

Layout 1

Layout 1 Marge Holtz, 210 Olivia St, key west

Report

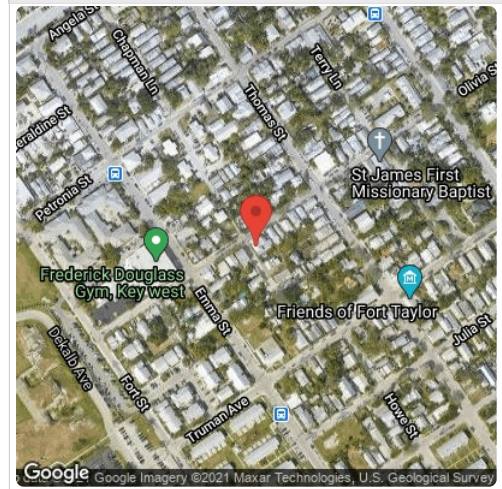
Project Name	Marge Holtz
Project Description	Co-op Customer
Project Address	210 Olivia St, key west
Prepared By	Bob Williams bobw@saltservice.net



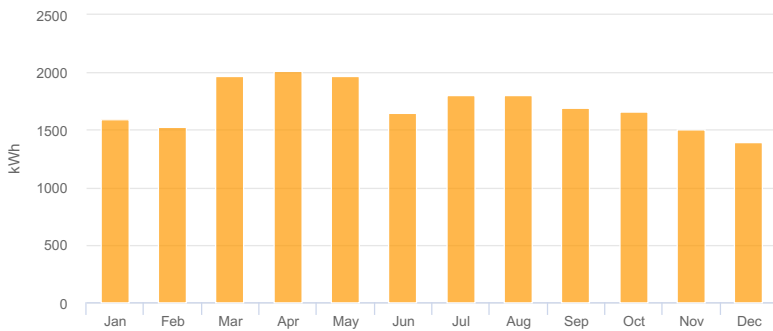
System Metrics

Design	Layout 1
Module DC Nameplate	12.3 kW
Inverter AC Nameplate	9.80 kW Load Ratio: 1.25
Annual Production	20.59 MWh
Performance Ratio	79.4%
kWh/kWp	1,673.6
Weather Dataset	TMY, 10km Grid (24.55,-81.85), NREL (prospector)
Simulator Version	30e0ed0a01-2e589a52f5-9eaf57d037-cbad0ebfbc

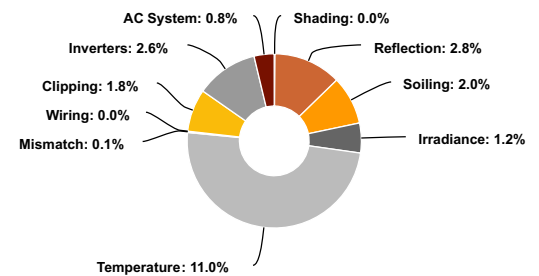
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	2,047.1	
	POA Irradiance	2,106.9	2.9%
	Shaded Irradiance	2,106.2	0.0%
	Irradiance after Reflection	2,047.2	-2.8%
	Irradiance after Soiling	2,006.3	-2.0%
	Total Collector Irradiance	2,006.8	0.0%
Energy (kWh)	Nameplate	24,680.8	
	Output at Irradiance Levels	24,376.0	-1.2%
	Output at Cell Temperature Derate	21,700.4	-11.0%
	Output After Mismatch	21,689.3	-0.1%
	Optimal DC Output	21,689.3	0.0%
	Constrained DC Output	21,307.0	-1.8%
	Inverter Output	20,758.1	-2.5%
	Energy to Grid	20,585.8	-0.8%
Temperature Metrics			
	Avg. Operating Ambient Temp		25.5 °C
	Avg. Operating Cell Temp		46.5 °C
Simulation Metrics			
	Operating Hours	4660	
	Solved Hours	4660	

☁ Condition Set													
Description	Condition Set 1												
Weather Dataset	TMY, 10km Grid (24.55,-81.85), 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						
	East-West		-3.56		-0.075		3°C						
	Carport		-3.56		-0.075		3°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						
	SPR-A410-G-AC (SunPower)				Folsom Labs		Sunpower_SPR_A410_G_AC.PAN, PAN						
Component Characterizations	Device			Uploaded By				Characterization					

🗂 Components		
Component	Name	Count
Inverters	IQ7X-96-x-240 (Enphase)	23 (7.36 kW)
Inverters	IQ7A-72-2-US (240V) (Enphase)	7 (2.44 kW)
AC Panels	1 input AC Panel	1
AC Panels	2 input AC Panel	1
AC Home Runs	500 MCM (Copper)	2 (139.0 ft)
AC Branches	10 AWG (Copper)	3 (49.5 ft)
Module	SunPower, SPR-A410-G-AC (410W)	30 (12.3 kW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	1-1	Along Racking
Wiring Zone 2	-	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)	30°	234.58295°	0.0 ft	1x1	18	18	7.38 kW
Field Segment 2	Flush Mount	Portrait (Vertical)	30°	146.12596°	1.6 ft	1x1	7	7	2.87 kW
Field Segment 3	Flush Mount	Portrait (Vertical)	30°	145.43814°	1.6 ft	1x1	5	5	2.05 kW

Detailed Layout



Layout 2

Layout 2 Marge Holtz, 210 Olivia St, key west

Report

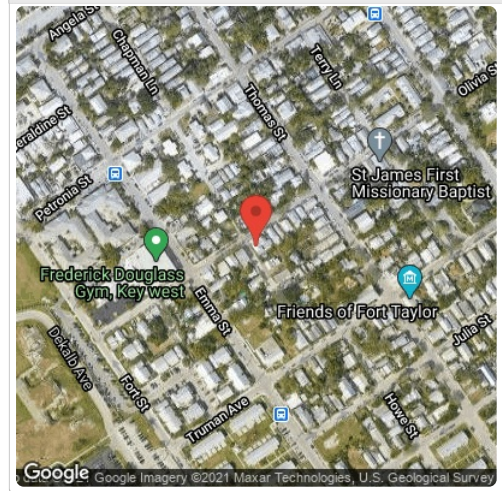
Project Name	Marge Holtz
Project Description	Co-op Customer
Project Address	210 Olivia St, key west
Prepared By	Bob Williams bobw@saltservice.net



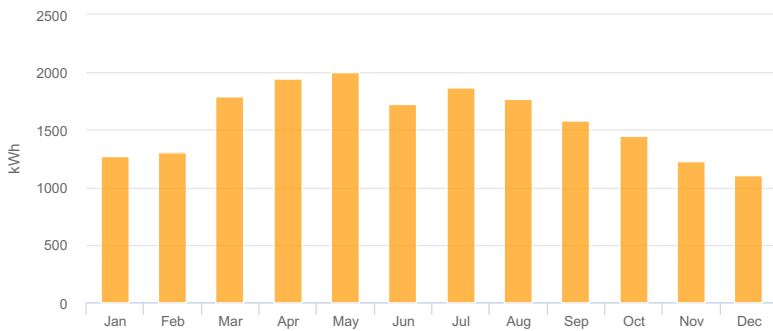
System Metrics

Design	Layout 2
Module DC Nameplate	12.3 kW
Inverter AC Nameplate	9.80 kW Load Ratio: 1.25
Annual Production	19.07 MWh
Performance Ratio	78.6%
kWh/kWp	1,550.1
Weather Dataset	TMY, 10km Grid (24.55,-81.85), NREL (prospector)
Simulator Version	453f41678c-09260645b7-b0bd33bbd8-a9fb6c4b03

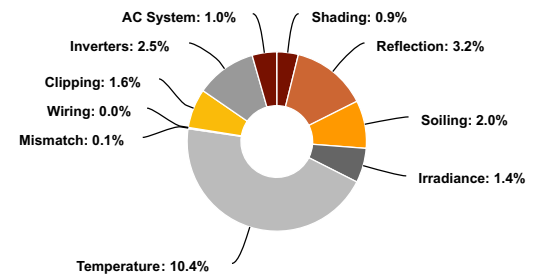
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	2,047.1	
	POA Irradiance	1,971.9	-3.7%
	Shaded Irradiance	1,954.2	-0.9%
	Irradiance after Reflection	1,891.9	-3.2%
	Irradiance after Soiling	1,854.1	-2.0%
	Total Collector Irradiance	1,851.3	-0.2%
Energy (kWh)	Nameplate	22,770.8	
	Output at Irradiance Levels	22,442.4	-1.4%
	Output at Cell Temperature Derate	20,107.5	-10.4%
	Output After Mismatch	20,097.0	-0.1%
	Optimal DC Output	20,097.0	0.0%
	Constrained DC Output	19,766.6	-1.6%
	Inverter Output	19,263.8	-2.5%
	Energy to Grid	19,065.9	-1.0%
Temperature Metrics			
	Avg. Operating Ambient Temp		25.5 °C
	Avg. Operating Cell Temp		44.9 °C
Simulation Metrics			
	Operating Hours	4660	
	Solved Hours	4660	

☁ Condition Set													
Description	Condition Set 1												
Weather Dataset	TMY, 10km Grid (24.55,-81.85), 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				
	East-West			-3.56		-0.075			3°C				
	Carport			-3.56		-0.075			3°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					
	SPR-A410-G-AC (SunPower)				Folsom Labs			Sunpower_SPR_A410_G_AC.PAN, PAN					
Component Characterizations	Device			Uploaded By					Characterization				

🗂 Components		
Component	Name	Count
Inverters	IQ7X-96-x-240 (Enphase)	23 (7.36 kW)
Inverters	IQ7A-72-2-US (240V) (error) (Enphase)	7 (2.44 kW)
AC Panels	1 input AC Panel	1
AC Panels	2 input AC Panel	1
AC Home Runs	500 MCM (Copper)	2 (121.8 ft)
AC Branches	10 AWG (Copper)	3 (191.0 ft)
Module	SunPower, SPR-A410-G-AC (410W)	30 (12.3 kW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	1-1	Along Racking
Wiring Zone 2	-	1-1	Along Racking

🏠 Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 2	Flush Mount	Portrait (Vertical)	30°	146.12596°	1.6 ft	1x1	7	7	2.87 kW
Field Segment 3	Flush Mount	Portrait (Vertical)	30°	145.43814°	1.6 ft	1x1	5	5	2.05 kW
Field Segment 4	Flush Mount	Portrait (Vertical)	0°	146.04094°	1.6 ft	1x1	9	9	3.69 kW
Field Segment 4	Flush Mount	Portrait (Vertical)	30°	55.304848°	1.6 ft	1x1	3	3	1.23 kW
Field Segment 5	Flush Mount	Portrait (Vertical)	30°	55.036903°	1.6 ft	1x1	3	3	1.23 kW
Field Segment 6	Flush Mount	Portrait (Vertical)	30°	327.09476°	1.6 ft	1x1	3	3	1.23 kW

Detailed Layout



Layout 3

Layout 3 Marge Holtz, 210 Olivia St, key west

Report

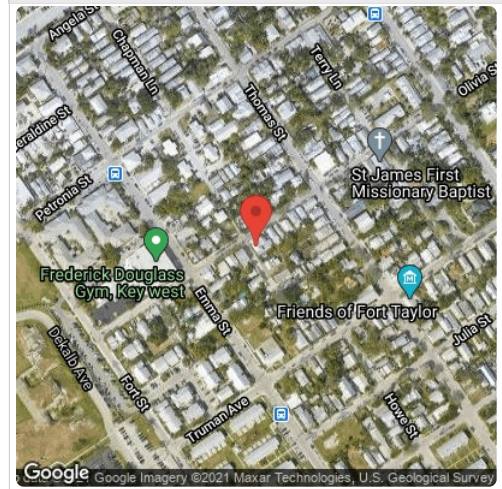
Project Name	Marge Holtz
Project Description	Co-op Customer
Project Address	210 Olivia St, key west
Prepared By	Bob Williams bobw@saltservice.net



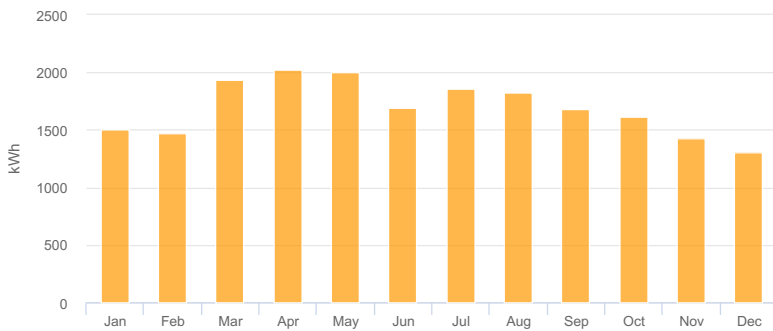
System Metrics

Design	Layout 3
Module DC Nameplate	12.3 kW
Inverter AC Nameplate	9.80 kW Load Ratio: 1.25
Annual Production	20.35 MWh
Performance Ratio	79.0%
kWh/kWp	1,654.7
Weather Dataset	TMY, 10km Grid (24.55,-81.85), NREL (prospector)
Simulator Version	30e0ed0a01-2e589a52f5-9eaf57d037-cbad0ebfbc

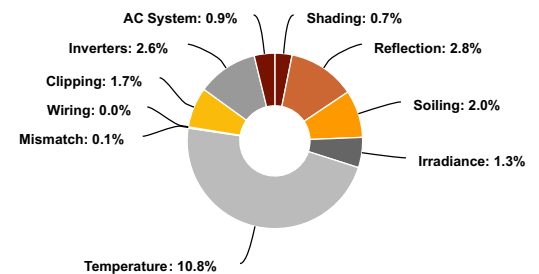
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	2,047.1	
	POA Irradiance	2,095.4	2.4%
	Shaded Irradiance	2,080.3	-0.7%
	Irradiance after Reflection	2,021.1	-2.8%
	Irradiance after Soiling	1,980.7	-2.0%
	Total Collector Irradiance	1,980.7	0.0%
Energy (kWh)	Nameplate	24,360.1	
	Output at Irradiance Levels	24,050.4	-1.3%
	Output at Cell Temperature Derate	21,445.0	-10.8%
	Output After Mismatch	21,433.8	-0.1%
	Optimal DC Output	21,433.8	0.0%
	Constrained DC Output	21,069.7	-1.7%
	Inverter Output	20,530.3	-2.5%
	Energy to Grid	20,352.2	-0.9%
Temperature Metrics			
	Avg. Operating Ambient Temp		25.5 °C
	Avg. Operating Cell Temp		46.2 °C
Simulation Metrics			
	Operating Hours		4660
	Solved Hours		4660

☁ Condition Set													
Description	Condition Set 1												
Weather Dataset	TMY, 10km Grid (24.55,-81.85), 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				
	East-West			-3.56		-0.075			3°C				
	Carport			-3.56		-0.075			3°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					
	SPR-A410-G-AC (SunPower)				Folsom Labs			Sunpower_SPR_A410_G_AC.PAN, PAN					
Component Characterizations	Device			Uploaded By					Characterization				

🗉 Components		
Component	Name	Count
Inverters	IQ7X-96-x-240 (Enphase)	23 (7.36 kW)
Inverters	IQ7A-72-2-US (240V) (Enphase)	7 (2.44 kW)
AC Panels	1 input AC Panel	1
AC Panels	2 input AC Panel	1
AC Home Runs	500 MCM (Copper)	2 (128.8 ft)
AC Branches	10 AWG (Copper)	3 (84.9 ft)
Module	SunPower, SPR-A410-G-AC (410W)	30 (12.3 kW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	1-1	Along Racking
Wiring Zone 2	-	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)	30°	234.58295°	0.0 ft	1x1	9	9	3.69 kW
Field Segment 2	Flush Mount	Portrait (Vertical)	30°	146.12596°	1.6 ft	1x1	7	7	2.87 kW
Field Segment 3	Flush Mount	Portrait (Vertical)	30°	145.43814°	1.6 ft	1x1	5	5	2.05 kW
Field Segment 4	Flush Mount	Portrait (Vertical)	0°	146.04094°	1.6 ft	1x1	9	9	3.69 kW

Detailed Layout



Layout 4

Layout 4 Marge Holtz, 210 Olivia St, key west

Report

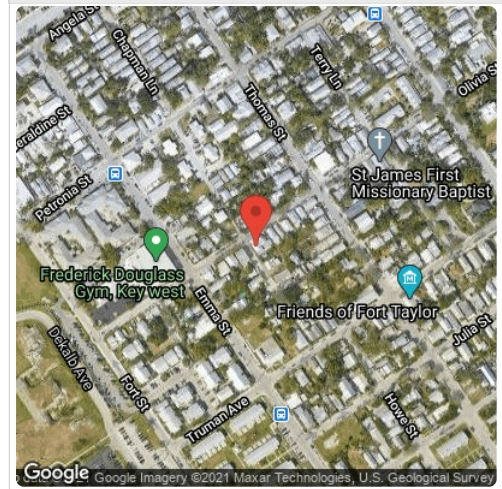
Project Name	Marge Holtz
Project Description	Co-op Customer
Project Address	210 Olivia St, key west
Prepared By	Bob Williams bobw@saltservice.net



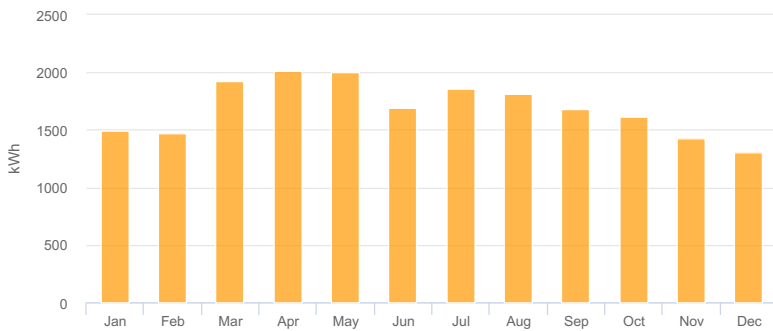
System Metrics

Design	Layout 4
Module DC Nameplate	12.3 kW
Inverter AC Nameplate	9.80 kW Load Ratio: 1.25
Annual Production	20.30 MWh
Performance Ratio	78.8%
kWh/kWp	1,650.8
Weather Dataset	TMY, 10km Grid (24.55,-81.85), NREL (prospector)
Simulator Version	453f41678c-09260645b7-b0bd33bbd8-a9fb6c4b03

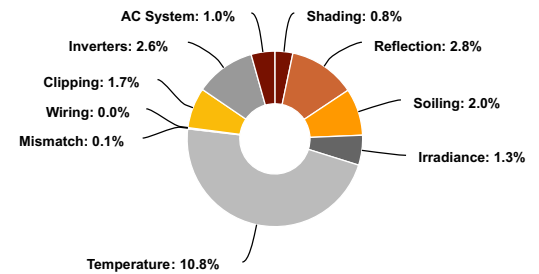
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	2,047.1	
	POA Irradiance	2,095.0	2.3%
	Shaded Irradiance	2,079.0	-0.8%
	Irradiance after Reflection	2,019.8	-2.8%
	Irradiance after Soiling	1,979.4	-2.0%
	Total Collector Irradiance	1,979.6	0.0%
Energy (kWh)	Nameplate	24,346.4	
	Output at Irradiance Levels	24,036.3	-1.3%
	Output at Cell Temperature Derate	21,430.8	-10.8%
	Output After Mismatch	21,419.7	-0.1%
	Optimal DC Output	21,419.7	0.0%
	Constrained DC Output	21,051.2	-1.7%
	Inverter Output	20,511.6	-2.5%
	Energy to Grid	20,304.7	-1.0%
Temperature Metrics			
	Avg. Operating Ambient Temp		25.5 °C
	Avg. Operating Cell Temp		46.2 °C
Simulation Metrics			
	Operating Hours		4660
	Solved Hours		4660

☁ Condition Set													
Description	Condition Set 1												
Weather Dataset	TMY, 10km Grid (24.55,-81.85), 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						
	East-West		-3.56		-0.075		3°C						
	Carport		-3.56		-0.075		3°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						
	SPR-A410-G-AC (SunPower)				Folsom Labs		Sunpower_SPR_A410_G_AC.PAN, PAN						
Component Characterizations	Device			Uploaded By				Characterization					

🗂 Components		
Component	Name	Count
Inverters	IQ7X-96-x-240 (Enphase)	23 (7.36 kW)
Inverters	IQ7A-72-2-US (240V) (error) (Enphase)	7 (2.44 kW)
AC Panels	1 input AC Panel	1
AC Panels	2 input AC Panel	1
AC Home Runs	500 MCM (Copper)	2 (128.8 ft)
AC Branches	10 AWG (Copper)	3 (109.3 ft)
Module	SunPower, SPR-A410-G-AC (410W)	30 (12.3 kW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	1-1	Along Racking
Wiring Zone 2	-	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)	30°	234.58295°	0.0 ft	1x1	6	6	2.46 kW
Field Segment 2	Flush Mount	Portrait (Vertical)	30°	146.12596°	1.6 ft	1x1	7	7	2.87 kW
Field Segment 3	Flush Mount	Portrait (Vertical)	30°	145.43814°	1.6 ft	1x1	5	5	2.05 kW
Field Segment 4	Flush Mount	Portrait (Vertical)	0°	146.04094°	1.6 ft	1x1	9	9	3.69 kW
Field Segment 5	Flush Mount	Portrait (Vertical)	30°	235.89873°	1.6 ft	1x1	2	2	820.0 W
Field Segment 6	Flush Mount	Portrait (Vertical)	30°	234.86581°	1.6 ft	1x1	1	1	410.0 W

Detailed Layout

