

SOLID STATE LIGHTING

RAZAR BOLLARD-LED

PROJECT NAME: _____

FIXTURE TYPE: _____

FEATURES

Optical Housing

Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance $\leq \pm .003"$) to facilitate thermal transfer of heat to housing and cooling fins. Minimum wall thickness is .188".

Shaft & Base

Extruded aluminum (6061-T6 alloy) riser welded to heavy cast aluminum (A356 alloy; <0.2% copper) base. Riser has minimum wall thickness of .188". Electrical assembly including LED mains driver, LED Emergency driver (optional LED-EM) with batteries, and quick connectors suspended inside riser. Concealed bolts attach the Optical Housing bolts to Riser.

Anchor Bolts

Four 3/8" x 10" x 2" galvanized anchor bolts with couplings, leveling nuts, washers, template, and stainless bolts.

PLED™ Optical Modules

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. The asymmetric distributions have a micro-reflector inside the refractor that re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. All refractors in a Panel have the same optical pattern. LED refractors produce standard site/area distributions - Type II, and Type IV. Panels are field replaceable and field rotatable in 90° increments.

LED Driver(s)

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz. (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

LED Emitters

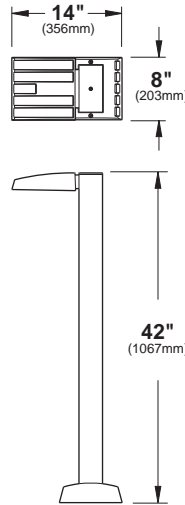
High output LED's are utilized with drive currents ranging from 175mA to 350mA. 70CRI Minimum. LED's are available in standard Neutral White (4000K), or optional Cool White (5000K) or Warm White (3000K). Consult Factory for other LED options.

Amber LED's

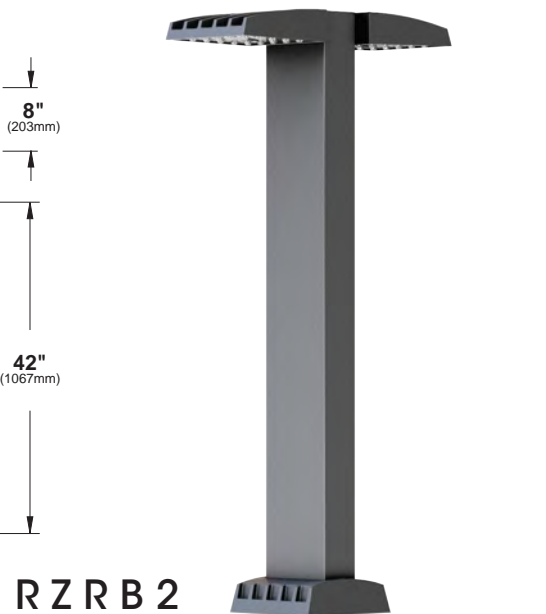
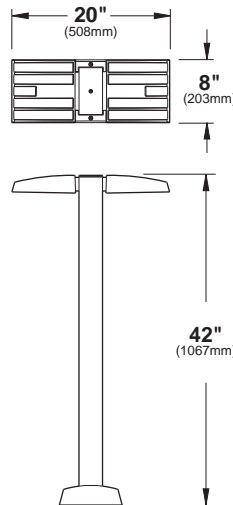
PCA (Phosphor Converted Amber) LED's utilize phosphors to create color output similar to LPS lamps and have a slight output in the blue spectral bandwidth. TRA (True Amber) LED's utilize material that emits light in the amber spectral bandwidth only without the use of phosphors.

Finish

Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.



RZR B1



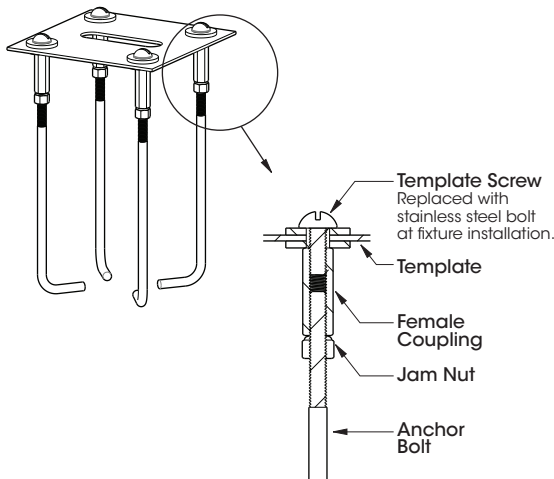
RZR B2



RAZAR BOLLARD SERIES - LED

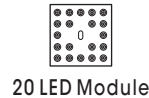
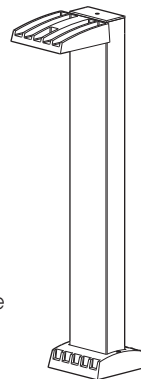
SPECIFICATIONS

ANCHOR BOLT ASSEMBLY

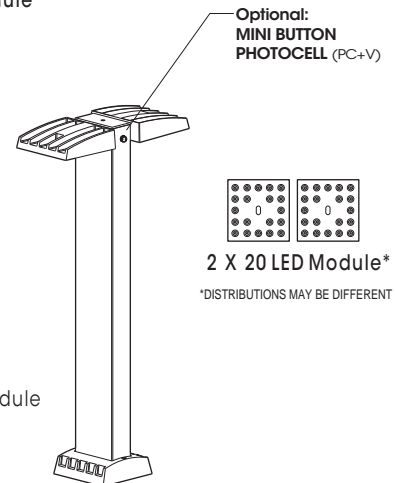


PLED® MODULES

RZRB1
Available in:
20 LED Module



RZRB2
Available in:
2 X 20 LED Module



OVERVIEW

Precise cast aluminum led module. Housing is vented to provide air flow for thermal management.

LED Driver accepts from 100-277 VAC input voltage.

ORDERING INFORMATION

Spec/Order Example: RZRB1/PLED-IV/20LED-350mA/CW/277/RAL-8019-S/DF

Model	Optics	LED Mode			Finish	Options
Model	Optics	LED			Finish	Options
<input type="checkbox"/> RZRB1	PLED™ Distribution Type <input type="checkbox"/> PLED-II <input type="checkbox"/> PLED-II-FR <input type="checkbox"/> RZRB2	# of LEDs RZRB1 ¹ <input type="checkbox"/> 20LED RZRB2 <input type="checkbox"/> 40LED	Drive Current <input type="checkbox"/> 175mA ¹ <input type="checkbox"/> 350mA	Color Temp - CCT <input type="checkbox"/> NW (4000K)* *Standard <input type="checkbox"/> CW (5000K) <input type="checkbox"/> WW (3000K) Other LED colors available consult factory Voltage <input type="checkbox"/> 120 <input type="checkbox"/> 208 <input type="checkbox"/> 240 <input type="checkbox"/> 277 <input type="checkbox"/> 347 <input type="checkbox"/> 480	Standard Textured Finish <input type="checkbox"/> Black RAL-9005-T <input type="checkbox"/> White RAL-9003-T <input type="checkbox"/> Grey RAL-7004-T <input type="checkbox"/> Dark Bronze RAL-8019-T <input type="checkbox"/> Green RAL-6005-T Premium Finishes <input type="checkbox"/> Rust <input type="checkbox"/> Patina Copper PC For smooth finish replace suffix "T" with suffix "S" (Example: RAL-9500-S) Consult factor for custom colors	<input type="checkbox"/> House Side Shield HS-PLED <input type="checkbox"/> High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) HLSW <input type="checkbox"/> Photocell + Voltage (Example: PC120V) PC+V <input type="checkbox"/> Single Fuse (Example: DF277V) SF+V <input type="checkbox"/> Double Fuse (Example: DF240V) DF+V <input type="checkbox"/> Emergency Backup EM-RZRB The EM-LED System provides power to the LED Array to meet the following light levels for a minimum of 90 minutes: RZRB1 = 90% @ 175mA RZRB1 = 45% @ 350mA RZRB2 = 50% @ 175mA RZRB2 = 36% @ 350mA *Multiply the % above by the lumen output @ 350mA Optional Heights: <input type="checkbox"/> 30" <input type="checkbox"/> 36"
<input type="checkbox"/> RZRB2	<input type="checkbox"/> PLED-III <input type="checkbox"/> PLED-III-W <input type="checkbox"/> PLED-IV <input type="checkbox"/> PLED-IV-FT					

Notes:
1 - Dimming not available in RZRB1 at 175mA drive current.
2 - Narrow band ambers have no definable CCT equivalent

RAZAR BOLLARD-LED

LAMP/ELECTRICAL GUIDE

LED COUNT	SOURCE TYPE	SOURCE	INITIAL LUMENS - 4000K	INITIAL LUMENS - 3000K	INITIAL LUMENS - 5000K	L70 GREATER THAN (HR)	STARTING TEMP.	SYSTEM WATTS	VOLTS	MAX INPUT AMPS
20	LED	20 PLED® Optical Module - 175mA	1,401 - 1,404	1,226 - 1,229	1,434 - 1,438	60,000+	-20°F	12	120 277	0.24 0.10
20	LED	20 PLED® Optical Module - 350mA	2,501 - 2,508	2,190 - 2,196	2,561 - 2,568	60,000+	-20°F	22	120 277	0.34 0.15
40	LED	40 PLED® Optical Module - 175mA	2,801 - 2,808	2,452 - 2,459	2,561 - 2,568	60,000+	-20°F	22	120 277	0.38 0.17
40	LED	40 PLED® Optical Module - 350mA	5,002 - 5,015	4,379 - 4,391	5,122 - 5,136	60,000+	-20°F	44	120 277	0.38 0.17

NOTES:

1. Max Input Amps is the highest of starting, operating, or open circuit currents
2. Lumen values for LED Modules vary according to the distribution type
3. System Watts includes the source watts and all driver components.
4. Fuse value should be sufficient to protect all wiring components. For electronic driver and LED component protection, use 10KV - 20KV surge suppressors.
5. L70(10K) - TM-21 6x rule applied

WARNING: All fixtures must be installed in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.