VERTEX® UNO SOLAR LIGHTING SYSTEM

Stand-alone High Output LED Lighting System

Overview

Mission critical lighting for discerning organisations that value high reliability and performance.

Vertex® UNO Solar Lighting Systems use industry standard high output LED luminaires mounted on an enlarged base fixed solar pole with the solar panel array attached at the top.

Vertex® UNO Solar Lighting System Energy Management System (EMS) and Long-Life Advanced Carbon GEL Battery Systems are securely housed in the enlarged base of the pole behind steel locked access doors using *VISE ACTION®* compression latch locking mechanisms.
Vertex® UNO Solar Lighting System offers the most flexibility of any solar lighting product on the market with various luminaire types, custom pole heights, scalable photovoltaic modules and multiple battery system configurations.

Vertex® UNO Solar Lighting System is custom designed and built to suit application ensuring that your lighting project has a system designed to meet the exact project specification requirements.

Designed in Australia by Orca Solar Lighting

Performance Summary

Autonomy: Up to 7 Days (Subject to Location Requirements)
Lumen Output: Up to 8,600 Lumens
Luminaire Efficacy: Up to 160 LPW
Colour Rendering Index: Minimum 70 CRI
Colour Temperature: 3000K, 4000K, 2700K
Warranty: 5 Year Limited Warranty with Performance Guarantee

Specification Selection Criteria

Project Name:		Type/Label Reference:	
Configuration Code:			

Example: VRT-UNO-1-6M-200-135Ah-25W-3ME-30K-BP1.8-HDG-D2D

Product	Luminaire Arrangement	Pole Height	Nominal PV Array Size (W)	Battery System (V/Ah)	Luminaire Power Setting *	Optic Distribution	Luminaire Colour Temperature (CCT)
Vertex® **[VRT-UNO]**	SINGLE **[1]** TWIN **[2]**	4m **[4M]** 6m **[6M]** 8m **[8M]**	200 **[200]** 300 **[300]** 375 **[375]** 450 **[450]** Other **[___]**	12V 135Ah **[135Ah]** 12V 210Ah **[210Ah]** 24V 135Ah **[135Ah]** 24V 210Ah **[210Ah]** Other **[___]**	54W **[54W]** 51W **[51W]** 47W **[47W]** 43W **[43W]** 41W **[41W]** 37W **[37W]** 28W **[28W]** 25W **[25W]** 19W **[19W]**	150 Wide street (T3S) 200 Extra wide street (T4S) SCP Street & cycle path (T2S) ARS Roto Symmetric area PCR Pedestrian Crossing Right PCL Pedestrian Crossing Left K07 Narrow street	3000K **[30K]** 4000K **[40K]** 2700K **[27K]**

Footing Type ^	Pole Finish	Power Profile +	Custom Options
Bored Pier 1.8m (4-6m Poles) **[BP1.8]** Bored Pier 2.2m (8m Poles) **[BP2.2]**	Galvanised **[HDG]** Powder Coat **[PC__]**	Dusk to Dawn **[D2D]** 2 Timers **[2T_HR__W-__W]** 3 Timers **[3T_HR__W-__W_HR__W]** Other / Custom **[___]**	Key Operated Momentary Switch **[SWM]** Backlight shield **[BLS]** Other **[___]** **Notes**

* Power setting availability may be subject to location conditions. Please consult your sales representative for assistance on suitable power options to suit your project.
\+ Power Profile setting availability may be subject to location conditions. Please consult your sales representative for assistance on suitable power profile options to suit your project.
^ Footing types are subject to site soil testing and engineered footing design. Please consult your sales consultant for advice on footing design options.

Power Profile Definitions:
Dusk to Dawn **[D2D]** – Runs the luminaire at static power level from dusk through to dawn
2 Timers **[2T..]** – Operates the luminaire from dusk for pre-set time frame at one power level, then runs the light at a second power setting for the remainder of the night (example: 5 hours at 40W, dim to 20W for the rest of the night)
3 Timers **[3T..]** – Operates the luminaire from dusk for pre-set time frame at one power level, then runs the light at a second power setting and then for a third timer and power level (example: 5 hours at 40W, dim to 20W, return to 40W prior to dawn).
Other **[_T..]** – Orca Solar can program systems for dimming level and or running time according to project requirements.

Please refer to Page 3 for more information on power profiles or consult your sales representative for assistance on suitable profile options to suit your project.

Vertex® Solar Lighting Systems are designed in accordance with AS 4509.2-2010 - Standalone Power Systems (System Sizing Reports available upon request). All products supplied by Orca Solar Lighting adhere to AS/NZS 4509, AS/NZS 5033, AS/NZS 5139 and AS/NZS 3000 electrical, battery and photovoltaic safety standards where applicable.

LMF LUXEON - RECOMMENDED LUMEN MAINTENANCE FACTORS (LMF)[1]

Ambient	LMF iniziale	25K hr Projected[2] LMF	50K hr Projected[2] LMF	75K hr Calculated[3] LMF	100K hr Calculated[3] LMF
25°C	1	0,97	0,94	0,92	0,90

LMF DURIS - RECOMMENDED LUMEN MAINTENANCE FACTORS (LMF)[1]

Ambient	LMF iniziale	25K hr Projected[2] LMF	50K hr Projected[2] LMF	75K hr Calculated[3] LMF	100K hr Calculated[3] LMF
25°C	1	0,99	0,98	0,98	0,97

[1] Lumen maintenance values calculated at 25° C, with TM-21 based on LM-80 data and on-site testing.
[2] In accordance with IESNA TM-21-11, the values shown in the "projected" column represent interpolated and arc values within six times (6X) total duration in hours of the tests (performed according to IESNA LM-80-08) to which the device has been subjected ((DUT) e.g. the LED chip).
[3] In accordance with IESNA TM-21-11, the values shown in the column "calculated" are calculated based on a time span greater than six times (6X) the total duration in hours of the tests (performed according to IESNA LM-80-08) to which the device has been subjected ((DUT) e.g. the LED chip).

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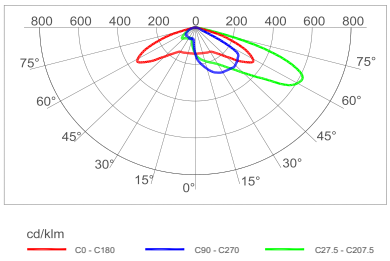
Advanced LIGHTING TECHNOLOGIES | Orca® SOLAR LIGHTING

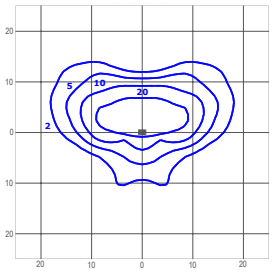
CREE LIGHTING
Energy UNO LED Luminaire

Performance Summary
Efficacy: Up to 160Lm/W
Initial Colour Consistency: 4 MacAdam Steps

Designed as a complete street lighting system and optimized for LED light sources, it is distinguished by its extraordinary efficiency. Energy UNO provides the best lighting solution. Developed with three product sizes, four lumens package per size, a complete optical range, flux adjustment options and a wide range of light sources together with a comprehensive optical range, stand-alone flow control options and Zhaga connectivity. Energy can be mounted on a pole or bracket with an adjustability of 20° and with 5° increments. Adjustments can be done from outside without having to open the product cover
Applications: Urban and internal roads, pedestrian walkways and car parks.

150 - Type III Short





Test Report #: 1088-QL21-S03

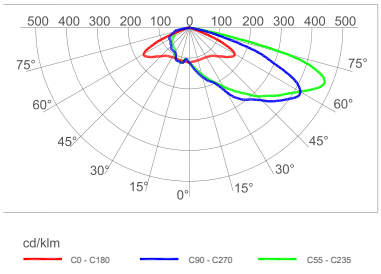
TRSA-2-150-8L-407
Mounting Height: 6m

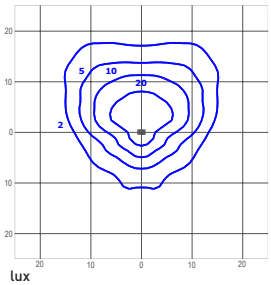
LUMEN OUTPUT - 150 (Type III Short)

Lumen Package	2700K Initial Delivered Lumens*	3000K Initial Delivered Lumens*	4000K Initial Delivered Lumens*
2L	1590	1625	1912
4L	3219	3289	3871
6L	4901	5006	5893
8L	6452	6591	7758

* Initial delivered lumens at 25˚C (77˚F). Actual production yield may vary between -4 and +10% of initial delivered lumens

200 - Type II Short





Test Report #:1088-QL20-S05

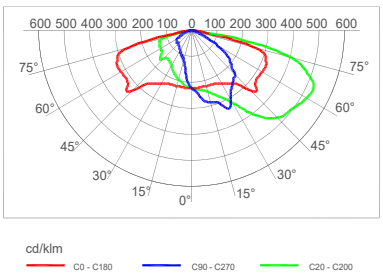
TRSA-2-200-8L-407
Mounting Height: 6m

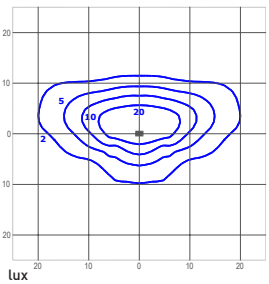
LUMEN OUTPUT - 200 (Type II Short)

Lumen Package	2700K Initial Delivered Lumens*	3000K Initial Delivered Lumens*	4000K Initial Delivered Lumens*
2L	1439	1629	1809
4L	2913	3299	3662
6L	4435	5021	5575
8L	5838	6611	7340

* Initial delivered lumens at 25˚C (77˚F). Actual production yield may vary between -4 and +10% of initial delivered lumens

SCP - Type II Short





Test Report #: 1088-QL20-R15

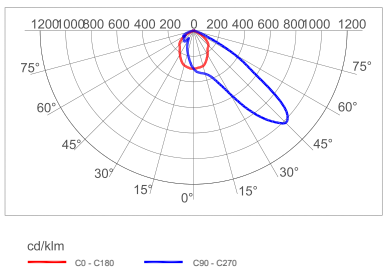
TRSA-2-SCP-8L-407
Mounting Height: 6m

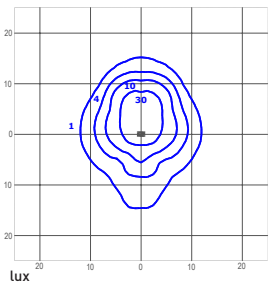
LUMEN OUTPUT - SCP (Type II Short)

Lumen Package	2700K Initial Delivered Lumens*	3000K Initial Delivered Lumens*	4000K Initial Delivered Lumens*
2L	1400	1600	1800
4L	2900	3300	3650
6L	4400	5000	5550
8L	5820	6590	7317

* Initial delivered lumens at 25˚C (77˚F). Actual production yield may vary between -4 and +10% of initial delivered lumens

AFN - Area Flood Narrow





Test Report #: 1088-QL21-S04

TRSA-2-AFN-8L-407
Mounting Height: 6m

LUMEN OUTPUT - AFN (Area Flood Narrow)

Lumen Package	2700K Initial Delivered Lumens*	3000K Initial Delivered Lumens*	4000K Initial Delivered Lumens*
2L	1463	1656	1839
4L	2961	3353	3723
6L	4508	5104	5667
8L	5935	6720	7461

* Initial delivered lumens at 25˚C (77˚F). Actual production yield may vary between -4 and +10% of initial delivered lumens

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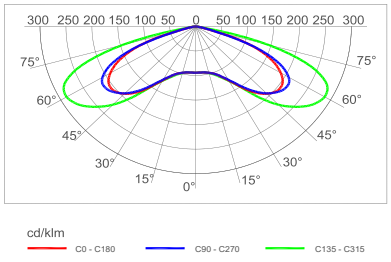
ARS - Roto-Symmetric Area



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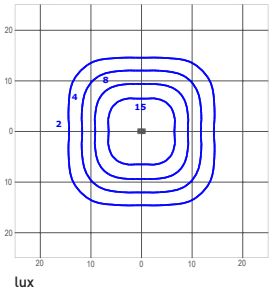


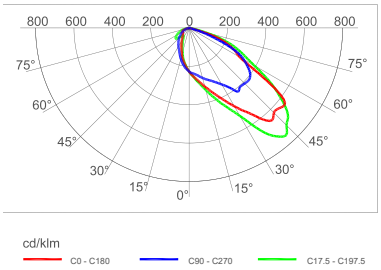
TRSA-2-ARS-8L-407
Mounting Height: 6m

LUMEN OUTPUT - ARS (Roto-Symmetric Area)

Lumen Package	2700K Initial Delivered Lumens*	3000K Initial Delivered Lumens*	4000K Initial Delivered Lumens*
2L	1475	1670	1854
4L	2986	3381	3754
6L	4546	5147	5715
8L	5985	6777	7524

* Initial delivered lumens at 25˚C (77˚F). Actual production yield may vary between -4 and +10% of initial delivered lumens

PCR - Pedestrian Crossing Right



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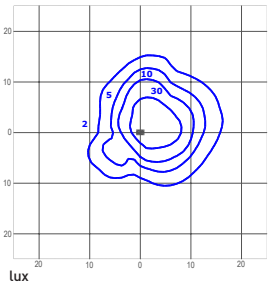


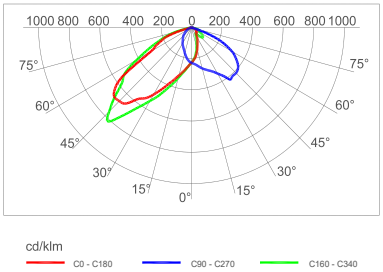
TRSA-2-PCR-8L-407
Mounting Height: 6m

LUMEN OUTPUT - PCR (Pedestrian Crossing Right)

Lumen Package	2700K Initial Delivered Lumens*	3000K Initial Delivered Lumens*	4000K Initial Delivered Lumens*
2L	1622	1657	1951
4L	3285	3355	3949
6L	5000	5108	6012
8L	6583	6725	7915

* Initial delivered lumens at 25˚C (77˚F). Actual production yield may vary between -4 and +10% of initial delivered lumens

PCL - Pedestrian Crossing Left



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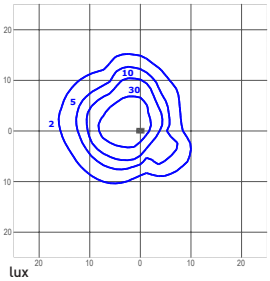


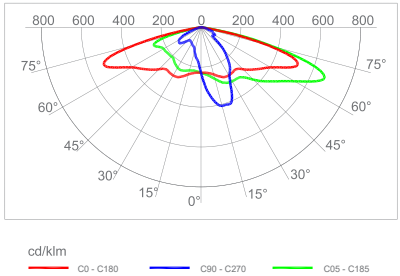
TRSA-2-PCL-8L-407
Mounting Height: 6m

LUMEN OUTPUT - PCL (Pedetrain Crossing Left)

Lumen Package	2700K Initial Delivered Lumens*	3000K Initial Delivered Lumens*	4000K Initial Delivered Lumens*
2L	1633	1668	1963
4L	3305	3377	3974
6L	5031	5140	6050
8L	6624	6767	7965

* Initial delivered lumens at 25˚C (77˚F). Actual production yield may vary between -4 and +10% of initial delivered lumens

K07 - Narrow Street



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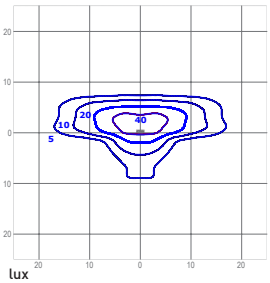

TRMA-2-K07-8L-407
Mounting Height: 6m

LUMEN OUTPUT - K07 (Narrow Street)

Lumen Package	2700K Initial Delivered Lumens*	3000K Initial Delivered Lumens*	4000K Initial Delivered Lumens*
2L	1538	1742	1934
4L	3114	3526	3915
6L	4740	5367	5959
8L	6241	7067	7846

* Initial delivered lumens at 25˚C (77˚F). Actual production yield may vary between -4 and +10% of initial delivered lumens

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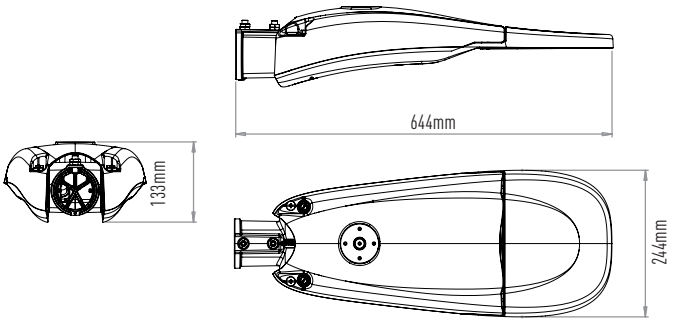
CONSTRUCTION AND MATERIALS

Die cast, low copper <0,1%, aluminium alloy housing for long weathering and reliability.

Luminaire is designed to mount directly to 76mm or 60mm outer dimension tenons or poles and can be tilted +/- 20°, in steps of 5° and mounts to 60mm OD tenons.

WEIGHT AND MAXIMUM WIND AREA	
Weight:	Lateral Surface Wind Exposed:
6.5kg	0.08m²



FEATURES

- **Lumen output:** 4000 – 7,000lm
- **Efficacy:** Up to 160lm/W
- **CCT:** 3000K, 4000K, 2700K
- **CRI:** 70 CRI
- **Initial Colour Consistency:** 4 MacAdam steps
- **Operative temperature:** -40°C up to +50°C
- **Ingress protection rating:** IP66 per IEC 60529
- **Impact resistance rating:** IK10

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VERTEX® UNO SOLAR LIGHTING SYSTEM

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Form and Function

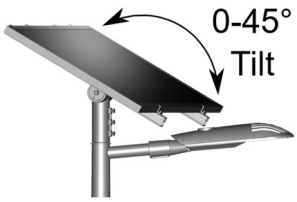
Optimising Solar Collection

Vertex® UNO Solar Lighting Systems feature pole-top mounted photovoltaic modules to enable full flexibility of orientation and tilt angle adjustment ensuring that regardless of which way the luminaire is aimed, solar collection will be optimal.

The full 360° orientation and 0-60° locking tilt adjustment allows the photovoltaic module to collect the optimal amount of energy with the photovoltaic facing North and tilted to the appropriate angle to suit the install location relative to the suns tracking path.

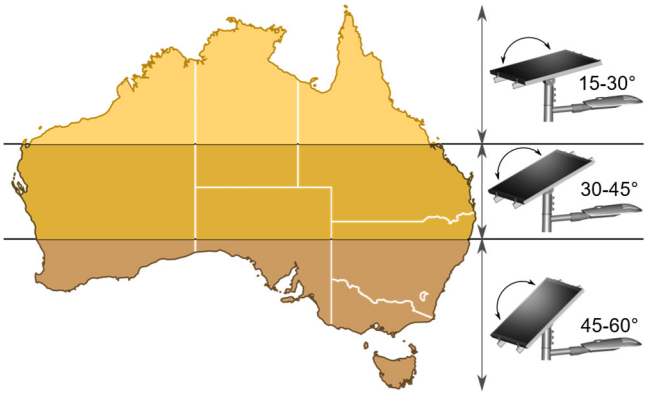
Vertex® UNO Solar Lighting Systems photovoltaic modules are scaled sufficiently to match power load, site location conditions and minimum autonomy requirements.

Vertex® UNO Solar Lighting Systems photovoltaic modules are supplied with 10 years warranty and a 25 year performance guarantee to a minimum 80% efficiency.



PV Tilt Angle:	

PV Module Tilt Angle Guide - Australia



Power Profiles

Vertex® UNO Solar Lighting Systems features advanced timer and power profiling capabilities which enable the user to set power profile modes and timers to best suit the application.

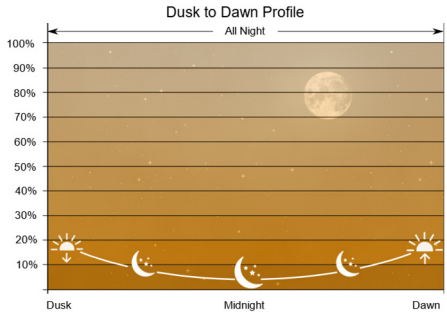
Power profiles offer the ability to control the lighting so that high light levels can be applied when needed and reduced low light levels when not needed.

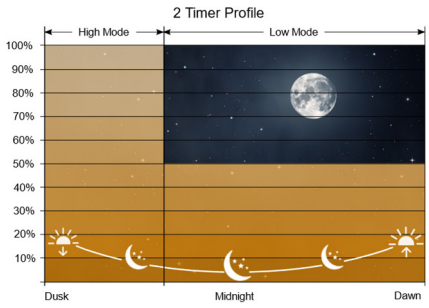
This functionality assists with offering higher light output settings to meet standards requirements while assisting to reduce light pollution and meet obtrusive light limitations during curfew hours (AS/NZS 4282). Power profiles can also assist in meeting International Dark Sky Association recommendations by reducing unwanted light in ecological effected areas.

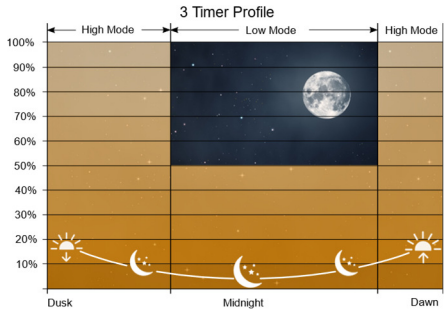
Dusk to Dawn (All Night) ☐
Power

2 Timers ☐	
Power 1	Power 2
Timer 1	Timer 2

3 Timers ☐		
Power 1	Power 2	Power 3
Timer 1	Timer 2	Timer 3







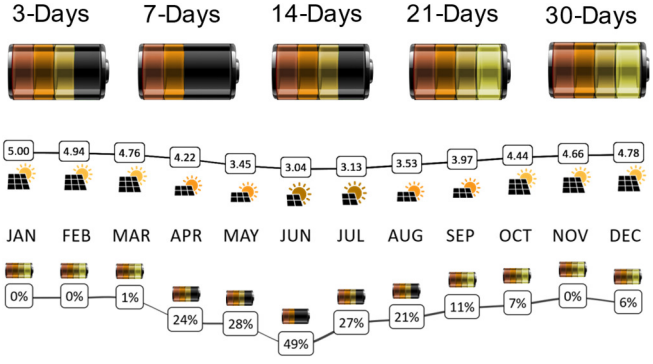
Autonomy (Battery Backup)

Vertex® UNO Solar Lighting Systems are custom designed utilising NASA solar radiation and weather pattern data for the specified location to ensure year-round performance.

Vertex® UNO Solar Lighting Systems are designed in accordance with the methodologies of AS/NZS 4509.2-2010 to ensure the photovoltaic module is adequately sized and the discharge continuity of the battery system is balanced year-round.

This process ensures extended life of the premium battery systems used in Vertex® UNO Solar Lighting System.

Site based calculation reports can be supplied upon request to verify solar and battery system sufficiency.



*Example for illustrative purposes only – Autonomy calculations are subject to location conditions.

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Energy Management

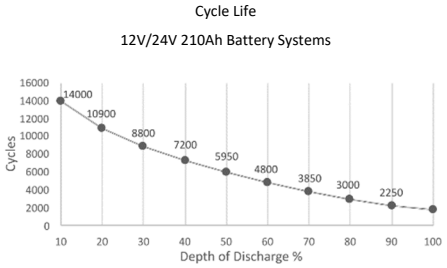
Premium Solar Cycling Battery Systems

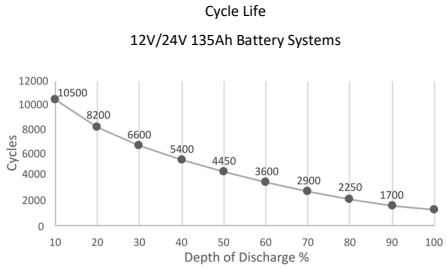
Vertex® UNO Solar Lighting System utilises premium long life SunGEL Ultra batteries specifically designed for solar cycling applications with Advanced Carbon and Catalyst technologies.

Vertex® UNO Solar Lighting System battery systems are sized and quantified specific to location conditions and autonomy requirements in accordance with AS 4509.2 and AS/NZS 5139.

SunGEL Ultra batteries are Designed in Australia and manufactured with high quality components to suit harsh conditions and can operate in -20 - +55°C operating temperatures.

SunGEL Battery systems have a 20 Year design life under 25°C operating temperature conditions and are supplied with an initial 5 Year limited replacement warranty and an additional 5 Year replacement Pro-Rate warranty
(Subject to terms and conditions - available upon request).





Energy Management Systems:

Solar Charge Controller

High Efficiency, Advanced MPPT (maximum power point tracking) with short circuit and over current protection. Minimum efficiency of 99.5% and automatic limit function of maximum photovoltaic input power, ensuring no overload under any circumstance.

LED Driver and Drive Controller

Wide input voltage and high precision constant current control with linear PWM duty cycle dimming control. Minimum 92% efficiency under -40-65° ambient conditions Four function drive control with pre-set dimming level and timeframe programming including autonomous power adjustment synced to battery voltage and ambient temperature conditions.

DC Rated Switchgear and Mounting Panel:

Miniature Circuit Breaker (MCB) DIN Rail mounted safety switches fitted to a fire-retardant mounting panel. Vertex® Energy Management Systems are designed and assembled in Australia conforming to all relevant Australian standards including AS/NZS 3000 Wiring Rules, AS/NZS 5033 PV Array Installation and Safety Standards, AS/NZ 5139 Safety of Battery Systems, and AS/NZS 4509.2-2010 standalone power systems design standards.

Vertex® UNO Solar Lighting System Energy Management Systems and their components are supplied pre-assembled and pre-configured with a 5 Year limited warranty.

VISE ACTION® Compression Latches by Southco®

Vertex® Enlarged Base Solar Light Poles:

Vertex® UNO Solar Lighting Systems use custom designed HDG steel enlarged base solar poles. The enlarged base section of the pole securely houses the Vertex® Energy Management System and battery systems using Southco® *VISE ACTION®* stainless steel security locks on all access doors.

The enlarged base section is designed to ensure sufficient ventilation to the batteries and Energy Management System components. Having the battery and Energy Management System located in the base of the pole makes installation, maintenance, and component replacement quick and easy.

Vertex® UNO Solar Lighting System HDG steel enlarged base solar poles and foundation cages are designed in accordance with AS/NZS 4100, AS/NZS 3679, AS/NZS 1163 and AS/NZS 1154.

Battery systems are safely and securely placed on weight rated shelves above the Vertex® Energy Management System which is fixed to a purpose-built mounting bracket positioned for easy access during installation and maintenance.

Vertex® UNO Solar Lighting System HDG steel enlarged base solar poles are supplied with a 10 Year warranty (powder coat finish warranties vary depending on site conditions, consult Orca Solar Lighting for clarification).

Advanced Lighting Technologies Australia, Inc.
110 Lewis Road Wantirna South VIC 3152
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Revision Date: December 2023

VERTEX® UNO SOLAR LIGHTING SYSTEM

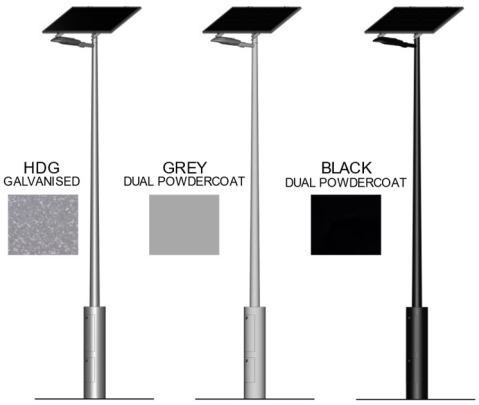
Stand-alone High Output LED Lighting System

Configuration Options

4m 12V SINGLE LUMINAIRE

4m 24V TWIN LUMINAIRE

Finish Options



6m 12V SINGLE LUMINAIRE

6m 24V SINGLE LUMINAIRE

6m 12V TWIN LUMINAIRE

6m 24V TWIN LUMINAIRE

8m 12V SINGLE LUMINAIRE

8m 24V SINGLE LUMINAIRE

8m 12V TWIN LUMINAIRE

8m 24V TWIN LUMINAIRE

NOTE: Additional configuration options may be available, subject to project location and engineering.

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VERTEX® UNO SOLAR LIGHTING SYSTEM

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Electrical and Mechanical Specifications

Luminaire			
LED Type	Luxeon Lumileds : Used for 075, 100, 125, 200, AFN, ARS, K07, K10, K12 optics. Duris LEDs: Used for 150, SCP, PCL, PCR optics.		
LED Current	1050mA (Maximum)	360mA (Minimum)	
LED Power	54W (Maximum)	19W (Minimum)	
LED Lifespan	L90B10 > 100,000hrs at 25°C T[a]		
Lumen Output	Maximum Power Setting		
	7,186 lumens (2700K)	7,341 lumens (3000K)	8,640 lumens (4000K)
Correlated Colour Temperature (CCT)	2700K / 3000K / 4000K		
Colour Rendering Index (CRI)	70+ CRI		
Optics / Distribution Type	150 wide Street, 200 extra wide street, SCP street & cycle path, Roto symmetric Area and Area Flood Narrow, Narrow Street K07.		
Optical Material	Optical Grade Acrylic PMMA		
Operating Temperature Range	-40°C to +50°C		
Standards Compliance and Testing	LM80-80-2008, IES TM-21-2011, IK10(EN62262), IP66(IEC60529)		

Photovoltaic / Solar Engine (STC)				
Nominal PV Array Size	200W	300W	375W	450W
Cell Type	Monocrystalline with 3.2mm Tempered Glass			
Cell Count	72	60	72	144
Rated Power Output (Pmax)	205W	290W	375W	455W
Power Tolerance	+/- 3%			
Max. Power Voltage (Vmp)	38.38V	32.14V	39.0V	41.7V
Open Circuit Voltage (Voc)	45.86V	39.37V	47.8V	49.5V
Short Circuit Current (Isc)	5.72A	9.51A	10.14A	11.66A
Max Power Current (Imp)	5.38A	9.03A	9.62A	10.92A
PV Module Dimensions	1,580mm x 808mm x 35mm	1,658mm x 1,002mm x 35mm	1,960mm x 992mm x 40mm	2,094mm x 1,038mm x 35mm
Standards Compliance and Testing	IEC 61730 (Photovoltaic Module Safety), IEC 61215 (Photovoltaic Modules Design)			

Battery Systems (GEL)				
Battery System Size	12V 135Ah	12V 210Ah	24V 135Ah	24V 210Ah
Chemistry Type	Advanced Carbon GEL	Advanced Carbon GEL	Advanced Carbon GEL	Advanced Carbon GEL
Rated Capacity Wh	1,620Wh	2,520Wh	3,240Wh	5,040Wh
Rated Capacity Ah	135 Ah (C120)	210 Ah (C120)	135 Ah (C120)	210 Ah (C120)
Rated Voltage	12V	12V	24V	24V
Cell Quantity	1 x 12V Series	2 x 6V Series	2 x 12V Series	4 x 6V Series
Cell Dimensions	394mm x 125mm x 297mm	276mm x 184mm x 265mm	394mm x 125mm x 297mm	276mm x 184mm x 265mm
Cell Unit Weight	38kg	32kg	38kg	32kg
Operating Temperature Range	-20°C to +55°C			
Rated Depth of Discharge (DoD)	50%			
Rated Cycle Life @ 0.2C	4,450 Cycles (C120) 50% DoD	5,950 Cycles (C120) 50% DoD	4,450 Cycles (C120) 50% DoD	5,950 Cycles (C120) 50% DoD
Standards Compliance	AS/NZS 4029.2-2010, AS 4086.1, IEC 60896 21 & 22, IEC 896.2			

Electrical and Control		
Controller Type	Multi-Power Point Tracking (MPPT) with Step-up LED driver	
System Voltage	12VDC	24VDC
Max. Input Voltage	120V	
Max. Charge Current	20A	
Load Conversion Efficiency	+/- 96%	
Load Current Accuracy	≥ 3%	
Max. Load Power	50W	100W
Max. Output Current	3300mA	
Load Voltage Range	(Input Voltage +2V) - 60V	
Operating Temperature Range	-35°C to +55°C	
Smart City Compatibility	LoRaWAN, Zigbee or NB-IoT (via. Modbus) – Additional components required.	
Remote Control	2.4Ghz WIFI Remote Control (Parameter Setting and Diagnostic Reporting) *Subject to Model	
Standards Compliance and Testing	CE, RoHS (Restriction of Hazardous Substances), EN 61000-6 (Electromagnetic Compatibility / EMC), IEC 62109-1 (Safety of Power Converters), IEC 60529 (Ingress Protection), EN 60590 (Safety of Information Technology Equipment).	

Poles		
Material	Hot Dip Galvanized Steel (dual powder coat or marine finishes optional)	
Height Options	4m, 6m, 8m (custom heights and hinge pole options available upon request)	
Foundation Bolt Arrangement	4m / 6m High	8m High
	4 x M20 x 280mm P.C.D.	4 x M24 x 500mm P.C.D.
Spigot Size	Solar/PV Array	Luminaire Outreach
	Ø 76 mm	Ø 60 mm (custom spigots available upon request)
Standards Compliance and Testing	AS/NZS 1170 (Structural Design Actions), AS/NZS 4100 (Steel Structures), AS/NZS 4600 (Cold-Formed Steel Structures).	
Wind Rating	Region A, B, C (subject to pole foundation type and soil conditions)	

Vertex® UNO Solar Lighting System is designed in accordance with AS/NZS 4509.2-2010 – Stand-alone Power Systems (system sizing reports are available upon request).
All products supplied by Orca Solar Lighting adhere to AS/NZS 4509, AS/NZS 5033, AS/NZS 5139 and AS/NZS 3000 electrical, battery and photovoltaic safety standards where applicable.

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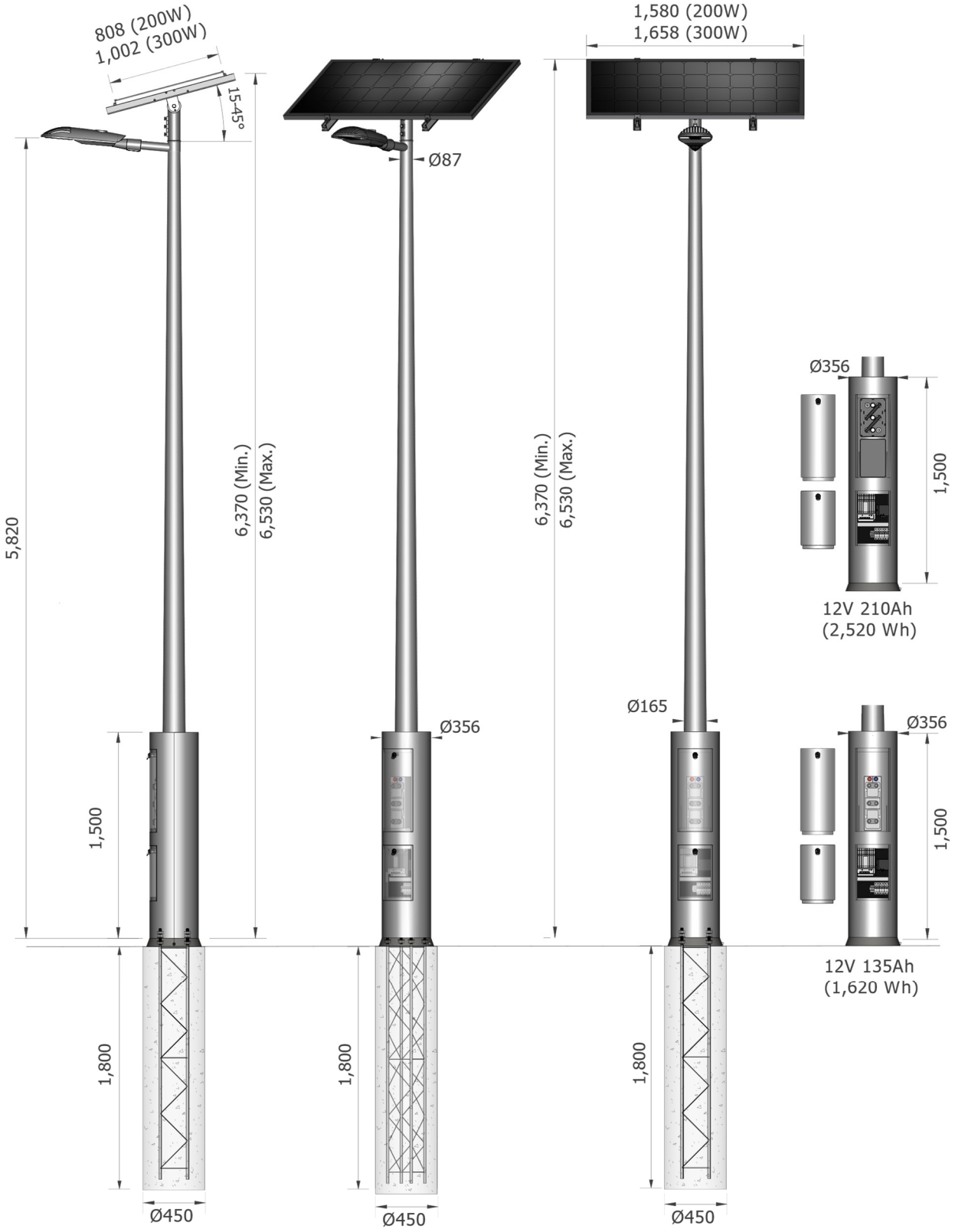
VERTEX® UNO SOLAR LIGHTING SYSTEM

Stand-alone High Output LED Lighting System

General Arrangement Detail (Vertex 6m 12V)



NOTICE:

Footing options are detailed for indication purposes only, subject to final design and analysis of footings based on actual site soil conditions and engineering certification by a qualified geotechnical and structural engineer.

All foundations should only be installed by suitably qualified persons.

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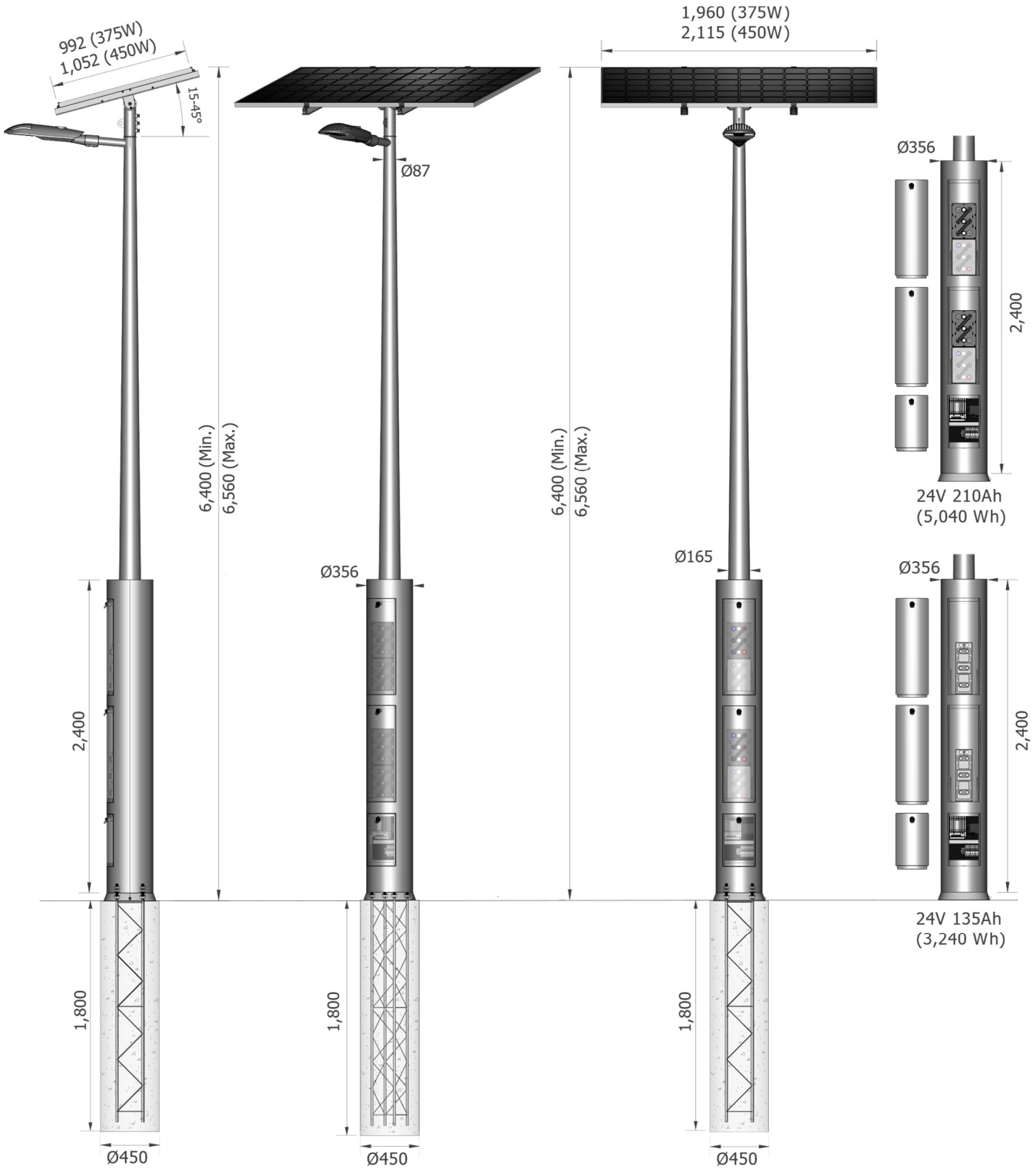
VERTEX® UNO SOLAR LIGHTING SYSTEM

Stand-alone High Output LED Lighting System

General Arrangement Detail (Vertex 6m 24V)



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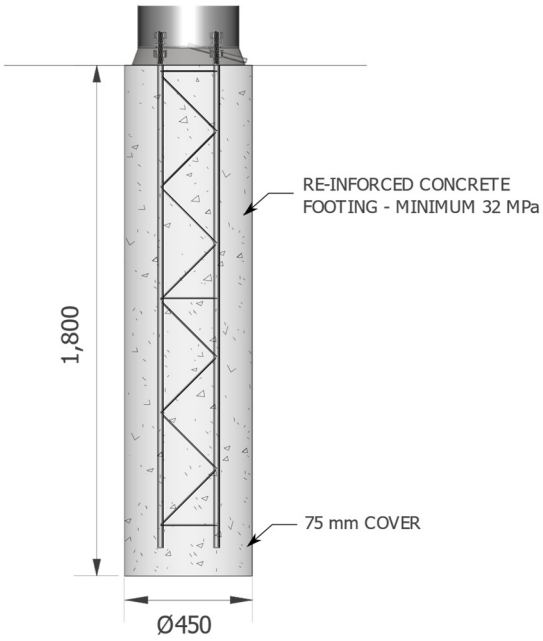
Footing Options

Bored Pier Footings – 4m to 6m High Vertex Solar Light Poles.

BP1.8 – Suitable for Wind Regions A, B and C (Subject to Location and Soil Conditions).



Depth: 1,800mm
Diameter: Ø 450mm
Foundation Bolts: 4 x M20 x 280mm P.C.D.
Steel Reinforcing: 4 – N20
Bending Moment: 29.8kNm *
Shear Force: 5.6kN *
Pole Weight: 150kg (6m High 12V)
Soil Bearing Capacity: 150kPa

* Bending moment and shear force are expressed in Ultimate Limit State terms and are preliminary only, subject to a final design.

NOTICE:

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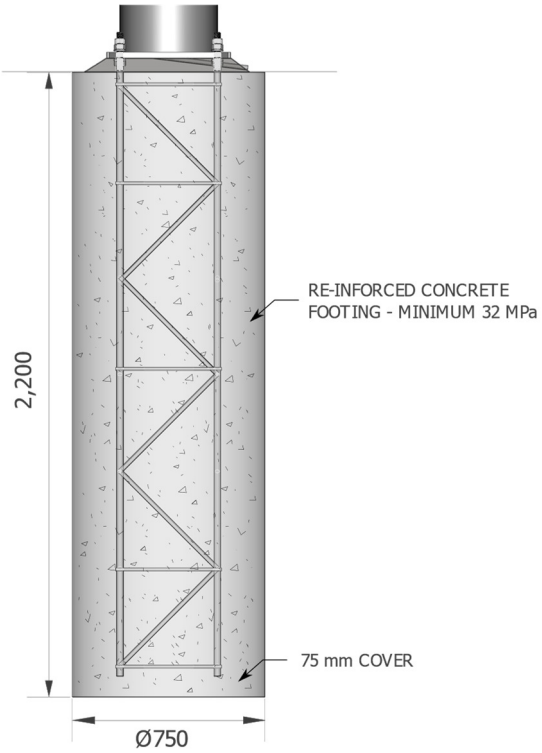
Bored Pier Footings – 8m High Vertex Solar Light Poles.

BP2.2 – Suitable for Wind Regions A, B and C (Subject to Location and Soil Conditions).



Depth: 2,200mm
Diameter: Ø 750mm
Foundation Bolts: 4 x M24 x 500mm P.C.D.
Steel Reinforcing: 4 – N24
Bending Moment: 48.4kNm *
Shear Force: 5.5kN *
Pole Weight: 250kg (8m High 24V)
Soil Bearing Capacity: 150kPa

* Bending moment and shear force are expressed in Ultimate Limit State terms and are preliminary only, subject to a final design.

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