SolFocus™

Data Sheet

Innovation Inspired by Nature

Features and Benefits

SolFocus' CPV technology combines multi-junction solar cells into a high-concentration reflector panel design. At over 500 suns the panel achieves greater than 17% conversion efficiency using a 10cm depth, establishing a new benchmark for compactness for CPV systems.

High Performance

- Enabled by highest-efficiency cells available – triple-junction cells
- Less than half the temperature degradation of Si panels
- Employs reflective, non-imaging optics which avoids chromatic aberration

Reliable & Safe

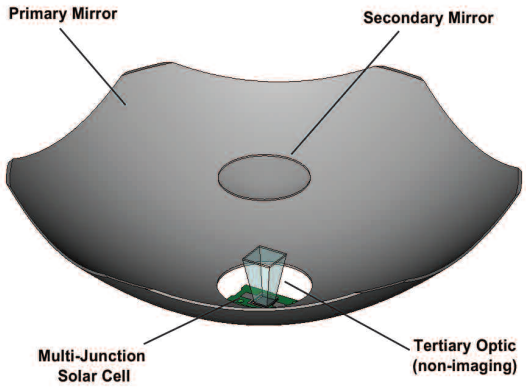
- Enclosed optical assembly – no exposed mirrors or open fire hazards
- No moving parts in panels – avoids mechanical failure in panel
- Glass-based collector – immune to UV degradation
- Purely passive cooling – no liquids or fans

Low Cost

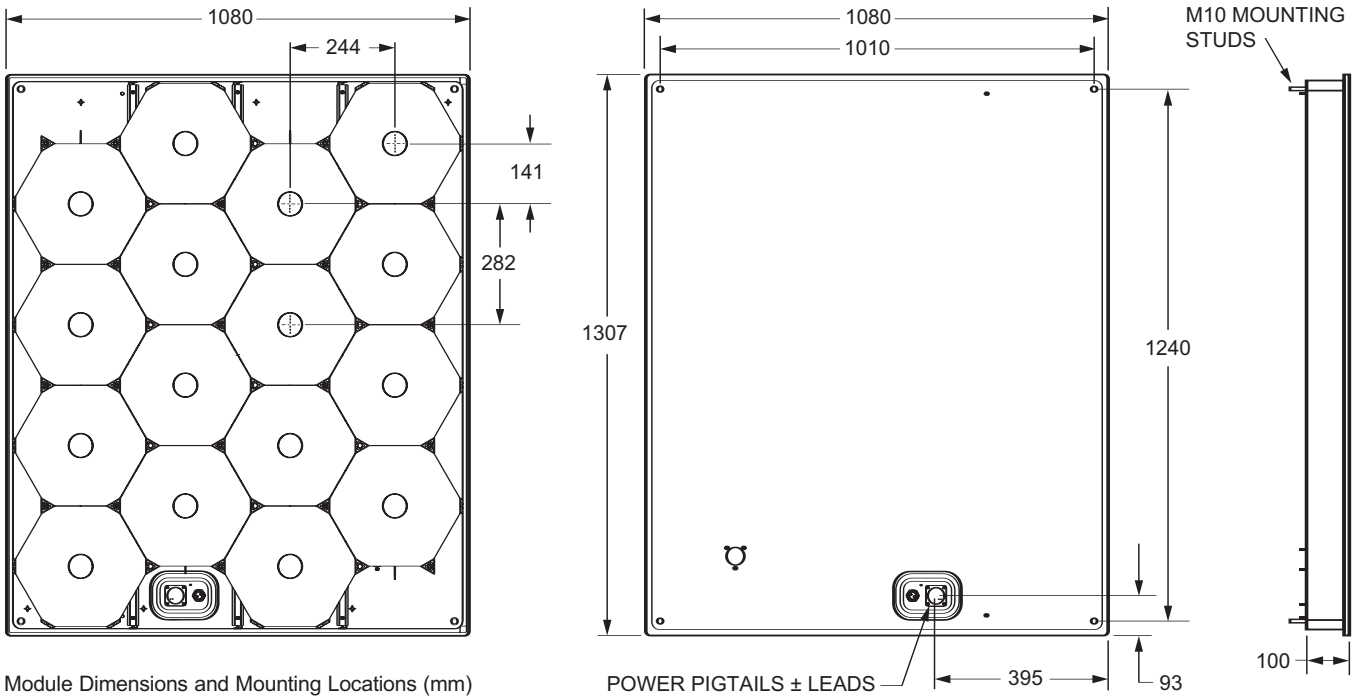
- Uses minimal components – includes a number of dual-use materials
- Wide acceptance angle – relaxes component and tracker tolerances

SF-CPV-205
High Efficiency Concentrator PV Panel

The panel incorporates 16 individual power units and achieves an acceptance angle of ±1 degree which is the widest among CPV designs, lowering tracker and balance of systems costs. Reliability is achieved with fully-enclosed design and minimal components such as passive cooling.



In this unique collector architecture, incident solar radiation is concentrated using three optical elements. Primary and secondary mirrors are arranged in a folded-path structure that directs sunlight to the cell via a tertiary, non-imaging optical rod. This design offers a wide insolation acceptance angle (±1°) and a thin panel profile reducing system weight and cost.



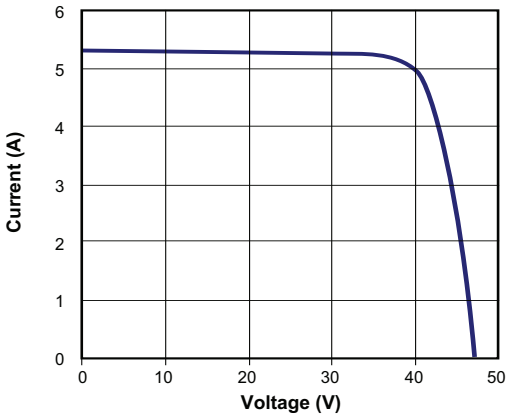
Module Dimensions and Mounting Locations (mm)

Performance Characteristics at 850 W/m2 DNI	
Maximum Power (P_{max})*	205 W
Acceptance Angle	±1°
Max Power Voltage (V_{mp})	40 V
Max Power Current (I_{mp})	5.2 A
Open Circuit Voltage (V_{oc})	46 V
Short Circuit Current (I_{sc})	5.4 A
Panel Efficiency (%)	17%
Series Fuse Rating	10 A
Max System Voltage	1000 V
Temperature Coefficients	
Power	-0.16%/°C
Voltage	-0.07 V/°C
Current	+8 µA/°C
Mechanical Specifications	
Dimensions (L x W x D)	1.3m x 1.1m x 0.1m
Weight	42 kg
Connector Terminations	MC-type, 4mm plug connector
Certifications	
Qualification	IEC 62108**
Safety	UL Certification**
Electrical	TUV Safety Class II**

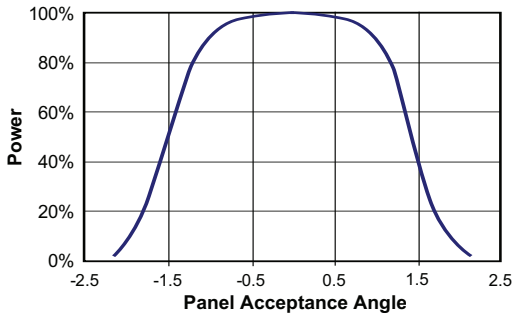
** ASTM WK6450 Standard Concentrator Conditions: 850 W/m² DNI, 20°C ambient temperature, 4 m/s wind speed*

*** In process*

I-V Characteristics



Ultra-wide acceptance angle results from patented tailored non-imaging optics design



Design and specifications are subject to change without notice.