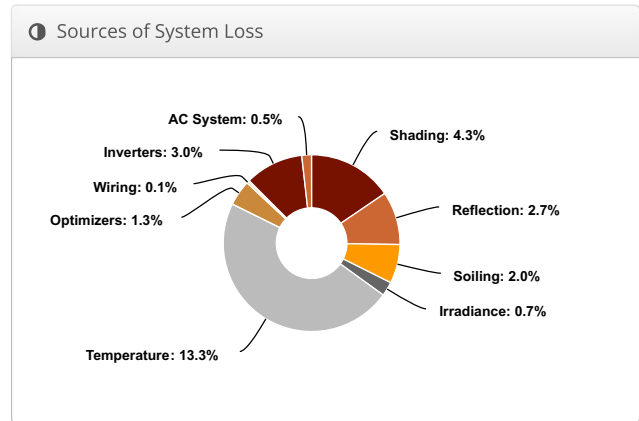
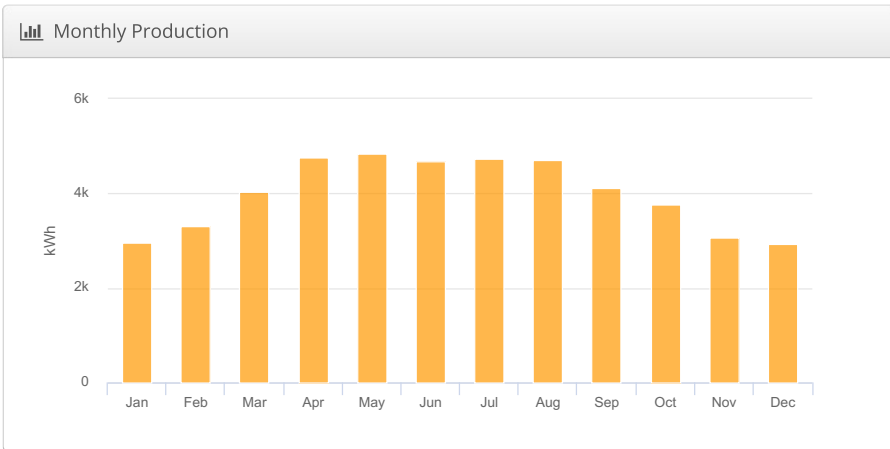
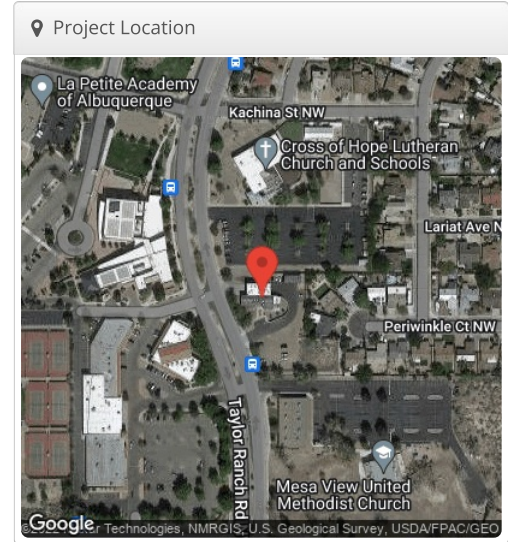


29.1 kW Roof Mount and Carports Fire Station #18, 6100 Taylor Ranch NW, Albuquerque NM

Report	
Project Name	Fire Station #18
Project Address	6100 Taylor Ranch NW, Albuquerque NM
Prepared By	Zach Johnson zach@sollunasolar.com

System Metrics	
Design	29.1 kW Roof Mount and Carports
Module DC Nameplate	29.1 kW
Inverter AC Nameplate	28.8 kW Load Ratio: 1.01
Annual Production	47.90 MWh
Performance Ratio	74.7%
kWh/kWp	1,643.7
Weather Dataset	TMY, ALBUQUERQUE INTL ARPT [ISIS], NSRDB (tmy3, I)
Simulator Version	559293434c-36a84e2c72-edbe86706d- ee22b44d10



Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	1,980.4	
	POA Irradiance	2,200.0	11.1%
	Shaded Irradiance	2,104.5	-4.3%
	Irradiance after Reflection	2,047.0	-2.7%
	Irradiance after Soiling	2,006.1	-2.0%
	Total Collector Irradiance	2,006.4	0.0%
Energy (kWh)	Nameplate	58,493.3	
	Output at Irradiance Levels	58,067.1	-0.7%
	Output at Cell Temperature Derate	50,366.5	-13.3%
	Output After Mismatch	50,366.4	0.0%
	Optimizer Output	49,712.2	-1.3%
	Optimal DC Output	49,661.9	-0.1%
	Constrained DC Output	49,634.6	-0.1%
	Inverter Output	48,145.6	-3.0%
	Energy to Grid	47,904.8	-0.5%
Temperature Metrics			
	Avg. Operating Ambient Temp		17.3 °C
	Avg. Operating Cell Temp		39.2 °C
Simulation Metrics			
	Operating Hours	4566	
	Solved Hours	4566	

Condition Set												
Description	Condition Set 1											
Weather Dataset	TMY, ALBUQUERQUE INTL ARPT [ISIS], NSRDB (tmy3, I)											
Solar Angle Location	Meteo Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Diffusion Model											
Temperature Model Parameters	Rack Type	U _{const}					U _{wind}					
	Fixed Tilt	29					0					
	Flush Mount	15					0					
	East-West	29					0					
	Carport	15					0					
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	2	2	2	2	2	2	2	2	2	2	2	2
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-2.5% to 2.5%											
AC System Derate	0.50%											
Module Characterizations	Module	Uploaded By	Characterization									
	CS6U-335M (Canadian Solar Inc.)	HelioScope	CS6U-335M-AG_MIX_CSI_EXT_V6_52_1500V_2016Q4.PAN, PAN									
	CS3U 335P 1500V (Canadian Solar Inc.)	HelioScope	CS3U-335P_MIX_CSI_EXT_V6_52_1500V_2016Q4_A2.PAN, PAN									
Component Characterizations	Device	Uploaded By	Characterization									

Components		
Component	Name	Count
Inverters	SE14.4KUS (SolarEdge)	2 (28.8 kW)
Strings	10 AWG (Copper)	6 (266.2 ft)
Optimizers	P400 NA (SolarEdge)	87 (34.8 kW)
Module	Canadian Solar Inc., CS6U-335M (335W)	45 (15.1 kW)
Module	Canadian Solar Inc., CS3U 335P 1500V (335W)	42 (14.1 kW)

Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	9-17	Along Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Flush Mount	Portrait (Vertical)	15°	180°	0.1 ft	1x1	39	23	7.71 kW
Field Segment 2	Flush Mount	Portrait (Vertical)	15°	180°	0.1 ft	1x1	30	22	7.37 kW
Field Segment 4	Carport	Landscape (Horizontal)	15°	180°	0.0 ft	1x1	42	42	14.1 kW

Detailed Layout

