



# CAMRAY® LED SERIES

Die-Cast aluminum  
LED Emergency Lighting – Interior or Exterior Capable  
Nickel-Metal Hydride battery

## FEATURES

### Housing

#### Indoor/outdoor suitable for wet location

- Die-Cast aluminum housing
- Clear, High Impact, UV- Resistant (3" x 1.5") polycarbonate lens
- Four colors are available: off white, black, platinum gray and dark bronze

### Mounting

- Wall Mount
- 1/2" rigid conduit entry provision on the top of the unit
- Universal knock-outs to mount to any standard 4" junction box
- Patent-pending design for easy installation: wall-mount back-plate includes electrical wire box with snap-on connector

### Lamp Type

- Patent-pending light engine: four power LEDs with redundant connections and very wide beam
- 400-640 Lumens
- Color temperature: 5000K
- Optional forward-throw light distribution, for applications of outdoor Exit discharge (OSHA 1910.36)
- Optional high-lumen output: increase 25-50% additional level of illumination
- Optional dual-mode operation: normal and emergency LED lighting with separate AC inputs

### Electronics

- Automatic, temperature compensated
- High capacity, automatic, dust-tight instantaneous transfer relay
- Low voltage disconnect prevents over discharge of battery
- Automatic brownout protection is provided
- Battery lock-out prevents battery discharge during installation
- Run time 90 minutes
- Fused output circuit

### Improved Diagnostics

- Nickel-Metal Hydride battery units are standard with Improved Diagnostics shall self-test, by simulating a power failure, in accordance with NFPA101, Life Safety Code minimum 1 minute every 30 days, 30 minutes every 6 months and 90 minutes annually. For complete information refer to page 8.

### Controls

- Integrated test button and LED optical pipe pilot light
- Optional photo-switch: dusk-to-dawn control of normal lighting
- Optional remote test: infrared remote control (keyboard ordered separately)
- Optional time delay: choice of 5, 10 or 15 minutes

### Sealed Maintenance-Free Battery

- High-Temperature Rated, Nickel-Metal Hydride technology battery

### Approval

- UL 924 Standards for wet, cold and Damp locations
- Nema-3R rated for indoor/outdoors cold-weather wet and Damp locations: -20... 40°C (-4... 104°F)

### Warranty (subject to proper installation and maintenance)

- Unit has a five year limited warranty (excluding lamps and fuses)<sup>1</sup>
- Nickel-Metal Hydride battery has a five year full, plus five year pro-rata warranty

<sup>1</sup> For LED lamps warranty, refer to page 168 paragraph 3.2

## SPECIFICATIONS

Supply and install the **Camray®** Series of LED emergency lighting unit from **Lightalarms®**. The unit body shall include a back-plate and housing made of Die-Cast aluminum with paint finish color of white, black, platinum gray or dark bronze and a UV- and impact-resistant polycarbonate lens of size: 3" by 1.5". The back-plate shall have knockouts for wires and wall-mount installation box as well as a threaded hole for rigid conduit entry at the top of the unit. The back-plate shall have a built-in electrical box with wire terminals and snap-on connector. After complete electrical installation of the back-plate the equipment housing shall be installed by a simple push & snap over the back-plate.

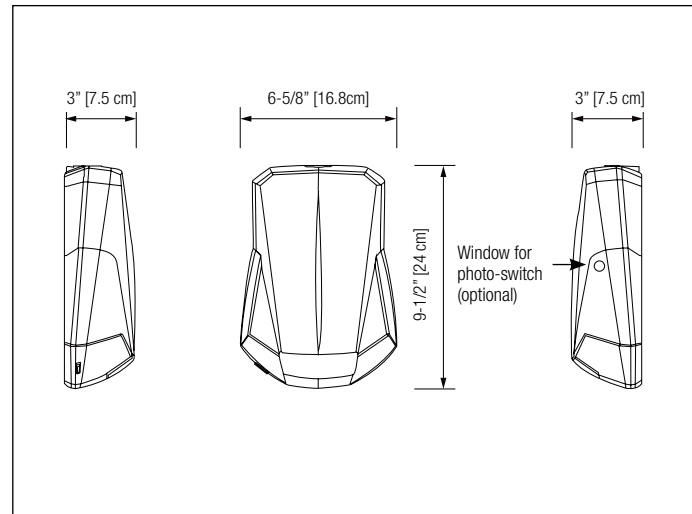
The emergency lights shall be 4 (four) power-light-emitting diodes (LED) with operational life of minimum 36,000 hours, until 70% of the initial light level (L70). The LED lamps shall have redundant interconnections: eventual failure of one lamp shall allow other LED lamps to function. The unit shall have a dual-voltage input rated: 120/277VAC, 60Hz. The battery charger shall include low voltage disconnect to prevent deep discharge, battery lockout to prevent battery drain prior to energizing the utility power, and brownout protection which will automatically switch unit into emergency mode if the utility power falls below 80% of nominal level. The unit with Nickel-Metal Hydride battery shall be equipped with a micro-controller-based non-audible Improved Diagnostic circuit. The unit shall self-test for one minute every month, 30 minutes every six months and 90 minutes annually. The pilot light shall be integrated with the test button; it shall be a bi-color LED and shall change color from normal green to flashing red when a failure is detected from the battery, charger circuit or lamps. A label located near the pilot light shall describe the diagnostic for each flashing code.

When specified, models with dual-mode illumination shall include two separate AC input circuits: for emergency lighting and for normal lighting. When specified, models equipped with photo-switch shall automatically activate the lights only from dusk till dawn, for additional energy savings. The typical ambient illumination for the photo-switch shall be: one foot-candle (to turn-on) and three foot-candles (to turn-off). The unit shall be UL Listed to the UL924 Standard for wet and Damp locations.

Unit shall be **Lightalarms®** catalog number \_\_\_\_\_.

## DIMENSIONS

Dimensions are approximate and subject to change.



**LED LIGHT SOURCE NORMALLY-ON AND EMERGENCY BACK-UP**



TYPE \_\_\_\_\_

CATALOG # \_\_\_\_\_

NOTES \_\_\_\_\_

Performance, low-profile, modern slim look emergency unit with optional dual mode normally-on and photo-cell activated models



**PHOTOMETRY PERFORMANCE**

Whether installed indoors or outdoors, with spacing measurements for a single unit or between two units center-to-center, the Camray® Series LED delivers a stable and consistent illumination making it easy to specify in a wide range of applications. The outstanding spacing of illumination ranges from 50 to 70 feet for standard units (wide beam) and from 40 to 50 feet with the forward-throw beam option.

**AVERAGE OF 1 FOOT-CANDLE**

TABLE A: SPACING FOR NFPA101 (AVERAGE = 1FC, SEE NOTE)

MODEL TYPE	MOUNTING HEIGHT	LUMEN	COLOR TEMPERATURE	WIDTH X LENGTH (FT)	
				SINGLE UNIT	CENTER-TO-CENTER
Standard	9'	400	5000K	6' X 50'	6' X 50'
With option -H	11'	550		6' X 60'	6' X 60'
					3' X 70'
With option -FT	12'	460		6' X 40'	—
With option -FTH	15'	640		6' X 50'	—

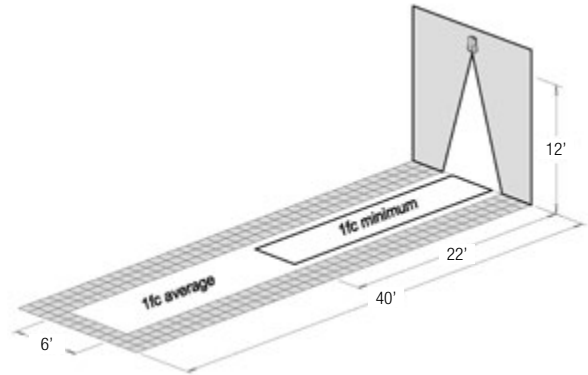
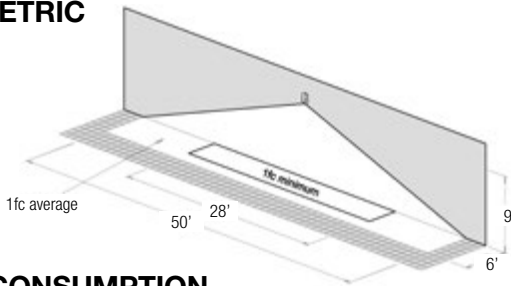
**MINIMUM OF 1 FOOT-CANDLE**

TABLE B: SPACING FOR MINIMUM ILLUMINATION = 1FC

MODEL TYPE	MOUNTING HEIGHT	LUMEN	COLOR TEMPERATURE	WIDTH X LENGTH (FT)	
				SINGLE UNIT	CENTER-TO-CENTER
Standard	9'	400	5000K	4' x 28'	4' x 32'
With option -H	11'	550		4' x 32'	4' x 40'
With option -FT	12'	460		4' x 22'	—
With option -FTH	15'	640		4' x 27'	—

Indoor reflectance: 80/50/20 and 10-ft wide corridor. Outdoor reflectance: 0/30/10  
 Note: The illumination level meets ALL the requirements of the Life Safety Code (NFPA 101):  
 1) Average of 1 foot-candle or more  
 2) Minimum at any point of 0.1 foot-candle or more  
 3) Maximum-to-minimum illumination uniformity ratio of 40:1 or less

**PHOTOMETRIC**



**POWER CONSUMPTION**

MODEL	AC INPUT(S): 120/277VAC				DC INPUT
	NORMAL LIGHTING		EMERGENCY LIGHTING		6-12V <sup>1</sup>
	CURRENT (MAX)	POWER (MAX.)	CURRENT (MAX)	POWER (MAX.)	POWER (MAX.)
AC, 2AC, ACDC, DC	0.12/0.08A	12W	0.11/0.08A	12W	8W
All above, -H	0.18/0.11A	18W	0.18/0.11A	18W	14W (6VDC only)
ACSD, SD, SD-H	0.12/0.06A	12W	0.05/0.02A	5W	N/A <sup>1</sup>
SD-CW	—	—	0.15/0.07A	16W	
ACSD-CW-P, -FT	N/A <sup>1</sup>		0.22/0.10A	24W	

<sup>1</sup> Note: Only unswitched AC input; normal lighting with photo-switch or remote control

**ORDERING FORMAT - BATTERY UNIT**

SERIES	MODEL	COLOR	OPTIONS
CAM= Camray LED	<b>Nickel-Metal Hydride Battery Units (standard with Self-Diagnostics)</b> SD= Self-Powered & Self-Diagnostic (-4°F + 122°F)(-20°C + 50°C) ACSD= Dual-Mode AC/Self-Powered (-4°F + 104°F) (-20°C + 40°C)	B= Black DB= Dark bronze OW= Off white PG= Platinum gray	-CW= Cold weather (-40°F - 86°F) (-40°C - 30°C); not available with option -H -FT= Forward throw lighting -H= High lumen output (32... 86°F / 0... 30°C; model SD only) -P= Photo-switch, (model models ACSD only) -T1= Time delay: 5 minutes (models ACSD, SD only) -T2= Time delay: 10 minutes (models ACSD, SD only) -T3= Time delay: 15 minutes (models ACSD, SD only) -RC= Remote control - infrared <sup>1</sup>

<sup>1</sup> For ACSD Model only, with -RC option, order the remote control keypad (TB-RC1-L) separately

EXAMPLE: CAMSDOW-RC

**ORDERING FORMAT - REMOTE FIXTURE**

SERIES	MODEL	COLOR	OPTIONS
CAM= Camray LED	AC= AC-Only (-40°F + 122°F) (-40°C + 50°C) 120/277V 2AC= AC-Only two Circuit 120/120V or 277/277V (-40°F + 122°F) (-40°C + 50°C) ACDC= AC/6-12VDC (-40°F + 122°F) (-40°C + 50°C) DC= 6-12VDC Only (-40°F + 122°F) (-40°C + 50°C)	B= Black DB= Dark bronze OW= Off white PG= Platinum gray	-FT= Forward throw lighting -H= High lumen output (maximum 86°F/30°C); not available ACSD -P= Photo-switch, (model models AC, AC/DC only) -RC= Remote control - infrared <sup>1</sup>

<sup>1</sup> With -RC option, order the remote control keypad (TB-RC1-L) separately

EXAMPLE: CAMACOW-RC