

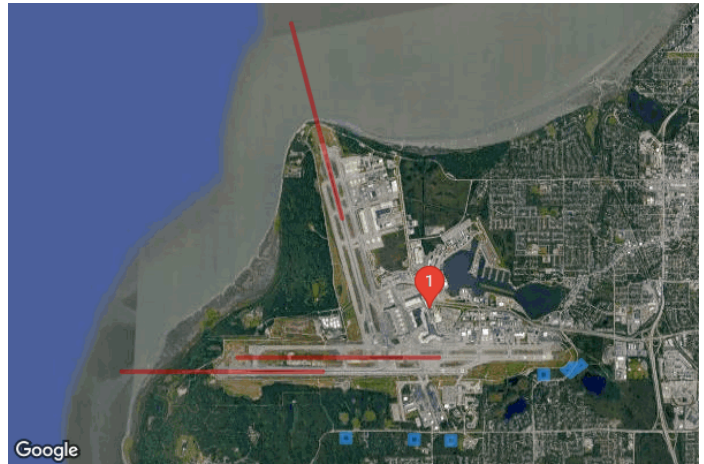


# ANC Potential Solar Sites

## ANC

**Created** May 11, 2024  
**Updated** May 11, 2024  
**Time-step** 1 minute  
**Timezone offset** UTC-9  
**Minimum sun altitude** 0.0 deg  
**Site ID** 118934.20416

**Project type** Advanced  
**Project status:** active  
**Category** 1 MW to 5 MW



### Misc. Analysis Settings

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

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

### Summary of Results Glare with low potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Site A	55.0	15.0	7,958	0	-
Site B	55.0	15.0	7,353	0	-
Site C	55.0	15.0	5,168	0	-
Site D	55.0	15.0	3,513	0	-
Site E	55.0	15.0	2,799	0	-
Site F	55.0	15.0	2,735	0	-

## Component Data

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## PV Array(s)

Total PV footprint area: 28.7 acres

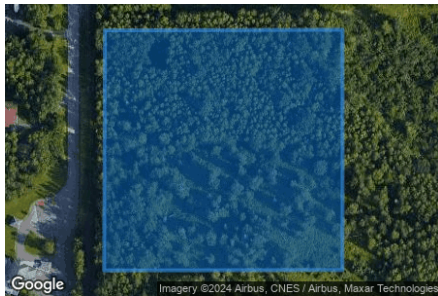
**Name:** Site A  
**Description:** PV Array Site A  
**Footprint area:** 5.0 acres  
**Axis tracking:** Fixed (no rotation)  
**Tilt:** 55.0 deg  
**Orientation:** 15.0 deg  
**Rated power:** -  
**Panel material:** Smooth glass without AR coating  
**Vary reflectivity with sun position?** Yes  
**Correlate slope error with surface type?** Yes  
**Slope error:** 6.55 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	61.158969	-150.009353	126.00	10.00	136.00
2	61.158969	-150.006711	121.00	10.00	131.00
3	61.157694	-150.006710	148.00	10.00	158.00
4	61.157686	-150.009353	146.00	10.00	156.00



**Name:** Site B  
**Description:** PV Array Site B  
**Footprint area:** 5.0 acres  
**Axis tracking:** Fixed (no rotation)  
**Tilt:** 55.0 deg  
**Orientation:** 15.0 deg  
**Rated power:** -  
**Panel material:** Smooth glass without AR coating  
**Vary reflectivity with sun position?** Yes  
**Correlate slope error with surface type?** Yes  
**Slope error:** 6.55 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	61.158747	-149.988972	128.00	10.00	138.00
2	61.158750	-149.986339	150.00	10.00	160.00
3	61.157472	-149.986340	162.00	10.00	172.00
4	61.157470	-149.988980	136.00	10.00	146.00



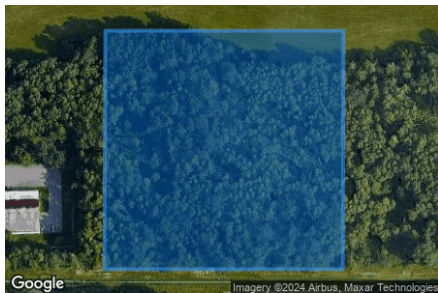
**Name:** Site C  
**Description:** PV Array Site C  
**Footprint area:** 5.0 acres  
**Axis tracking:** Fixed (no rotation)  
**Tilt:** 55.0 deg  
**Orientation:** 15.0 deg  
**Rated power:** -  
**Panel material:** Smooth glass without AR coating  
**Vary reflectivity with sun position?** Yes  
**Correlate slope error with surface type?** Yes  
**Slope error:** 6.55 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	61.158589	-149.978075	120.00	10.00	130.00
2	61.158586	-149.975425	138.00	10.00	148.00
3	61.157308	-149.975428	110.00	10.00	120.00
4	61.157308	-149.978075	100.00	10.00	110.00



**Name:** Site D  
**Description:** PV Array Site D  
**Footprint area:** 5.0 acres  
**Axis tracking:** Fixed (no rotation)  
**Tilt:** 55.0 deg  
**Orientation:** 15.0 deg  
**Rated power:** -  
**Panel material:** Smooth glass without AR coating  
**Vary reflectivity with sun position?** Yes  
**Correlate slope error with surface type?** Yes  
**Slope error:** 6.55 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	61.168064	-149.950364	82.00	10.00	92.00
2	61.168064	-149.947728	85.00	10.00	95.00
3	61.166786	-149.947733	104.00	10.00	114.00
4	61.166786	-149.950375	90.00	10.00	100.00



**Name:** Site E  
**Description:** PV Site E  
**Footprint area:** 4.2 acres  
**Axis tracking:** Fixed (no rotation)  
**Tilt:** 55.0 deg  
**Orientation:** 15.0 deg  
**Rated power:** -  
**Panel material:** Smooth glass without AR coating  
**Vary reflectivity with sun position?** Yes  
**Correlate slope error with surface type?** Yes  
**Slope error:** 6.55 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	61.168164	-149.943714	75.00	10.00	85.00
2	61.168447	-149.942072	76.00	10.00	86.00
3	61.169031	-149.941372	76.00	10.00	86.00
4	61.169030	-149.939517	77.00	10.00	87.00
5	61.167378	-149.941956	77.00	10.00	87.00



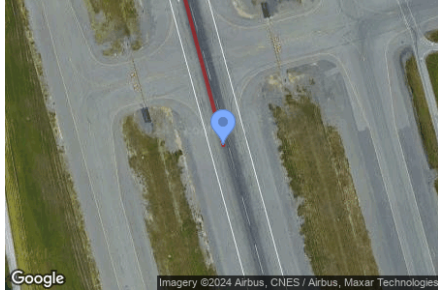
**Name:** Site F  
**Description:** PV Array Site F  
**Footprint area:** 4.5 acres  
**Axis tracking:** Fixed (no rotation)  
**Tilt:** 55.0 deg  
**Orientation:** 15.0 deg  
**Rated power:** -  
**Panel material:** Smooth glass without AR coating  
**Vary reflectivity with sun position?** Yes  
**Correlate slope error with surface type?** Yes  
**Slope error:** 6.55 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	61.167103	-149.941136	80.00	10.00	90.00
2	61.169503	-149.937908	78.00	10.00	88.00
3	61.168733	-149.936422	78.00	10.00	88.00



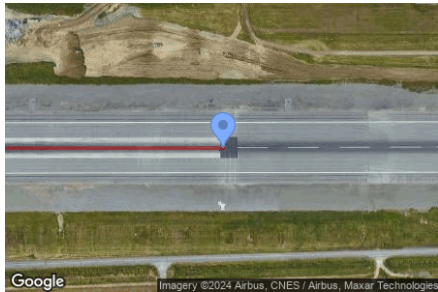
## 2-Mile Flight Path Receptor(s)

**Name:** 15-33  
**Description:**  
**Threshold height :** 50 ft  
**Direction:** 165.4 deg  
**Glide slope:** 3.0 deg  
**Pilot view restricted?** Yes  
**Vertical view restriction:** 30.0 deg  
**Azimuthal view restriction:** 50.0 deg



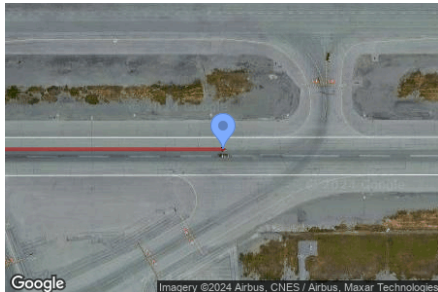
Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	61.189856	-150.009127	122.82	50.00	172.82
2-mile point	61.217829	-150.024319	-19.64	745.89	726.25

**Name:** 25L-7R  
**Description:**  
**Threshold height :** 50 ft  
**Direction:** 90.0 deg  
**Glide slope:** 3.0 deg  
**Pilot view restricted?** Yes  
**Vertical view restriction:** 30.0 deg  
**Azimuthal view restriction:** 50.0 deg



Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	61.167844	-150.014878	120.21	50.00	170.21
2-mile point	61.167844	-150.074902	0.00	723.64	723.64

**Name:** 25R-7L  
**Description:**  
**Threshold height :** 50 ft  
**Direction:** 90.0 deg  
**Glide slope:** 3.0 deg  
**Pilot view restricted?** Yes  
**Vertical view restriction:** 30.0 deg  
**Azimuthal view restriction:** 50.0 deg

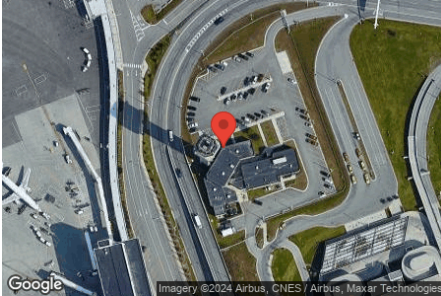


Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	61.169872	-149.980288	95.02	50.00	145.02
2-mile point	61.169882	-150.040317	99.31	599.14	698.45

### Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	ft	ft	ft
1-ATCT	61.176783	-149.982777	88.74	100.00	188.74

1-ATCT map image



## Summary of PV Glare Analysis

*PV configuration and total predicted glare*

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
Site A	55.0	15.0	7,958	0	-	-
Site B	55.0	15.0	7,353	0	-	-
Site C	55.0	15.0	5,168	0	-	-
Site D	55.0	15.0	3,513	0	-	-
Site E	55.0	15.0	2,799	0	-	-
Site F	55.0	15.0	2,735	0	-	-

### Distinct glare per month

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

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
site-a (green)	0	0	535	800	1095	1135	1128	939	648	73	0	0
site-a (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
site-b (green)	0	0	637	961	864	722	780	1016	805	92	0	0
site-b (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
site-c (green)	0	0	558	615	558	511	543	611	656	86	0	0
site-c (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
site-d (green)	0	0	57	571	654	665	679	594	225	0	0	0
site-d (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
site-e (green)	0	0	269	299	485	532	508	388	318	0	0	0
site-e (yellow)	0	0	0	0	0	0	0	0	0	0	0	0
site-f (green)	0	0	294	302	447	492	473	366	328	33	0	0
site-f (yellow)	0	0	0	0	0	0	0	0	0	0	0	0

## PV & Receptor Analysis Results

*Results for each PV array and receptor*

### Site A low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: 15-33	0	0
FP: 25L-7R	4824	0
FP: 25R-7L	3134	0
OP: 1-ATCT	0	0

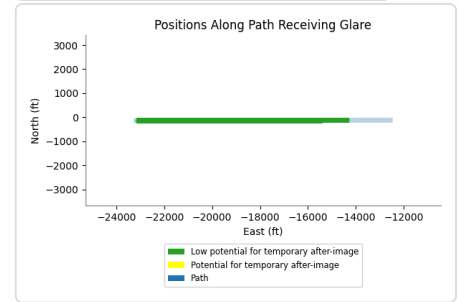
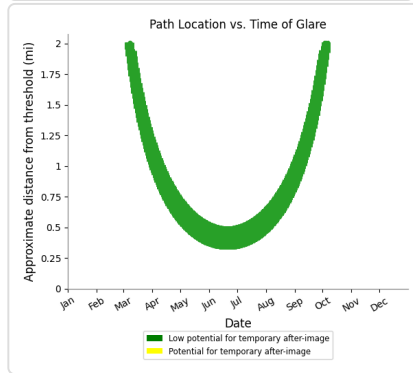
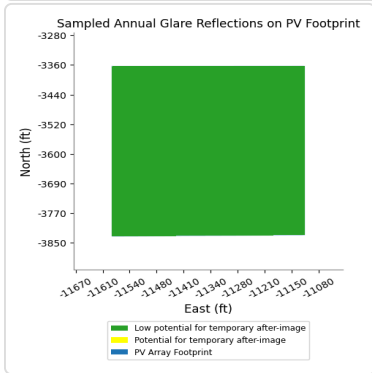
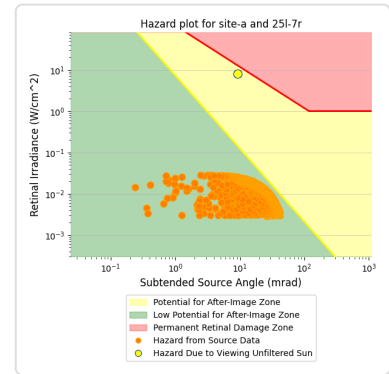
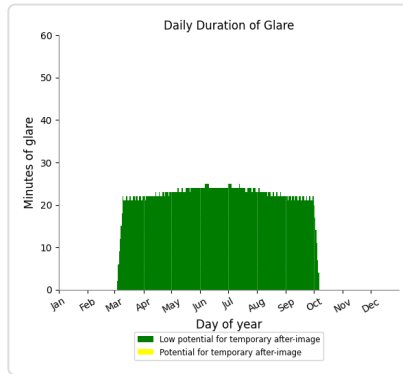
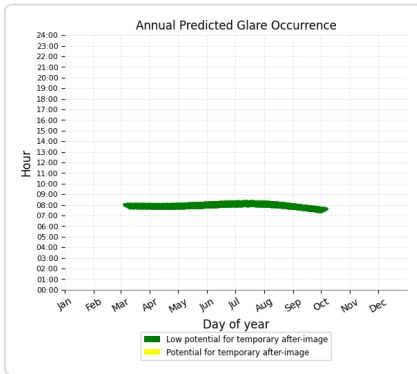
### Site A: 15-33

*No glare found*

### Site A: 25L-7R

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

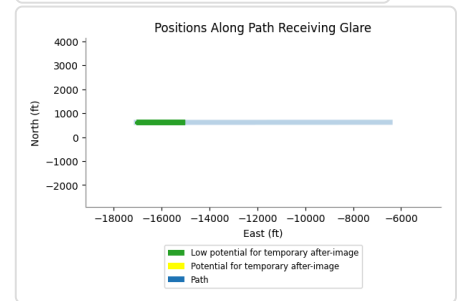
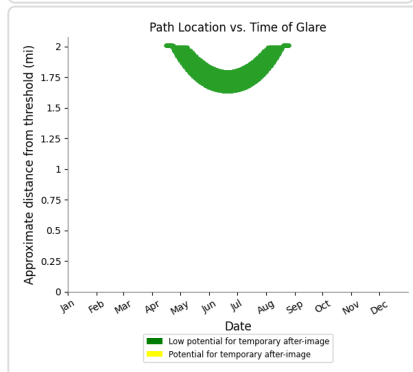
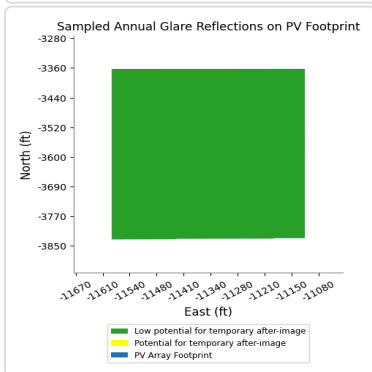
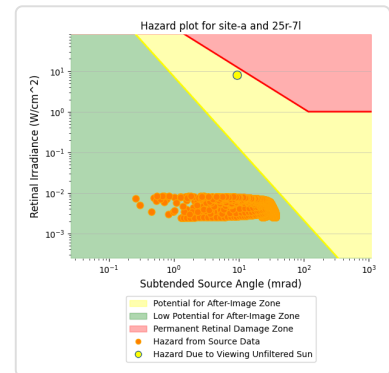
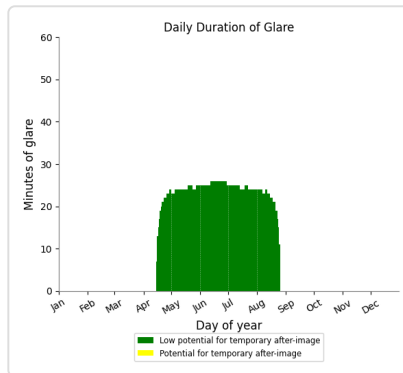
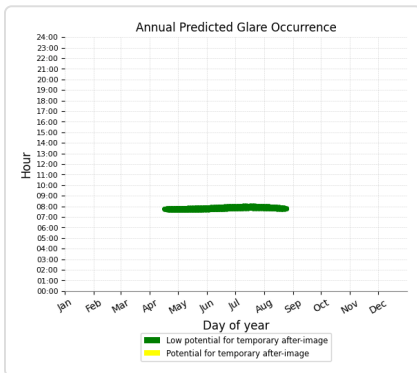
- 4,824 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



### Site A: 25R-7L

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

- 3,134 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



### Site A: 1-ATCT

No glare found

### Site B low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: 15-33	0	0
FP: 25L-7R	3141	0
FP: 25R-7L	4212	0
OP: 1-ATCT	0	0

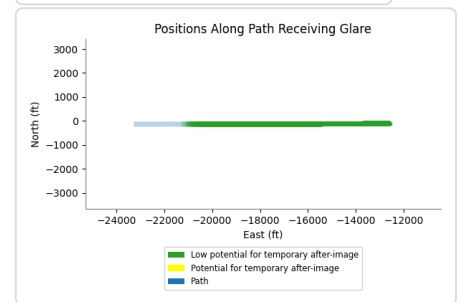
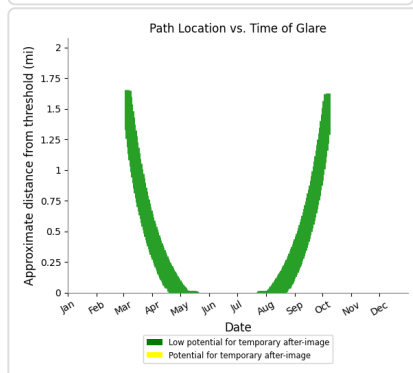
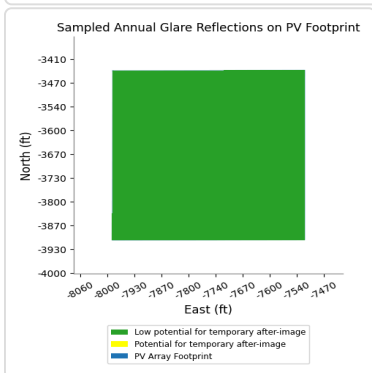
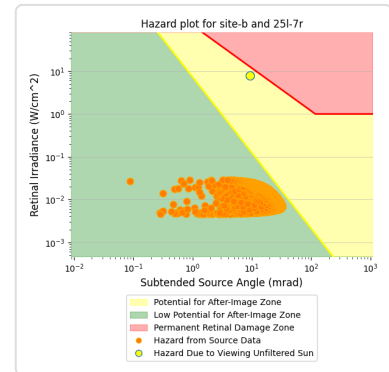
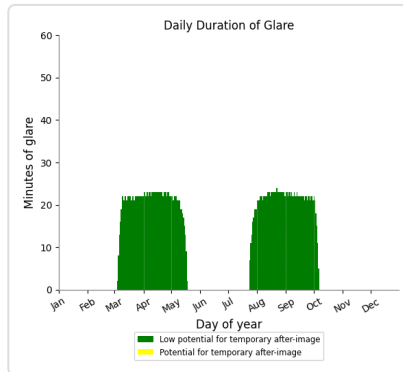
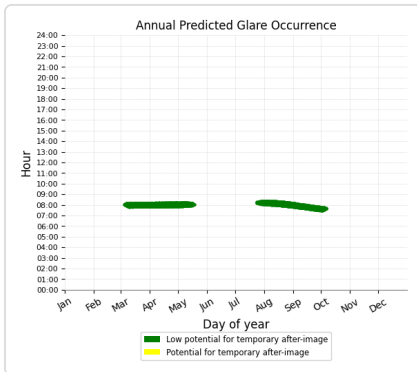
### Site B: 15-33

No glare found

### Site B: 25L-7R

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

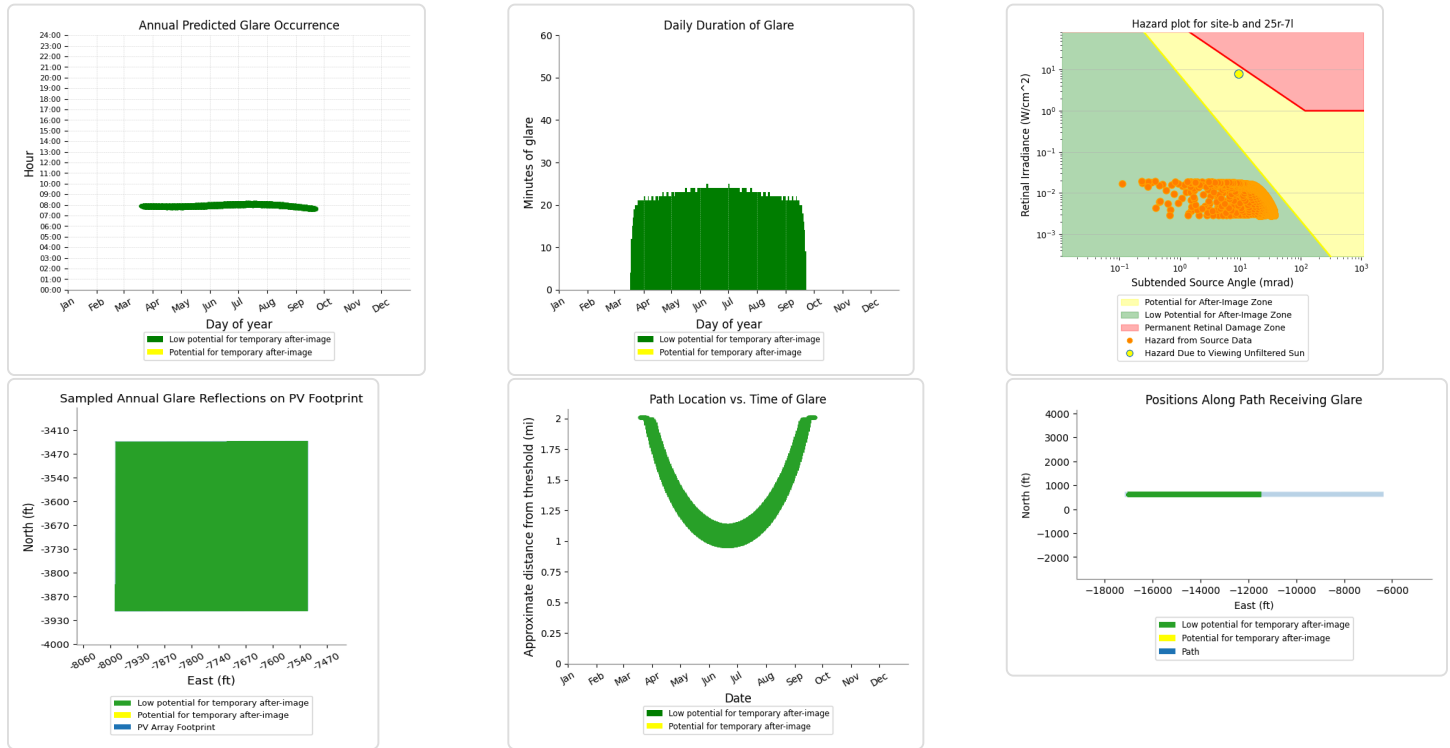
- 3,141 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



### Site B: 25R-7L

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

- 4,212 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



### Site B: 1-ATCT

No glare found

### Site C low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: 15-33	0	0
FP: 25L-7R	1278	0
FP: 25R-7L	3890	0
OP: 1-ATCT	0	0

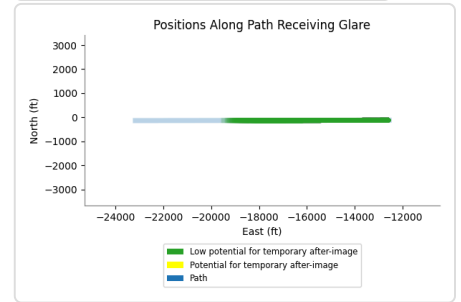
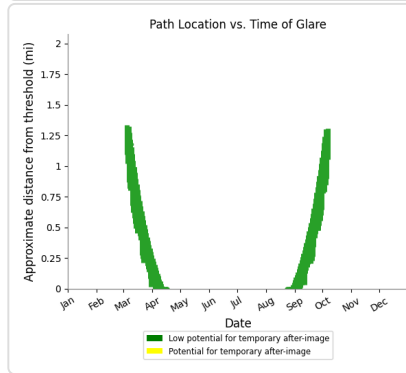
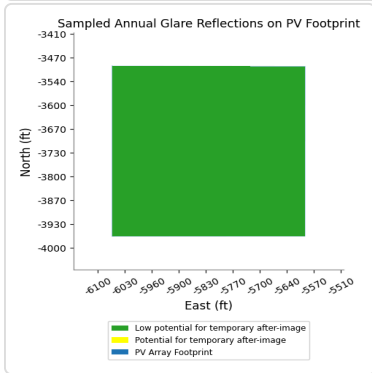
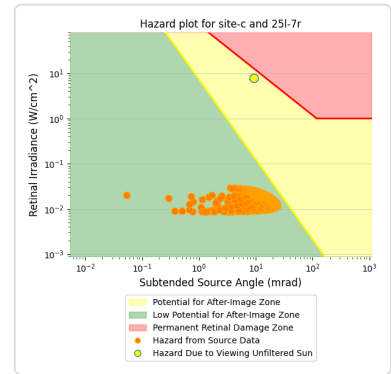
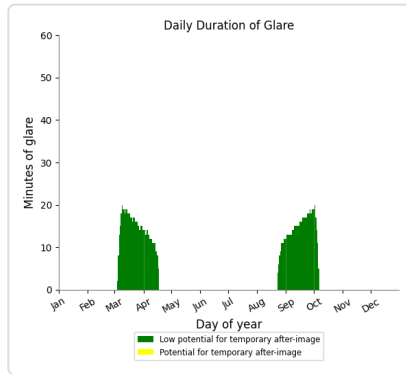
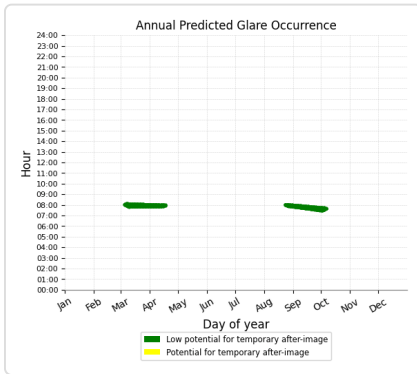
### Site C: 15-33

No glare found

### Site C: 25L-7R

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

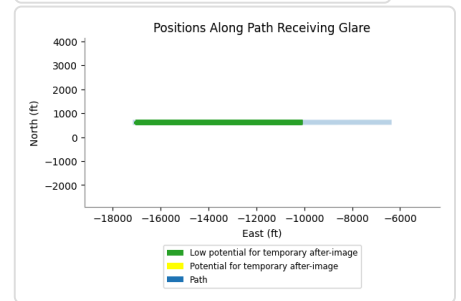
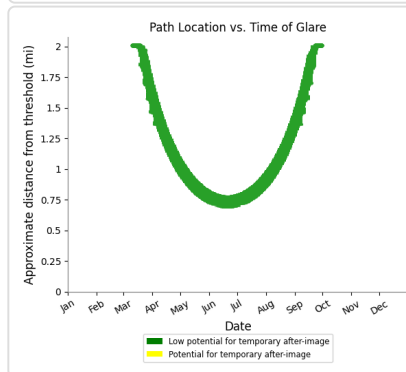
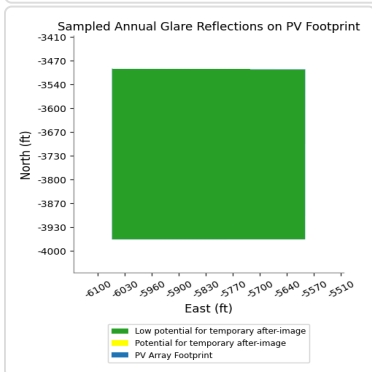
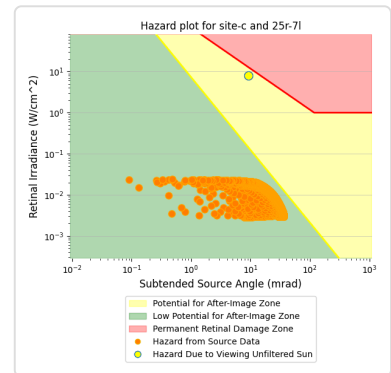
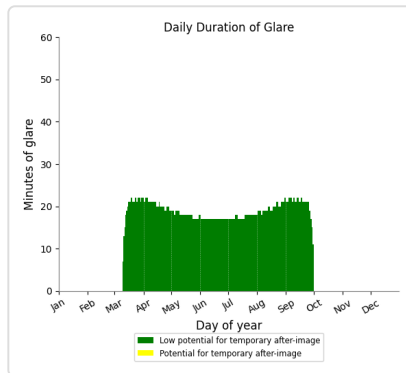
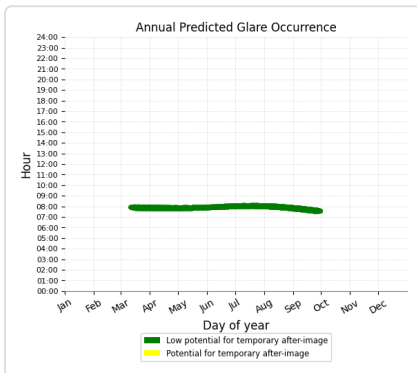
- 1,278 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



### Site C: 25R-7L

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

- 3,890 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



**Site C: 1-ATCT**

No glare found

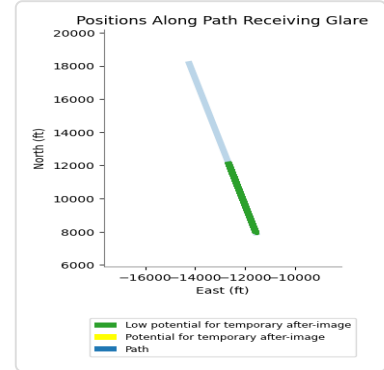
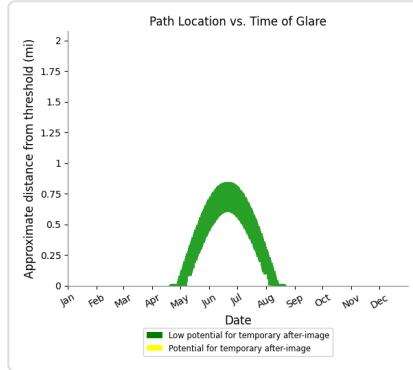
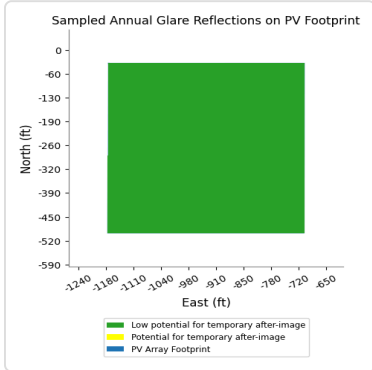
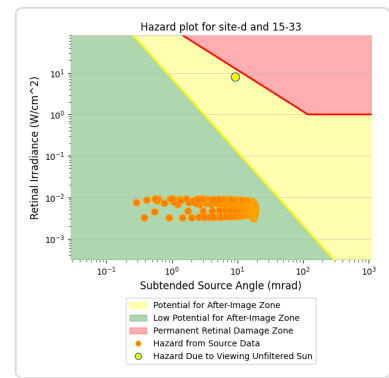
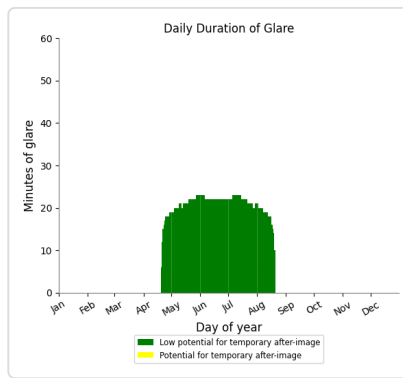
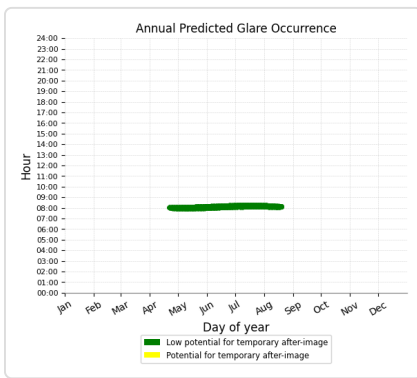
**Site D** low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: 15-33	2538	0
FP: 25L-7R	0	0
FP: 25R-7L	0	0
OP: 1-ATCT	975	0

**Site D: 15-33**

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

- 2,538 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



**Site D: 25L-7R**

No glare found

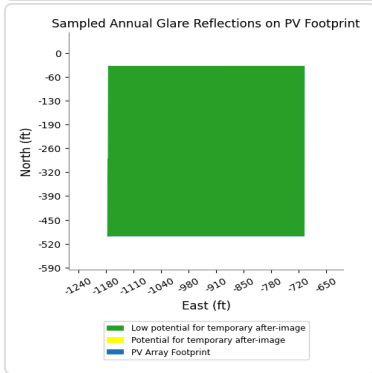
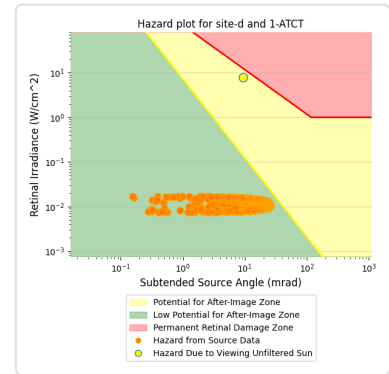
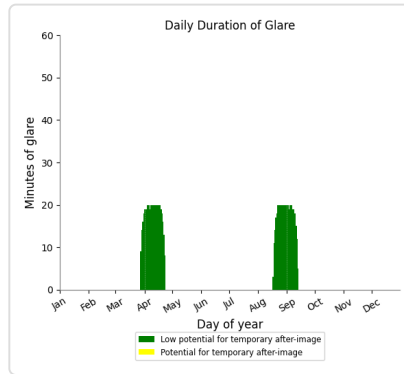
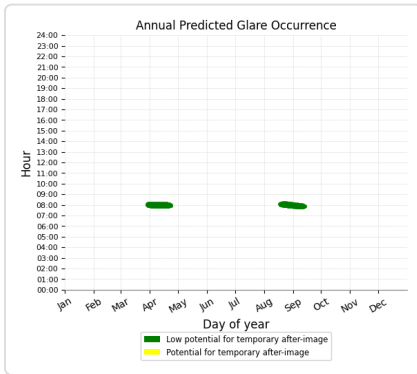
**Site D: 25R-7L**

No glare found

### Site D: 1-ATCT

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

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



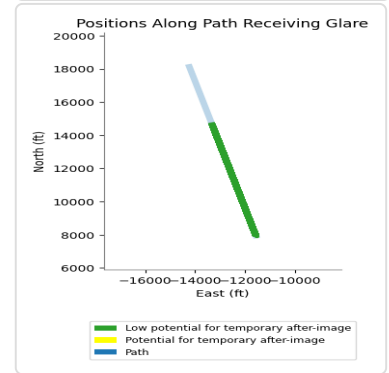
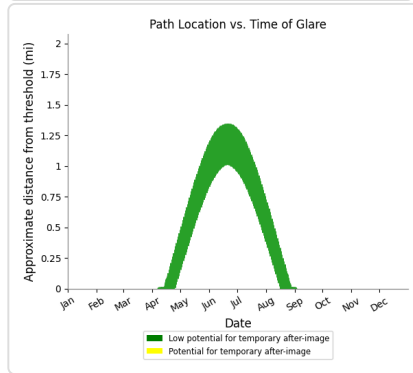
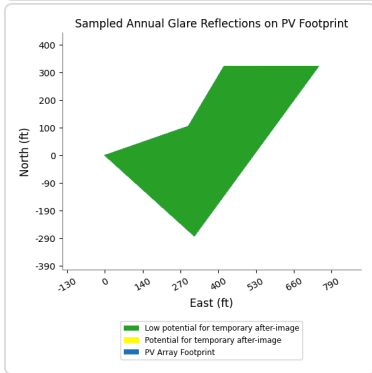
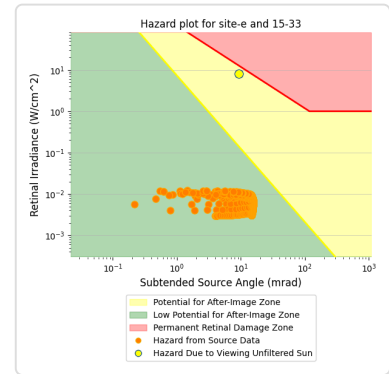
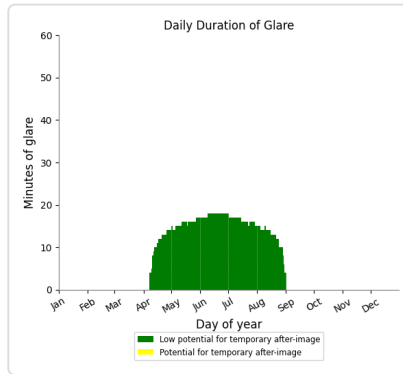
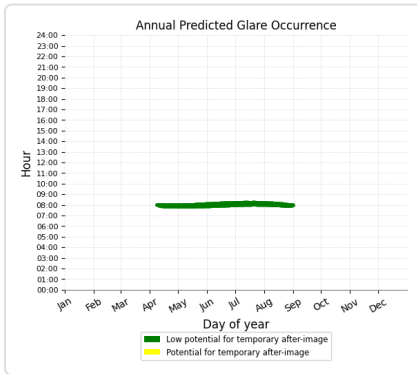
### Site E low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: 15-33	2171	0
FP: 25L-7R	0	0
FP: 25R-7L	0	0
OP: 1-ATCT	628	0

### Site E: 15-33

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

- 2,171 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



### Site E: 25L-7R

No glare found

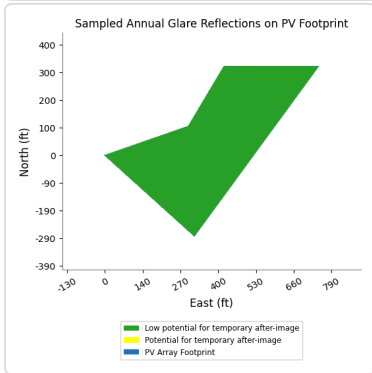
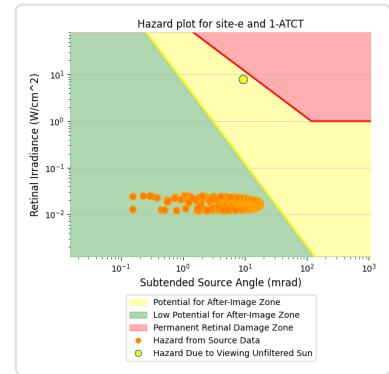
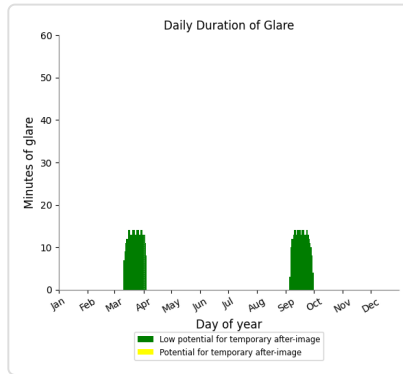
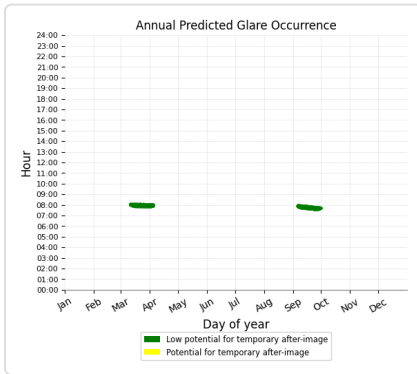
### Site E: 25R-7L

No glare found

### Site E: 1-ATCT

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

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



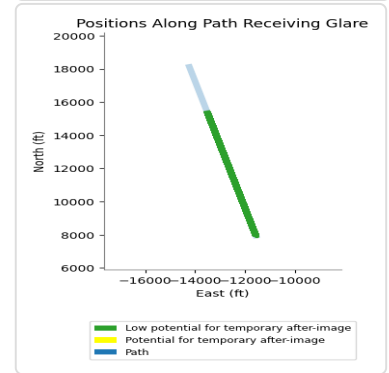
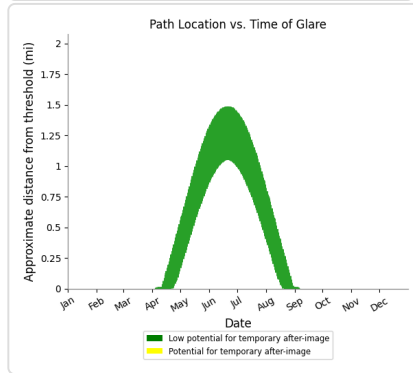
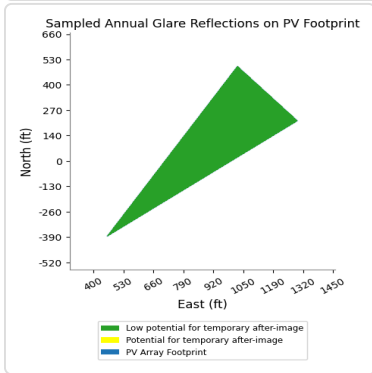
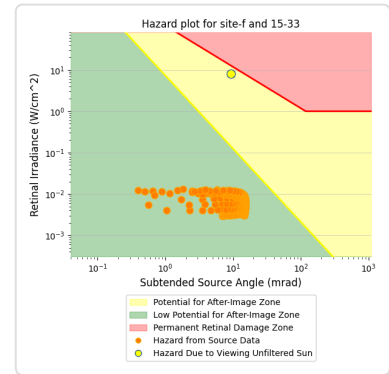
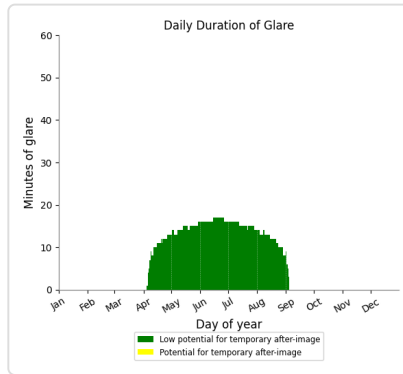
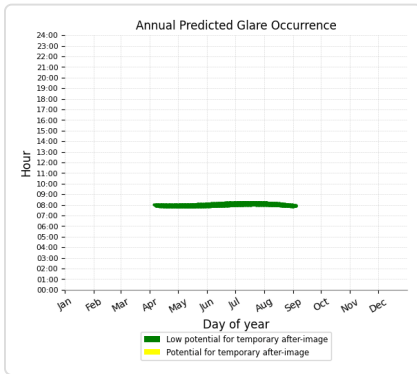
### Site F low potential for temporary after-image

Component	Green glare (min)	Yellow glare (min)
FP: 15-33	2062	0
FP: 25L-7R	0	0
FP: 25R-7L	0	0
OP: 1-ATCT	673	0

### Site F: 15-33

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

- 2,062 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



### Site F: 25L-7R

No glare found

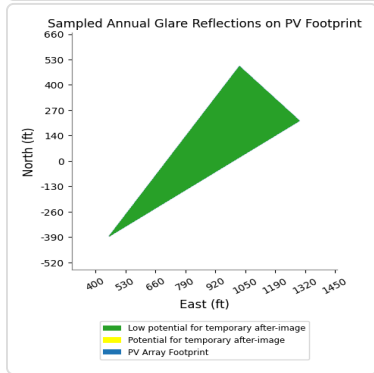
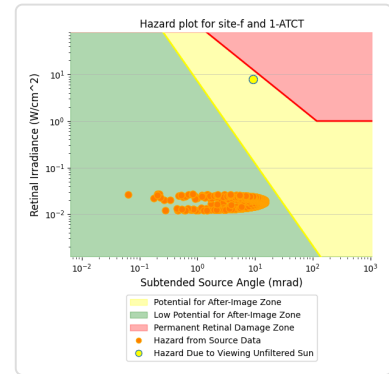
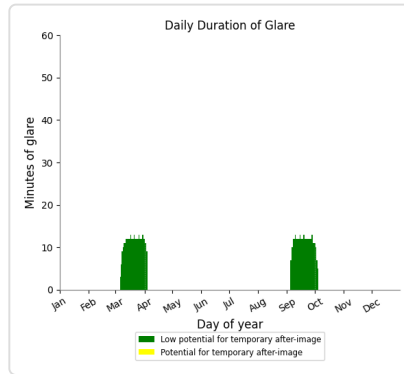
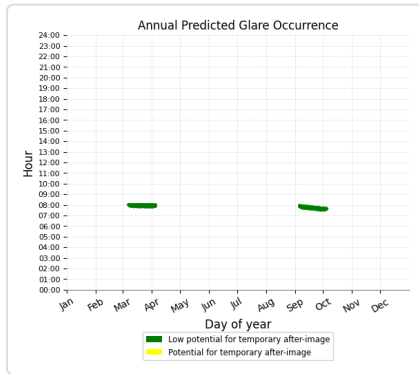
### Site F: 25R-7L

No glare found

### Site F: 1-ATCT

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

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



## Assumptions

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