

13.5kW - 30 Placas + BackUp 10kWh Lissette C. Pérez Rentas - 103, 103 Calle Reina de las Flores, Toa Alta

 Report

Project Name	Lisette C. Pérez Rentas - 103
Project Address	103 Calle Reina de las Flores, Toa Alta
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ENERGY DEPOT
WE ARE THE DIFFERENCE

System Metrics

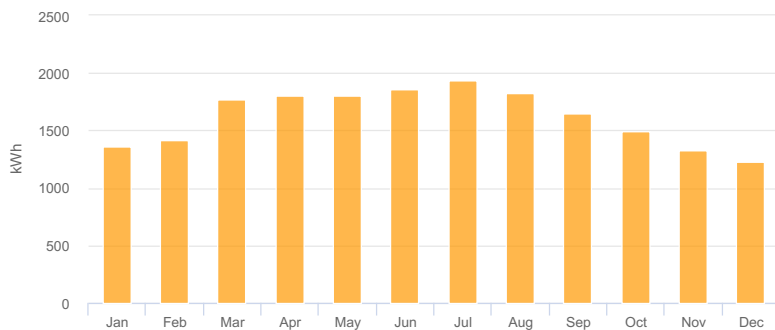
Design	13.5kW - 30 Placas + BackUp 10kWh
Module DC Nameplate	13.5 kW
Inverter AC Nameplate	11.4 kW Load Ratio: 1.18
Annual Production	19.49 MWh
Performance Ratio	78.8%
kWh/kWp	1,443.6
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	7e02d8377c-9b339ea0ec-1f5b03aa72-3b96383fff

📍 Project Location



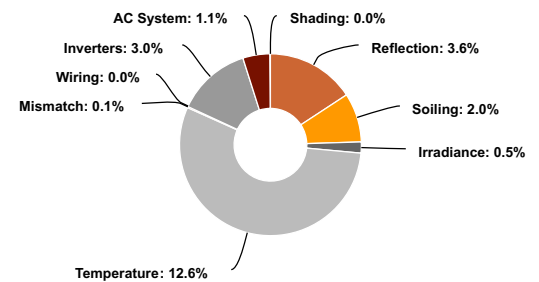
A bar chart showing monthly production from January to December. The y-axis is labeled 'Production' and ranges from 0 to 100 in increments of 20. The x-axis is labeled 'Month' and lists the months from Jan to Dec. The production values are: Jan: 10, Feb: 20, Mar: 30, Apr: 40, May: 50, Jun: 60, Jul: 70, Aug: 80, Sep: 90, Oct: 100, Nov: 95, Dec: 85.

Month	Production
Jan	10
Feb	20
Mar	30
Apr	40
May	50
Jun	60
Jul	70
Aug	80
Sep	90
Oct	100
Nov	95
Dec	85



Month	GHI (kWh/m ²)	POA (kWh/m ²)	Shaded (kWh/m ²)	Nameplate (kW)	Grid (kW)
January	124.8	124.8	124.8	1,582.9	1,356.0
February	130.7	130.7	130.7	1,662.8	1,415.2
March	167.3	167.3	167.3	2,139.8	1,773.4
April	170.9	170.9	170.9	2,188.9	1,806.4
May	170.8	170.8	170.8	2,183.9	1,807.7
June	175.7	175.7	175.7	2,249.5	1,856.0
July	182.8	182.8	182.8	2,337.4	1,941.3
August	172.8	172.8	172.8	2,209.9	1,824.0
September	156.5	156.5	156.5	1,997.6	1,653.3
October	142.3	142.3	142.3	1,816.9	1,495.8
November	123.8	123.8	123.8	1,572.6	1,327.7
December	113.4	113.4	113.4	1,431.8	1,231.9

Sources of System Loss



⚡ Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,831.8	
	POA Irradiance	1,831.7	0.0%
	Shaded Irradiance	1,831.7	0.0%
	Irradiance after Reflection	1,765.6	-3.6%
	Irradiance after Soiling	1,730.3	-2.0%
	Total Collector Irradiance	1,730.3	0.0%
Energy (kWh)	Nameplate	23,374.1	
	Output at Irradiance Levels	23,268.7	-0.5%
	Output at Cell Temperature Derate	20,327.4	-12.6%
	Output After Mismatch	20,314.2	-0.1%
	Optimal DC Output	20,314.2	0.0%
	Constrained DC Output	20,319.0	0.0%
	Inverter Output	19,704.4	-3.0%
	Energy to Grid	19,488.6	-1.1%
Temperature Metrics			
Avg. Operating Ambient Temp		27.6 °C	
Avg. Operating Cell Temp		47.2 °C	
Simulation Metrics			
Operating Hours		4547	
Solved Hours		4547	

☁ Condition Set												
Description	Condition Set 1											
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)											
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
	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				
	BSM450M-72HPH (1500) (Bluesun Solar)					Folsom Labs		Spec Sheet Characterization, PAN				
Component Characterizations	Device						Uploaded By		Characterization			
	IQ8H-240-72-2-US (240V) (Enphase)						Folsom Labs		Spec Sheet			

📦 Components		
Component	Name	Count
Inverters	IQ8H-240-72-2-US (240V) (Enphase)	30 (11.4 kW)
AC Panels	3 input AC Panel	1
AC Home Runs	6 AWG (Copper)	1 (115.4 ft)
AC Branches	8 AWG (Copper)	3 (198.8 ft)
Module	Bluesun Solar, BSM450M-72HPH (1500) (450W)	30 (13.5 kW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	1-1	Along Racking

🏠 Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Flush Mount	Portrait (Vertical)	0°	97°	0.0 ft	1x1	18	18	8.10 kW
Field Segment 2	Flush Mount	Portrait (Vertical)	0°	97°	0.0 ft	1x1	6	6	2.70 kW
Field Segment 3	Flush Mount	Portrait (Vertical)	0°	97°	0.0 ft	1x1	6	6	2.70 kW

Detailed Layout

