

EVERGEN™ 1700

OFF-GRID SOLAR LED LIGHTING

The EverGEN 1700 is ideal for ...

new facilities where:

- access to the electrical grid requires extensive trenching
- grid connection is difficult or impossible
- underground checks and/or permits are costly

existing facilities where:

- access to the electrical grid requires extensive trenching or environmental disruption
- disruption of environment will result in loss of business
- underground wiring / conduit is nearing end of life
- jurisdictional right-of-way issues exist

The Carmanah Difference:

- Solar panel and batteries combined into single enclosure
- Installation in 30 minutes or less
- Reduced project cost when compared to other solar LED lighting systems: a result of superior uniformity and lumen output
- Lumen depreciation data based on IESNA LM-80 test methods
- Backed by certified photometric reports per IESNA LM-79
- Advanced occupancy sensing provides synchronized low-high activation for a system of lights
- Five year warranty
- RoHS compliant: completely recyclable batteries & components

Capabilities:

- Typical lumen range 2,000 - 9,000 (dependant on location and operating profile)
- BetaLED™ LEDway™ & THE EDGE™ fixture options: direct, side and integrated arm mount options
- Up to two fixtures per unit
- Advanced occupancy sensing capabilities
- Operating profiles
- Standard IES distributions (Type II, III, IV, V)
- Floodlighting optics (15°, 25°, 40°, 60°)
- 6000K and 4300K colour temperature

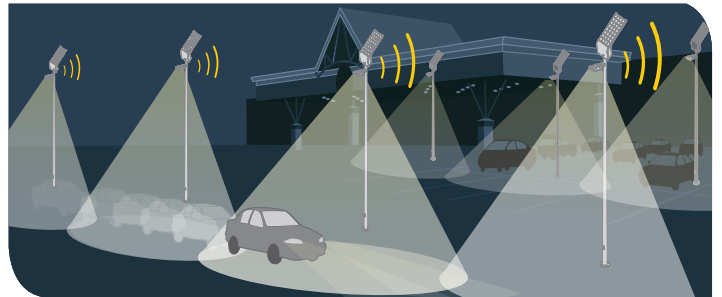


The Carmanah EverGEN 1710 and 1720 solar LED lighting solutions are ideal for parking lot, street, pathway, perimeter and site lighting applications.

Advanced Occupancy Sensing

Utilizing mesh networking and occupancy sensors, advanced occupancy sensing allows a network of 1700 solar LED lights to provide synchronized low-high activation when one of the lights within the network senses motion.

Ideal for parking lots, pathways and any off-road area where lighting is an integral safety feature, advanced occupancy sensing provides functionality that no other light on the market can offer.



Advanced occupancy sensing can activate all the lights within the site when motion is detected or can activate lights within a set distance of motion, providing light that follows motion through the site.

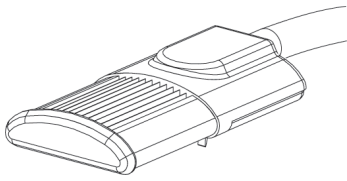
*Contact your Carmanah representative for 1720 availability. 1710 now available.

Carmanah is backed by a worldwide network of lighting professionals. To find a representative in your region:

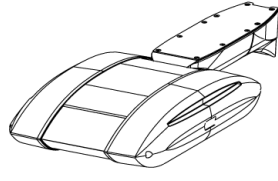
- visit us at www.carmanah.com
- or call +1.250.380.0052 (toll-free US & Canada 1.877.722.8877)

REPRESENTED IN YOUR REGION BY:





BetaLED™ LEDway™



BetaLED™ THE EDGE™

EVERGEN™ 1700

OFF-GRID SOLAR LED LIGHTING

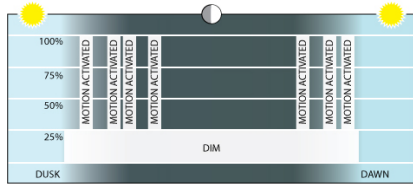
BetaLED™ Fixtures

The EverGEN 1700 series is available with either the BetaLED LEDway or THE EDGE fixtures. With superior uniformity and light performance, BetaLED fixtures allow Carmanah EverGEN solar lighting to illuminate a given area with fewer systems than other solar solutions: providing significant savings in overall project cost.

Operating Profiles

An operating profile determines how the light will behave. It allows for the light to be dimmed or turned off completely when facility usage is reduced.

By dimming or turning the system off when light is not needed, or adjusting illumination levels with advanced occupancy sensing, energy is conserved and light levels during peak hours are maximized. This allows for brighter illumination, smaller system size and lower system cost.



Sample Operating Profile with Advanced Occupancy Sensing



Sample Split-Night Operating Profile

Energy Management System

The Energy Management System (EMS) is a critical part of the EverGEN system providing bright, reliable light output and healthy, high-functioning lighting systems for over five years of autonomous operation.

The EMS provides:

- efficient transfer & dynamic management of energy (95% efficiency)
- temperature compensated maximum power point tracking (TC-MPPT)
- enhanced autonomy for reliable operation through extreme conditions
- advanced occupancy sensing
- 63 operating profile options
- smaller sized engines with greater lumen output
- battery and system health protection
- day night transition via solar panel eliminates need for photocell

Enhanced Autonomy

Through real time monitoring of surrounding conditions enhanced autonomy allows the EverGEN to continue providing useful light even under unusual conditions such as excessive shading, long periods of bad weather and other extreme conditions that prevent the system from charging over an extended period of time.

Enhanced autonomy provides useful light for much longer than other solar solutions and prevents deep discharging of the battery, protecting long-term health.

SOLAR ENGINE		1710	1720 (PRELIMINARY)*
EPA**	20 deg	6.76 sq. ft. (0.63 sq. m.)	12.5 sq. ft. (1.16 sq. m.)
	30 deg	7.94 sq. ft. (0.74 sq. m.)	15.4 sq. ft. (1.43 sq. m.)
	45 deg	9.53 sq. ft. (0.89 sq. m.)	18.9 sq. ft. (1.76 sq. m.)
Weight (without batteries)		151 lb (68.5 kg)	252 lb (114 kg)
Weight (with batteries)		290 lb (132 kg)	530 lb (240 kg)
Height (tilt angle dependant***)		36 – 50 in (91 – 127 cm)	48 – 67 in (122 – 171 cm)
Width		22 in (56 cm)	32.5 in (83 cm)

BATTERIES		
Type	2 x group 27 absorbent glass mat (AGM)	4 x group 27 absorbent glass mat (AGM)
Rating	4,000 cycles to 20% depth of discharge at 20° C (68° F)	

FIXTURE		
THE EDGE™	20 – 80 LEDs single fix. 20 – 40 LEDs dual fix.	20 – 240 LEDs single fix. 20 – 120 LEDs dual fix.
LEDway™	20 – 80 LEDs single fix. 20 – 40 LEDs dual fix.	20 – 120 LEDs single fix. 20 – 120 LEDs dual fix.
THE EDGE™ Flood	20 – 60 LEDs single fix. 20 – 40 LEDs dual fix.	20 – 60 LEDs single fix. 20 – 60 LEDs dual fix.

MOUNTING		
Solar Engine	Top of Pole to 3.5 in (8.89cm) OD x 4.5 in (11.4cm) long tenon	Top of Pole to 4.5 in (11.4 cm) OD x 6 in (15.2 cm) long tenon
THE EDGE™	Integrated Direct (Engine and Fixture Top of Pole), or Side of Pole Direct	
LEDway™	Integrated Horizontal Tenon (Engine and Fixture Top of Pole), or Side of Pole Horizontal Tenon	

COLOURS		
Engine	Silver with grey (standard), white with grey, black with grey, bronze with black	
THE EDGE™ (incl. flood)	Silver (standard), white, black, bronze	
LEDway™	Silver	

PHOTOMETRICS		
Typical Lumen Range	2,000 to 5,000 lumens	4,000 to 9,000 lumens
Colour Temperature Options	6000K, 4300K	
Colour Rendering Index (CRI)	Minimum 70	
Fixture Efficacy	Up to 85 lumens/watt	
IES Light Distributions	Type II, Type III, Type IV, Type V, (backlight control available), 15°, 25°, 40°, 60° flood	
Other	International Dark-Sky Association (IDA) approved, measured for performance using IESNA standards including IES BUG rating system.	
Photometry	Certified photometry per IESNA LM-79 & LM-80	
Typical Applications	Pedestrian pathway, sign lighting, parking lots	Parking lots, roadways, sign lighting

Photometric performance depends on the solar environment of location and specified operating profile. Contact Carmanah rep. for exact lumen output and specifications for your application.

CERTIFICATIONS		
ISO 9001:2008, RoHS, CSA C22.2 #250.0 (pending, system level), UL 1598 (pending, system level), CE 2004-108-EC EN 55015, EN 61547, solar panel IEC 61215 rated, system compliant with Buy American Act, Section 1605 of the ARRA.		

* Please contact your Carmanah representative for availability of 1720. 1710 now available.
 ** EPA calculated with drag coefficient of 1.3. Drag coefficient determined from wind tunnel testing. EPA of engine only; does not include fixture EPA.
 *** Panel tilt configured based on installation location.

Specifications may be subject to change.