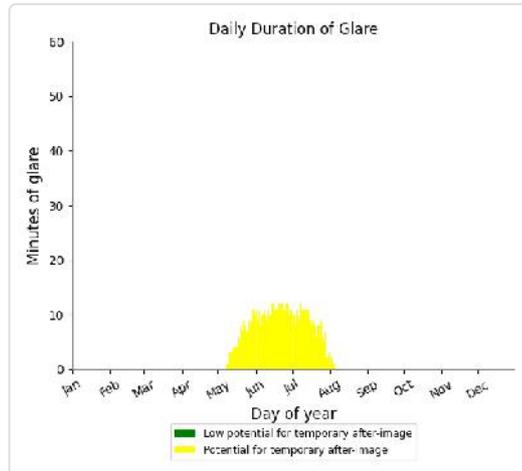
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,812 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:

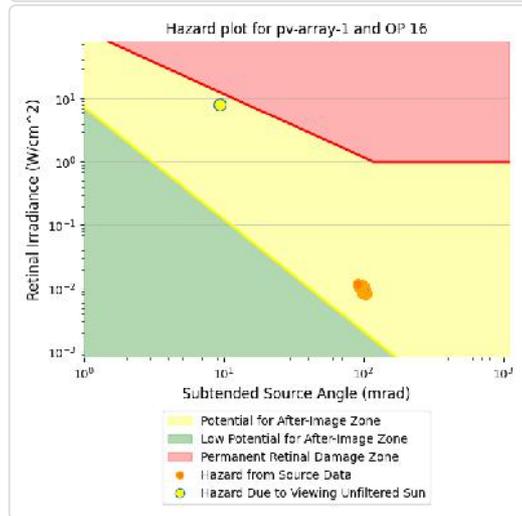
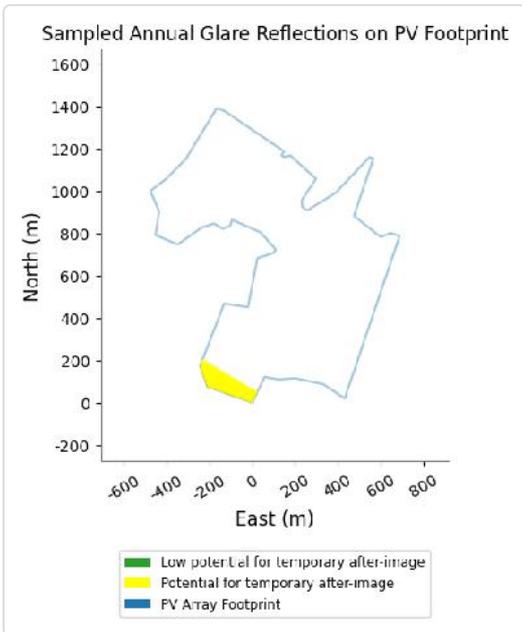
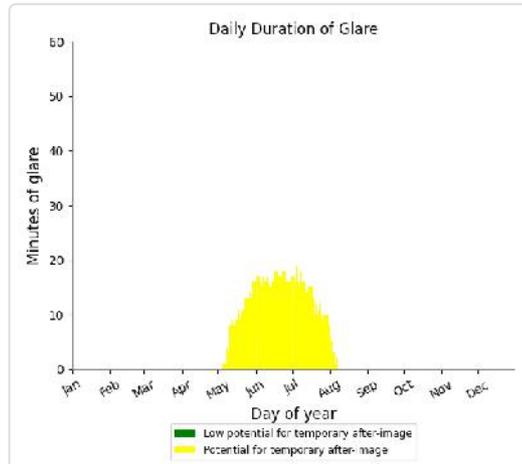
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 749 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 16)

PV array is expected to produce the following glare for receptors at this location:

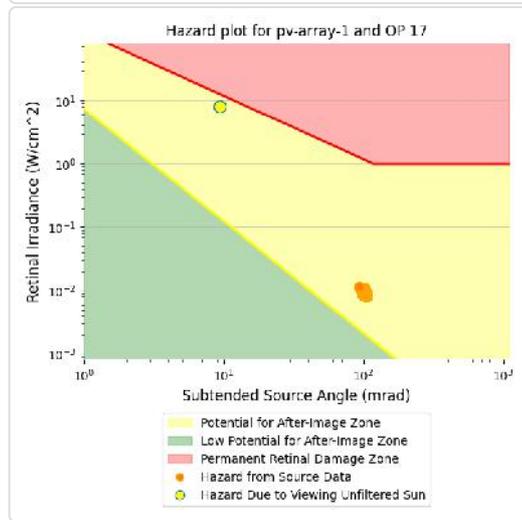
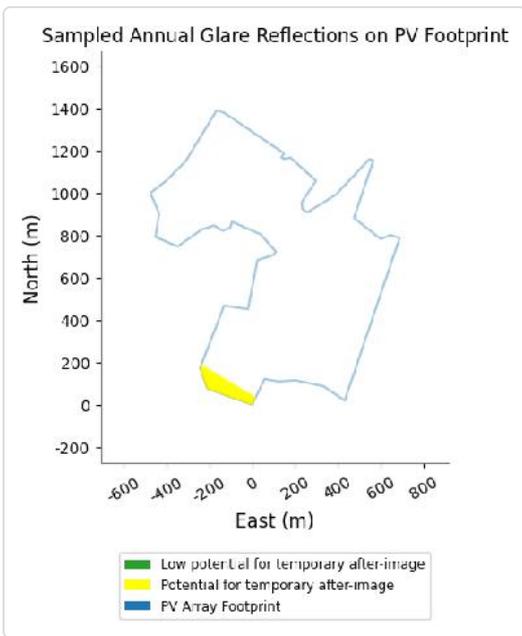
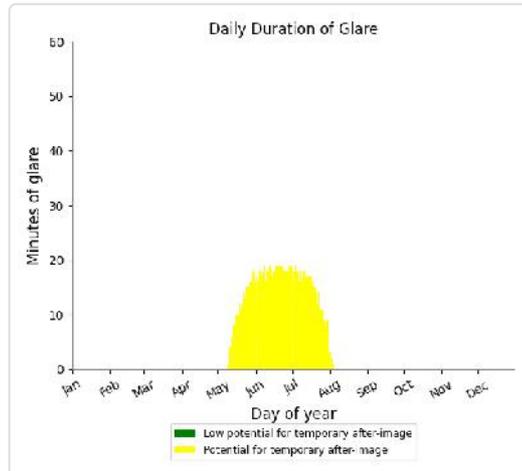
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,200 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 17)

PV array is expected to produce the following glare for receptors at this location:

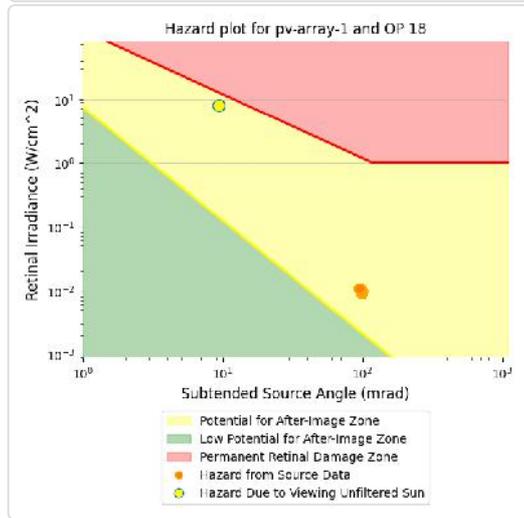
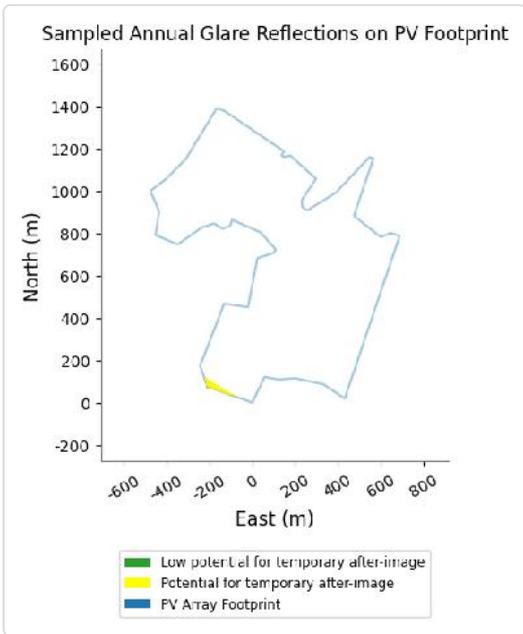
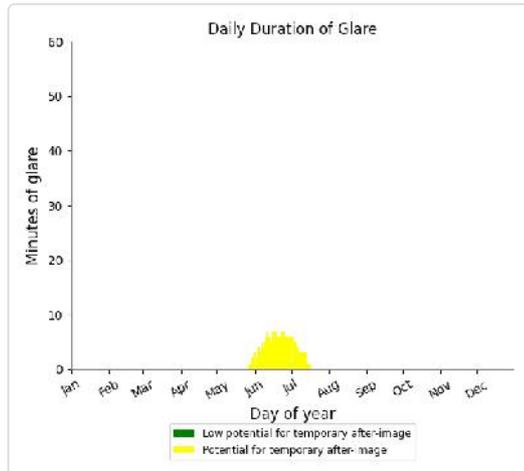
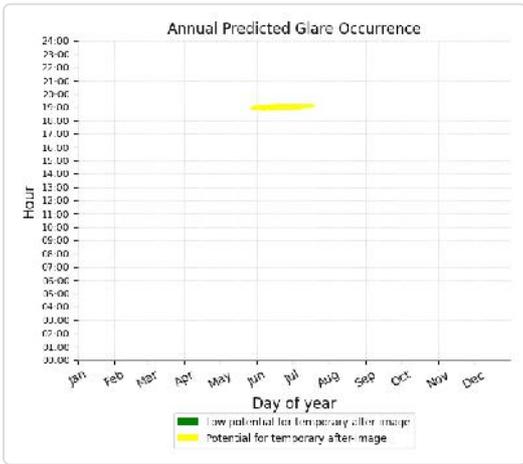
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,257 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 18)

PV array is expected to produce the following glare for receptors at this location:

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



PV array 1 - OP Receptor (OP 19)

No glare found

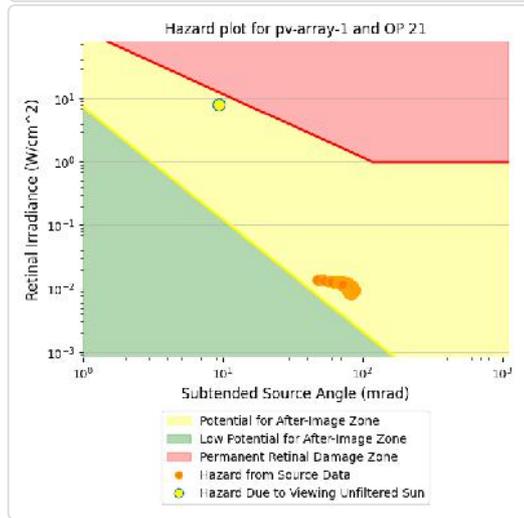
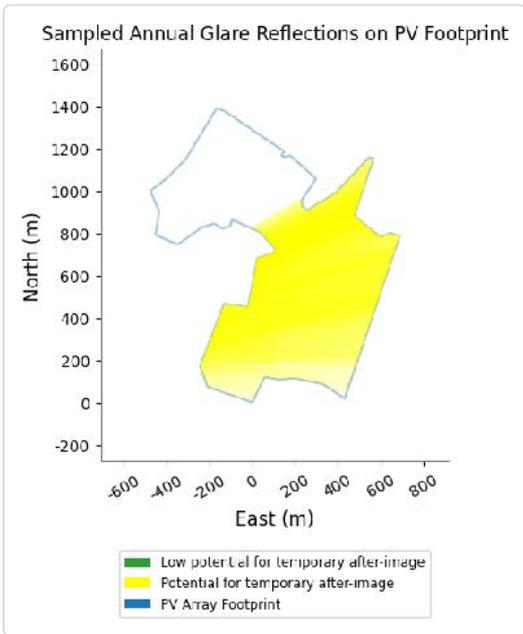
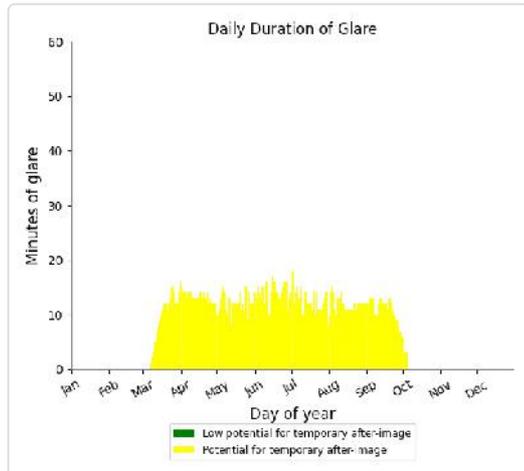
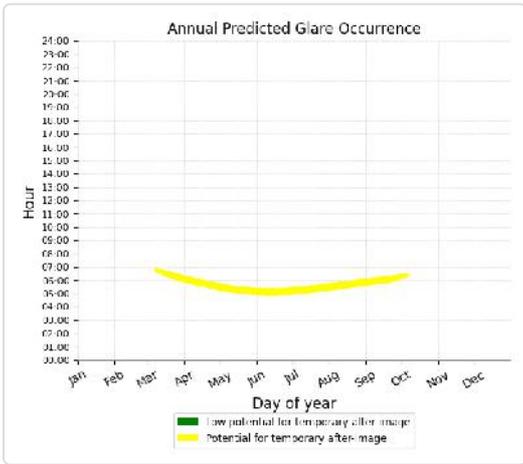
PV array 1 - OP Receptor (OP 20)

No glare found

PV array 1 - OP Receptor (OP 21)

PV array is expected to produce the following glare for receptors at this location:

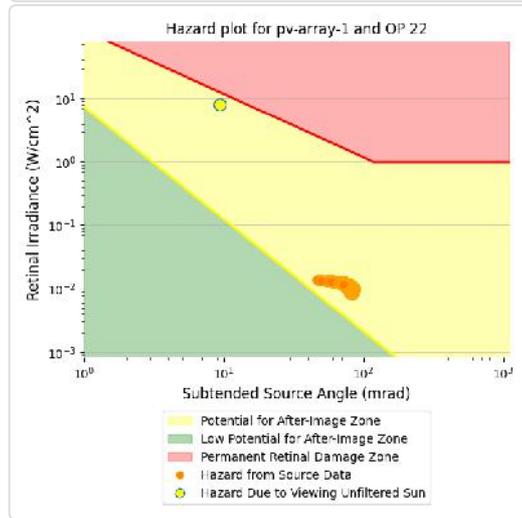
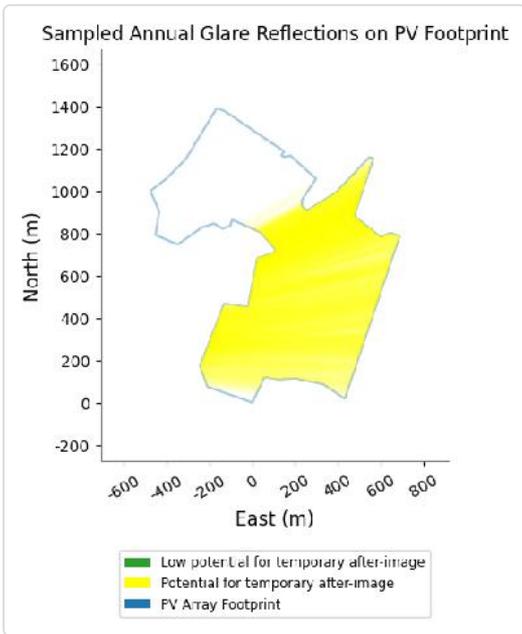
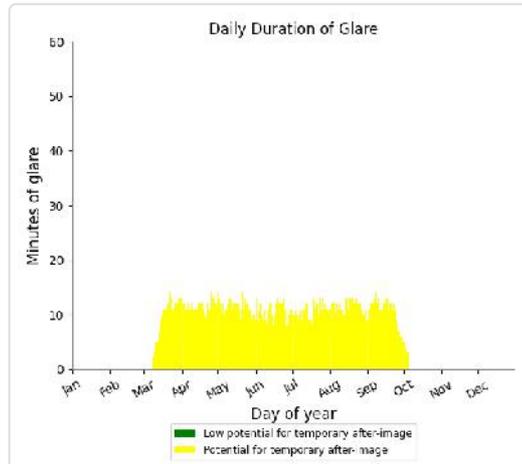
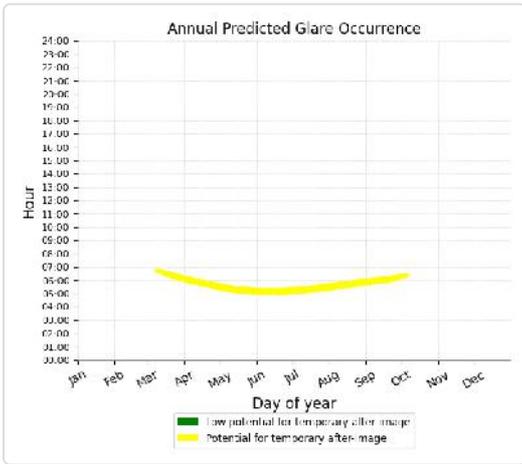
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,561 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 22)

PV array is expected to produce the following glare for receptors at this location:

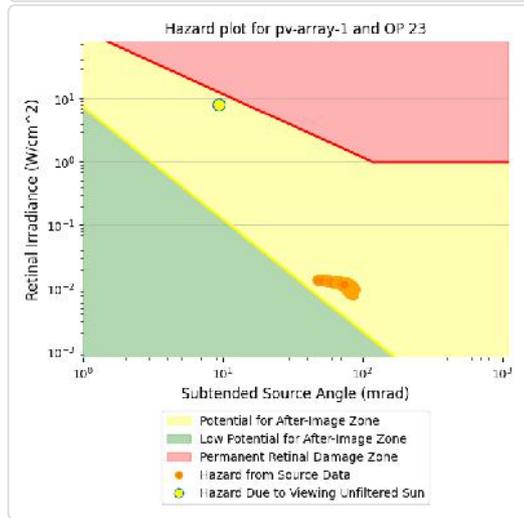
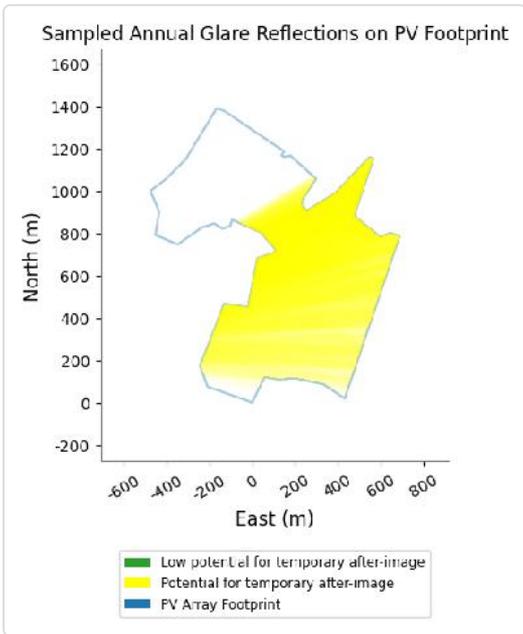
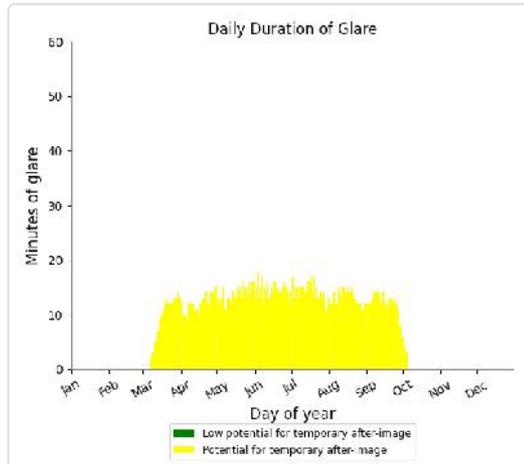
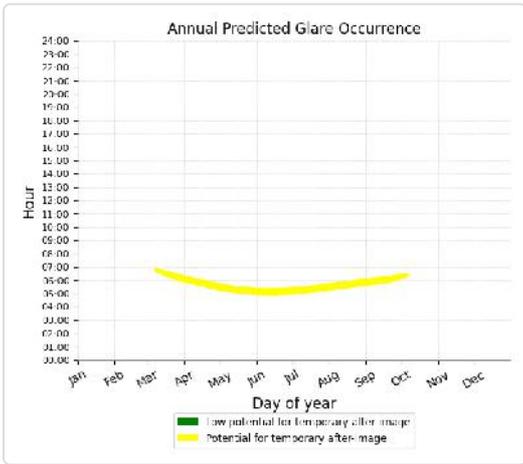
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,285 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:

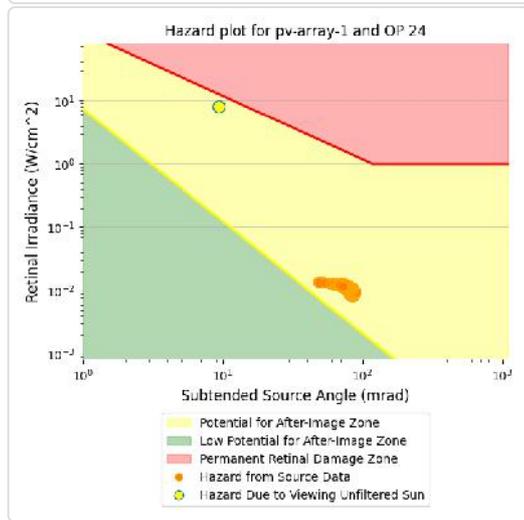
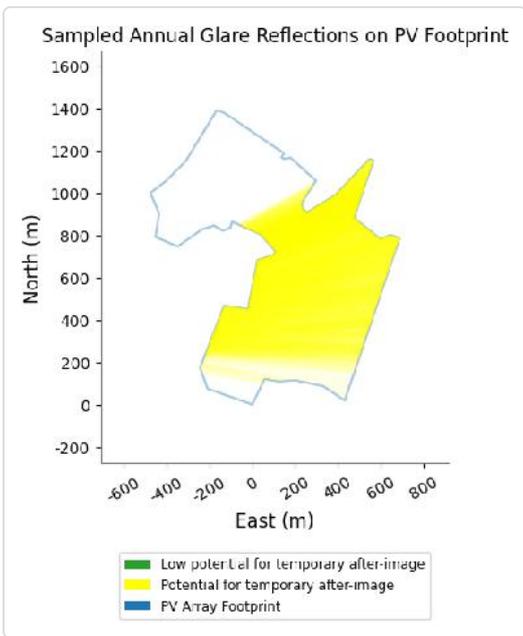
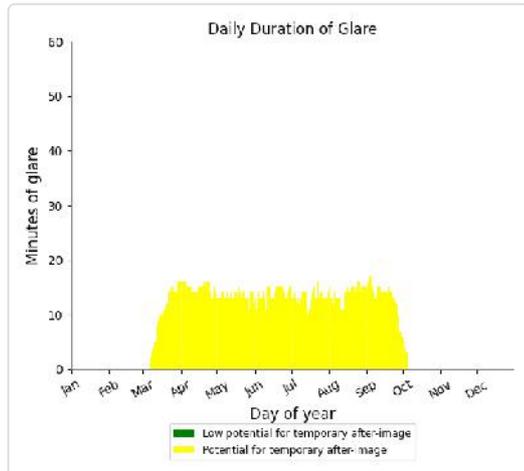
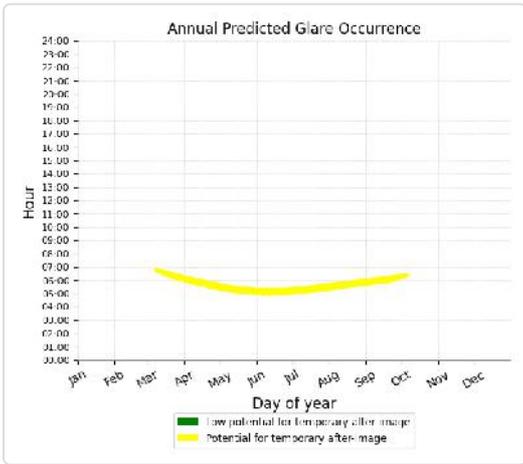
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,698 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 24)

PV array is expected to produce the following glare for receptors at this location:

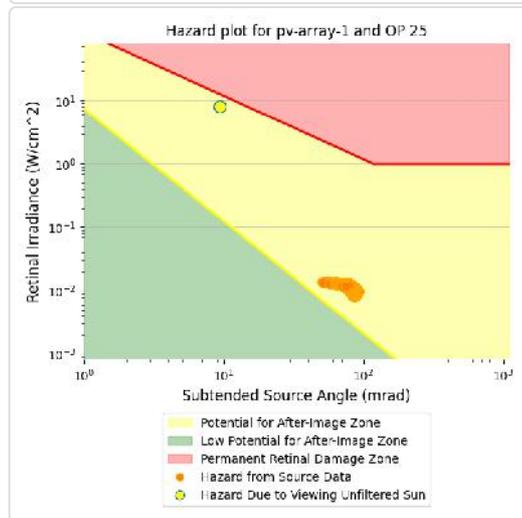
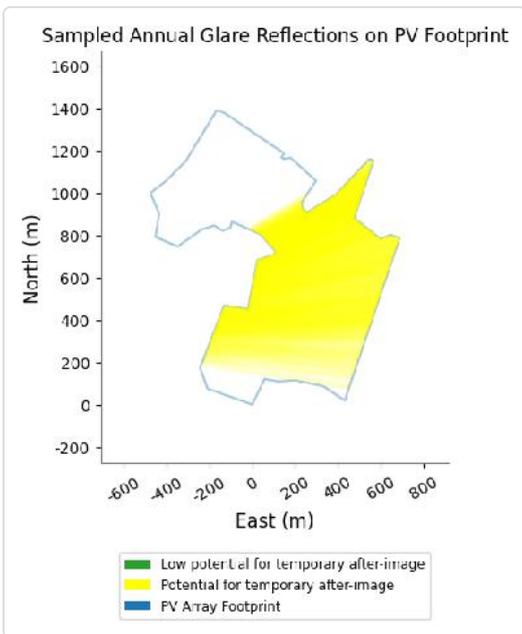
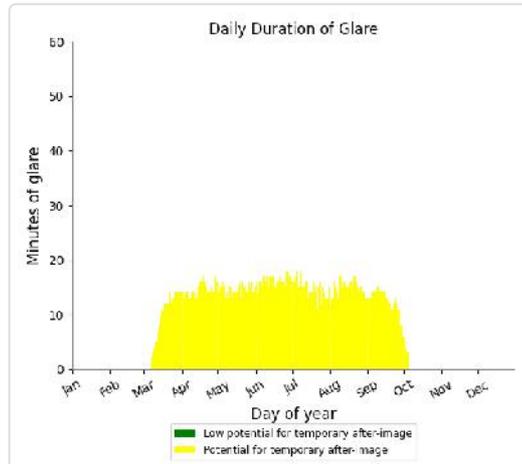
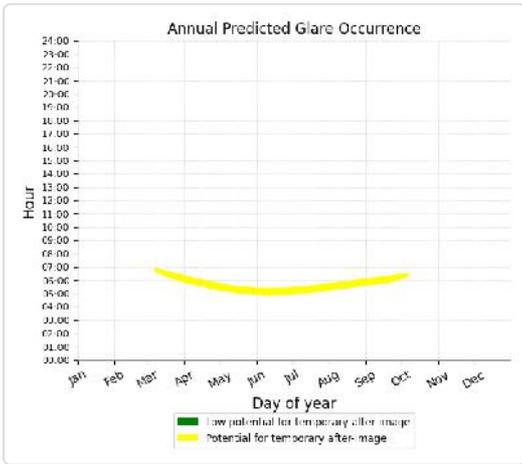
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,799 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 25)

PV array is expected to produce the following glare for receptors at this location:

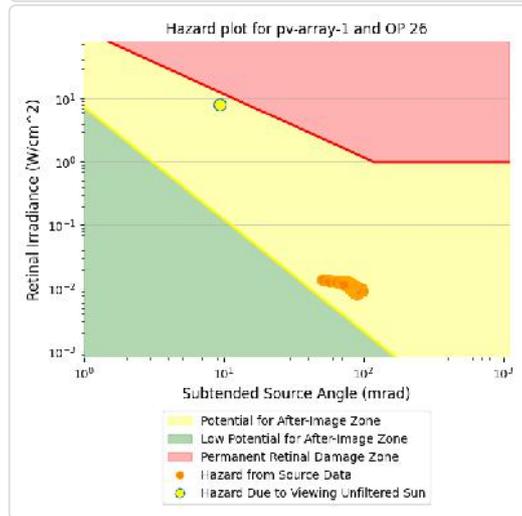
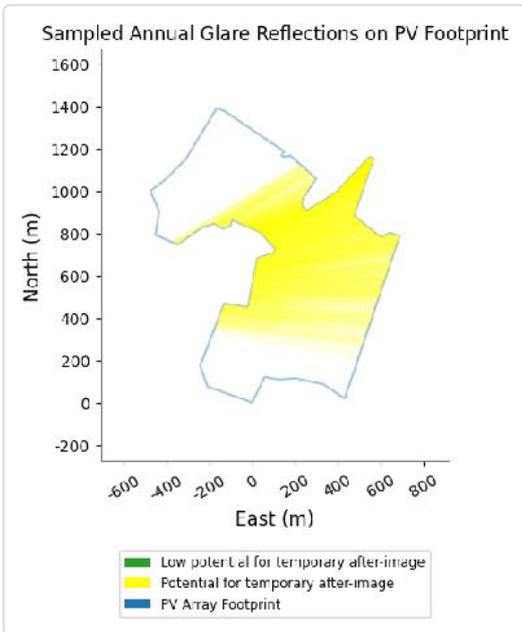
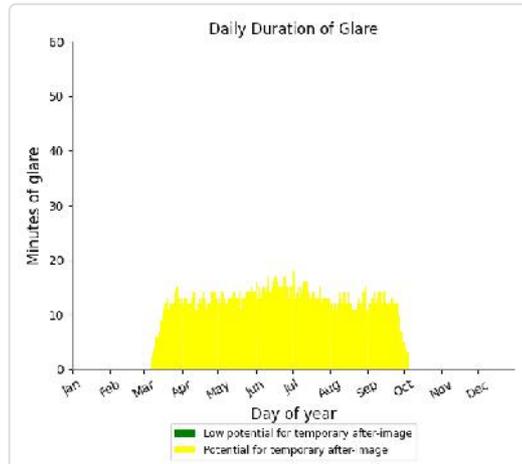
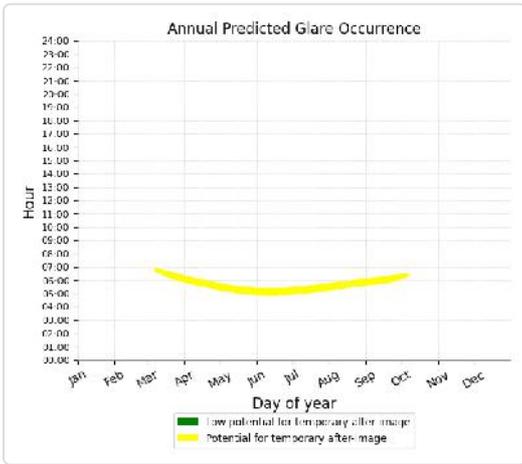
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,949 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 26)

PV array is expected to produce the following glare for receptors at this location:

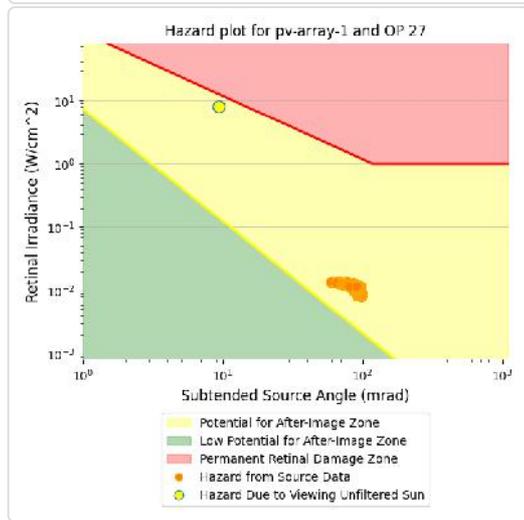
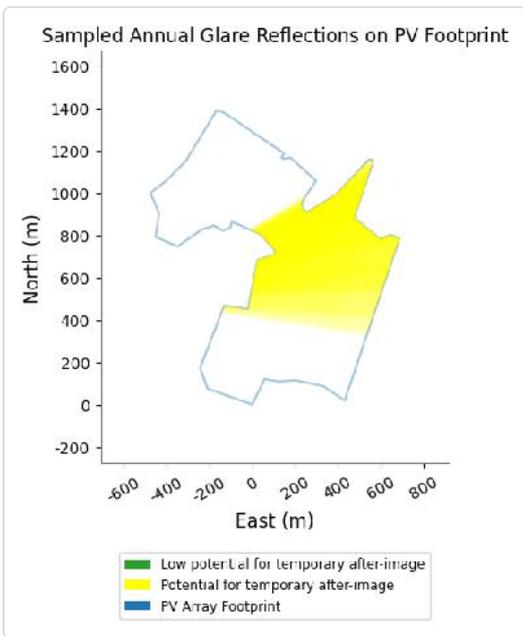
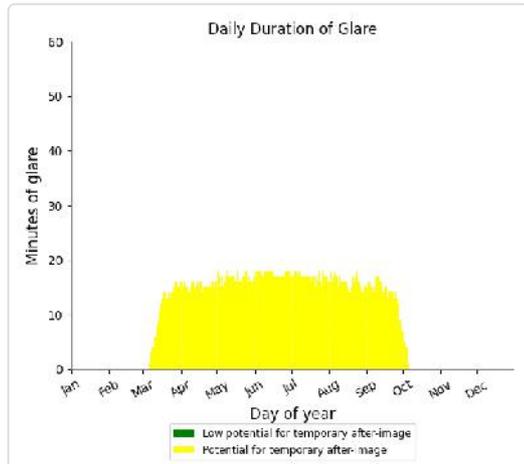
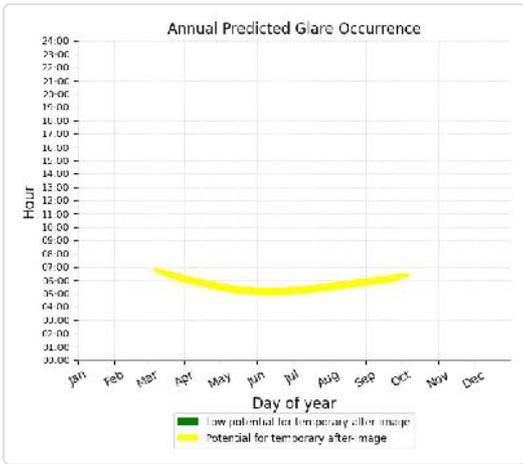
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,679 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:

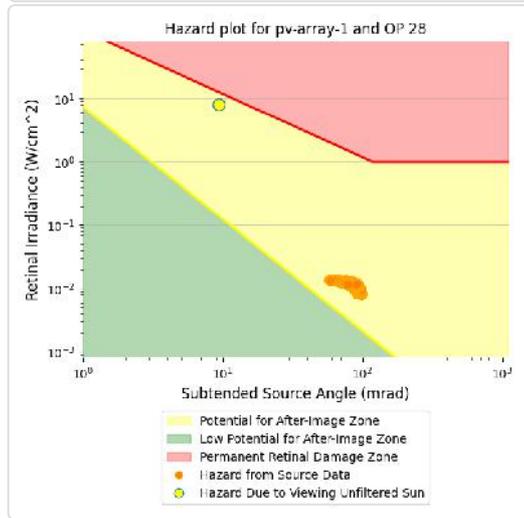
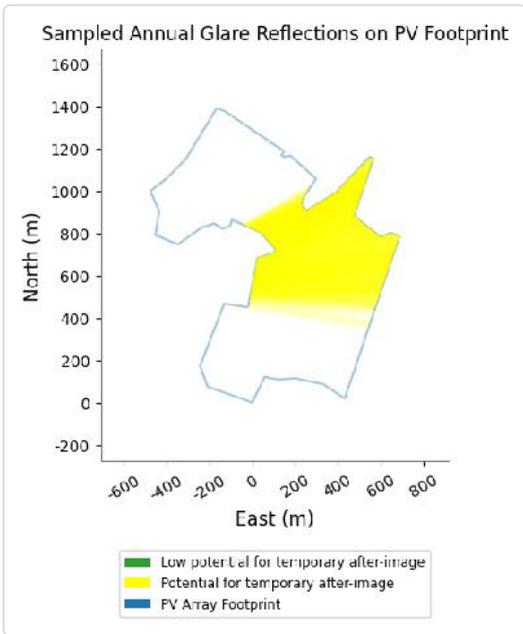
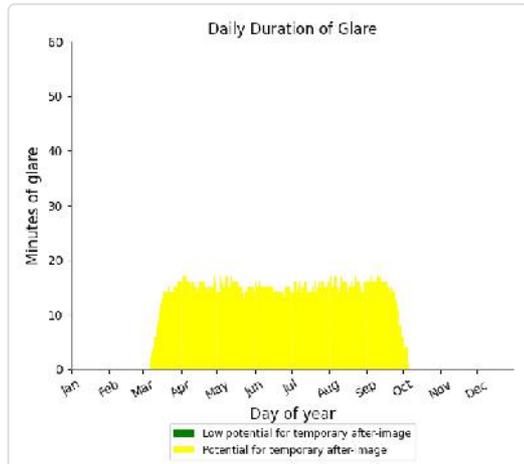
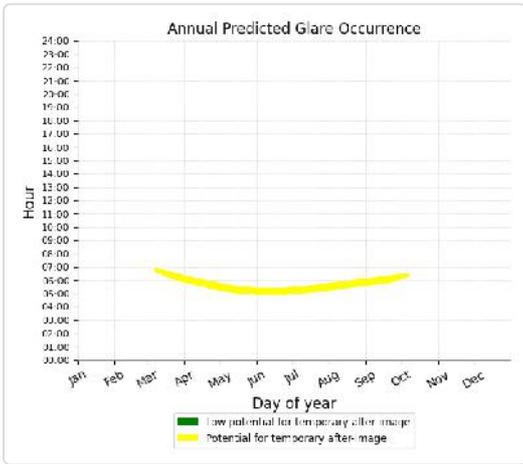
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,256 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:

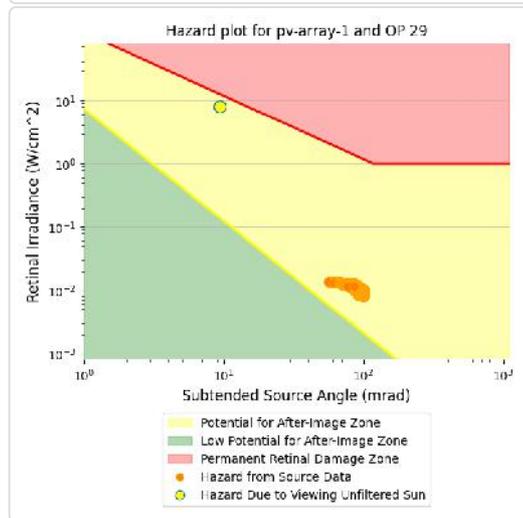
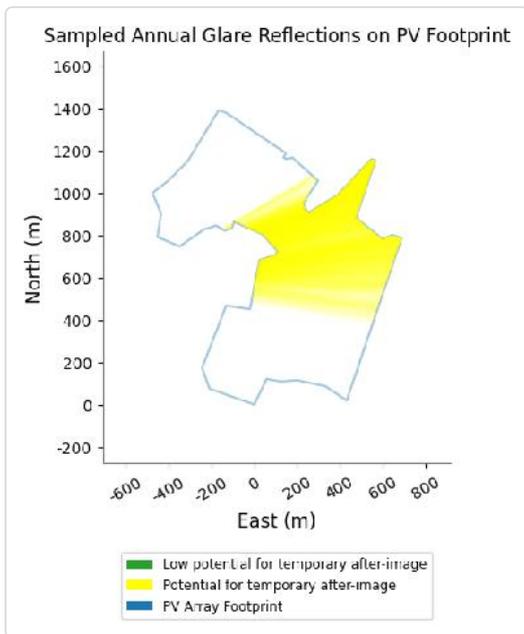
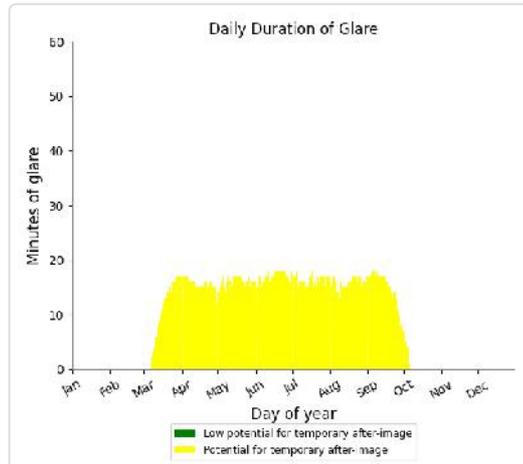
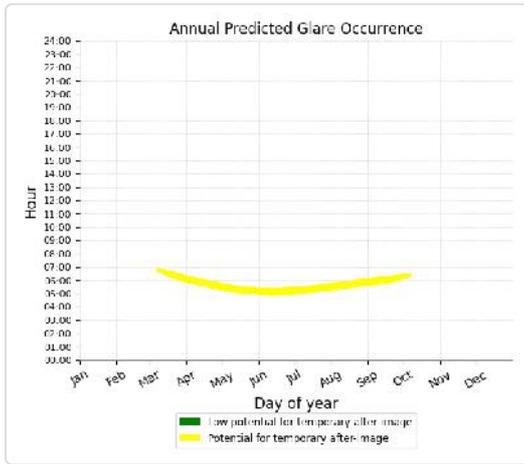
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,076 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 29)

PV array is expected to produce the following glare for receptors at this location:

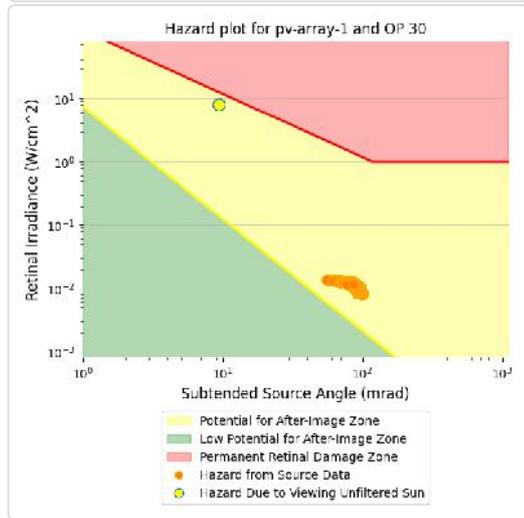
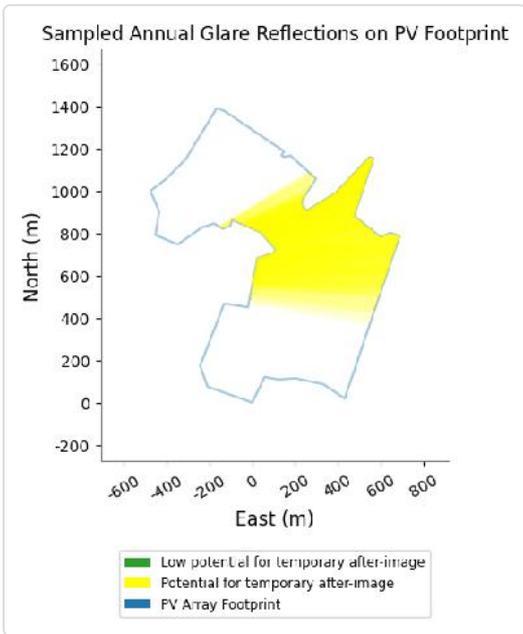
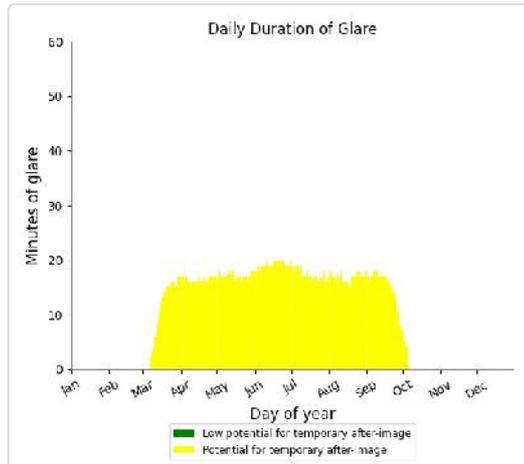
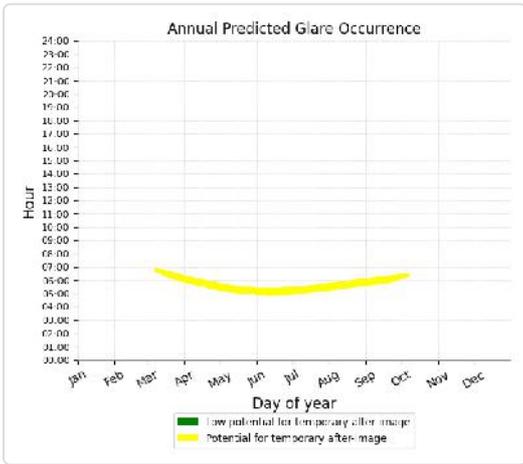
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,234 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:

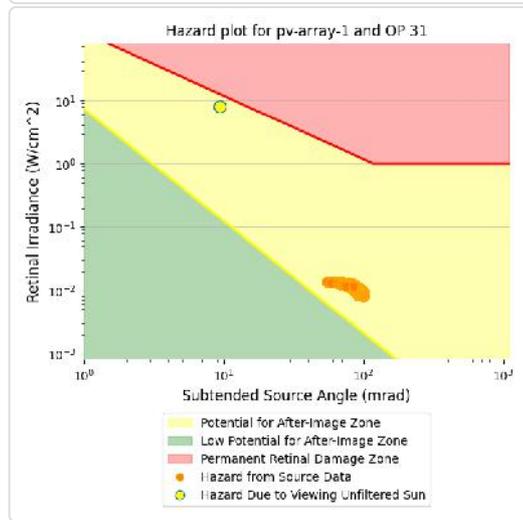
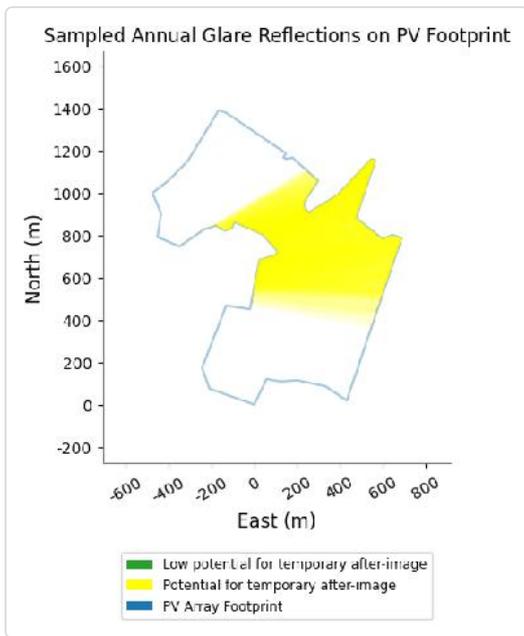
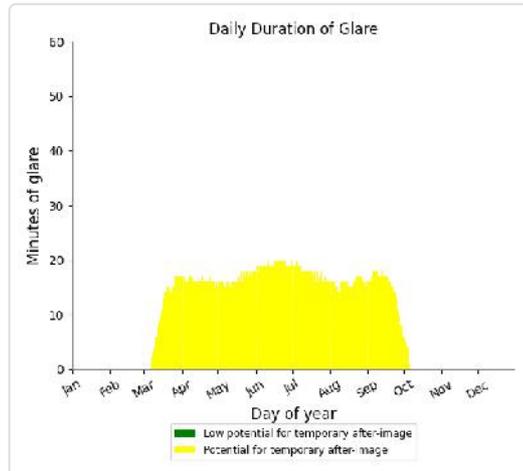
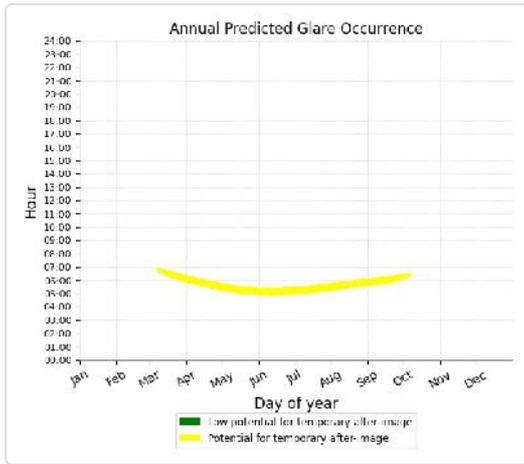
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,449 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 31)

PV array is expected to produce the following glare for receptors at this location:

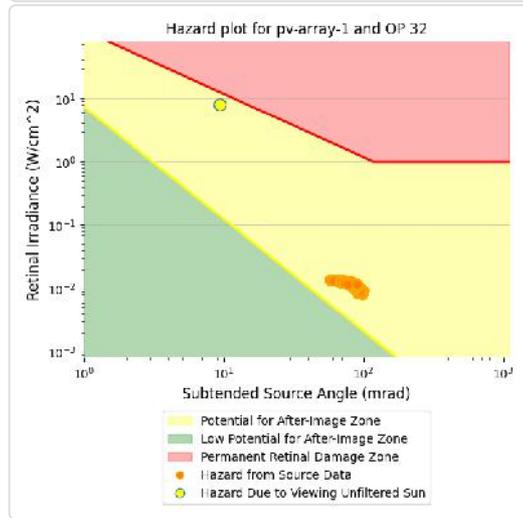
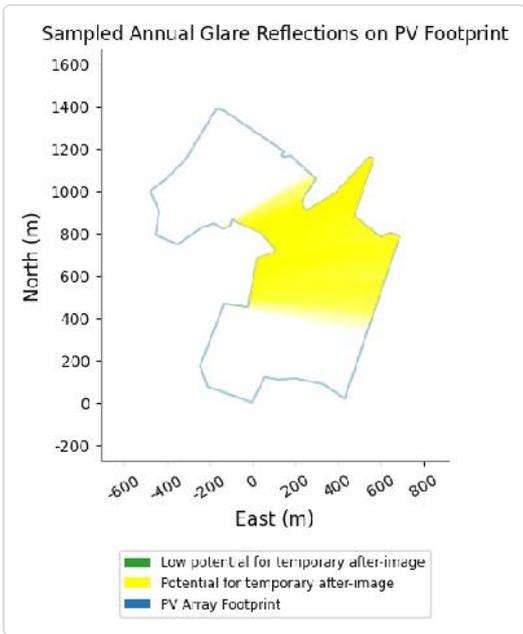
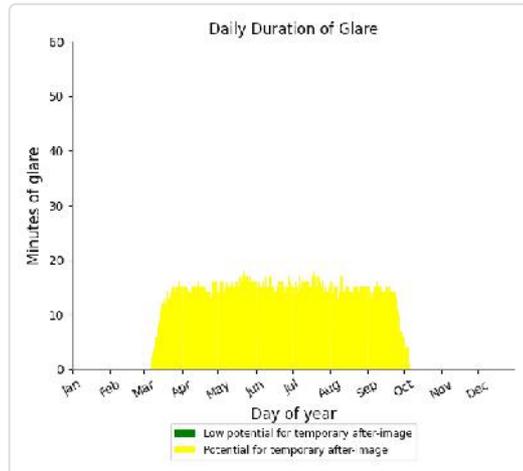
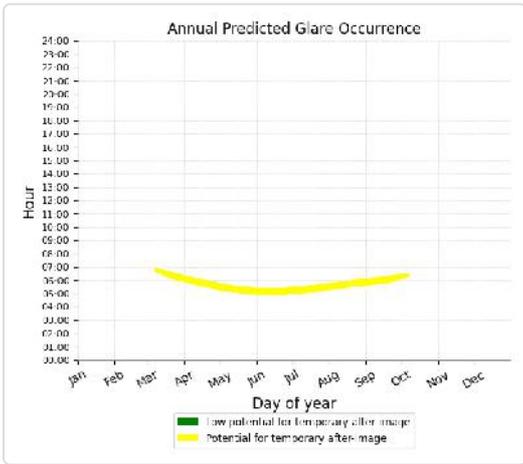
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,395 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 32)

PV array is expected to produce the following glare for receptors at this location:

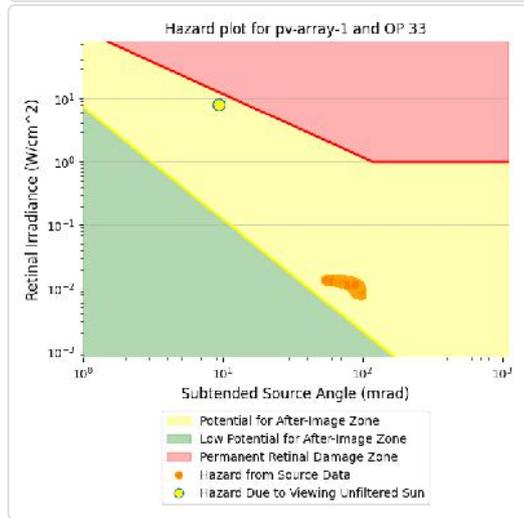
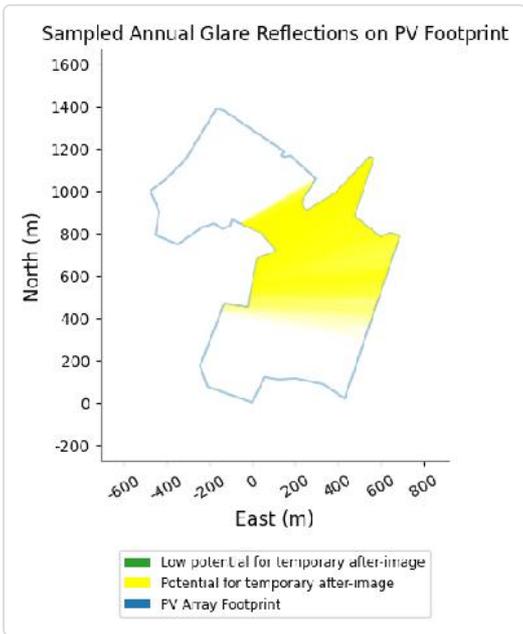
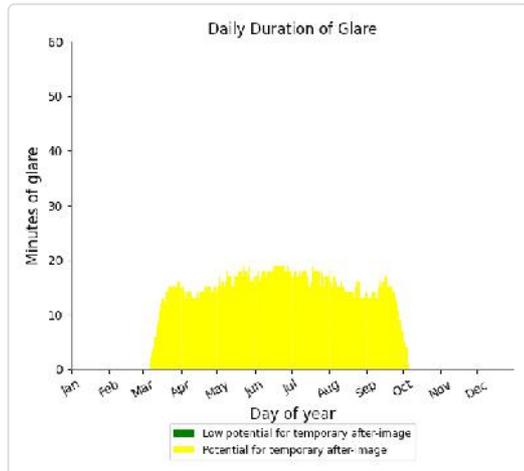
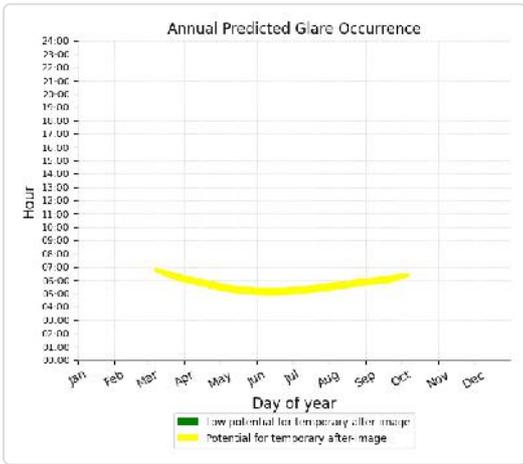
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,050 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 33)

PV array is expected to produce the following glare for receptors at this location:

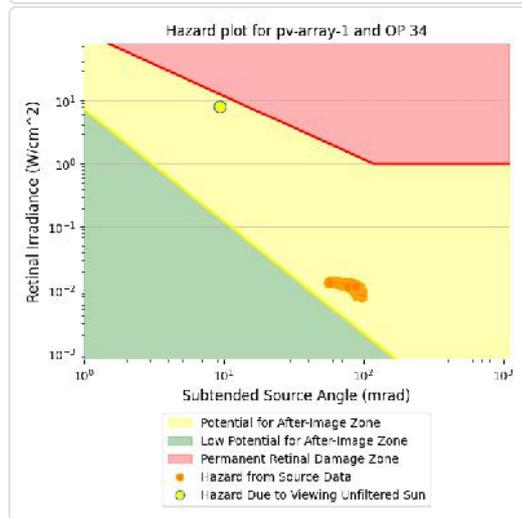
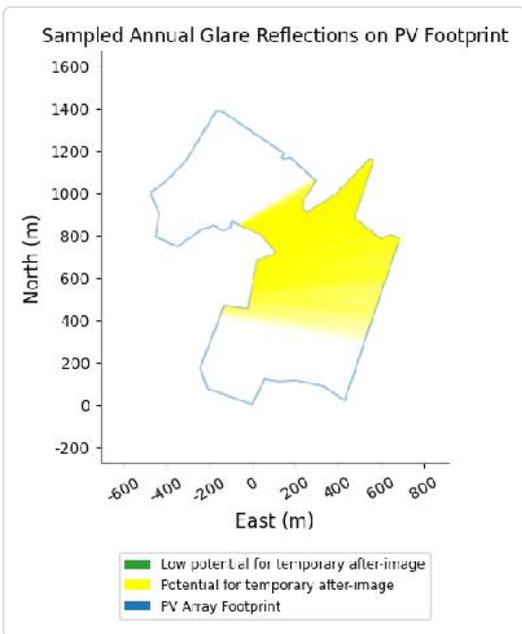
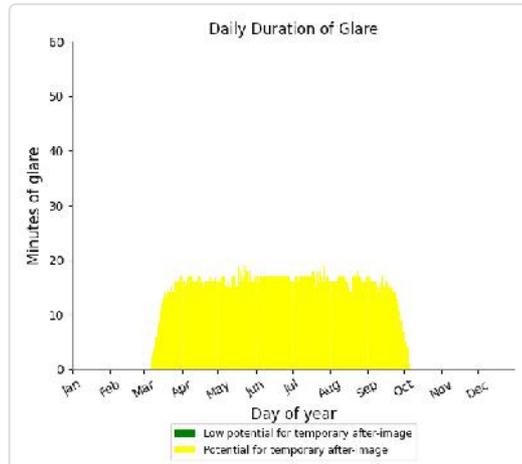
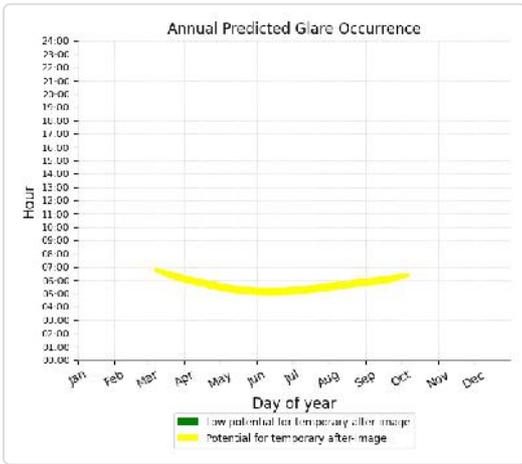
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,210 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 34)

PV array is expected to produce the following glare for receptors at this location:

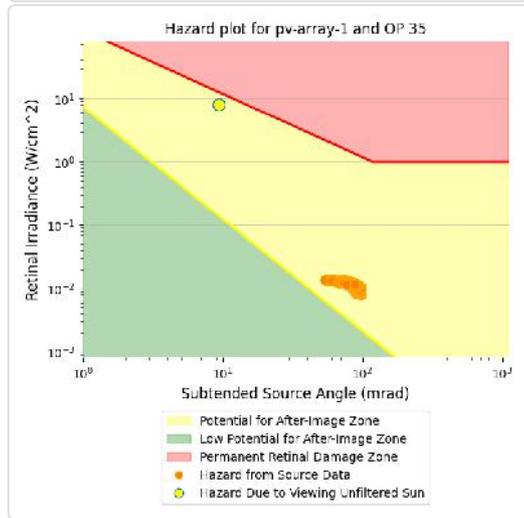
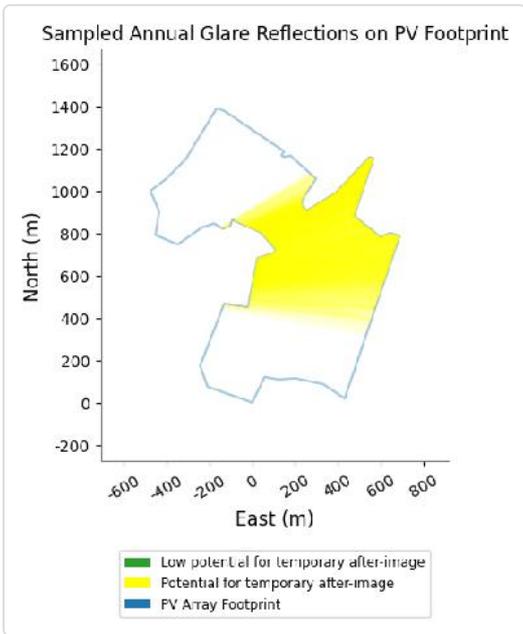
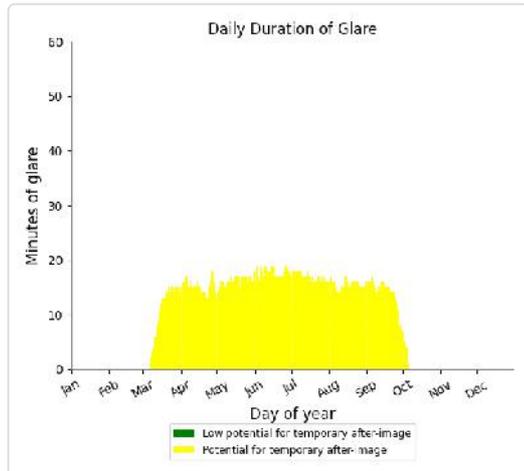
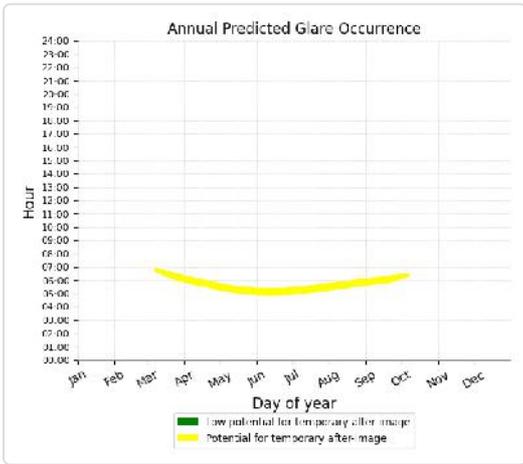
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,298 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 35)

PV array is expected to produce the following glare for receptors at this location:

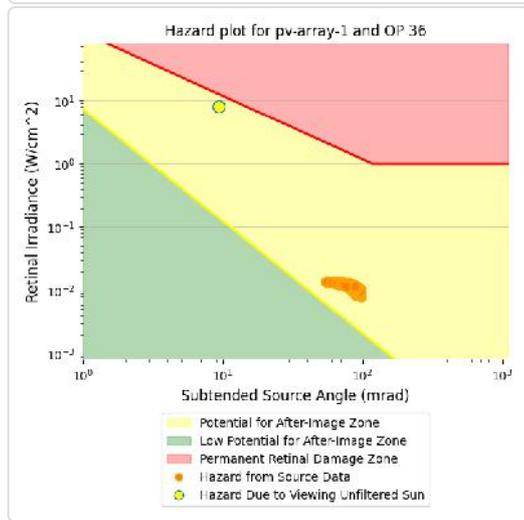
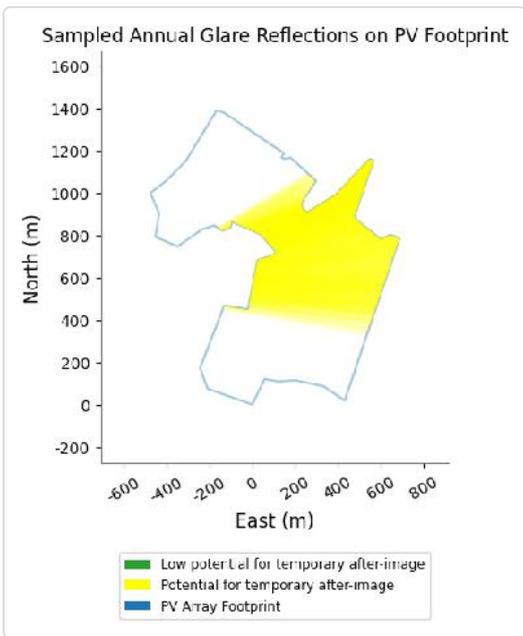
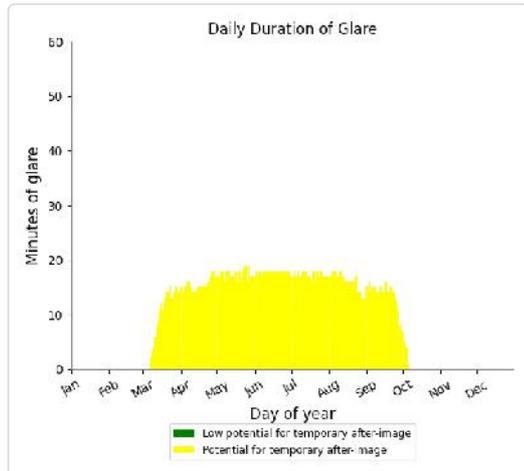
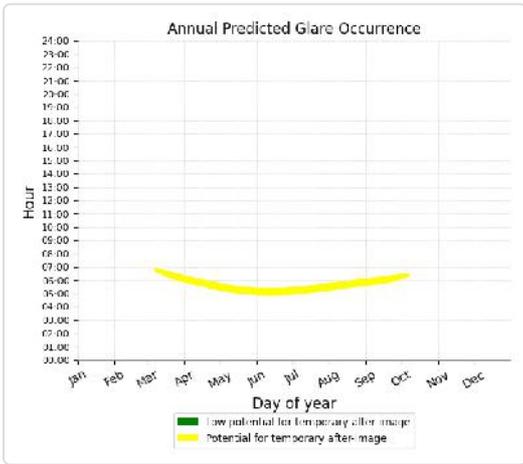
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,242 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 36)

PV array is expected to produce the following glare for receptors at this location:

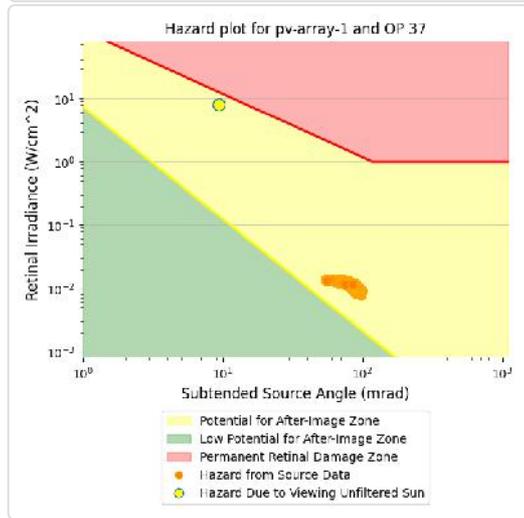
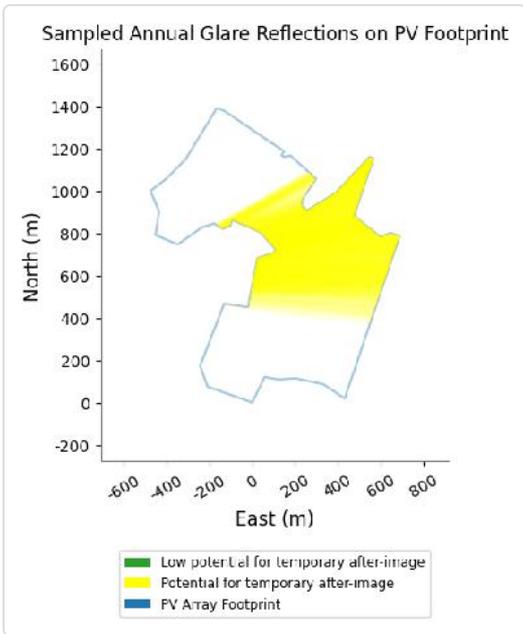
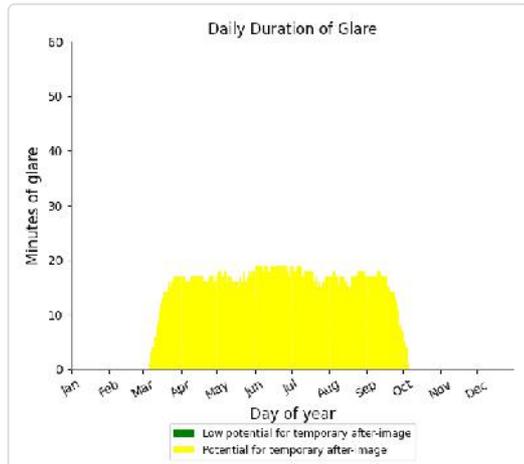
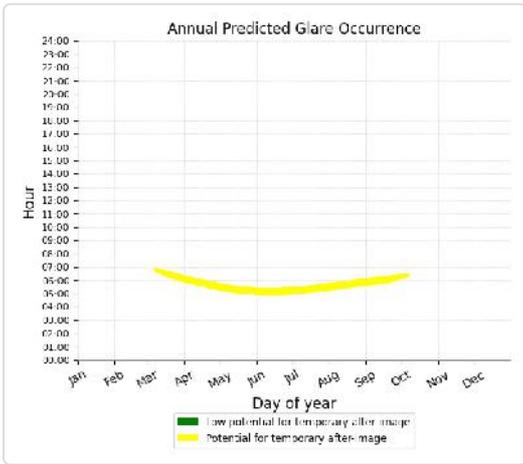
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,301 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 37)

PV array is expected to produce the following glare for receptors at this location:

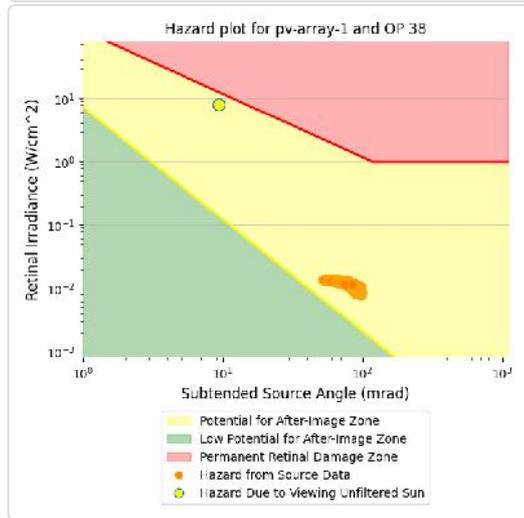
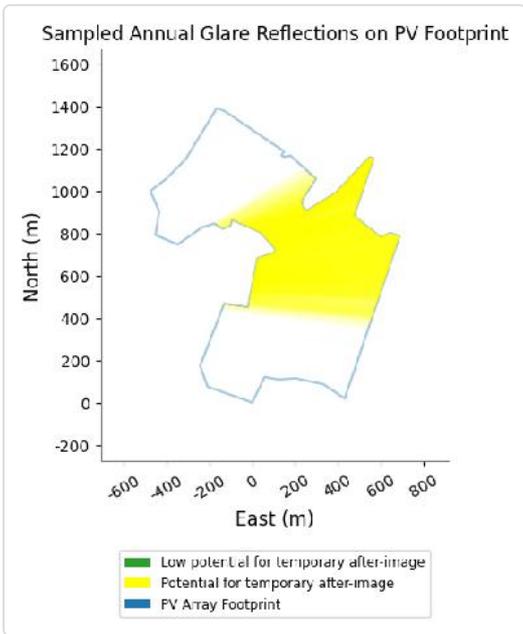
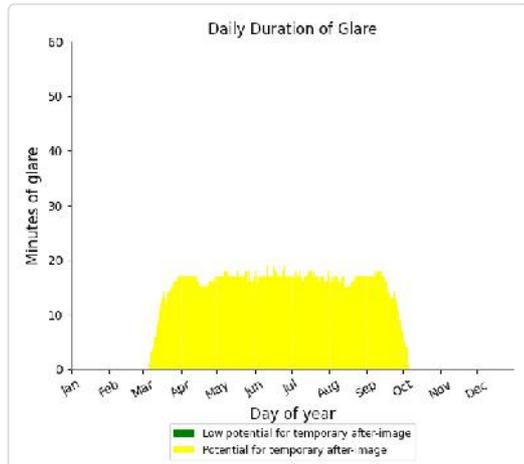
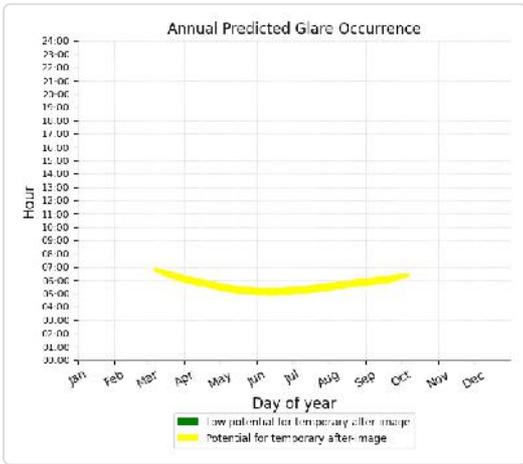
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,433 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 38)

PV array is expected to produce the following glare for receptors at this location:

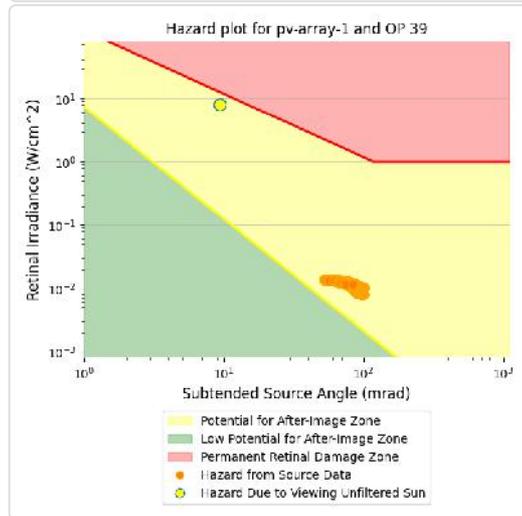
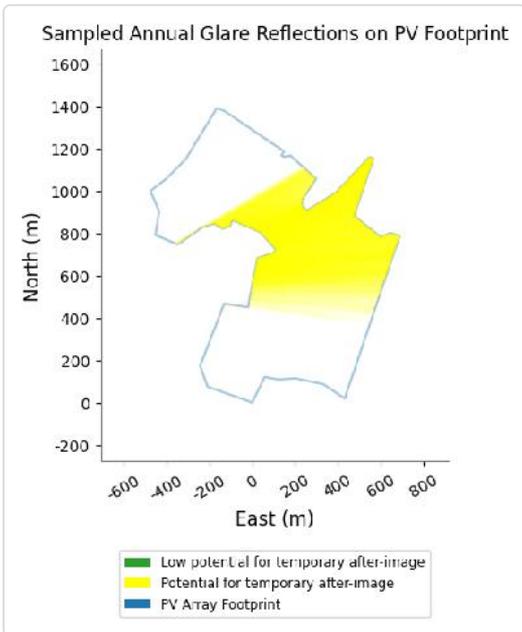
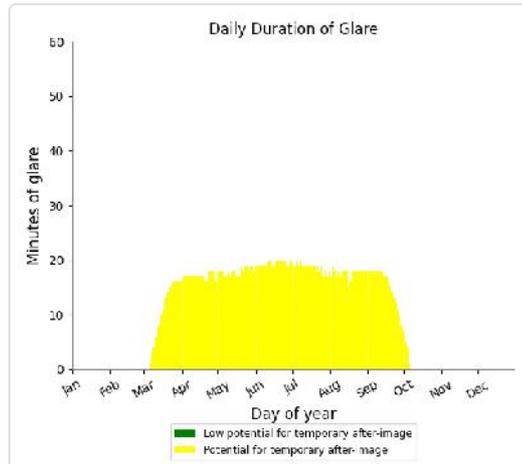
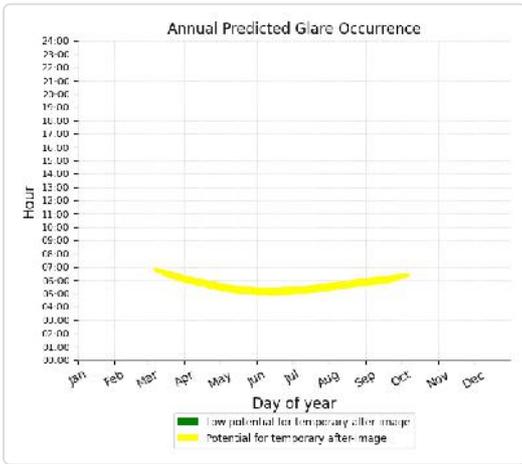
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,344 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 39)

PV array is expected to produce the following glare for receptors at this location:

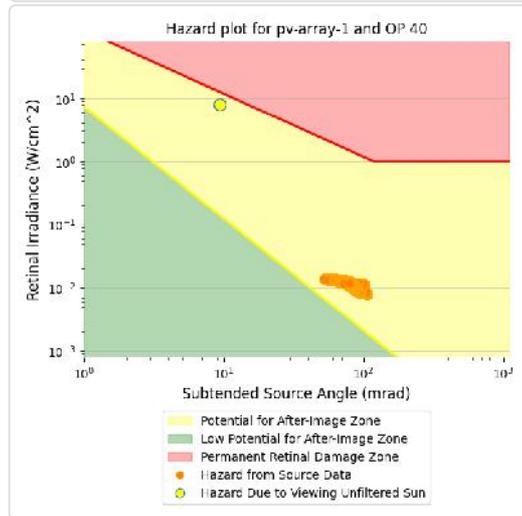
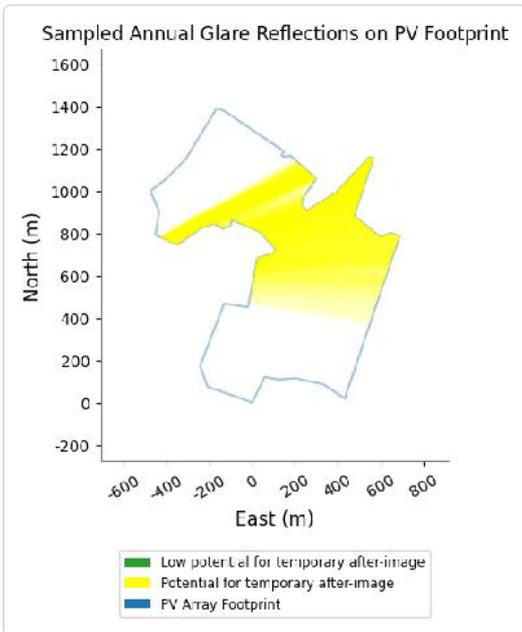
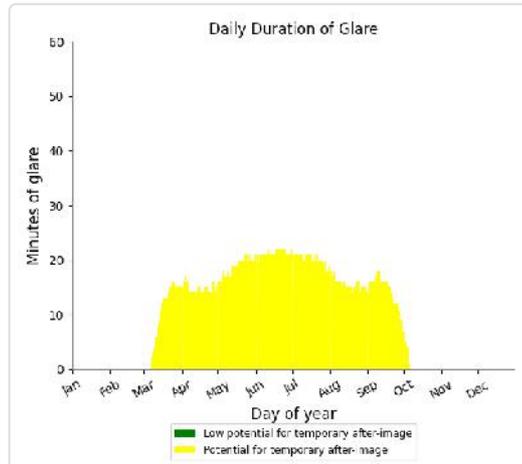
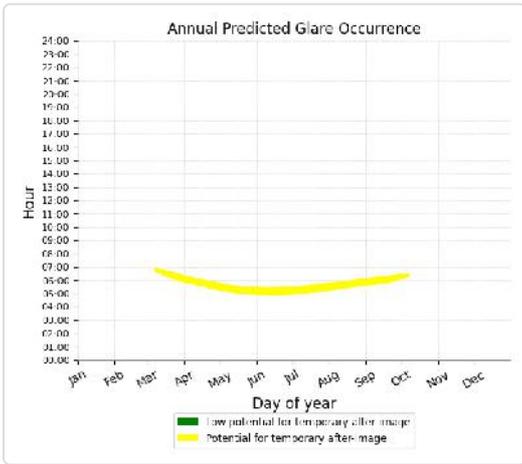
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,547 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 40)

PV array is expected to produce the following glare for receptors at this location:

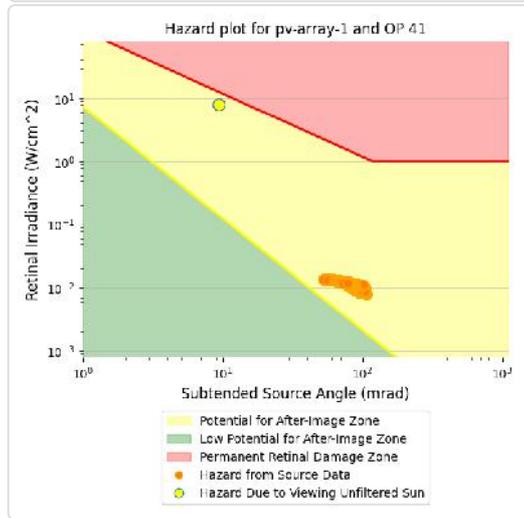
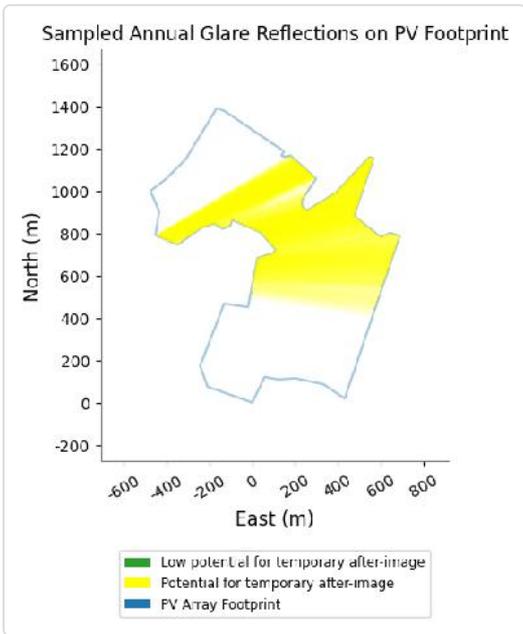
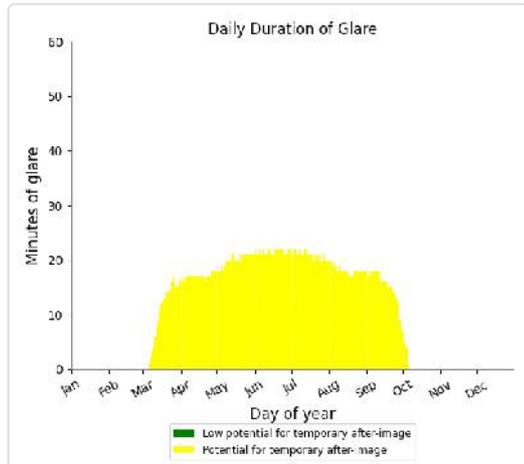
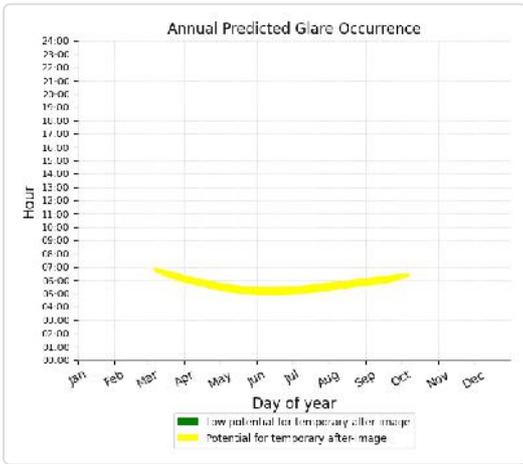
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,536 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 41)

PV array is expected to produce the following glare for receptors at this location:

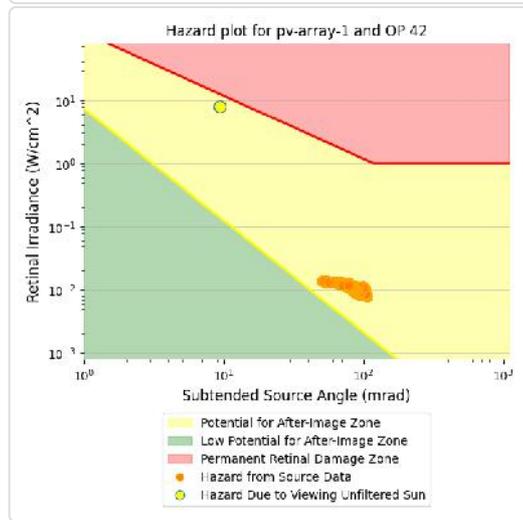
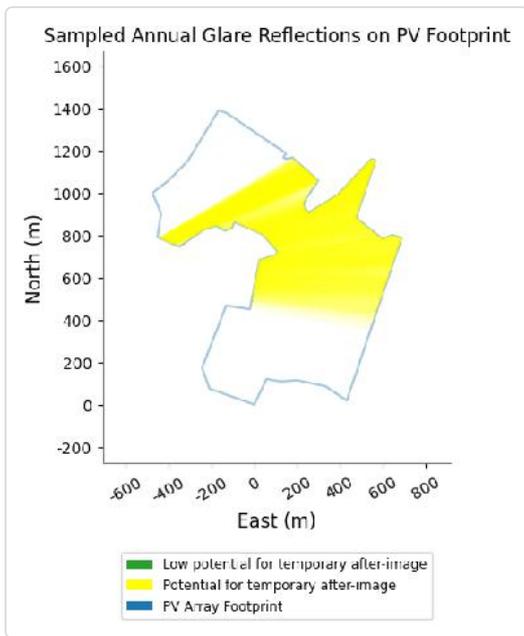
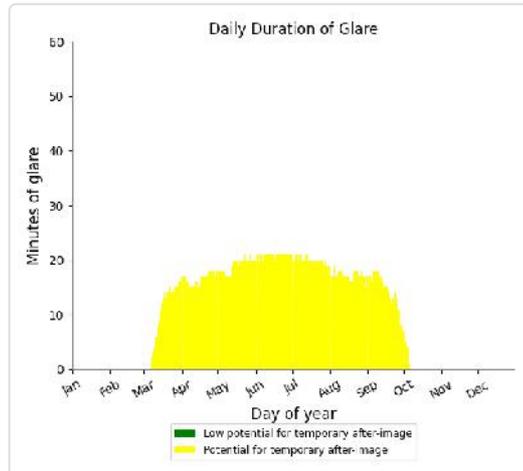
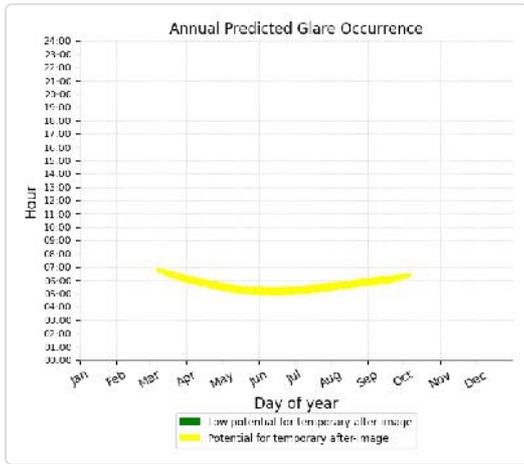
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,768 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 42)

PV array is expected to produce the following glare for receptors at this location:

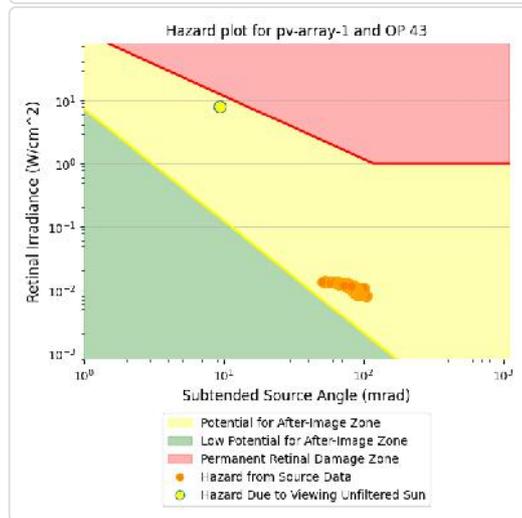
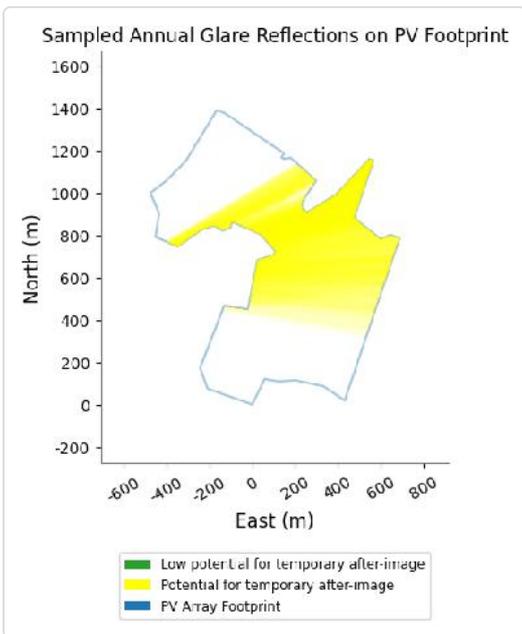
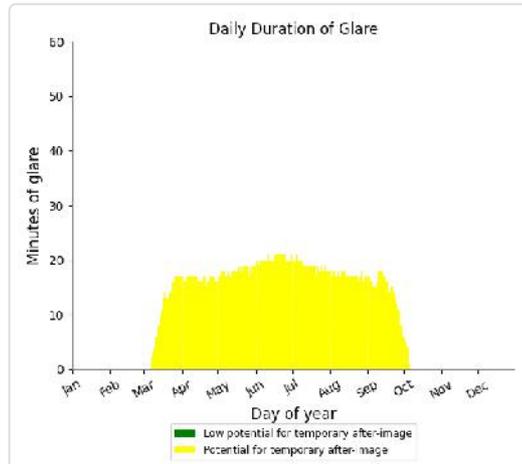
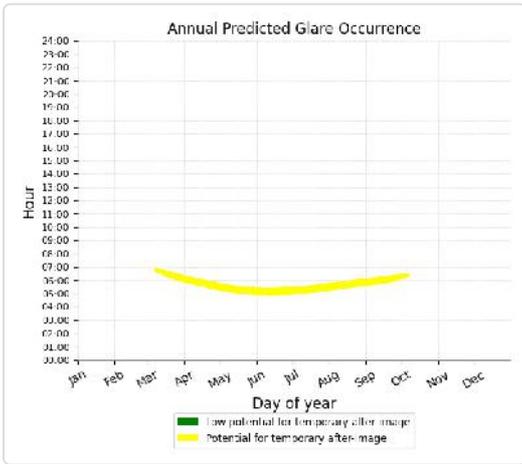
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,636 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 43)

PV array is expected to produce the following glare for receptors at this location:

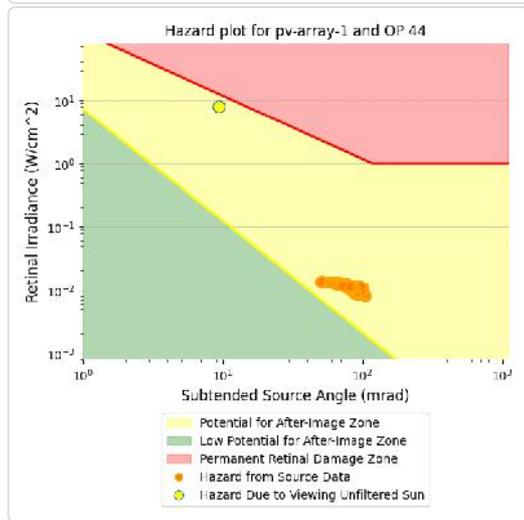
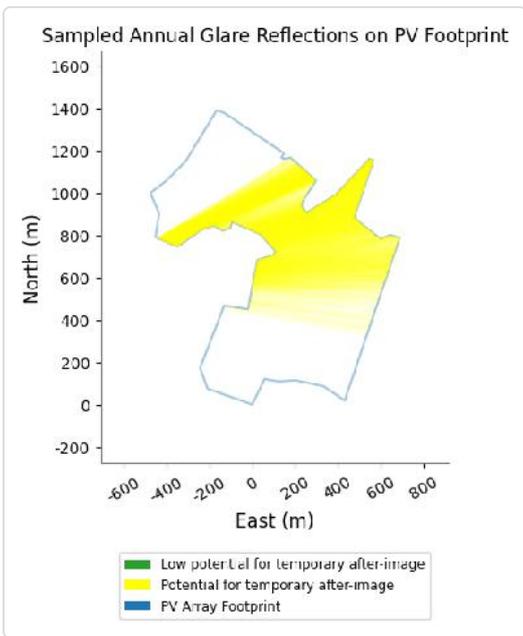
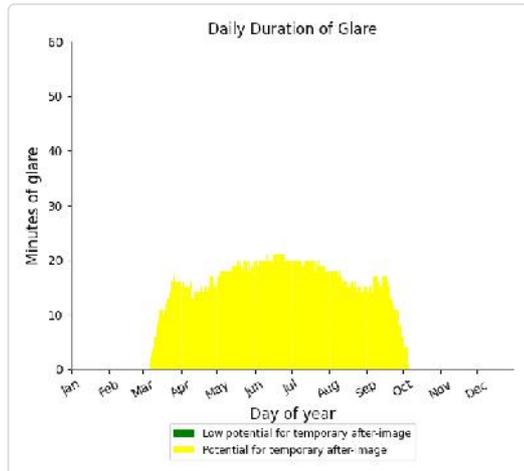
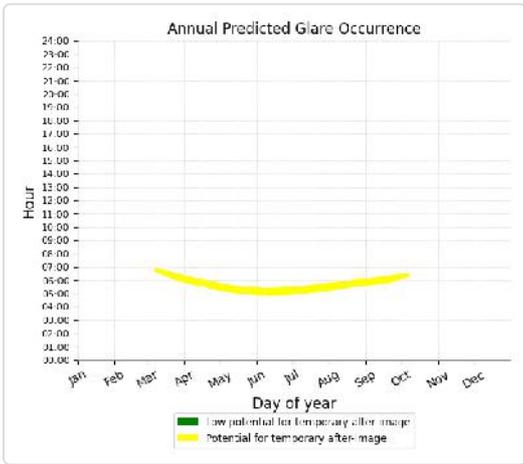
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,549 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 44)

PV array is expected to produce the following glare for receptors at this location:

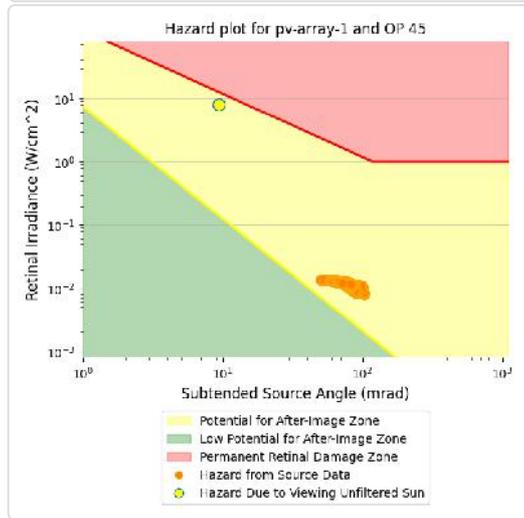
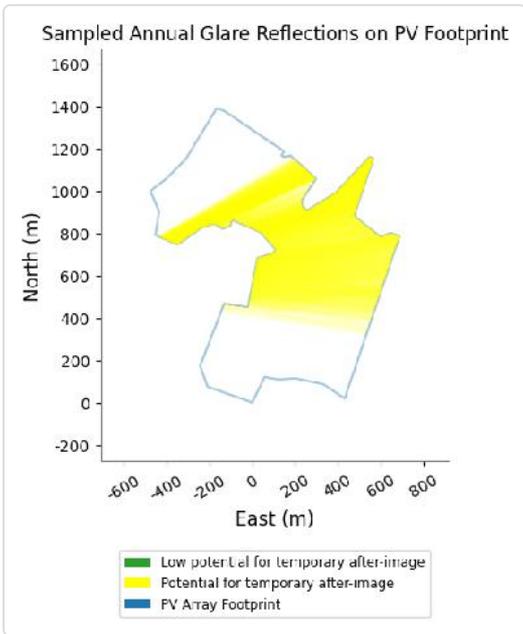
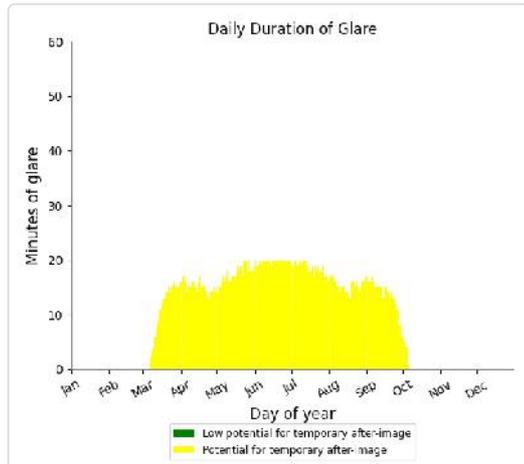
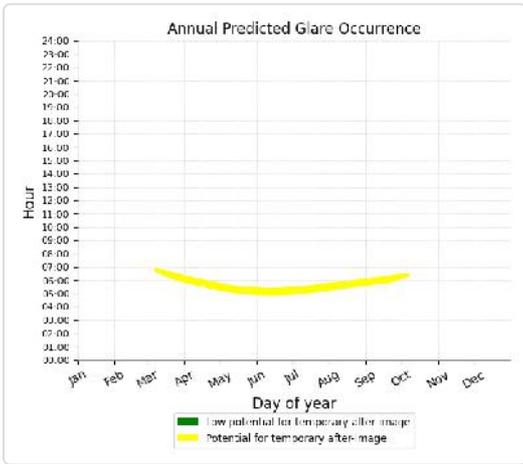
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,464 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 45)

PV array is expected to produce the following glare for receptors at this location:

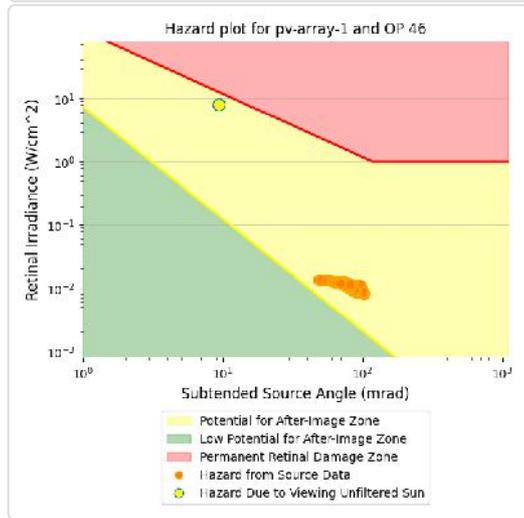
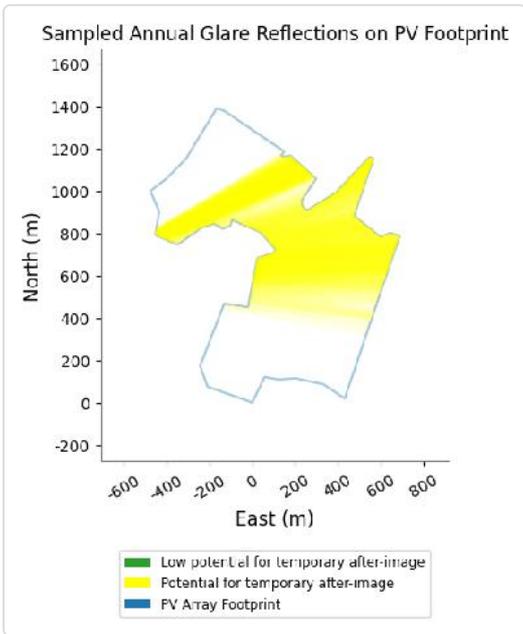
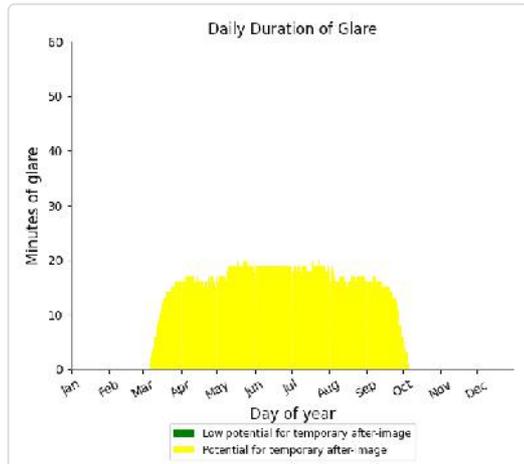
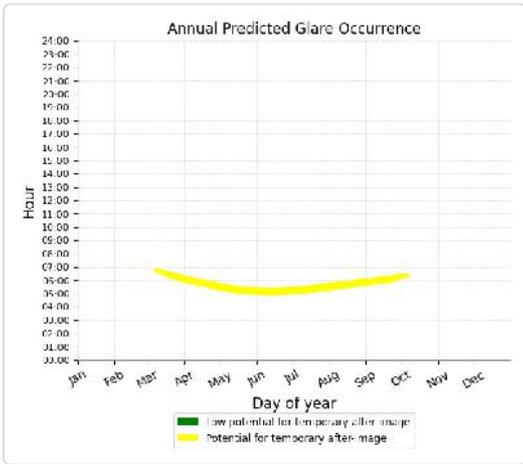
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,356 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 46)

PV array is expected to produce the following glare for receptors at this location:

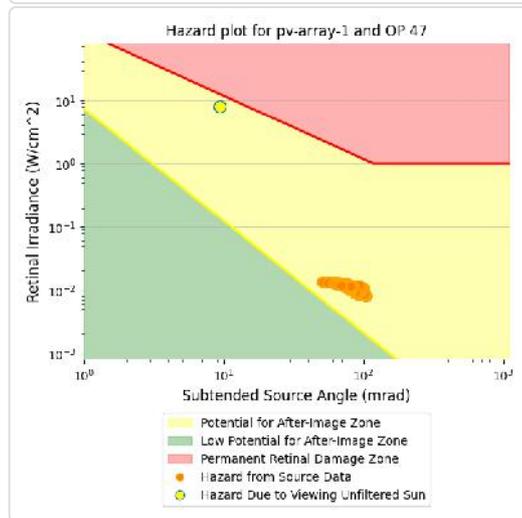
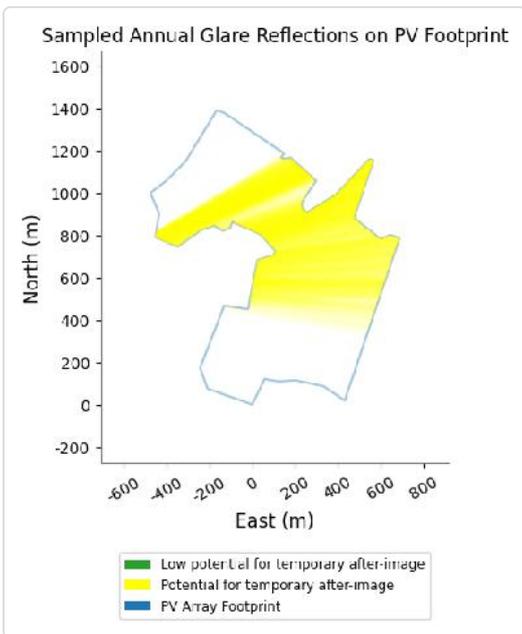
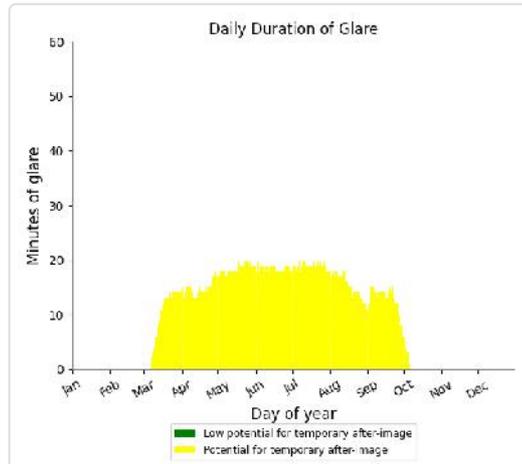
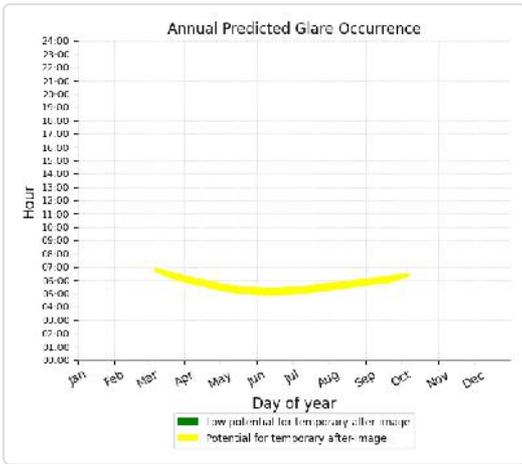
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,468 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 47)

PV array is expected to produce the following glare for receptors at this location:

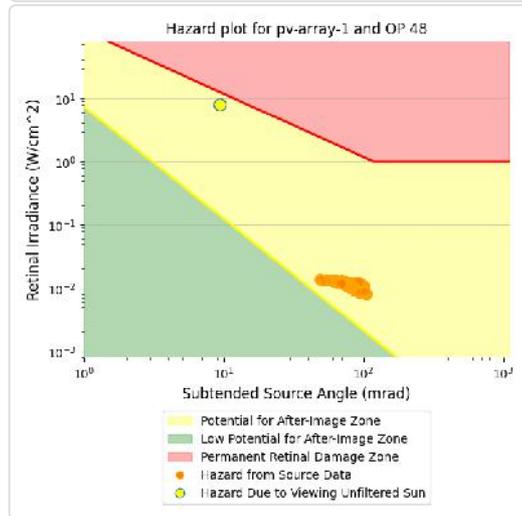
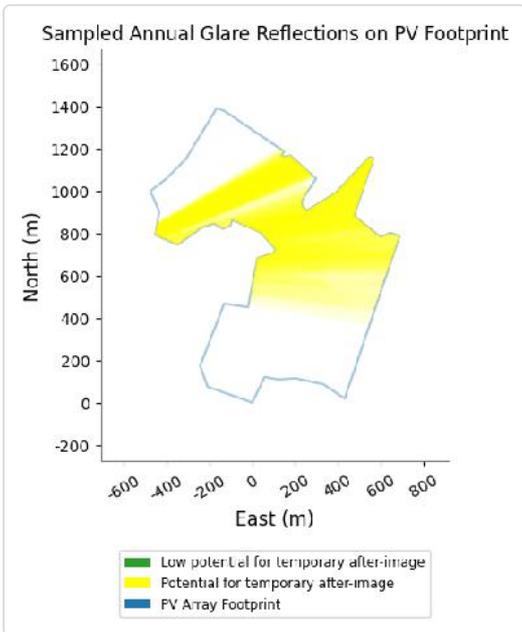
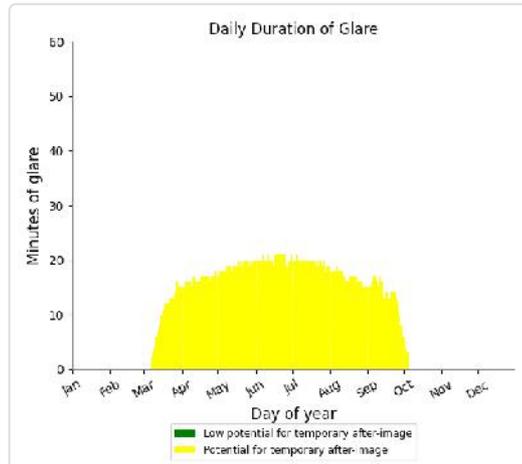
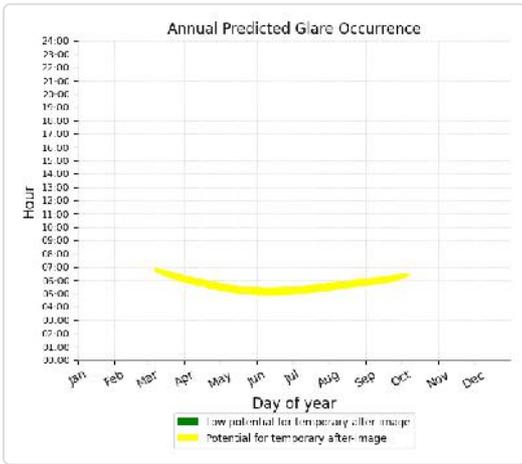
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,314 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 48)

PV array is expected to produce the following glare for receptors at this location:

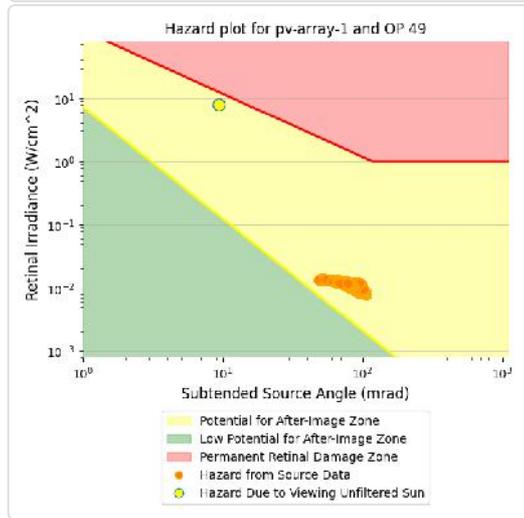
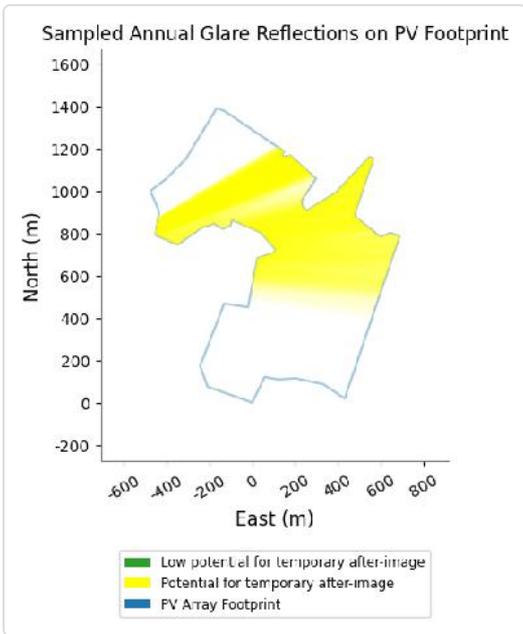
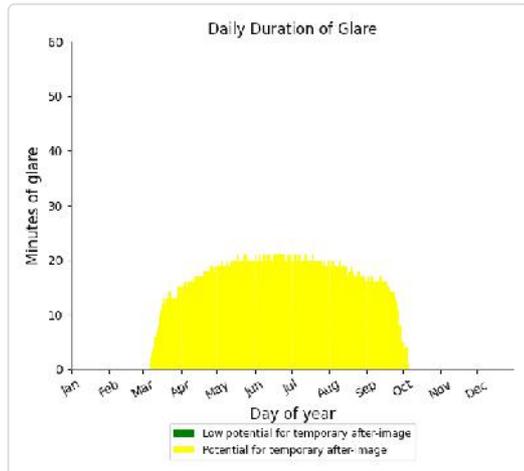
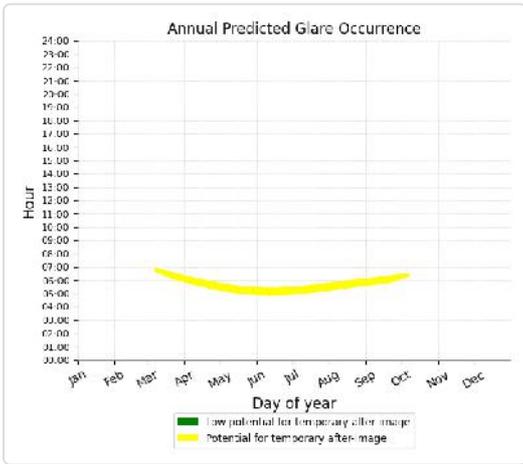
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,529 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 49)

PV array is expected to produce the following glare for receptors at this location:

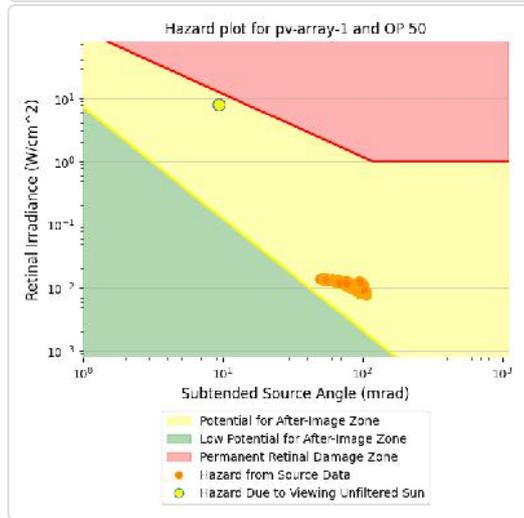
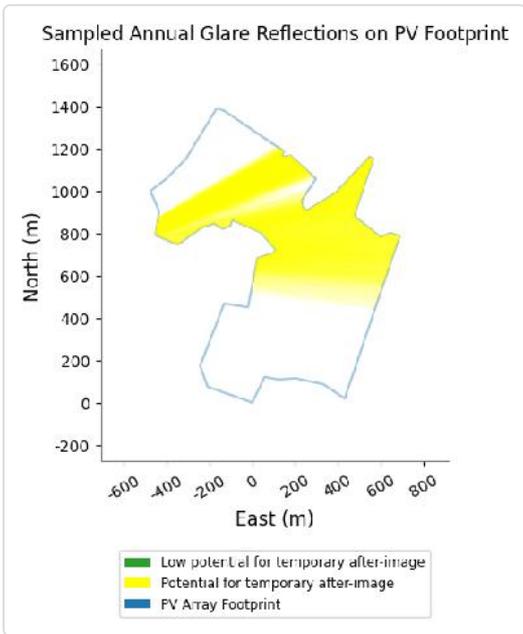
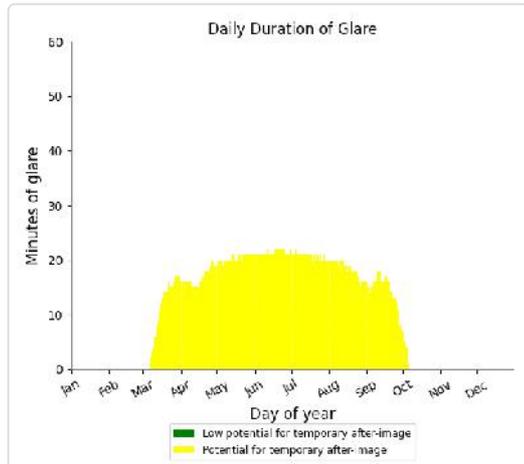
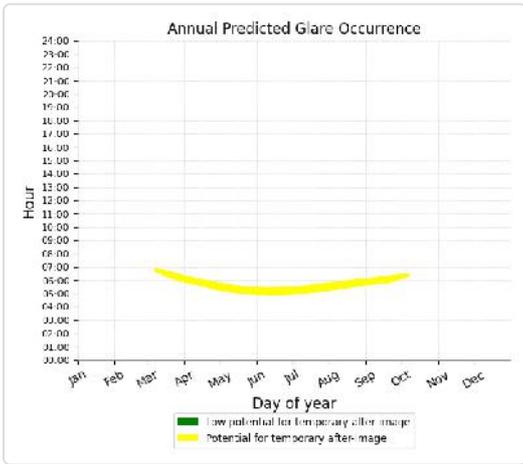
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,664 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 50)

PV array is expected to produce the following glare for receptors at this location:

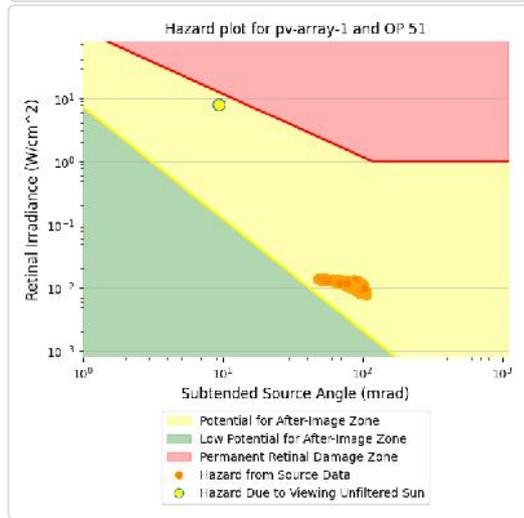
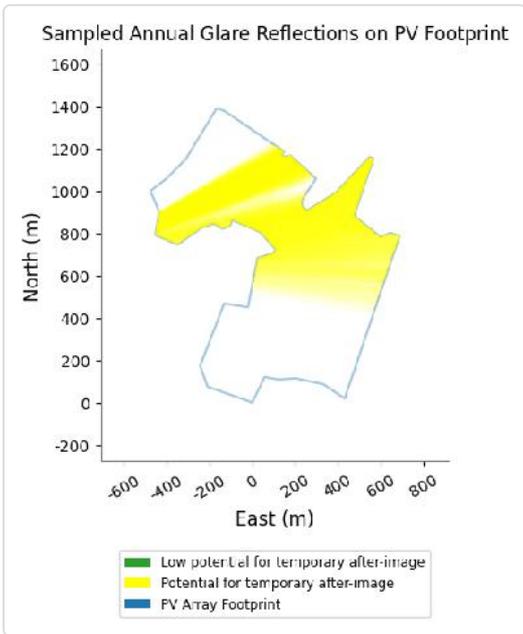
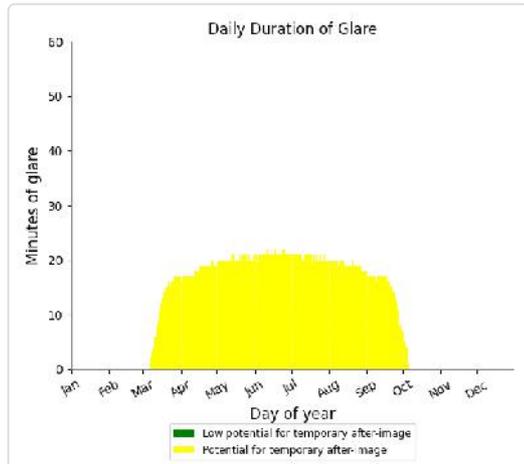
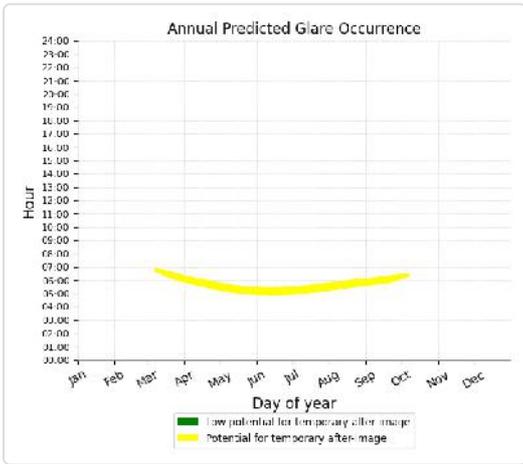
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,755 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 51)

PV array is expected to produce the following glare for receptors at this location:

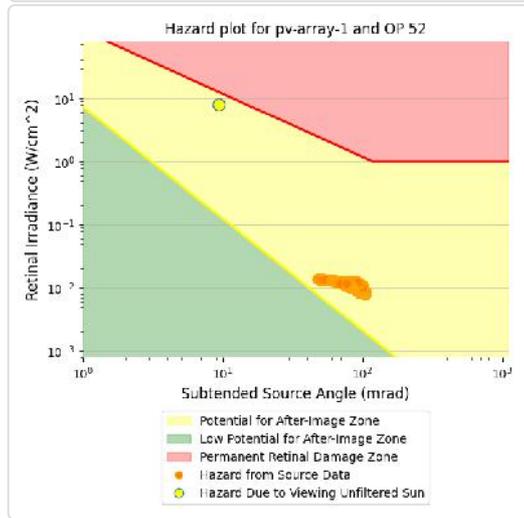
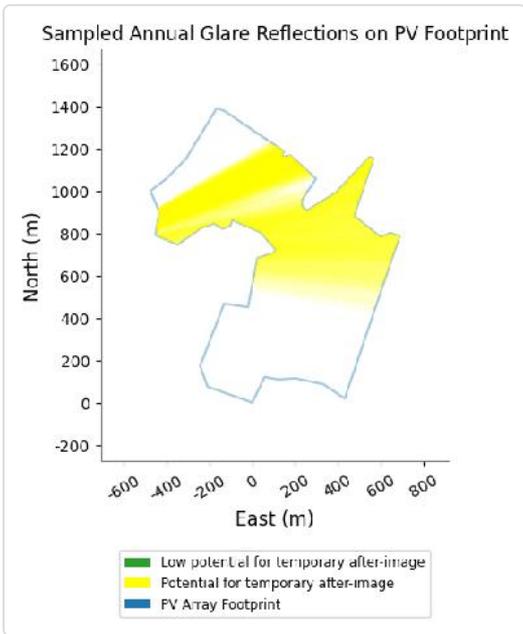
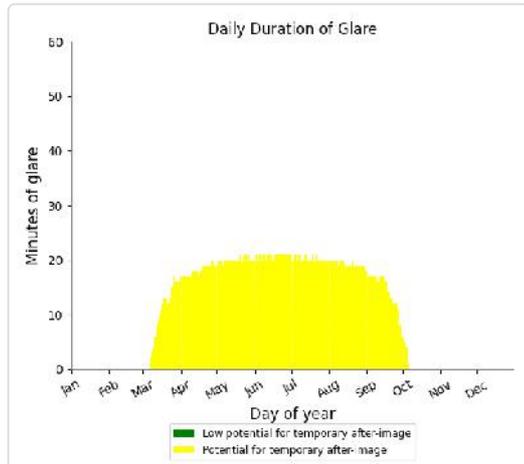
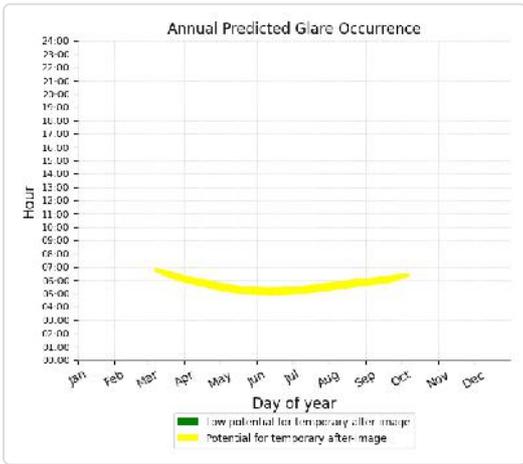
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,833 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 52)

PV array is expected to produce the following glare for receptors at this location:

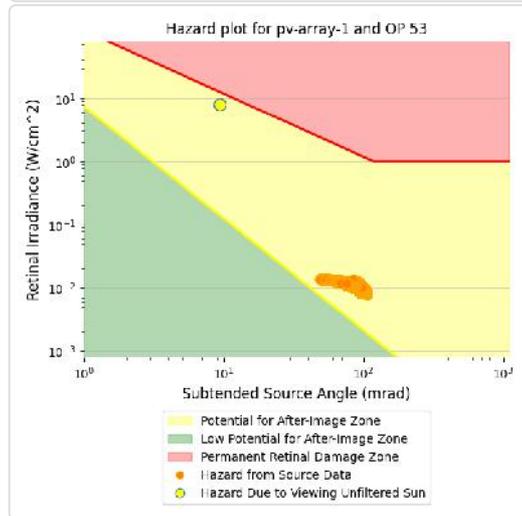
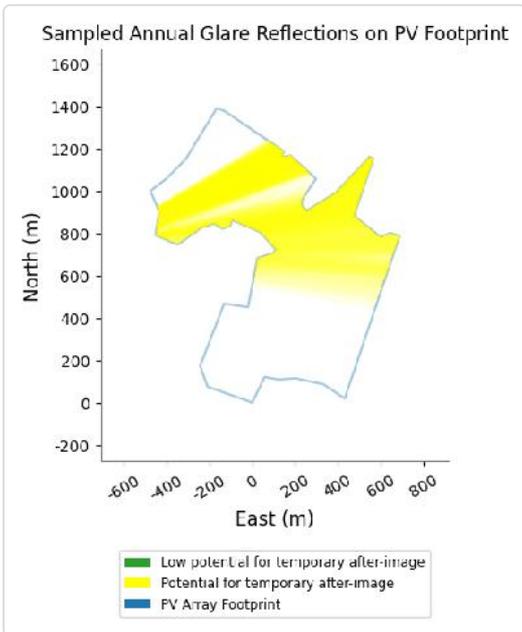
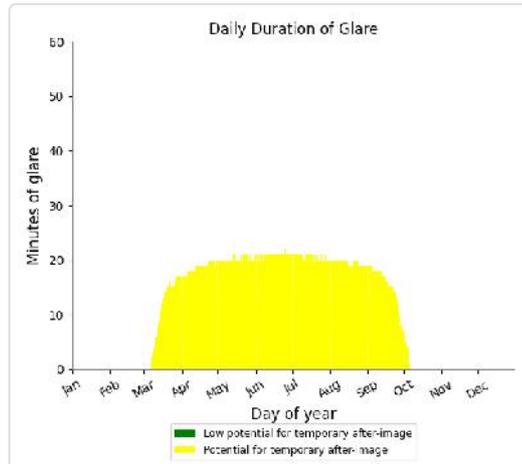
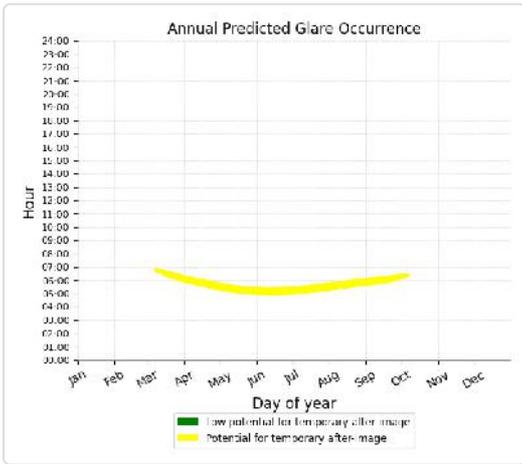
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,771 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 53)

PV array is expected to produce the following glare for receptors at this location:

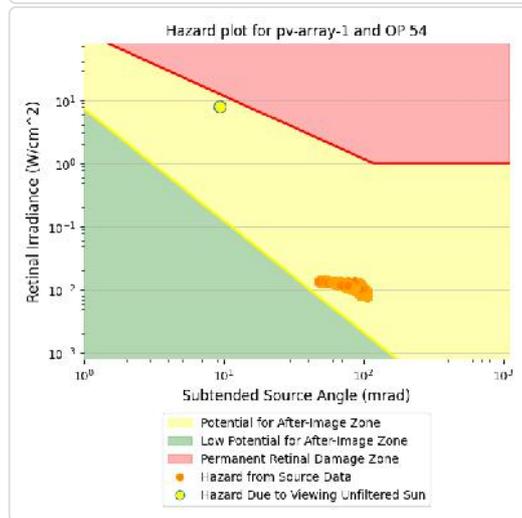
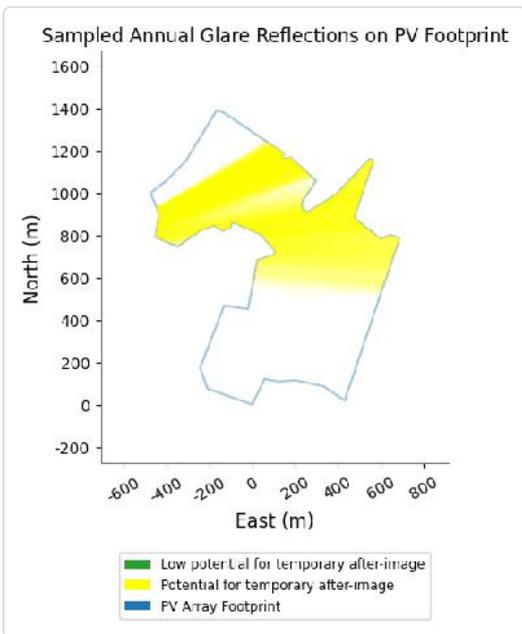
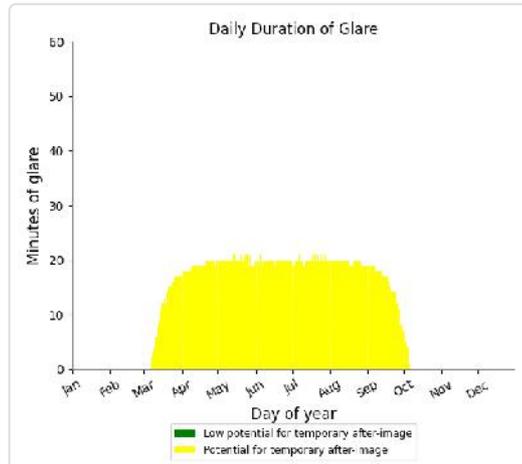
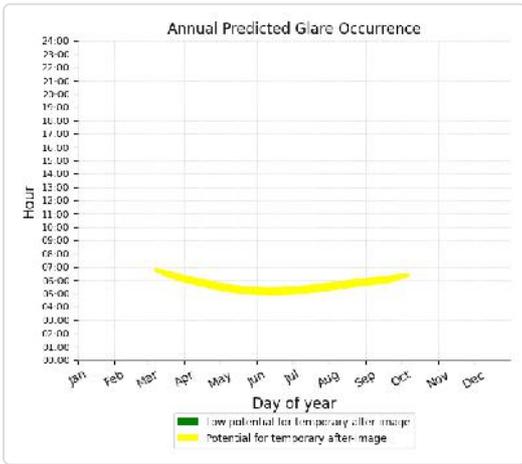
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,864 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 54)

PV array is expected to produce the following glare for receptors at this location:

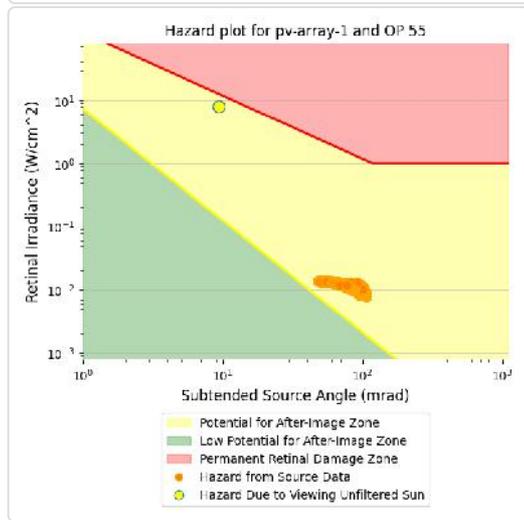
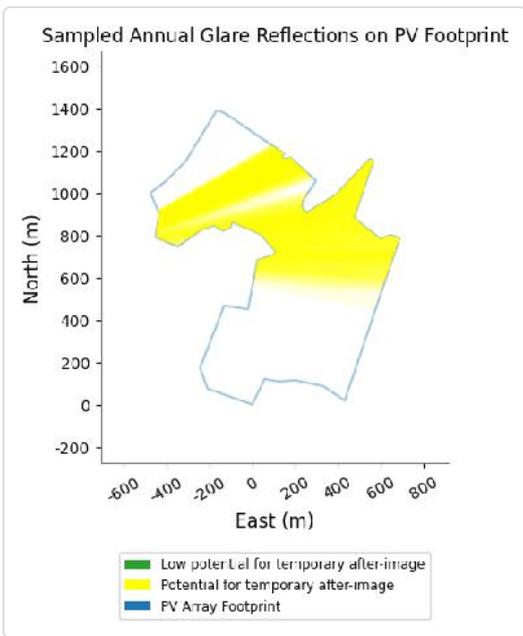
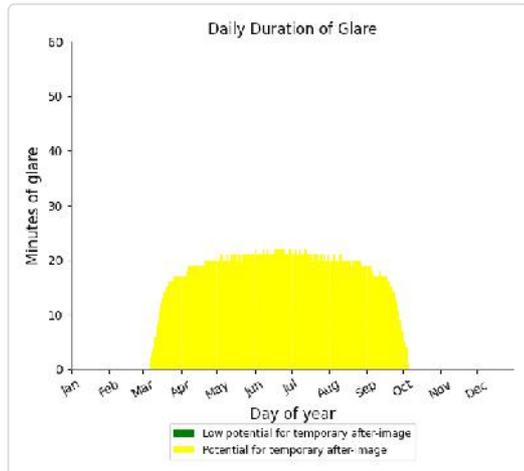
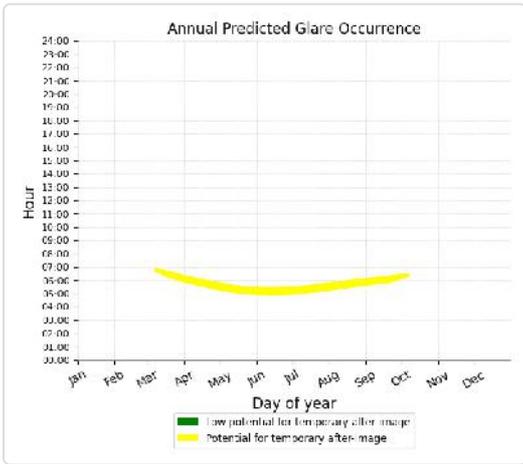
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,829 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 55)

PV array is expected to produce the following glare for receptors at this location:

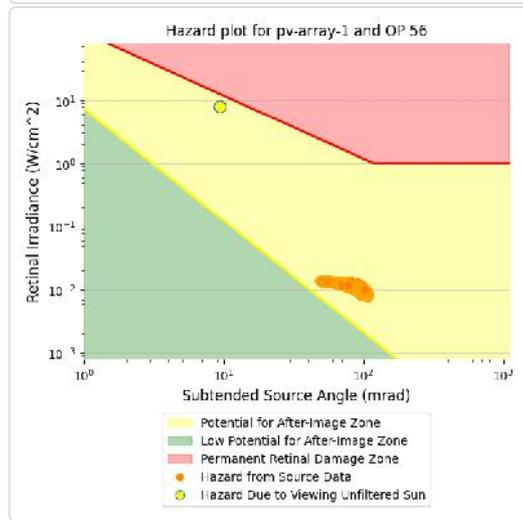
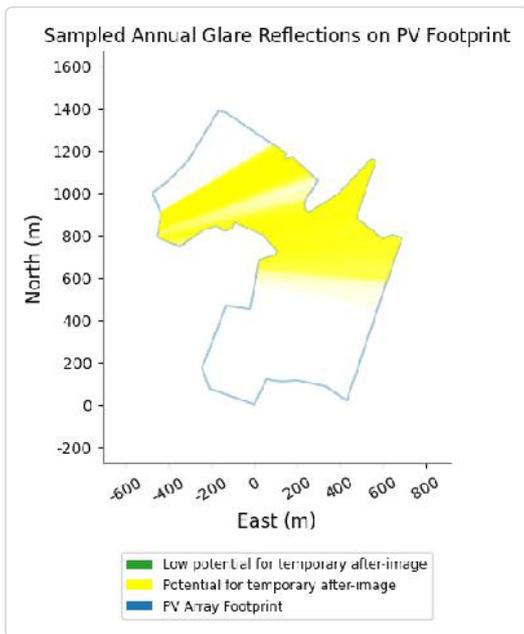
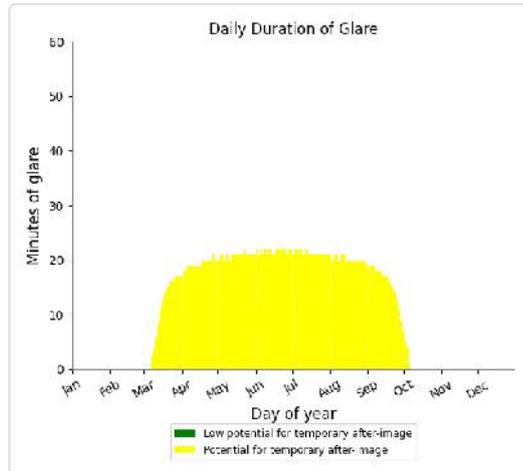
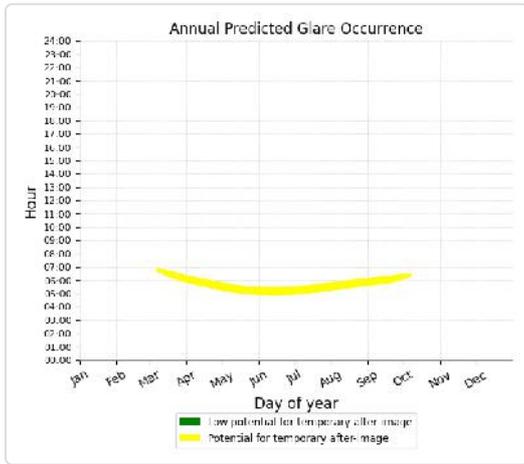
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,923 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 56)

PV array is expected to produce the following glare for receptors at this location:

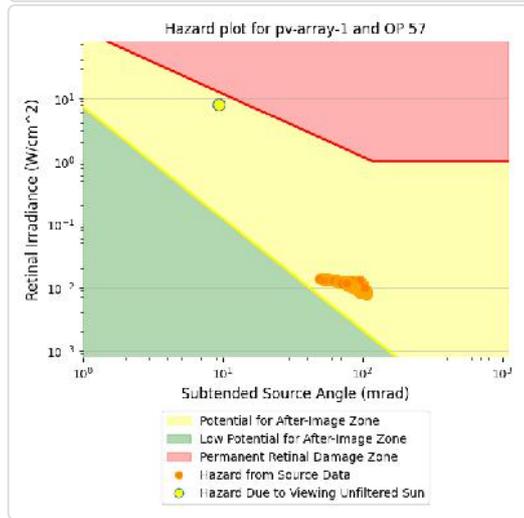
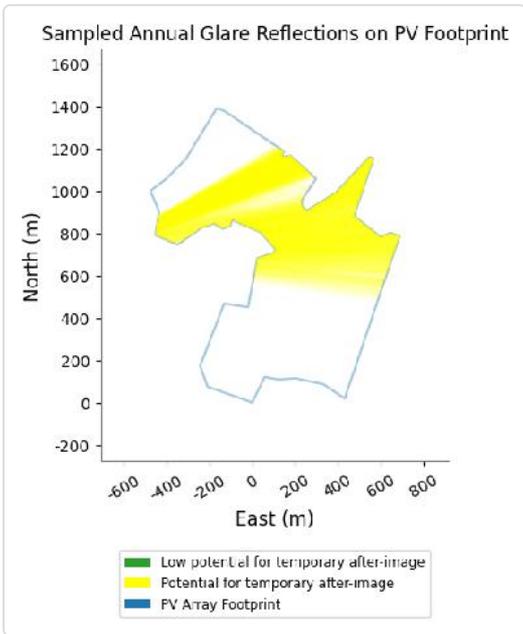
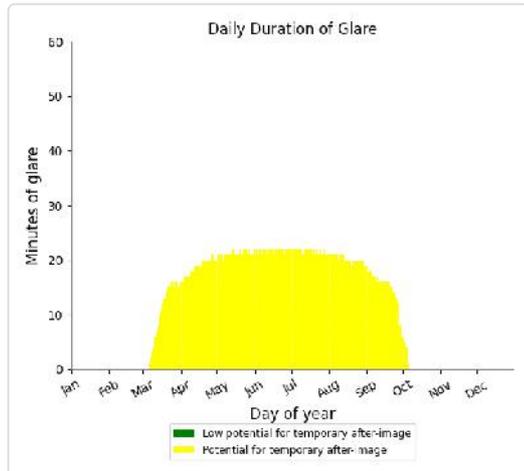
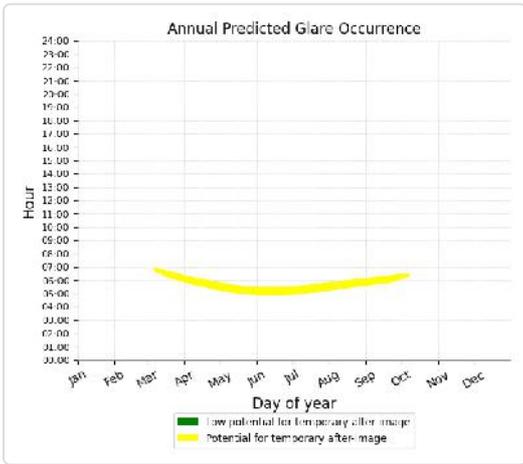
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,972 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 57)

PV array is expected to produce the following glare for receptors at this location:

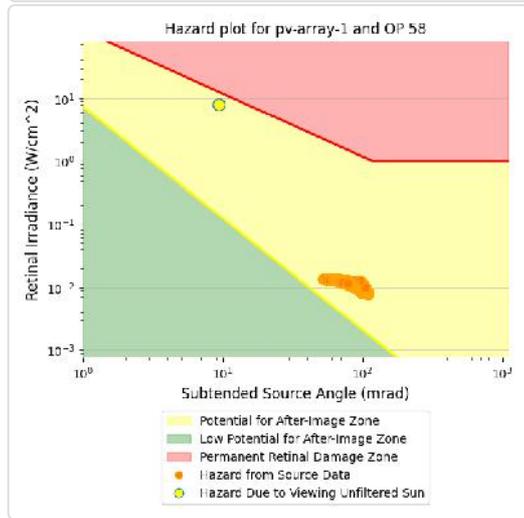
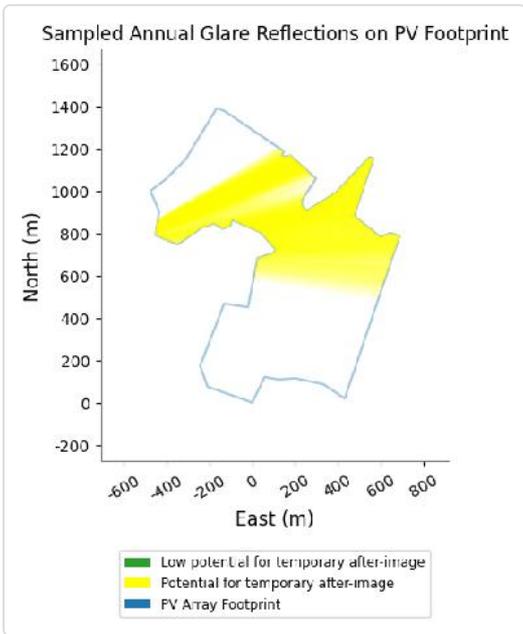
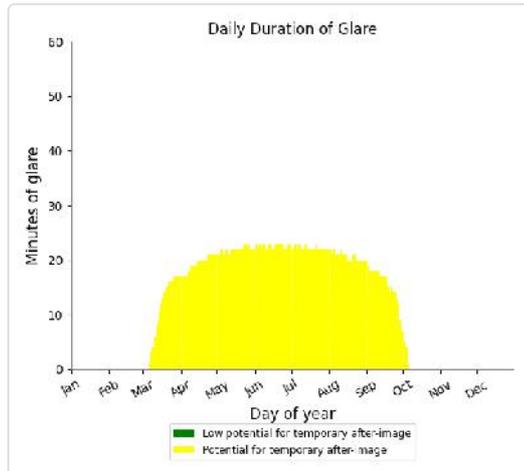
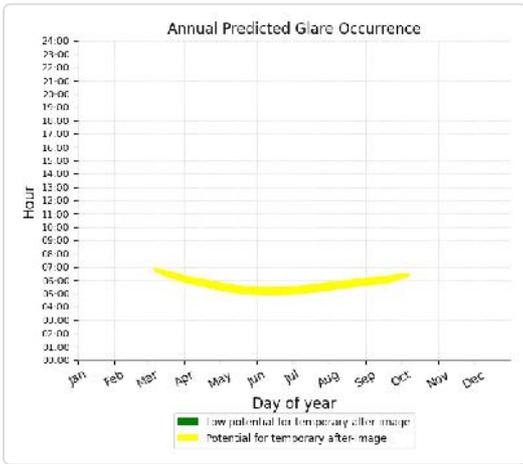
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,941 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 58)

PV array is expected to produce the following glare for receptors at this location:

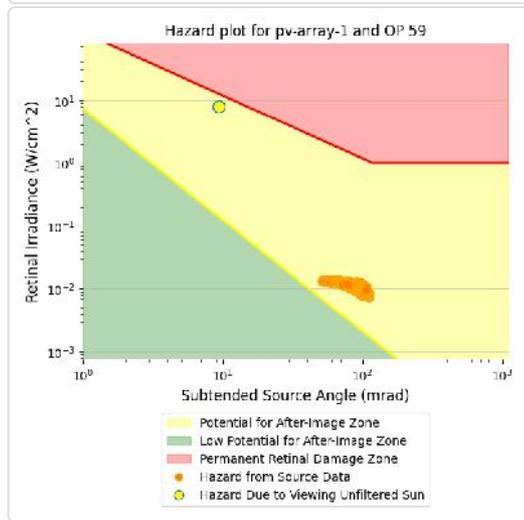
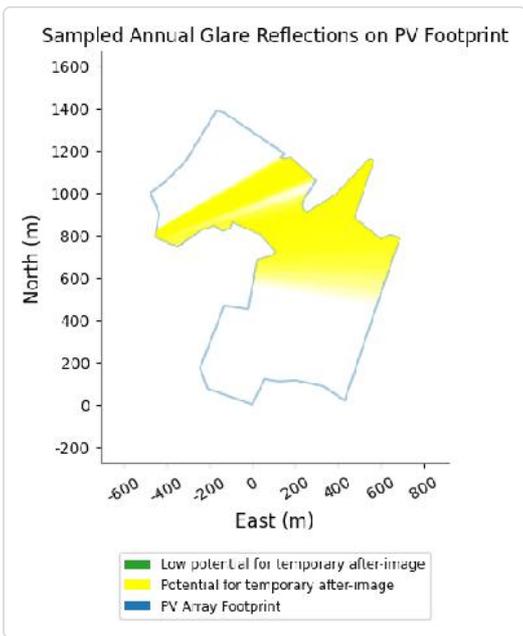
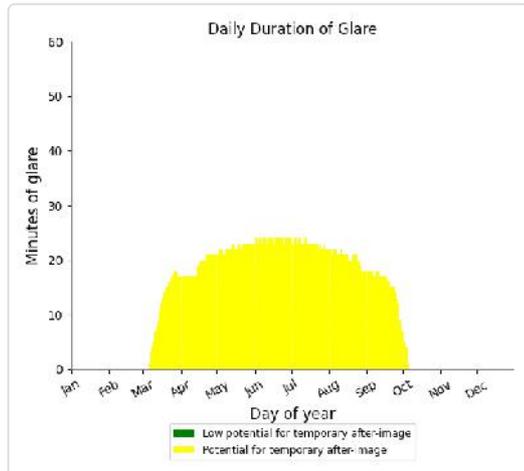
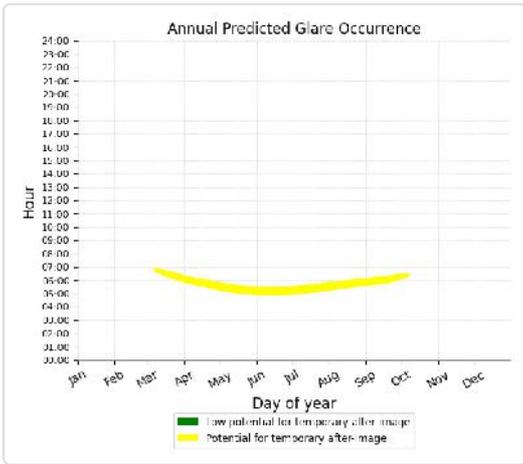
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,086 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 59)

PV array is expected to produce the following glare for receptors at this location:

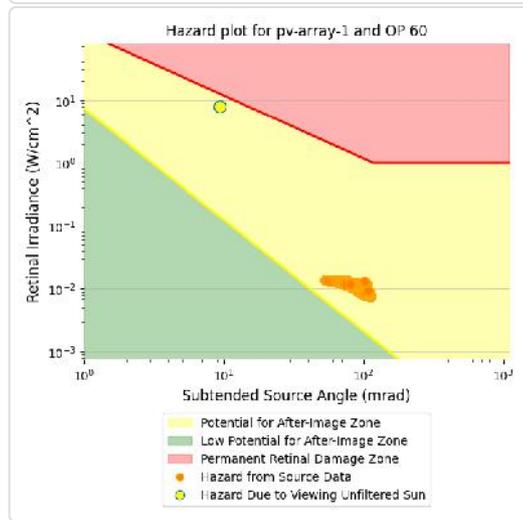
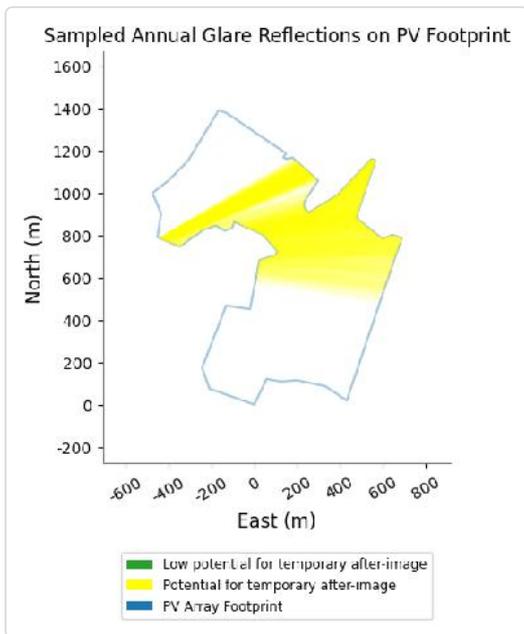
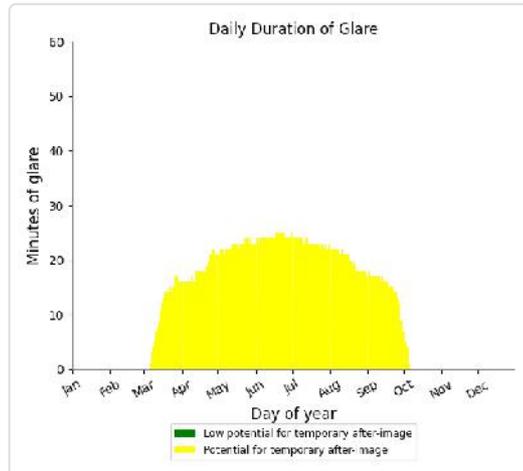
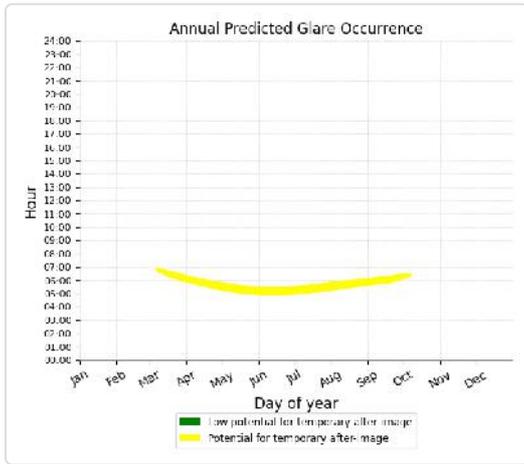
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,144 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 60)

PV array is expected to produce the following glare for receptors at this location:

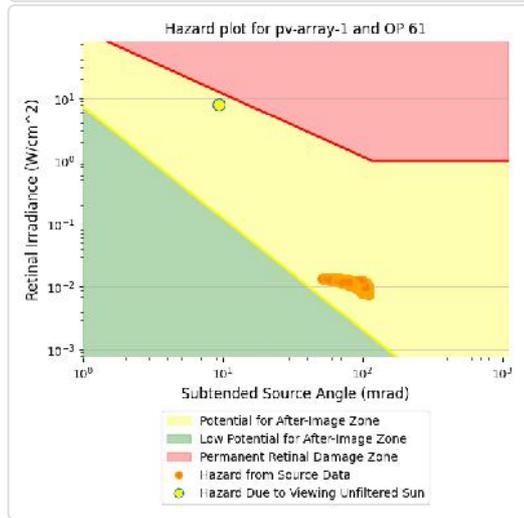
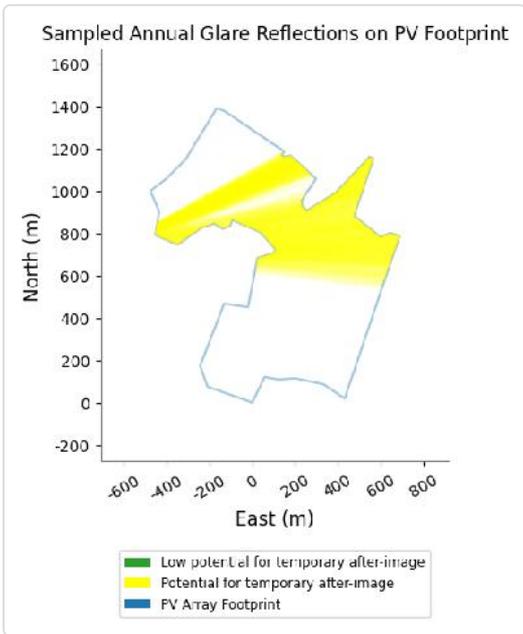
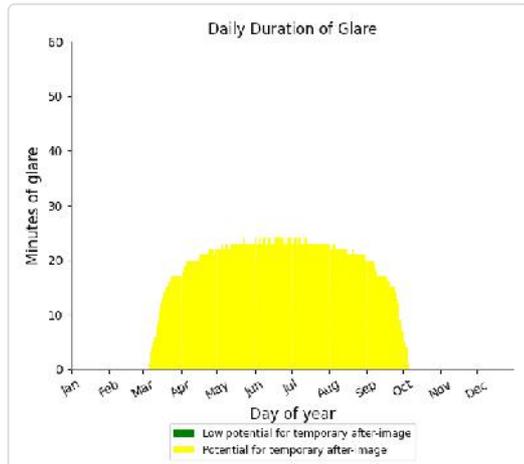
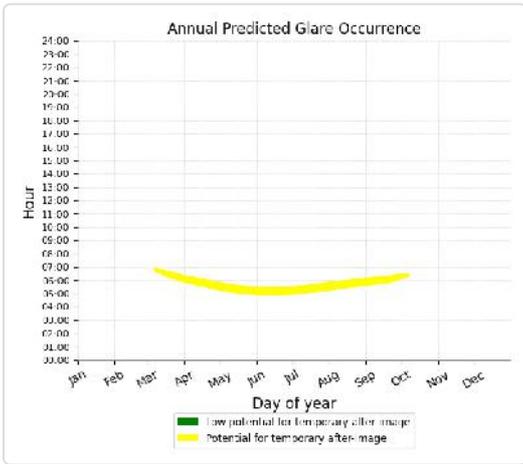
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,106 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 61)

PV array is expected to produce the following glare for receptors at this location:

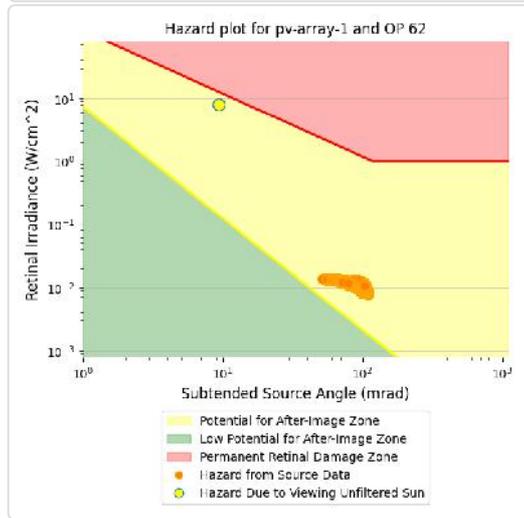
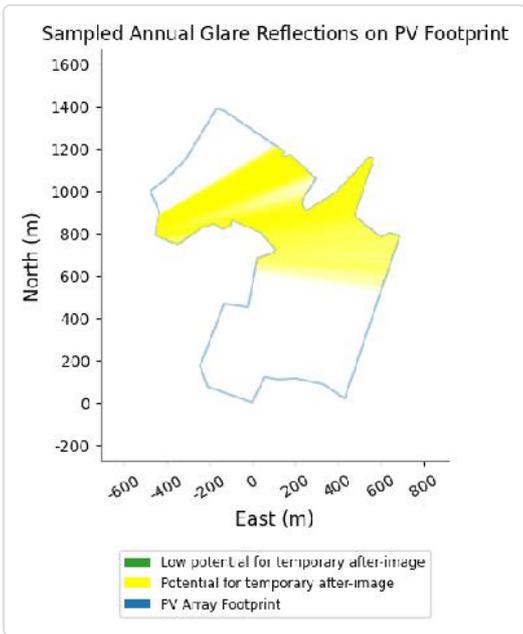
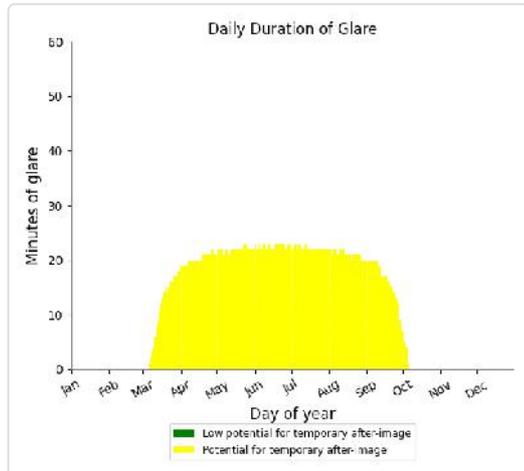
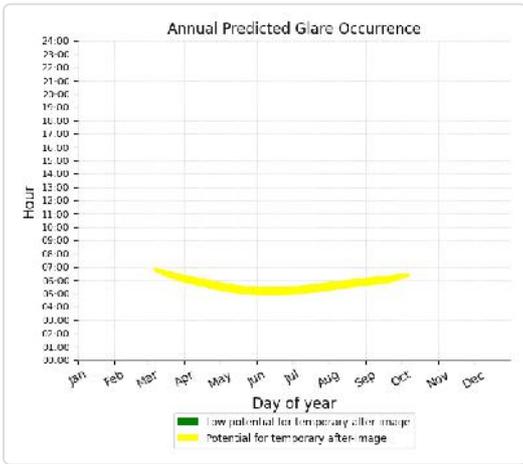
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,242 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 62)

PV array is expected to produce the following glare for receptors at this location:

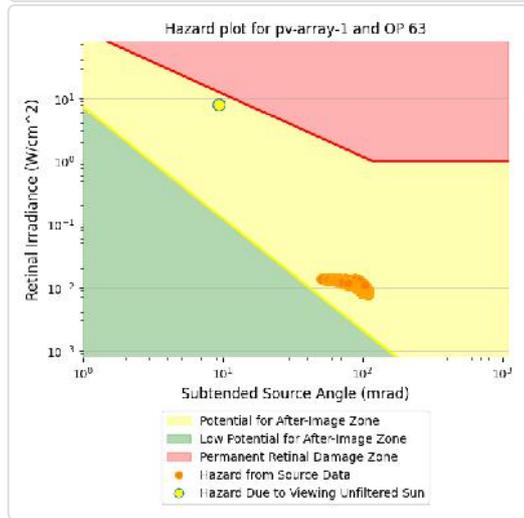
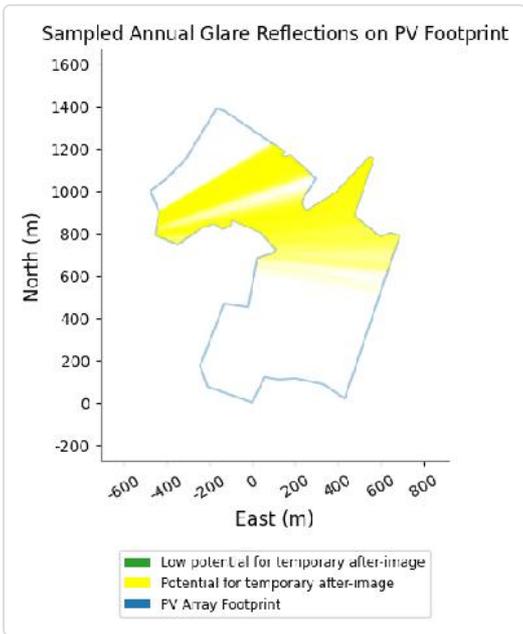
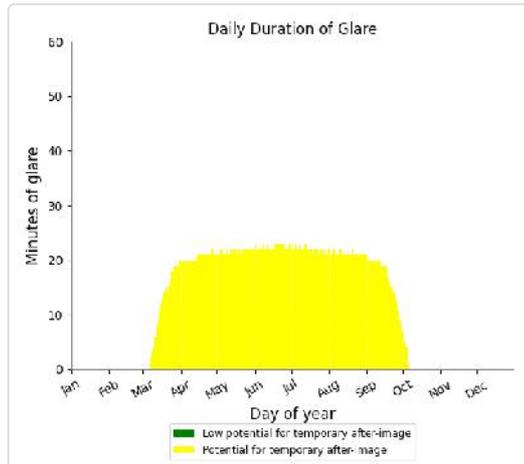
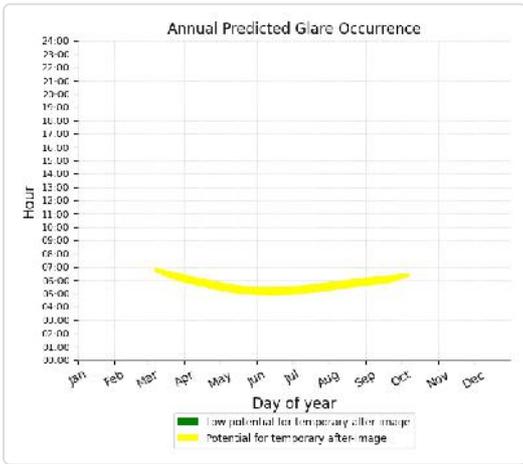
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,141 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 63)

PV array is expected to produce the following glare for receptors at this location:

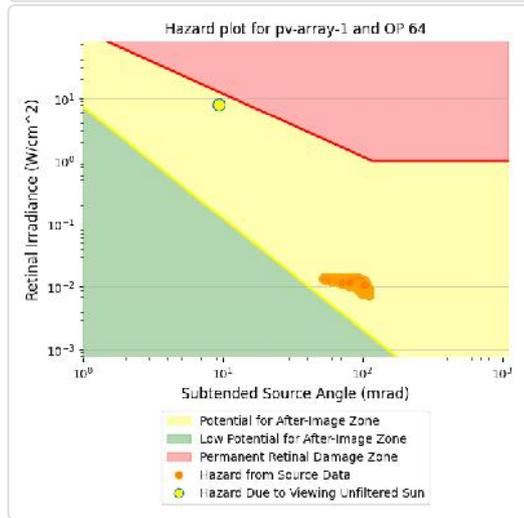
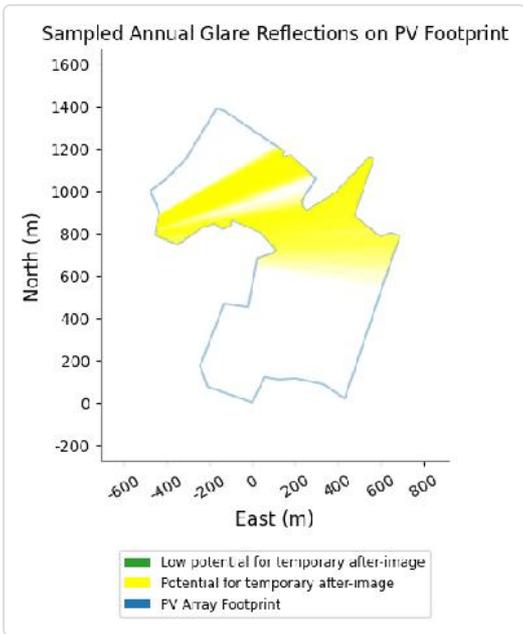
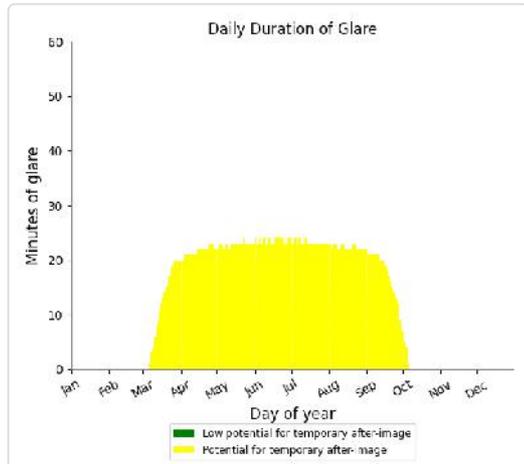
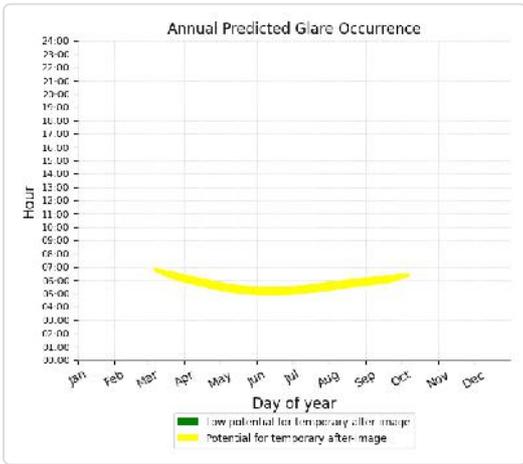
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,156 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 64)

PV array is expected to produce the following glare for receptors at this location:

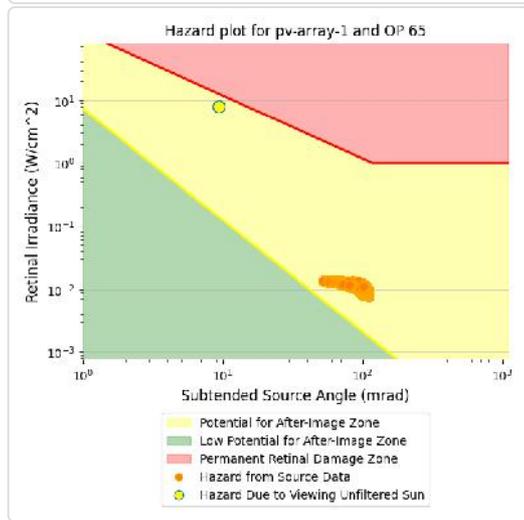
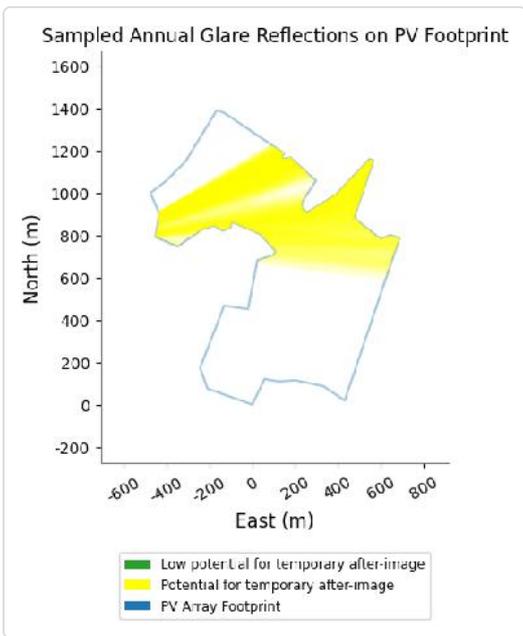
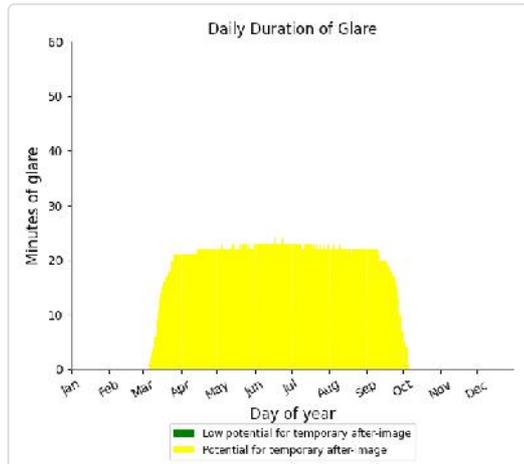
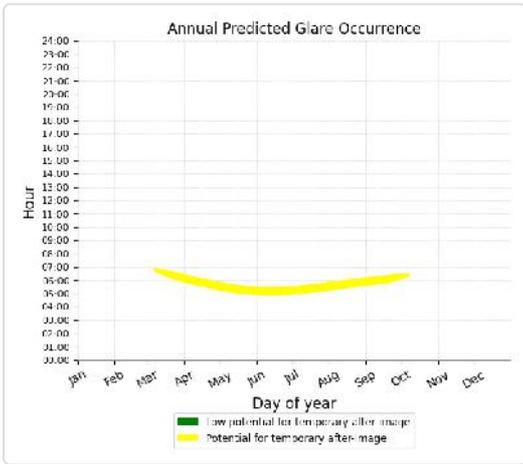
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,366 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 65)

PV array is expected to produce the following glare for receptors at this location:

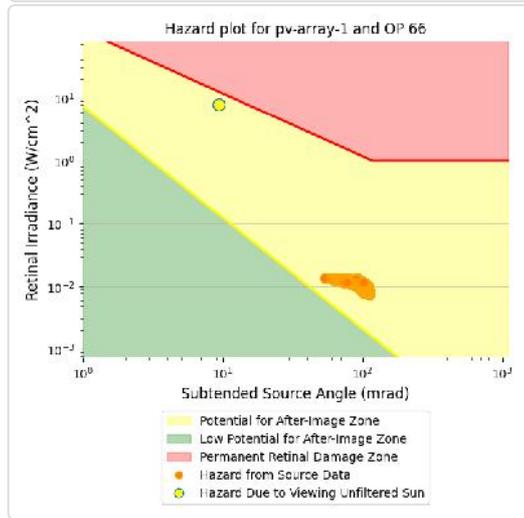
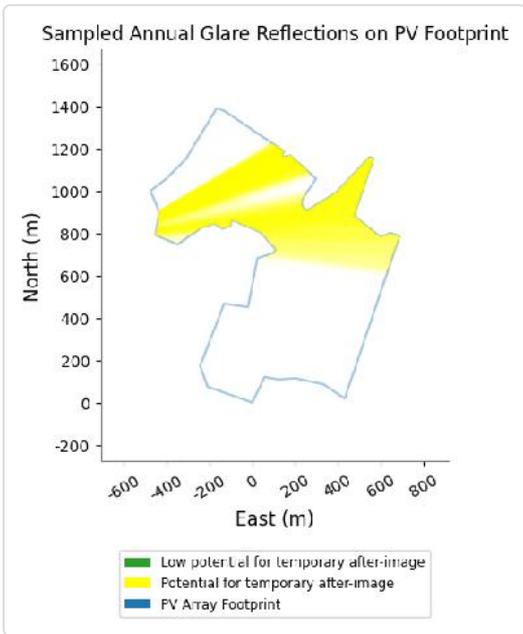
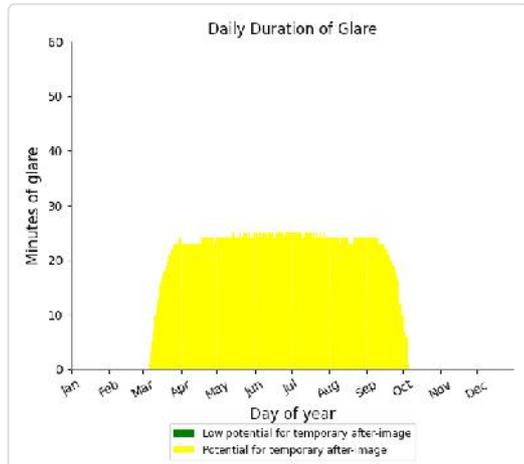
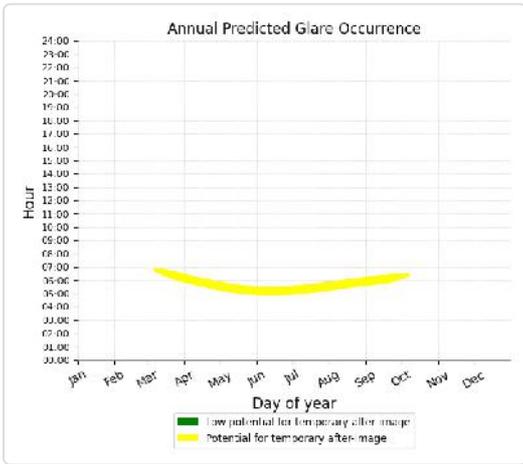
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,364 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 66)

PV array is expected to produce the following glare for receptors at this location:

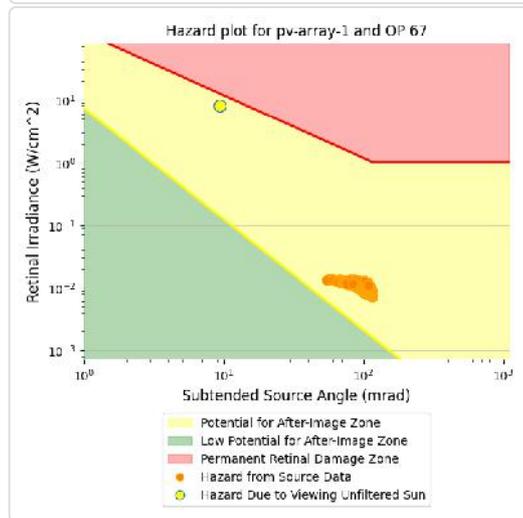
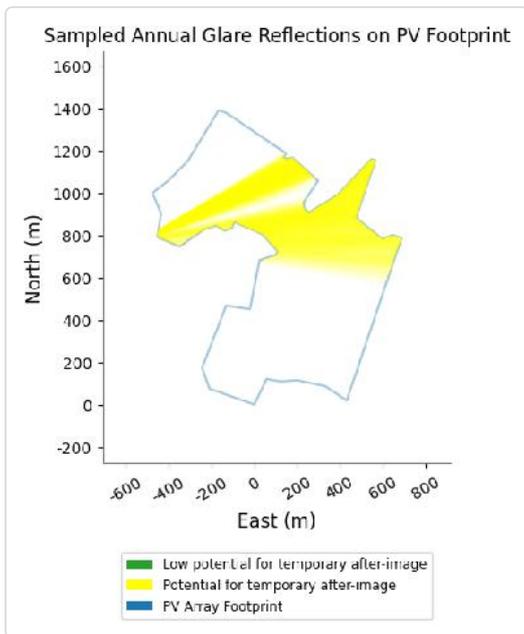
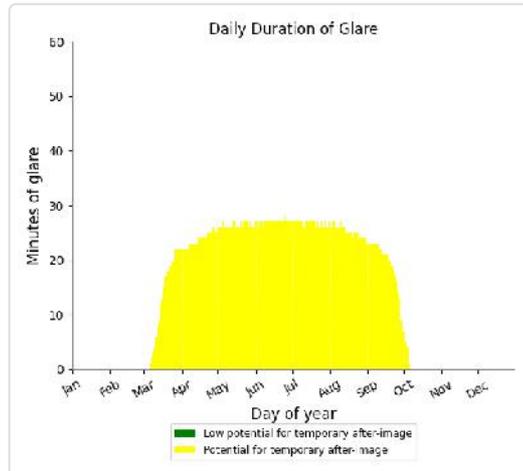
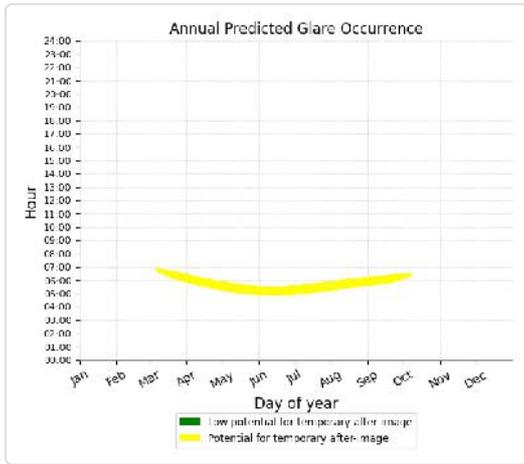
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,789 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 67)

PV array is expected to produce the following glare for receptors at this location:

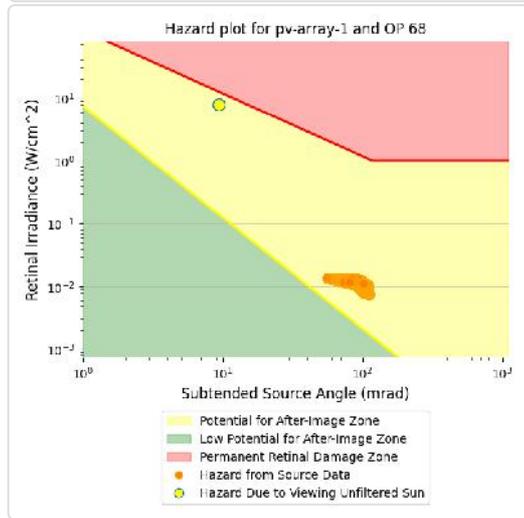
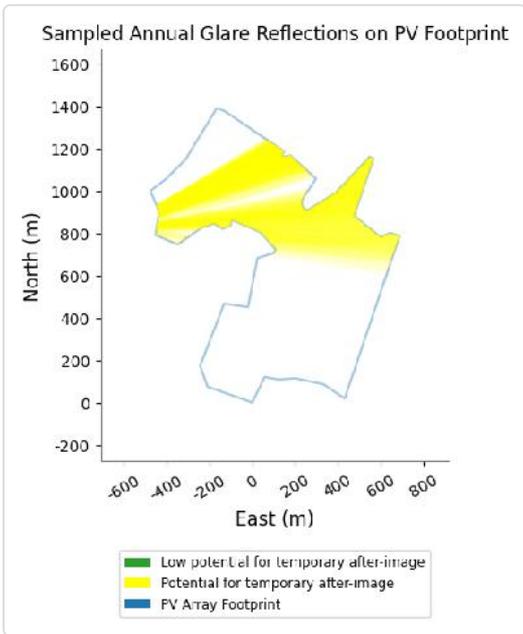
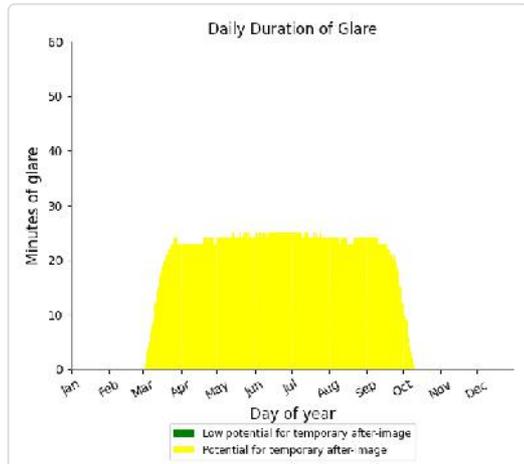
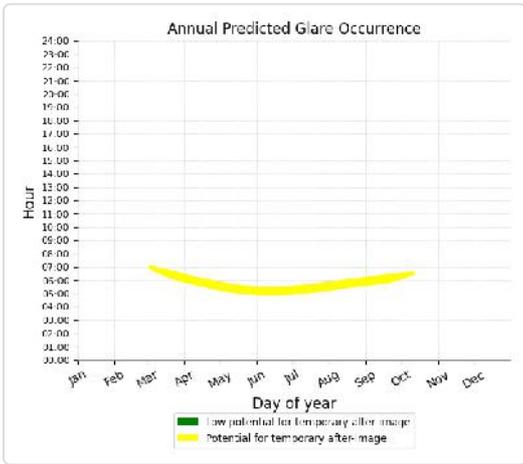
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,924 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 68)

PV array is expected to produce the following glare for receptors at this location:

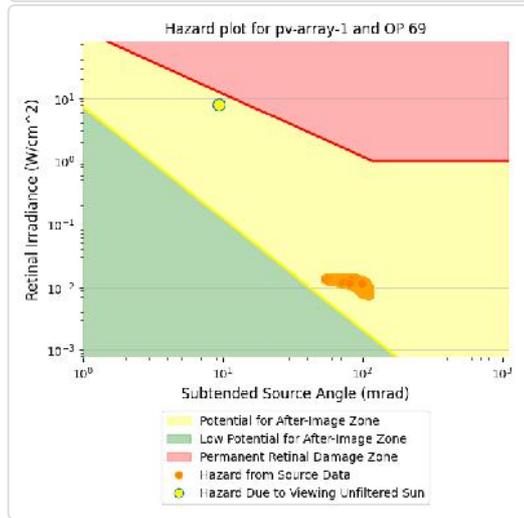
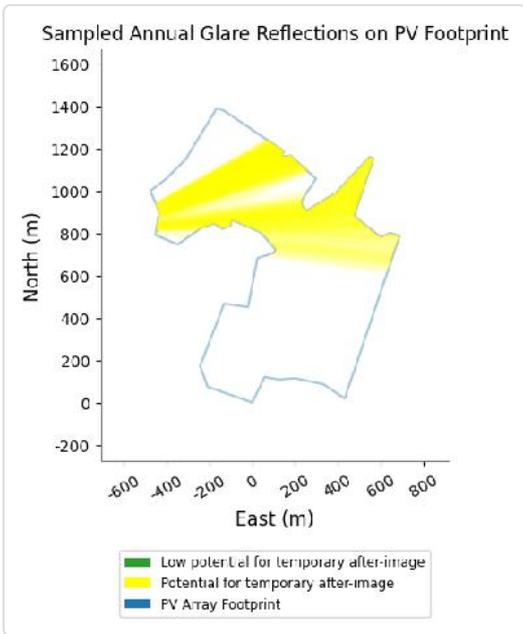
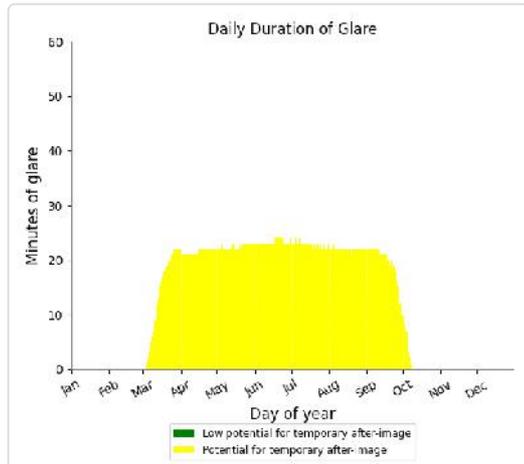
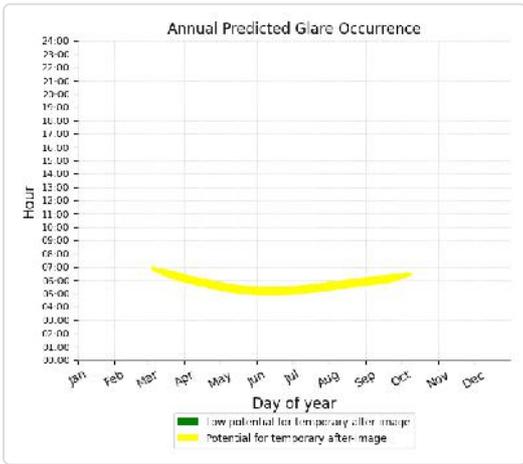
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,883 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 69)

PV array is expected to produce the following glare for receptors at this location:

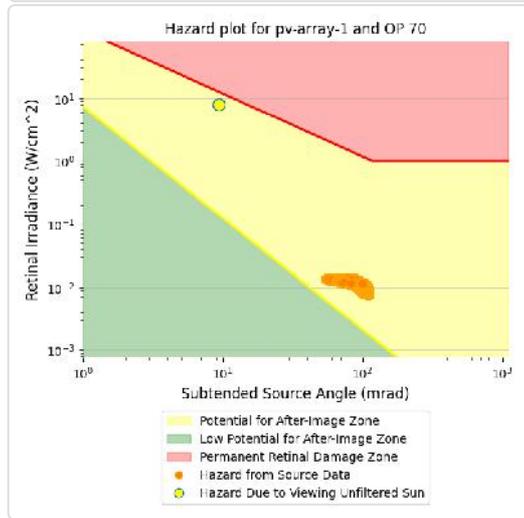
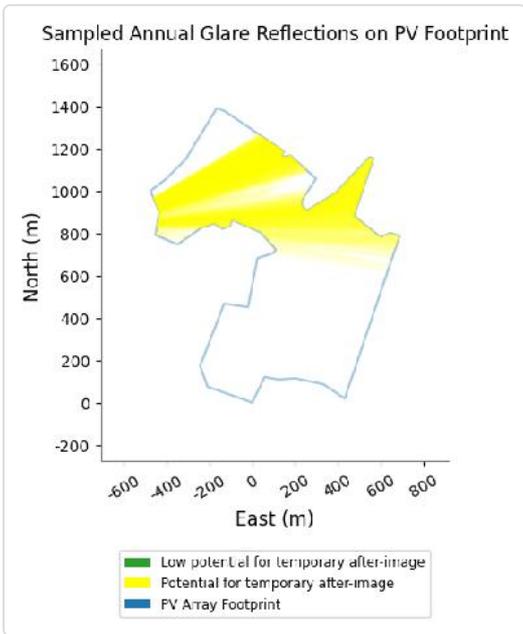
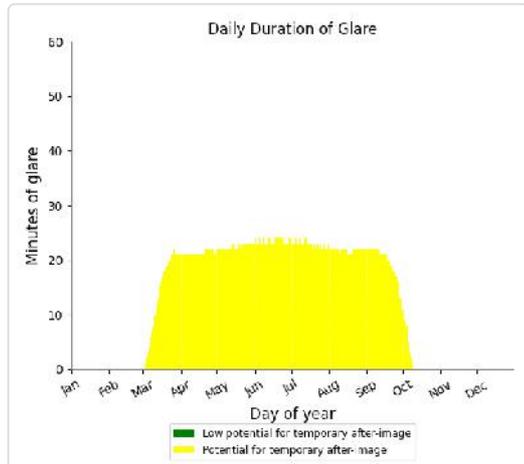
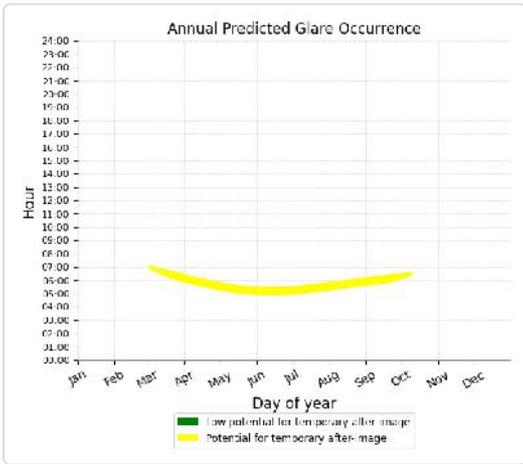
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,482 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 70)

PV array is expected to produce the following glare for receptors at this location:

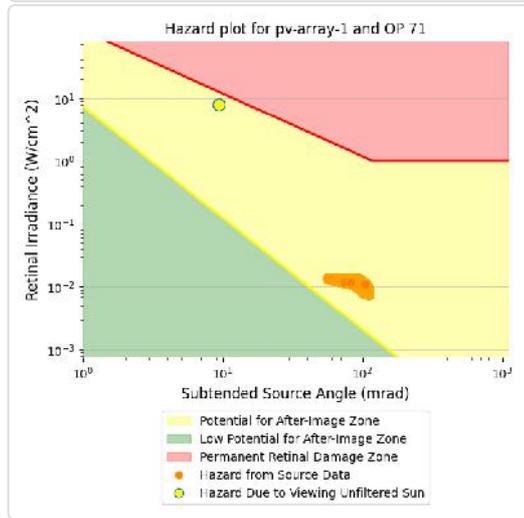
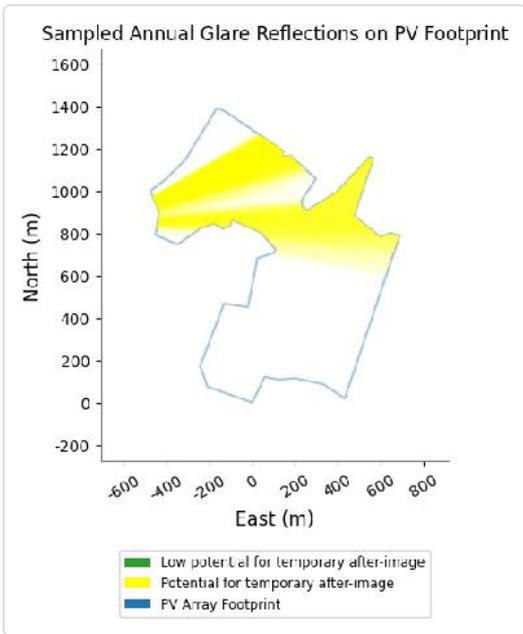
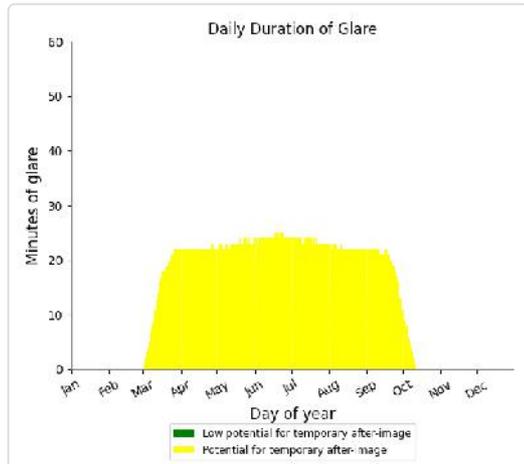
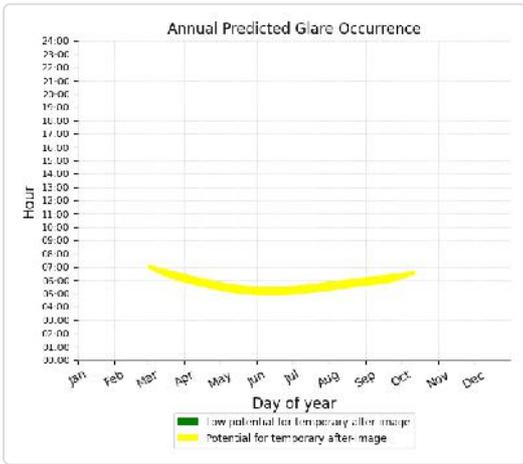
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,492 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 71)

PV array is expected to produce the following glare for receptors at this location:

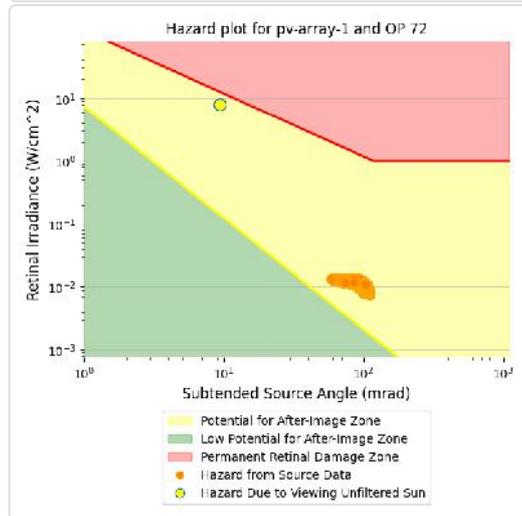
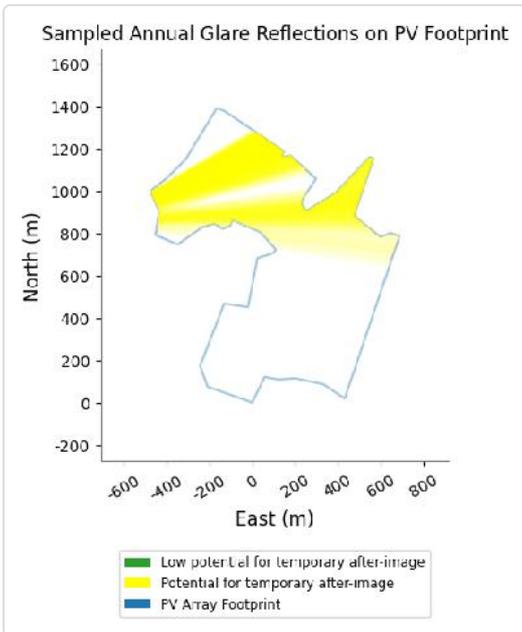
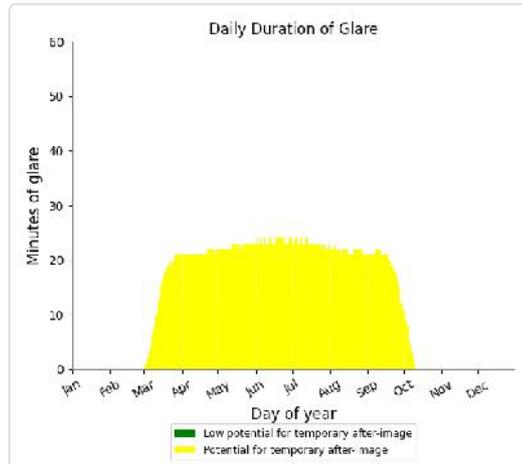
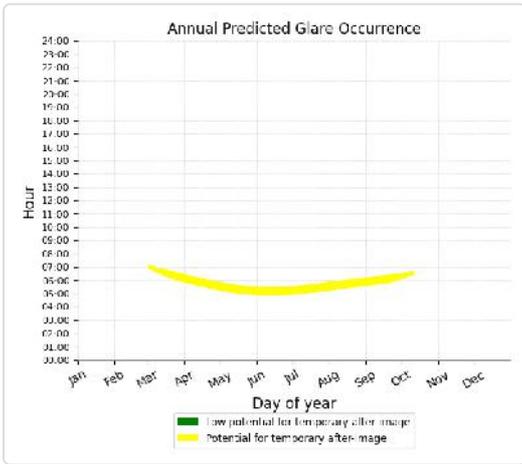
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,630 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 72)

PV array is expected to produce the following glare for receptors at this location:

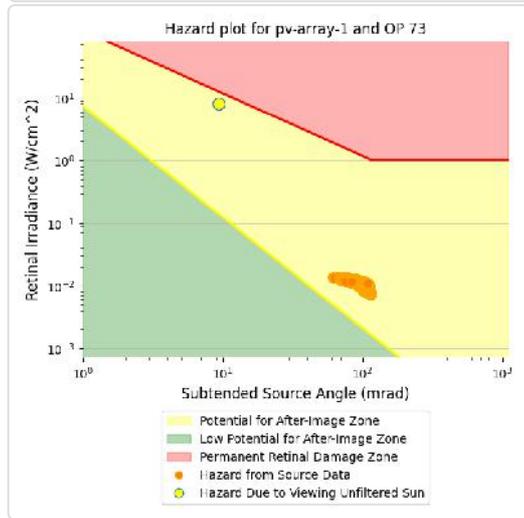
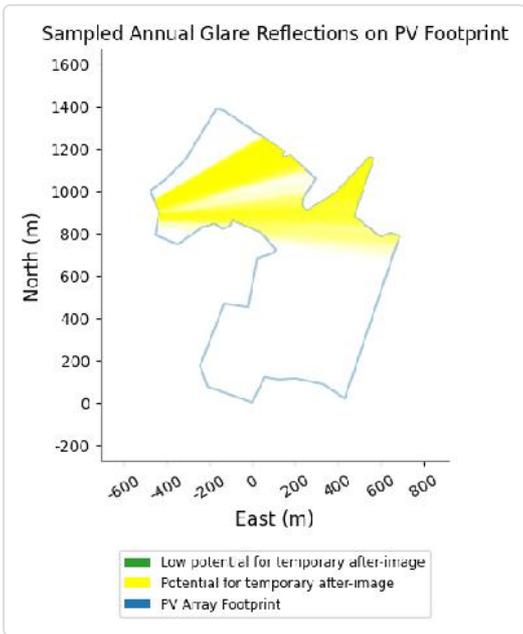
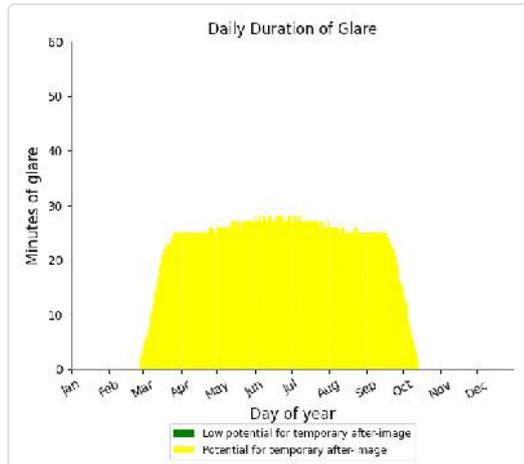
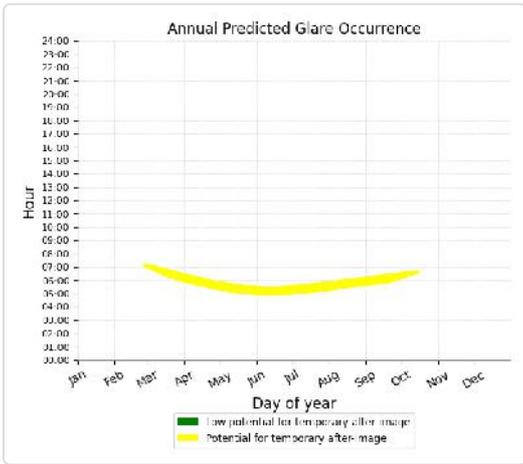
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,489 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 73)

PV array is expected to produce the following glare for receptors at this location:

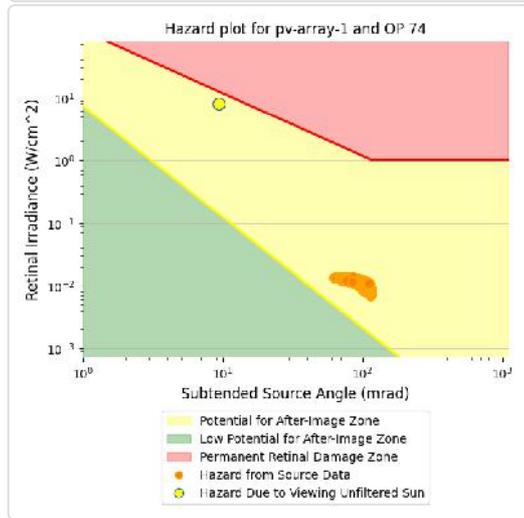
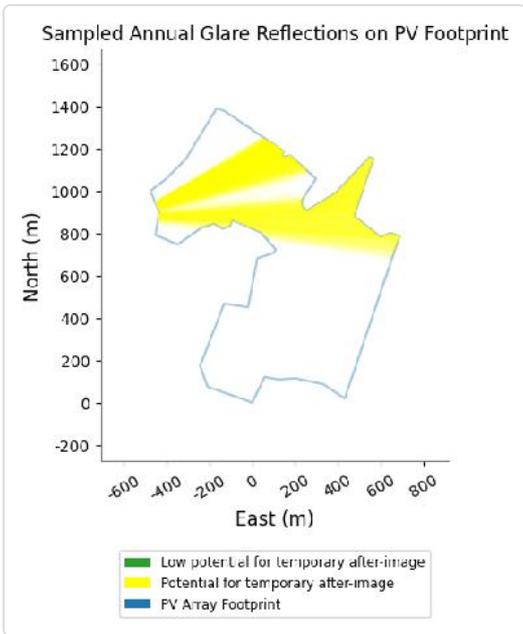
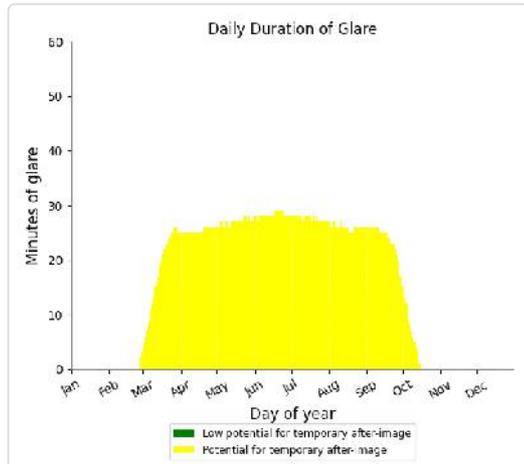
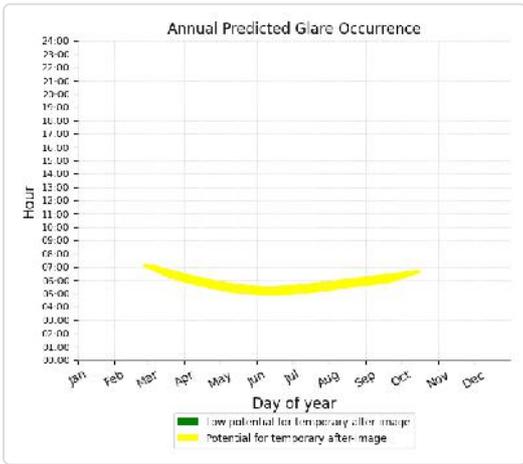
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,390 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 74)

PV array is expected to produce the following glare for receptors at this location:

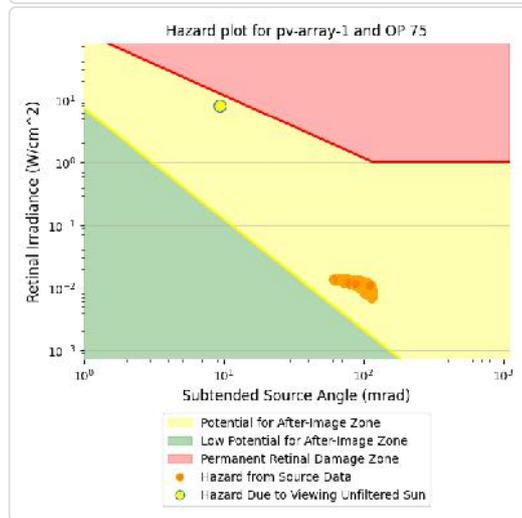
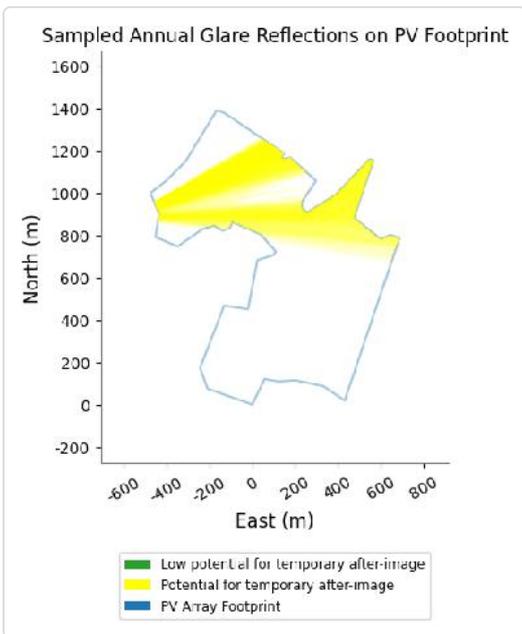
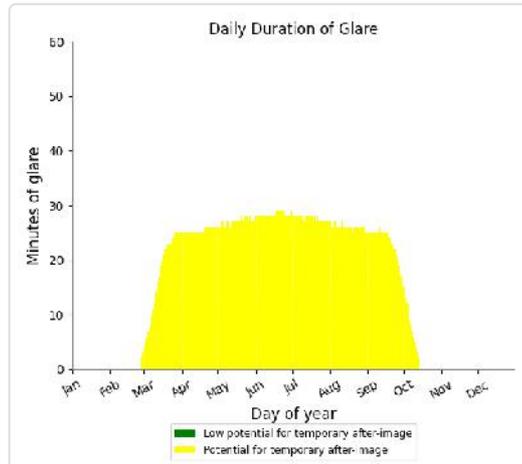
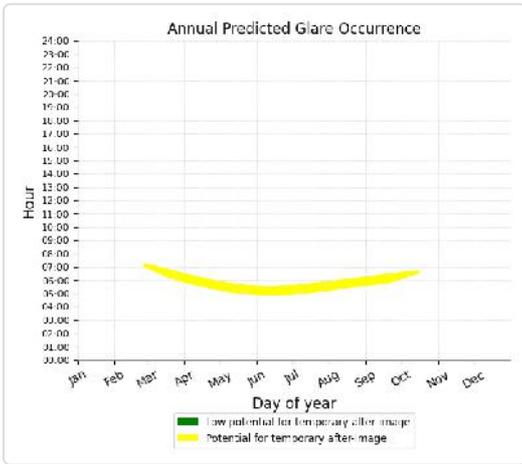
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,495 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 75)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,464 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 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 for 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.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6C - Residential Receptor Glare Results (30 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Residential Receptors 30deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 73007.12854

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



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

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
PV array 1	30.0	180.0	0	182,956	-

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 30.0 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	52.977416	-0.868813	20.30	2.80	23.10
2	52.978501	-0.867955	20.00	2.80	22.80
3	52.978398	-0.866989	20.39	2.80	23.19
4	52.978450	-0.865830	20.46	2.80	23.26
5	52.978191	-0.863856	20.00	2.80	22.80
6	52.977584	-0.862376	19.95	2.80	22.75
7	52.984483	-0.858556	24.76	2.80	27.56
8	52.984612	-0.859200	25.60	2.80	28.40
9	52.984431	-0.859865	26.00	2.80	28.80
10	52.985335	-0.861732	25.02	2.80	27.82
11	52.987777	-0.860380	19.95	2.80	22.75
12	52.987828	-0.860659	19.88	2.80	22.68
13	52.986317	-0.862998	21.01	2.80	23.81
14	52.985568	-0.864972	20.25	2.80	23.05
15	52.985723	-0.865337	19.79	2.80	22.59
16	52.986007	-0.865358	20.07	2.80	22.87
17	52.986911	-0.864371	20.22	2.80	23.02
18	52.987893	-0.866152	18.00	2.80	20.80
19	52.987841	-0.866581	18.05	2.80	20.85
20	52.987893	-0.866774	18.33	2.80	21.13
21	52.988074	-0.866603	18.08	2.80	20.88
22	52.989779	-0.870723	22.00	2.80	24.80
23	52.989908	-0.871280	22.00	2.80	24.80
24	52.987738	-0.873448	22.05	2.80	24.85
25	52.986924	-0.874778	22.79	2.80	25.59
26	52.986395	-0.875894	22.62	2.80	25.42
27	52.985516	-0.875293	21.94	2.80	24.74
28	52.984522	-0.875551	21.38	2.80	24.18
29	52.984121	-0.874006	20.15	2.80	22.95
30	52.984845	-0.872310	20.21	2.80	23.01
31	52.985012	-0.871474	20.01	2.80	22.81
32	52.984793	-0.870873	20.22	2.80	23.02
33	52.984909	-0.870358	20.19	2.80	22.99
34	52.985167	-0.870208	19.84	2.80	22.64
35	52.984638	-0.868233	20.05	2.80	22.85
36	52.983914	-0.867182	19.95	2.80	22.75
37	52.983759	-0.867332	20.03	2.80	22.83
38	52.983540	-0.868448	20.67	2.80	23.47
39	52.981460	-0.869113	21.77	2.80	24.57
40	52.981615	-0.870765	23.94	2.80	26.74
41	52.978966	-0.872439	24.87	2.80	27.67
42	52.978088	-0.871924	23.83	2.80	26.63

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	52.991878	-0.860633	18.00	2.00	20.00
OP 2	52.989789	-0.847463	22.03	2.00	24.03
OP 3	52.989172	-0.848995	23.42	2.00	25.42
OP 4	52.989028	-0.848850	23.70	2.00	25.70
OP 5	52.989004	-0.849217	23.33	2.00	25.33
OP 6	52.988773	-0.850092	22.99	2.00	24.99
OP 7	52.988676	-0.850427	22.75	2.00	24.75
OP 8	52.987971	-0.852160	22.68	2.00	24.68
OP 9	52.981609	-0.852149	20.00	2.00	22.00
OP 10	52.980817	-0.851548	21.77	2.00	23.77
OP 11	52.980685	-0.851822	21.32	2.00	23.32
OP 12	52.980591	-0.851666	21.38	2.00	23.38
OP 13	52.976479	-0.862465	22.41	2.00	24.41
OP 14	52.976388	-0.862516	22.54	2.00	24.54
OP 15	52.975518	-0.861988	22.36	2.00	24.36
OP 16	52.975783	-0.862733	23.00	2.00	25.00
OP 17	52.975881	-0.863506	23.16	2.00	25.16
OP 18	52.975411	-0.863812	23.97	2.00	25.97
OP 19	52.975096	-0.864166	24.00	2.00	26.00
OP 20	52.975274	-0.865689	23.25	2.00	25.25
OP 21	52.979075	-0.884707	23.36	2.00	25.36
OP 22	52.979295	-0.885147	23.62	2.00	25.62
OP 23	52.979734	-0.884481	23.96	2.00	25.96
OP 24	52.979979	-0.883854	24.55	2.00	26.55
OP 25	52.980118	-0.882336	23.89	2.00	25.89
OP 26	52.981507	-0.881847	23.29	2.00	25.29
OP 27	52.981919	-0.877057	23.15	2.00	25.15
OP 28	52.982271	-0.877234	23.01	2.00	25.01
OP 29	52.982653	-0.877186	23.29	2.00	25.29
OP 30	52.982552	-0.877578	23.43	2.00	25.43
OP 31	52.982643	-0.878264	23.62	2.00	25.62
OP 32	52.982323	-0.878071	23.10	2.00	25.10
OP 33	52.982019	-0.878007	23.34	2.00	25.34
OP 34	52.981971	-0.878275	23.46	2.00	25.46
OP 35	52.982191	-0.878329	23.24	2.00	25.24
OP 36	52.982268	-0.878559	23.52	2.00	25.52
OP 37	52.982326	-0.878817	23.99	2.00	25.99
OP 38	52.982229	-0.879144	24.00	2.00	26.00
OP 39	52.982401	-0.879149	24.21	2.00	26.21
OP 40	52.982785	-0.879772	24.77	2.00	26.77
OP 41	52.982966	-0.879836	25.00	2.00	27.00
OP 42	52.982753	-0.880292	24.71	2.00	26.71
OP 43	52.982414	-0.880163	24.23	2.00	26.23
OP 44	52.982556	-0.880780	24.12	2.00	26.12
OP 45	52.982388	-0.881129	24.00	2.00	26.00
OP 46	52.982591	-0.881746	24.00	2.00	26.00
OP 47	52.982653	-0.881392	24.00	2.00	26.00
OP 48	52.982921	-0.881349	24.00	2.00	26.00
OP 49	52.983221	-0.881070	24.35	2.00	26.35
OP 50	52.983363	-0.880737	24.74	2.00	26.74
OP 51	52.983470	-0.880962	24.77	2.00	26.77
OP 52	52.983579	-0.881193	24.63	2.00	26.63
OP 53	52.983731	-0.881038	24.76	2.00	26.76
OP 54	52.983851	-0.880866	24.68	2.00	26.68
OP 55	52.983744	-0.880641	24.84	2.00	26.84
OP 56	52.983831	-0.880244	24.70	2.00	26.70
OP 57	52.983644	-0.880136	24.98	2.00	26.98
OP 58	52.983744	-0.879391	24.84	2.00	26.84
OP 59	52.983612	-0.878854	25.00	2.00	27.00
OP 60	52.983570	-0.878007	24.64	2.00	26.64
OP 61	52.983886	-0.878779	24.69	2.00	26.69
OP 62	52.983967	-0.879198	24.50	2.00	26.50
OP 63	52.984161	-0.879149	24.22	2.00	26.22
OP 64	52.984177	-0.878650	24.50	2.00	26.50

OP 65	52.984393	-0.878726	24.37	2.00	26.37
OP 66	52.984487	-0.878345	25.08	2.00	27.08
OP 67	52.984258	-0.877170	23.47	2.00	25.47
OP 68	52.984736	-0.878473	25.26	2.00	27.26
OP 69	52.984681	-0.878903	24.54	2.00	26.54
OP 70	52.984871	-0.879198	24.81	2.00	26.81
OP 71	52.985004	-0.879026	25.00	2.00	27.00
OP 72	52.985143	-0.879332	24.80	2.00	26.80
OP 73	52.985236	-0.877819	25.07	2.00	27.07
OP 74	52.985272	-0.877497	24.53	2.00	26.53
OP 75	52.985391	-0.877427	24.22	2.00	26.22

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	
PV array 1	30.0	180.0	0	182,956	-	-

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
pv-array-1 (green)	0	0	0	0	0	0	0	0	0	0	0	0
pv-array-1 (yellow)	0	0	495	1102	1189	1188	1205	1153	871	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	236
OP: OP 3	0	401
OP: OP 4	0	470
OP: OP 5	0	470
OP: OP 6	0	565
OP: OP 7	0	516
OP: OP 8	0	854
OP: OP 9	0	1870
OP: OP 10	0	2627
OP: OP 11	0	2236
OP: OP 12	0	2525
OP: OP 13	0	1620
OP: OP 14	0	1454
OP: OP 15	0	471
OP: OP 16	0	696
OP: OP 17	0	740
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	2039
OP: OP 22	0	1821
OP: OP 23	0	2126
OP: OP 24	0	2186
OP: OP 25	0	2327
OP: OP 26	0	2032
OP: OP 27	0	2567
OP: OP 28	0	2514
OP: OP 29	0	2605

OP: OP 30	0	2712
OP: OP 31	0	2626
OP: OP 32	0	2436
OP: OP 33	0	2499
OP: OP 34	0	2635
OP: OP 35	0	2511
OP: OP 36	0	2590
OP: OP 37	0	2675
OP: OP 38	0	2680
OP: OP 39	0	2810
OP: OP 40	0	2766
OP: OP 41	0	3011
OP: OP 42	0	2890
OP: OP 43	0	2803
OP: OP 44	0	2737
OP: OP 45	0	2617
OP: OP 46	0	2777
OP: OP 47	0	2623
OP: OP 48	0	2795
OP: OP 49	0	2931
OP: OP 50	0	2992
OP: OP 51	0	3077
OP: OP 52	0	3050
OP: OP 53	0	3105
OP: OP 54	0	3125
OP: OP 55	0	3144
OP: OP 56	0	3204
OP: OP 57	0	3178
OP: OP 58	0	3298
OP: OP 59	0	3344
OP: OP 60	0	3299
OP: OP 61	0	3437
OP: OP 62	0	3355
OP: OP 63	0	3375
OP: OP 64	0	3560
OP: OP 65	0	3534
OP: OP 66	0	3850
OP: OP 67	0	4039
OP: OP 68	0	3848
OP: OP 69	0	3559
OP: OP 70	0	3546
OP: OP 71	0	3643
OP: OP 72	0	3541
OP: OP 73	0	4211
OP: OP 74	0	4283
OP: OP 75	0	4267

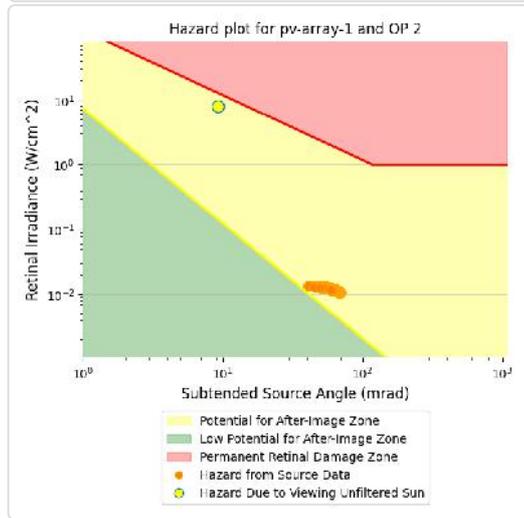
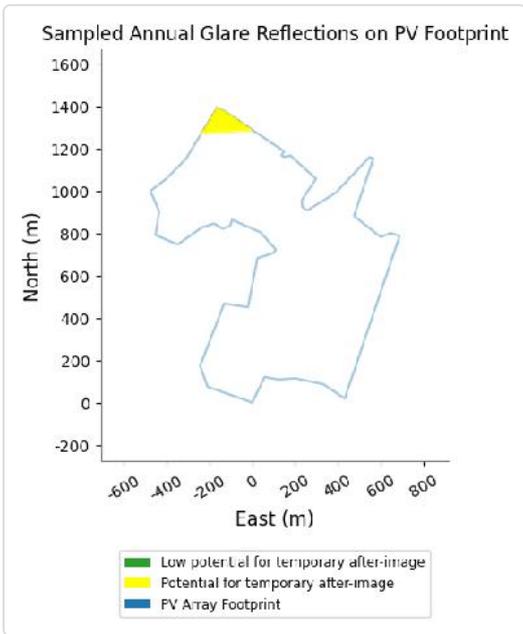
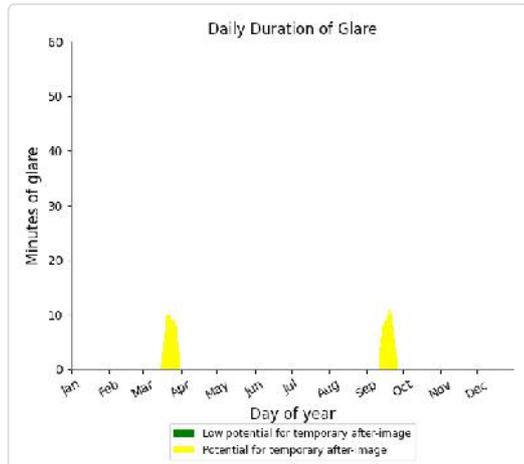
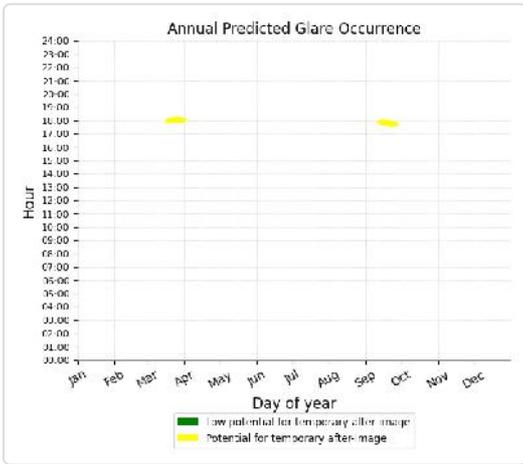
PV array 1 - OP Receptor (OP 1)

No glare found

PV array 1 - OP Receptor (OP 2)

PV array is expected to produce the following glare for receptors at this location:

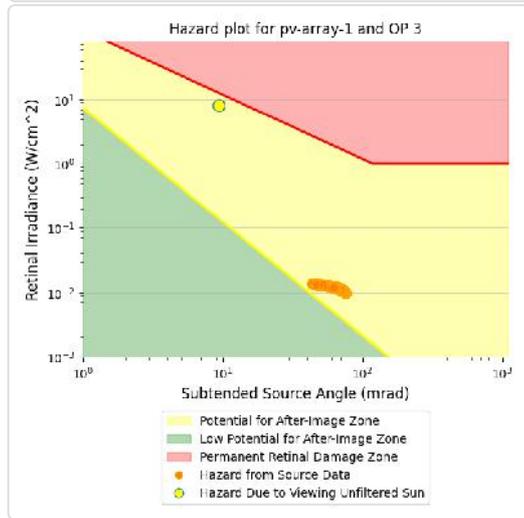
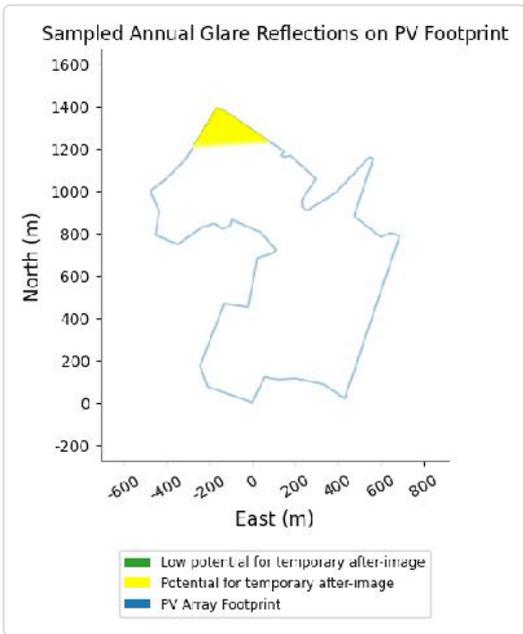
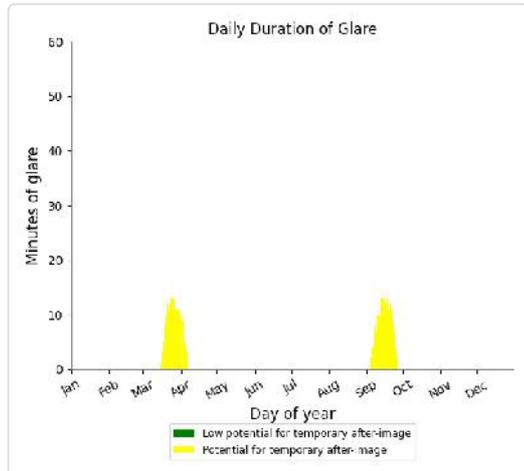
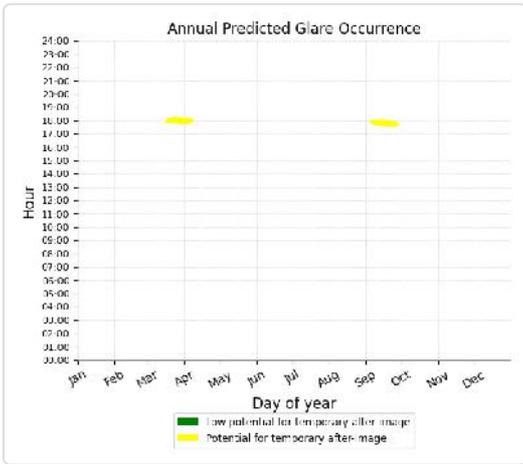
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 236 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:

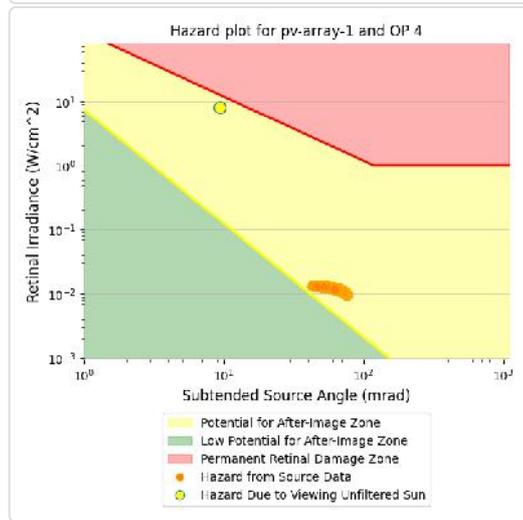
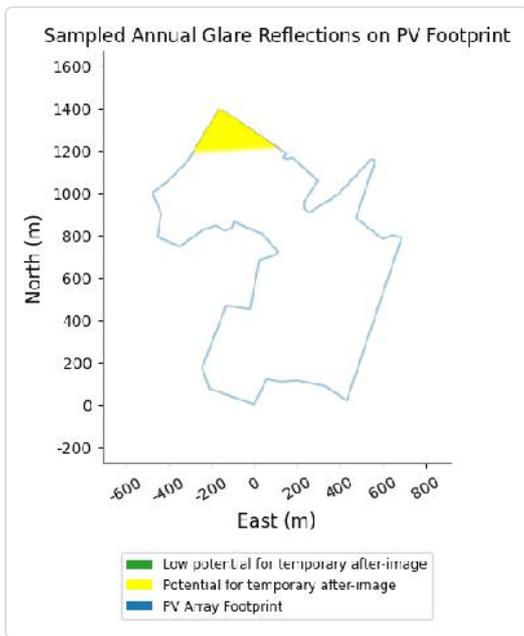
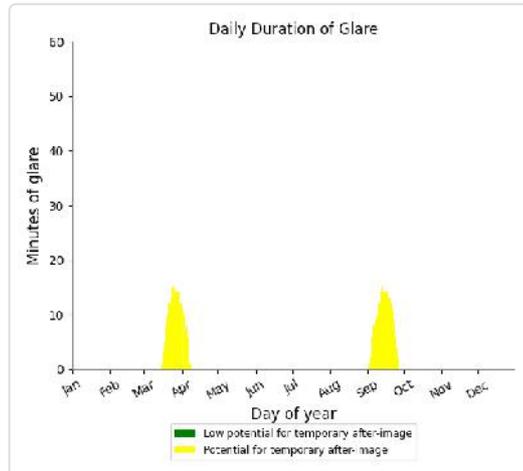
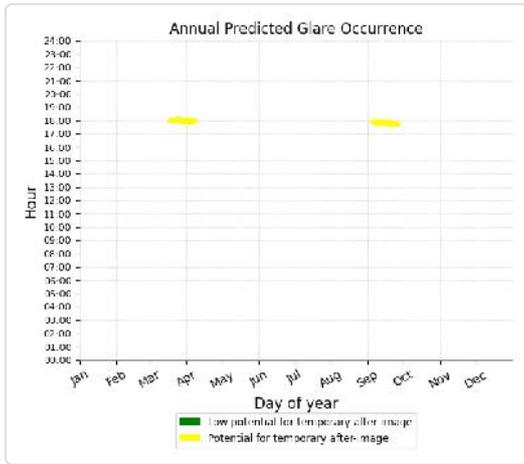
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 401 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 4)

PV array is expected to produce the following glare for receptors at this location:

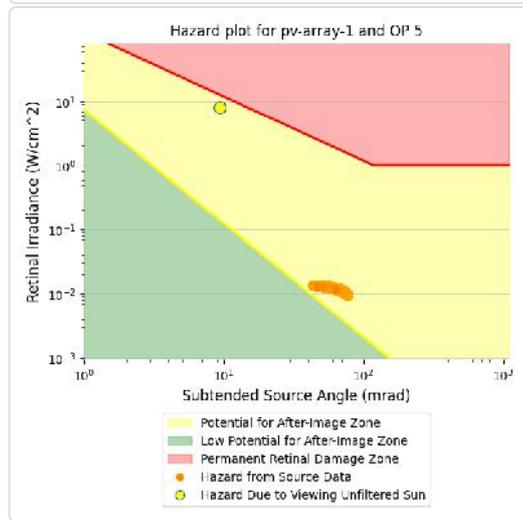
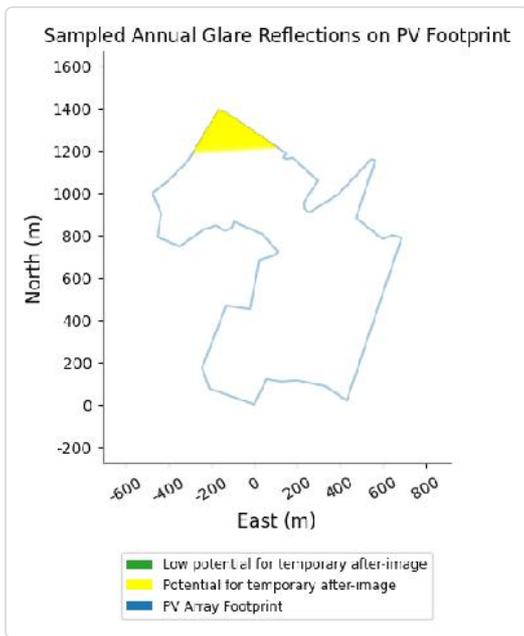
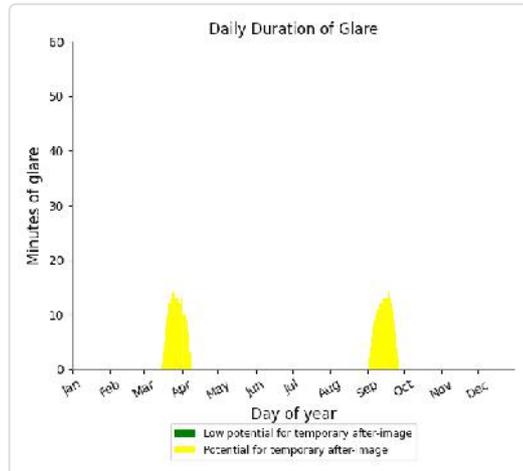
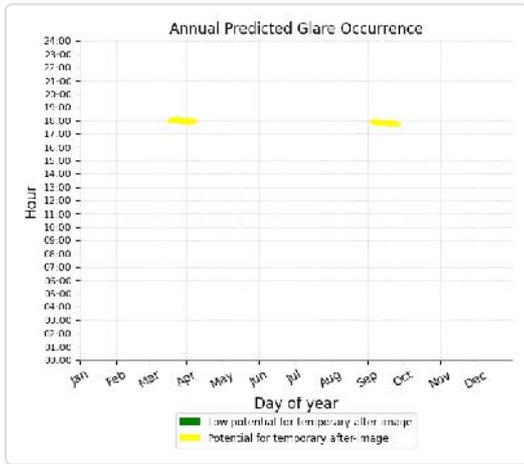
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 470 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:

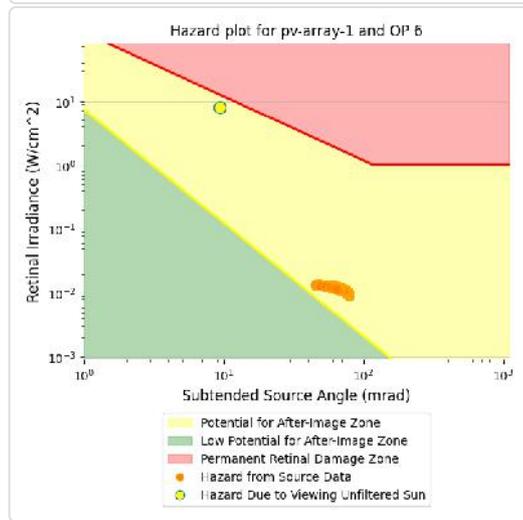
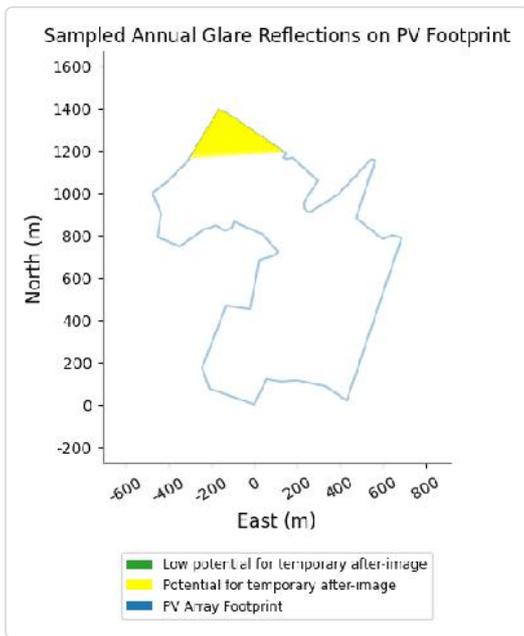
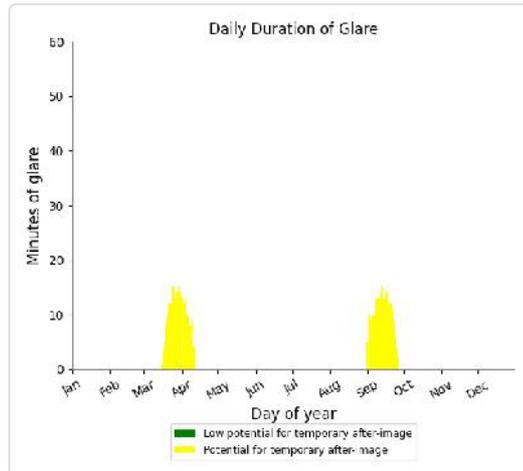
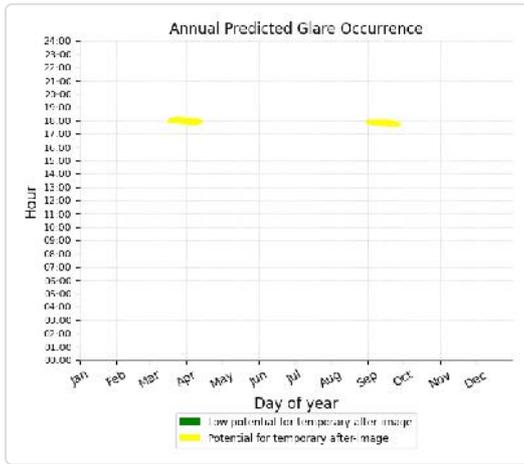
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 470 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 6)

PV array is expected to produce the following glare for receptors at this location:

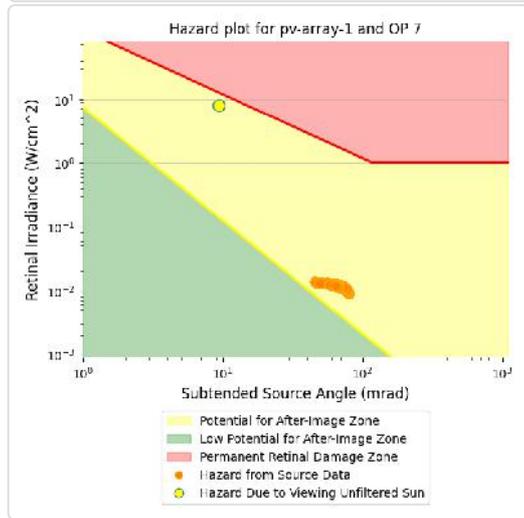
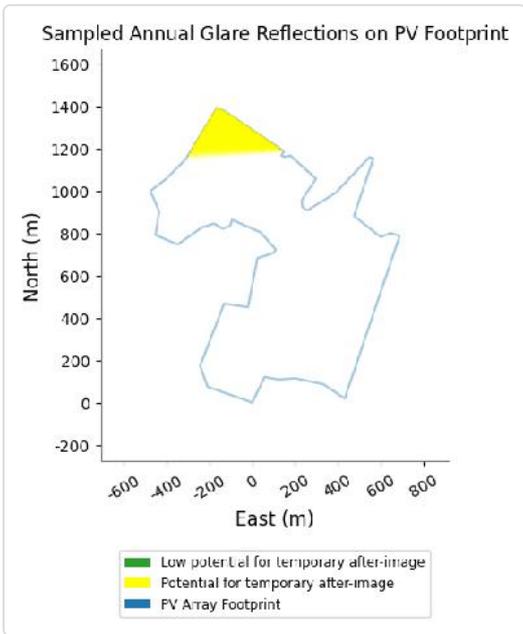
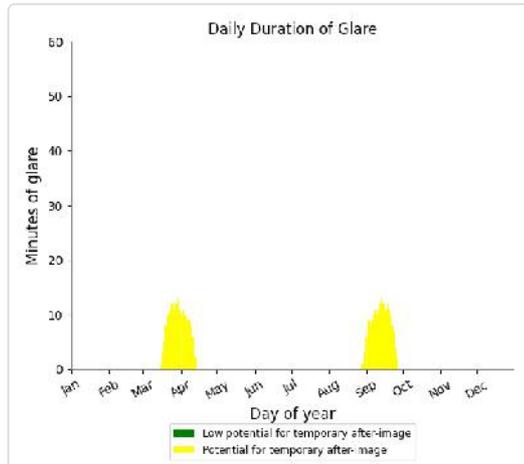
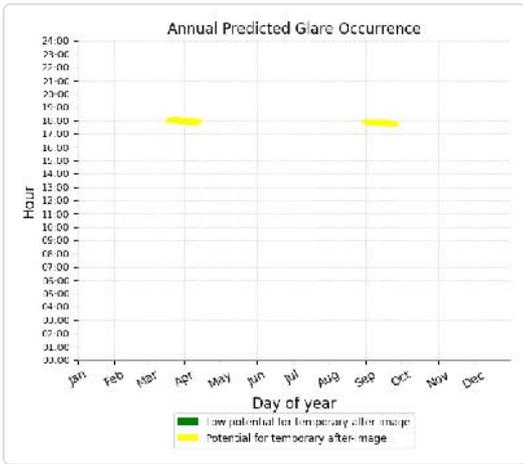
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 565 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 7)

PV array is expected to produce the following glare for receptors at this location:

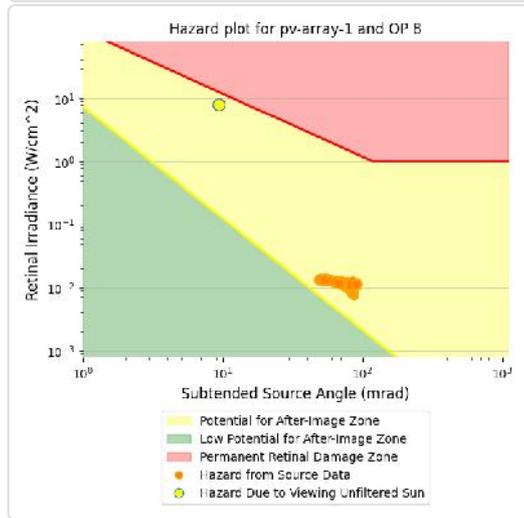
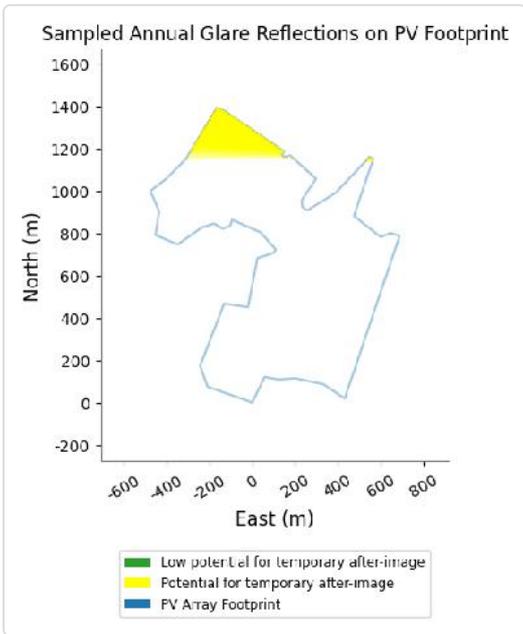
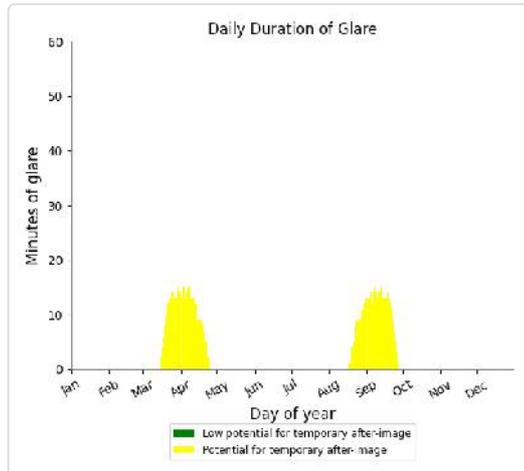
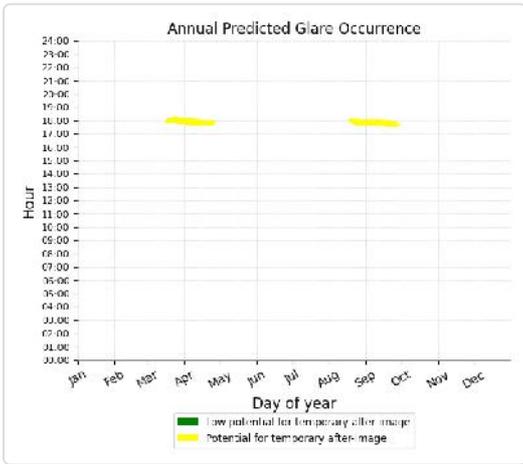
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 516 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 8)

PV array is expected to produce the following glare for receptors at this location:

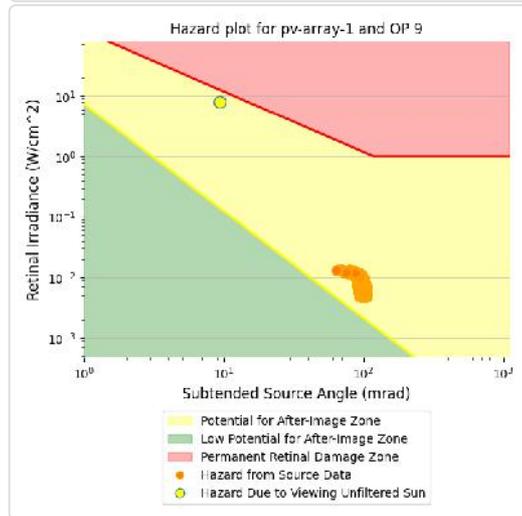
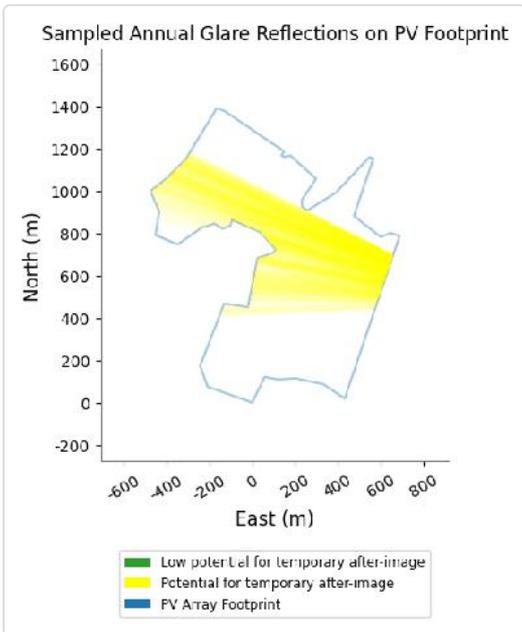
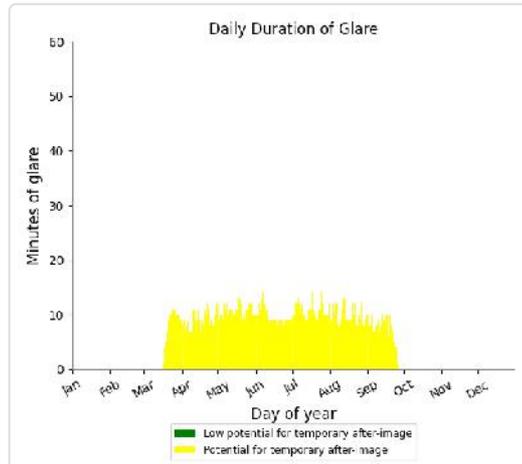
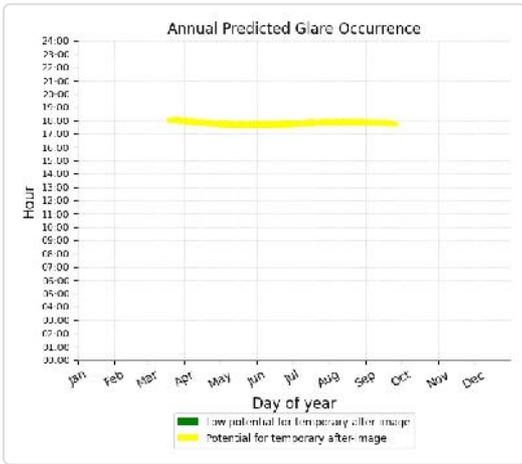
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 854 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 9)

PV array is expected to produce the following glare for receptors at this location:

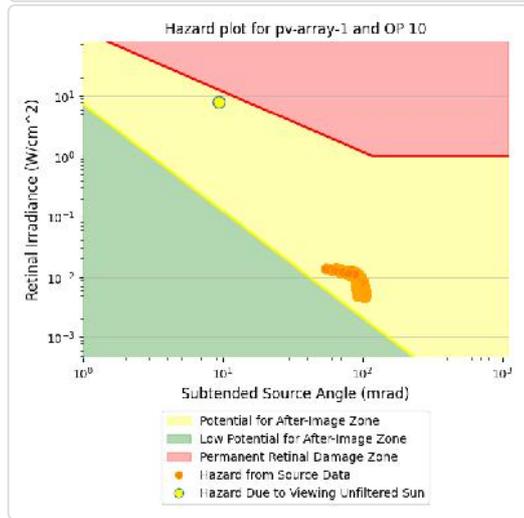
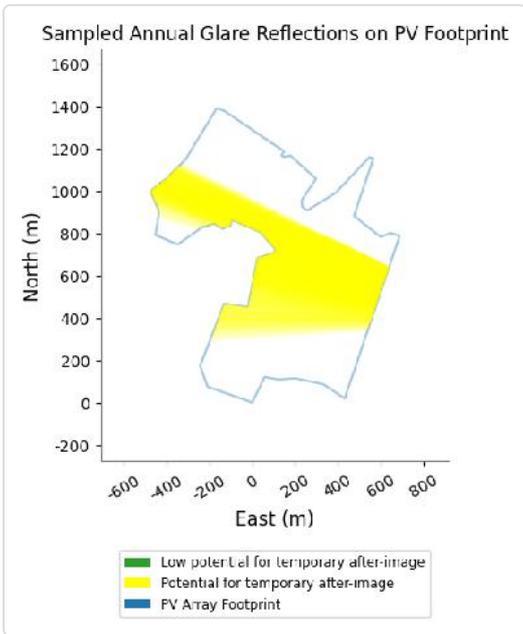
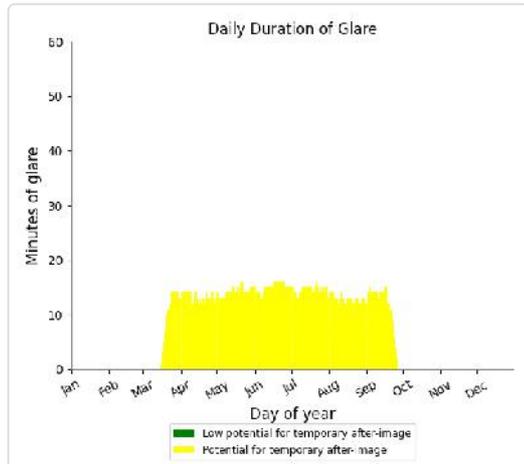
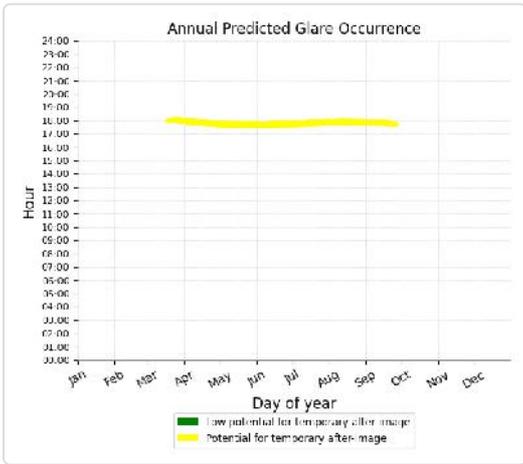
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,870 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 10)

PV array is expected to produce the following glare for receptors at this location:

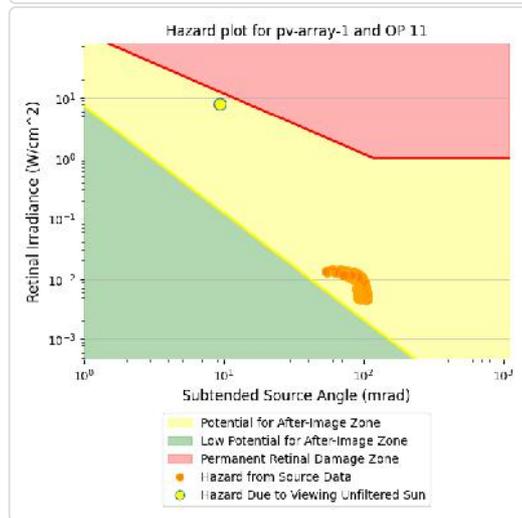
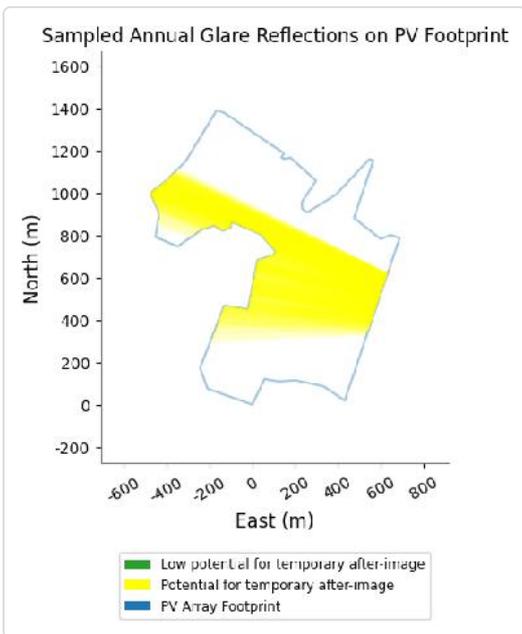
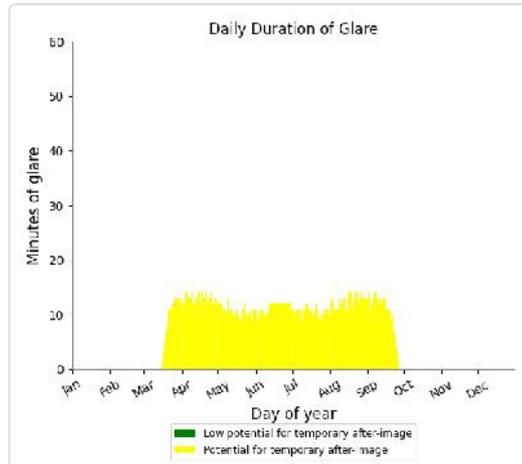
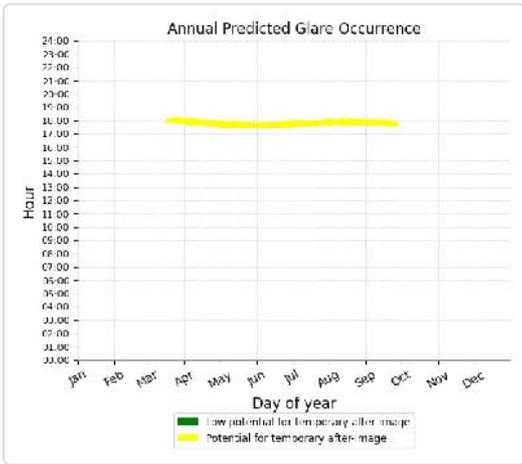
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,627 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 11)

PV array is expected to produce the following glare for receptors at this location:

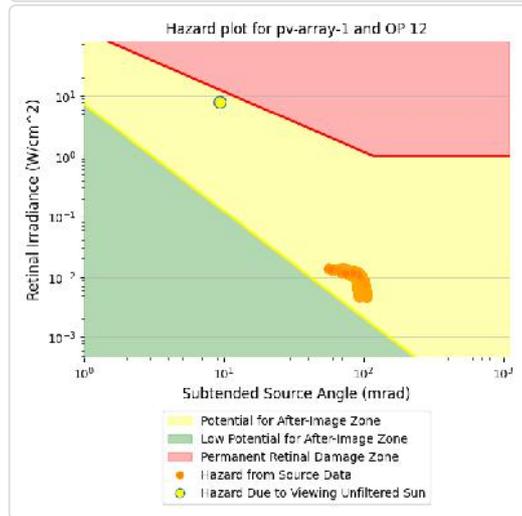
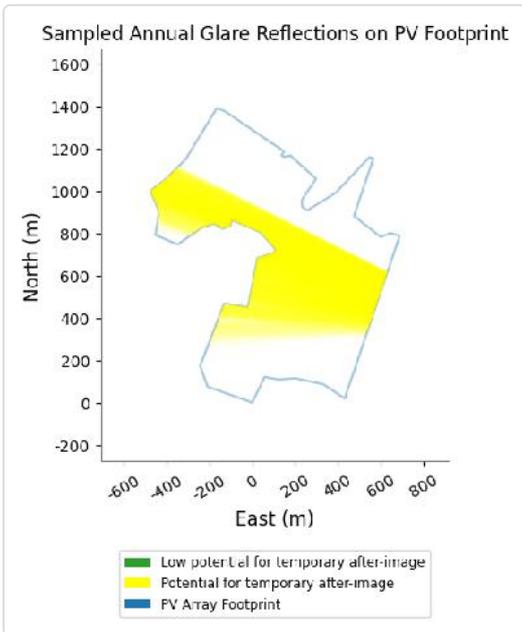
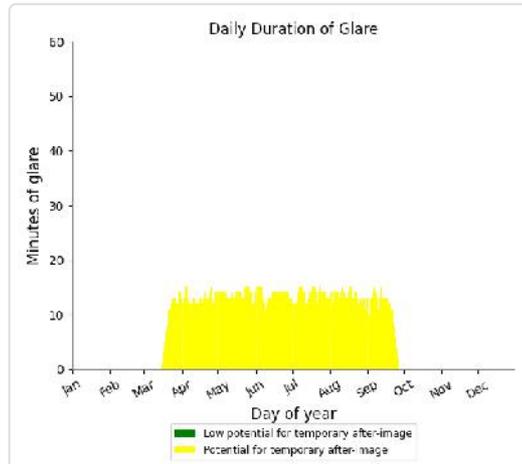
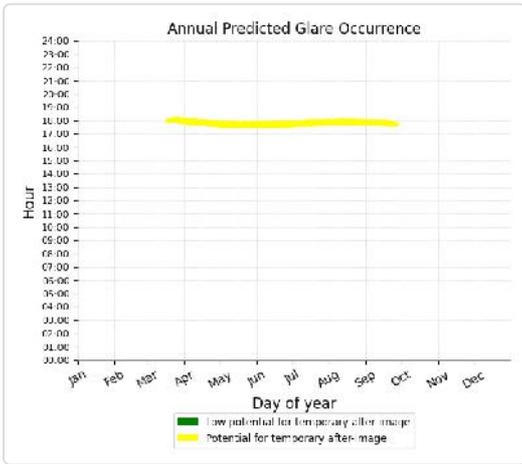
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,236 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 12)

PV array is expected to produce the following glare for receptors at this location:

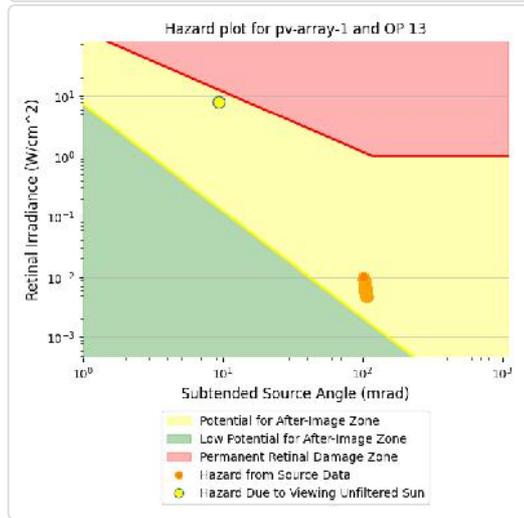
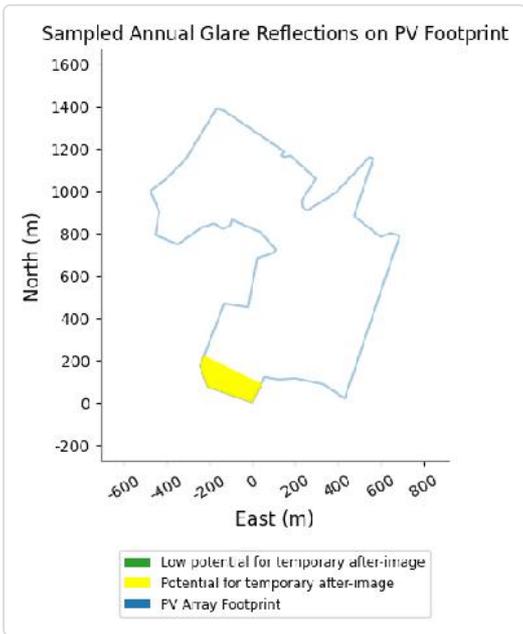
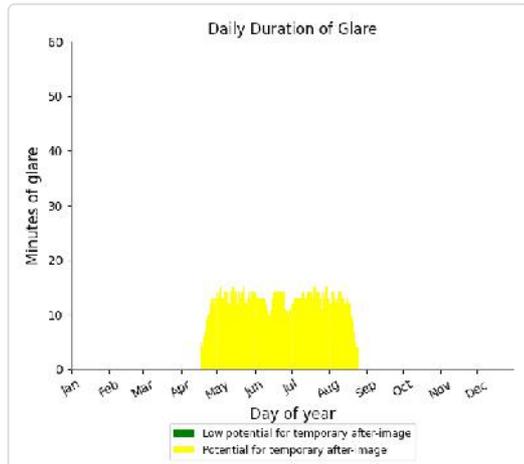
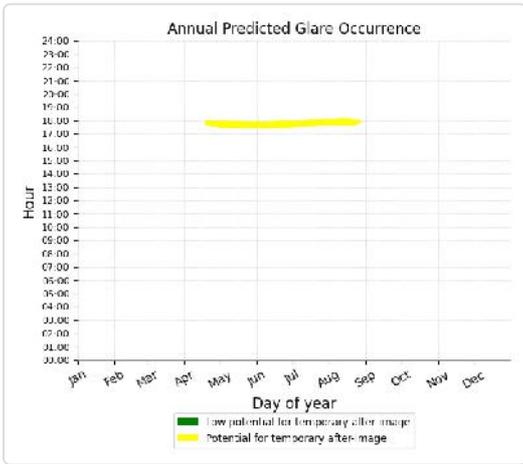
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,525 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 13)

PV array is expected to produce the following glare for receptors at this location:

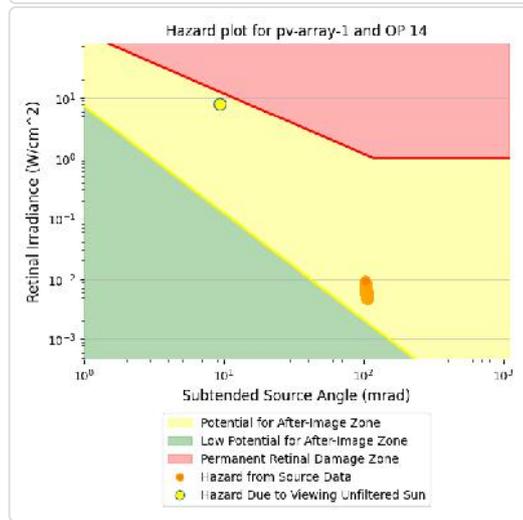
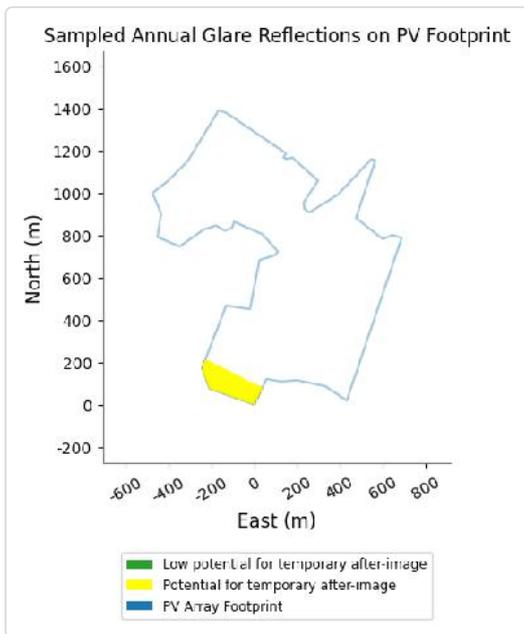
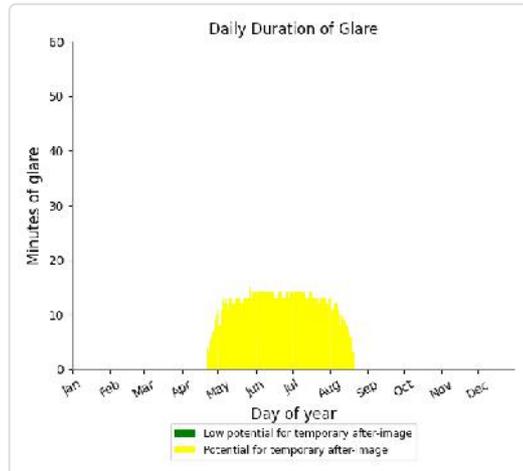
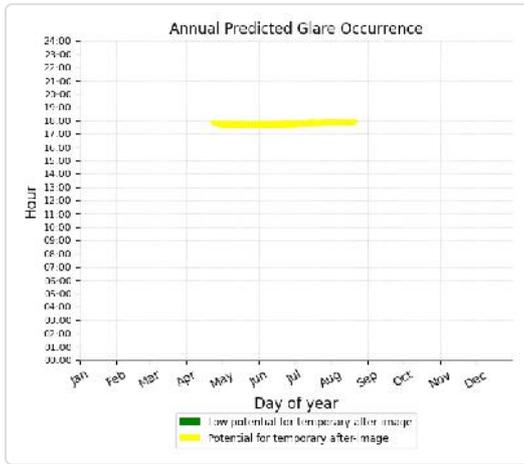
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,620 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 14)

PV array is expected to produce the following glare for receptors at this location:

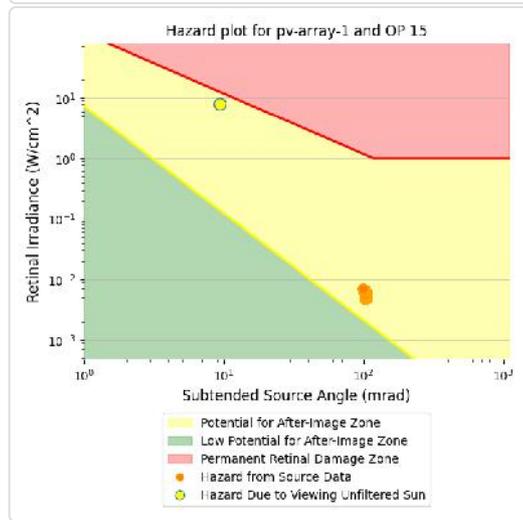
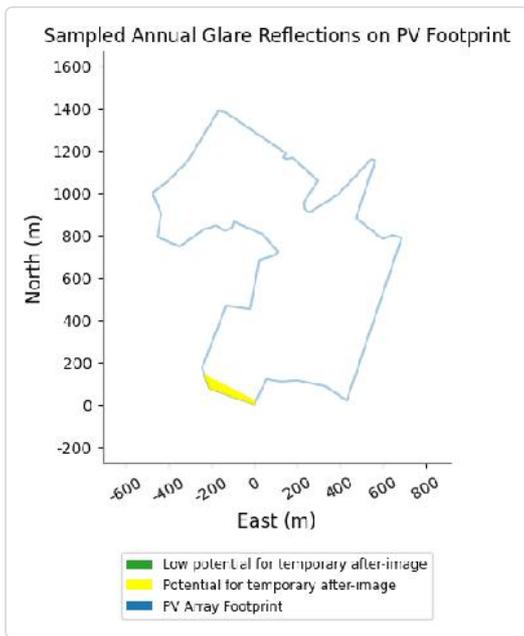
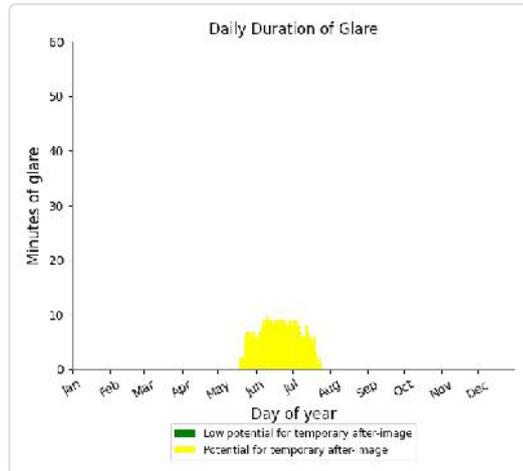
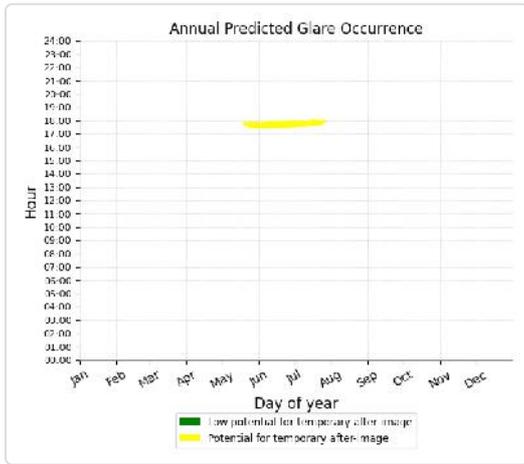
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,454 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:

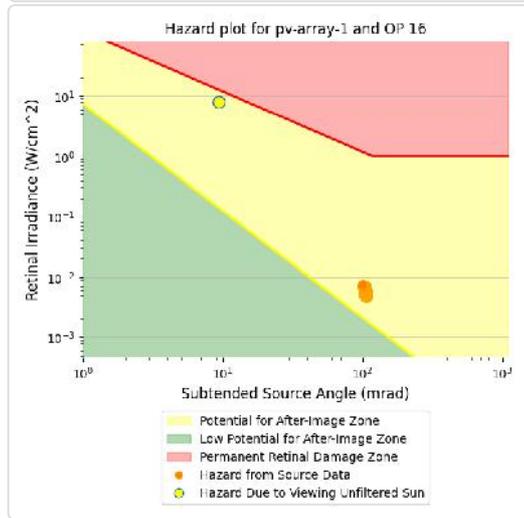
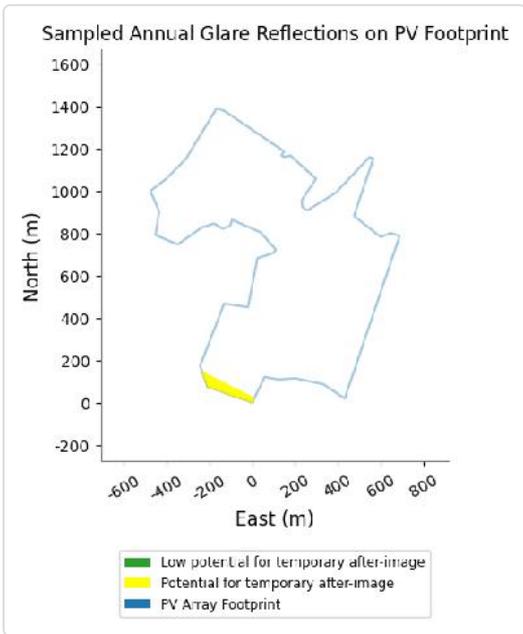
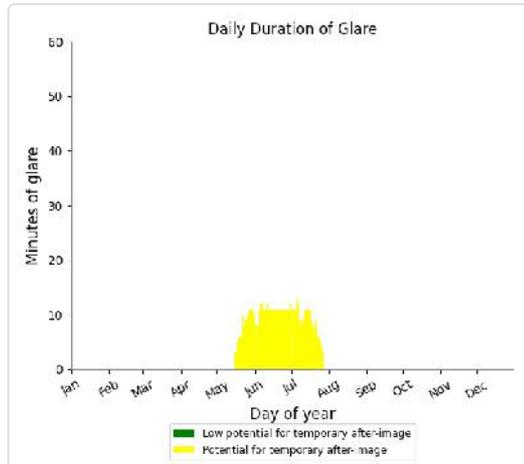
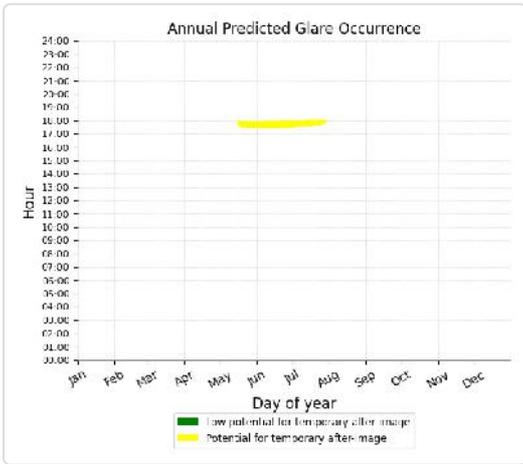
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 471 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 16)

PV array is expected to produce the following glare for receptors at this location:

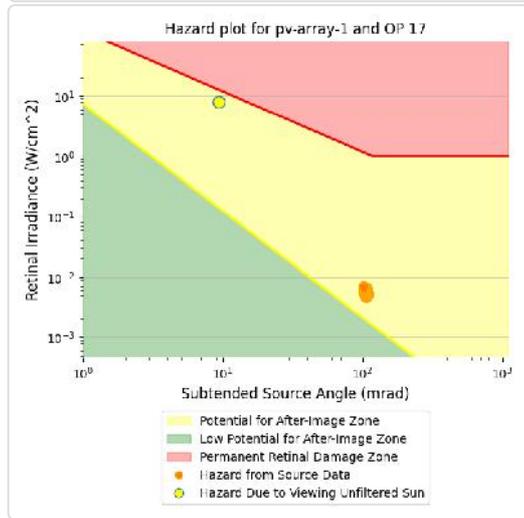
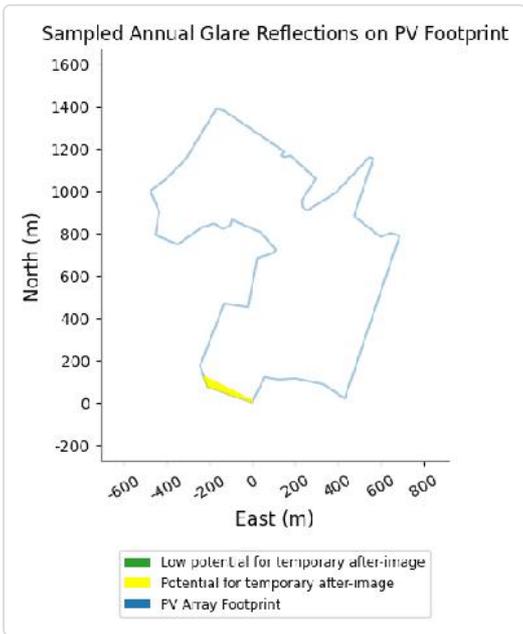
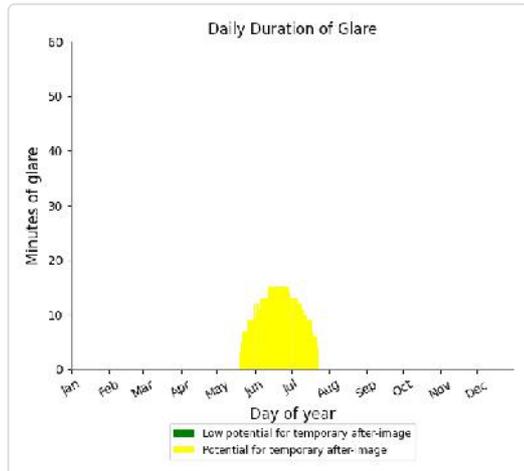
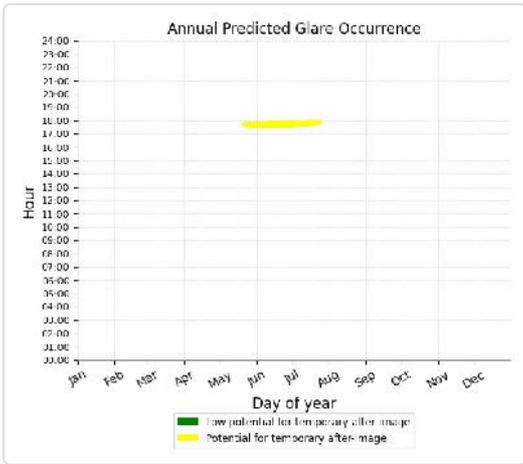
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 696 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 17)

PV array is expected to produce the following glare for receptors at this location:

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



PV array 1 - OP Receptor (OP 18)

No glare found

PV array 1 - OP Receptor (OP 19)

No glare found

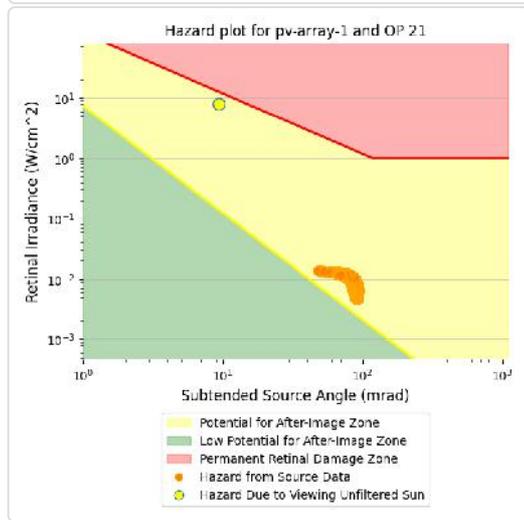
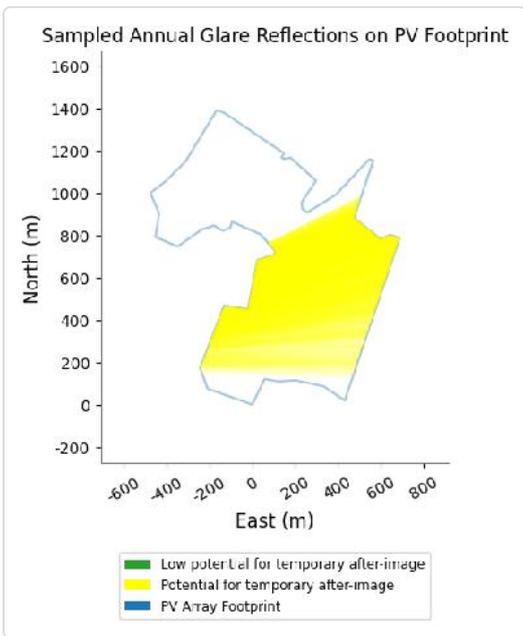
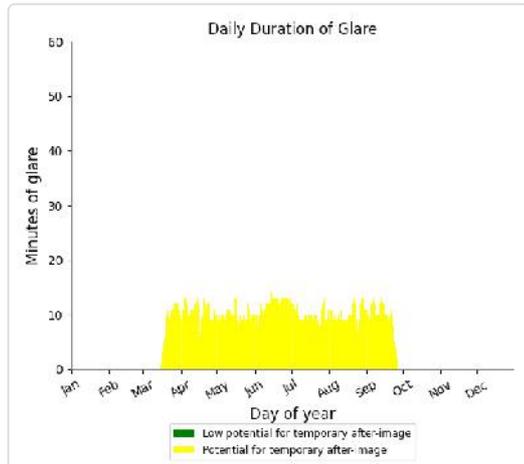
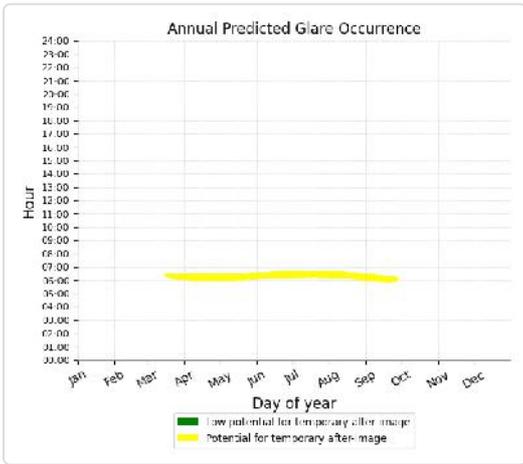
PV array 1 - OP Receptor (OP 20)

No glare found

PV array 1 - OP Receptor (OP 21)

PV array is expected to produce the following glare for receptors at this location:

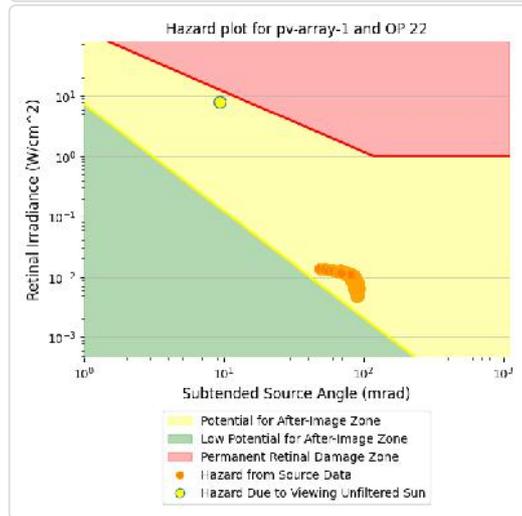
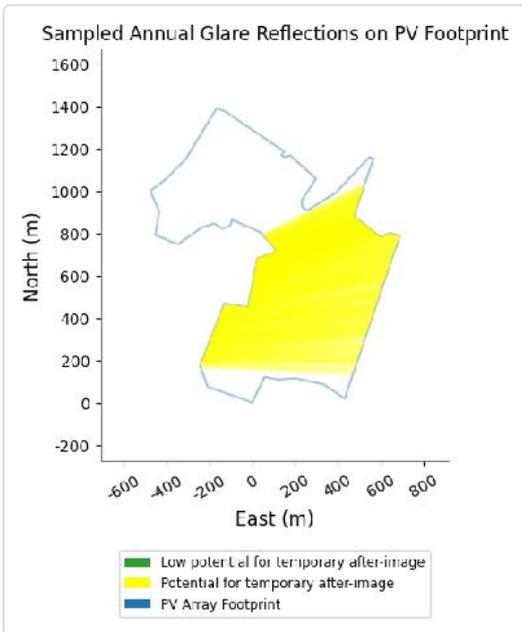
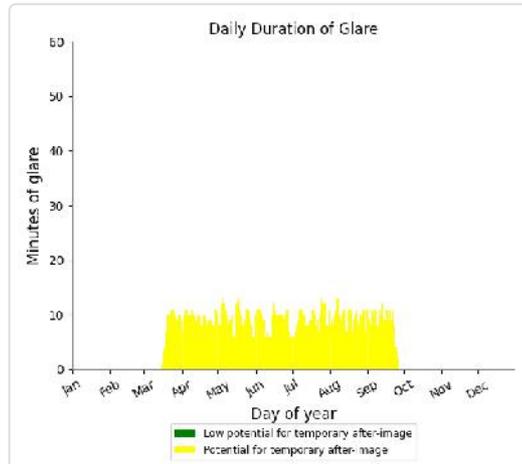
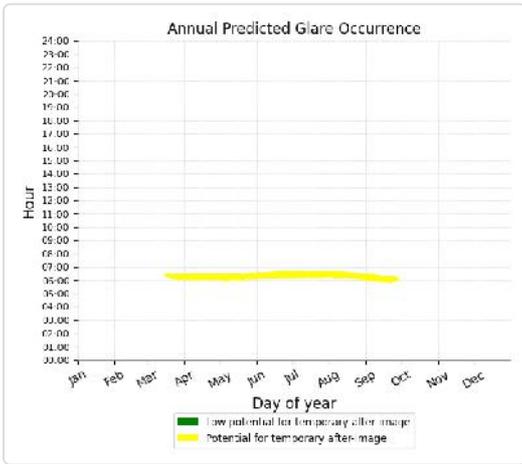
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,039 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 22)

PV array is expected to produce the following glare for receptors at this location:

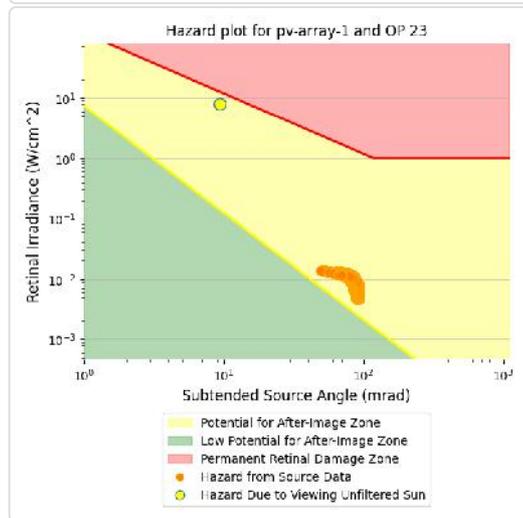
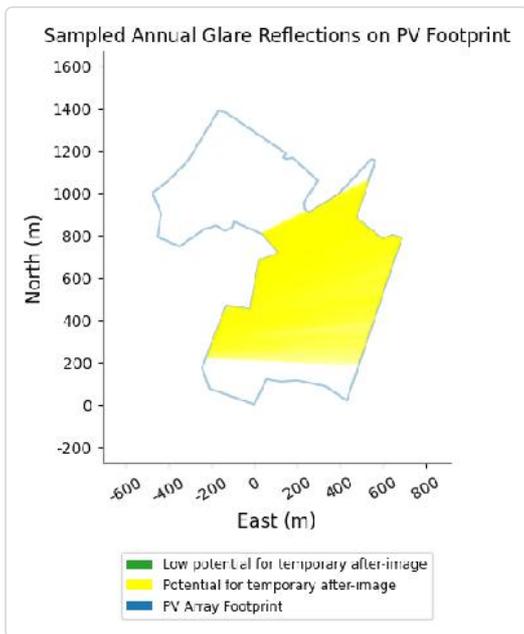
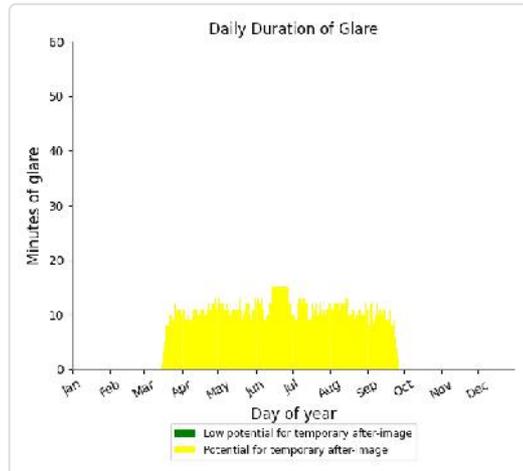
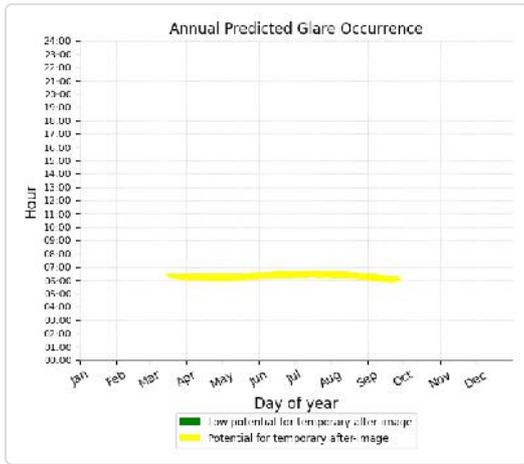
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,821 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:

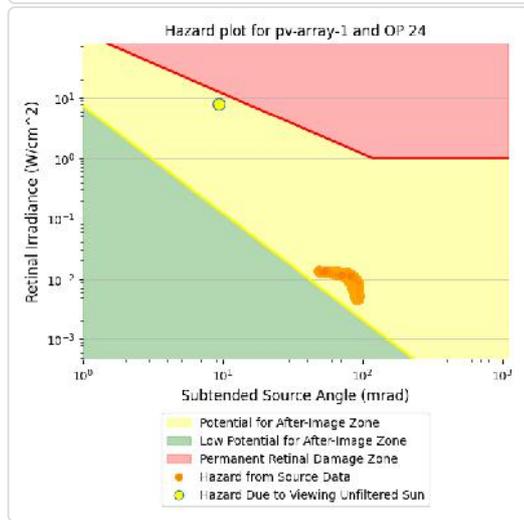
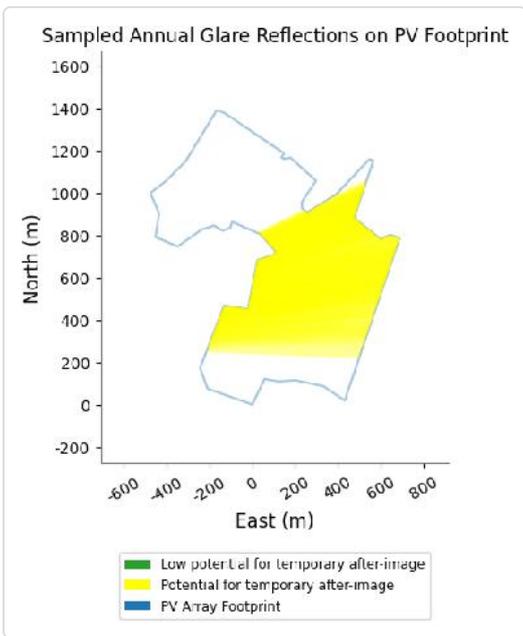
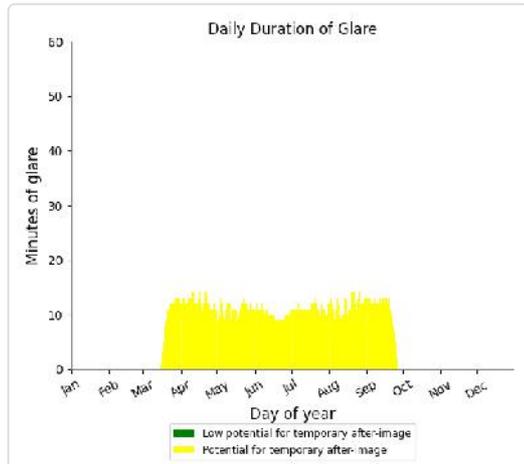
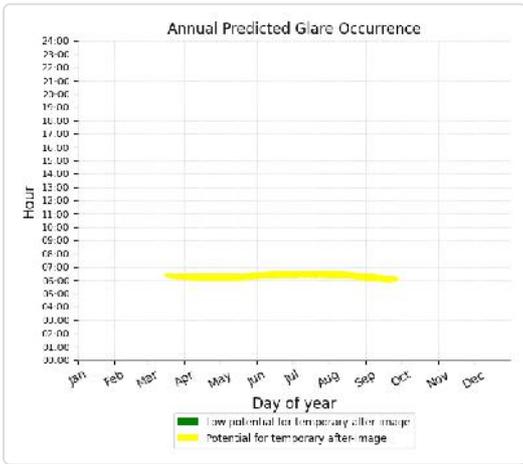
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,126 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 24)

PV array is expected to produce the following glare for receptors at this location:

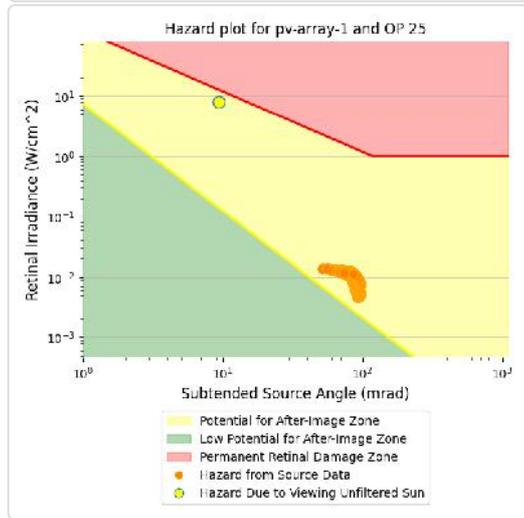
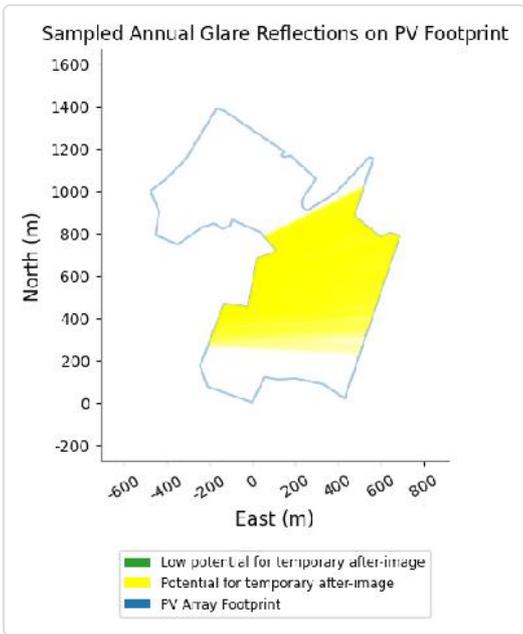
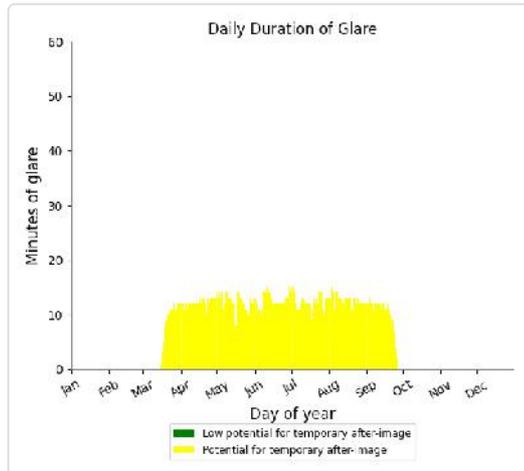
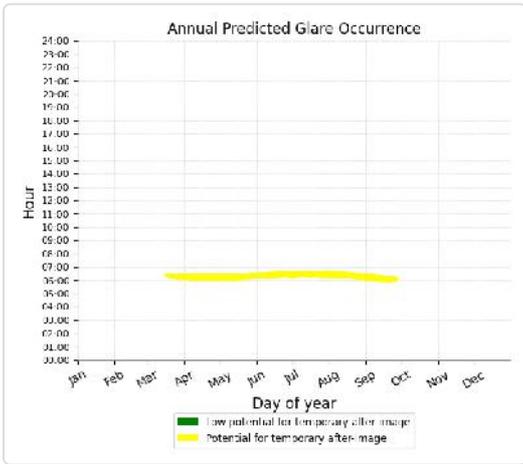
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,186 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 25)

PV array is expected to produce the following glare for receptors at this location:

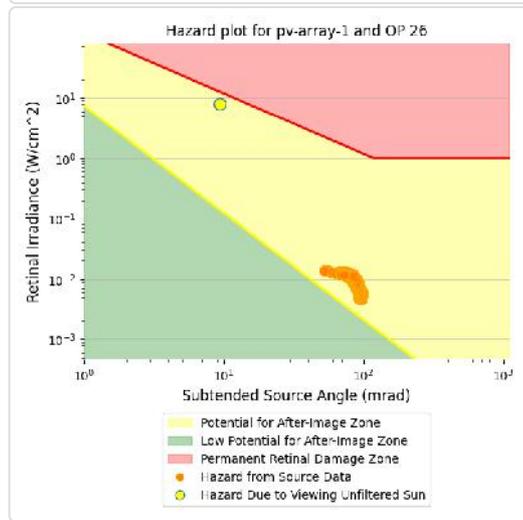
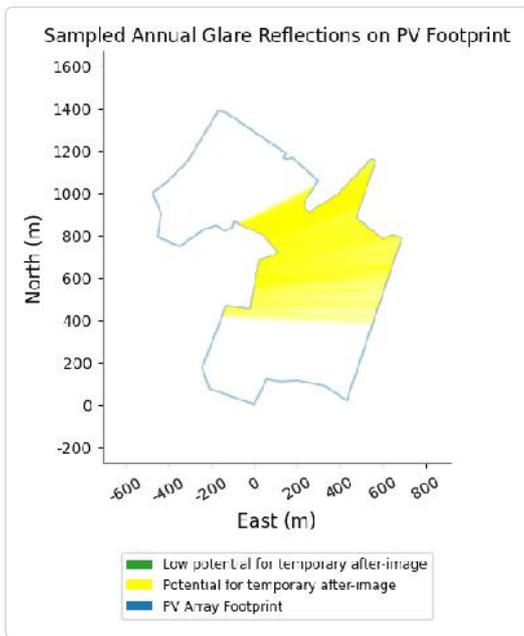
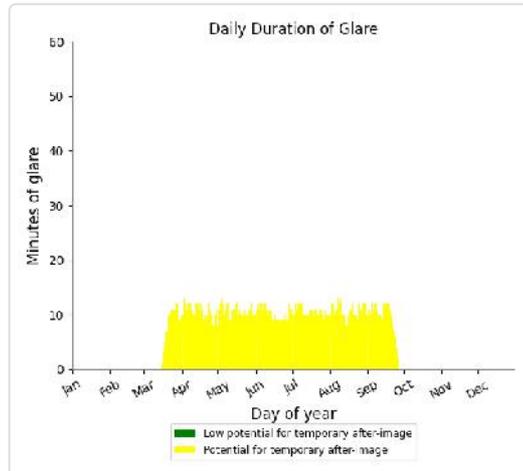
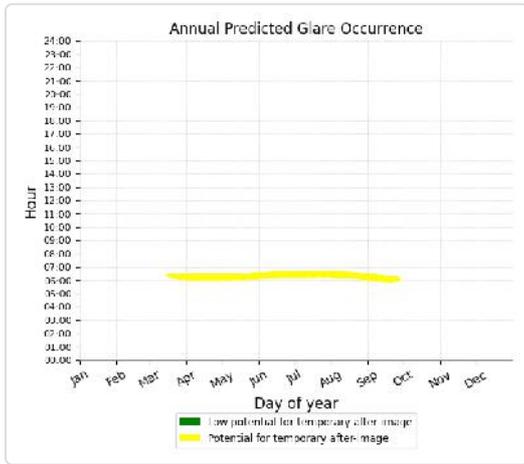
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,327 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 26)

PV array is expected to produce the following glare for receptors at this location:

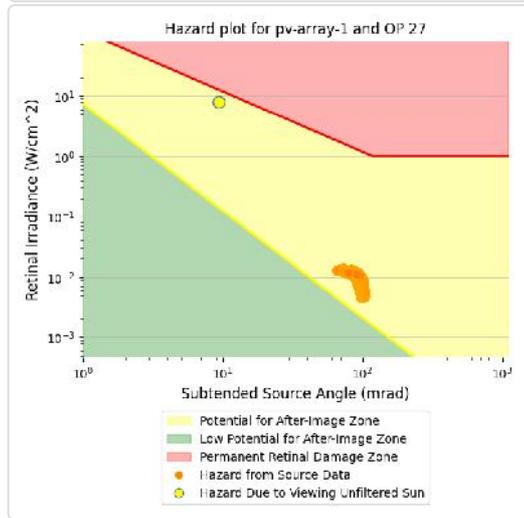
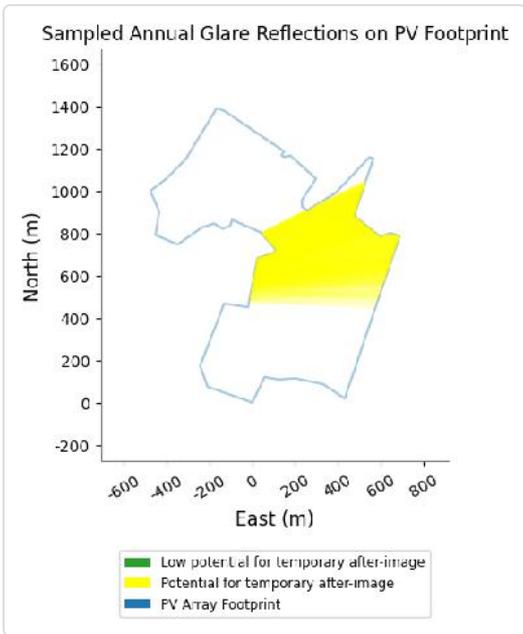
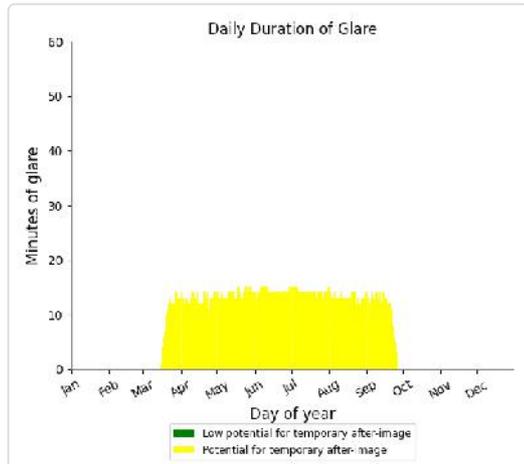
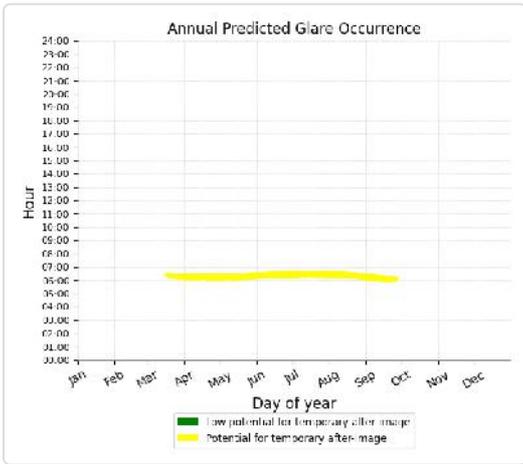
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,032 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:

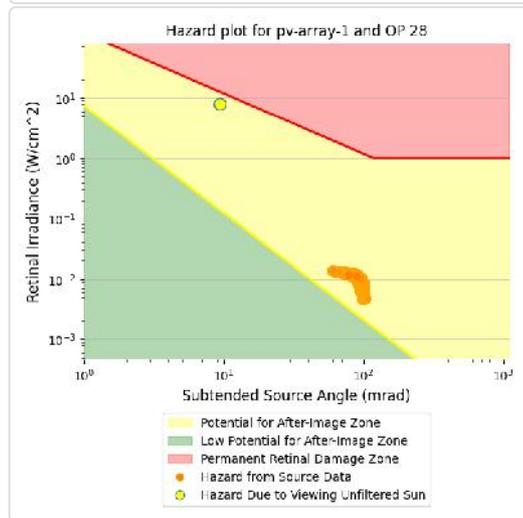
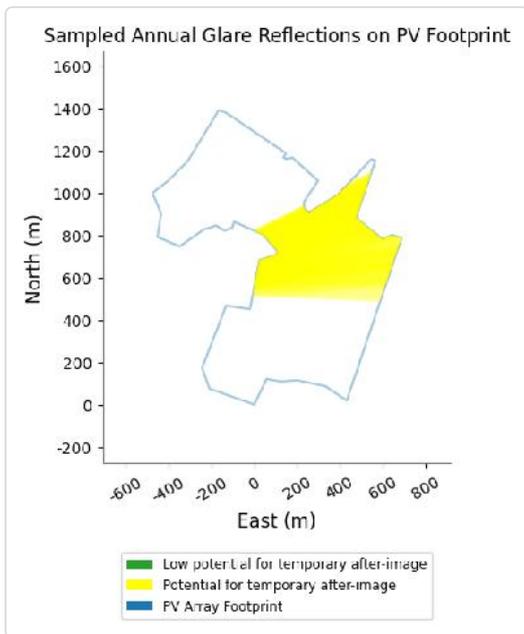
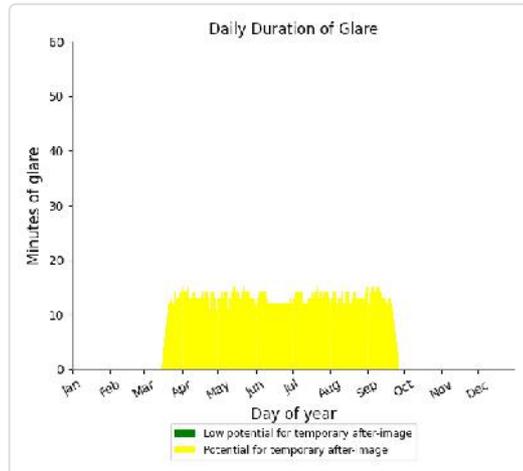
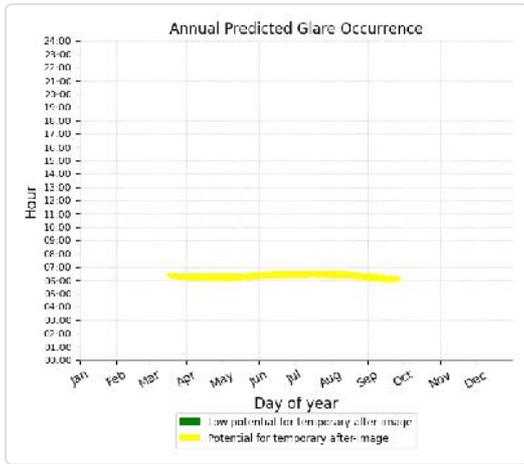
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,567 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:

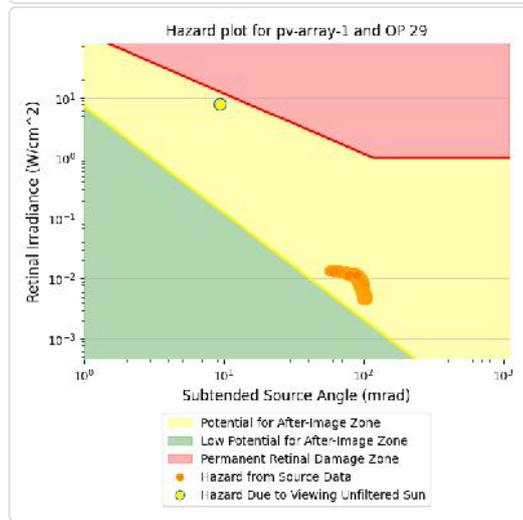
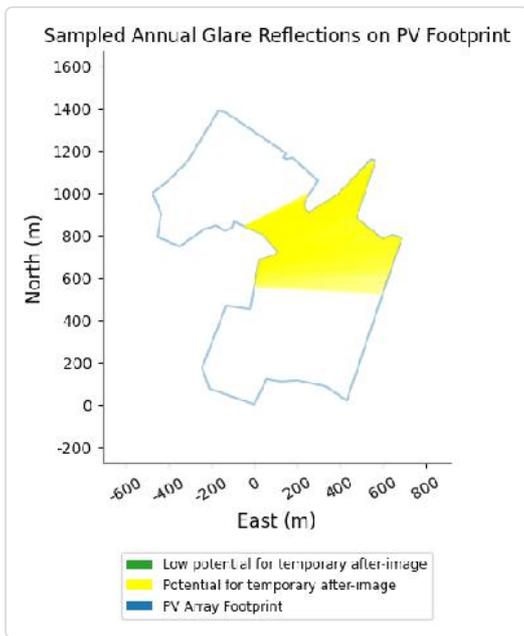
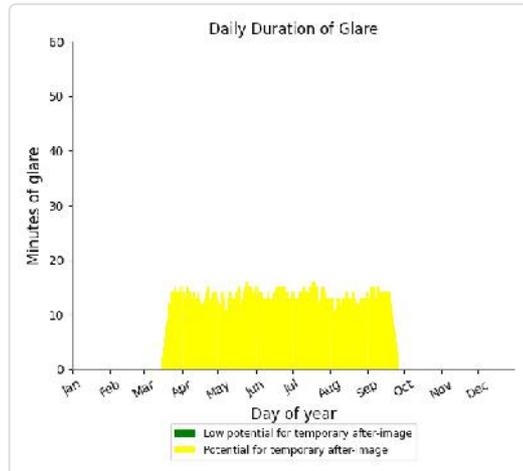
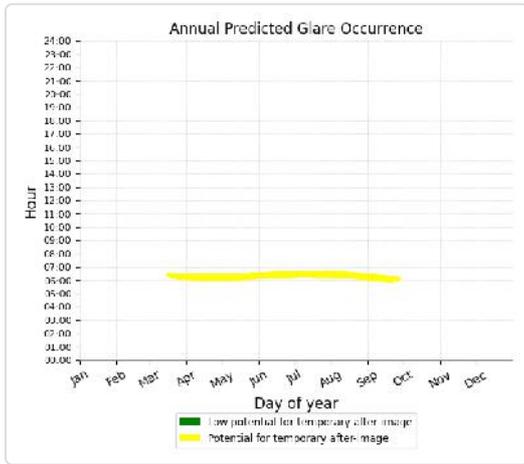
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,514 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 29)

PV array is expected to produce the following glare for receptors at this location:

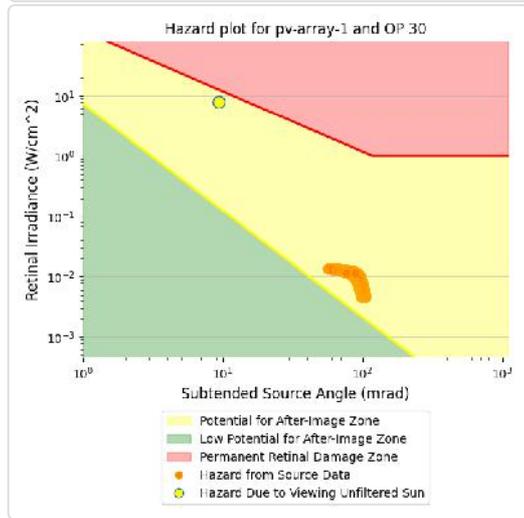
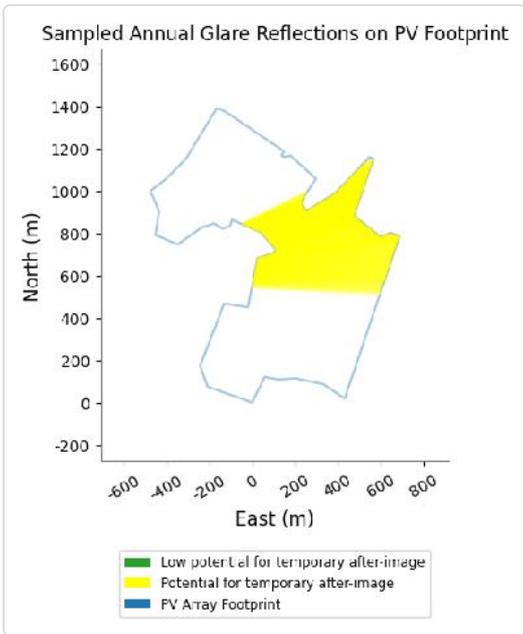
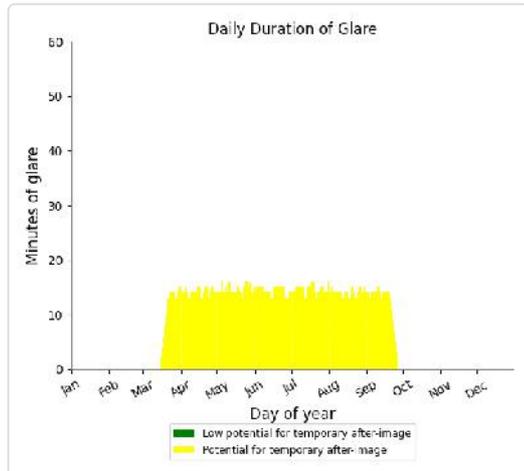
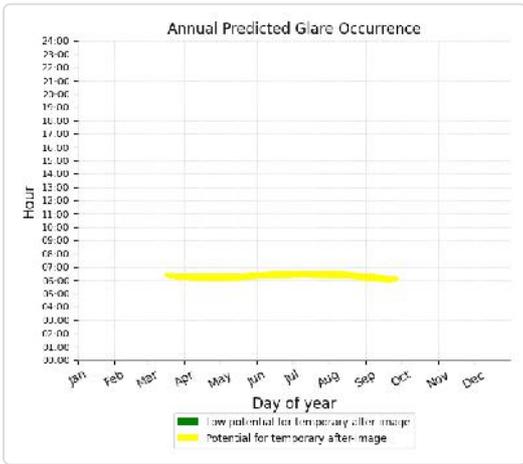
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,605 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:

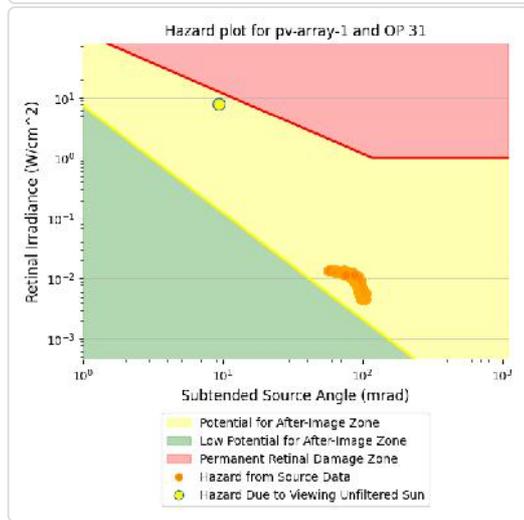
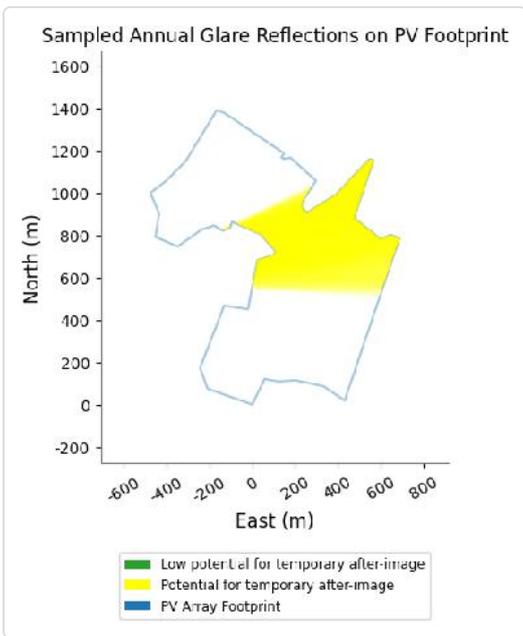
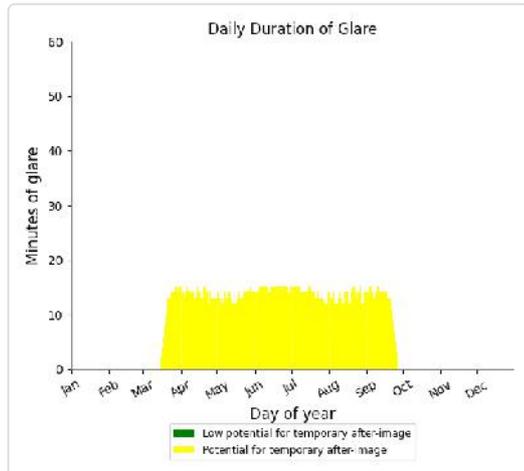
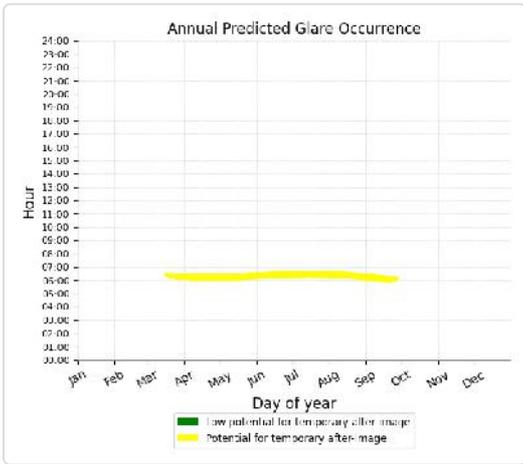
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,712 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 31)

PV array is expected to produce the following glare for receptors at this location:

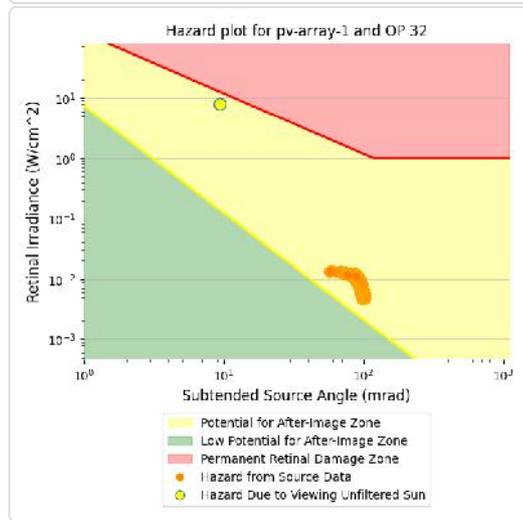
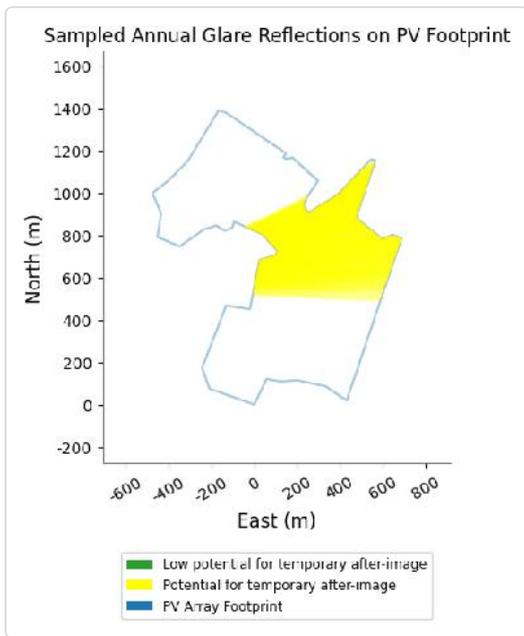
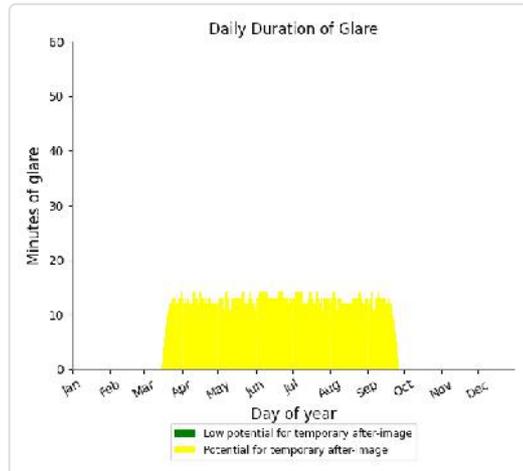
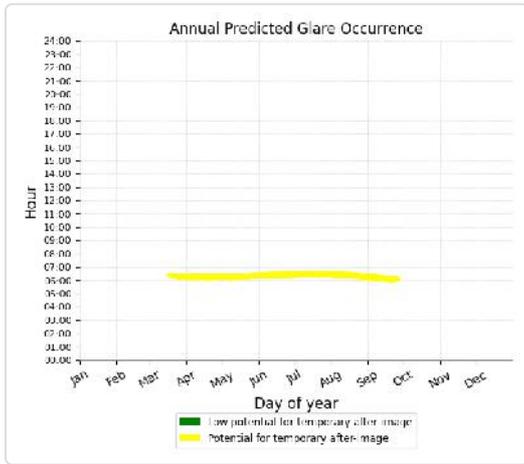
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,626 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 32)

PV array is expected to produce the following glare for receptors at this location:

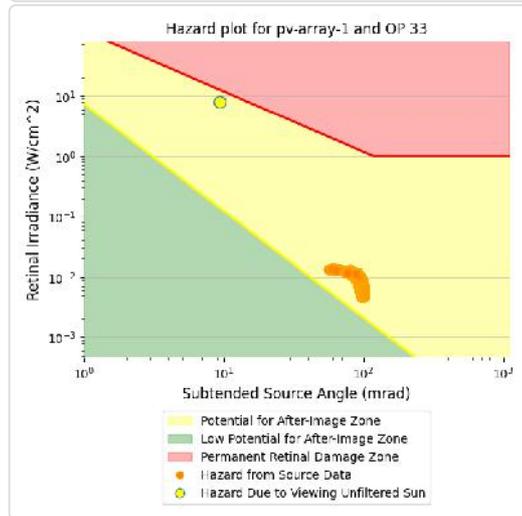
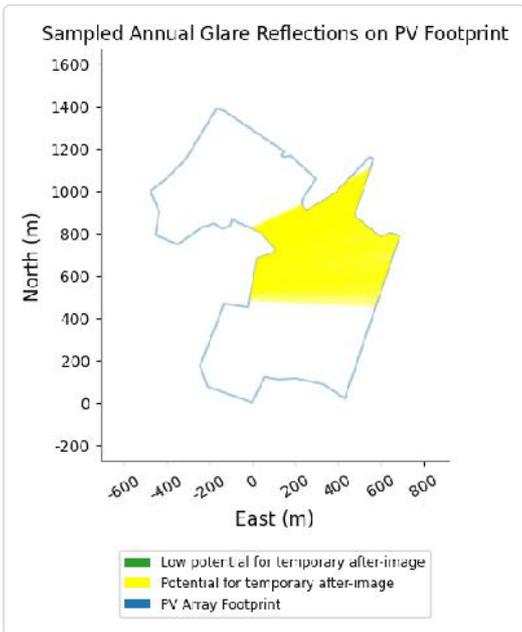
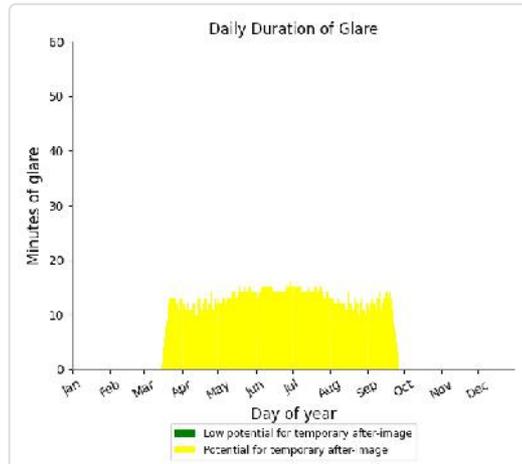
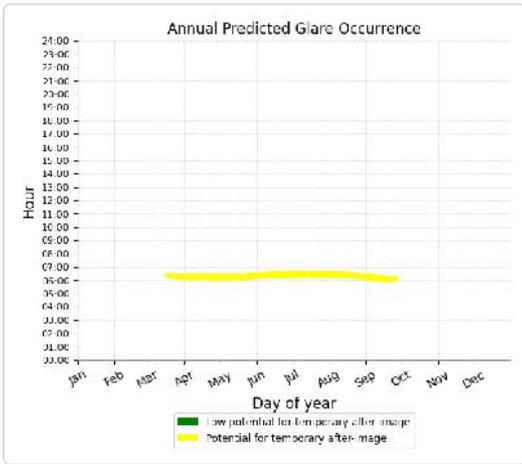
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,436 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 33)

PV array is expected to produce the following glare for receptors at this location:

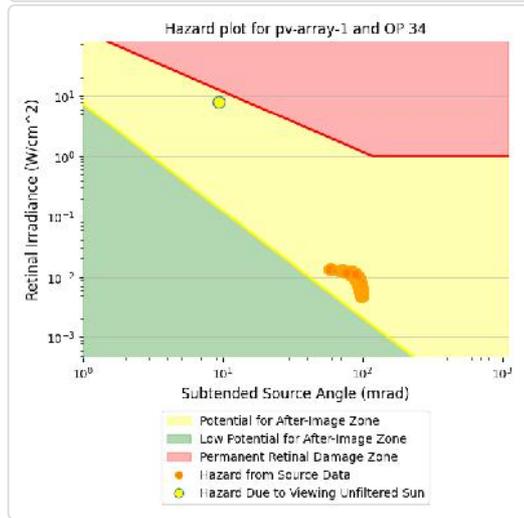
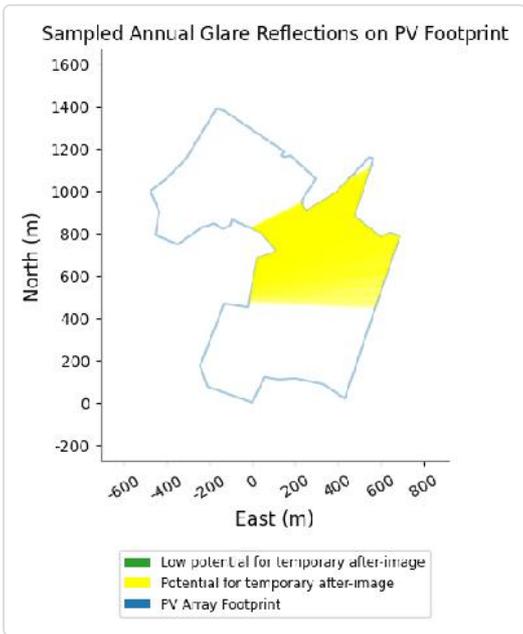
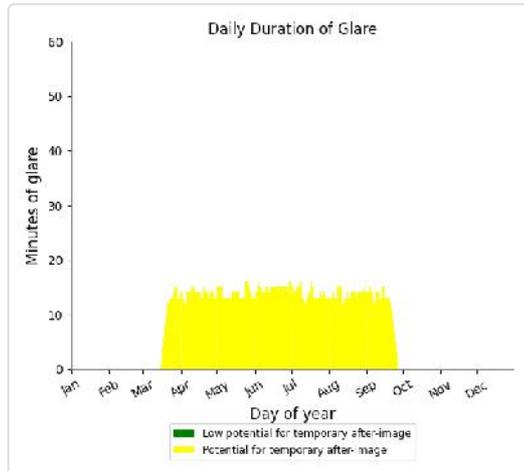
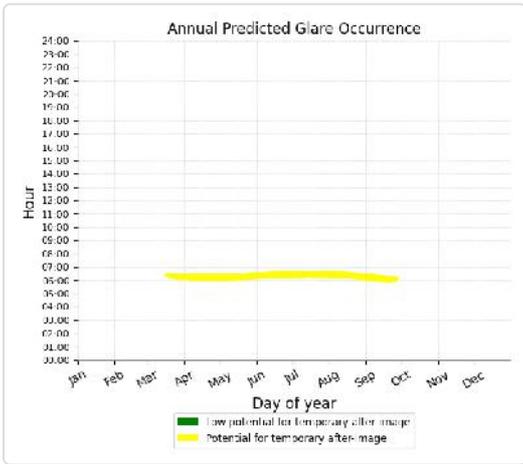
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,499 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 34)

PV array is expected to produce the following glare for receptors at this location:

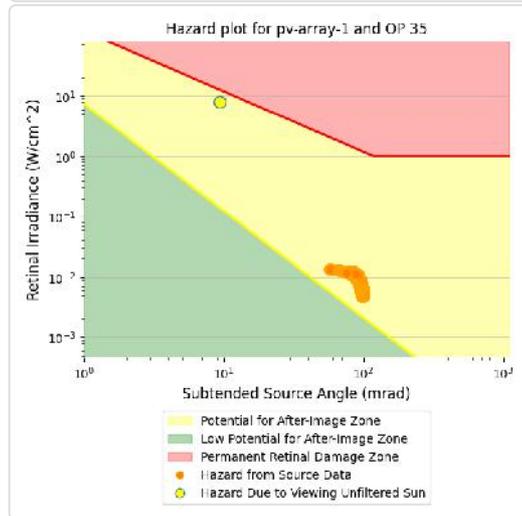
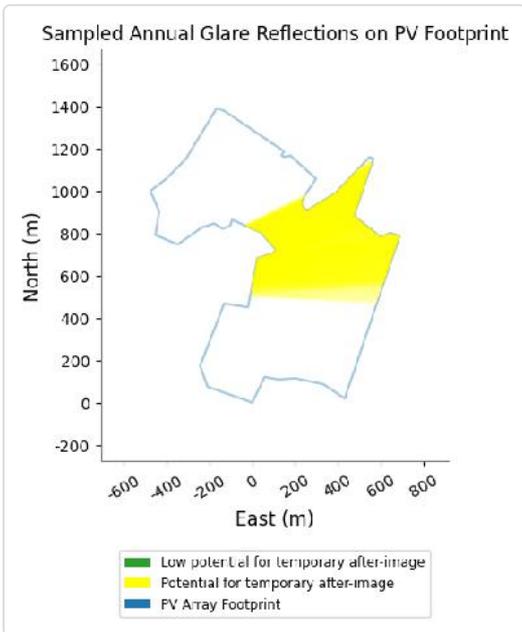
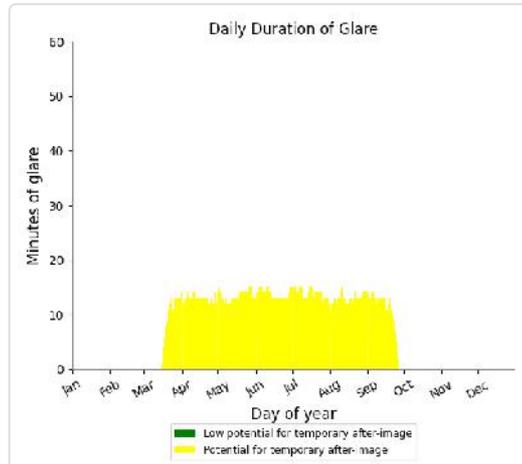
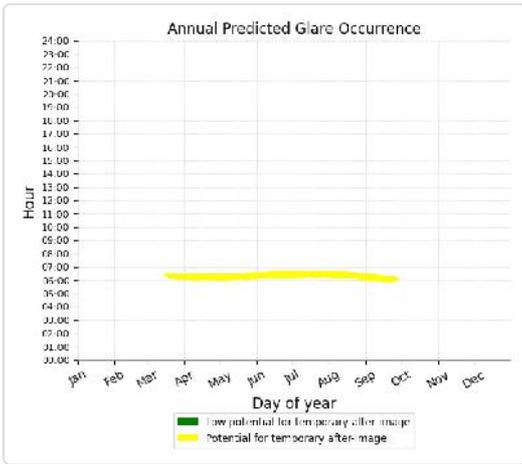
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,635 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 35)

PV array is expected to produce the following glare for receptors at this location:

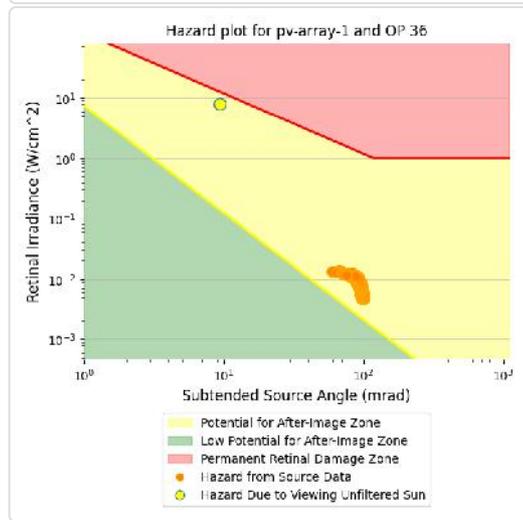
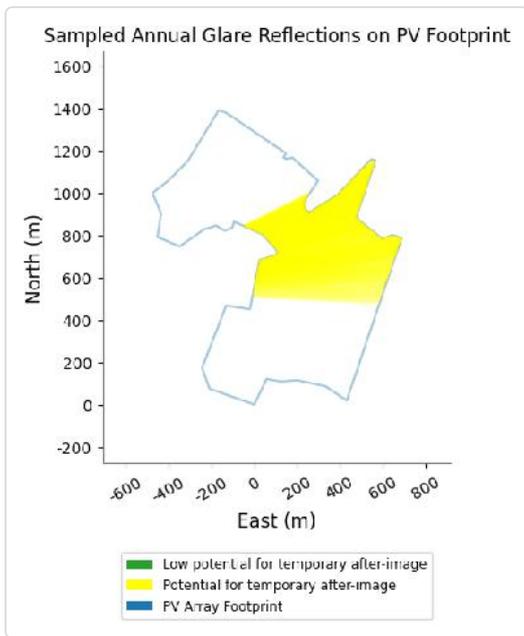
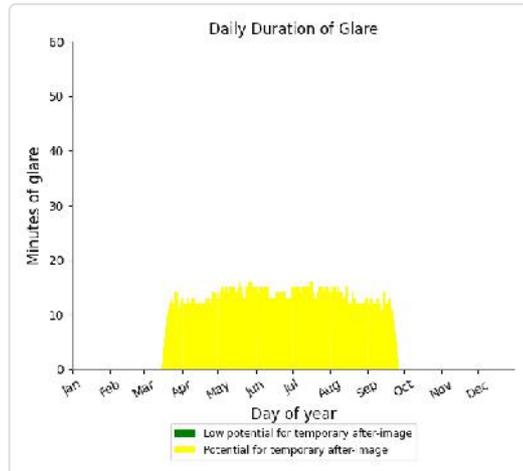
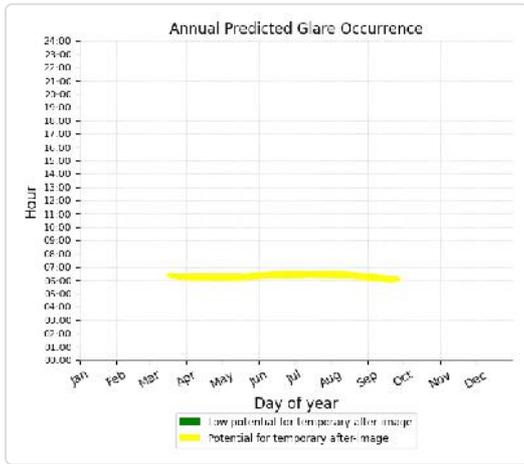
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,511 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 36)

PV array is expected to produce the following glare for receptors at this location:

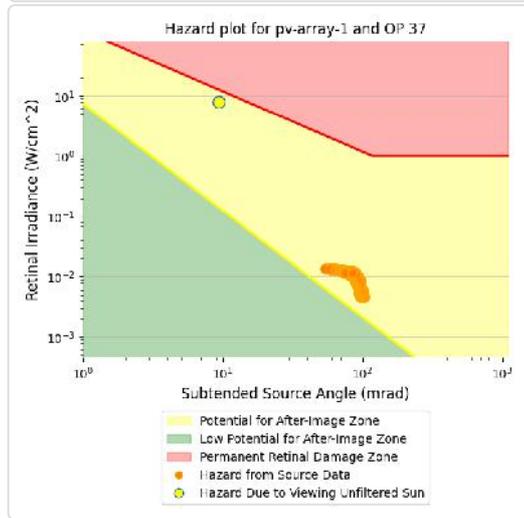
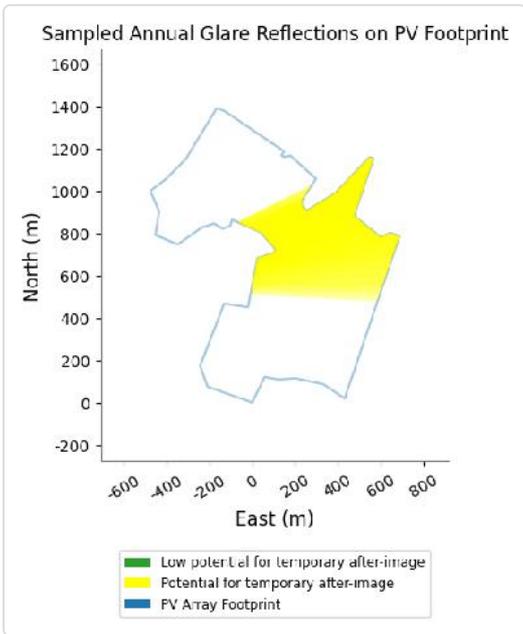
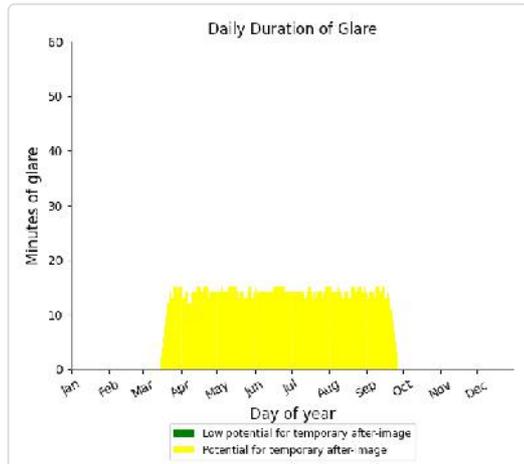
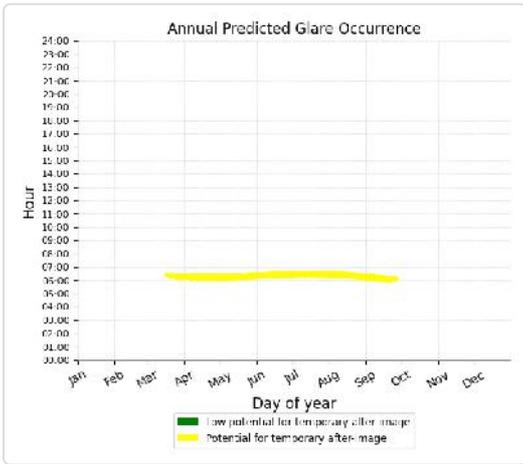
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,590 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 37)

PV array is expected to produce the following glare for receptors at this location:

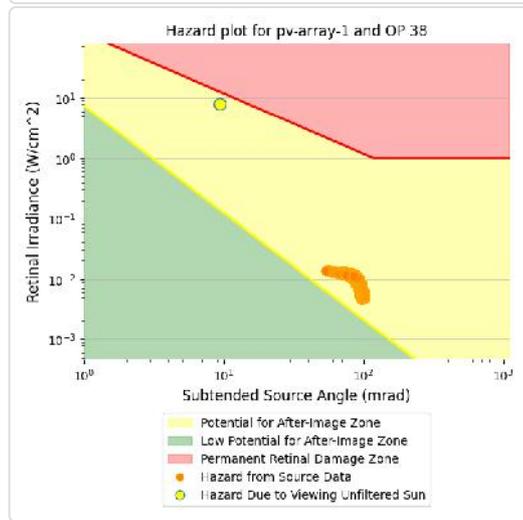
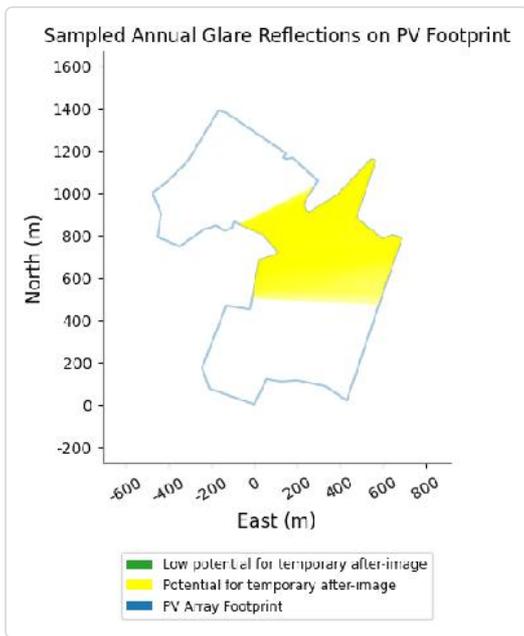
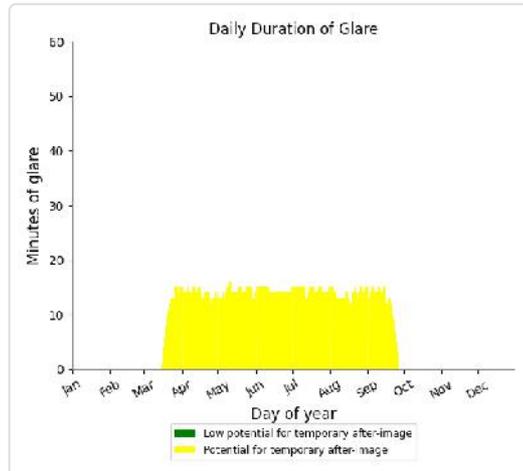
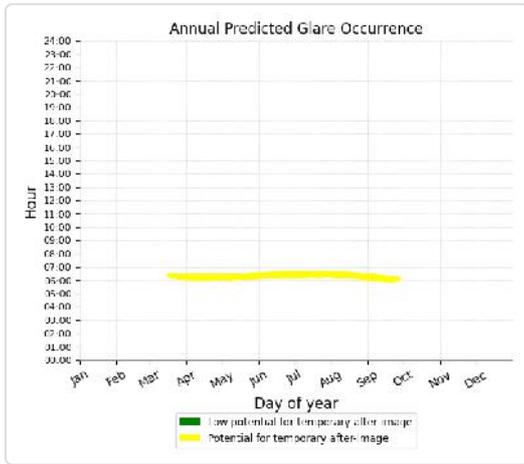
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,675 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 38)

PV array is expected to produce the following glare for receptors at this location:

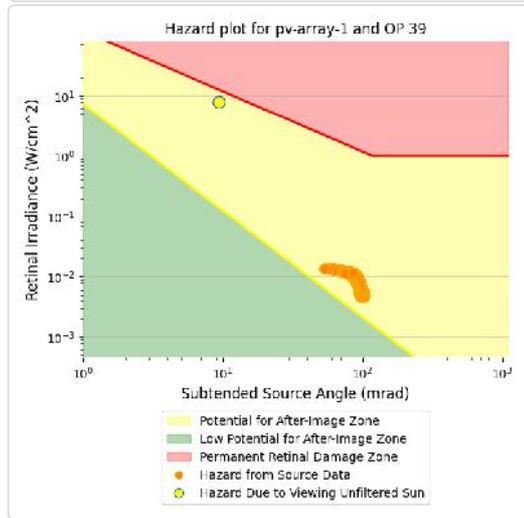
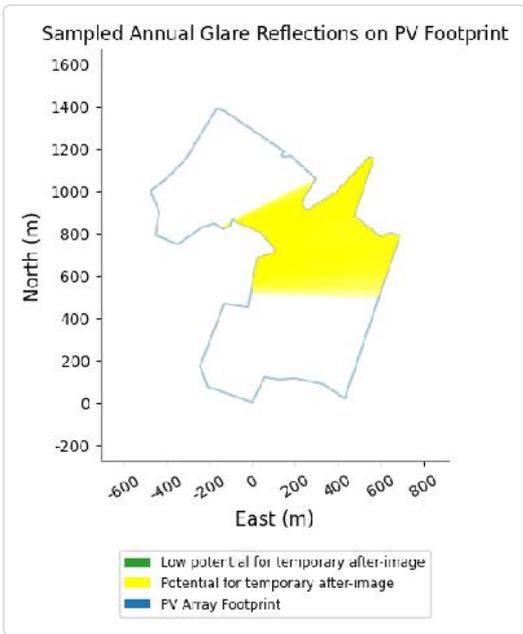
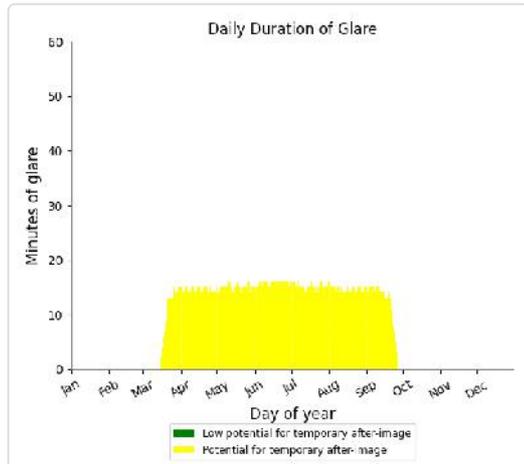
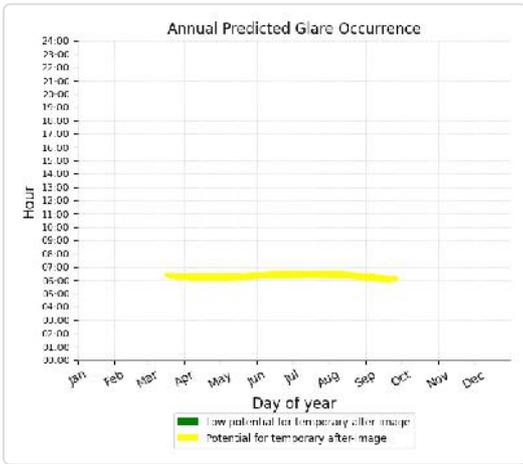
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,680 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 39)

PV array is expected to produce the following glare for receptors at this location:

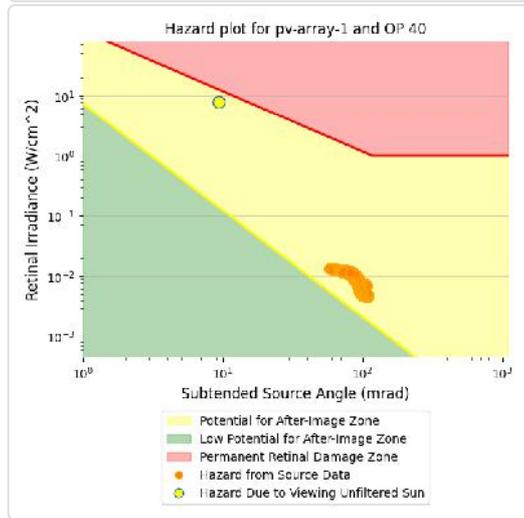
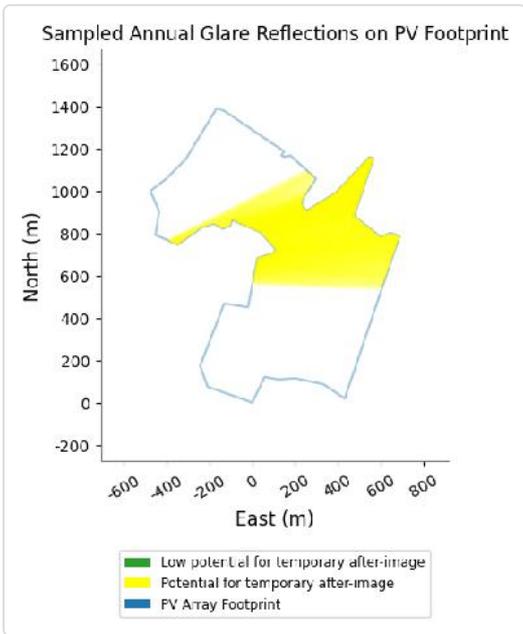
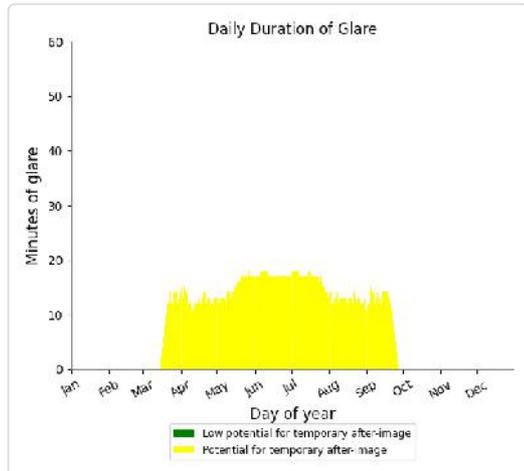
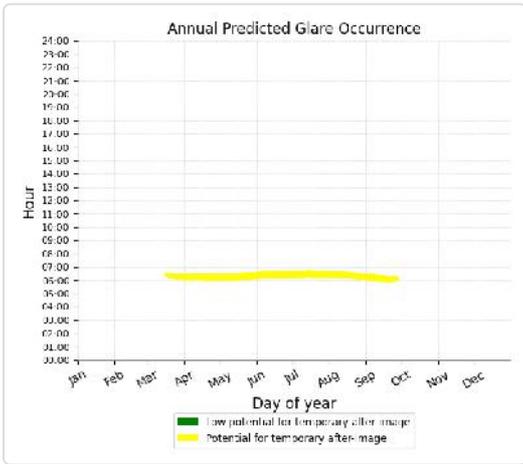
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,810 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 40)

PV array is expected to produce the following glare for receptors at this location:

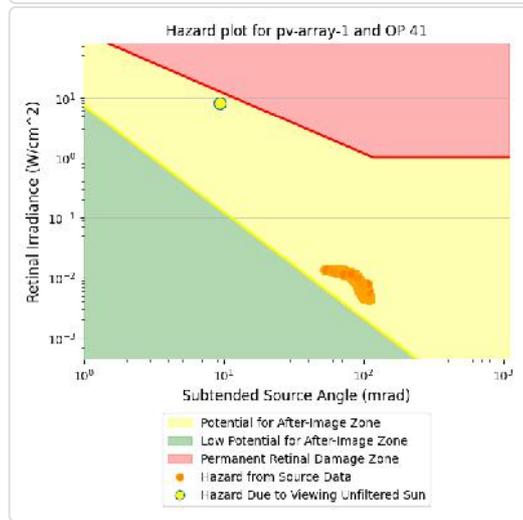
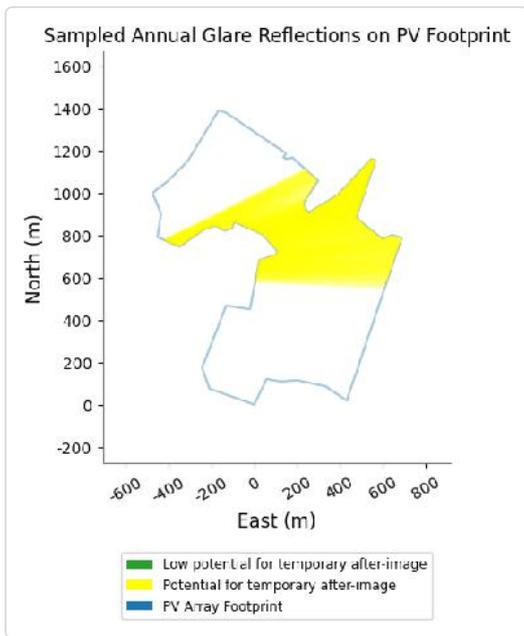
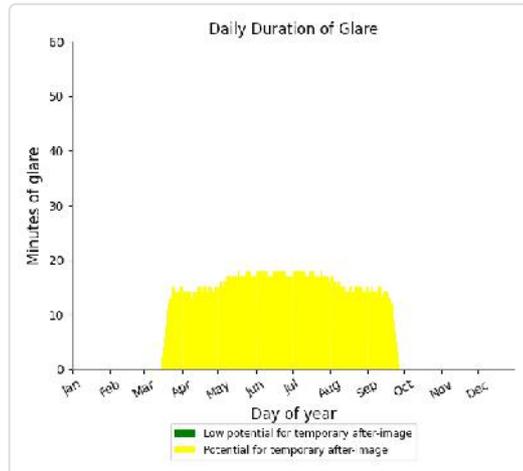
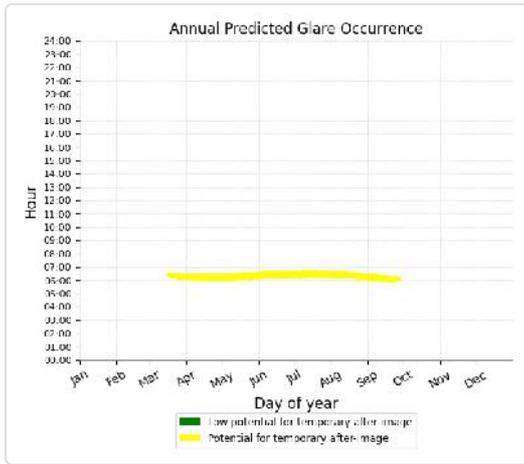
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,766 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 41)

PV array is expected to produce the following glare for receptors at this location:

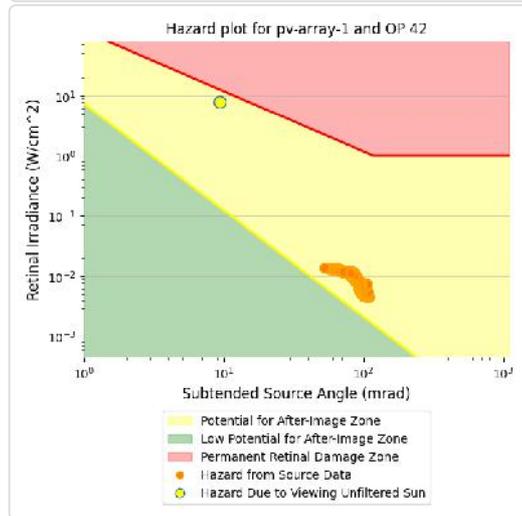
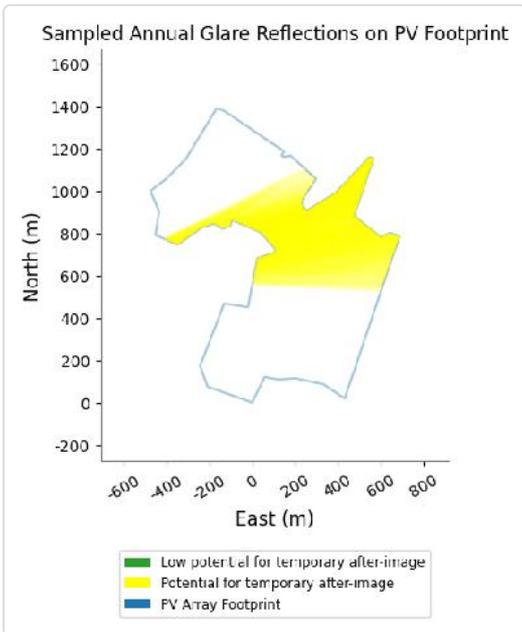
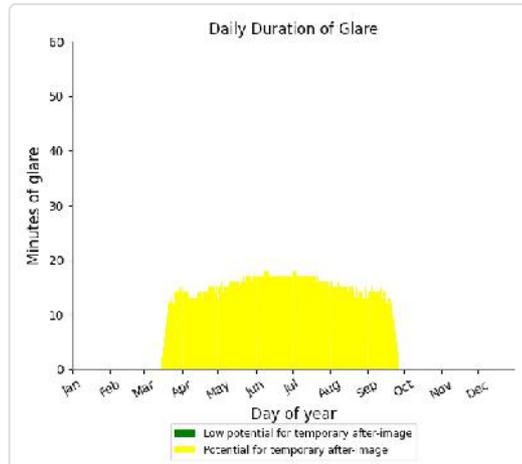
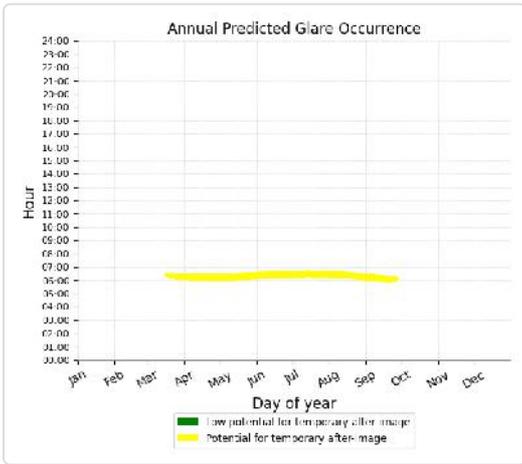
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,011 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 42)

PV array is expected to produce the following glare for receptors at this location:

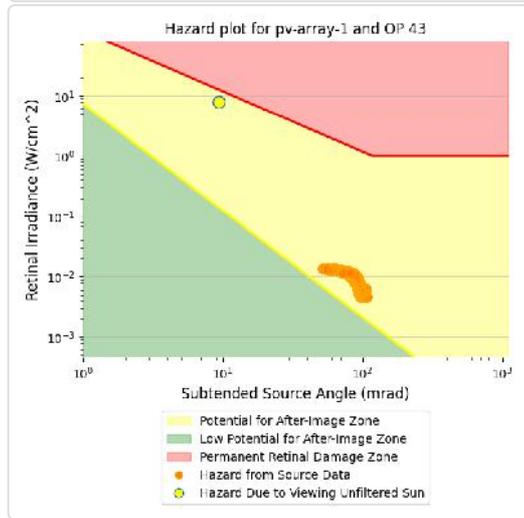
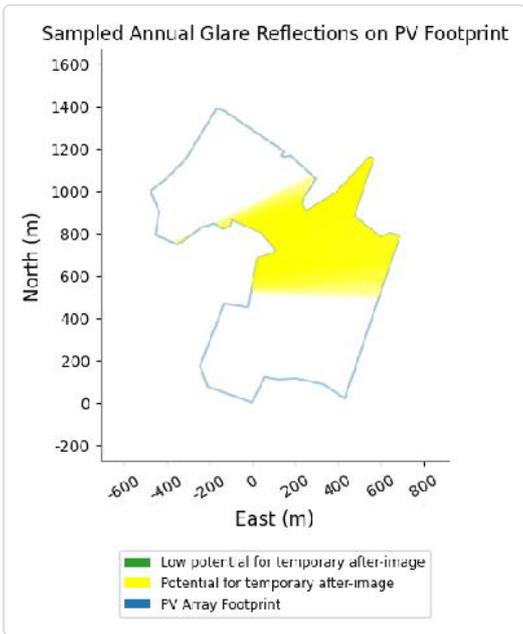
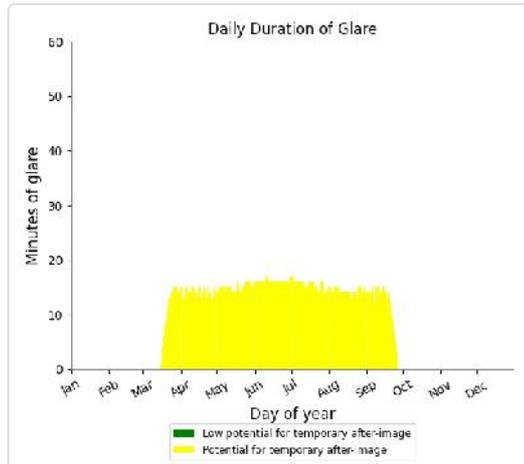
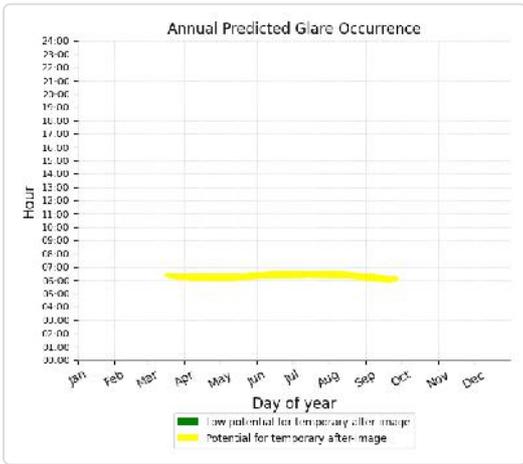
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,890 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 43)

PV array is expected to produce the following glare for receptors at this location:

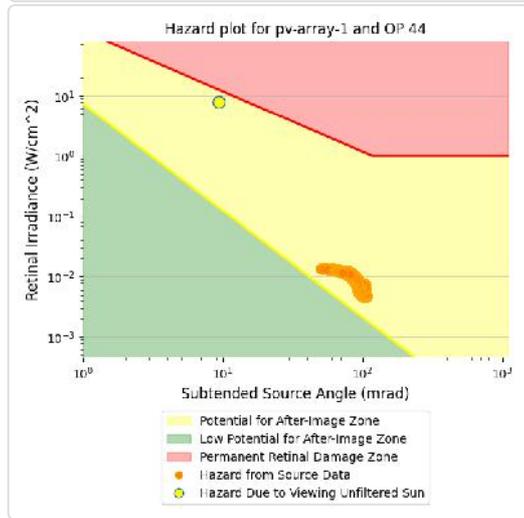
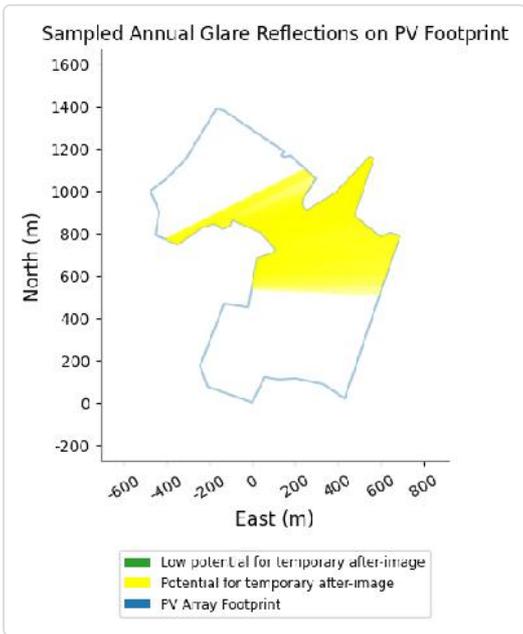
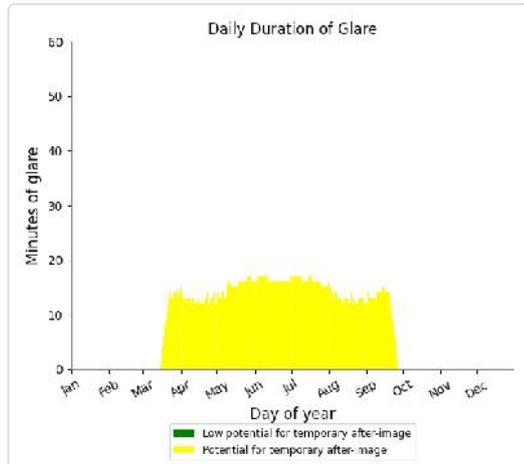
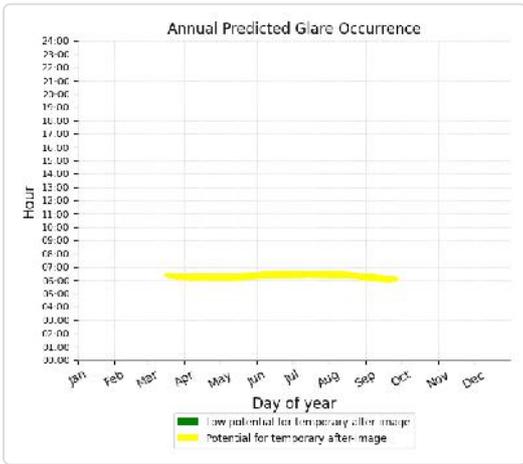
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,803 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 44)

PV array is expected to produce the following glare for receptors at this location:

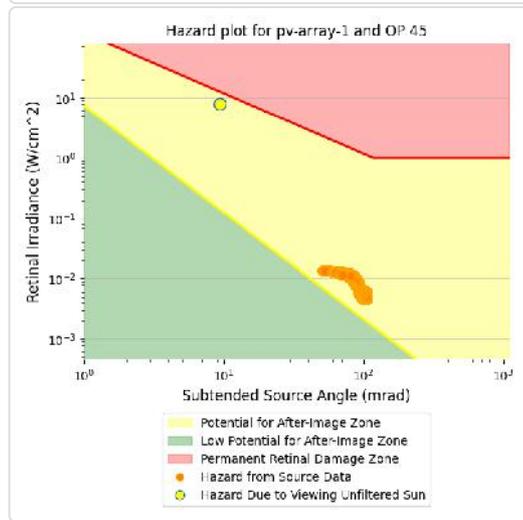
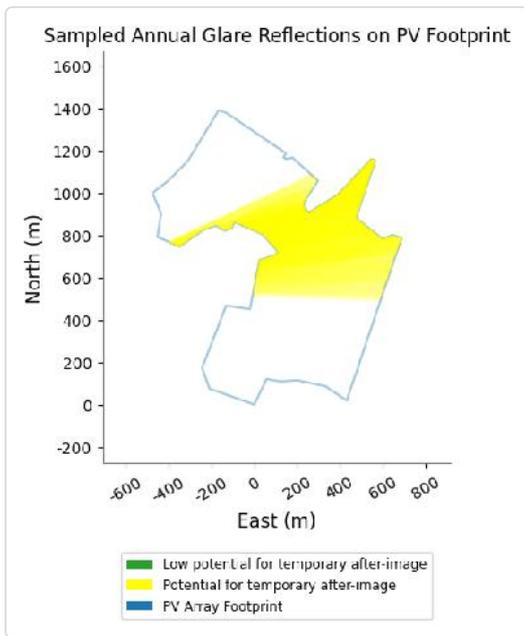
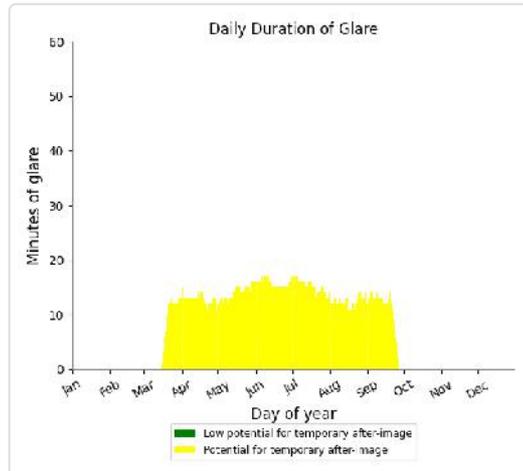
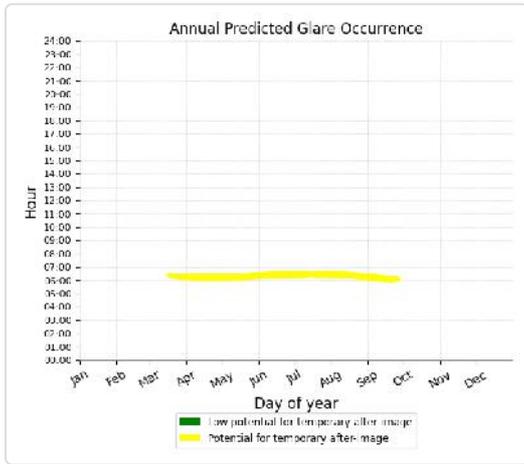
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,737 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 45)

PV array is expected to produce the following glare for receptors at this location:

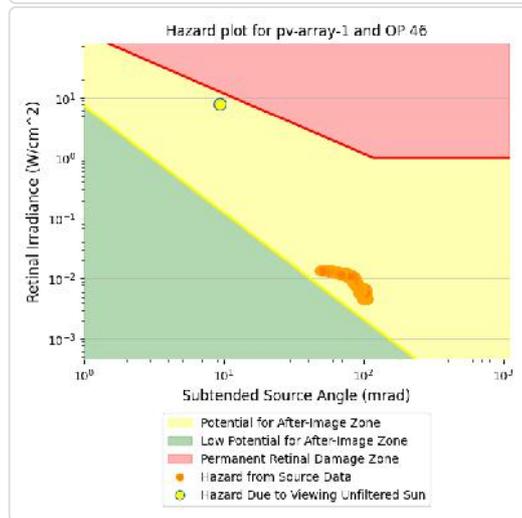
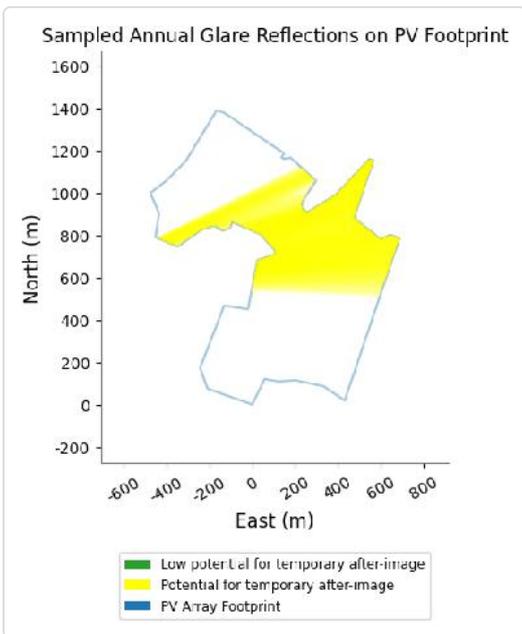
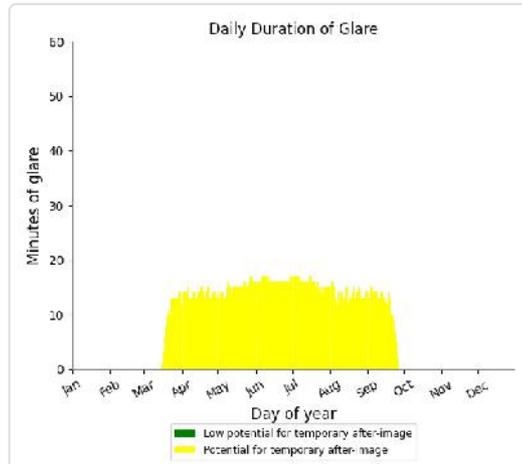
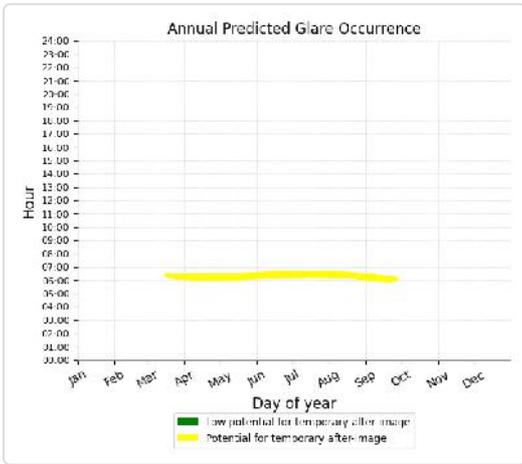
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,617 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 46)

PV array is expected to produce the following glare for receptors at this location:

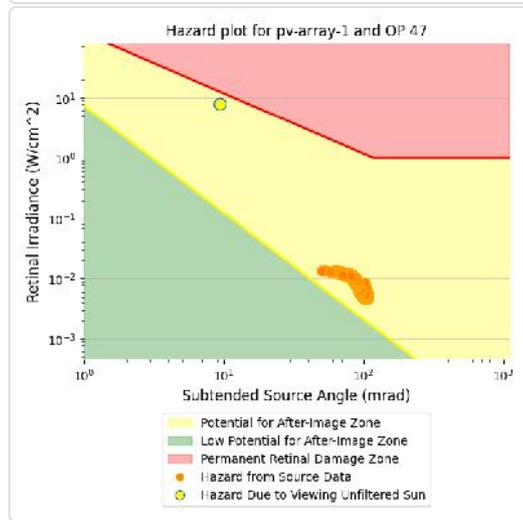
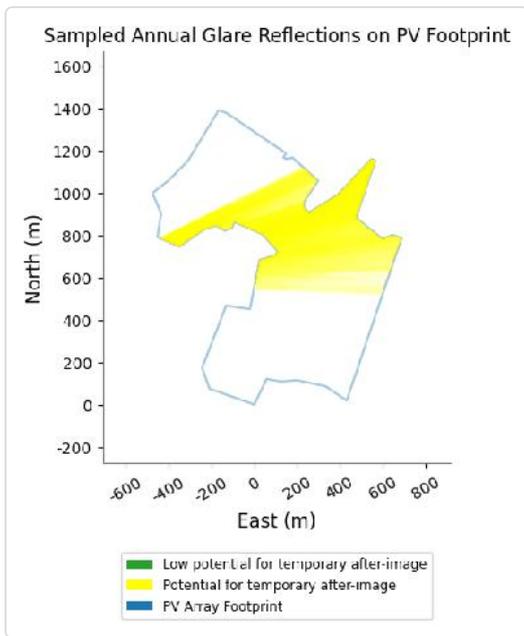
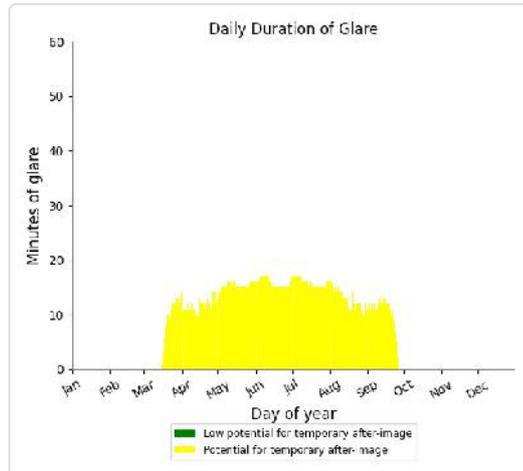
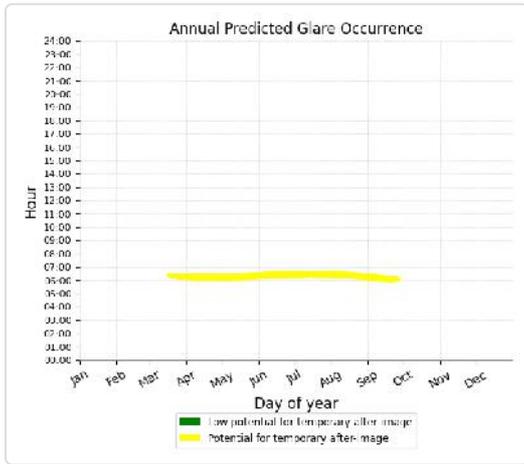
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,777 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 47)

PV array is expected to produce the following glare for receptors at this location:

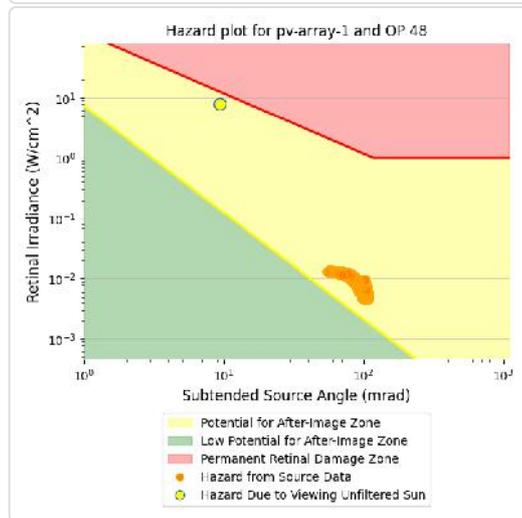
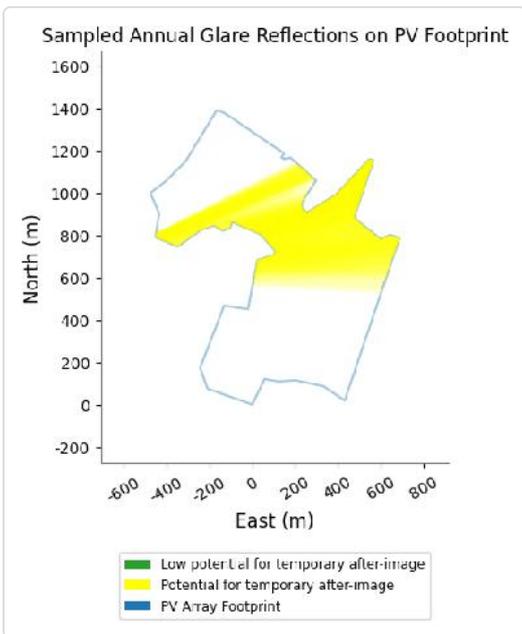
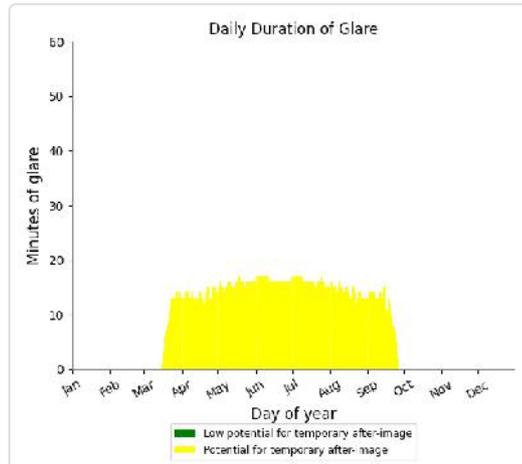
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,623 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 48)

PV array is expected to produce the following glare for receptors at this location:

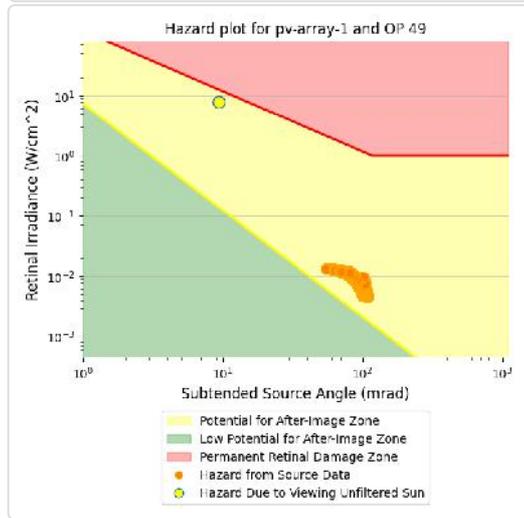
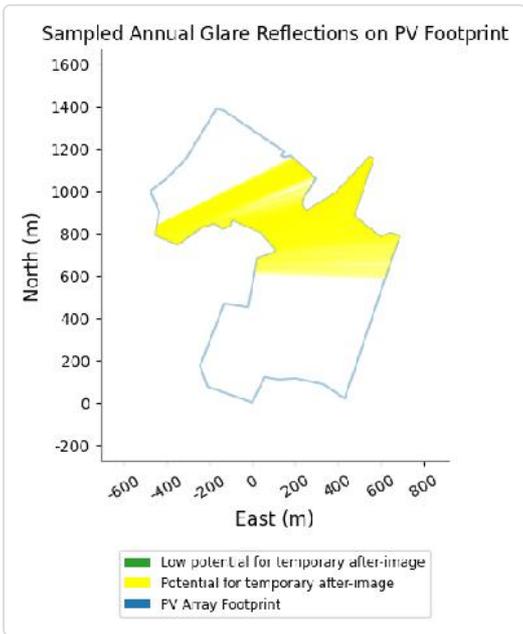
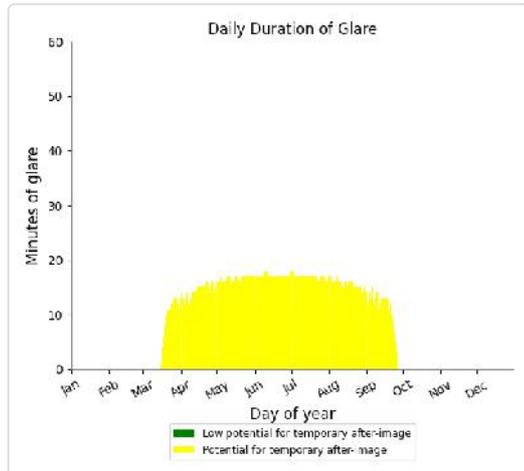
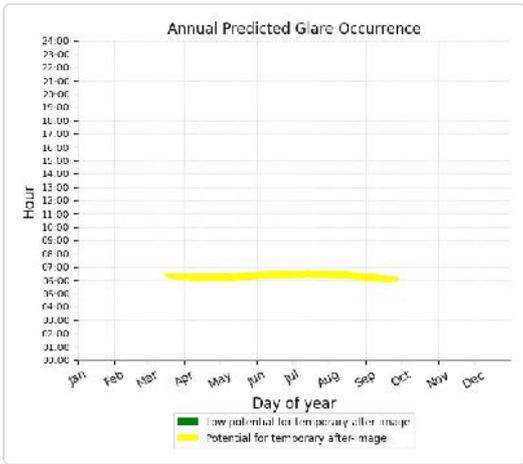
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,795 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 49)

PV array is expected to produce the following glare for receptors at this location:

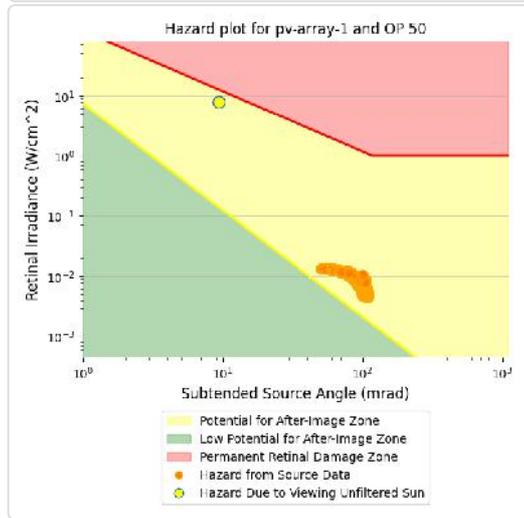
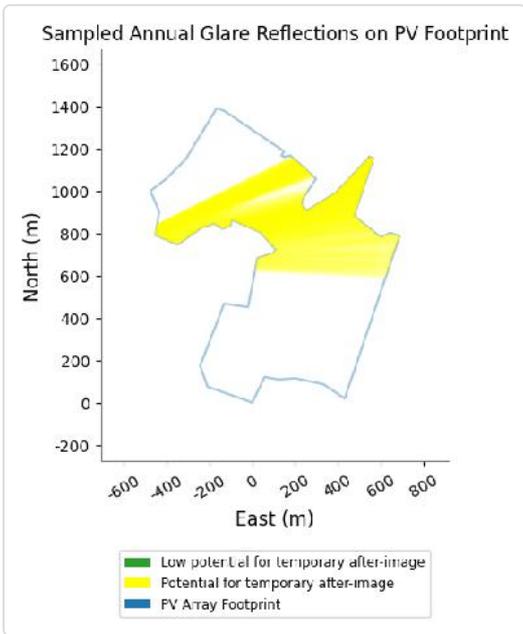
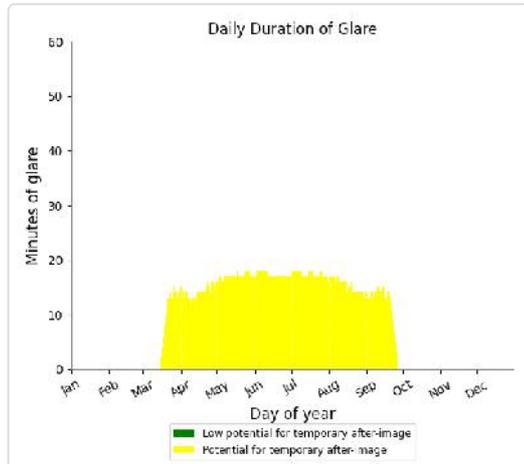
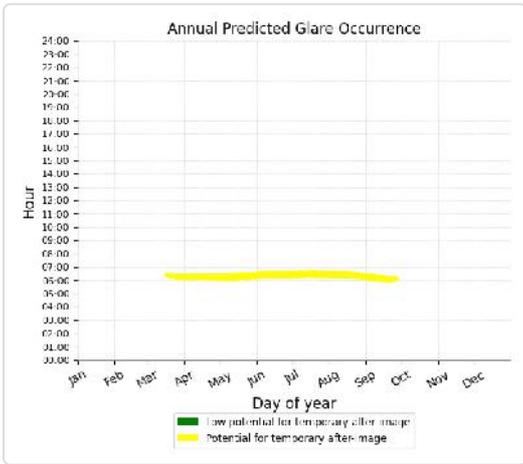
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,931 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 50)

PV array is expected to produce the following glare for receptors at this location:

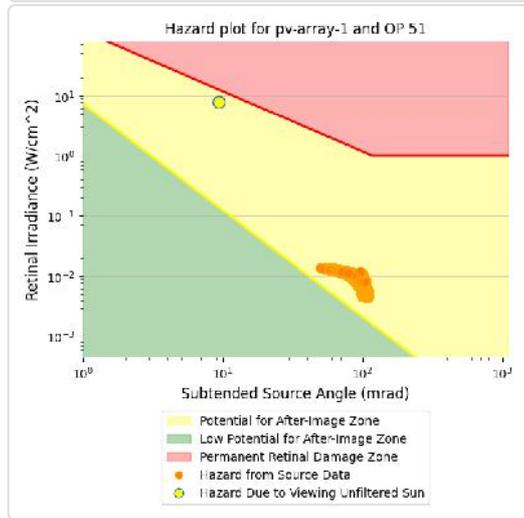
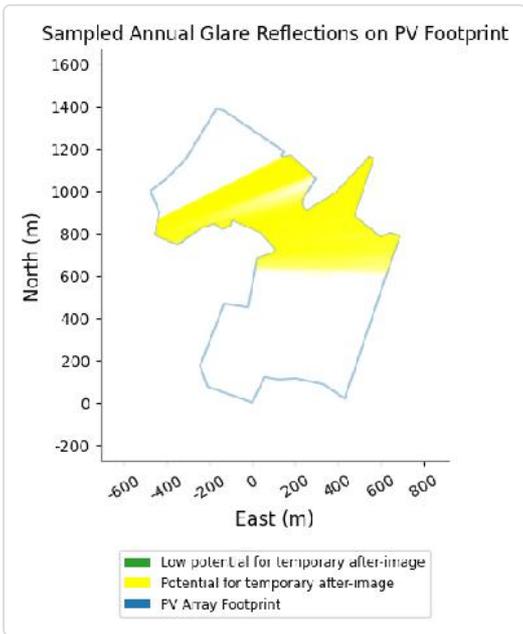
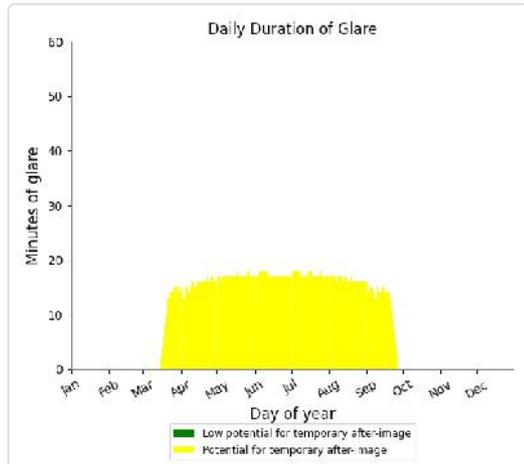
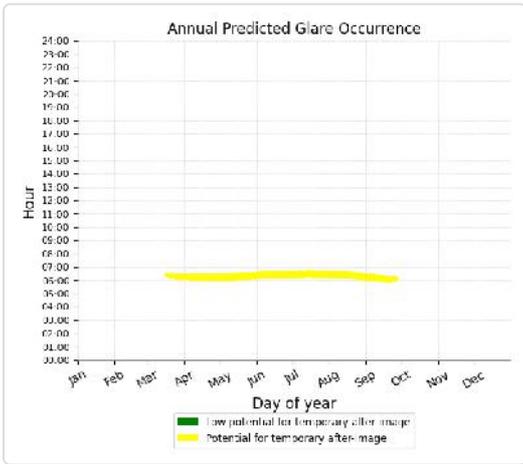
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,992 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 51)

PV array is expected to produce the following glare for receptors at this location:

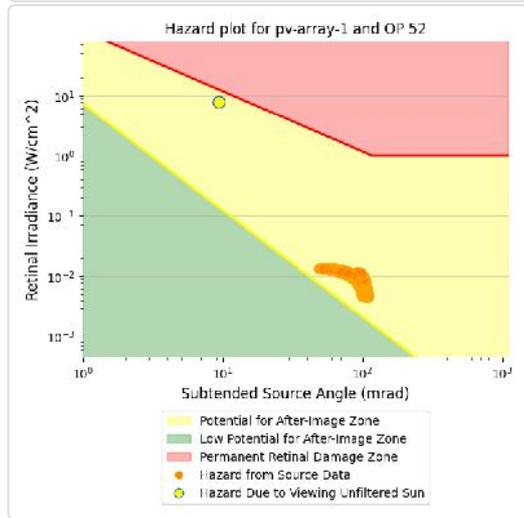
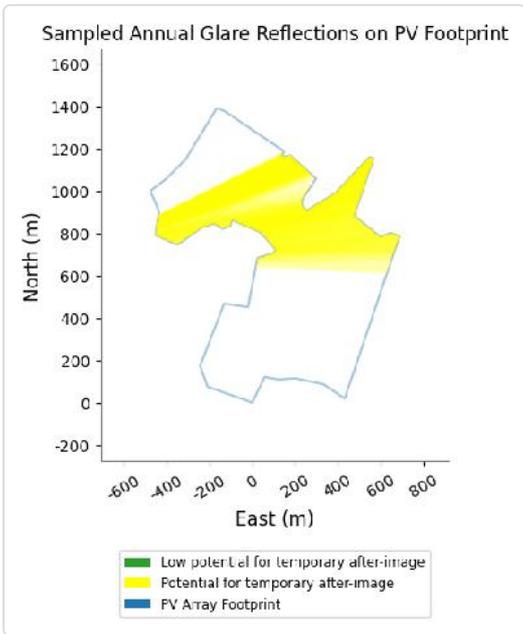
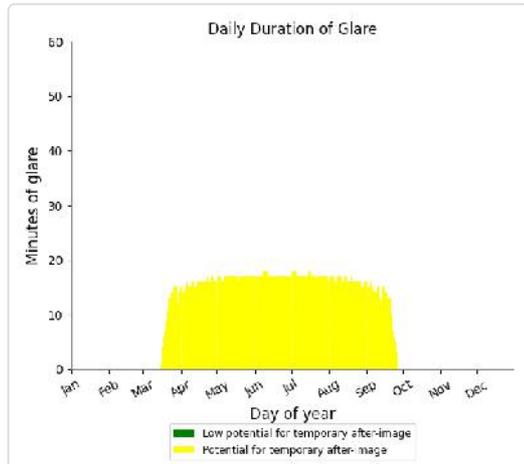
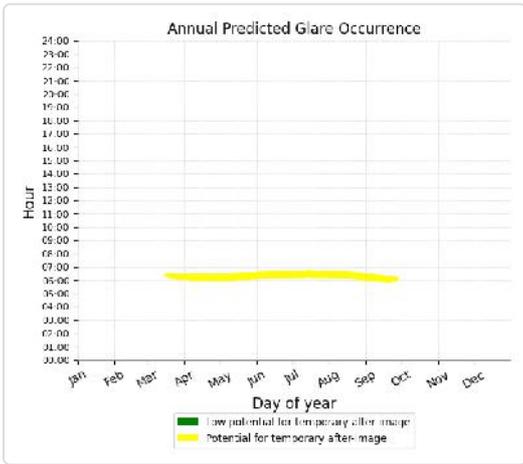
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,077 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 52)

PV array is expected to produce the following glare for receptors at this location:

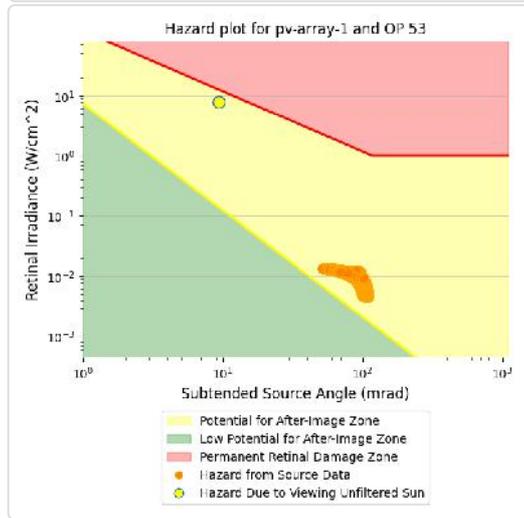
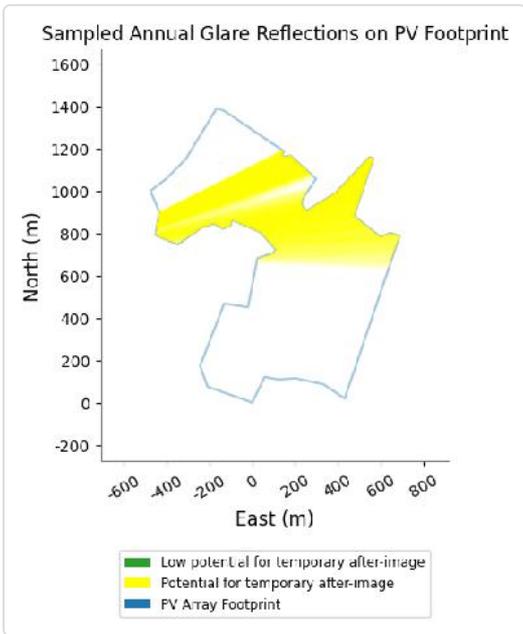
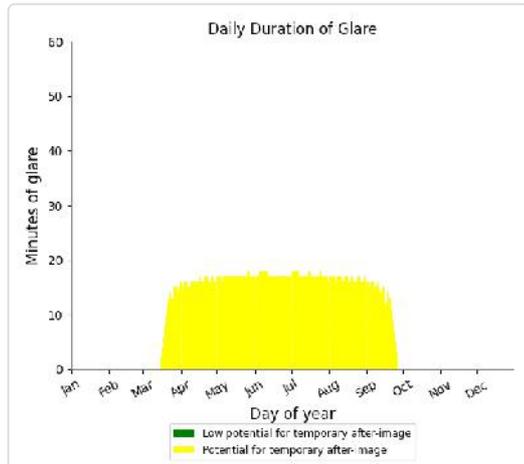
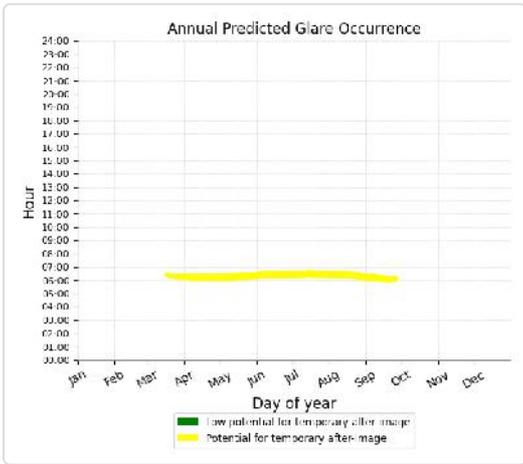
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,050 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 53)

PV array is expected to produce the following glare for receptors at this location:

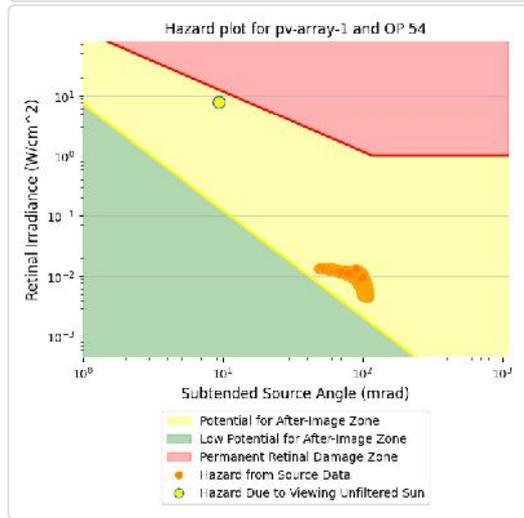
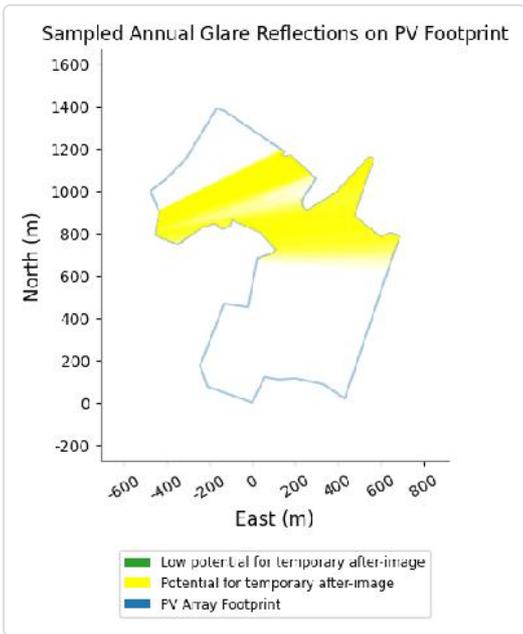
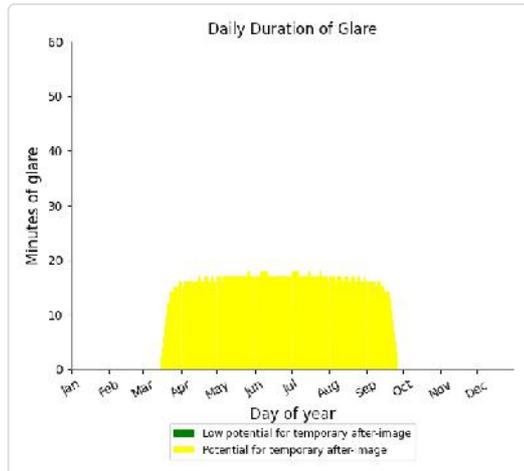
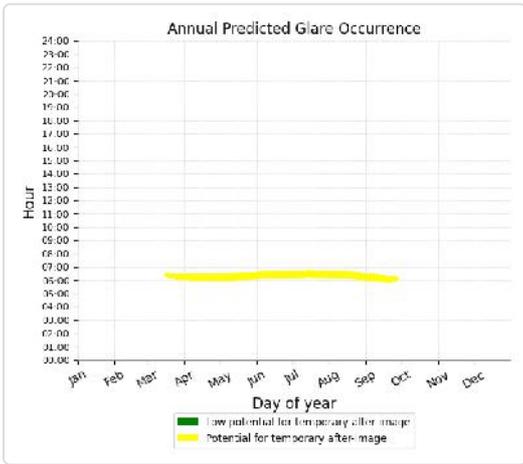
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,105 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 54)

PV array is expected to produce the following glare for receptors at this location:

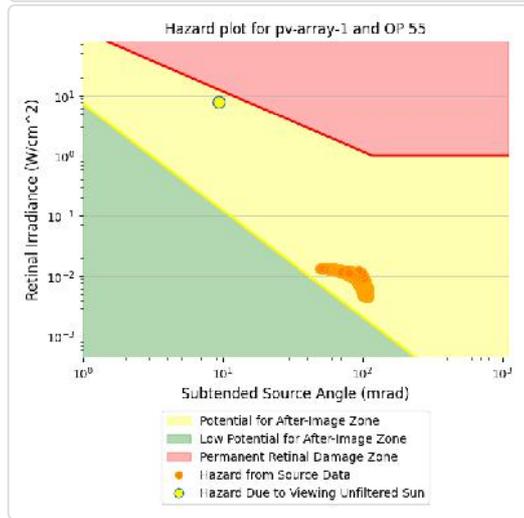
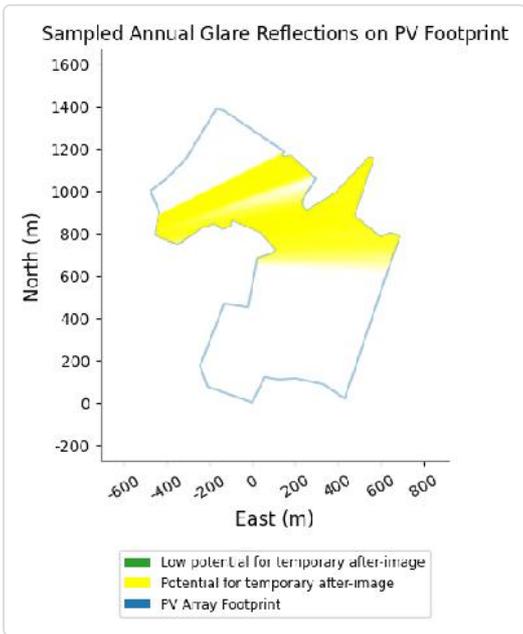
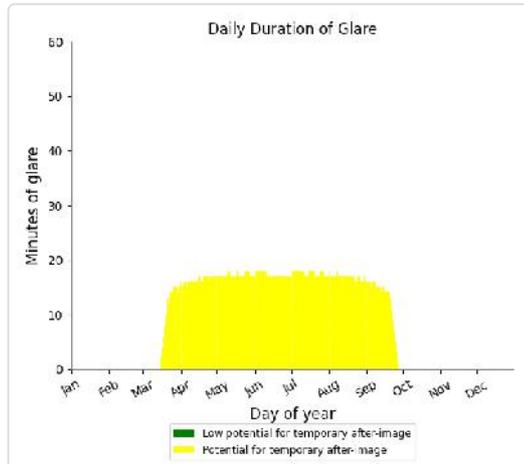
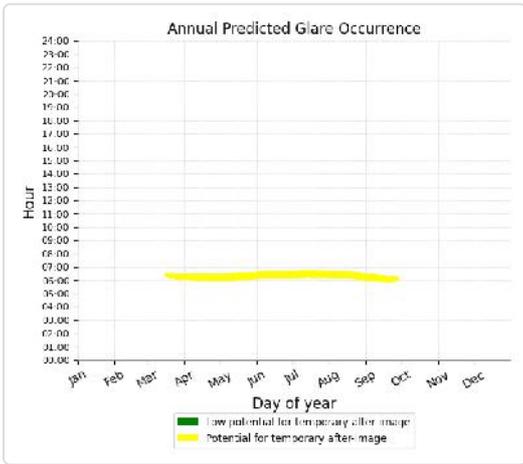
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,125 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 55)

PV array is expected to produce the following glare for receptors at this location:

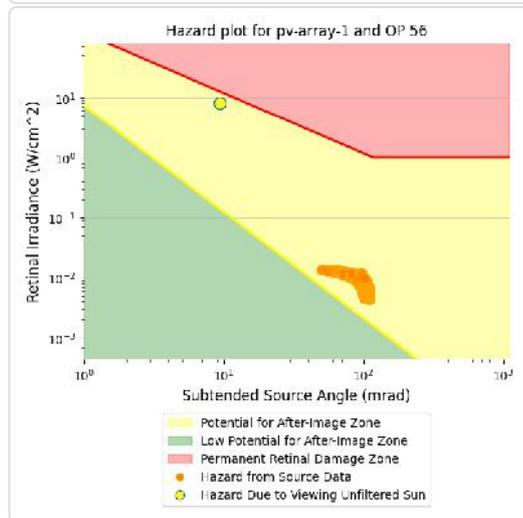
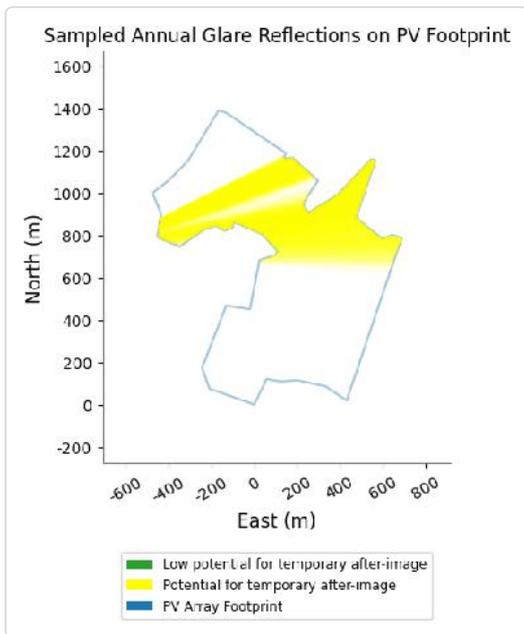
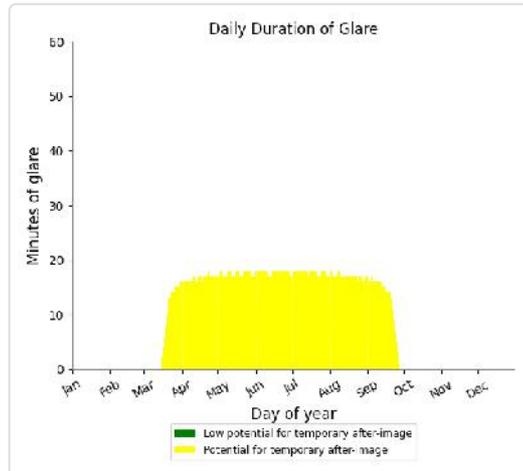
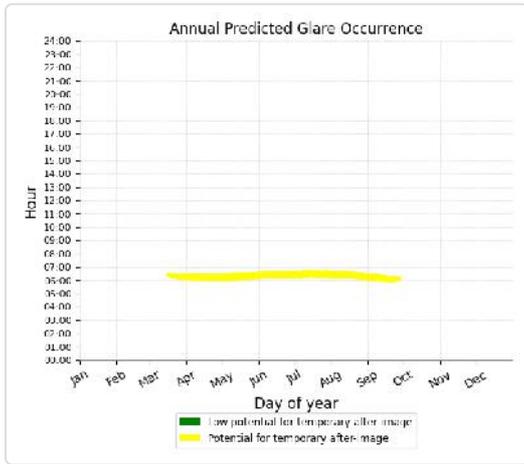
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,144 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 56)

PV array is expected to produce the following glare for receptors at this location:

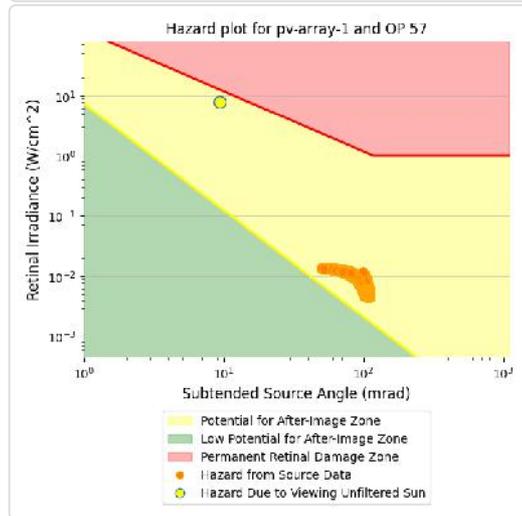
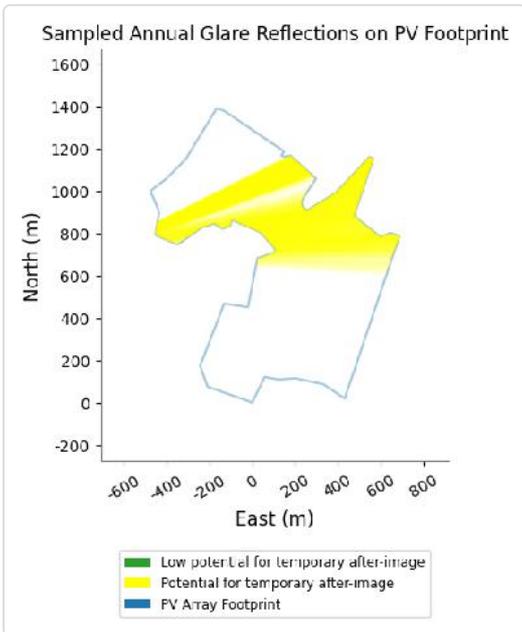
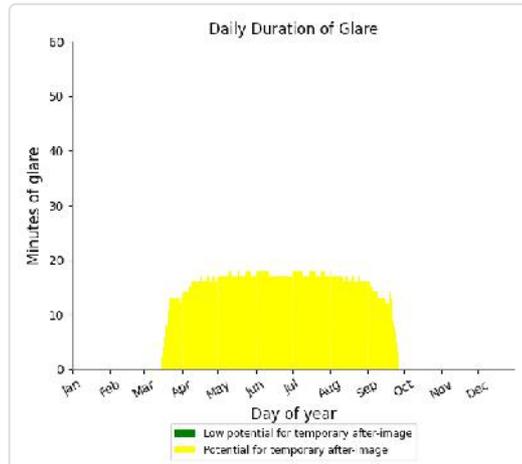
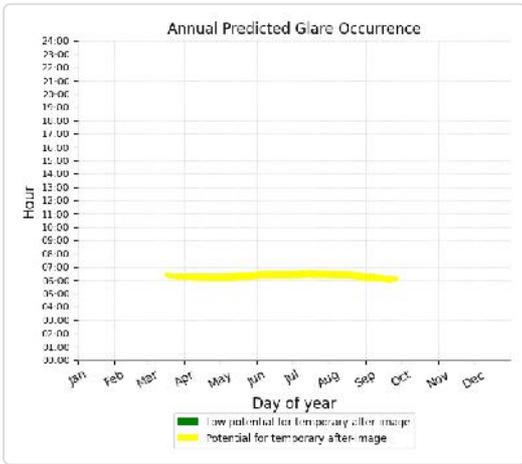
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,204 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 57)

PV array is expected to produce the following glare for receptors at this location:

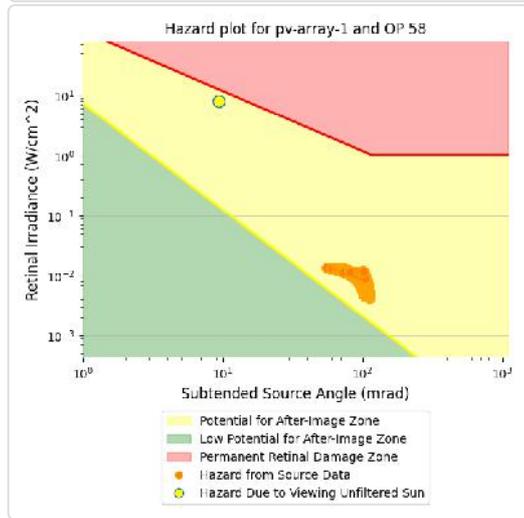
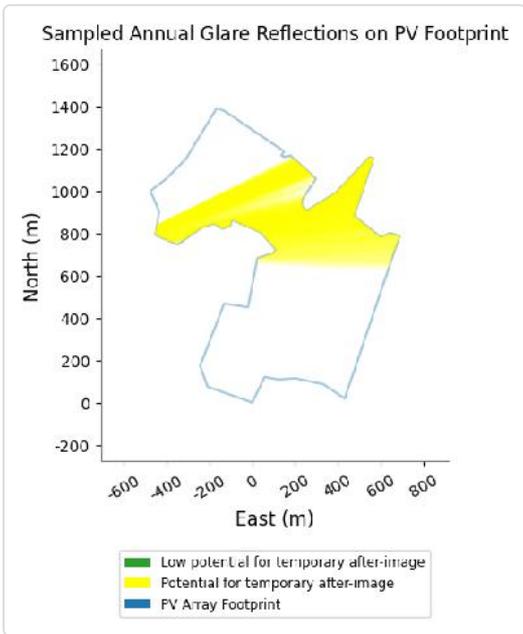
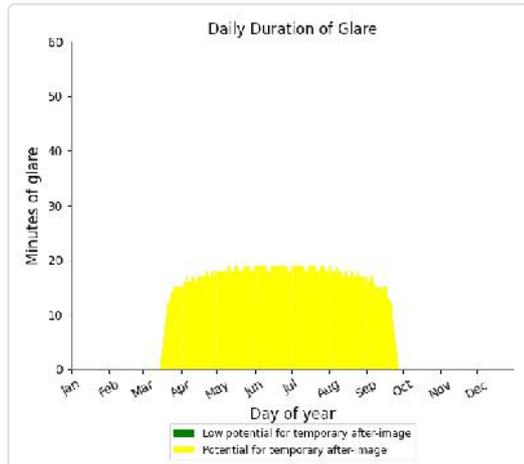
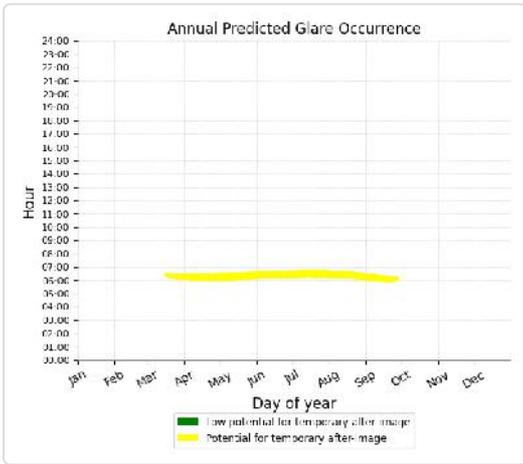
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,178 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 58)

PV array is expected to produce the following glare for receptors at this location:

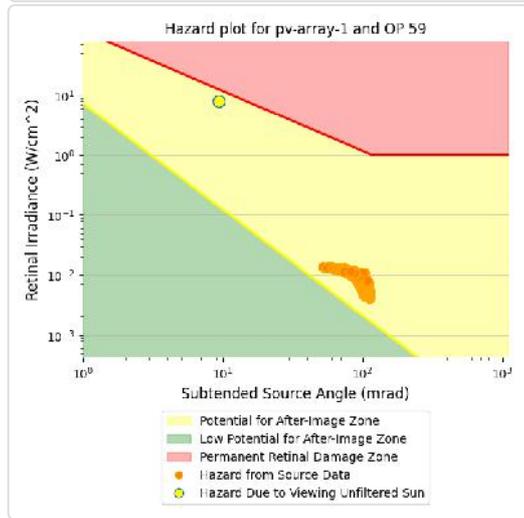
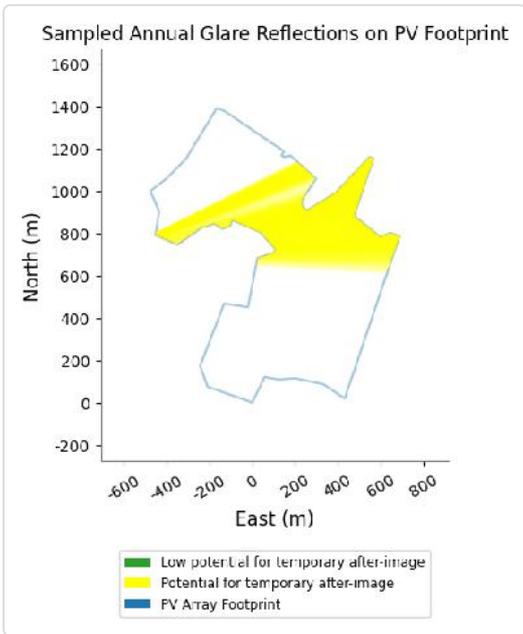
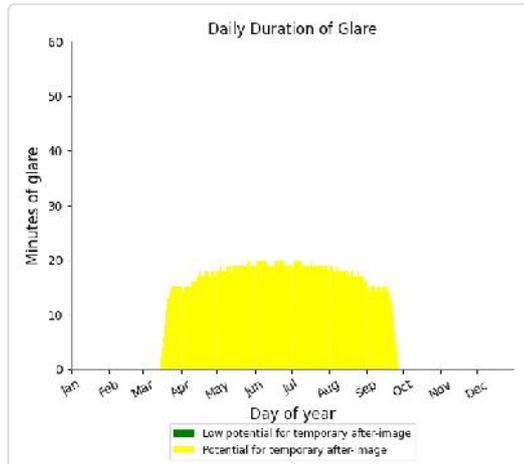
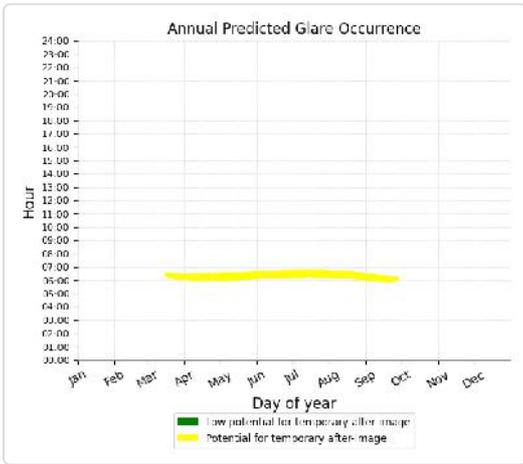
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,298 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 59)

PV array is expected to produce the following glare for receptors at this location:

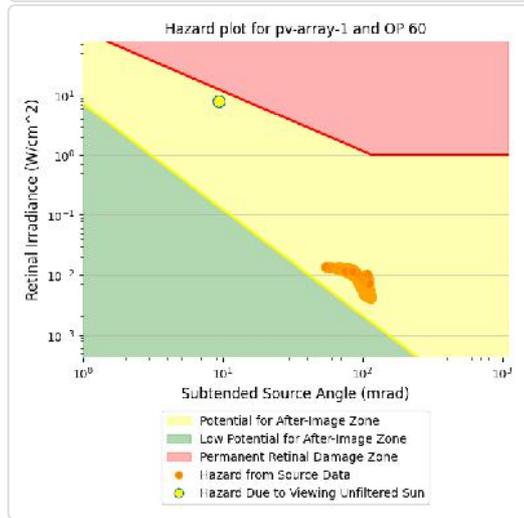
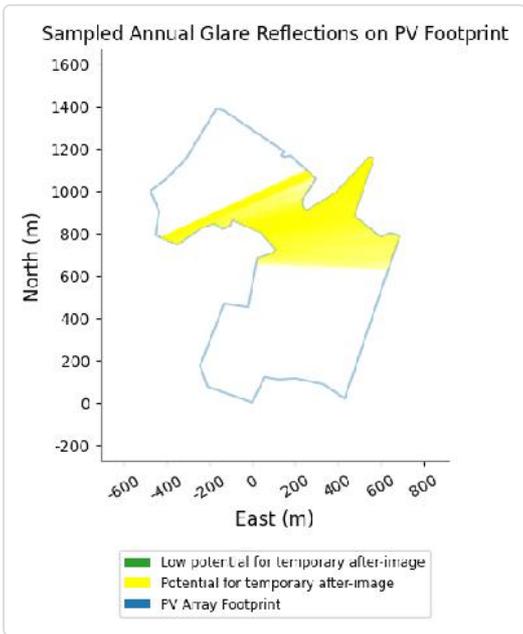
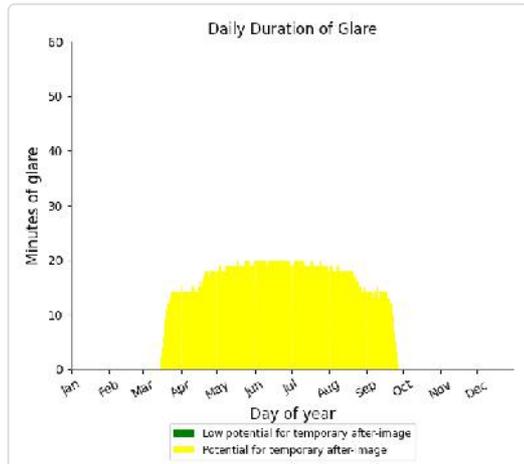
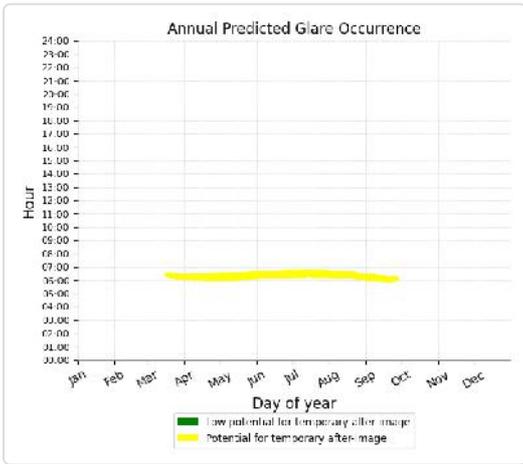
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,344 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 60)

PV array is expected to produce the following glare for receptors at this location:

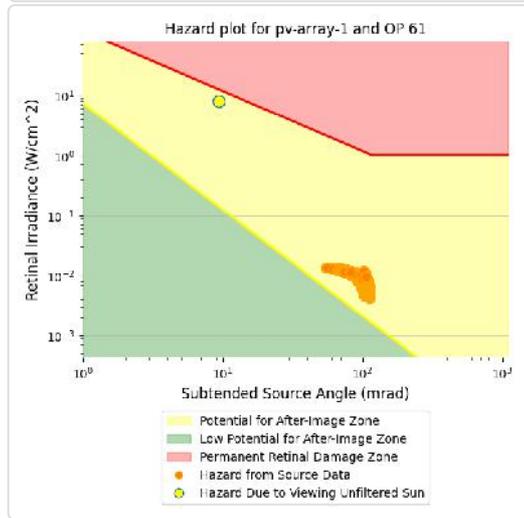
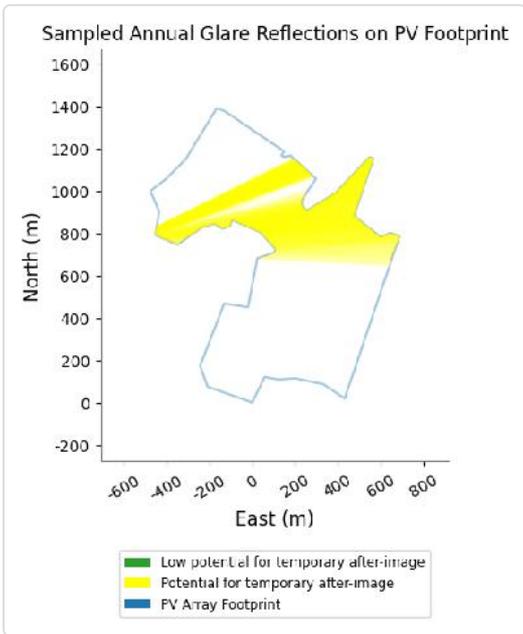
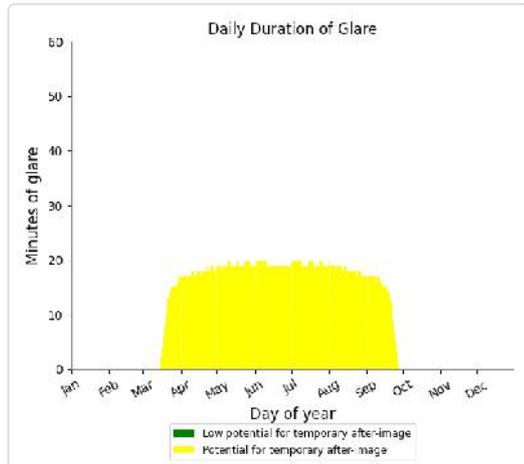
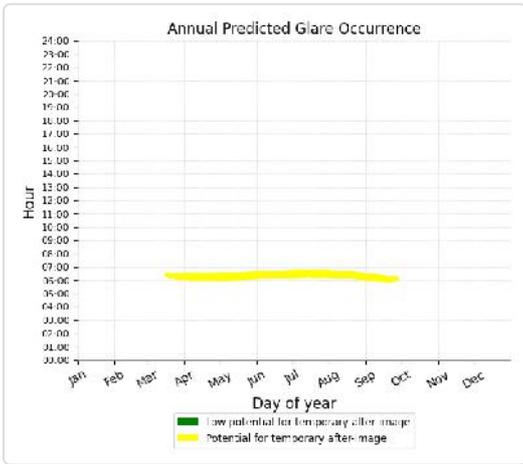
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,299 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 61)

PV array is expected to produce the following glare for receptors at this location:

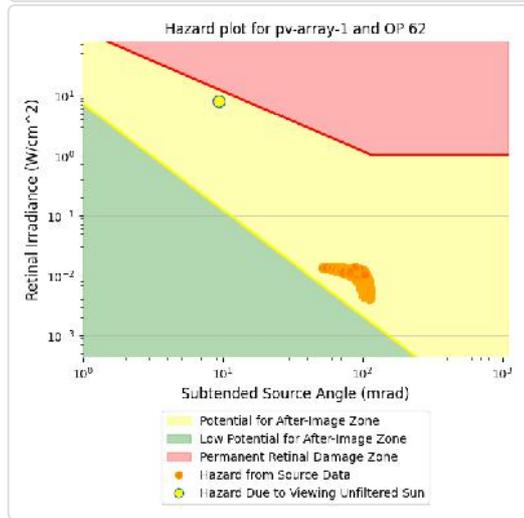
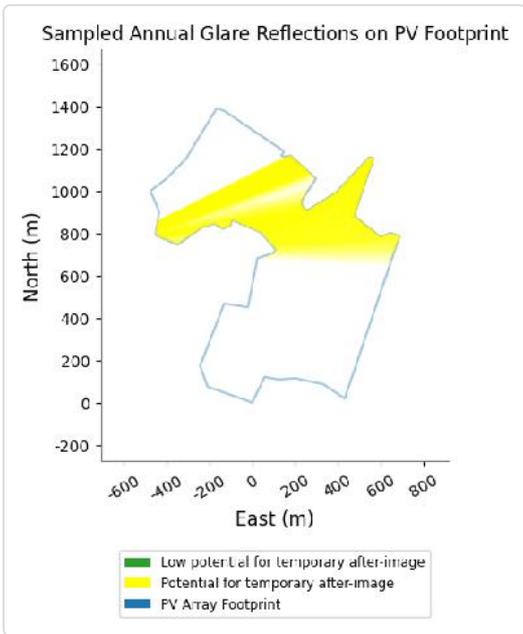
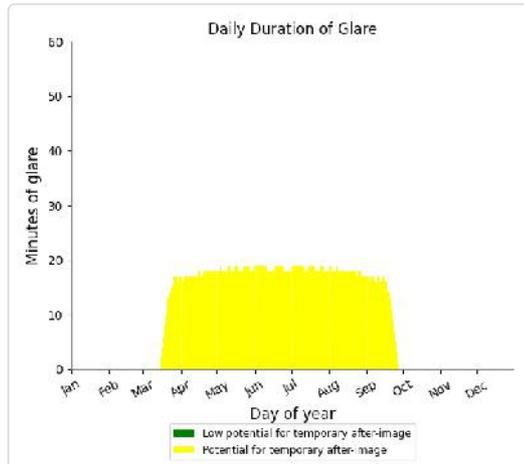
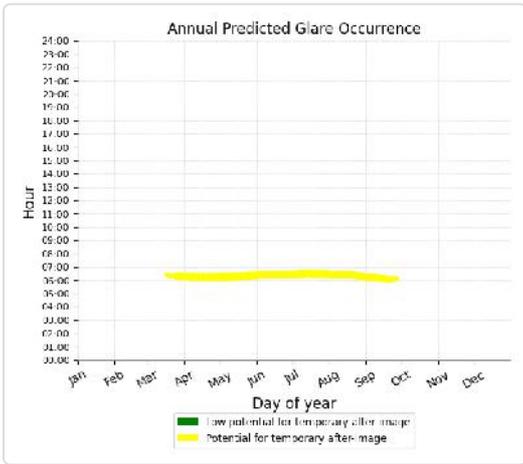
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,437 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 62)

PV array is expected to produce the following glare for receptors at this location:

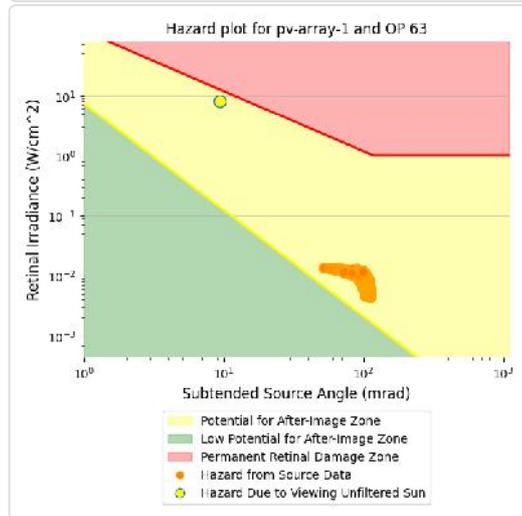
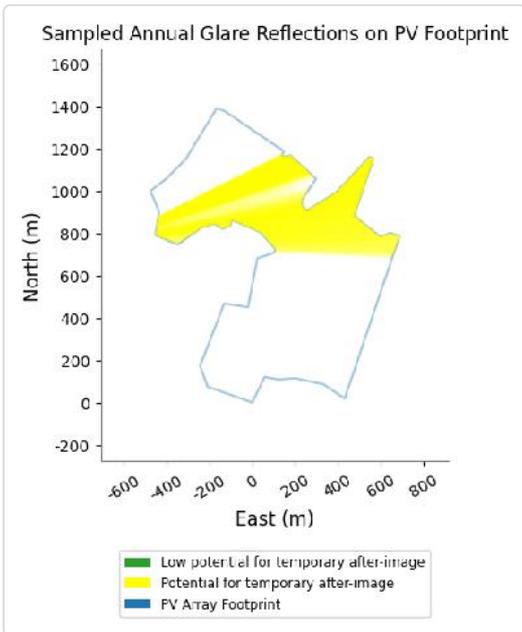
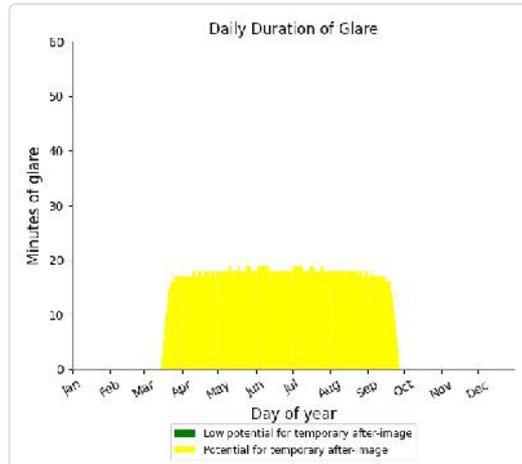
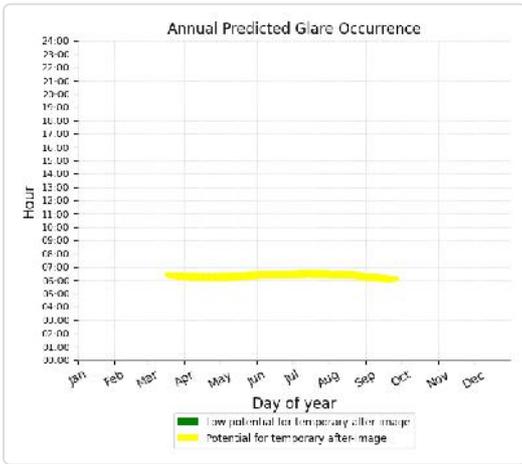
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,355 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 63)

PV array is expected to produce the following glare for receptors at this location:

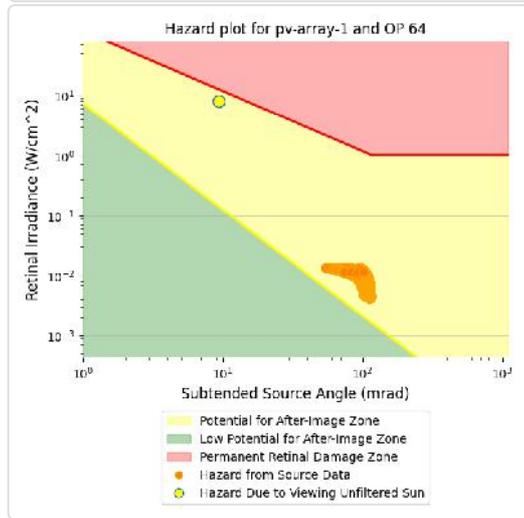
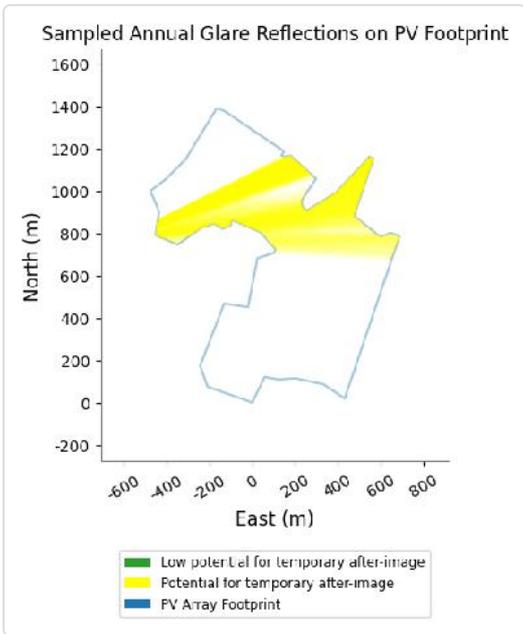
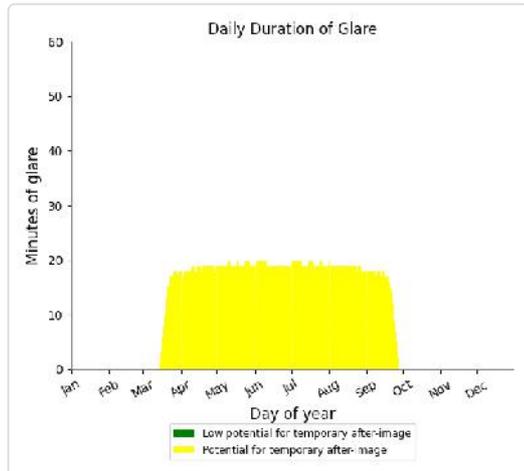
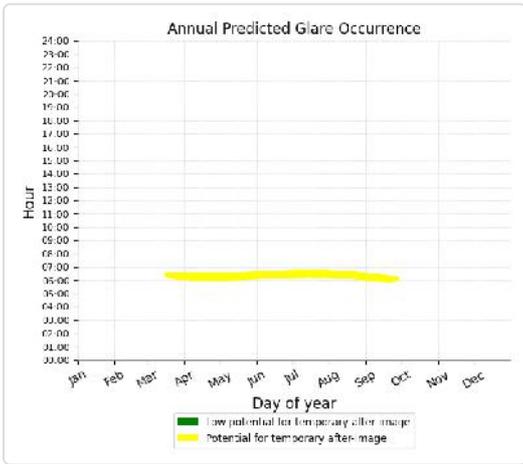
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,375 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 64)

PV array is expected to produce the following glare for receptors at this location:

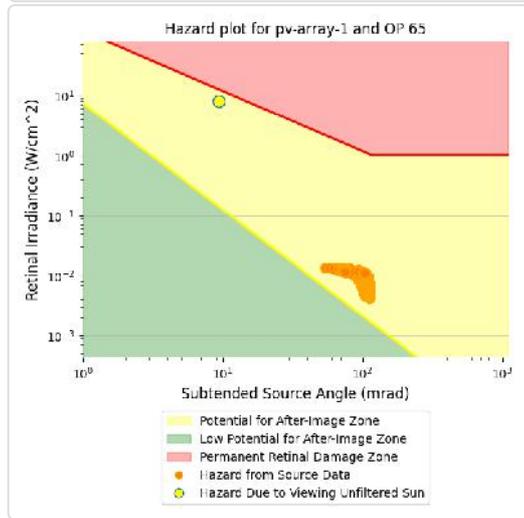
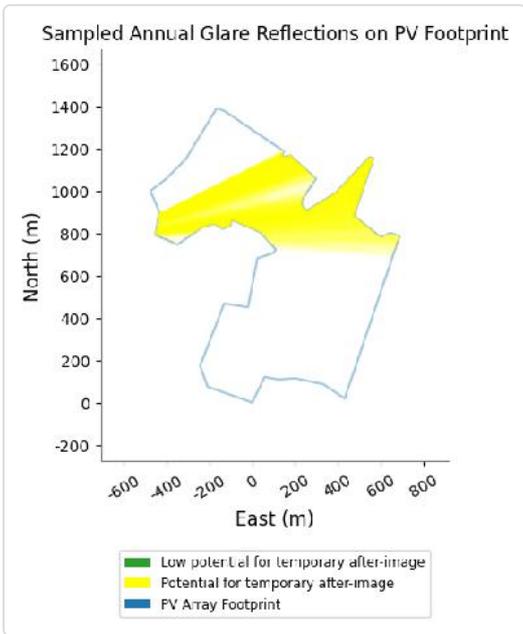
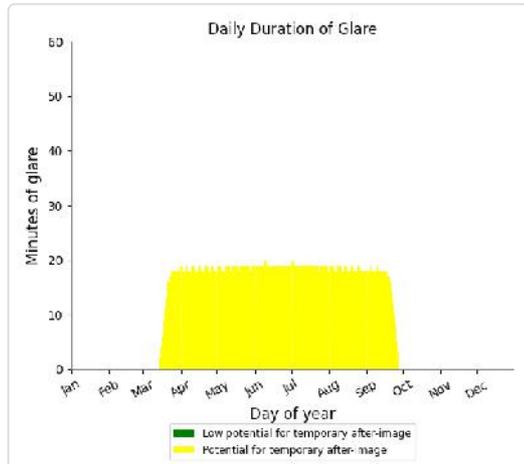
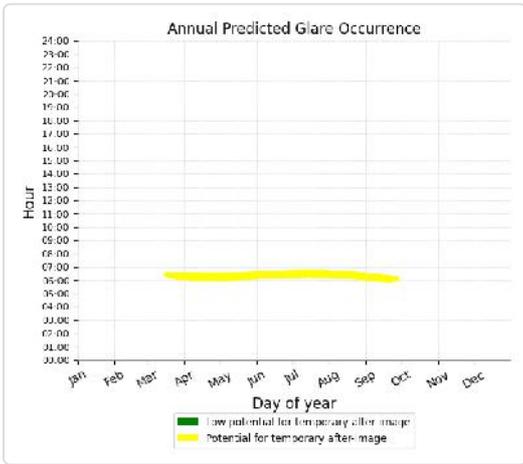
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,560 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 65)

PV array is expected to produce the following glare for receptors at this location:

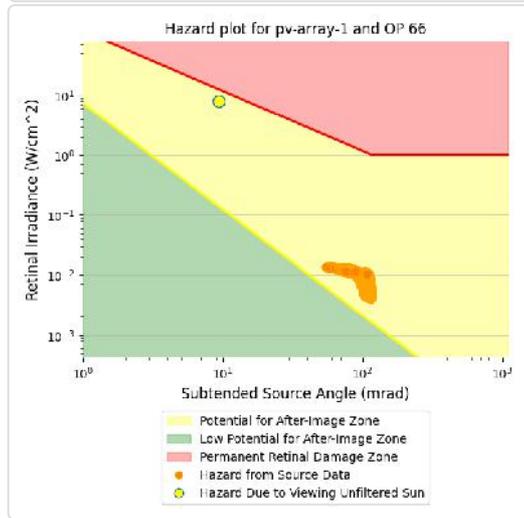
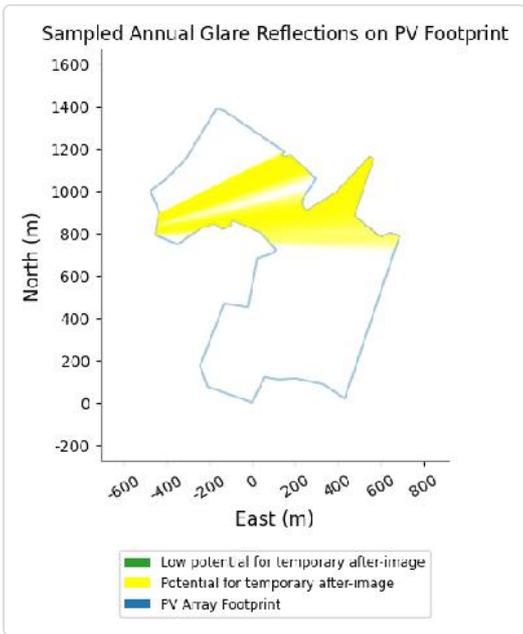
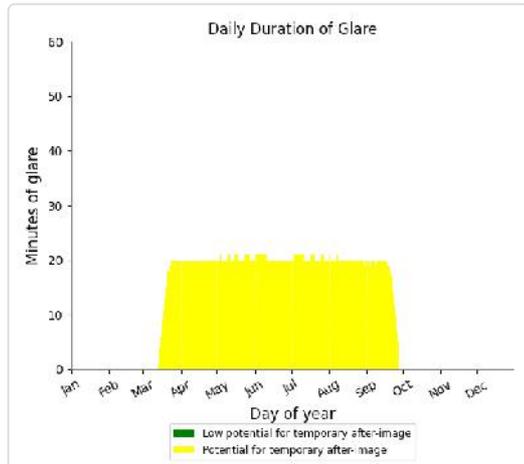
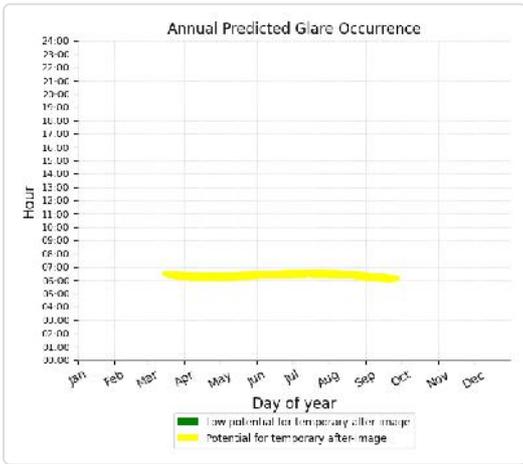
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,534 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 66)

PV array is expected to produce the following glare for receptors at this location:

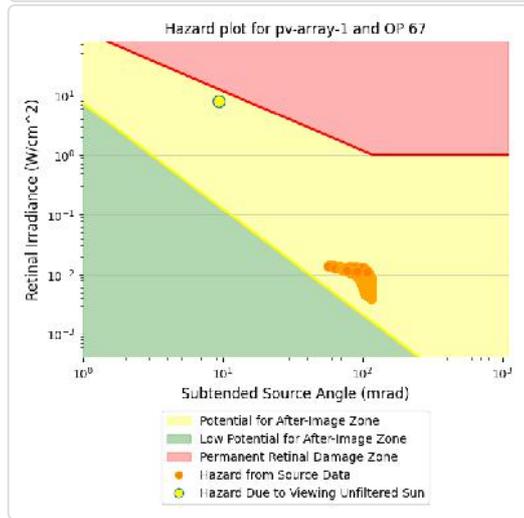
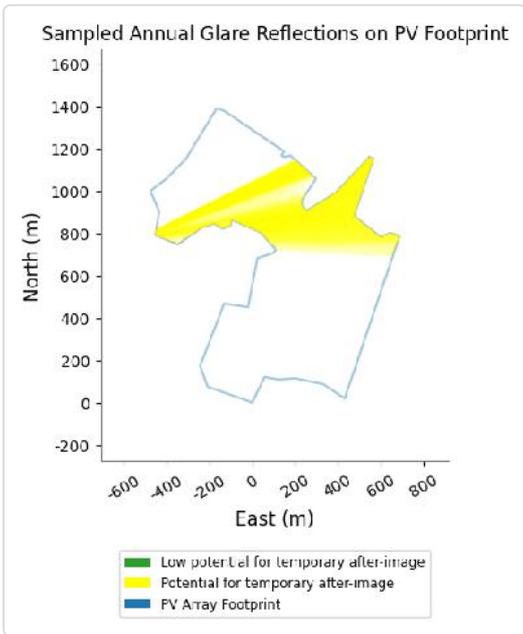
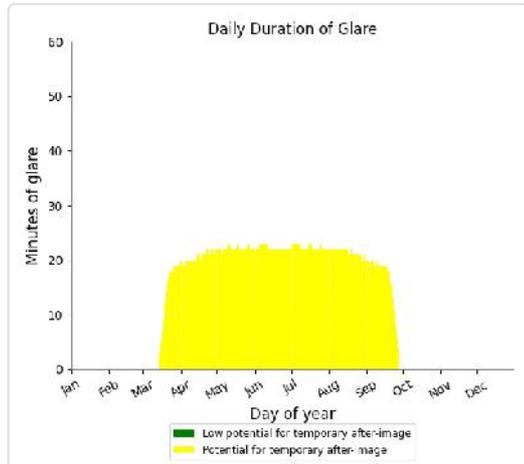
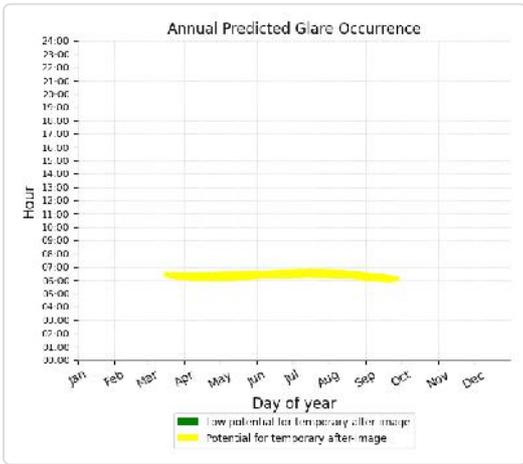
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,850 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 67)

PV array is expected to produce the following glare for receptors at this location:

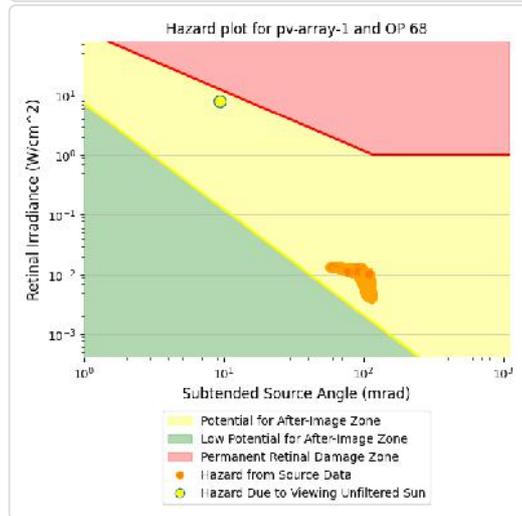
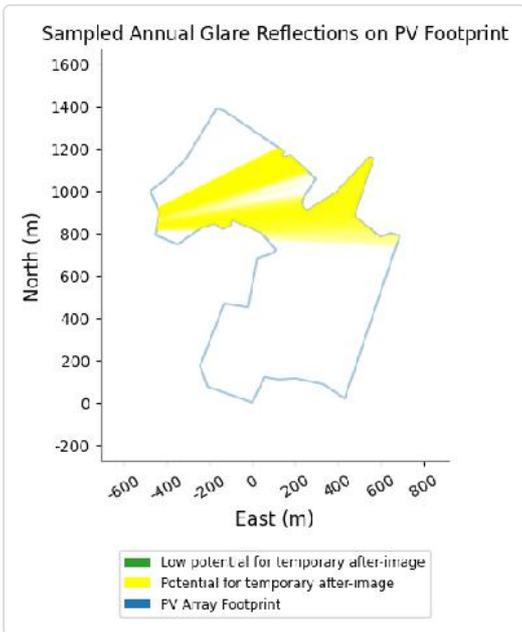
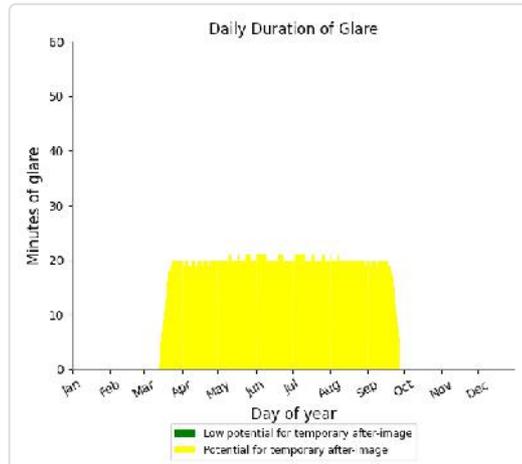
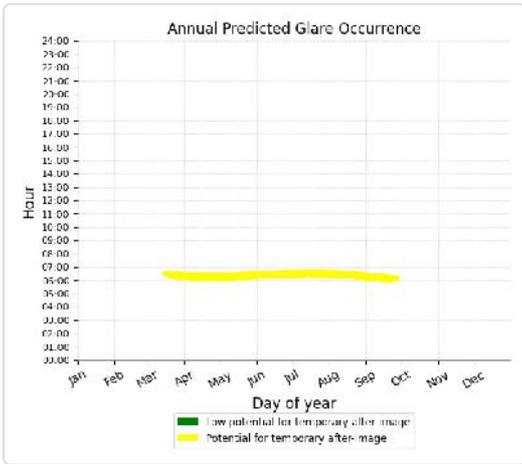
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,039 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 68)

PV array is expected to produce the following glare for receptors at this location:

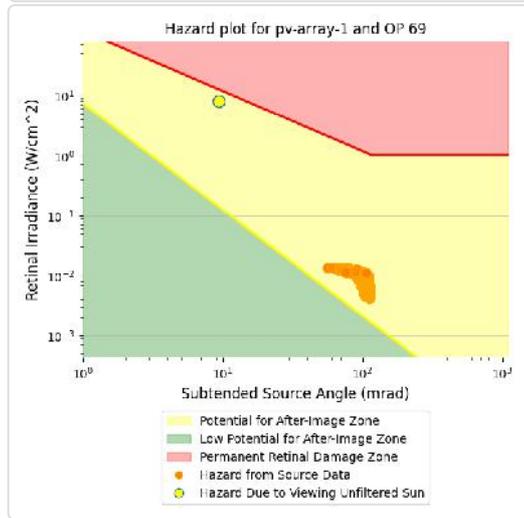
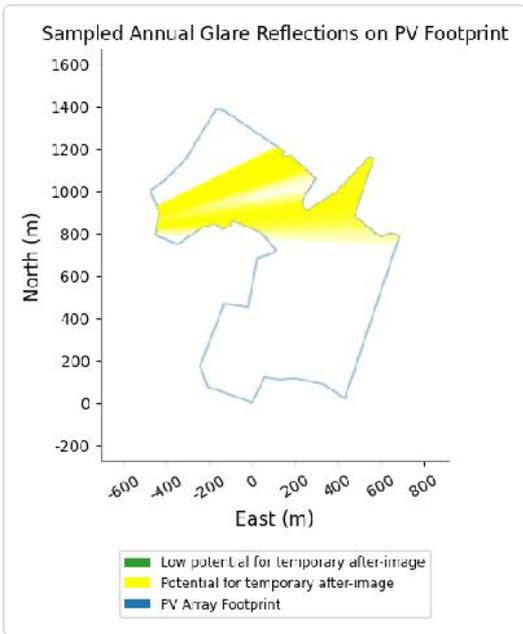
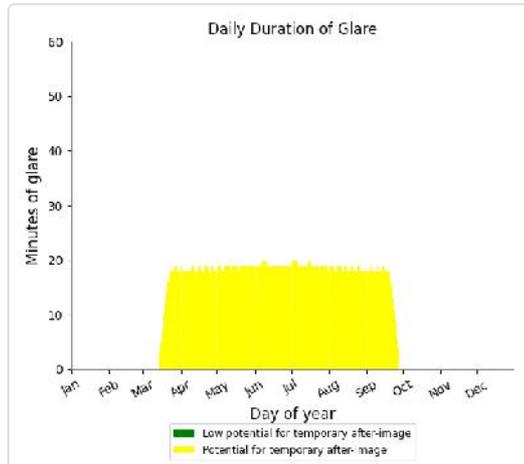
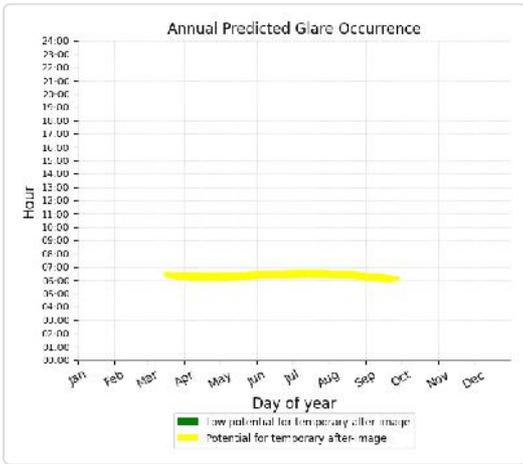
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,848 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 69)

PV array is expected to produce the following glare for receptors at this location:

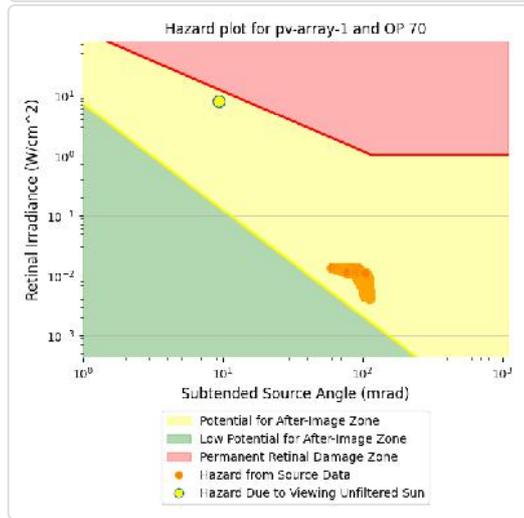
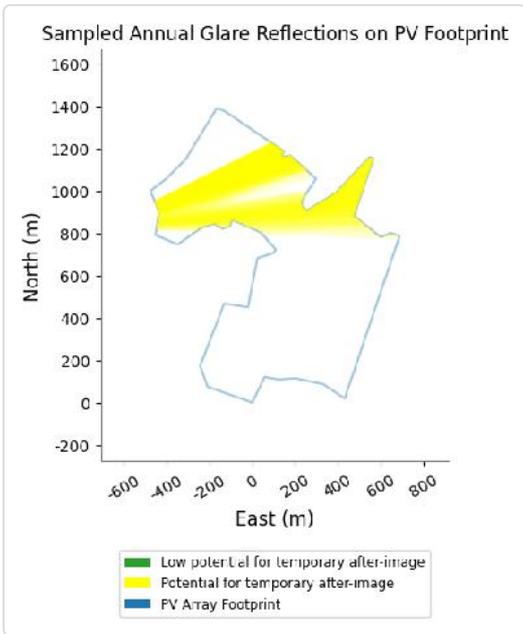
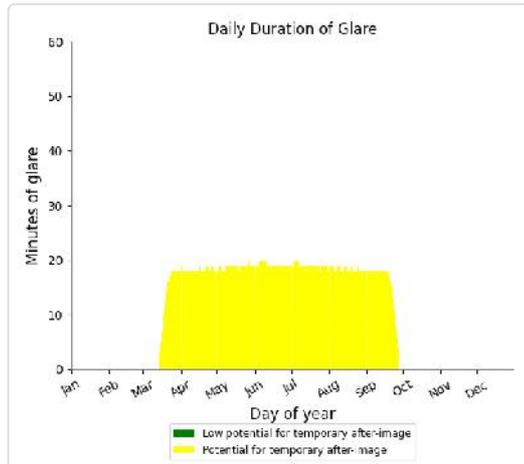
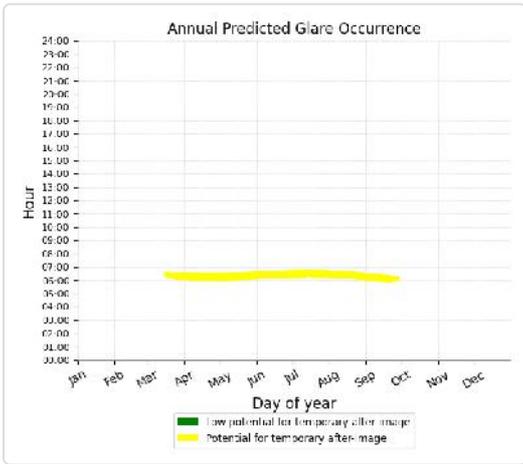
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,559 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 70)

PV array is expected to produce the following glare for receptors at this location:

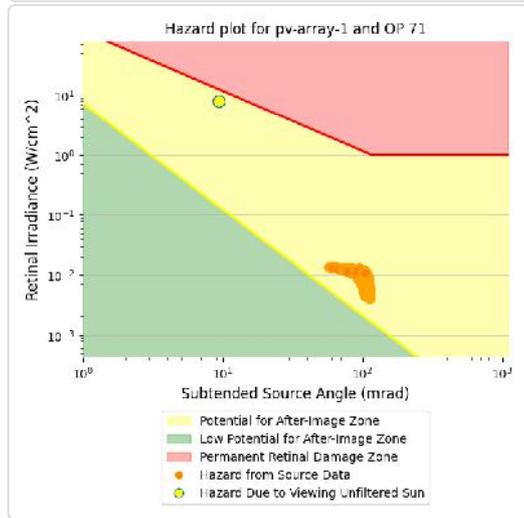
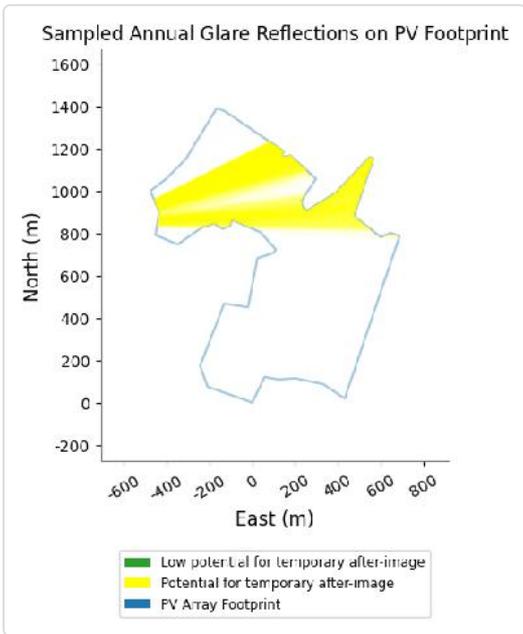
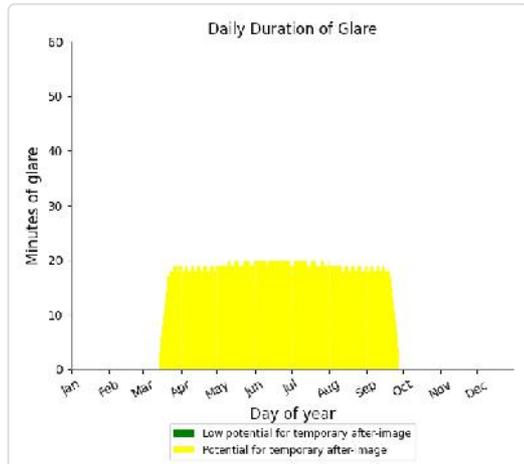
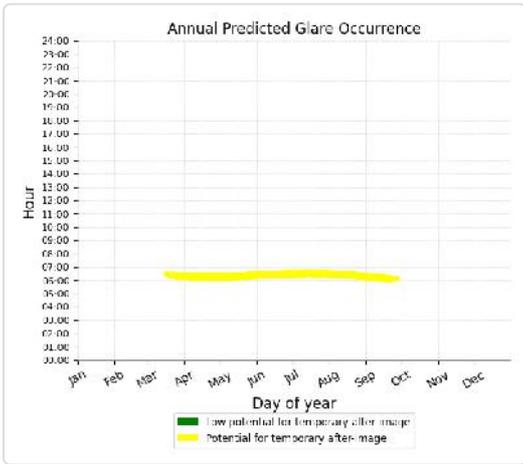
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,546 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 71)

PV array is expected to produce the following glare for receptors at this location:

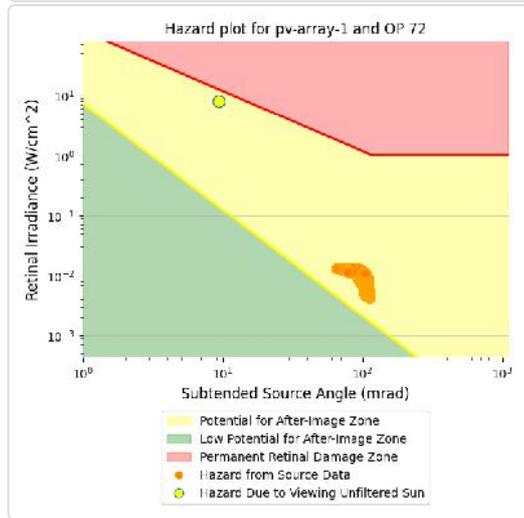
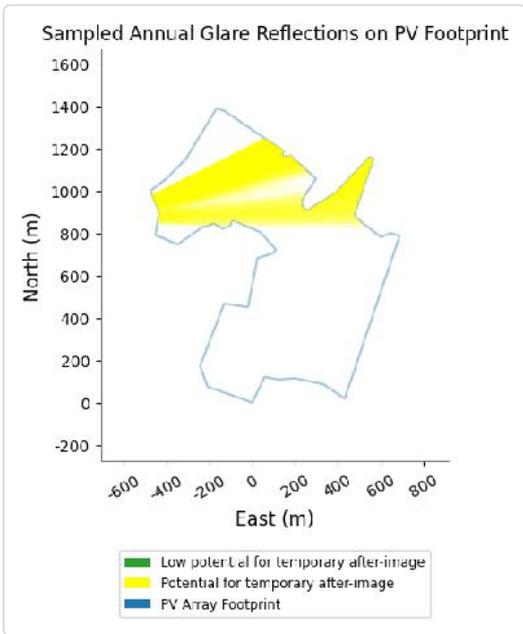
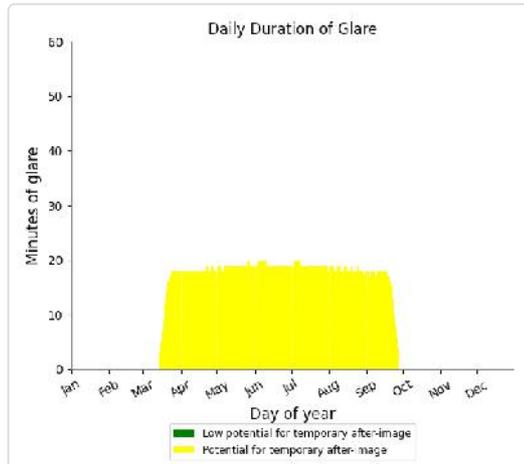
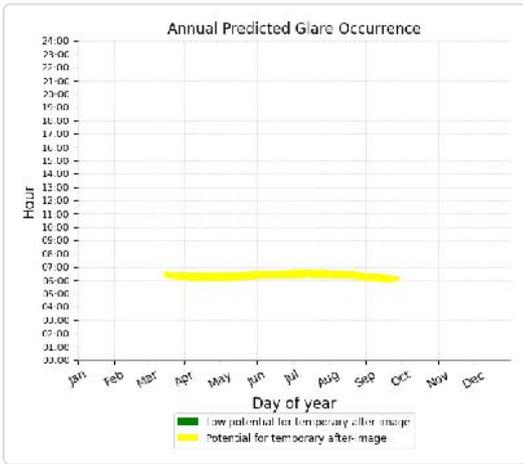
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,643 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 72)

PV array is expected to produce the following glare for receptors at this location:

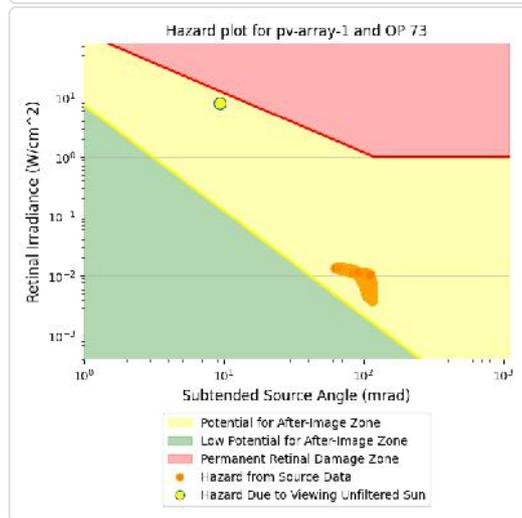
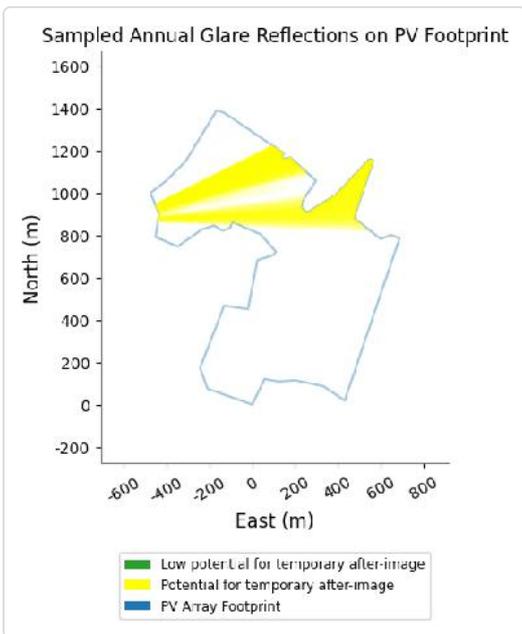
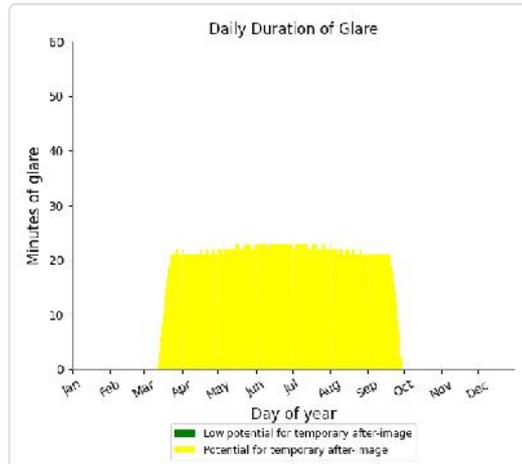
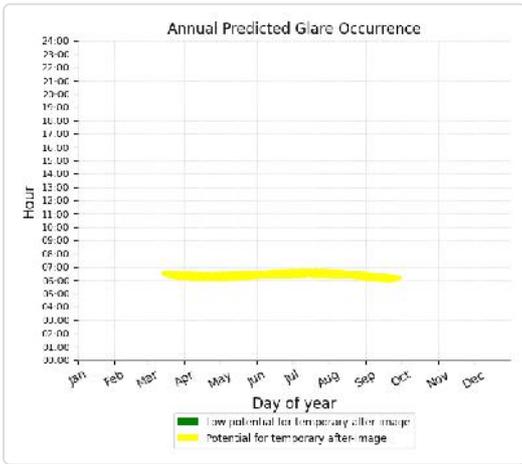
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,541 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 73)

PV array is expected to produce the following glare for receptors at this location:

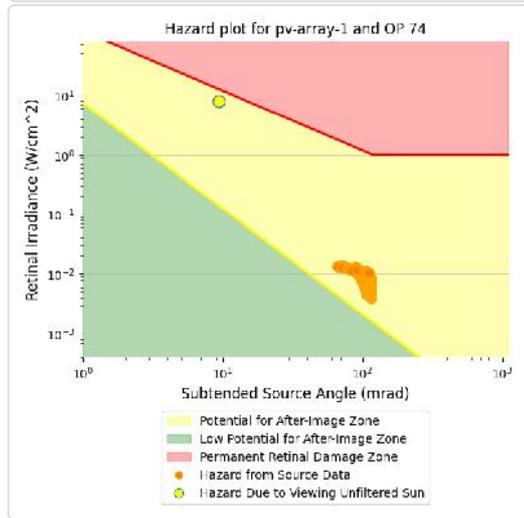
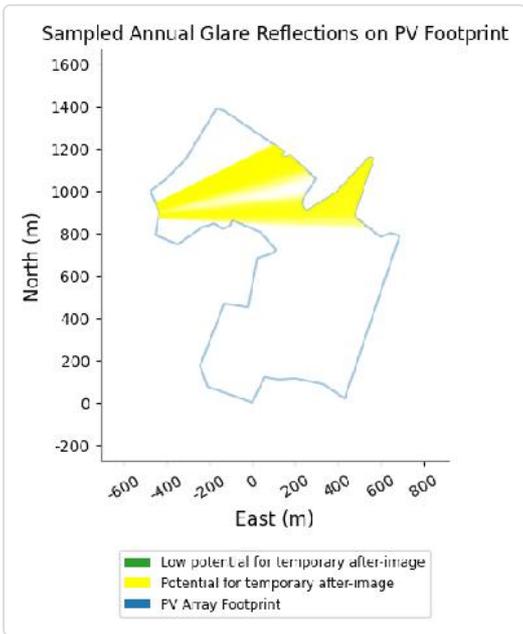
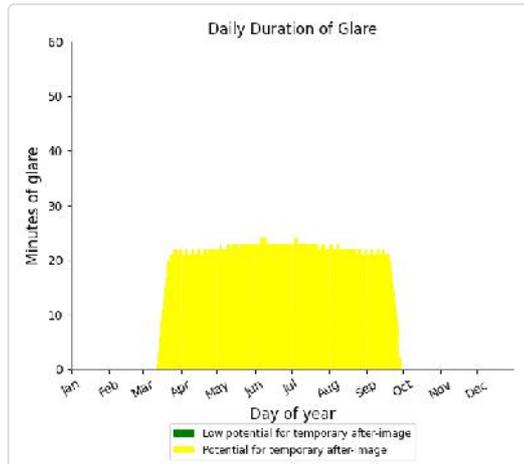
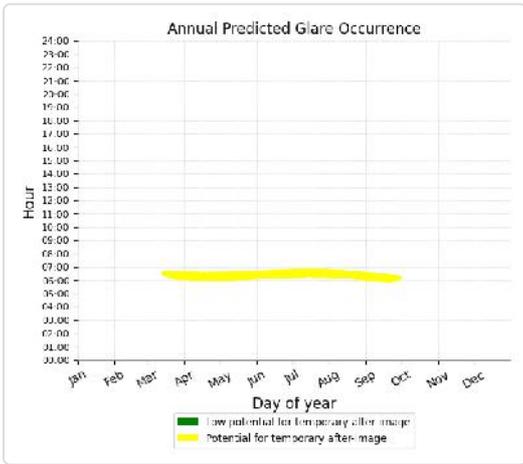
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,211 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 74)

PV array is expected to produce the following glare for receptors at this location:

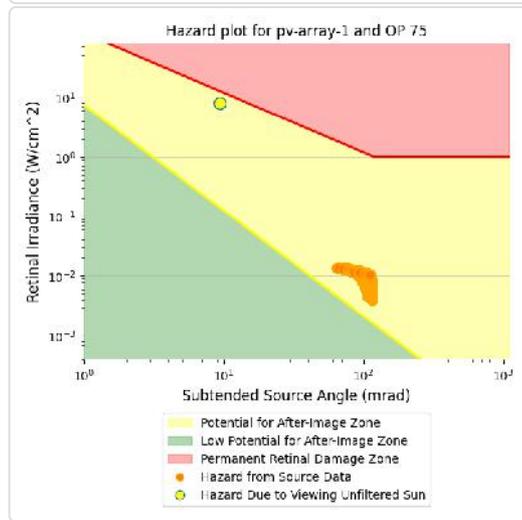
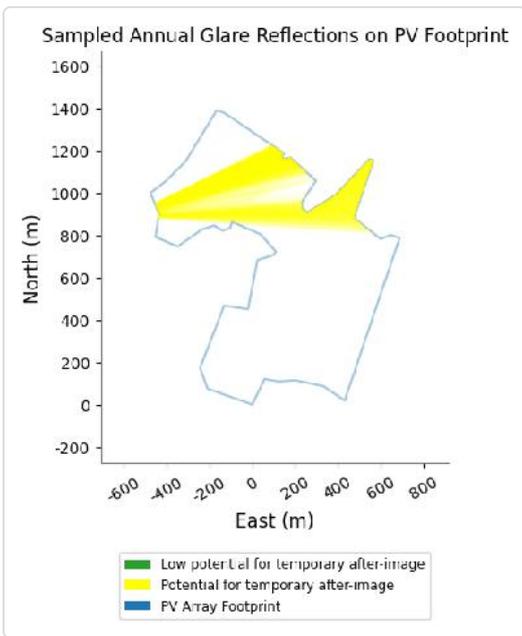
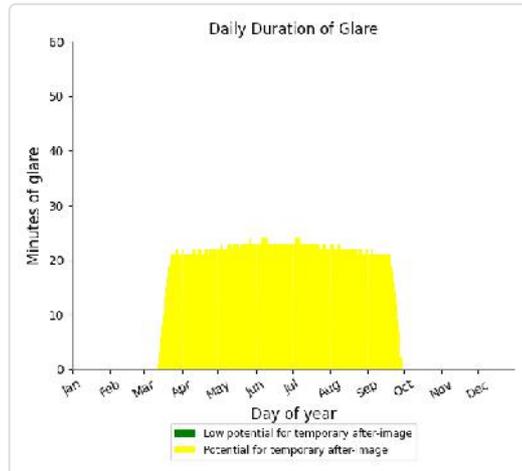
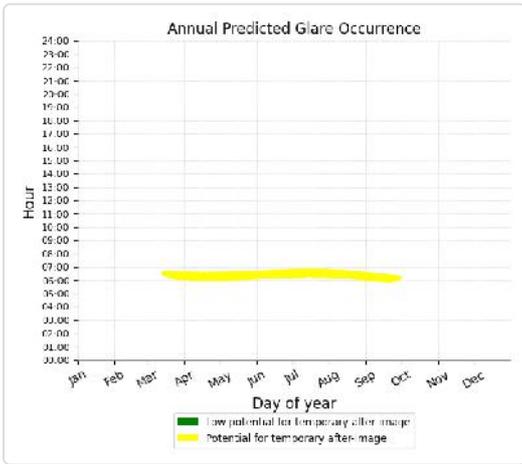
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,283 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 75)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,267 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 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 for 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.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6D - Road Receptor Glare Results (10 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Road Receptors 10deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 72998.12854

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



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

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
PV array 1	10.0	180.0	0	130,392	-

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 10.0 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	52.977416	-0.868813	20.30	2.80	23.10
2	52.978501	-0.867955	20.00	2.80	22.80
3	52.978398	-0.866989	20.39	2.80	23.19
4	52.978450	-0.865830	20.46	2.80	23.26
5	52.978191	-0.863856	20.00	2.80	22.80
6	52.977584	-0.862376	19.95	2.80	22.75
7	52.984483	-0.858556	24.76	2.80	27.56
8	52.984612	-0.859200	25.60	2.80	28.40
9	52.984431	-0.859865	26.00	2.80	28.80
10	52.985335	-0.861732	25.02	2.80	27.82
11	52.987777	-0.860380	19.95	2.80	22.75
12	52.987828	-0.860659	19.88	2.80	22.68
13	52.986317	-0.862998	21.01	2.80	23.81
14	52.985568	-0.864972	20.25	2.80	23.05
15	52.985723	-0.865337	19.79	2.80	22.59
16	52.986007	-0.865358	20.07	2.80	22.87
17	52.986911	-0.864371	20.22	2.80	23.02
18	52.987893	-0.866152	18.00	2.80	20.80
19	52.987841	-0.866581	18.05	2.80	20.85
20	52.987893	-0.866774	18.33	2.80	21.13
21	52.988074	-0.866603	18.08	2.80	20.88
22	52.989779	-0.870723	22.00	2.80	24.80
23	52.989908	-0.871280	22.00	2.80	24.80
24	52.987738	-0.873448	22.05	2.80	24.85
25	52.986924	-0.874778	22.79	2.80	25.59
26	52.986395	-0.875894	22.62	2.80	25.42
27	52.985516	-0.875293	21.94	2.80	24.74
28	52.984522	-0.875551	21.38	2.80	24.18
29	52.984121	-0.874006	20.15	2.80	22.95
30	52.984845	-0.872310	20.21	2.80	23.01
31	52.985012	-0.871474	20.01	2.80	22.81
32	52.984793	-0.870873	20.22	2.80	23.02
33	52.984909	-0.870358	20.19	2.80	22.99
34	52.985167	-0.870208	19.84	2.80	22.64
35	52.984638	-0.868233	20.05	2.80	22.85
36	52.983914	-0.867182	19.95	2.80	22.75
37	52.983759	-0.867332	20.03	2.80	22.83
38	52.983540	-0.868448	20.67	2.80	23.47
39	52.981460	-0.869113	21.77	2.80	24.57
40	52.981615	-0.870765	23.94	2.80	26.74
41	52.978966	-0.872439	24.87	2.80	27.67
42	52.978088	-0.871924	23.83	2.80	26.63

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	52.988661	-0.872902	22.84	1.50	24.34
OP 2	52.987175	-0.874833	23.17	1.50	24.67
OP 3	52.985987	-0.876700	22.88	1.50	24.38
OP 4	52.984624	-0.878824	24.57	1.50	26.07
OP 5	52.983106	-0.880509	24.75	1.50	26.25
OP 6	52.981556	-0.882075	23.62	1.50	25.12
OP 7	52.980031	-0.883459	24.67	1.50	26.17
OP 8	52.978539	-0.884993	22.18	1.50	23.68
OP 9	52.983662	-0.889446	19.00	1.50	20.50
OP 10	52.982589	-0.886860	18.00	1.50	19.50
OP 11	52.981834	-0.884306	22.42	1.50	23.92
OP 12	52.980070	-0.881335	21.82	1.50	23.32
OP 13	52.979256	-0.878792	20.70	1.50	22.20
OP 14	52.978688	-0.876045	21.32	1.50	22.82
OP 15	52.978171	-0.873063	25.95	1.50	27.45
OP 16	52.977564	-0.870305	21.40	1.50	22.90
OP 17	52.976892	-0.867312	20.72	1.50	22.22
OP 18	52.976304	-0.864640	22.67	1.50	24.17
OP 19	52.975109	-0.863718	23.93	1.50	25.43
OP 20	52.976692	-0.862570	22.10	1.50	23.60
OP 21	52.978429	-0.861626	19.57	1.50	21.07
OP 22	52.980154	-0.860682	19.00	1.50	20.50
OP 23	52.981940	-0.859713	19.52	1.50	21.02
OP 24	52.983600	-0.858790	22.92	1.50	24.42
OP 25	52.985370	-0.857824	25.29	1.50	26.79
OP 26	52.986377	-0.855657	24.00	1.50	25.50
OP 27	52.987353	-0.853501	24.00	1.50	25.50
OP 28	52.988399	-0.850926	22.79	1.50	24.29
OP 29	52.989161	-0.848394	23.88	1.50	25.38
OP 30	52.990304	-0.846012	23.00	1.50	24.50
OP 31	52.975971	-0.850153	20.00	1.50	21.50
OP 32	52.977728	-0.850872	19.41	1.50	20.91
OP 33	52.979524	-0.851022	20.39	1.50	21.89
OP 34	52.980958	-0.852192	20.80	1.50	22.30
OP 35	52.982676	-0.852996	19.62	1.50	21.12
OP 36	52.984130	-0.854617	20.00	1.50	21.50
OP 37	52.985473	-0.857020	24.13	1.50	25.63
OP 38	52.986733	-0.858908	25.03	1.50	26.53
OP 39	52.988069	-0.860281	19.60	1.50	21.10
OP 40	52.989464	-0.862148	23.09	1.50	24.59
OP 41	52.990394	-0.864734	21.00	1.50	22.50

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	
PV array 1	10.0	180.0	0	130,392	-	-

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
pv-array-1 (green)	0	0	0	0	0	0	0	0	0	0	0	0
pv-array-1 (yellow)	515	1686	3628	4467	5352	5449	5518	4902	3949	2492	773	251

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 potential temporary after-image

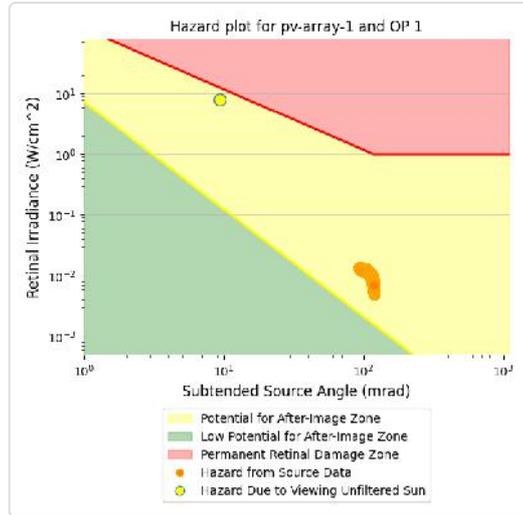
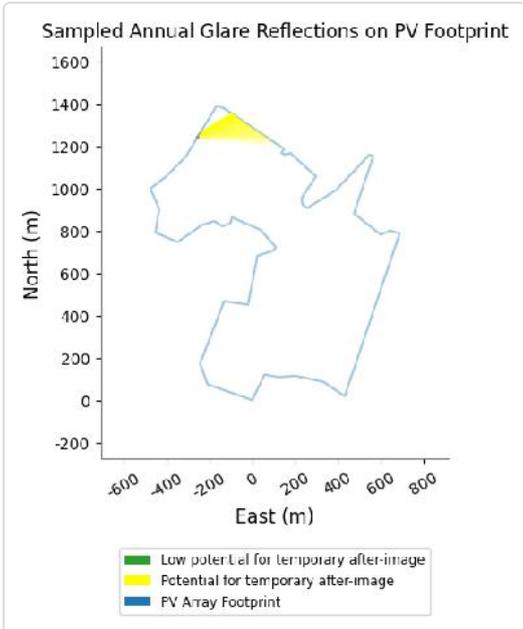
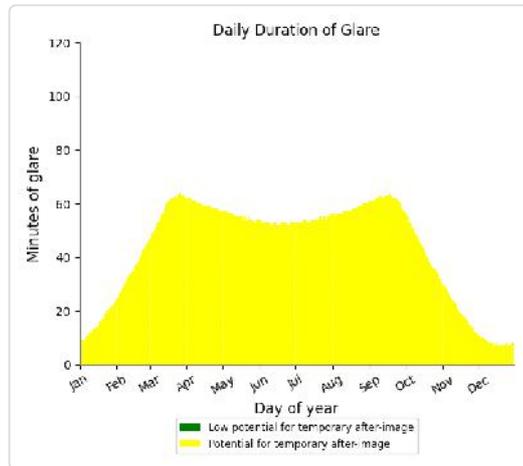
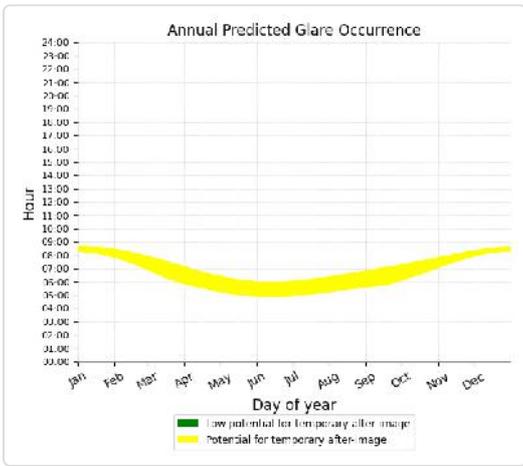
Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	15844
OP: OP 2	0	12400
OP: OP 3	0	6209
OP: OP 4	0	4374
OP: OP 5	0	3671
OP: OP 6	0	3003
OP: OP 7	0	2591
OP: OP 8	0	0
OP: OP 9	0	1384
OP: OP 10	0	2158
OP: OP 11	0	1875
OP: OP 12	0	16
OP: OP 13	0	1241
OP: OP 14	0	1070
OP: OP 15	0	6972
OP: OP 16	0	3390
OP: OP 17	0	3574
OP: OP 18	0	1060
OP: OP 19	0	36
OP: OP 20	0	1336
OP: OP 21	0	2737
OP: OP 22	0	2737
OP: OP 23	0	2760
OP: OP 24	0	17687
OP: OP 25	0	4866
OP: OP 26	0	4184
OP: OP 27	0	1624
OP: OP 28	0	813
OP: OP 29	0	618

OP: OP 30	0	326
OP: OP 31	0	23
OP: OP 32	0	1150
OP: OP 33	0	15
OP: OP 34	0	2618
OP: OP 35	0	31
OP: OP 36	0	2850
OP: OP 37	0	4347
OP: OP 38	0	6299
OP: OP 39	0	1415
OP: OP 40	0	968
OP: OP 41	0	120

PV array 1 - OP Receptor (OP 1)

PV array is expected to produce the following glare for receptors at this location:

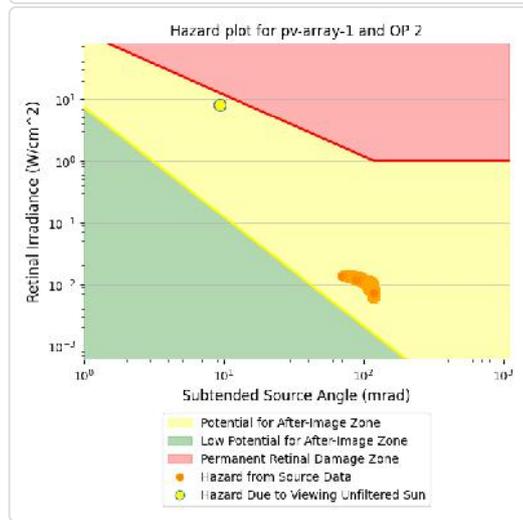
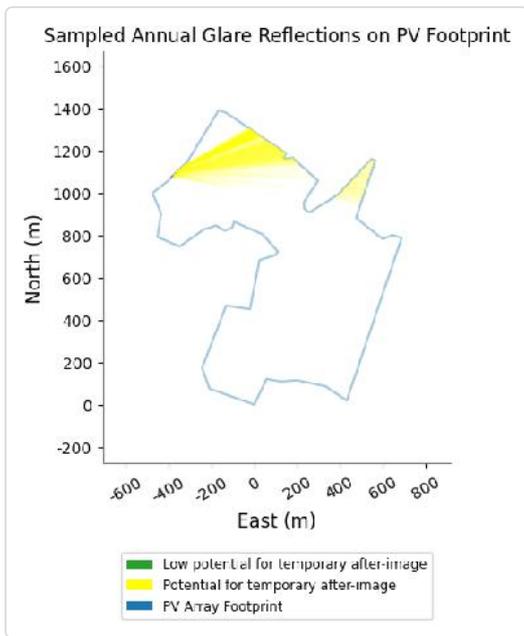
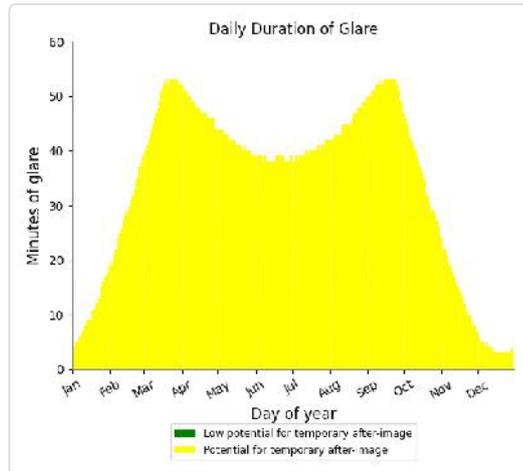
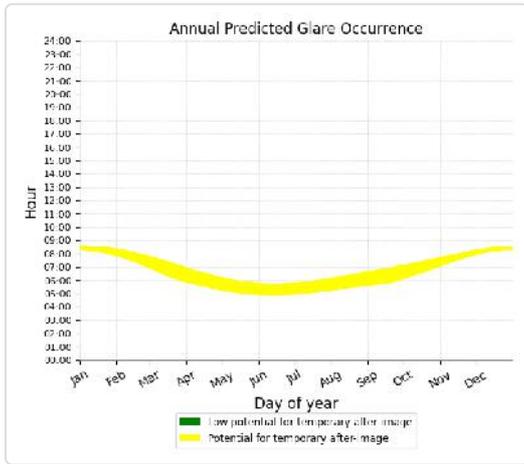
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 15,844 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 2)

PV array is expected to produce the following glare for receptors at this location:

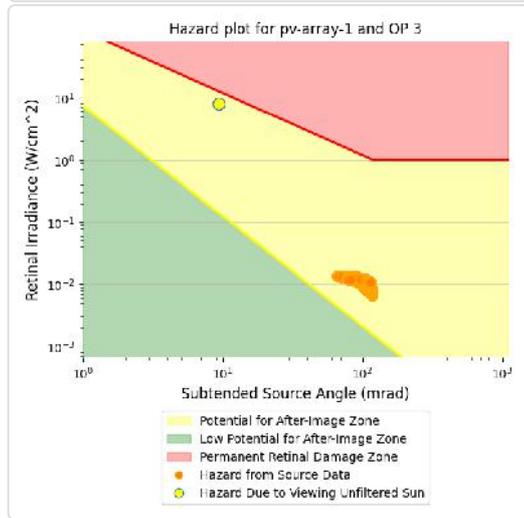
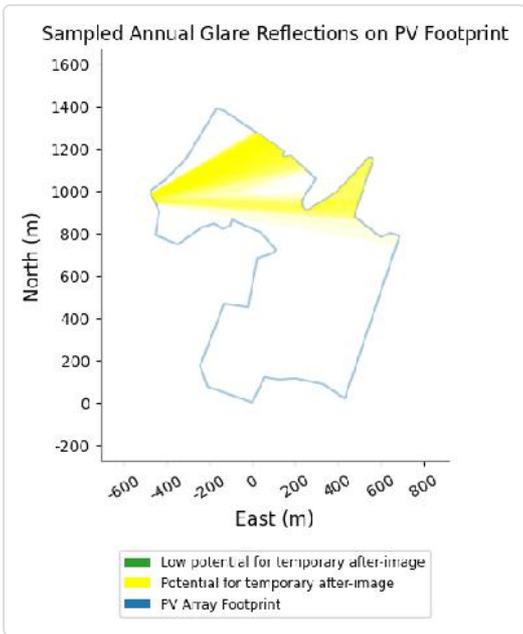
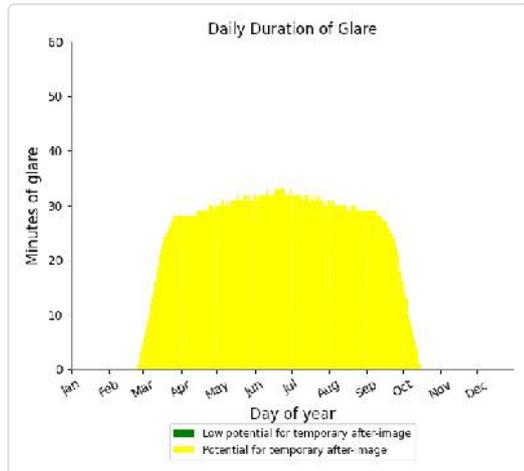
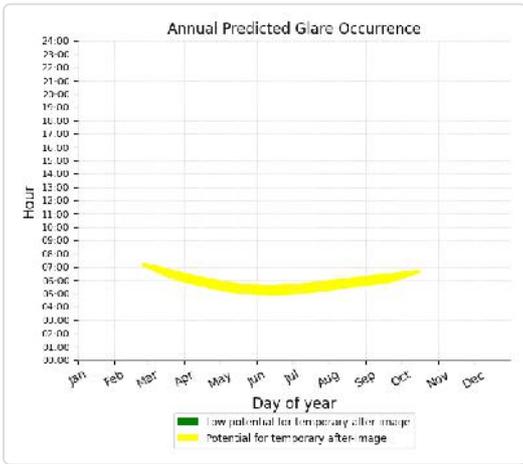
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 12,400 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:

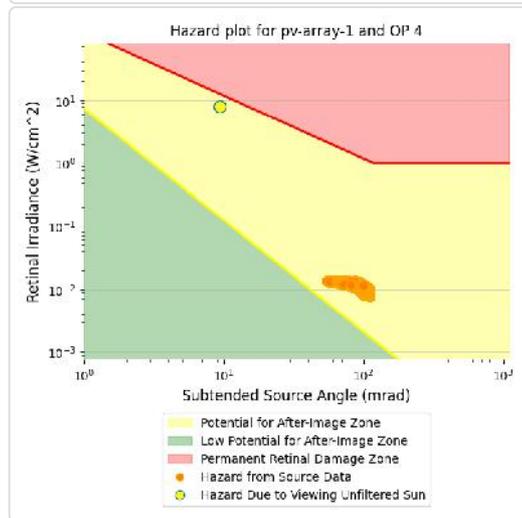
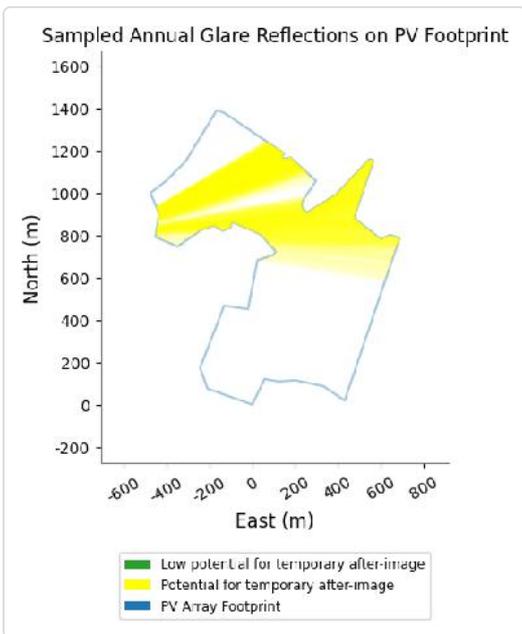
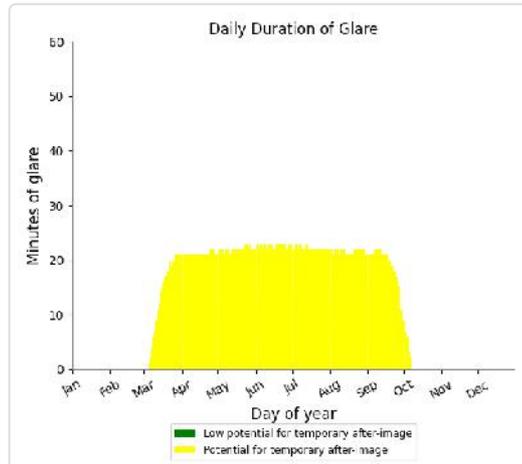
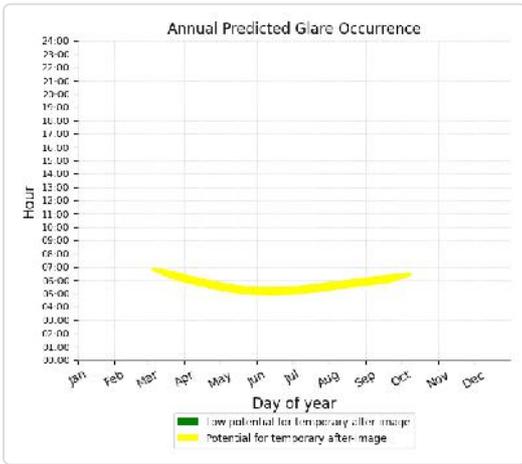
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 6,209 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 4)

PV array is expected to produce the following glare for receptors at this location:

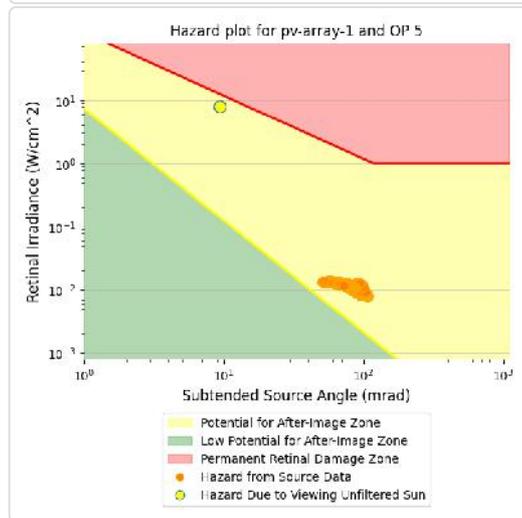
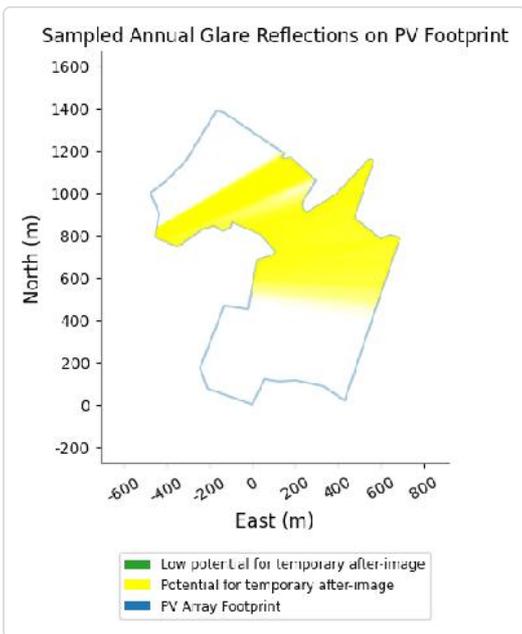
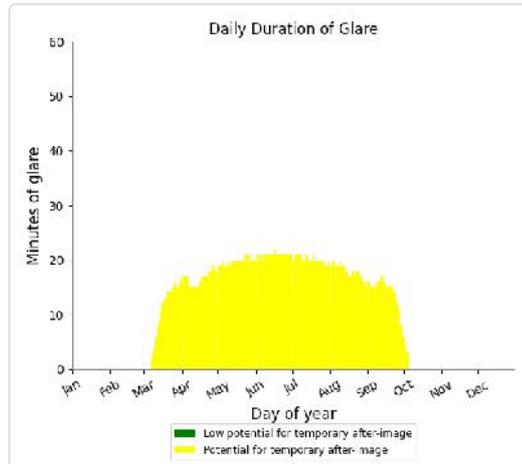
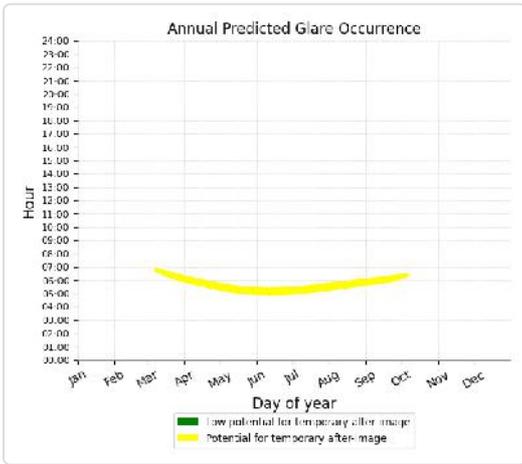
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,374 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:

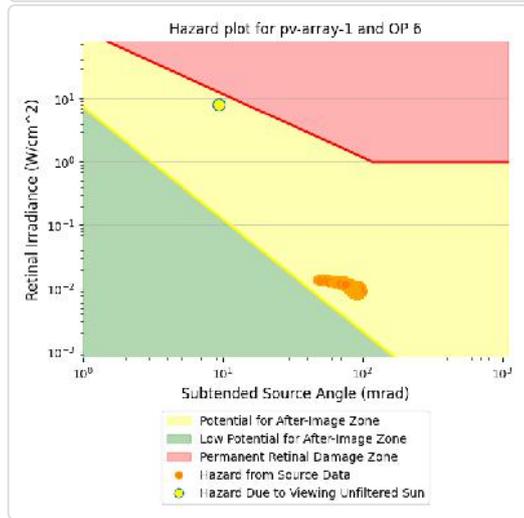
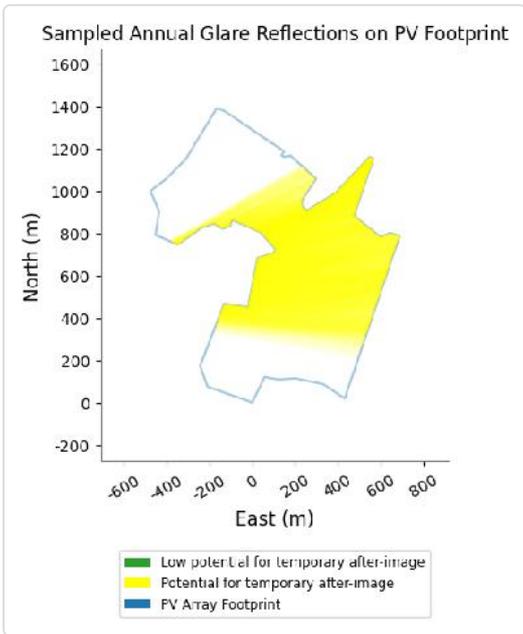
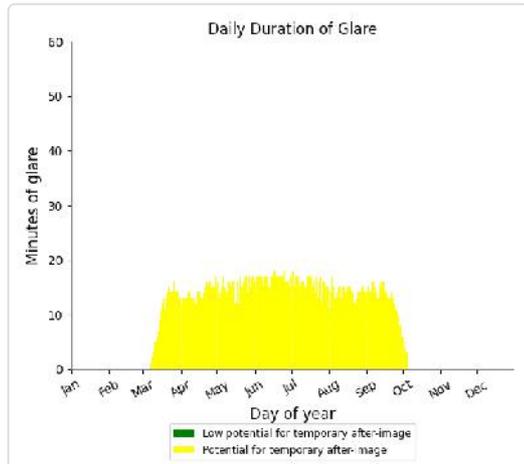
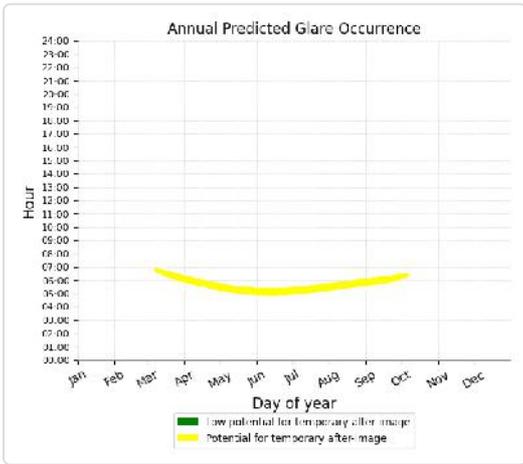
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,671 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 6)

PV array is expected to produce the following glare for receptors at this location:

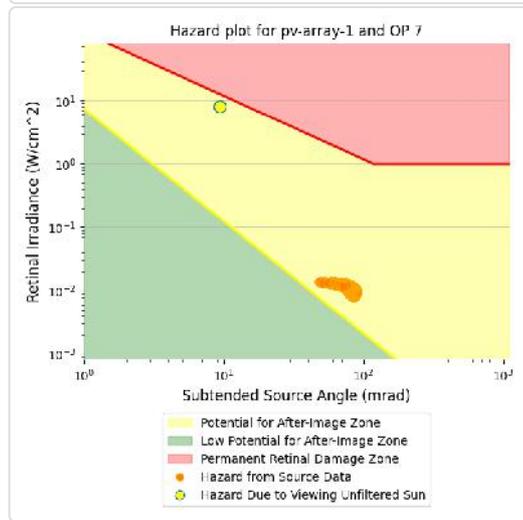
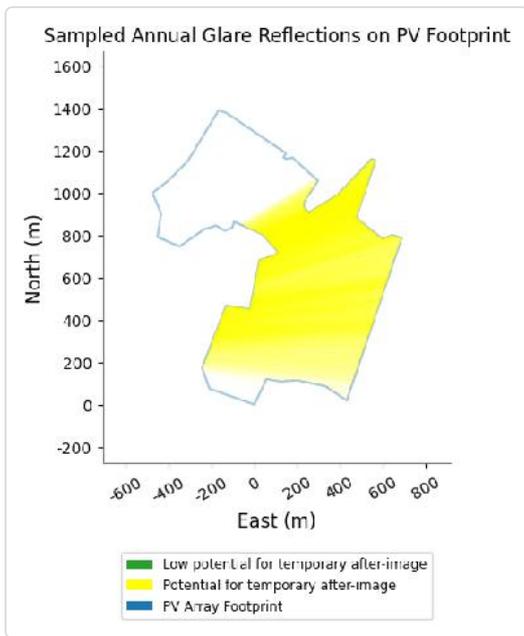
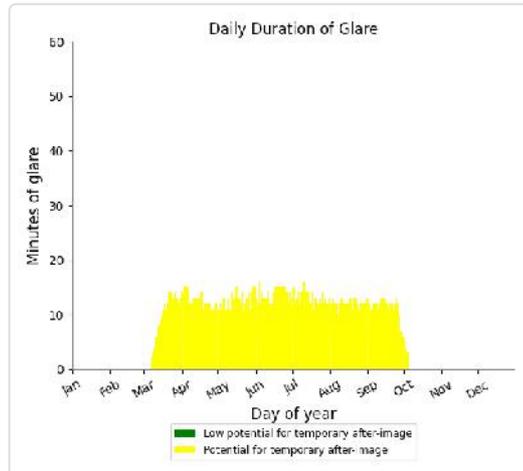
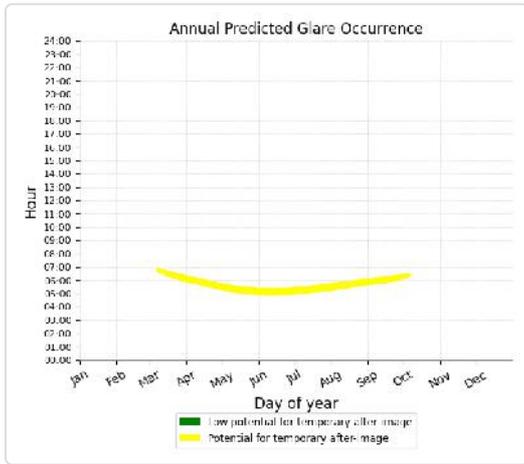
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,003 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 7)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,591 minutes of "yellow" glare with potential to cause temporary after-image.



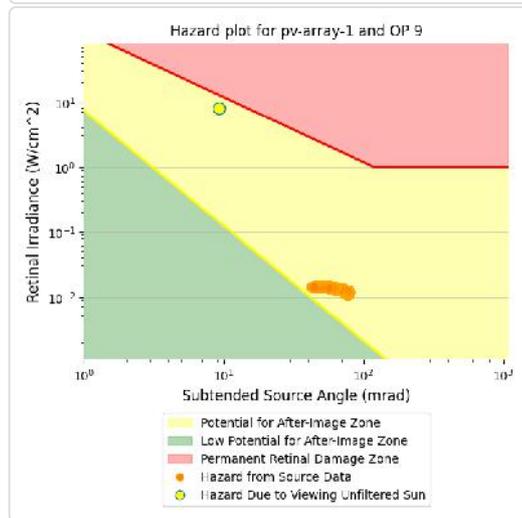
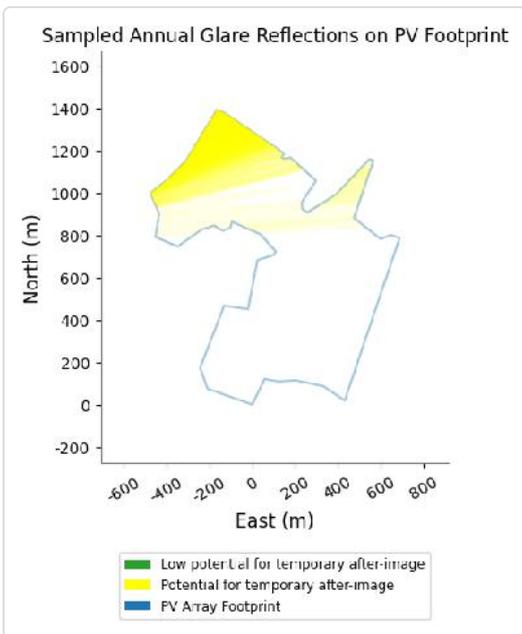
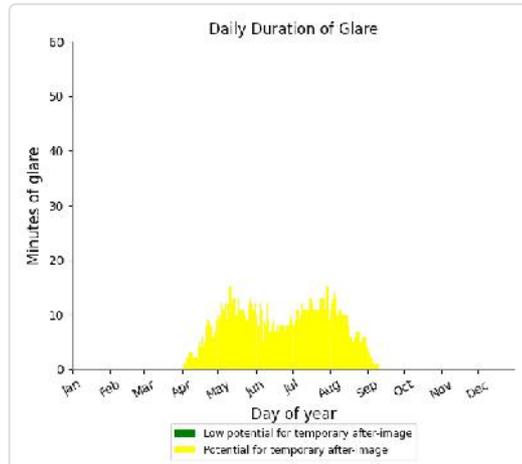
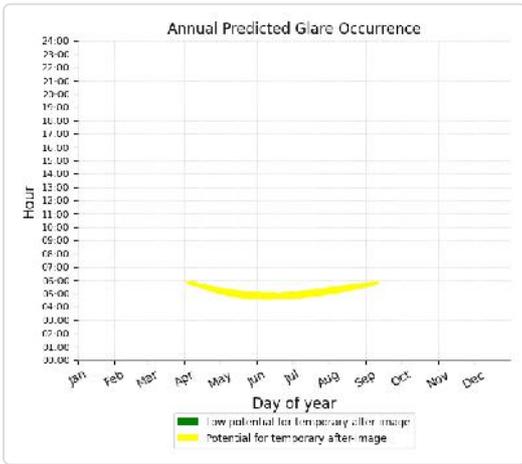
PV array 1 - OP Receptor (OP 8)

No glare found

PV array 1 - OP Receptor (OP 9)

PV array is expected to produce the following glare for receptors at this location:

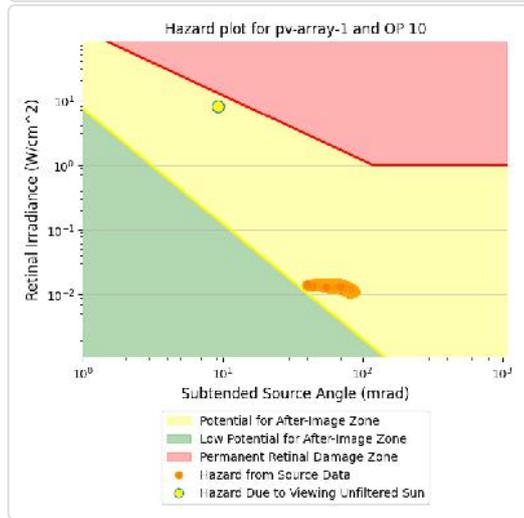
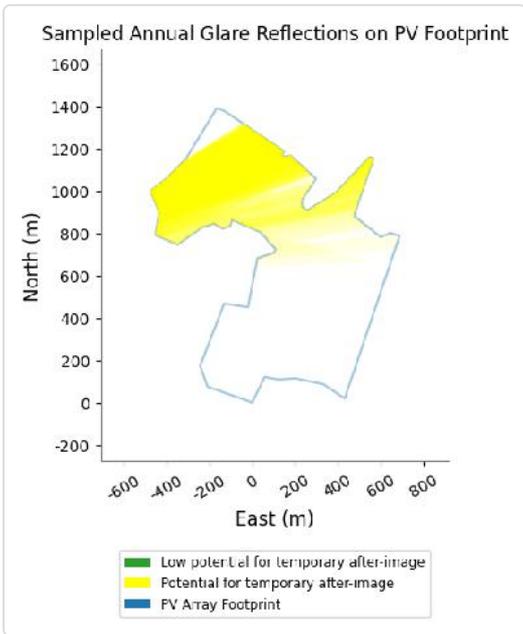
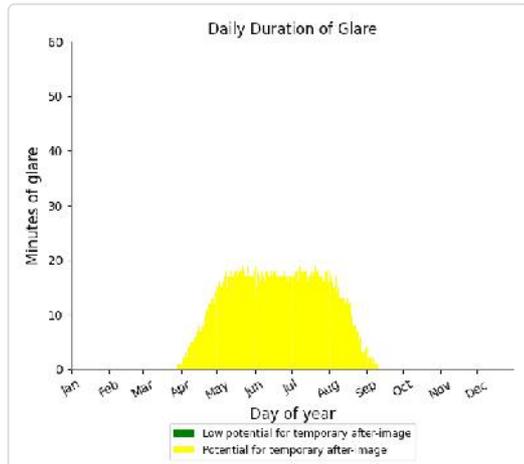
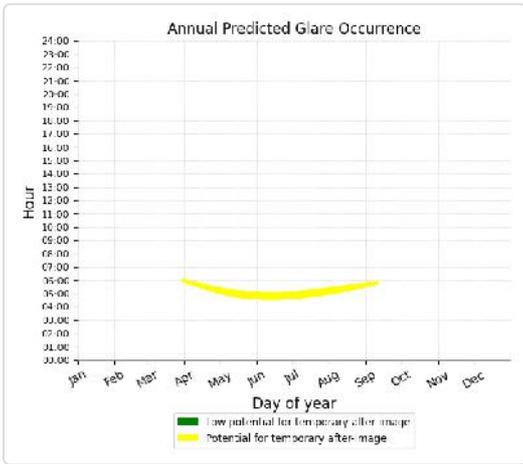
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,384 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 10)

PV array is expected to produce the following glare for receptors at this location:

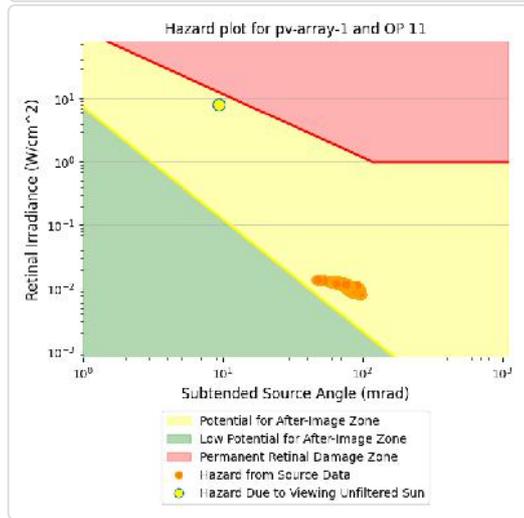
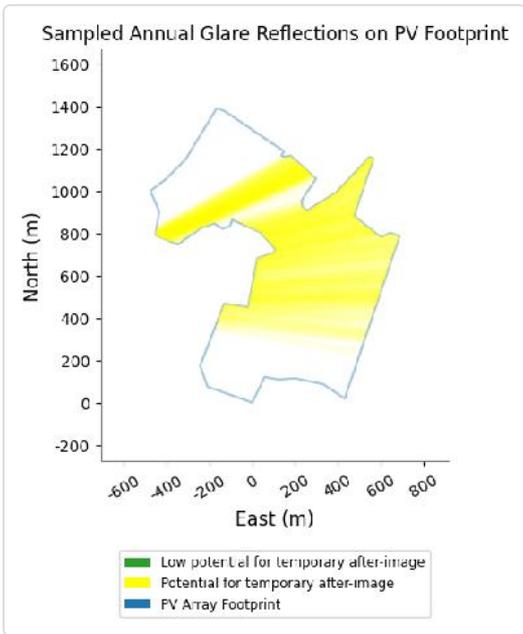
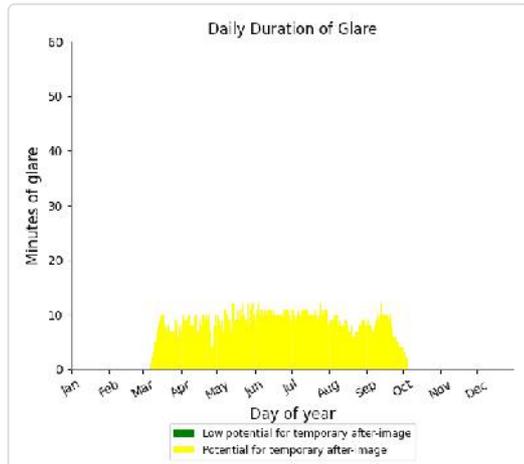
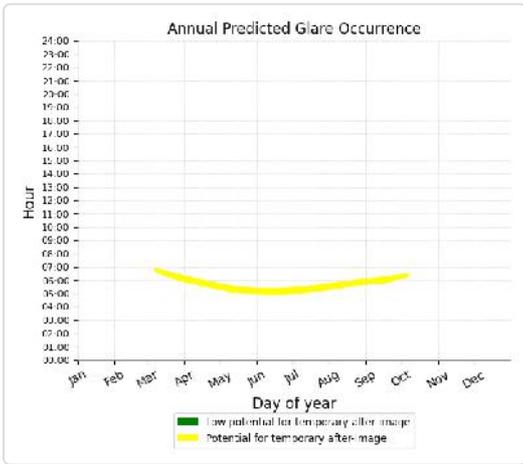
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,158 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 11)

PV array is expected to produce the following glare for receptors at this location:

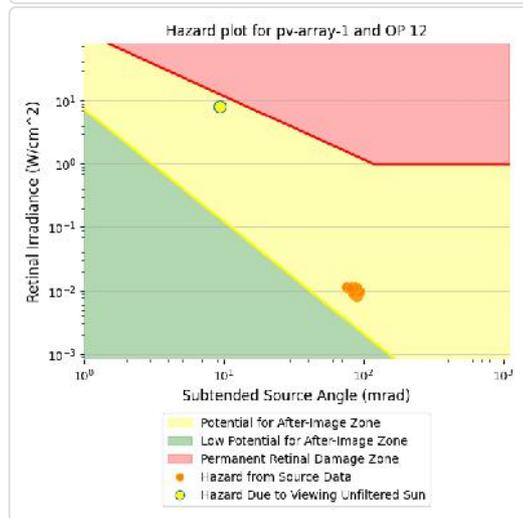
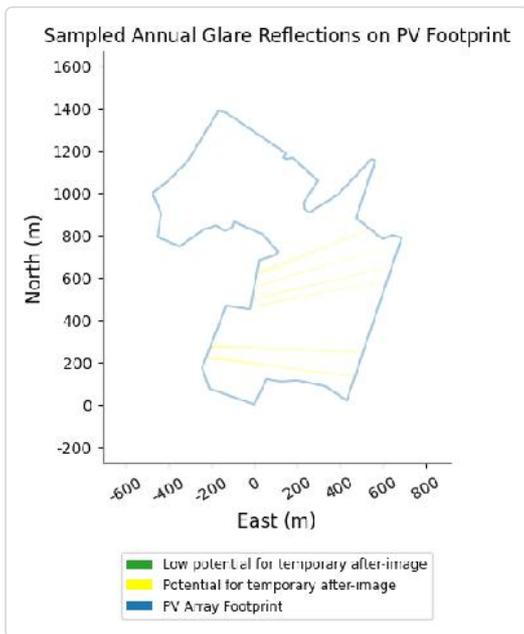
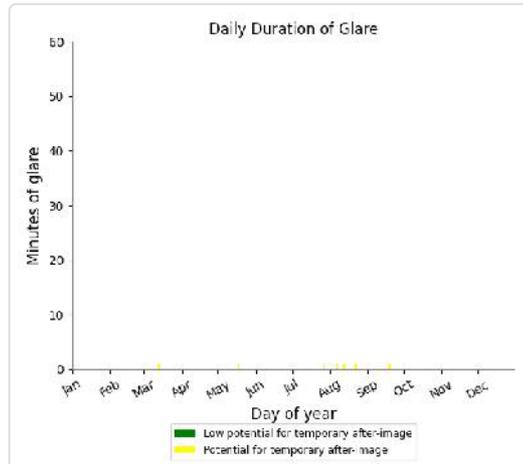
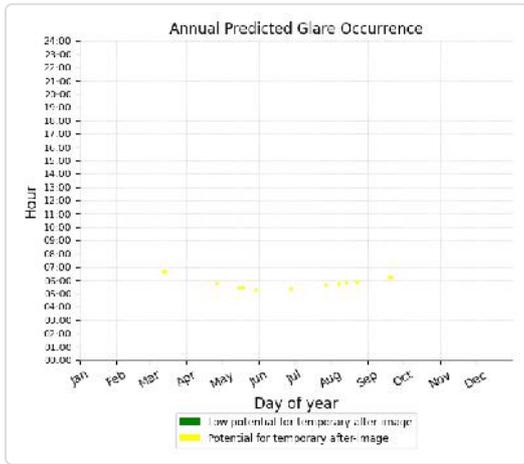
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,875 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 12)

PV array is expected to produce the following glare for receptors at this location:

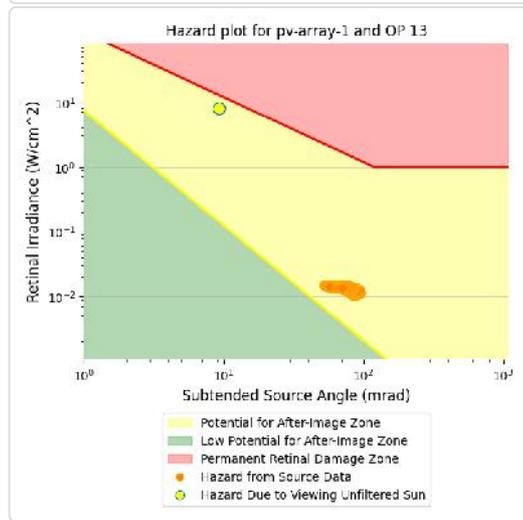
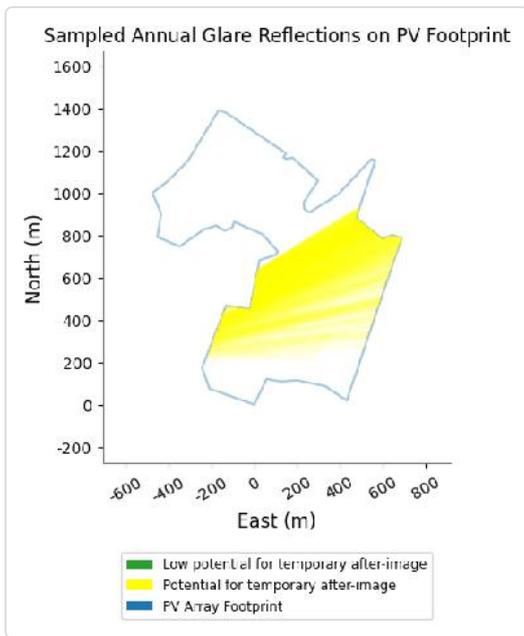
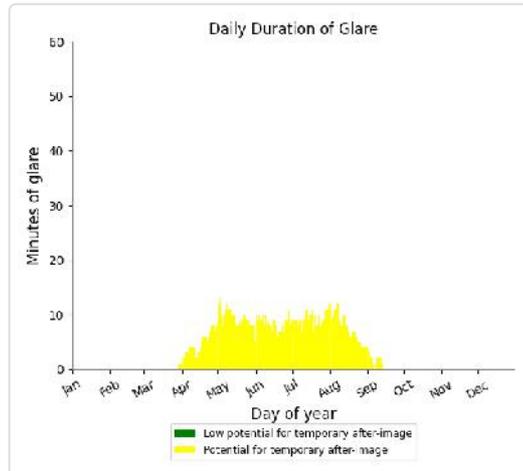
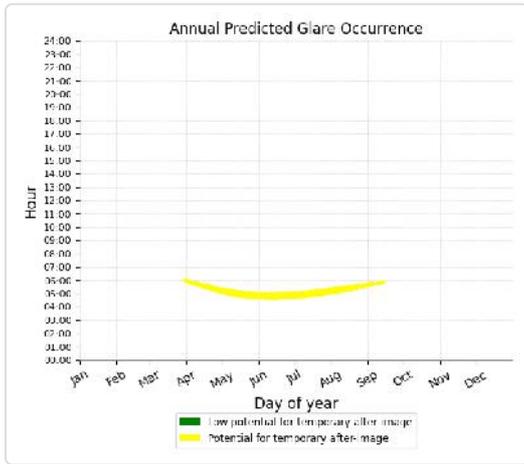
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 16 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 13)

PV array is expected to produce the following glare for receptors at this location:

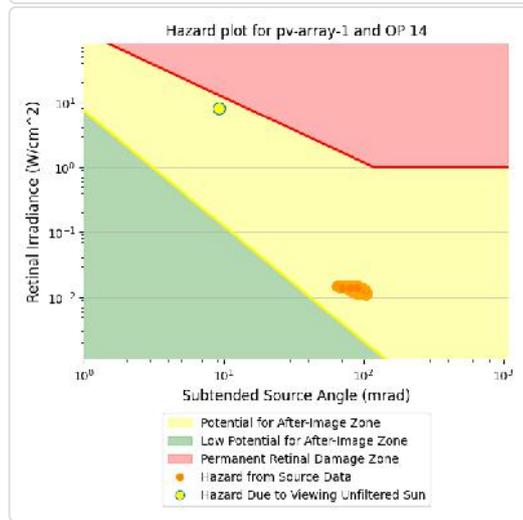
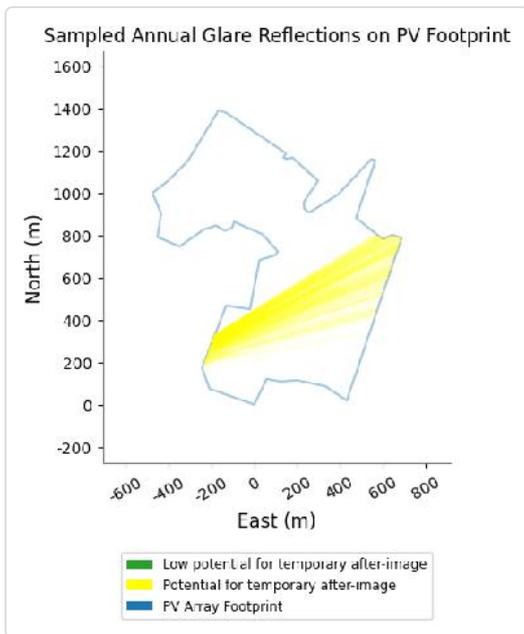
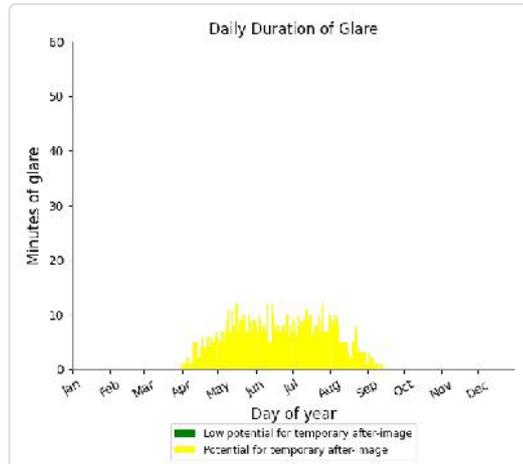
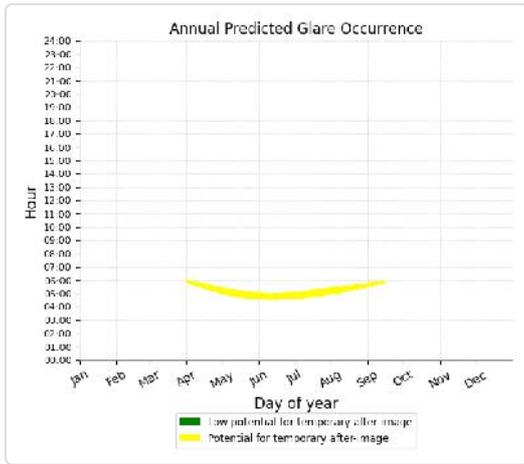
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,241 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 14)

PV array is expected to produce the following glare for receptors at this location:

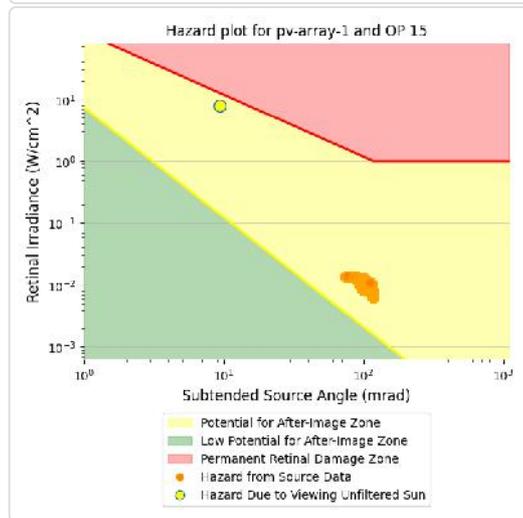
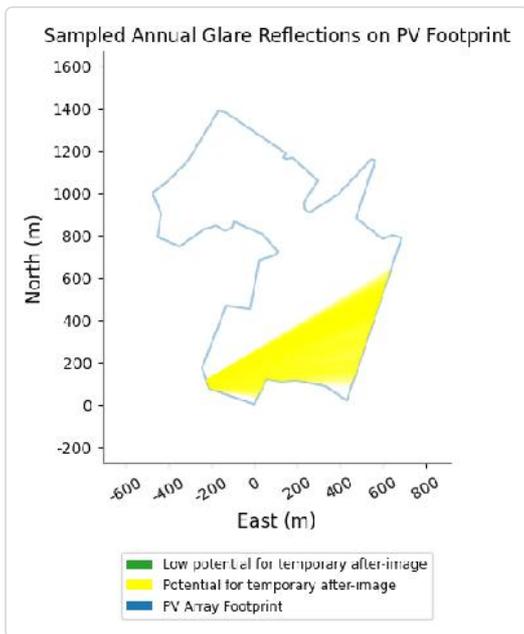
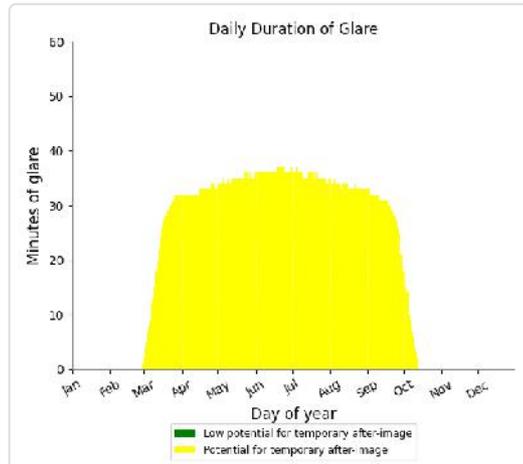
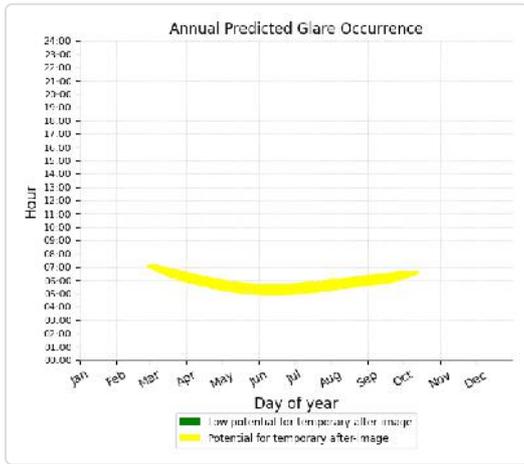
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,070 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:

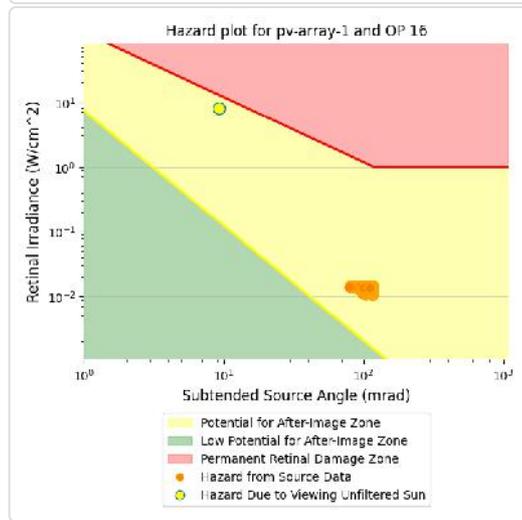
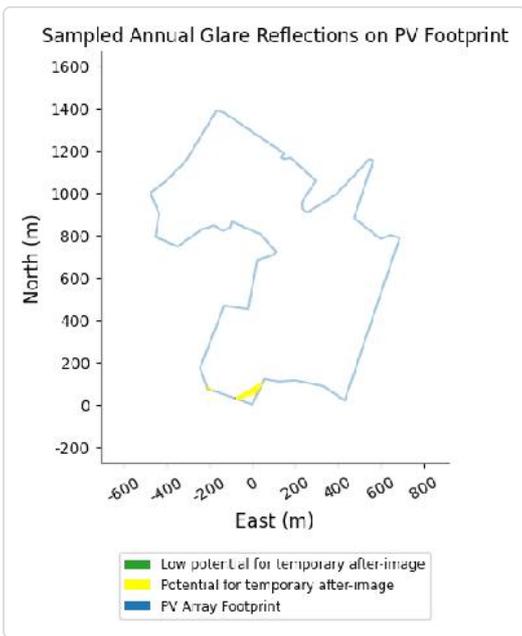
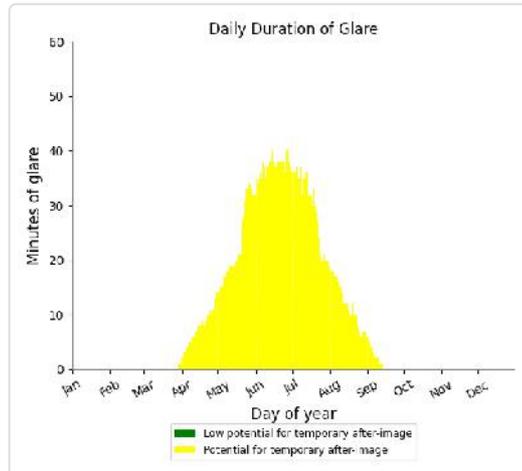
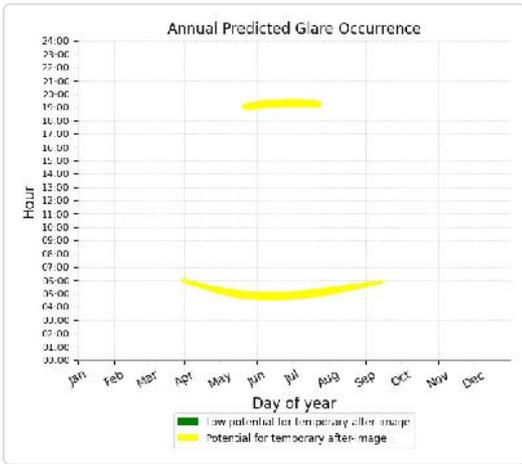
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 6,972 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 16)

PV array is expected to produce the following glare for receptors at this location:

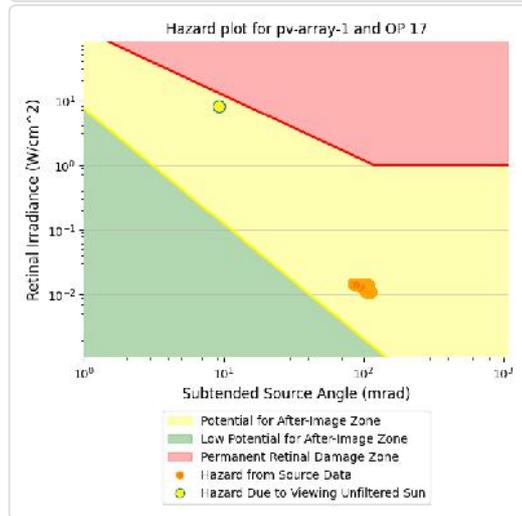
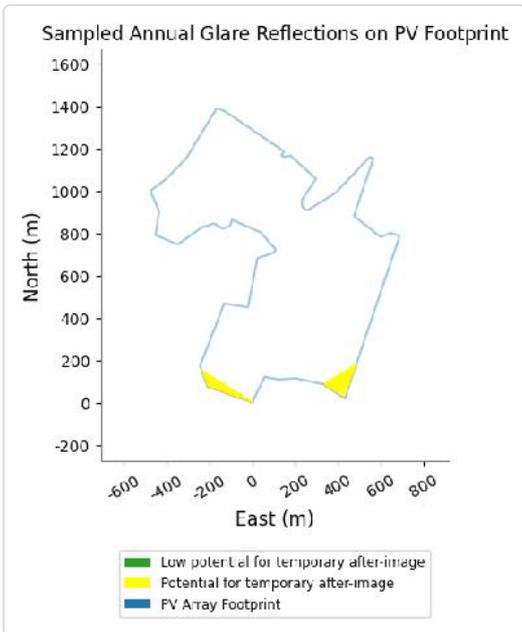
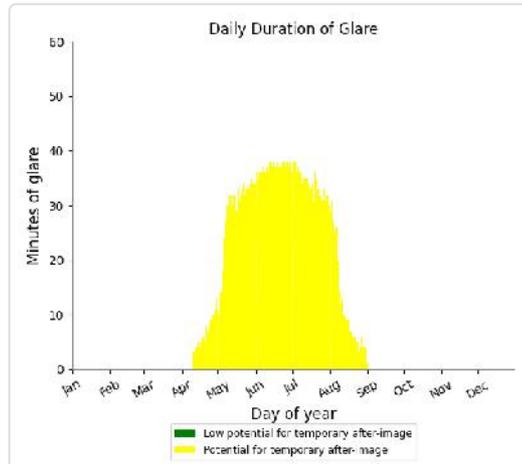
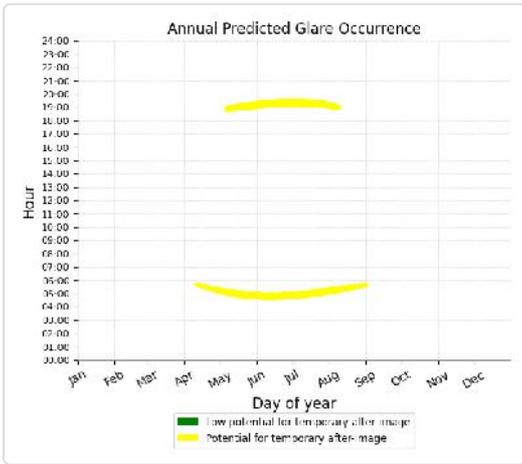
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,390 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 17)

PV array is expected to produce the following glare for receptors at this location:

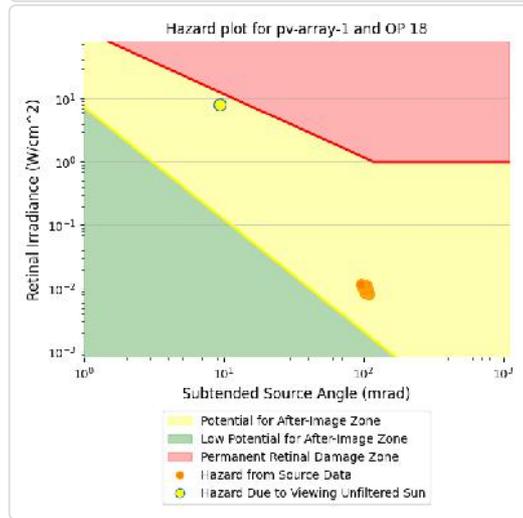
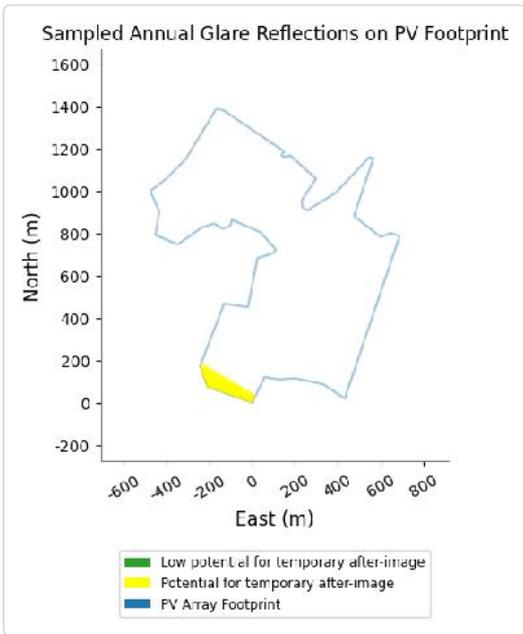
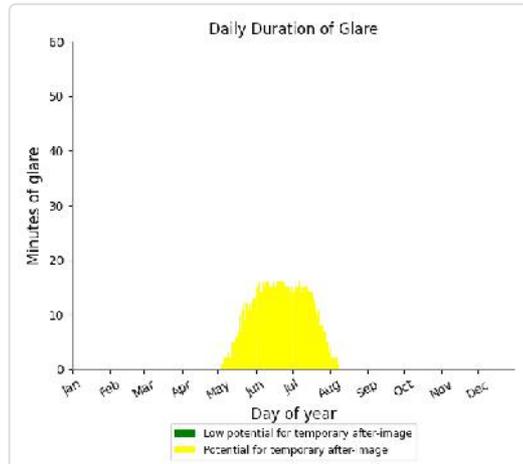
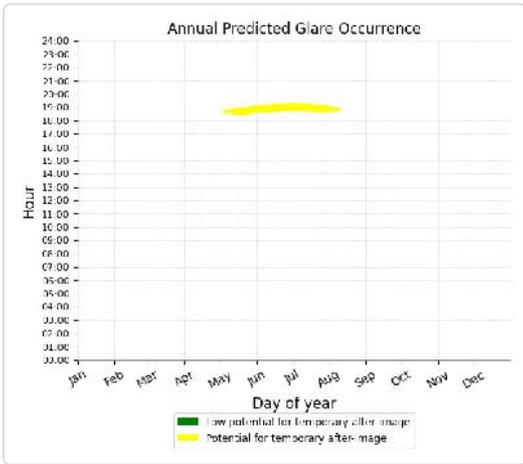
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,574 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 18)

PV array is expected to produce the following glare for receptors at this location:

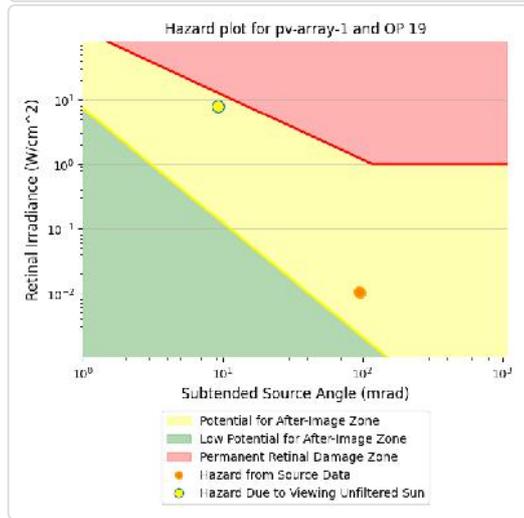
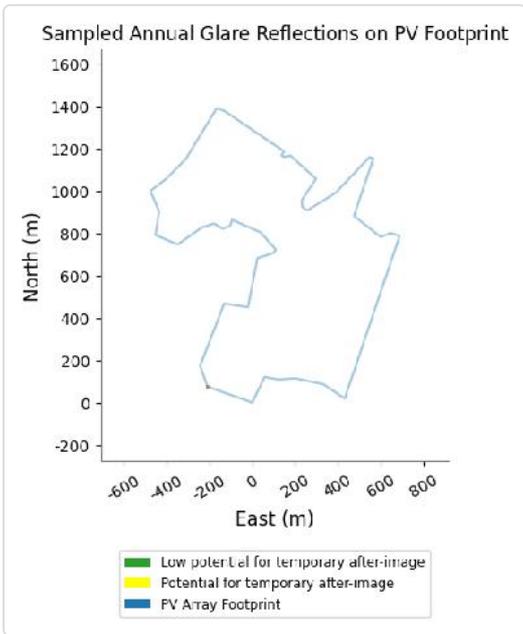
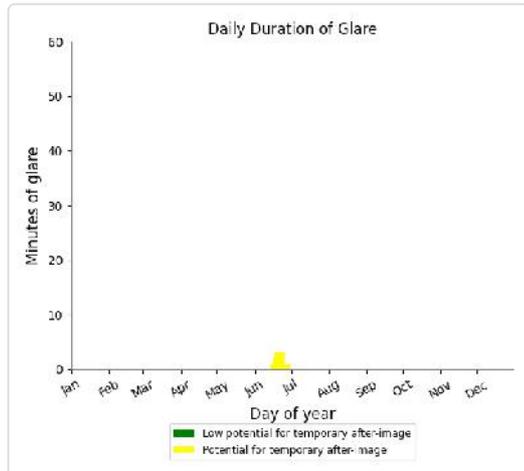
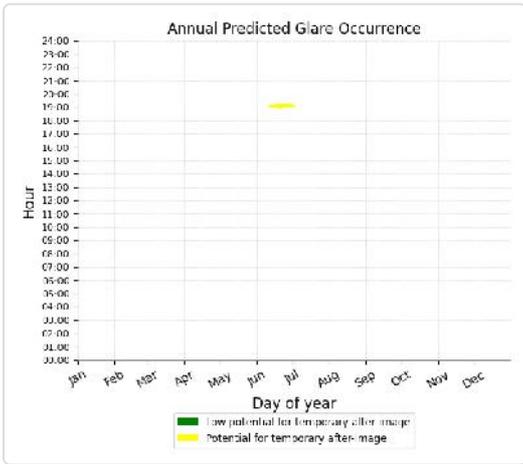
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,060 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 19)

PV array is expected to produce the following glare for receptors at this location:

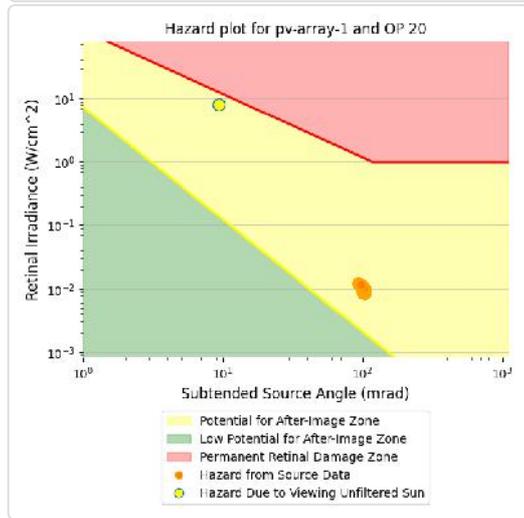
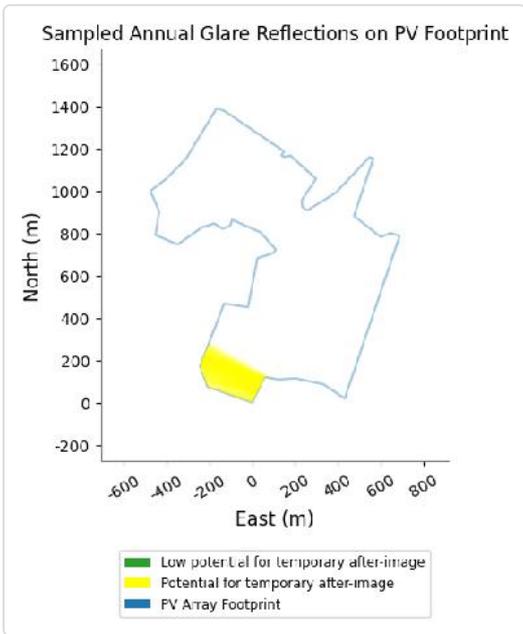
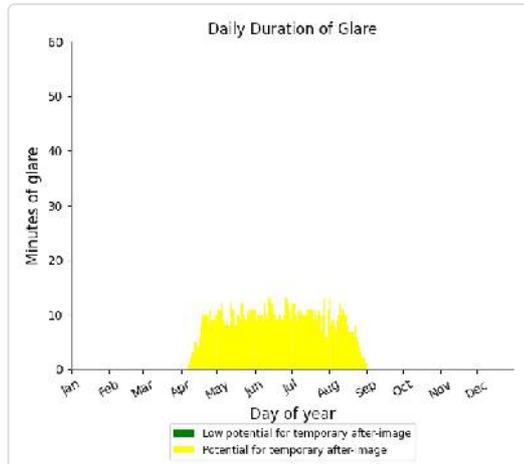
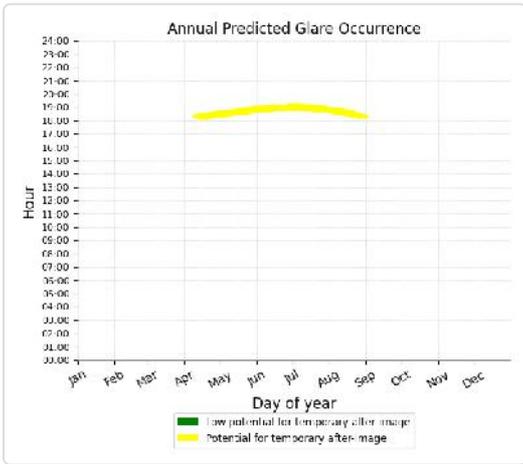
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 36 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 20)

PV array is expected to produce the following glare for receptors at this location:

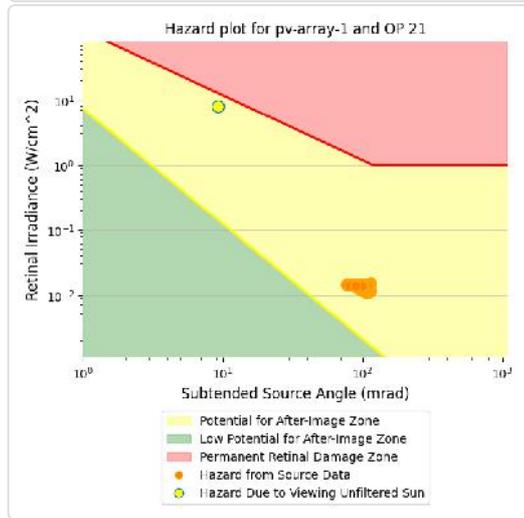
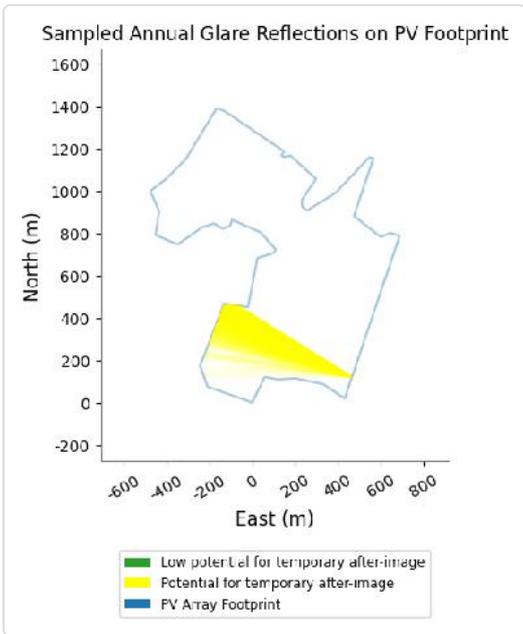
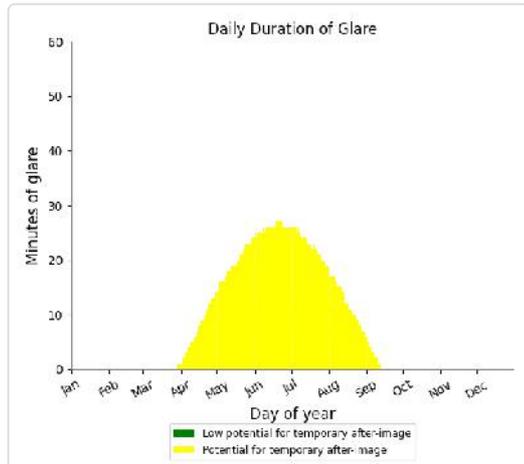
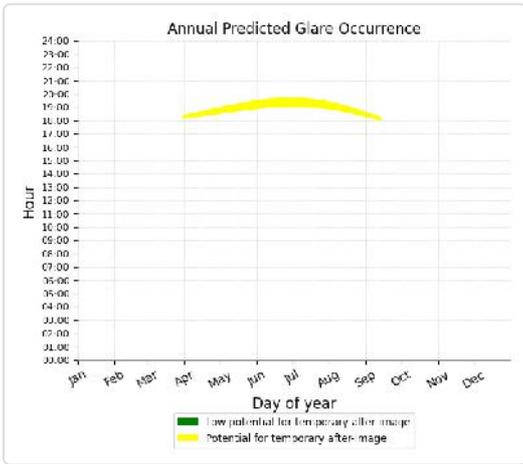
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,336 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 21)

PV array is expected to produce the following glare for receptors at this location:

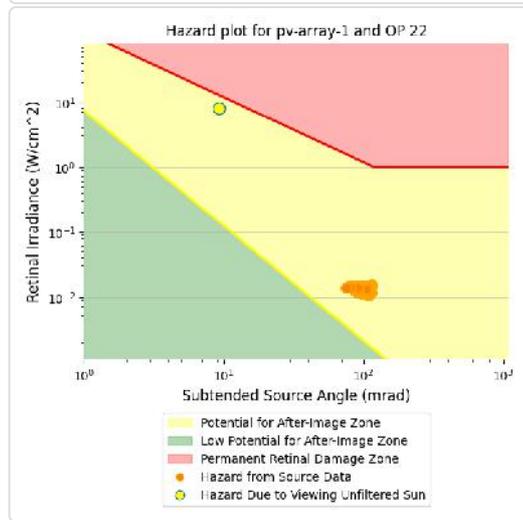
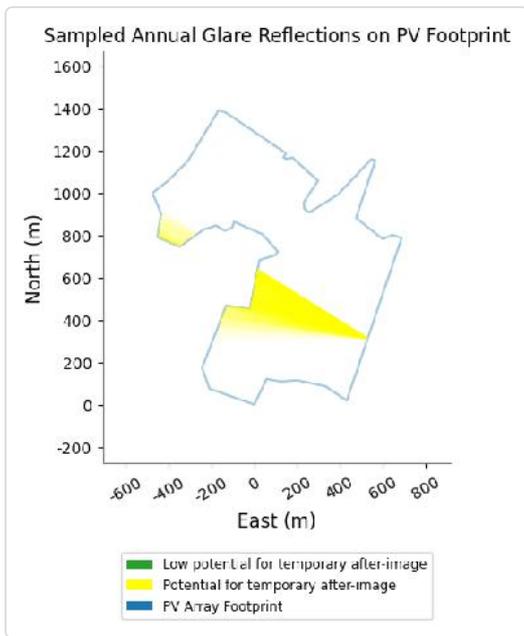
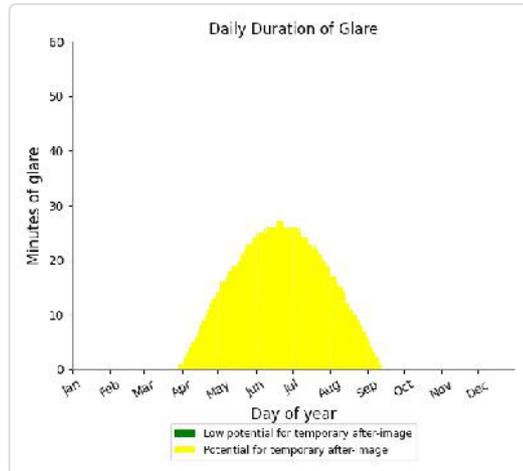
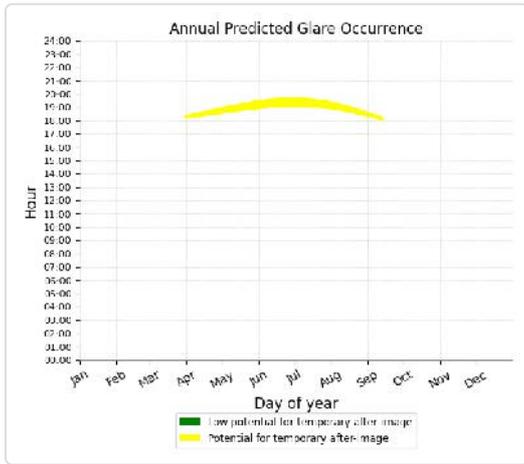
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,737 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 22)

PV array is expected to produce the following glare for receptors at this location:

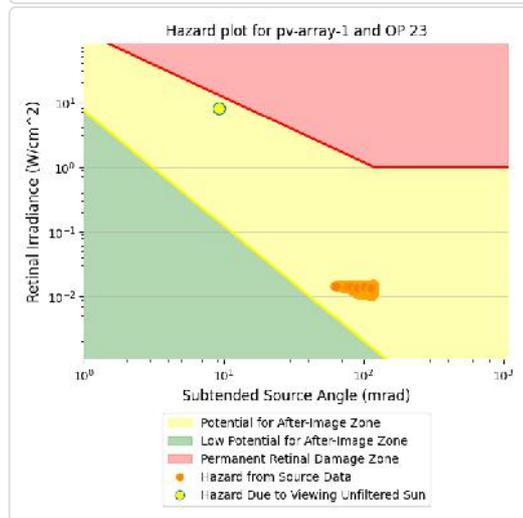
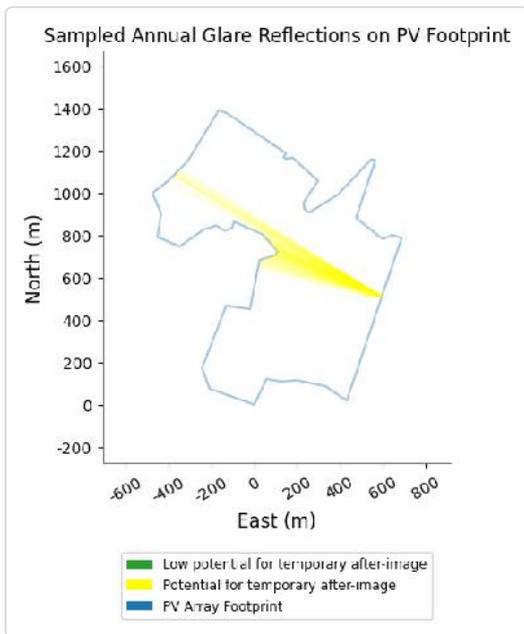
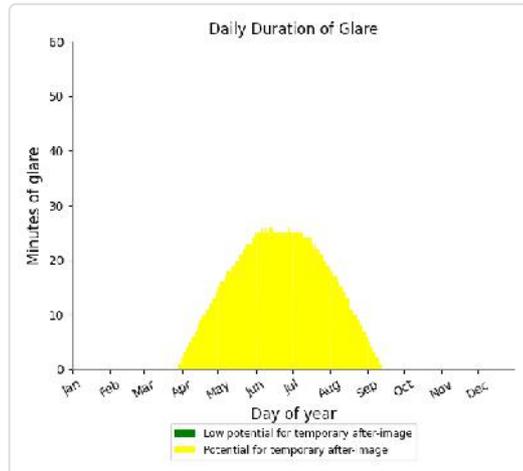
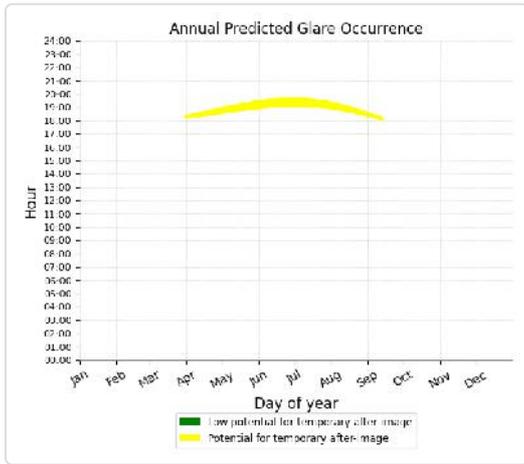
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,737 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:

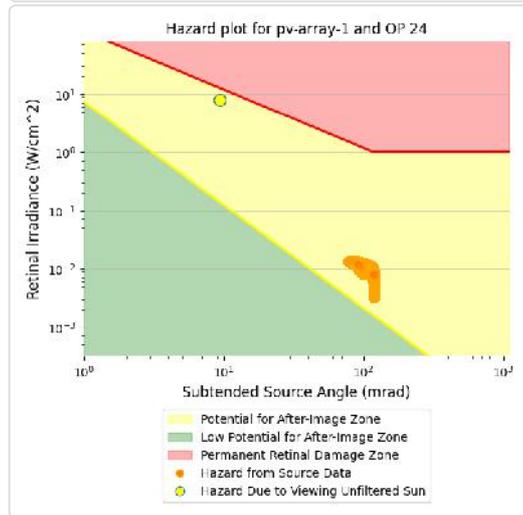
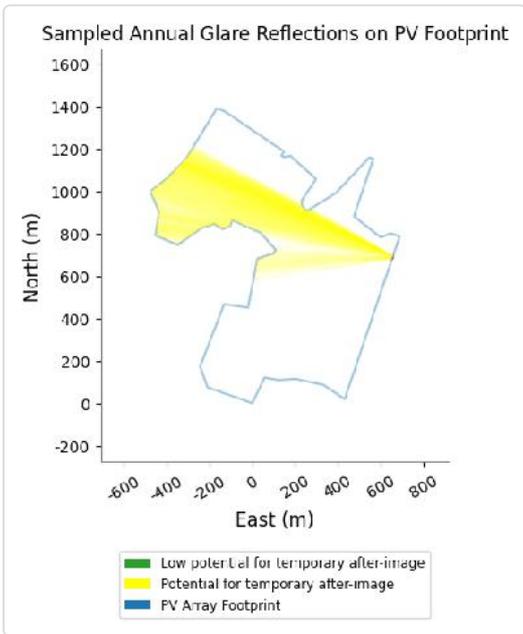
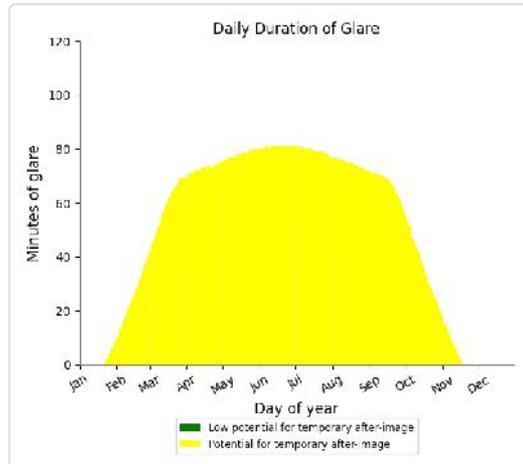
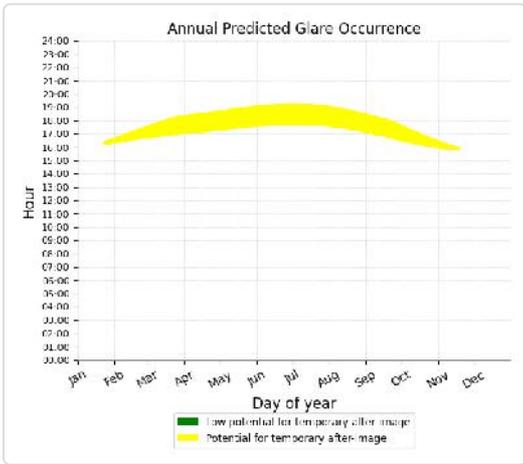
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,760 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 24)

PV array is expected to produce the following glare for receptors at this location:

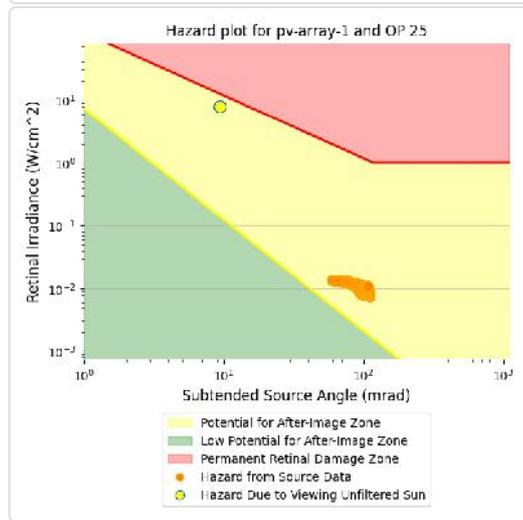
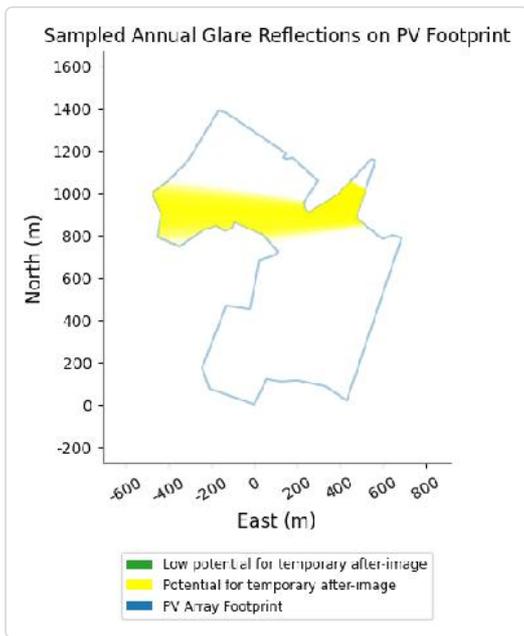
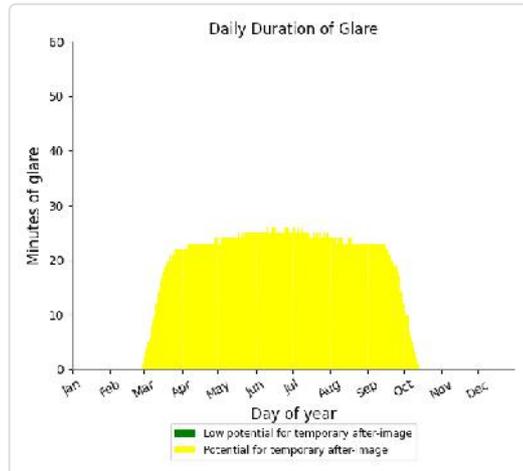
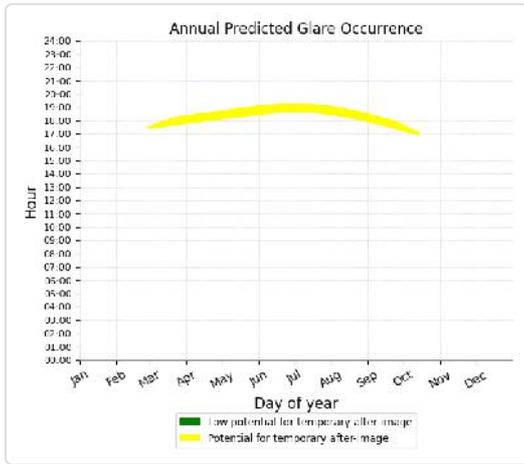
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 17,687 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 25)

PV array is expected to produce the following glare for receptors at this location:

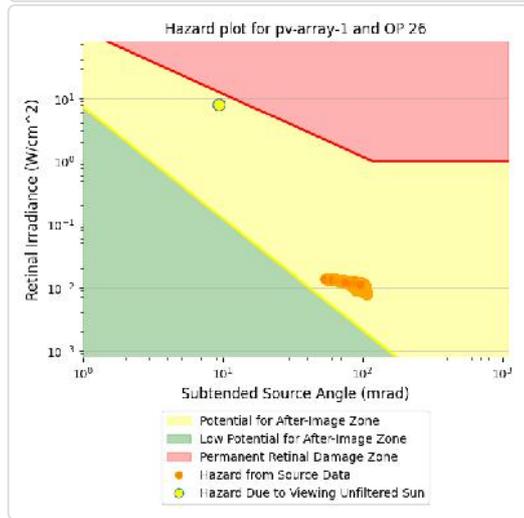
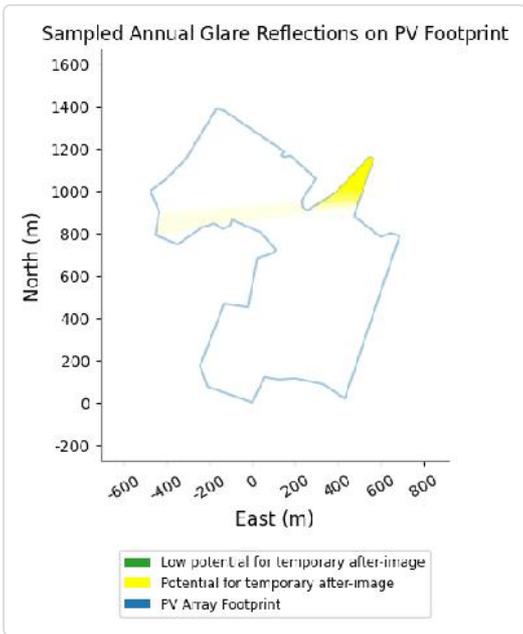
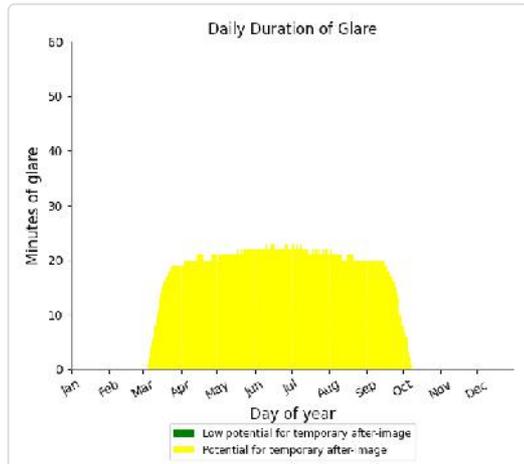
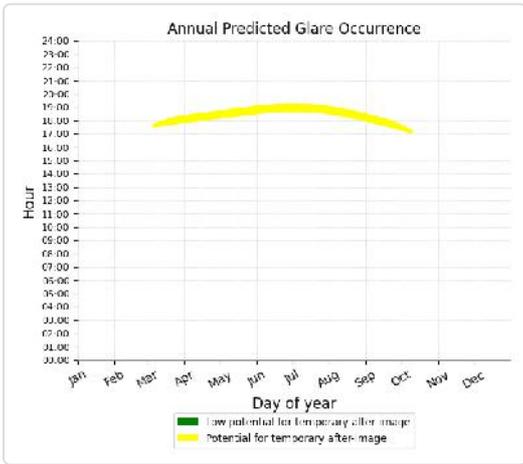
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,866 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 26)

PV array is expected to produce the following glare for receptors at this location:

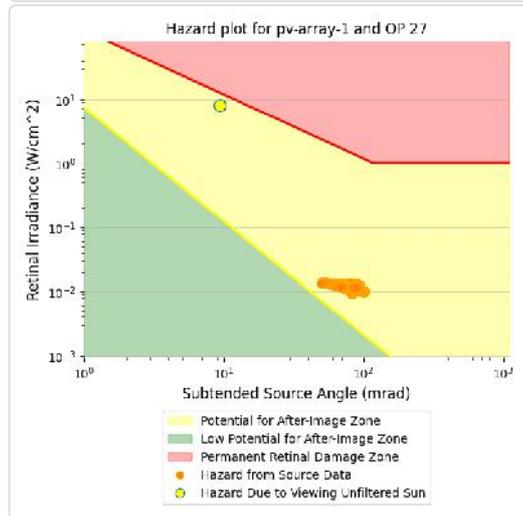
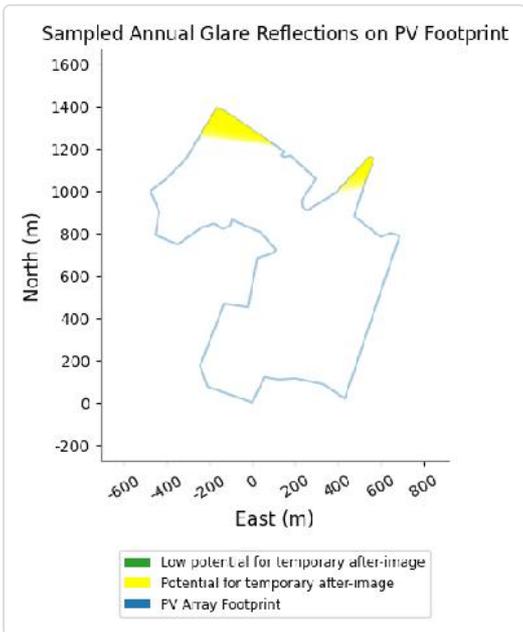
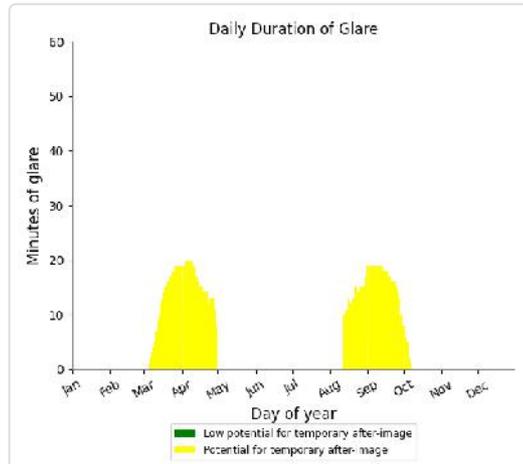
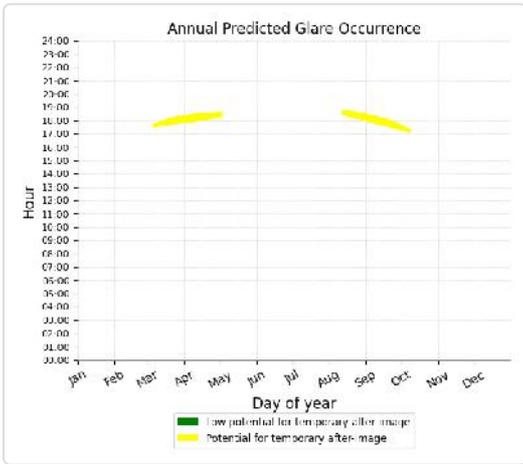
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,184 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:

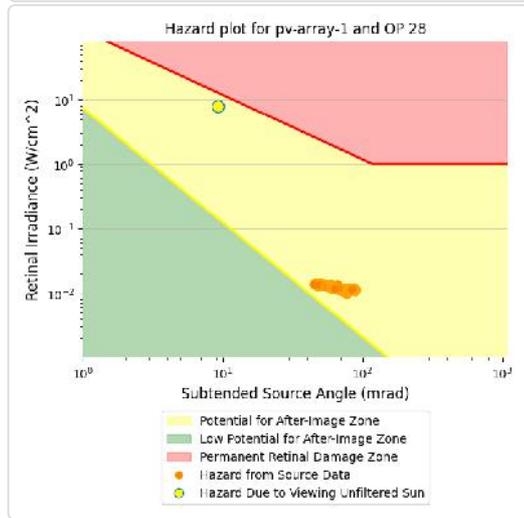
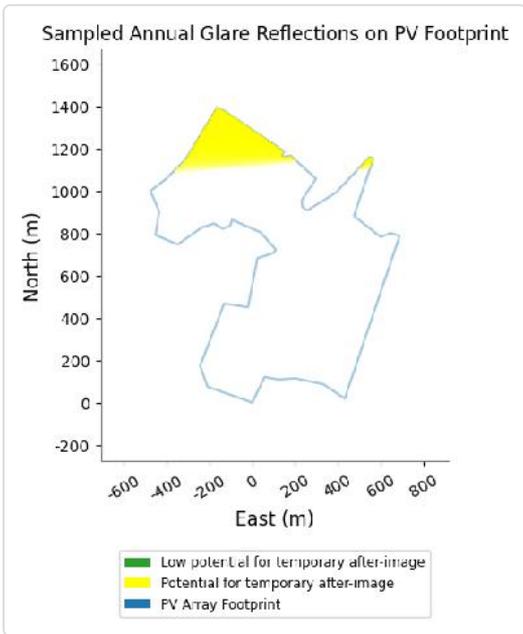
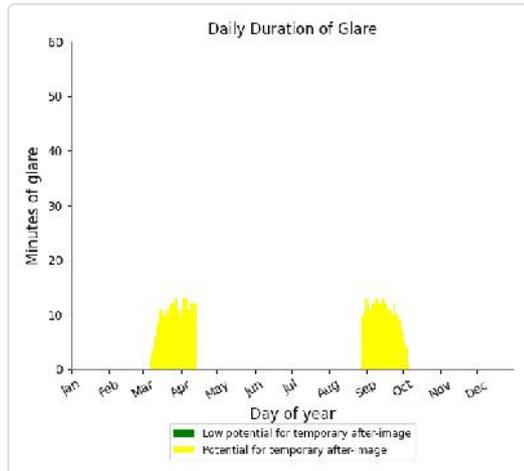
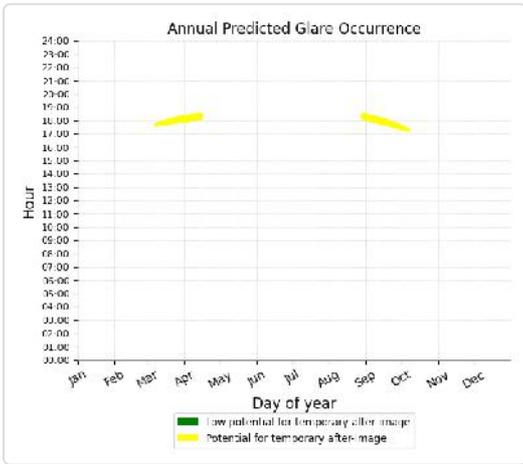
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,624 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:

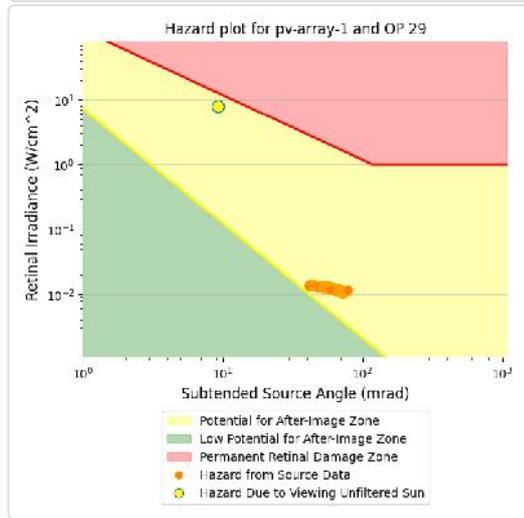
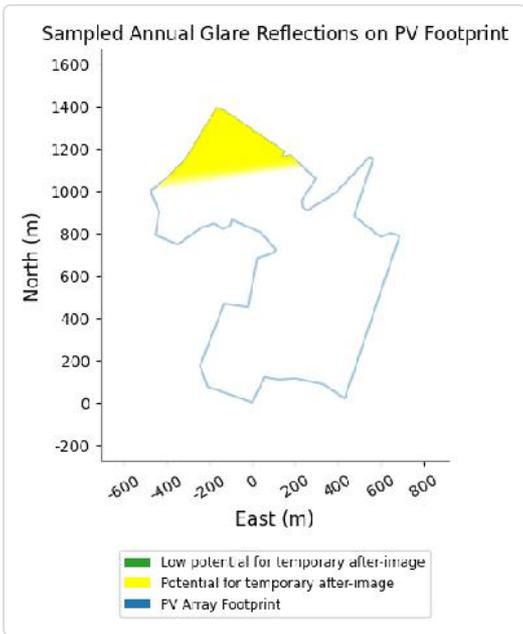
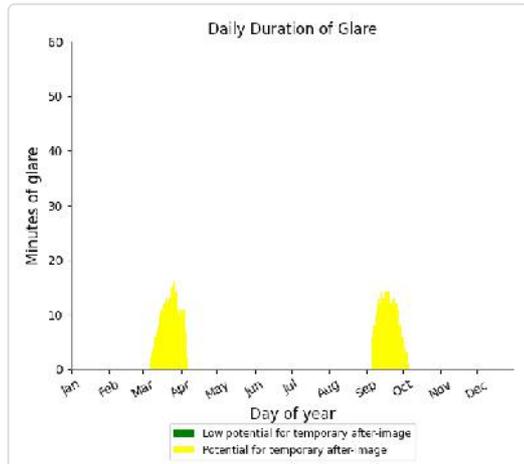
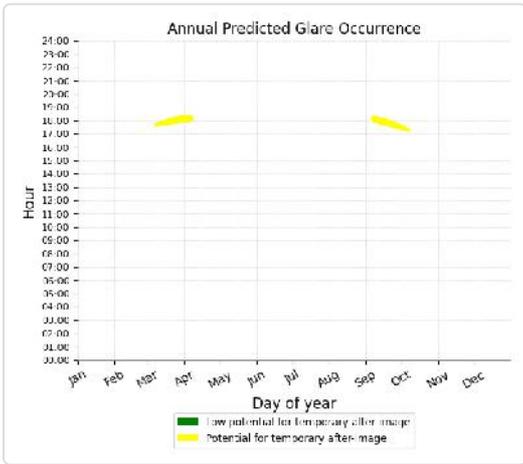
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 813 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 29)

PV array is expected to produce the following glare for receptors at this location:

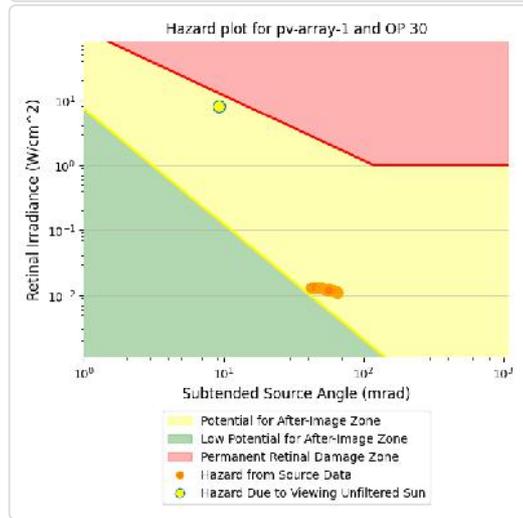
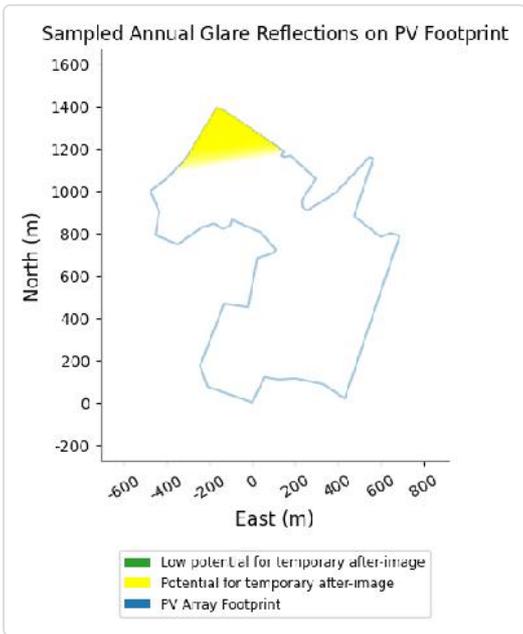
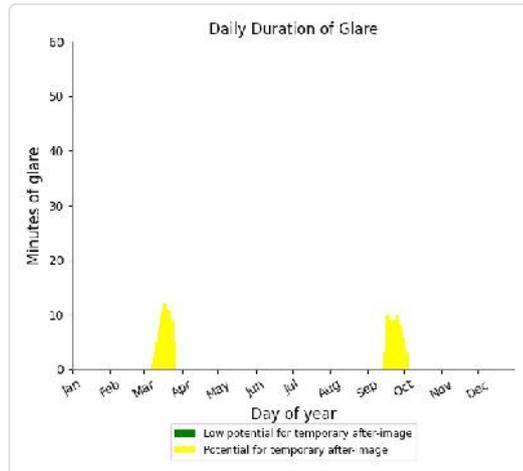
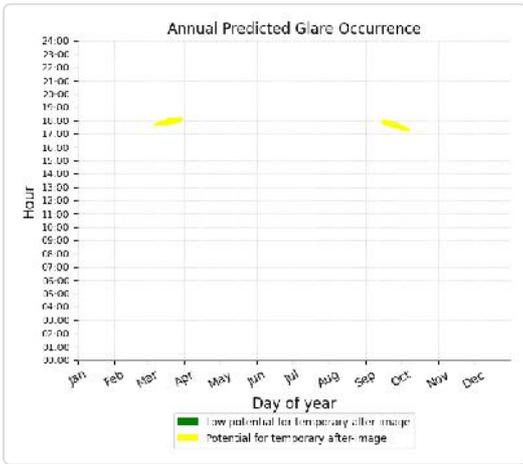
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 618 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:

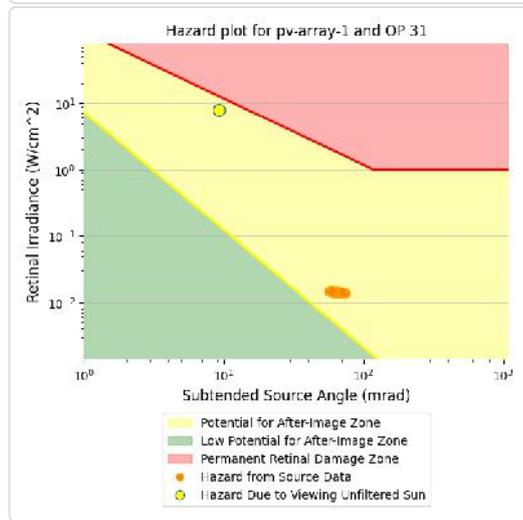
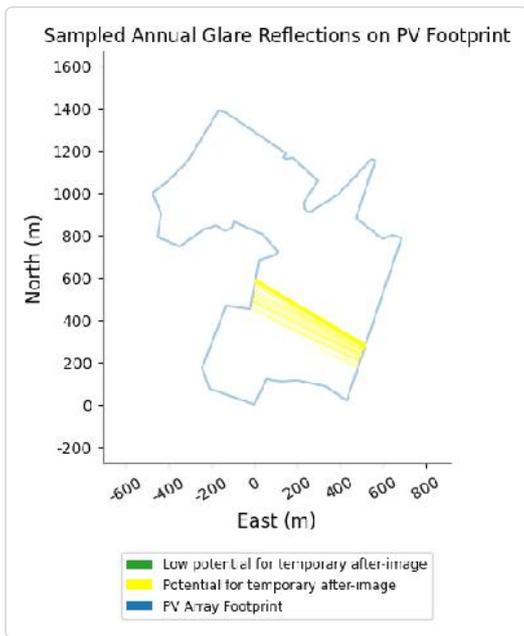
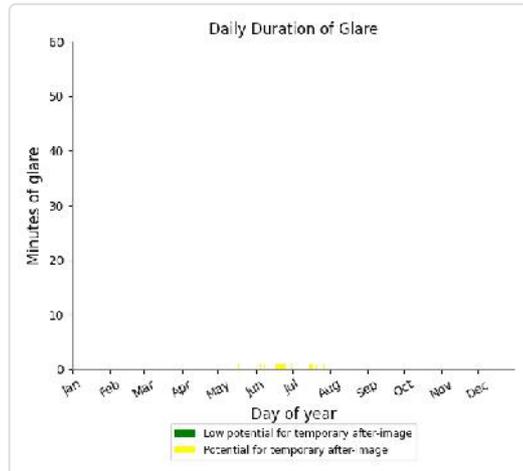
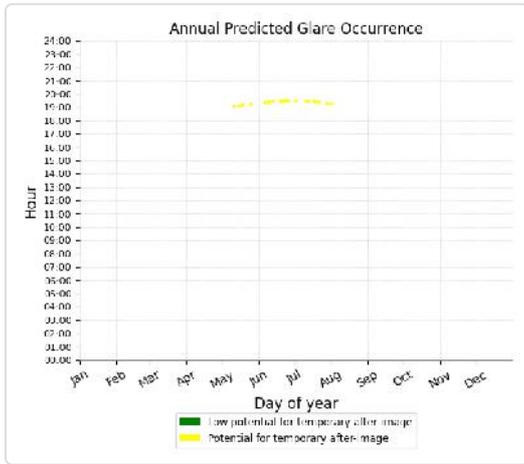
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 326 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 31)

PV array is expected to produce the following glare for receptors at this location:

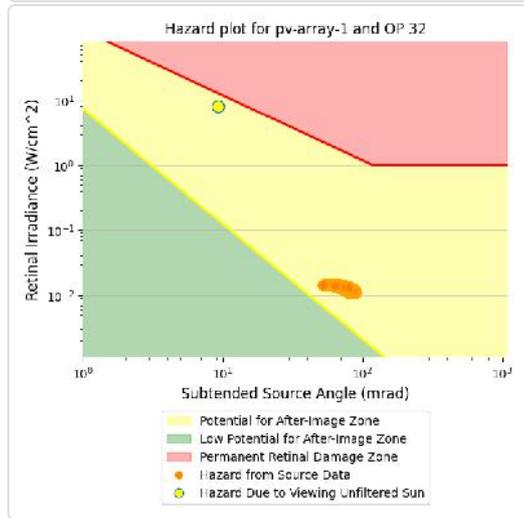
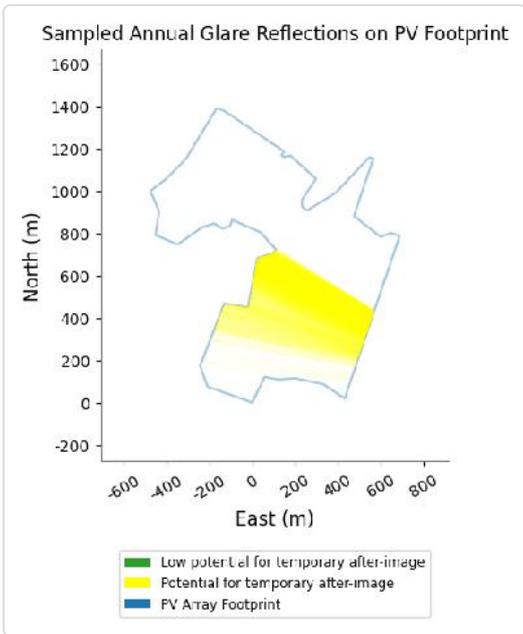
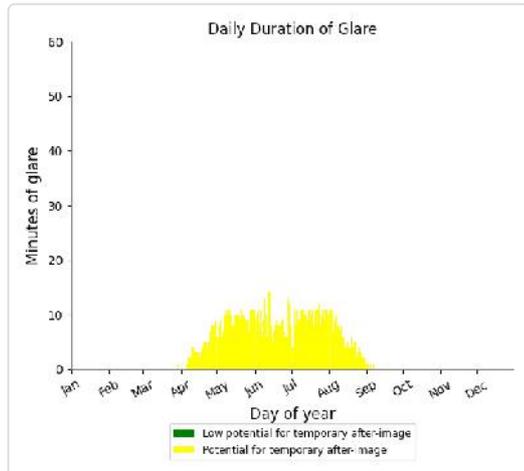
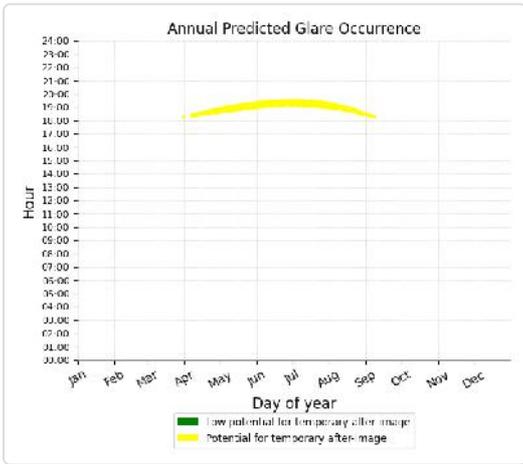
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 23 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 32)

PV array is expected to produce the following glare for receptors at this location:

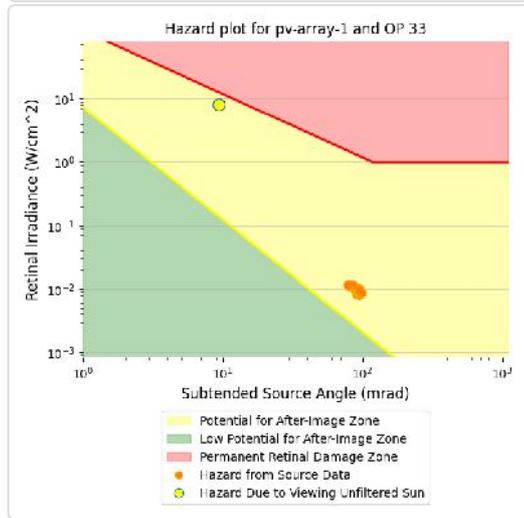
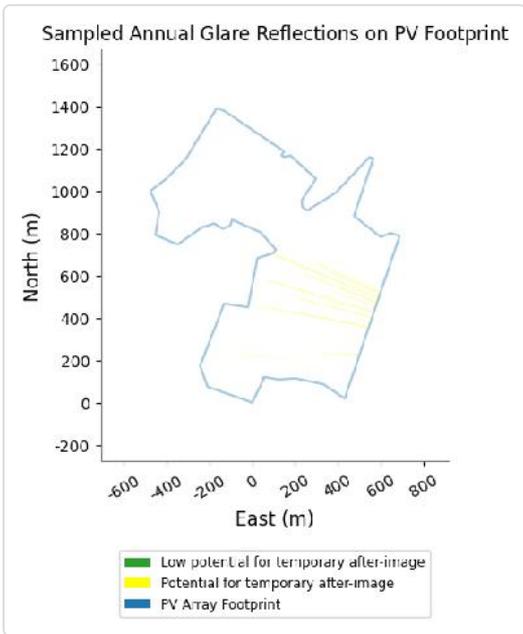
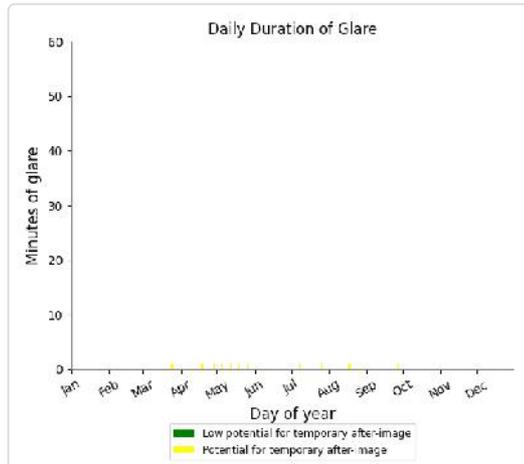
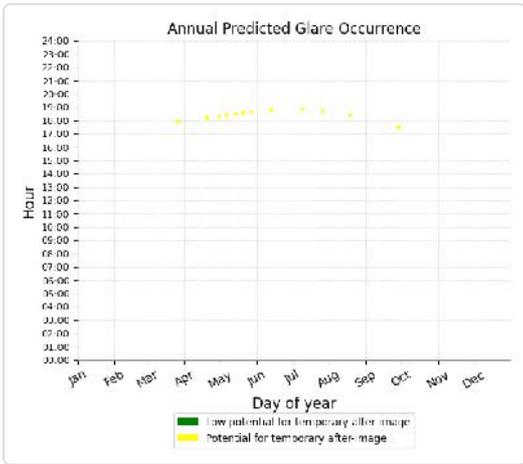
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,150 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 33)

PV array is expected to produce the following glare for receptors at this location:

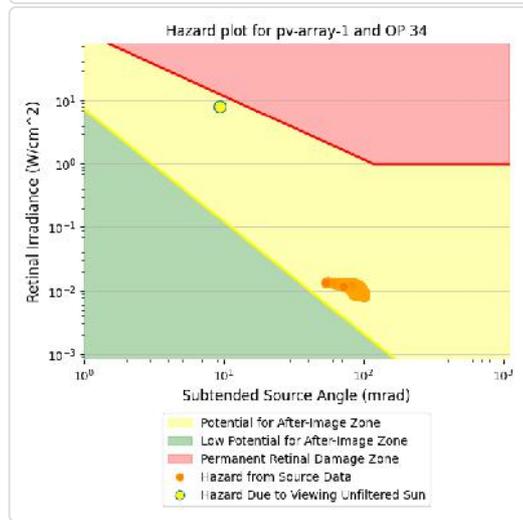
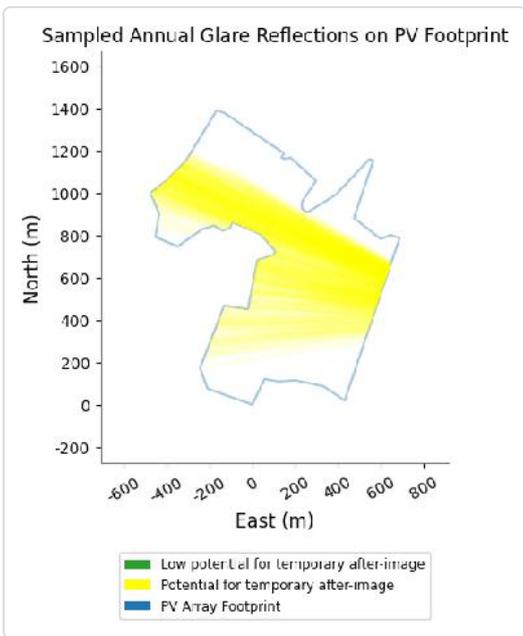
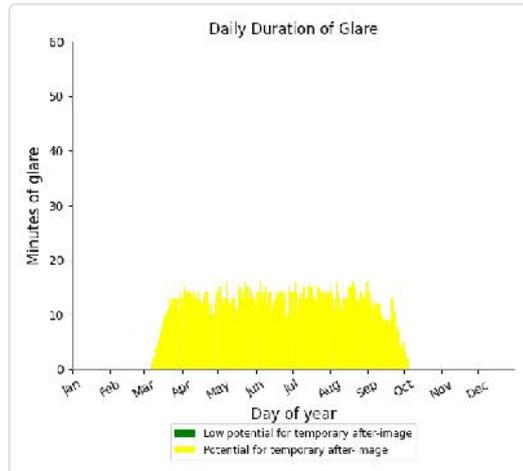
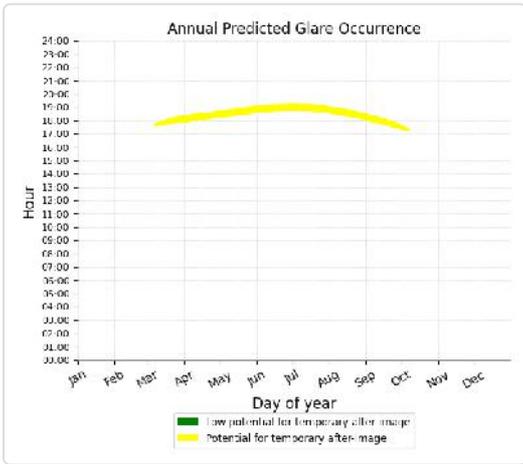
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 15 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 34)

PV array is expected to produce the following glare for receptors at this location:

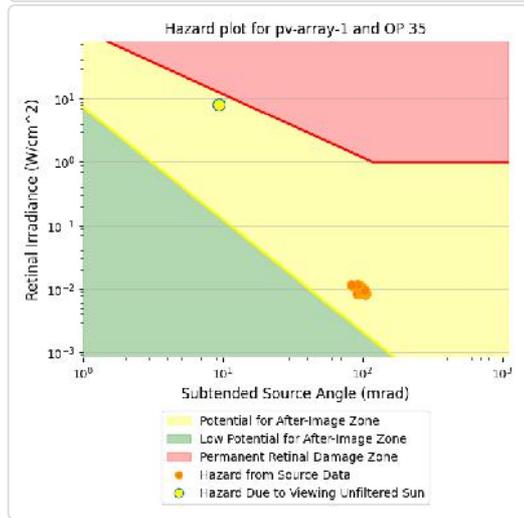
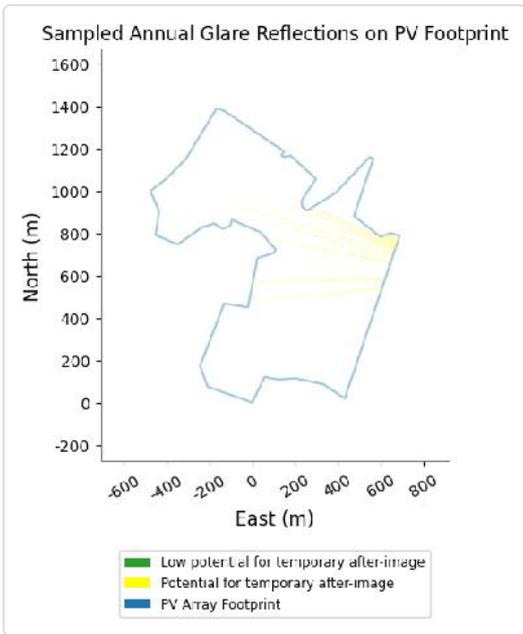
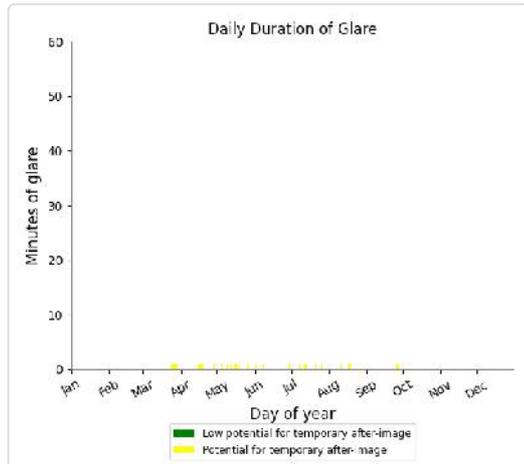
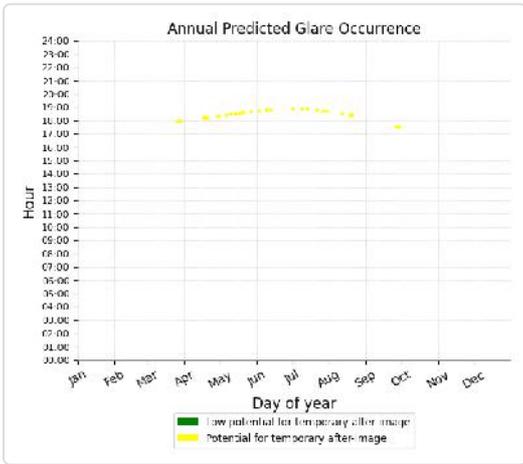
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,618 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 35)

PV array is expected to produce the following glare for receptors at this location:

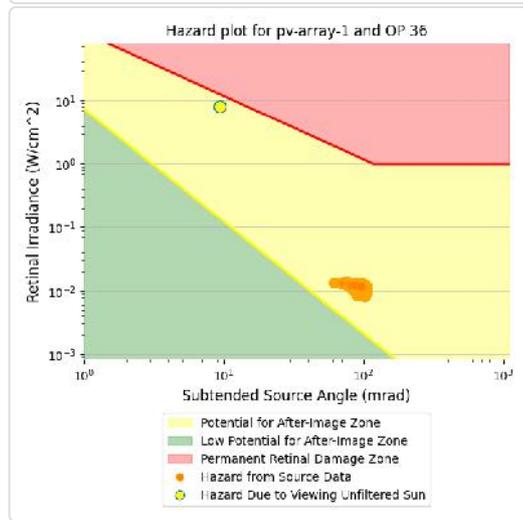
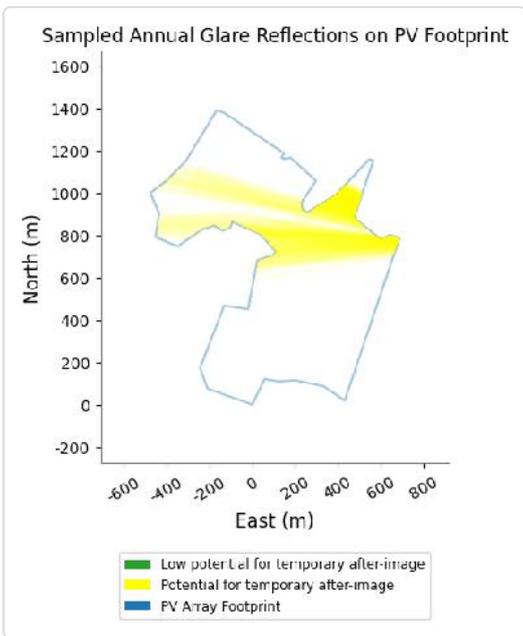
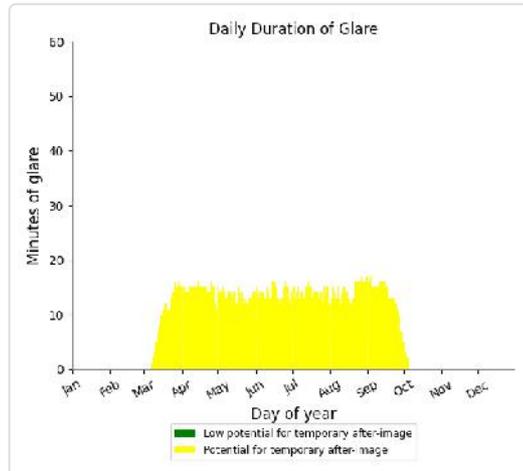
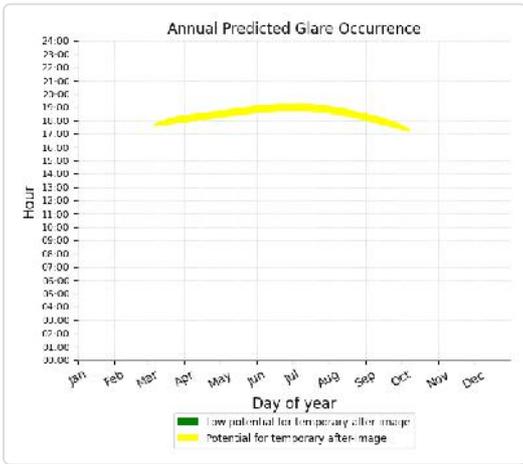
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 31 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 36)

PV array is expected to produce the following glare for receptors at this location:

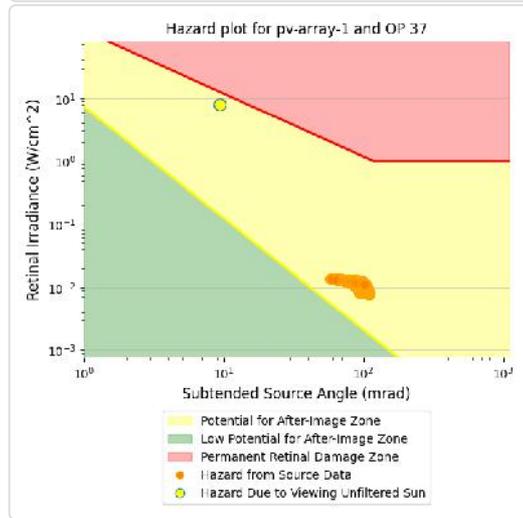
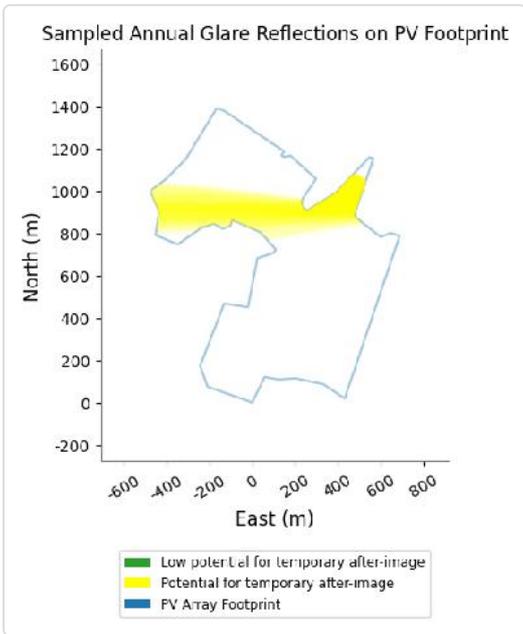
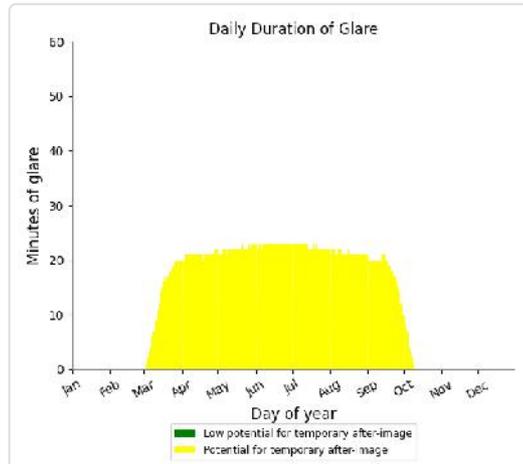
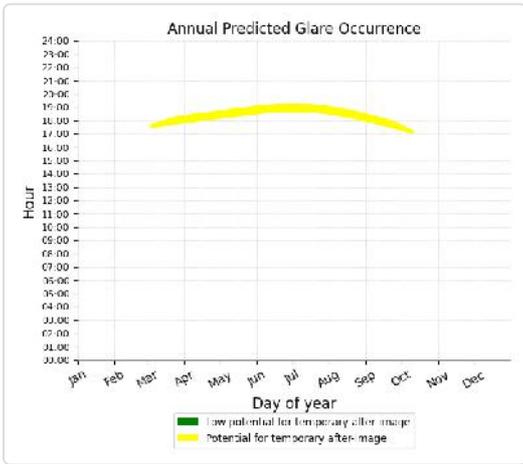
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,850 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 37)

PV array is expected to produce the following glare for receptors at this location:

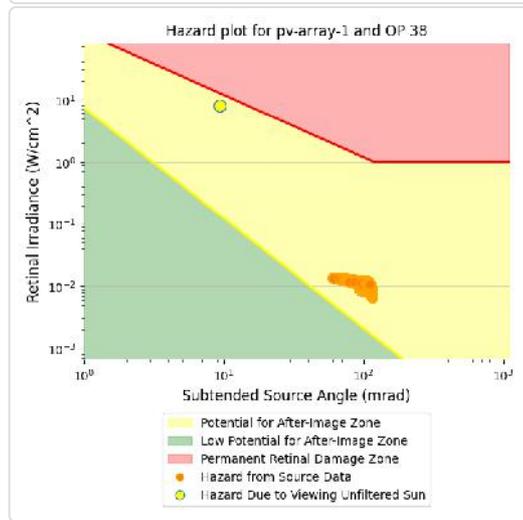
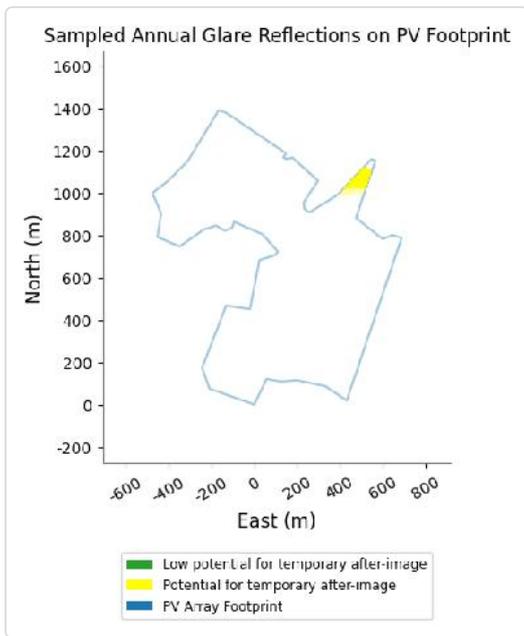
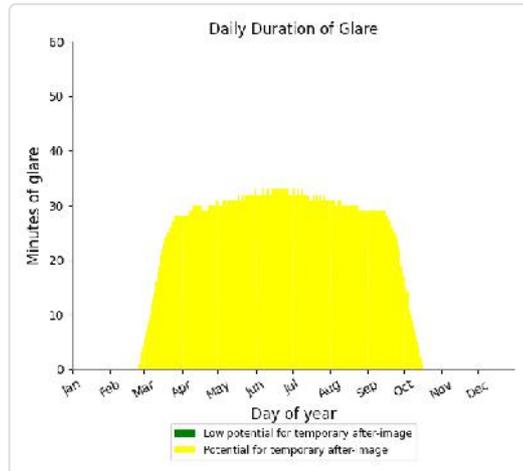
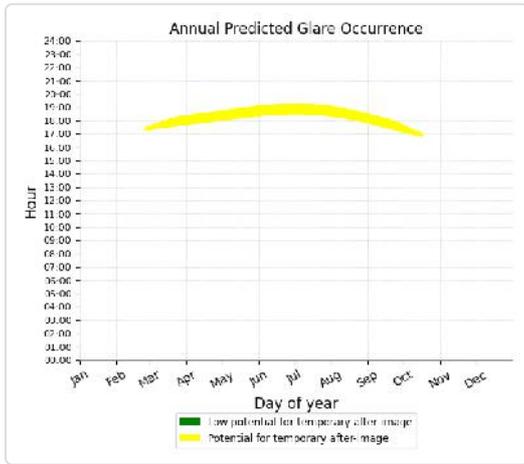
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,347 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 38)

PV array is expected to produce the following glare for receptors at this location:

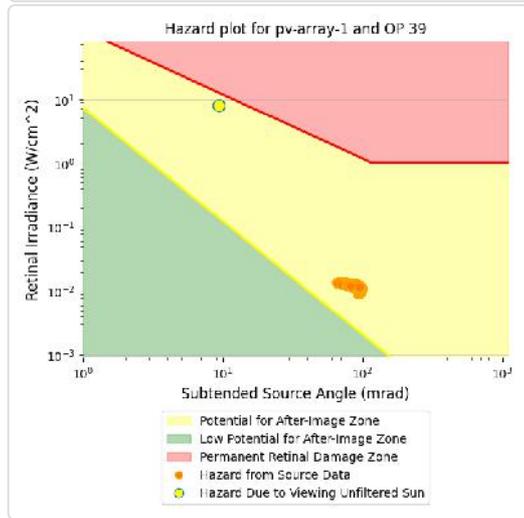
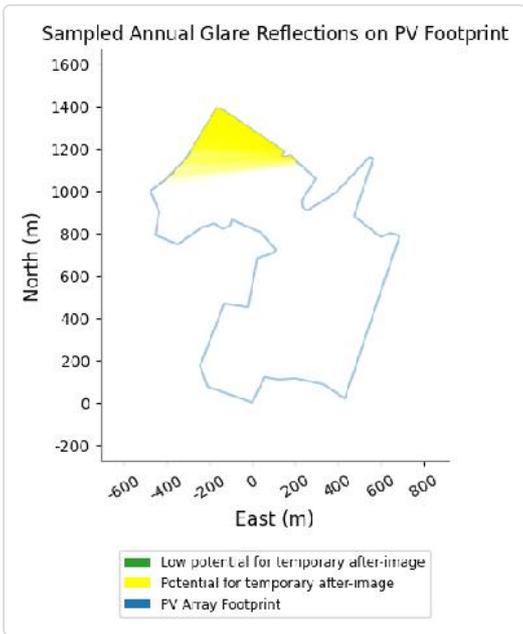
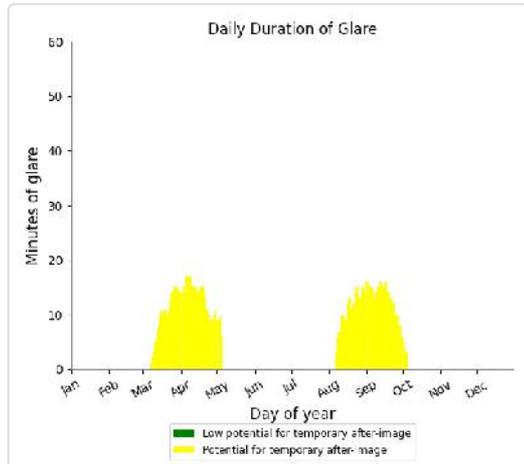
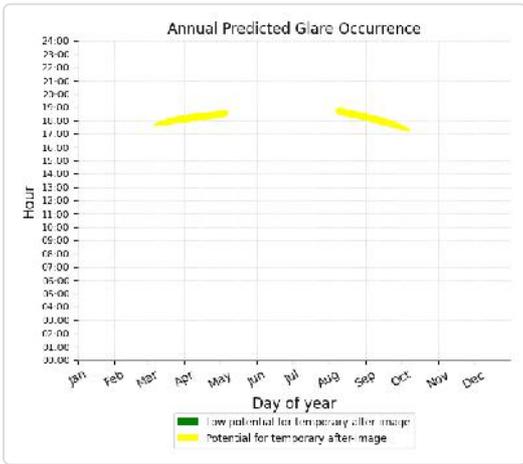
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 6,299 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 39)

PV array is expected to produce the following glare for receptors at this location:

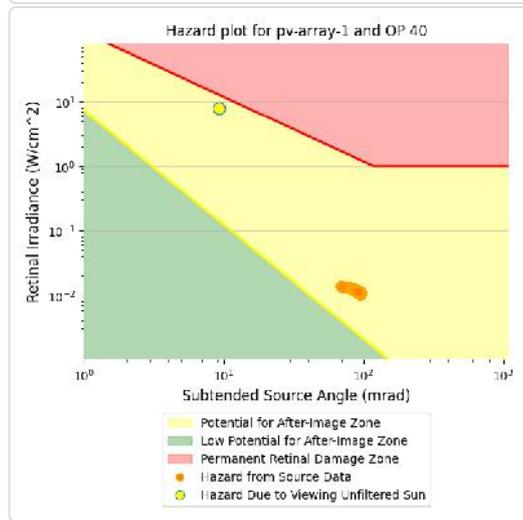
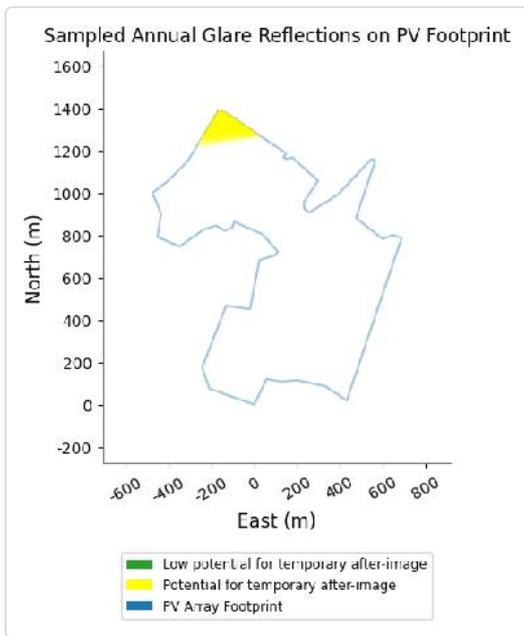
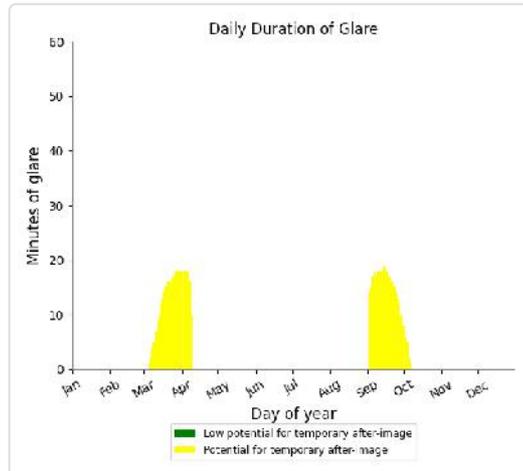
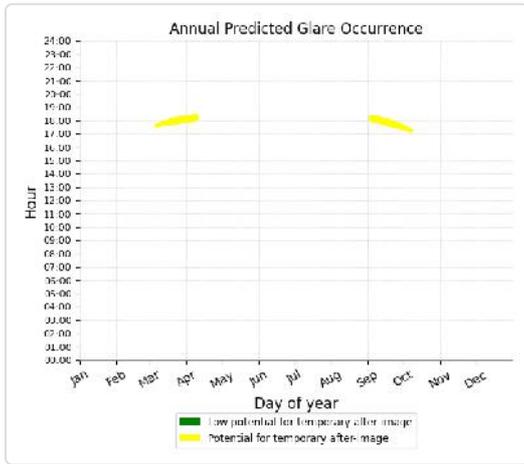
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,415 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 40)

PV array is expected to produce the following glare for receptors at this location:

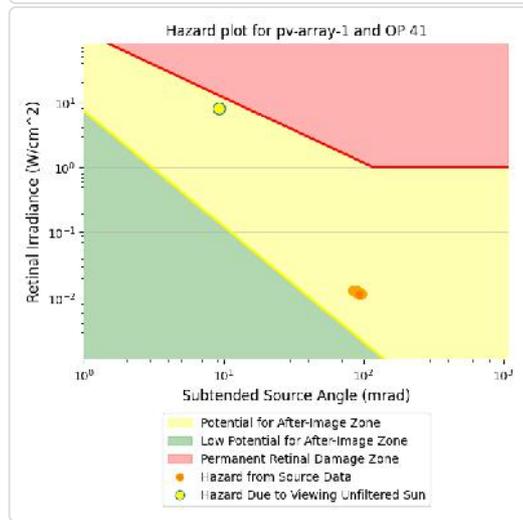
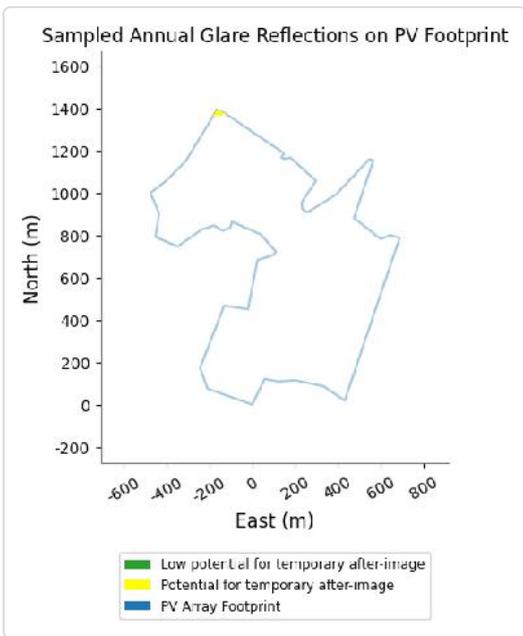
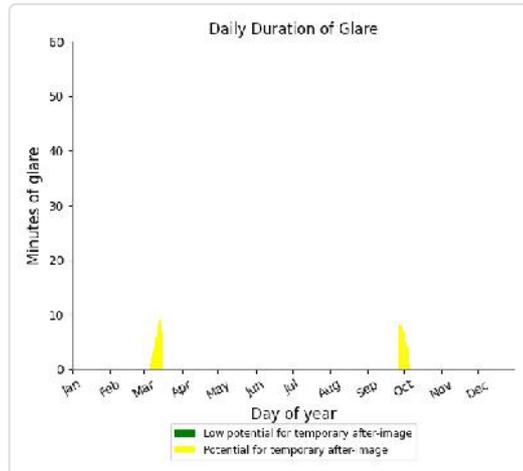
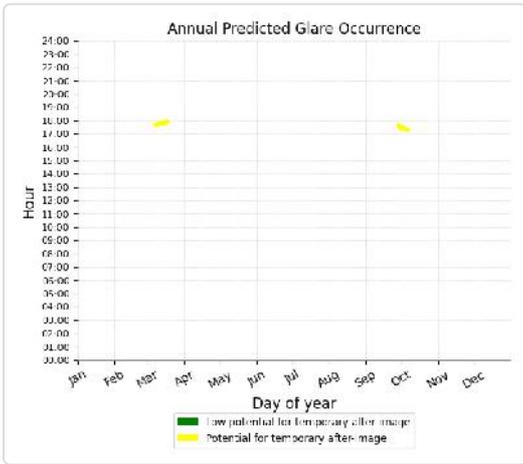
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 968 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 41)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 120 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 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 for 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.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6E - Road Receptor Glare Results (30 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Road Receptors 30deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 72998.12854

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



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

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
PV array 1	30.0	180.0	0	103,443	-

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 30.0 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	52.977416	-0.868813	20.30	2.80	23.10
2	52.978501	-0.867955	20.00	2.80	22.80
3	52.978398	-0.866989	20.39	2.80	23.19
4	52.978450	-0.865830	20.46	2.80	23.26
5	52.978191	-0.863856	20.00	2.80	22.80
6	52.977584	-0.862376	19.95	2.80	22.75
7	52.984483	-0.858556	24.76	2.80	27.56
8	52.984612	-0.859200	25.60	2.80	28.40
9	52.984431	-0.859865	26.00	2.80	28.80
10	52.985335	-0.861732	25.02	2.80	27.82
11	52.987777	-0.860380	19.95	2.80	22.75
12	52.987828	-0.860659	19.88	2.80	22.68
13	52.986317	-0.862998	21.01	2.80	23.81
14	52.985568	-0.864972	20.25	2.80	23.05
15	52.985723	-0.865337	19.79	2.80	22.59
16	52.986007	-0.865358	20.07	2.80	22.87
17	52.986911	-0.864371	20.22	2.80	23.02
18	52.987893	-0.866152	18.00	2.80	20.80
19	52.987841	-0.866581	18.05	2.80	20.85
20	52.987893	-0.866774	18.33	2.80	21.13
21	52.988074	-0.866603	18.08	2.80	20.88
22	52.989779	-0.870723	22.00	2.80	24.80
23	52.989908	-0.871280	22.00	2.80	24.80
24	52.987738	-0.873448	22.05	2.80	24.85
25	52.986924	-0.874778	22.79	2.80	25.59
26	52.986395	-0.875894	22.62	2.80	25.42
27	52.985516	-0.875293	21.94	2.80	24.74
28	52.984522	-0.875551	21.38	2.80	24.18
29	52.984121	-0.874006	20.15	2.80	22.95
30	52.984845	-0.872310	20.21	2.80	23.01
31	52.985012	-0.871474	20.01	2.80	22.81
32	52.984793	-0.870873	20.22	2.80	23.02
33	52.984909	-0.870358	20.19	2.80	22.99
34	52.985167	-0.870208	19.84	2.80	22.64
35	52.984638	-0.868233	20.05	2.80	22.85
36	52.983914	-0.867182	19.95	2.80	22.75
37	52.983759	-0.867332	20.03	2.80	22.83
38	52.983540	-0.868448	20.67	2.80	23.47
39	52.981460	-0.869113	21.77	2.80	24.57
40	52.981615	-0.870765	23.94	2.80	26.74
41	52.978966	-0.872439	24.87	2.80	27.67
42	52.978088	-0.871924	23.83	2.80	26.63

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
OP 1	52.988661	-0.872902	22.84	1.50	24.34
OP 2	52.987175	-0.874833	23.17	1.50	24.67
OP 3	52.985987	-0.876700	22.88	1.50	24.38
OP 4	52.984624	-0.878824	24.57	1.50	26.07
OP 5	52.983106	-0.880509	24.75	1.50	26.25
OP 6	52.981556	-0.882075	23.62	1.50	25.12
OP 7	52.980031	-0.883459	24.67	1.50	26.17
OP 8	52.978539	-0.884993	22.18	1.50	23.68
OP 9	52.983662	-0.889446	19.00	1.50	20.50
OP 10	52.982589	-0.886860	18.00	1.50	19.50
OP 11	52.981834	-0.884306	22.42	1.50	23.92
OP 12	52.980070	-0.881335	21.82	1.50	23.32
OP 13	52.979256	-0.878792	20.70	1.50	22.20
OP 14	52.978688	-0.876045	21.32	1.50	22.82
OP 15	52.978171	-0.873063	25.95	1.50	27.45
OP 16	52.977564	-0.870305	21.40	1.50	22.90
OP 17	52.976892	-0.867312	20.72	1.50	22.22
OP 18	52.976304	-0.864640	22.67	1.50	24.17
OP 19	52.975109	-0.863718	23.93	1.50	25.43
OP 20	52.976692	-0.862570	22.10	1.50	23.60
OP 21	52.978429	-0.861626	19.57	1.50	21.07
OP 22	52.980154	-0.860682	19.00	1.50	20.50
OP 23	52.981940	-0.859713	19.52	1.50	21.02
OP 24	52.983600	-0.858790	22.92	1.50	24.42
OP 25	52.985370	-0.857824	25.29	1.50	26.79
OP 26	52.986377	-0.855657	24.00	1.50	25.50
OP 27	52.987353	-0.853501	24.00	1.50	25.50
OP 28	52.988399	-0.850926	22.79	1.50	24.29
OP 29	52.989161	-0.848394	23.88	1.50	25.38
OP 30	52.990304	-0.846012	23.00	1.50	24.50
OP 31	52.975971	-0.850153	20.00	1.50	21.50
OP 32	52.977728	-0.850872	19.41	1.50	20.91
OP 33	52.979524	-0.851022	20.39	1.50	21.89
OP 34	52.980958	-0.852192	20.80	1.50	22.30
OP 35	52.982676	-0.852996	19.62	1.50	21.12
OP 36	52.984130	-0.854617	20.00	1.50	21.50
OP 37	52.985473	-0.857020	24.13	1.50	25.63
OP 38	52.986733	-0.858908	25.03	1.50	26.53
OP 39	52.988069	-0.860281	19.60	1.50	21.10
OP 40	52.989464	-0.862148	23.09	1.50	24.59
OP 41	52.990394	-0.864734	21.00	1.50	22.50

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	
PV array 1	30.0	180.0	0	103,443	-	-

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
pv-array-1 (green)	0	0	0	0	0	0	0	0	0	0	0	0
pv-array-1 (yellow)	0	26	2459	4308	5014	4924	5038	4757	3389	487	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 potential temporary after-image

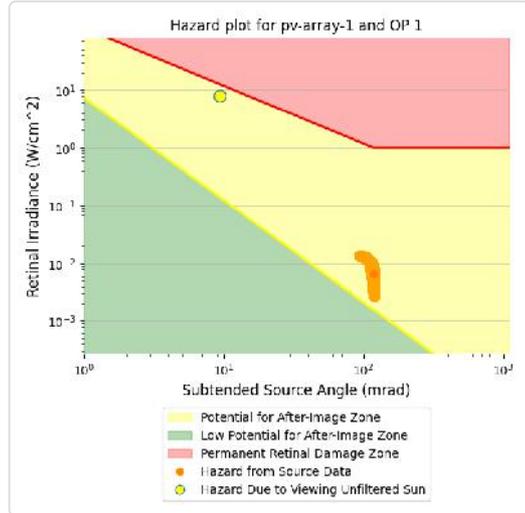
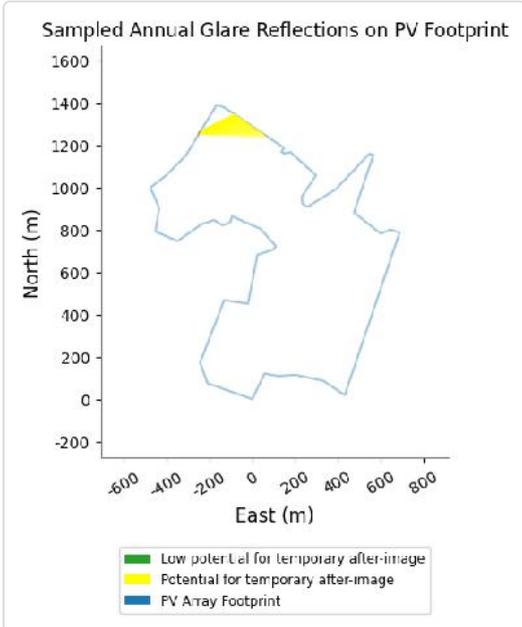
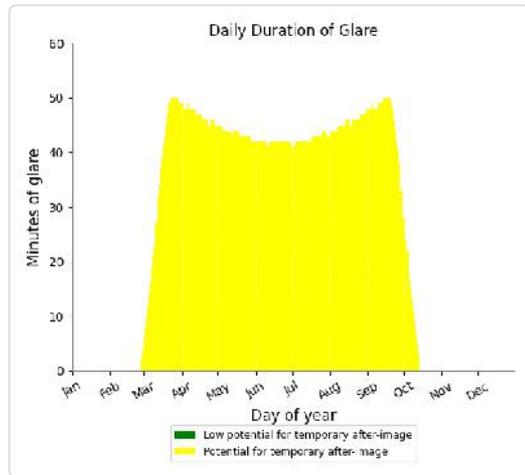
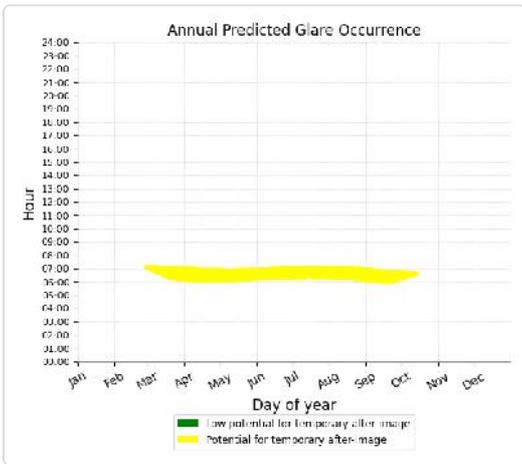
Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	9407
OP: OP 2	0	7163
OP: OP 3	0	4902
OP: OP 4	0	3487
OP: OP 5	0	2929
OP: OP 6	0	2335
OP: OP 7	0	2036
OP: OP 8	0	0
OP: OP 9	0	1614
OP: OP 10	0	2169
OP: OP 11	0	1429
OP: OP 12	0	13
OP: OP 13	0	1568
OP: OP 14	0	1160
OP: OP 15	0	5579
OP: OP 16	0	2484
OP: OP 17	0	2154
OP: OP 18	0	562
OP: OP 19	0	0
OP: OP 20	0	1106
OP: OP 21	0	4552
OP: OP 22	0	4696
OP: OP 23	0	3069
OP: OP 24	0	13586
OP: OP 25	0	3814
OP: OP 26	0	3350
OP: OP 27	0	1288
OP: OP 28	0	551
OP: OP 29	0	352

OP: OP 30	0	89
OP: OP 31	0	33
OP: OP 32	0	1298
OP: OP 33	0	16
OP: OP 34	0	2088
OP: OP 35	0	28
OP: OP 36	0	2311
OP: OP 37	0	3444
OP: OP 38	0	4961
OP: OP 39	0	1191
OP: OP 40	0	629
OP: OP 41	0	0

PV array 1 - OP Receptor (OP 1)

PV array is expected to produce the following glare for receptors at this location:

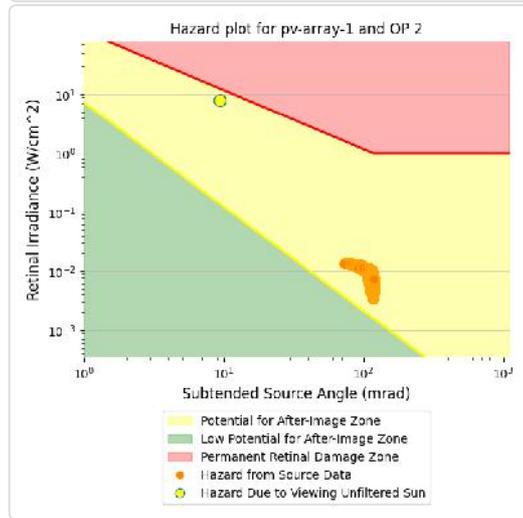
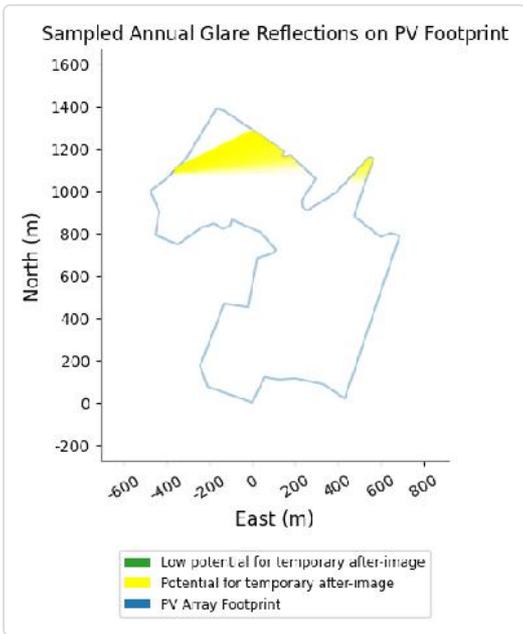
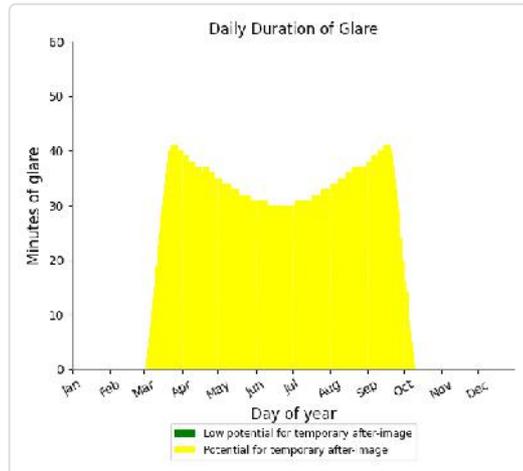
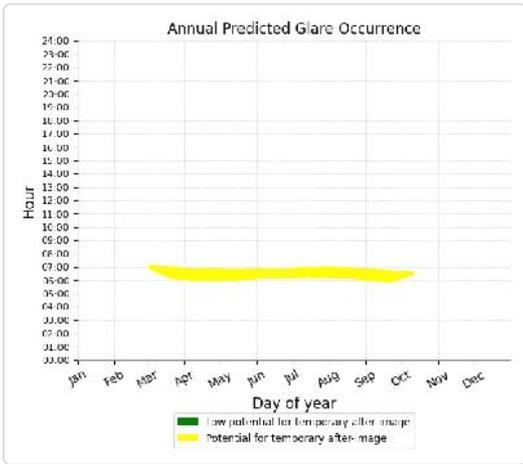
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 9,407 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 2)

PV array is expected to produce the following glare for receptors at this location:

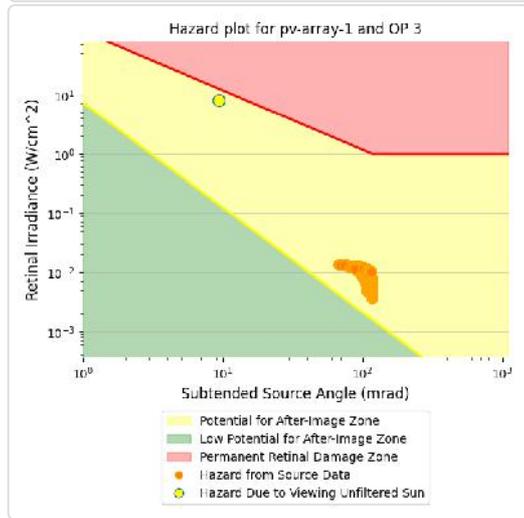
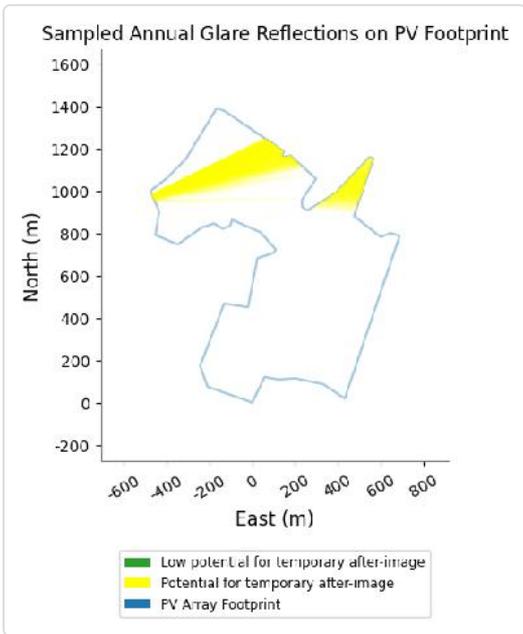
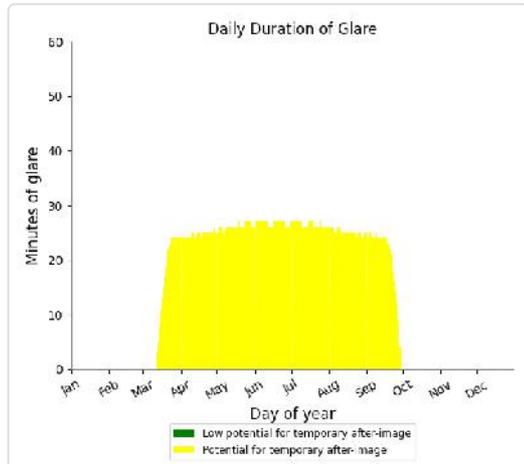
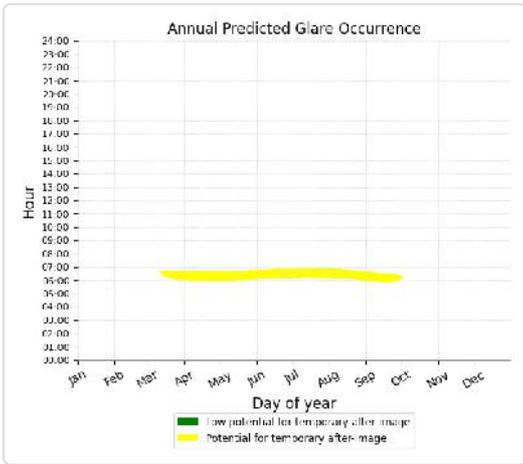
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 7,163 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:

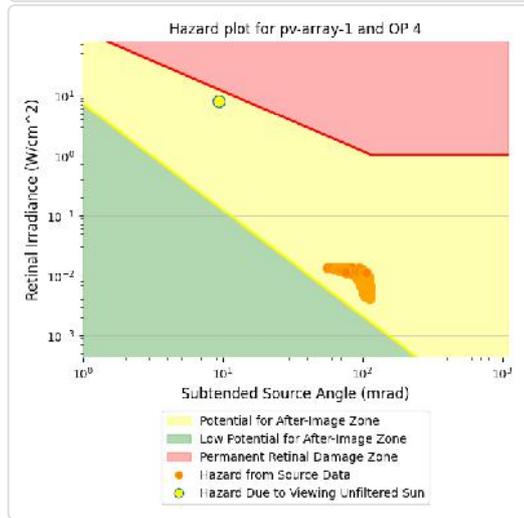
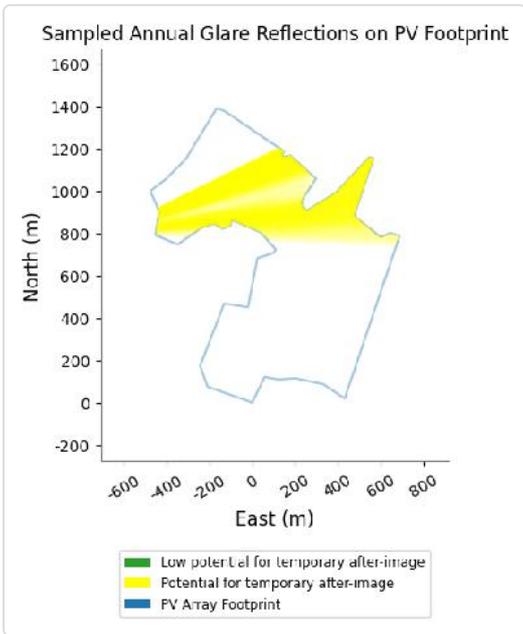
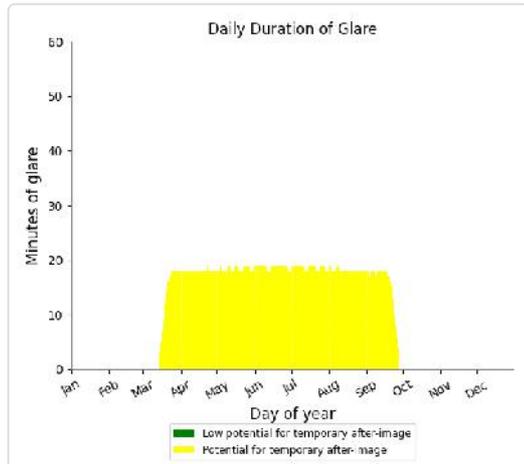
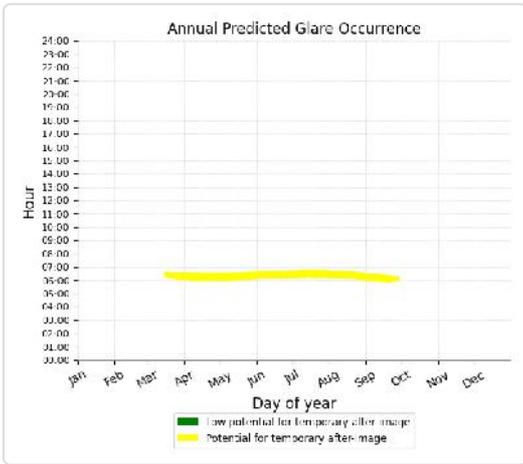
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,902 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 4)

PV array is expected to produce the following glare for receptors at this location:

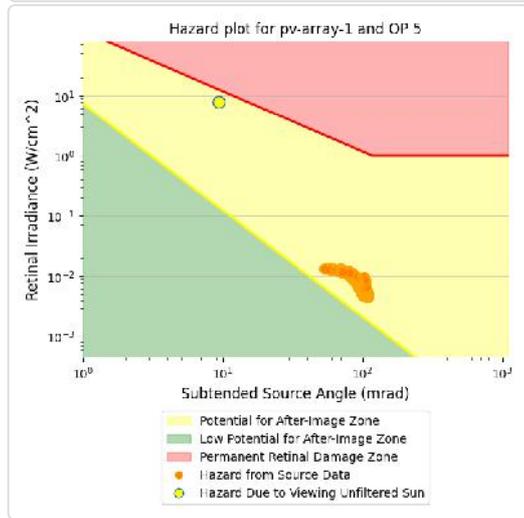
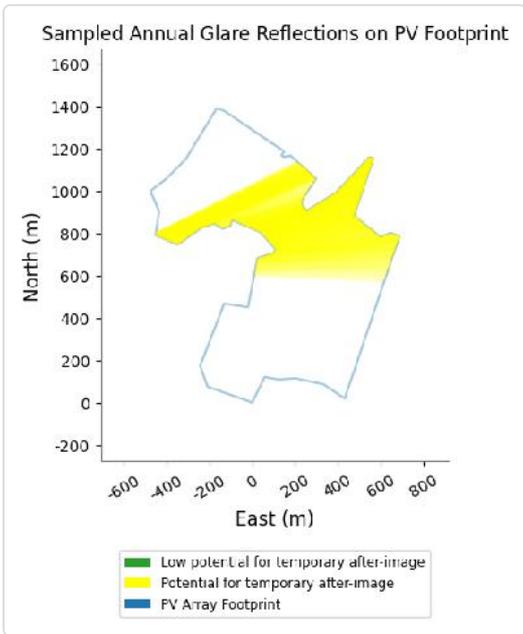
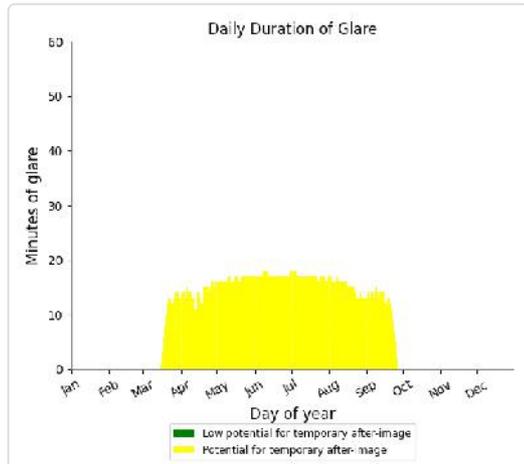
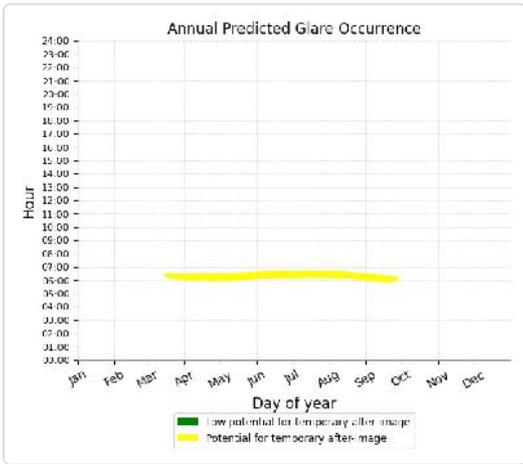
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,487 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:

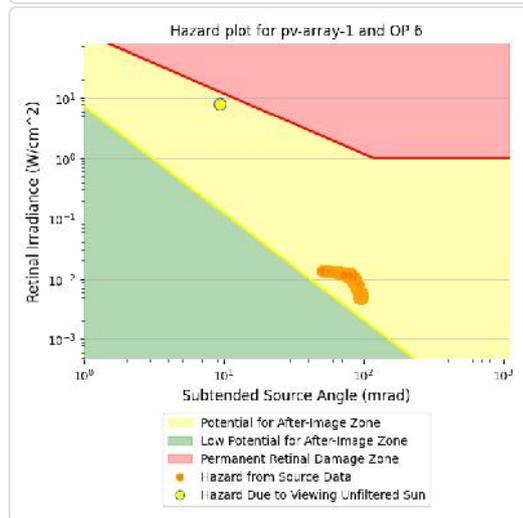
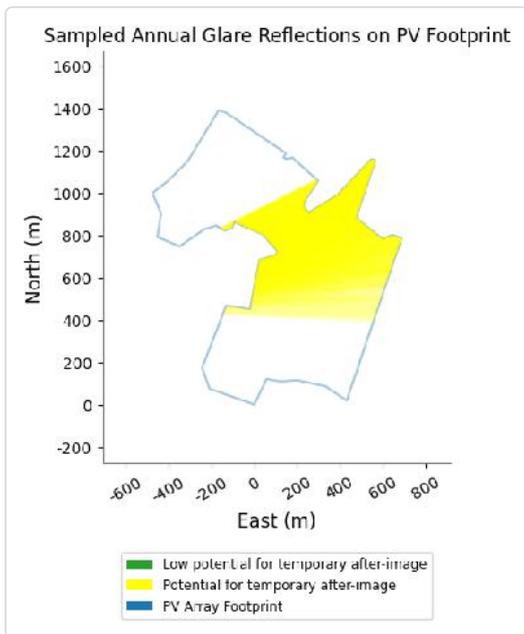
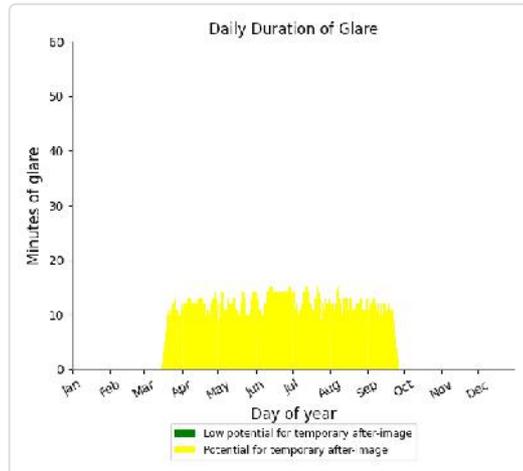
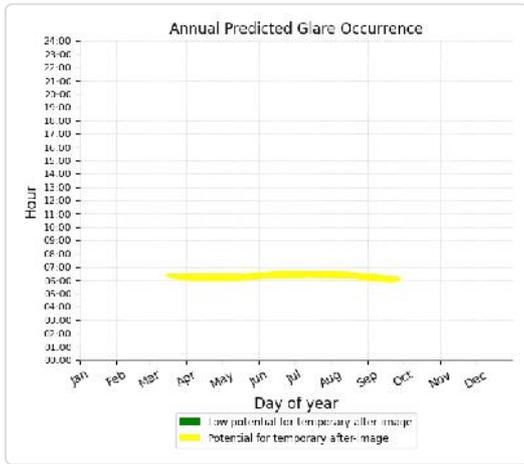
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,929 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 6)

PV array is expected to produce the following glare for receptors at this location:

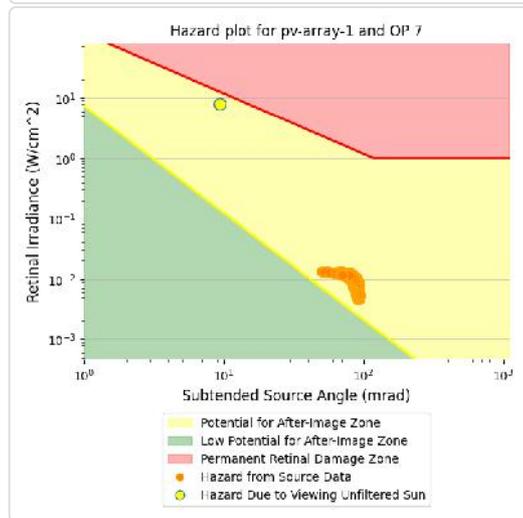
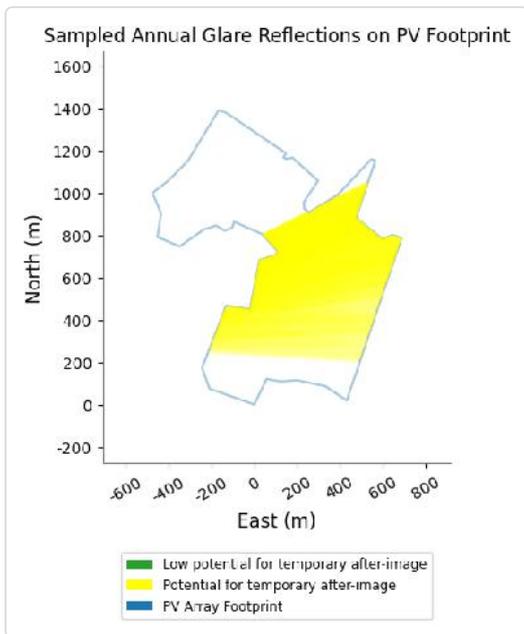
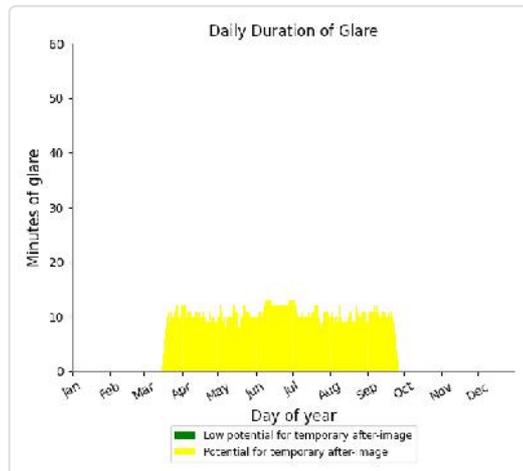
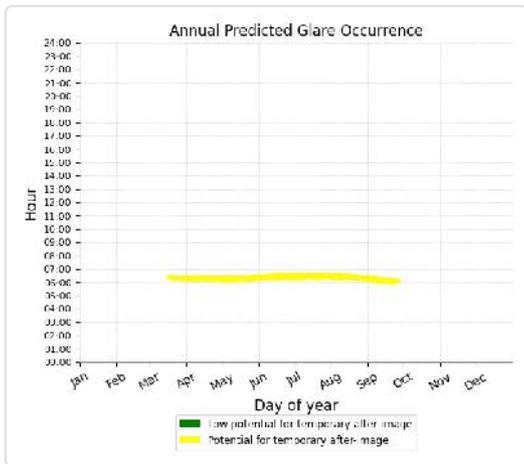
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,335 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 7)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,036 minutes of "yellow" glare with potential to cause temporary after-image.



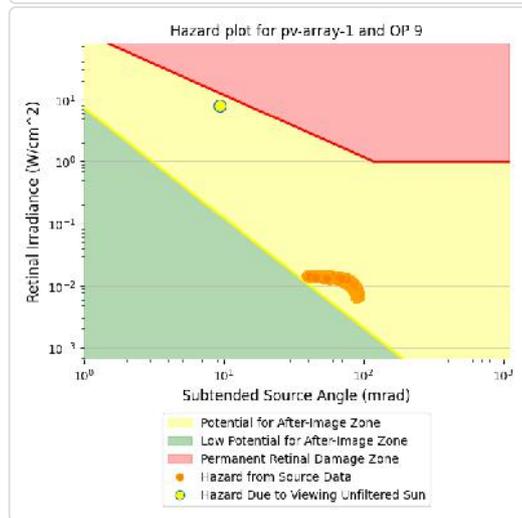
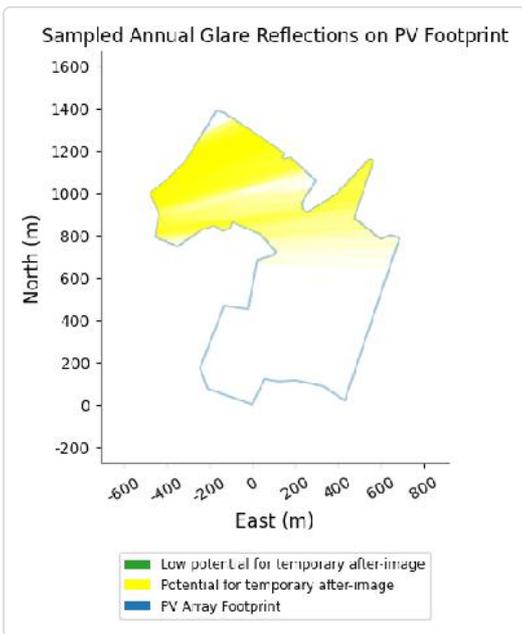
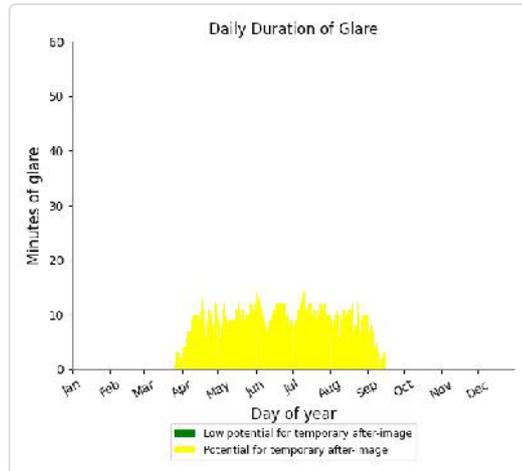
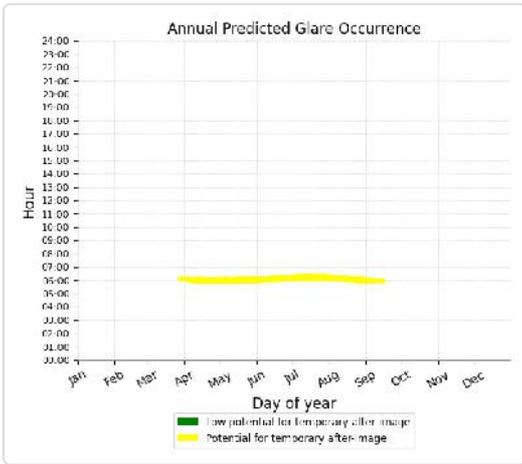
PV array 1 - OP Receptor (OP 8)

No glare found

PV array 1 - OP Receptor (OP 9)

PV array is expected to produce the following glare for receptors at this location:

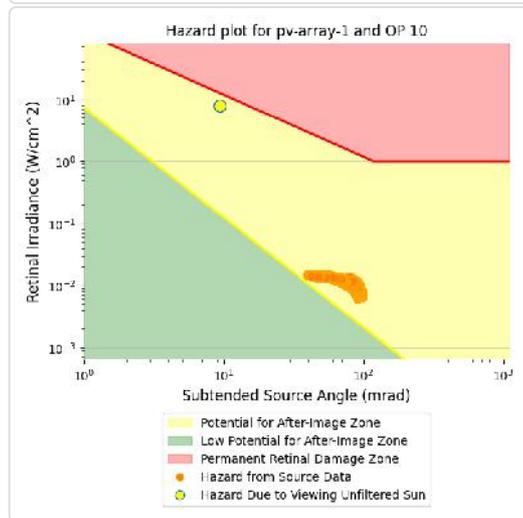
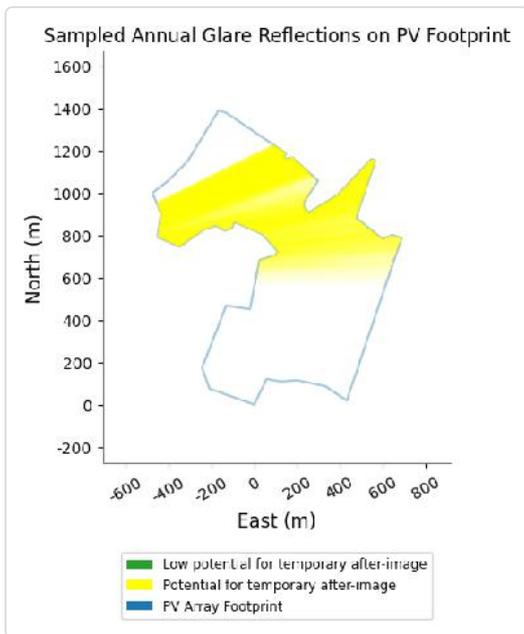
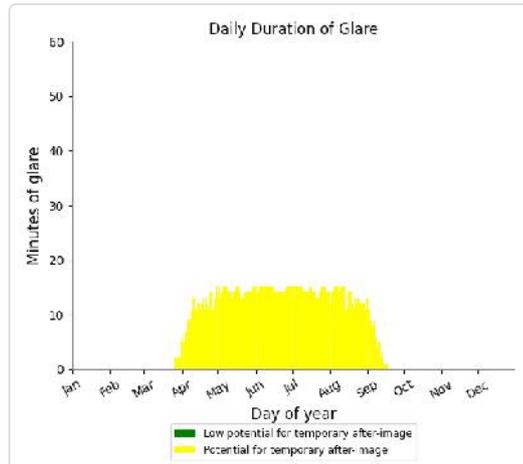
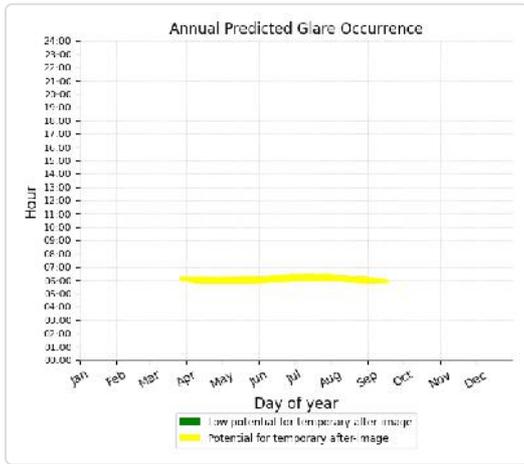
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,614 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 10)

PV array is expected to produce the following glare for receptors at this location:

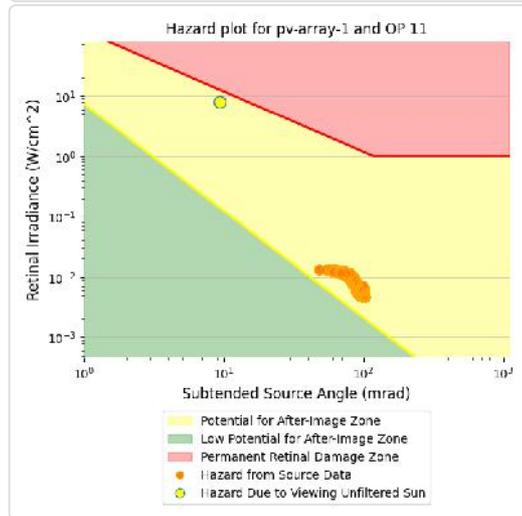
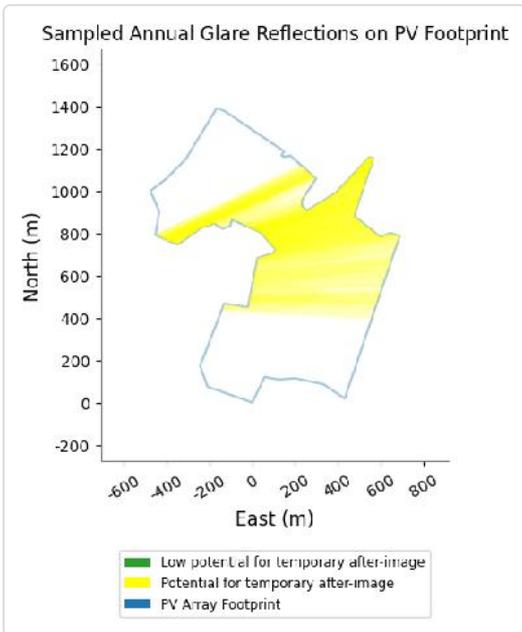
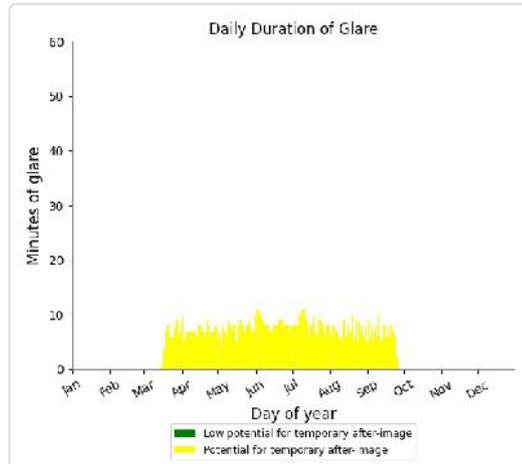
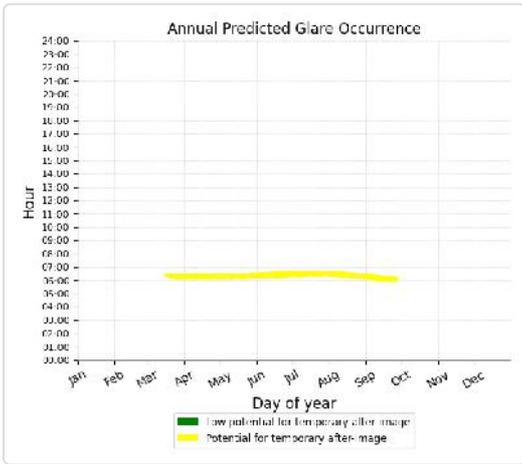
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,169 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 11)

PV array is expected to produce the following glare for receptors at this location:

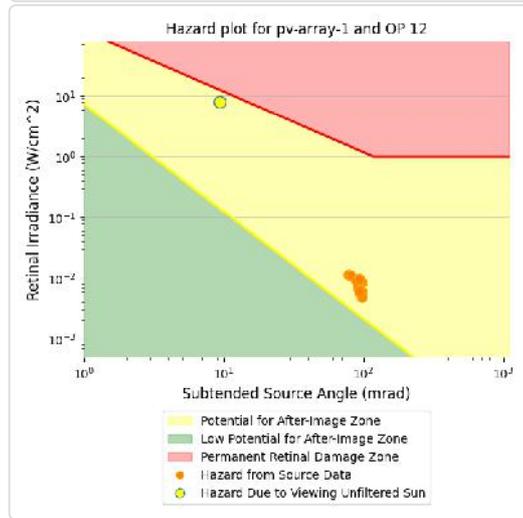
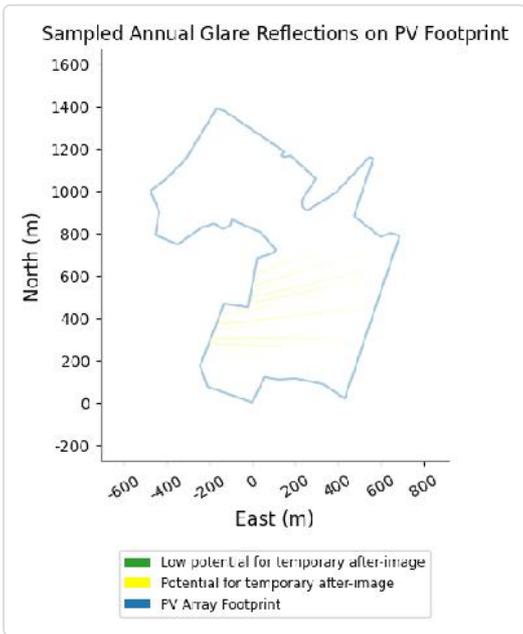
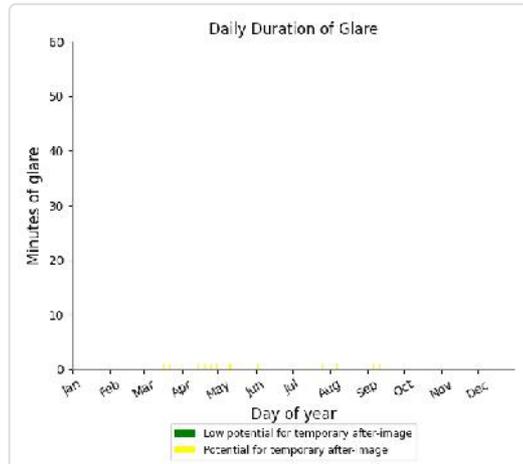
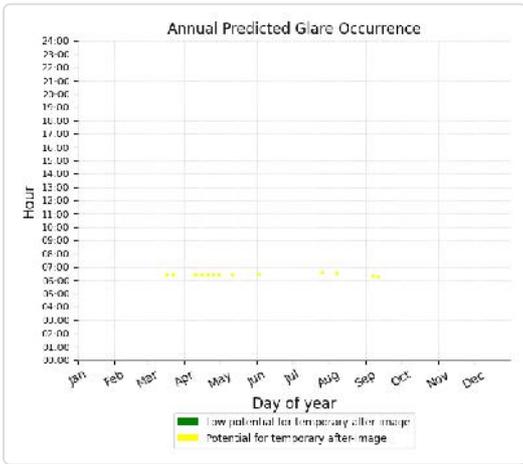
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,429 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 12)

PV array is expected to produce the following glare for receptors at this location:

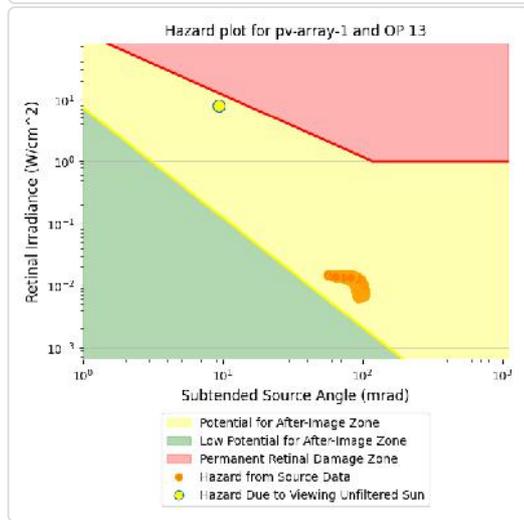
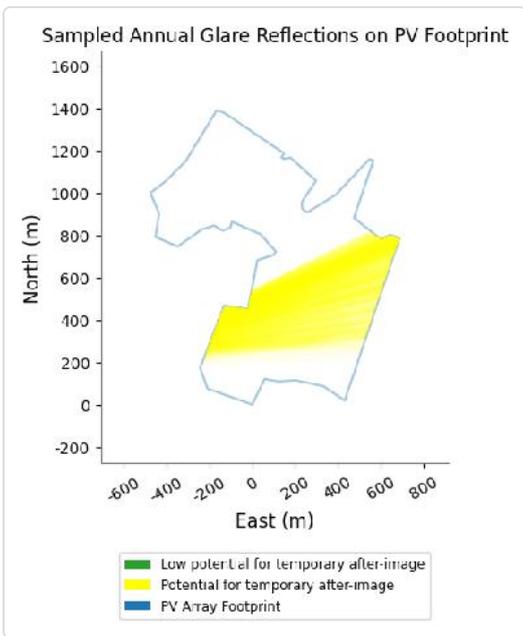
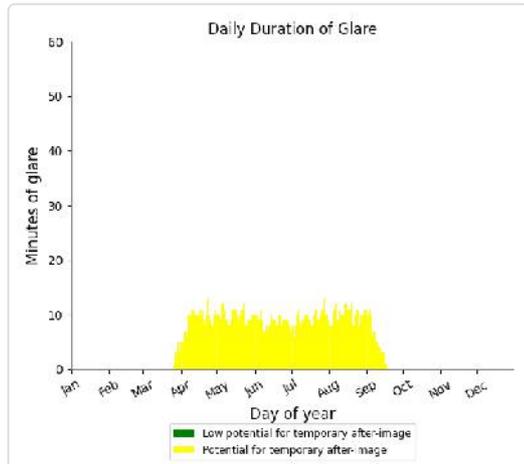
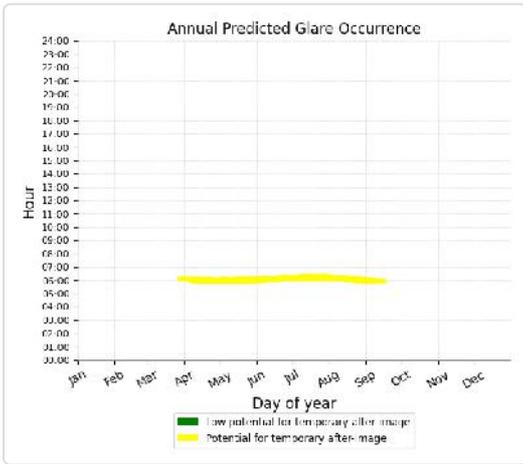
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 13 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 13)

PV array is expected to produce the following glare for receptors at this location:

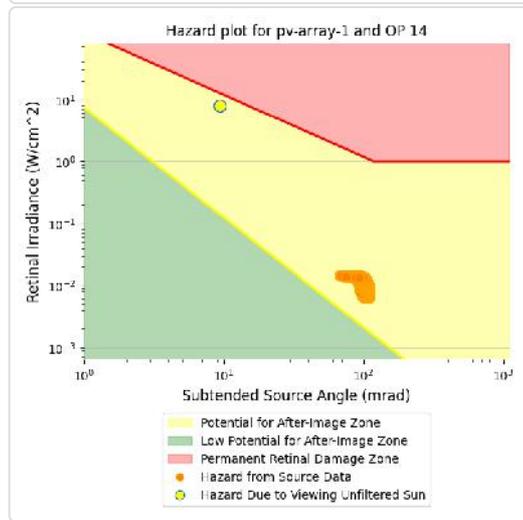
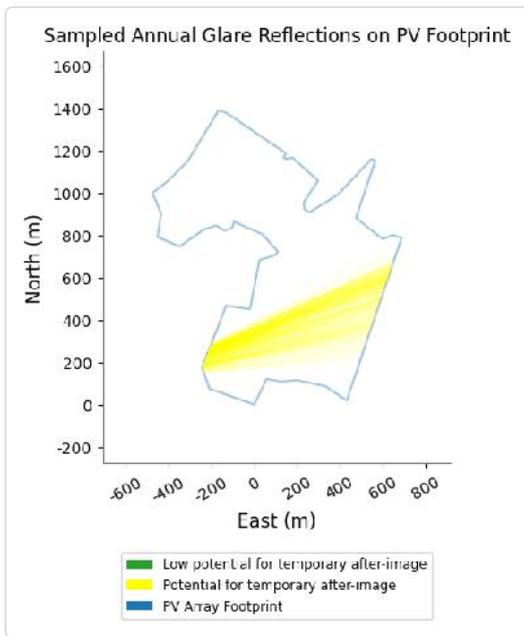
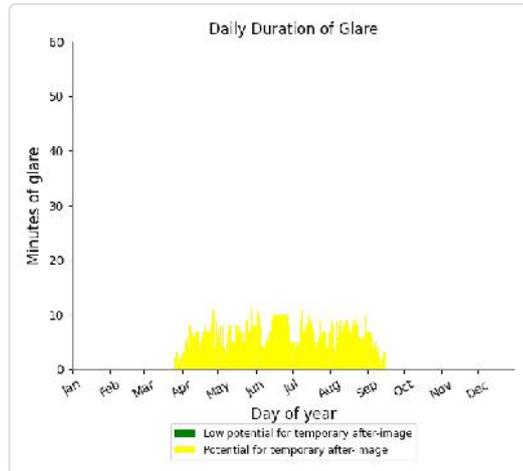
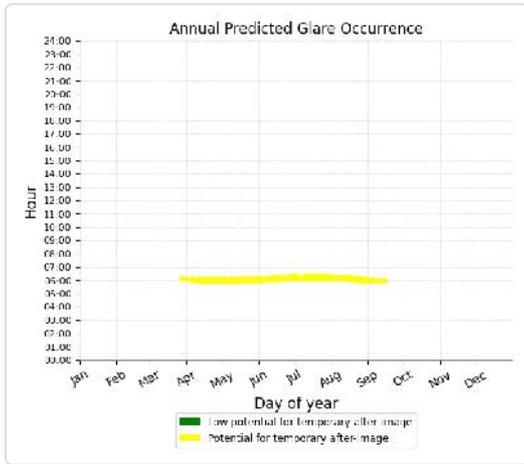
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,568 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 14)

PV array is expected to produce the following glare for receptors at this location:

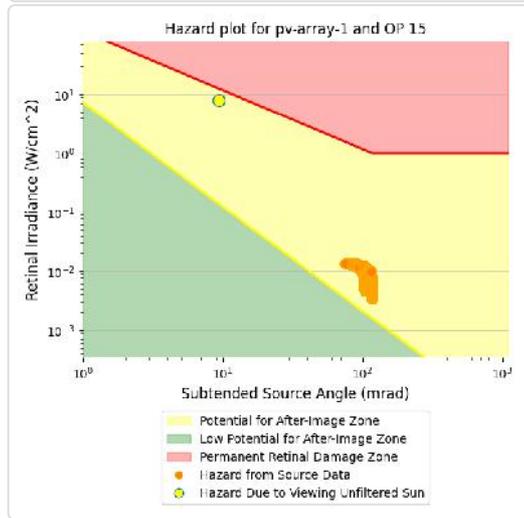
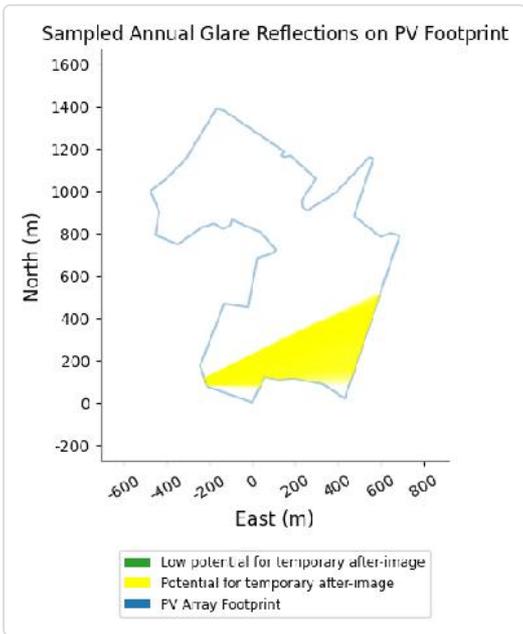
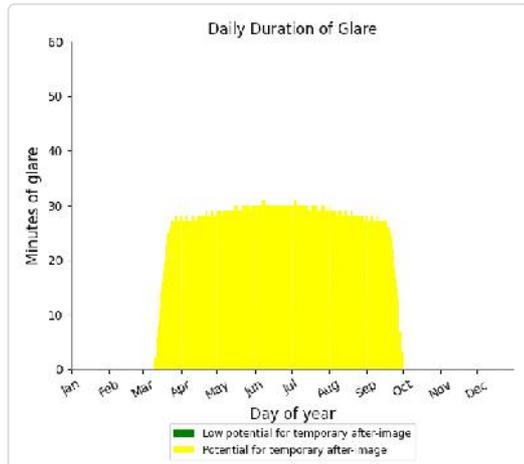
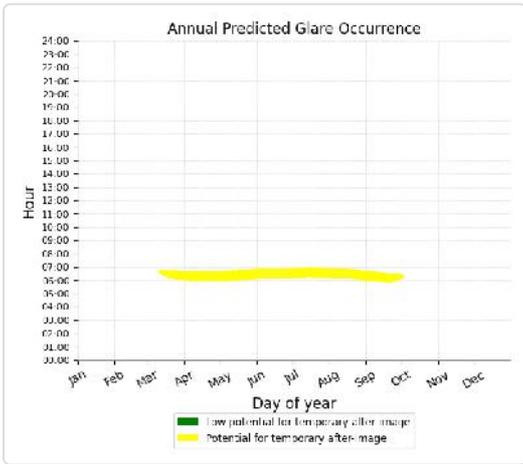
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,160 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:

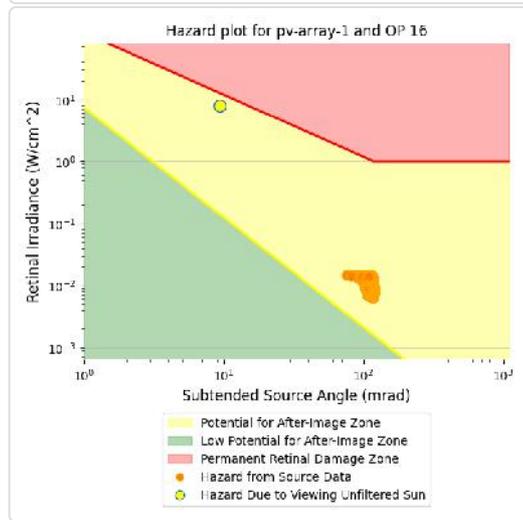
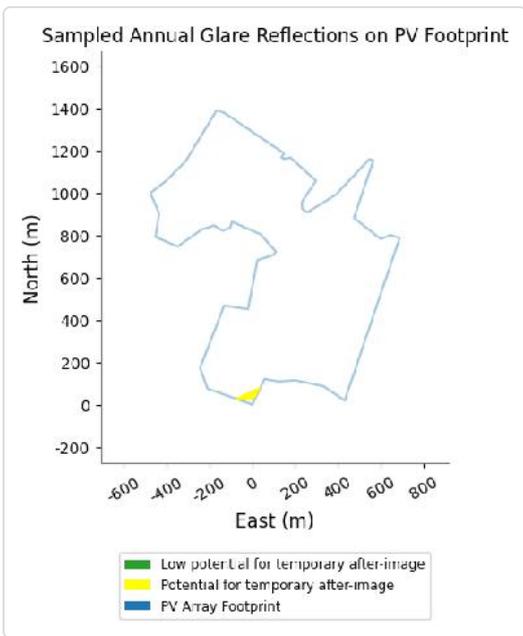
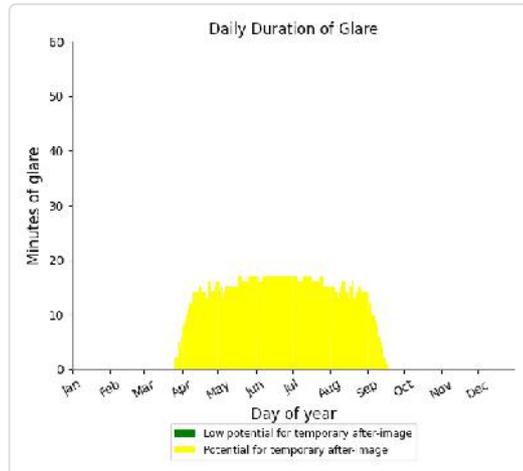
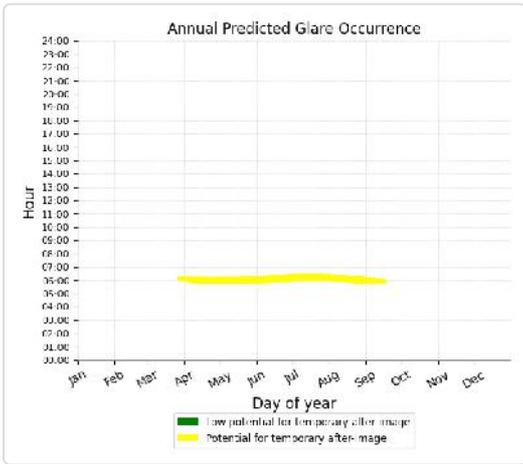
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,579 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 16)

PV array is expected to produce the following glare for receptors at this location:

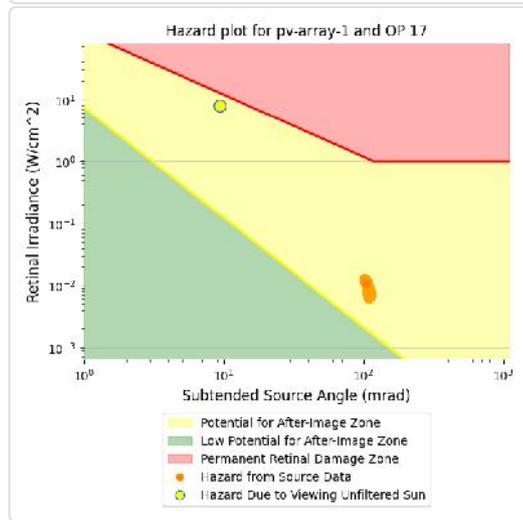
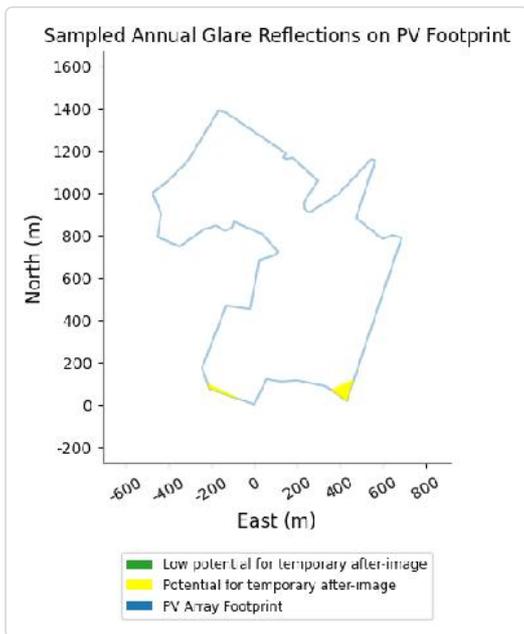
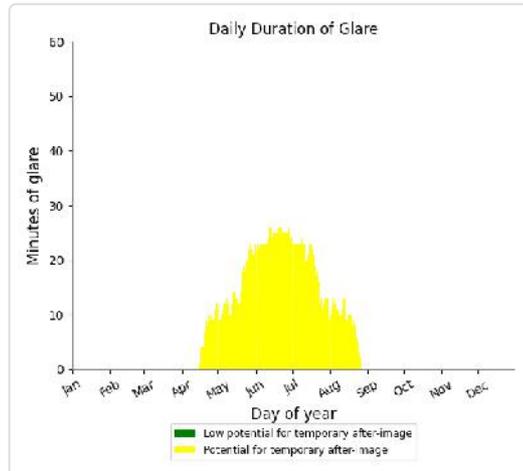
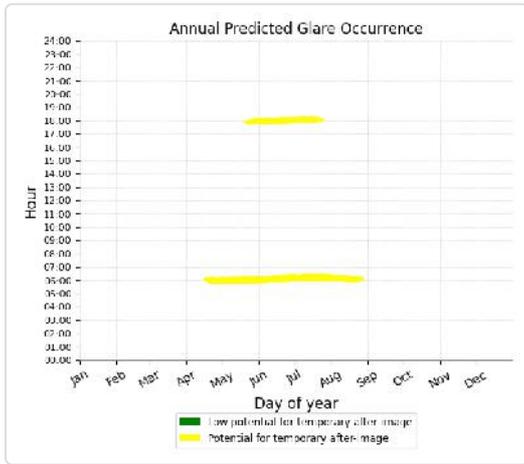
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,484 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 17)

PV array is expected to produce the following glare for receptors at this location:

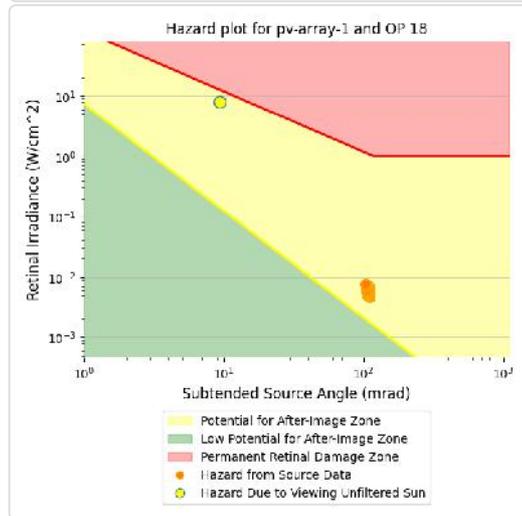
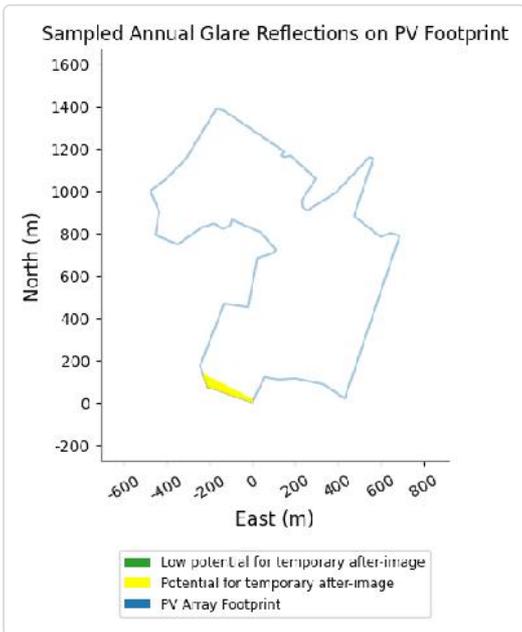
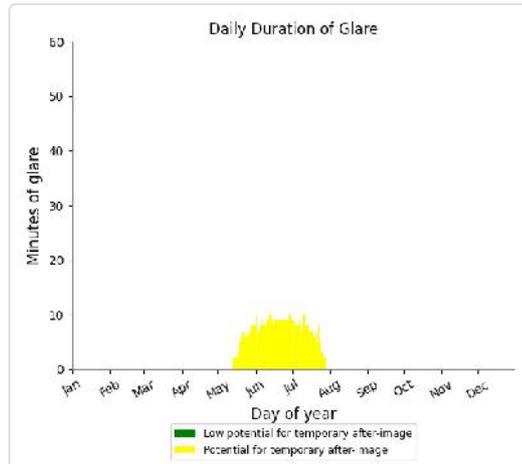
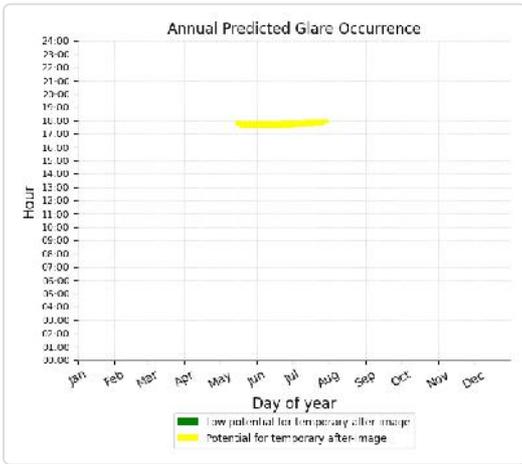
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,154 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 18)

PV array is expected to produce the following glare for receptors at this location:

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



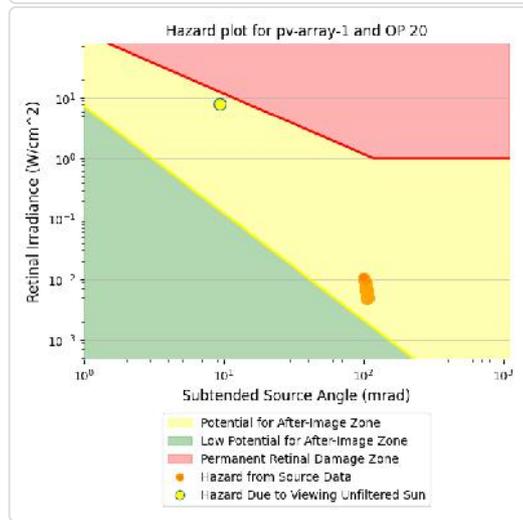
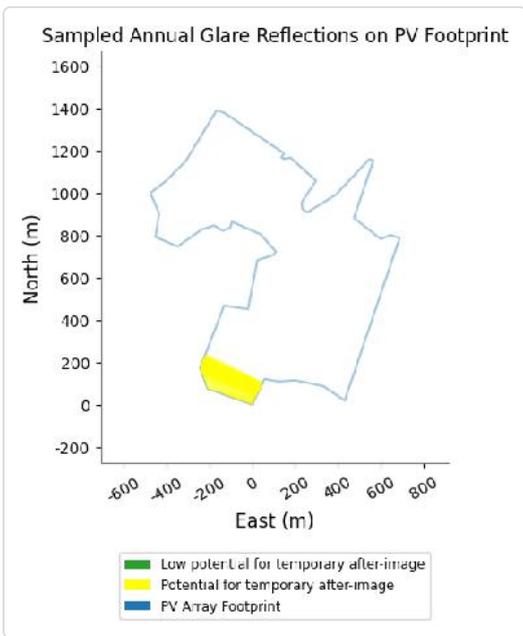
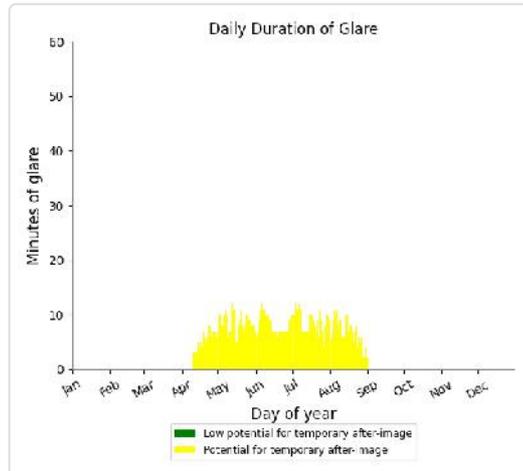
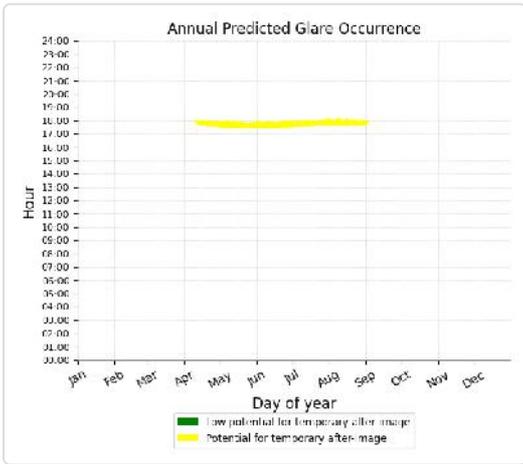
PV array 1 - OP Receptor (OP 19)

No glare found

PV array 1 - OP Receptor (OP 20)

PV array is expected to produce the following glare for receptors at this location:

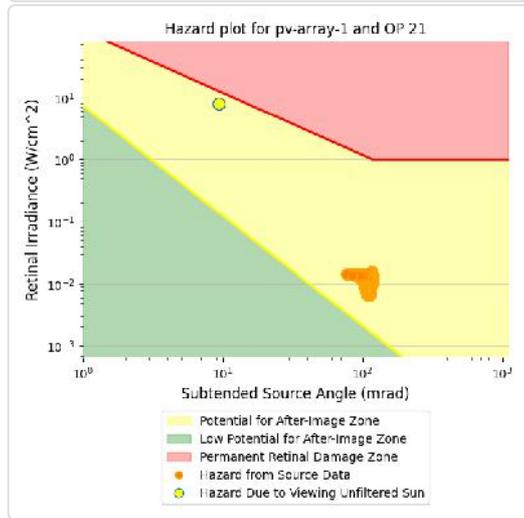
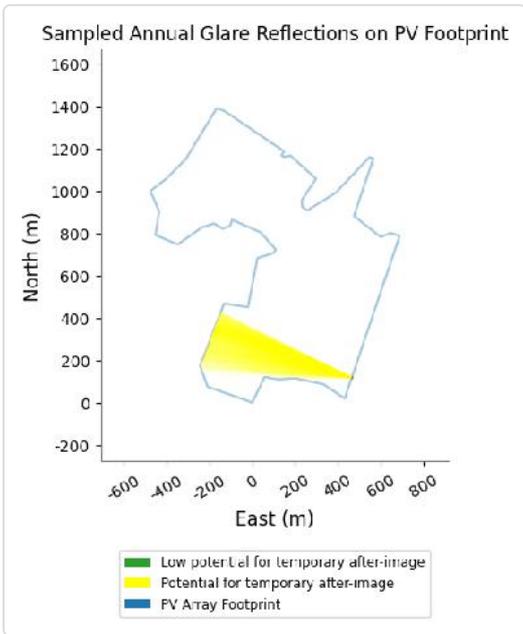
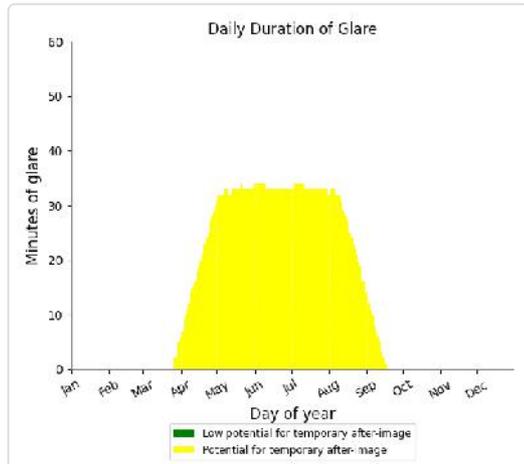
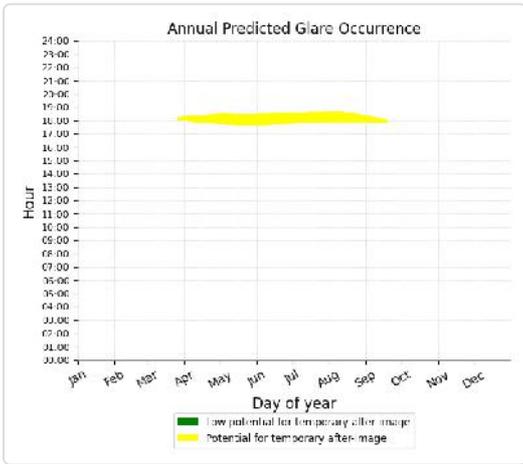
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,106 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 21)

PV array is expected to produce the following glare for receptors at this location:

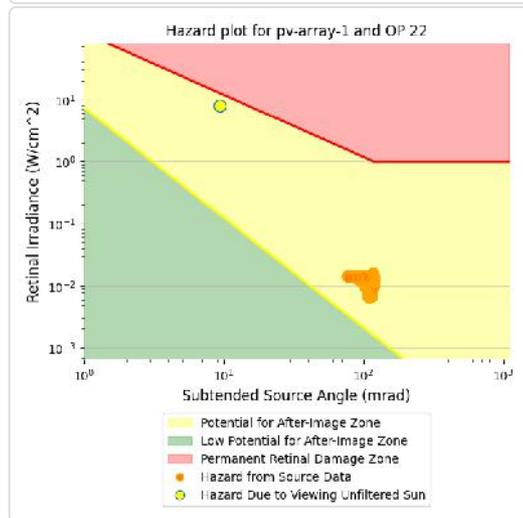
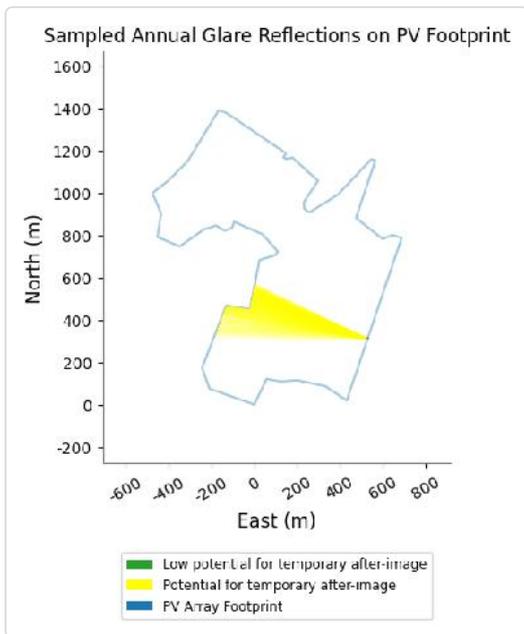
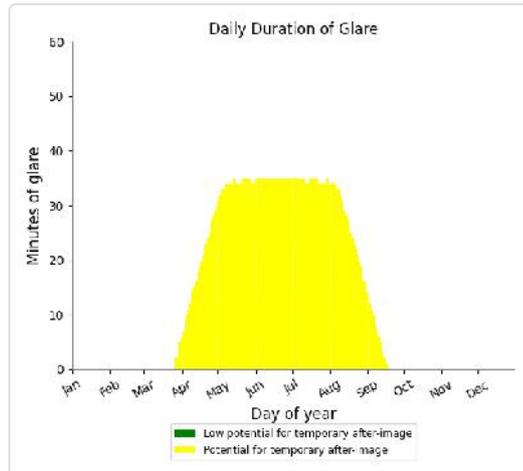
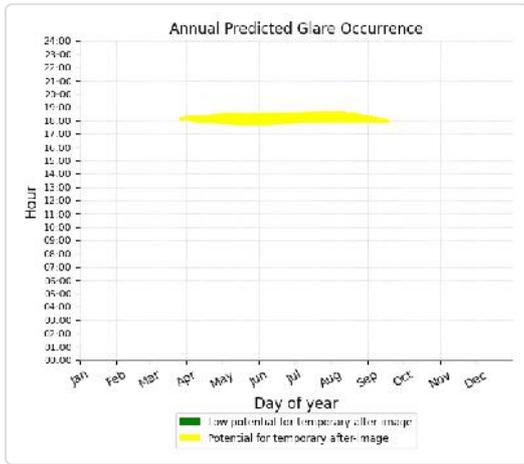
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,552 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 22)

PV array is expected to produce the following glare for receptors at this location:

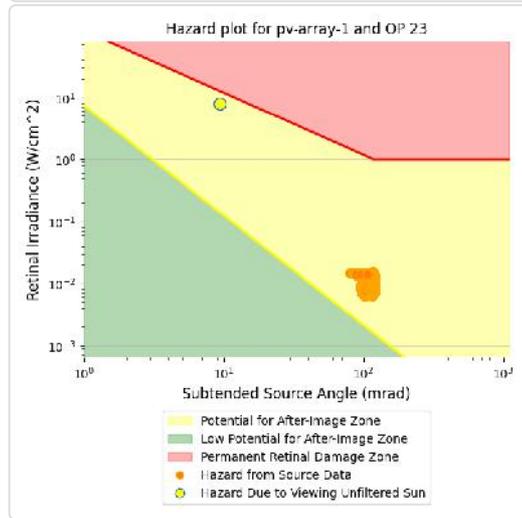
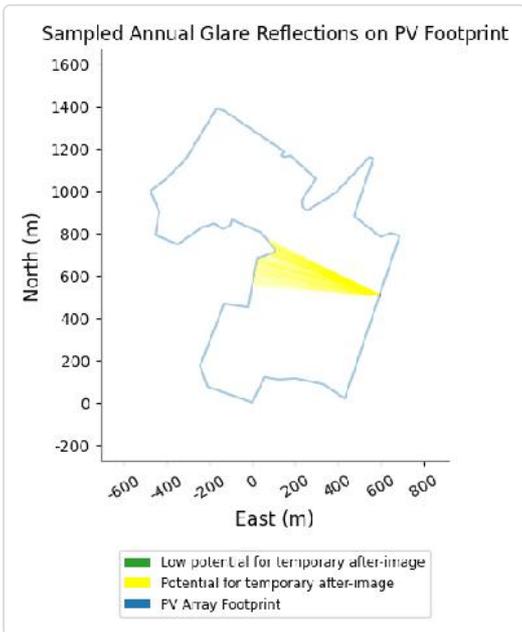
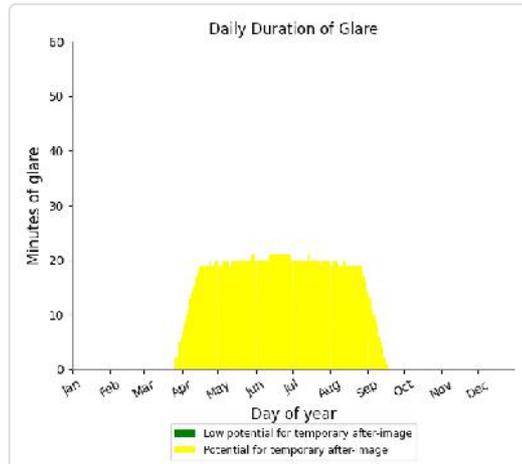
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,696 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:

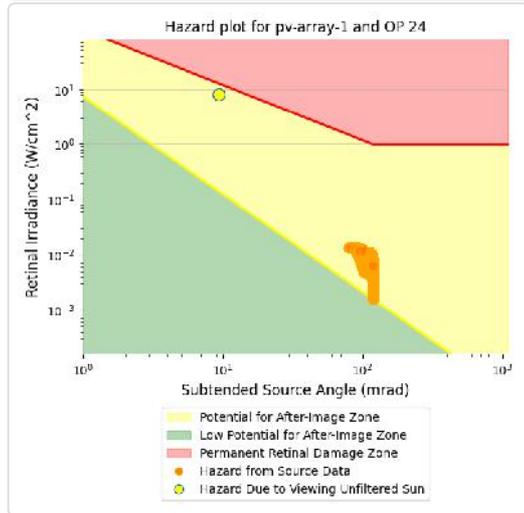
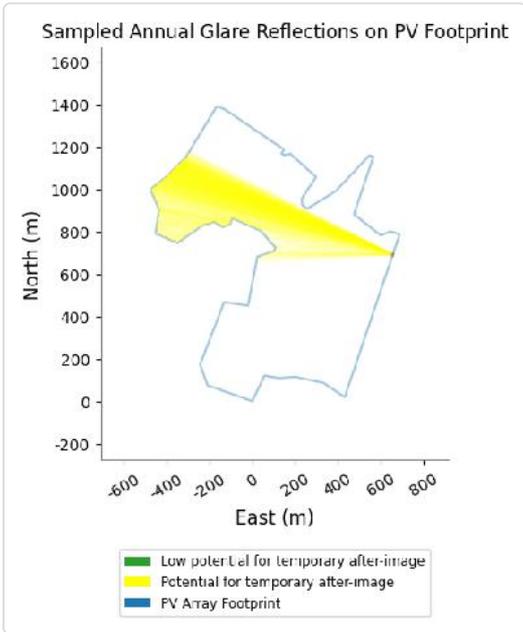
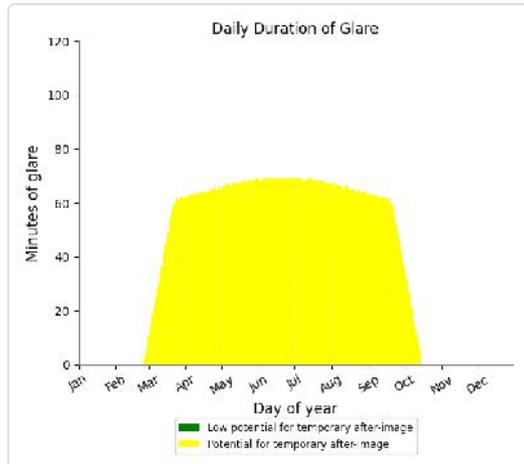
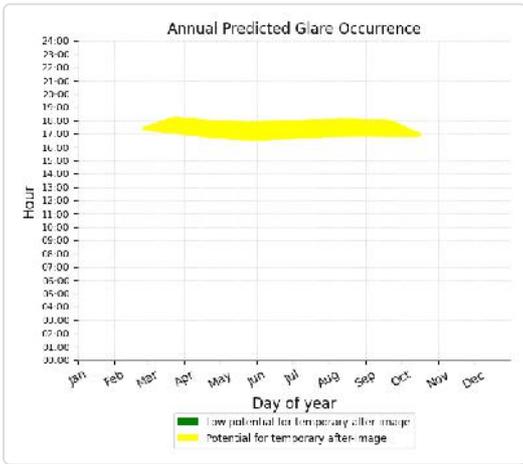
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,069 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 24)

PV array is expected to produce the following glare for receptors at this location:

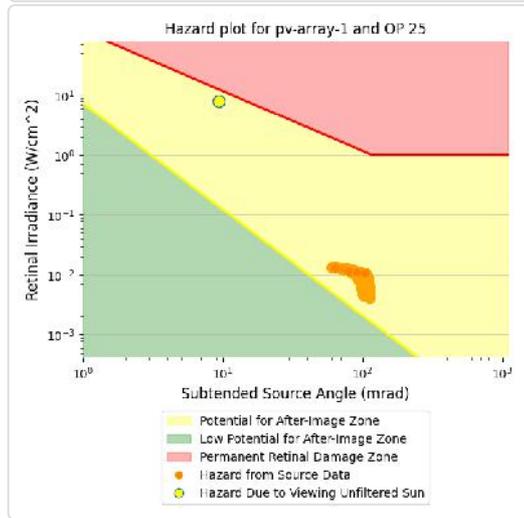
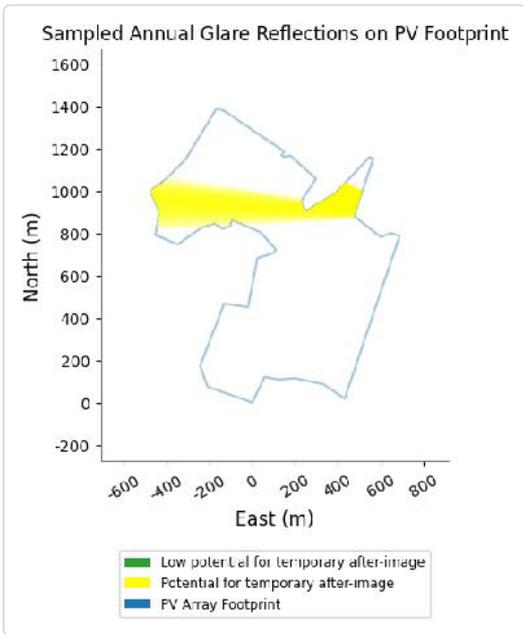
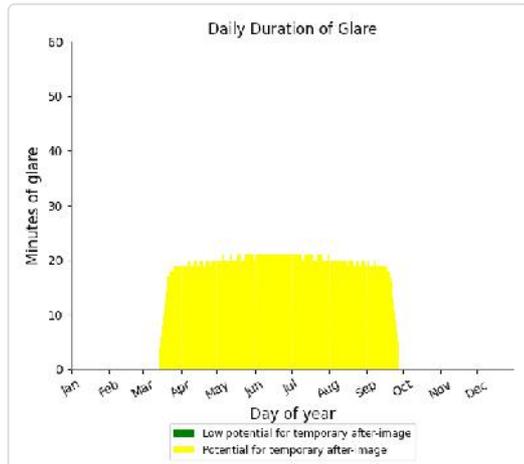
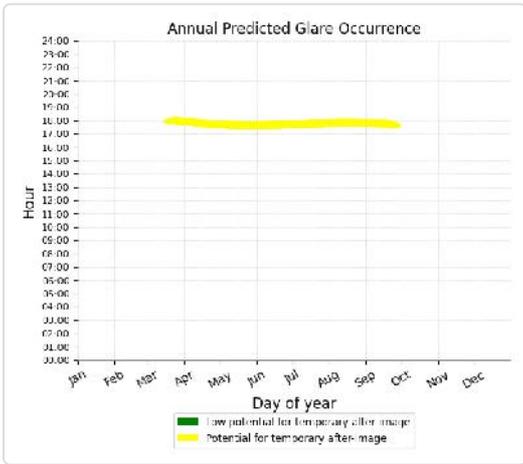
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 13,586 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 25)

PV array is expected to produce the following glare for receptors at this location:

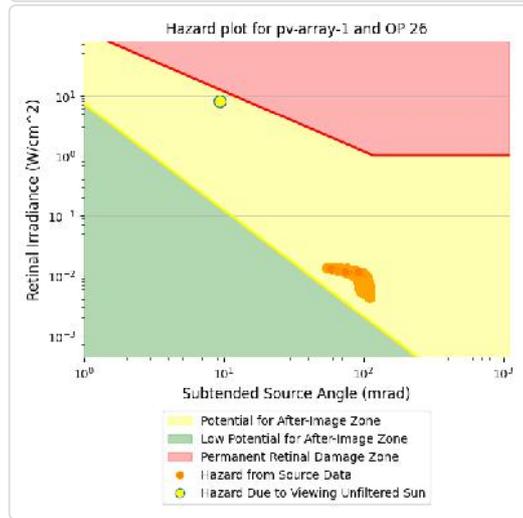
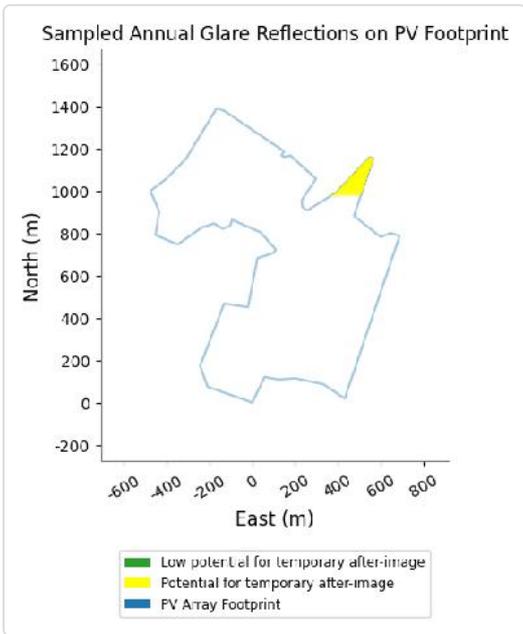
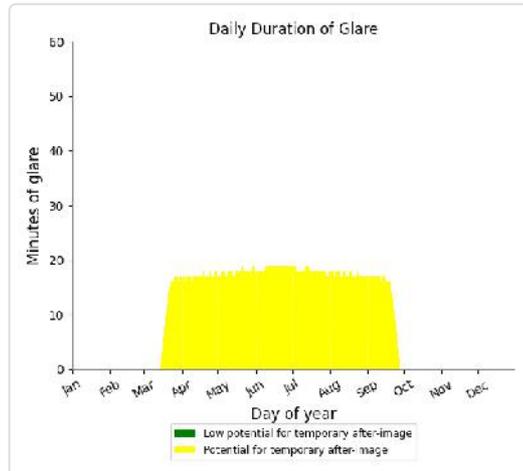
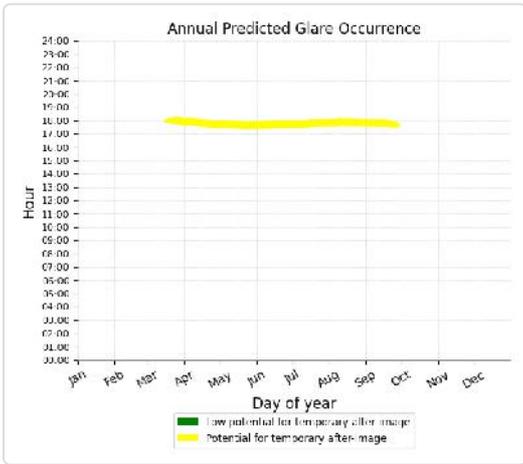
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,814 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 26)

PV array is expected to produce the following glare for receptors at this location:

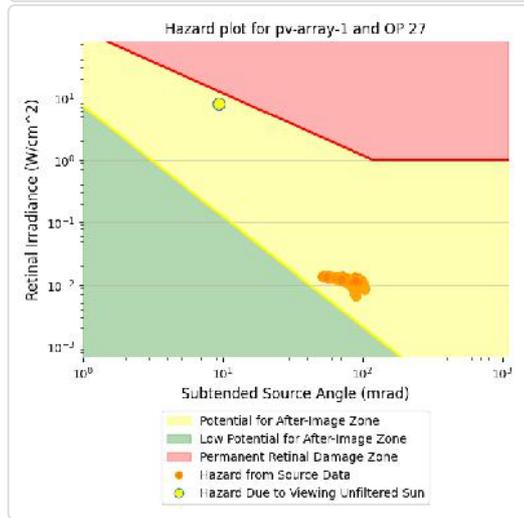
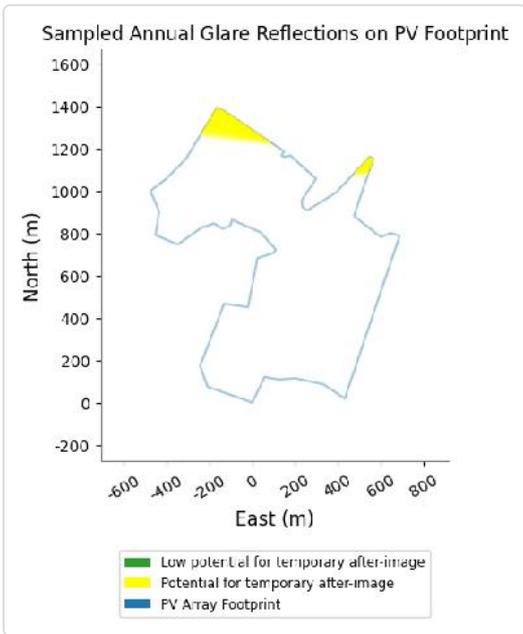
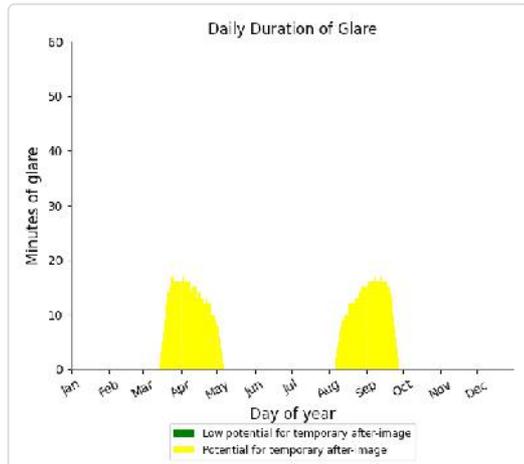
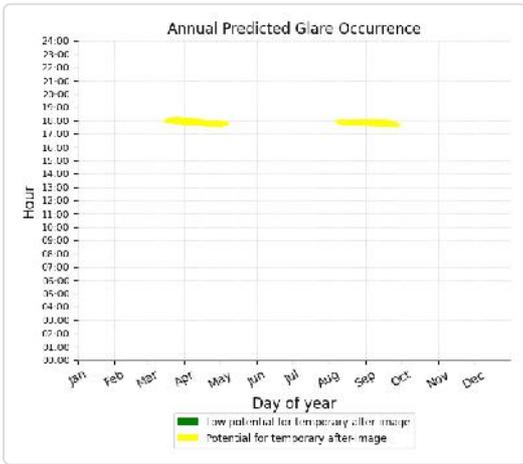
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,350 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:

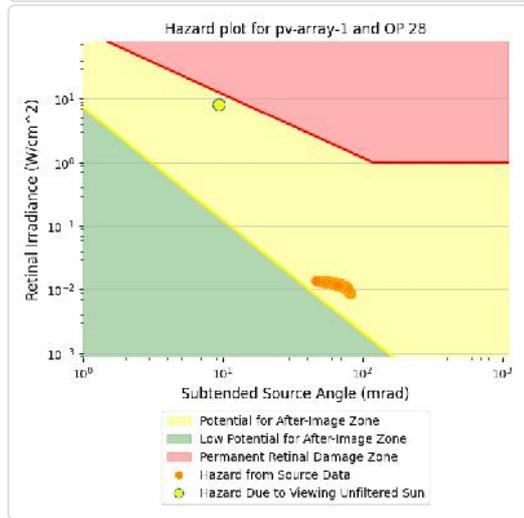
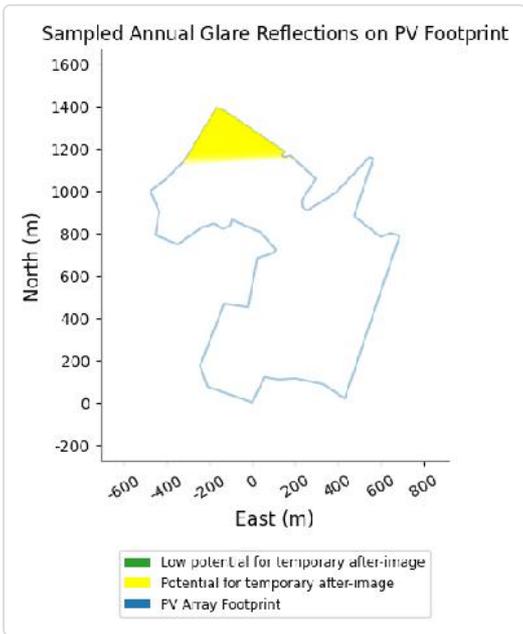
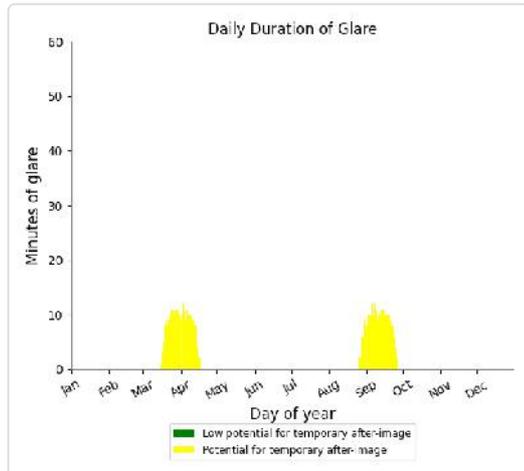
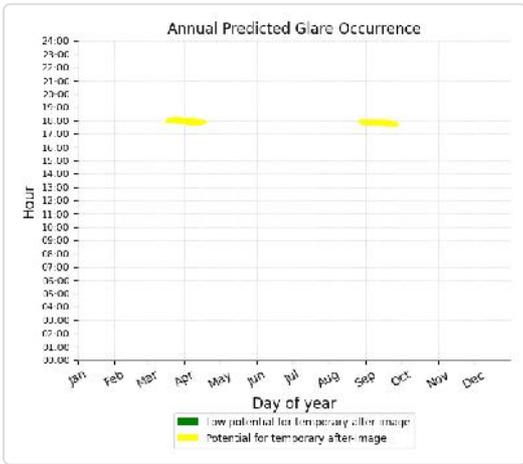
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,288 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:

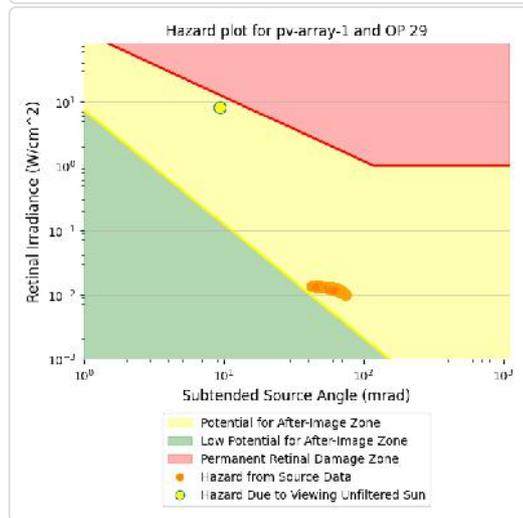
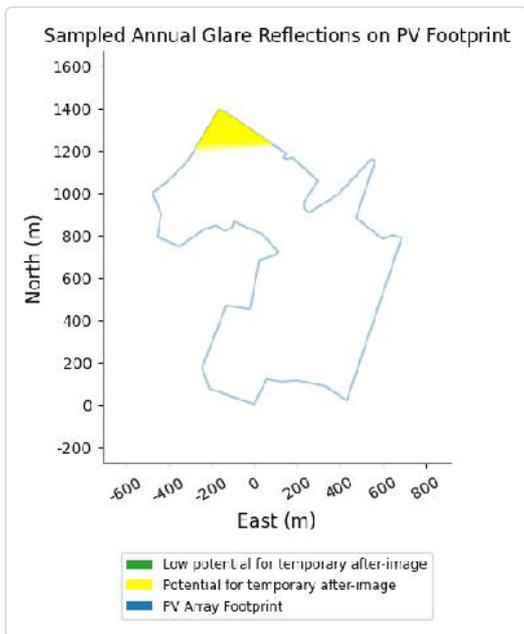
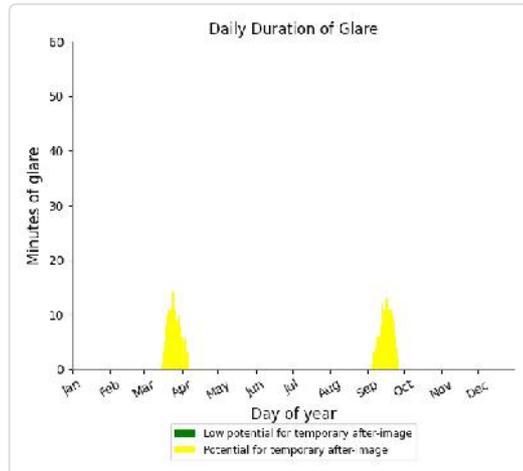
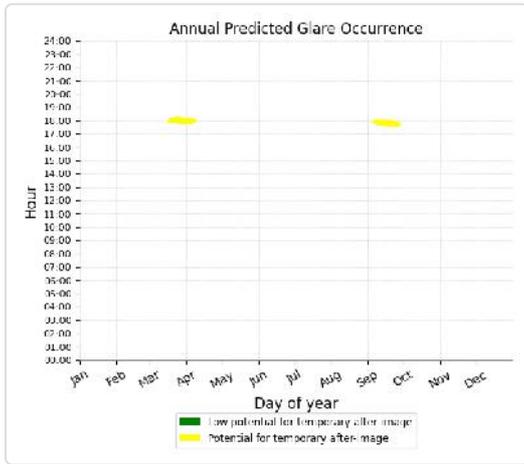
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 551 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 29)

PV array is expected to produce the following glare for receptors at this location:

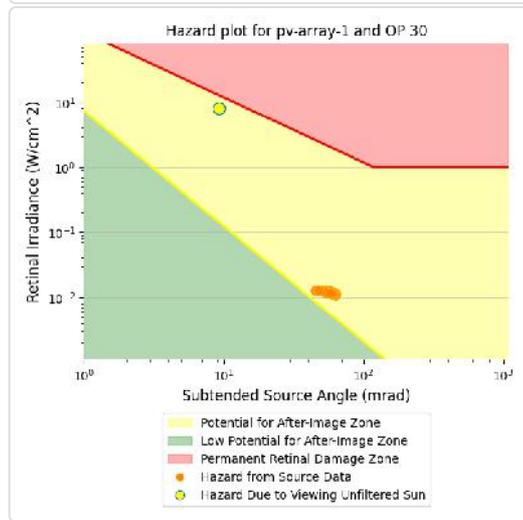
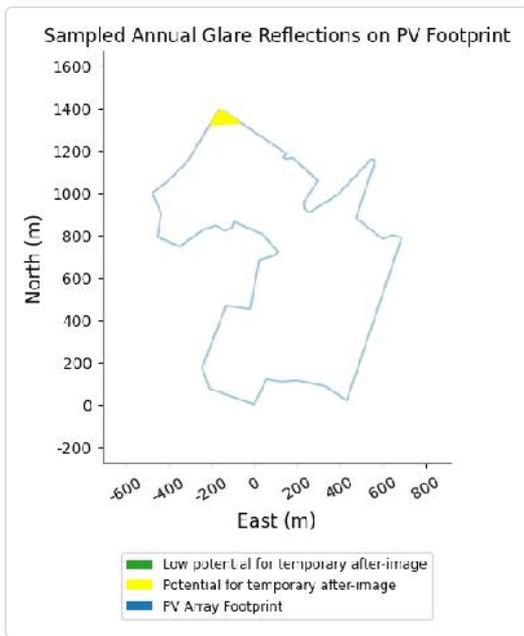
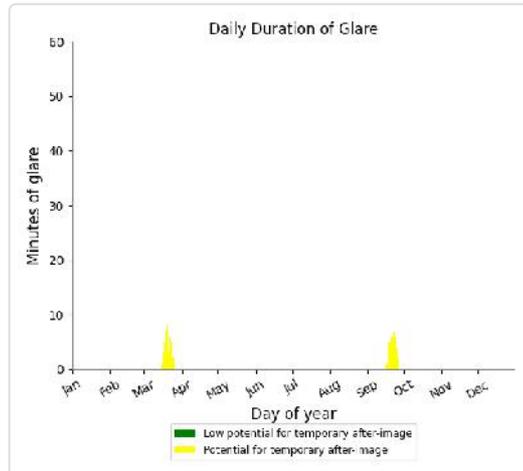
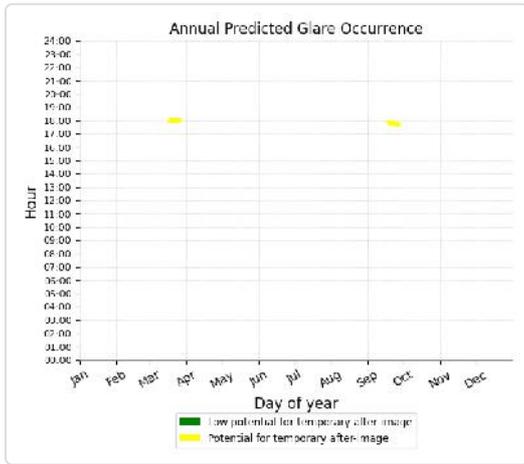
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 352 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:

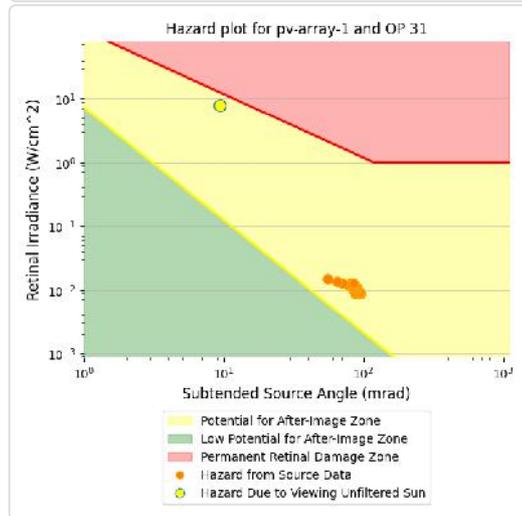
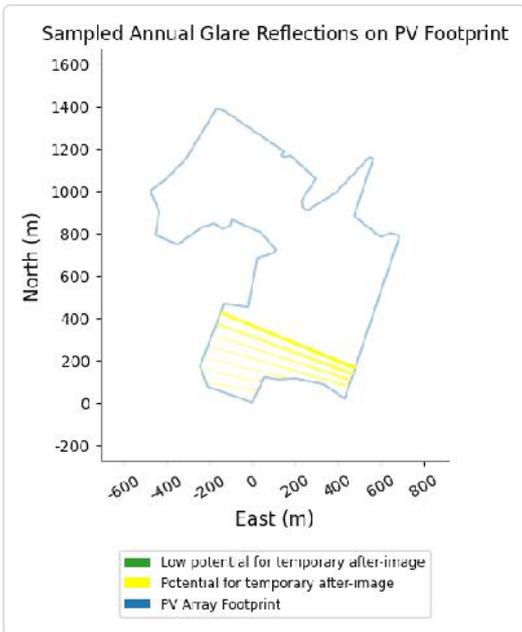
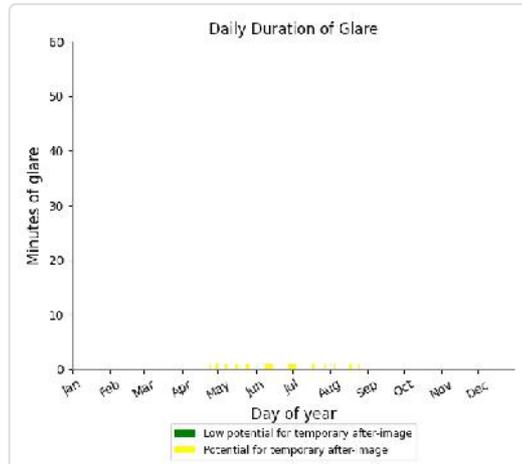
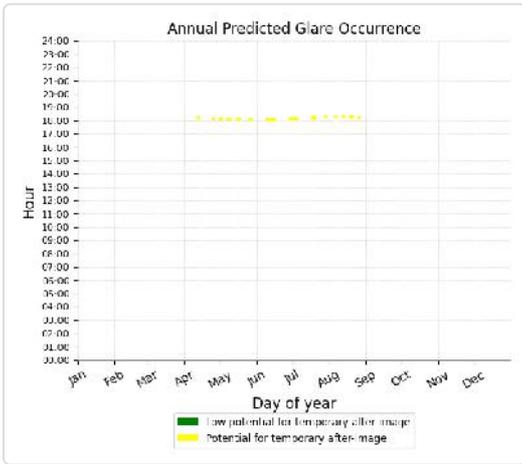
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 89 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 31)

PV array is expected to produce the following glare for receptors at this location:

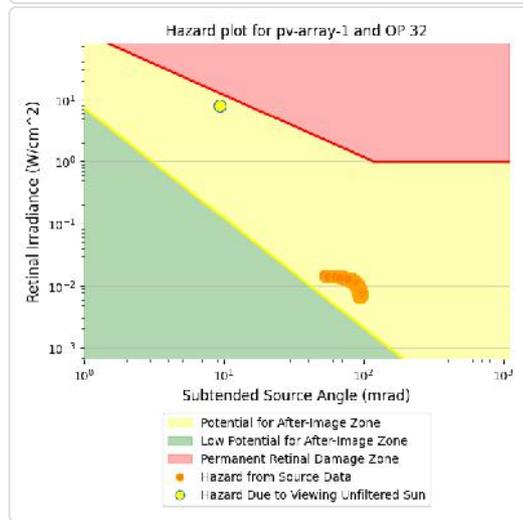
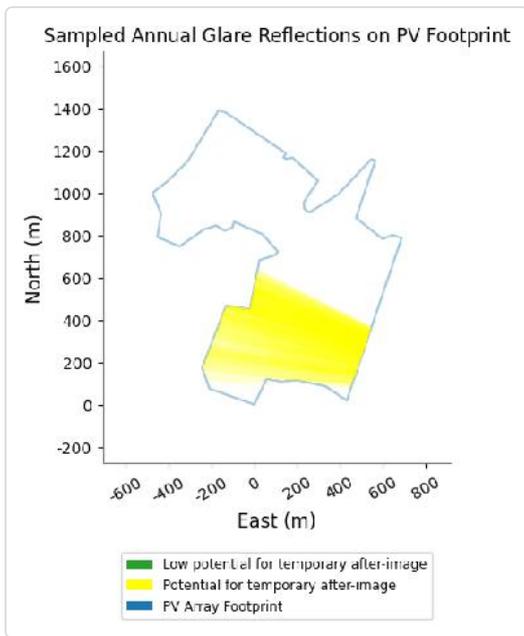
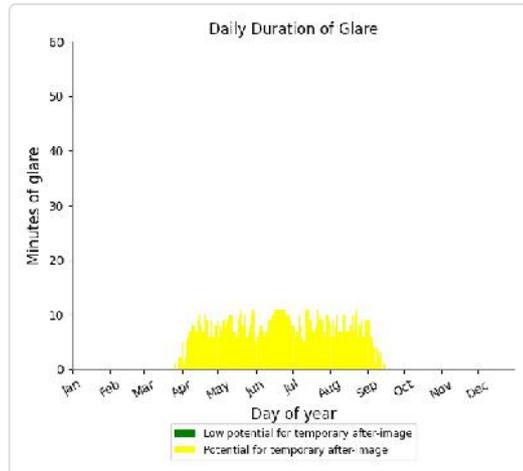
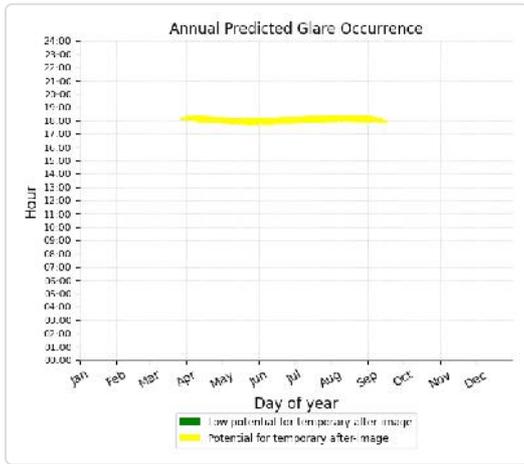
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 33 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 32)

PV array is expected to produce the following glare for receptors at this location:

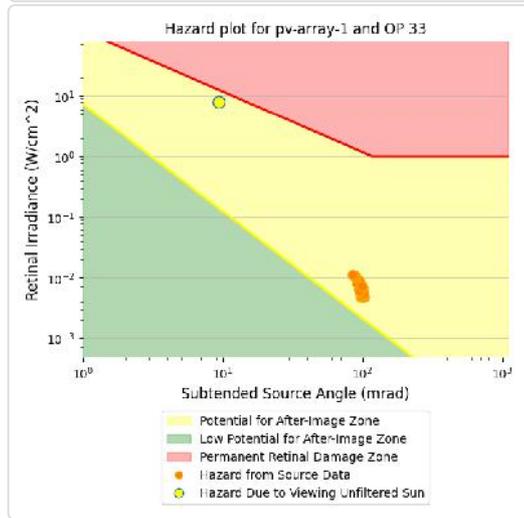
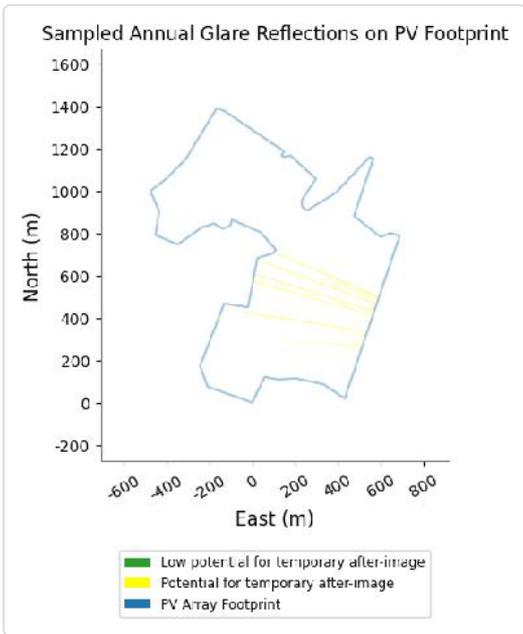
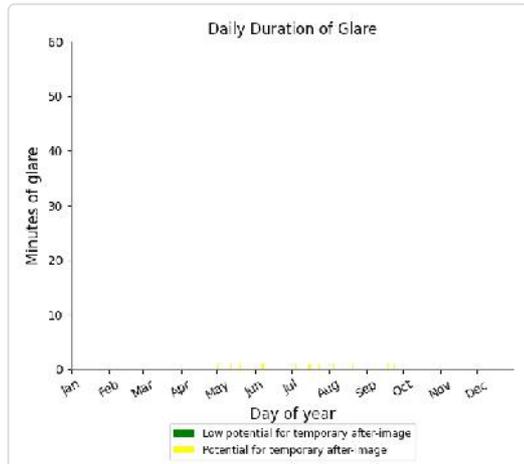
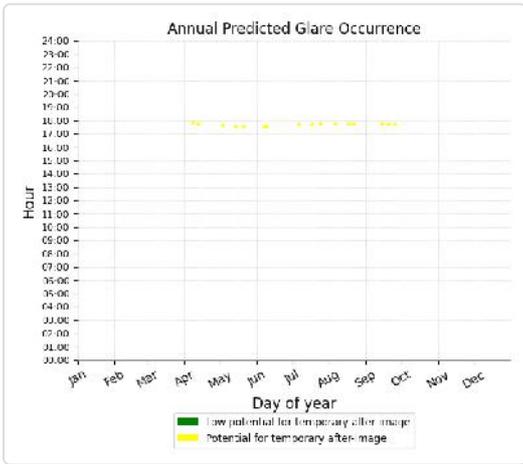
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,298 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 33)

PV array is expected to produce the following glare for receptors at this location:

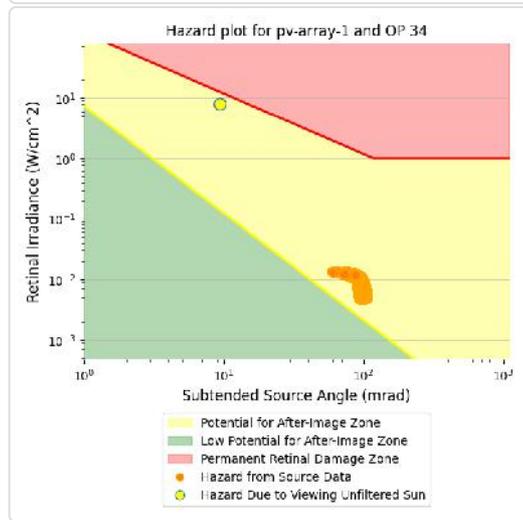
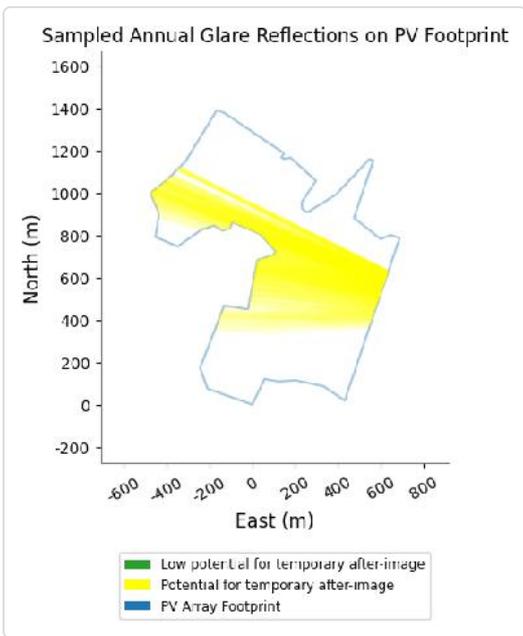
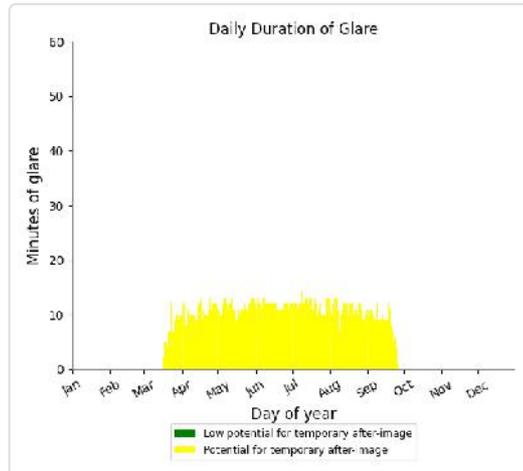
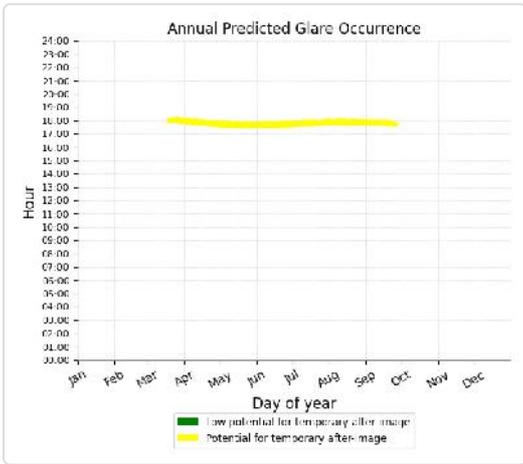
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 16 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 34)

PV array is expected to produce the following glare for receptors at this location:

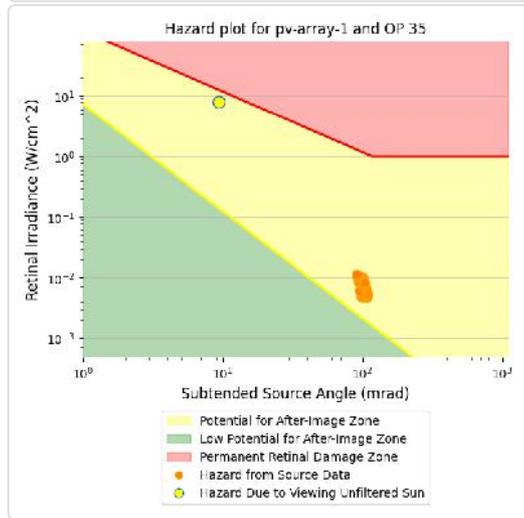
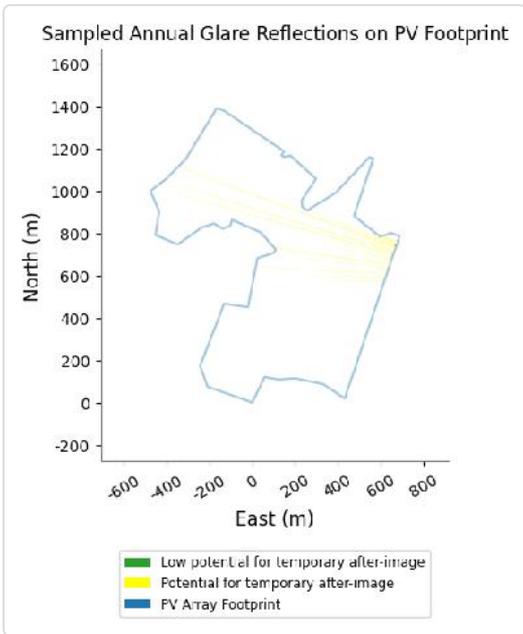
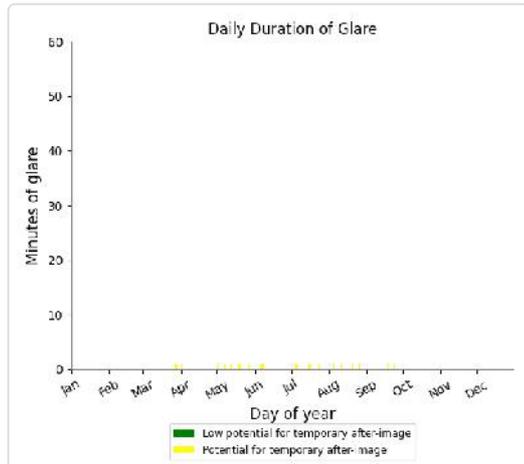
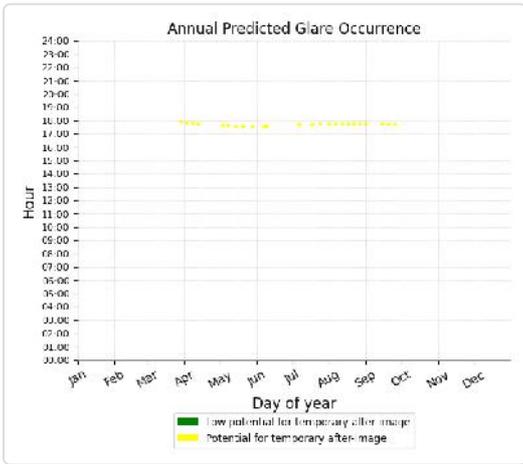
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,088 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 35)

PV array is expected to produce the following glare for receptors at this location:

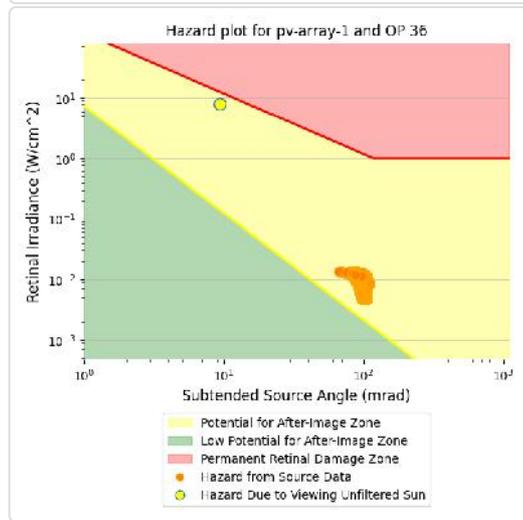
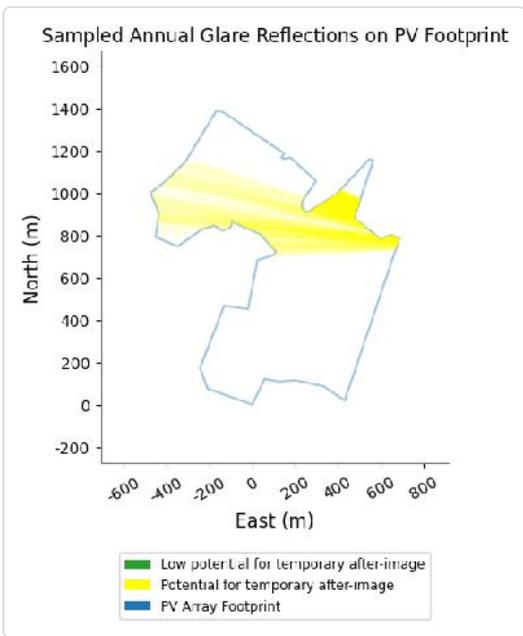
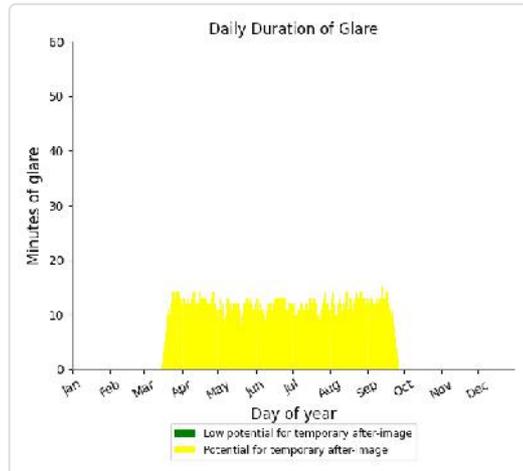
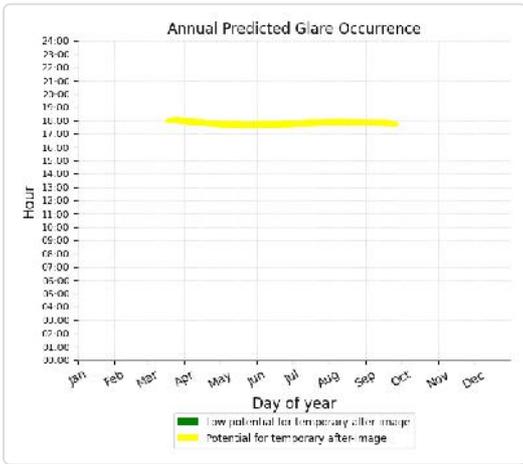
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 28 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 36)

PV array is expected to produce the following glare for receptors at this location:

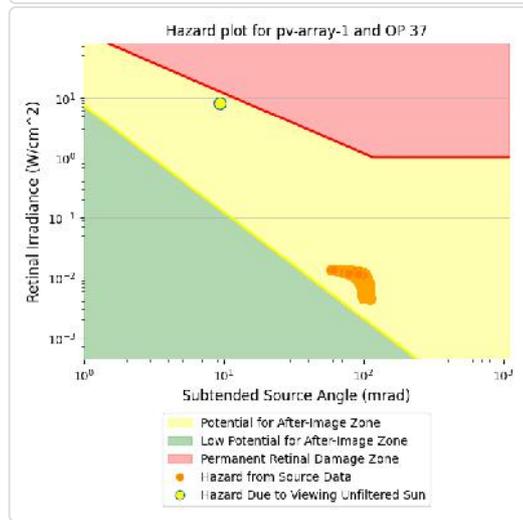
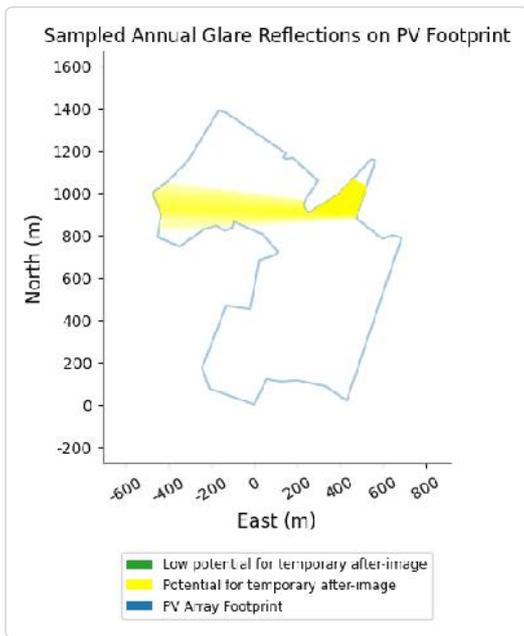
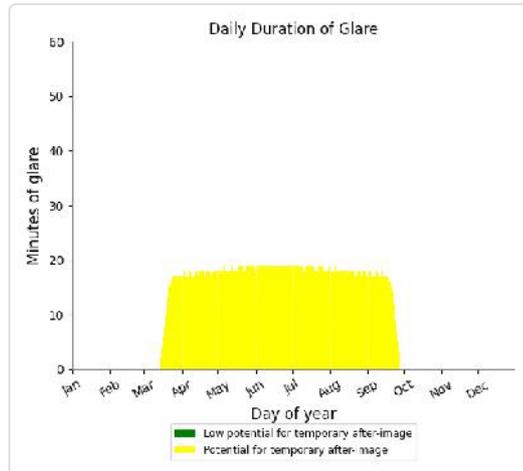
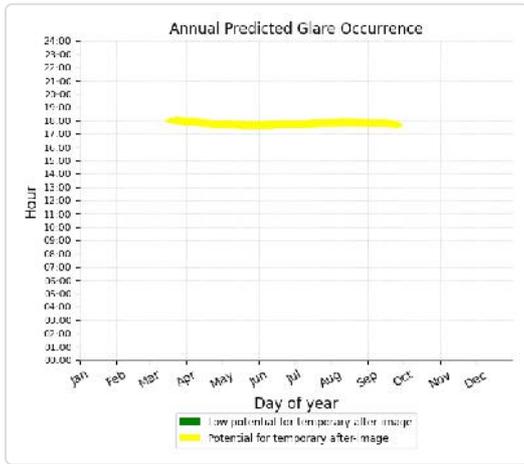
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,311 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 37)

PV array is expected to produce the following glare for receptors at this location:

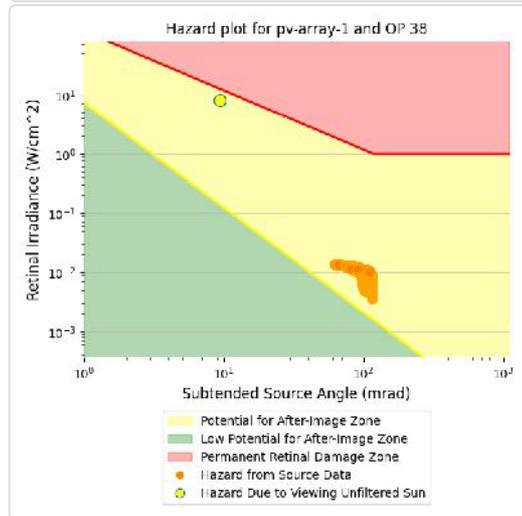
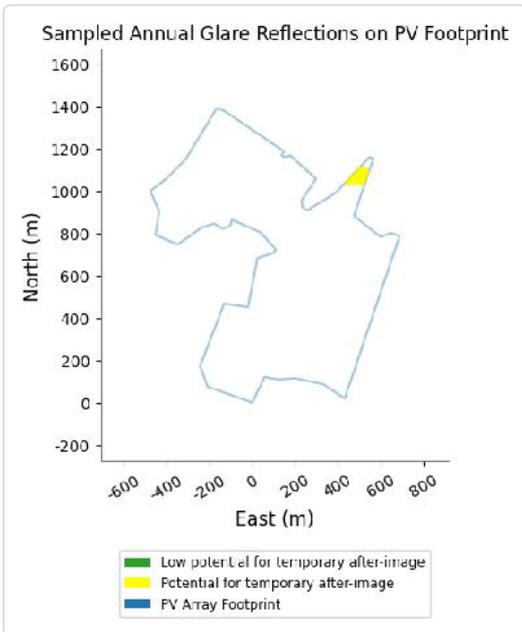
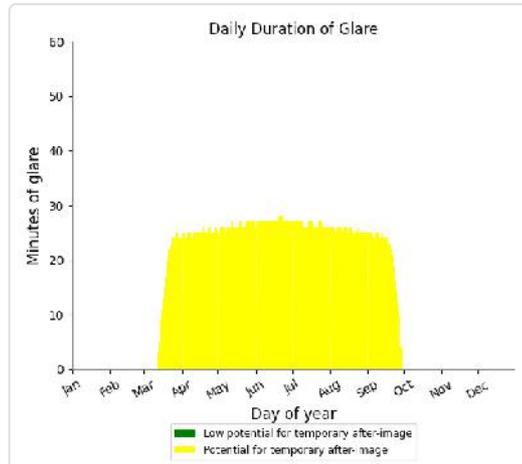
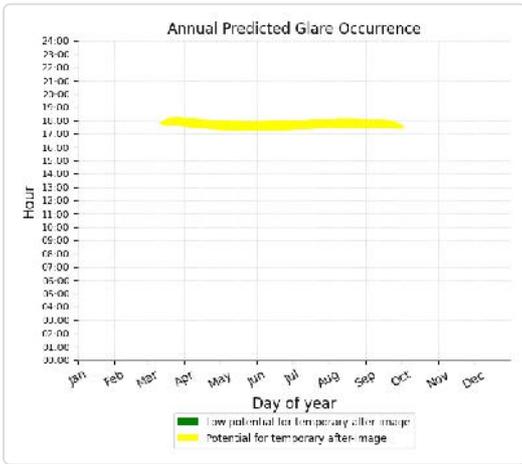
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,444 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 38)

PV array is expected to produce the following glare for receptors at this location:

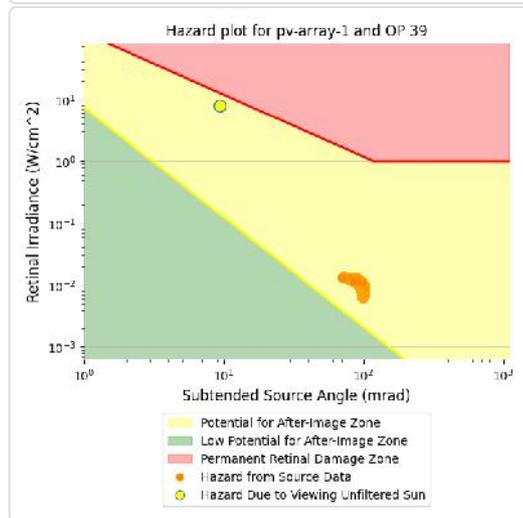
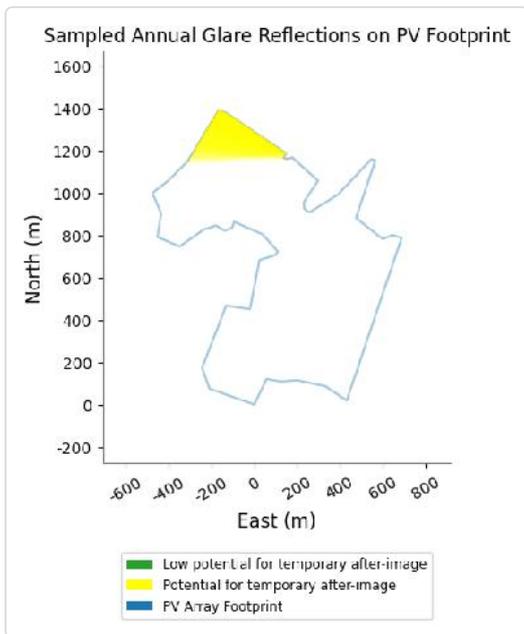
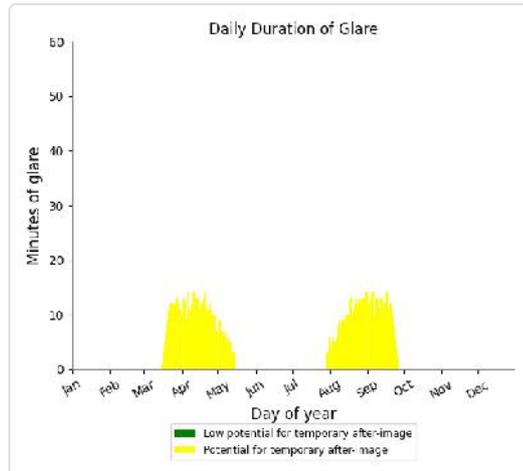
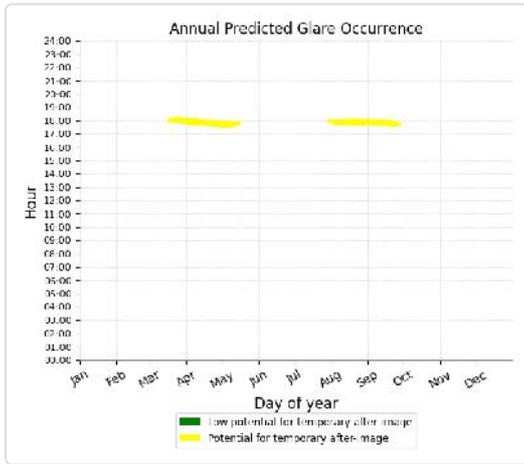
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,961 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 39)

PV array is expected to produce the following glare for receptors at this location:

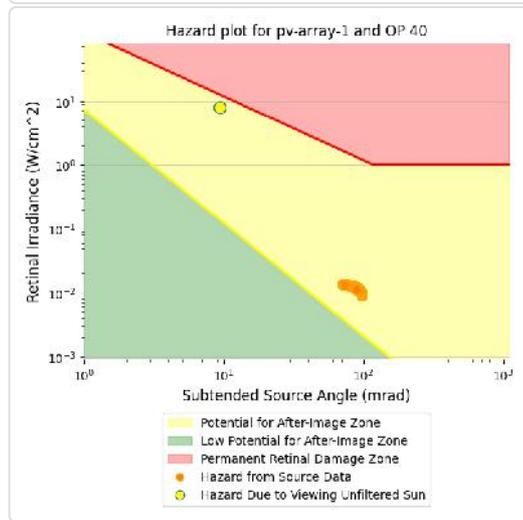
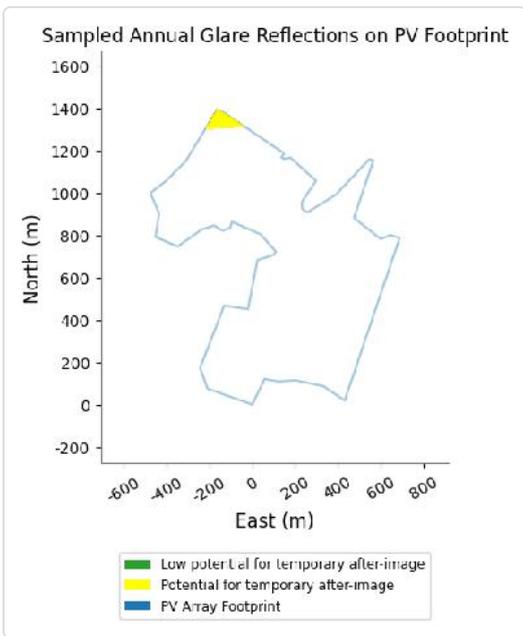
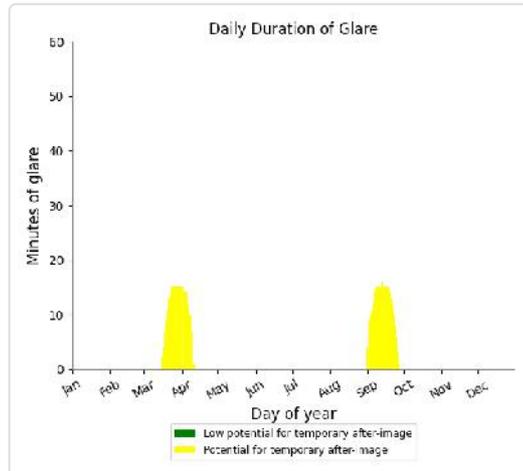
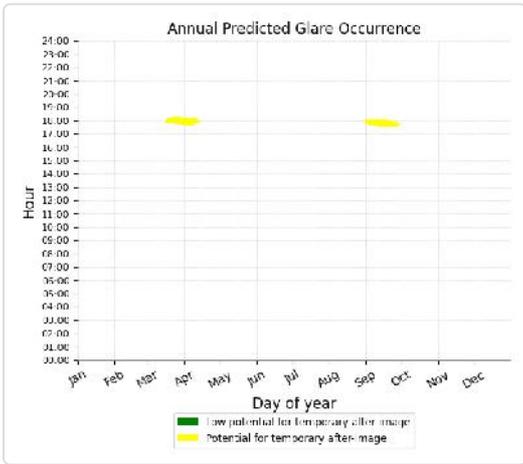
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,191 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 40)

PV array is expected to produce the following glare for receptors at this location:

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



PV array 1 - OP Receptor (OP 41)

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not 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 for 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.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6F - Aviation Receptor Glare Results (10 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Aviation Receptors 10deg

Created July 25, 2022
Updated Aug. 10, 2022
Time-step 1 minute
Timezone offset UTC0
Site ID 73013.12854

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



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

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
PV array 1	10.0	180.0	2,040	0	-

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 10.0 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	52.977416	-0.868813	20.30	2.80	23.10
2	52.978501	-0.867955	20.00	2.80	22.80
3	52.978398	-0.866989	20.39	2.80	23.19
4	52.978450	-0.865830	20.46	2.80	23.26
5	52.978191	-0.863856	20.00	2.80	22.80
6	52.977584	-0.862376	19.95	2.80	22.75
7	52.984483	-0.858556	24.76	2.80	27.56
8	52.984612	-0.859200	25.60	2.80	28.40
9	52.984431	-0.859865	26.00	2.80	28.80
10	52.985335	-0.861732	25.02	2.80	27.82
11	52.987777	-0.860380	19.95	2.80	22.75
12	52.987828	-0.860659	19.88	2.80	22.68
13	52.986317	-0.862998	21.01	2.80	23.81
14	52.985568	-0.864972	20.25	2.80	23.05
15	52.985723	-0.865337	19.79	2.80	22.59
16	52.986007	-0.865358	20.07	2.80	22.87
17	52.986911	-0.864371	20.22	2.80	23.02
18	52.987893	-0.866152	18.00	2.80	20.80
19	52.987841	-0.866581	18.05	2.80	20.85
20	52.987893	-0.866774	18.33	2.80	21.13
21	52.988074	-0.866603	18.08	2.80	20.88
22	52.989779	-0.870723	22.00	2.80	24.80
23	52.989908	-0.871280	22.00	2.80	24.80
24	52.987738	-0.873448	22.05	2.80	24.85
25	52.986924	-0.874778	22.79	2.80	25.59
26	52.986395	-0.875894	22.62	2.80	25.42
27	52.985516	-0.875293	21.94	2.80	24.74
28	52.984522	-0.875551	21.38	2.80	24.18
29	52.984121	-0.874006	20.15	2.80	22.95
30	52.984845	-0.872310	20.21	2.80	23.01
31	52.985012	-0.871474	20.01	2.80	22.81
32	52.984793	-0.870873	20.22	2.80	23.02
33	52.984909	-0.870358	20.19	2.80	22.99
34	52.985167	-0.870208	19.84	2.80	22.64
35	52.984638	-0.868233	20.05	2.80	22.85
36	52.983914	-0.867182	19.95	2.80	22.75
37	52.983759	-0.867332	20.03	2.80	22.83
38	52.983540	-0.868448	20.67	2.80	23.47
39	52.981460	-0.869113	21.77	2.80	24.57
40	52.981615	-0.870765	23.94	2.80	26.74
41	52.978966	-0.872439	24.87	2.80	27.67
42	52.978088	-0.871924	23.83	2.80	26.63

2-Mile Flight Path Receptor(s)

Name: Nott City RWY 03
Description:
Threshold height : 15 m
Direction: 28.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude deg	Longitude deg	Ground elevation m	Height above ground m	Total elevation m
Threshold	52.916684	-1.079598	34.79	15.24	50.03
2-mile point	52.891323	-1.102651	40.65	178.07	218.71



Name: Nott City RWY 09
Description:
Threshold height : 15 m
Direction: 88.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude deg	Longitude deg	Ground elevation m	Height above ground m	Total elevation m
Threshold	52.920669	-1.085391	38.34	15.24	53.58
2-mile point	52.919710	-1.133375	41.72	180.55	222.27



Name: Nott City RWY 21
Description:
Threshold height : 15 m
Direction: 208.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude deg	Longitude deg	Ground elevation m	Height above ground m	Total elevation m
Threshold	52.923140	-1.073783	26.88	15.24	42.12
2-mile point	52.948500	-1.050726	20.49	190.32	210.81



Name: Nott City RWY 27
Description:
Threshold height : 15 m
Direction: 268.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude deg	Longitude deg	Ground elevation m	Height above ground m	Total elevation m
Threshold	52.920850	-1.072946	26.71	15.24	41.95
2-mile point	52.921808	-1.024962	55.39	155.24	210.64



Name: RAF Syerston RWY 06
Description:
Threshold height : 15 m
Direction: 62.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude deg	Longitude deg	Ground elevation m	Height above ground m	Total elevation m
Threshold	53.019293	-0.924462	65.60	15.24	80.84
2-mile point	53.005915	-0.967122	17.75	231.77	249.52



Name: RAF Syerston RWY 24
Description:
Threshold height : 15 m
Direction: 242.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude deg	Longitude deg	Ground elevation m	Height above ground m	Total elevation m
Threshold	53.026804	-0.900580	56.20	15.24	71.44
2-mile point	53.040199	-0.857928	17.72	222.40	240.13



Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
1-ATCT	53.020181	-0.913400	65.59	8.00	73.59
2-ATCT	52.918698	-1.080804	36.43	5.00	41.43

1-ATCT map image



2-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	
PV array 1	10.0	180.0	2,040	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
pv-array-1 (green)	0	1	0	3	453	491	520	124	0	2	0	0
pv-array-1 (yellow)	0	0	0	0	0	0	0	0	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

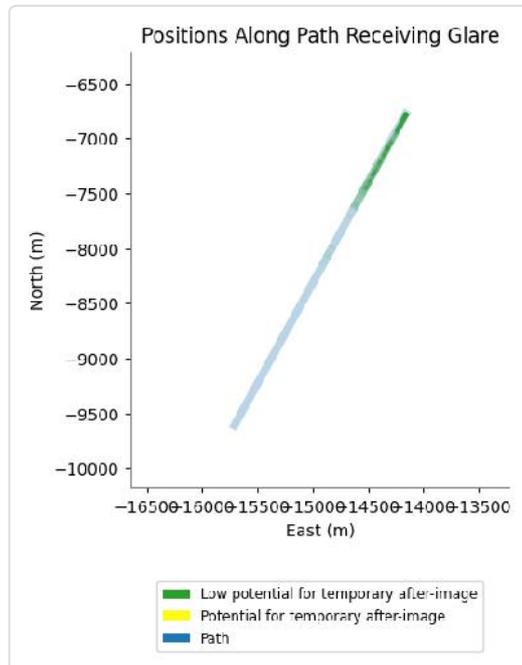
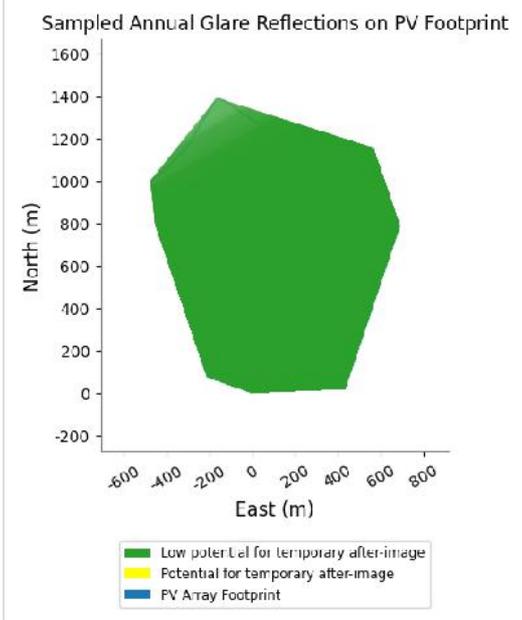
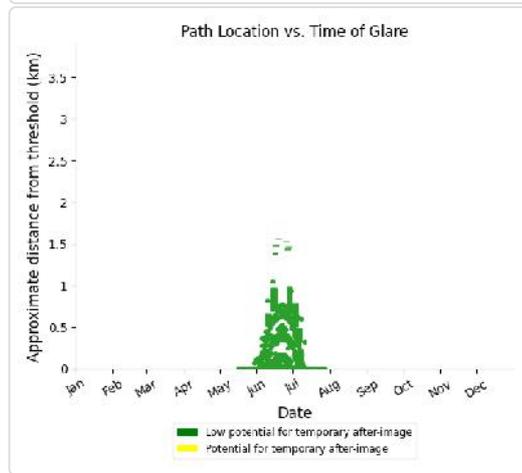
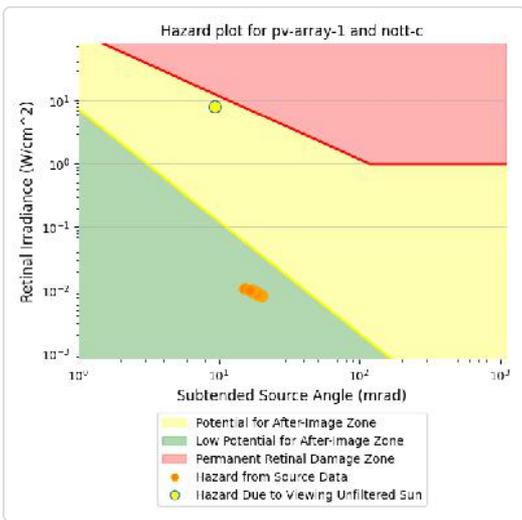
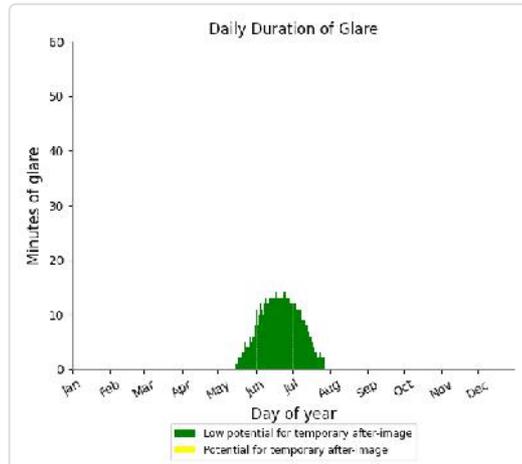
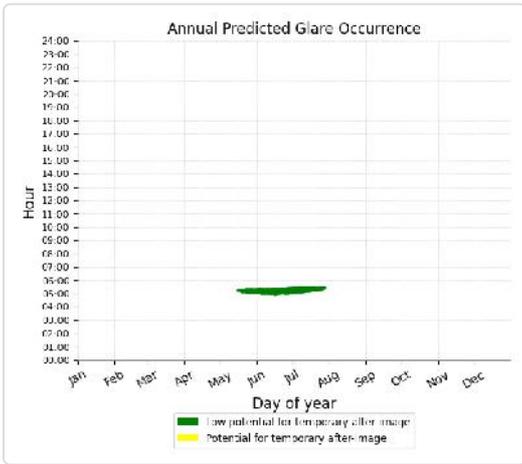
PV array 1 low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: Nott City RWY 03	622	0
FP: Nott City RWY 09	1414	0
FP: Nott City RWY 21	0	0
FP: Nott City RWY 27	0	0
FP: RAF Syerston RWY 06	3	0
FP: RAF Syerston RWY 24	0	0
OP: 1-ATCT	0	0
OP: 2-ATCT	1	0

PV array 1 - Receptor (Nott City RWY 03)

PV array is expected to produce the following glare for observers on this flight path:

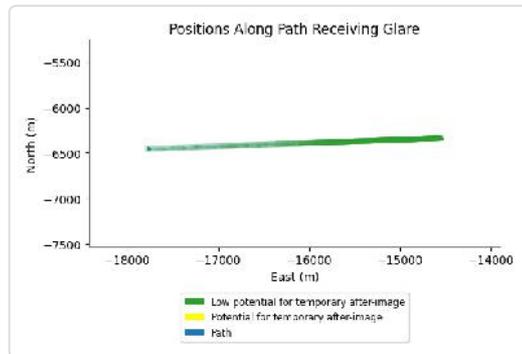
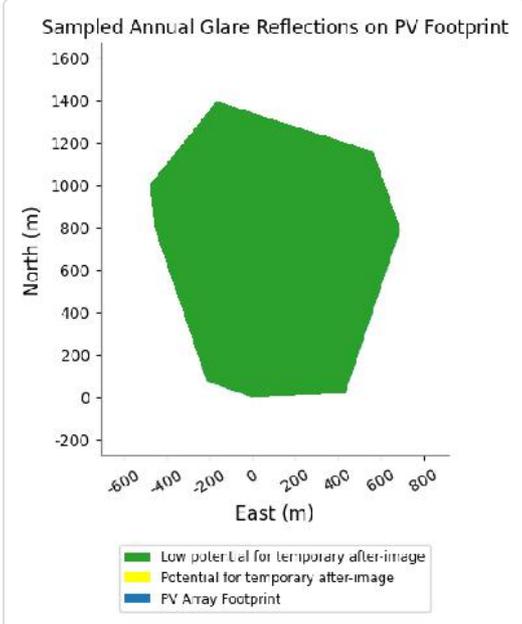
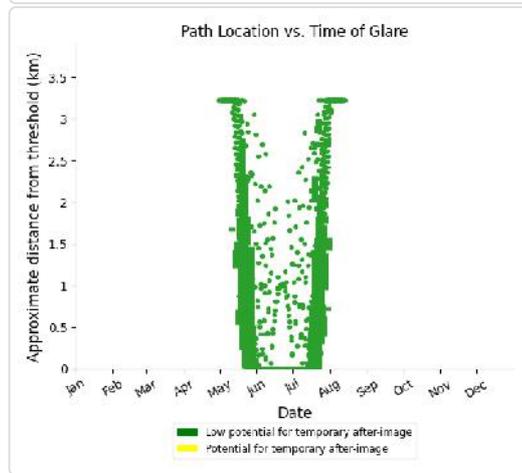
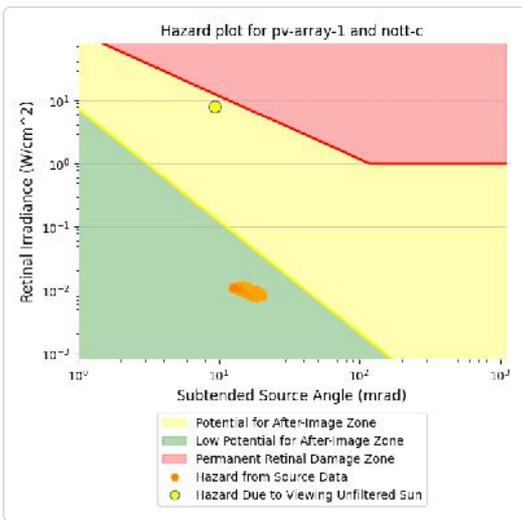
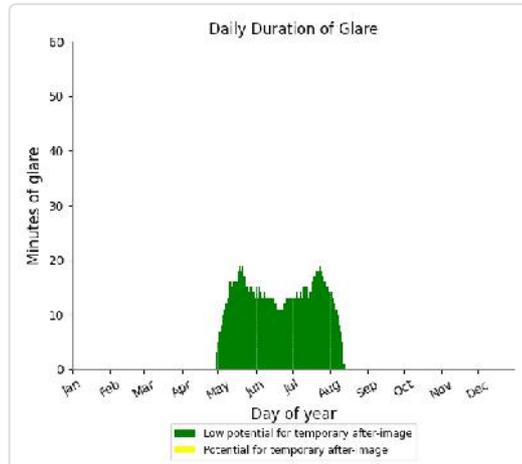
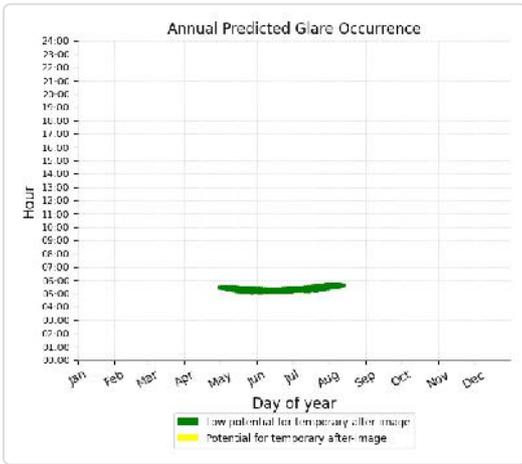
- 622 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - Receptor (Nott City RWY 09)

PV array is expected to produce the following glare for observers on this flight path:

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



PV array 1 - Receptor (Nott City RWY 21)

No glare found

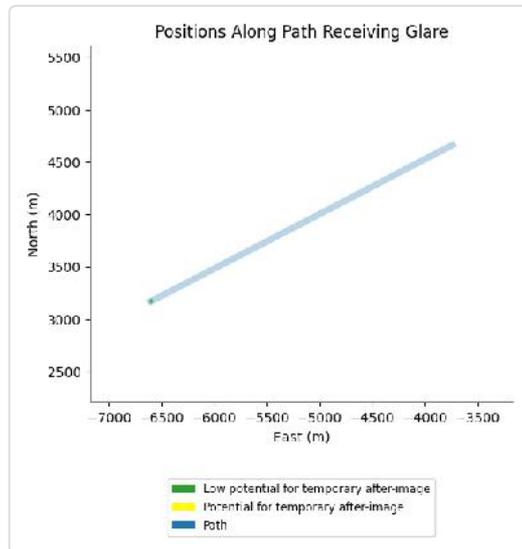
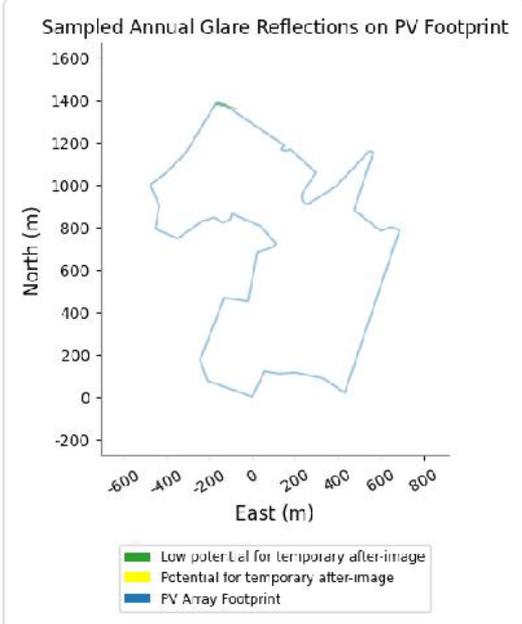
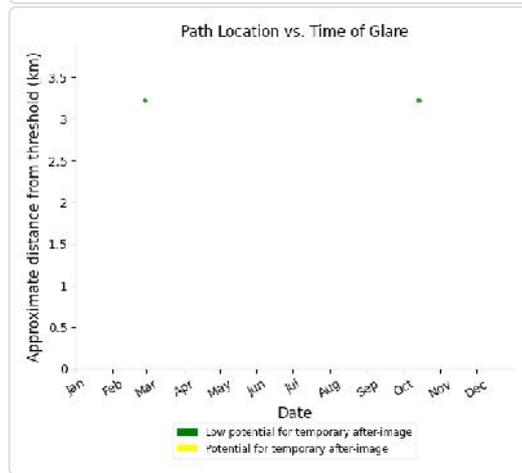
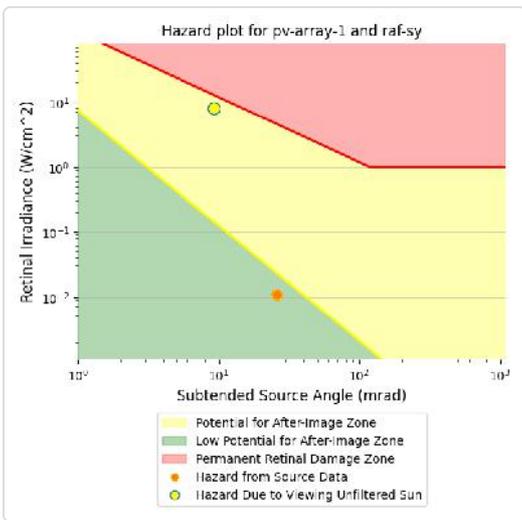
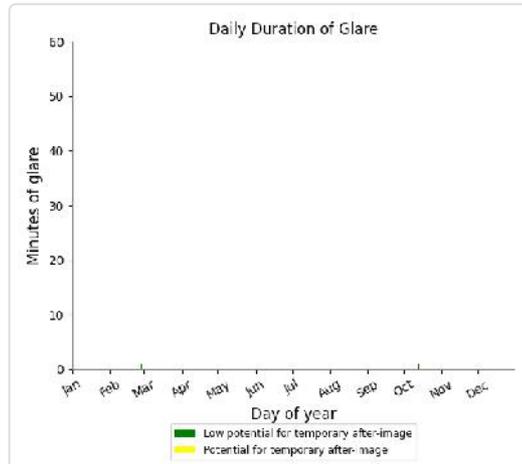
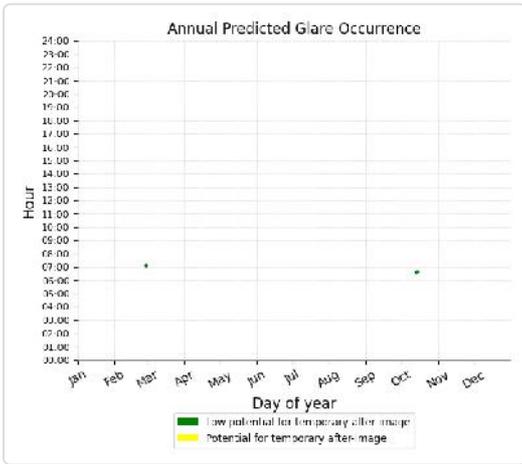
PV array 1 - Receptor (Nott City RWY 27)

No glare found

PV array 1 - Receptor (RAF Syerston RWY 06)

PV array is expected to produce the following glare for observers on this flight path:

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



PV array 1 - Receptor (RAF Syerston RWY 24)

No glare found

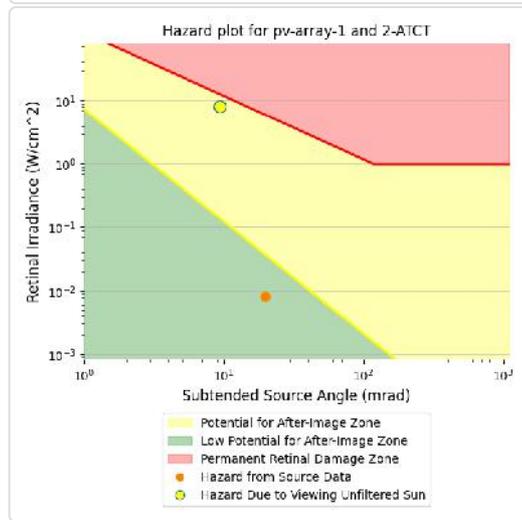
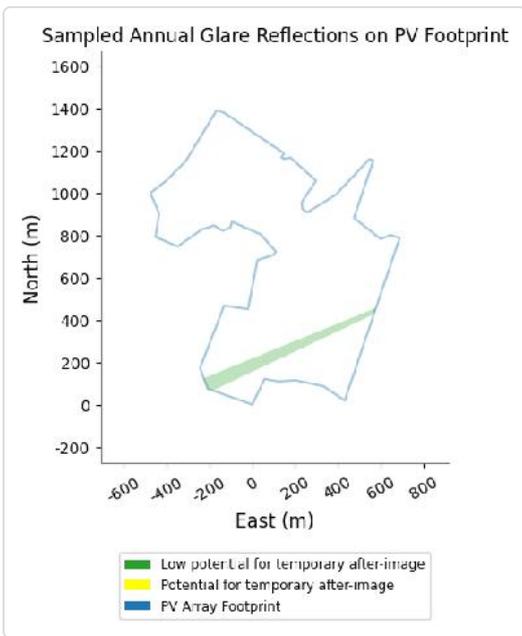
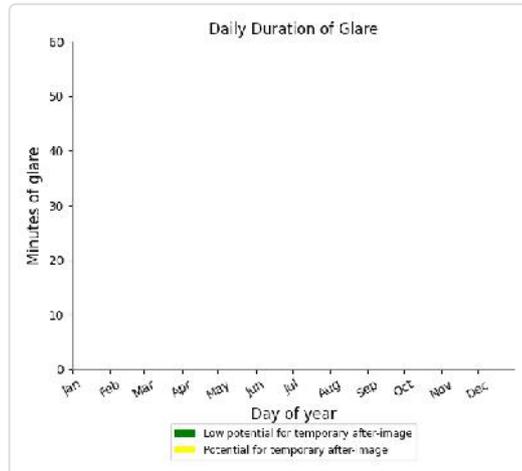
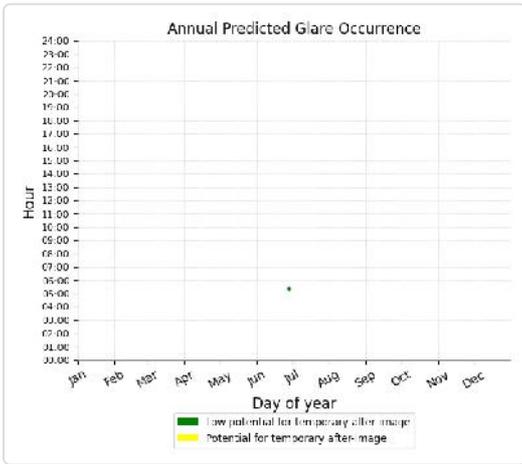
PV array 1 - OP Receptor (1-ATCT)

No glare found

PV array 1 - OP Receptor (2-ATCT)

PV array is expected to produce the following glare for receptors at this location:

- 1 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 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 for 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.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6G - Aviation Receptor Glare Results (30 degrees)



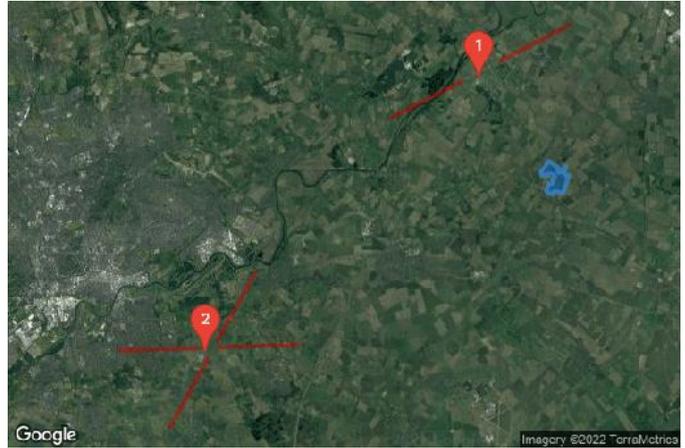


Longhedge Solar Farm

Longhedge Solar Farm Aviation Receptors 30deg

Created July 25, 2022
Updated Aug. 10, 2022
Time-step 1 minute
Timezone offset UTC0
Site ID 73013.12854

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



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

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
PV array 1	30.0	180.0	1,418	0	-

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 30.0 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	52.977416	-0.868813	20.30	2.80	23.10
2	52.978501	-0.867955	20.00	2.80	22.80
3	52.978398	-0.866989	20.39	2.80	23.19
4	52.978450	-0.865830	20.46	2.80	23.26
5	52.978191	-0.863856	20.00	2.80	22.80
6	52.977584	-0.862376	19.95	2.80	22.75
7	52.984483	-0.858556	24.76	2.80	27.56
8	52.984612	-0.859200	25.60	2.80	28.40
9	52.984431	-0.859865	26.00	2.80	28.80
10	52.985335	-0.861732	25.02	2.80	27.82
11	52.987777	-0.860380	19.95	2.80	22.75
12	52.987828	-0.860659	19.88	2.80	22.68
13	52.986317	-0.862998	21.01	2.80	23.81
14	52.985568	-0.864972	20.25	2.80	23.05
15	52.985723	-0.865337	19.79	2.80	22.59
16	52.986007	-0.865358	20.07	2.80	22.87
17	52.986911	-0.864371	20.22	2.80	23.02
18	52.987893	-0.866152	18.00	2.80	20.80
19	52.987841	-0.866581	18.05	2.80	20.85
20	52.987893	-0.866774	18.33	2.80	21.13
21	52.988074	-0.866603	18.08	2.80	20.88
22	52.989779	-0.870723	22.00	2.80	24.80
23	52.989908	-0.871280	22.00	2.80	24.80
24	52.987738	-0.873448	22.05	2.80	24.85
25	52.986924	-0.874778	22.79	2.80	25.59
26	52.986395	-0.875894	22.62	2.80	25.42
27	52.985516	-0.875293	21.94	2.80	24.74
28	52.984522	-0.875551	21.38	2.80	24.18
29	52.984121	-0.874006	20.15	2.80	22.95
30	52.984845	-0.872310	20.21	2.80	23.01
31	52.985012	-0.871474	20.01	2.80	22.81
32	52.984793	-0.870873	20.22	2.80	23.02
33	52.984909	-0.870358	20.19	2.80	22.99
34	52.985167	-0.870208	19.84	2.80	22.64
35	52.984638	-0.868233	20.05	2.80	22.85
36	52.983914	-0.867182	19.95	2.80	22.75
37	52.983759	-0.867332	20.03	2.80	22.83
38	52.983540	-0.868448	20.67	2.80	23.47
39	52.981460	-0.869113	21.77	2.80	24.57
40	52.981615	-0.870765	23.94	2.80	26.74
41	52.978966	-0.872439	24.87	2.80	27.67
42	52.978088	-0.871924	23.83	2.80	26.63

2-Mile Flight Path Receptor(s)

Name: Nott City RWY 03
Description:
Threshold height : 15 m
Direction: 28.7 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	52.916684	-1.079598	34.79	15.24	50.03
2-mile point	52.891323	-1.102651	40.65	178.07	218.71



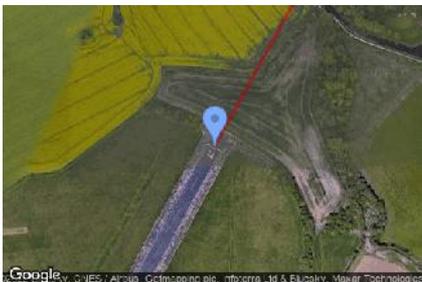
Name: Nott City RWY 09
Description:
Threshold height : 15 m
Direction: 88.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	m	m	m
Threshold	52.920669	-1.085391	38.34	15.24	53.58
2-mile point	52.919710	-1.133375	41.72	180.55	222.27



Name: Nott City RWY 21
Description:
Threshold height : 15 m
Direction: 208.7 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	52.923140	-1.073783	26.88	15.24	42.12
2-mile point	52.948500	-1.050726	20.49	190.32	210.81



Name: Nott City RWY 27
Description:
Threshold height : 15 m
Direction: 268.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude deg	Longitude deg	Ground elevation m	Height above ground m	Total elevation m
Threshold	52.920850	-1.072946	26.71	15.24	41.95
2-mile point	52.921808	-1.024962	55.39	155.24	210.64



Name: RAF Syerston RWY 06
Description:
Threshold height : 15 m
Direction: 62.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude deg	Longitude deg	Ground elevation m	Height above ground m	Total elevation m
Threshold	53.019293	-0.924462	65.60	15.24	80.84
2-mile point	53.005915	-0.967122	17.75	231.77	249.52



Name: RAF Syerston RWY 24
Description:
Threshold height : 15 m
Direction: 242.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude deg	Longitude deg	Ground elevation m	Height above ground m	Total elevation m
Threshold	53.026804	-0.900580	56.20	15.24	71.44
2-mile point	53.040199	-0.857928	17.72	222.40	240.13



Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	m	m	m
1-ATCT	53.020181	-0.913400	65.59	8.00	73.59
2-ATCT	52.918698	-1.080804	36.43	5.00	41.43

1-ATCT map image



2-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	
PV array 1	30.0	180.0	1,418	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
pv-array-1 (green)	0	0	0	0	325	457	427	66	0	0	0	0
pv-array-1 (yellow)	0	0	0	0	0	0	0	0	0	0	0	0

PV & Receptor Analysis Results

Results for each PV array and receptor

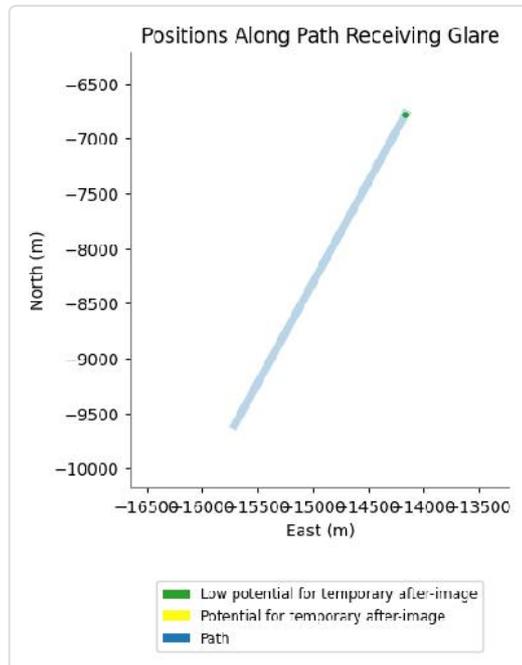
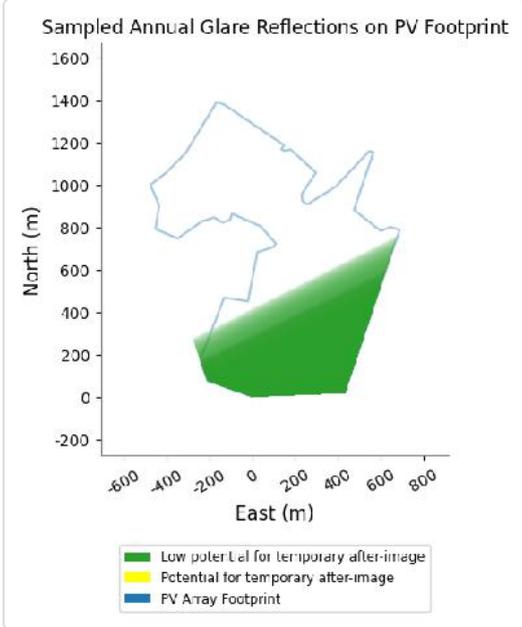
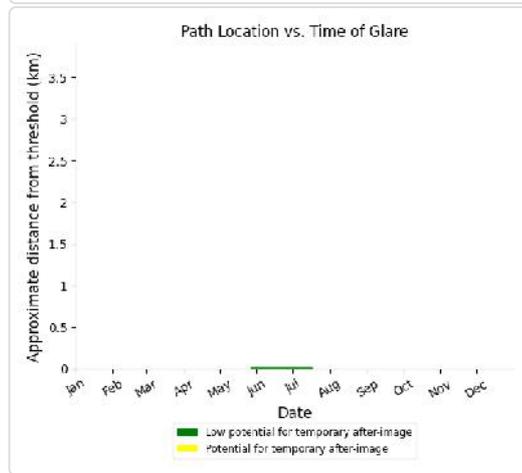
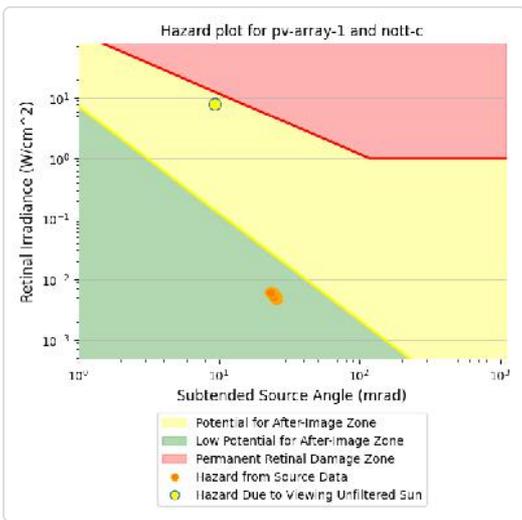
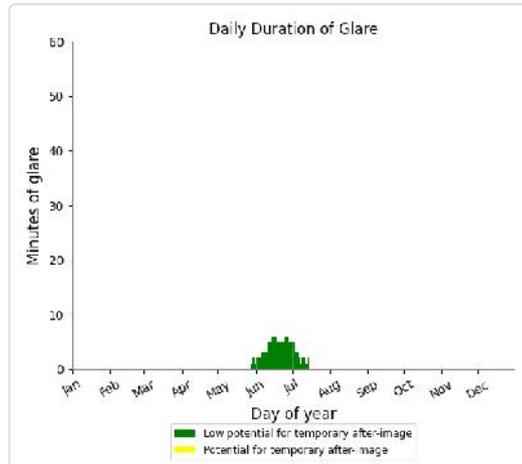
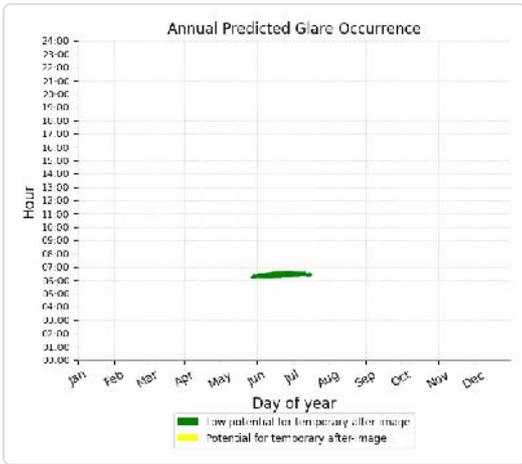
PV array 1 low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: Nott City RWY 03	174	0
FP: Nott City RWY 09	1244	0
FP: Nott City RWY 21	0	0
FP: Nott City RWY 27	0	0
FP: RAF Syerston RWY 06	0	0
FP: RAF Syerston RWY 24	0	0
OP: 1-ATCT	0	0
OP: 2-ATCT	0	0

PV array 1 - Receptor (Nott City RWY 03)

PV array is expected to produce the following glare for observers on this flight path:

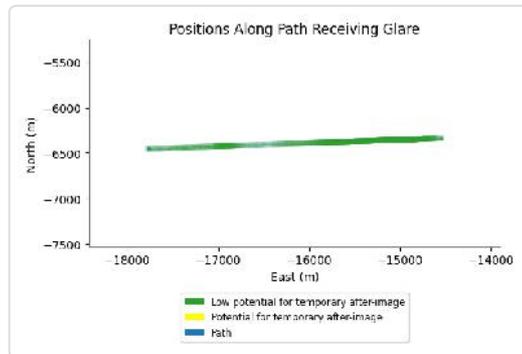
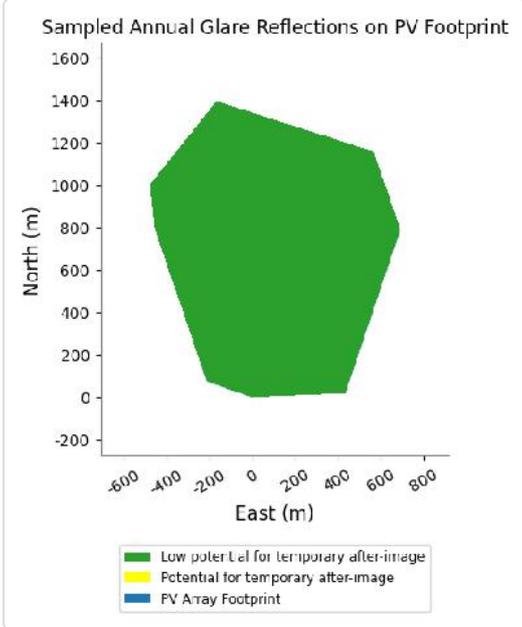
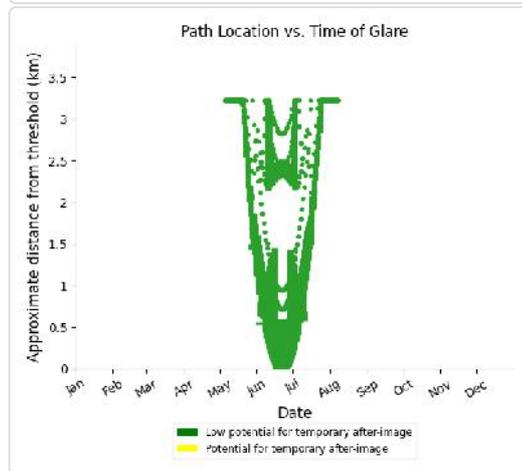
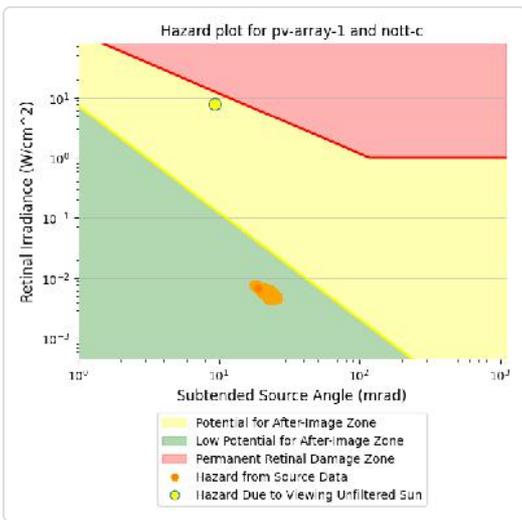
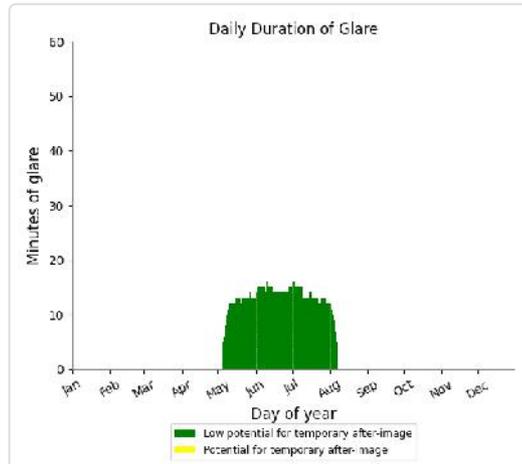
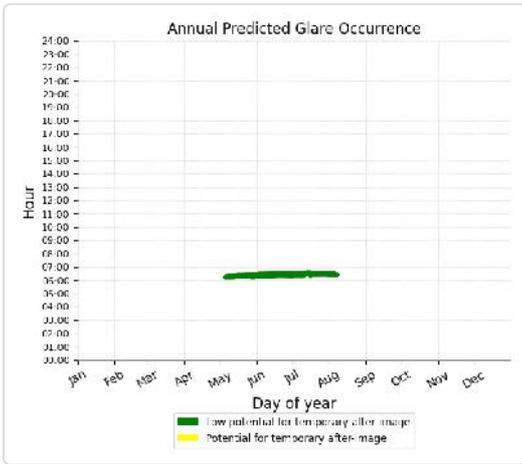
- 174 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - Receptor (Nott City RWY 09)

PV array is expected to produce the following glare for observers on this flight path:

- 1,244 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - Receptor (Nott City RWY 21)

No glare found

PV array 1 - Receptor (Nott City RWY 27)

No glare found

PV array 1 - Receptor (RAF Syerston RWY 06)

No glare found

PV array 1 - Receptor (RAF Syerston RWY 24)

No glare found

PV array 1 - OP Receptor (1-ATCT)

No glare found

PV array 1 - OP Receptor (2-ATCT)

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not 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 for 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.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6H - Visibility Assessment Evidence





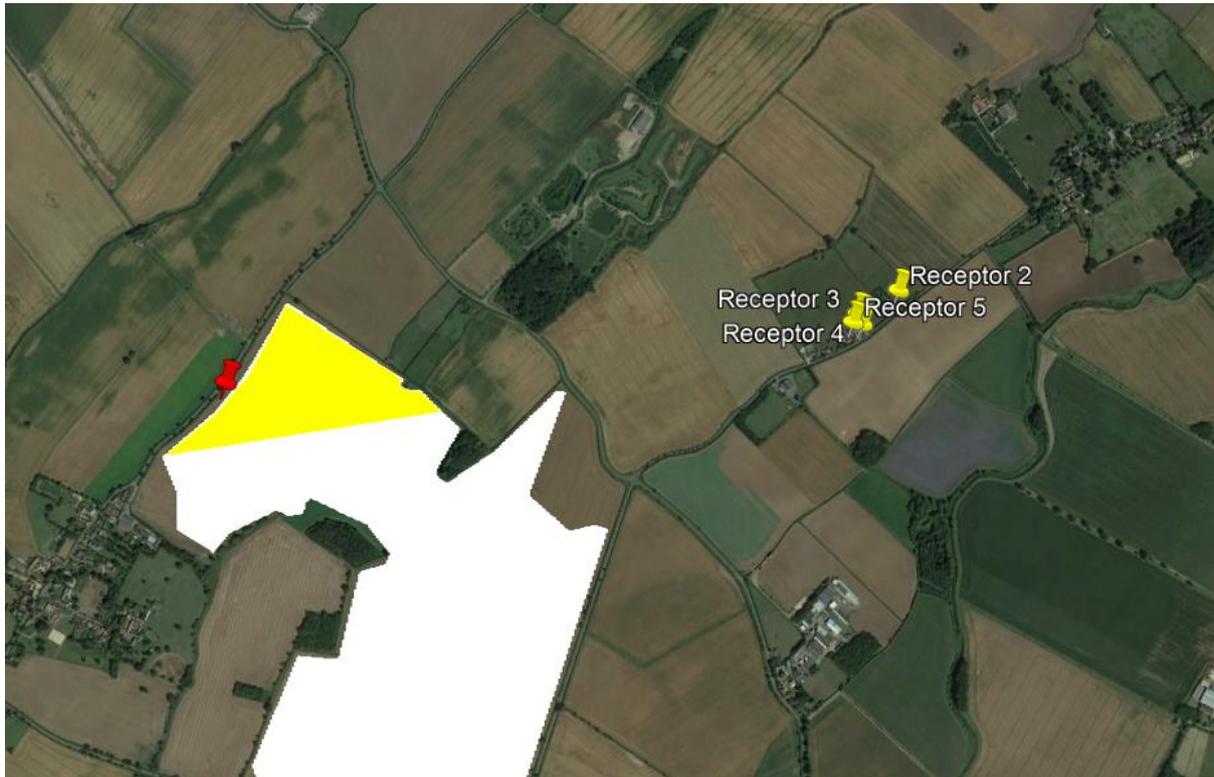
Appendix 6H: Visibility Assessment Evidence



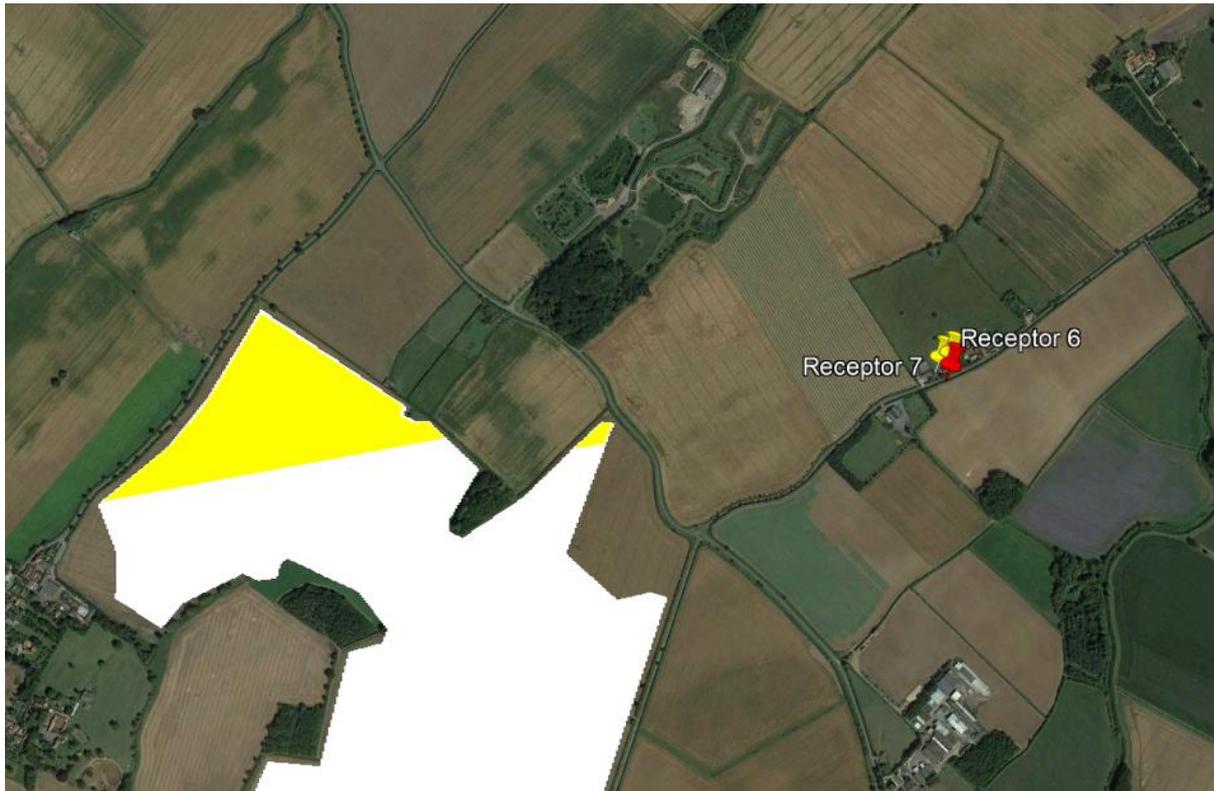
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Residential Receptors

Receptors 2 - 5



Receptors 6 and 7



Receptor 8



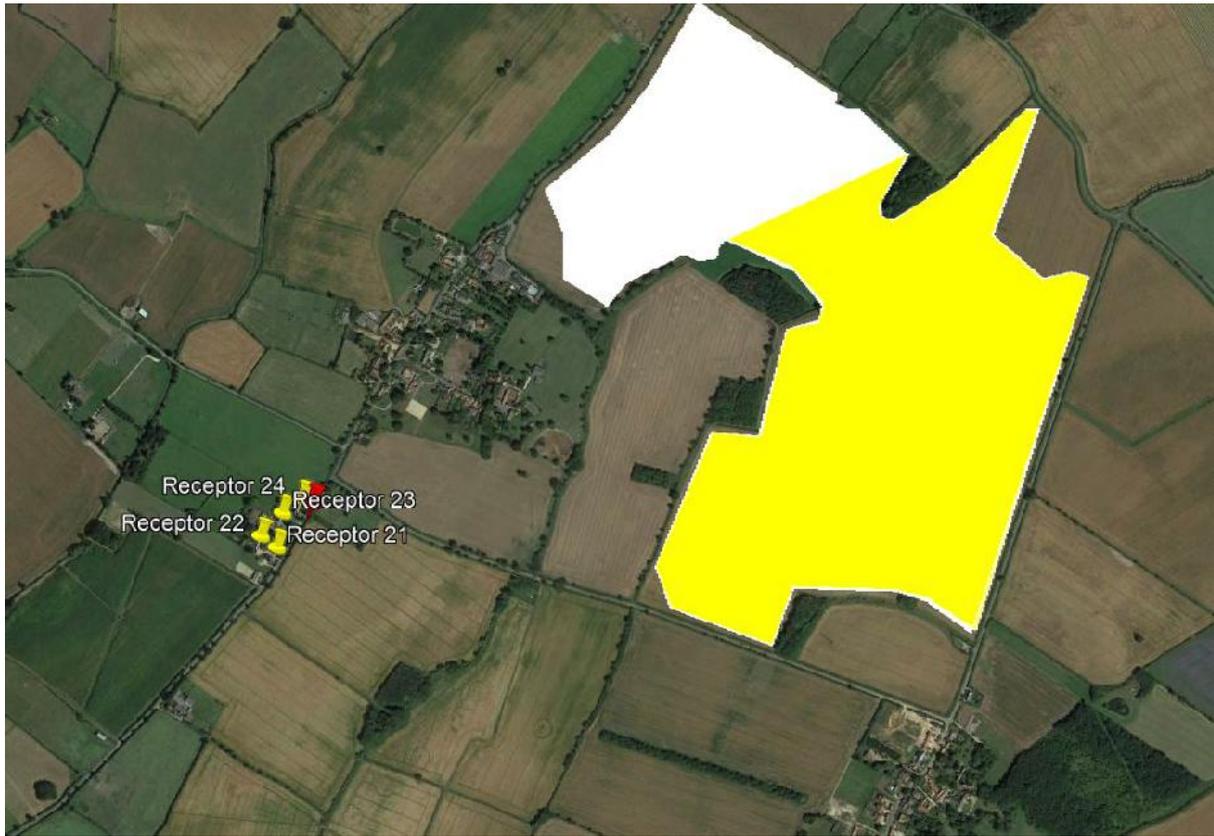
Receptors 9 – 12



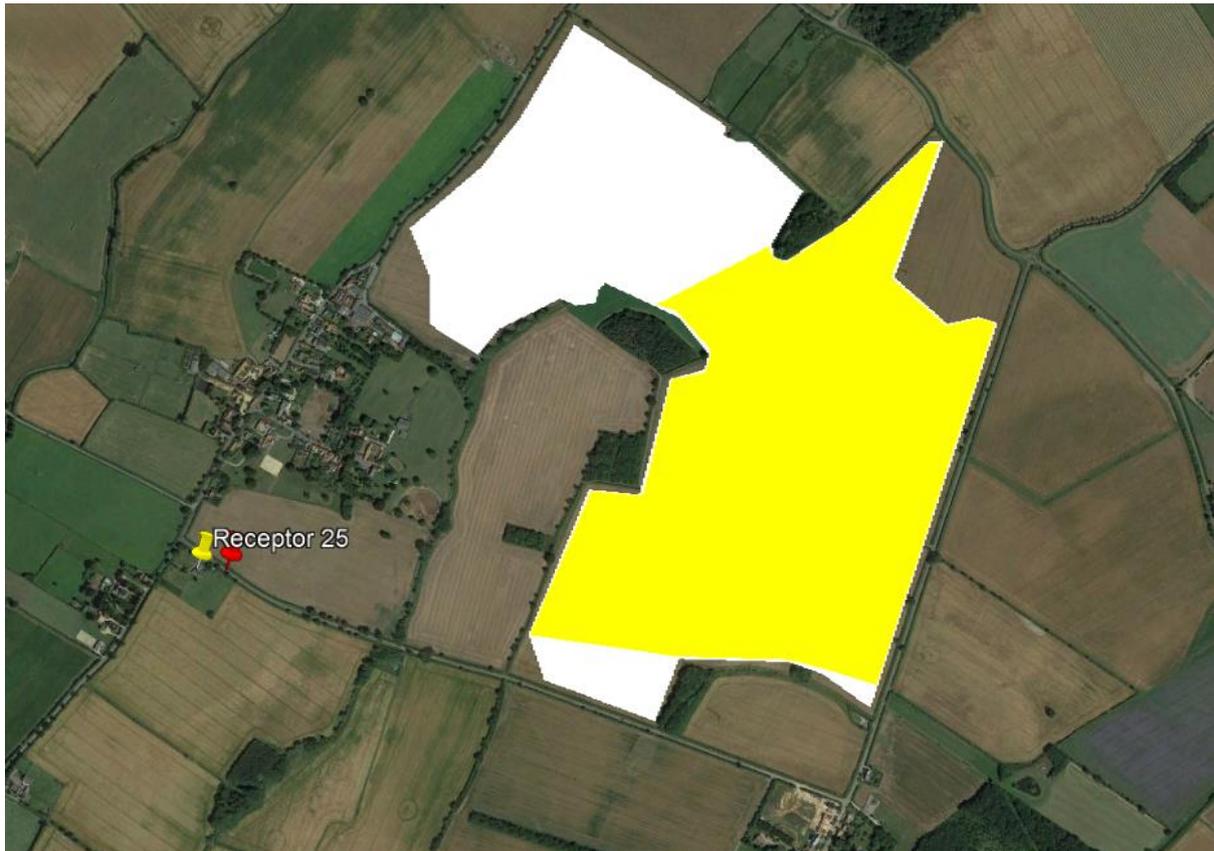
Receptors 13 – 18



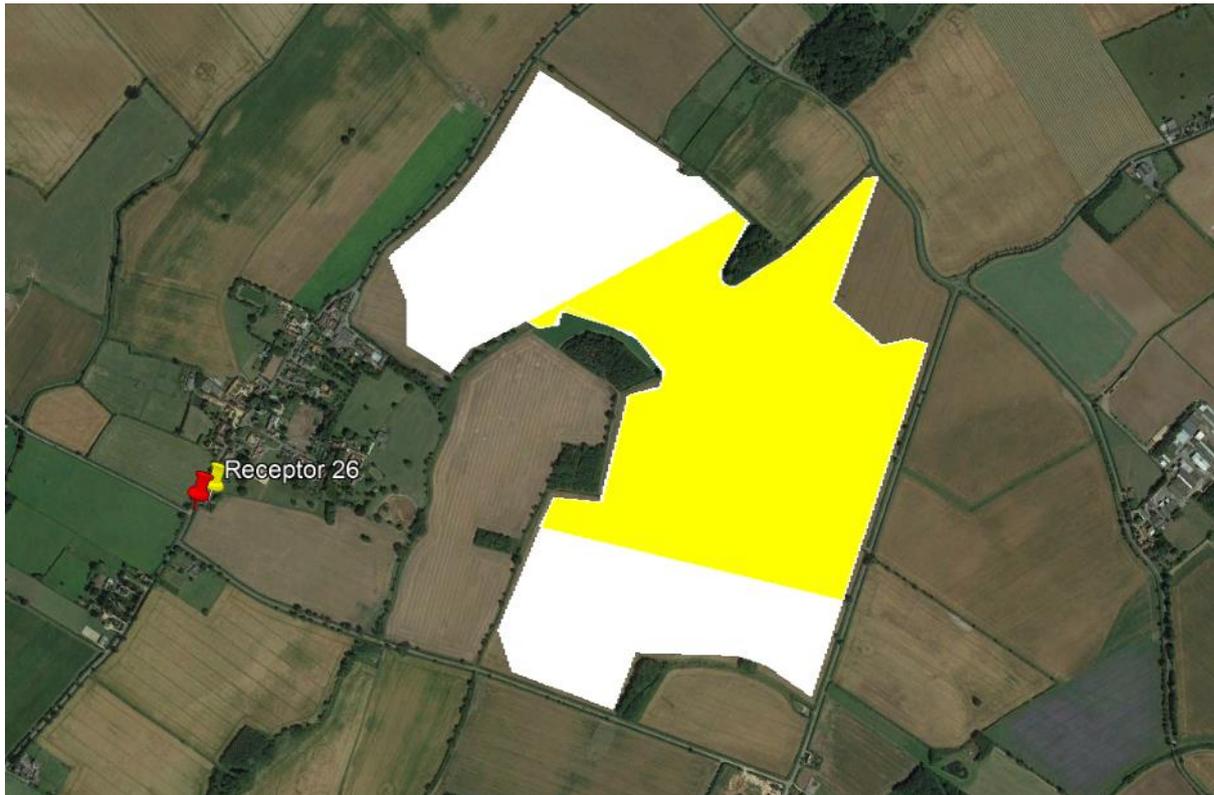
Receptors 21 – 24



Receptor 25



Receptor 26



Receptors 27 – 30

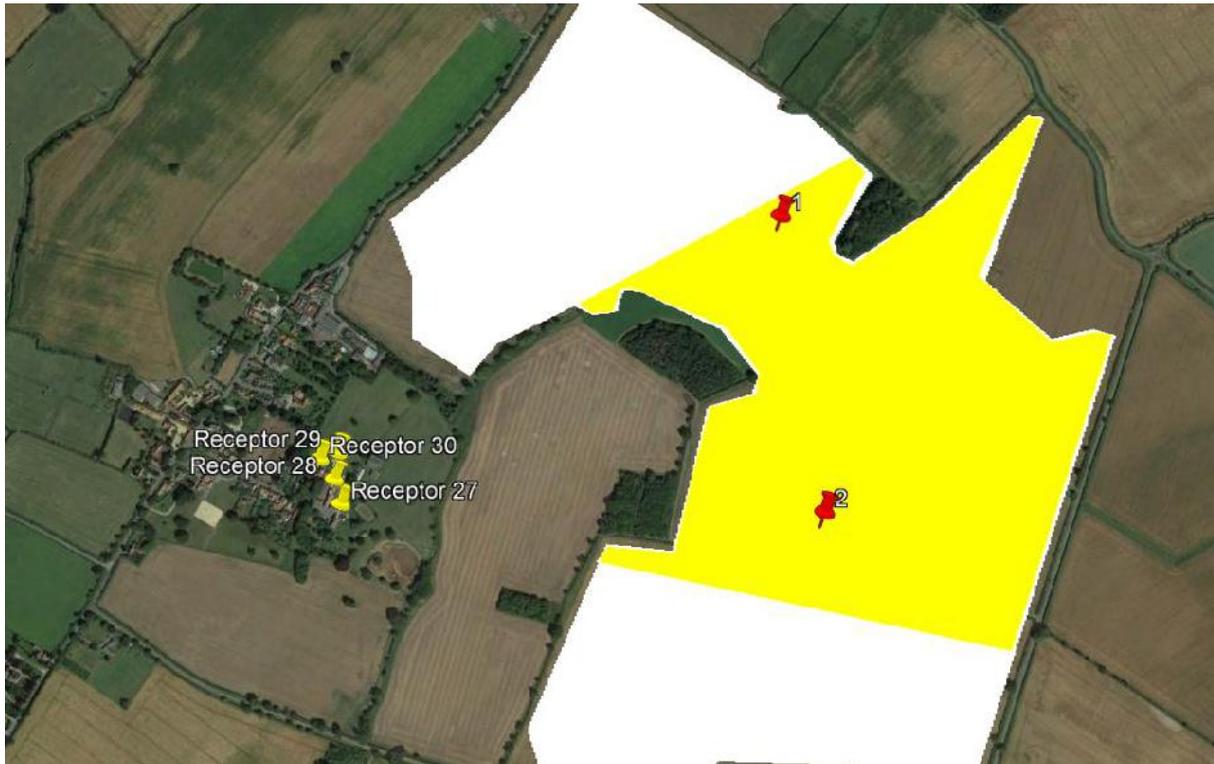


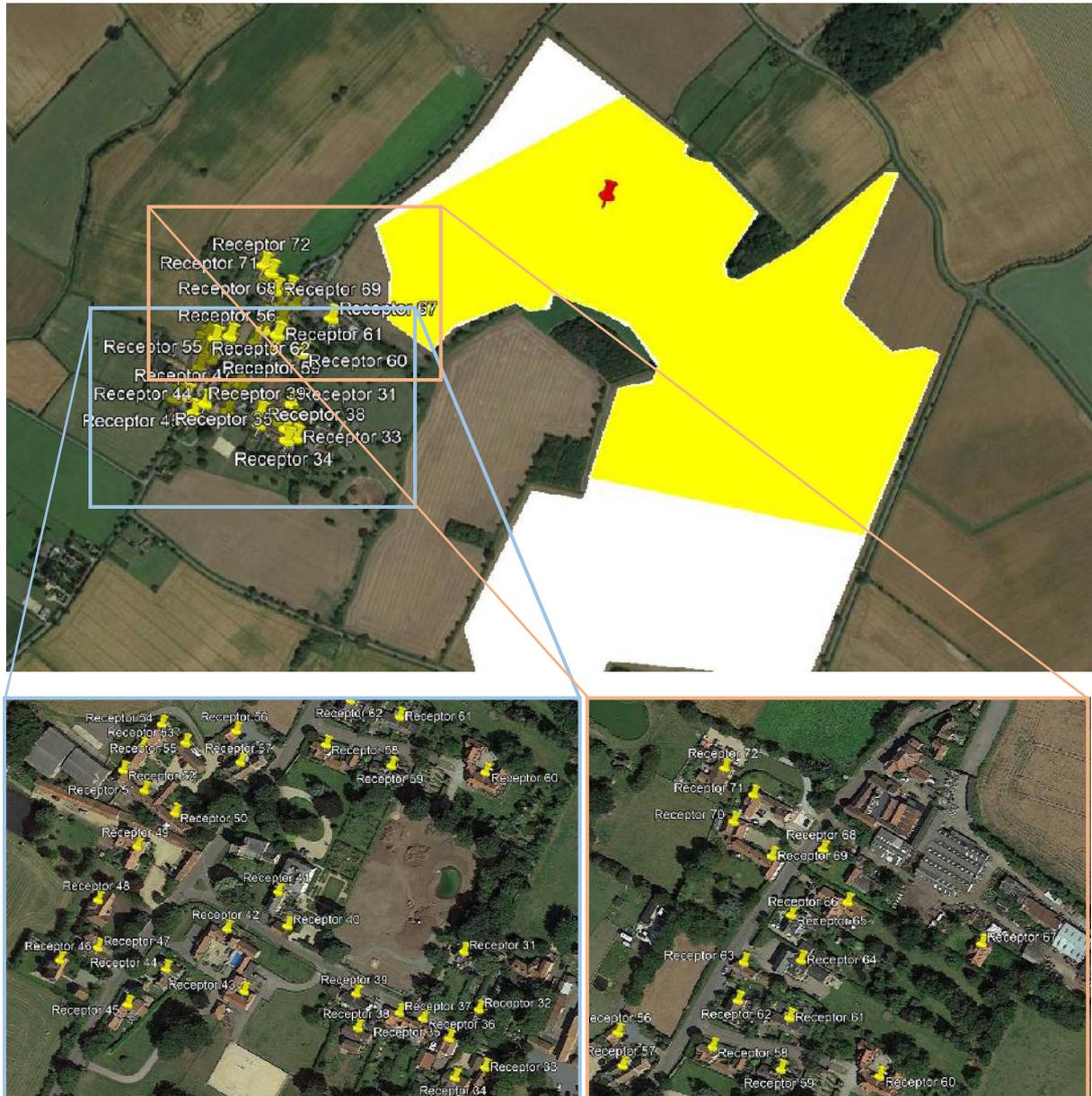
Photo from Red Pin 1



Photo from Red Pin 2



Receptors 31 - 72



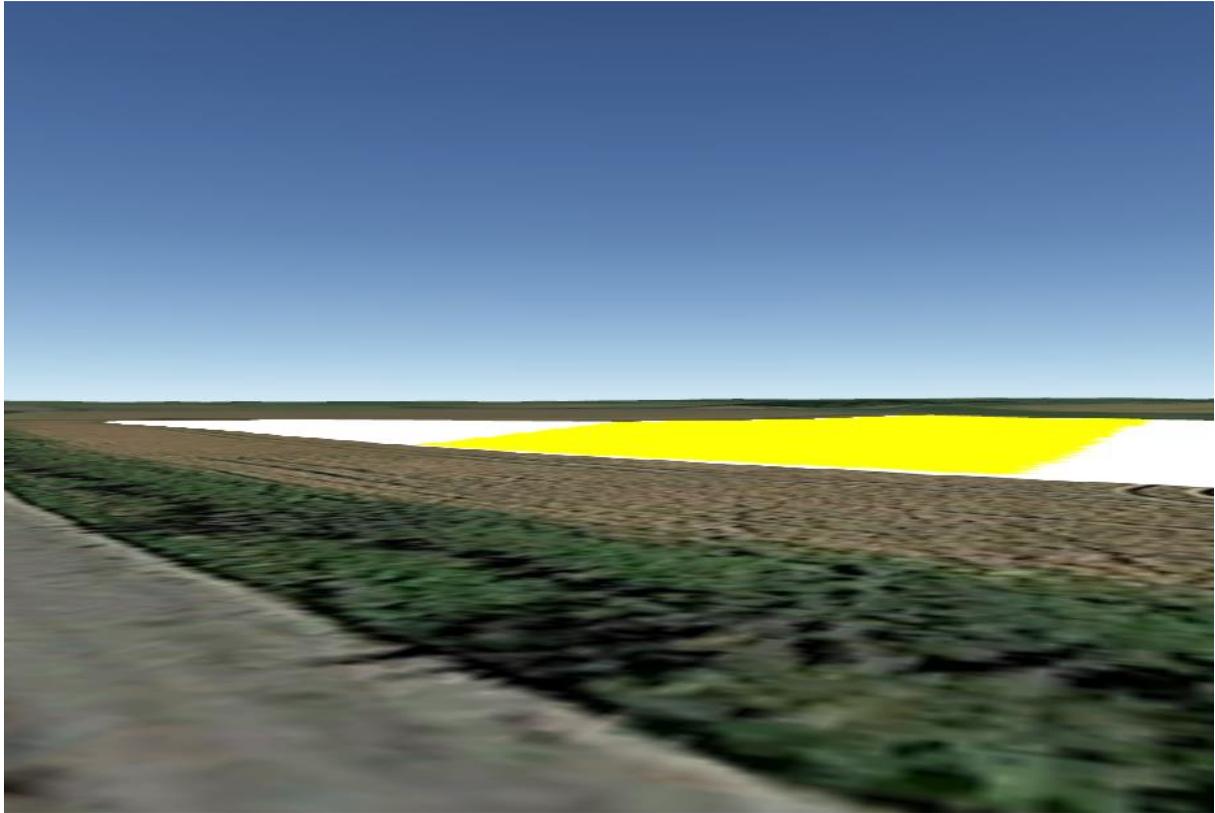


Receptors 73 – 75

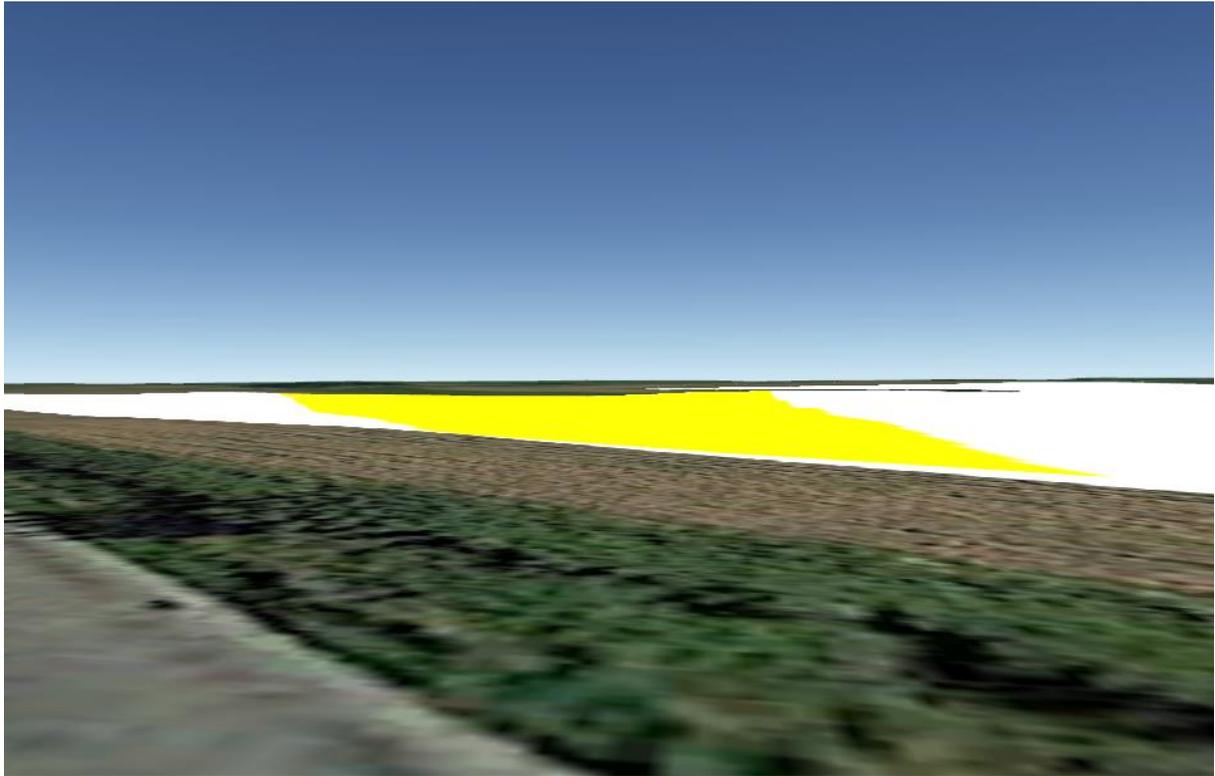


Road Receptors

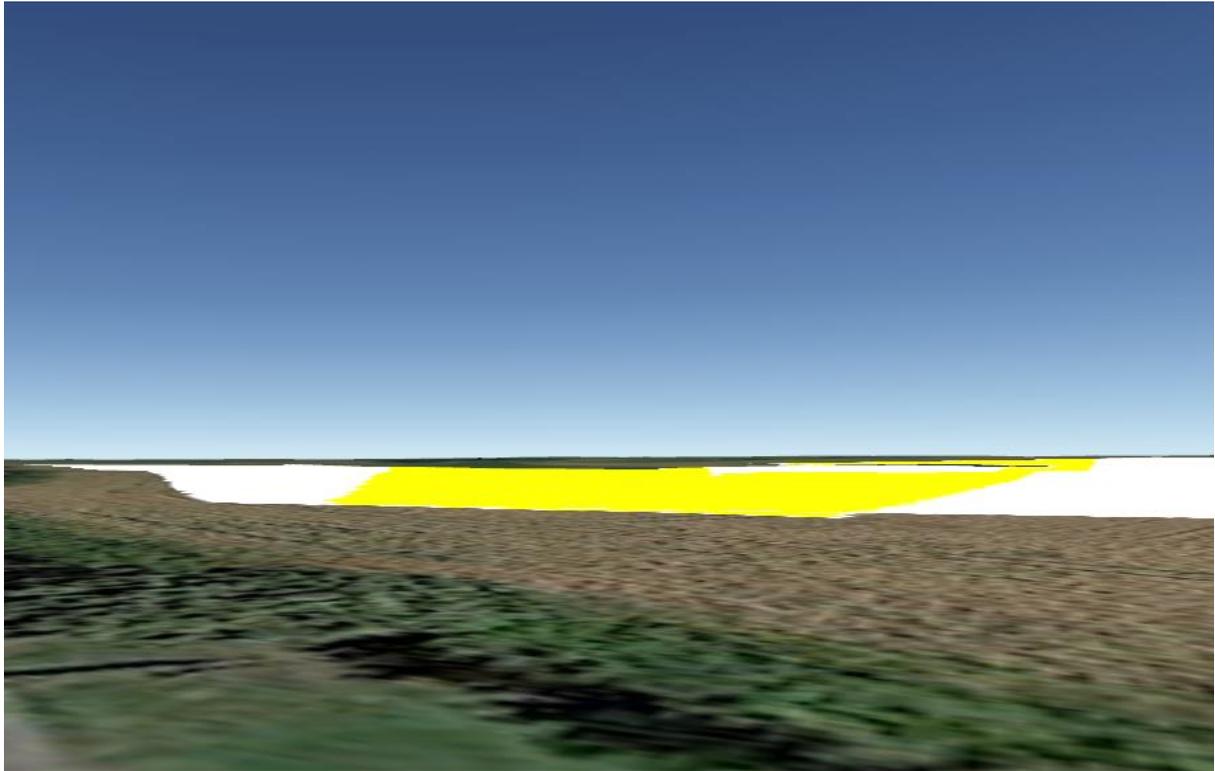
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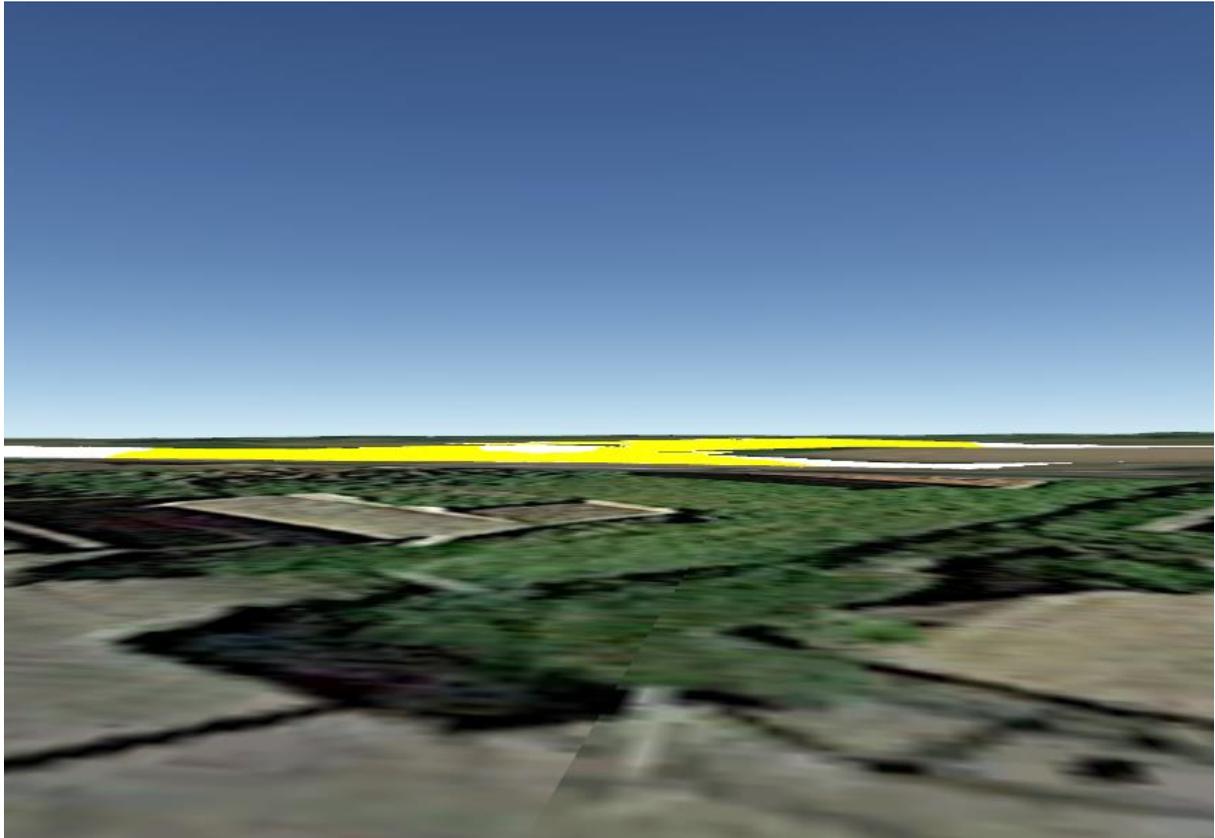
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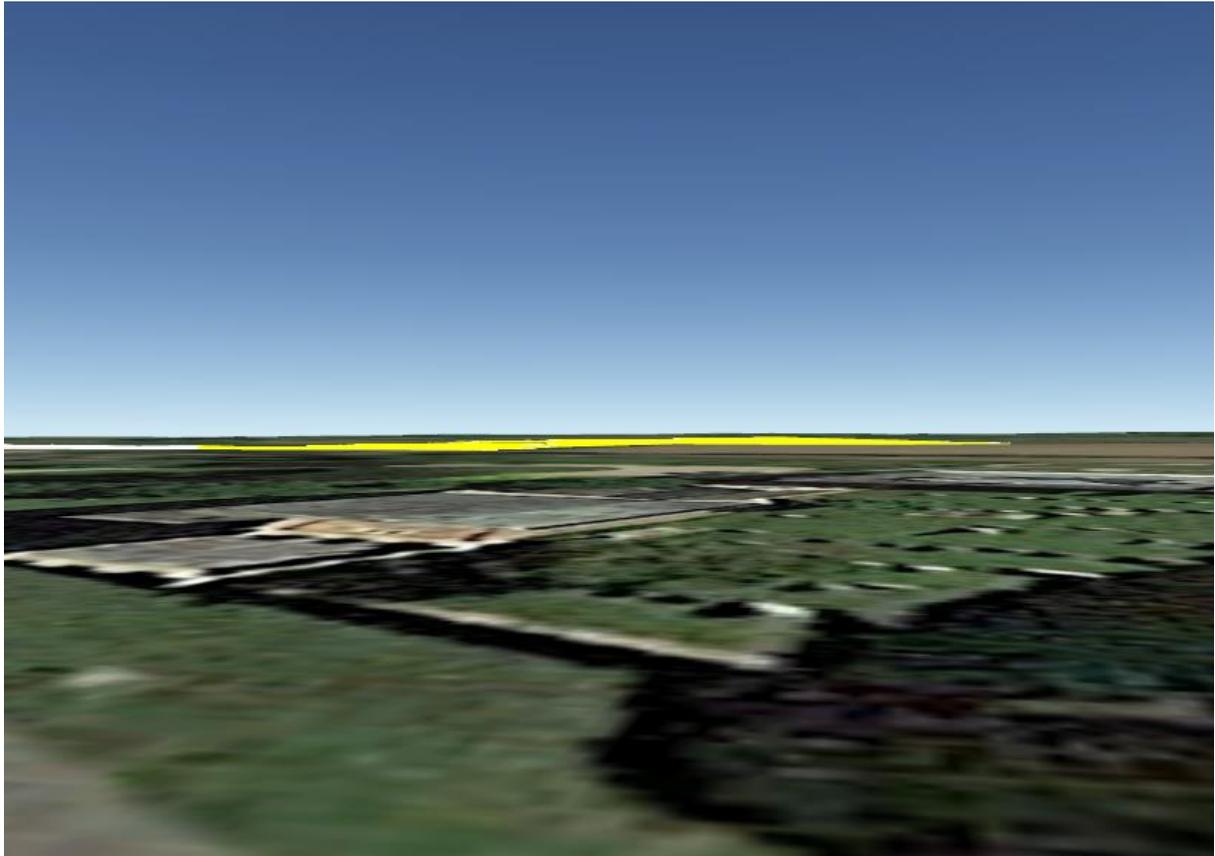
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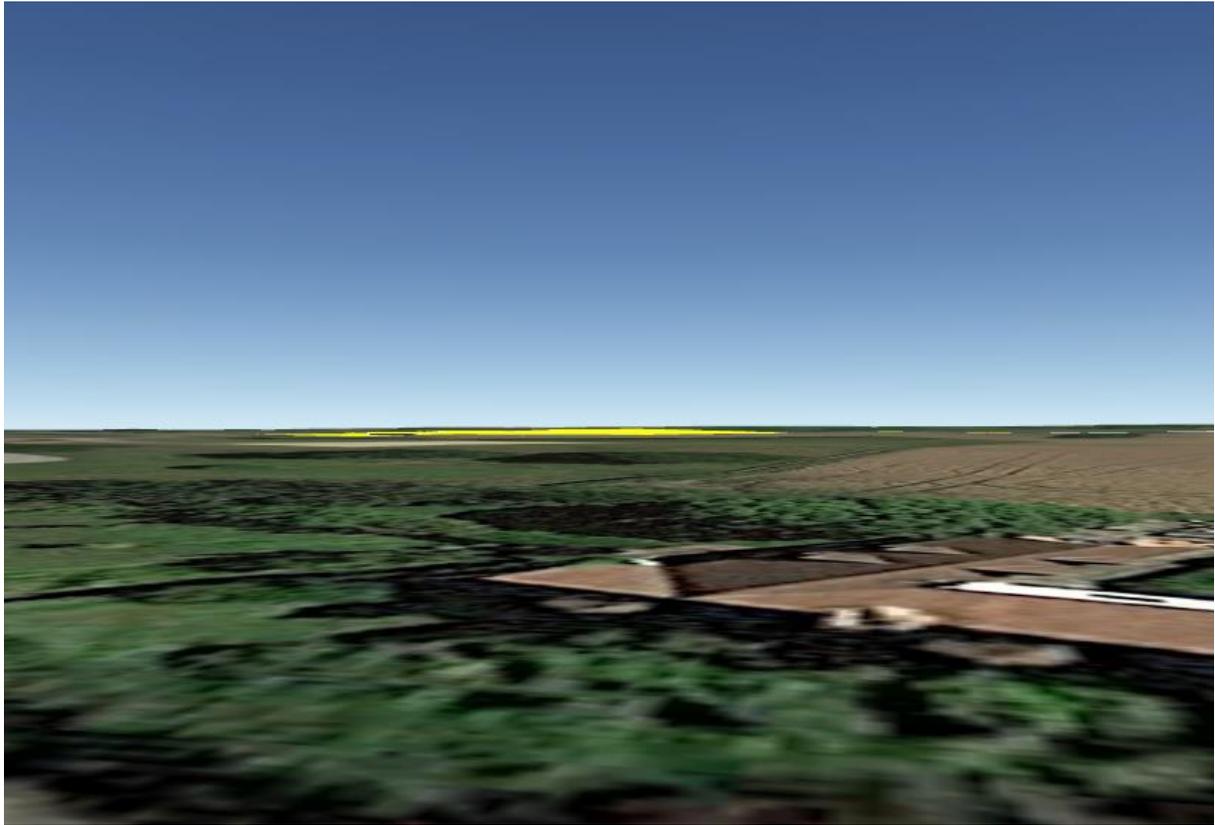
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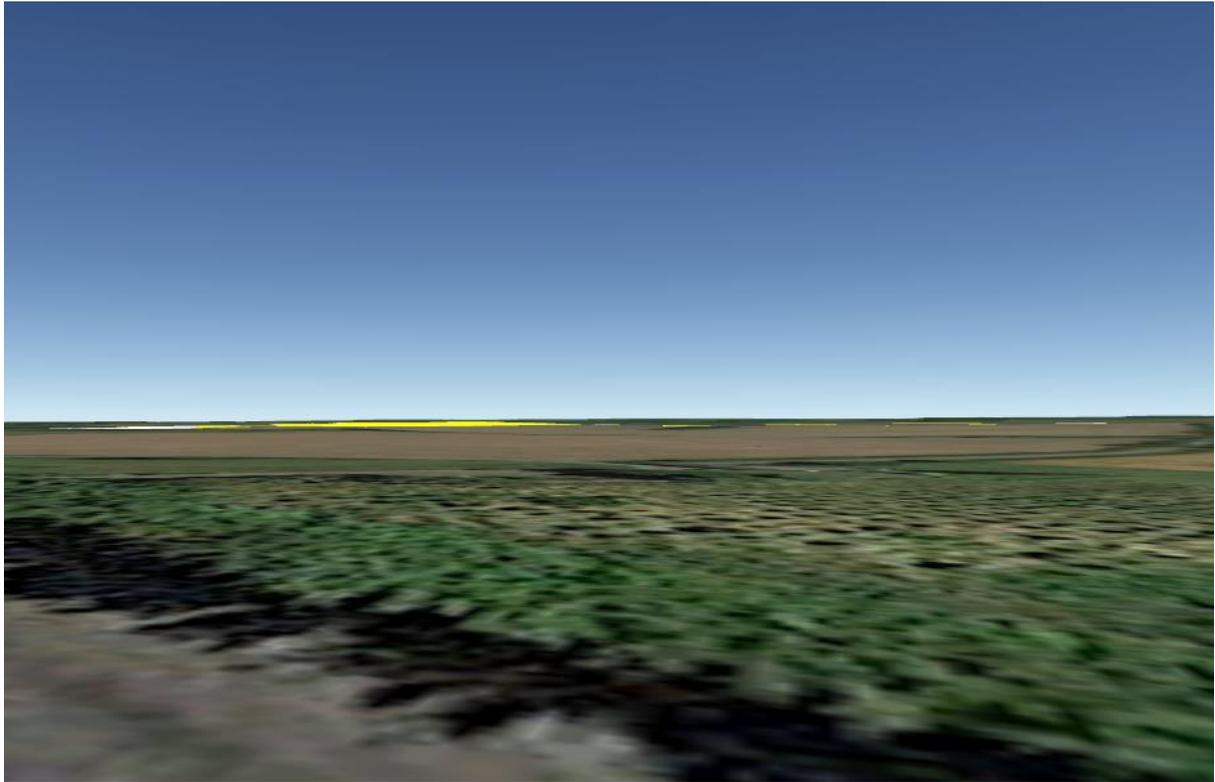
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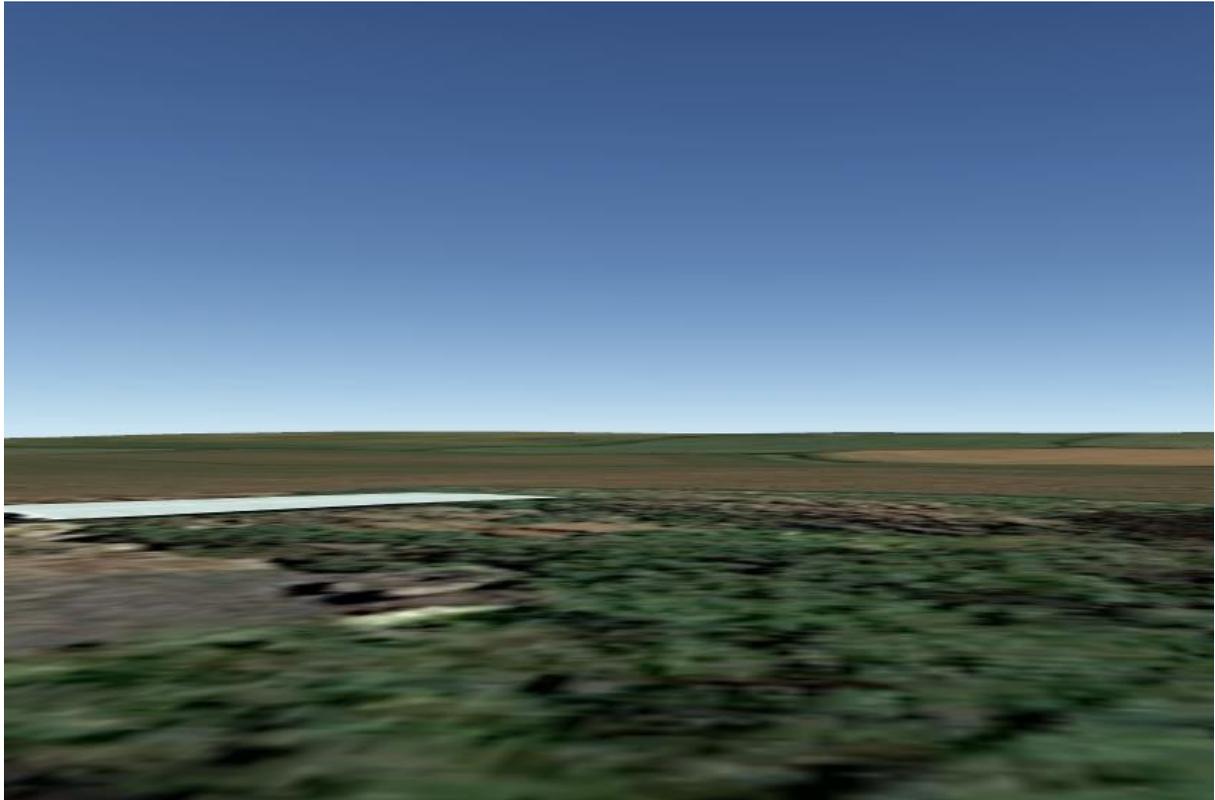
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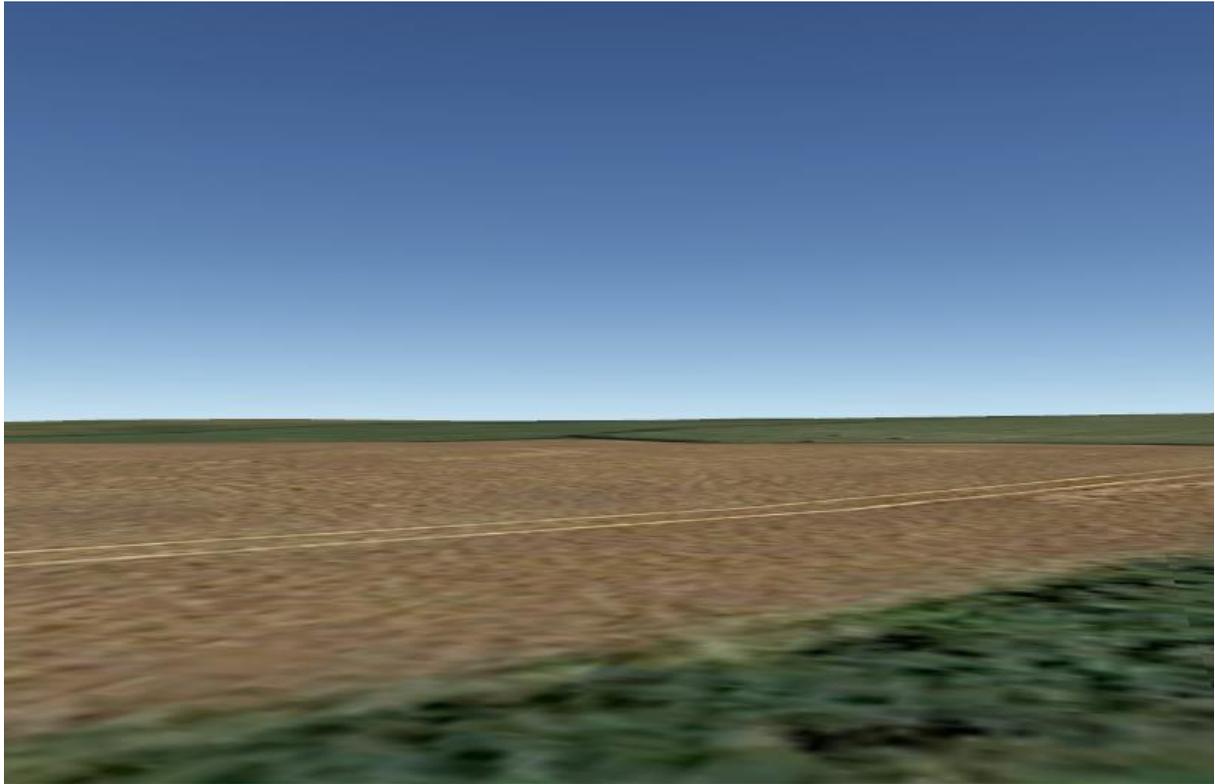
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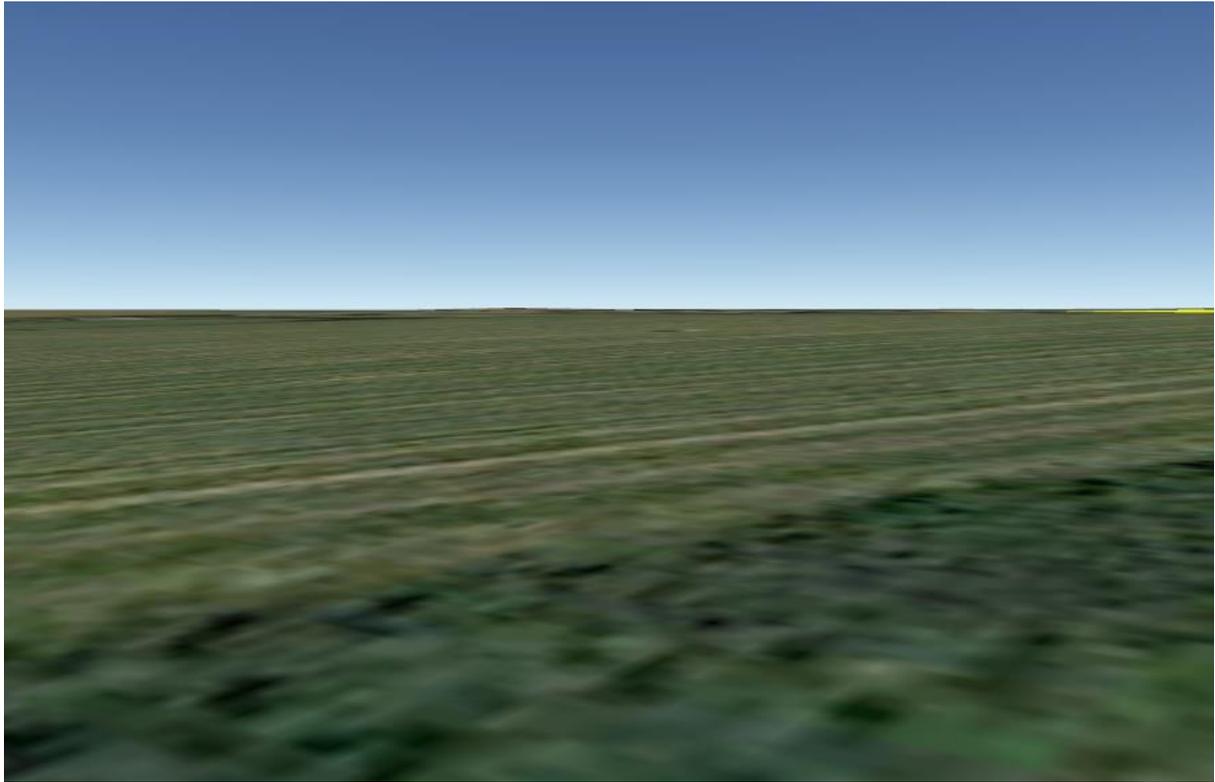
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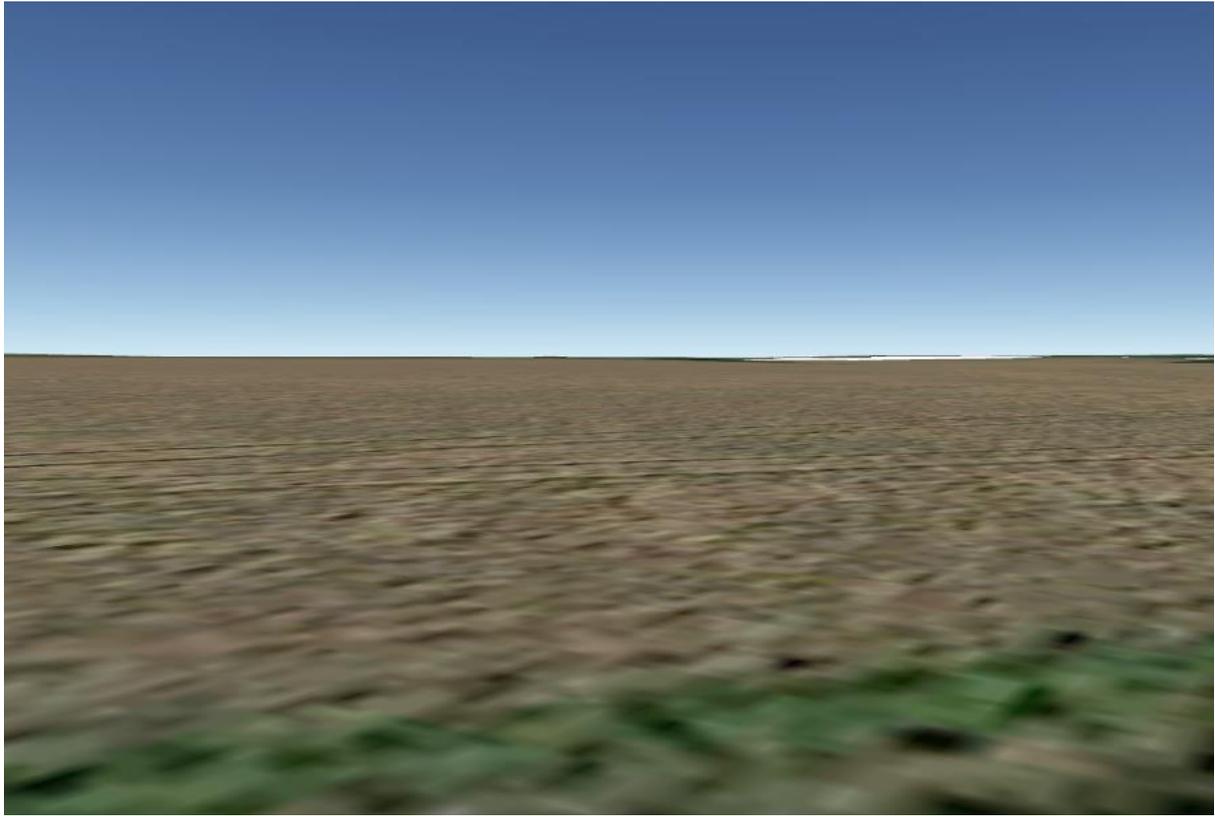
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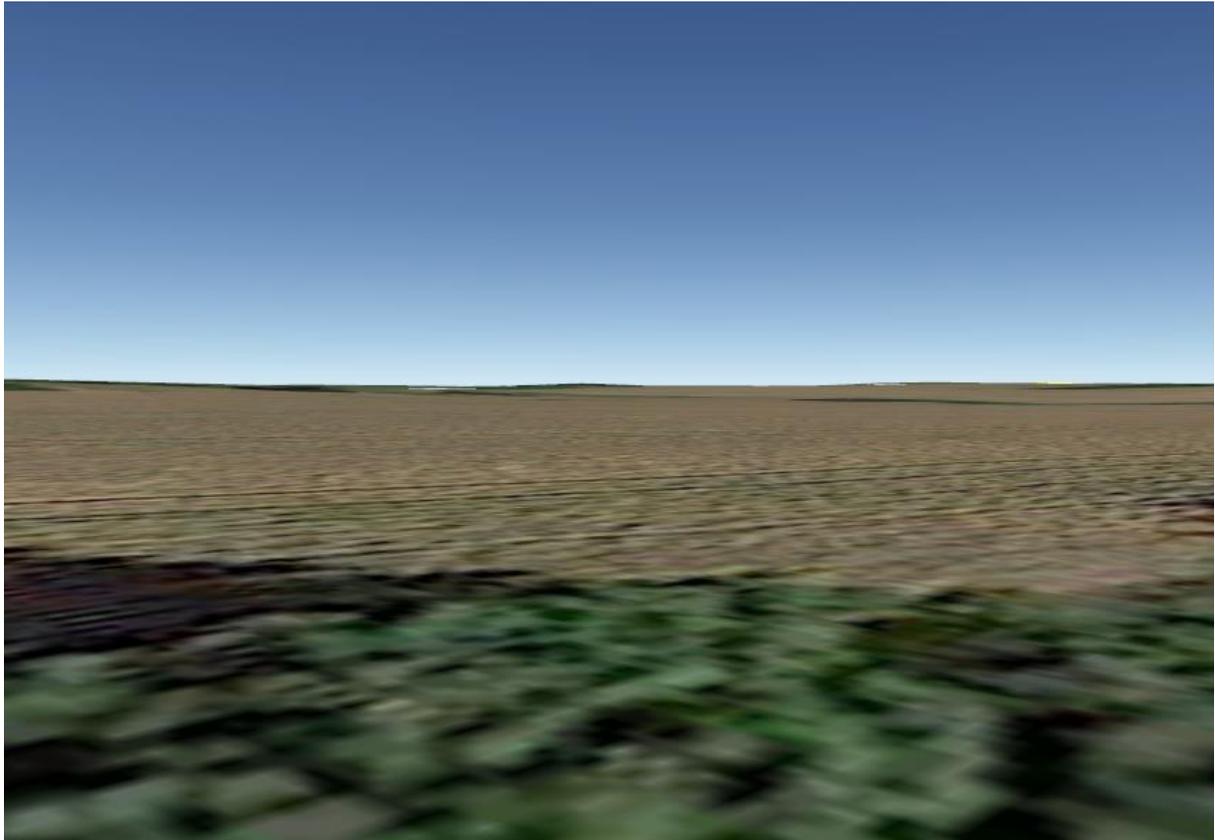
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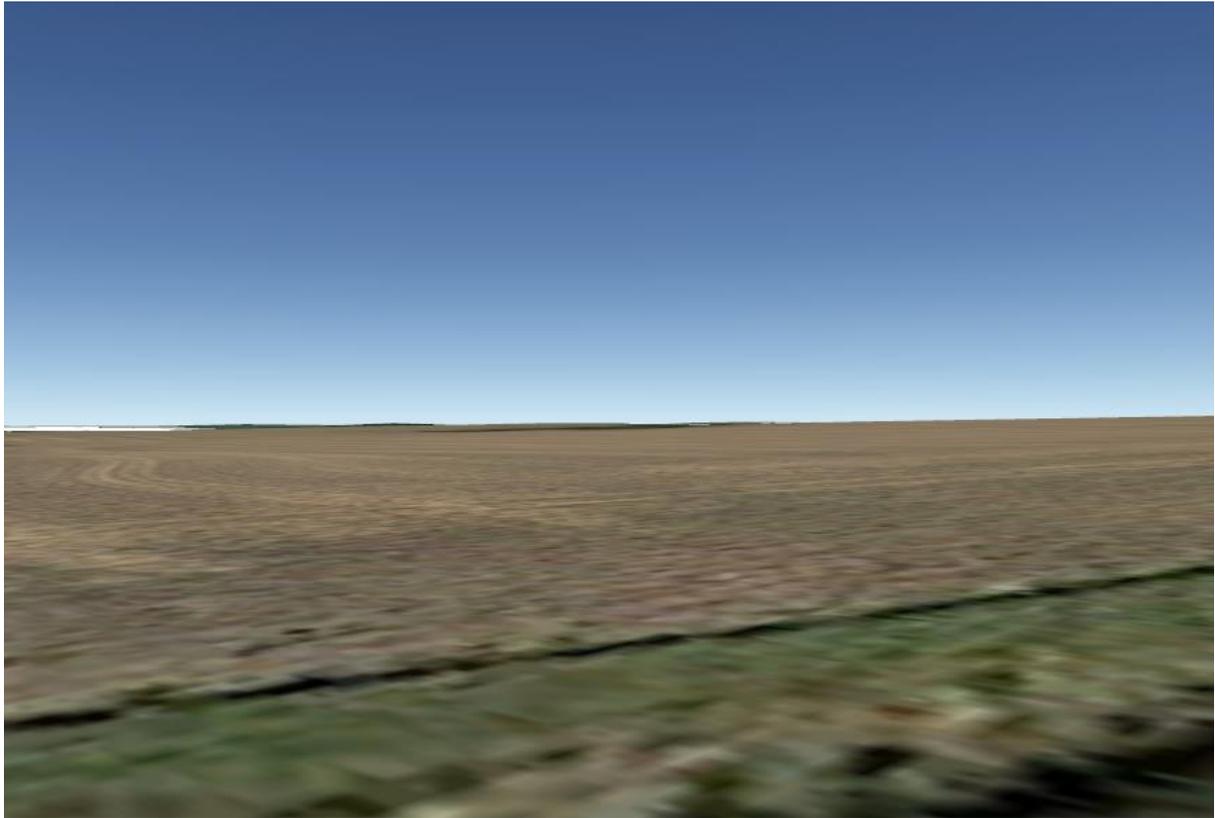
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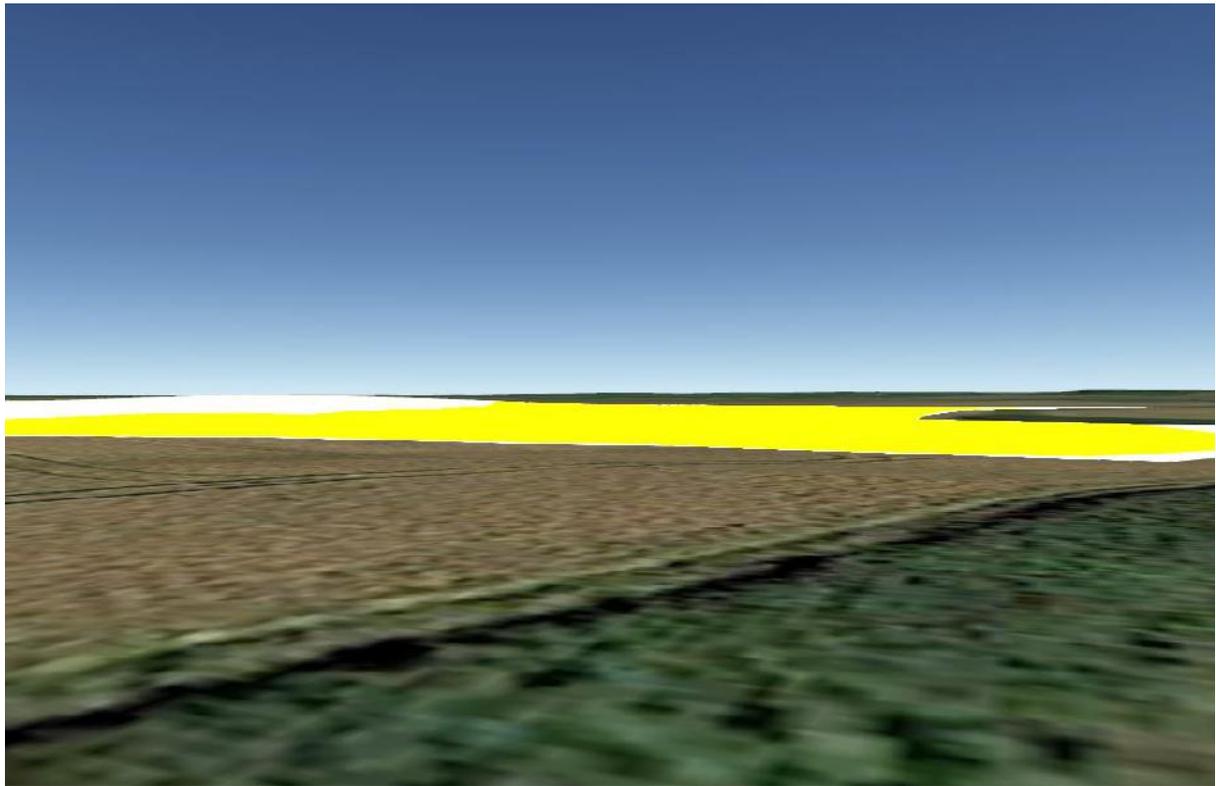
Receptor 13



Receptor 14

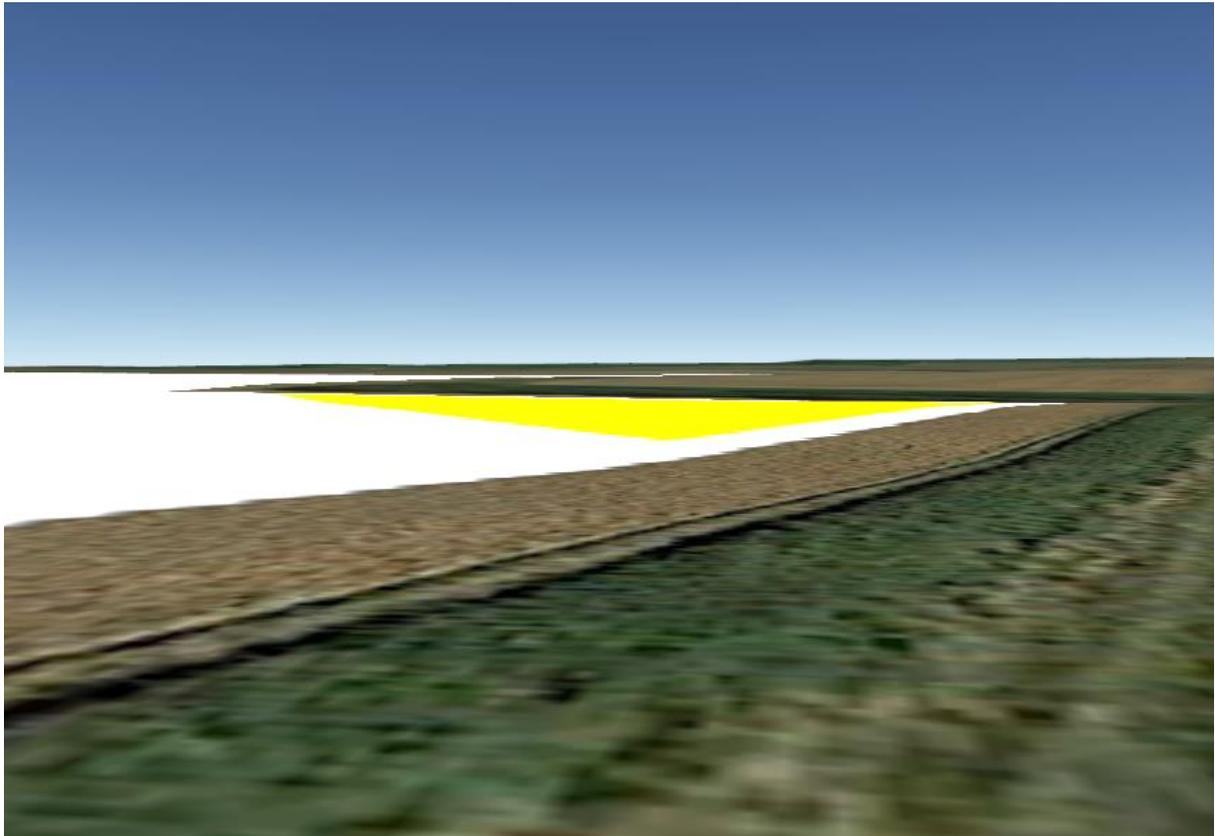


Receptor 15

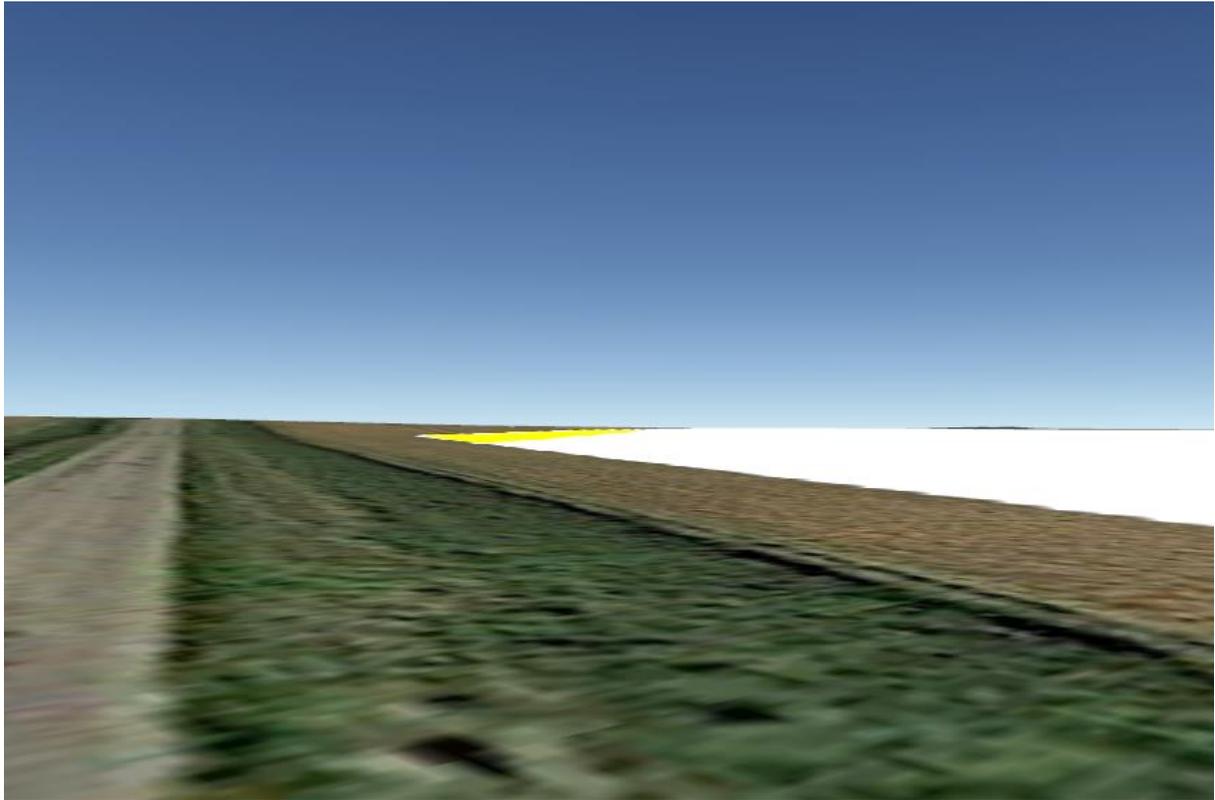


Receptor 16

Looking east

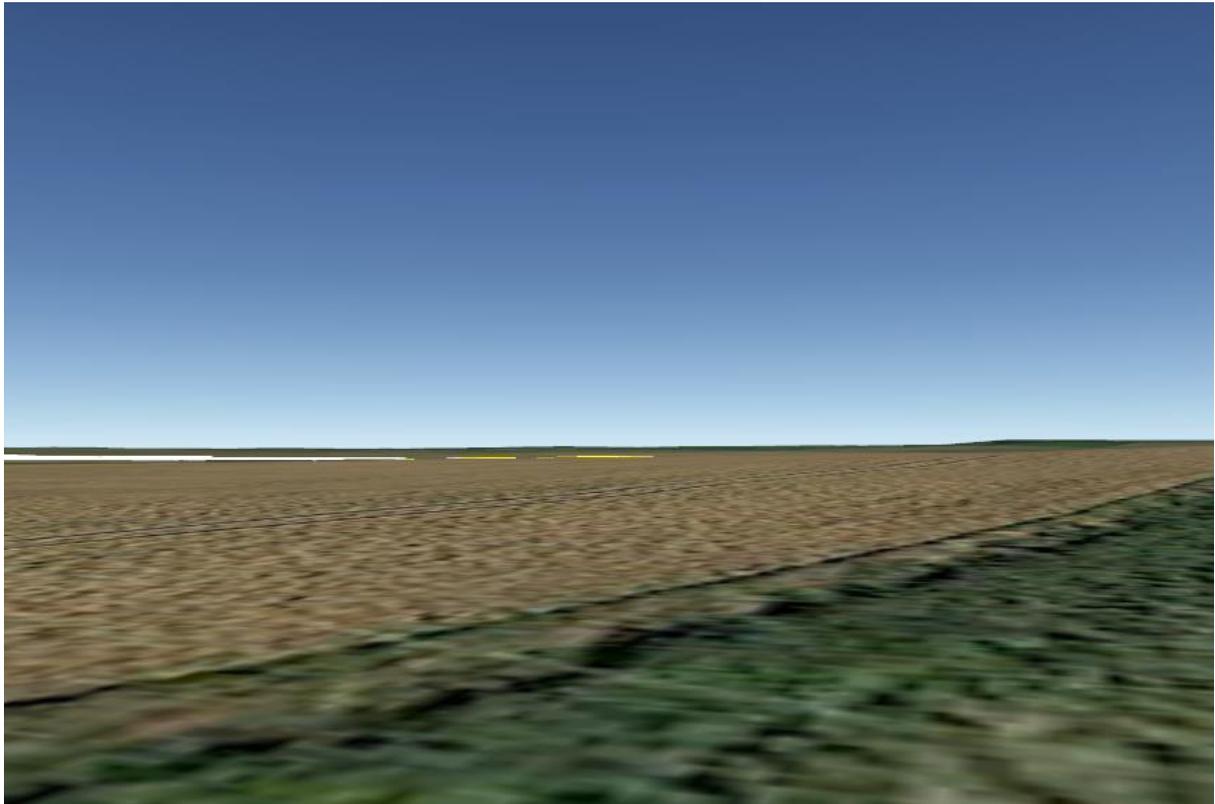


Looking west



Receptor 17

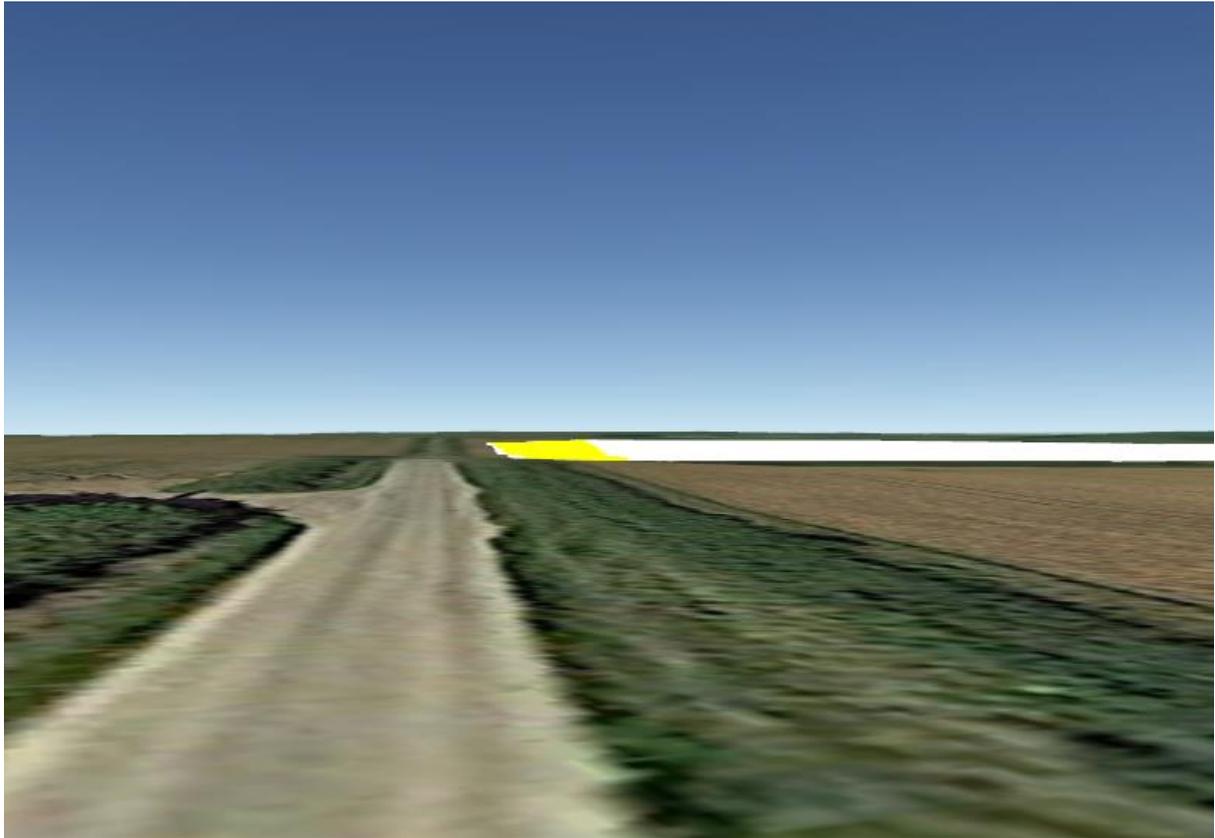
Looking east



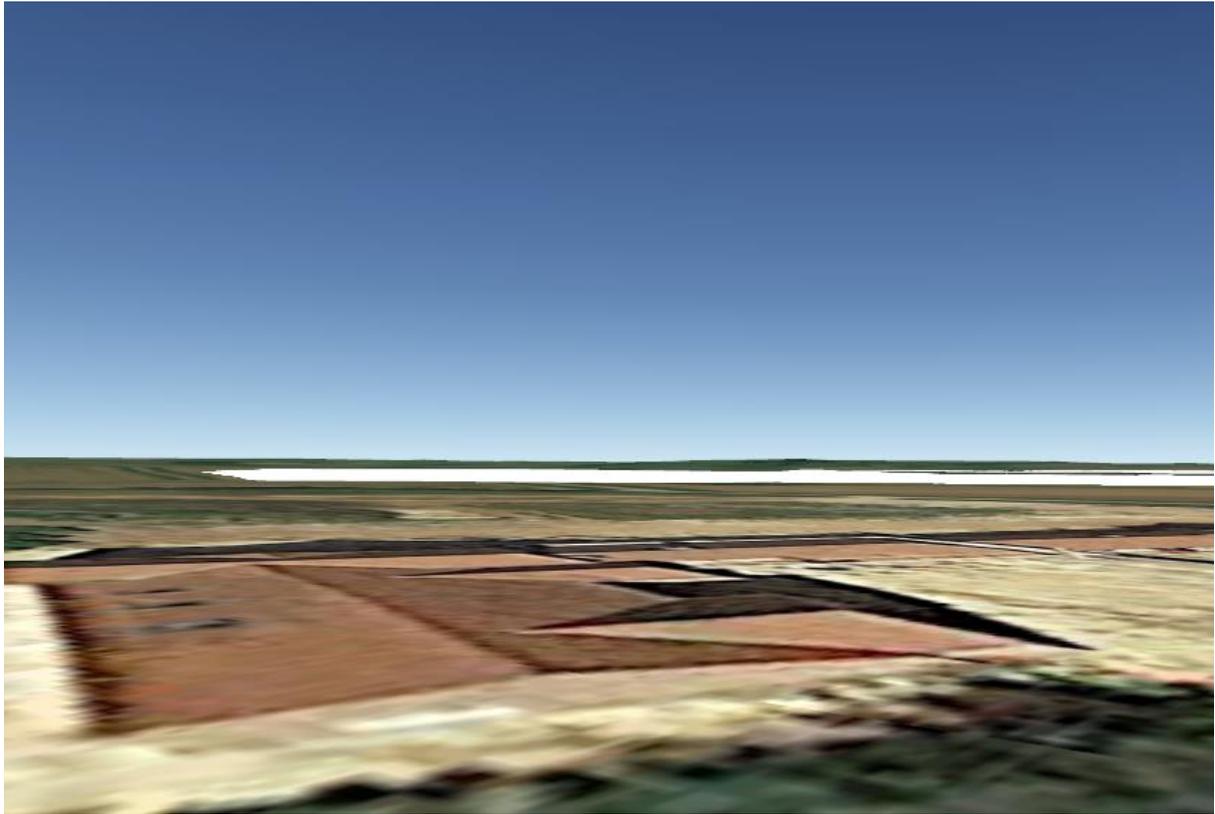
Looking west



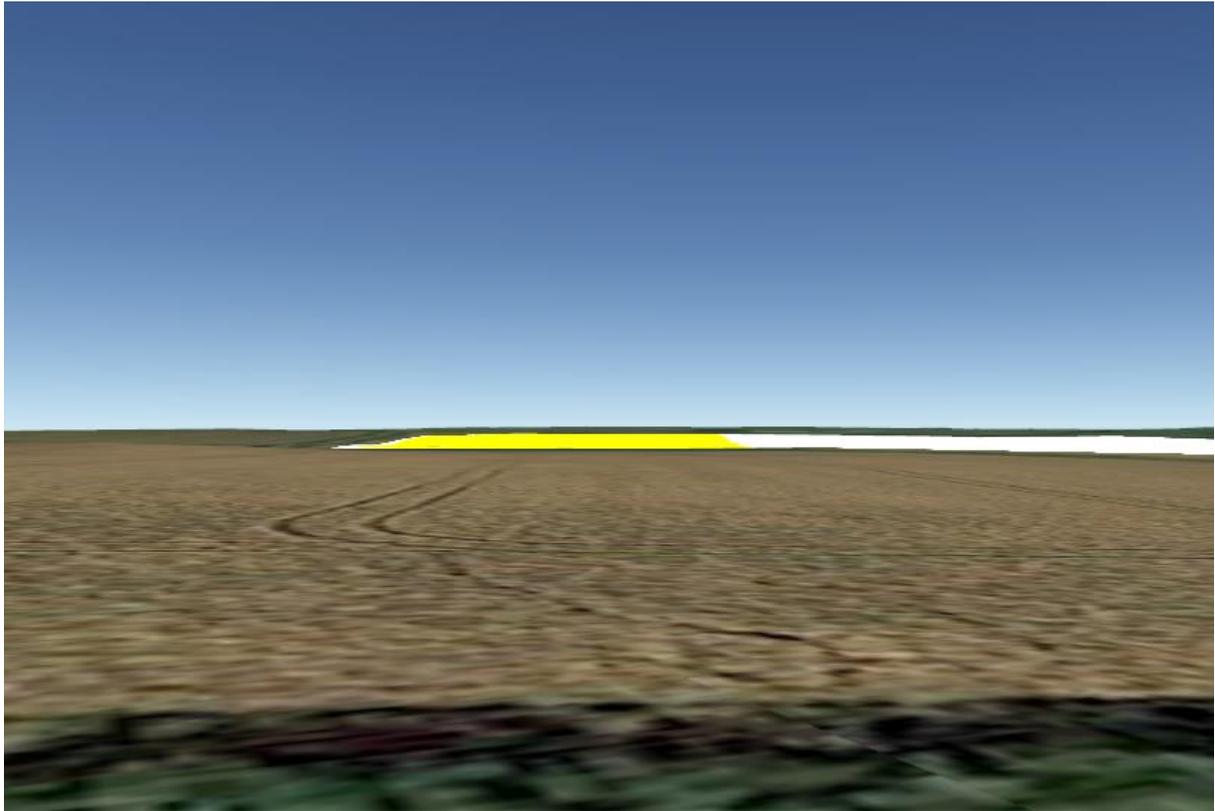
Receptor 18



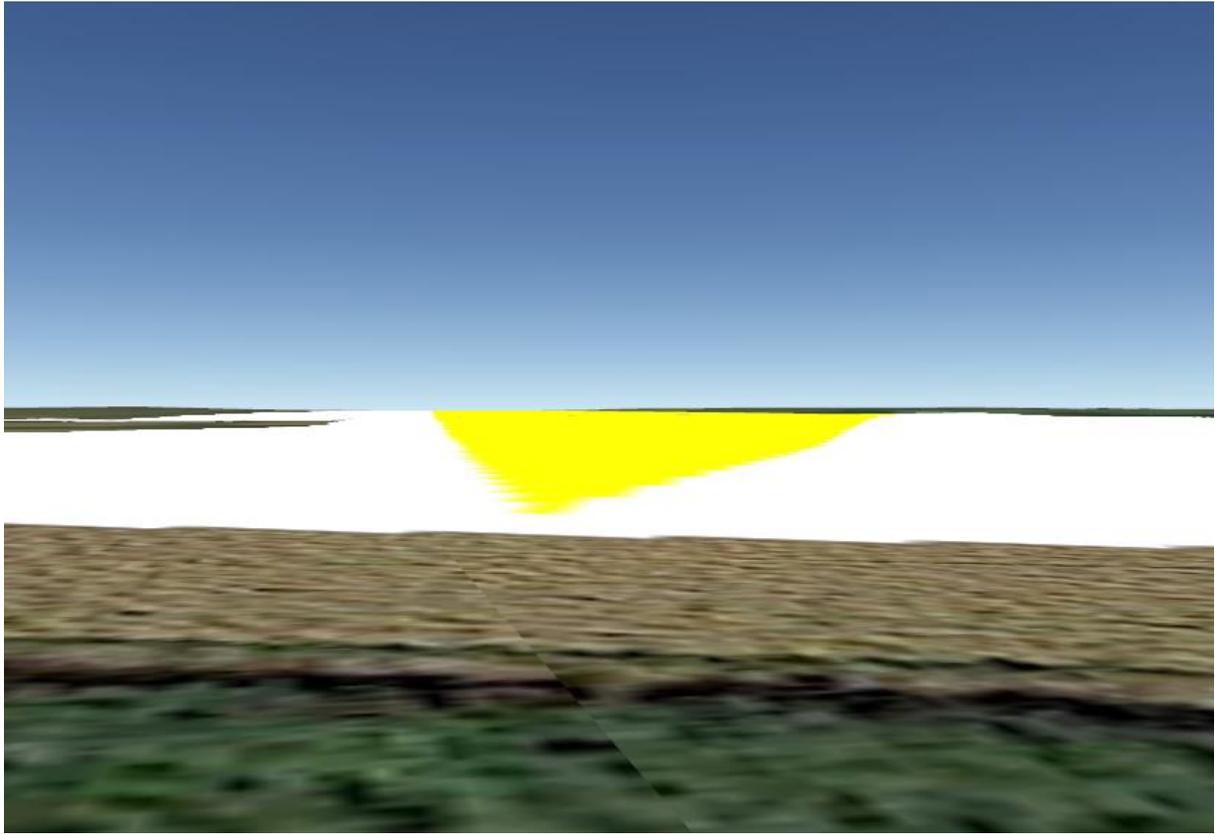
Receptor 19



Receptor 20



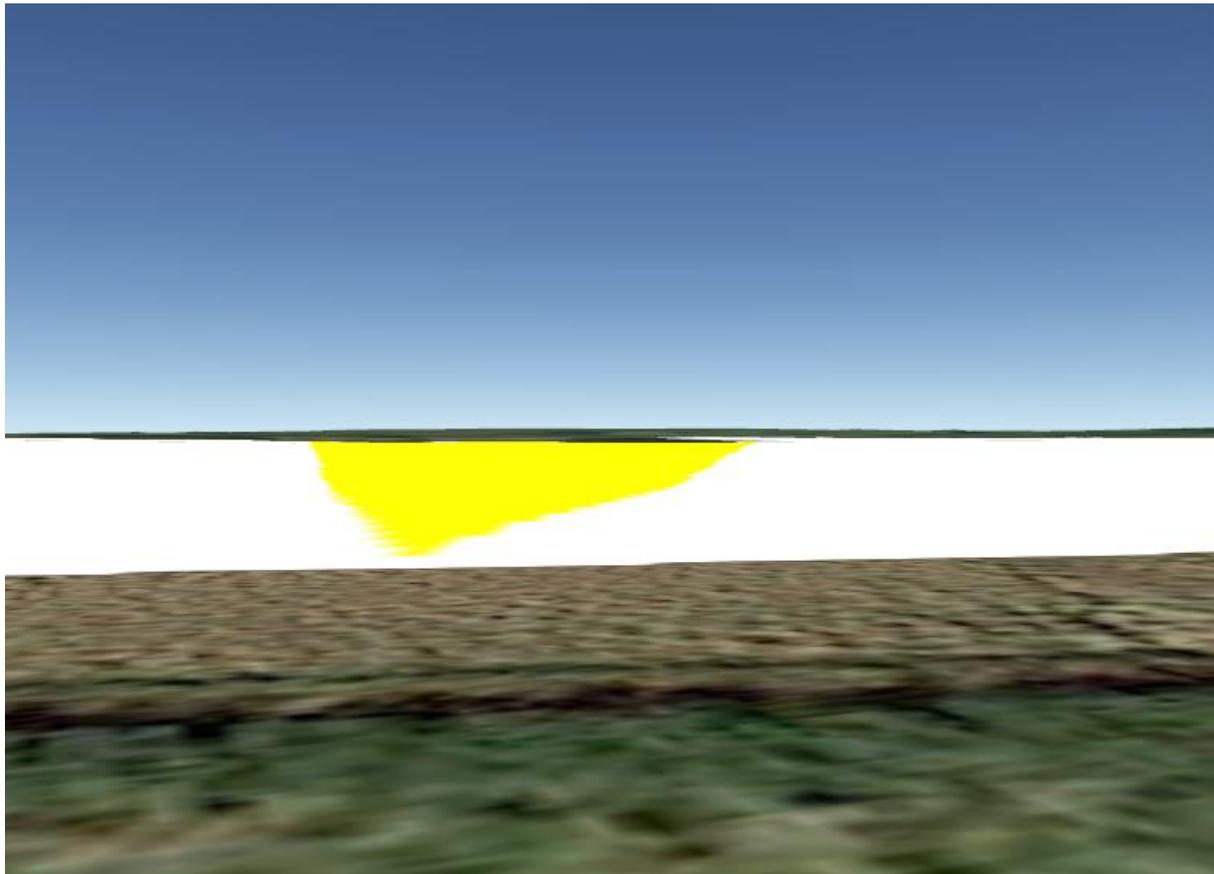
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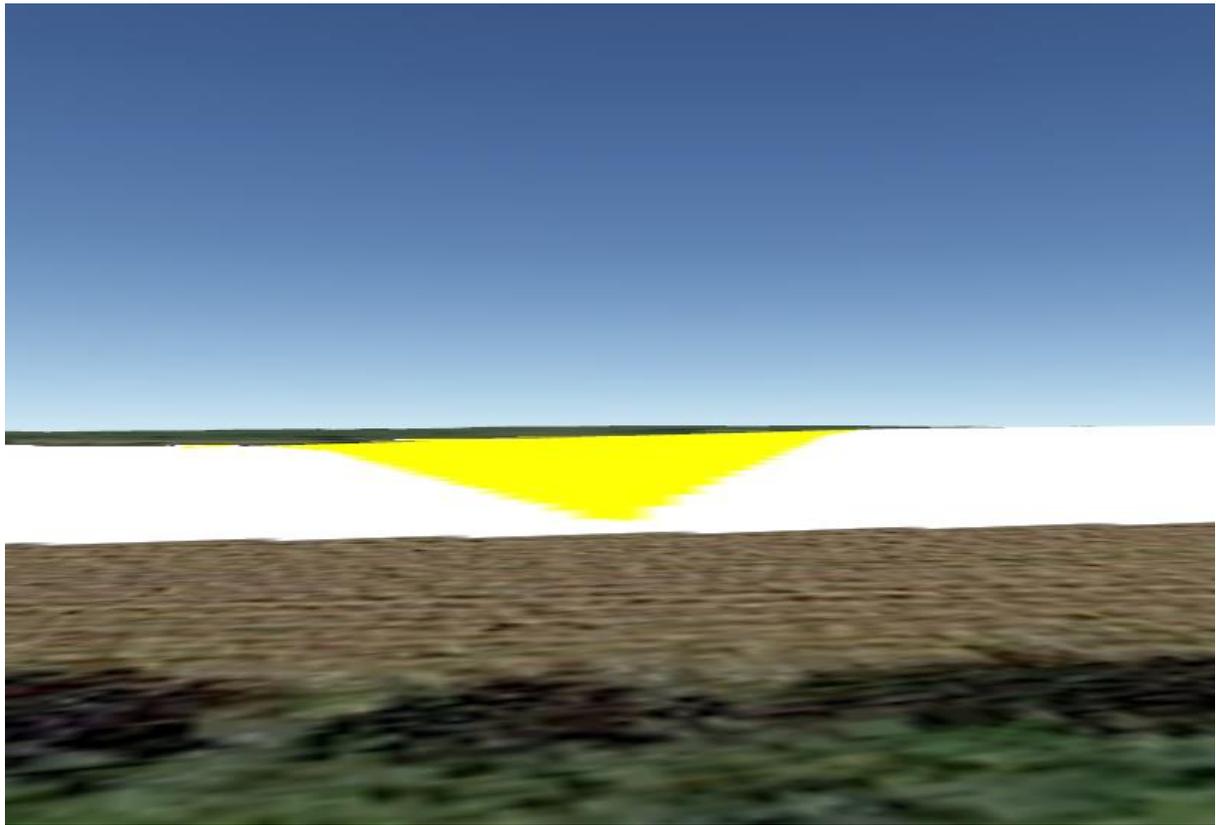
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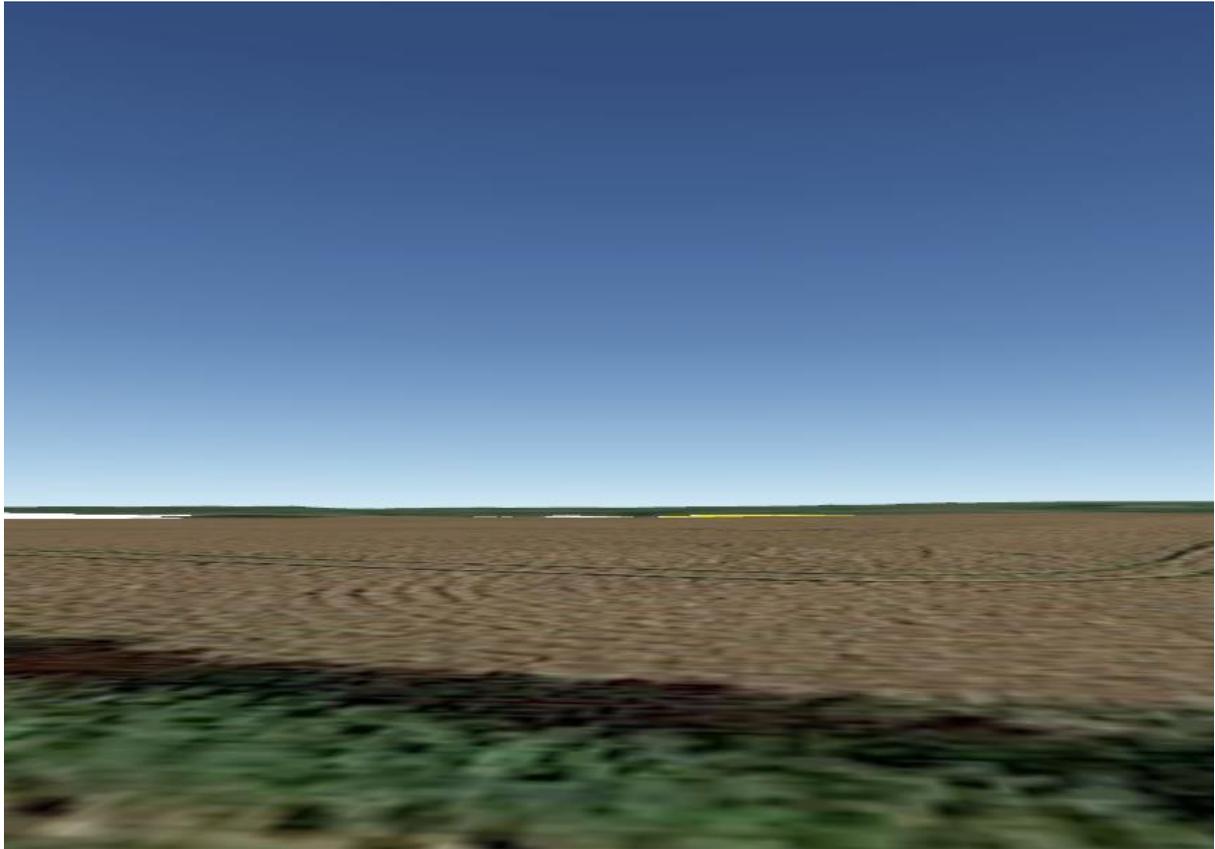
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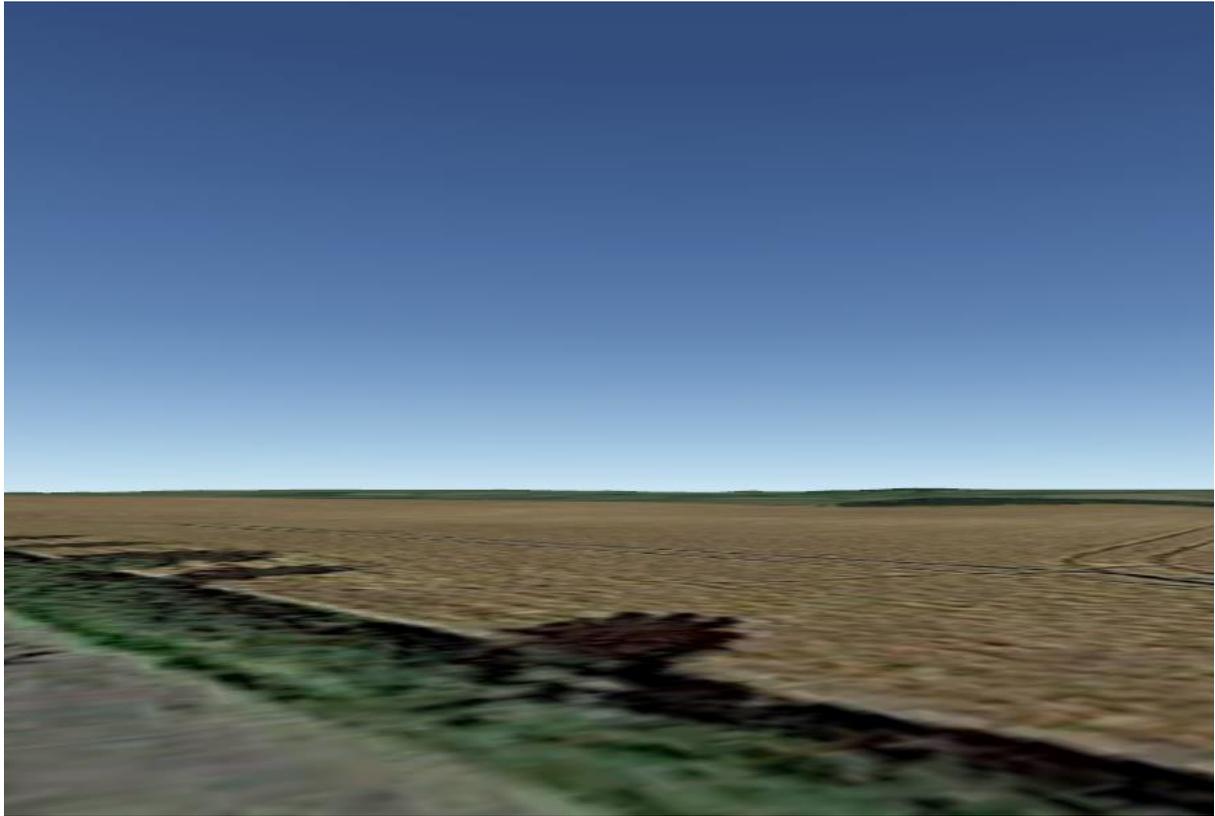
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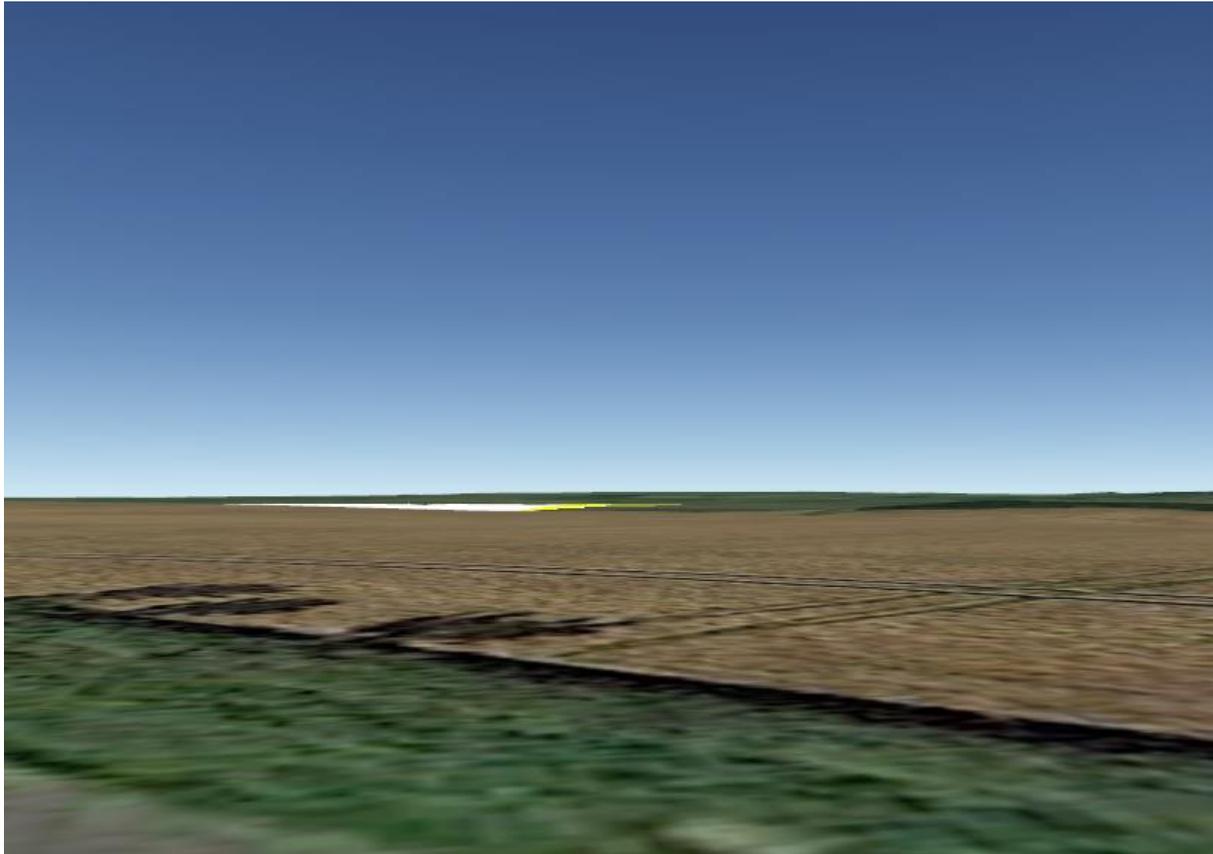
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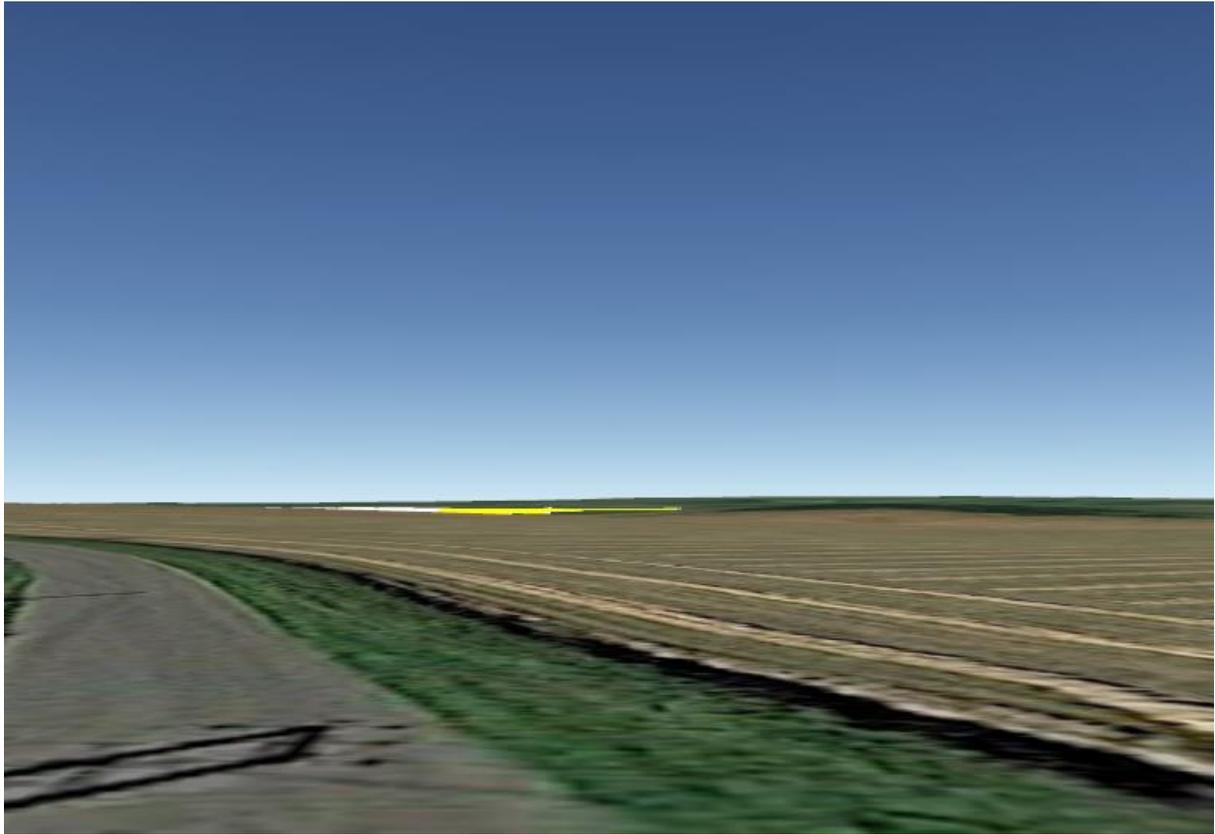
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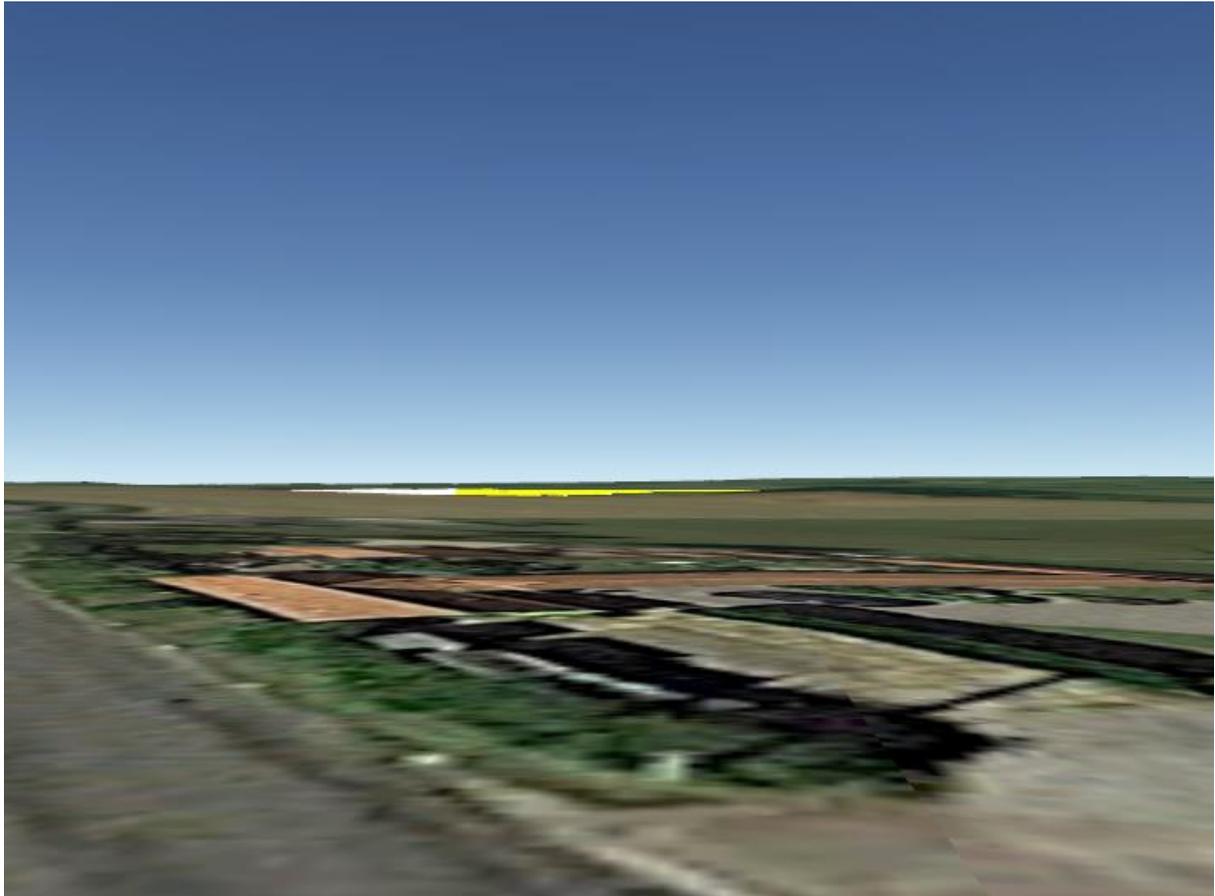
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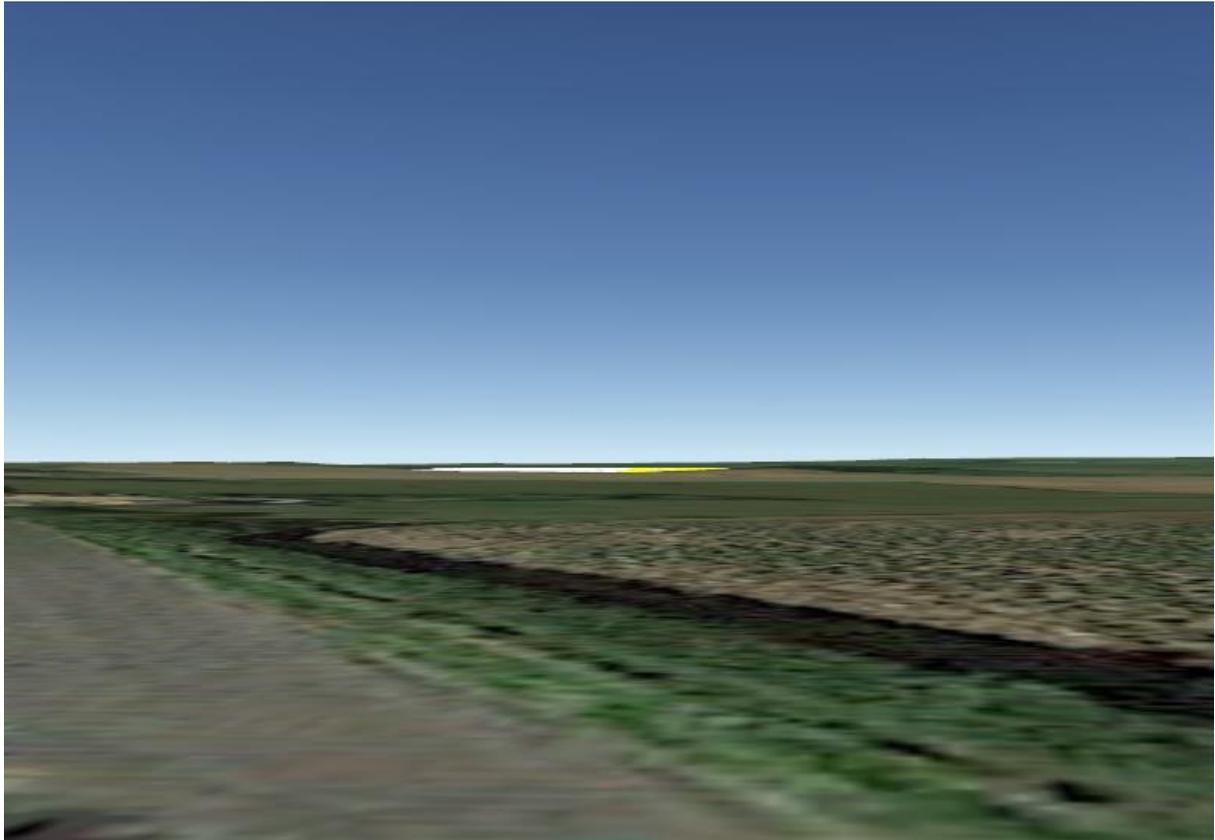
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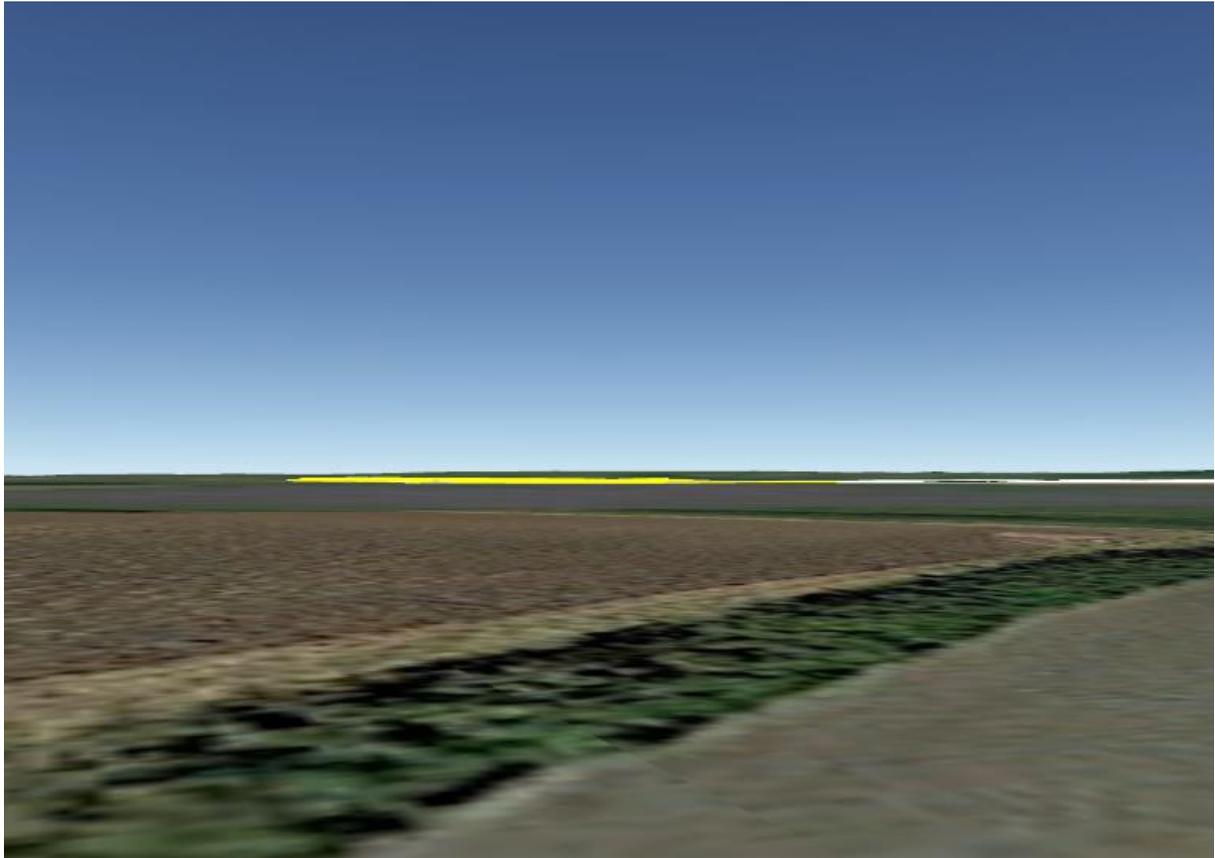
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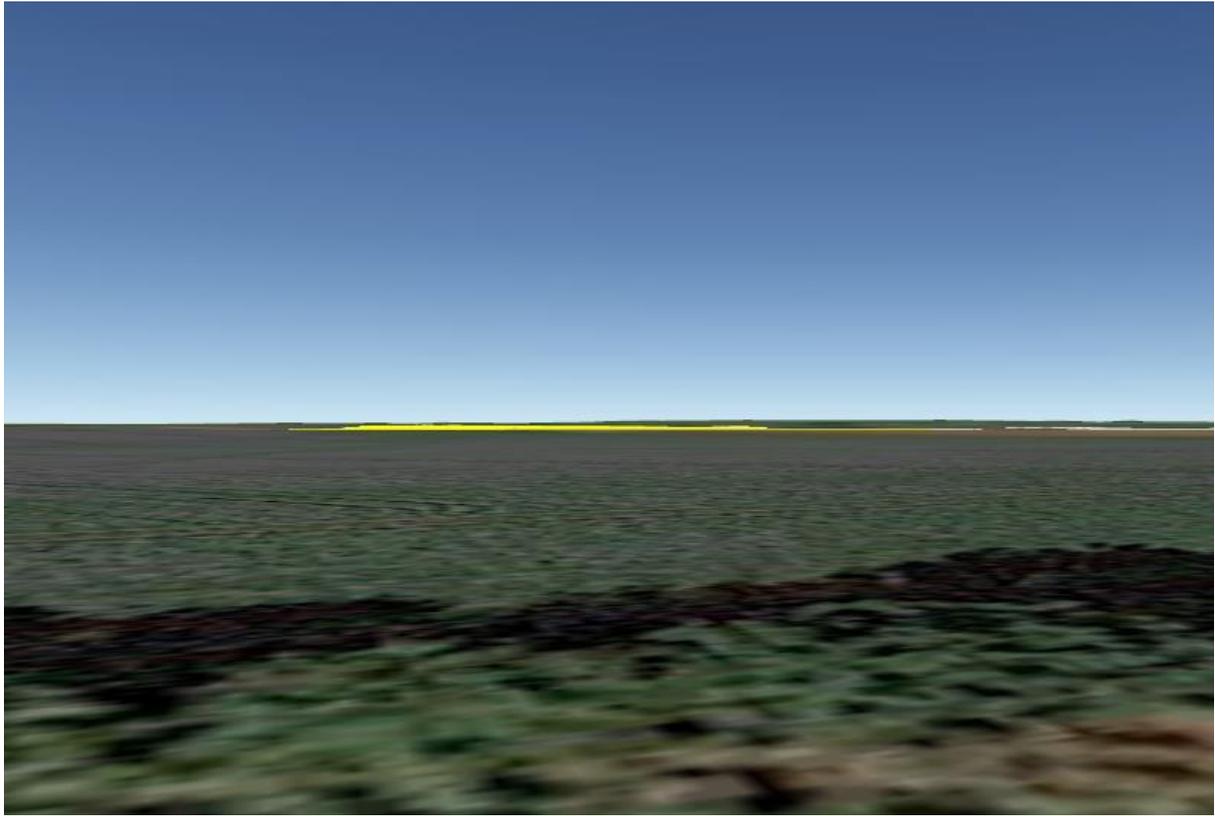
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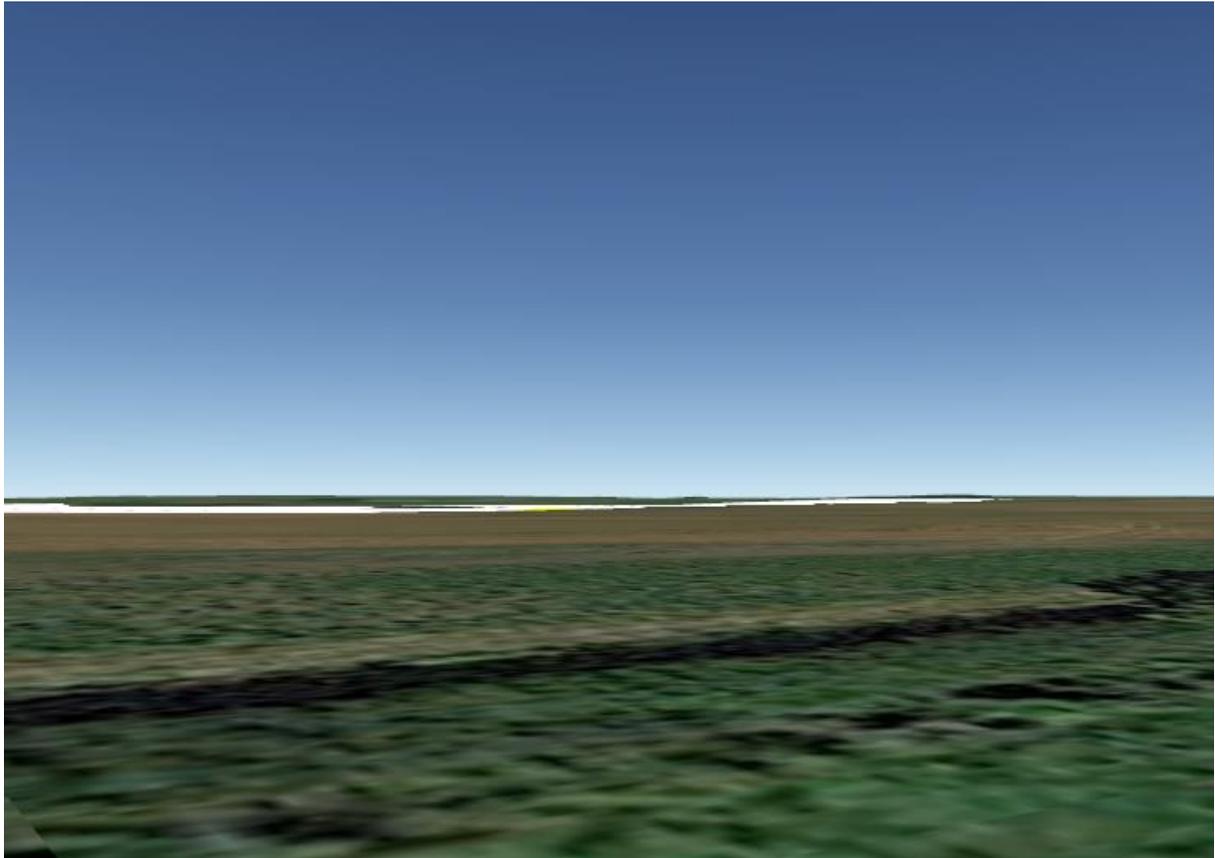
Receptor 31



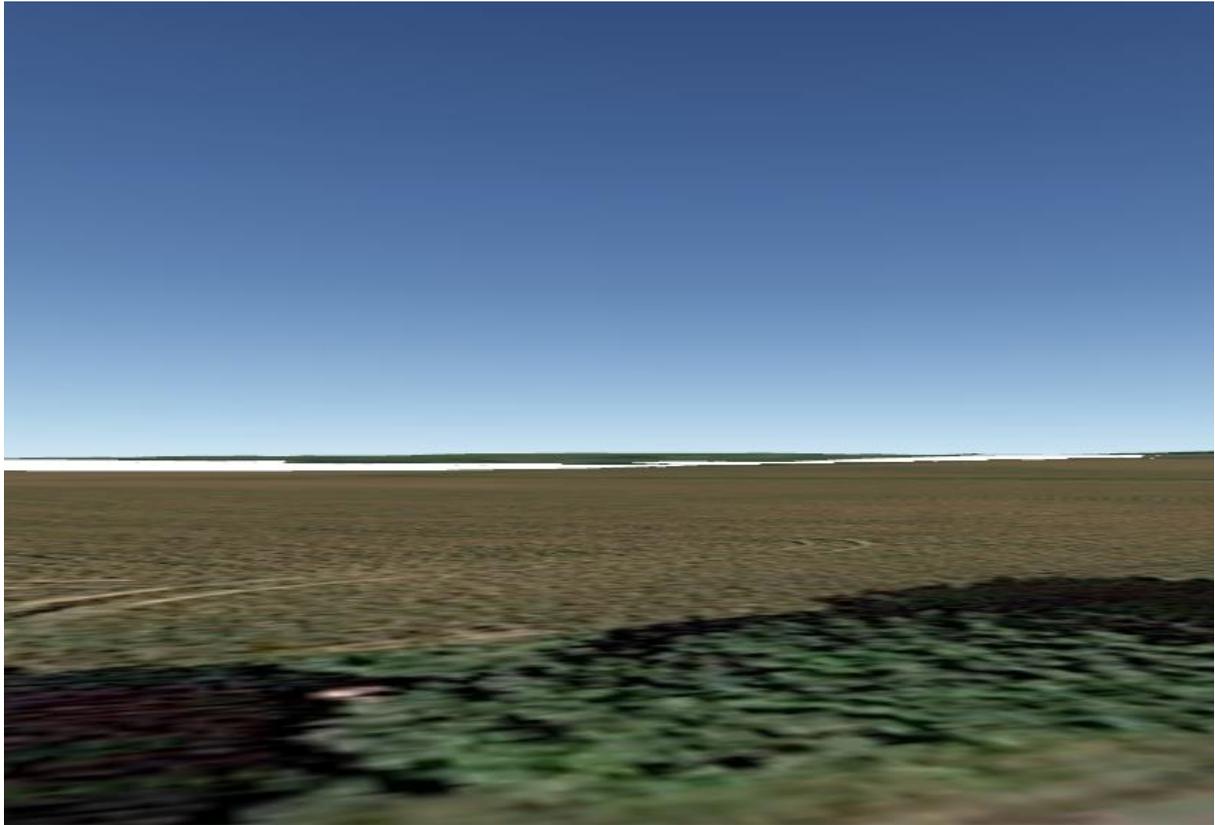
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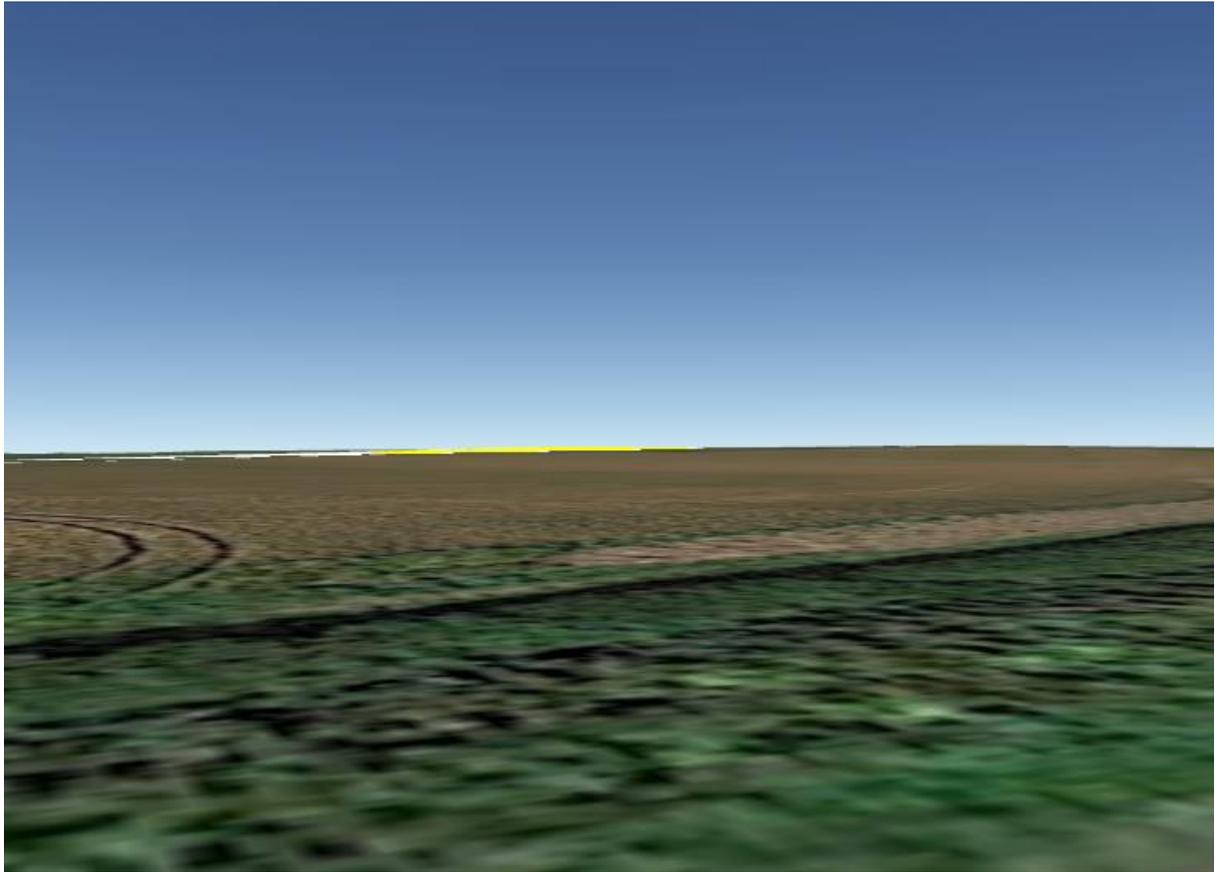
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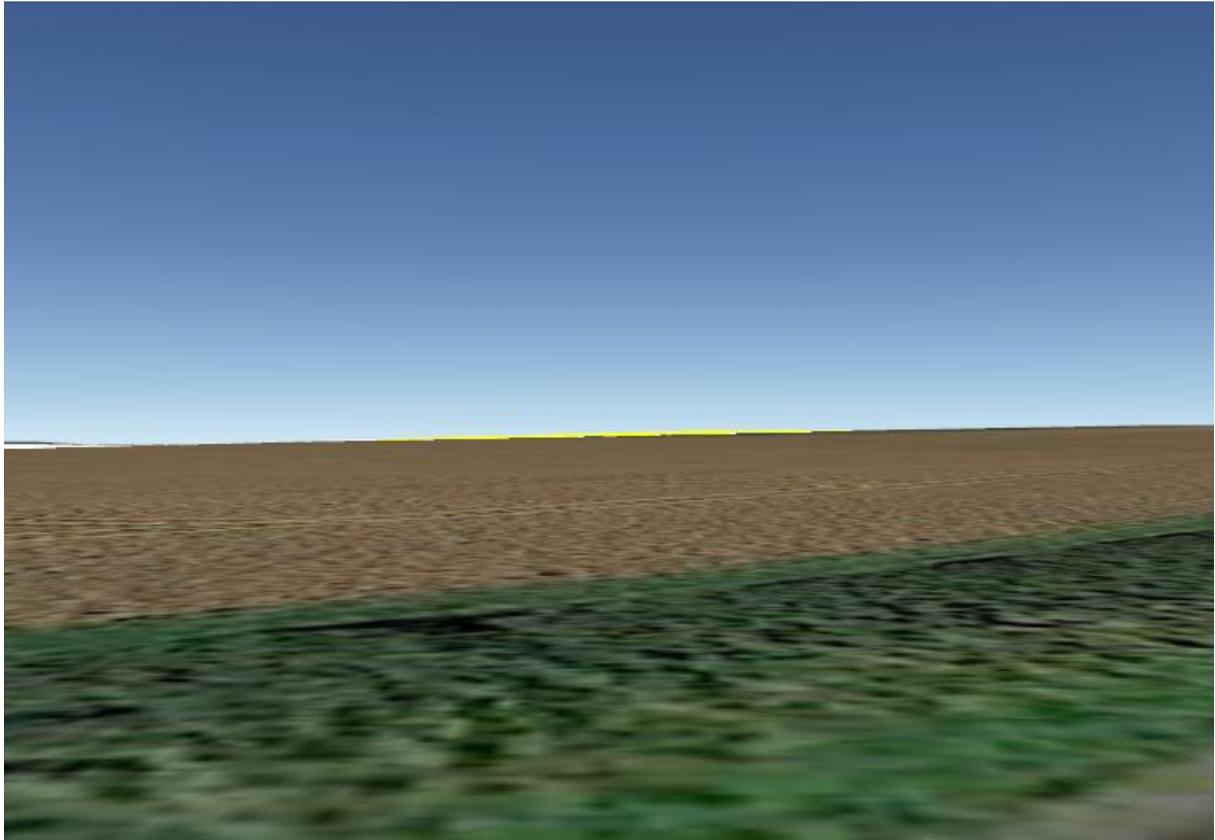
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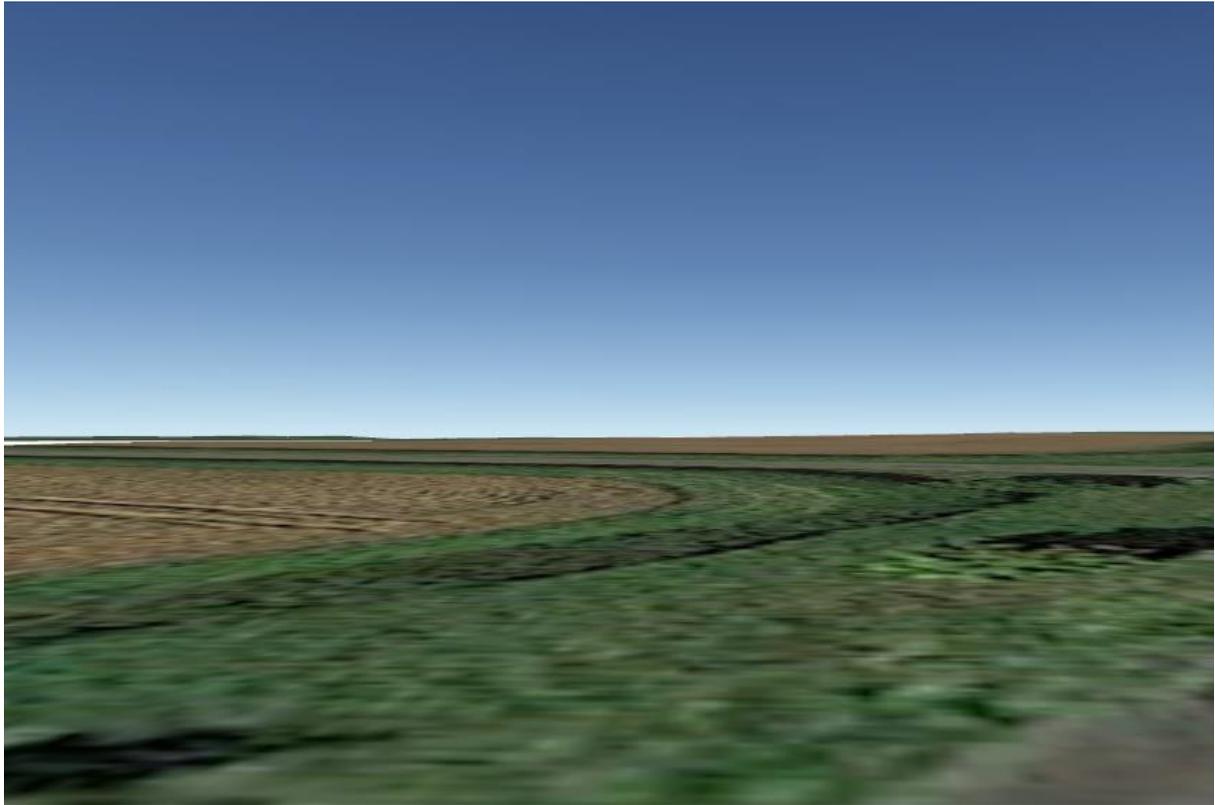
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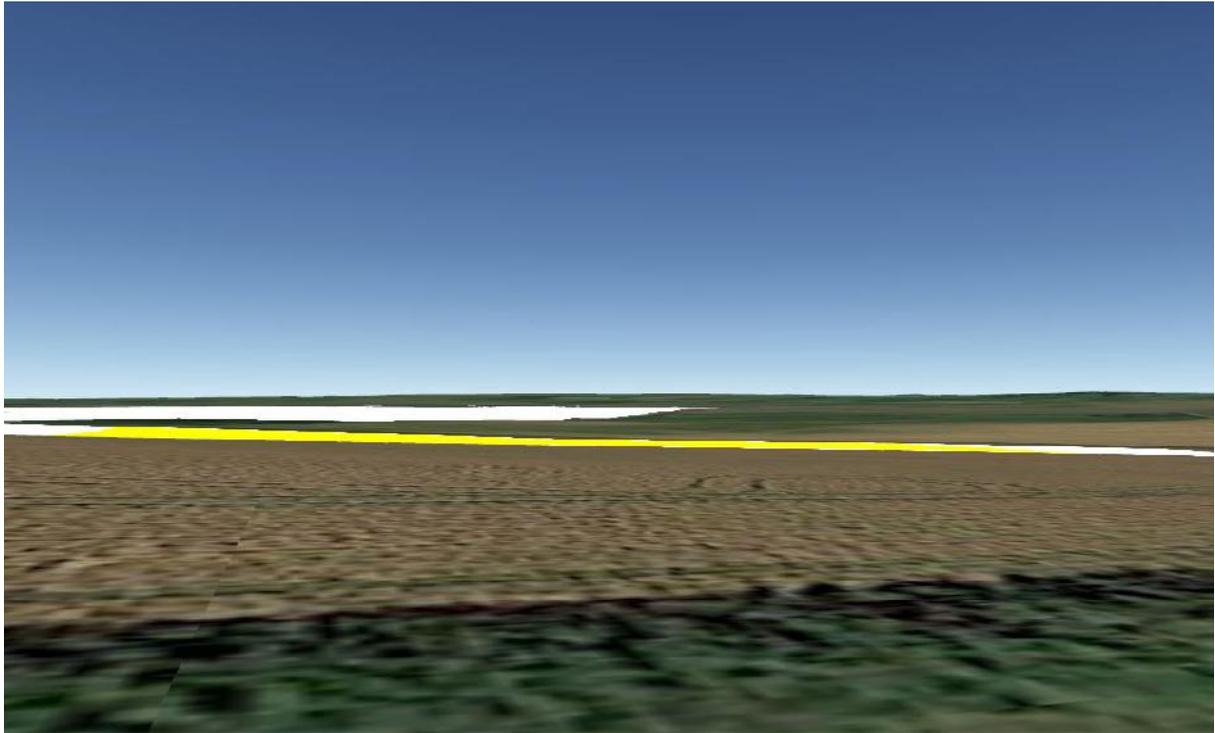
Receptor 36



Receptor 37



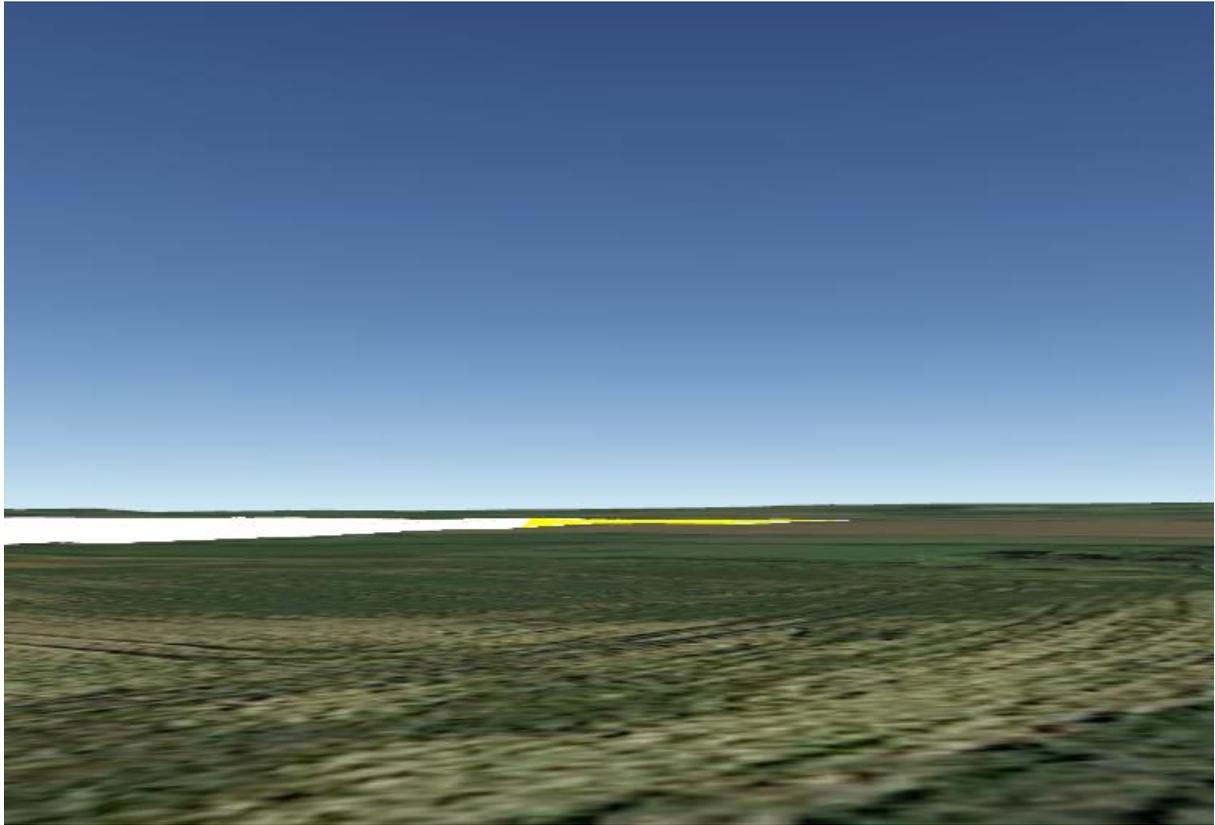
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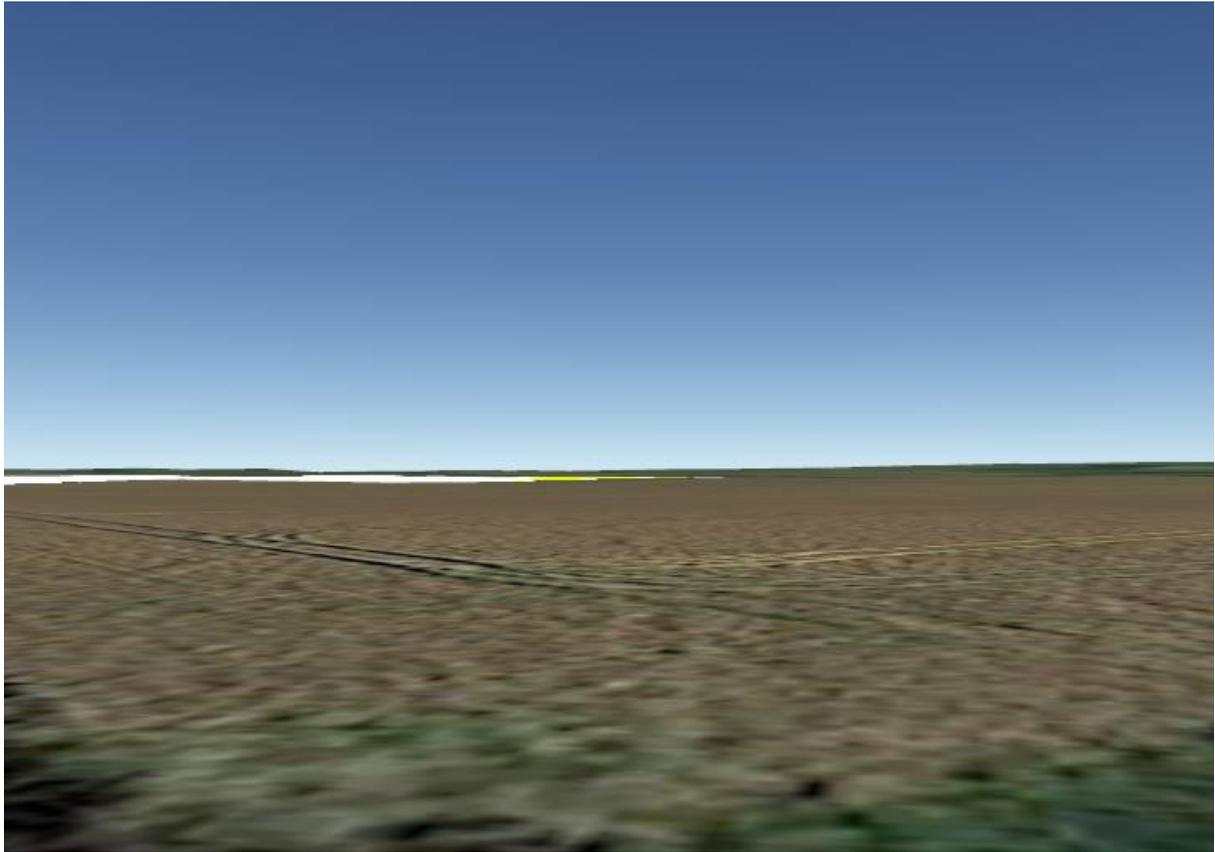
Receptor 39



Receptor 40



Receptor 41



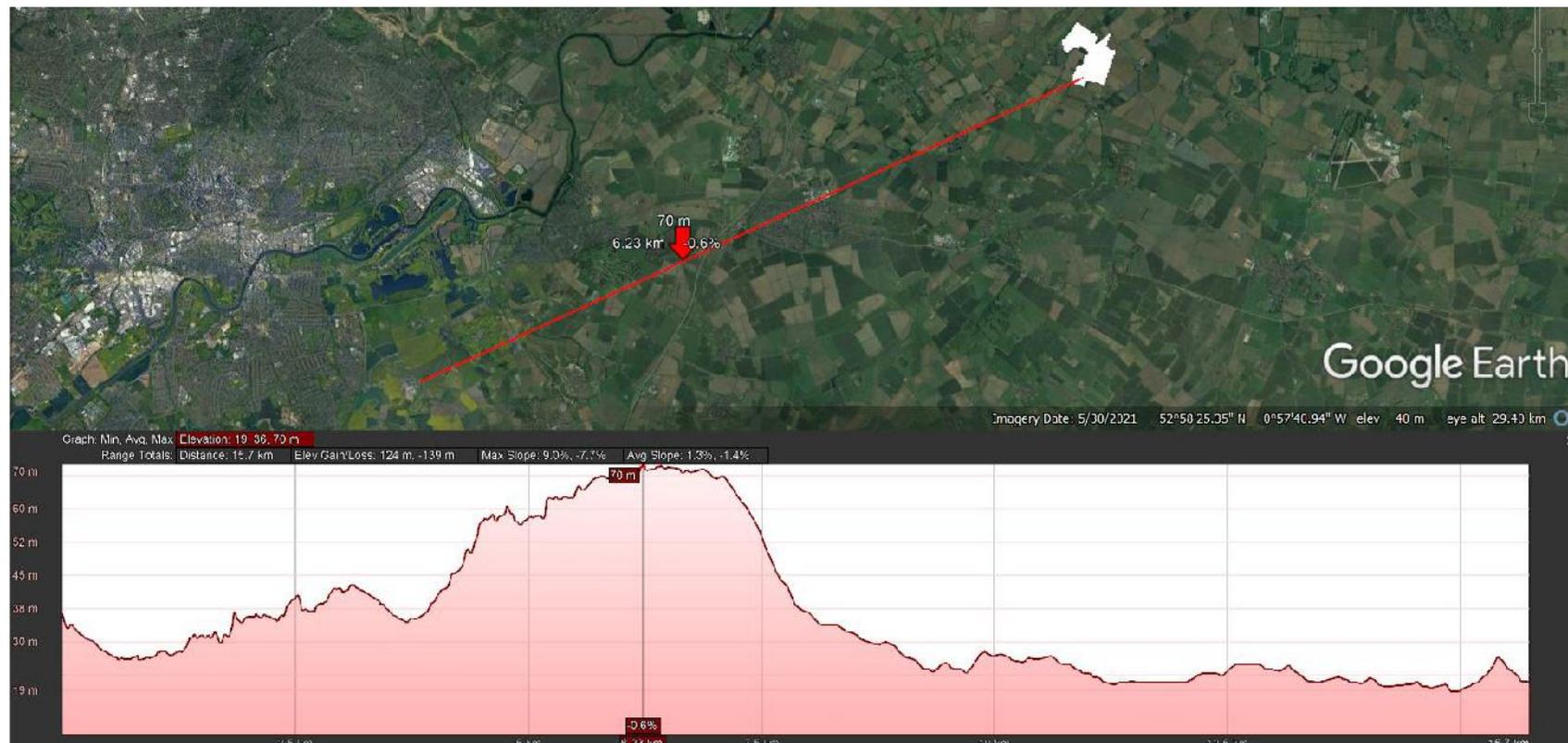


Appendix 6I - Ground Elevation Profile



Appendix 6I: Ground Elevation Profile

ELEVATION PROFILE BETWEEN PROPOSED DEVELOPMENT AND NOTTINGHAM CITY ATCT



Nottingham City ATCT

High Point

Proposed Development



Appendix 6J - Solar Module Glare and Reflectance Technical Memo



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:**

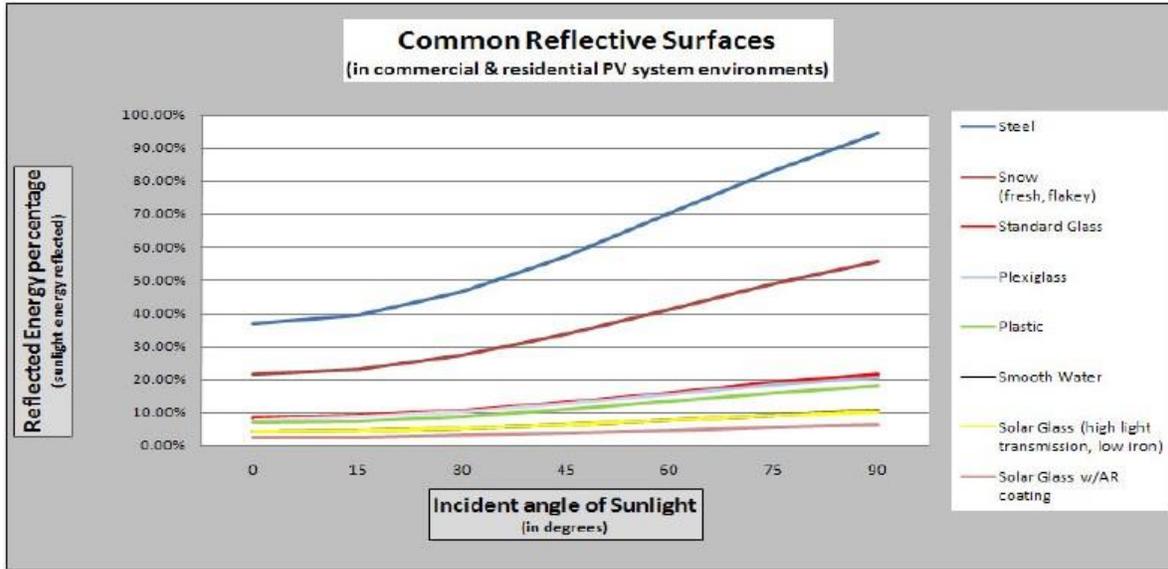
The objective of this document is to increase awareness concerning the possible glare and reflectance impact of PV Systems on their surrounding environment.

The glare and reflectance levels from a given PV system are decisively lower than the glare and reflectance 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 to Air 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.

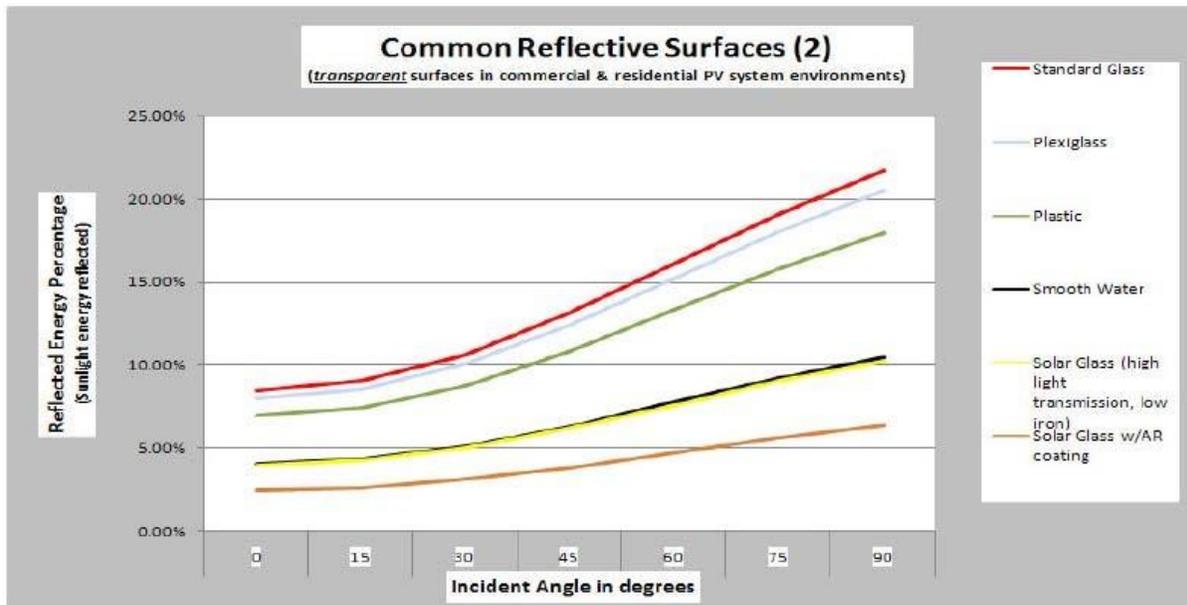
DETAILED EXPLANATION:

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	36.73%	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 light energy. 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.

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