Carport & roof (copy) 5th Command Center, 12800 lomas blvd NE

🔧 Report

Project Name	5th Command Center
Project Address	12800 lomas blvd NE
Prepared By	OE Solar info@osceolaenergy.com

📊 System Metrics

Design	Carport & roof (copy)
Module DC Nameplate	72.0 kW
Inverter AC Nameplate	75.0 kW Load Ratio: 0.96
Annual Production	128.9 MWh
Performance Ratio	83.9%
kWh/kWp	1,790.2
Weather Dataset	TMY, 10km grid (35.05,-106.55), NREL (prospector)
Simulator Version	976710bd6f-d16b7b72d4-0dcfd22a50-1d0eb092a8

📍 Project Location

📊 Monthly Production

◑ Sources of System Loss

AC System: 4.2%
Shading: 0.1%
Reflection: 3.5%
Inverters: 1.8%
Clipping: 0.0%
Wiring: 0.6%
Mismatch: 0.6%
Temperature: 2.3%
Irradiance: 0.3%
Soiling: 4.0%
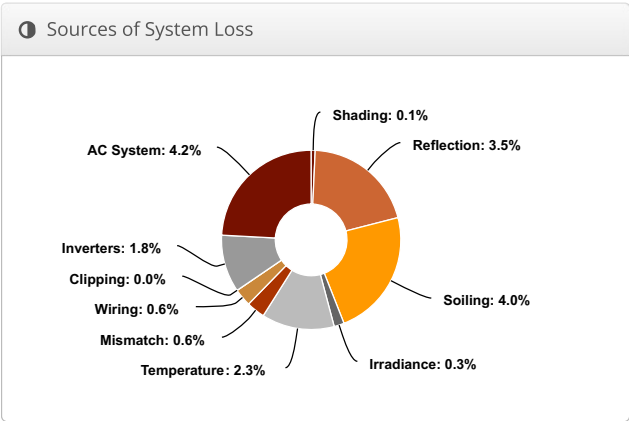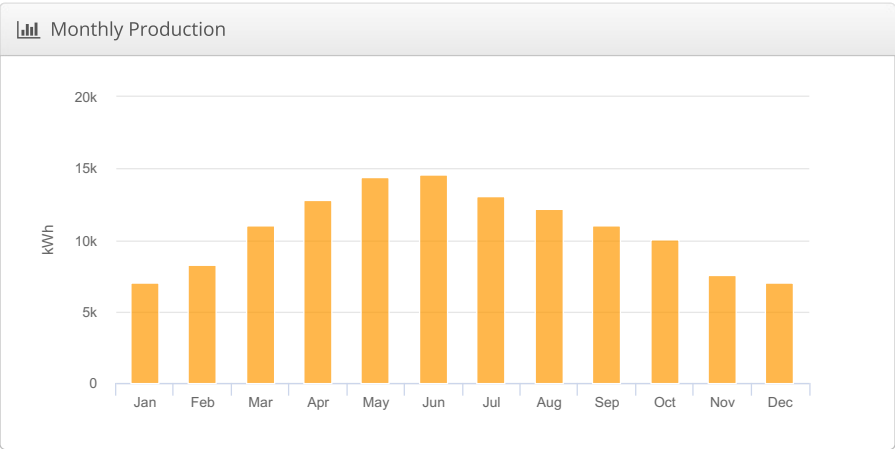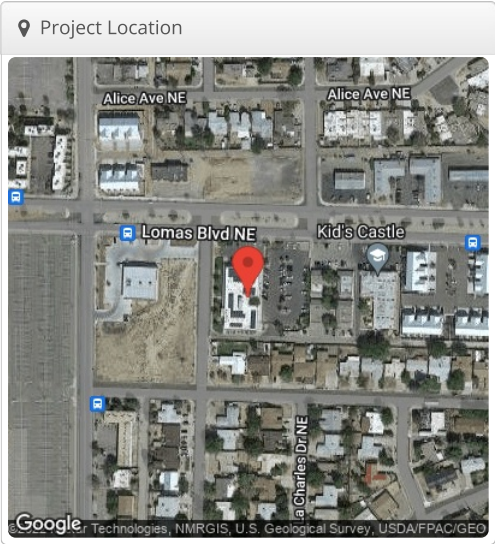
⚡ Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	2,042.9	
	POA Irradiance	2,134.5	4.5%
	Shaded Irradiance	2,131.9	-0.1%
	Irradiance after Reflection	2,056.7	-3.5%
	Irradiance after Soiling	1,974.4	-4.0%
	Total Collector Irradiance	**1,974.4**	**0.0%**
Energy (kWh)	Nameplate	142,256.8	
	Output at Irradiance Levels	141,801.8	-0.3%
	Output at Cell Temperature Derate	138,572.8	-2.3%
	Output After Mismatch	137,769.7	-0.6%
	Optimal DC Output	137,011.3	-0.6%
	Constrained DC Output	137,006.9	0.0%
	Inverter Output	134,540.8	-1.8%
	Energy to Grid	**128,894.6**	**-4.2%**
Temperature Metrics			
	Avg. Operating Ambient Temp		14.2 °C
	Avg. Operating Cell Temp		24.2 °C
Simulation Metrics			
	Operating Hours		4648
	Solved Hours		4648

☁ Condition Set

Description	Condition Set 1
Weather Dataset	TMY, 10km grid (35.05,-106.55), NREL (prospector)
Solar Angle Location	Meteo Lat/Lng
Transposition Model	Perez Model
Temperature Model	Sandia Model

Temperature Model Parameters	Rack Type	a	b	Temperature Delta
	Fixed Tilt	-3.56	-0.075	3°C
	Flush Mount	-2.81	-0.0455	0°C

Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	4	4	4	4	4	4	4	4	4	4	4	4

Irradiation Variance	2%
Cell Temperature Spread	2° C
Module Binning Range	-1% to 1%
AC System Derate	0.75%

Module Characterizations	Module	Uploaded By	Characterization
	CS3N-400MS(IEC1500 V) (Canadian Solar)	HelioScope	Spec Sheet Characterization, PAN

Component Characterizations	Device	Uploaded By	Characterization

🖨 Components

Component	Name	Count
Inverters	Sunny Highpower PEAK1 (400V) (SMA)	1 (75.0 kW)
AC Panels	1 input AC Panel	1
AC Home Runs	3 AWG (Aluminum)	2 (986.2 ft)
Strings	10 AWG (Copper)	10 (2,409.9 ft)
Module	Canadian Solar, CS3N-400MS(IEC1500 V) (400W)	180 (72.0 kW)

⛓ Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	17-19	Along Racking

▦ Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 2	Fixed Tilt	Landscape (Horizontal)	5°	181.4°	0.9 ft	1x1	86	86	34.4 kW
Field Segment 2	Fixed Tilt	Landscape (Horizontal)	5°	183°	0.9 ft	1x1	20	20	8.00 kW
Field Segment 3	Fixed Tilt	Landscape (Horizontal)	5°	180°	0.9 ft	1x1	42	42	16.8 kW
Field Segment 2 (copy)	Fixed Tilt	Landscape (Horizontal)	5°	183°	0.9 ft	1x1	22	22	8.80 kW
Field Segment 3 (copy)	Fixed Tilt	Landscape (Horizontal)	5°	181°	0.9 ft	1x1	10	10	4.00 kW

Detailed Layout