



Project: _____

Location: _____

Cat.No: _____

Type: _____

Lamps: _____ Qty: _____

Notes: _____

Retrofitting Hadco Refractive Globe post top luminaires with the LumiLock LED engine GX4 will beautify and add a sense of security to your outdoor space. Hadco's LumiLock LED engine GX4 is an ideal alternative to HID sources and will provide significant energy savings and sustainability rewards. This is a quick and simple retrofit solution that ensures you maintain excellent light levels. Refractive Globe luminaires with LumiLock LED GX4 offer two optical distributions and a flexible range of style choices to suit any application.

Ordering guide

example: **RPTLD 32 S R7 W A 2 N N N SP2**

Series	Model	Optic	Future Proof Photo Control	Color Temperature	Voltage	Drive Current
RPTLD ¹ Replacement LED Engine	32 ² Narrow Body Type 3	S Short	R5 ^{4,5} 5 pin receptacle on the engine	W 3000K	A 120-277 VAC	2 ⁸ 200mA
	52 ² Narrow Body Type 5	W Wide	R7 ^{4,5} 7 pin receptacle on the engine	N 4000K	B 347-480 VAC	3 350mA
	34 ³ Wide Body Type 3		N None			4 ⁸ 450mA
	54 ³ Wide Body Type 5					5 530mA

Optional programs

Integral Control Options	Option 1	Option 2	Option 3	Surge Protection
<i>Dynadimmer</i> ^{6,9} DA 4 Hrs 25% Reduction DB 4 Hrs 50% Reduction DC 4 Hrs 75% Reduction DD 6 Hrs 25% Reduction DE 6 Hrs 50% Reduction DF 6 Hrs 75% Reduction DG 8 Hrs 25% Reduction DH 8 Hrs 50% Reduction DJ 8 Hrs 75% Reduction DL ⁶ DALI S ¹⁰ FAWS Switch N None	AST ⁶ Adjustable start up time N None	CLO ⁶ Constant Light Output N None	OTL ⁶ Over The Life N None	SP1 10kV/10kA Surge Protector SP2 ⁷ 20kV/20kA Surge Protector

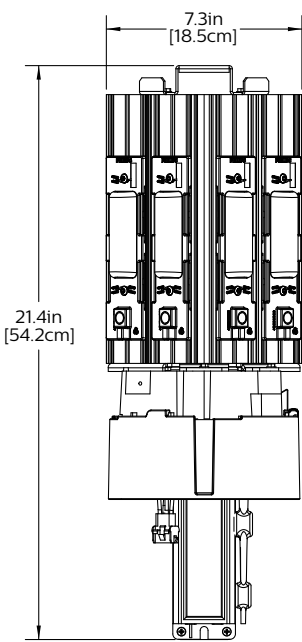
1 Use RPTLD Engine with R52, R34, R54 and C52 Philips Hadco Products.
 2 Not available with F or J pods.
 3 Not available with C, D, F,G or J pods.
 4 Use of shorting cap is required to ensure proper illumination. When R5 or R7 options are selected, products will ship with shorting cap installed.
 5 Only compatible with A & B clear roofs. Not available with driver currents 4 or 5. RPTLD 34 and 54 with S optics only compatible with A Clear roof.
 6 Optional Dynadimmer dimming schedules, DALI, AST, CLO and OTL not available with 347-480 VAC.

7 When SP2 option is selected, luminaire will be fitted with SP2 instead of SP1.
 8 Not available with B 347-480 voltage.
 9 Not available with R5 or R7.
 10 FAWS not available with CLO.

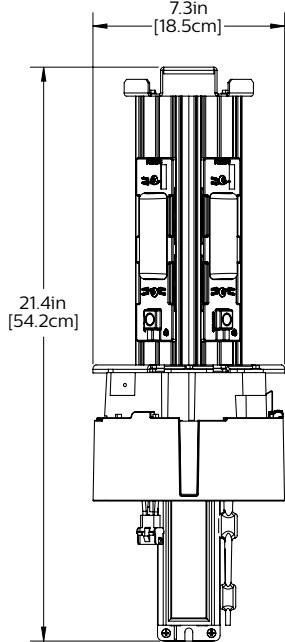


RPTLD Lumilock LED engine GX4

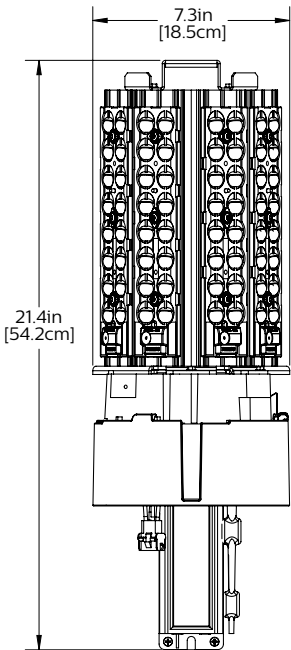
Dimensions



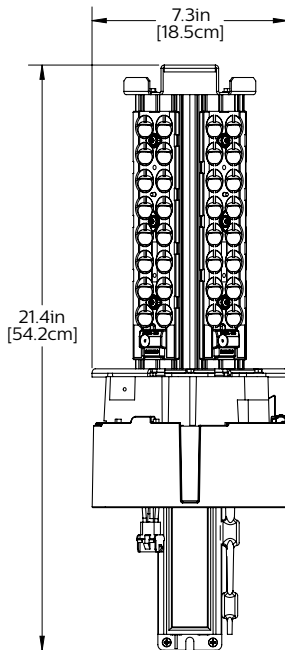
RPTLD RL3x W



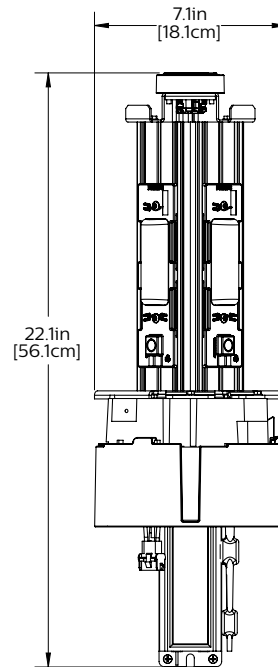
RPTLD RL5x W



RPTLD RL3x S



RPTLD RL5x S



RPTLD RL5x W Rx

RPTLD Lumilock LED engine GX4

Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours.

Driver mA	Optic	Ambient Temperature °C	Calculated L ₇₀ Hours	L ₇₀ per TM-21 (Hours)	Lumen Maintenance % at 60,000 or 54,000 hrs
530	Wide	25	>85,000	>60,000 hours	>88%
530	Short	25	>100,000	>54,000 hours	>98%
450	Wide	25	>100,000	>60,000 hours	>93%
450	Short	25	>100,000	>54,000 hours	>98%
350	Wide	25	>100,000	>60,000 hours	>94%
350	Short	25	>100,000	>54,000 hours	>98%
200	Wide	25	>100,000	>60,000 hours	>94%
200	Short	25	>100,000	>54,000 hours	>98%

Field Adjustable Wattage (FAWS) Multiplier Chart

All 350, 450, and 530 mA Configurations

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage and typical current
1	0.30	0.28
2	0.53	0.48
3	0.62	0.56
4	0.73	0.67
5	0.78	0.73
6	0.83	0.78
7	0.87	0.85
8	0.91	0.89
9	0.95	0.93
10	1.00	1.00

All 200mA Configurations

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage and typical current
1	0.30	0.35
2	0.50	0.55
3	0.59	0.62
4	0.69	0.72
5	0.77	0.80
6	0.83	0.85
7	0.88	0.90
8	0.93	0.92
9	0.96	0.97
10	1.00	1.00

Specifications

Light Engine

GX4 is composed of four main components: Heat Sink, LED, Optical System, and Driver. Electrical components are RoHS compliant.

Entire luminaire is rated for operation in ambient temperature of -40°C / -40°F up to +40°C / +104°F. B Voltage configurations rated for operation in ambient temperature of -40°C / -40°F up to +35°C / +95°F.

LED & Optics

Composed of 64 high power LEDs. LED board substrate is MCPCB (Metal Core Printed Circuit Board), designed to minimize thermal resistance from LED junction to heat sinks. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K+/275K or 3710K to 4260K) or Warm White, 3000 Kelvin nominal (3045K +/- 175K or 2870K to 3220K), CRI 70 Min. 75 Typical.

(W) Wide and (S) Short Optic choices are available. Both optics are made of optical grade PC and have been optimized to achieve maximum spacing, target lumens, and a superior lighting uniformity.

Wide Optics – Superior performance and light level uniformity for applications where typical pole spacing is approximately six times mounting height of luminaire.

Short Optics – Superior performance and light level uniformity for applications where typical pole spacing is approximately five times mounting height of luminaire. Provides higher illumination levels under pole area, ideal for increased security and applications requiring superior facial recognition.

Type 3 and Type 5 distribution choices are available.

LEDs and optics (S) Short or (W) Wide form an IP66 light engine to ensure complete environmental protection against water and dust ingress and corrosion, critical to long term LED reliability. All wiring is full copper, with 105C rated insulation.

Heat sink

LED Engine construction consists of four 6063-T5 aluminum heat sinks, clear anodized to MIL-A-8625 specifications for excellent corrosion resistance and surface finish. Fin spacing has been optimized for maximum convective heat transfer under natural convection conditions, maximizing LED life and efficiency. Heat sinks provide greater than 700 sq. in. of convective surface area total, ensuring proper junction temperature control, lumen maintenance, and system reliability. Extruded heatsinks meet or exceed tolerances as specified by AEC (Aluminum Extruders Council) standards and have been designed to provide superior surface flatness, ensuring excellent contact between heatsinks and LEDs. Product does not use any cooling device with moving parts (passive cooling only).

Heat sinks are secured using galvanized steel brackets and to provide additional corrosion resistance.

RPTLD Lumilock LED engine GX4

Specification (continued)

Driver

Driver comes standard with 0-10V dimming capability. High power factor of 95%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. Driver operating ambient temperature range is -40F (-40C) to +130F (+55C). Certified in compliance to UL1310 cULus requirement (dry and damp location). Assembled on a LumiLock twistlock removable cover with quick disconnect plug resisting to 221°F (105°C). The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

Driver Options

AST: Pre-set driver for progressive start-up of the LED module(s) to optimize energy management and enhance visual comfort at start-up.

CLO: Pre-set driver to manage the lumen depreciation by adjusting the power given to the LEDs offering the same lighting intensity during the entire lifespan of the LED module.

OTL: Pre-set driver to signal end of life of the LED module(s) for better fixture management.

Dimming Options

DA: 4 Hrs 25% Reduction

DB: 4 Hrs 50% Reduction

DC: 4 Hrs 75% Reduction

DD: 6 Hrs 25% Reduction

DE: 6 Hrs 50% Reduction

DF: 6 Hrs 75% Reduction

DG: 8 Hrs 25% Reduction

DH: 8 Hrs 50% Reduction

DJ: 8 Hrs 75% Reduction

DALI: Pre-set driver compatible with DALI logarithmic control system.

FAWS

Field Adjustable Wattage Selector, pre set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level – see the FAWS multiplier chart for more details.

Note: It is not recommended to use FAWS with other dimming or controls; if you do, set the switch to position 10 (maximum output) to enable the other dimming or controls. Switching FAWS to any position other than 10 will disable the other dimming or controls.

Future Proof Photo Control Options

R5 - Receptacle with 5 pins enabling dimming. Can be used with a twist lock node, photoelectric cell or a shorting cap. Will ship with a shorting cap installed for this product. Remove shorting cap when you are ready to install your node.

R7 - Receptacle with 7 pins enabling dimming and additional functionality (to be determined), can be used with a twist lock node, photoelectric cell or a shorting cap. Will ship with a shorting cap installed for this product. Remove shorting cap when you are ready to install your node.

Surge Protection

Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA. Option for SP2 20kV/20kA.

Luminaire Useful Life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, using LM-80 data from LED manufacturers and engineering prediction methods, the luminaire useful life is expected to reach 100,000+ hours with

>L70 lumen maintenance @ 25°C. 530mA configurations with short optics expected to reach 95,000+ hours with >L70 lumen maintenance @ 25C. 530mA configurations with wide optics expected to reach >75,000 hours with >L70 lumen maintenance @ 25C. Luminaire useful life accounts for LED lumen maintenance and additional factors, including LED life, driver life, PCB substrate, solder joints on/off cycles and burning hours for nominal applications. Lifetime statements do not include the use of controls, including networked controllers.

LED products manufacturing standard

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340 5 1 and ANSI/ ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

Quality Control

The manufacturer must provide a written confirmation of its ISO 9001 2008 and ISO 14001 2004 International Quality Standards Certification.

Vibration Resistance

Meets the ANSI C136.31 2001, American National Standard for Roadway Luminaire Vibration specifications for Normal Applications.

Certifications and Compliance

ccETL listed to Canadian safety standards for wet locations. Manufactured to ISO 9001:2008 Standards. UL8750 and UL1598 compliant. ETL listed to U.S. safety standards for wet locations. LM80 & LM79 tested. LED Engine and Luminaires are Design Lights Consortium qualified.

IP Rating: The LED engine is IP66 rated. The LED driver is IP66 rated.

Warranty

5 year extended warranty.

