

Vertex Solar Lighting System

Stand-Alone High Output LED Lighting System



Product Overview

Mission critical lighting for discerning organisations that value reliability & performance over a lower up-front cost.

The Vertex® solar lighting system comprises the RoadLED luminaire mounted on a fixed solar pole with the solar panel array attached mid-way on the pole.

The batteries, Charge controller and Vertex® EMS (energy management systems) are securely housed in the enlarged base of the pole (above ground) behind a sturdy steel locked door fastened using the Rivlok™ security system.

Performance Summary

Designed and Assembled in Australia

Autonomy: Up to 5 Days

Lumen Output: Up to 11,000 Lumens

Luminaire Efficacy: Up to 130 LPW

Colour Rendering Index: Minimum 70 CRI

Colour Temperature: 4000K

Warranty: 5 Year Limited Warranty with Performance Guarantee

Specification Criteria

Product	Arrangement	Power	Autonomy	Optic	CCT	Height	Footing	Finish	Power Profile
Vertex®	Single	60W	3 Days	Standard	40K	4.0m	Cage	Galvanised	Dusk-Dawn
		70W	4 Days	Aeroscreen	30K	6.0m	Block	Powdercoat (RAL)	4-Hour / Off
		80W	5 Days	8.0m	6-Off-2				
				10.0m	8-Off-2				
								Other / Custom	

Power Profiles:

Dusk -Dawn – Runs the luminaire at static power level from dusk through to dawn

4 Hour / Off – Runs luminaire from dusk for a total time of 4 hours and then completely switches off the luminaire

4 Hour / Off – Runs luminaire from dusk for a total time of 4 hours and then dims the luminaire to a pre-set level for the rest of the night

6-Off-2 – Runs Luminaire from dusk for a total time of 6 Hours, switches off and runs again for 2 hours prior to dawn

8-Off-2 – Runs Luminaire from dusk for a total time of 8 Hours, switches off and runs again for 2 hours prior to dawn

Other / Custom – Orca Solar can program systems for dimming level and or running time according to project requirements.

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Cut-Off Visor



Semi Cut-Off Visor



PRODUCT / PERFORMANCE SUMMARY

- High performance Roadway luminaire
- Designed specifically to meet Australian/New Zealand road lighting standards, complying with both AS/NZS 60598.2.3 and AS/NZS TS 1158.6 where appropriate
- The optics and LED light source are optimised to provide maximum spacings for compliance with AS1158-1.1 Category V
- The optical chamber sealed to IP66 ingress protection
- Control gear sealed to IP65
- CRI > 70
- Colour Temp: 4000K (Standard), 3000K

Mechanical Characteristics:

- Pressure die cast, marine grade, aluminium body
- Weight: 11.2kg – 13.6kg
- Self-cleaning acrylic visor
- IP66 Optic
- Stainless steel fasteners, latches and clips
- Easy to replace visor
- 43mm to 48mm Spigot Entry
- Hinged access cover with quick access clips

SYLVANIA

PRODUCT DESCRIPTION

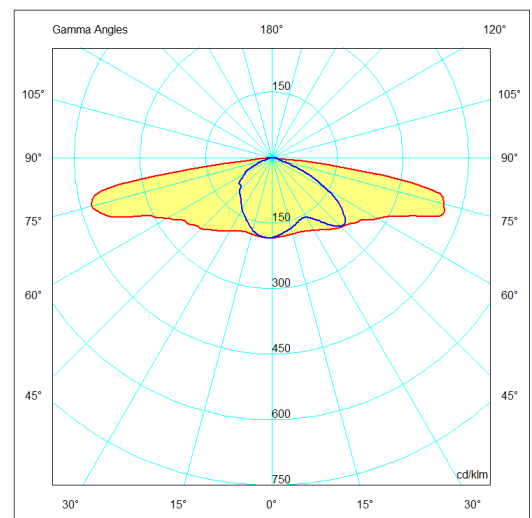
The RoadLED is a state-of-the-art road lighting luminaire that has been specifically designed and assessed in Australia for Australian/New Zealand major road lighting applications.

The luminaire has been specifically engineered to comply with Australian Standards (Category V) allowing it to replace traditional high wattage High Pressure Sodium and Metal Halide luminaires that are used to illuminate major vehicular roads throughout ANZ.

The RoadLED is compliant to AS/NZS 60598.2.3 and SA/SNZ TS 1158.6 where appropriate.

Power (System Power)	4000K
	Initial Lumens*
60W Cut-Off	6,960
60W Semi Cut-Off	7,360
70W Cut-Off	9,016
70W Semi Cut-Off	9,575
80W Cut-Off	10,618
80W Semi Cut-Off	11,216

~ indicates nominal lumen output



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System design

Autonomy: Vertex® solar lighting systems are scaled to suit applications using NASA solar radiation data based on conditions recorded at location of installation.

Solar Panel: Photovoltaic panel(s) scaled sufficiently to match power load and Vertex® system requirements with 25 Year performance guarantee.

Panel systems are sized specific to location conditions and autonomy requirements

Batteries: Long life batteries VRLA Gel batteries designed specifically for solar cycling applications with 5 year + 5 year pro-rate warranty

Battery systems are sized and quantified specific to location conditions and autonomy requirements

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

LED Driver: Wide input voltage and high precision constant current control with linear PWM duty cycle dimming control. Minimum 92% efficiency under -40-65° ambient conditions

LED Drive Controller: Four function drive control with pre-set dimming level and timeframe programming including autonomous power adjustment synced to battery voltage and ambient temperature conditions.

Solar Pole: Specifically designed for the Vertex® solar lighting systems, six metre fixed solar pole with battery box to securely house the Vertex® EMS and batteries behind a secure steel door and provide ventilation as per AS4509.

Batteries are securely placed on shelves above the Vertex® EMS which is fixed to a purpose built mounting bracket positioned for easy access during installation and maintenance.

Compliance

Vertex® solar lighting systems provide a minimum of 30% solar panel oversupply co efficient as an extra reliability measure in accordance with AS4509.2 (Australian standards for standalone power systems),

HDG (Hot Dipped Galvanised) steel poles and cage footings designed in accordance with AS4100, AS3679, AS1163 and AS1154

The Vertex® Energy Management System houses the lighting controller, LED driver and safety switches, mounted on fire retardant board. Designed and assembled in Australia, conforming to AS 3000 electrical safety standards and AS 4509.2 standalone power systems

