DATE / REF
13 SEPTEMBER 2026
REF/23002

ADDRESS
THE WHITEHOUSE
BELVEDERE ROAD
LONDON SE1 8GA

CONTACT
TEL 020 7202 1400
MAIL@GIA.UK.COM
WWW.GIA.UK.COM

To: MAG Aerodrome Safeguarding Authority
6th Floor, Olympic House,
Manchester Airport,
M90 1QX
safeguardingMAN@magairports.com

Dear MAG Aerodrome Safeguarding Authority (MAN),

Re: Brotherton House, Manchester, M22 9QX - Variation of Condition 2 (specified plans) attached to Planning Permission 144656/FO/2025 to allow omission of generator outbuilding and Tree Group G3, the addition of photovoltaic panels to the townhouse roofs, updates to roof AOD levels, and minor elevational alterations. Application Number: PLA-2026-001298, Your Ref.: MAN 2026-385

You have required the following additional information to the Glint and Glare for Aviation Report dated 23 July 2026 prepared by GIA Surveyors (the *"Report"*):

1. Assessment of the 2-mile approach paths
2. Updated assessment based on the revised PV modules available in software ForgeSolar
3. Clarification on PV panels height of 0.10m above ground level

1. Assessment of the 2-mile approach paths

The 2-miles approach paths considered are shown in Fig. 01, and this supplementary assessment based on the PV modules considered in the Report is included in Appendix 1. This shows no instances of glare:

- *FP1: no glare*
- *FP2: no glare*
- *FP3: no glare*
- *FP4: no glare*

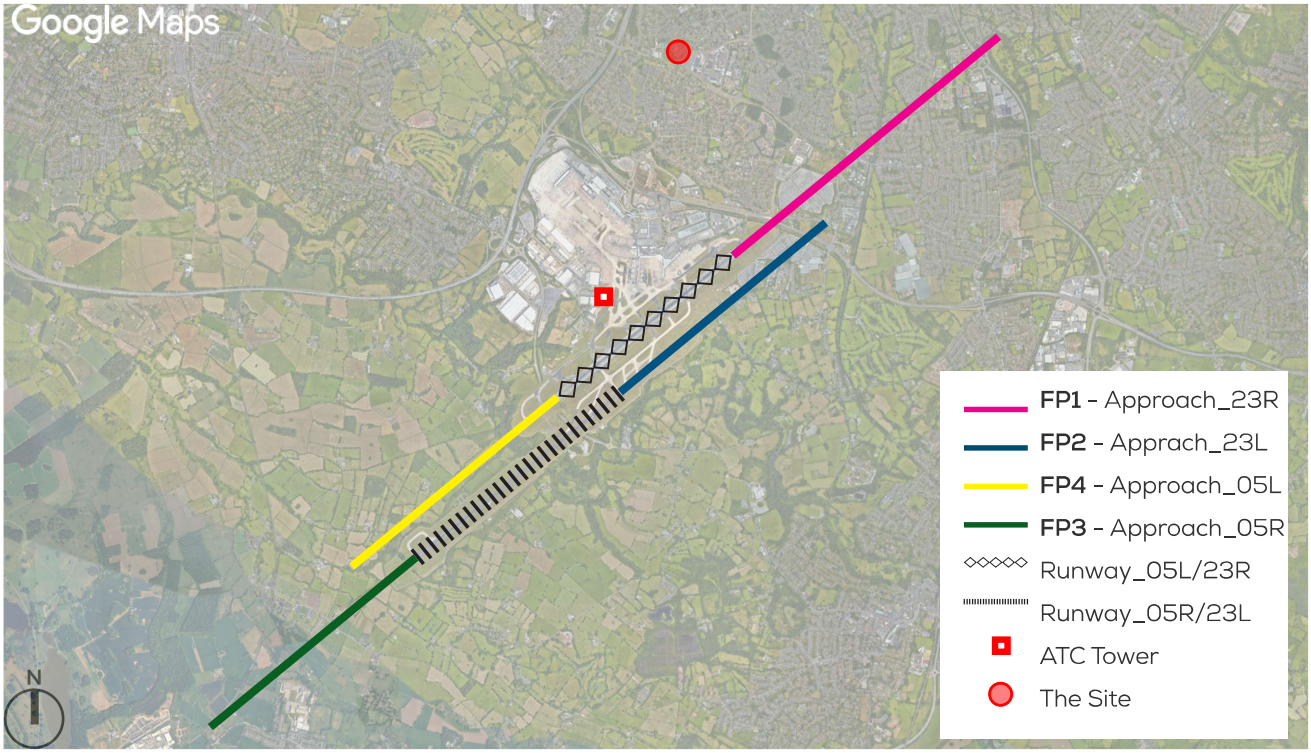


Fig. 01: View of the Site, ATC tower, Runways and 2-Mile Approach Paths

GIA SURVEYORS LIMITED incorporated and registered in England and Wales with company number 14032506
whose registered office is at The Whitehouse, Belvedere Road, London SE1 8GA

RICS

Regulated by RICS
VAT No. GB 627 6736 11

2. Updated assessment based on the revised PV modules available in software Forgesolar

All receptors including the 2-mile approach paths have been re-assessed using the revised PV modules available in ForgeSolar. This assessment is included in Appendix 2 and continues to show no glare for the 2-mile approach paths, as well as Green Glare consistent with the initial assessment. There would be no impacts to the ATC Tower, and no Yellow Glare.

Please note that the 2026B ForgeSolar update (including the revised PV modules) provides luminance levels substantially higher than those historically produced by the software, due to a materially different change in the methodology of assessment. I have enclosed in Appendix 3 the response by ForgeSolar on the matter. Whilst for this project the results for the 2-mile approach paths are not affected by this update given that there are no reflections visible from the panels, there are a few instances of luminance over the historic 20,000 cd/m² recommended threshold for a few observation points for the 5km by 5km overhead grid and the Commercial Aviation Visual Flight Route CA 05L/23R 05L-Right Turn, 23R-Left Turn. However, this is not considered to be a concern.

GIA considers the historic 20,000 cd/m² recommended threshold no longer applicable to the results based on ForgeSolar 2026B update given the material change in methodology and results. This has been raised with a member of the Combined Aerodrome Safeguarding Team (CAST) to prompt a review of the approach to luminance levels based on 2026B ForgeSolar update going forwards.

3. Clarification on PV panels height of 0.10m above ground level

The height of the PV arrays in the ForgeSolar software is correct and derived from accurate 3d-modelling software.

The PV arrays would be laid over the southern slope of the proposed pitched roofs of the terraces, and so, based on the ForgeSolar's own modelling methodology, the accurate coordinates and height of the PV arrays has been input in the "Ground elevation" field of the software, overriding the default settings by the software for the 'actual' ground elevation. In this instance, therefore, the "Ground elevation" indicates the height of the portion of the roof where PV panels would be installed. Consequently, the "Height above ground" of 0.10 m represents an assumed offset from the actual roof surface to consider the frames and PV panels thickness.

For the purpose of the assessment, it is the "Total elevation" field that matters, and this reflects the height at which PV panels would be located, and is accurate.

Conclusion

I trust the above provides the supplementary information required, an reassurance that the assessments are accurate and that the results comply with CAA guidelines.

For and on behalf of GIA,

Paolo Cappellacci

Senior Associate Director
paolo.cappellacci@gia.uk.com

Encl. Appendix 01 – Assessment of the 2-mile approach paths based on the PV modules considered in the Report

Appendix 02 – Reassessment based on revised PV modules available in ForgeSolar 2026B update (including the 2-mile approach paths)

Appendix 03 – Response by ForgeSolar on the 2026B update

DISCLAIMER:

N.B This report has been prepared for Muse by GIA as their appointed Daylight & Sunlight consultants. This report is intended solely for Muse and may contain confidential information. No part or whole of its contents may be disclosed to or relied upon by any Third Parties without the express written consent of GIA. It is accurate as at the time of publication and based upon the information we have been provided with as set out in the report. It does not take into account changes that have taken place since the report was written nor does it take into account private information on internal layouts and room uses of adjoining properties unless this information is publicly available.

APPENDIX 1

ASSESSMENT OF THE 2-MILE APPROACH PATHS BASED ON THE PV MODULES CONSIDERED IN THE REPORT

gia

Glare Analysis Results

Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy	Peak Luminance
	°	°	min	hr	min	hr	kWh	cd/m²
PV array 1	27.0	227.0	0	0.0	0	0.0	-	0
PV array 2	27.0	227.0	0	0.0	0	0.0	-	0
PV array 3	27.0	227.0	0	0.0	0	0.0	-	0
PV array 4	27.0	227.0	0	0.0	0	0.0	-	0
PV array 5	27.0	227.0	0	0.0	0	0.0	-	0
PV array 6	27.0	227.0	0	0.0	0	0.0	-	0
PV array 7	27.0	227.0	0	0.0	0	0.0	-	0

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
FP 1	0	0.0	0	0.0
FP 2	0	0.0	0	0.0
FP 3	0	0.0	0	0.0
FP 4	0	0.0	0	0.0

PV: PV array 1 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance
	min	hr	min	hr	cd/m²
FP 1	0	0.0	0	0.0	0
FP 2	0	0.0	0	0.0	0
FP 3	0	0.0	0	0.0	0
FP 4	0	0.0	0	0.0	0

PV array 1 and FP: FP 1

No glare found

PV array 1 and FP: FP 2

No glare found

PV array 1 and FP: FP 3

No glare found

PV array 1 and FP: FP 4

No glare found

PV: PV array 2 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance
	min	hr	min	hr	cd/m^2
FP 1	0	0.0	0	0.0	0
FP 2	0	0.0	0	0.0	0
FP 3	0	0.0	0	0.0	0
FP 4	0	0.0	0	0.0	0

PV array 2 and FP: FP 1

No glare found

PV array 2 and FP: FP 2

No glare found

PV array 2 and FP: FP 3

No glare found

PV array 2 and FP: FP 4

No glare found

PV: PV array 3 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance
	min	hr	min	hr	cd/m^2
FP 1	0	0.0	0	0.0	0
FP 2	0	0.0	0	0.0	0
FP 3	0	0.0	0	0.0	0
FP 4	0	0.0	0	0.0	0

PV array 3 and FP: FP 1

No glare found

PV array 3 and FP: FP 2

No glare found

PV array 3 and FP: FP 3

No glare found

PV array 3 and FP: FP 4

No glare found

PV: PV array 4 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance
	min	hr	min	hr	cd/m^2
FP 1	0	0.0	0	0.0	0
FP 2	0	0.0	0	0.0	0
FP 3	0	0.0	0	0.0	0
FP 4	0	0.0	0	0.0	0

PV array 4 and FP: FP 1

No glare found

PV array 4 and FP: FP 2

No glare found

PV array 4 and FP: FP 3

No glare found

PV array 4 and FP: FP 4

No glare found

PV: PV array 5 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance
	min	hr	min	hr	cd/m²
FP 1	0	0.0	0	0.0	0
FP 2	0	0.0	0	0.0	0
FP 3	0	0.0	0	0.0	0
FP 4	0	0.0	0	0.0	0

PV array 5 and FP: FP 1

No glare found

PV array 5 and FP: FP 2

No glare found

PV array 5 and FP: FP 3

No glare found

PV array 5 and FP: FP 4

No glare found

PV: PV array 6 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance
	min	hr	min	hr	cd/m²
FP 1	0	0.0	0	0.0	0
FP 2	0	0.0	0	0.0	0
FP 3	0	0.0	0	0.0	0
FP 4	0	0.0	0	0.0	0

PV array 6 and FP: FP 1

No glare found

PV array 6 and FP: FP 2

No glare found

PV array 6 and FP: FP 3

No glare found

PV array 6 and FP: FP 4

No glare found

PV: PV array 7 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance
	min	hr	min	hr	cd/m^2
FP 1	0	0.0	0	0.0	0
FP 2	0	0.0	0	0.0	0
FP 3	0	0.0	0	0.0	0
FP 4	0	0.0	0	0.0	0

PV array 7 and FP: FP 1

No glare found

PV array 7 and FP: FP 2

No glare found

PV array 7 and FP: FP 3

No glare found

PV array 7 and FP: FP 4

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.
Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.
The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.
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.)
The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.
The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.
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.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.

ForgeSolar default analysis parameters and observer eye characteristics, listed for reference only. The values used for this analysis are given in the site summary above.

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

© 2026 Sims Industries d/b/a ForgeSolar, All Rights Reserved.

This analysis was conducted using the best available radiometric modeling at the time of generation. Future updates to the modeling methodology may yield different results.

APPENDIX 2

REASSESSMENT BASED ON REVISED PV MODULES AVAILABLE IN FORGESOLAR 2026B UPDATE (INCLUDING THE 2-MILE APPROACH PATHS)

gia

Glare Analysis Results

Summary of Results

Glare with low potential for temporary after-image predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy	Peak Luminance	Peak Illuminance
	°	°	min	hr	min	hr	kWh	cd/m^2	lux
PV array 1	27.0	227.0	11,147	185.8	0	0.0	-	18,150,920	101
PV array 2	27.0	227.0	11,123	185.4	0	0.0	-	18,320,097	87
PV array 3	27.0	227.0	11,146	185.8	0	0.0	-	18,481,510	91
PV array 4	27.0	227.0	11,040	184.0	0	0.0	-	18,657,725	72
PV array 5	27.0	227.0	11,233	187.2	0	0.0	-	18,762,004	96
PV array 6	27.0	227.0	11,204	186.7	0	0.0	-	19,094,214	84
PV array 7	27.0	227.0	10,976	182.9	0	0.0	-	19,094,155	44

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
1000Ft-GA_5L23R_05L-L_23R-R	0	0.0	0	0.0
1000Ft-GA_5L23R_05L-R_23R-L	0	0.0	0	0.0
1000Ft-GA_5R23L_05R-L_23L-R	0	0.0	0	0.0
1000Ft-GA_5R23L_05R-R_23L-L	0	0.0	0	0.0
1500Ft-CA_5L23R_05L-L_23R-R	0	0.0	0	0.0
1500Ft-CA_5L23R_05L-R_23R-L	21,954	365.9	0	0.0
Approach_05L	0	0.0	0	0.0
Approach_05R	0	0.0	0	0.0
Approach_23L	0	0.0	0	0.0
Approach_23R	0	0.0	0	0.0
FP 1	0	0.0	0	0.0
FP 2	0	0.0	0	0.0
FP 3	0	0.0	0	0.0
FP 4	0	0.0	0	0.0
1-ATCT	0	0.0	0	0.0
OP 2	8,964	149.4	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	3,092	51.5	0	0.0
OP 9	8,199	136.7	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0

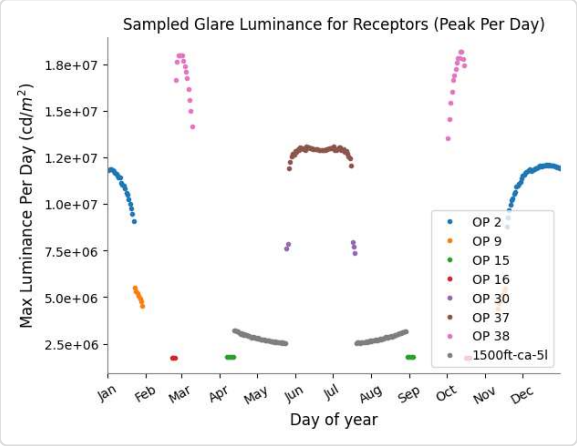
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	3,764	62.7	0	0.0
OP 15	3,336	55.6	0	0.0
OP 16	3,888	64.8	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	6,842	114.0	0	0.0
OP 24	0	0.0	0	0.0
OP 25	0	0.0	0	0.0
OP 26	0	0.0	0	0.0
OP 27	0	0.0	0	0.0
OP 28	0	0.0	0	0.0
OP 29	0	0.0	0	0.0
OP 30	7,830	130.5	0	0.0
OP 31	0	0.0	0	0.0
OP 32	0	0.0	0	0.0
OP 33	0	0.0	0	0.0
OP 34	0	0.0	0	0.0
OP 35	0	0.0	0	0.0
OP 36	0	0.0	0	0.0
OP 37	6,819	113.7	0	0.0
OP 38	3,181	53.0	0	0.0
OP 39	0	0.0	0	0.0
OP 40	0	0.0	0	0.0

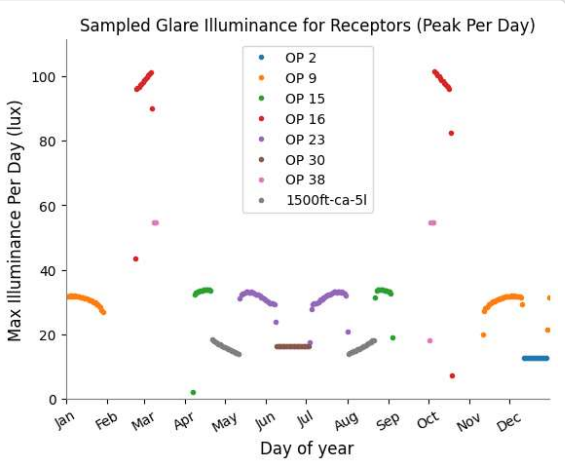
PV: PV array 1 low potential for temporary after-image

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
1500Ft-CA_5L23R_05L-R_23R-L	3,148	52.5	0	0.0	3,198,198	21
1000Ft-GA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
1000Ft-GA_5L23R_05L-R_23R-L	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-L_23L-R	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-R_23L-L	0	0.0	0	0.0	0	0
1500Ft-CA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
Approach_05L	0	0.0	0	0.0	0	0
Approach_05R	0	0.0	0	0.0	0	0
Approach_23L	0	0.0	0	0.0	0	0
Approach_23R	0	0.0	0	0.0	0	0
FP 1	0	0.0	0	0.0	0	0
FP 2	0	0.0	0	0.0	0	0
FP 3	0	0.0	0	0.0	0	0
FP 4	0	0.0	0	0.0	0	0
OP 2	1,292	21.5	0	0.0	12,102,305	13
OP 8	439	7.3	0	0.0	5,255,984	16
OP 9	1,072	17.9	0	0.0	6,365,564	32
OP 14	565	9.4	0	0.0	1,918,033	12
OP 15	498	8.3	0	0.0	1,788,703	34
OP 16	558	9.3	0	0.0	1,730,625	101
OP 23	1,074	17.9	0	0.0	2,012,967	33
OP 30	1,085	18.1	0	0.0	8,360,463	16
OP 37	964	16.1	0	0.0	13,071,772	7
OP 38	452	7.5	0	0.0	18,150,920	55
1-ATCT	0	0.0	0	0.0	0	0
OP 3	0	0.0	0	0.0	0	0
OP 4	0	0.0	0	0.0	0	0
OP 5	0	0.0	0	0.0	0	0
OP 6	0	0.0	0	0.0	0	0
OP 7	0	0.0	0	0.0	0	0
OP 10	0	0.0	0	0.0	0	0
OP 11	0	0.0	0	0.0	0	0
OP 12	0	0.0	0	0.0	0	0

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
OP 13	0	0.0	0	0.0	0	0
OP 17	0	0.0	0	0.0	0	0
OP 18	0	0.0	0	0.0	0	0
OP 19	0	0.0	0	0.0	0	0
OP 20	0	0.0	0	0.0	0	0
OP 21	0	0.0	0	0.0	0	0
OP 22	0	0.0	0	0.0	0	0
OP 24	0	0.0	0	0.0	0	0
OP 25	0	0.0	0	0.0	0	0
OP 26	0	0.0	0	0.0	0	0
OP 27	0	0.0	0	0.0	0	0
OP 28	0	0.0	0	0.0	0	0
OP 29	0	0.0	0	0.0	0	0
OP 31	0	0.0	0	0.0	0	0
OP 32	0	0.0	0	0.0	0	0
OP 33	0	0.0	0	0.0	0	0
OP 34	0	0.0	0	0.0	0	0
OP 35	0	0.0	0	0.0	0	0
OP 36	0	0.0	0	0.0	0	0
OP 39	0	0.0	0	0.0	0	0
OP 40	0	0.0	0	0.0	0	0

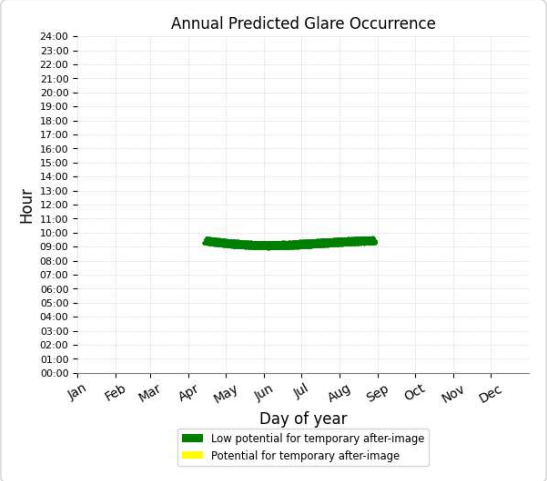


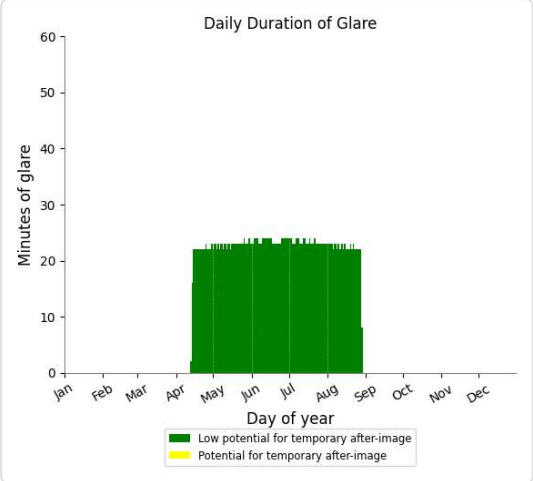


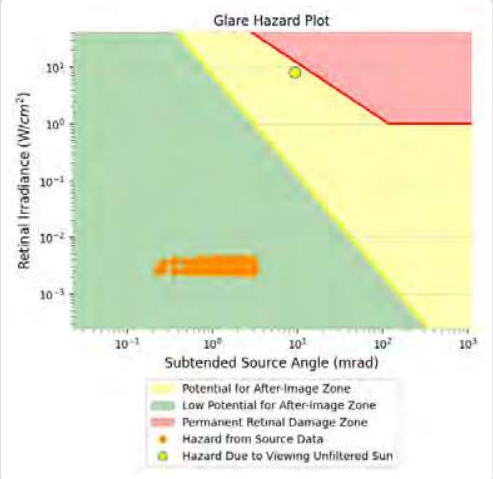
PV array 1 and Route: 1500Ft-CA_5L23R_05L-R_23R-L

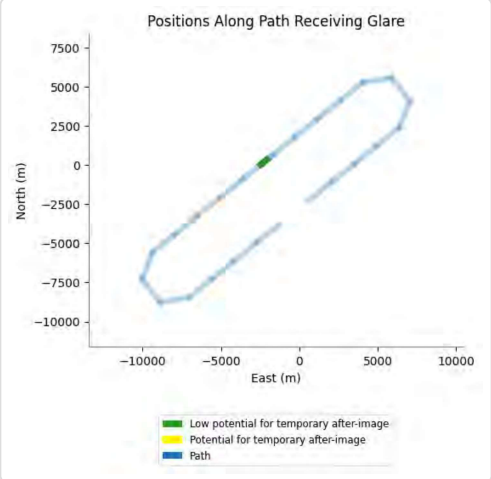
Yellow glare: none

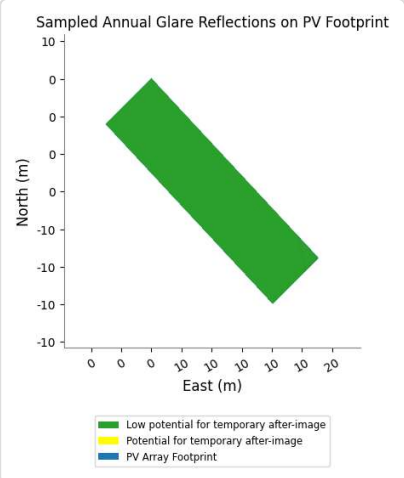
Green glare: 3,148 min.

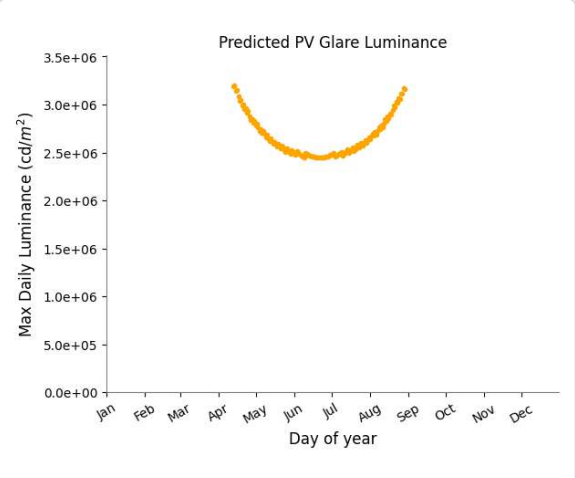


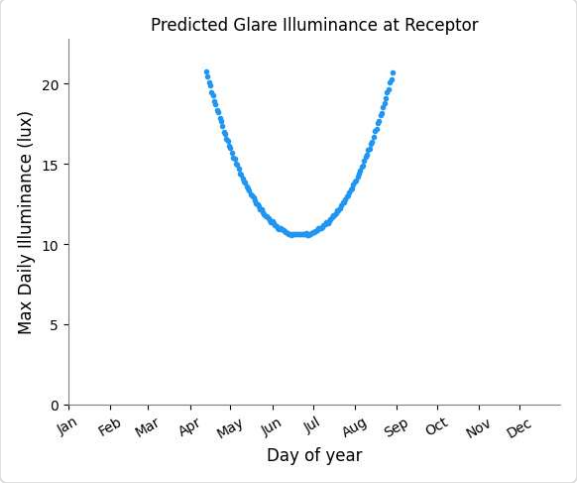












PV array 1 and Route: 1000Ft-GA_5L23R_05L-L_23R-R

No glare found

PV array 1 and Route: 1000Ft-GA_5L23R_05L-R_23R-L

No glare found

PV array 1 and Route: 1000Ft-GA_5R23L_05R-L_23L-R

No glare found

PV array 1 and Route: 1000Ft-GA_5R23L_05R-R_23L-L

No glare found

PV array 1 and Route: 1500Ft-CA_5L23R_05L-L_23R-R

No glare found

PV array 1 and Route: Approach_05L

No glare found

PV array 1 and Route: Approach_05R

No glare found

PV array 1 and Route: Approach_23L

No glare found

PV array 1 and Route: Approach_23R

No glare found

PV array 1 and FP: FP 1

No glare found

PV array 1 and FP: FP 2

No glare found

PV array 1 and FP: FP 3

No glare found

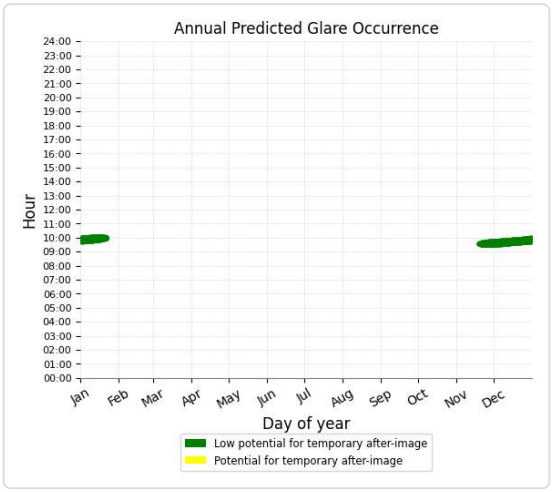
PV array 1 and FP: FP 4

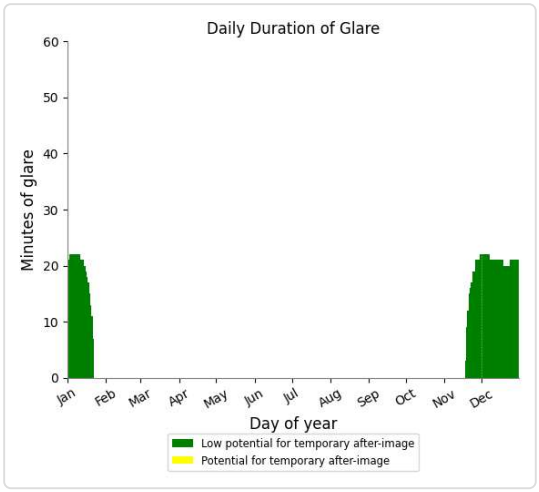
No glare found

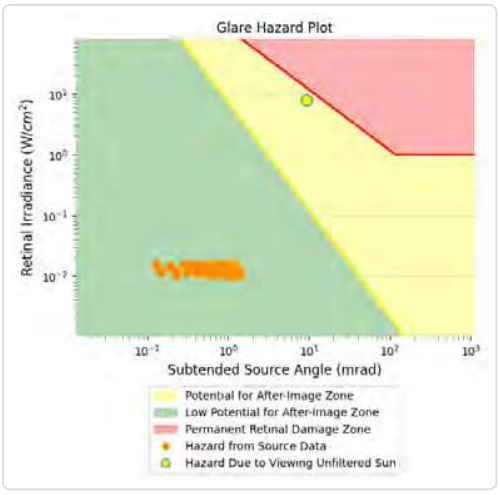
PV array 1 and OP 2

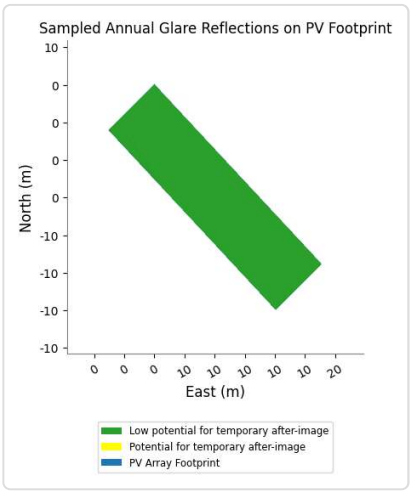
Yellow glare: none

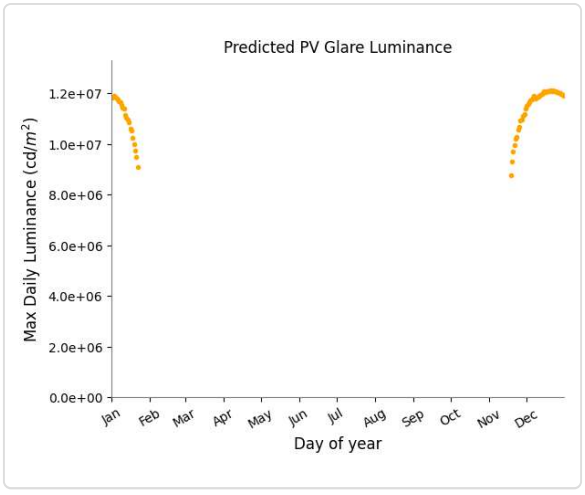
Green glare: 1,292 min.

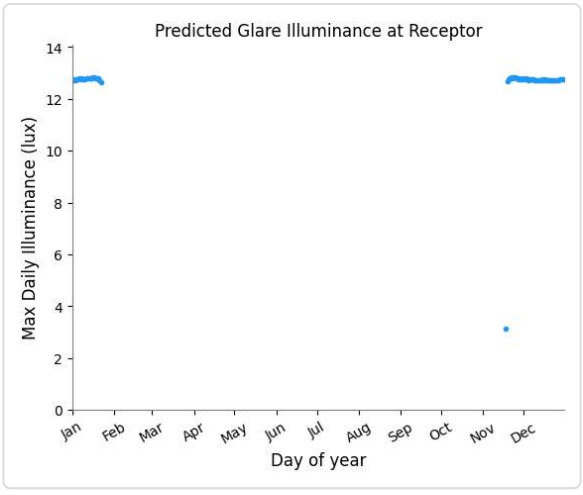








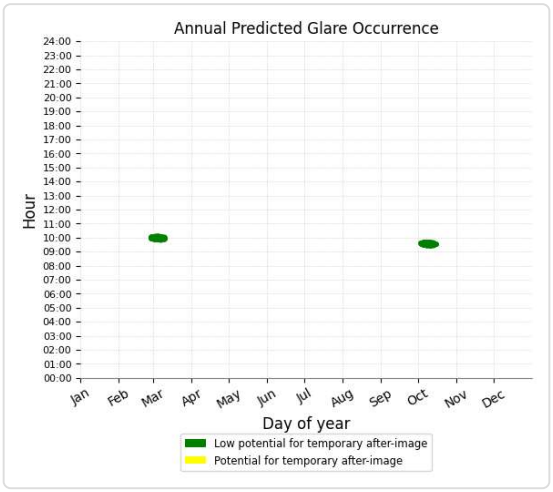


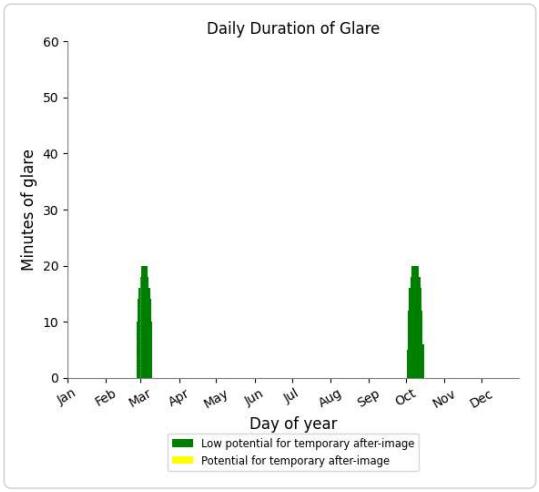


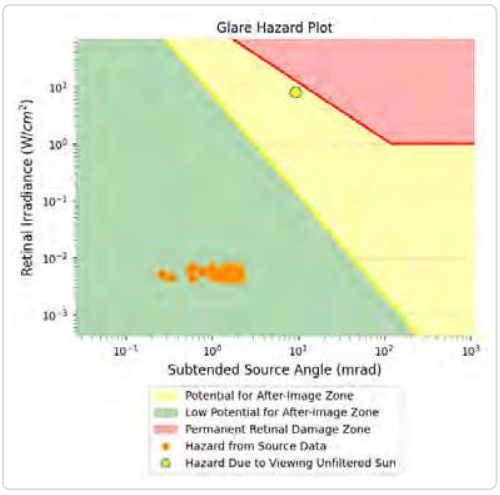
PV array 1 and OP 8

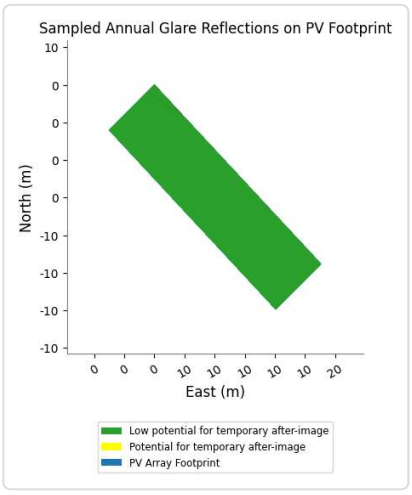
Yellow glare: none

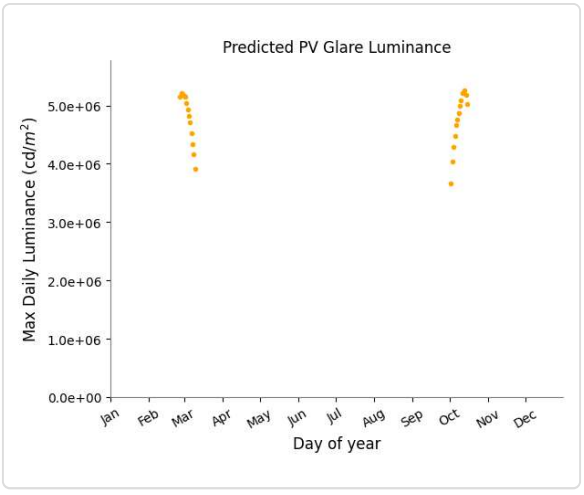
Green glare: 439 min.

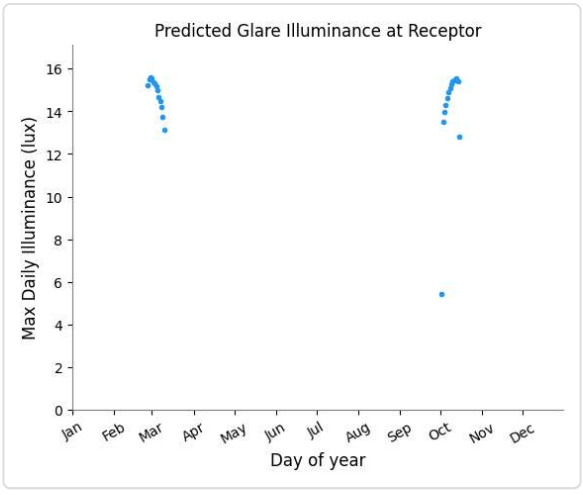








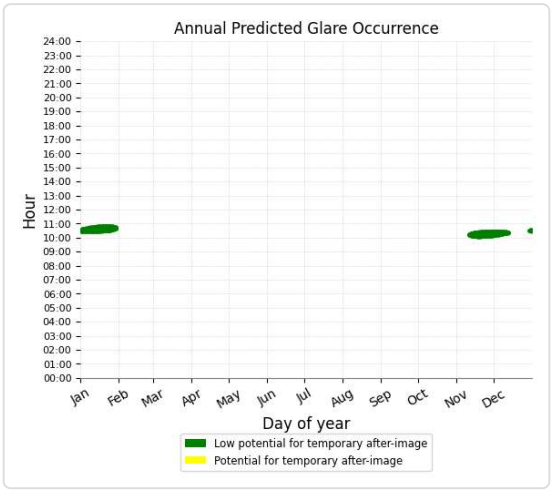


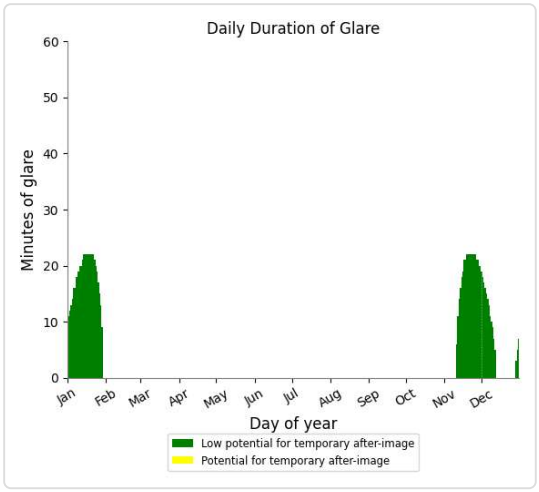


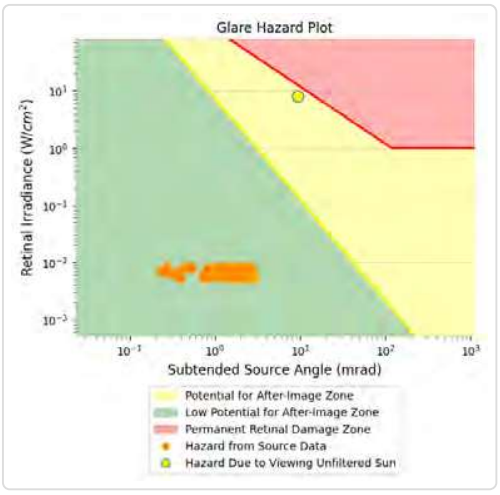
PV array 1 and OP 9

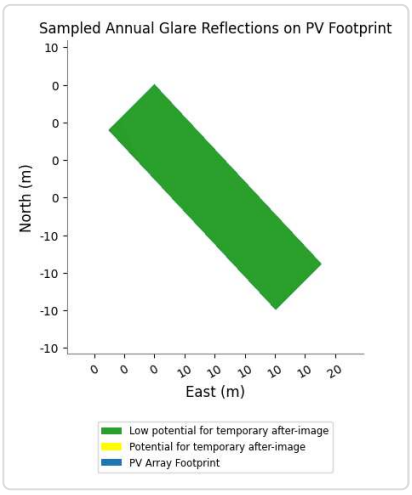
Yellow glare: none

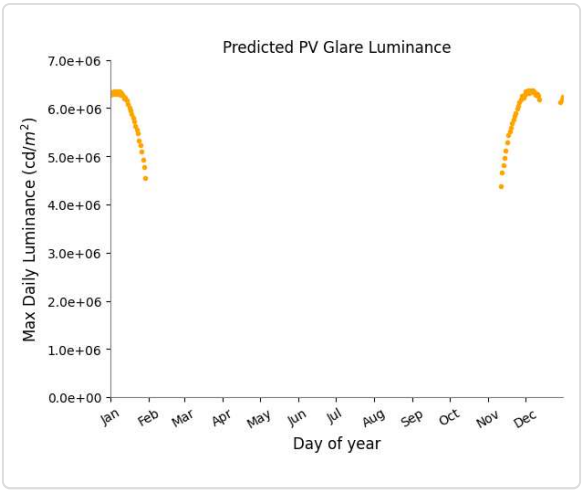
Green glare: 1,072 min.

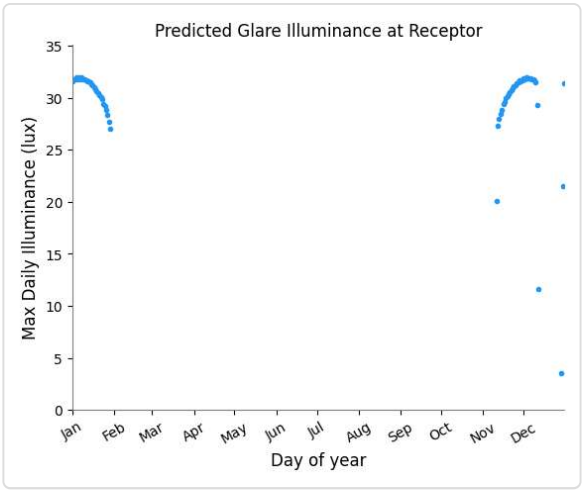








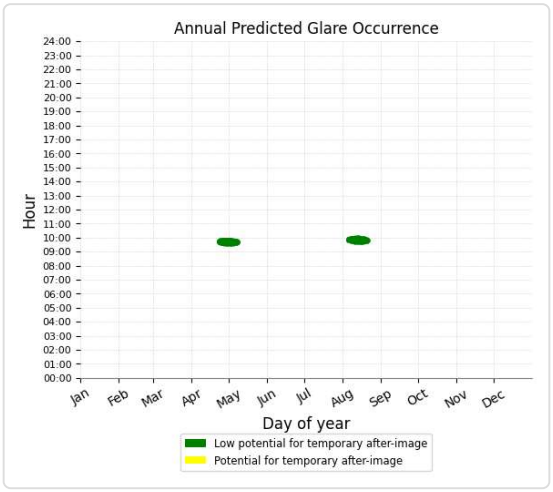


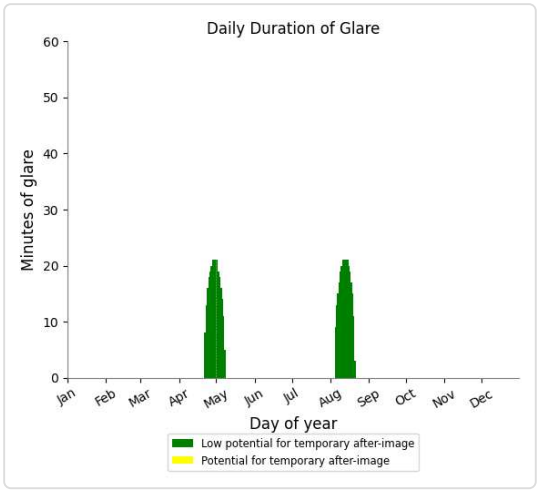


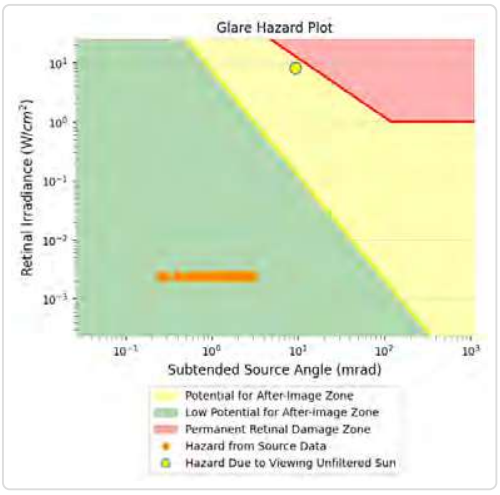
PV array 1 and OP 14

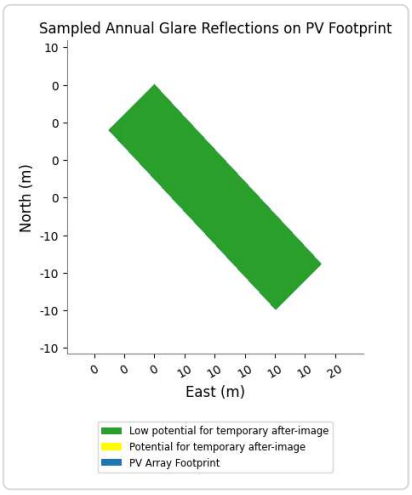
Yellow glare: none

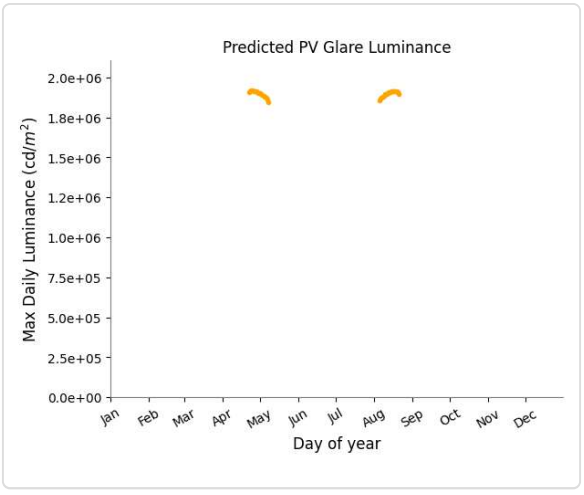
Green glare: 565 min.

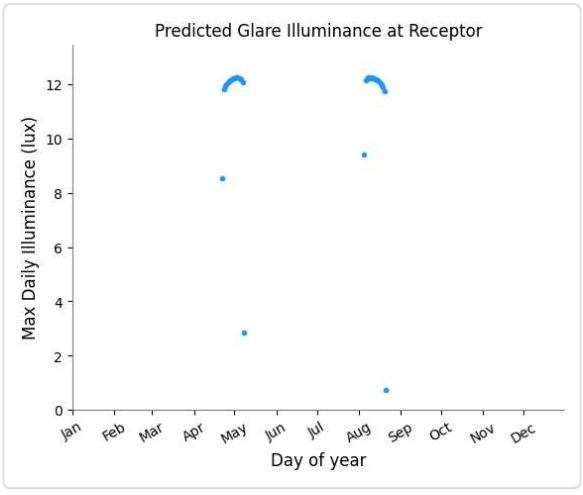








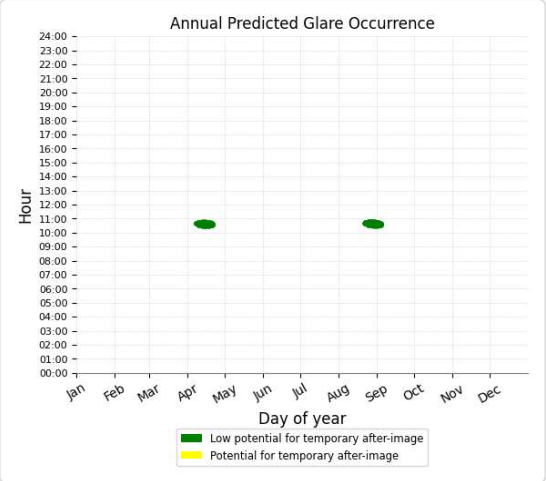


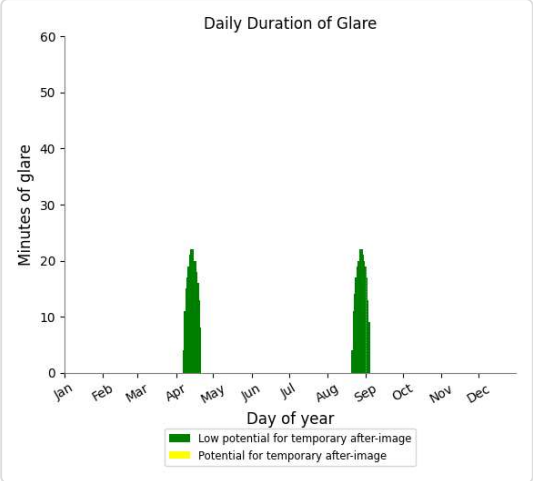


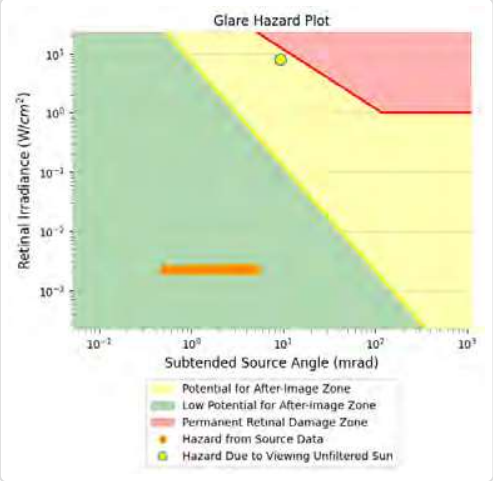
PV array 1 and OP 15

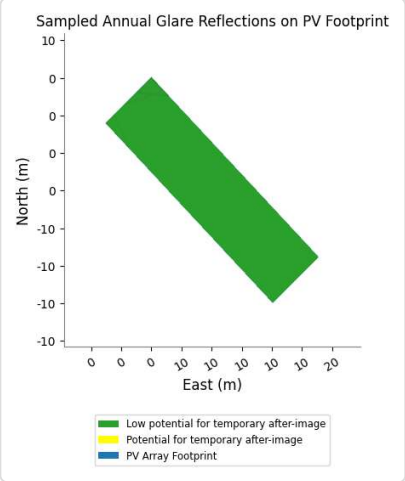
Yellow glare: none

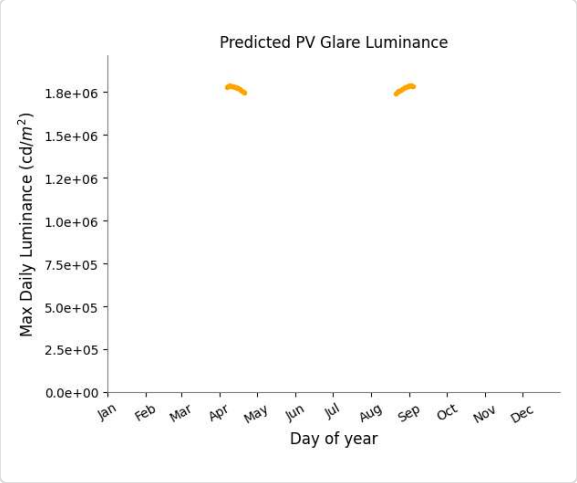
Green glare: 498 min.

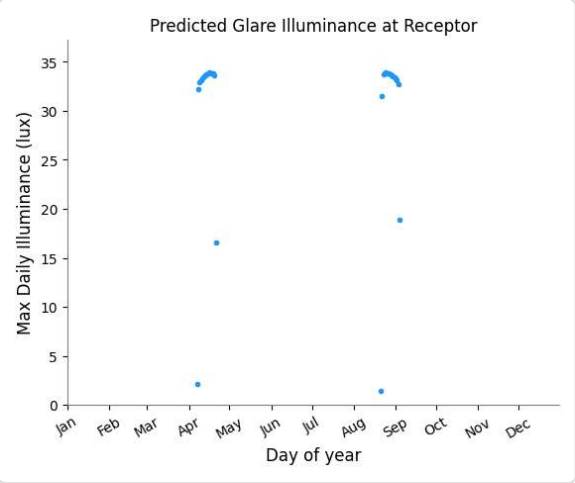








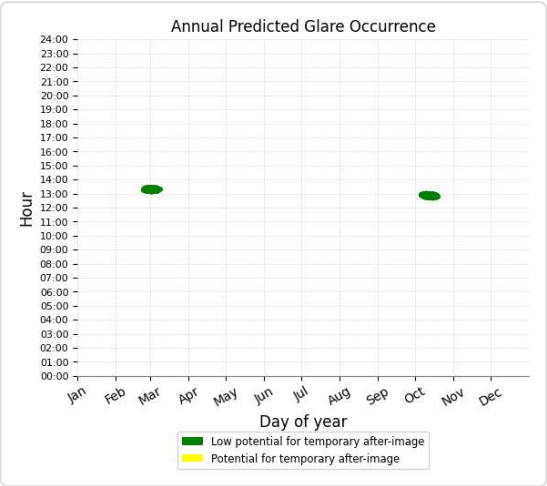


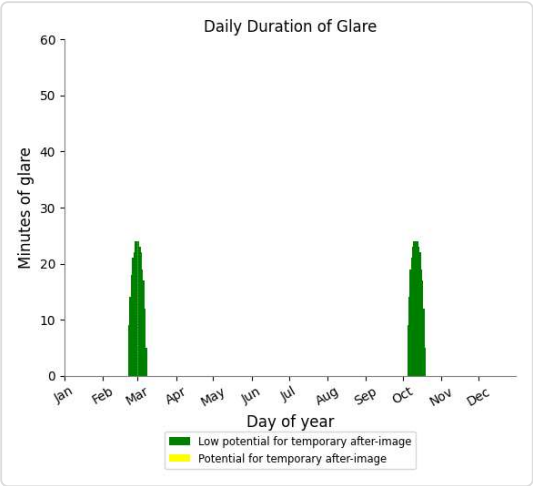


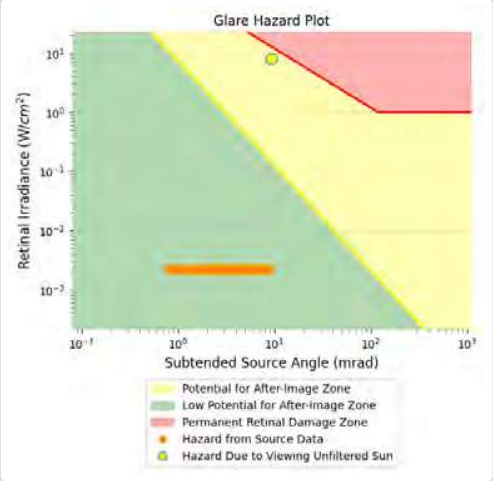
PV array 1 and OP 16

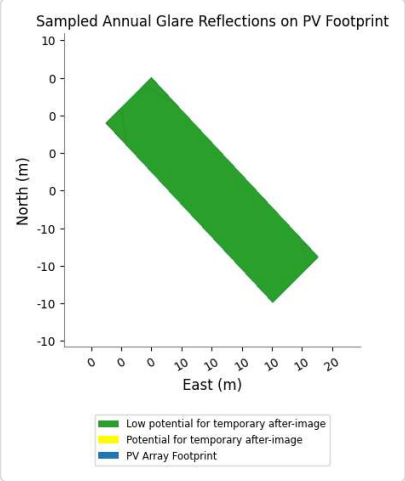
Yellow glare: none

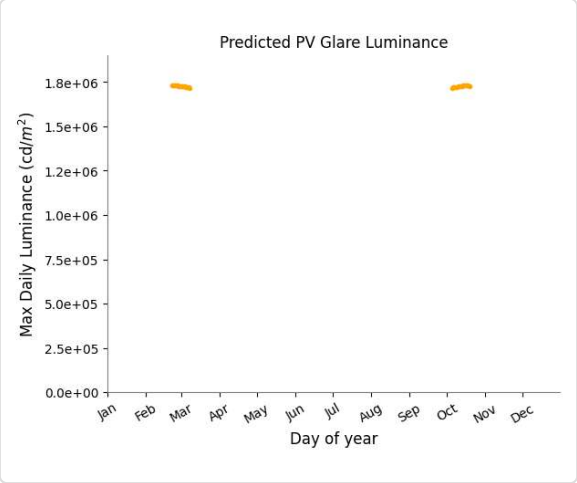
Green glare: 558 min.

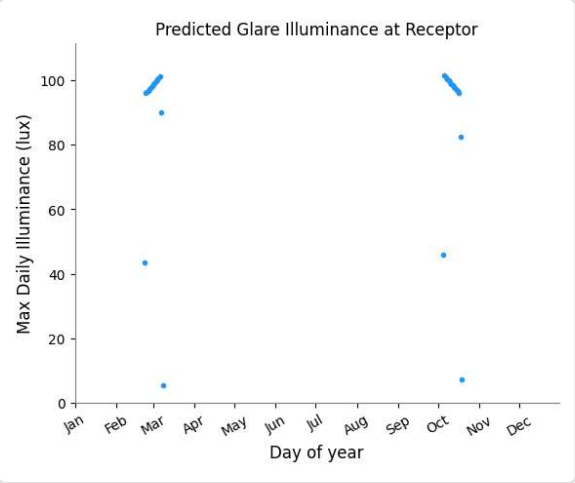








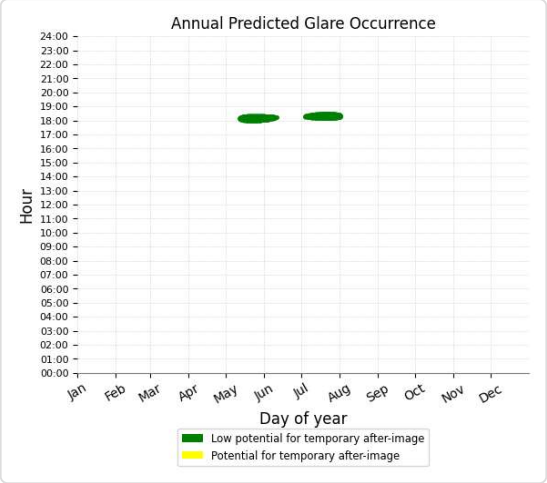


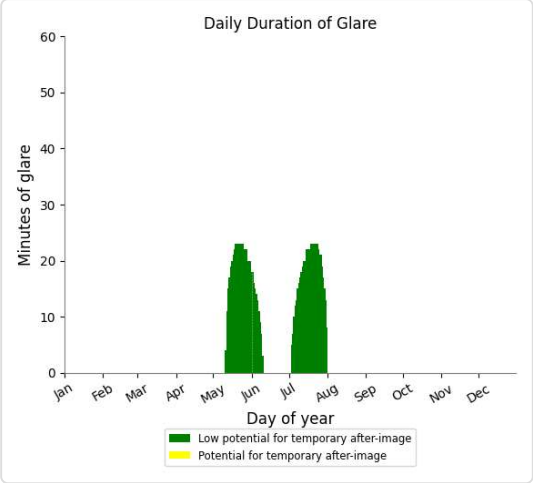


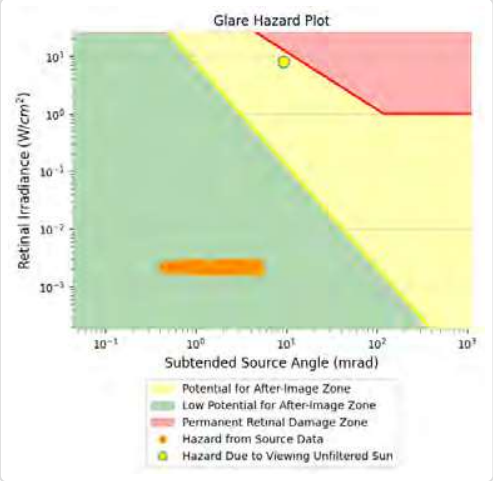
PV array 1 and OP 23

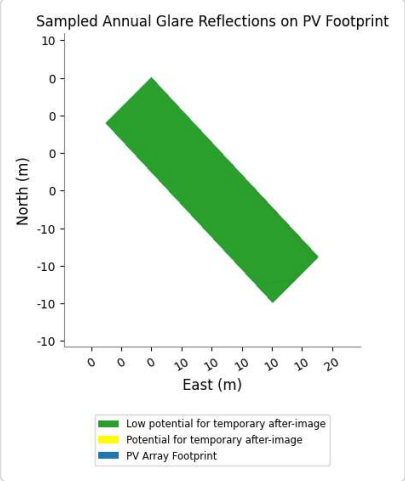
Yellow glare: none

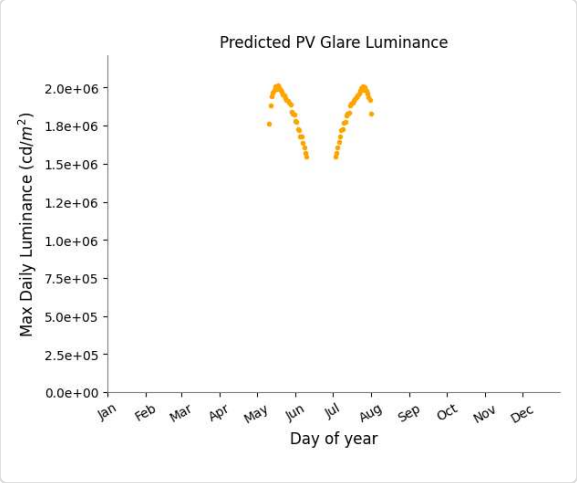
Green glare: 1,074 min.

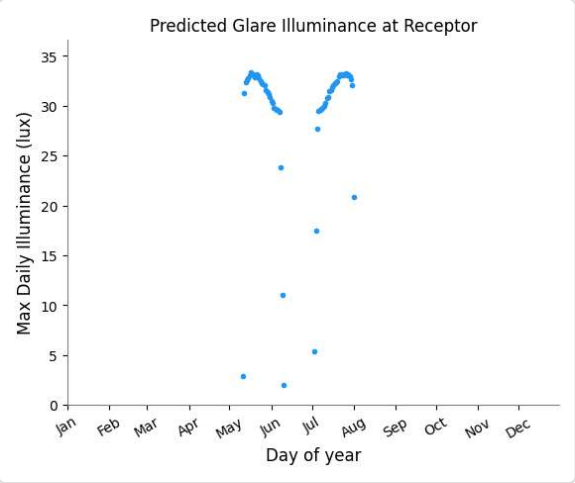








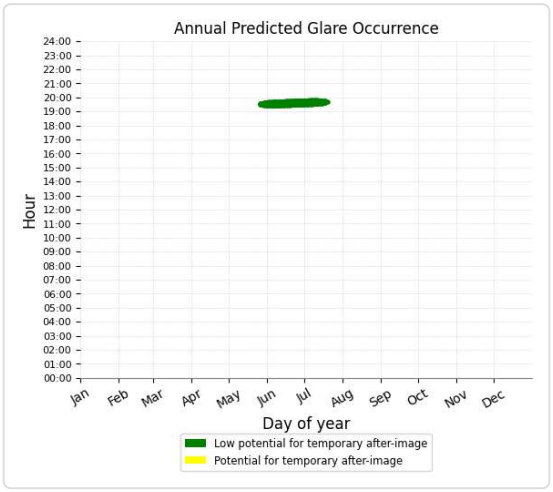


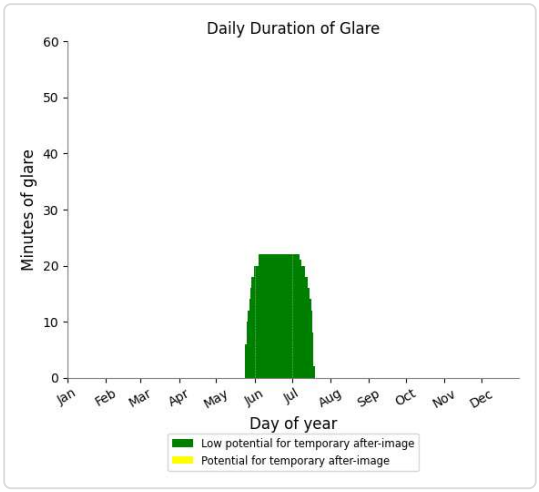


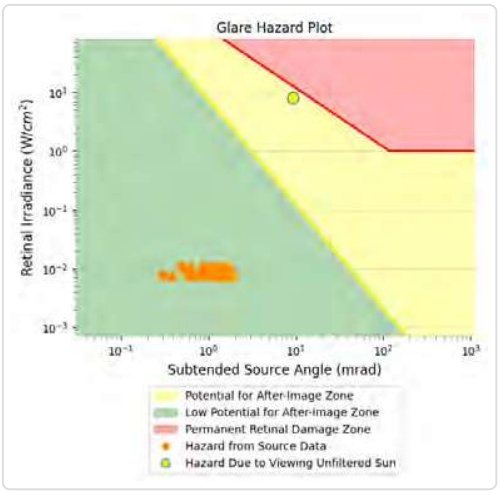
PV array 1 and OP 30

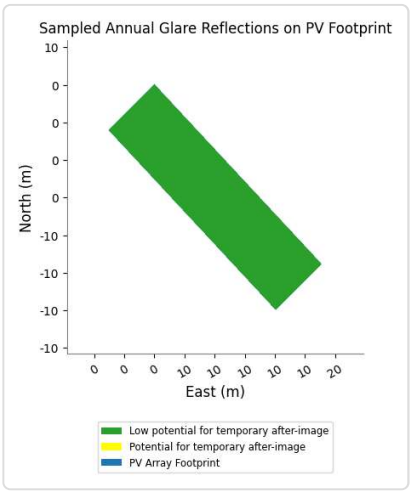
Yellow glare: none

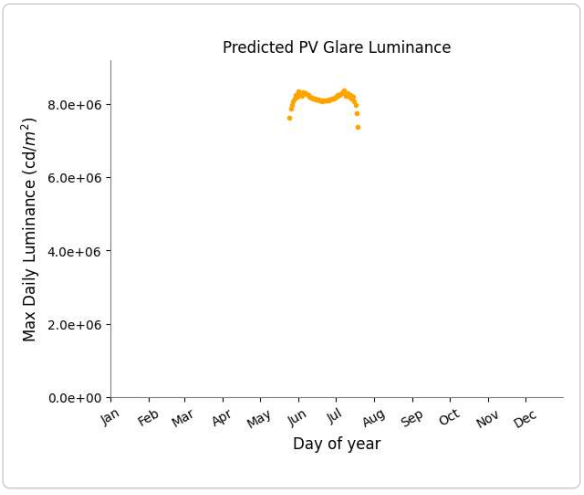
Green glare: 1,085 min.

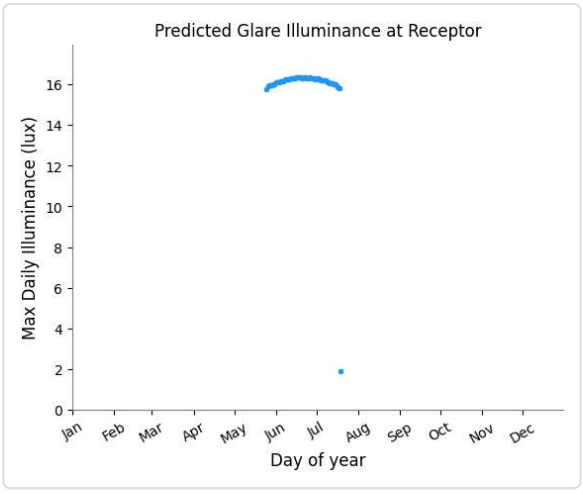








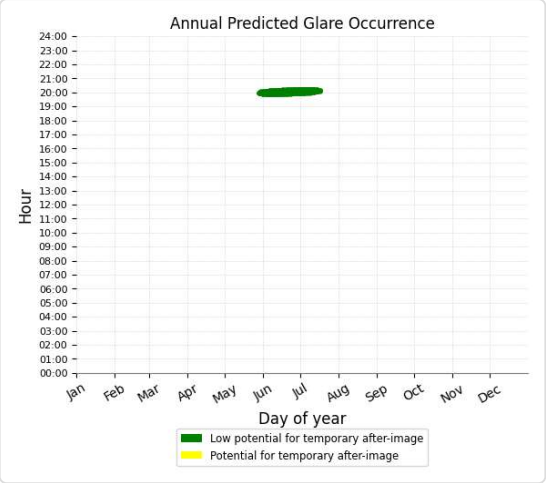


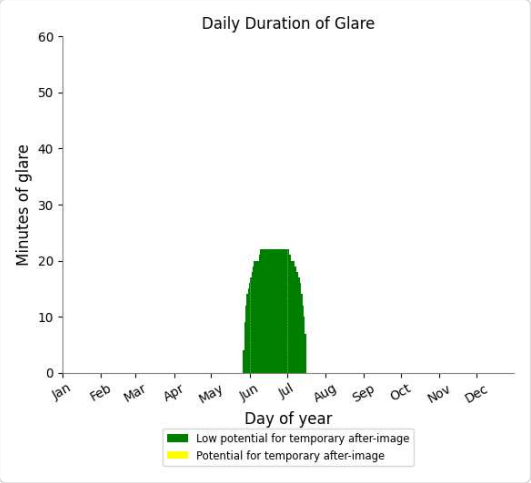


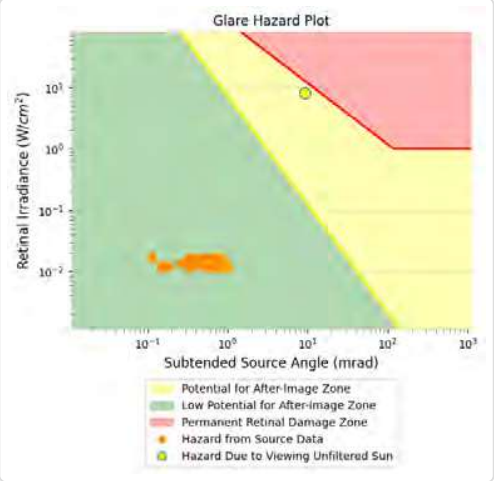
PV array 1 and OP 37

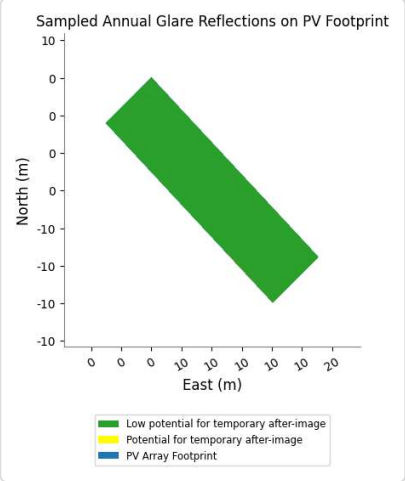
Yellow glare: none

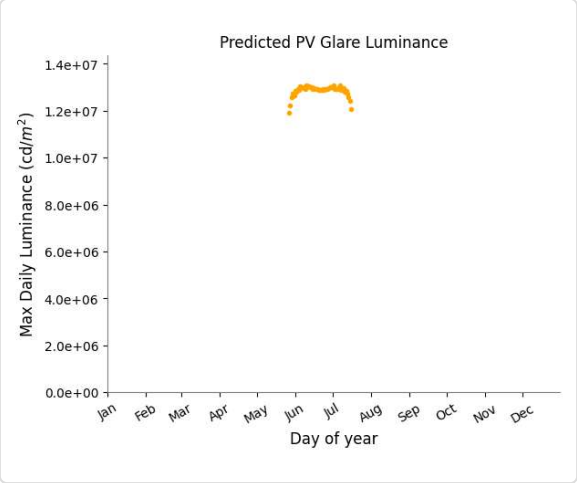
Green glare: 964 min.

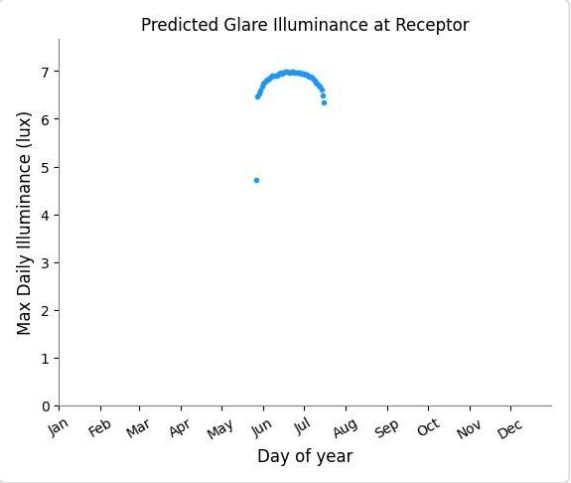








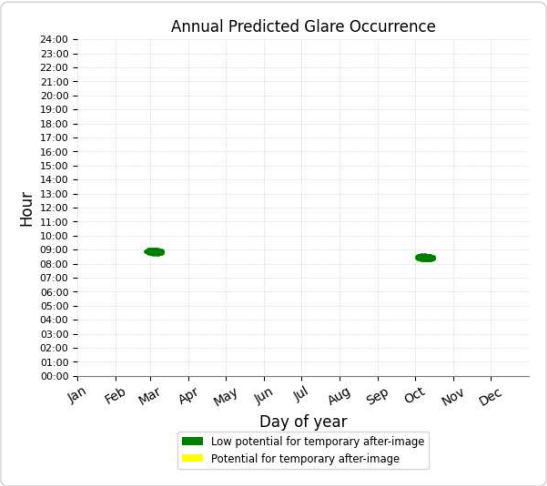


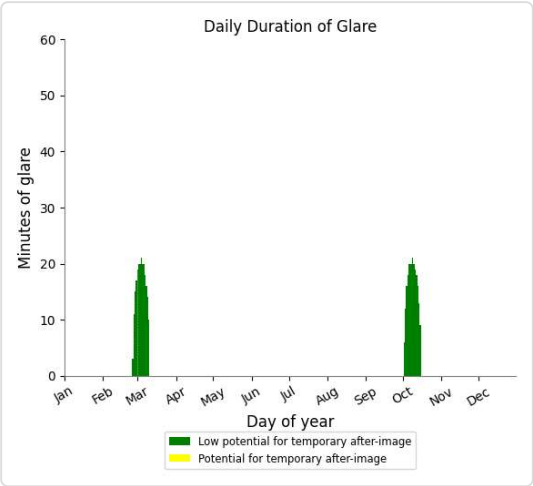


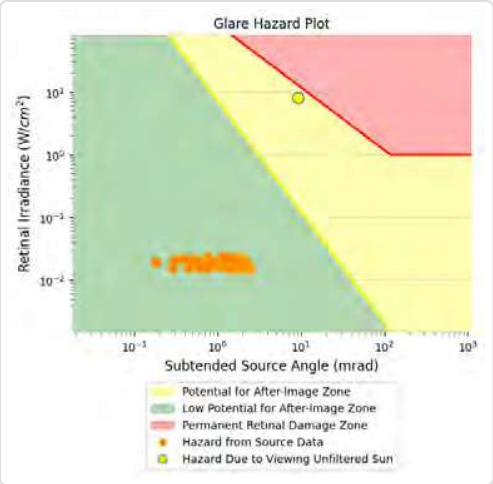
PV array 1 and OP 38

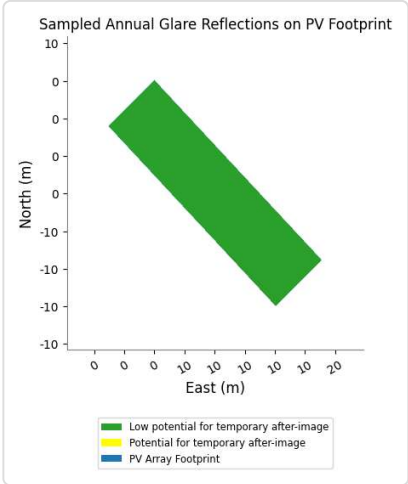
Yellow glare: none

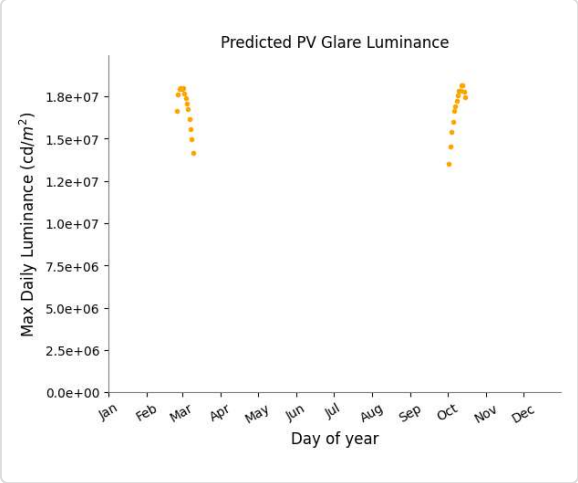
Green glare: 452 min.

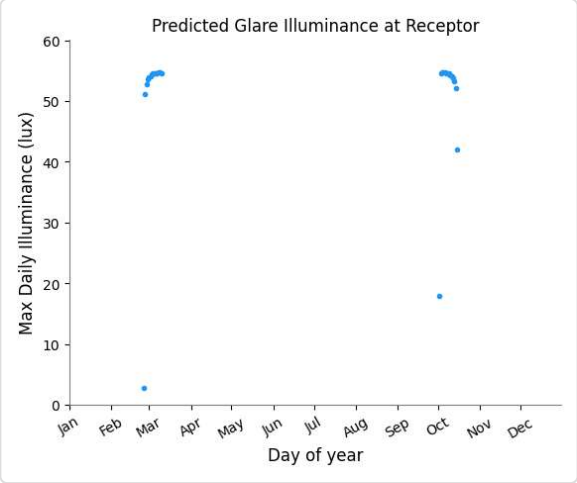












PV array 1 and 1-ATCT

No glare found

PV array 1 and OP 3

No glare found

PV array 1 and OP 4

No glare found

PV array 1 and OP 5

No glare found

PV array 1 and OP 6

No glare found

PV array 1 and OP 7

No glare found

PV array 1 and OP 10

No glare found

PV array 1 and OP 11

No glare found

PV array 1 and OP 12

No glare found

PV array 1 and OP 13

No glare found

PV array 1 and OP 17

No glare found

PV array 1 and OP 18

No glare found

PV array 1 and OP 19

No glare found

PV array 1 and OP 20

No glare found

PV array 1 and OP 21

No glare found

PV array 1 and OP 22

No glare found

PV array 1 and OP 24

No glare found

PV array 1 and OP 25

No glare found

PV array 1 and OP 26

No glare found

PV array 1 and OP 27

No glare found

PV array 1 and OP 28

No glare found

PV array 1 and OP 29

No glare found

PV array 1 and OP 31

No glare found

PV array 1 and OP 32

No glare found

PV array 1 and OP 33

No glare found

PV array 1 and OP 34

No glare found

PV array 1 and OP 35

No glare found

PV array 1 and OP 36

No glare found

PV array 1 and OP 39

No glare found

PV array 1 and OP 40

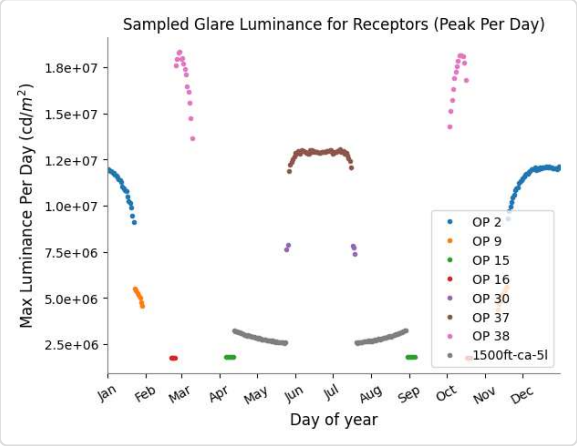
No glare found

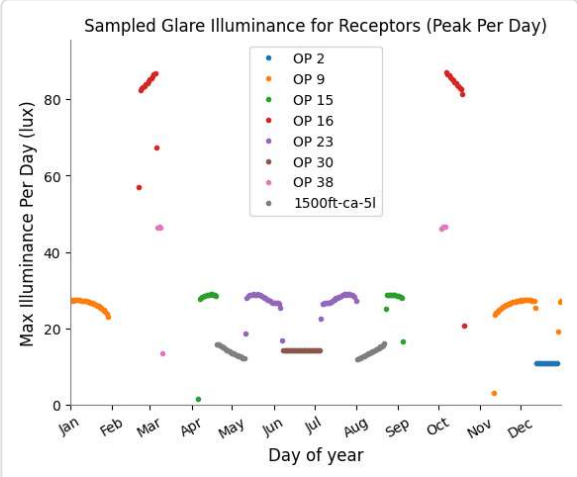
PV: PV array 2 low potential for temporary after-image

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
1500Ft-CA_5L23R_05L-R_23R-L	3,146	52.4	0	0.0	3,257,882	18
1000Ft-GA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
1000Ft-GA_5L23R_05L-R_23R-L	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-L_23L-R	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-R_23L-L	0	0.0	0	0.0	0	0
1500Ft-CA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
Approach_05L	0	0.0	0	0.0	0	0
Approach_05R	0	0.0	0	0.0	0	0
Approach_23L	0	0.0	0	0.0	0	0
Approach_23R	0	0.0	0	0.0	0	0
FP 1	0	0.0	0	0.0	0	0
FP 2	0	0.0	0	0.0	0	0
FP 3	0	0.0	0	0.0	0	0
FP 4	0	0.0	0	0.0	0	0
OP 2	1,286	21.4	0	0.0	12,109,257	11
OP 8	440	7.3	0	0.0	5,312,596	13
OP 9	1,099	18.3	0	0.0	6,475,253	27
OP 14	550	9.2	0	0.0	1,922,730	11
OP 15	484	8.1	0	0.0	1,794,037	29
OP 16	551	9.2	0	0.0	1,738,317	87
OP 23	1,034	17.2	0	0.0	1,945,548	29
OP 30	1,114	18.6	0	0.0	8,263,450	14
OP 37	965	16.1	0	0.0	13,060,206	6
OP 38	454	7.6	0	0.0	18,320,097	47
1-ATCT	0	0.0	0	0.0	0	0
OP 3	0	0.0	0	0.0	0	0
OP 4	0	0.0	0	0.0	0	0
OP 5	0	0.0	0	0.0	0	0
OP 6	0	0.0	0	0.0	0	0
OP 7	0	0.0	0	0.0	0	0
OP 10	0	0.0	0	0.0	0	0
OP 11	0	0.0	0	0.0	0	0
OP 12	0	0.0	0	0.0	0	0

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
OP 13	0	0.0	0	0.0	0	0
OP 17	0	0.0	0	0.0	0	0
OP 18	0	0.0	0	0.0	0	0
OP 19	0	0.0	0	0.0	0	0
OP 20	0	0.0	0	0.0	0	0
OP 21	0	0.0	0	0.0	0	0
OP 22	0	0.0	0	0.0	0	0
OP 24	0	0.0	0	0.0	0	0
OP 25	0	0.0	0	0.0	0	0
OP 26	0	0.0	0	0.0	0	0
OP 27	0	0.0	0	0.0	0	0
OP 28	0	0.0	0	0.0	0	0
OP 29	0	0.0	0	0.0	0	0
OP 31	0	0.0	0	0.0	0	0
OP 32	0	0.0	0	0.0	0	0
OP 33	0	0.0	0	0.0	0	0
OP 34	0	0.0	0	0.0	0	0
OP 35	0	0.0	0	0.0	0	0
OP 36	0	0.0	0	0.0	0	0
OP 39	0	0.0	0	0.0	0	0
OP 40	0	0.0	0	0.0	0	0

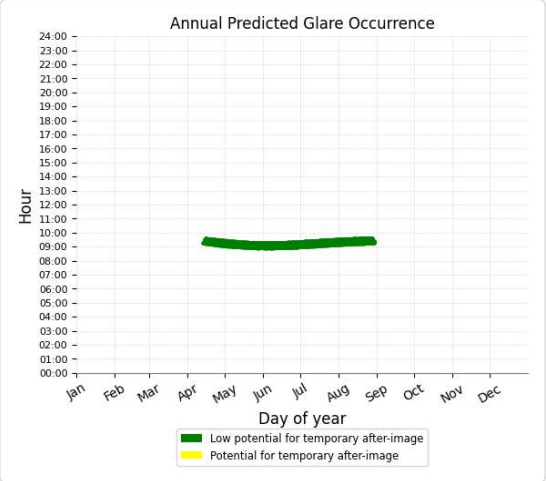


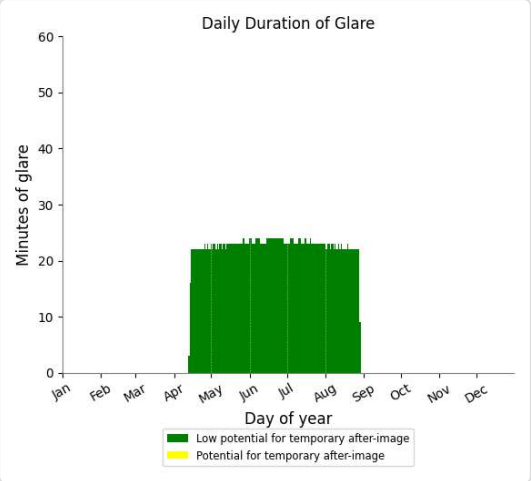


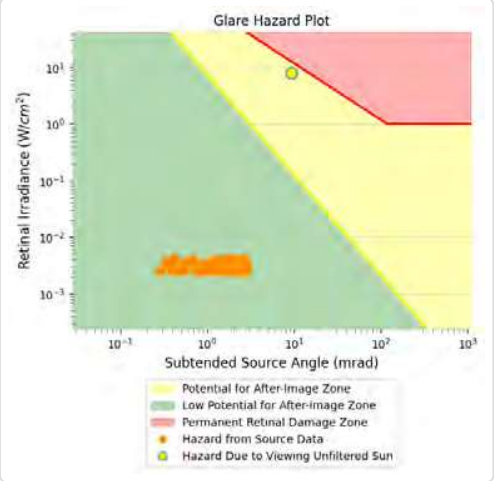
PV array 2 and Route: 1500Ft-CA_5L23R_05L-R_23R-L

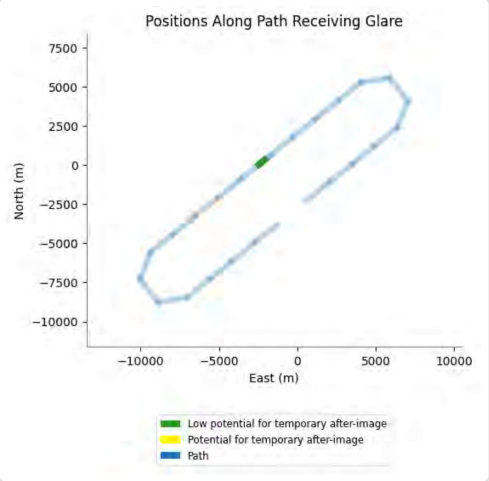
Yellow glare: none

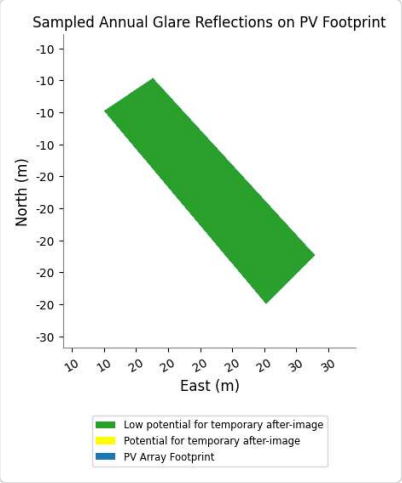
Green glare: 3,146 min.

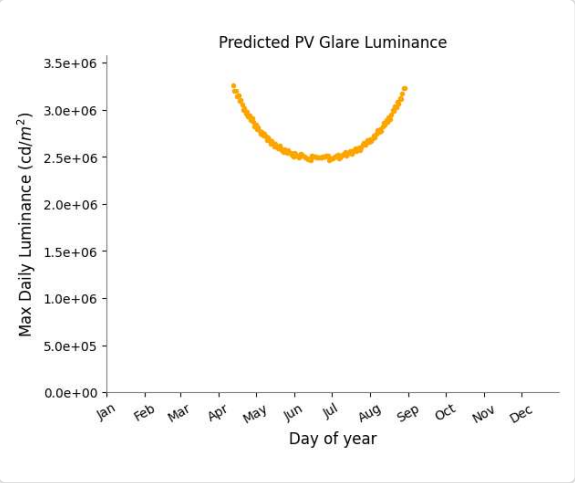


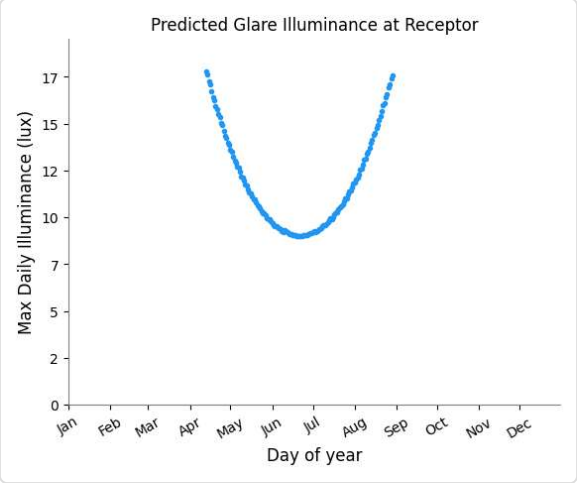












PV array 2 and Route: 1000Ft-GA_5L23R_05L-L_23R-R

No glare found

PV array 2 and Route: 1000Ft-GA_5L23R_05L-R_23R-L

No glare found

PV array 2 and Route: 1000Ft-GA_5R23L_05R-L_23L-R

No glare found

PV array 2 and Route: 1000Ft-GA_5R23L_05R-R_23L-L

No glare found

PV array 2 and Route: 1500Ft-CA_5L23R_05L-L_23R-R

No glare found

PV array 2 and Route: Approach_05L

No glare found

PV array 2 and Route: Approach_05R

No glare found

PV array 2 and Route: Approach_23L

No glare found

PV array 2 and Route: Approach_23R

No glare found

PV array 2 and FP: FP 1

No glare found

PV array 2 and FP: FP 2

No glare found

PV array 2 and FP: FP 3

No glare found

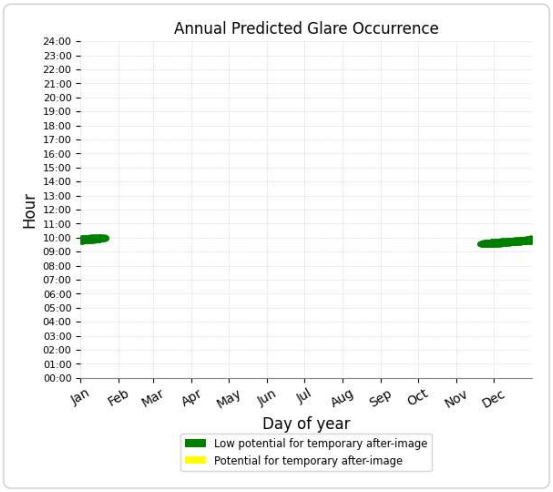
PV array 2 and FP: FP 4

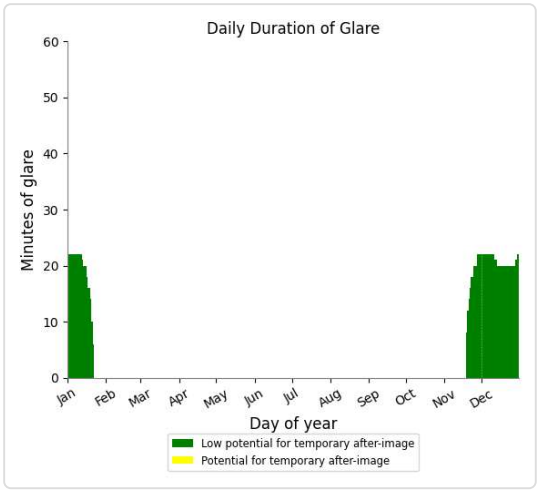
No glare found

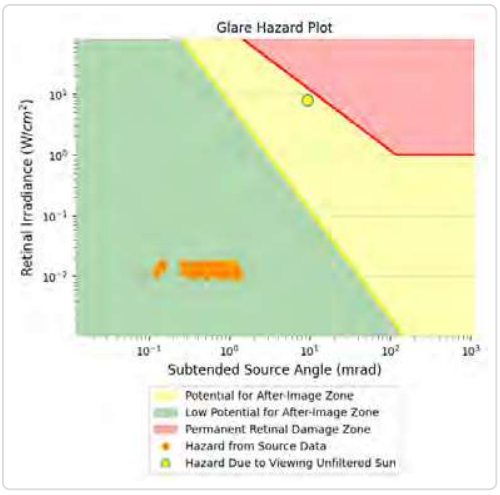
PV array 2 and OP 2

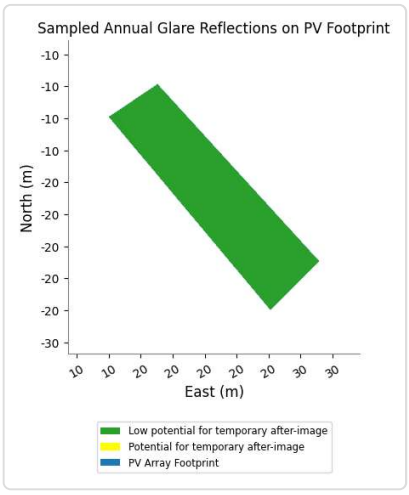
Yellow glare: none

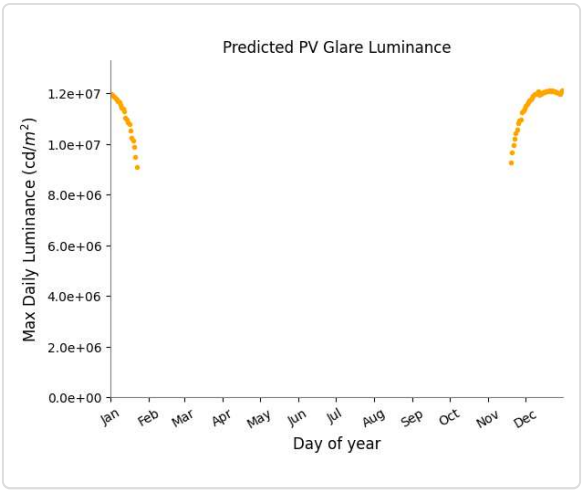
Green glare: 1,286 min.

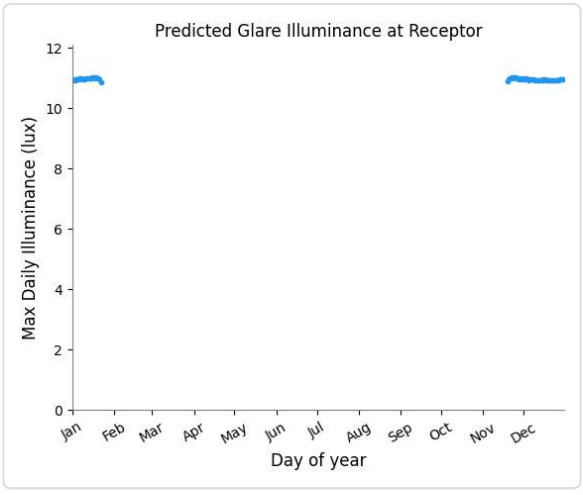








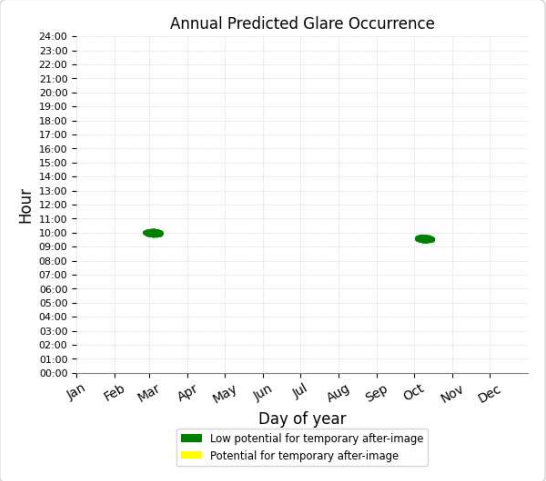


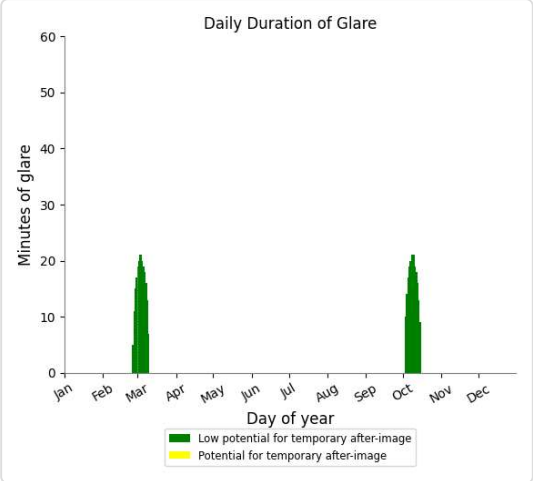


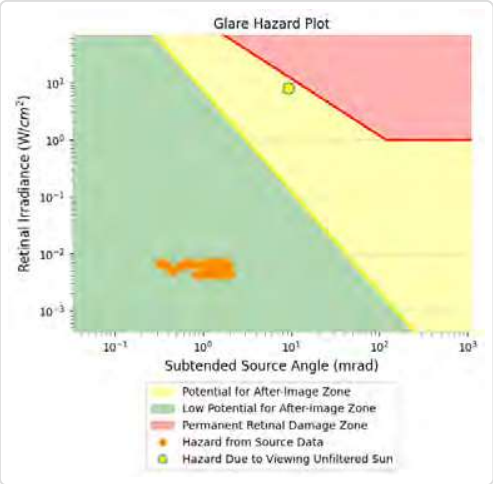
PV array 2 and OP 8

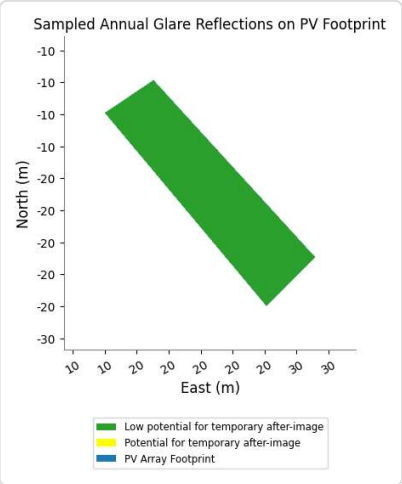
Yellow glare: none

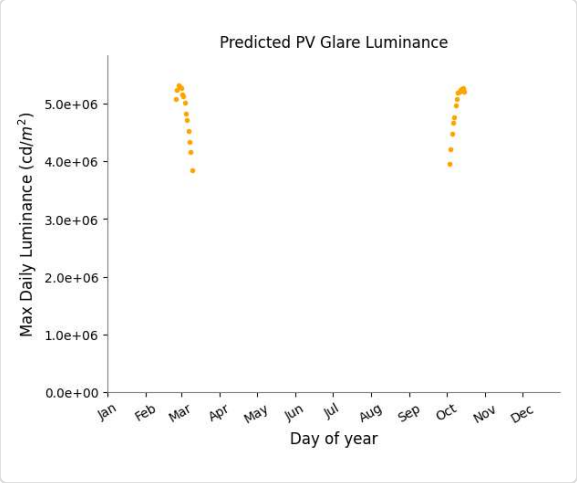
Green glare: 440 min.

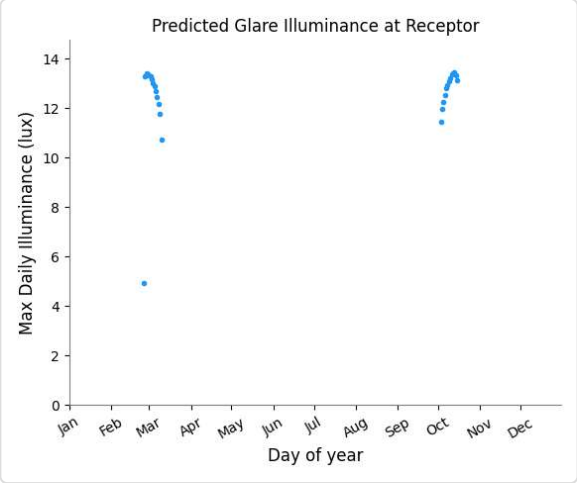








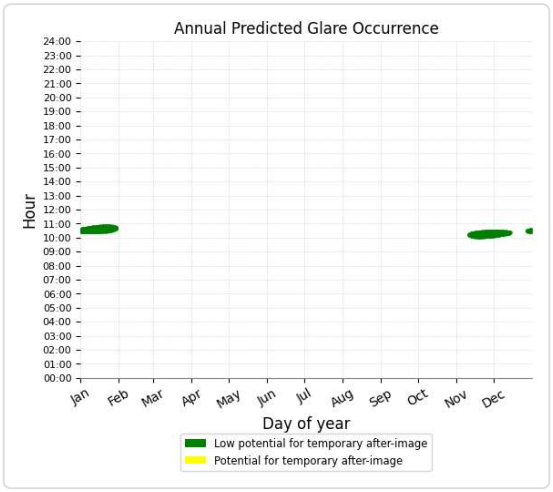


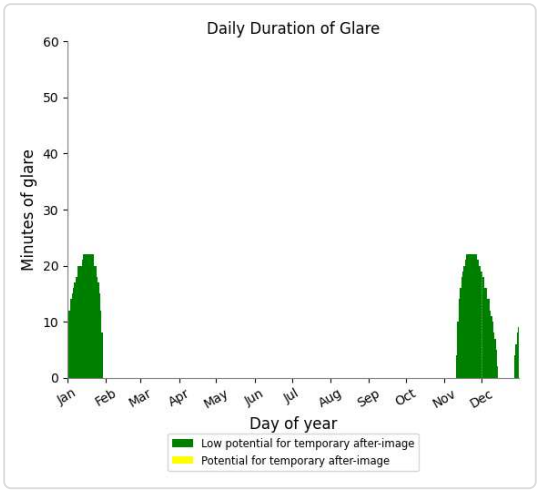


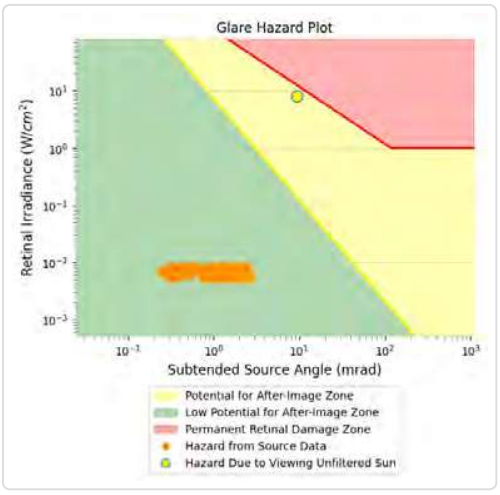
PV array 2 and OP 9

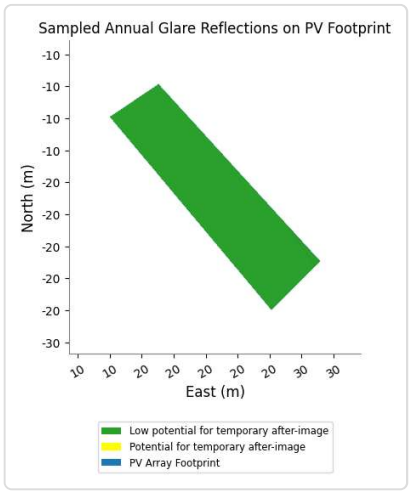
Yellow glare: none

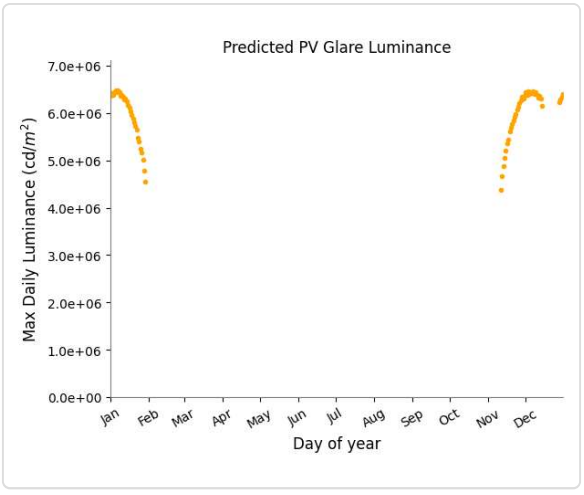
Green glare: 1,099 min.

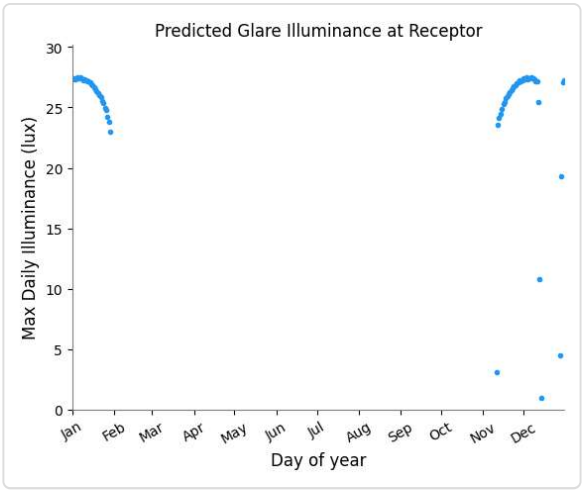








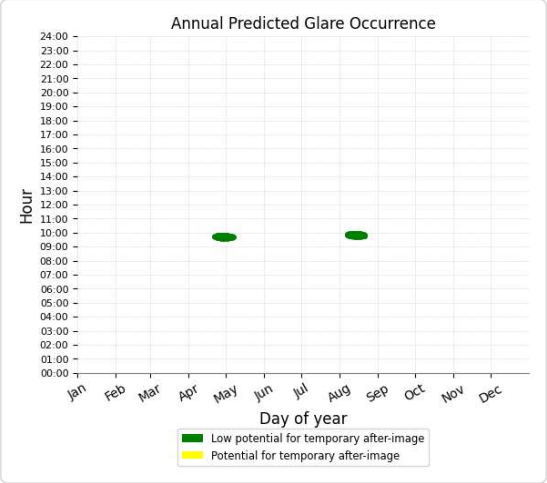


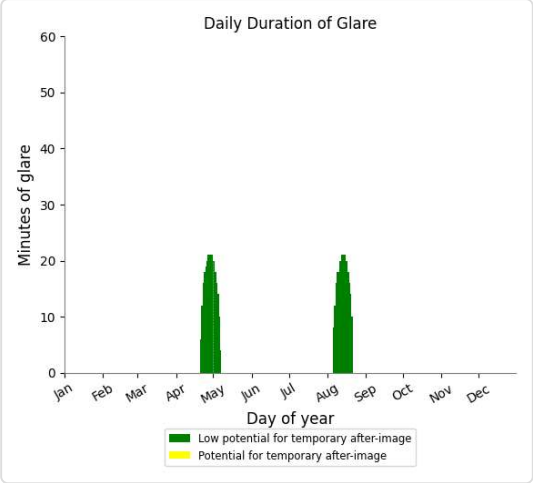


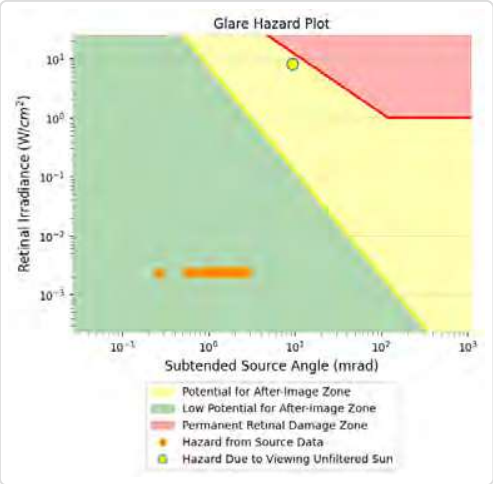
PV array 2 and OP 14

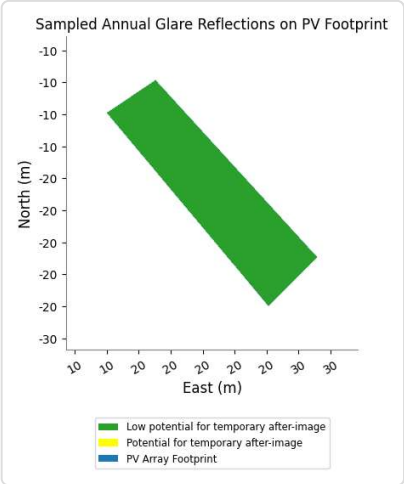
Yellow glare: none

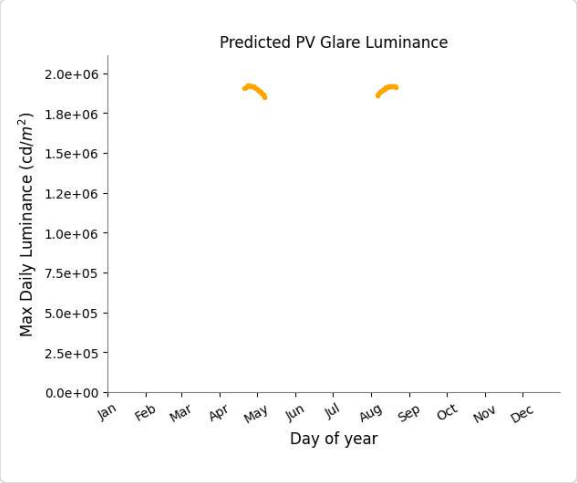
Green glare: 550 min.

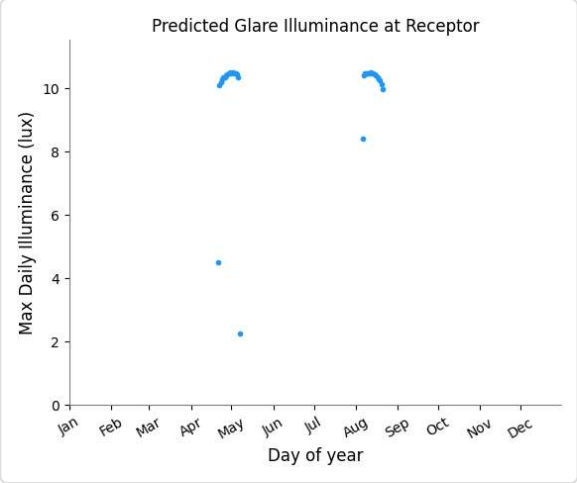








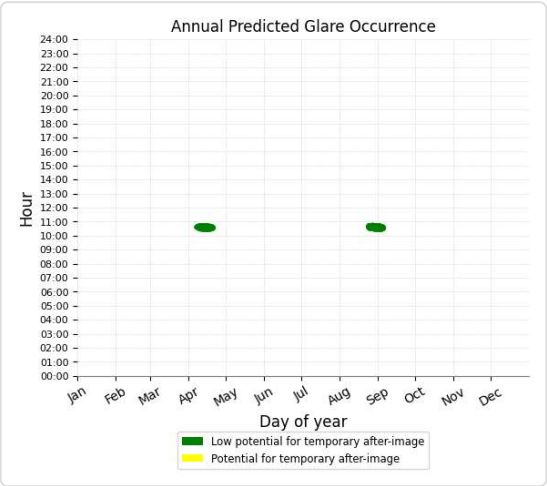


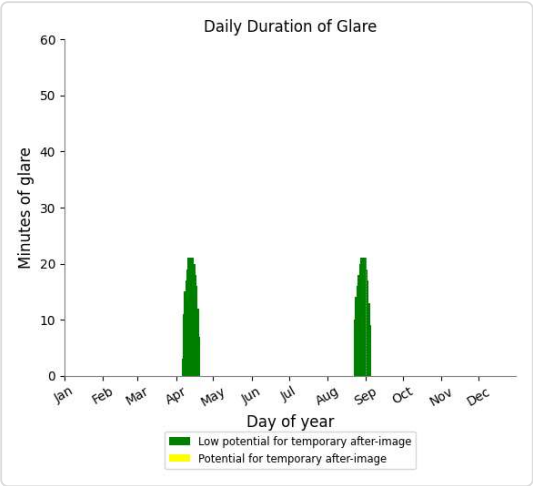


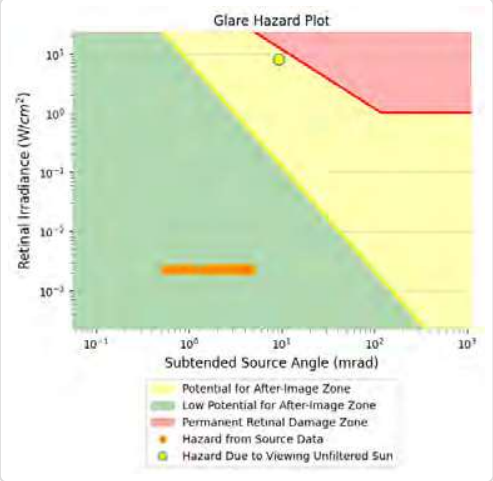
PV array 2 and OP 15

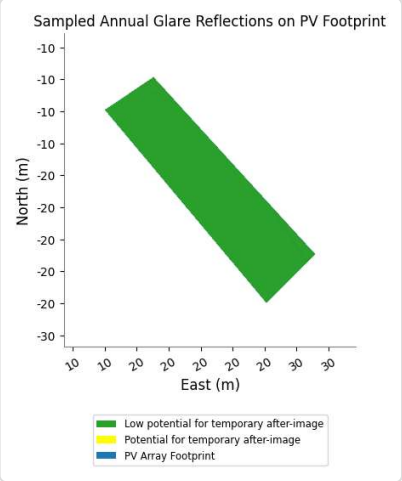
Yellow glare: none

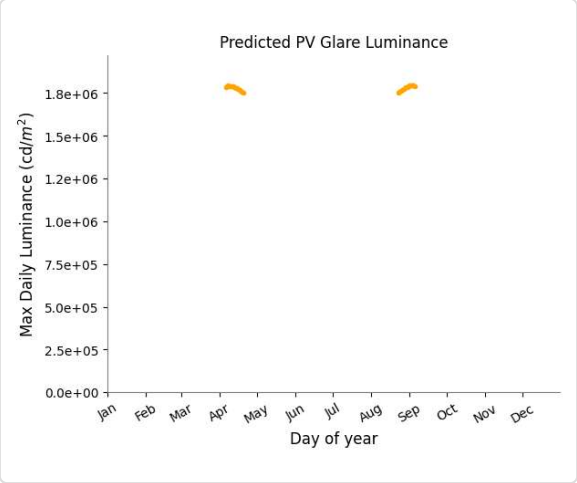
Green glare: 484 min.

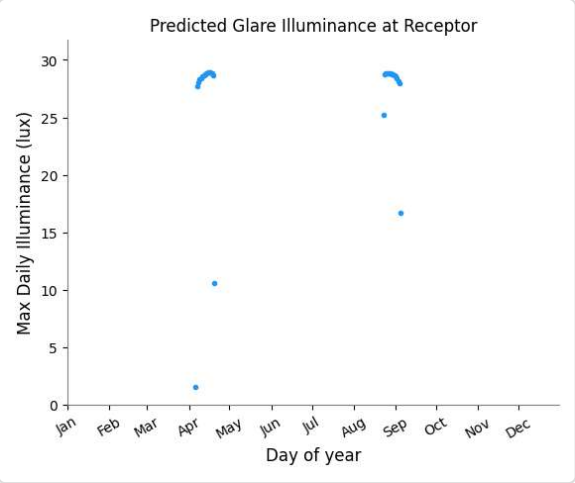








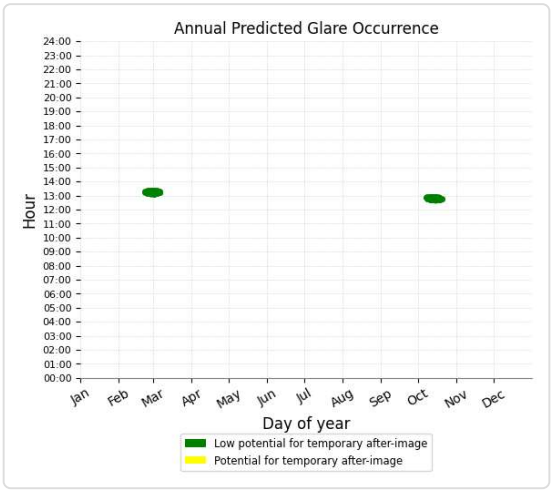


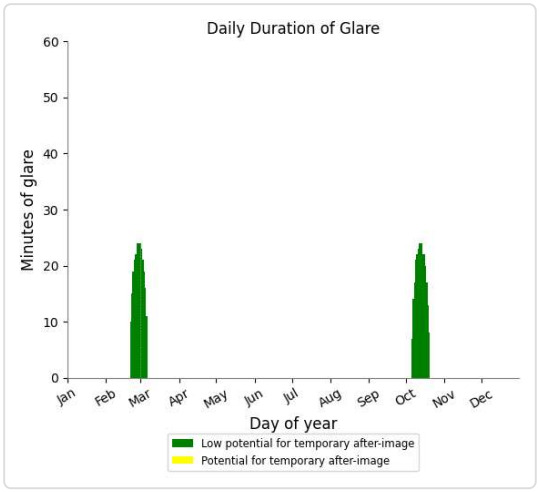


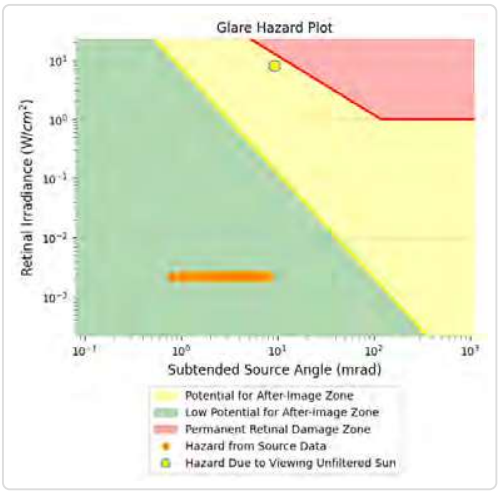
PV array 2 and OP 16

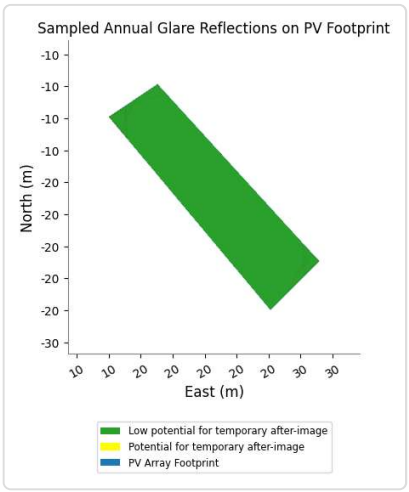
Yellow glare: none

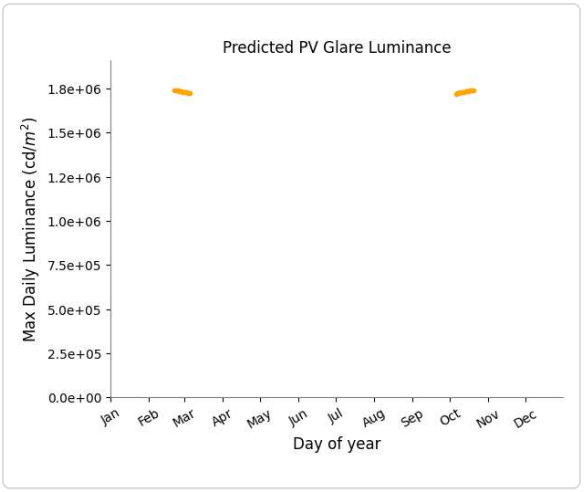
Green glare: 551 min.

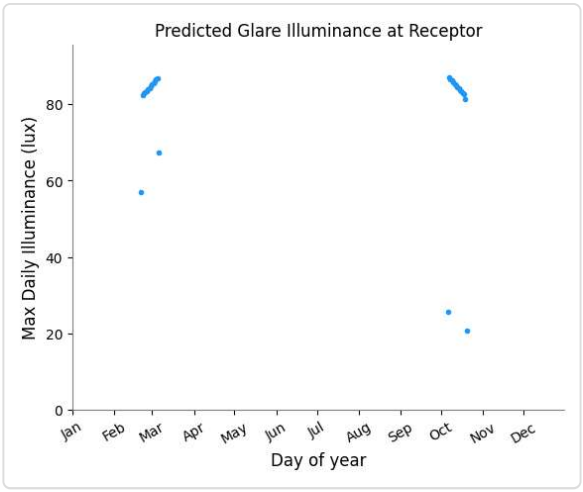








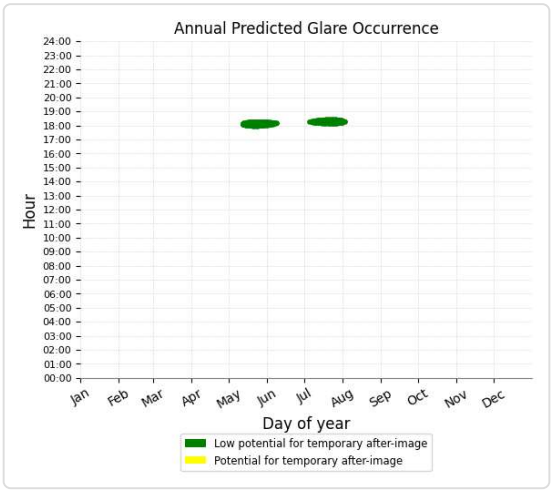


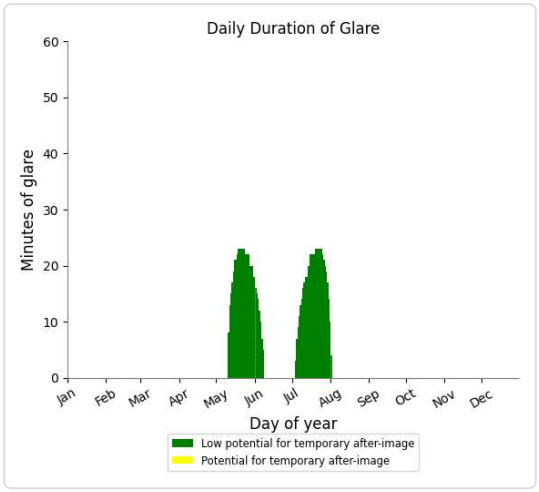


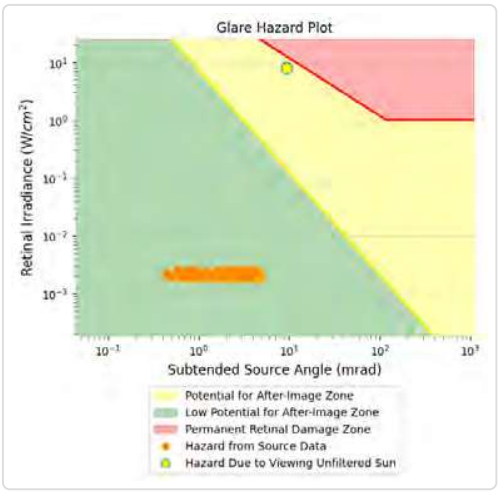
PV array 2 and OP 23

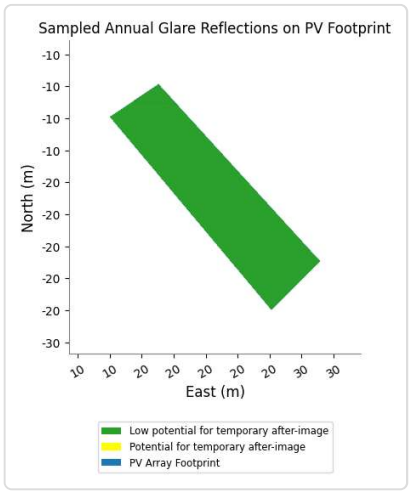
Yellow glare: none

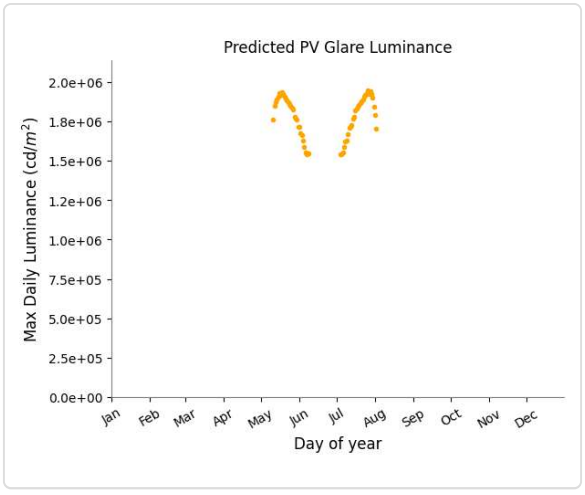
Green glare: 1,034 min.

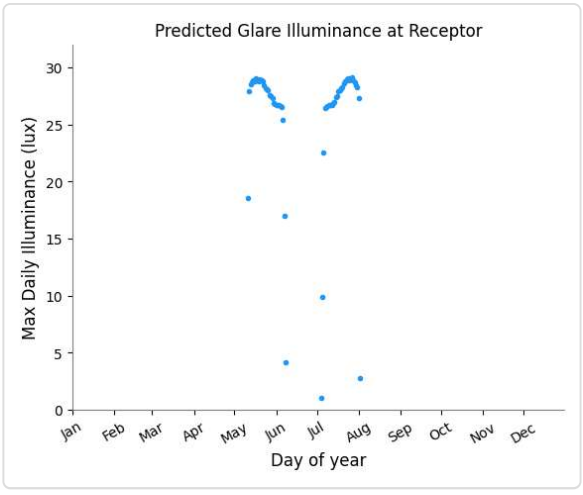








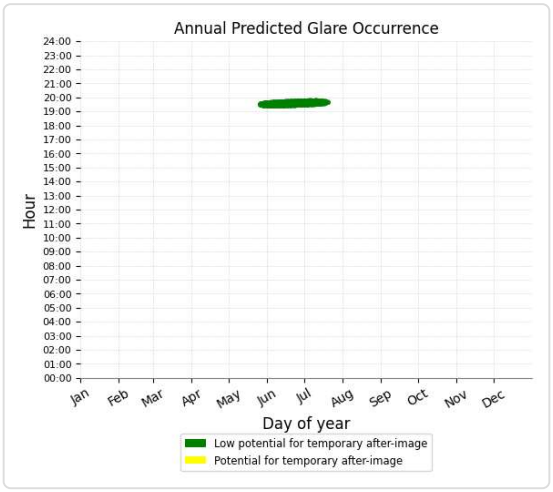


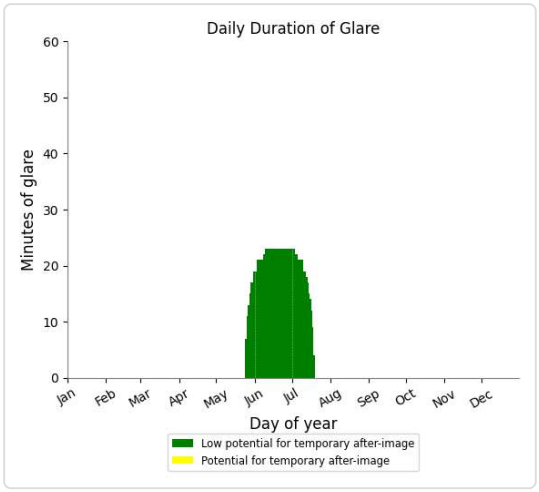


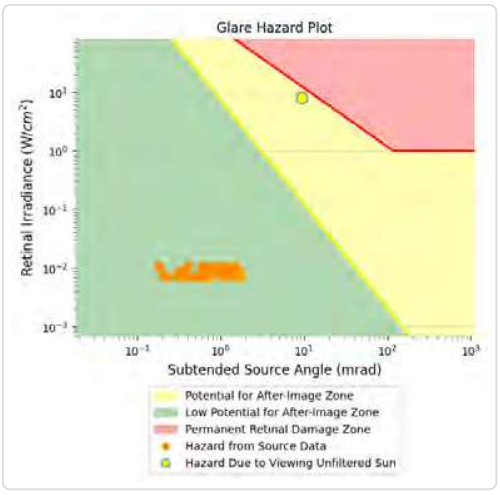
PV array 2 and OP 30

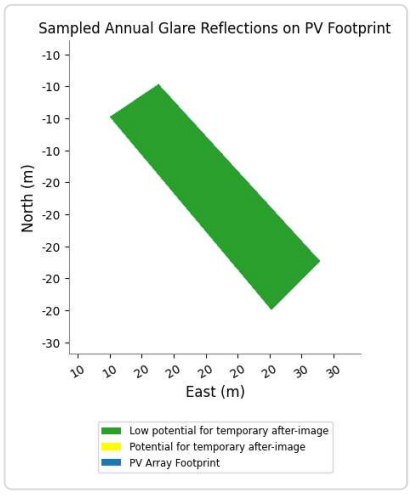
Yellow glare: none

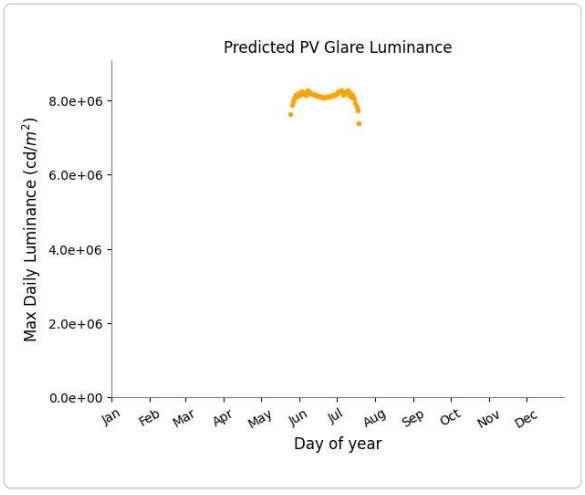
Green glare: 1,114 min.

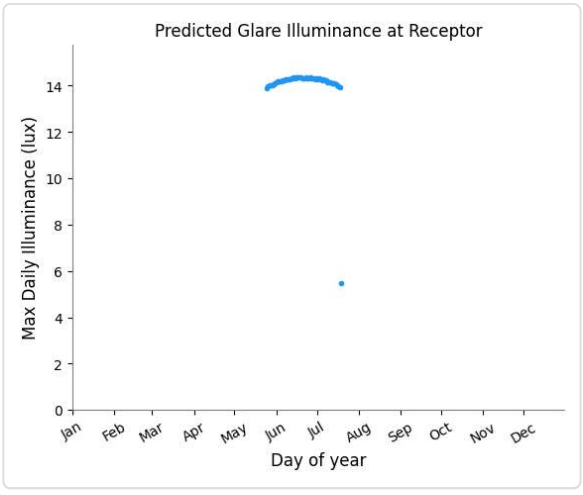








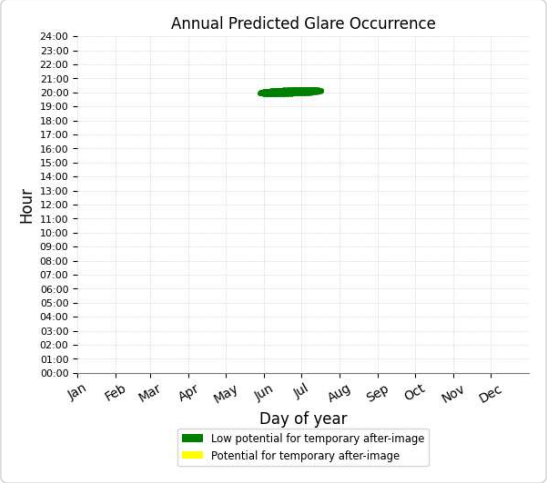


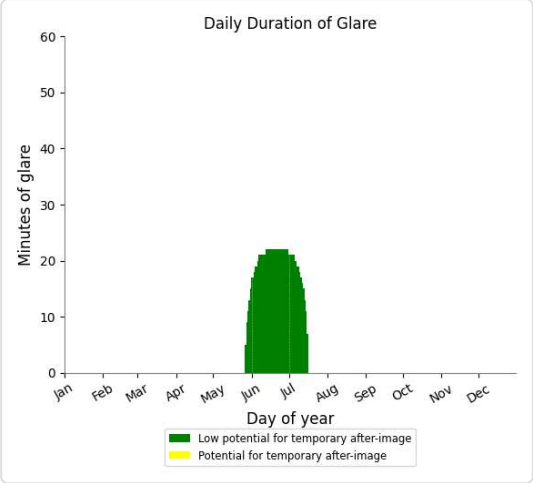


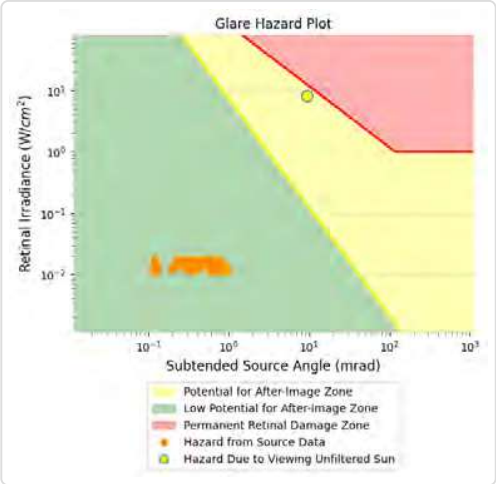
PV array 2 and OP 37

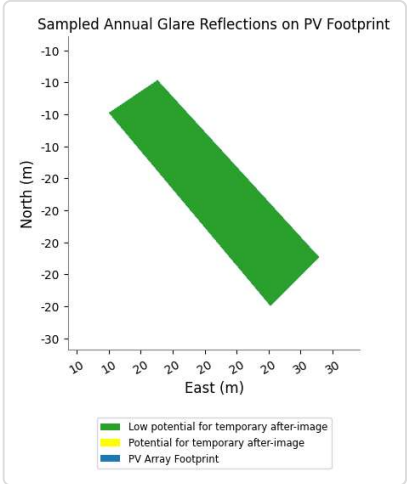
Yellow glare: none

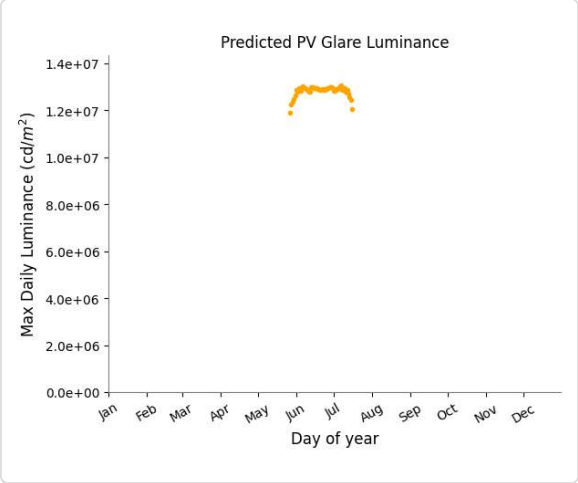
Green glare: 965 min.

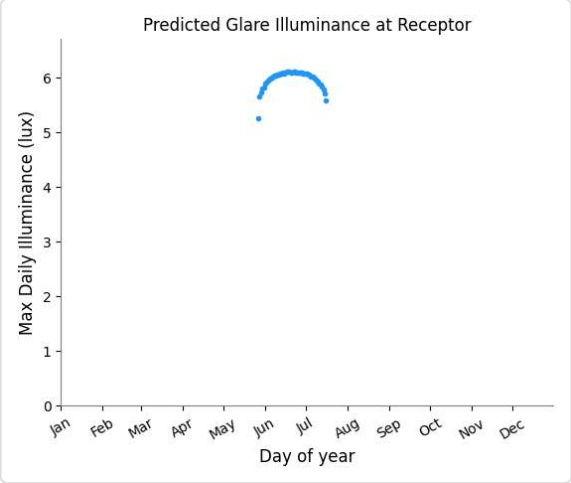








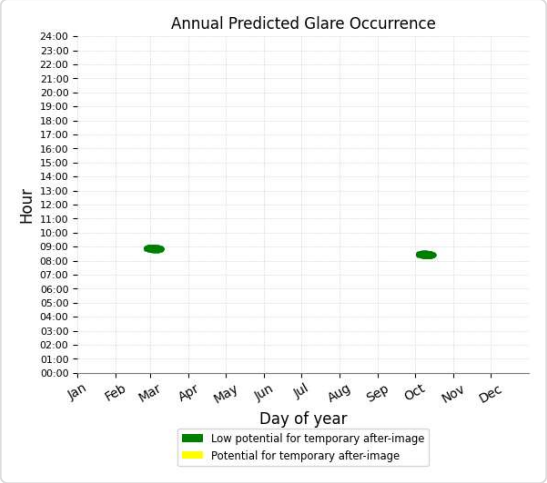


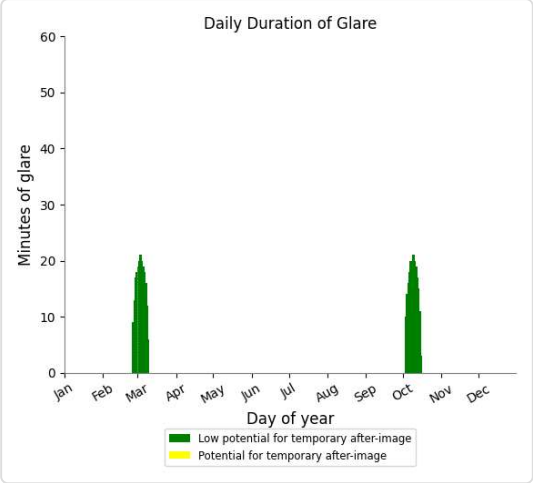


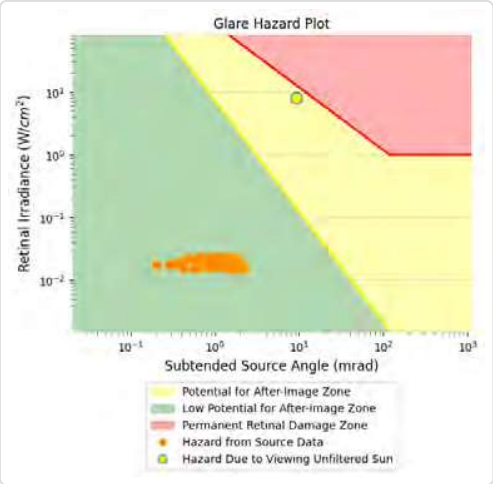
PV array 2 and OP 38

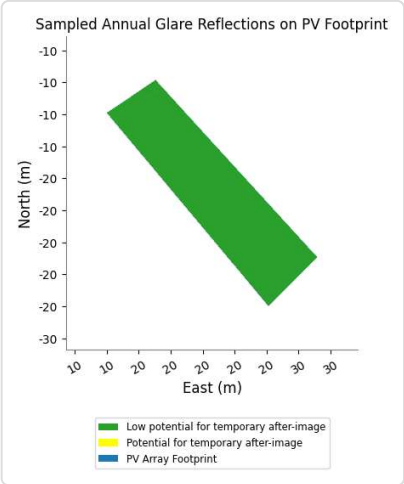
Yellow glare: none

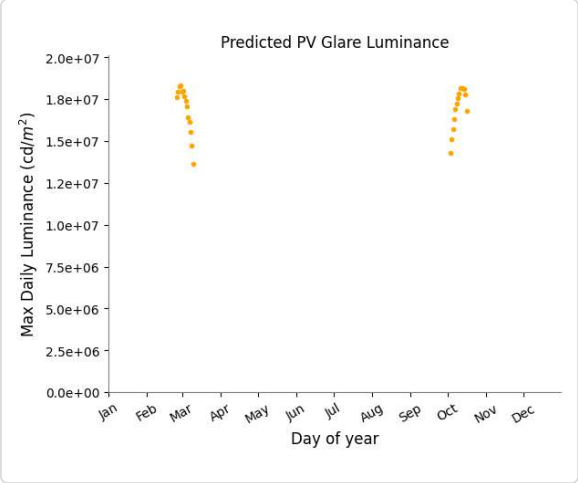
Green glare: 454 min.

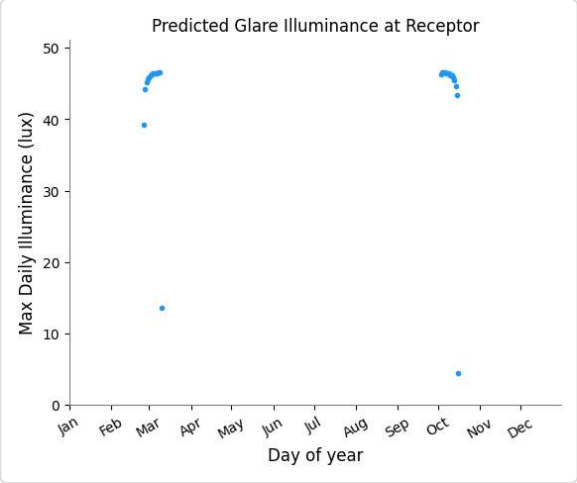












PV array 2 and 1-ATCT

No glare found

PV array 2 and OP 3

No glare found

PV array 2 and OP 4

No glare found

PV array 2 and OP 5

No glare found

PV array 2 and OP 6

No glare found

PV array 2 and OP 7

No glare found

PV array 2 and OP 10

No glare found

PV array 2 and OP 11

No glare found

PV array 2 and OP 12

No glare found

PV array 2 and OP 13

No glare found

PV array 2 and OP 17

No glare found

PV array 2 and OP 18

No glare found

PV array 2 and OP 19

No glare found

PV array 2 and OP 20

No glare found

PV array 2 and OP 21

No glare found

PV array 2 and OP 22

No glare found

PV array 2 and OP 24

No glare found

PV array 2 and OP 25

No glare found

PV array 2 and OP 26

No glare found

PV array 2 and OP 27

No glare found

PV array 2 and OP 28

No glare found

PV array 2 and OP 29

No glare found

PV array 2 and OP 31

No glare found

PV array 2 and OP 32

No glare found

PV array 2 and OP 33

No glare found

PV array 2 and OP 34

No glare found

PV array 2 and OP 35

No glare found

PV array 2 and OP 36

No glare found

PV array 2 and OP 39

No glare found

PV array 2 and OP 40

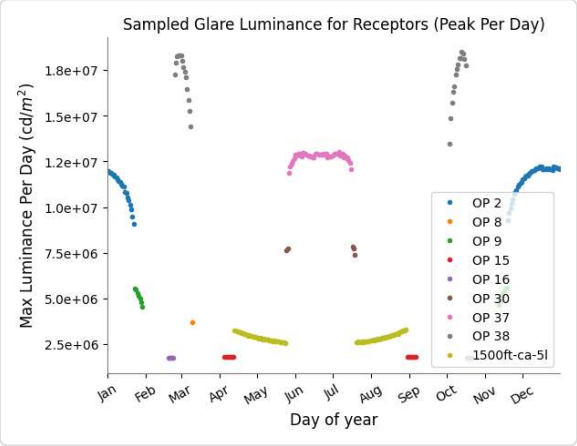
No glare found

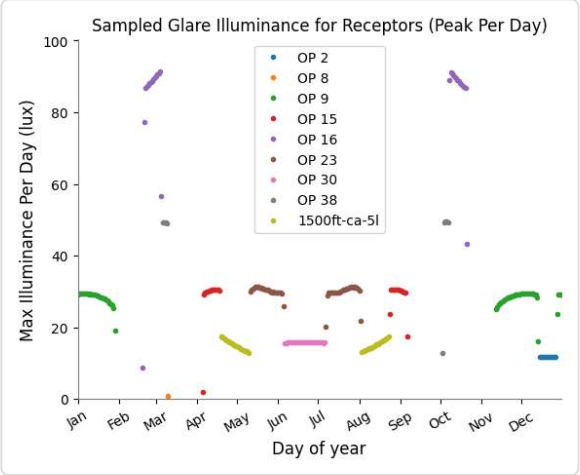
PV: PV array 3 low potential for temporary after-image

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m²	lux
1500Ft-CA_5L23R_05L-R_23R-L	3,145	52.4	0	0.0	3,295,442	19
1000Ft-GA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
1000Ft-GA_5L23R_05L-R_23R-L	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-L_23L-R	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-R_23L-L	0	0.0	0	0.0	0	0
1500Ft-CA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
Approach_05L	0	0.0	0	0.0	0	0
Approach_05R	0	0.0	0	0.0	0	0
Approach_23L	0	0.0	0	0.0	0	0
Approach_23R	0	0.0	0	0.0	0	0
FP 1	0	0.0	0	0.0	0	0
FP 2	0	0.0	0	0.0	0	0
FP 3	0	0.0	0	0.0	0	0
FP 4	0	0.0	0	0.0	0	0
OP 2	1,285	21.4	0	0.0	12,222,675	12
OP 8	444	7.4	0	0.0	5,408,957	15
OP 9	1,125	18.8	0	0.0	6,589,230	29
OP 14	551	9.2	0	0.0	1,928,490	11
OP 15	485	8.1	0	0.0	1,802,378	31
OP 16	566	9.4	0	0.0	1,746,939	91
OP 23	1,015	16.9	0	0.0	1,879,778	31
OP 30	1,103	18.4	0	0.0	8,221,357	16
OP 37	970	16.2	0	0.0	13,016,405	7
OP 38	457	7.6	0	0.0	18,481,510	49
1-ATCT	0	0.0	0	0.0	0	0
OP 3	0	0.0	0	0.0	0	0
OP 4	0	0.0	0	0.0	0	0
OP 5	0	0.0	0	0.0	0	0
OP 6	0	0.0	0	0.0	0	0
OP 7	0	0.0	0	0.0	0	0
OP 10	0	0.0	0	0.0	0	0
OP 11	0	0.0	0	0.0	0	0
OP 12	0	0.0	0	0.0	0	0

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
OP 13	0	0.0	0	0.0	0	0
OP 17	0	0.0	0	0.0	0	0
OP 18	0	0.0	0	0.0	0	0
OP 19	0	0.0	0	0.0	0	0
OP 20	0	0.0	0	0.0	0	0
OP 21	0	0.0	0	0.0	0	0
OP 22	0	0.0	0	0.0	0	0
OP 24	0	0.0	0	0.0	0	0
OP 25	0	0.0	0	0.0	0	0
OP 26	0	0.0	0	0.0	0	0
OP 27	0	0.0	0	0.0	0	0
OP 28	0	0.0	0	0.0	0	0
OP 29	0	0.0	0	0.0	0	0
OP 31	0	0.0	0	0.0	0	0
OP 32	0	0.0	0	0.0	0	0
OP 33	0	0.0	0	0.0	0	0
OP 34	0	0.0	0	0.0	0	0
OP 35	0	0.0	0	0.0	0	0
OP 36	0	0.0	0	0.0	0	0
OP 39	0	0.0	0	0.0	0	0
OP 40	0	0.0	0	0.0	0	0

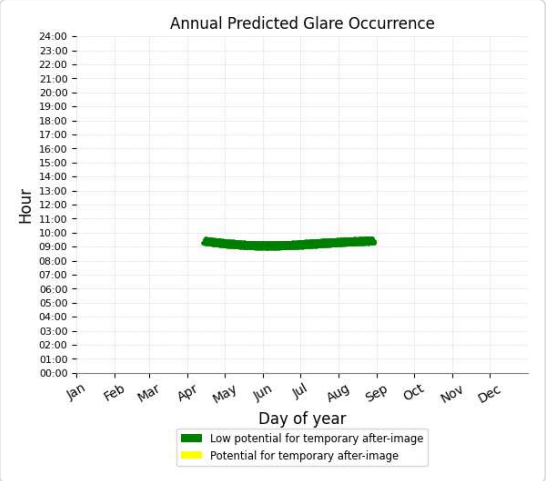


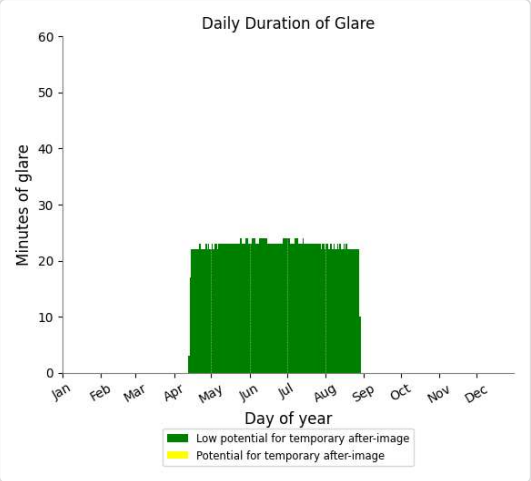


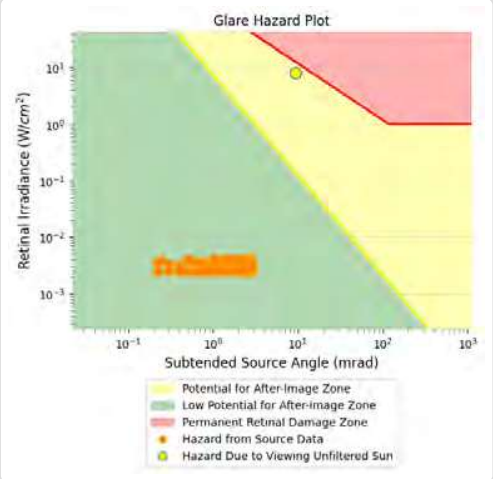
PV array 3 and Route: 1500Ft-CA_5L23R_05L-R_23R-L

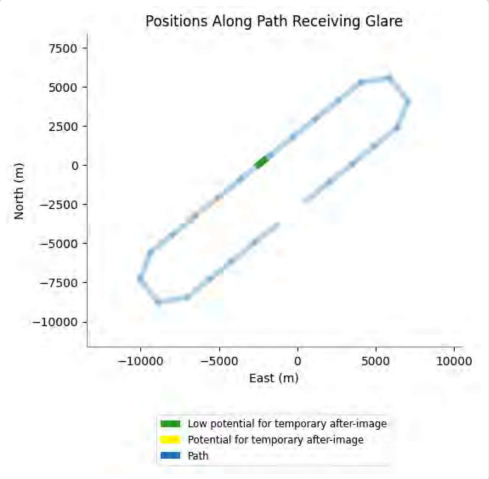
Yellow glare: none

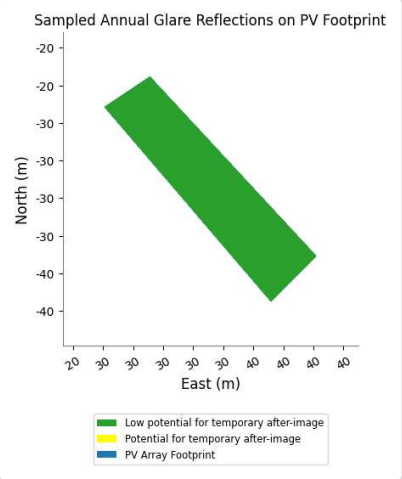
Green glare: 3,145 min.

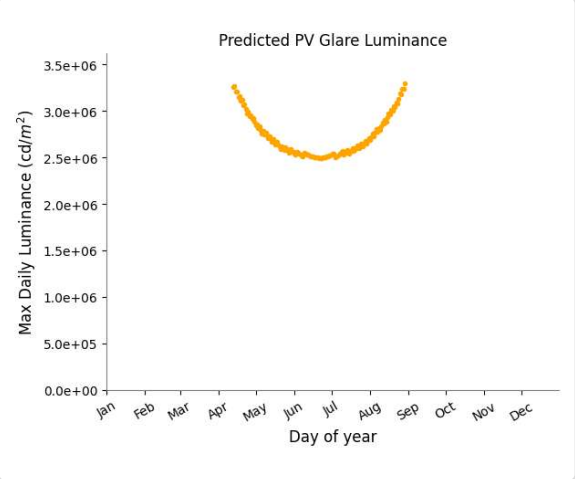


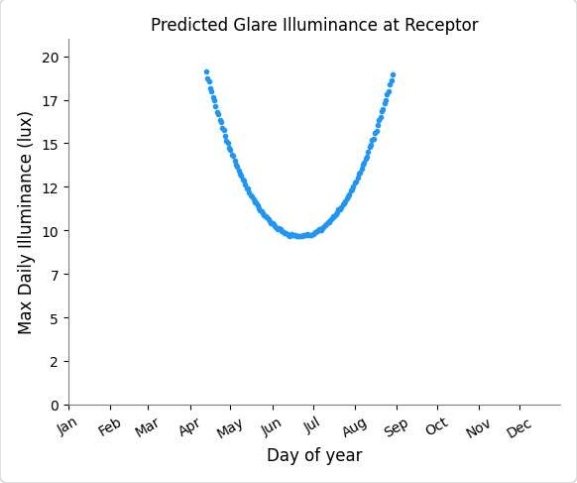












PV array 3 and Route: 1000Ft-GA_5L23R_05L-L_23R-R

No glare found

PV array 3 and Route: 1000Ft-GA_5L23R_05L-R_23R-L

No glare found

PV array 3 and Route: 1000Ft-GA_5R23L_05R-L_23L-R

No glare found

PV array 3 and Route: 1000Ft-GA_5R23L_05R-R_23L-L

No glare found

PV array 3 and Route: 1500Ft-CA_5L23R_05L-L_23R-R

No glare found

PV array 3 and Route: Approach_05L

No glare found

PV array 3 and Route: Approach_05R

No glare found

PV array 3 and Route: Approach_23L

No glare found

PV array 3 and Route: Approach_23R

No glare found

PV array 3 and FP: FP 1

No glare found

PV array 3 and FP: FP 2

No glare found

PV array 3 and FP: FP 3

No glare found

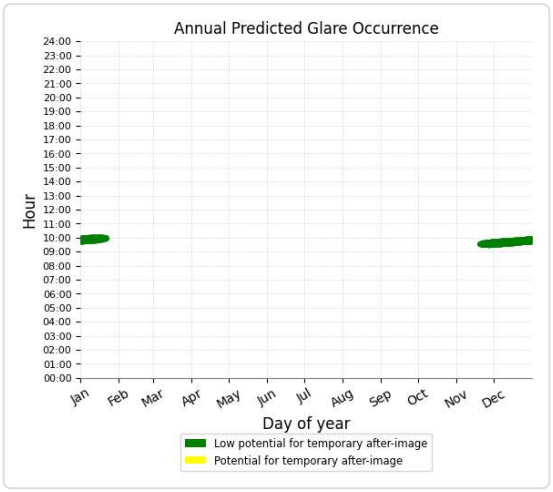
PV array 3 and FP: FP 4

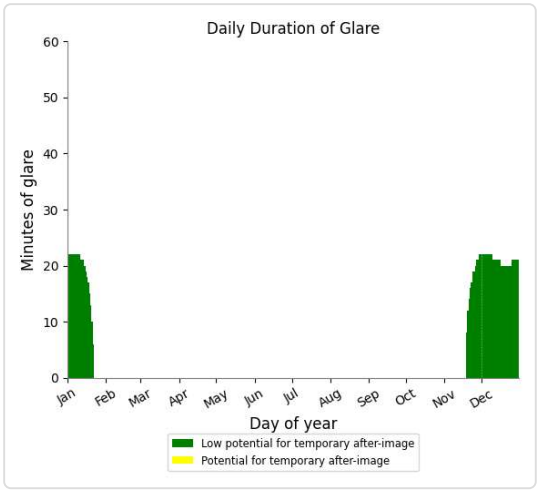
No glare found

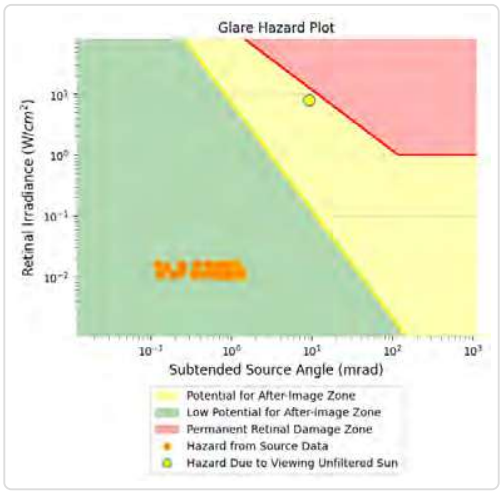
PV array 3 and OP 2

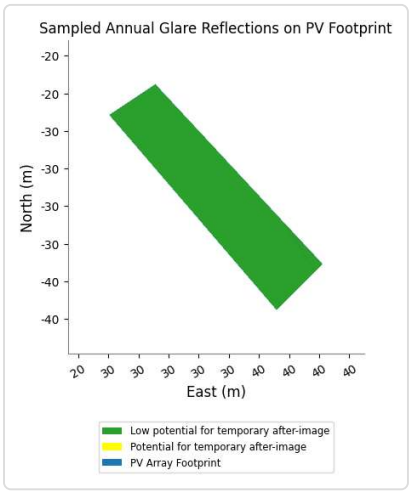
Yellow glare: none

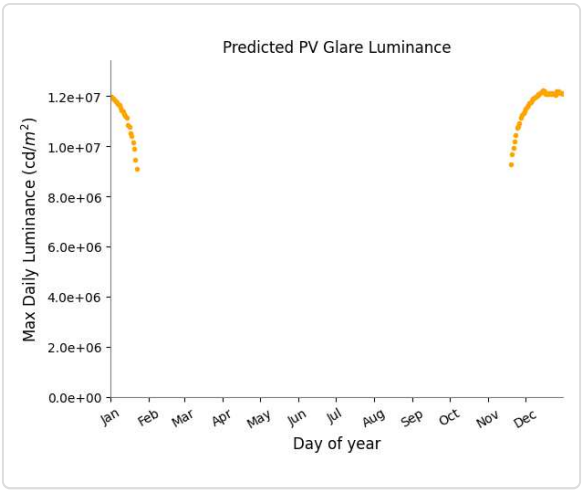
Green glare: 1,285 min.

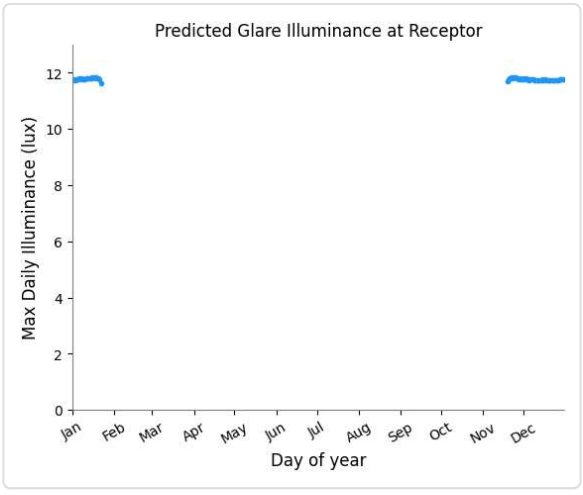








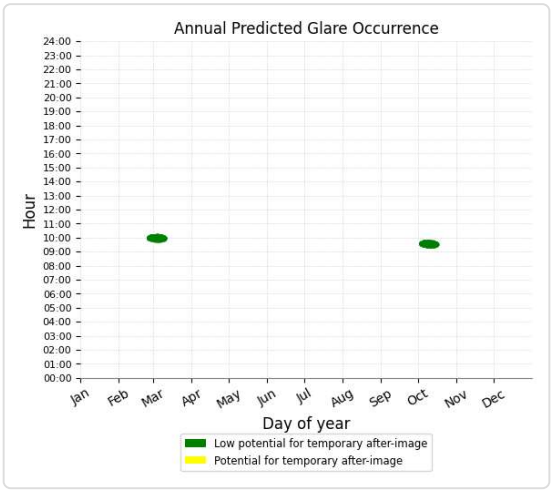


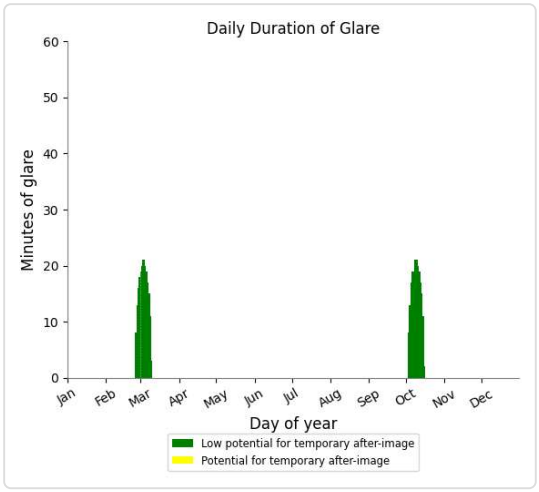


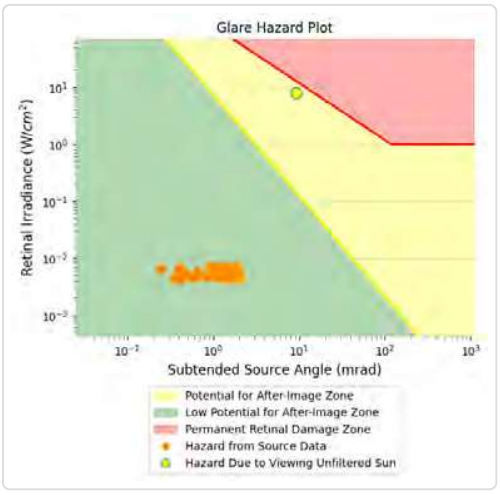
PV array 3 and OP 8

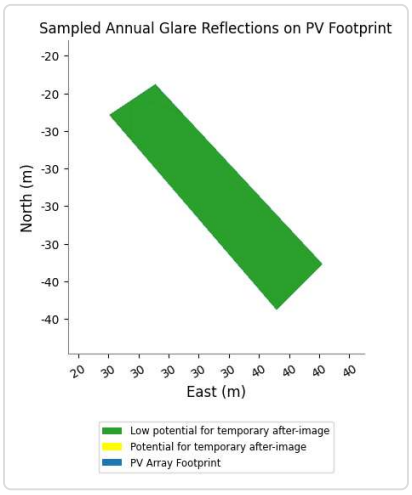
Yellow glare: none

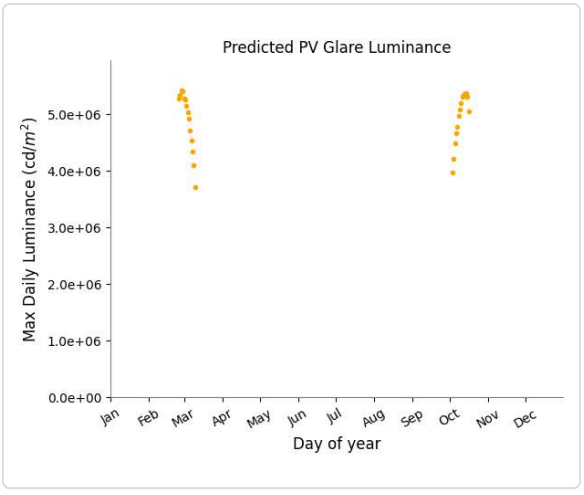
Green glare: 444 min.

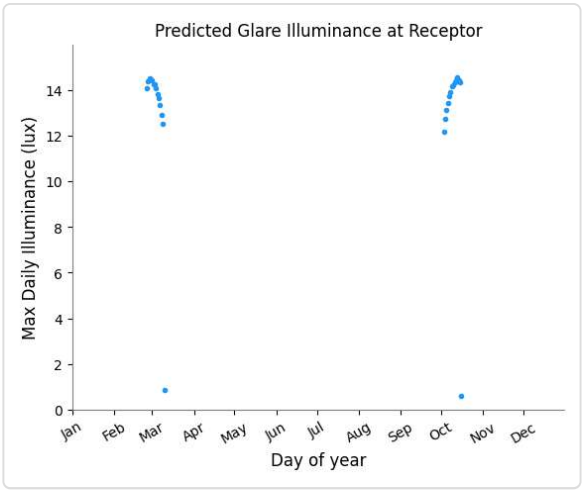








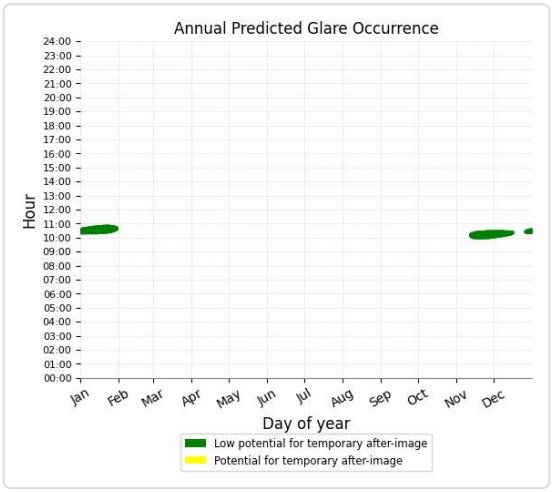


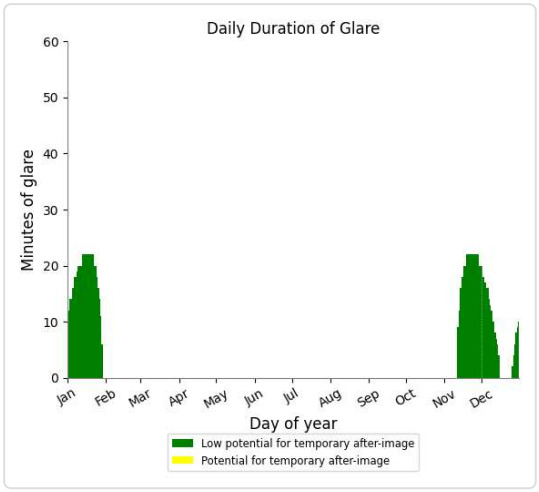


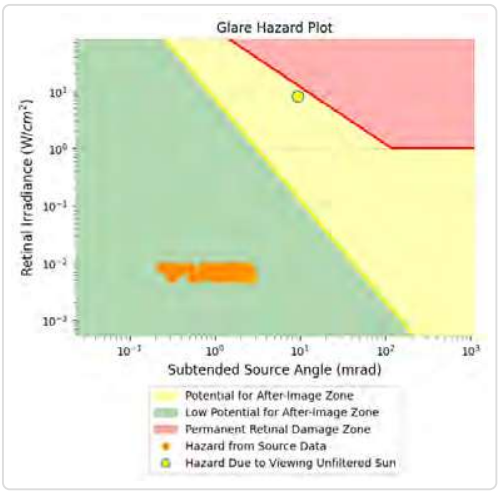
PV array 3 and OP 9

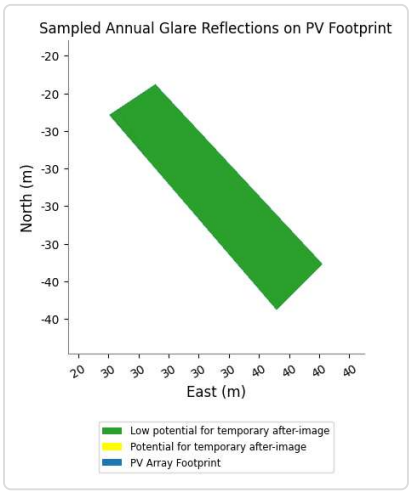
Yellow glare: none

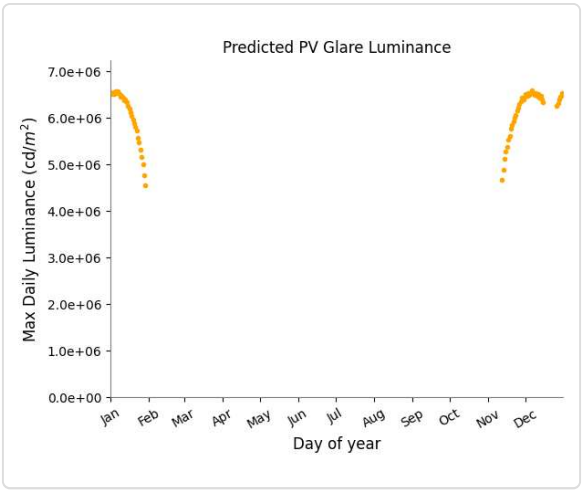
Green glare: 1,125 min.

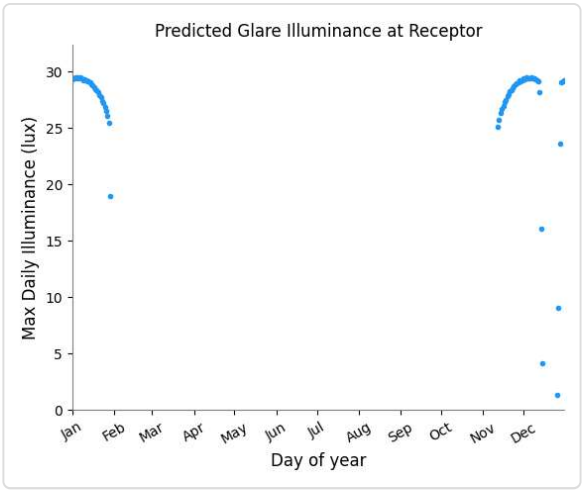








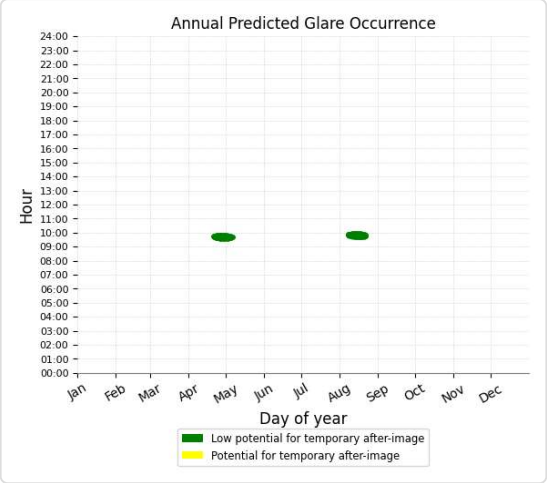


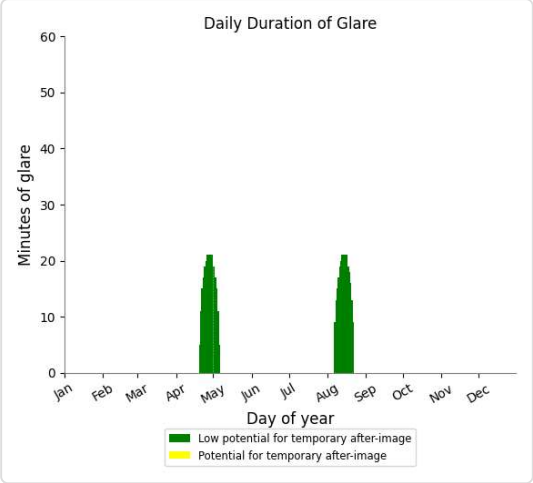


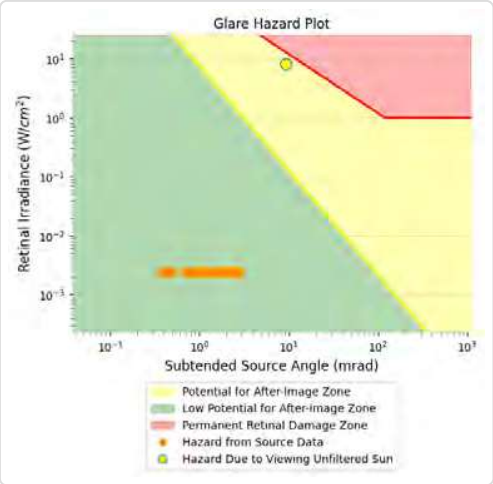
PV array 3 and OP 14

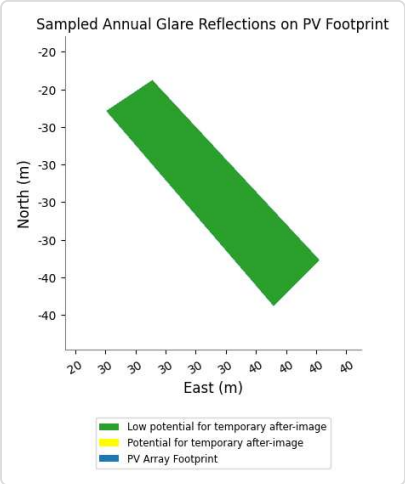
Yellow glare: none

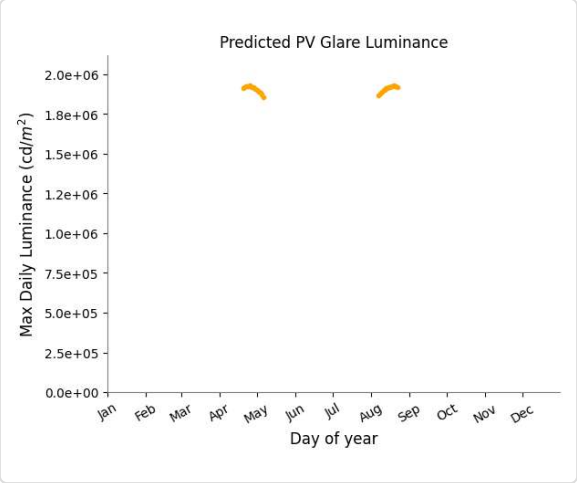
Green glare: 551 min.

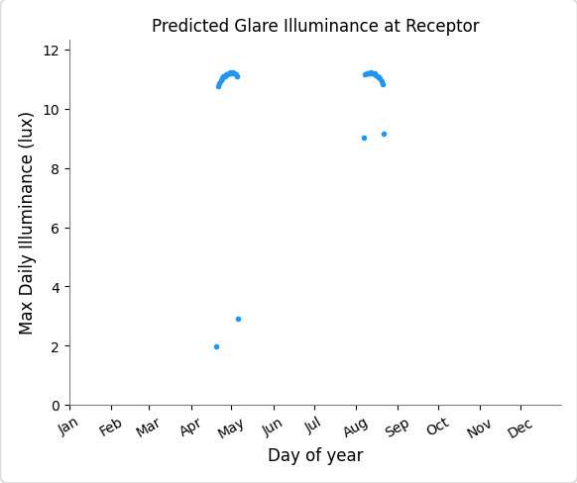








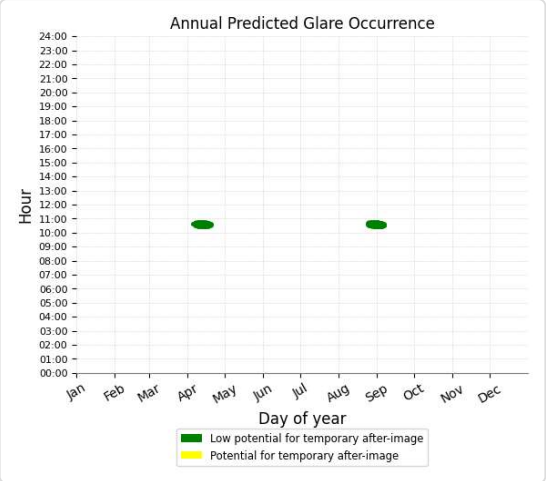


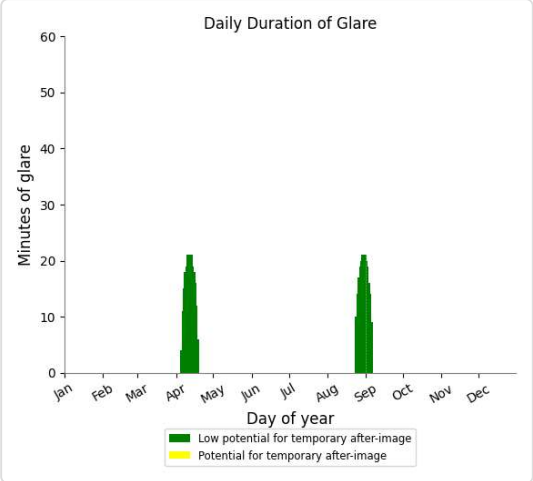


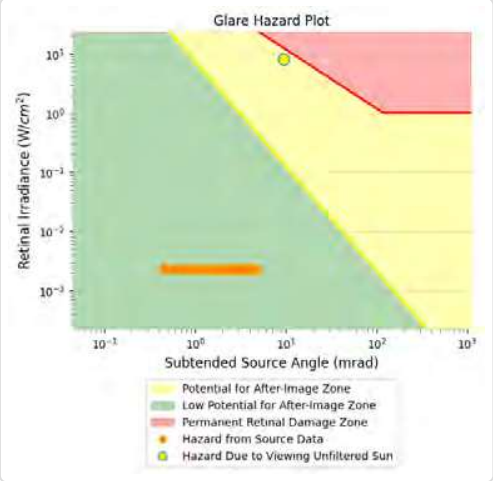
PV array 3 and OP 15

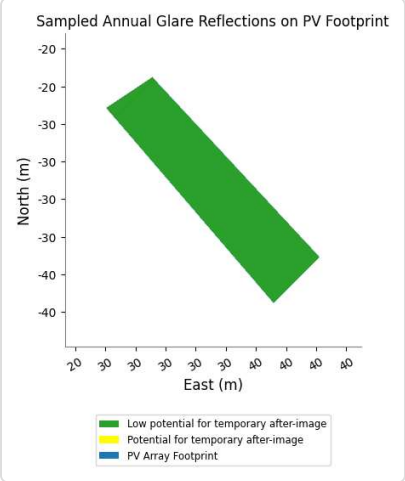
Yellow glare: none

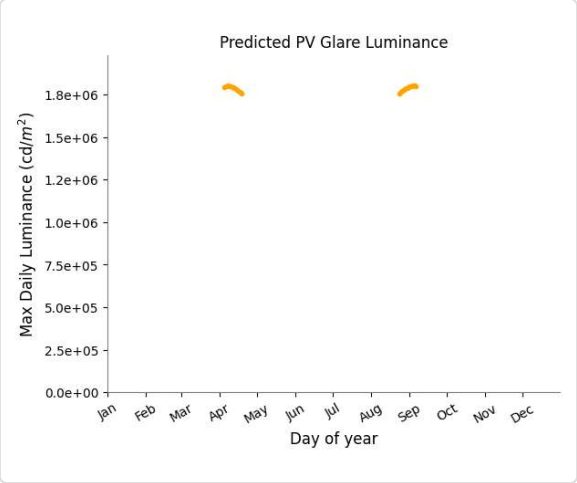
Green glare: 485 min.

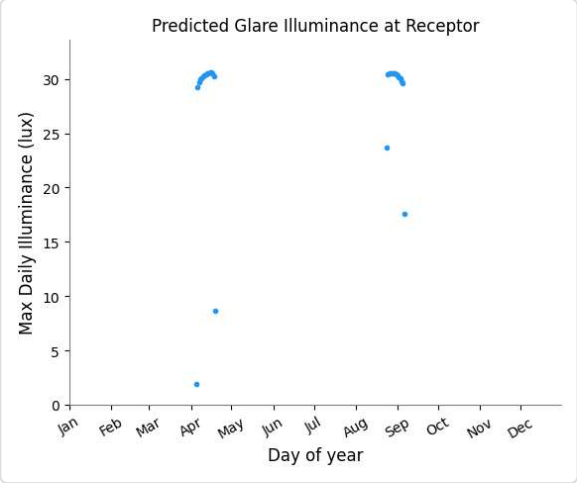








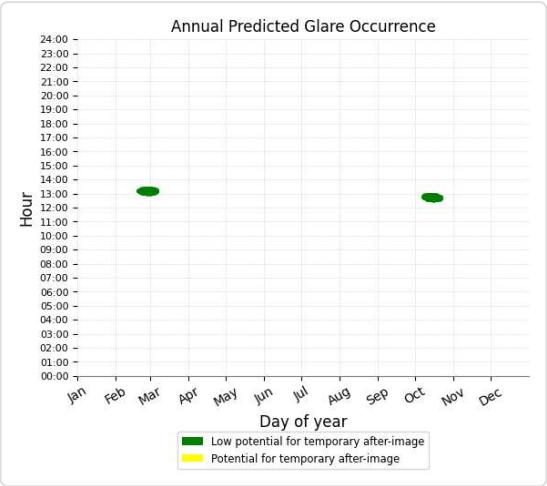


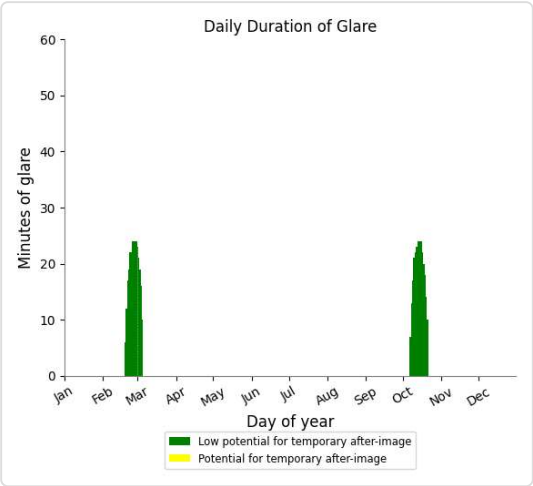


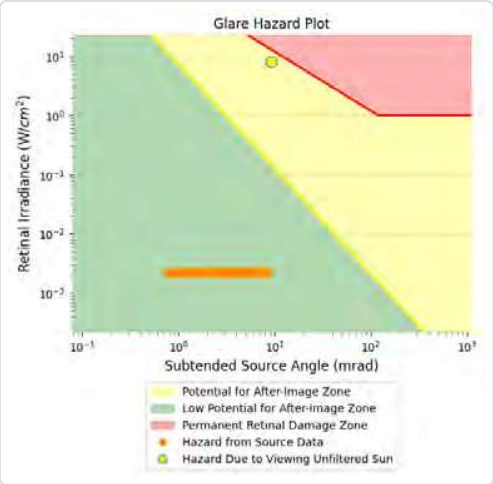
PV array 3 and OP 16

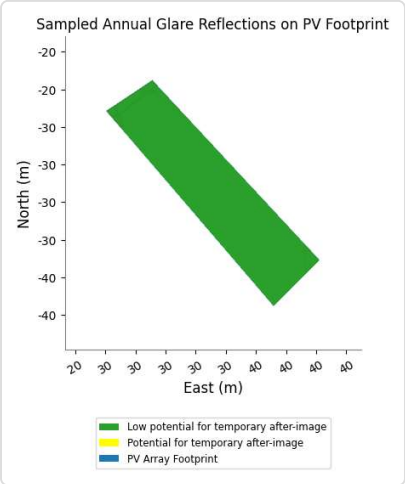
Yellow glare: none

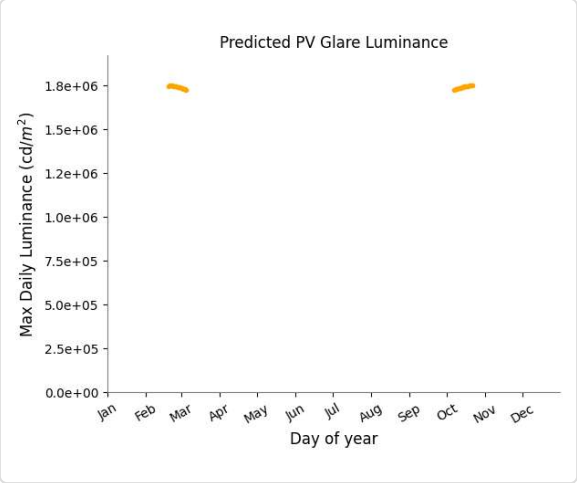
Green glare: 566 min.

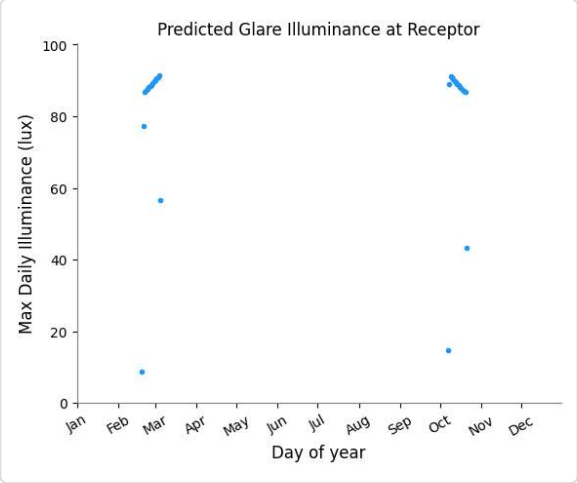








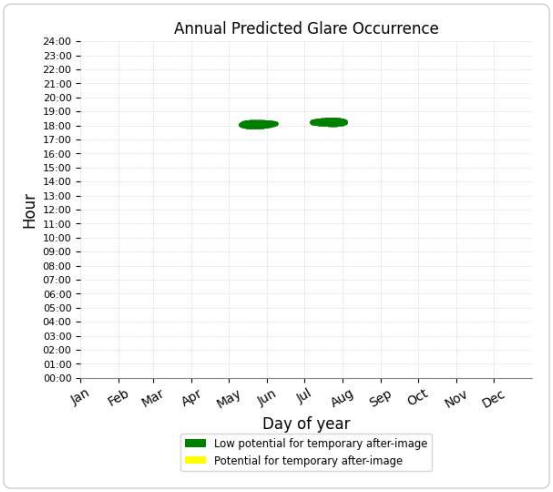


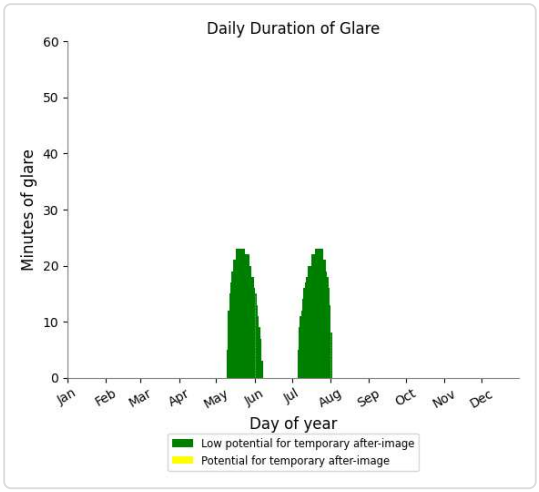


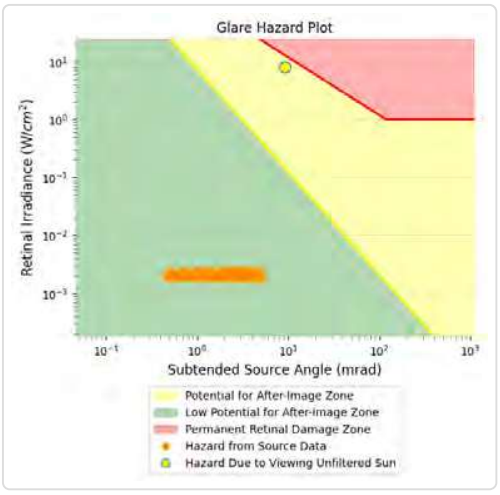
PV array 3 and OP 23

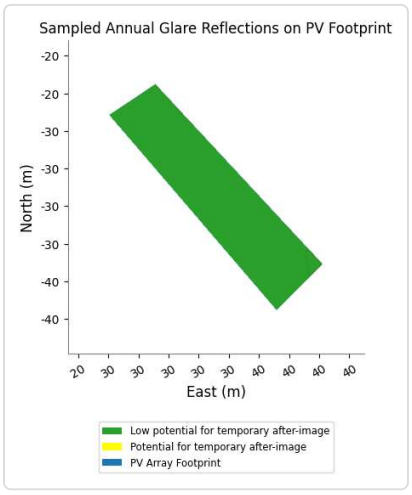
Yellow glare: none

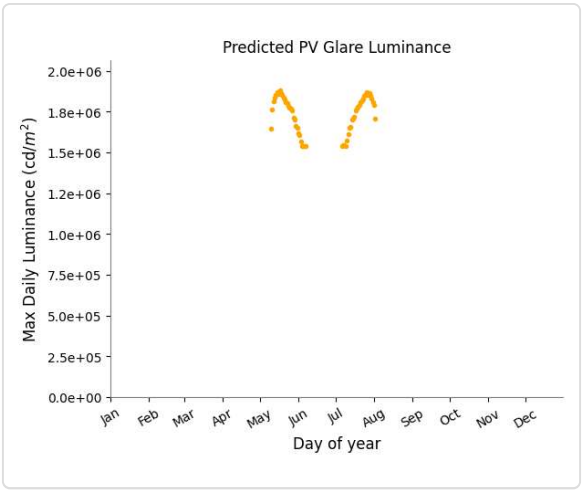
Green glare: 1,015 min.

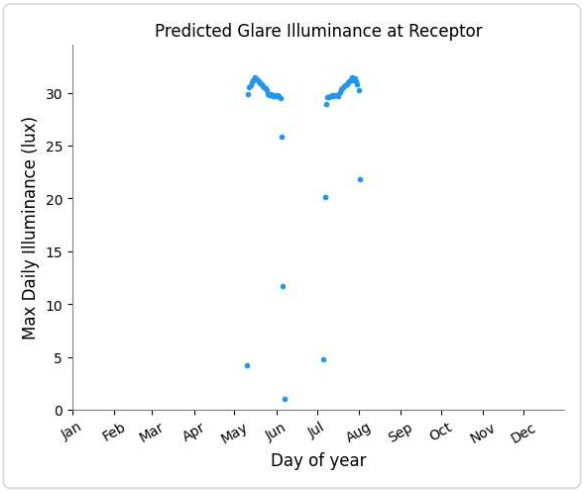








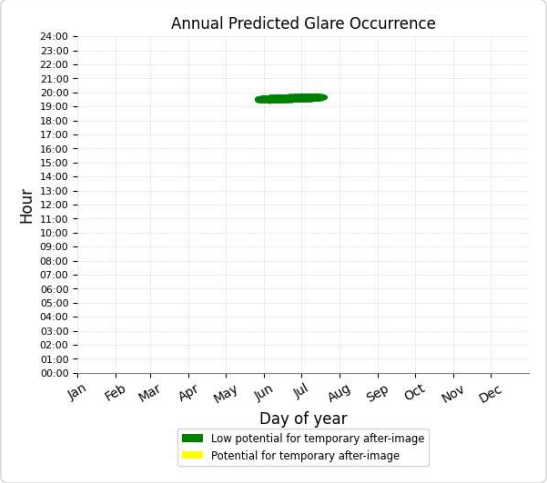


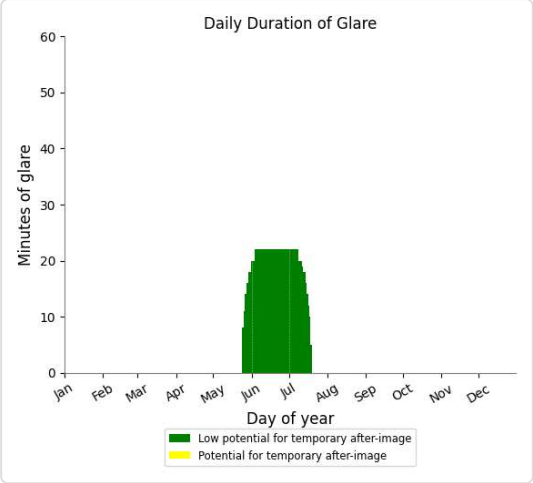


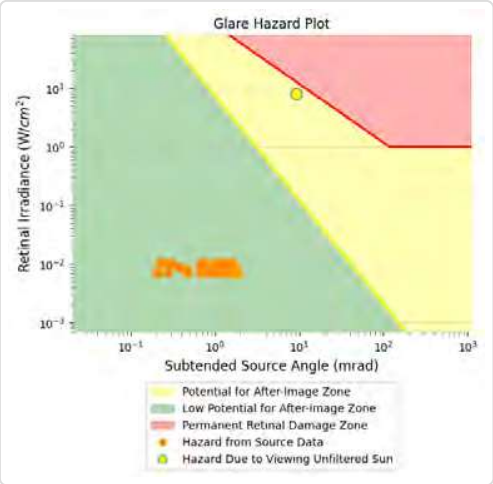
PV array 3 and OP 30

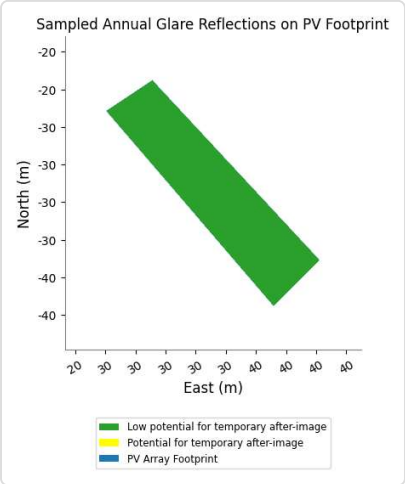
Yellow glare: none

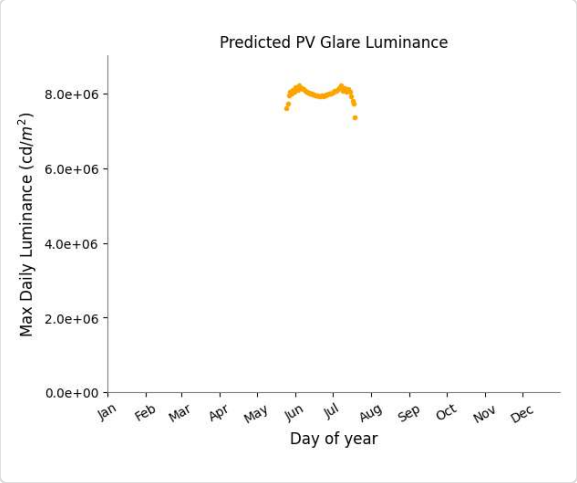
Green glare: 1,103 min.

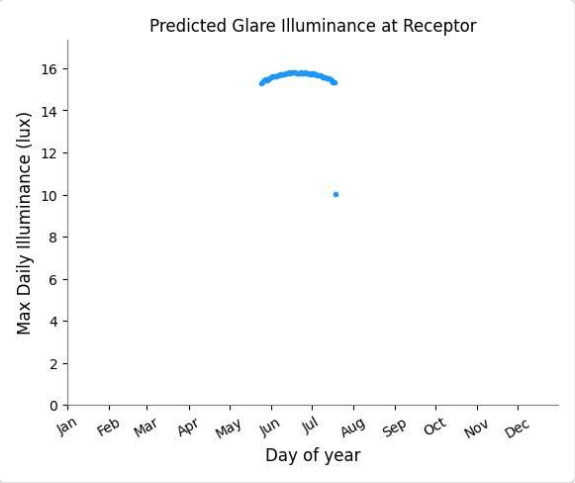








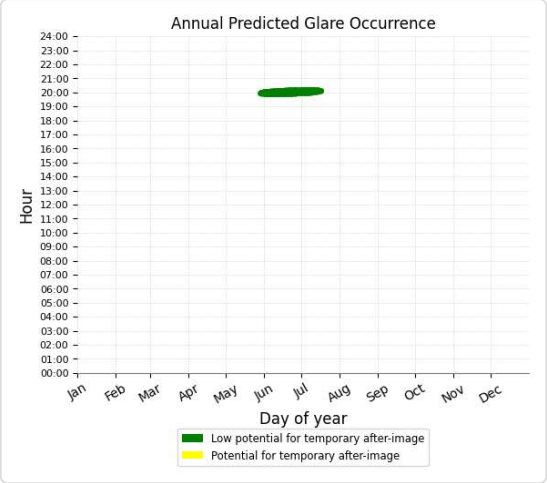


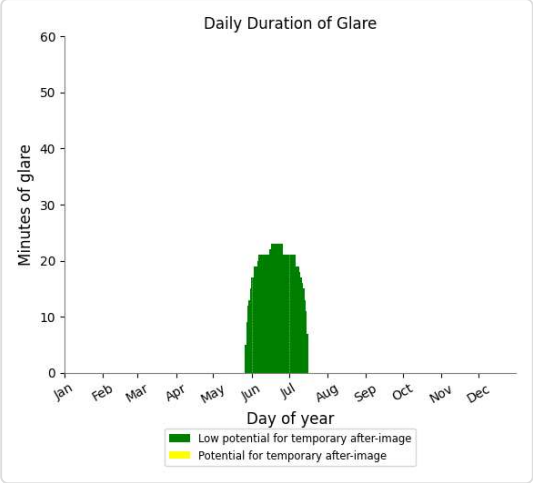


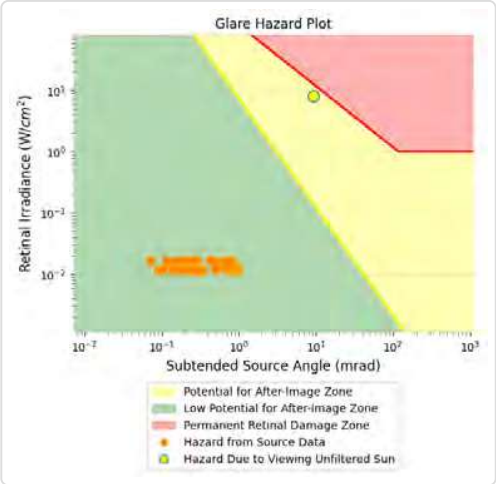
PV array 3 and OP 37

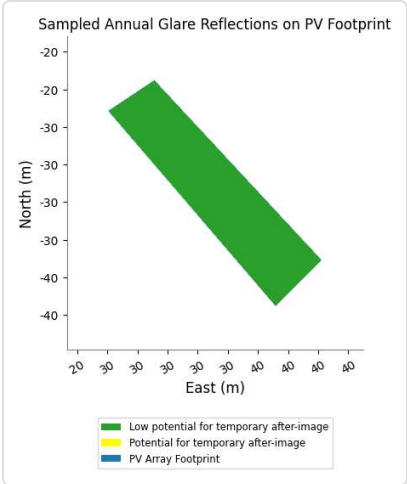
Yellow glare: none

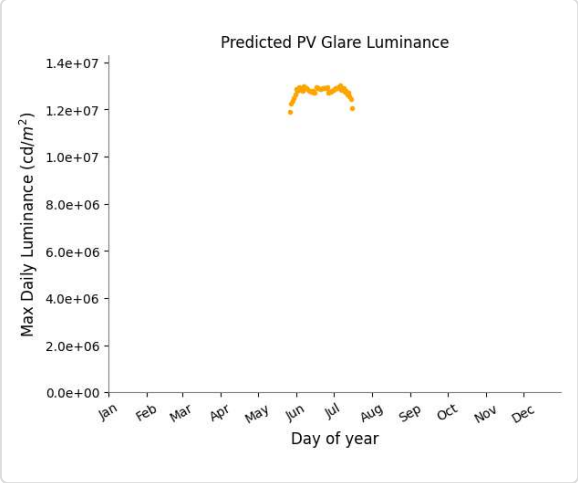
Green glare: 970 min.

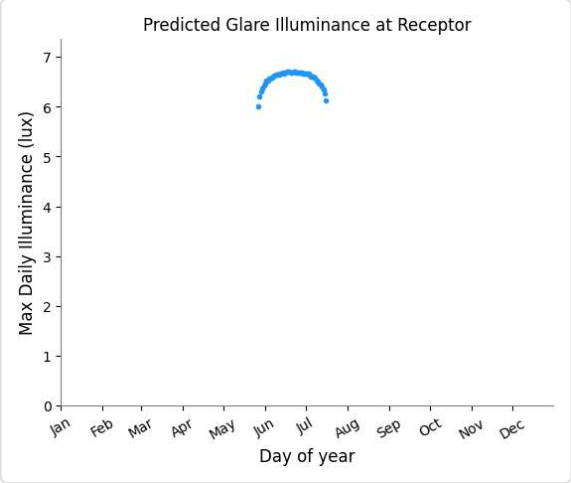








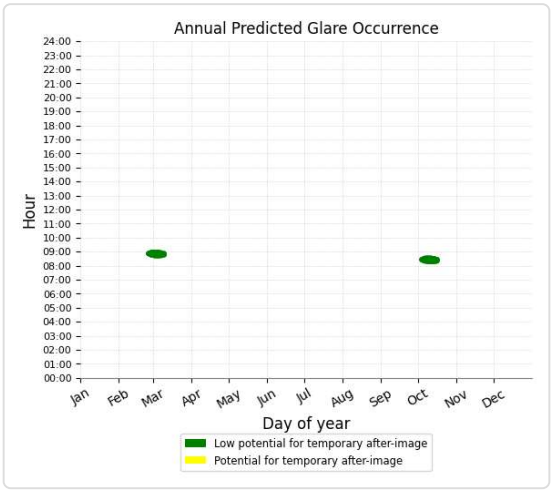


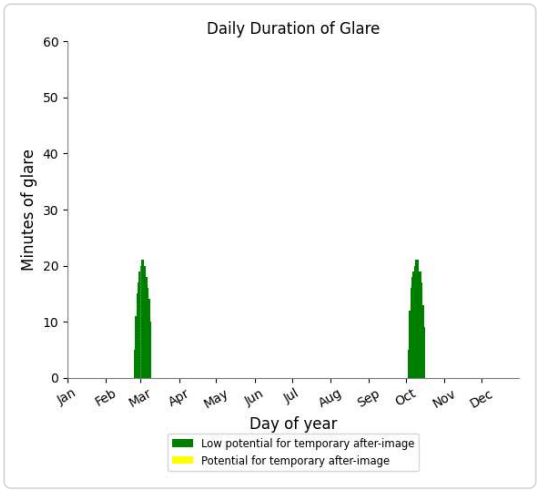


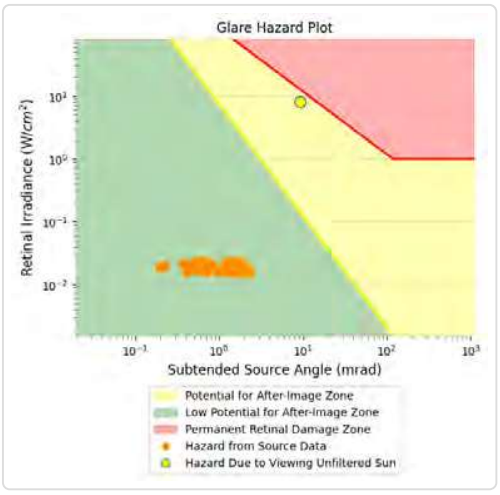
PV array 3 and OP 38

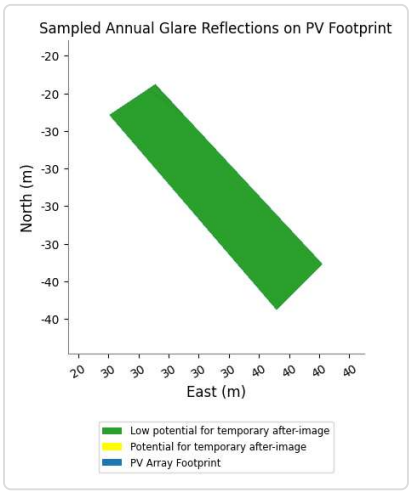
Yellow glare: none

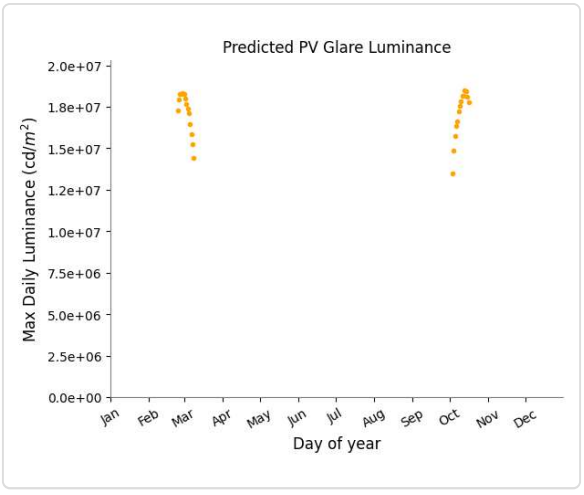
Green glare: 457 min.

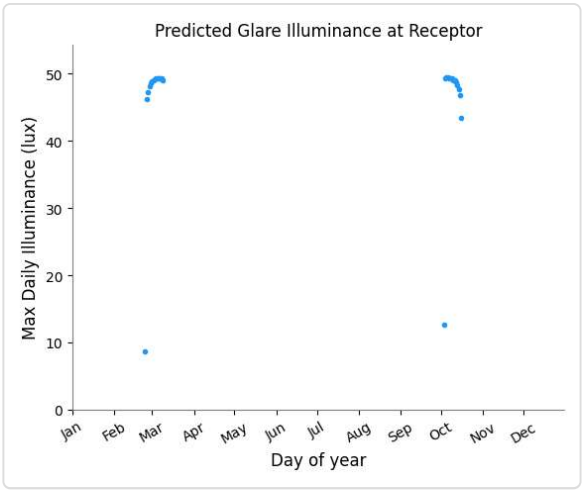












PV array 3 and 1-ATCT

No glare found

PV array 3 and OP 3

No glare found

PV array 3 and OP 4

No glare found

PV array 3 and OP 5

No glare found

PV array 3 and OP 6

No glare found

PV array 3 and OP 7

No glare found

PV array 3 and OP 10

No glare found

PV array 3 and OP 11

No glare found

PV array 3 and OP 12

No glare found

PV array 3 and OP 13

No glare found

PV array 3 and OP 17

No glare found

PV array 3 and OP 18

No glare found

PV array 3 and OP 19

No glare found

PV array 3 and OP 20

No glare found

PV array 3 and OP 21

No glare found

PV array 3 and OP 22

No glare found

PV array 3 and OP 24

No glare found

PV array 3 and OP 25

No glare found

PV array 3 and OP 26

No glare found

PV array 3 and OP 27

No glare found

PV array 3 and OP 28

No glare found

PV array 3 and OP 29

No glare found

PV array 3 and OP 31

No glare found

PV array 3 and OP 32

No glare found

PV array 3 and OP 33

No glare found

PV array 3 and OP 34

No glare found

PV array 3 and OP 35

No glare found

PV array 3 and OP 36

No glare found

PV array 3 and OP 39

No glare found

PV array 3 and OP 40

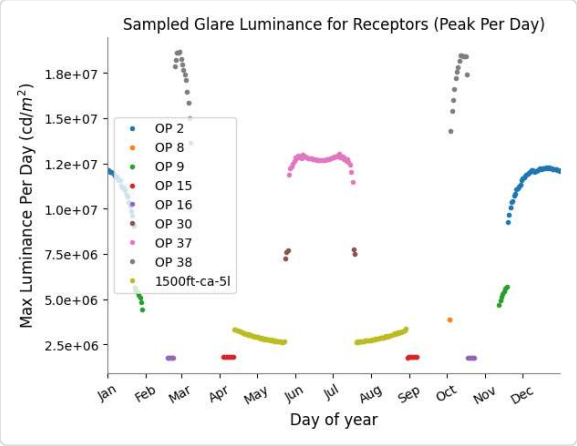
No glare found

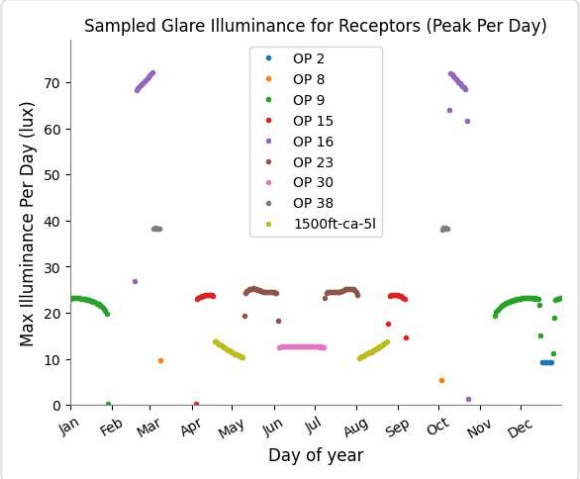
PV: PV array 4 low potential for temporary after-image

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m²	lux
1500Ft-CA_5L23R_05L-R_23R-L	3,131	52.2	0	0.0	3,363,348	15
1000Ft-GA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
1000Ft-GA_5L23R_05L-R_23R-L	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-L_23L-R	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-R_23L-L	0	0.0	0	0.0	0	0
1500Ft-CA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
Approach_05L	0	0.0	0	0.0	0	0
Approach_05R	0	0.0	0	0.0	0	0
Approach_23L	0	0.0	0	0.0	0	0
Approach_23R	0	0.0	0	0.0	0	0
FP 1	0	0.0	0	0.0	0	0
FP 2	0	0.0	0	0.0	0	0
FP 3	0	0.0	0	0.0	0	0
FP 4	0	0.0	0	0.0	0	0
OP 2	1,281	21.4	0	0.0	12,269,265	9
OP 8	440	7.3	0	0.0	5,507,127	11
OP 9	1,169	19.5	0	0.0	6,710,667	23
OP 14	530	8.8	0	0.0	1,933,280	9
OP 15	471	7.8	0	0.0	1,808,298	24
OP 16	538	9.0	0	0.0	1,755,192	72
OP 23	958	16.0	0	0.0	1,821,871	25
OP 30	1,107	18.4	0	0.0	8,155,466	13
OP 37	967	16.1	0	0.0	13,016,471	5
OP 38	448	7.5	0	0.0	18,657,725	38
1-ATCT	0	0.0	0	0.0	0	0
OP 3	0	0.0	0	0.0	0	0
OP 4	0	0.0	0	0.0	0	0
OP 5	0	0.0	0	0.0	0	0
OP 6	0	0.0	0	0.0	0	0
OP 7	0	0.0	0	0.0	0	0
OP 10	0	0.0	0	0.0	0	0
OP 11	0	0.0	0	0.0	0	0
OP 12	0	0.0	0	0.0	0	0

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
OP 13	0	0.0	0	0.0	0	0
OP 17	0	0.0	0	0.0	0	0
OP 18	0	0.0	0	0.0	0	0
OP 19	0	0.0	0	0.0	0	0
OP 20	0	0.0	0	0.0	0	0
OP 21	0	0.0	0	0.0	0	0
OP 22	0	0.0	0	0.0	0	0
OP 24	0	0.0	0	0.0	0	0
OP 25	0	0.0	0	0.0	0	0
OP 26	0	0.0	0	0.0	0	0
OP 27	0	0.0	0	0.0	0	0
OP 28	0	0.0	0	0.0	0	0
OP 29	0	0.0	0	0.0	0	0
OP 31	0	0.0	0	0.0	0	0
OP 32	0	0.0	0	0.0	0	0
OP 33	0	0.0	0	0.0	0	0
OP 34	0	0.0	0	0.0	0	0
OP 35	0	0.0	0	0.0	0	0
OP 36	0	0.0	0	0.0	0	0
OP 39	0	0.0	0	0.0	0	0
OP 40	0	0.0	0	0.0	0	0

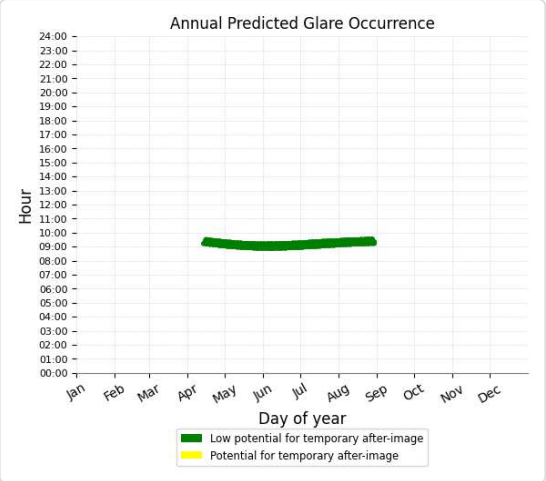


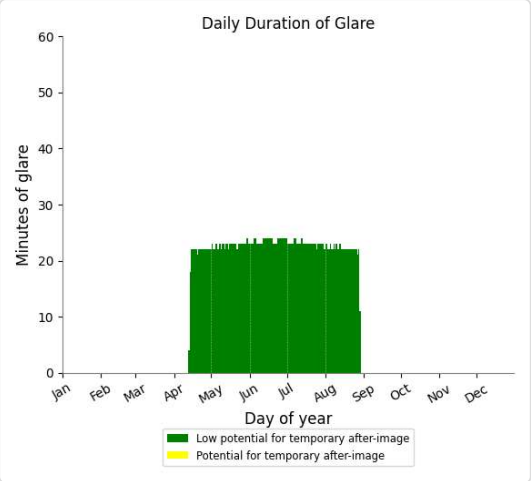


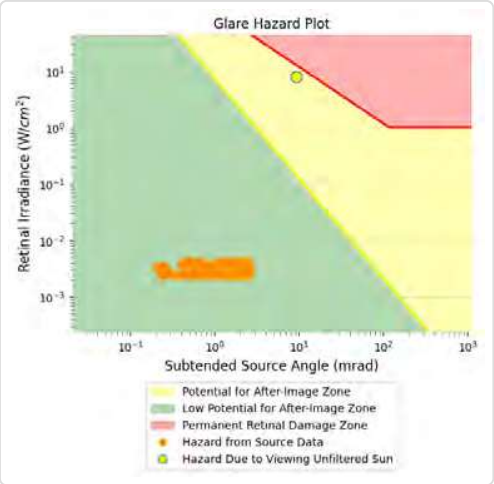
PV array 4 and Route: 1500Ft-CA_5L23R_05L-R_23R-L

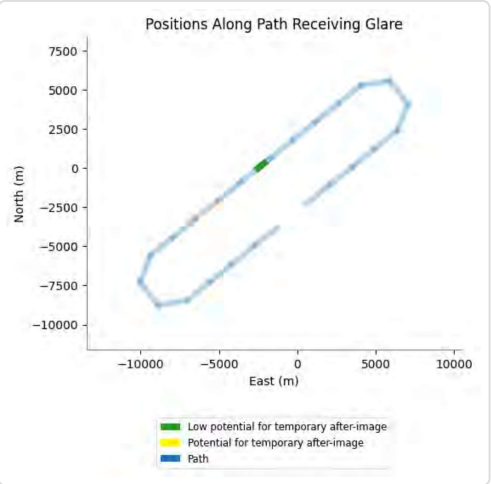
Yellow glare: none

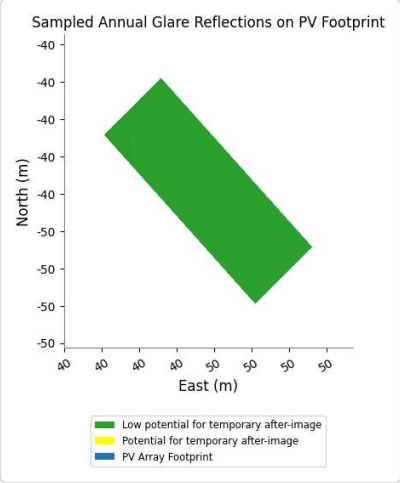
Green glare: 3,131 min.

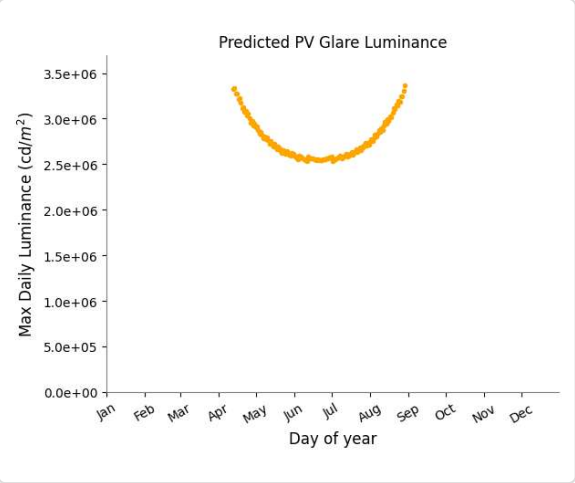


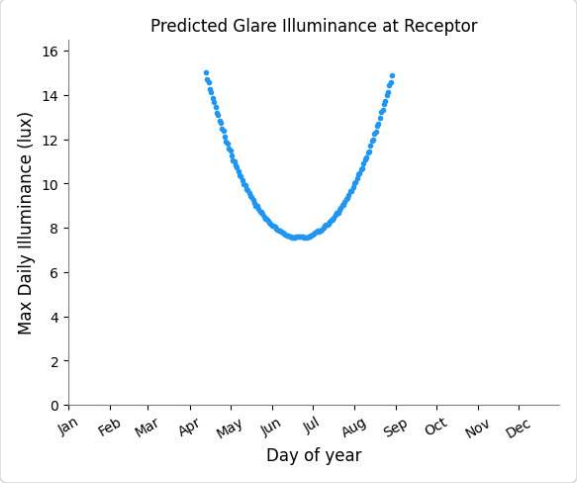












PV array 4 and Route: 1000Ft-GA_5L23R_05L-L_23R-R

No glare found

PV array 4 and Route: 1000Ft-GA_5L23R_05L-R_23R-L

No glare found

PV array 4 and Route: 1000Ft-GA_5R23L_05R-L_23L-R

No glare found

PV array 4 and Route: 1000Ft-GA_5R23L_05R-R_23L-L

No glare found

PV array 4 and Route: 1500Ft-CA_5L23R_05L-L_23R-R

No glare found

PV array 4 and Route: Approach_05L

No glare found

PV array 4 and Route: Approach_05R

No glare found

PV array 4 and Route: Approach_23L

No glare found

PV array 4 and Route: Approach_23R

No glare found

PV array 4 and FP: FP 1

No glare found

PV array 4 and FP: FP 2

No glare found

PV array 4 and FP: FP 3

No glare found

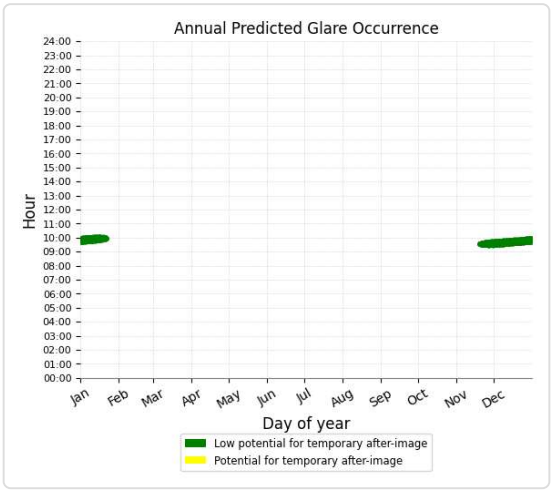
PV array 4 and FP: FP 4

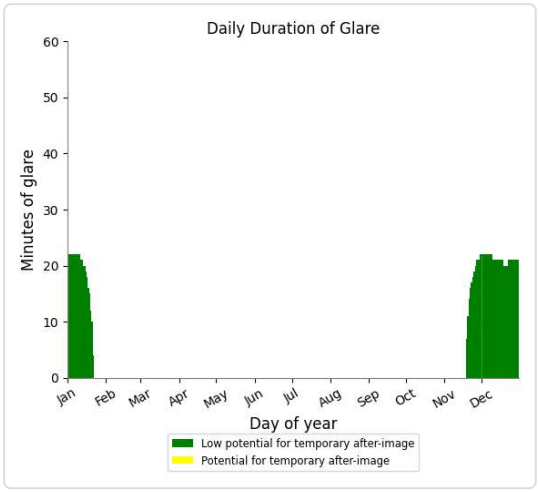
No glare found

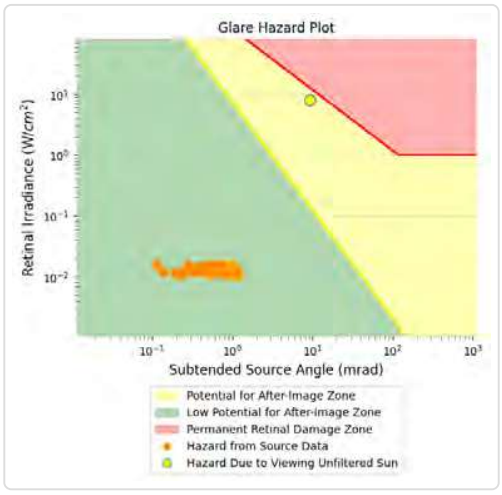
PV array 4 and OP 2

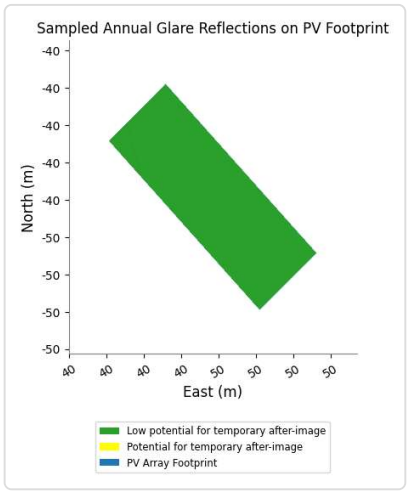
Yellow glare: none

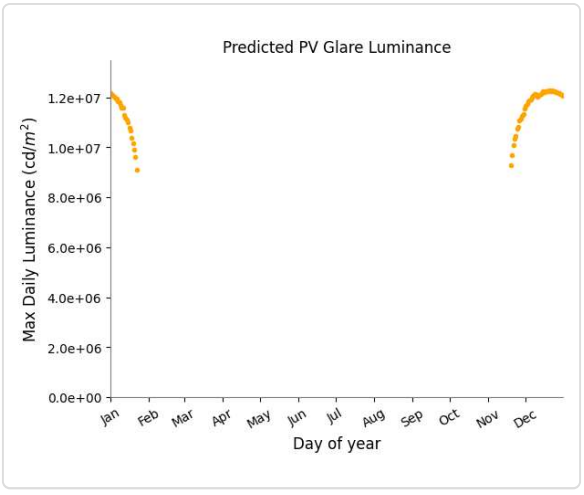
Green glare: 1,281 min.

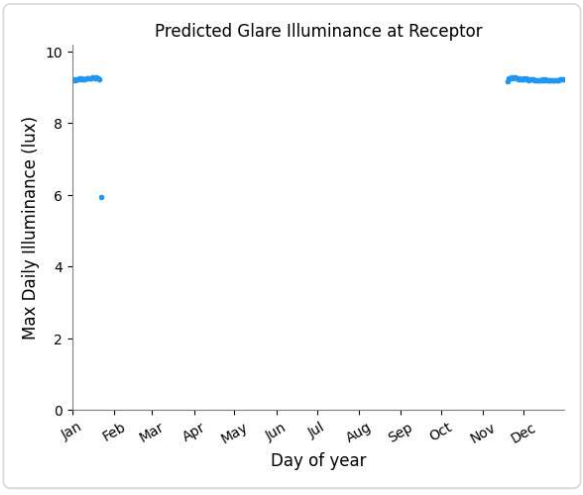








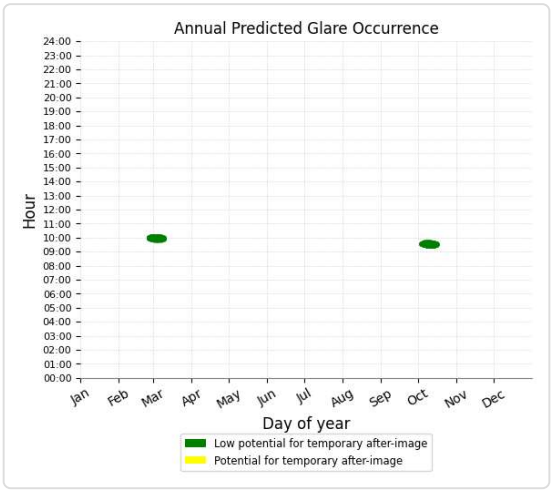


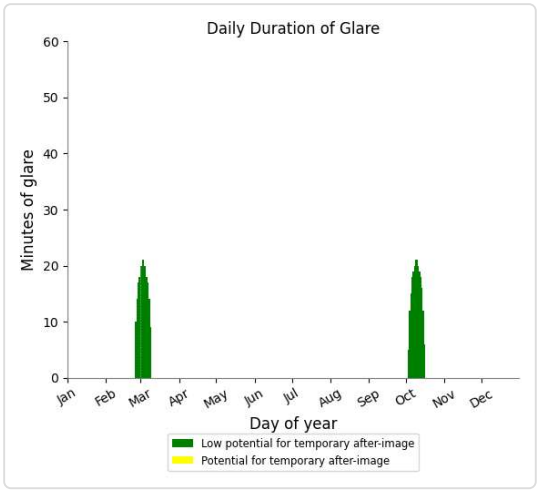


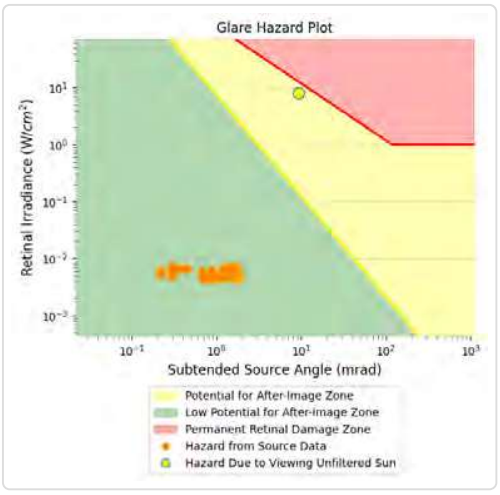
PV array 4 and OP 8

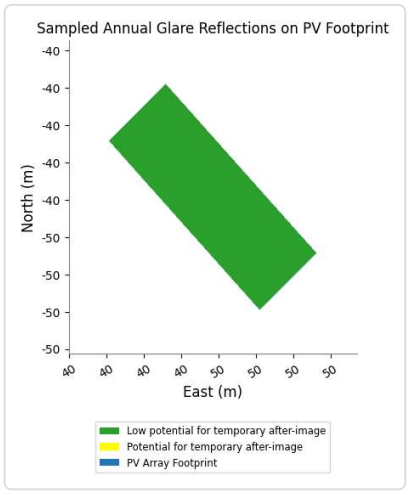
Yellow glare: none

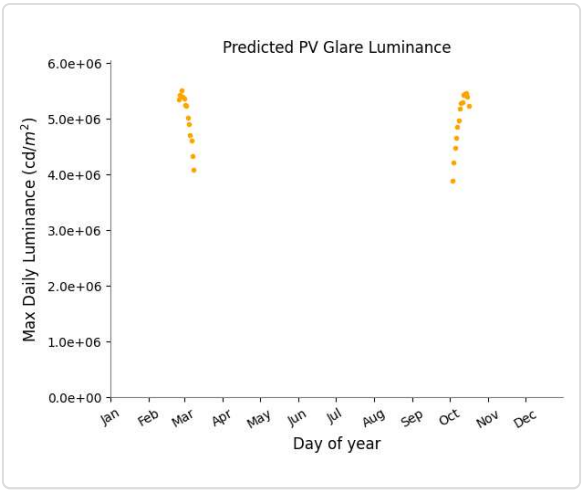
Green glare: 440 min.

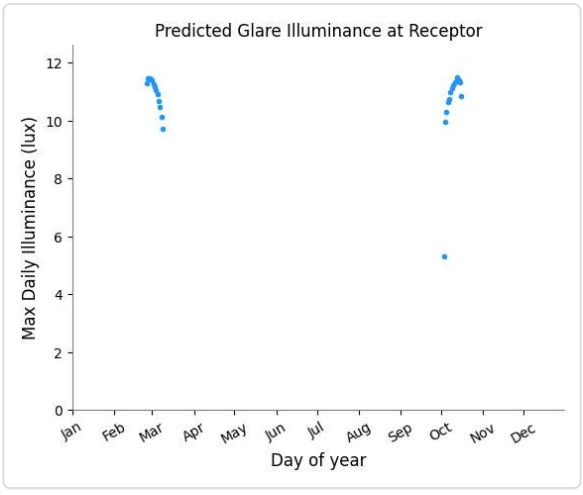








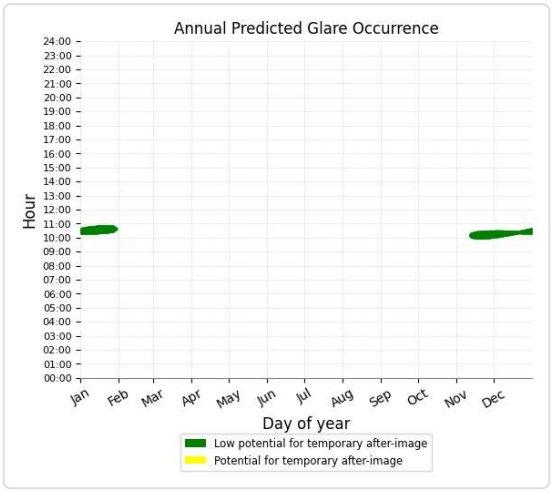


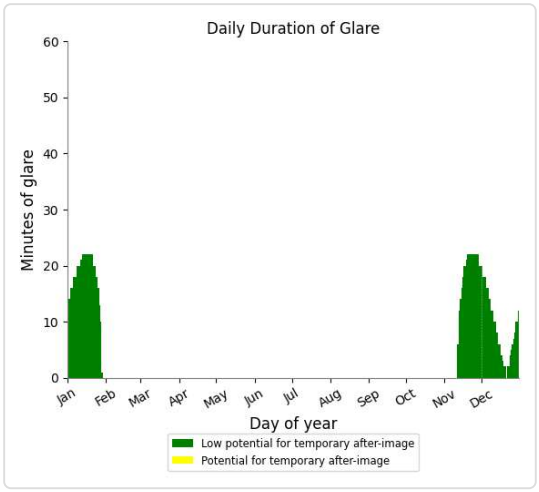


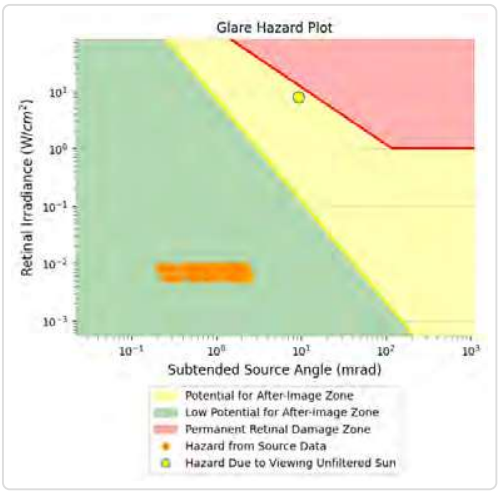
PV array 4 and OP 9

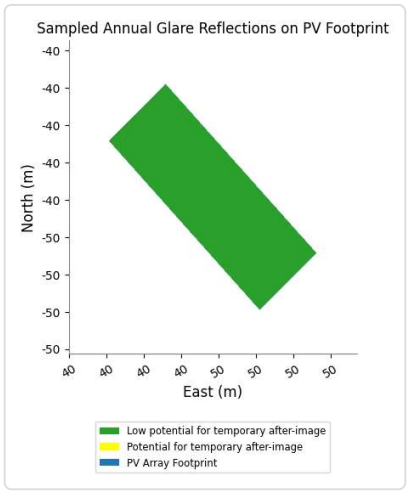
Yellow glare: none

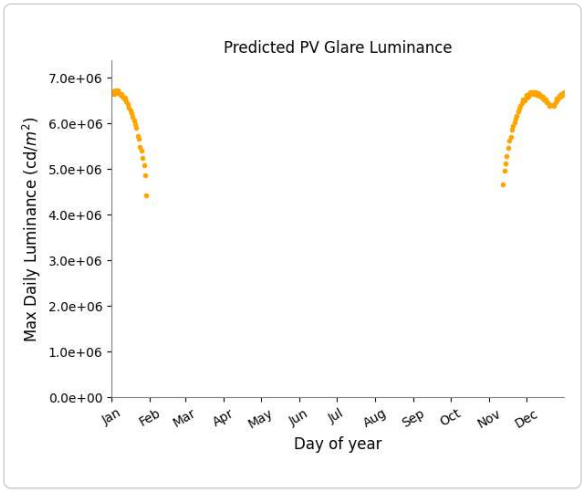
Green glare: 1,169 min.

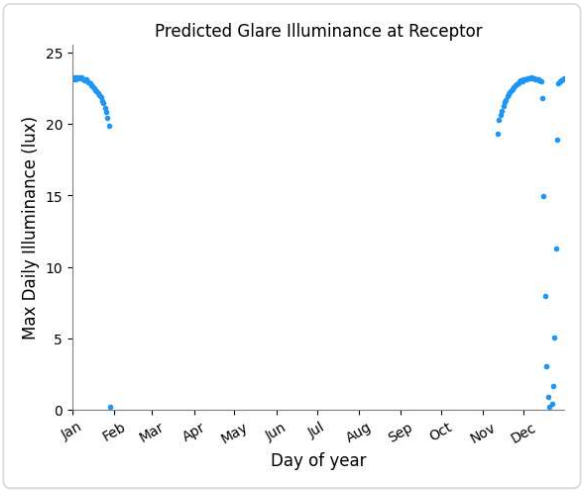








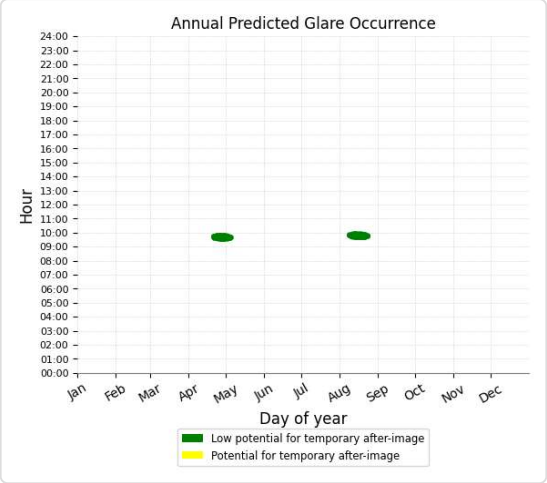


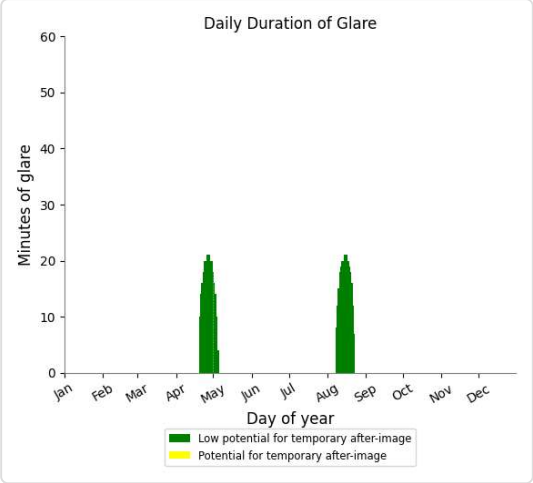


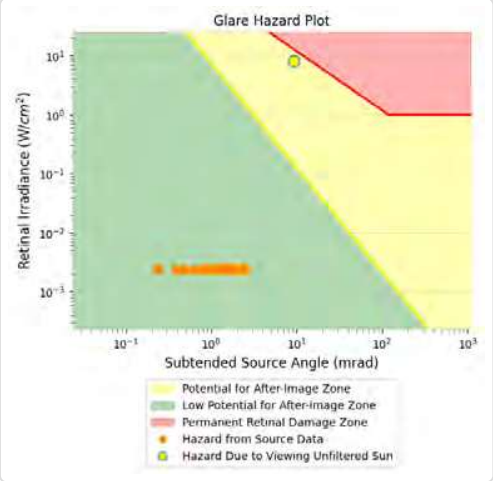
PV array 4 and OP 14

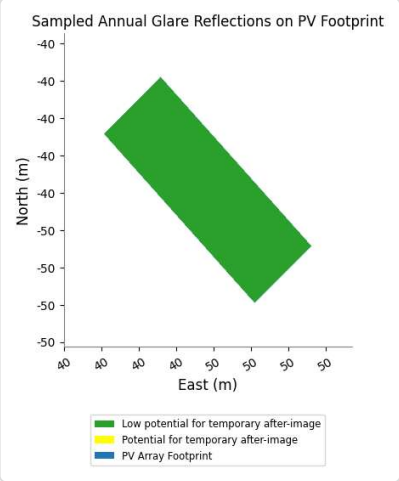
Yellow glare: none

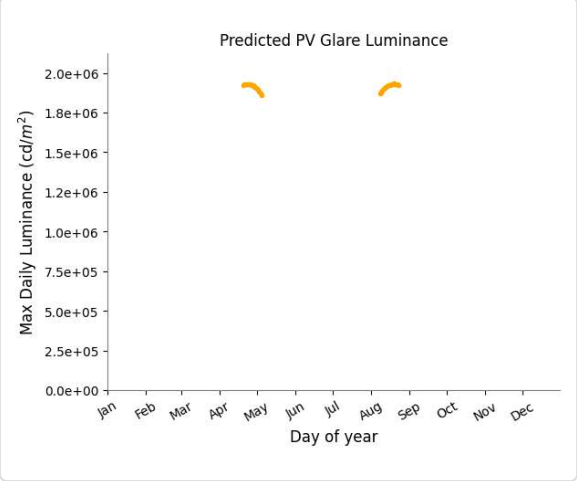
Green glare: 530 min.

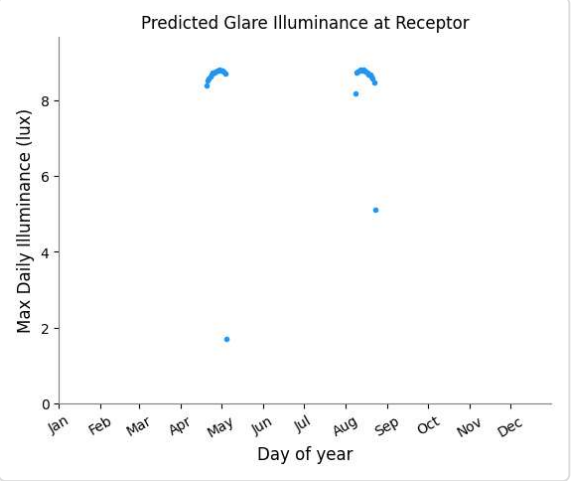








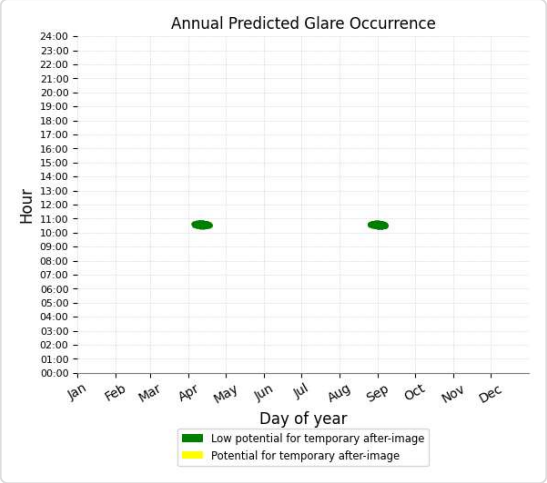


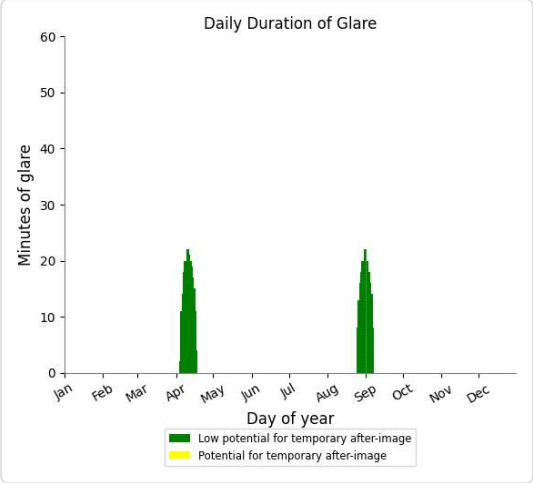


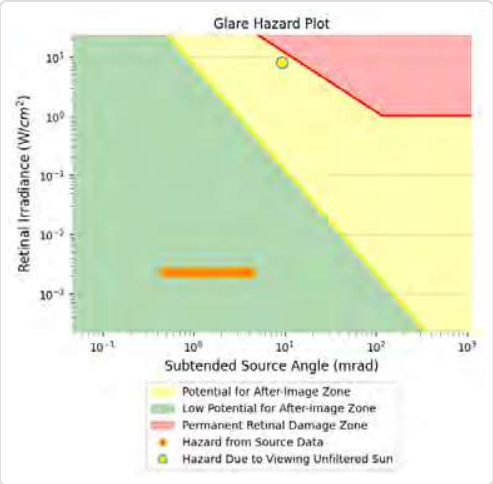
PV array 4 and OP 15

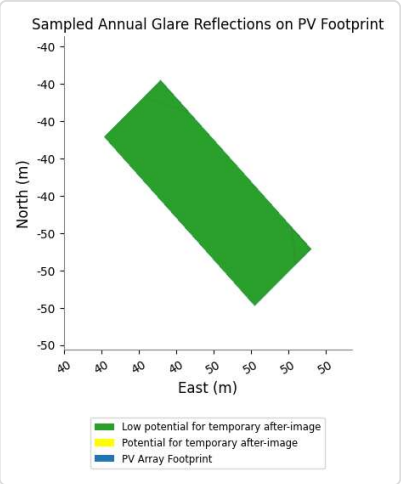
Yellow glare: none

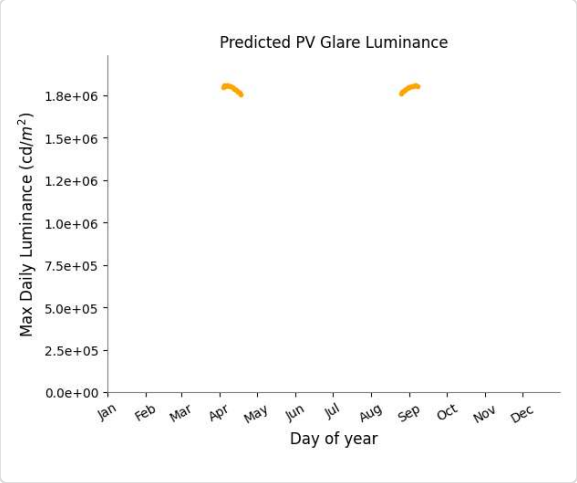
Green glare: 471 min.

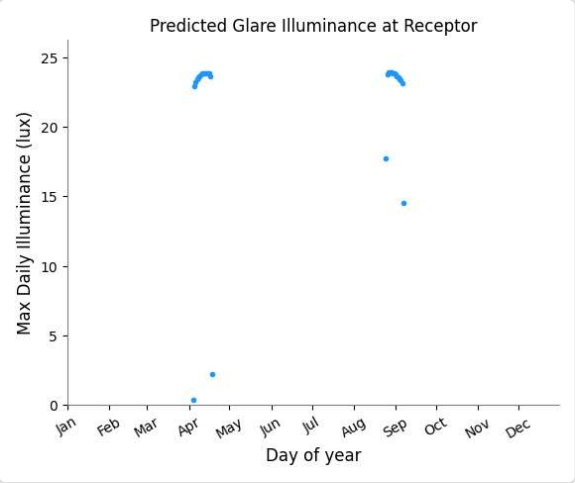








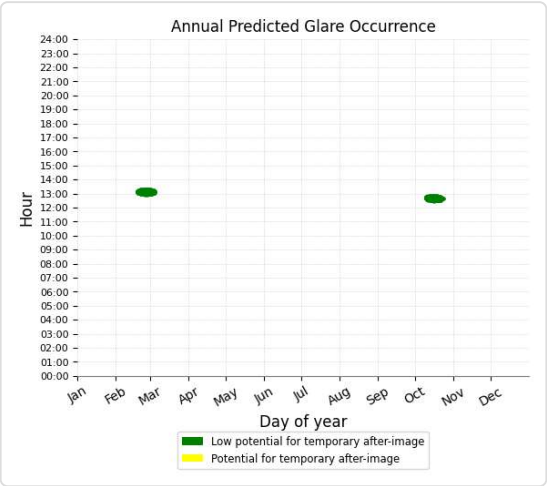


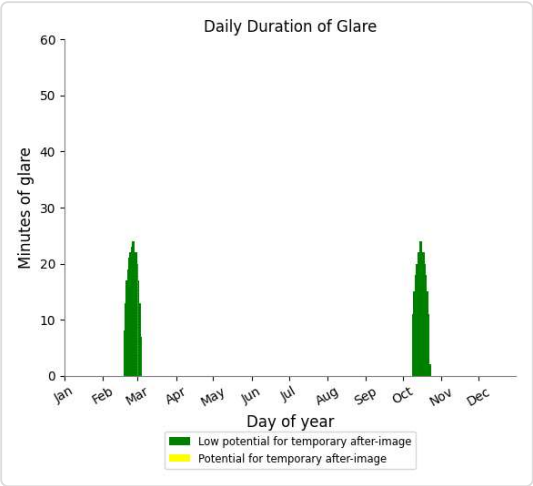


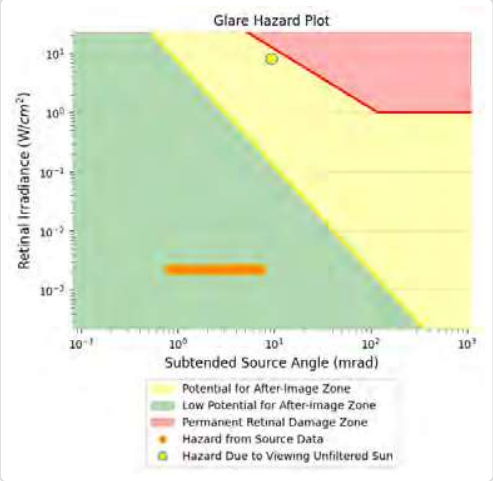
PV array 4 and OP 16

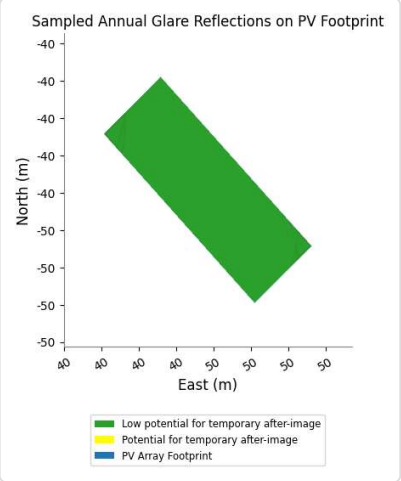
Yellow glare: none

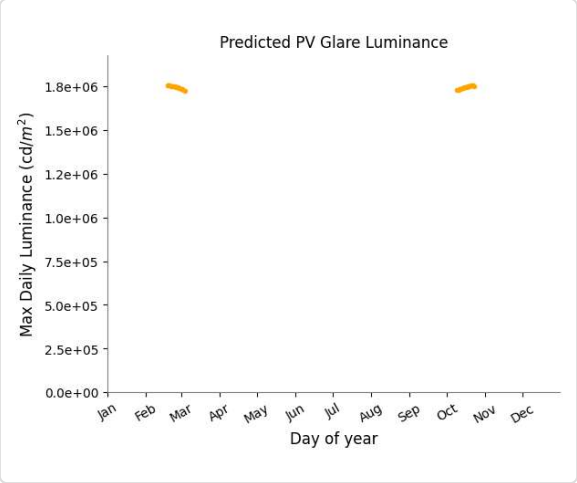
Green glare: 538 min.

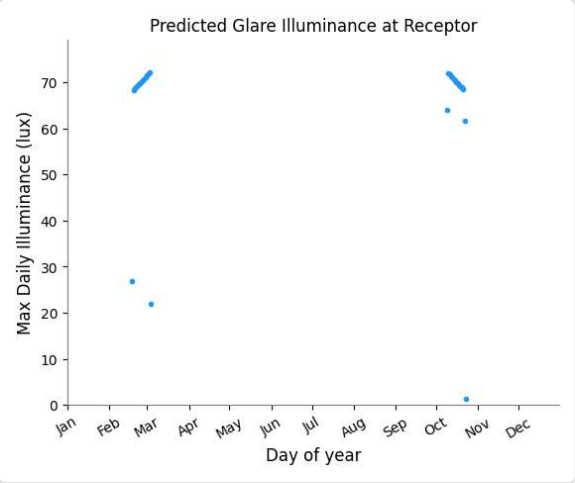








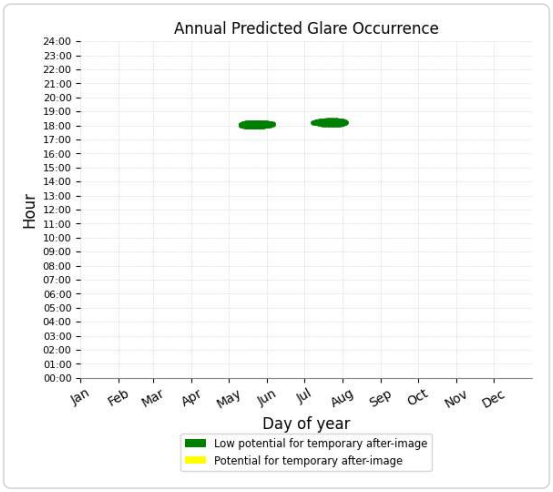


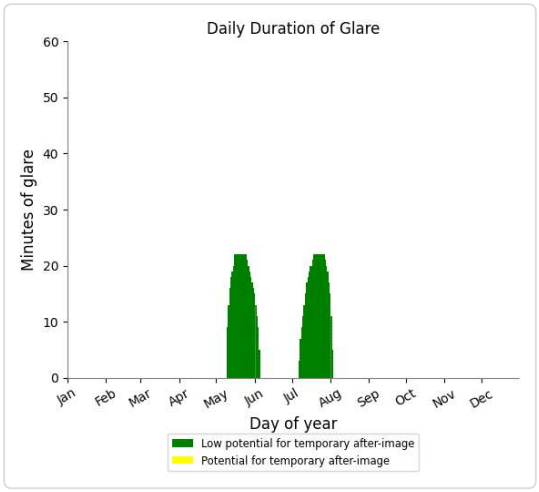


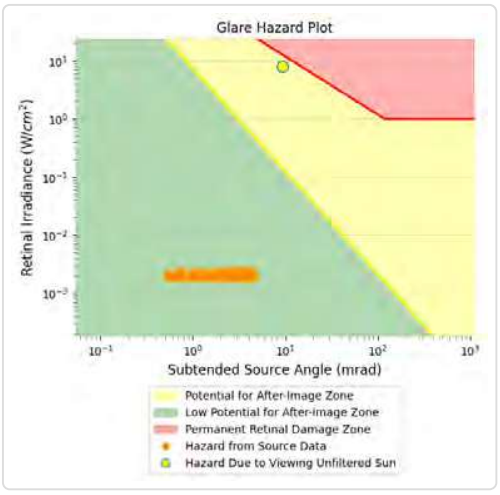
PV array 4 and OP 23

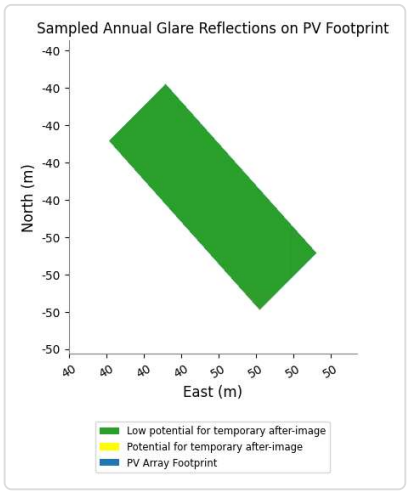
Yellow glare: none

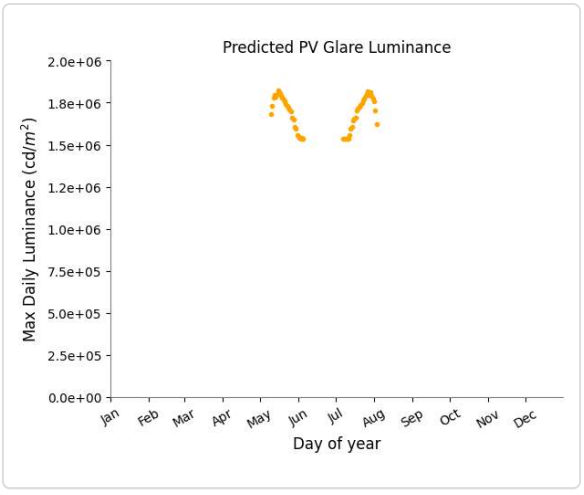
Green glare: 958 min.

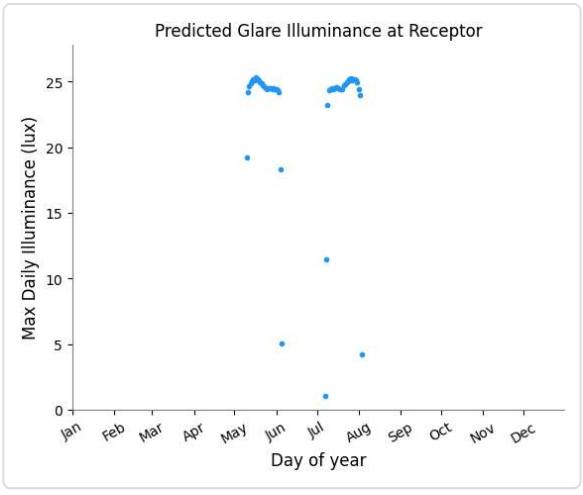








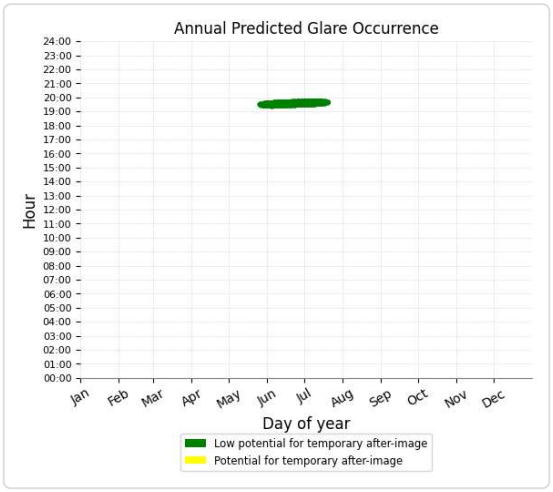


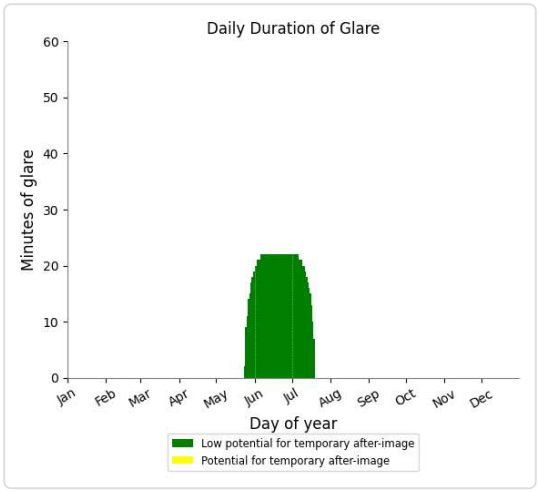


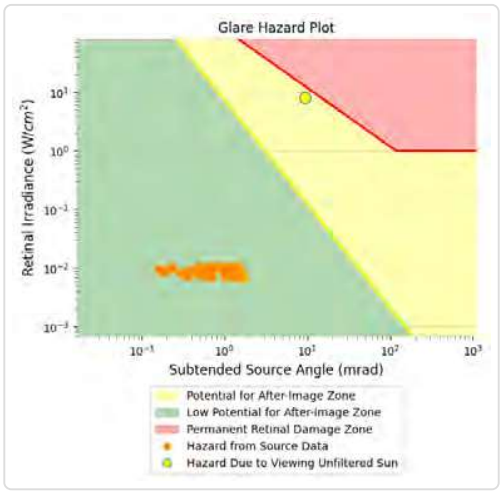
PV array 4 and OP 30

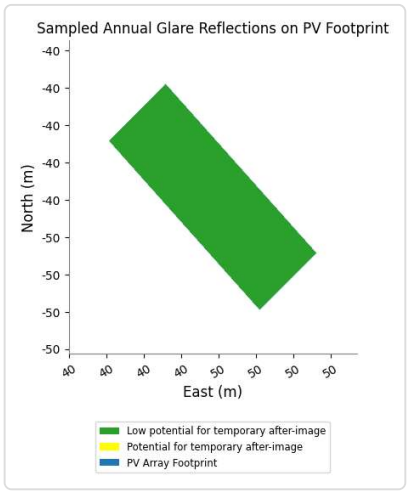
Yellow glare: none

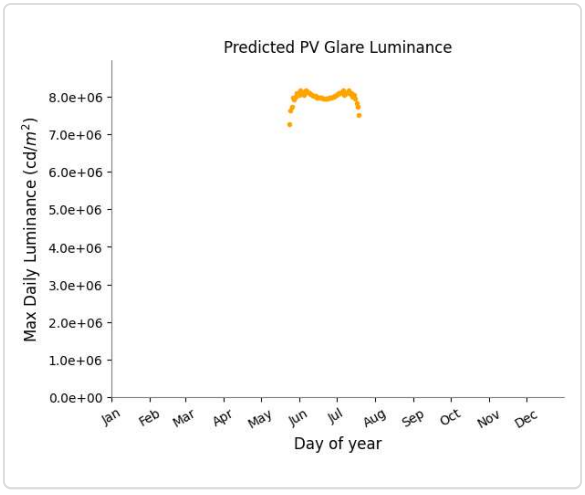
Green glare: 1,107 min.

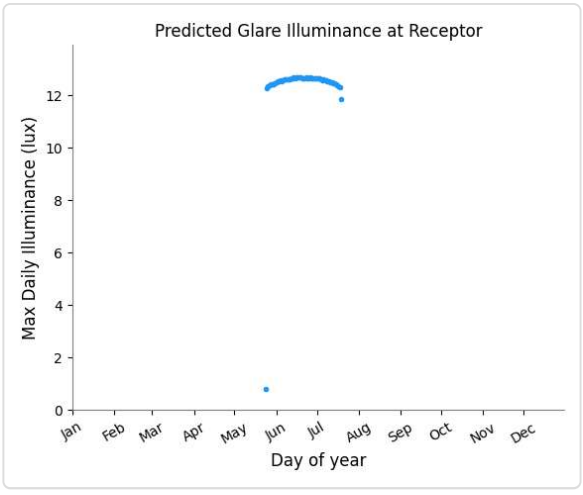








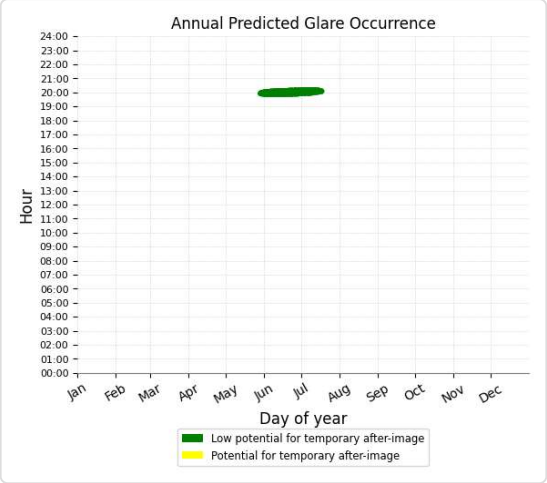


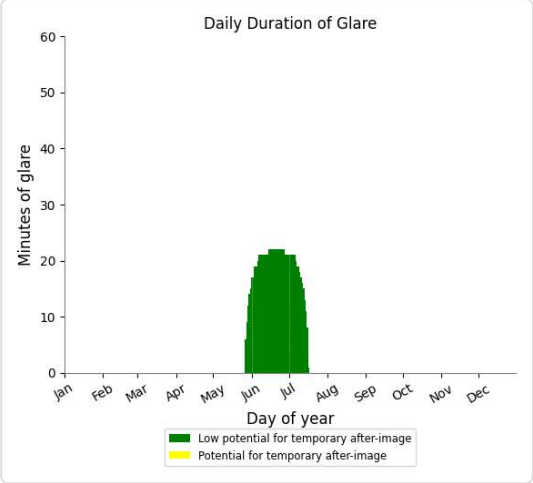


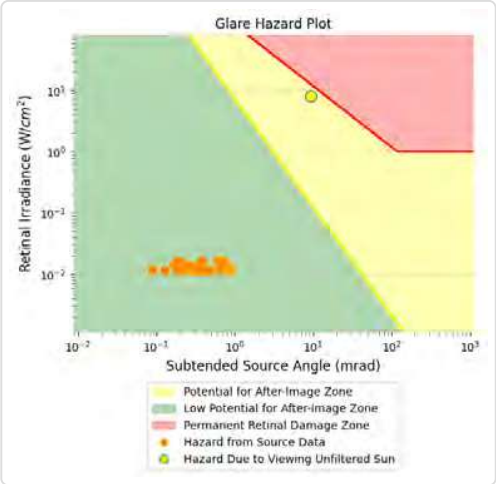
PV array 4 and OP 37

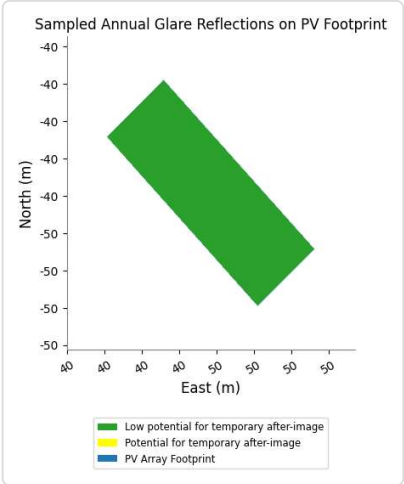
Yellow glare: none

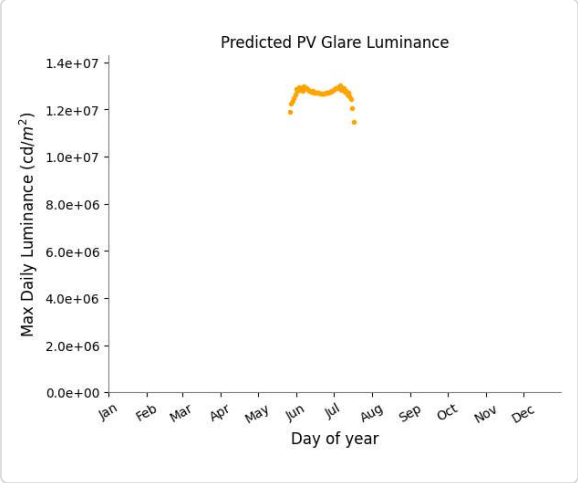
Green glare: 967 min.

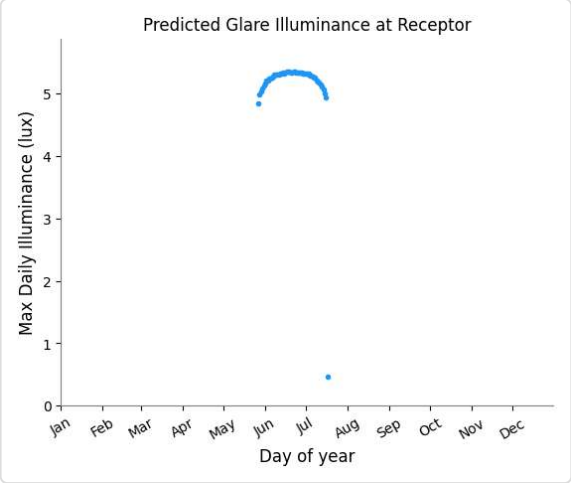








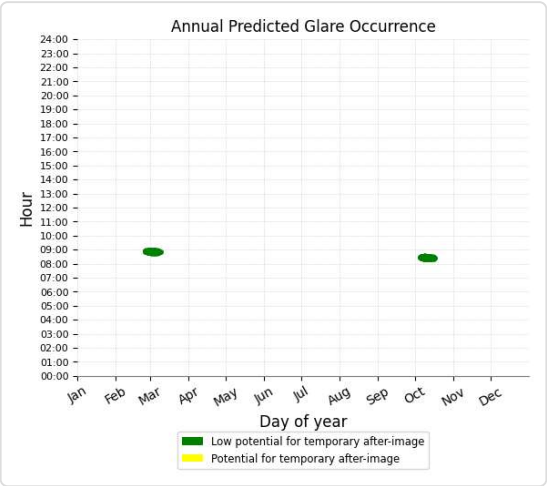


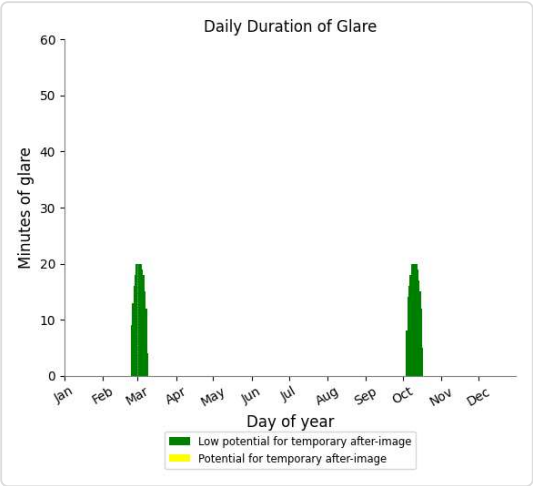


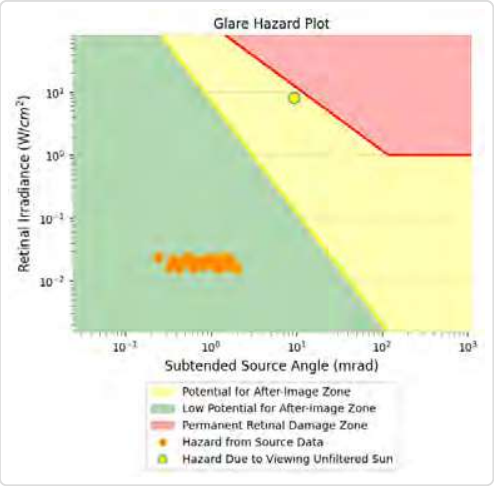
PV array 4 and OP 38

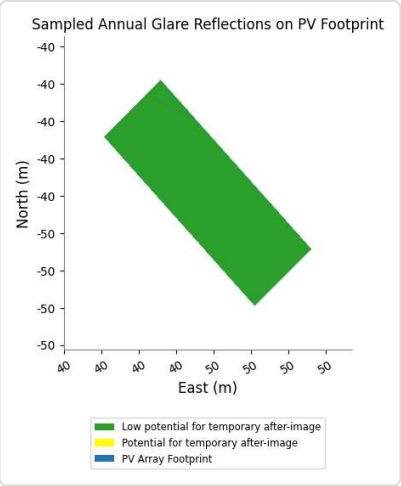
Yellow glare: none

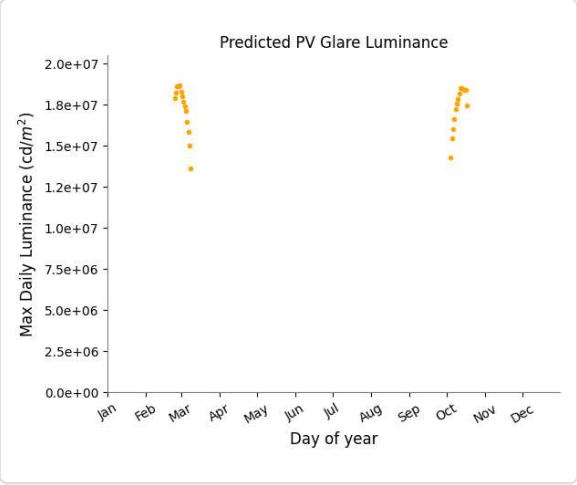
Green glare: 448 min.

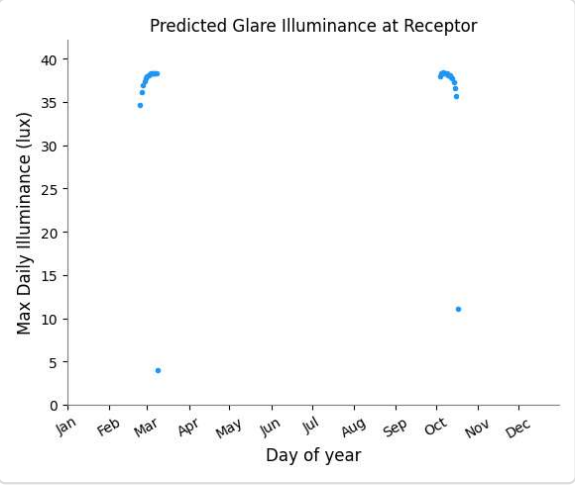












PV array 4 and 1-ATCT

No glare found

PV array 4 and OP 3

No glare found

PV array 4 and OP 4

No glare found

PV array 4 and OP 5

No glare found

PV array 4 and OP 6

No glare found

PV array 4 and OP 7

No glare found

PV array 4 and OP 10

No glare found

PV array 4 and OP 11

No glare found

PV array 4 and OP 12

No glare found

PV array 4 and OP 13

No glare found

PV array 4 and OP 17

No glare found

PV array 4 and OP 18

No glare found

PV array 4 and OP 19

No glare found

PV array 4 and OP 20

No glare found

PV array 4 and OP 21

No glare found

PV array 4 and OP 22

No glare found

PV array 4 and OP 24

No glare found

PV array 4 and OP 25

No glare found

PV array 4 and OP 26

No glare found

PV array 4 and OP 27

No glare found

PV array 4 and OP 28

No glare found

PV array 4 and OP 29

No glare found

PV array 4 and OP 31

No glare found

PV array 4 and OP 32

No glare found

PV array 4 and OP 33

No glare found

PV array 4 and OP 34

No glare found

PV array 4 and OP 35

No glare found

PV array 4 and OP 36

No glare found

PV array 4 and OP 39

No glare found

PV array 4 and OP 40

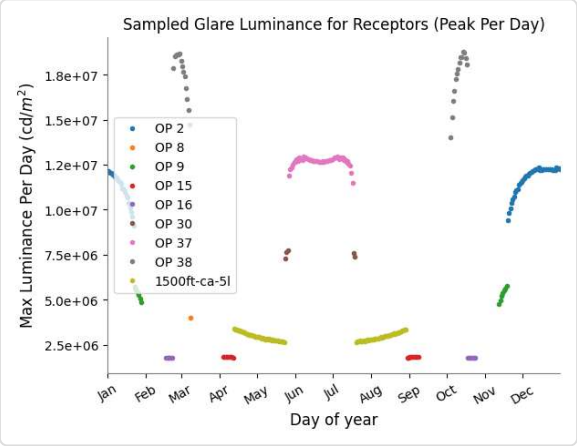
No glare found

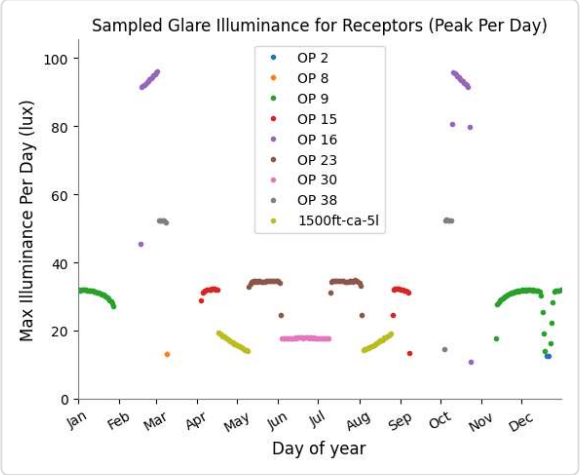
PV: PV array 5 low potential for temporary after-image

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m²	lux
1500Ft-CA_5L23R_05L-R_23R-L	3,141	52.4	0	0.0	3,393,435	21
1000Ft-GA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
1000Ft-GA_5L23R_05L-R_23R-L	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-L_23L-R	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-R_23L-L	0	0.0	0	0.0	0	0
1500Ft-CA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
Approach_05L	0	0.0	0	0.0	0	0
Approach_05R	0	0.0	0	0.0	0	0
Approach_23L	0	0.0	0	0.0	0	0
Approach_23R	0	0.0	0	0.0	0	0
FP 1	0	0.0	0	0.0	0	0
FP 2	0	0.0	0	0.0	0	0
FP 3	0	0.0	0	0.0	0	0
FP 4	0	0.0	0	0.0	0	0
OP 2	1,280	21.3	0	0.0	12,335,551	13
OP 8	448	7.5	0	0.0	5,562,160	16
OP 9	1,221	20.4	0	0.0	6,814,456	32
OP 14	537	8.9	0	0.0	1,938,596	12
OP 15	481	8.0	0	0.0	1,816,773	32
OP 16	577	9.6	0	0.0	1,765,835	96
OP 23	975	16.2	0	0.0	1,766,222	35
OP 30	1,137	18.9	0	0.0	8,104,228	18
OP 37	978	16.3	0	0.0	12,958,432	8
OP 38	458	7.6	0	0.0	18,762,004	53
1-ATCT	0	0.0	0	0.0	0	0
OP 3	0	0.0	0	0.0	0	0
OP 4	0	0.0	0	0.0	0	0
OP 5	0	0.0	0	0.0	0	0
OP 6	0	0.0	0	0.0	0	0
OP 7	0	0.0	0	0.0	0	0
OP 10	0	0.0	0	0.0	0	0
OP 11	0	0.0	0	0.0	0	0
OP 12	0	0.0	0	0.0	0	0

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
OP 13	0	0.0	0	0.0	0	0
OP 17	0	0.0	0	0.0	0	0
OP 18	0	0.0	0	0.0	0	0
OP 19	0	0.0	0	0.0	0	0
OP 20	0	0.0	0	0.0	0	0
OP 21	0	0.0	0	0.0	0	0
OP 22	0	0.0	0	0.0	0	0
OP 24	0	0.0	0	0.0	0	0
OP 25	0	0.0	0	0.0	0	0
OP 26	0	0.0	0	0.0	0	0
OP 27	0	0.0	0	0.0	0	0
OP 28	0	0.0	0	0.0	0	0
OP 29	0	0.0	0	0.0	0	0
OP 31	0	0.0	0	0.0	0	0
OP 32	0	0.0	0	0.0	0	0
OP 33	0	0.0	0	0.0	0	0
OP 34	0	0.0	0	0.0	0	0
OP 35	0	0.0	0	0.0	0	0
OP 36	0	0.0	0	0.0	0	0
OP 39	0	0.0	0	0.0	0	0
OP 40	0	0.0	0	0.0	0	0

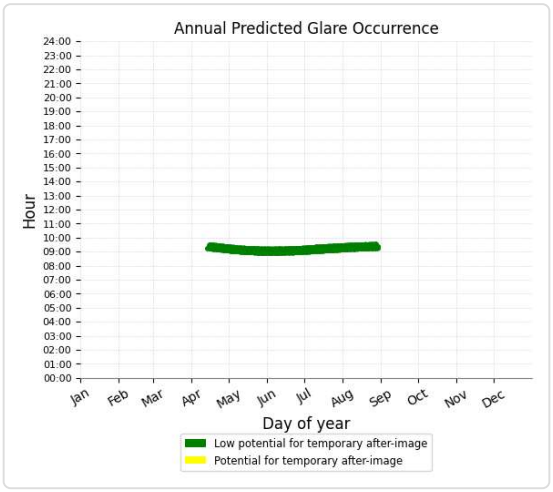


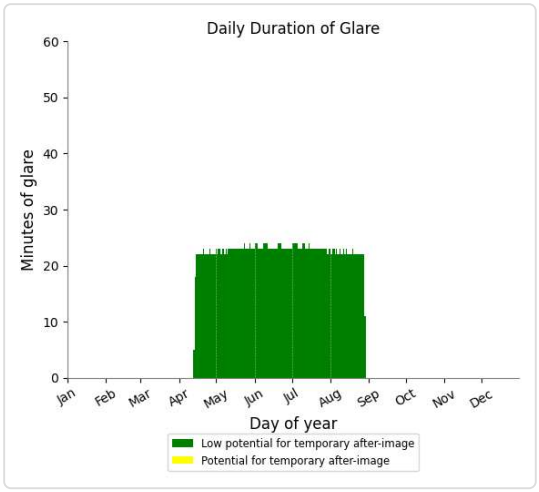


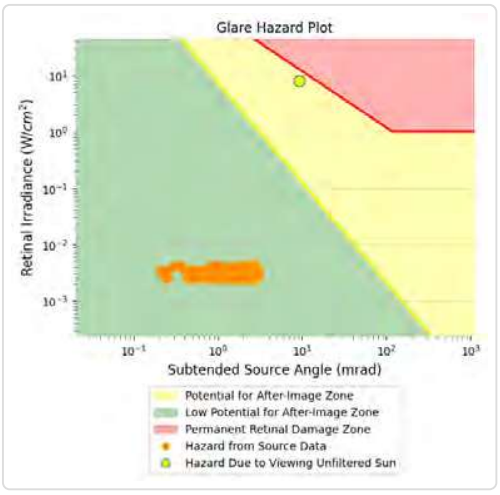
PV array 5 and Route: 1500Ft-CA_5L23R_05L-R_23R-L

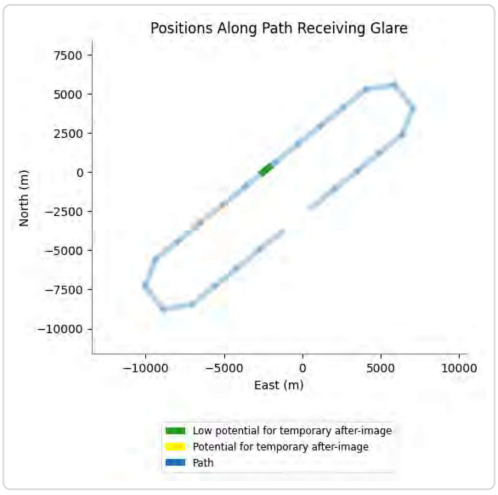
Yellow glare: none

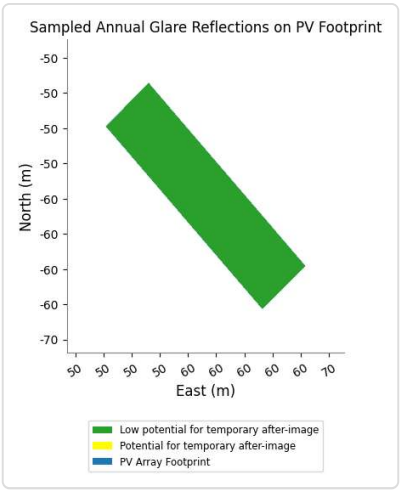
Green glare: 3,141 min.

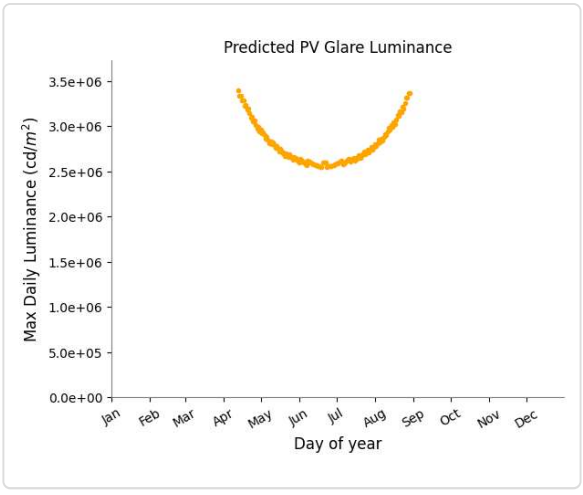


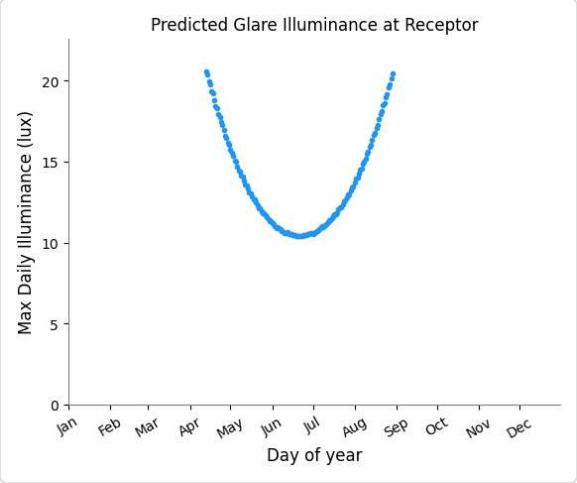












PV array 5 and Route: 1000Ft-GA_5L23R_05L-L_23R-R

No glare found

PV array 5 and Route: 1000Ft-GA_5L23R_05L-R_23R-L

No glare found

PV array 5 and Route: 1000Ft-GA_5R23L_05R-L_23L-R

No glare found

PV array 5 and Route: 1000Ft-GA_5R23L_05R-R_23L-L

No glare found

PV array 5 and Route: 1500Ft-CA_5L23R_05L-L_23R-R

No glare found

PV array 5 and Route: Approach_05L

No glare found

PV array 5 and Route: Approach_05R

No glare found

PV array 5 and Route: Approach_23L

No glare found

PV array 5 and Route: Approach_23R

No glare found

PV array 5 and FP: FP 1

No glare found

PV array 5 and FP: FP 2

No glare found

PV array 5 and FP: FP 3

No glare found

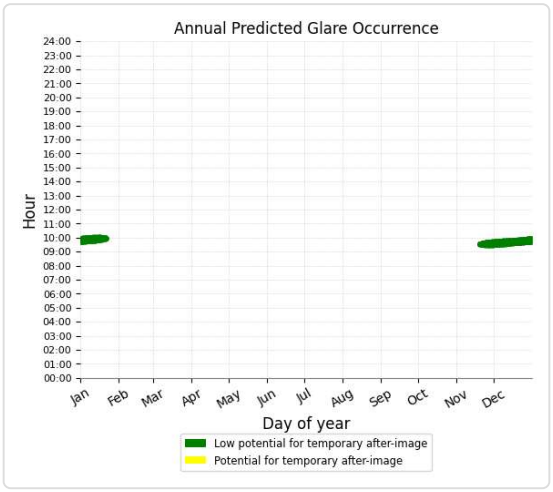
PV array 5 and FP: FP 4

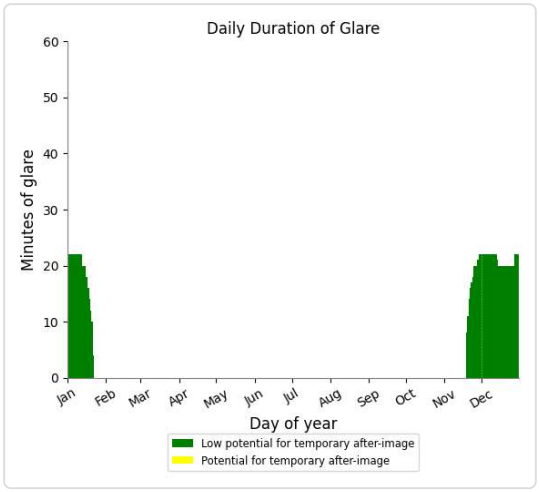
No glare found

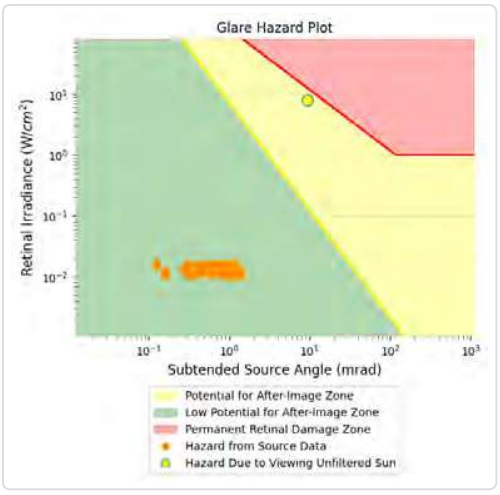
PV array 5 and OP 2

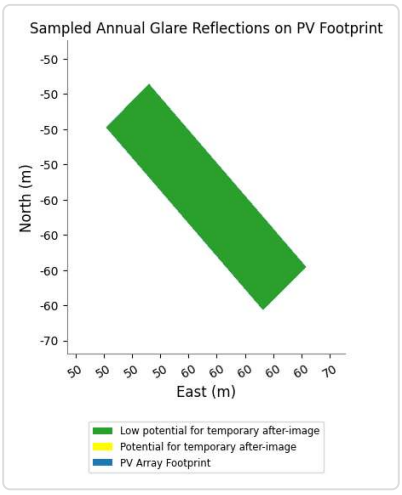
Yellow glare: none

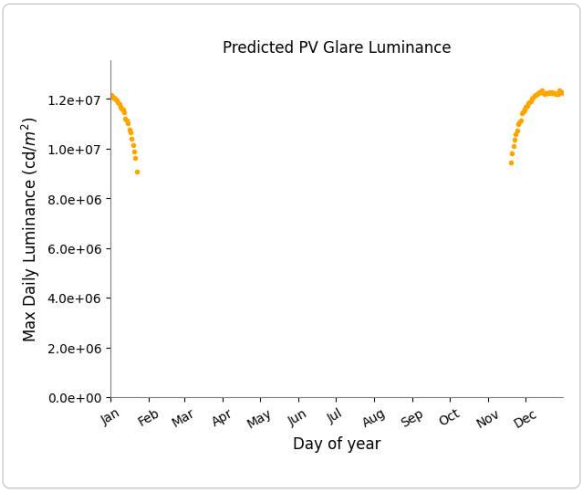
Green glare: 1,280 min.

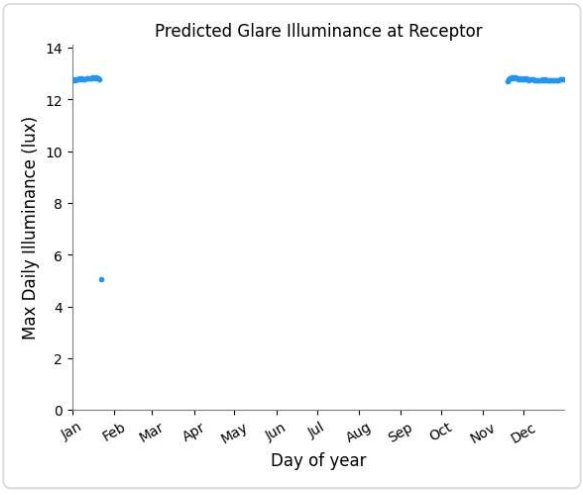








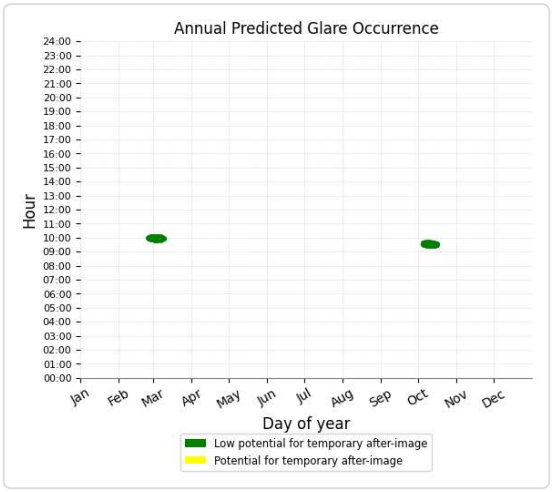


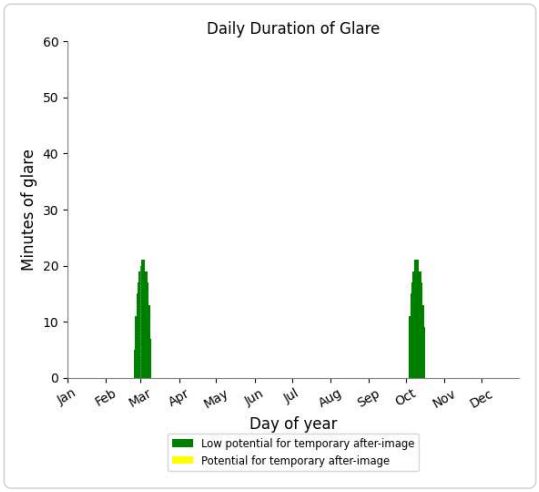


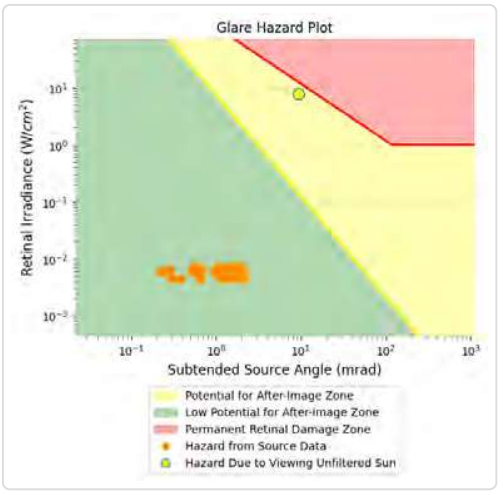
PV array 5 and OP 8

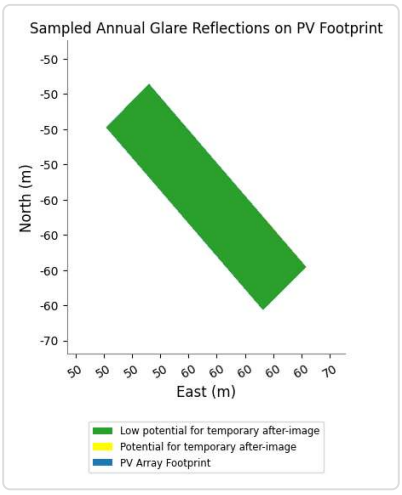
Yellow glare: none

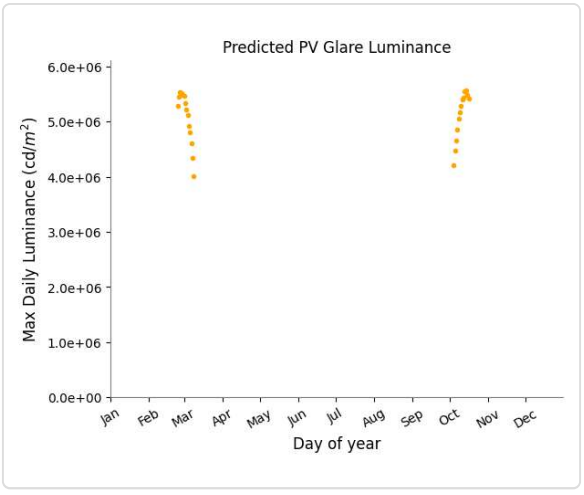
Green glare: 448 min.

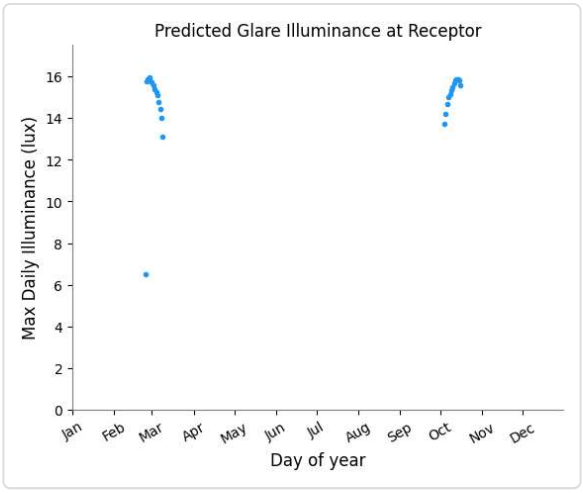








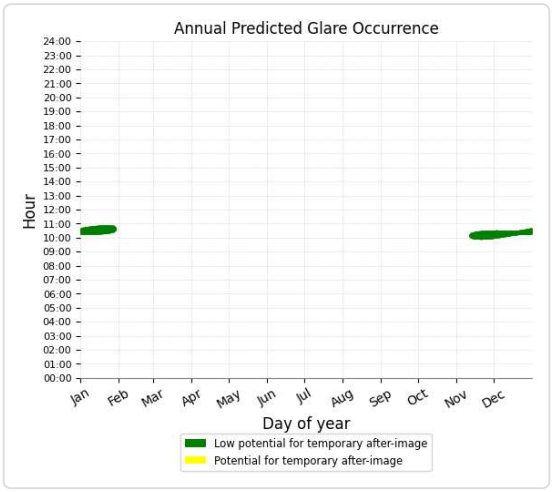


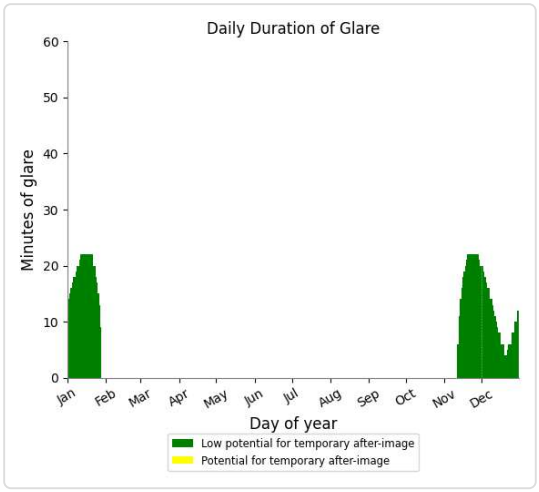


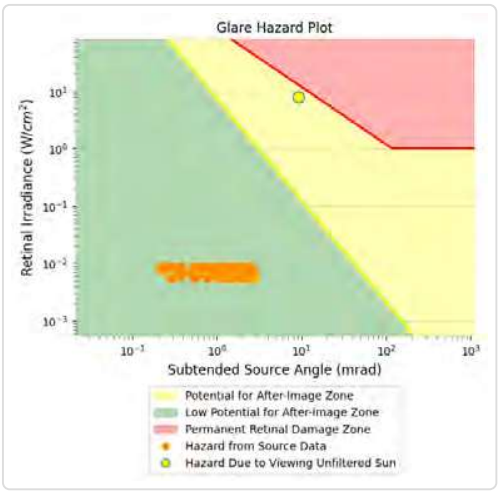
PV array 5 and OP 9

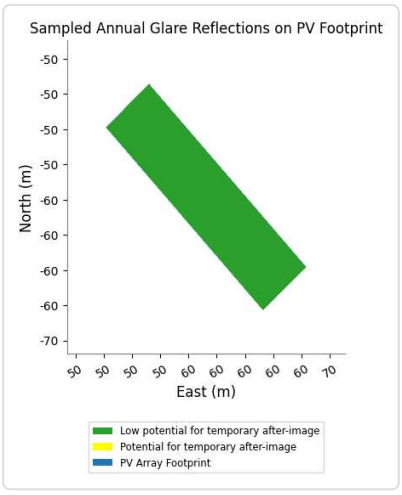
Yellow glare: none

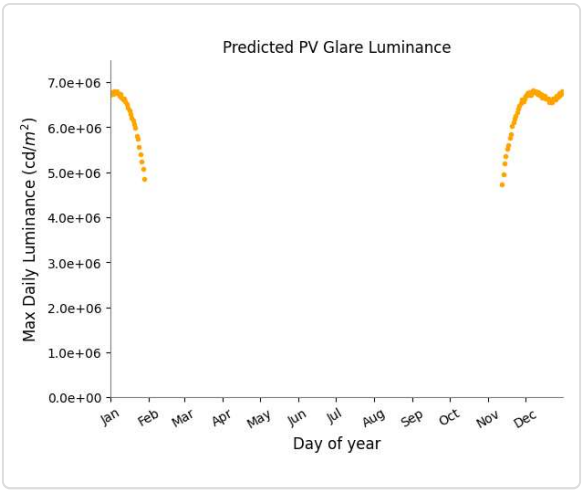
Green glare: 1,221 min.

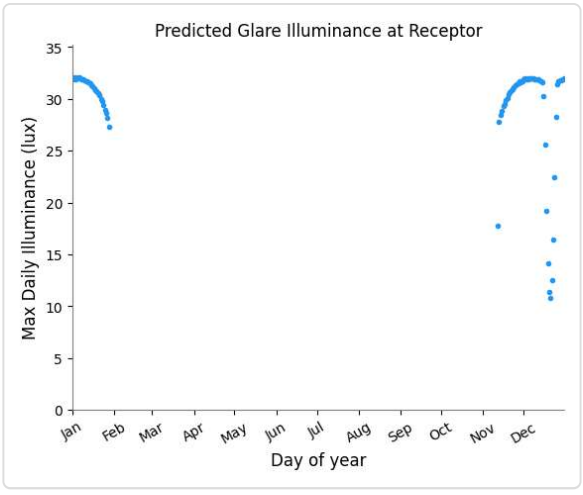








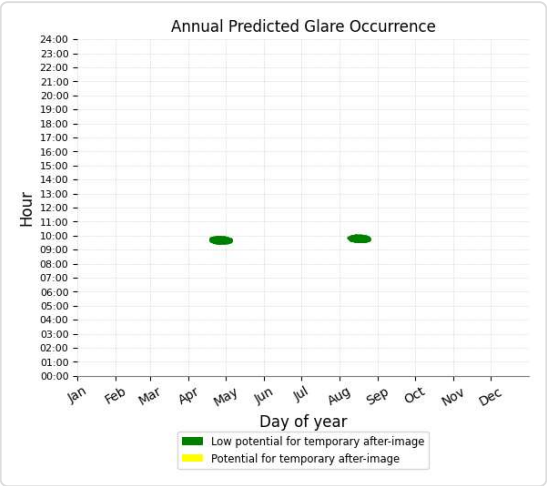


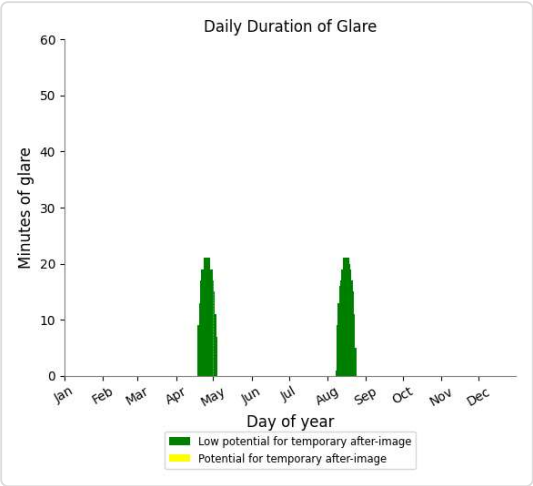


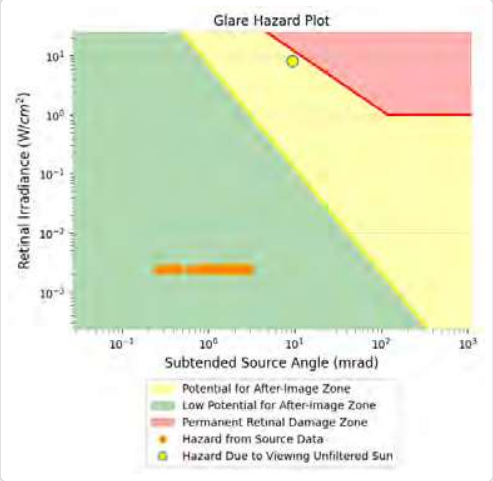
PV array 5 and OP 14

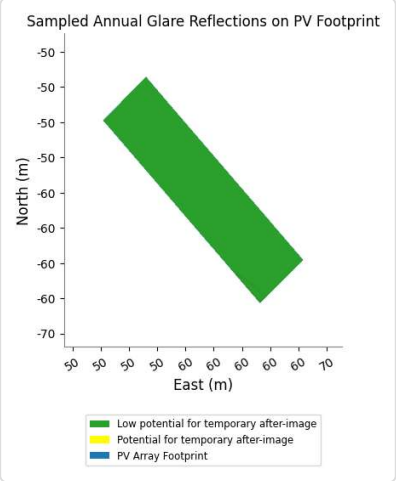
Yellow glare: none

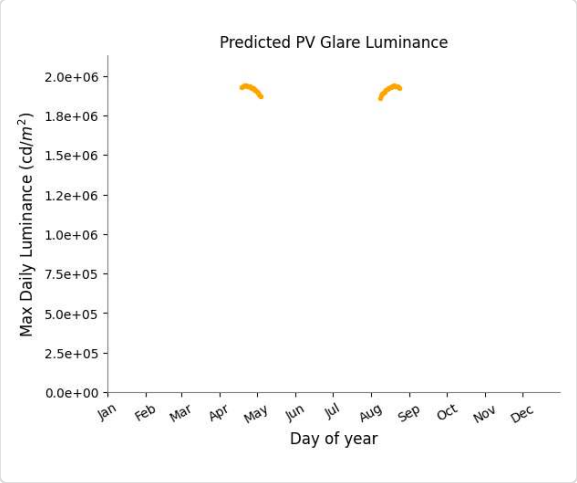
Green glare: 537 min.

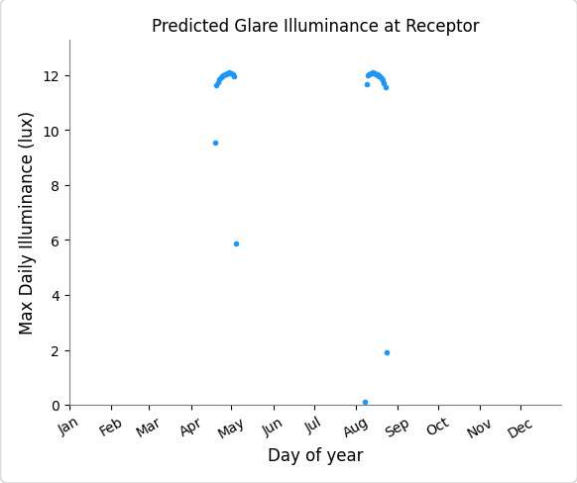








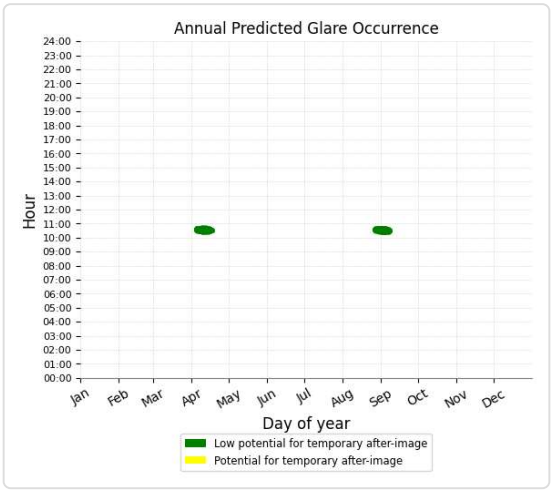


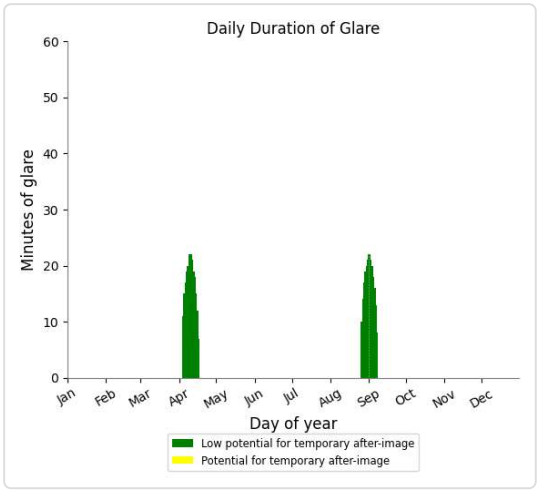


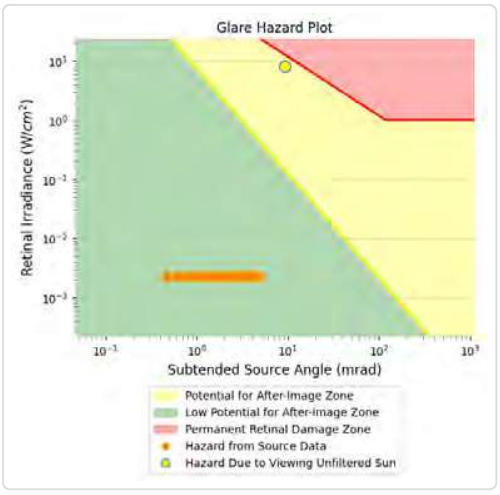
PV array 5 and OP 15

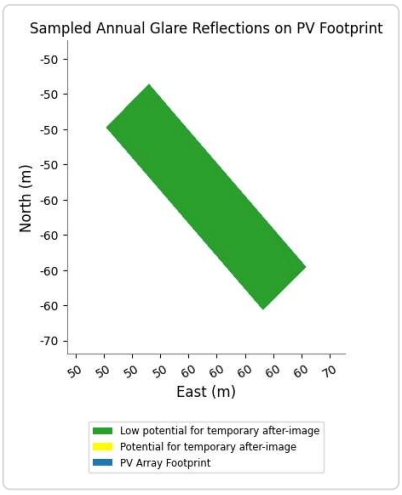
Yellow glare: none

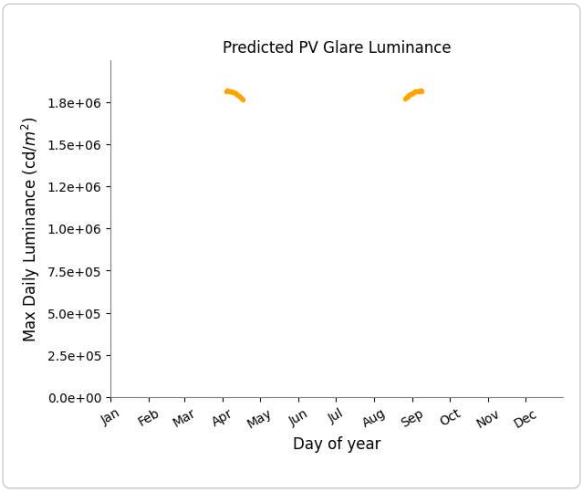
Green glare: 481 min.

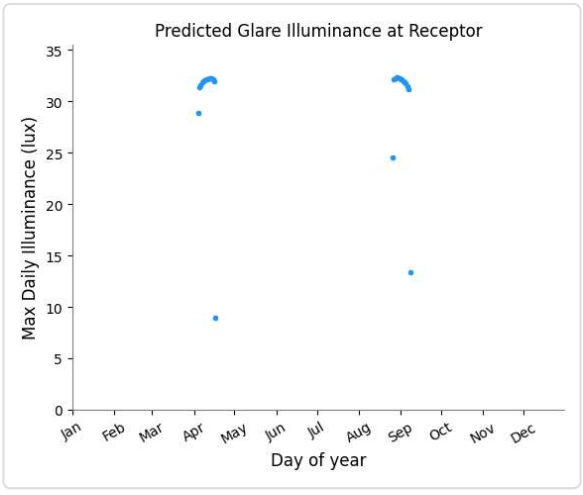








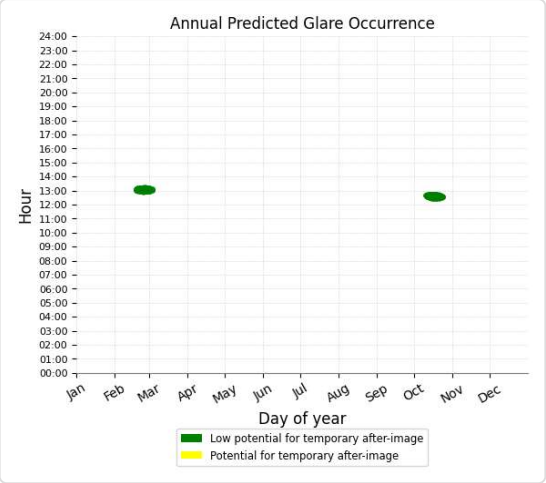


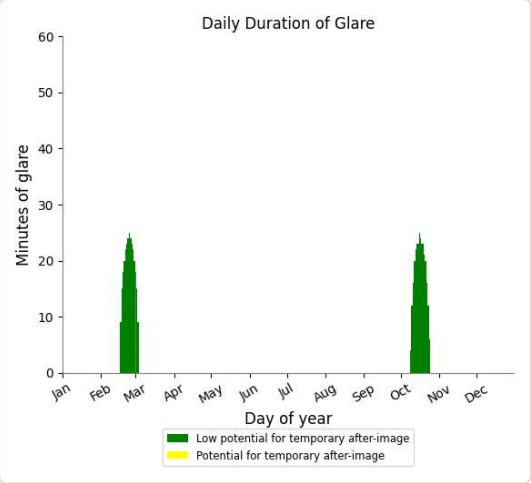


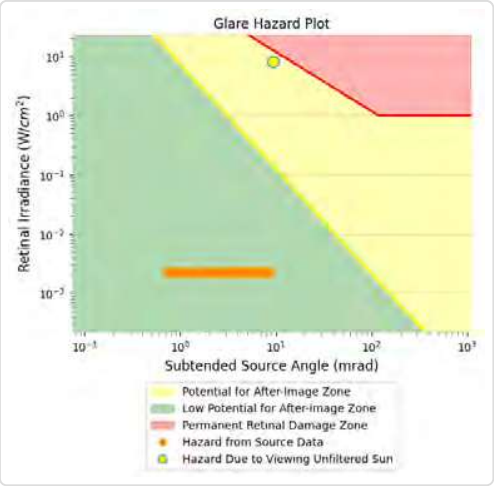
PV array 5 and OP 16

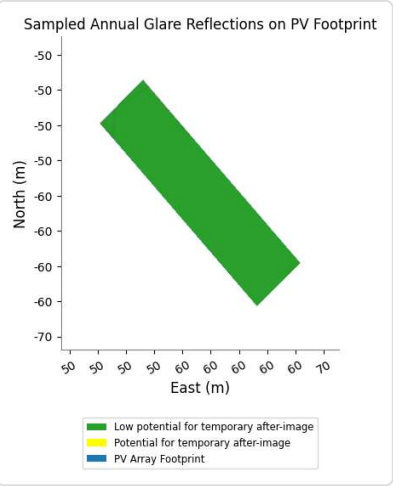
Yellow glare: none

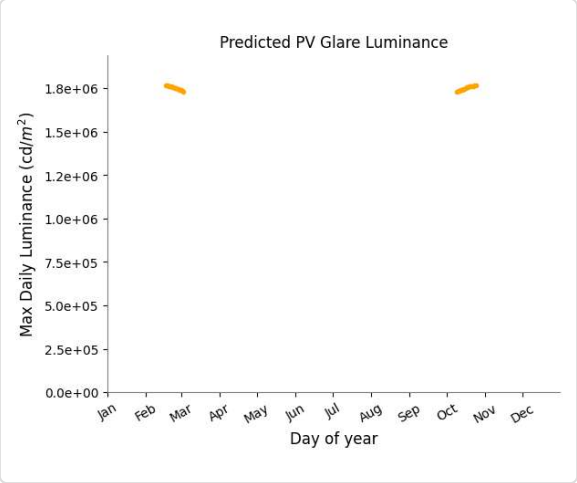
Green glare: 577 min.

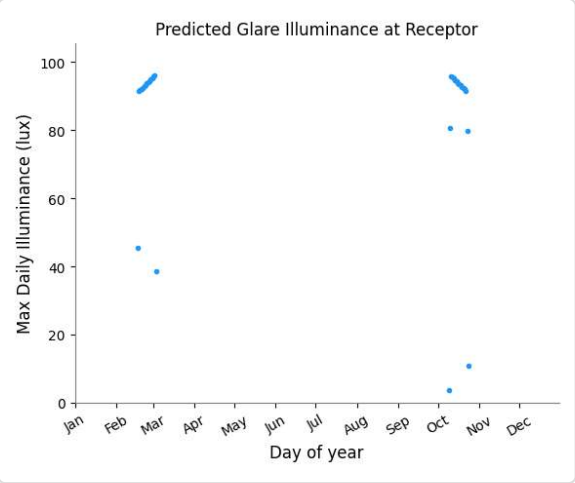








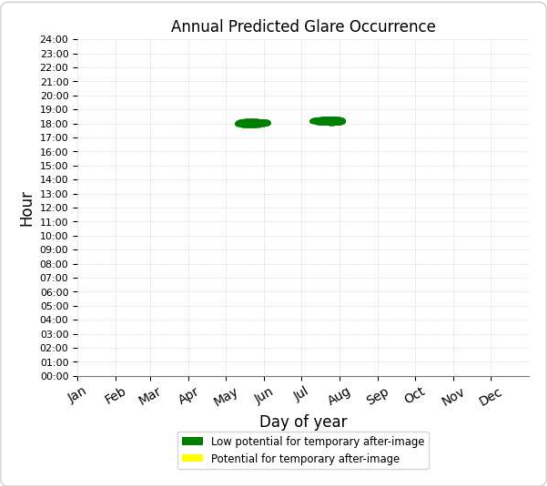


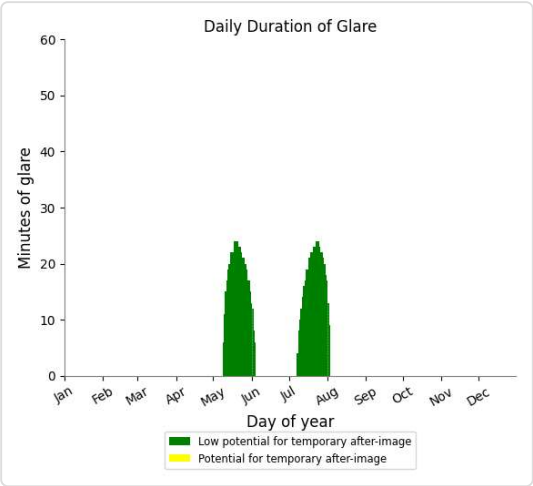


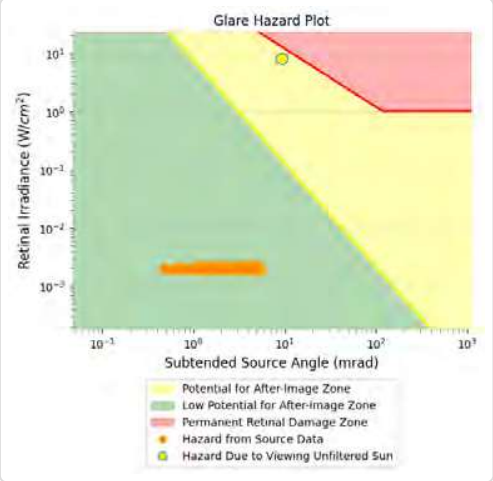
PV array 5 and OP 23

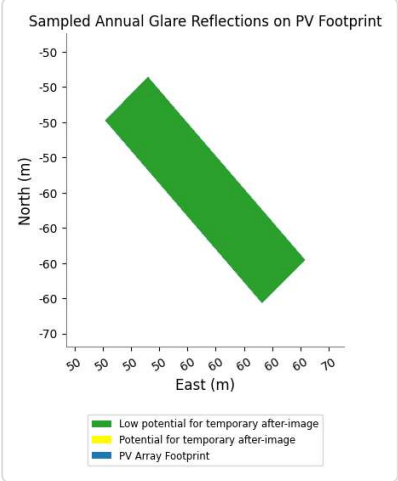
Yellow glare: none

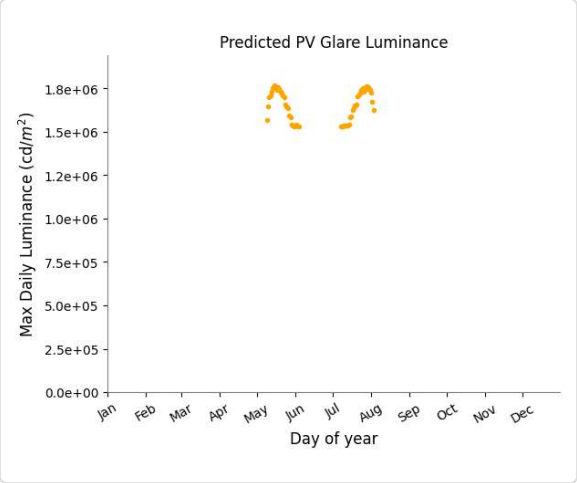
Green glare: 975 min.

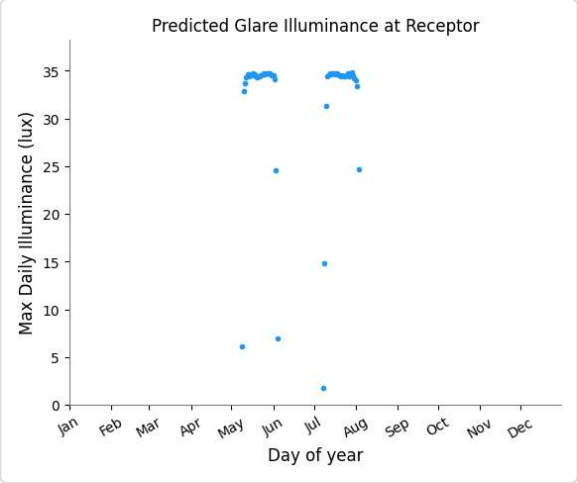








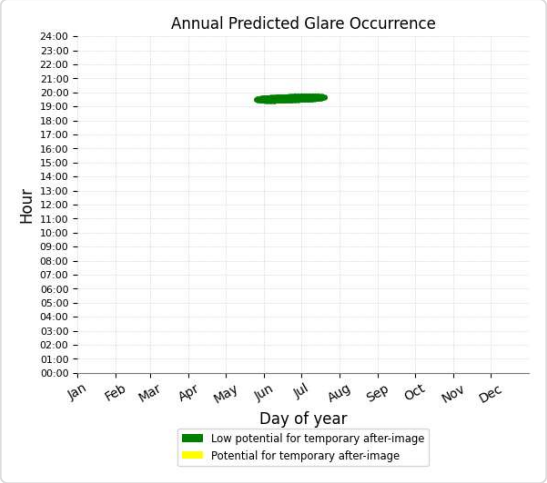


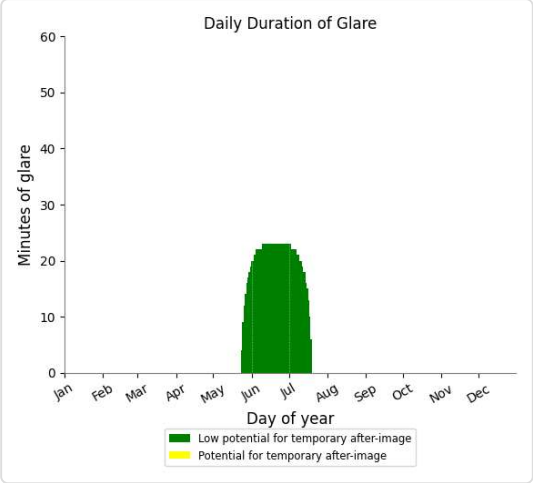


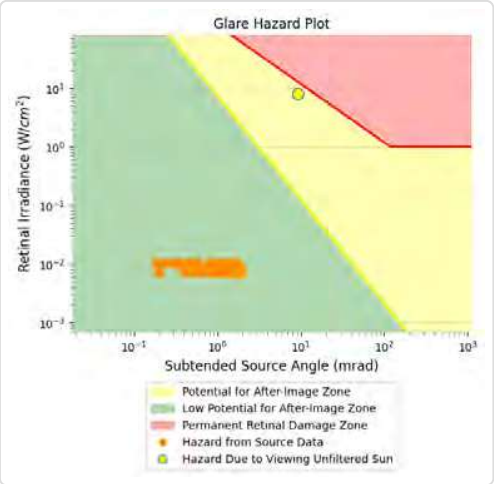
PV array 5 and OP 30

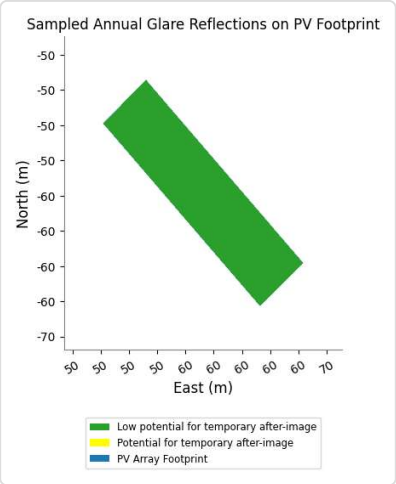
Yellow glare: none

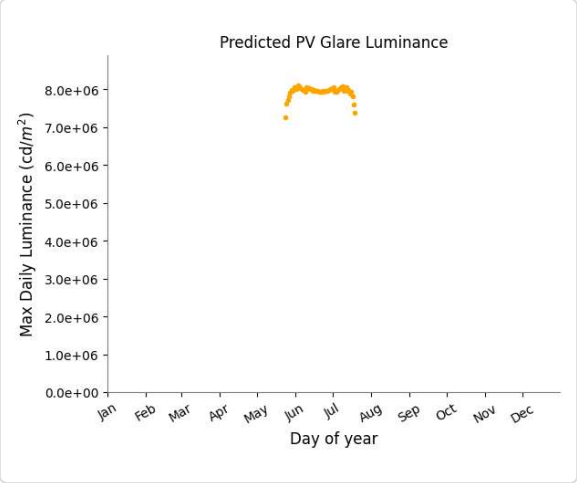
Green glare: 1,137 min.

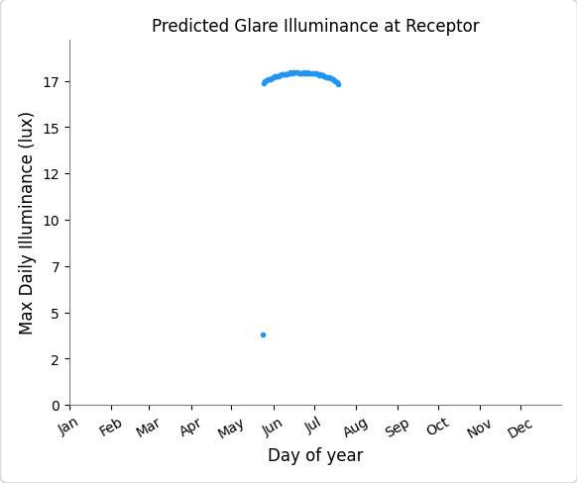








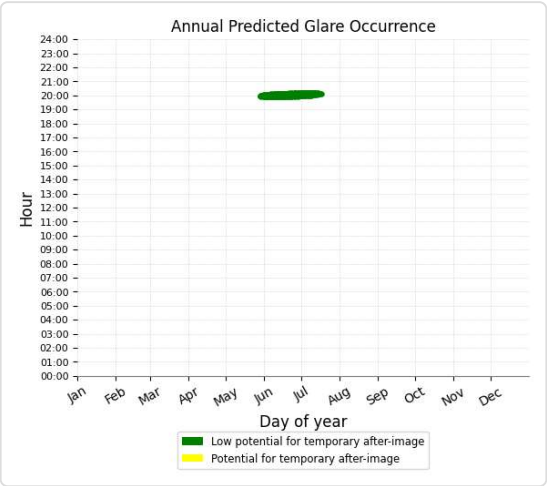


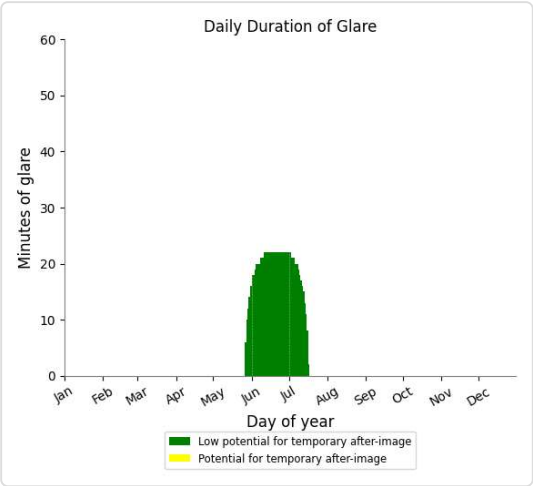


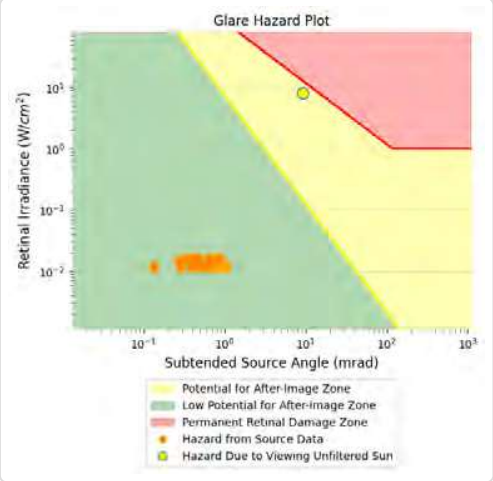
PV array 5 and OP 37

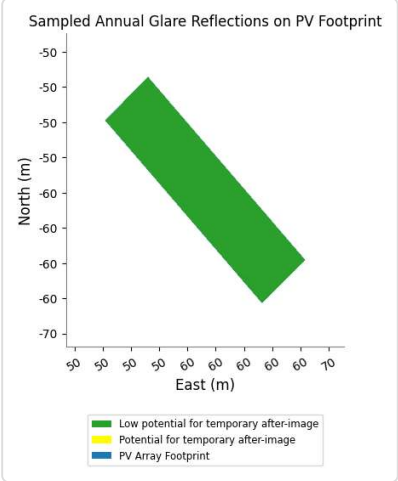
Yellow glare: none

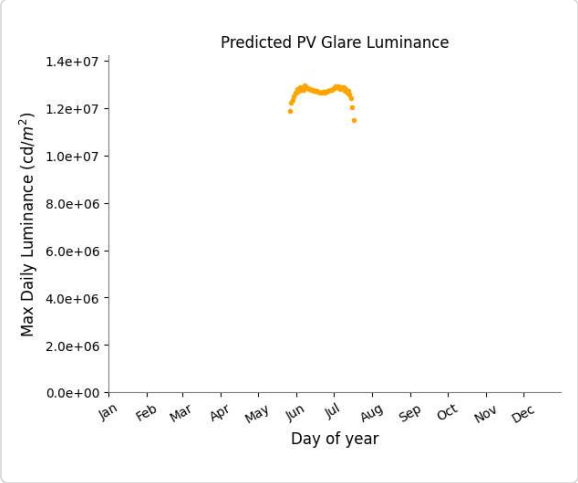
Green glare: 978 min.

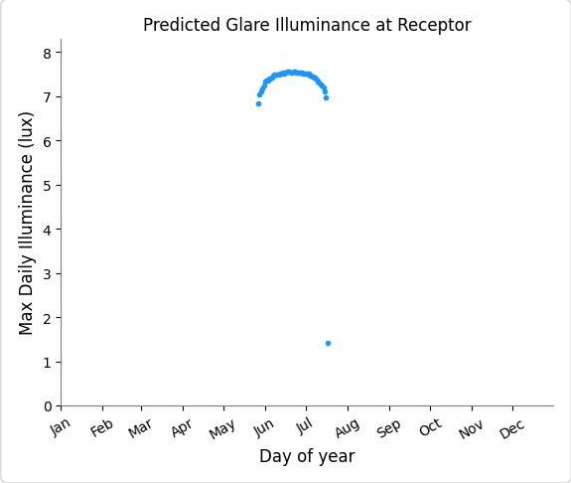








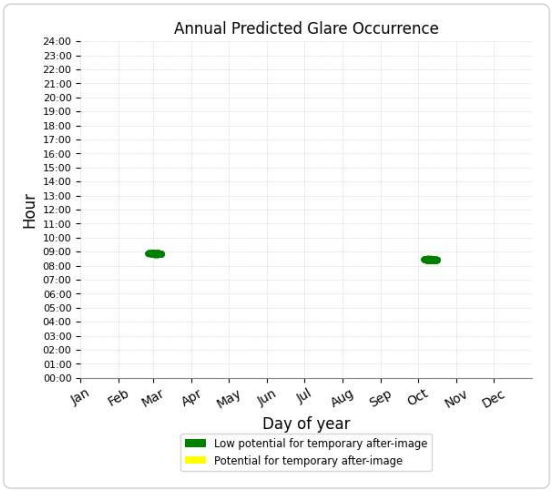


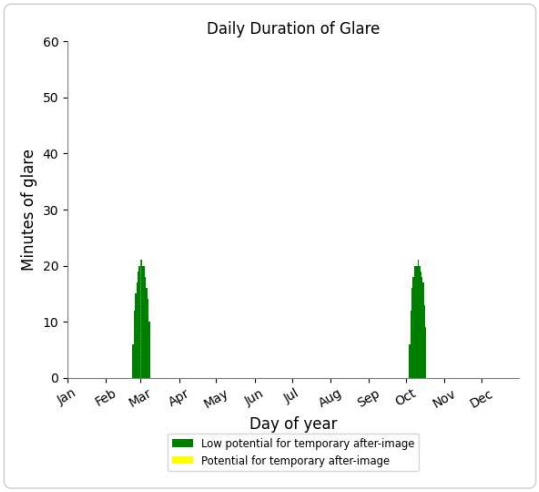


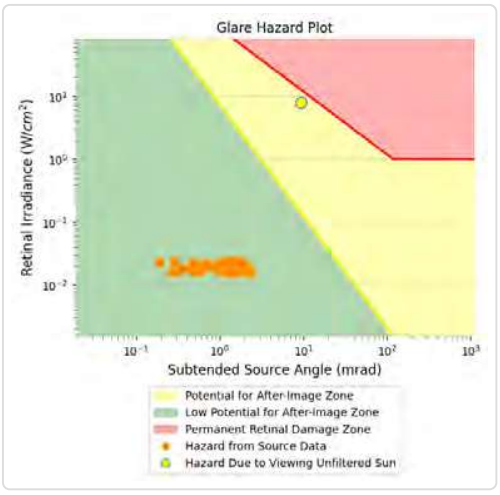
PV array 5 and OP 38

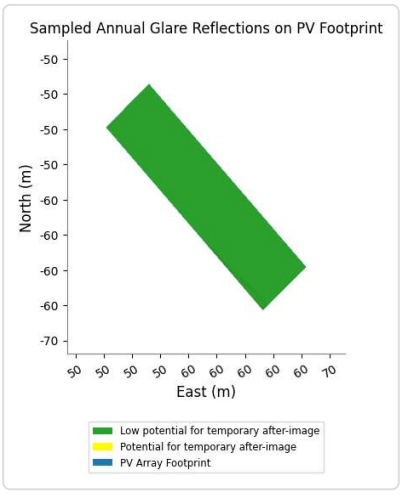
Yellow glare: none

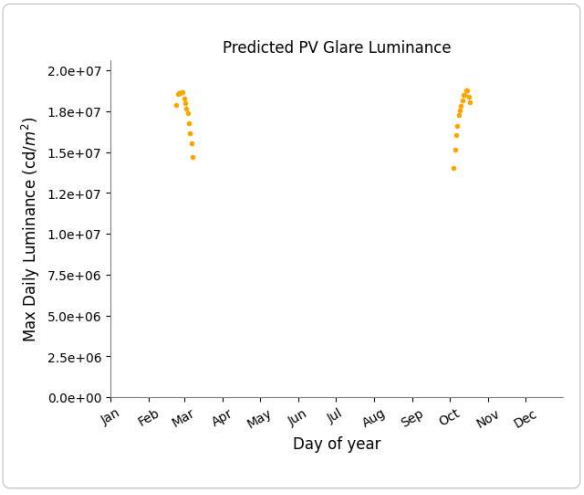
Green glare: 458 min.

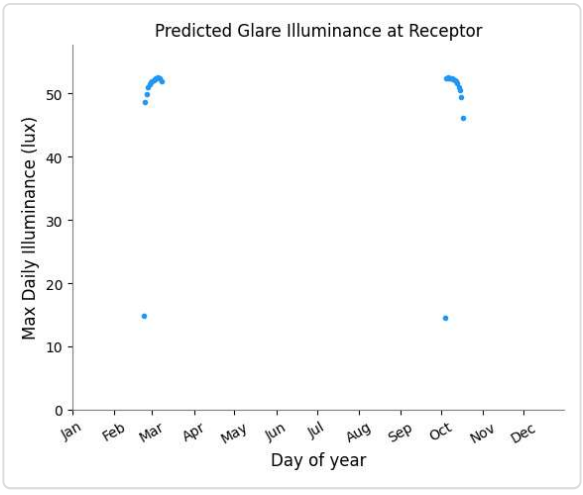












PV array 5 and 1-ATCT

No glare found

PV array 5 and OP 3

No glare found

PV array 5 and OP 4

No glare found

PV array 5 and OP 5

No glare found

PV array 5 and OP 6

No glare found

PV array 5 and OP 7

No glare found

PV array 5 and OP 10

No glare found

PV array 5 and OP 11

No glare found

PV array 5 and OP 12

No glare found

PV array 5 and OP 13

No glare found

PV array 5 and OP 17

No glare found

PV array 5 and OP 18

No glare found

PV array 5 and OP 19

No glare found

PV array 5 and OP 20

No glare found

PV array 5 and OP 21

No glare found

PV array 5 and OP 22

No glare found

PV array 5 and OP 24

No glare found

PV array 5 and OP 25

No glare found

PV array 5 and OP 26

No glare found

PV array 5 and OP 27

No glare found

PV array 5 and OP 28

No glare found

PV array 5 and OP 29

No glare found

PV array 5 and OP 31

No glare found

PV array 5 and OP 32

No glare found

PV array 5 and OP 33

No glare found

PV array 5 and OP 34

No glare found

PV array 5 and OP 35

No glare found

PV array 5 and OP 36

No glare found

PV array 5 and OP 39

No glare found

PV array 5 and OP 40

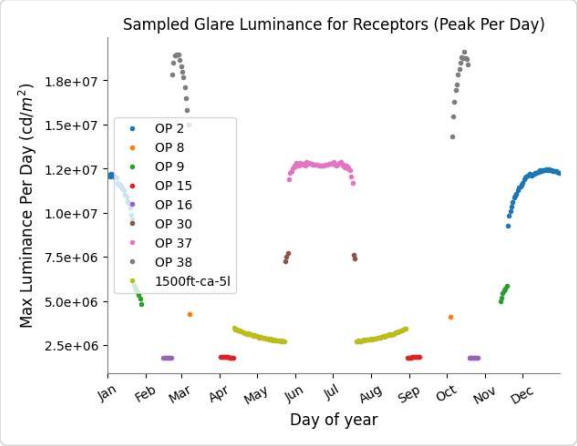
No glare found

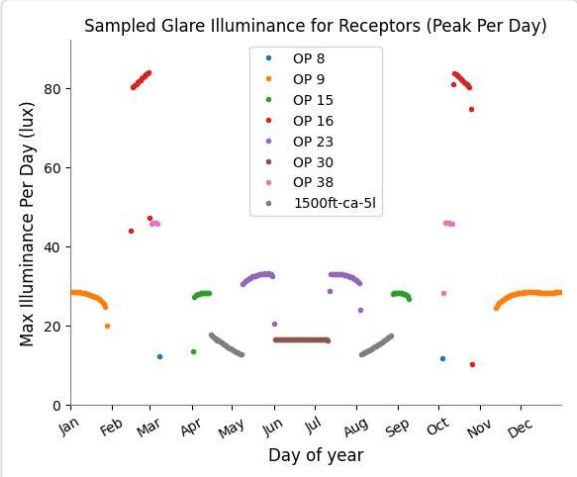
PV: PV array 6 low potential for temporary after-image

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
1500Ft-CA_5L23R_05L-R_23R-L	3,137	52.3	0	0.0	3,463,294	18
1000Ft-GA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
1000Ft-GA_5L23R_05L-R_23R-L	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-L_23L-R	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-R_23L-L	0	0.0	0	0.0	0	0
1500Ft-CA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
Approach_05L	0	0.0	0	0.0	0	0
Approach_05R	0	0.0	0	0.0	0	0
Approach_23L	0	0.0	0	0.0	0	0
Approach_23R	0	0.0	0	0.0	0	0
FP 1	0	0.0	0	0.0	0	0
FP 2	0	0.0	0	0.0	0	0
FP 3	0	0.0	0	0.0	0	0
FP 4	0	0.0	0	0.0	0	0
OP 2	1,275	21.2	0	0.0	12,438,544	11
OP 8	442	7.4	0	0.0	5,686,565	14
OP 9	1,255	20.9	0	0.0	6,972,621	29
OP 14	522	8.7	0	0.0	1,940,792	11
OP 15	468	7.8	0	0.0	1,827,739	28
OP 16	574	9.6	0	0.0	1,782,159	84
OP 23	928	15.5	0	0.0	1,666,483	33
OP 30	1,155	19.2	0	0.0	8,010,950	17
OP 37	987	16.4	0	0.0	12,888,763	7
OP 38	461	7.7	0	0.0	19,094,214	46
1-ATCT	0	0.0	0	0.0	0	0
OP 3	0	0.0	0	0.0	0	0
OP 4	0	0.0	0	0.0	0	0
OP 5	0	0.0	0	0.0	0	0
OP 6	0	0.0	0	0.0	0	0
OP 7	0	0.0	0	0.0	0	0
OP 10	0	0.0	0	0.0	0	0
OP 11	0	0.0	0	0.0	0	0
OP 12	0	0.0	0	0.0	0	0

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
OP 13	0	0.0	0	0.0	0	0
OP 17	0	0.0	0	0.0	0	0
OP 18	0	0.0	0	0.0	0	0
OP 19	0	0.0	0	0.0	0	0
OP 20	0	0.0	0	0.0	0	0
OP 21	0	0.0	0	0.0	0	0
OP 22	0	0.0	0	0.0	0	0
OP 24	0	0.0	0	0.0	0	0
OP 25	0	0.0	0	0.0	0	0
OP 26	0	0.0	0	0.0	0	0
OP 27	0	0.0	0	0.0	0	0
OP 28	0	0.0	0	0.0	0	0
OP 29	0	0.0	0	0.0	0	0
OP 31	0	0.0	0	0.0	0	0
OP 32	0	0.0	0	0.0	0	0
OP 33	0	0.0	0	0.0	0	0
OP 34	0	0.0	0	0.0	0	0
OP 35	0	0.0	0	0.0	0	0
OP 36	0	0.0	0	0.0	0	0
OP 39	0	0.0	0	0.0	0	0
OP 40	0	0.0	0	0.0	0	0

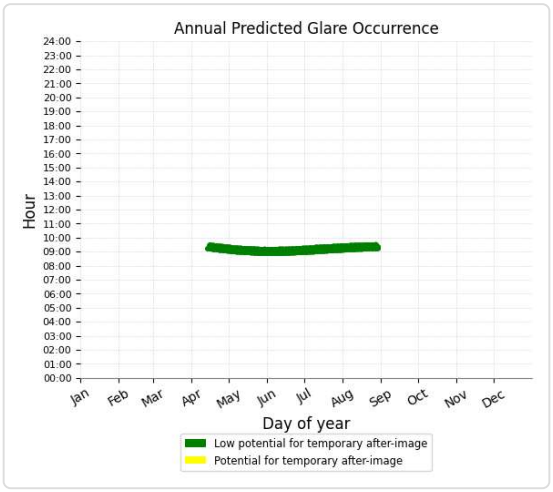


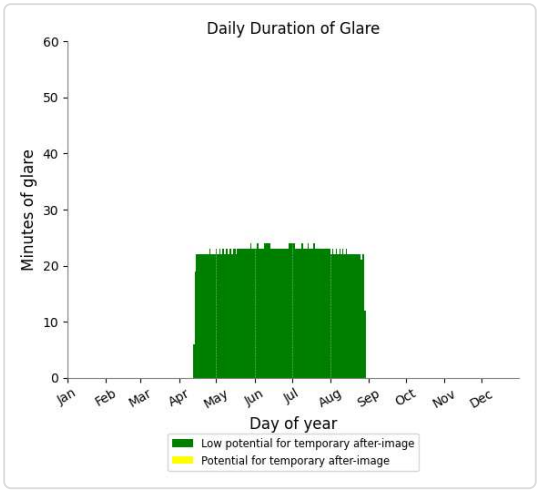


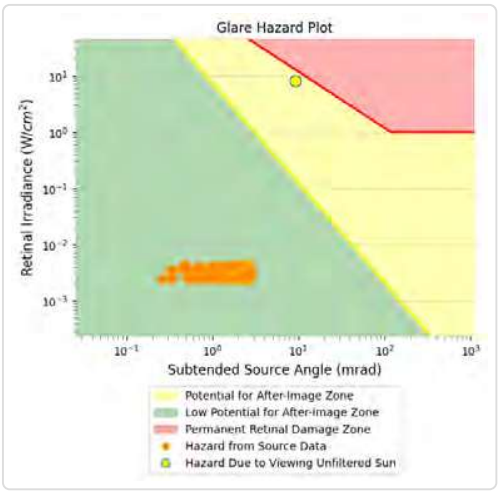
PV array 6 and Route: 1500Ft-CA_5L23R_05L-R_23R-L

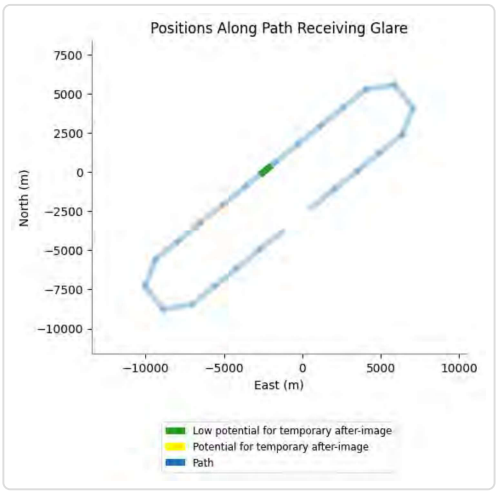
Yellow glare: none

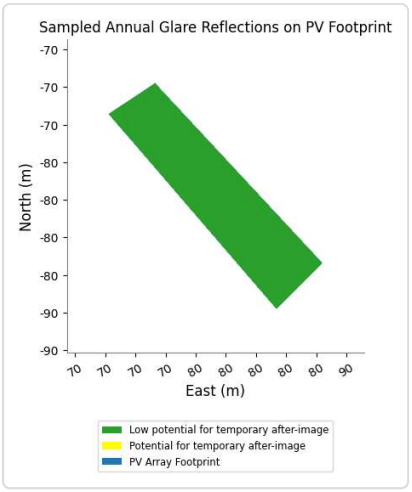
Green glare: 3,137 min.

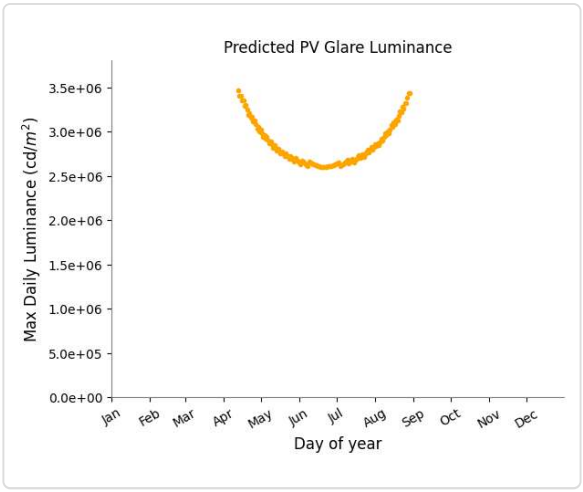


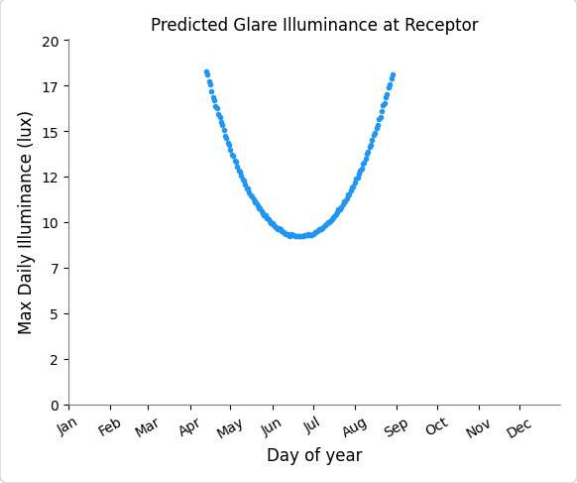












PV array 6 and Route: 1000Ft-GA_5L23R_05L-L_23R-R

No glare found

PV array 6 and Route: 1000Ft-GA_5L23R_05L-R_23R-L

No glare found

PV array 6 and Route: 1000Ft-GA_5R23L_05R-L_23L-R

No glare found

PV array 6 and Route: 1000Ft-GA_5R23L_05R-R_23L-L

No glare found

PV array 6 and Route: 1500Ft-CA_5L23R_05L-L_23R-R

No glare found

PV array 6 and Route: Approach_05L

No glare found

PV array 6 and Route: Approach_05R

No glare found

PV array 6 and Route: Approach_23L

No glare found

PV array 6 and Route: Approach_23R

No glare found

PV array 6 and FP: FP 1

No glare found

PV array 6 and FP: FP 2

No glare found

PV array 6 and FP: FP 3

No glare found

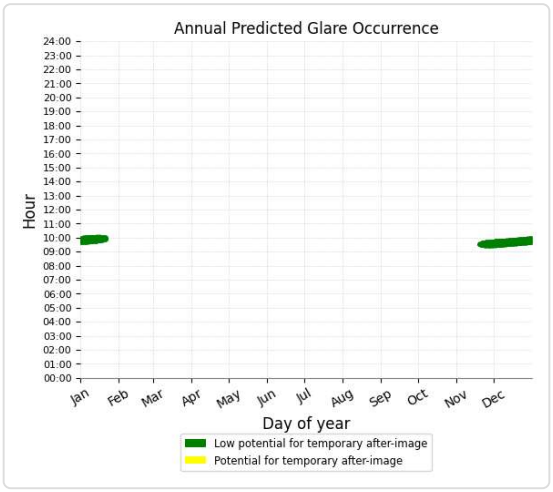
PV array 6 and FP: FP 4

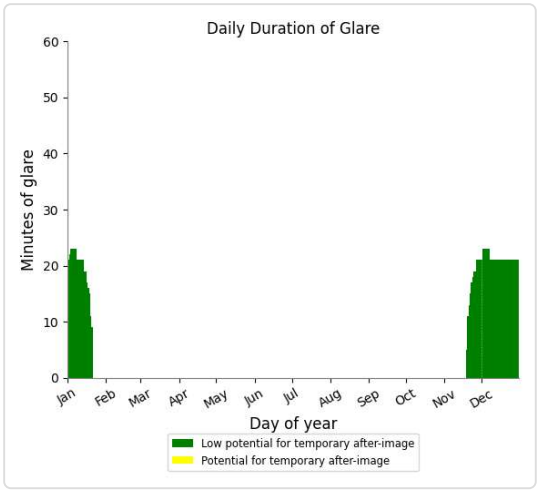
No glare found

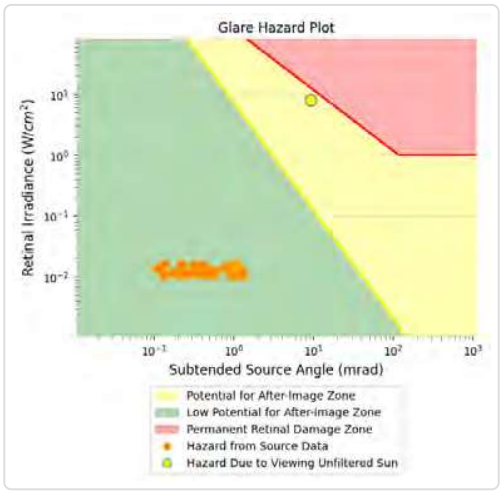
PV array 6 and OP 2

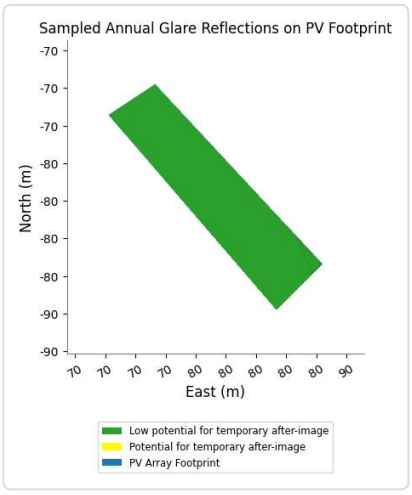
Yellow glare: none

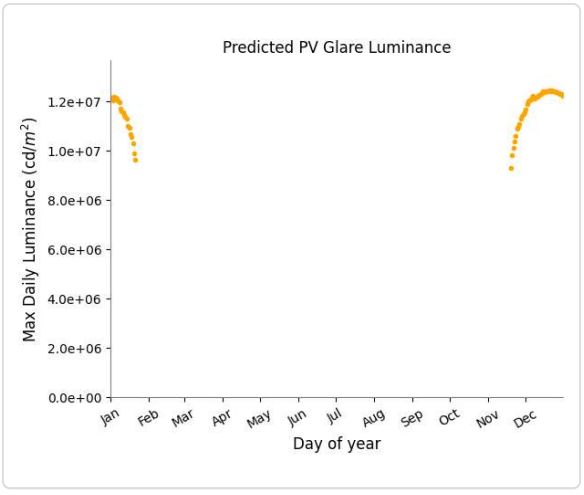
Green glare: 1,275 min.

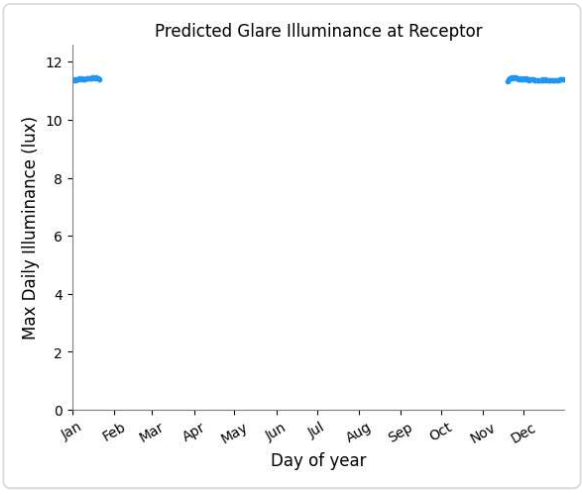








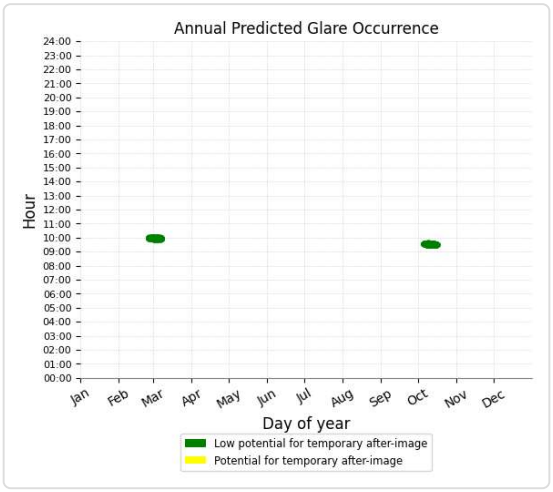


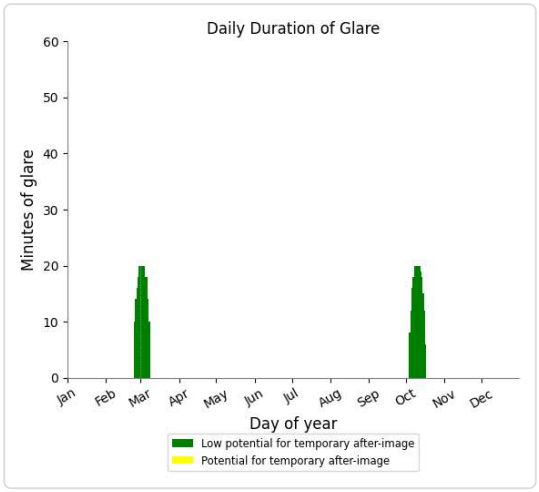


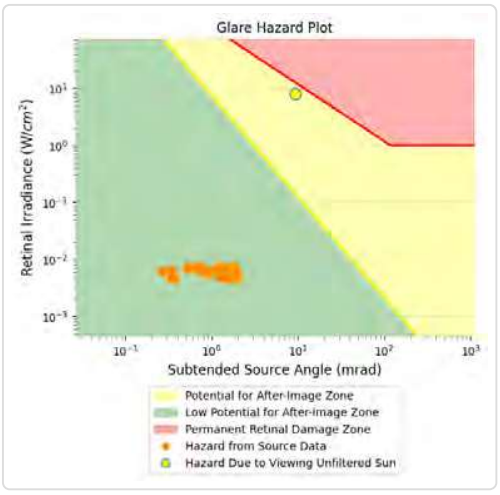
PV array 6 and OP 8

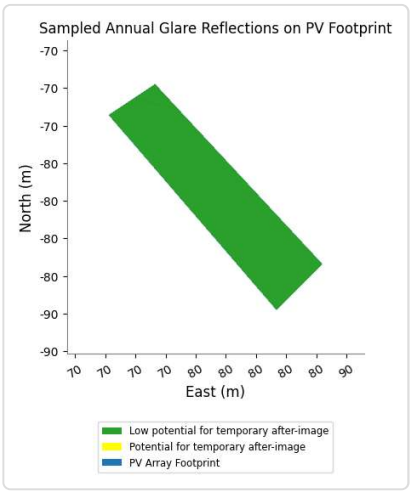
Yellow glare: none

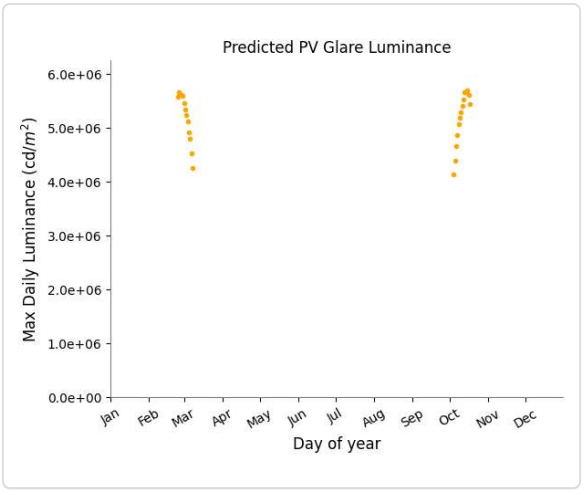
Green glare: 442 min.

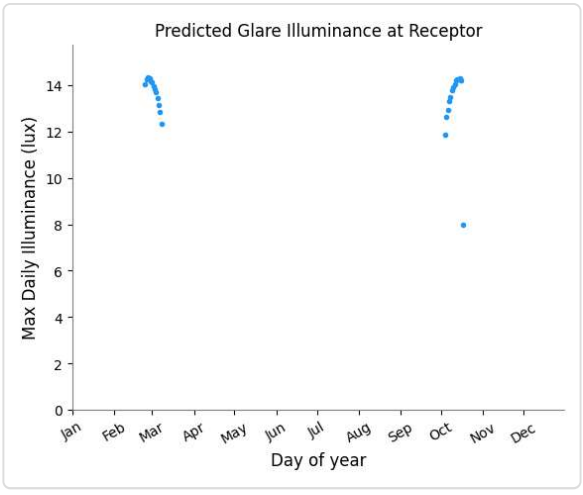








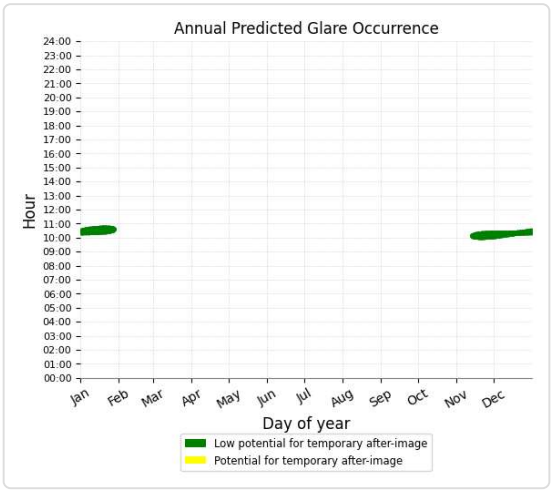


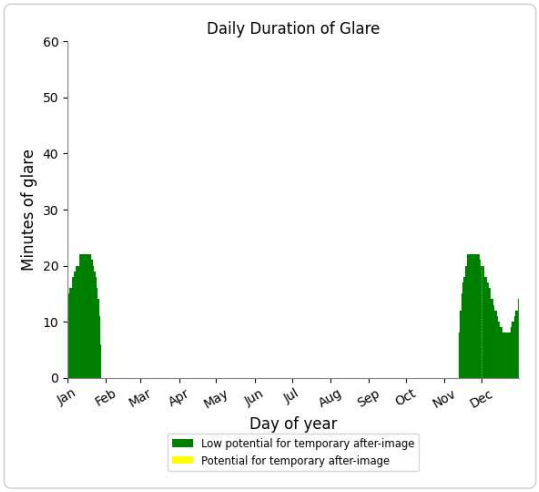


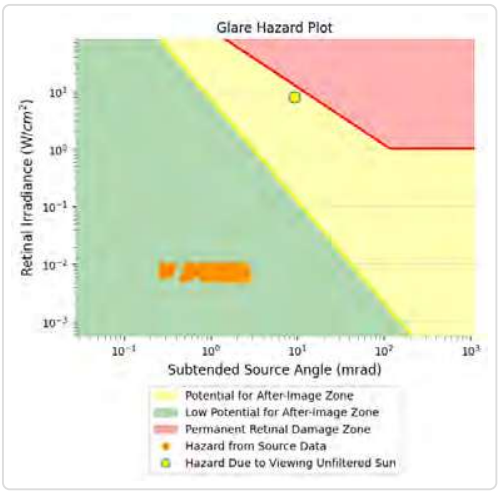
PV array 6 and OP 9

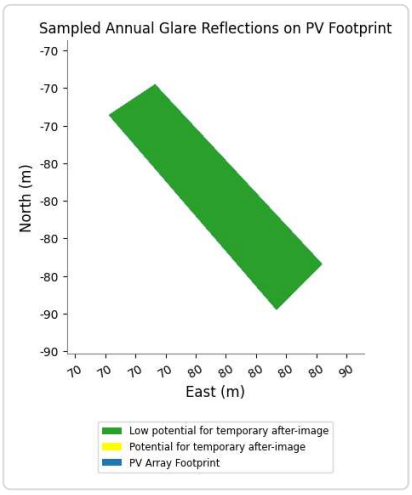
Yellow glare: none

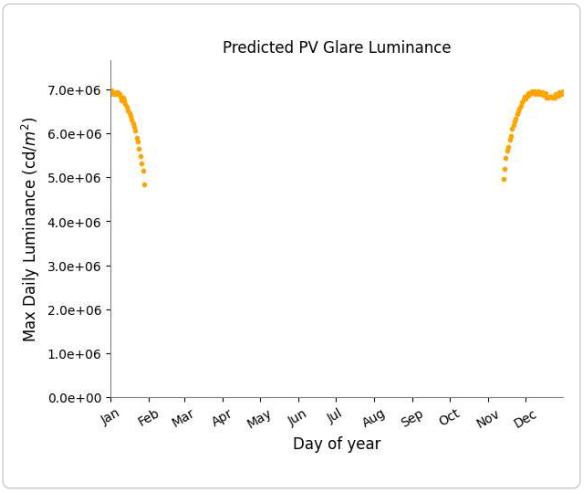
Green glare: 1,255 min.

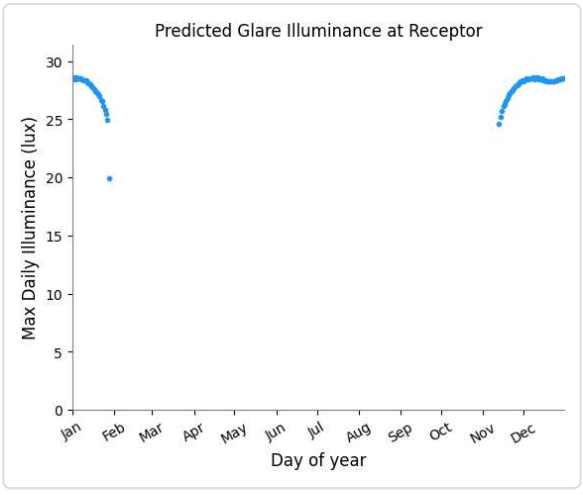








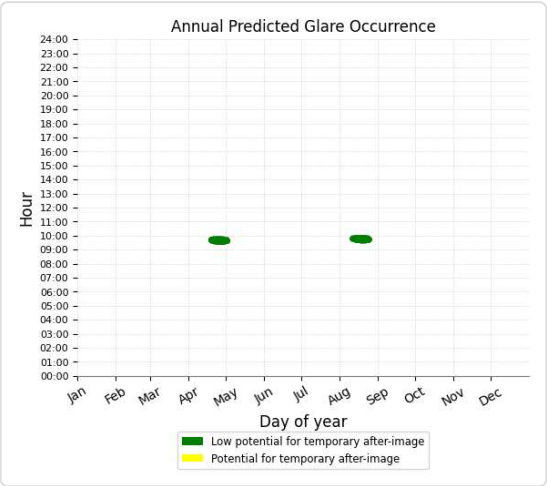


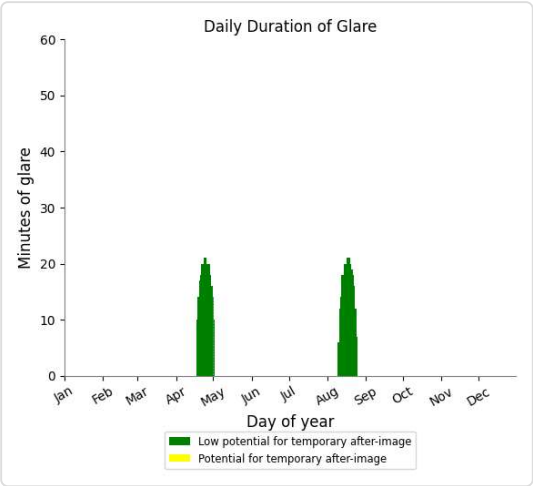


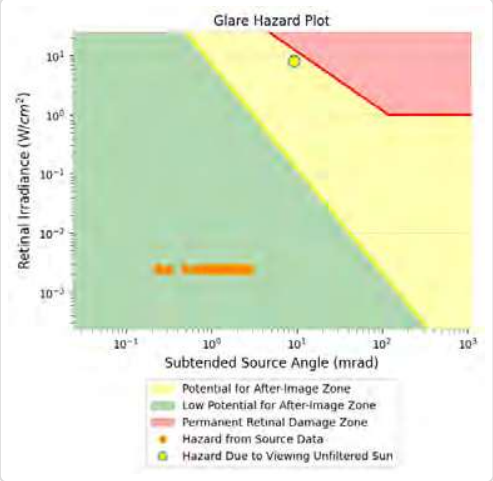
PV array 6 and OP 14

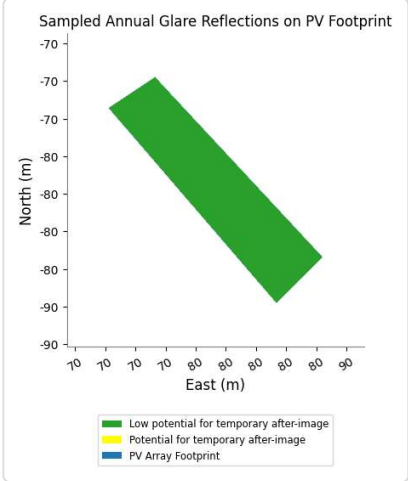
Yellow glare: none

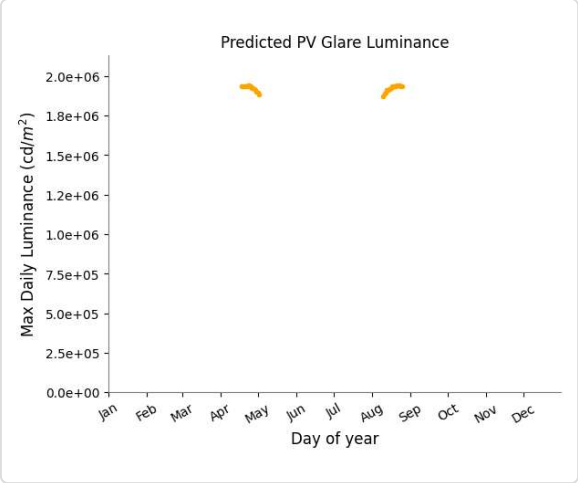
Green glare: 522 min.

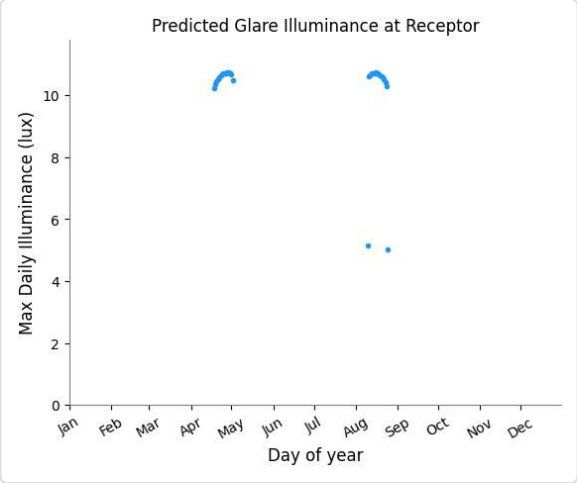








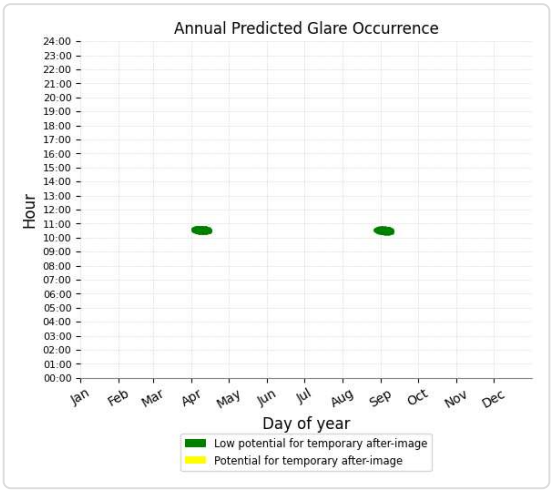


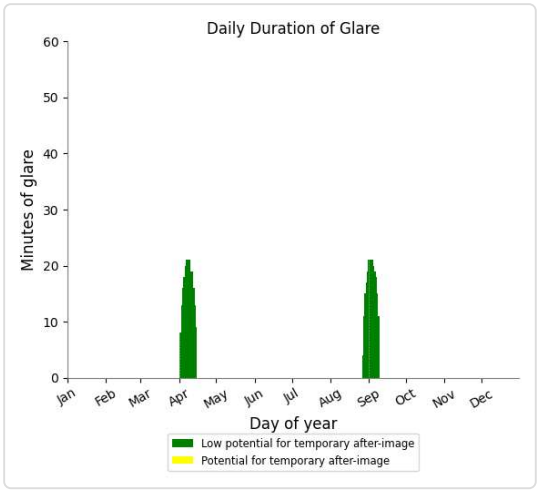


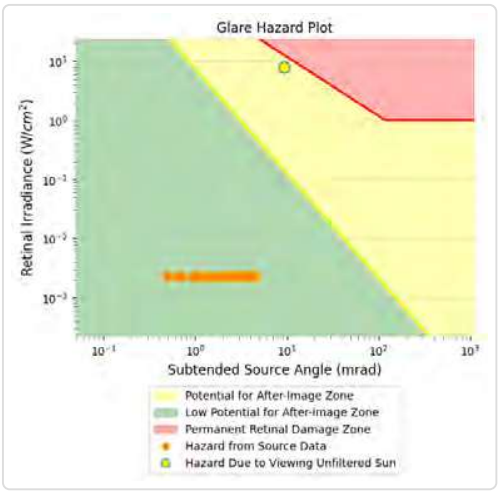
PV array 6 and OP 15

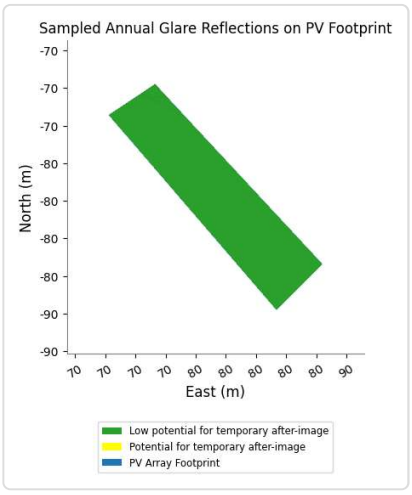
Yellow glare: none

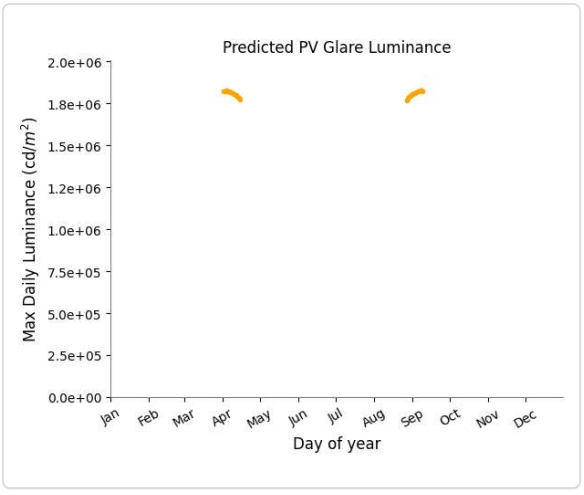
Green glare: 468 min.

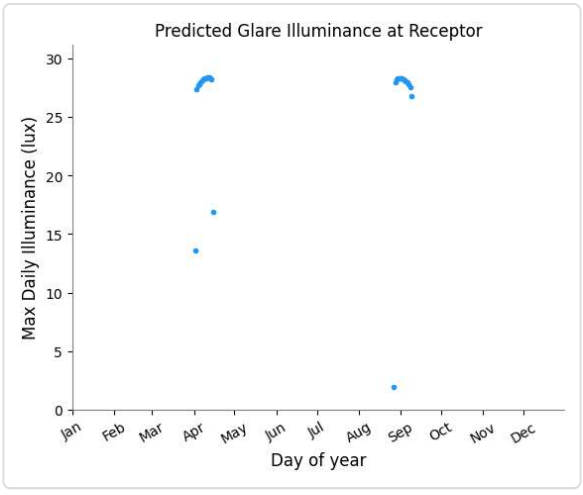








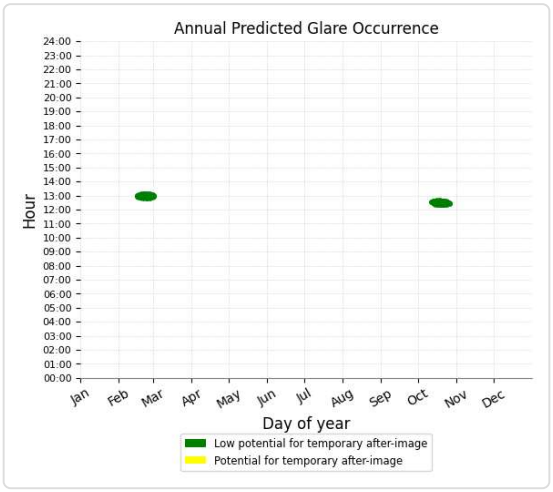


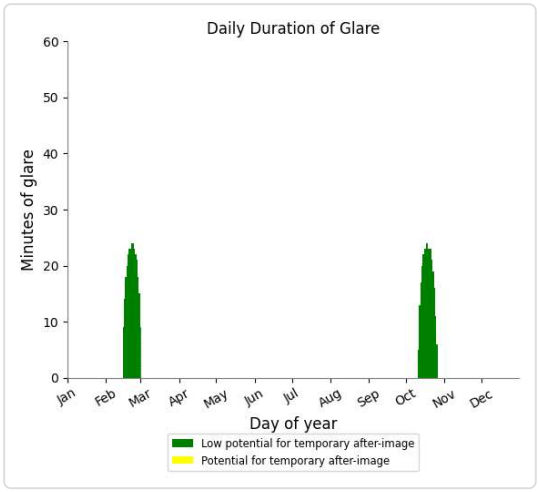


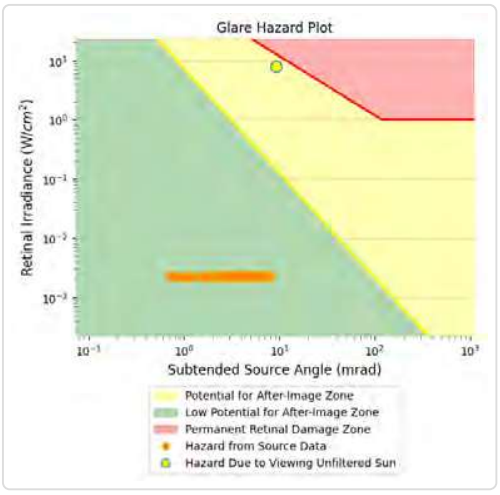
PV array 6 and OP 16

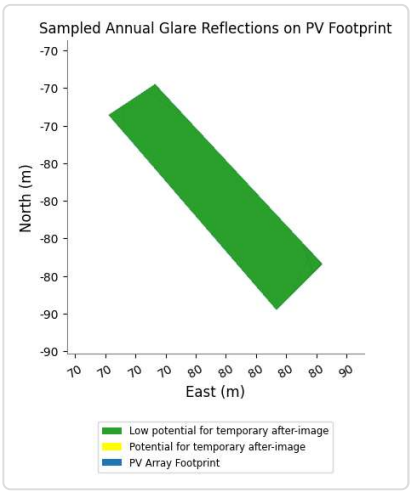
Yellow glare: none

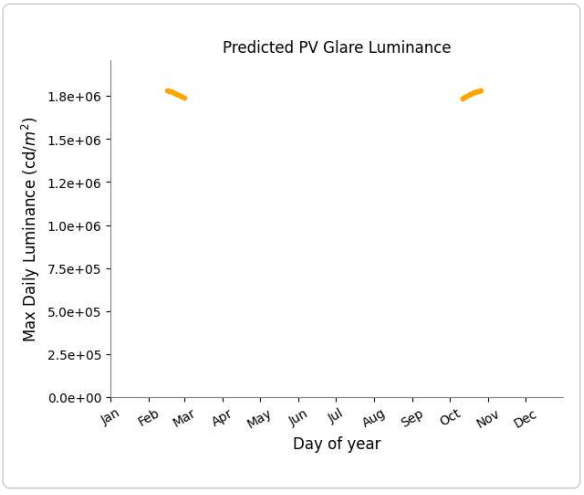
Green glare: 574 min.

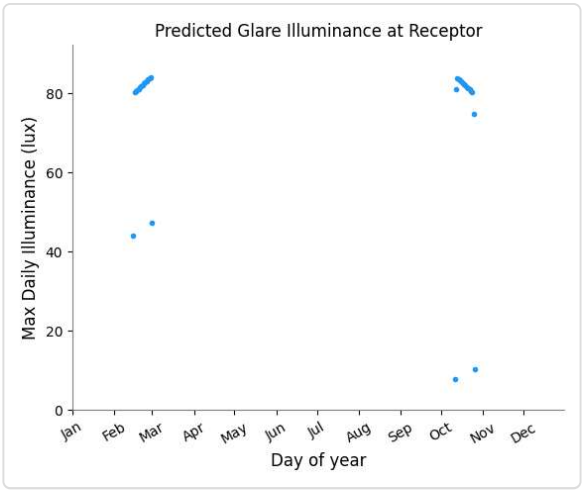








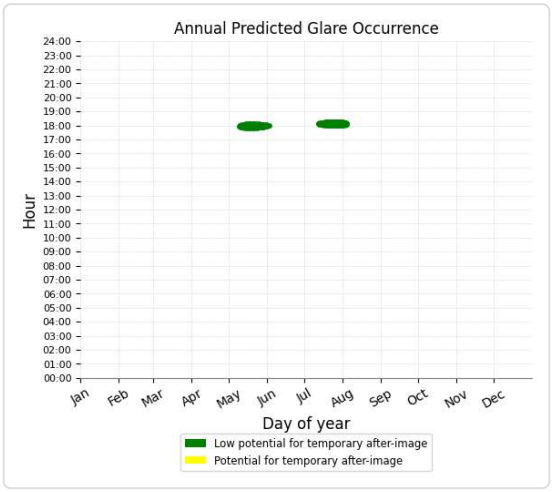


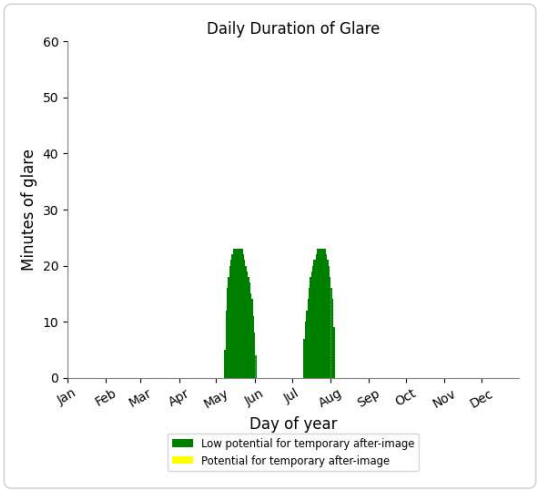


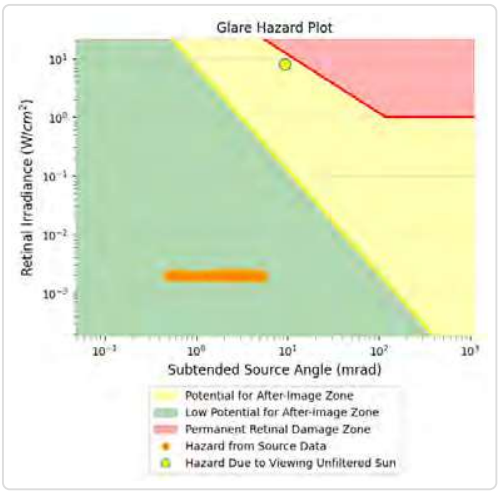
PV array 6 and OP 23

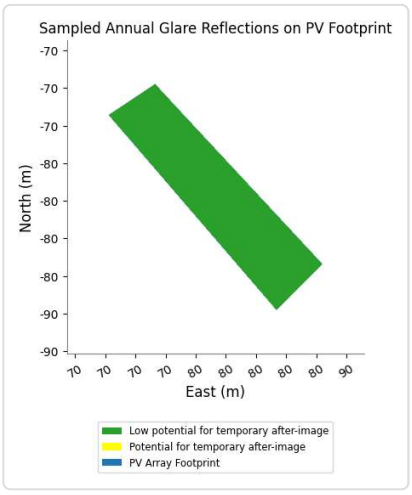
Yellow glare: none

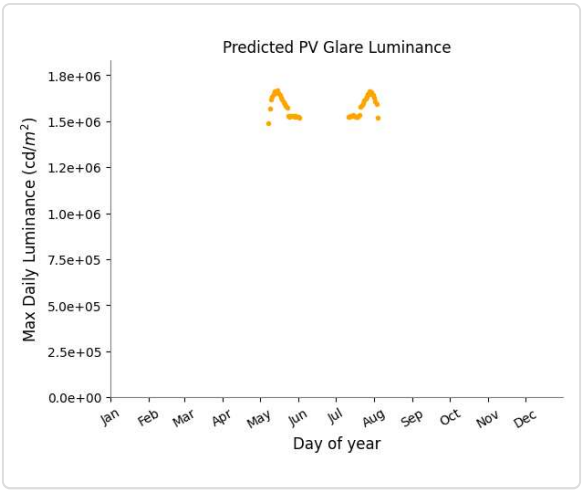
Green glare: 928 min.

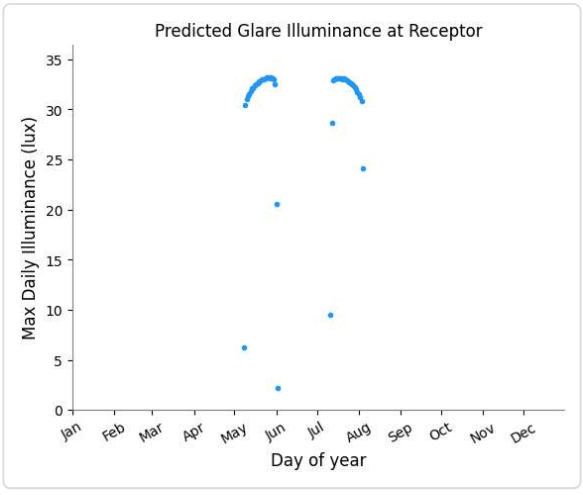








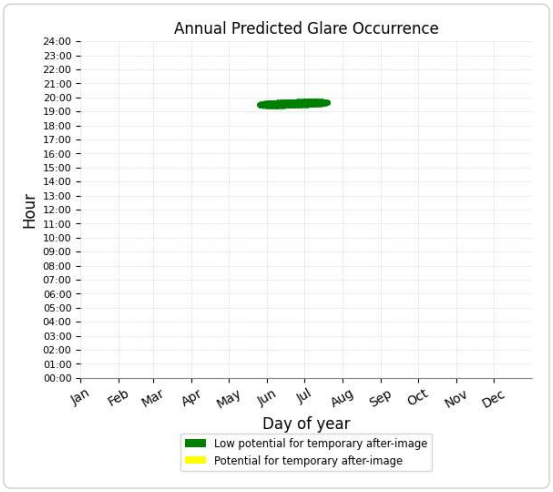


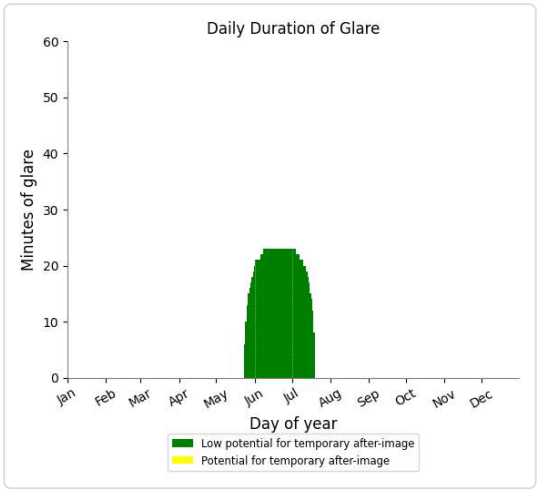


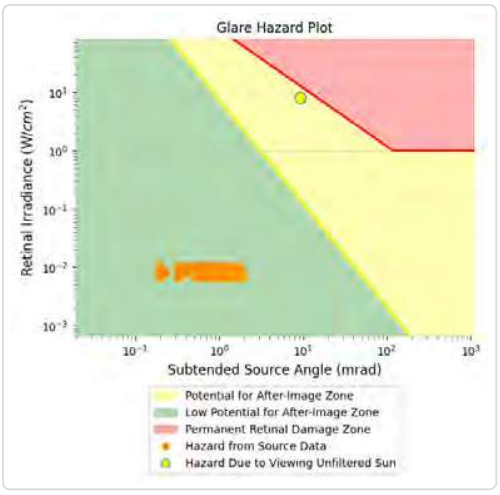
PV array 6 and OP 30

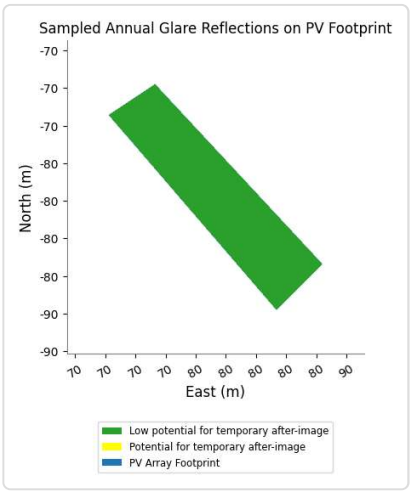
Yellow glare: none

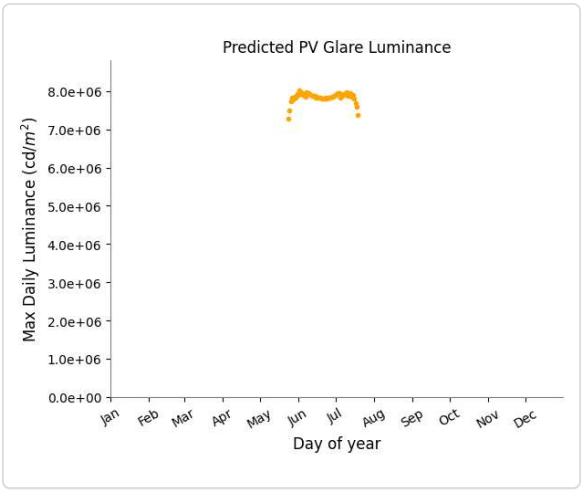
Green glare: 1,155 min.

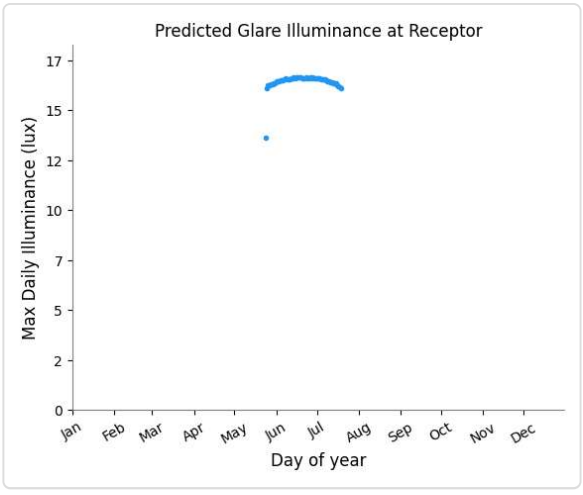








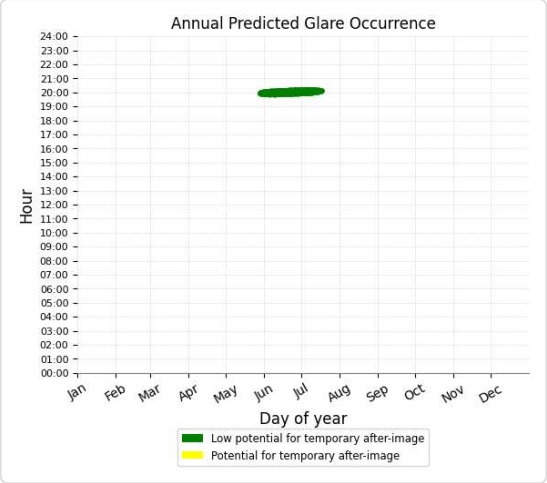


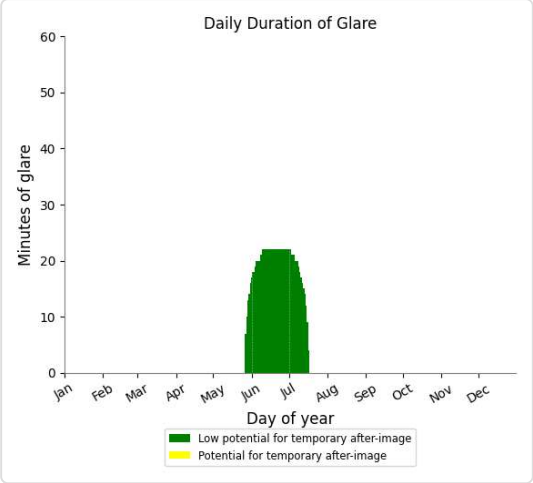


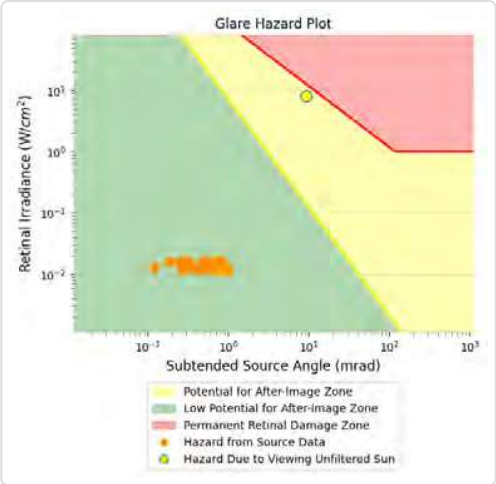
PV array 6 and OP 37

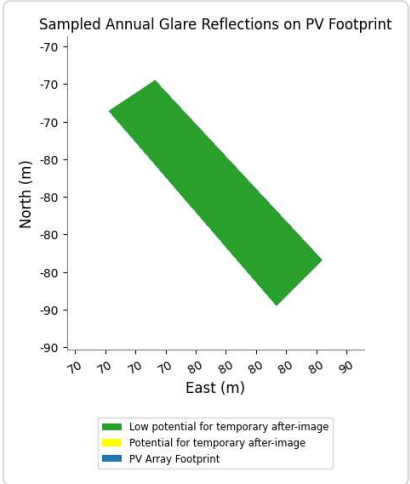
Yellow glare: none

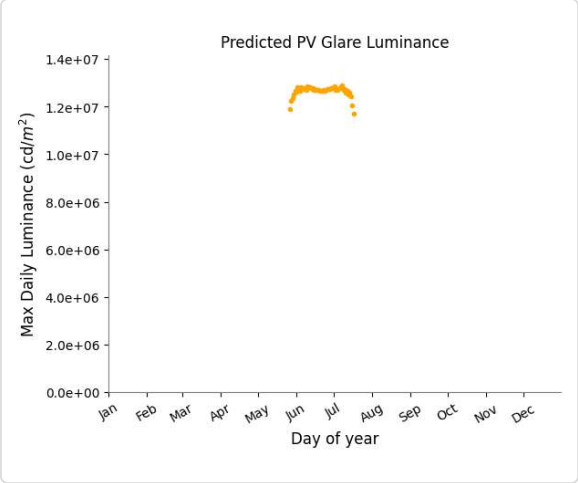
Green glare: 987 min.

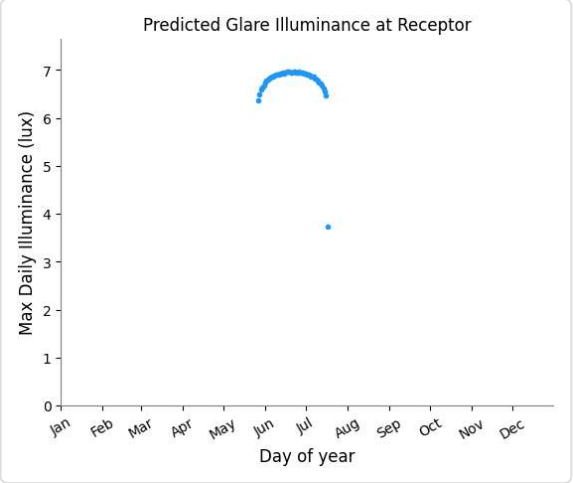








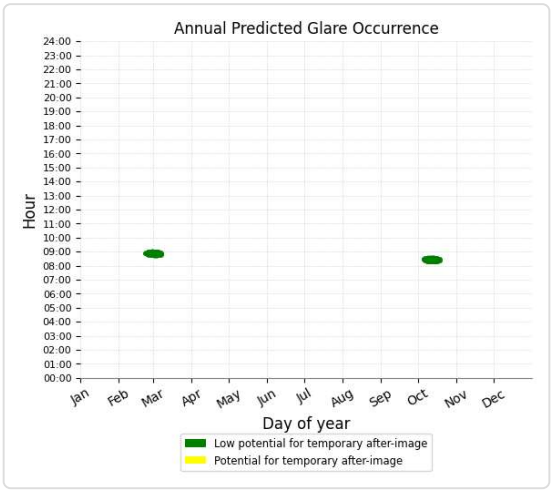


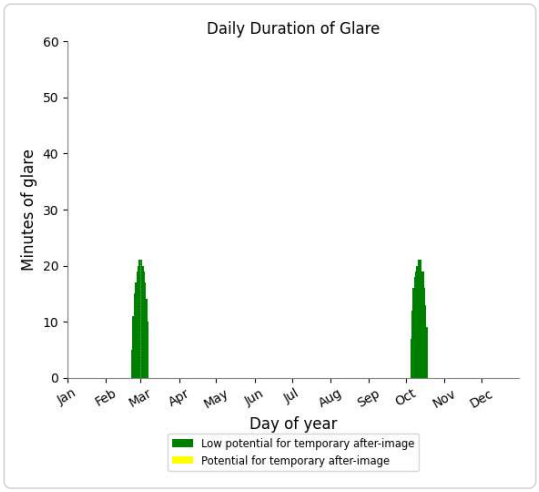


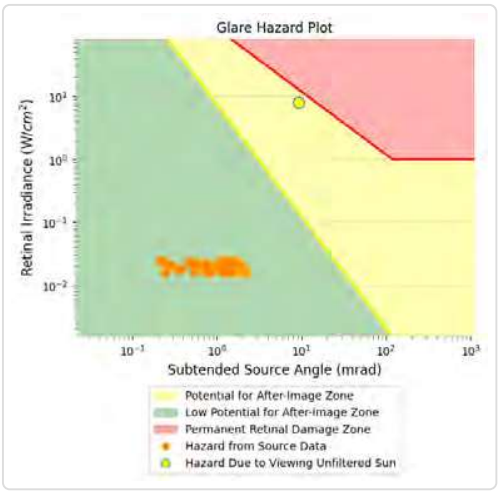
PV array 6 and OP 38

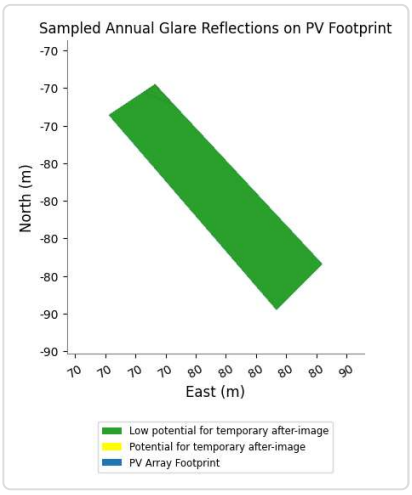
Yellow glare: none

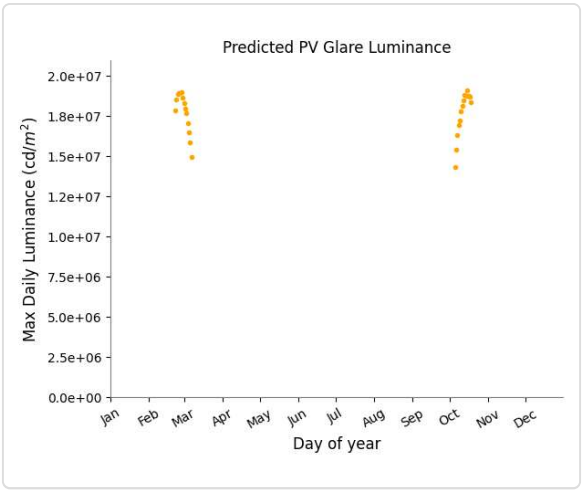
Green glare: 461 min.

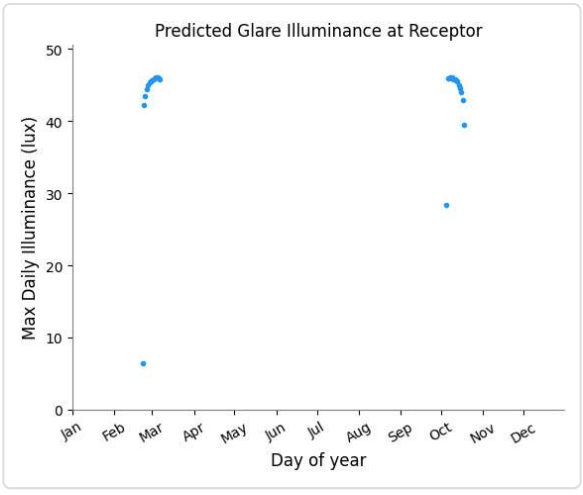












PV array 6 and 1-ATCT

No glare found

PV array 6 and OP 3

No glare found

PV array 6 and OP 4

No glare found

PV array 6 and OP 5

No glare found

PV array 6 and OP 6

No glare found

PV array 6 and OP 7

No glare found

PV array 6 and OP 10

No glare found

PV array 6 and OP 11

No glare found

PV array 6 and OP 12

No glare found

PV array 6 and OP 13

No glare found

PV array 6 and OP 17

No glare found

PV array 6 and OP 18

No glare found

PV array 6 and OP 19

No glare found

PV array 6 and OP 20

No glare found

PV array 6 and OP 21

No glare found

PV array 6 and OP 22

No glare found

PV array 6 and OP 24

No glare found

PV array 6 and OP 25

No glare found

PV array 6 and OP 26

No glare found

PV array 6 and OP 27

No glare found

PV array 6 and OP 28

No glare found

PV array 6 and OP 29

No glare found

PV array 6 and OP 31

No glare found

PV array 6 and OP 32

No glare found

PV array 6 and OP 33

No glare found

PV array 6 and OP 34

No glare found

PV array 6 and OP 35

No glare found

PV array 6 and OP 36

No glare found

PV array 6 and OP 39

No glare found

PV array 6 and OP 40

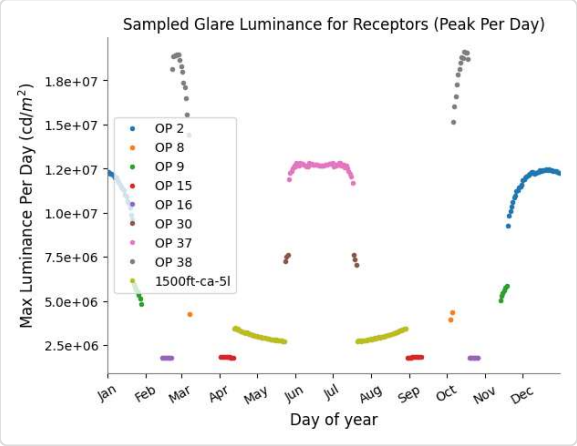
No glare found

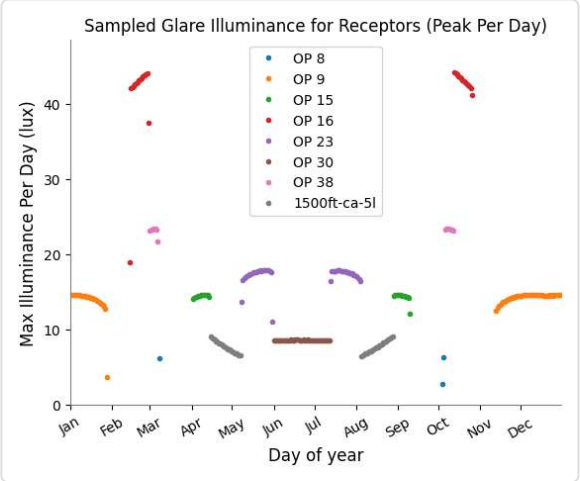
PV: PV array 7 low potential for temporary after-image

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
1500Ft-CA_5L23R_05L-R_23R-L	3,106	51.8	0	0.0	3,470,161	9
1000Ft-GA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
1000Ft-GA_5L23R_05L-R_23R-L	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-L_23L-R	0	0.0	0	0.0	0	0
1000Ft-GA_5R23L_05R-R_23L-L	0	0.0	0	0.0	0	0
1500Ft-CA_5L23R_05L-L_23R-R	0	0.0	0	0.0	0	0
Approach_05L	0	0.0	0	0.0	0	0
Approach_05R	0	0.0	0	0.0	0	0
Approach_23L	0	0.0	0	0.0	0	0
Approach_23R	0	0.0	0	0.0	0	0
FP 1	0	0.0	0	0.0	0	0
FP 2	0	0.0	0	0.0	0	0
FP 3	0	0.0	0	0.0	0	0
FP 4	0	0.0	0	0.0	0	0
OP 2	1,265	21.1	0	0.0	12,438,476	6
OP 8	439	7.3	0	0.0	5,728,939	7
OP 9	1,258	21.0	0	0.0	7,042,064	15
OP 14	509	8.5	0	0.0	1,941,086	6
OP 15	449	7.5	0	0.0	1,832,687	15
OP 16	524	8.7	0	0.0	1,787,969	44
OP 23	858	14.3	0	0.0	1,603,031	18
OP 30	1,129	18.8	0	0.0	7,935,488	9
OP 37	988	16.5	0	0.0	12,841,243	4
OP 38	451	7.5	0	0.0	19,094,155	23
1-ATCT	0	0.0	0	0.0	0	0
OP 3	0	0.0	0	0.0	0	0
OP 4	0	0.0	0	0.0	0	0
OP 5	0	0.0	0	0.0	0	0
OP 6	0	0.0	0	0.0	0	0
OP 7	0	0.0	0	0.0	0	0
OP 10	0	0.0	0	0.0	0	0
OP 11	0	0.0	0	0.0	0	0
OP 12	0	0.0	0	0.0	0	0

Receptor	Annual Green Glare		Annual Yellow Glare		Peak Luminance	Peak Illuminance
	min	hr	min	hr	cd/m^2	lux
OP 13	0	0.0	0	0.0	0	0
OP 17	0	0.0	0	0.0	0	0
OP 18	0	0.0	0	0.0	0	0
OP 19	0	0.0	0	0.0	0	0
OP 20	0	0.0	0	0.0	0	0
OP 21	0	0.0	0	0.0	0	0
OP 22	0	0.0	0	0.0	0	0
OP 24	0	0.0	0	0.0	0	0
OP 25	0	0.0	0	0.0	0	0
OP 26	0	0.0	0	0.0	0	0
OP 27	0	0.0	0	0.0	0	0
OP 28	0	0.0	0	0.0	0	0
OP 29	0	0.0	0	0.0	0	0
OP 31	0	0.0	0	0.0	0	0
OP 32	0	0.0	0	0.0	0	0
OP 33	0	0.0	0	0.0	0	0
OP 34	0	0.0	0	0.0	0	0
OP 35	0	0.0	0	0.0	0	0
OP 36	0	0.0	0	0.0	0	0
OP 39	0	0.0	0	0.0	0	0
OP 40	0	0.0	0	0.0	0	0

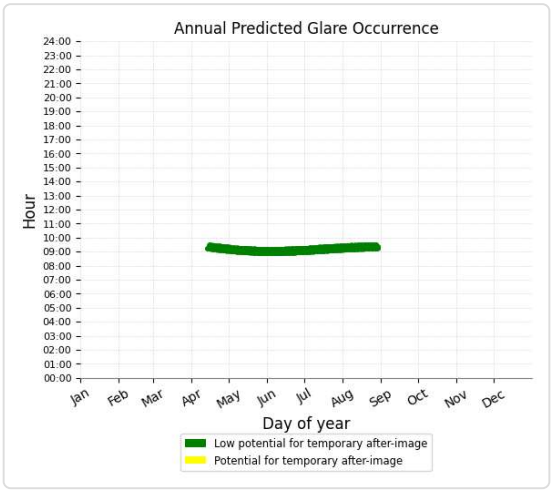


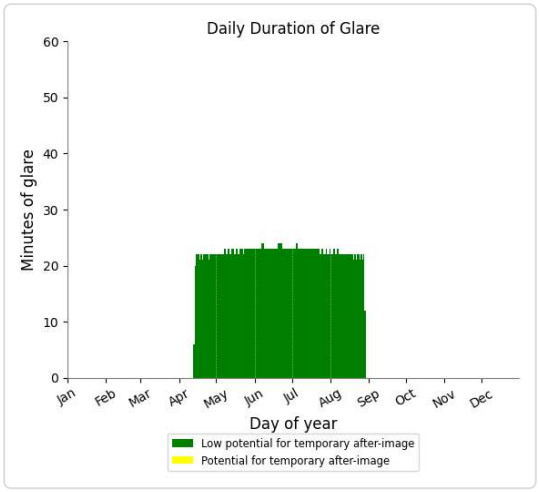


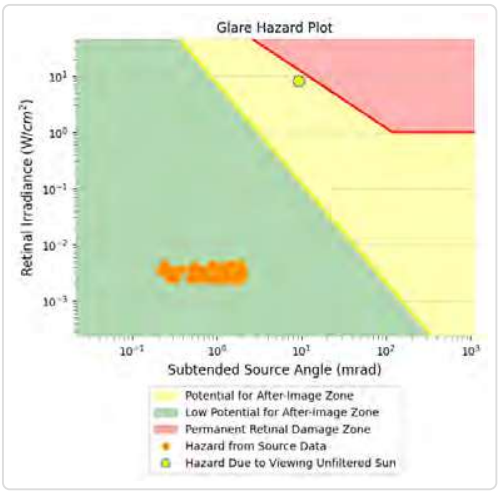
PV array 7 and Route: 1500Ft-CA_5L23R_05L-R_23R-L

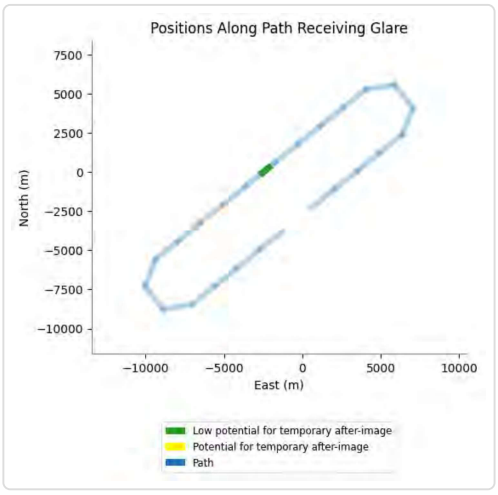
Yellow glare: none

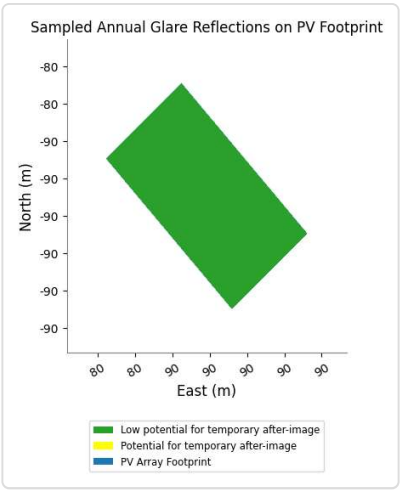
Green glare: 3,106 min.

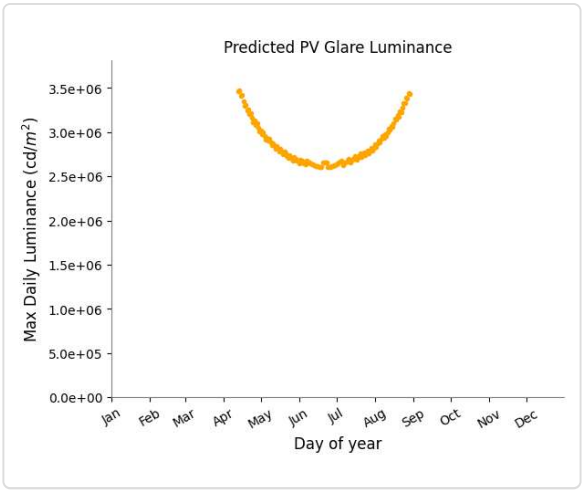


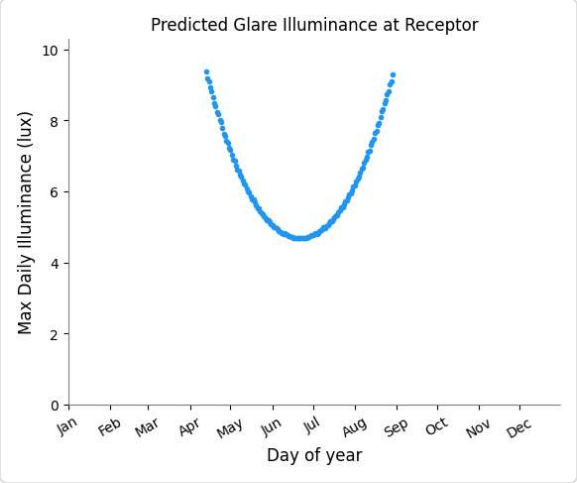












PV array 7 and Route: 1000Ft-GA_5L23R_05L-L_23R-R

No glare found

PV array 7 and Route: 1000Ft-GA_5L23R_05L-R_23R-L

No glare found

PV array 7 and Route: 1000Ft-GA_5R23L_05R-L_23L-R

No glare found

PV array 7 and Route: 1000Ft-GA_5R23L_05R-R_23L-L

No glare found

PV array 7 and Route: 1500Ft-CA_5L23R_05L-L_23R-R

No glare found

PV array 7 and Route: Approach_05L

No glare found

PV array 7 and Route: Approach_05R

No glare found

PV array 7 and Route: Approach_23L

No glare found

PV array 7 and Route: Approach_23R

No glare found

PV array 7 and FP: FP 1

No glare found

PV array 7 and FP: FP 2

No glare found

PV array 7 and FP: FP 3

No glare found

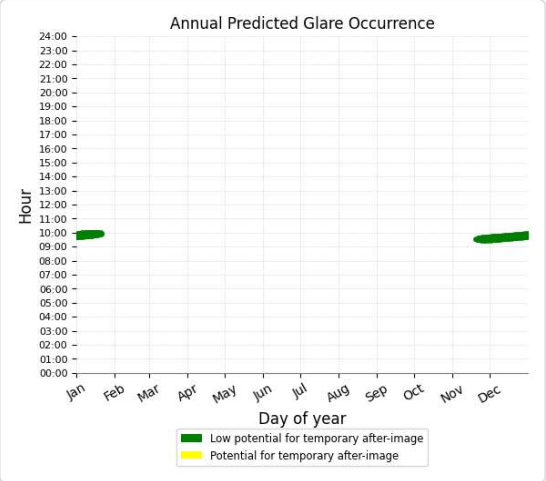
PV array 7 and FP: FP 4

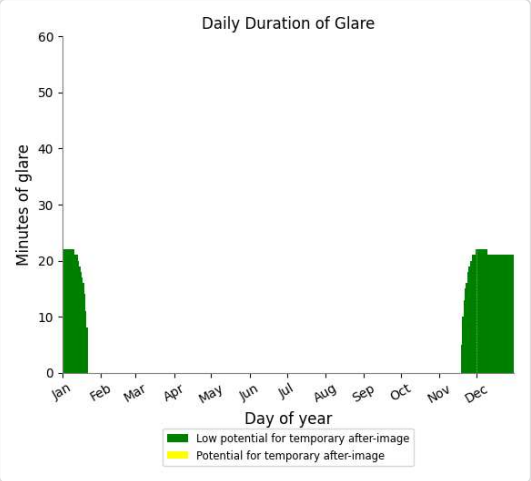
No glare found

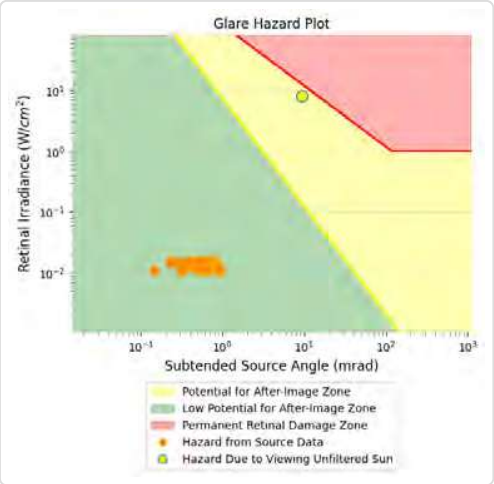
PV array 7 and OP 2

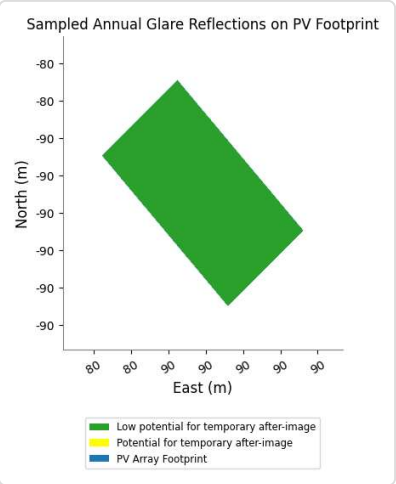
Yellow glare: none

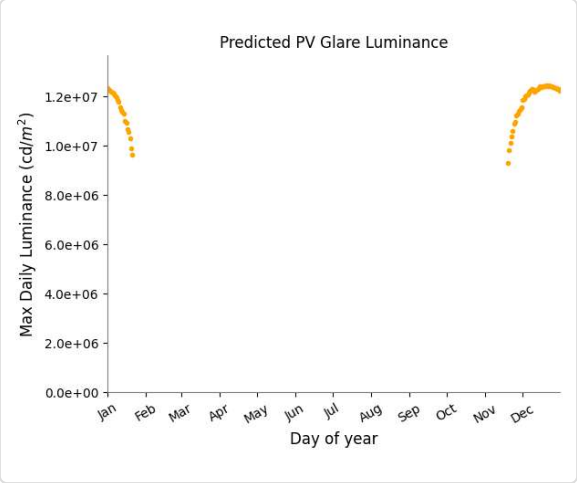
Green glare: 1,265 min.

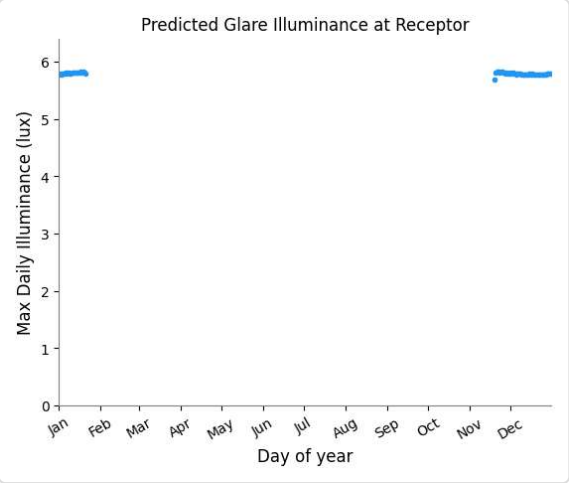








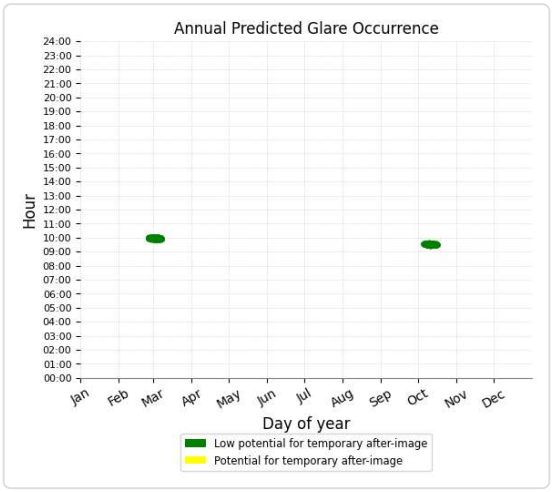


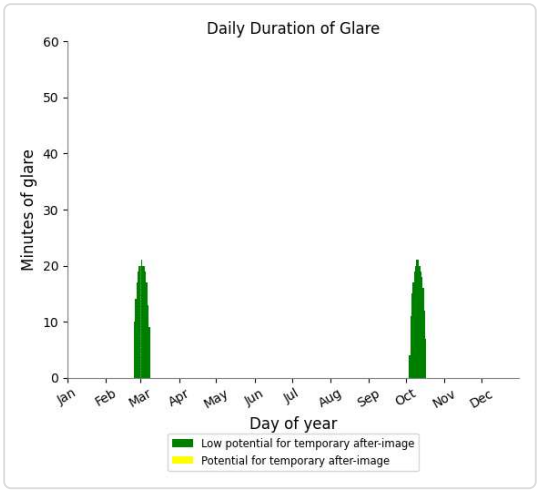


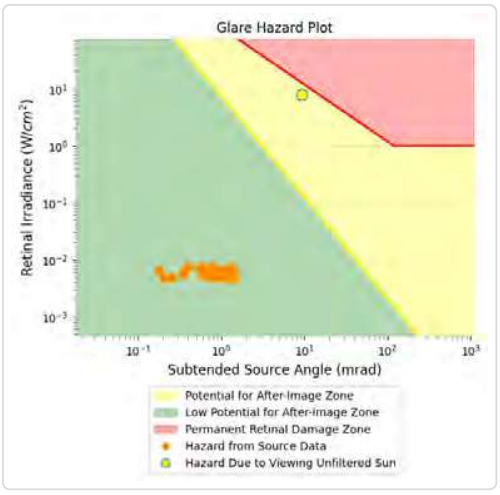
PV array 7 and OP 8

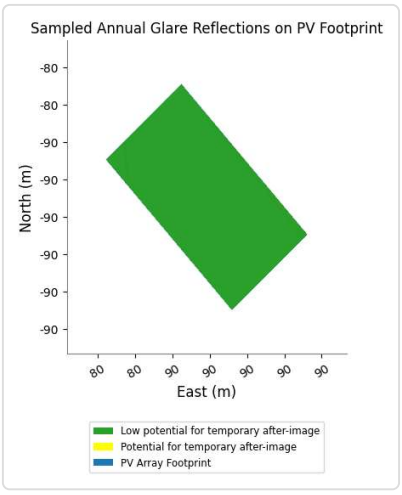
Yellow glare: none

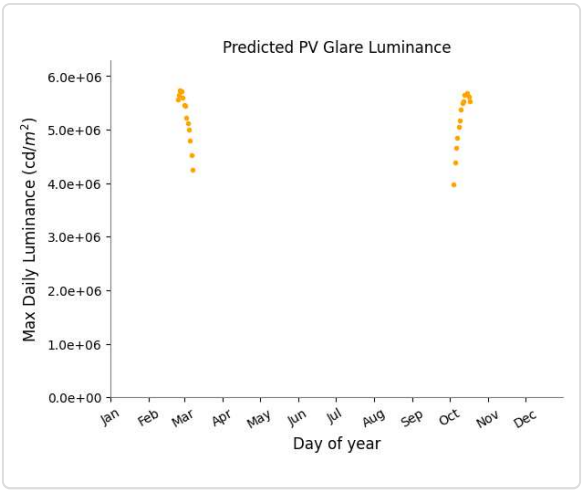
Green glare: 439 min.

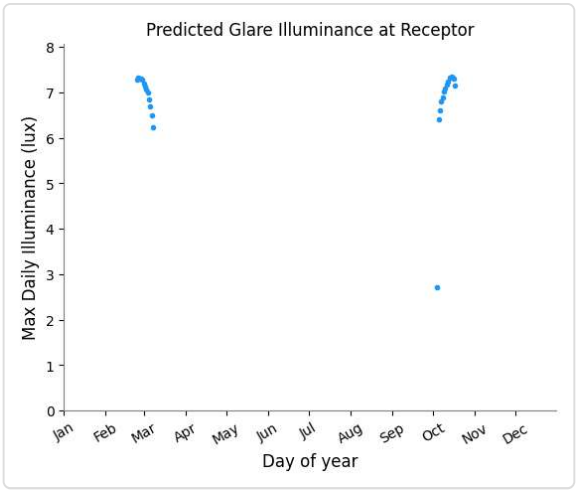








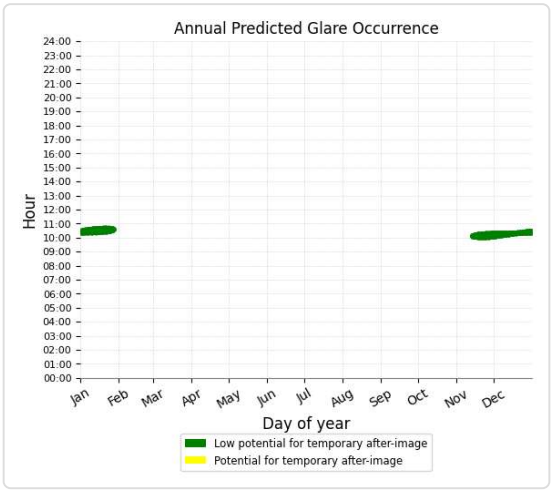


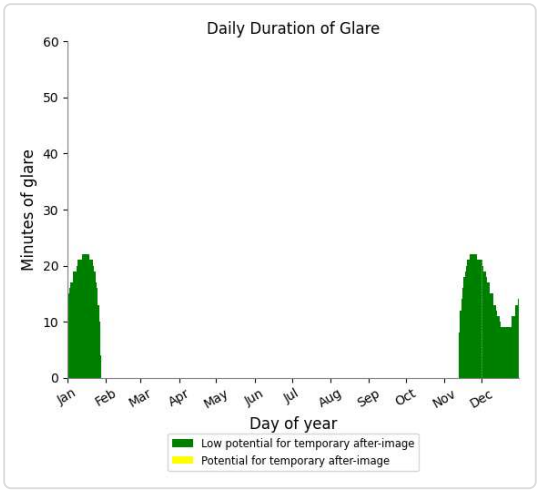


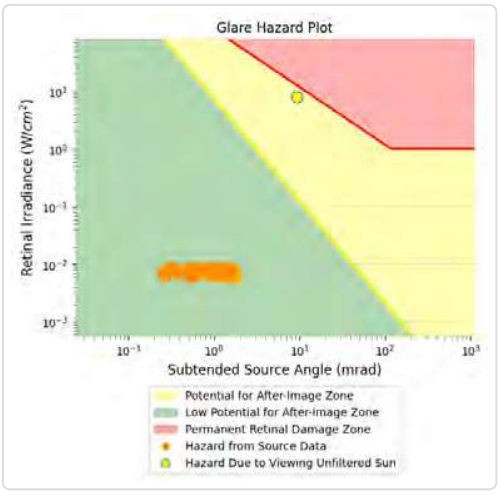
PV array 7 and OP 9

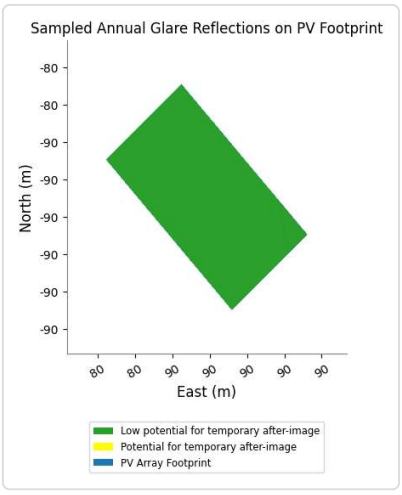
Yellow glare: none

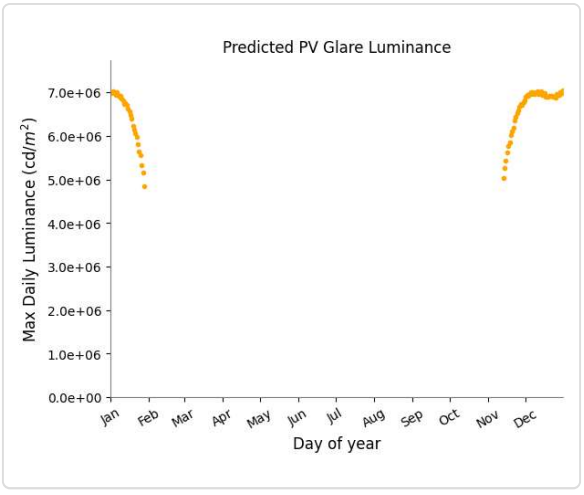
Green glare: 1,258 min.

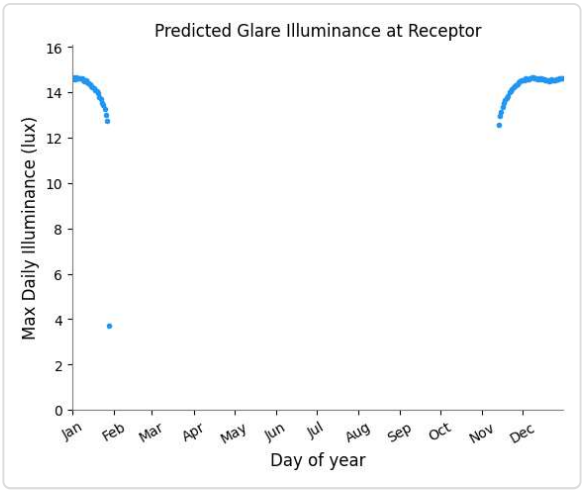








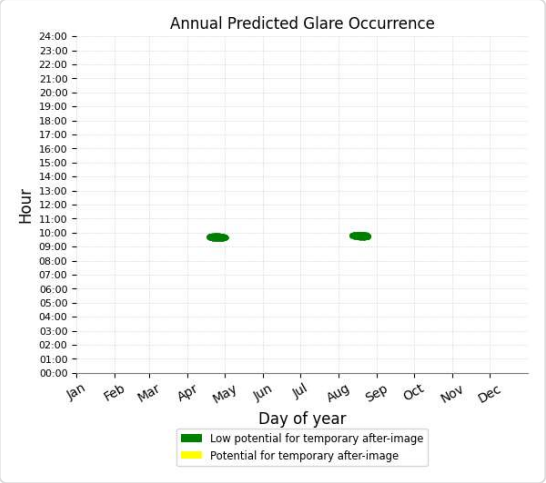


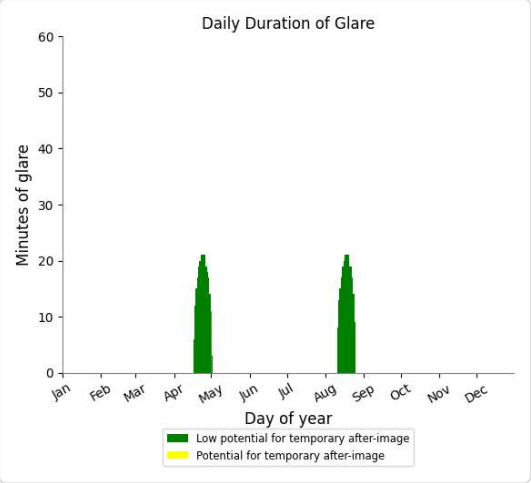


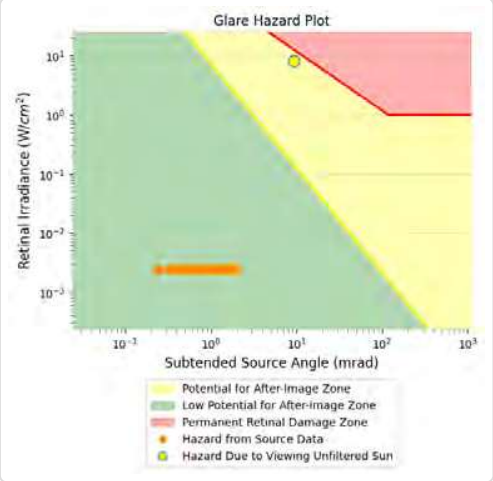
PV array 7 and OP 14

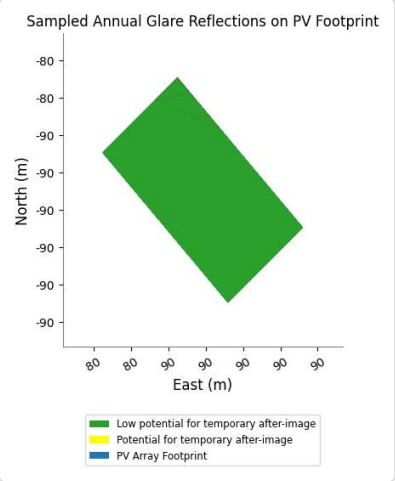
Yellow glare: none

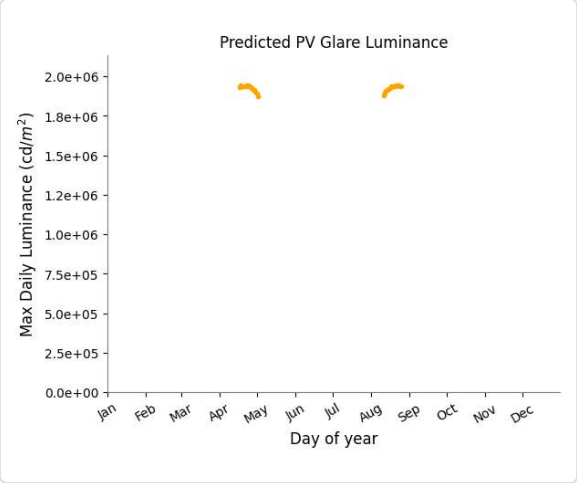
Green glare: 509 min.

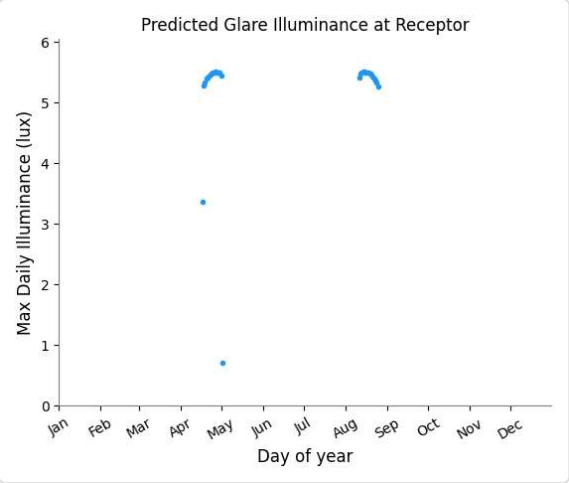








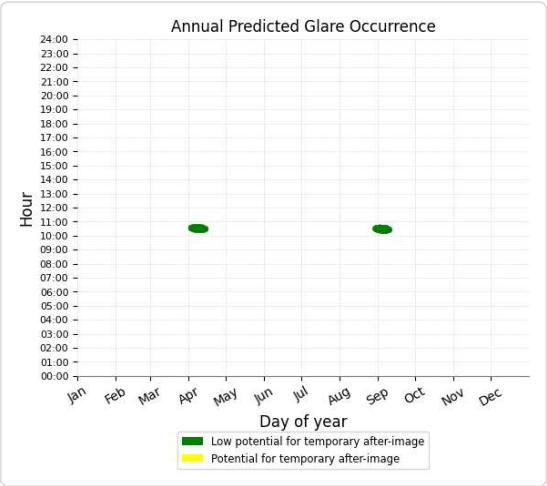


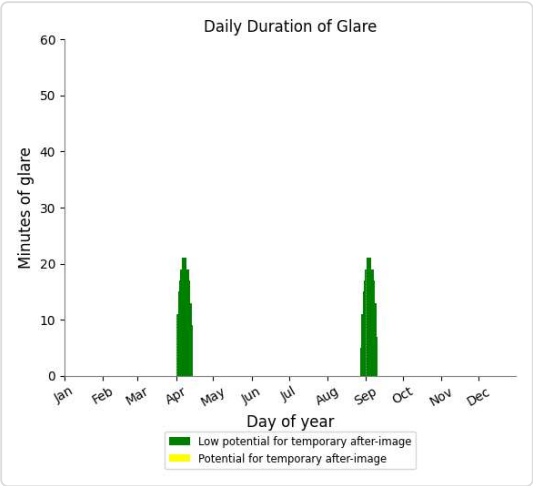


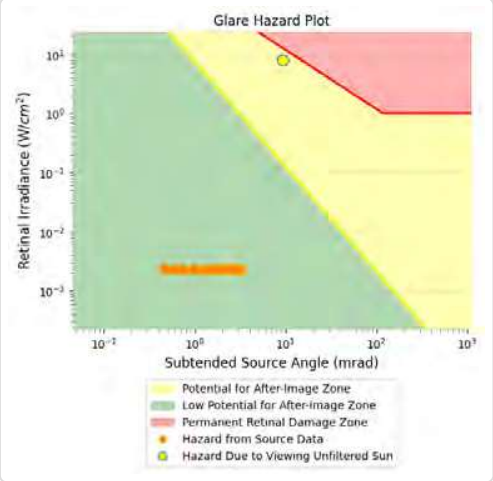
PV array 7 and OP 15

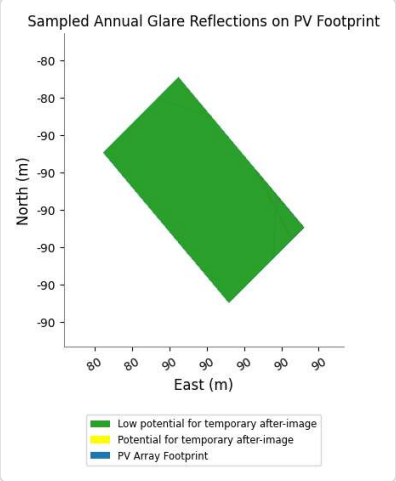
Yellow glare: none

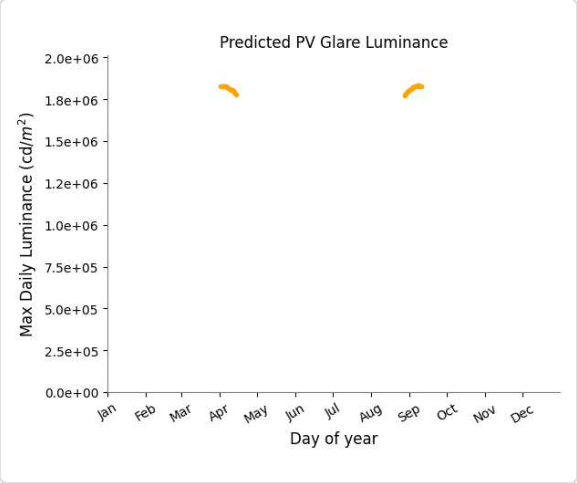
Green glare: 449 min.

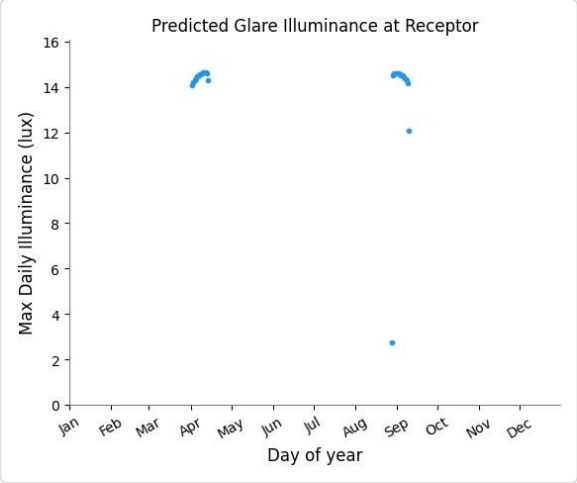








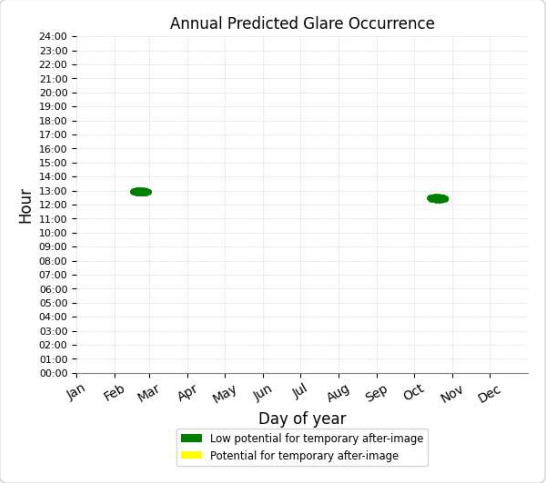


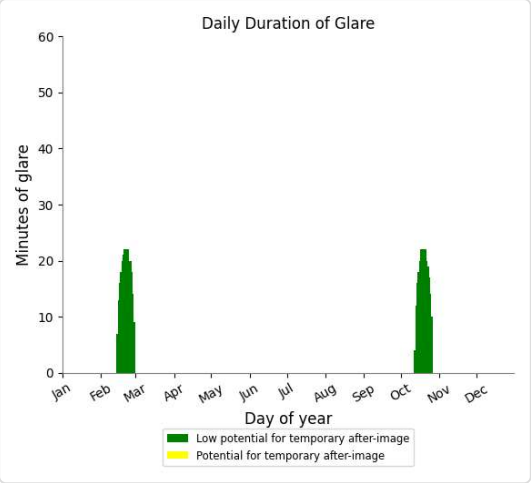


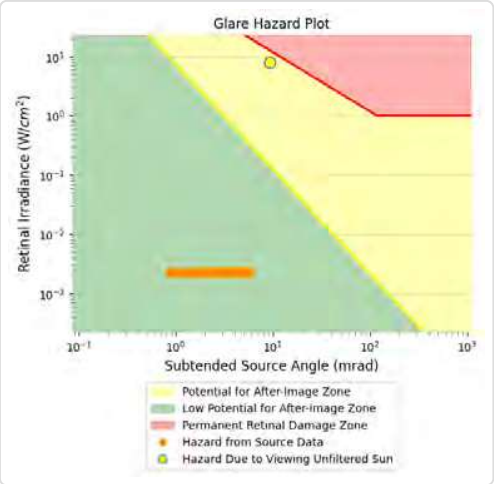
PV array 7 and OP 16

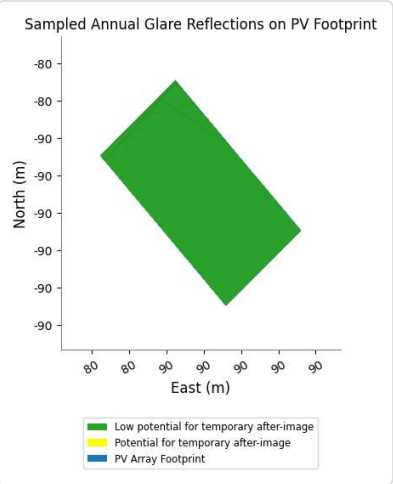
Yellow glare: none

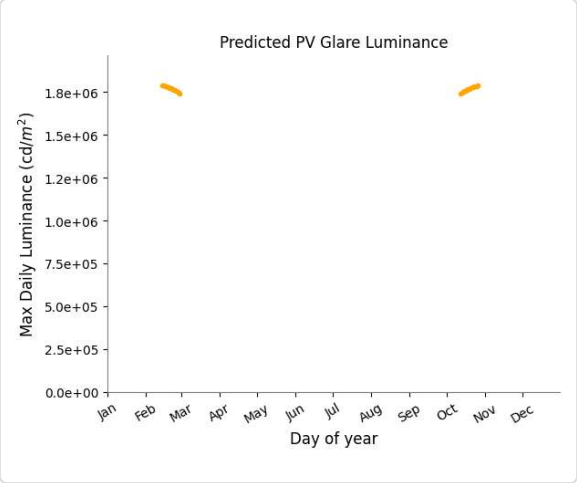
Green glare: 524 min.

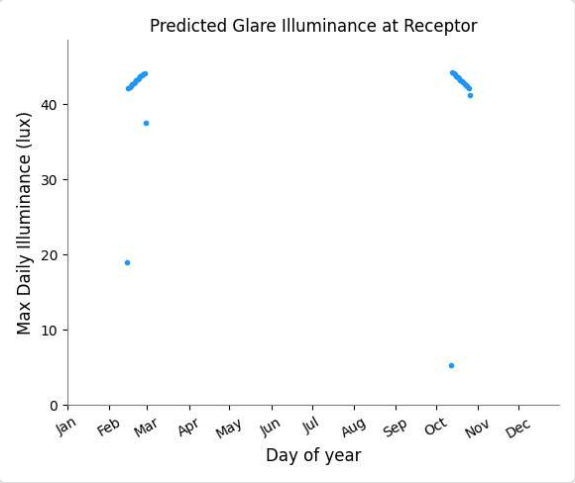








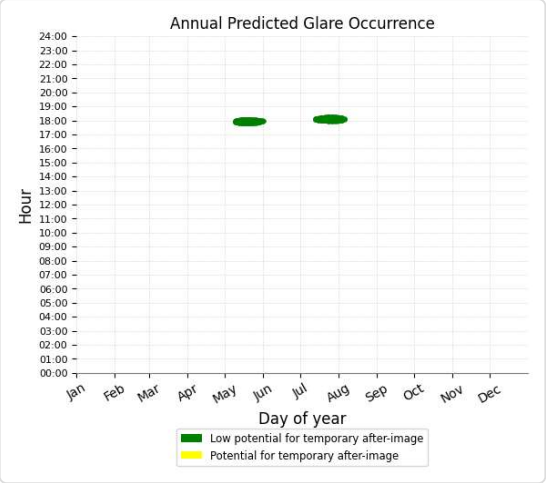


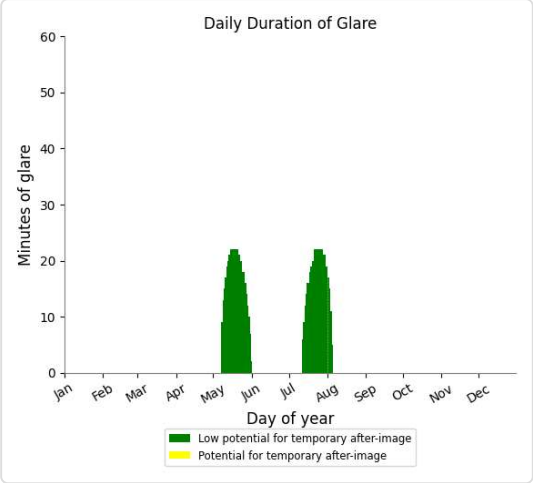


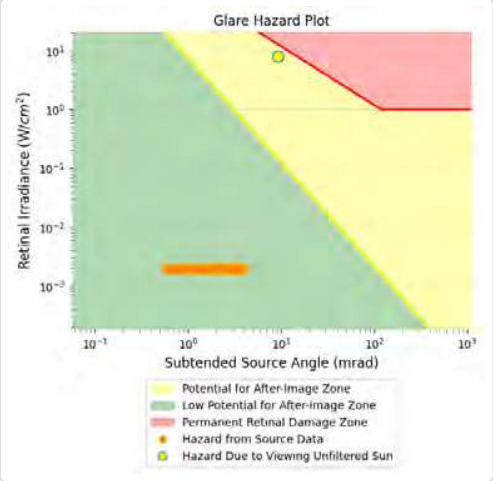
PV array 7 and OP 23

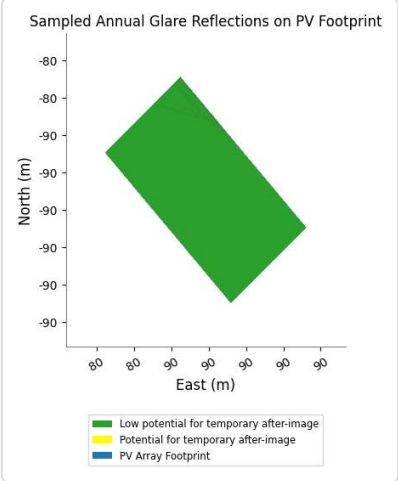
Yellow glare: none

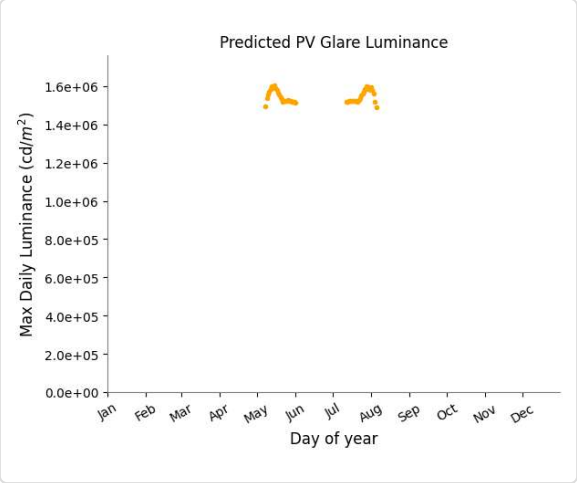
Green glare: 858 min.

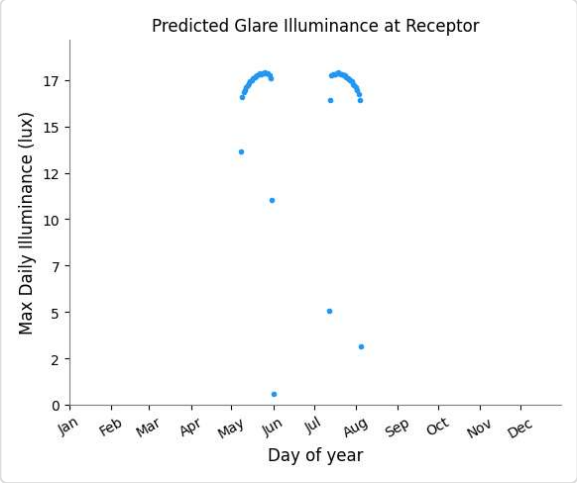








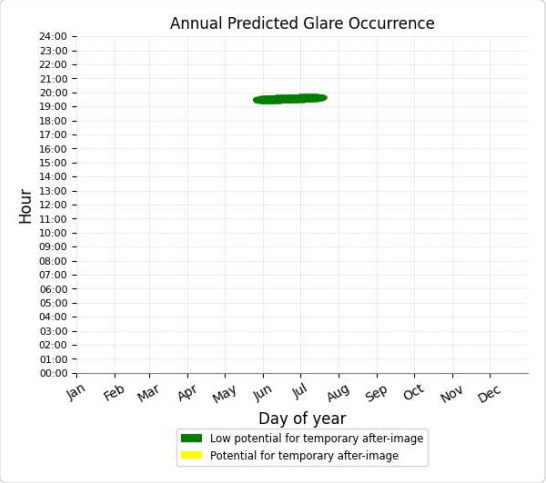


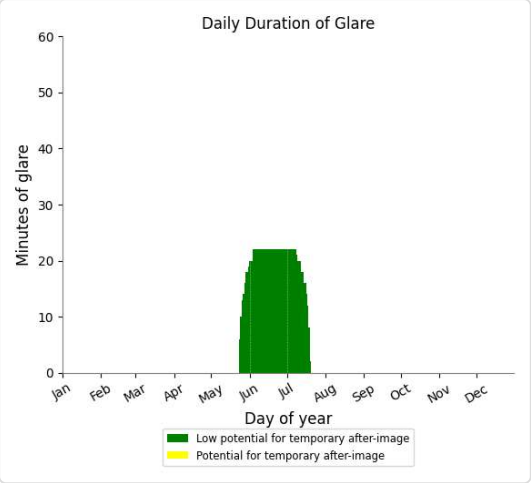


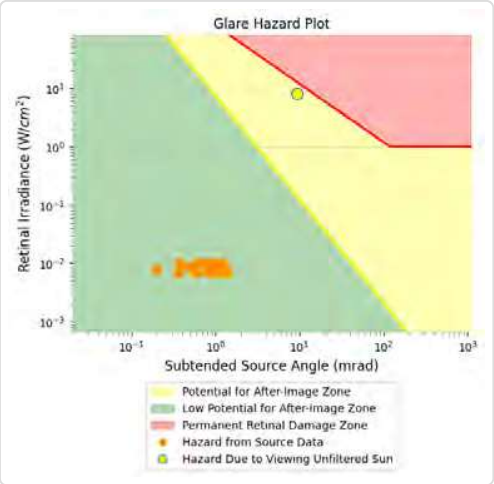
PV array 7 and OP 30

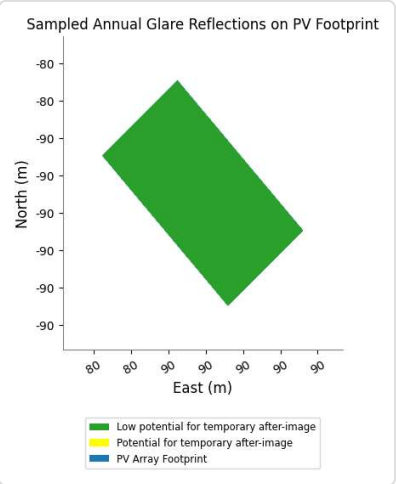
Yellow glare: none

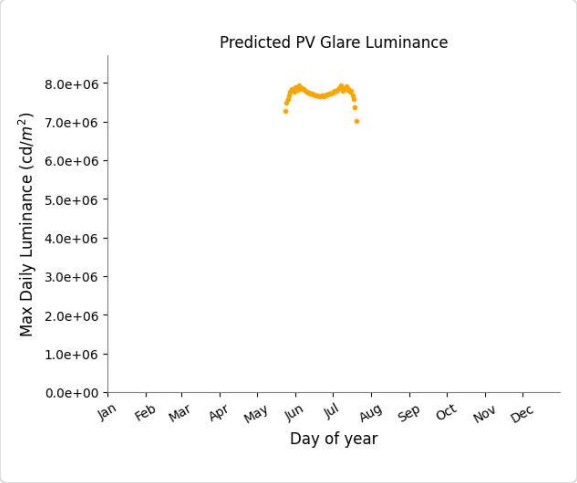
Green glare: 1,129 min.

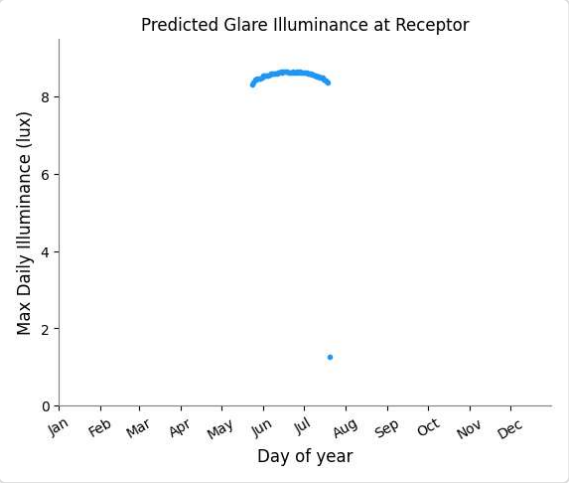








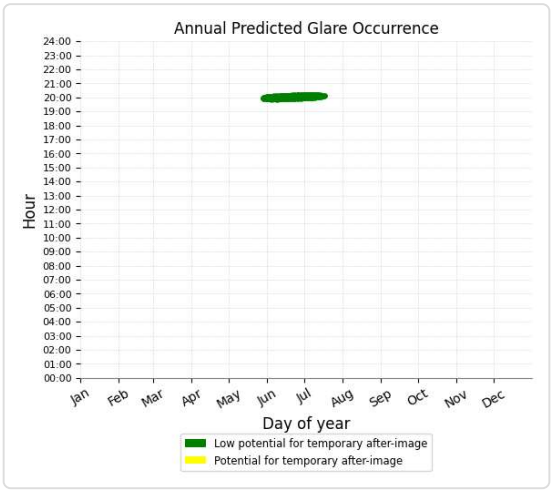


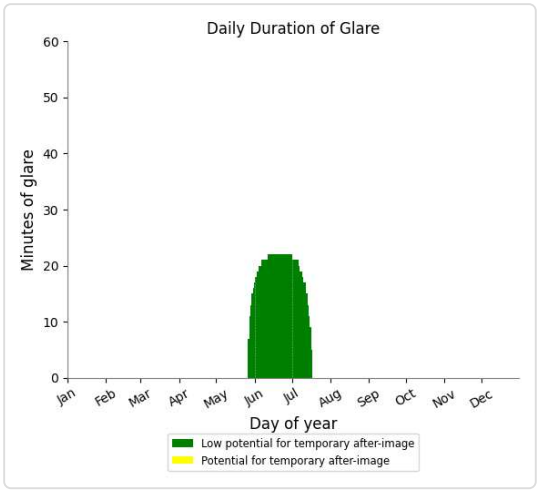


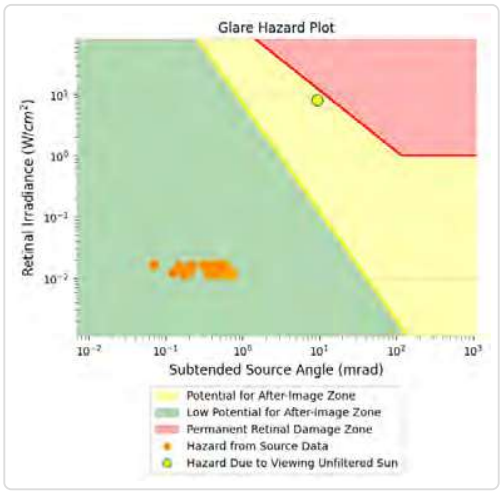
PV array 7 and OP 37

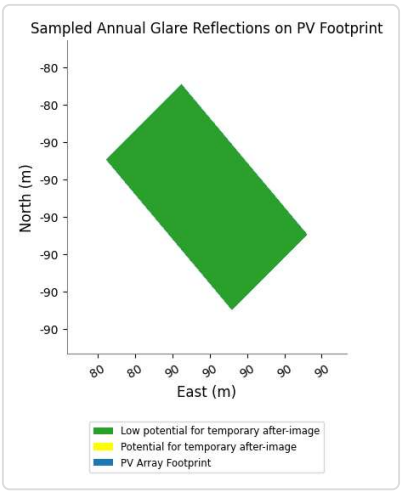
Yellow glare: none

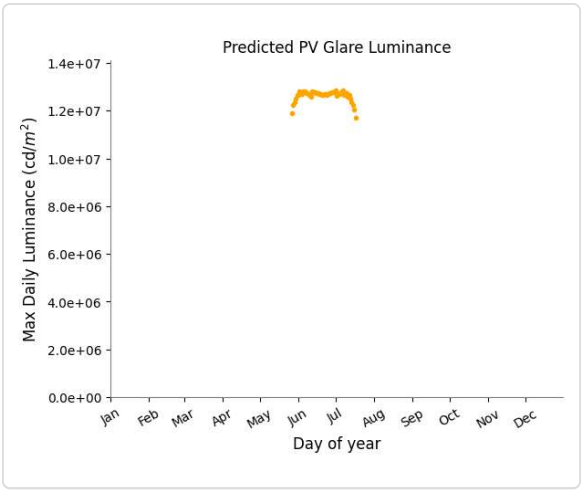
Green glare: 988 min.

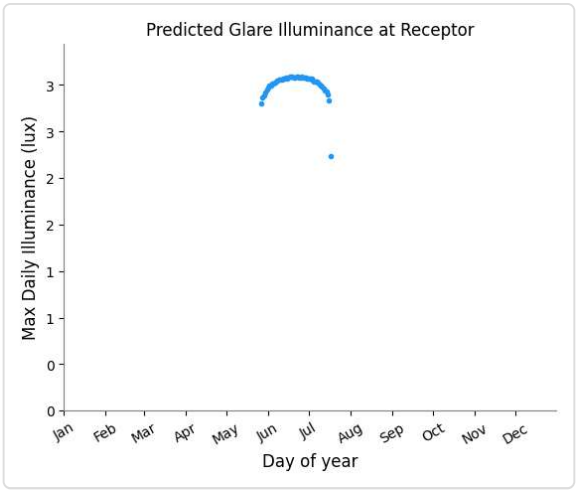








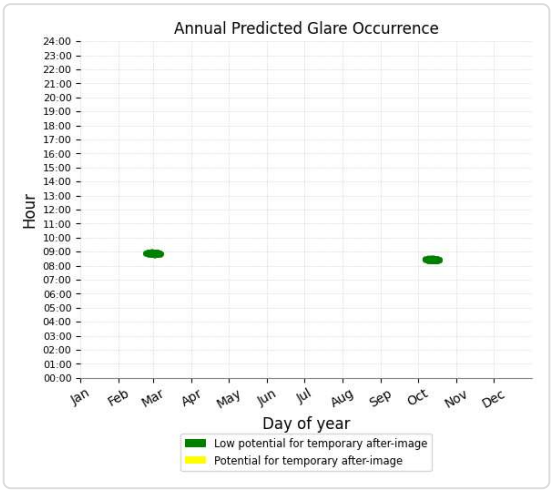


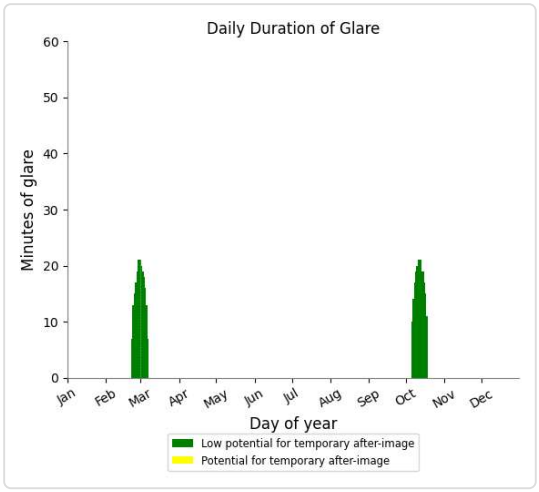


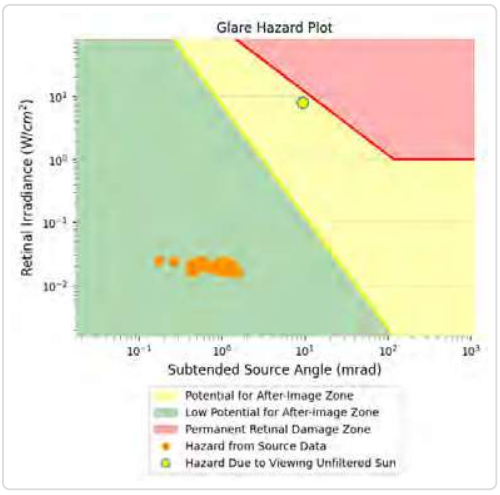
PV array 7 and OP 38

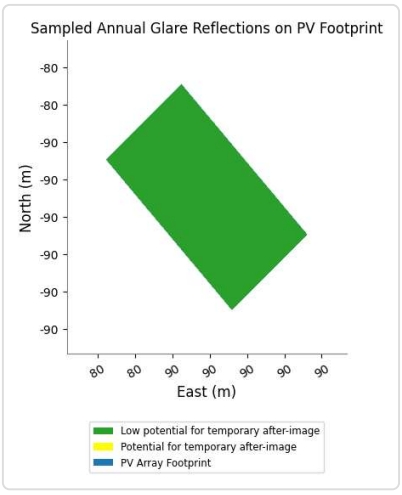
Yellow glare: none

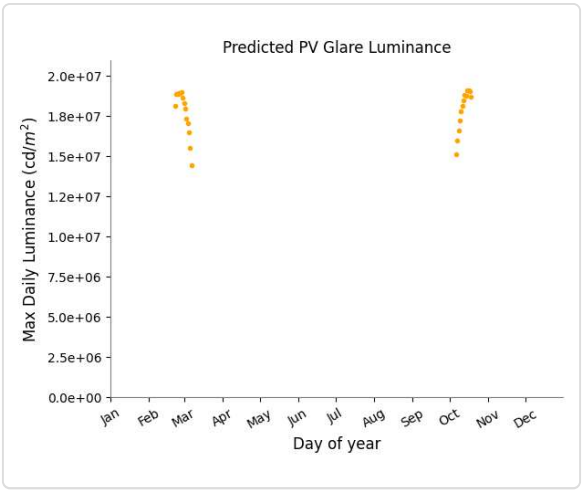
Green glare: 451 min.

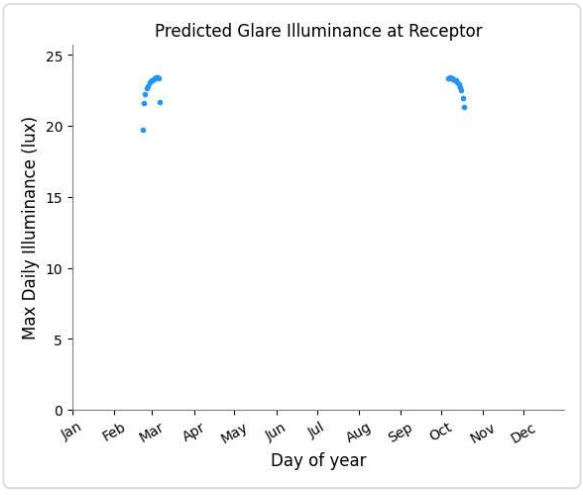












PV array 7 and 1-ATCT

No glare found

PV array 7 and OP 3

No glare found

PV array 7 and OP 4

No glare found

PV array 7 and OP 5

No glare found

PV array 7 and OP 6

No glare found

PV array 7 and OP 7

No glare found

PV array 7 and OP 10

No glare found

PV array 7 and OP 11

No glare found

PV array 7 and OP 12

No glare found

PV array 7 and OP 13

No glare found

PV array 7 and OP 17

No glare found

PV array 7 and OP 18

No glare found

PV array 7 and OP 19

No glare found

PV array 7 and OP 20

No glare found

PV array 7 and OP 21

No glare found

PV array 7 and OP 22

No glare found

PV array 7 and OP 24

No glare found

PV array 7 and OP 25

No glare found

PV array 7 and OP 26

No glare found

PV array 7 and OP 27

No glare found

PV array 7 and OP 28

No glare found

PV array 7 and OP 29

No glare found

PV array 7 and OP 31

No glare found

PV array 7 and OP 32

No glare found

PV array 7 and OP 33

No glare found

PV array 7 and OP 34

No glare found

PV array 7 and OP 35

No glare found

PV array 7 and OP 36

No glare found

PV array 7 and OP 39

No glare found

PV array 7 and OP 40

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.
Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.
The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.
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.)
The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.
The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.
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.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.

ForgeSolar default analysis parameters and observer eye characteristics, listed for reference only. The values used for this analysis are given in the site summary above.

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

© 2026 Sims Industries d/b/a ForgeSolar, All Rights Reserved.

This analysis was conducted using the best available radiometric modeling at the time of generation. Future updates to the modeling methodology may yield different results.

APPENDIX 3

RESPONSE BY FORGESOLAR ON THE 2026B UPDATE

27/08/2026

Why the earlier values were artificially low:
Until this release, ForgeSolar had no measured luminance data for PV modules. The original generic profiles were derived by Sandia National Laboratories around 2013, and luminance had to be extrapolated from slope-error data and simulated scaling. That approach systematically under-predicted surfaces such as smooth glass without AR coating, because it effectively spread the reflected energy across a far wider cone than these surfaces actually produce, and it did not correct cone-average luminance to peak center luminance. Legacy values for specular modules should therefore be treated as non-representative, which is why the previous profiles are no longer recommended and are being retired.

How the revised profiles compute luminance:
The revised generic profiles use the fundamental radiometric relationship for a reflecting surface: $L = E_v \times p / \Omega$, where:

- *L is source luminance (cd/m^2)*
- *E_v is the illuminance incident on the panel (lux, derived from DNI),*
- *p is the surface reflectance at the given incidence angle, and*
- *Ω is the solid angle of the reflected beam cone, computed from the beam divergence angle "B" via the spherical cap formula $\Omega = 2\pi(1 - \cos(B/2))$. The result is multiplied by a Gaussian beam correction factor to convert cone-average luminance to peak center luminance.*

Smooth glass without AR coating has a very low slope error, so "B" and Ω therefore are very small. The reflected energy is concentrated into a narrow cone rather than spread over a wide one, which is precisely why a specular surface appears very bright. That solid-angle term is what drives the magnitude of the revised result.

Physical validation of the revised result:
The sun's luminance is approximately 1.6×10^9 cd/m^2. A reflector cannot exceed the source luminance multiplied by its reflectance, which gives a hard physical upper bound. Smooth glass reflects roughly 4–5% of incident light at normal incidence and considerably more at high incidence angles. Your result of ~19,000,000 cd/m^2 is approximately 1.2% of the sun's luminance and sits comfortably within that bound – physically consistent with a smooth glass surface, and demonstrably not a scaling or unit error.

Documentation for the Authority:

- *Methodology Update Bulletin: (downloadable PDF): https://www.forgesolar.com/help/#engine-changelog – summarizes the v3 engine changes and is intended for inclusion with permit applications or submission to regulatory authorities.*
- *FAQ on the 2026B luminance changes: https://www.forgesolar.com/help/faq/?q=als-luminance-2026b*

Product-specific profiles derive peak luminance directly from laboratory BRDF measurements of commercial modules performed by independent test laboratories. The revised generic profiles use the enhanced method above, developed from that measured data.

Context on the 20,000 cd/m^2 threshold
If the assessment addresses the EASA threshold, note that CS-ADR GM1 ADR-DSN.M.615(k) is guidance material rather than a regulatory requirement. It is also extremely conservative: 20,000 cd/m^2 corresponds to 0.00125% of the sun's luminance, so effectively any specular reflector will exceed it. We encourage consultation with EASA directly regarding the derivation and current status of that value.