Overhead Lighting for Crosswalks

Rectangular Rapid Flashing Beacon (RRFB) with Overhead Lighting Fixture

carmanah®

Overhead crosswalk lighting improves pedestrian safety by reducing all types of injury crashes by 23%*:

- Overhead fixture illuminates pedestrian and entire crosswalk area when activated
- Area/roadway-specific optic provides uniform illumination consistent with IES recommendations
- Meets FHWA and IES lighting standards for urban and rural crosswalks
- R920-F RRFB system meets MUTCD requirements, including IA-21; Buy America compliant
- Audible pushbutton or passive pedestrian activation sensor options

Purpose-Built Fixture for Crosswalks**

Carmanah's overhead lighting solutions use a roadway-specific LED fixture that provides bright, directional, and uniform illumination of the entire crosswalk area when the RRFB is activated. This Type III optic creates a distribution pattern that is desirable not only for its ability to adequately light a pedestrian without causing glare to drivers, but the fixture design also minimizes glare to surrounding residences, reducing spilled light and wasted energy.

Superior Design and Technology

Overhead lighting for crosswalks uses our trusted R920-F solar engine-based RRFB system. This design enables the R920-F to work with audible push button stations, passive activation sensors, and remote monitoring, as well as operate at higher intensities and increased activations in challenging environments. MUTCD interim approval IA-21 flash pattern and multiple configurations enable the R920-F to handle all crosswalk applications.

Easy Installation

All components, including the solar panel, batteries, Energy Management System (EMS) and optional audible push button controller are housed in a compact, lockable, purpose-built enclosure. It also incorporates a wire routing and termination system, and all components are wired at the factory for an efficient installation.

Advanced User-Interface

The R920-F comes with an on-board user interface for quick configuration and status monitoring. It allows for simple in-the-field adjustment of flash pattern, duration, intensity, ambient auto adjust, night dimming, and many more. Settings are automatically sent wirelessly to all units in the system.

* U.S. Department of Transportation Federal Highways Administration, Report No. FHWA-SA-17-072 - "Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations"

** A photometric layout (i.e. a professional lighting plan) should be completed for each location to determine the suitability of a selected luminaire and its placement/mounting height. Contact us for a photometric layout.

MUTCD compliant

Buy America compliant

5-year beacon warranty

Solar-sized for every location

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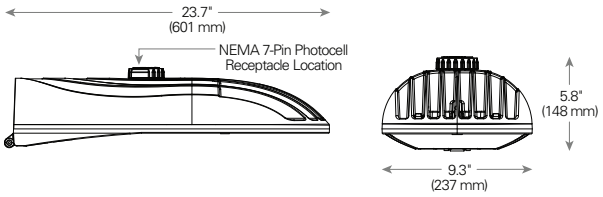
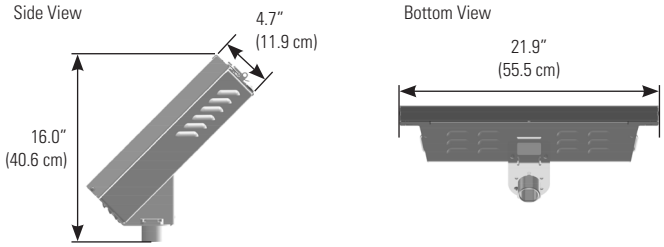
FIXTURE SPECIFICATIONS

LED Fixture	Cree® LED Street/Area Luminaire
	NanoOptic® Precision Delivery Grid™ optic delivers site-specific customization of light quality with increased lumens, improved uniformity ratios, and controlled high-angle brightness
	120-277V or 347-480V input voltage, 50/60Hz
Performance	Up to 11,875 initial delivered lumens
	Up to 125 lumens per watt (LPW)
	Minimum 70 CRI
	4000K color temperature (CCT)
Optics	Type IV Medium (4ME)
Operation	Fixture operates in conjunction with crosswalk beacons (using on-board Energy Management System)
Mounting	Mounts on 1.25" (32mm) IP, 1.66" (42mm) O.D. or 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenons (minimum 8" [203mm] in length)
	Direct arm or Davit arm available for fixture mounting
Weight	14.2 lbs (6.4 kg)

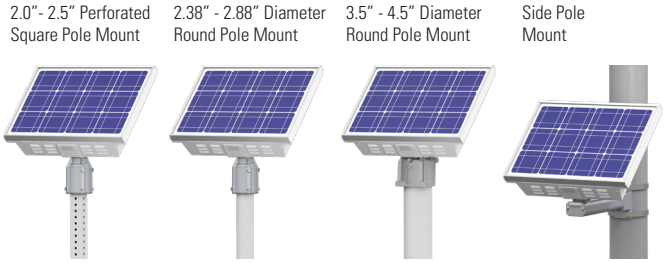
FIXTURE DIMENSIONS



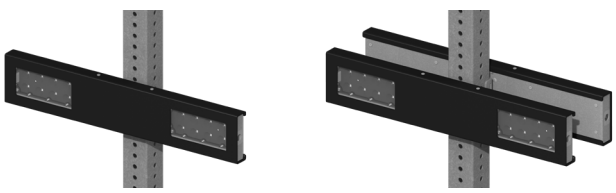
SOLAR ENGINE DIMENSIONS



SOLAR ENGINE MOUNTING



LIGHT BAR CONFIGURATION



BEACON SPECIFICATIONS

Optical	MUTCD interim approval IA-21 and MUTCDC compliant
	Purpose-built light bar optics = maximum efficiency and no stray light Exceeds SAE J595 class 1 intensity by 2.5 to 3x when used as recommended Meets SAE J578 chromaticity
	3" (76 mm) x 7" (178 mm) clear, UV-rated polycarbonate lens with yellow LEDs
	High-power LEDs: +90% lumen maintenance (L90) based on IES LM-80
	Side-emitting pedestrian confirmation LEDs
	Independent, stainless steel mounting brackets make back-to-back installation simple and enable in-field aiming for maximum effectiveness
	Yellow, black, or green powder coated light bar covers
Beacon Communication	Available with 2.4 GHz radio for remote activation of additional systems
	Wireless update of settings from any unit to all systems on the same radio channel
	User-selectable multiple channels to group different beacons and ensure a robust wireless signal
	Communicates with all other Gen III radio-enabled systems including our R820-E, -F, and -G circular beacons
	Instantaneous wireless activation: <150 ms
	Wireless range: 1000 ft (305 m)
	Integrated, vandal-resistant antenna

SYSTEM SPECIFICATIONS

On-Board User Interface (OBUI)	Adjustable system settings with auto-scrolling LED display on our latest EMS
	System test, status, and fault detection: battery, solar, button, beacon, radio, day/night
	Flash patterns: RFB1 (WW+S), RFB2 (WSDOT), 0.5 sec. alternating (MUTCD), 0.5 sec. unison (MUTCD), 0.1 sec. unison, 0.25 sec. unison, 0.1 sec. x3 quick flashes unison, 0.1 sec. x3 quick flashes alternating
	Input: momentary for push button activation, normally open switch, normally closed switch
	Flash duration (for beacons and overhead light): 5 sec. to 1 hr.
	Intensity setting: 20 to 1400 mA for multiple RRFBs, circular beacons, or LED enhanced signs
	Nighttime dimming: 10 to 100% of daytime intensity
	Ambient Auto Adjust: increases intensity during bright daytime
	Automatic Light Control: reduces intensity if the battery is extremely low
	Temperature correction: yellow or red beacons
	Calendar: internal time clock function
	Radio settings: enable/disable, selectable channel from 1 to 14
	Output: enabled when beacons flashing daytime and nighttime, or nighttime only E.g., for relay control of overhead lighting
	Activation counts and data reporting via OBUI or optional USB connection
Energy Collection	30 W high-efficiency photovoltaic solar panel
	45 deg tilt for optimal energy collection
	Maximum Power Point Tracking with Temperature Compensation (MPPT-TC) battery charger for optimal energy collection in all solar and battery conditions
Energy Storage	12 V 36 Ahr. battery system
	Replaceable, recyclable, sealed, maintenance-free, best-in-class AGM batteries offer the widest temperature range and longest life
	Battery design life: +5 yrs.
	Tool-less battery change with quick connect terminals and strapping for easy installation
Cabinet Construction	Weatherproof, gasketed enclosure with vents for ambient air transfer (NEMA 3R)
	Lockable, hinged lid for access to on-board user interface and batteries
	Corrosion-resistant aluminum with stainless steel hardware
	Raw aluminum finish or yellow, black, or green powder coated
	Prewired to minimize installation time
	High-efficiency optics and EMS = the most compact, lightweight system
Environmental	-35 to 165° F (-37 to 74° C) system operating temperature
	-40 to 140° F (-40 to 60° C) battery operating temperature
	150 mph (241 kph) wind speed as per AASHTO LTS-6
Activation	Push button: ADA-compliant, piezo-driven with visual LED and two-tone audible confirmation
	Audible push button station: ADA-compliant, piezo-driven with visual LED and customizable voice message confirmation
	Passive activation: microwave-based sensor detects pedestrian
Warranty	5-year limited warranty, 1-year limited on batteries

Specifications subject to local environmental conditions, and may be subject to change.

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