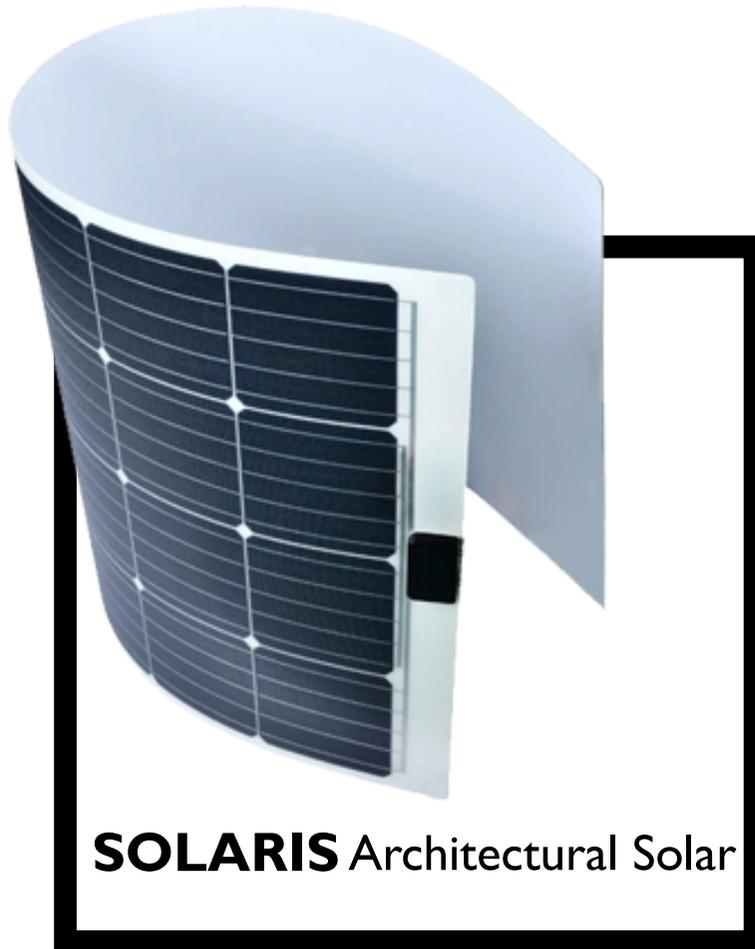




SOLARIS Architectural Solar

SOLARIS Architectural Solar



Page

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2. Processes.....	08-15
3. Flexible solar panels.....	16-19
3. Designs.....	20-49
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SOLARIS Architectural Solar

Flexible solar panels offer a versatile solution for integrating renewable energy into diverse architectural applications. On tensile structures, these panels conform to complex, curved surfaces, enhancing energy efficiency in spaces like sports venues or public areas. Shade cloth structures can benefit from their lightweight design and adaptability, making them ideal for agricultural shading, carports, and recreational spaces while maintaining structural integrity.

Advantages of a light (9kg), 1.8mm thick panel:

Ease of installation: Lightweight panels are simple to handle and install, reducing labor and equipment costs.

Structural compatibility: At just 1.8mm thick, these panels adapt to irregular surfaces and profiles, enhancing design flexibility.

Low impact on load: They minimize additional weight on structures, making them suitable for retrofitting or delicate surfaces.

Durability: Thin panels are often made to withstand bending and flexing, ensuring resilience over time.

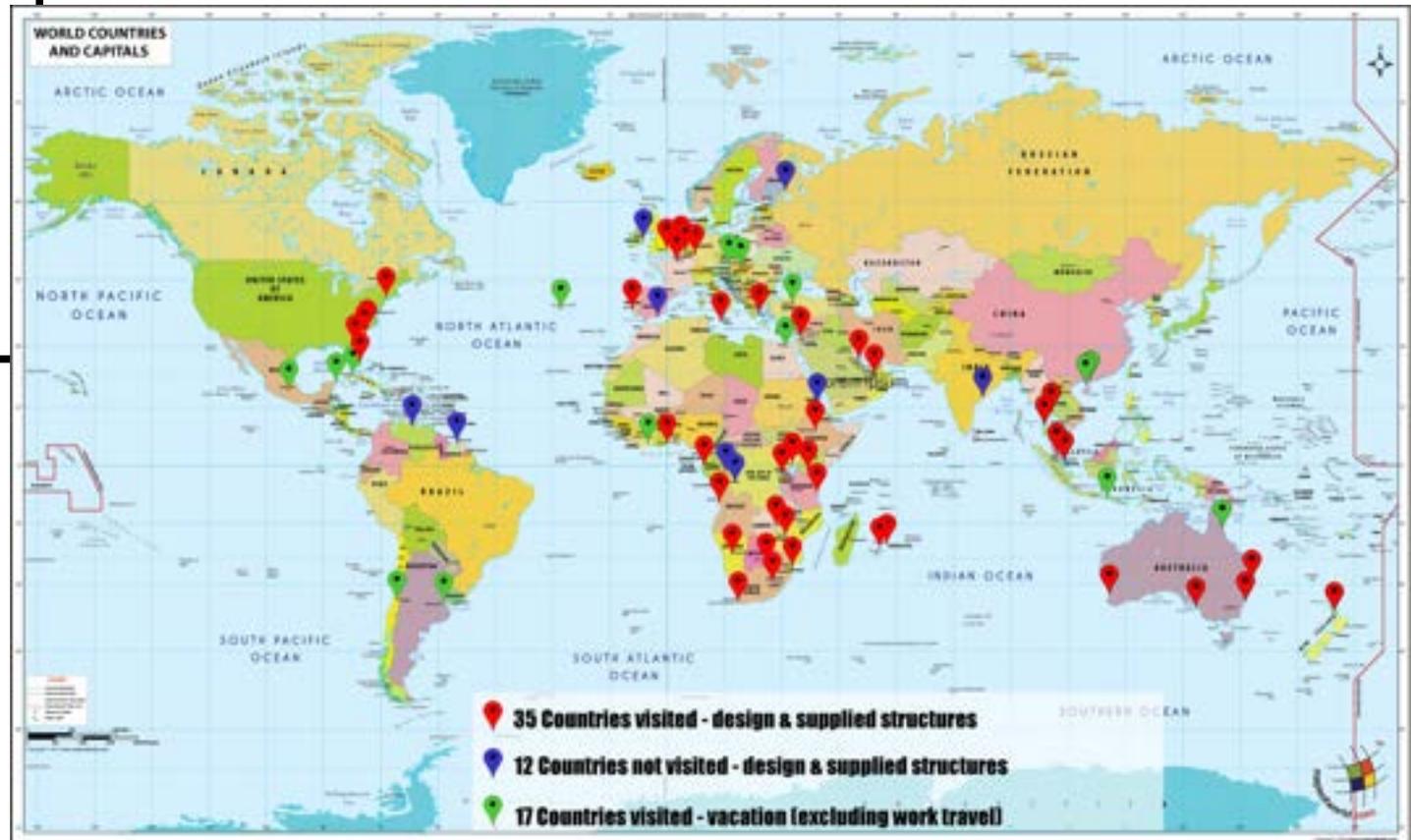


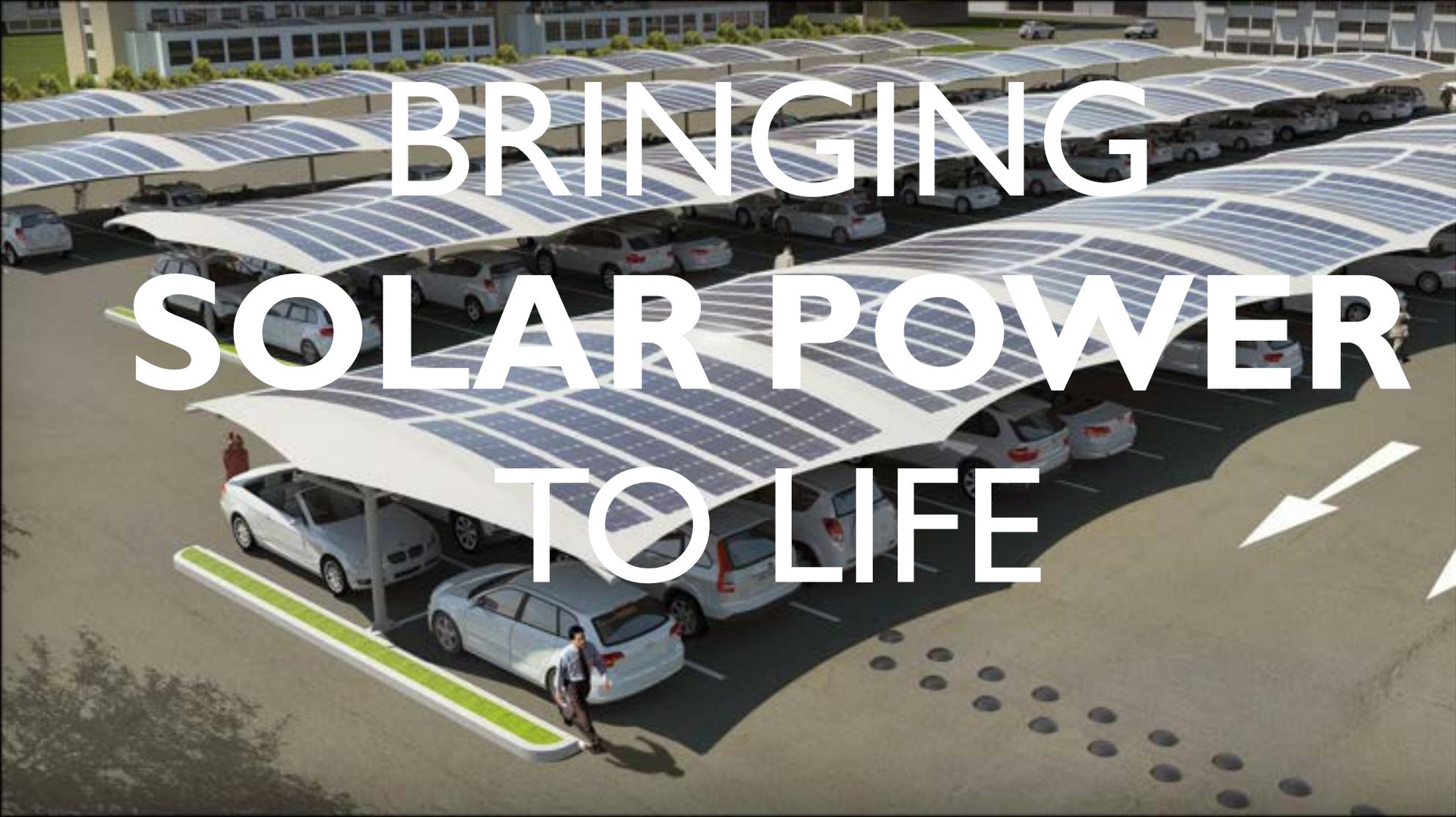
ABOUT US

SOLARIS Architectural Solar

2025 by the numbers

32 years experience
1 000's of projects
10 000's of structures
48 countries
92 standard designs
10 000's of engineering
& design hours



An aerial photograph of a parking lot where each car is covered by a white canopy with a grid of blue solar panels. The canopies are arranged in long, parallel rows. In the foreground, a man in a blue shirt and dark pants is walking on a path next to a silver car. To the right, a large white arrow points towards the right side of the frame. The background shows a modern building with large windows and a green lawn.

BRINGING SOLAR POWER TO LIFE

SOLARIS Architectural Solar



**SOLAR POWER
&
SHADE**

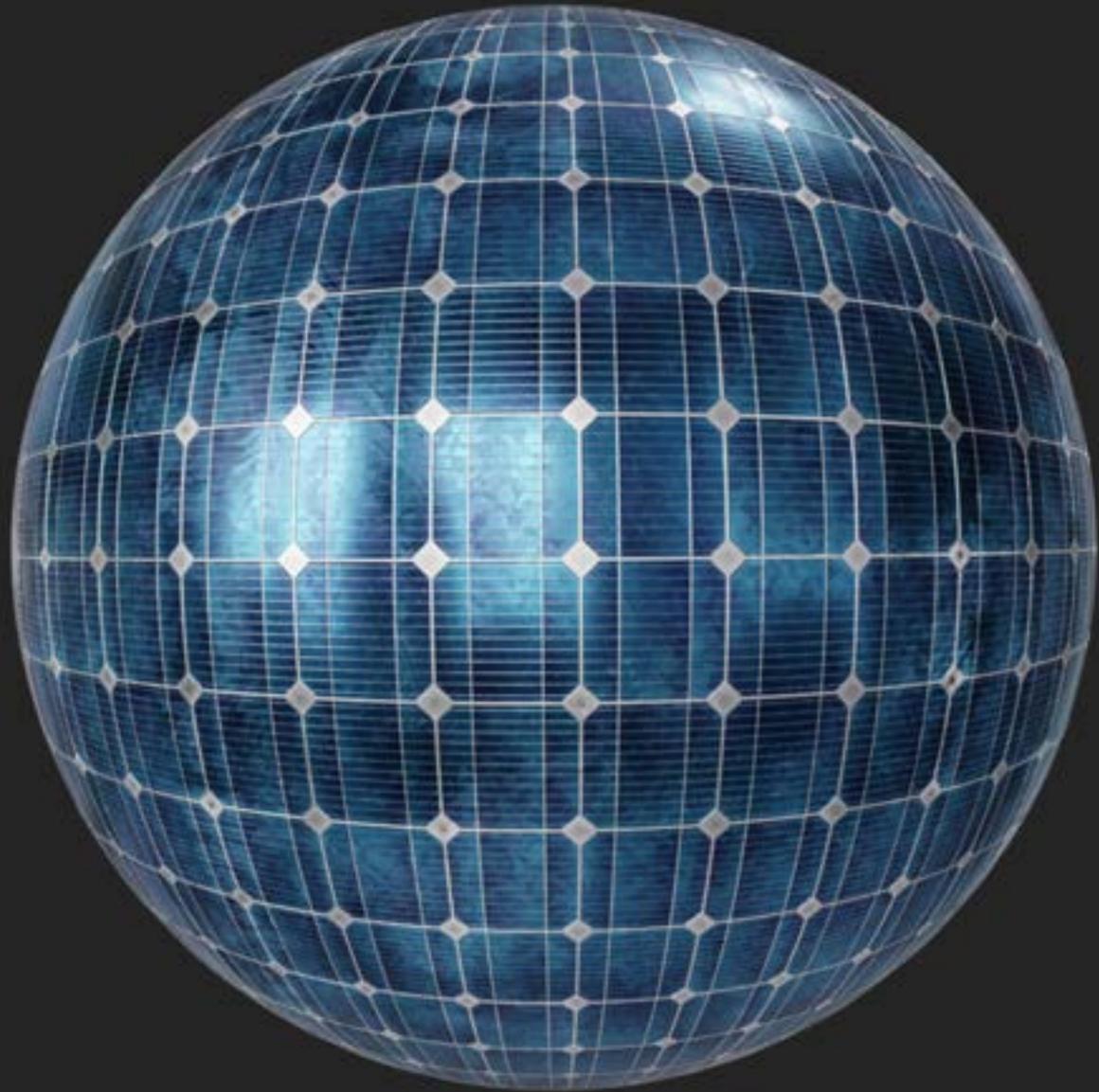
SOLARIS Architectural Solar

Solaris Architectural Solar has a large range of standard design tensile structures to suite most individual requirements in the commercial, hospitality and private sector.

Solaris Architectural Solar business partners have over the past 32 years developed a great deal of expertise in the design, manufacture & installation of custom and standard tensile structures

Our in-house project engineers have a wealth of experience in the design and development of custom designs for extreme high wind areas as well as the South African Standards. We use only the highest quality imported and locally produced fabrics.

Our structures are designed be innovative and organic in design and functionality.



FINDING YOU IN EVERY DETAIL

When deciding on the perfect design for your needs there are a number of criteria that need to be taken into account.

Amongst these is how much power we need to provide. What is the expected lifespan of the structure. Do you require the structure to provide shade, hail and or rain protection. What is the general layout of the area we have at our disposal.



Function of the structure to provide shade or rain protection. What weather conditions can we expect & what weather conditions need to be taken into account in the design.



Preferred design. There are many designs that we can offer in both standard and bespoke designs. We work with you to determine the best fit for your requirements.

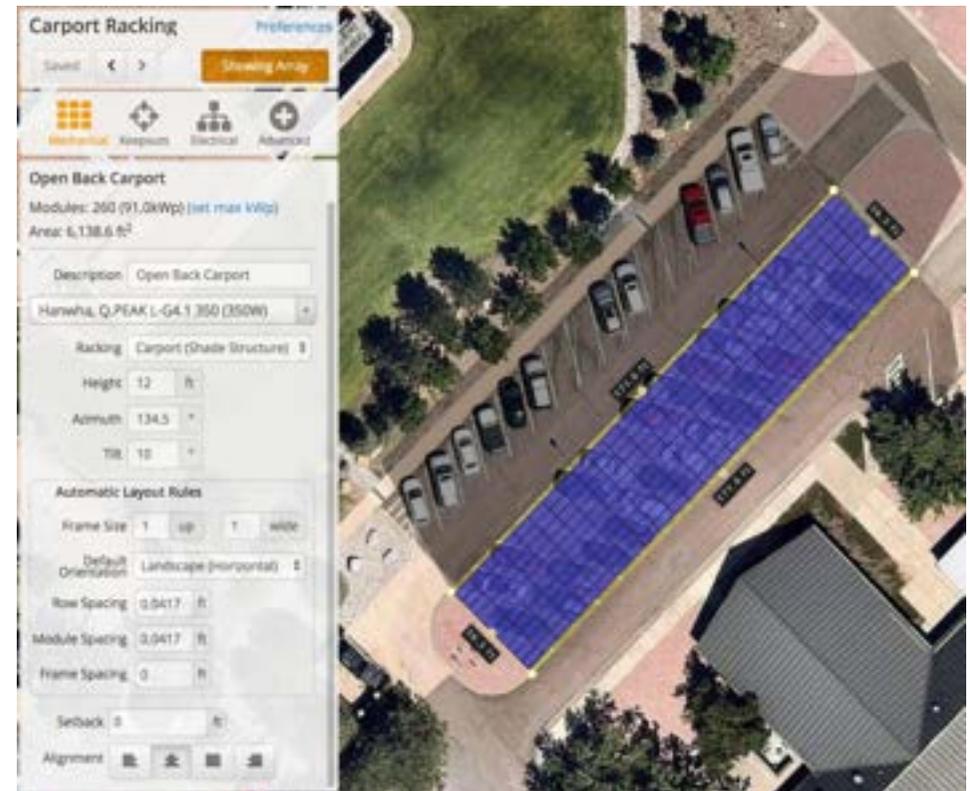


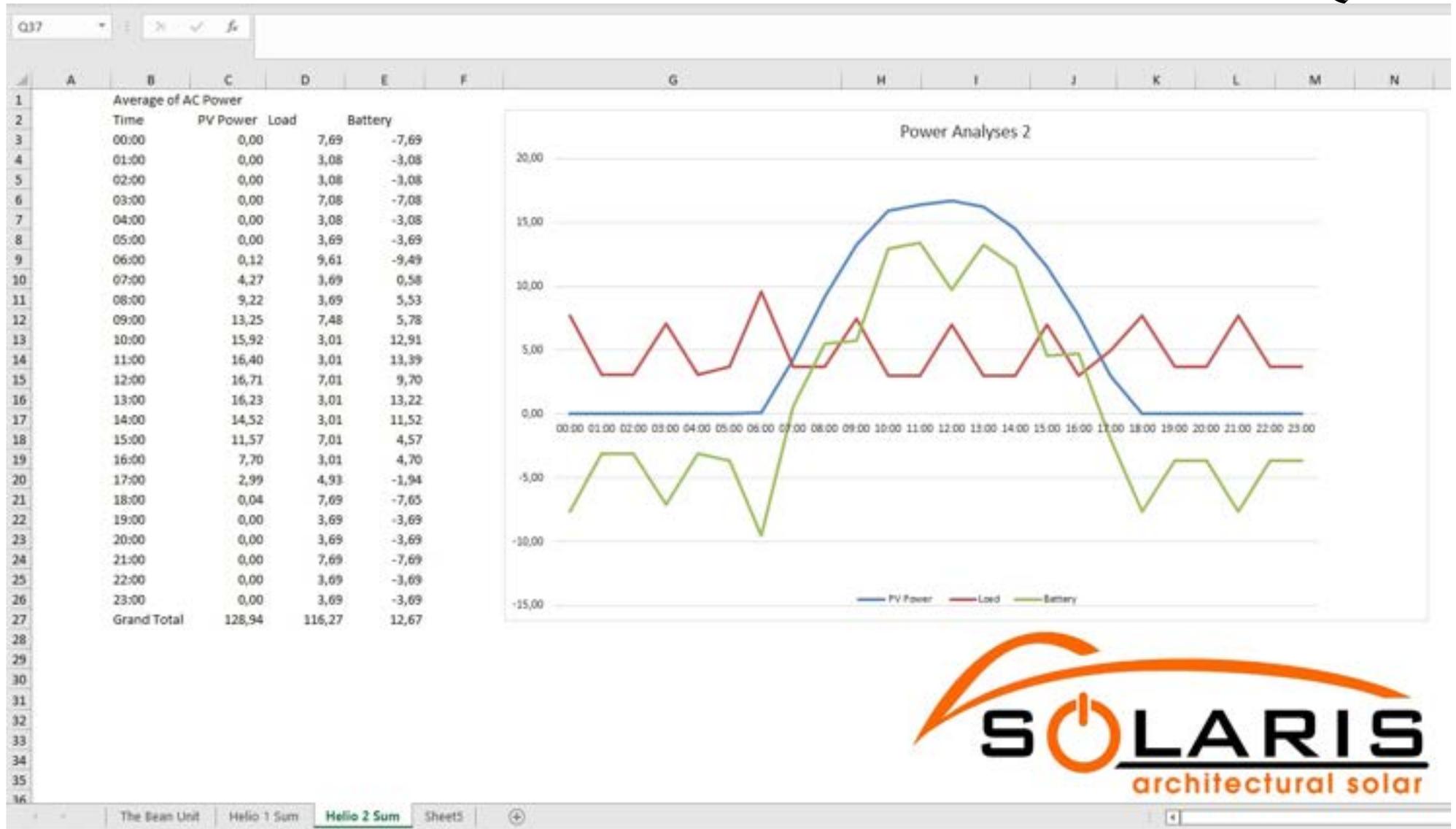
Do you require an engineers sign off on the project or do you just require the structural analysis report that we routinely offer to our clients for each project we undertake.

SOLARIS Architectural Solar

Helioscope

We use Helioscope a web-based sales and design tool for solar professionals with the power to completely reshape the proposal generation process. From its robust 3D design engine and bankable energy yield simulator to its detailed financial calculator and drag-and-drop proposal editor.



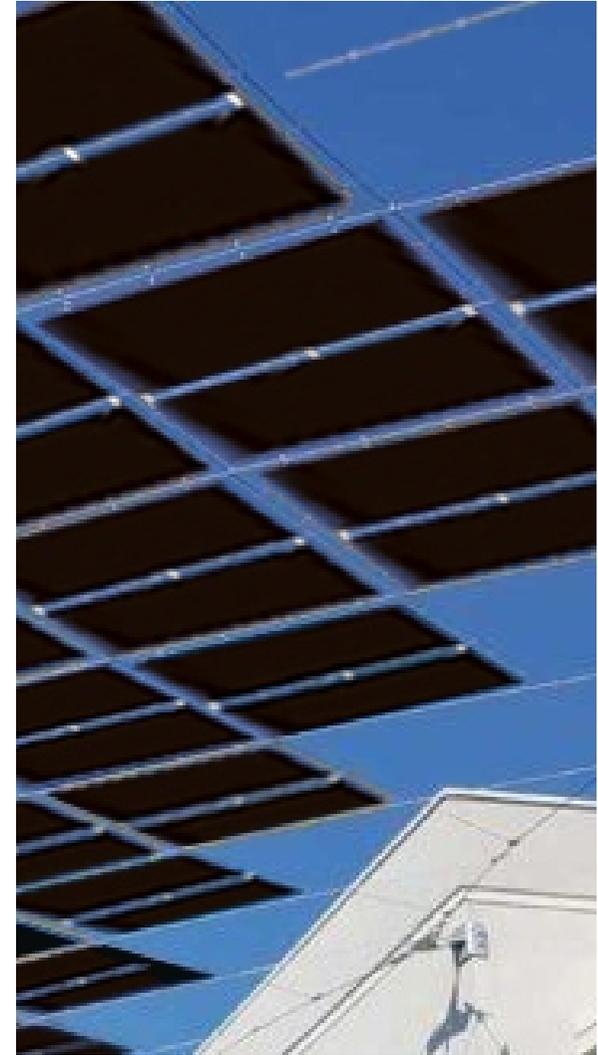


SOLARIS Architectural Solar



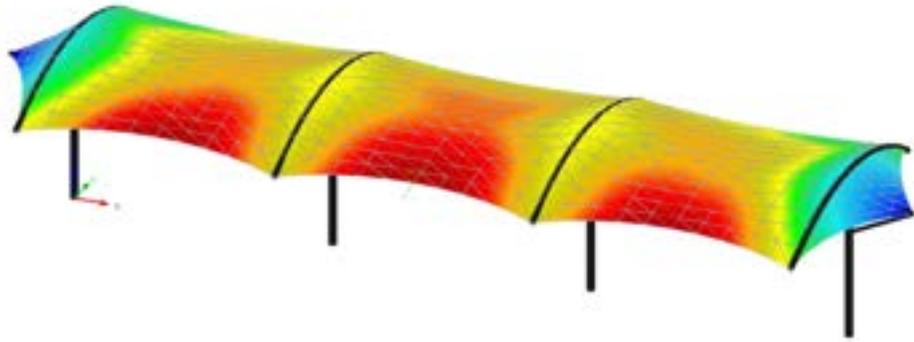
Services

- conceptual design
- 3D model
- renders
- layout drawing
- structural analysis
(for your region)
- fabrication drawings
- foundation layouts
- steel cutting list
- hardware list
- membrane pattern
- cable detail & lengths
- assembly instructions
- Solar requirements



SOLARIS Architectural Solar

INSIST ON A STRUCTURAL ANALYSIS



PASS



FAIL

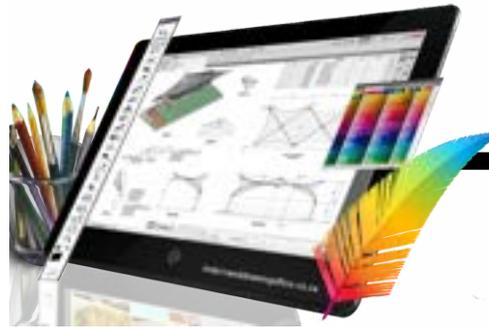


LET US DESIGN YOU NEXT.



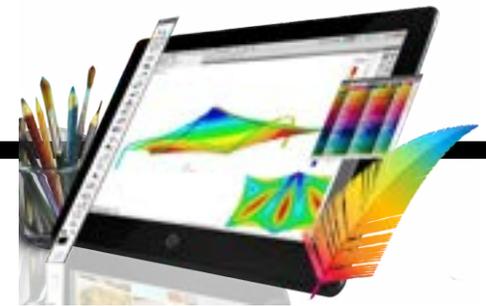
MEMBRANE TIMELINE

DESIGN



In general the design process takes about 7 working days. This includes the layout drawings, renders and membrane patterns.

ANALYSIS



Structural analysis is conducted by country and by region in accordance with the required wind load codes of the region. This process can take up to a week depending on the complexity of the design.

SOLARIS Architectural Solar

FABRICATION

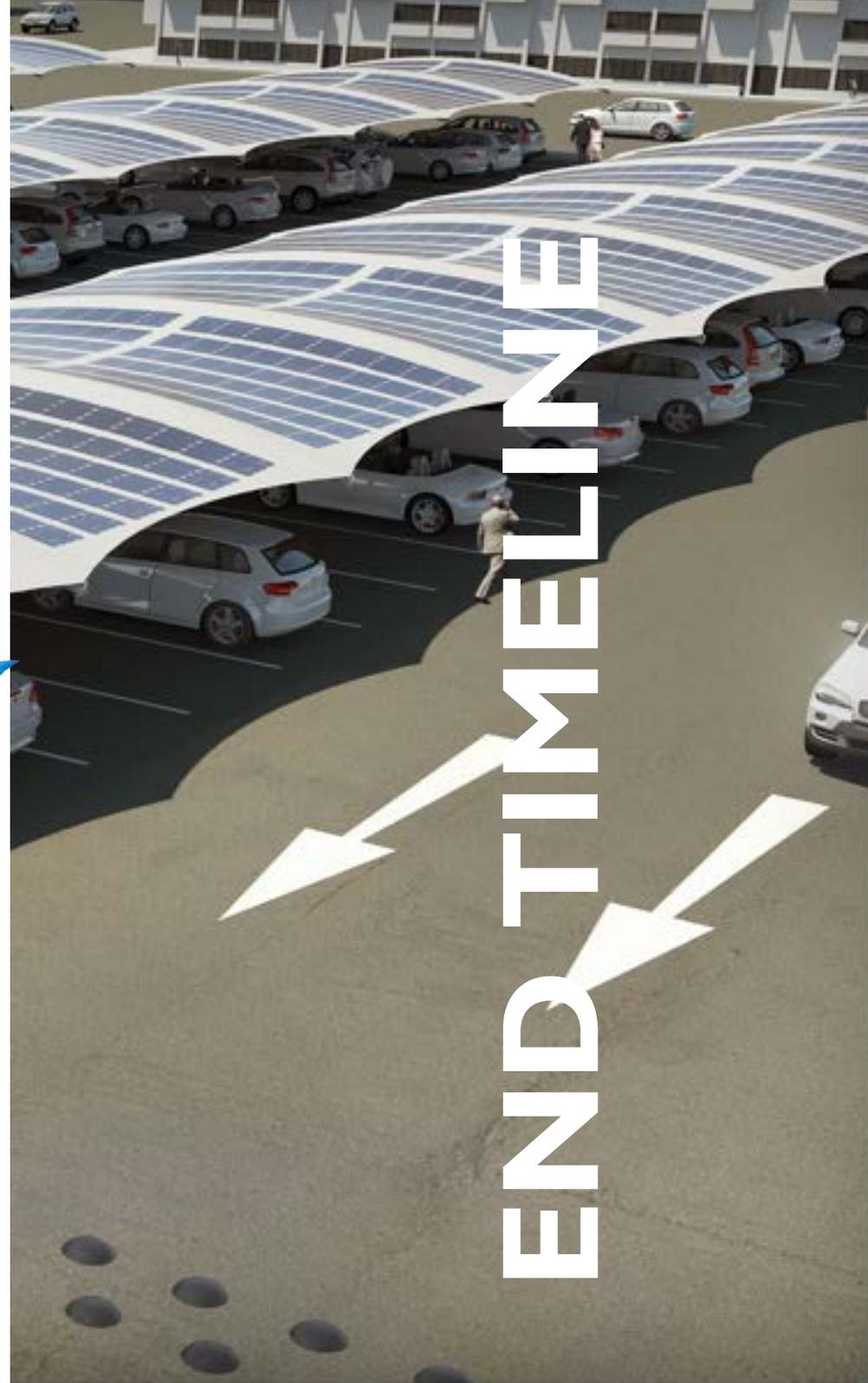


Fabrication process takes about 4-6 weeks. This will include the costing, procurement, receipt of materials, fabrication & coating.

INSTALLATION



The time on site is totally dependent on the complexity of the structure. Site visits are normally broken up into foundations and the installation of the actual structure.



END
TIMELINE
END

SOLARIS Architectural Solar

3D

1 The Solaris Architectural Solar panels can be curved into 3D shapes.

2 Designs

We offer our Solaris Architectural Solar solutions in standard designs as well as architectural custom designs.

3 Accreditations

Electrical Contractor in terms of regulation 6(4) of the Electrical Installation Regulations
PQRS Accredited Solar PV Training
ECB Listed Contractor



SOLARIS Architectural Solar

Flexible Solar Panels

Weight - Panels weigh 2.9kgs per sqm (less than 30% of traditional glass panels)

Thickness - Thickness 1.8mm

Flexible - Smallest bending radius of 0.3m, no cell cracks, no power loss

Hail - Can ensure hail strikes without cell cracks or power loss

Easy-to-install - No need for PV support bracket, modules can be directly bonded to installation surface by weather-resistant glue

Aesthetics - Module's surface and texture can be customized to meet aesthetic requirements

Glare Intensity is Less Than 10% of Traditional Glass Modules

Super Strong Resistance to Cell Cracks After Sharp Bending

Quality Assurance - TUV Nord Cert GmbH



SOLARIS Architectural Solar

Tier one panel



PRODUCT SPECIFICATION



Module type

			000A-460	000A-465	000A-470	000A-475	000A-480
Peak-power	PMPP	[W]	460	465	470	475	480
Power-tolerance	0-+3%	[W]	0-5W	0-5W	0-5W	0-5W	0-5W
Peak-voltage	VMPP	[V]	38.24	38.37	38.5	38.63	38.76
Peak-current	IMPP	[A]	12.02	12.11	12.2	12.29	12.38
Peak-current voltage	Voc	[V]	45.4	45.53	45.66	45.79	45.82
Short-circuit current	Isc	[A]	12.54	12.62	12.7	12.78	12.86
Fuse-current		[A]	20				
Maximum-system voltage	IEC/UL	[v]	1000/1500V DC (IEC)				

Size 2250*1130mm (+2/-2)

Front-plate material	Fluorine membrane front plate	Junction-box	Triad Junction box IP68
Jointing-material	PDE polyolef	Output-terminal	MC4
Backboard-material	Reinforcement materials	Cell	Monocrystal PERC
thickness	1.8 mm	Quality-assurance	10 years warranty 25 years power warranty
weight	7.62 kg	Panel-certification	IEC 61646, IEC 61730
Single-area weight	3.0 kg/m2		

NOCT	[°C]	45+2°C
Temperature-coefficient of PMPP	[%/°C]	-0.37
Temperature-coefficient of Voc	[%/°C]	-0.28
Temperature-coefficient of Isc	[%/°C]	0.05



Can endure hail strikes without cell cracks and power loss

• Quality System

ISO9001
ISO14001
ISO45001

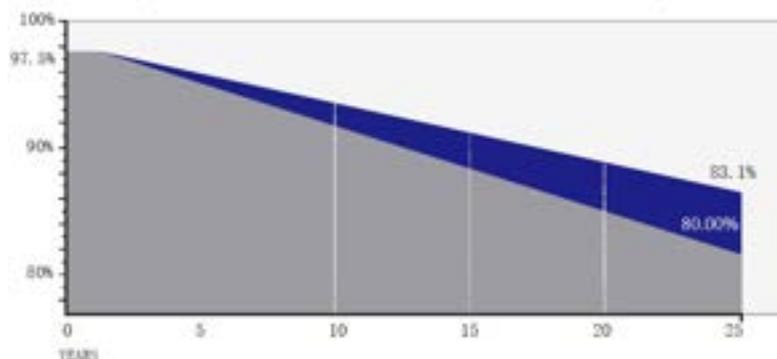
SOLARIS Architectural Solar

Mechanical Specifications

External Dimension	2282*1137mm
Thickness	3.0mm/3.3mm/3.6mm
Weight	8.7kg/10.2kg/11.7kg
Solar Cell	Mono crystalline 182*91, 144(6*24)
Frame	/
Glass	/
Junction Box	IP68, 3 diodes, MC4 compatible
Output Cables	4.0mm ² (IEC), 300mm(+)/300mm(-) or Customized

Maximum System Voltage	1500V DC
Max Series Fuse Rating	25A

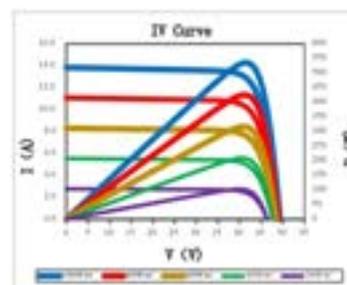
- 
12 YEARS Quality and process performance Assurance



Tier 1 Panel 500-530W

Model Type	HG-L500-72CW	HG-L505-72CW	HG-L520-72CW	HG-L525-72CW	HG-L530-72CW
	STC	STC	STC	STC	STC
	NMOT	NMOT	NMOT	NMOT	NMOT
Maximum Power	500W 372W	505W 376W	520W 387W	525W 391W	530W 394W
Open Circuit Voltage	49.00V 45.78V	49.15V 45.92V	49.60V 46.35V	49.75V 46.49V	49.90V 46.63V
Short Circuit Current	13.35A 10.77A	13.42A 10.83A	13.63A 11.00A	13.70A 11.06A	13.76A 11.11A
Max Power Voltage	40.45V 38.34V	40.60V 38.48V	41.05V 38.91V	41.20V 39.05V	41.35V 39.19V
Max Power Current	12.37A 9.70A	12.45A 9.77A	12.68A 9.95A	12.75A 10.01A	12.83A 10.05A
Module Efficiency STC	19.30%	19.50%	20.00%	20.20%	20.40%
Power Tolerance(W)	0~+5W				
Maximum System Voltage	1500V DC				
Max Series Fuse Rating	25A				

STC condition: 1000W/m²
AM1.5 spectrum at air mass 1.5, cell temperature 25°C, and wind speed 1m/s
Power tolerance: 0%~+5%

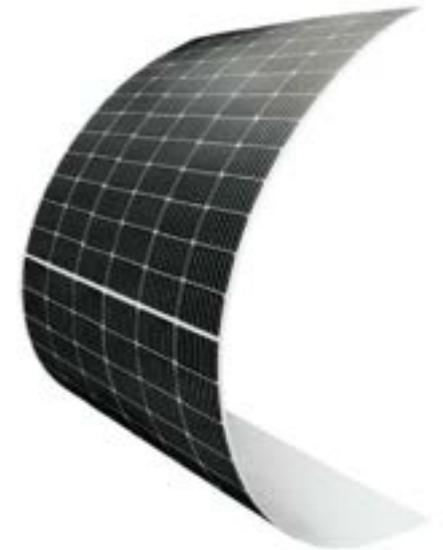


Temperature Characteristics

Pmax Temperature Coefficient	-0.35 %/°C
Voc Temperature Coefficient	-0.26 %/°C
Sc Temperature Coefficient	+0.047%/°C
Operating Temperature	-40~+85°C
Nominal module operation temperature	45±2°C

SOLARIS Architectural Solar

Tier 1 Panel - 500-530W



SOLARIS Architectural Solar

DESIGNS

SOLARIS Architectural Solar

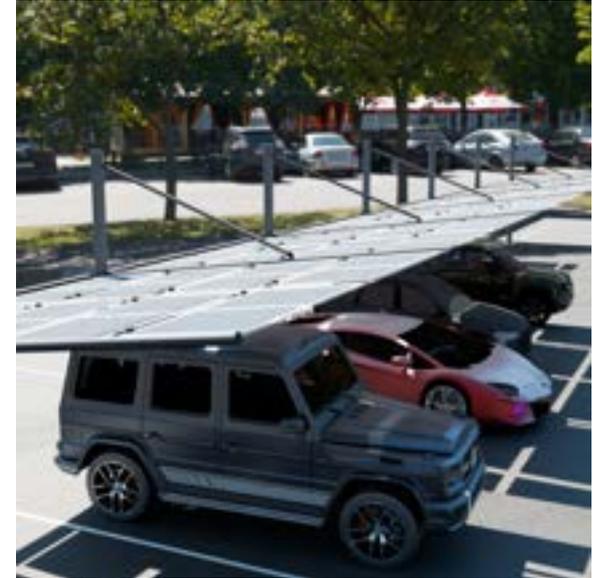
PARKING AREAS



SOLARIS Architectural Solar

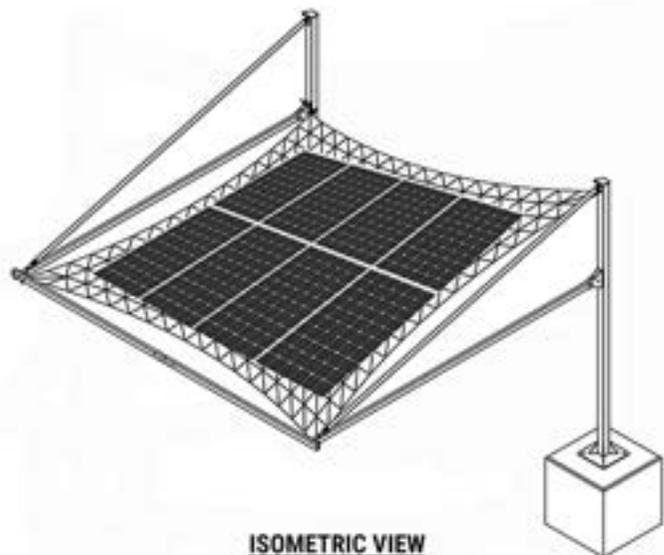


PARKING AREAS

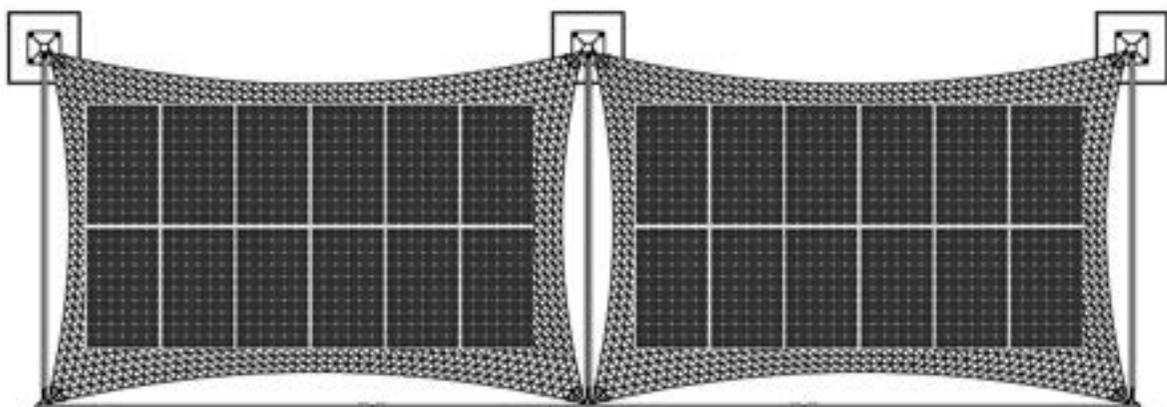


PARTS LIST

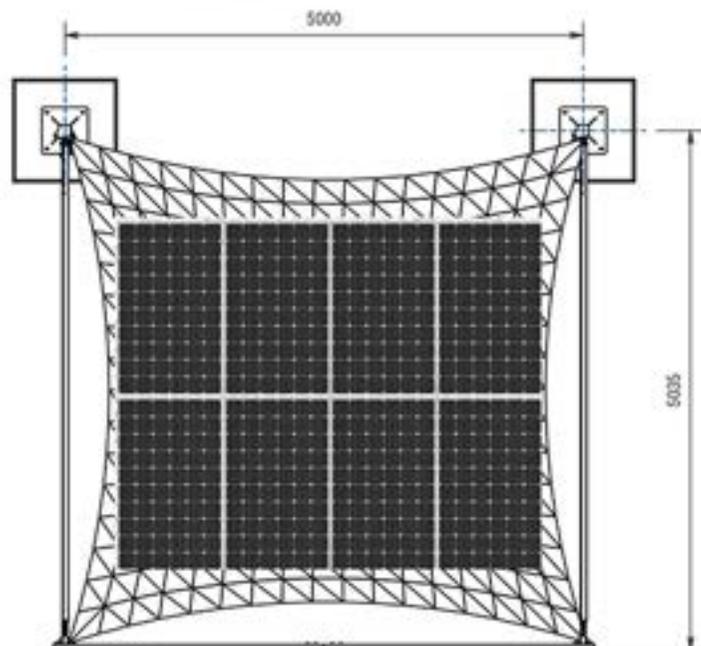
ITEM	ITEM QTY	BASE QTY	PART NUMBER	DESCRIPTION	MATERIAL	MASS
2	2	1	10027-BM-BASE-001	800x800x800 Concrete Base	Concrete - C30 / C37	2485.41/55110 kg
3	1	1	10027-WA-COLUMN-001	See Drawing for Details	Steel - S 355 JR	84.49 kg
5	2	1	10027-WA-OUTRIGGER-001	See Drawing for Details	Steel - S 355 JR	37.21 kg
6	2	1	10027-WA-TERRACE-001	See Drawing for Details	Steel - S 355 JR	17.40 kg
7	4	1	10027-FA-BOLTSET-001	See Drawing for Details		0.08 kg
8	4	1	10027-FA-BOLTSET-003			0.12 kg
11	1	1	10027-WA-COLUMN-002	See Drawing for Details	Steel - S 355 JR	84.84 kg
14	4	1	10027-FA-BOLTSET-005			0.04 kg
15	1	2610 mm	10027-SS-RHS-003	76x50x3 RHS = 2610 LG	Steel - S 355 JR	14.48 kg
16	4	1	10027-FA-BOLTSET-006			0.07 kg
17	1	2610 mm	10027-SS-RHS-004	76x50x3 RHS = 2610 LG	Steel - S 355 JR	14.45 kg
18	1	1	10027-RC-TENSIONER-001	M12x150 Dye-Shackle Tensioner	Stainless Steel - A51 316	0.45 kg
19	1	1	Sx5		Knitex - Z25 Colourshade	0.00 kg



ISOMETRIC VIEW



PLAN / TOP VIEW

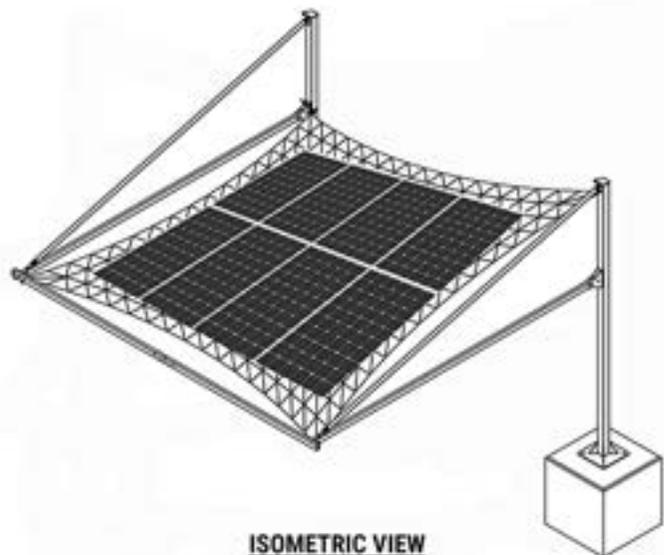


PLAN / TOP VIEW

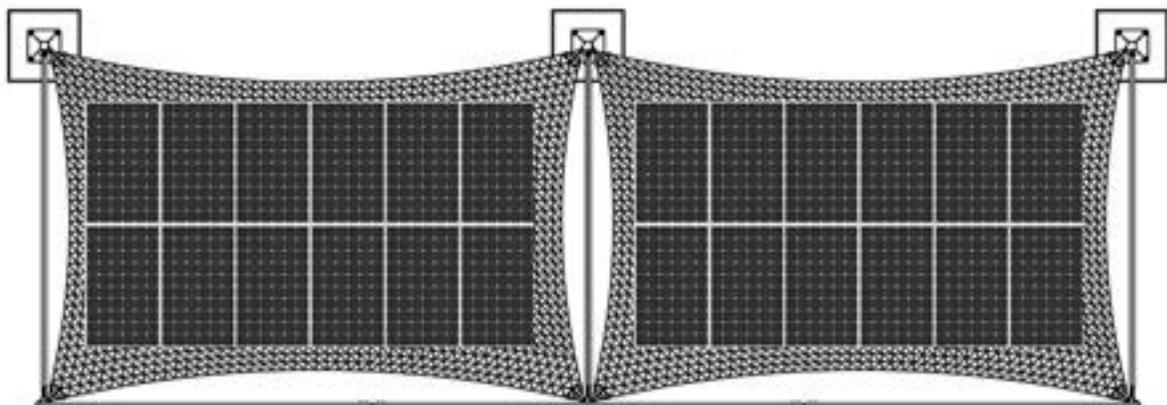


PARTS LIST

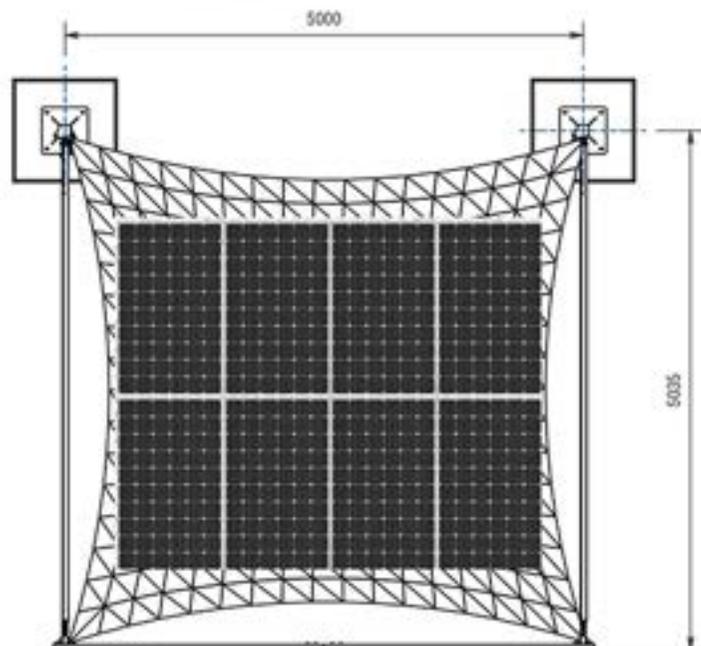
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5	2	1	10027-WA-OUTRIGGER-001	See Drawing for Details	Steel - S 355 JR	37.21 kg
6	2	1	10027-WA-TERRACE-001	See Drawing for Details	Steel - S 355 JR	17.40 kg
7	4	1	10027-FA-BOLTSET-001	See Drawing for Details		0.08 kg
8	4	1	10027-FA-BOLTSET-003			0.12 kg
11	1	1	10027-WA-COLUMN-002	See Drawing for Details	Steel - S 355 JR	84.84 kg
14	4	1	10027-FA-BOLTSET-005			0.04 kg
15	1	2610 mm	10027-SS-RHS-003	76x50x3 RHS = 2610 LG	Steel - S 355 JR	14.48 kg
16	4	1	10027-FA-BOLTSET-006			0.07 kg
17	1	2610 mm	10027-SS-RHS-004	76x50x3 RHS = 2610 LG	Steel - S 355 JR	14.45 kg
18	1	1	10027-RC-TENSIONER-001	M12x150 Dye-Shackle Tensioner	Stainless Steel - A316	0.45 kg
19	1	1	Sx5		Knitex - Z25 Coloursade	0.00 kg



ISOMETRIC VIEW



PLAN / TOP VIEW



PLAN / TOP VIEW

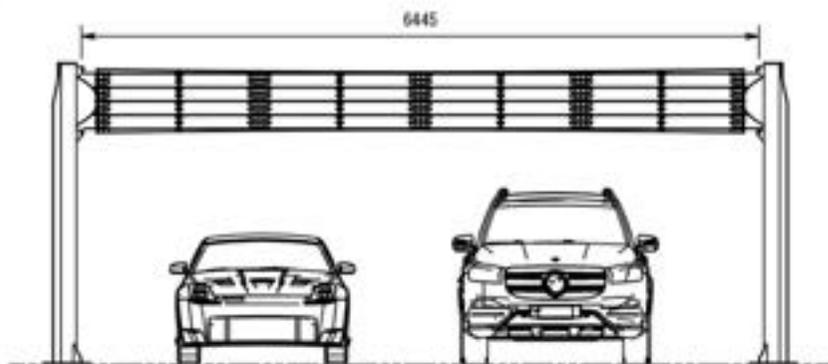


SOLARIS Architectural Solar

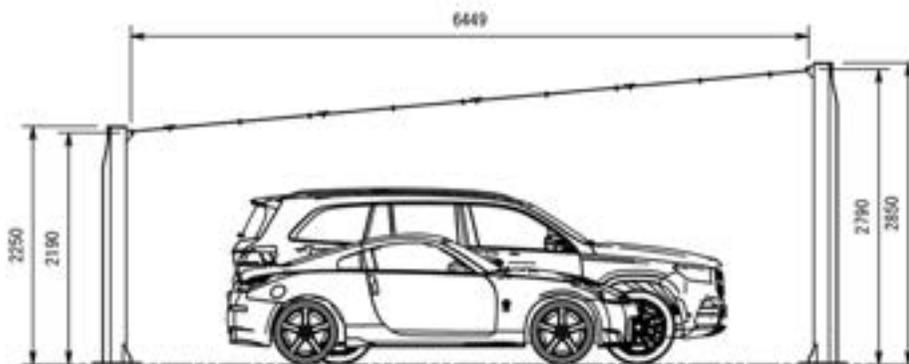
SOLARIS FCL SAIL



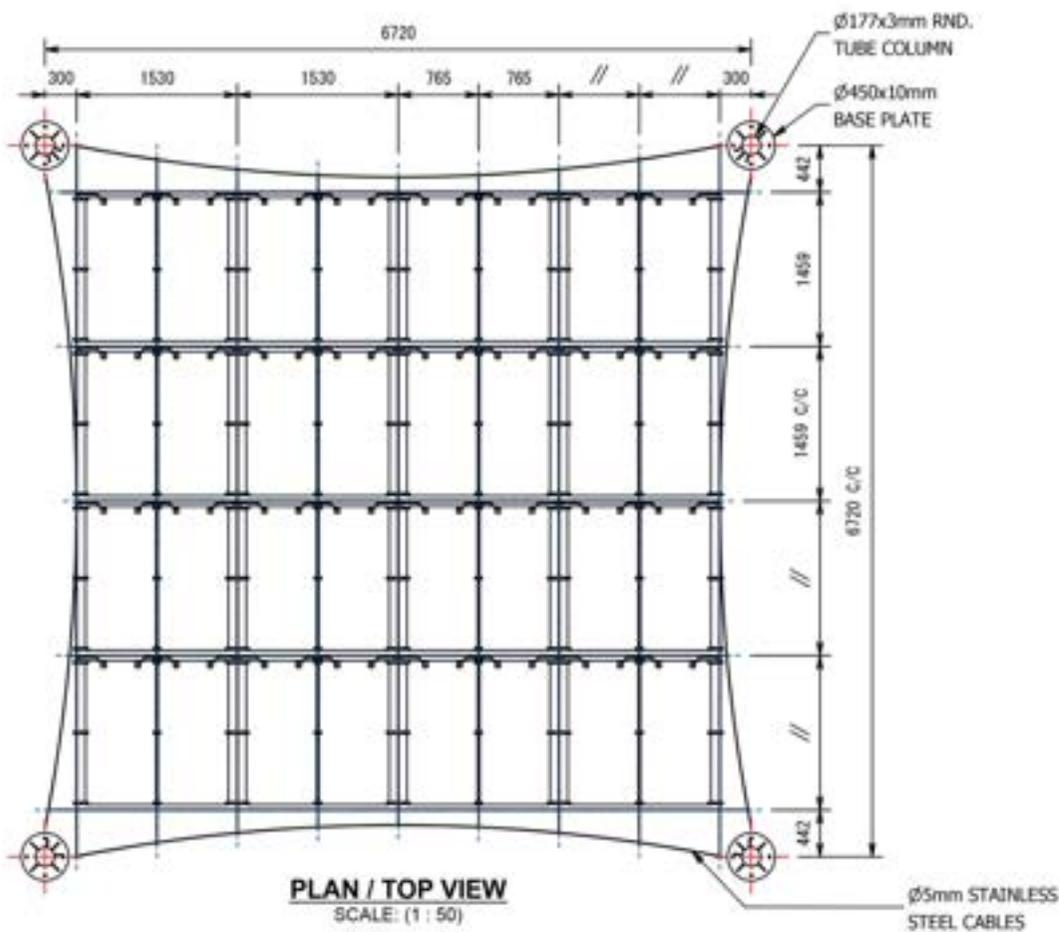
Customized Shade Cloth with eyelets to attached panels



SIDE VIEW
SCALE: (1 : 50)



SIDE VIEW
SCALE: (1 : 50)



PLAN / TOP VIEW
SCALE: (1 : 50)



SIDE VIEW
SCALE: (1 : 60)



SOLARIS Architectural Solar



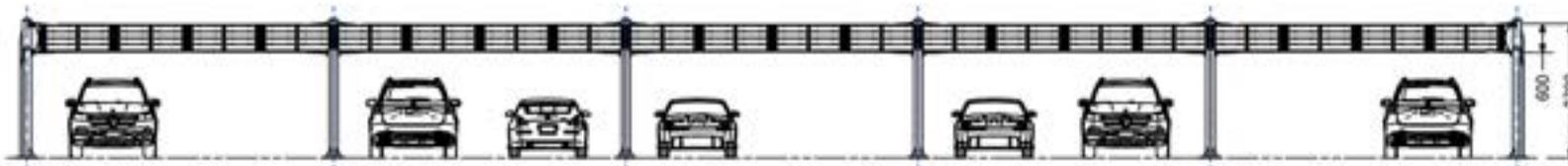
SOLARISPORT SA





SIDE VIEW
SCALE: (1 : 150)

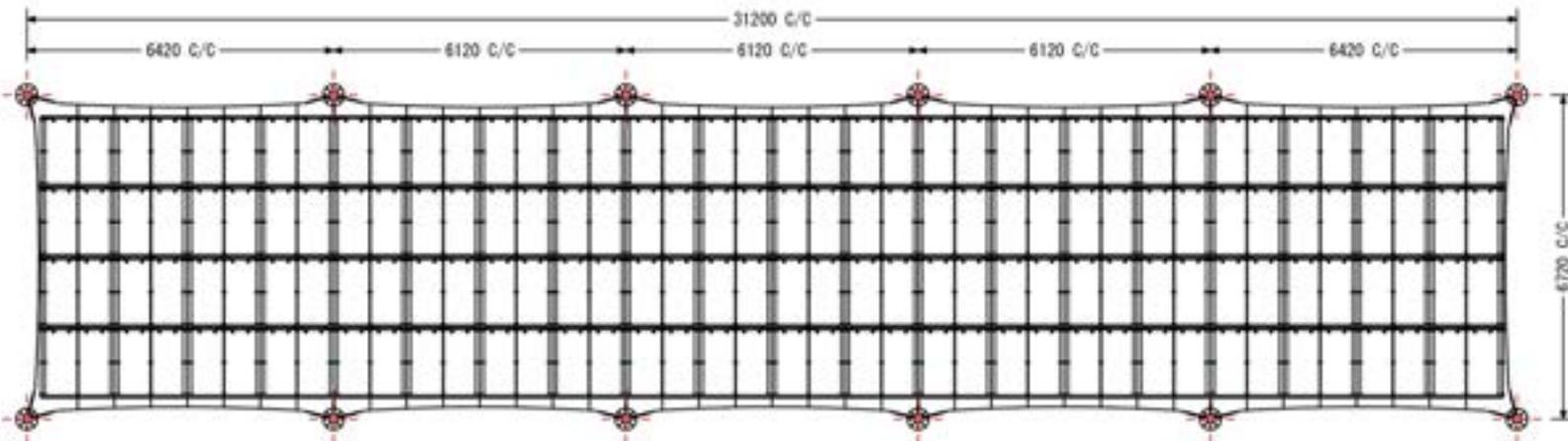
Max Rated Power: **25.6 Kilowatts**
 Tolerance: **+/- 3%**
 Normal Operating Cell Temp: **47°C | +/- 2°C**
 Operating Temperature: **-40°C to 85°C**
 Application Class: **Class A**



SIDE VIEW
SCALE: (1 : 110)



SIDE VIEW
SCALE: (1 : 110)



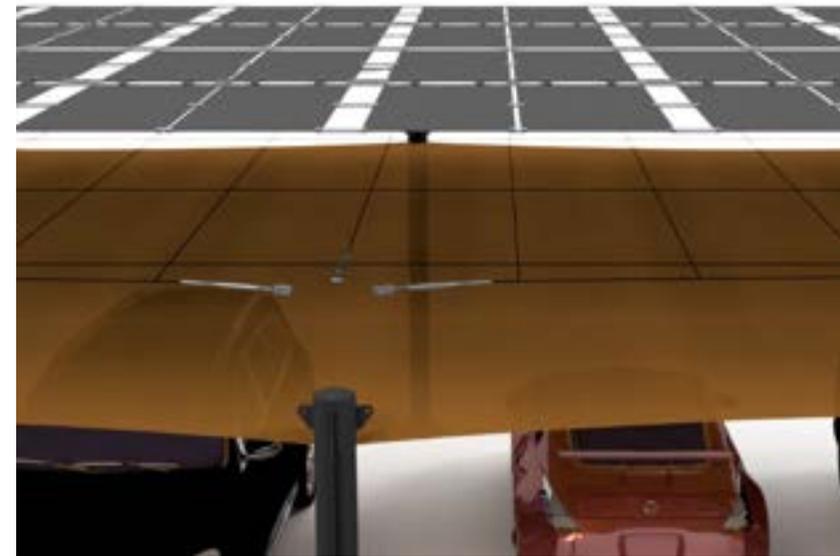
PLAN / TOP VIEW
SCALE: (1 : 110)

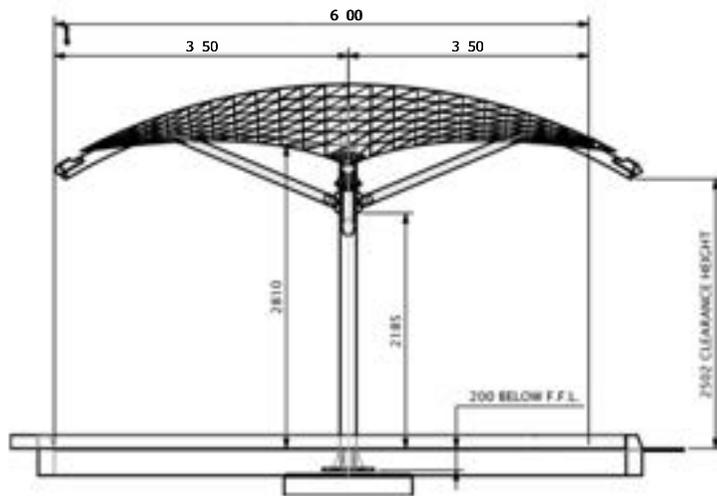


SOLARIS Architectural Solar

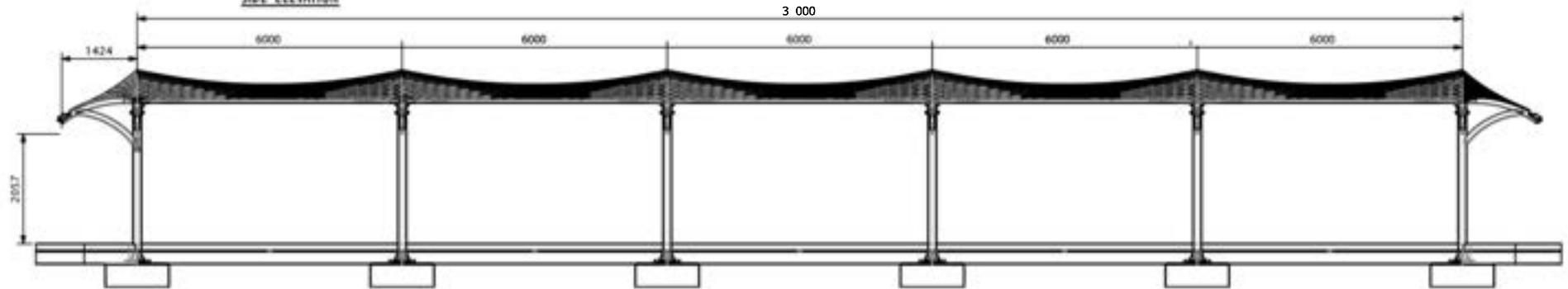


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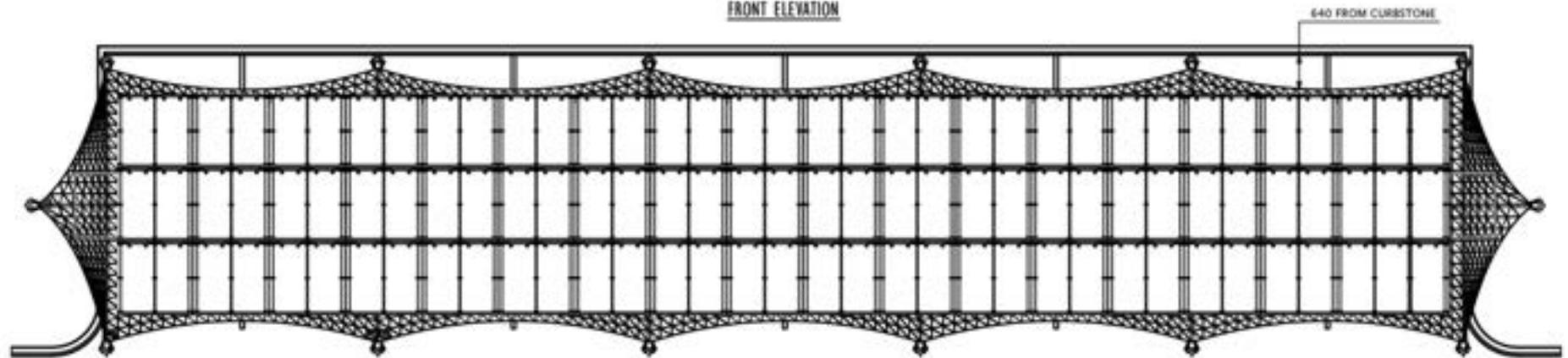




SIDE ELEVATION



FRONT ELEVATION



PLAN VIEW



innovative solar products hospitality
hotels coffee shops restaurants

Max Rated Power: 166 Kilowatts/sqm
 Tolerance: +/- 3%
 Normal Operating Cell Temp: 47°C | +/- 2°C
 Operating Temperature: -40°C to 85°C
 Application Class: Class A

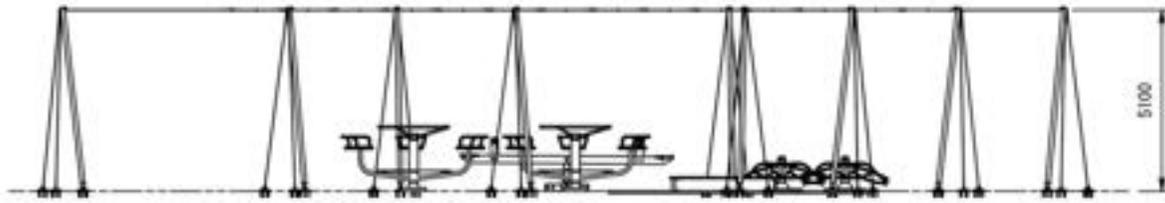


SOLARIS Architectural Solar

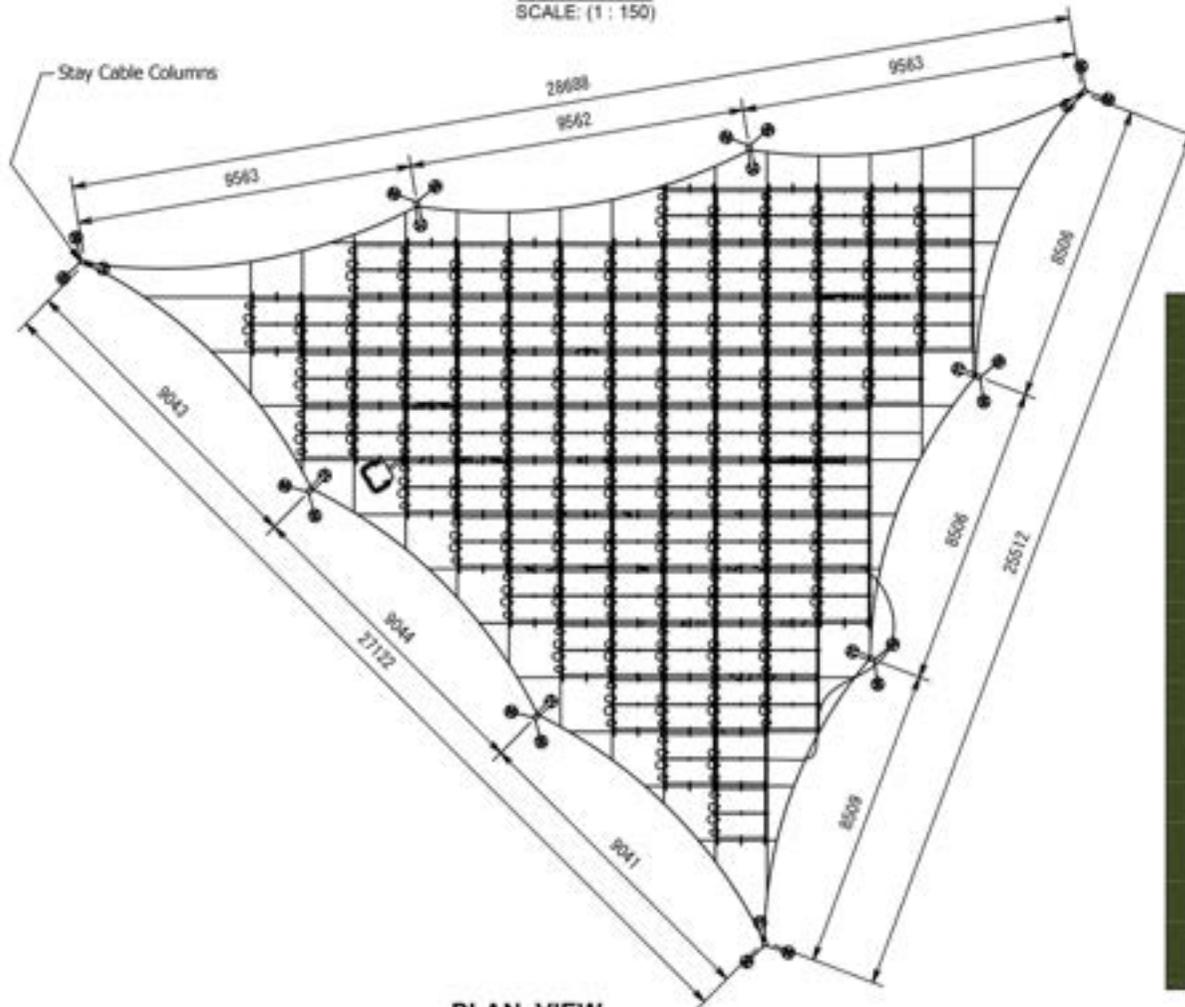


SOLARIS BARRELPOR T MU



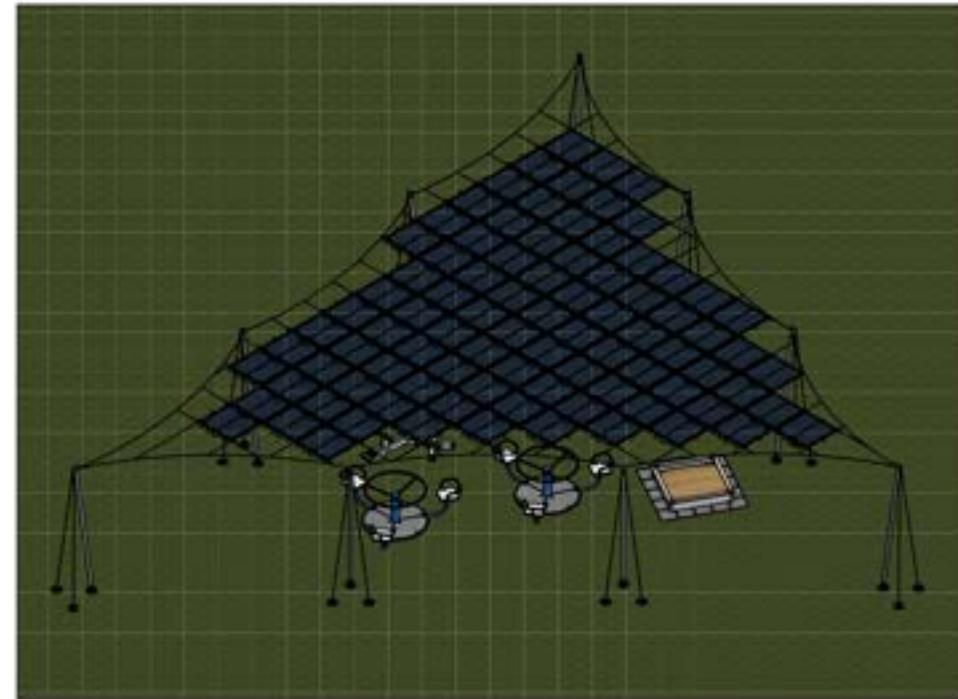


SIDE VIEW
SCALE: (1 : 150)



PLAN VIEW
SCALE: (1 : 150)

Rated Max Power: **30.7 Kilowatts**
 Tolerance: **+/- 3%**
 Normal Operating Cell Temp: **47°C | +/- 2'**
 Operating Temperature: **-40°C to +85°C**
 Application Class: **Class A**



SIDE VIEW
SCALE: (1 : 175)



SOLARIS Architectural Solar

FREE STANDING



SOLARIS Architectural Solar



Centre Post Hypar

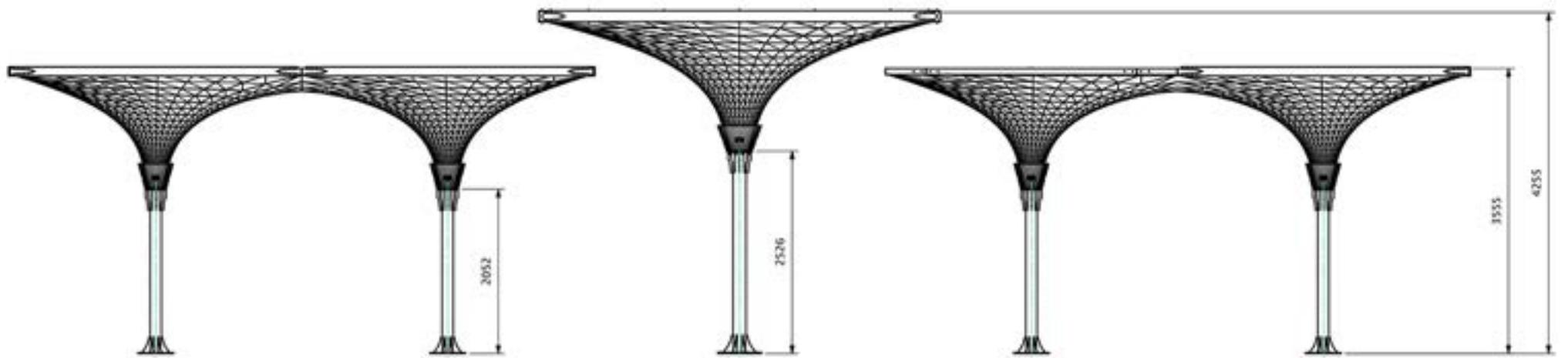


SOLARIS Architectural Solar

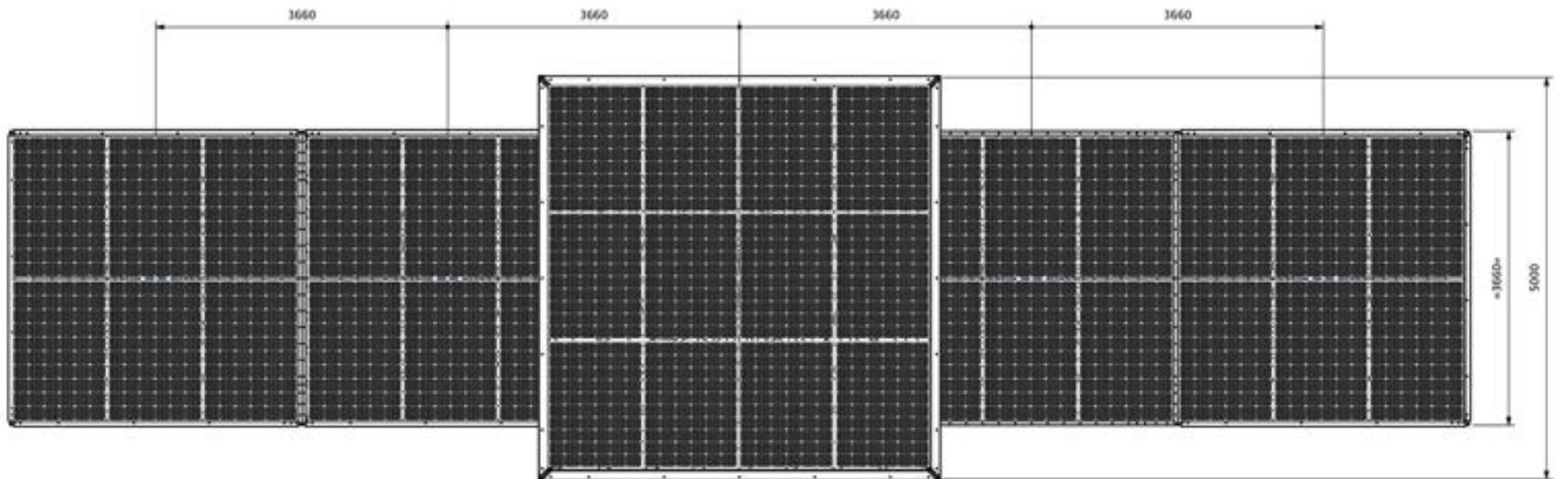


Tensile Sail





FRONT ELEVATION



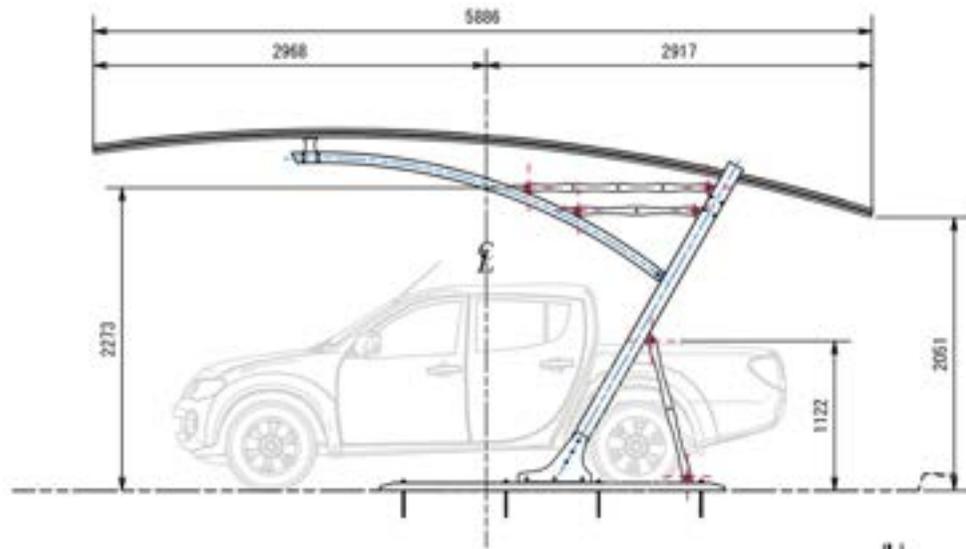
PLAN VIEW

PROJECT NAME		PROJECT NUMBER		DESIGNED BY	DATE
SOLARIS TENSILE TULIP		-SA-		Paul Jacobs	1/5/2014
SHEET SIZE		SCALE		DRAWN BY	DATE
A3		1:50		Plan De Pisis	
THE CONTENT OF THIS DRAWING IS THE SOLE PROPERTY OF EIT AND MAY NOT BE COPIED OR DISPLAYED TO ANY THIRD PARTY WITHOUT WRITTEN CONSENT				 DIMENSIONS SHALL NOT BE OBTAINED BY MEANS OF SCISSORS OF THE DRAWING. SHEET 1 OF 1	
				CONSTRUCTION 	

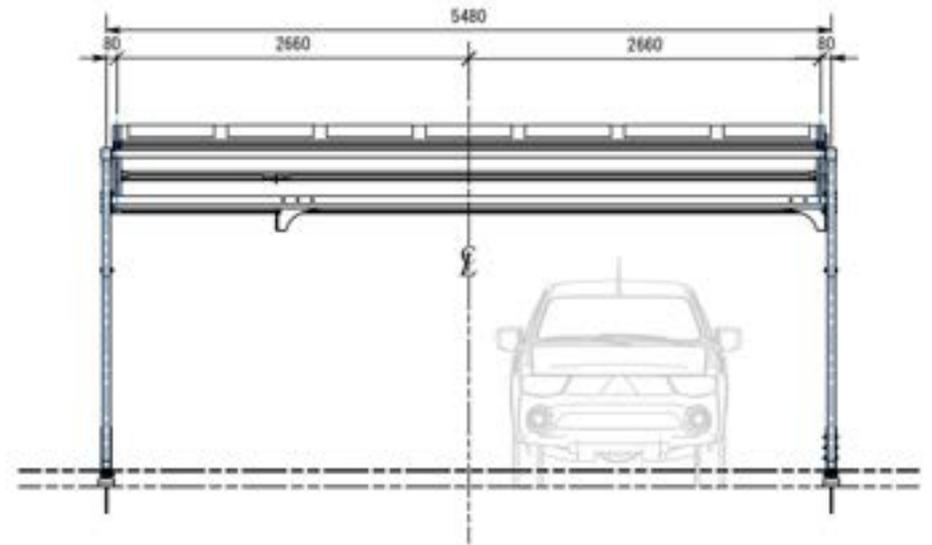
SOLARIS Architectural Solar

Petrol Stations

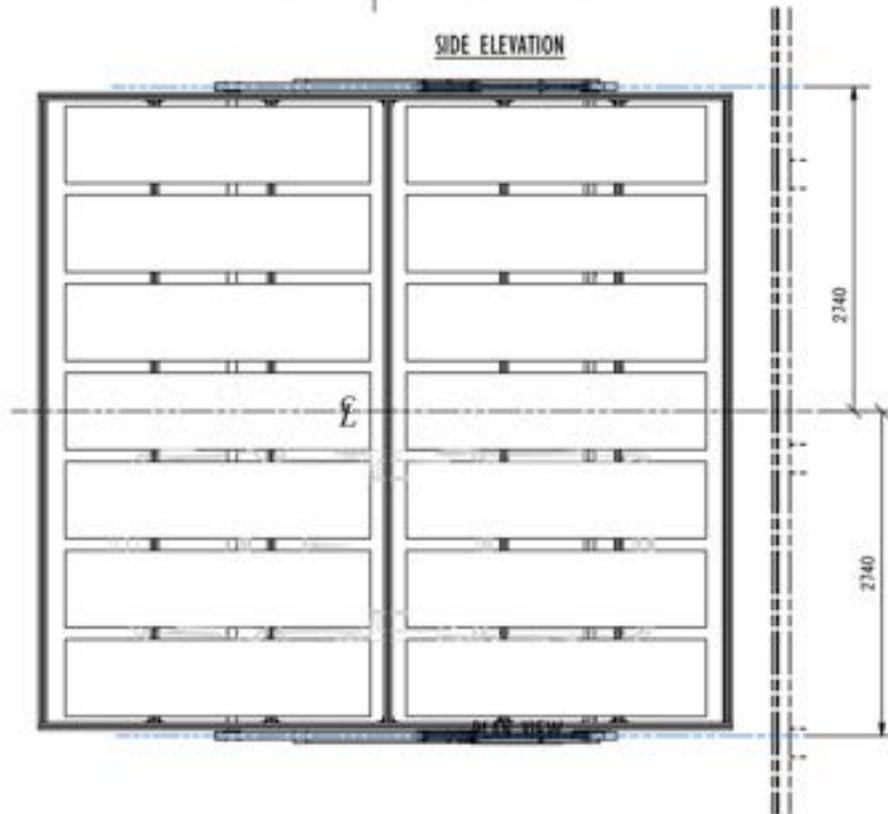




SIDE ELEVATION



FRONT ELEVATION



ISOMETRIC VIEW



SOLARIS Architectural Solar

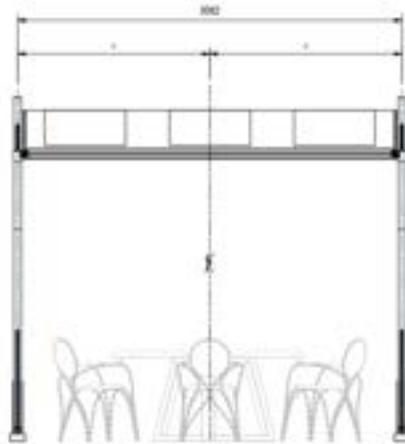


BARREL ARCH

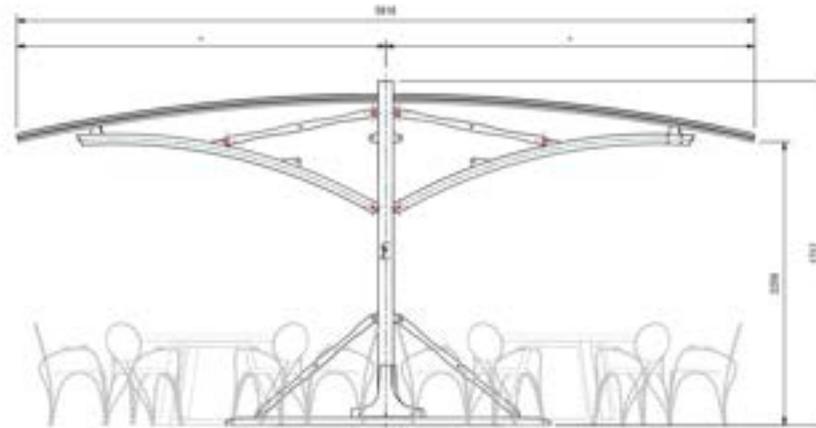


SOLARIS Architectural Solar

RESTAURANT



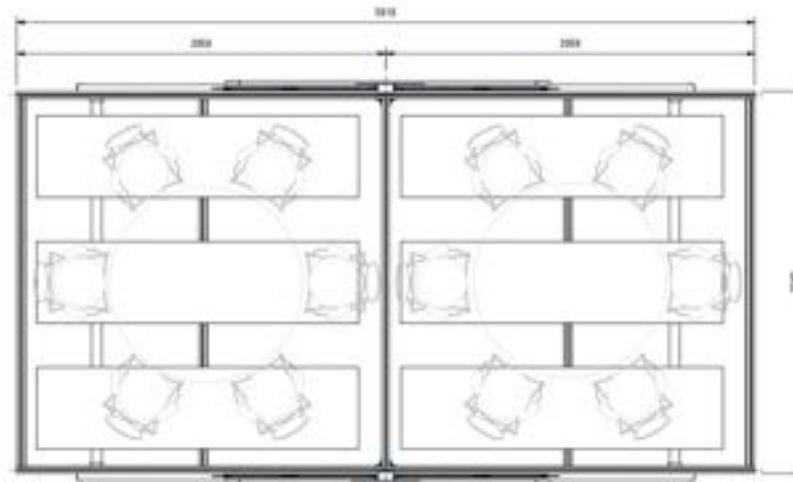
FRONT VIEW
SCALE 1:20



SIDE VIEW
SCALE 1:20



ISOMETRIC VIEW
SCALE 1:20



PLAN / TOP VIEW
SCALE 1:20



SOLARIS Architectural Solar

Solaris Umbrella



SOLARIS Architectural Solar

Solaris shade cloth exclusive to Solaris



SOLARIS Architectural Solar

Solaris Powered Tensile Structures



SOLARIS Architectural Solar

Solaris Powered Tensile Structures



SOLARIS Architectural Solar

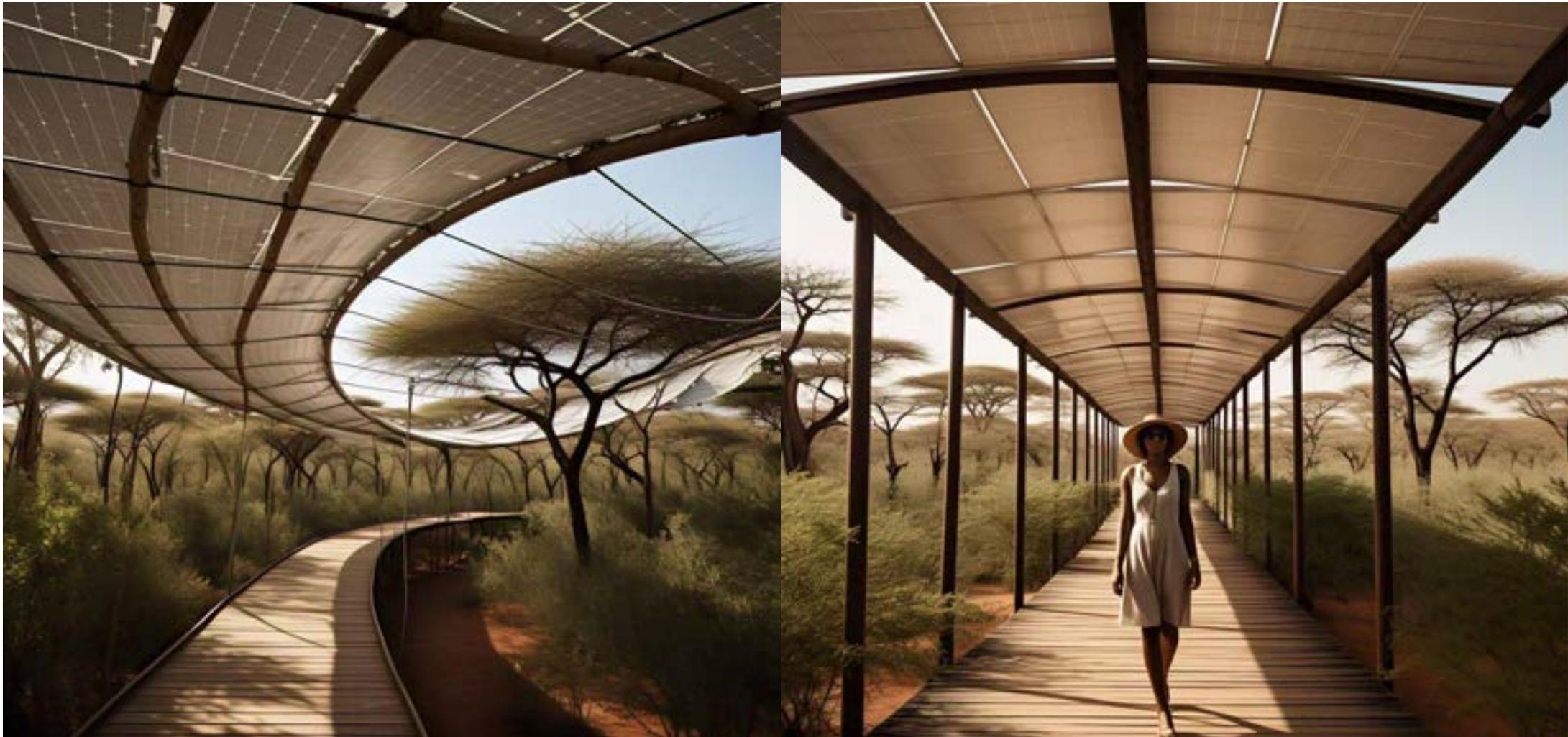


Floating Platforms

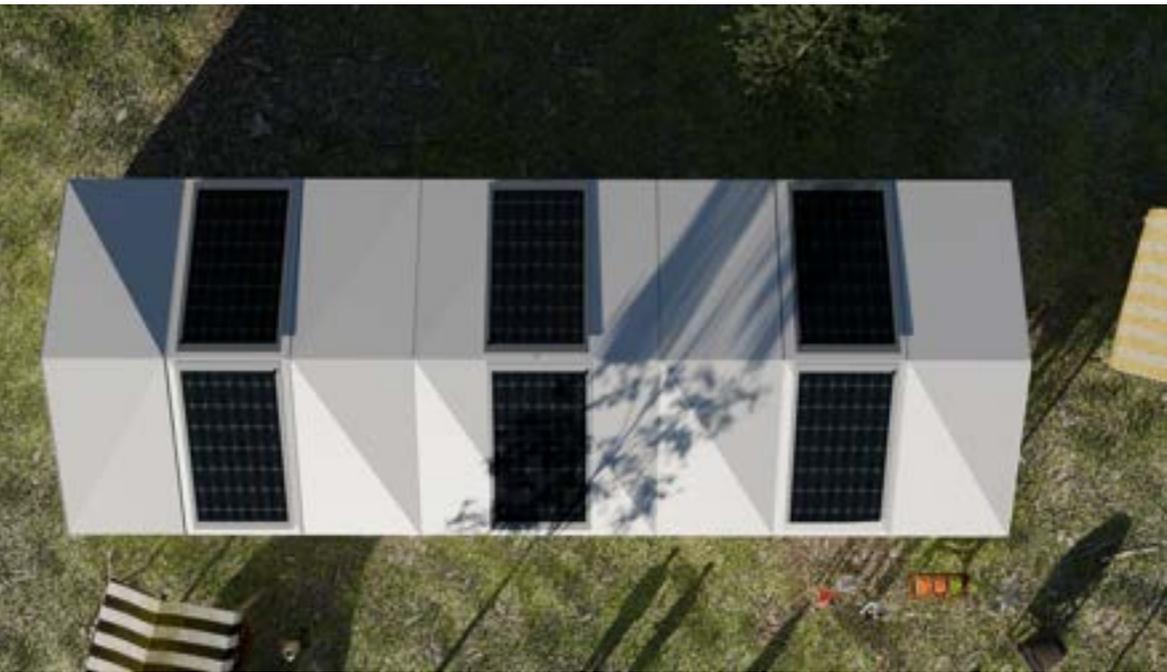


SOLARIS Architectural Solar

Walkways



SOLARIS Architectural Solar



MARQUEES



SOLARIS Architectural Solar



CARAVANS & CAMPERS





Flexible Solar Panels

Dimensions: 2 250 x 1 130 x 1.8mm

Rated Power (Watt): 470

Warranty: 10 years

Life Expectancy: 25 years



**THE
FUTURE
IS HERE**

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SOLARIS Architectural Solar

BRANDING



idtcustomawnings.com/solaris
sales@idtcustomawnings.com
+27 (0)11 791 1888