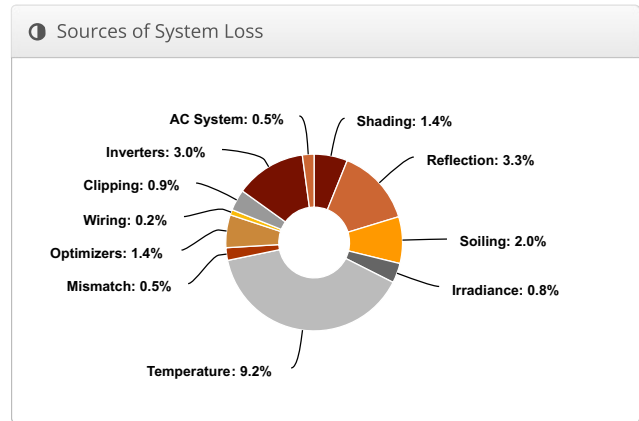
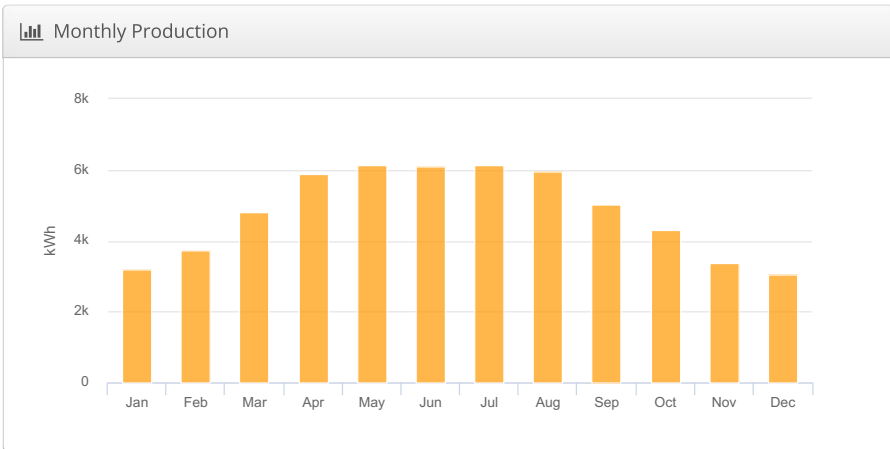
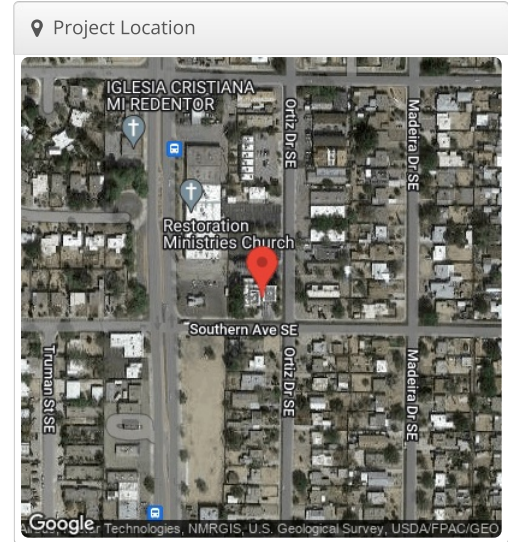


35.5 kW Roof Mount RM 5 Fire Station #11, 5403 Southern Ave, Albuquerque, NM

Report	
Project Name	Fire Station #11
Project Address	5403 Southern Ave, Albuquerque, NM
Prepared By	Zach Johnson zach@sollunasolar.com

System Metrics	
Design	35.5 kW Roof Mount RM 5
Module DC Nameplate	35.5 kW
Inverter AC Nameplate	28.8 kW Load Ratio: 1.23
Annual Production	57.71 MWh
Performance Ratio	78.7%
kWh/kWp	1,625.1
Weather Dataset	TMY, ALBUQUERQUE INTL ARPT [ISIS], NSRDB (tmy3, I)
Simulator Version	70e353687f-301d24fcb-8f3cf974d4-5e9aee986c



Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	1,980.4	
	POA Irradiance	2,065.1	4.3%
	Shaded Irradiance	2,035.7	-1.4%
	Irradiance after Reflection	1,968.1	-3.3%
	Irradiance after Soiling	1,928.7	-2.0%
	Total Collector Irradiance	1,928.7	0.0%
Energy (kWh)	Nameplate	68,516.2	
	Output at Irradiance Levels	67,936.9	-0.8%
	Output at Cell Temperature Derate	61,688.7	-9.2%
	Output After Mismatch	61,355.0	-0.5%
	Optimizer Output	60,490.1	-1.4%
	Optimal DC Output	60,353.3	-0.2%
	Constrained DC Output	59,807.1	-0.9%
	Inverter Output	57,996.6	-3.0%
	Energy to Grid	57,706.6	-0.5%
Temperature Metrics			
	Avg. Operating Ambient Temp		17.3 °C
	Avg. Operating Cell Temp		33.5 °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	20					0					
	Flush Mount	15					0					
	East-West	29					0					
Soiling (%)	Carport	19					0					
	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									
Component Characterizations	CS3U 335P 1500V (Canadian Solar Inc.)	HelioScope	CS3U-335P_MIX_CSI_EXT_V6_52_1500V_2016Q4_A2.PAN, PAN									
	Device	Uploaded By	Characterization									

Components		
Component	Name	Count
Inverters	SE14.4KUS (SolarEdge)	2 (28.8 kW)
Strings	10 AWG (Copper)	7 (706.2 ft)
Optimizers	P700 (SolarEdge)	56 (39.2 kW)
Module	Canadian Solar Inc., CS6U-335M (335W)	46 (15.4 kW)
Module	Canadian Solar Inc., CS3U 335P 1500V (335W)	60 (20.1 kW)

Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	7-17	Along Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
10.7 kw Roof	Fixed Tilt	Landscape (Horizontal)	5°	180.22°	0.7 ft	1x1	32	32	10.7 kW
4.7 kW Roof	Fixed Tilt	Landscape (Horizontal)	5°	180.22°	0.7 ft	1x1	14	14	4.69 kW
Field Segment 3	Carport	Landscape (Horizontal)	5°	180°	0.0 ft	1x1	60	60	20.1 kW

Detailed Layout

