



GlareGauge Glare Analysis Results

Site Configuration: Piatt Glare Study

Project site configuration details and results.



Created **Sept. 10, 2018 4:29 p.m.**
 Updated **Sept. 12, 2018 12:23 p.m.**
 DNI varies and peaks at **1,000.0 W/m²**
 Analyze every **1 minute(s)**
0.5 ocular transmission coefficient
0.002 m pupil diameter
0.017 m eye focal length
9.3 mrad sun subtended angle
 Timezone **UTC-6**
 Site Configuration ID: 20914.3570

Summary of Results No glare predicted!

PV name	Tilt deg	Orientation deg	"Green" Glare min	"Yellow" Glare min	Energy Produced kWh
PV array 1	SA tracking	SA tracking	0	0	-

Component Data

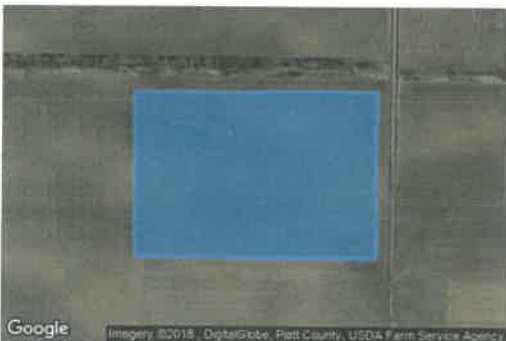
PV Array(s)

Definitions:
 "Green" Glare: Low potential for after-image.
 "Yellow" Glare: Potential for after-image.
 After-image: A lingering image of the glare in the field of view.

NOTE: Time (minutes) accounts for the total number of minutes of glare over one year.

Name: PV array 1
 Axis tracking: Single-axis rotation
 Tracking axis orientation: 180.0 deg
 Tracking axis tilt: 0.0 deg
 Tracking axis panel offset: 0.0 deg
 Maximum tracking angle: 52.0 deg
 Resting angle: 52.0 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	40.119749	-88.673807	699.61	6.00	705.61
2	40.119757	-88.674579	700.18	6.00	706.18
3	40.119757	-88.675620	701.20	6.00	707.20
4	40.119741	-88.676553	701.82	6.00	707.82
5	40.119749	-88.677326	700.98	6.00	706.98
6	40.119749	-88.678431	703.23	6.00	709.23
7	40.119347	-88.678442	700.19	6.00	706.19
8	40.118961	-88.678420	702.15	6.00	708.15
9	40.118535	-88.678431	703.67	6.00	709.67
10	40.118362	-88.678431	702.24	6.00	708.24
11	40.118151	-88.678425	700.64	6.00	706.64
12	40.117640	-88.678425	698.22	6.00	704.22
13	40.117341	-88.678420	700.80	6.00	706.81
14	40.117337	-88.677868	701.30	6.00	707.30
15	40.117333	-88.677320	702.25	6.00	708.25
16	40.117337	-88.676693	703.71	6.00	709.71
17	40.117324	-88.676210	703.70	6.00	709.70
18	40.117318	-88.675574	702.26	6.00	708.26
19	40.117329	-88.674955	699.07	6.00	705.07
20	40.117324	-88.674359	697.38	6.00	703.38
21	40.117316	-88.674027	696.92	6.00	702.92
22	40.117324	-88.673823	696.91	6.00	702.91
23	40.117731	-88.673828	696.89	6.00	702.89
24	40.118198	-88.673844	700.06	6.00	706.06
25	40.118531	-88.673844	700.00	6.00	706.00
26	40.118879	-88.673839	699.94	6.00	705.94
27	40.119170	-88.673839	699.83	6.00	705.83
28	40.119392	-88.673828	699.75	6.00	705.75
29	40.119614	-88.673801	699.67	6.00	705.67



Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	ft	ft	ft
OP 1	40.112798	-88.671488	699.14	6.00	705.14
OP 2	40.112833	-88.684385	702.63	6.00	708.63
OP 3	40.118012	-88.686739	709.65	6.00	715.65
OP 4	40.118366	-88.673825	699.98	6.00	705.98
OP 5	40.116326	-88.664096	693.26	6.00	699.26

PV Array Results

PV array 1

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.
- 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.



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0.002 m pupil diameter
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9.3 mrad sun subtended angle
 Timezone **UTC-6**
 Site Configuration ID: 20914.3570

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

PV name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
PV array 1	SA tracking	SA tracking	65,810	11,525	-

Component Data

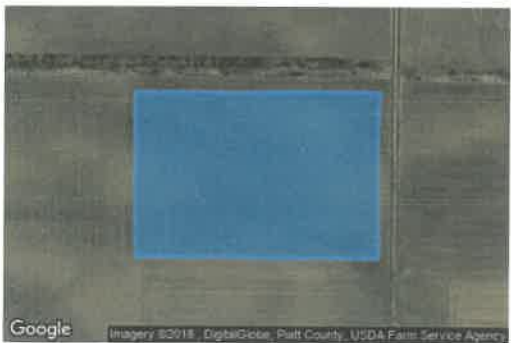
PV Array(s)

Definitions:
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 After-image: A lingering image of the glare in the field of view.

NOTE: Time (minutes) accounts for the total number of minutes of glare over one year.

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 Tracking axis tilt: 0.0 deg
 Tracking axis panel offset: 0.0 deg
 Maximum tracking angle: 52.0 deg
 Resting angle: 52.0 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
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3	40.119757	-88.675620	701.20	6.00	707.20
4	40.119741	-88.676553	701.82	6.00	707.82
5	40.119749	-88.677326	700.98	6.00	706.98
6	40.119749	-88.678431	703.23	6.00	709.23
7	40.119347	-88.678442	700.19	6.00	706.19
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13	40.117341	-88.678420	700.80	6.00	706.81
14	40.117337	-88.677868	701.30	6.00	707.30
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29	40.119614	-88.673801	699.67	6.00	705.67



Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	ft	ft	ft
OP 1	40.112798	-88.671488	699.14	15.00	714.14
OP 2	40.112833	-88.684385	702.63	6.00	708.63
OP 3	40.118012	-88.686739	709.65	6.00	715.65
OP 4	40.118366	-88.673825	699.98	15.00	714.98
OP 5	40.116326	-88.664096	693.26	6.00	699.26

PV Array Results

PV array 1 potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	65810	11525
OP: OP 5	0	0

PV array 1 - OP Receptor (OP 1)

No glare found

PV array 1 - OP Receptor (OP 2)

No glare found

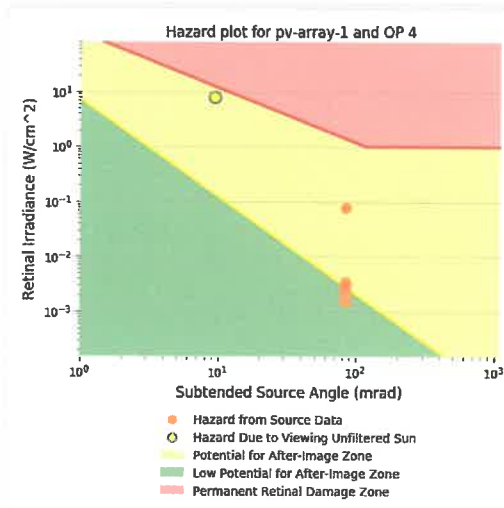
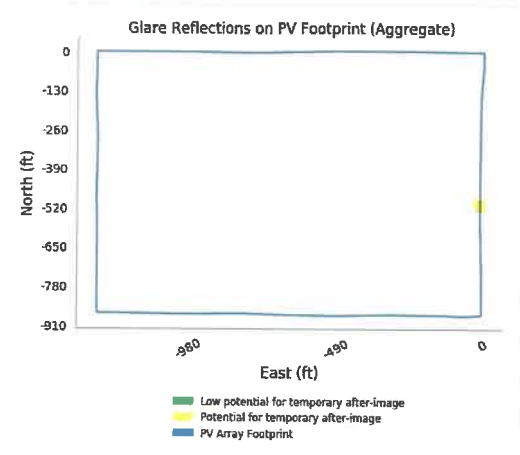
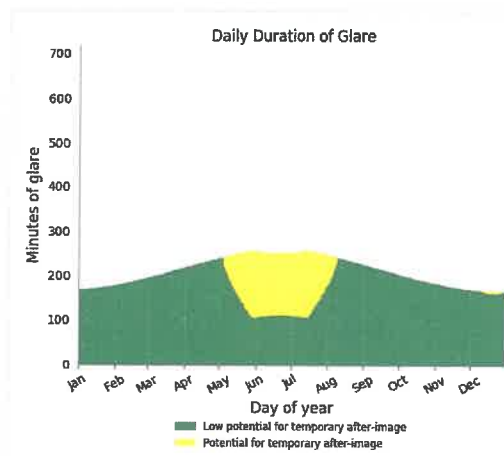
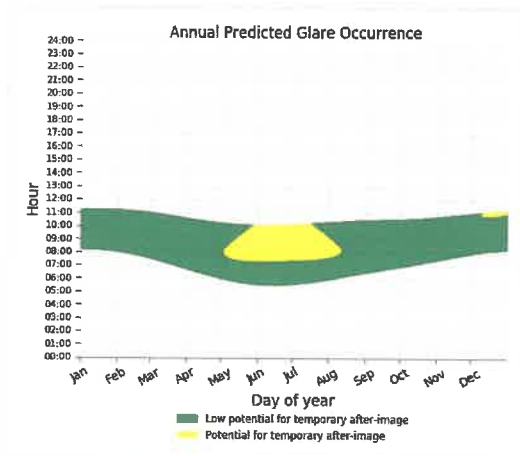
PV array 1 - OP Receptor (OP 3)

No glare found

PV array 1 - OP Receptor (OP 4)

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

- 65,810 minutes of "green" glare with low potential to cause temporary after-image.
- 11,525 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass : continuous, not discrete, spectrum.



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9.3 mrad sun subtended angle
 Timezone **UTC-6**
 Site Configuration ID: 20914.3570

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

PV name	Tilt deg	Orientation deg	"Green" Glare min	"Yellow" Glare min	Energy Produced kWh
PV array 1	SA tracking	SA tracking	103,473	14,344	-

Component Data

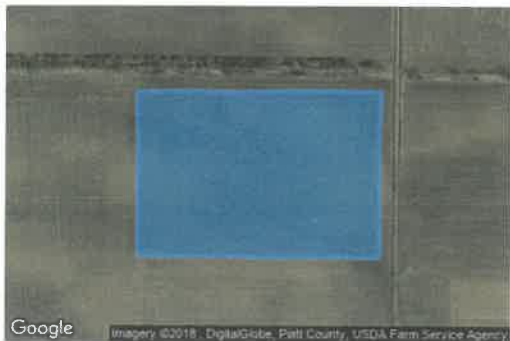
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24	40.118198	-88.673844	700.06	6.00	706.06
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28	40.119392	-88.673828	699.75	6.00	705.75
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Discrete Observation Receptors

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OP 1	40.112798	-88.671488	699.14	25.00	724.14
OP 2	40.112833	-88.684385	702.63	25.00	727.63
OP 3	40.118012	-88.686739	709.65	25.00	734.65
OP 4	40.118366	-88.673825	699.98	25.00	724.98
OP 5	40.116326	-88.664096	693.26	25.00	718.27

PV Array Results

PV array 1 potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	103473	14344
OP: OP 5	0	0

PV array 1 - OP Receptor (OP 1)

No glare found

PV array 1 - OP Receptor (OP 2)

No glare found

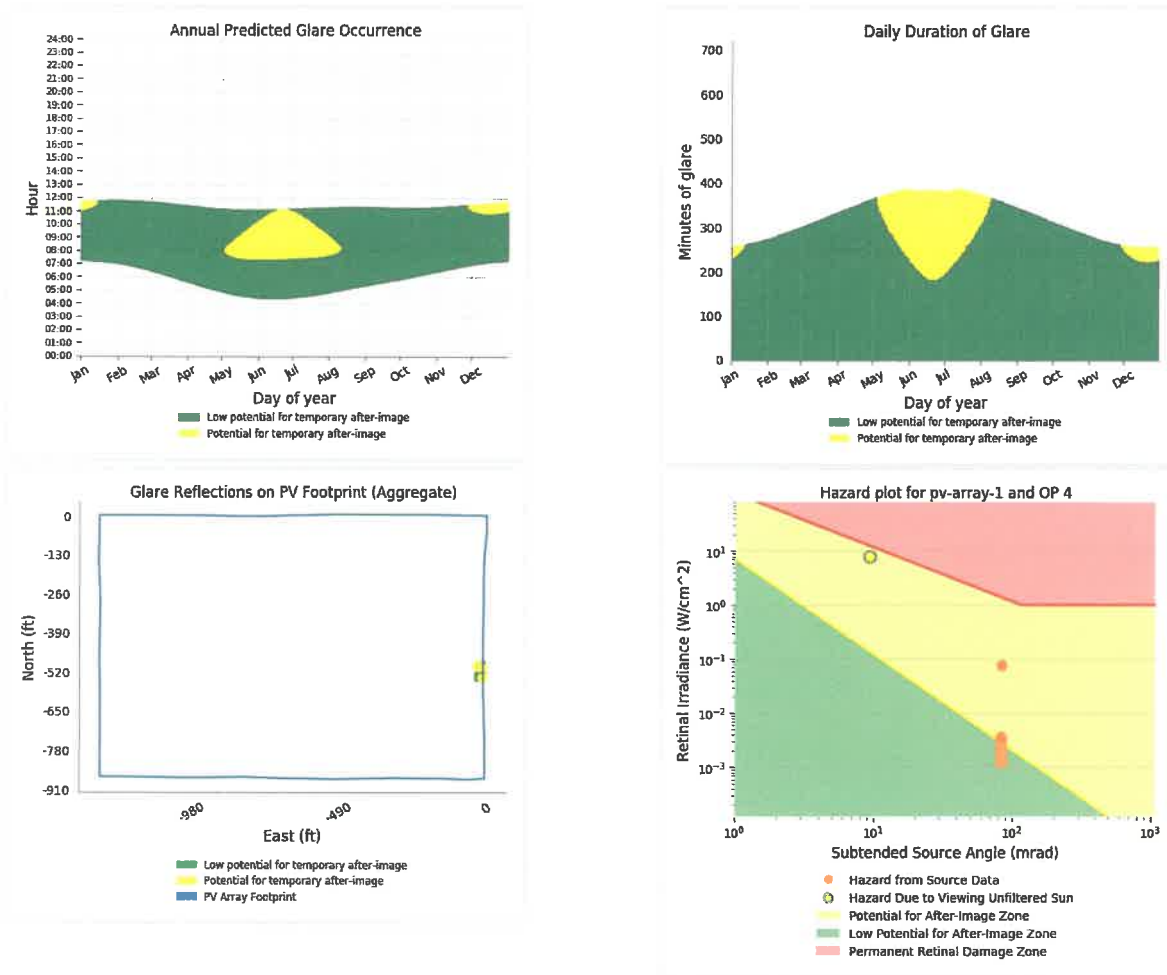
PV array 1 - OP Receptor (OP 3)

No glare found

PV array 1 - OP Receptor (OP 4)

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

- 103,473 minutes of "green" glare with low potential to cause temporary after-image.
- 14,344 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
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- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass : continuous, not discrete, spectrum.