

Lumec **RX1** is the perfect LED solution for roadway lighting and is the ideal luminaire for both new and retrofit installations. The performance, energy savings, and uniformity of this luminaire allow for it to be a one to one replacement for standard HID cobra-head style luminaires.

Project: _____

Location: _____

Cat.No: _____

Type: _____

Lamps: _____ Qty: _____

Notes: _____

Ordering guide

example: RX1-64-G2-A-3-N-A-7-RCD-PHXL-DMG-SP2-H

Luminaire	LED Module	Finish	Optical System	Color temp. (CCT) ²	Voltage	Drive current	Twist-Lock Receptacle	Luminaire Options	Driver and Dimming	Surge Protection	Luminaire Accessories
RX1				N							
RX1 RX1 small	16-G2⁴ or 32-G2 or 48-G2 or 64-G2	A Black finish B White finish H Bronze finish I Gray finish	2 Type II 3 Type III 4 Type IV 5 Type V	N 4000K	A 120-277VAC: 16 LED 32 LED 48 LED 64 LED B 347-480VAC: 32 LED 48 LED 64 LED	3 350mA 32 LED ^{1,2,4} 48 LED 64 LED 5 530mA 32 LED ^{1,2,4} 48 LED 64 LED 7 700mA 16 LED 32 LED 48 LED 64 LED 1 1050mA 16 LED 32 LED	Standard: RCD^{13,7} Receptacle for twist-lock photocell or shorting cap, 5-pin (standard) Optional: RCD7^{3,7} Receptacle for twist-lock photocell or shorting cap, 7-pin (optional)	PH8³ Twist-lock Photoelectric Cell, A (120-277VAC) PH8/480³ Twist-lock Photoelectric Cell, B (480VAC) PHXL³ Twist-lock Photoelectric Cell, extended life, A (120-277VAC) PH9³ Shorting cap	Standard: DMG¹ Dimmable driver 0-10V Optional: Dynadimmer Economy mode DA^{*2,4,5} DB^{*2,4,5} DC^{*2,4,5} Median mode DD^{*2,4,5} DE^{*2,4,5} DF^{*2,4,5} Safety mode DG^{*2,4,5} DH^{*2,4,5} DJ^{*2,4,5} Custom dimming mode DZ^{*2,4,5} (Consult factory) ^{*Includes 0-10v dimming}	SP2⁶ 20kV / 20kA Surge Protector (optional)	N None - no accessory H House side shield, external, 1 per luminaire (field install)

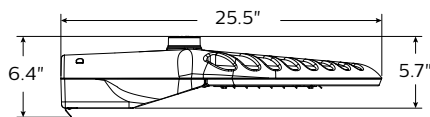
- Please note these integrated features come standard with RX1 luminaires. DMG not available with RX1-32-G2-x-x-x-3 or -5 which have non-dimming driver.
- Denotes Dynadimmer module option. A (120-277VAC) only - not available with B (347-480VAC). Also not available with RX1-32-G2-x-x-x-3 or -5 which have non-dimming driver.
- Use of photoelectric cell or shorting cap is required to ensure proper illumination.
- Not available with B (347-480VAC).
- Dimming choices: Select either 1 of the 9 Dynadimmer module DA-DJ options or DZ for Dynadimmer module Custom Dimming Profile (consult factory).
- When SP2 option is selected you will get SP2 instead of standard SP1.
- When RCD7 option is selected you will get 7-pin instead of standard RCD 5-pin.

RX1 LEDGINE, Cobrahead (small)

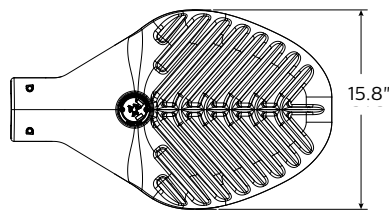
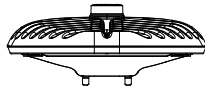
Roadway

Dimensions

Side View



Top View



Weight

19.5 lbs (8.8kg)

EPA

0.545 sq. ft. (0.051m²)

Specifications

Housing

The housing is constructed of low copper die-cast aluminum for a high resistance to corrosion, with a traditional cobra-head style, low profile and EPA. The housing is a unique thermal dissipating design with wide angular channels that allow for natural removal of dirt and debris. Two tool-less clips allow for access to the driver and wiring compartment; the hinged door opens downward and is removable for serviceability and upgradability, and it includes a safety feature to prevent accidental disengagement.

Designed with slip-fitter capable of mounting to a 1.5" to 2.5" O.D. or 1.25" to 2" NPS horizontal tenon or arm (minimum 6" long). Integral cast-in stop. A bubble level is built in as well as mounting steps that allow for a +5° to -5° tilt in 2.5° increments. Single clamp mounting system (NOTE: can be modified for two clamps - consult factory). Mounting clamps are made of HSLA steel and are zinc plated. Tenon guard protects against birds and similar intruders. ANSI label to identify wattage and source included in box.

Light Engine

Composed of 4 main components: LED Module / Optical System / Heat Sink / Driver.

LED Module: Composed of high performance white LEDs. Color temperature as per ANSI bin neutral white, 4000 Kelvin nominal (3985K +/- 275K), CRI 70 Min. 75 Typical.

Optical System: Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. Tempered glass lens with gasketed lens frame (lens gasket robotically applied) achieves IP66 rating. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Dark Sky compliant with 0% uplight and U0 per IESNA TM-15.

Heat Sink: Built in the housing, designed to ensure high efficacy and superior cooling by natural vertical convection air flow pattern always close to LEDs and driver optimising their efficiency and life. Product does not use any cooling device with moving parts (only passive cooling). Wide openings enable natural cleaning and removal of dirt and debris. Entire luminaire is rated for operation in ambient temperature of -40°C / -40°F up to +40°C / +104°F.

Driver: High power factor of 90% min. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 or 347 to 480 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max.

DMG: Dimming compatible 0-10 volts. 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).

Integrated Features

Note: RX1 and RX2 LED Cobra Head luminaires will be shipped controls ready with 0-10V dimming driver and 5-pin receptacle standard (or select 7-pin receptacle option). Contact your local Sales Representative for more information and for help with putting together the entire system solution.

DMG: Dimmable driver 0-10V.

RCD*: Receptacle with 5 pins enabling dimming, can be used with a twist lock control node or photoelectric cell or a shorting cap.

SP1: Surge protection device 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 DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA.

Please note that these integrated features always come with RX1 and RX2 luminaires.

** Use of photoelectric cell or shorting cap is required to ensure proper illumination.*

Driver and Luminaire Options

Safety mode:

DA: 4 hours, 25% power dimming
DB: 4 hours 50% power dimming
DC: 4 hours 75% power dimming

Median mode:

DD: 6 hours 25% power dimming
DE: 6 hours 50% power dimming
DF: 6 hours 75% power dimming

Economy mode:

DG: 8 hours 25% power dimming
DH: 8 hours 50% power dimming
DJ: 8 hours 75% power dimming

Custom dimming mode:

DZ: (consult factory)

SP2: 20kV / 20kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

RCD7*: Receptacle with 7 pins enabling dimming and additional functionality (to be determined), can be used with a twist lock control node or photoelectric cell or a shorting cap.

Please note: Additional hardware will be required to utilize the additional 2 pins on this receptacle.

PH8*: Twist-lock Photoelectric Cell, A (120-277VAC).

PH8/480*: Twist-lock Photoelectric Cell, B (480VAC).

PHXL*: Twist-lock Photoelectric Cell, extended life, A (120-277VAC).

PH9*: Shorting cap.

** Use of photoelectric cell or shorting cap is required to ensure proper illumination.*

Luminaire Accessory

HS: House side shield, external, 1 per luminaire (field installed).

RX1 LEDGINE, Cobrahead (small)

Roadway

Specifications (continued)

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, System Reliability Tool, driver data and LED LM-80/TM-21 data, expected to reach 100,000 + hours with >L₇₀ lumen maintenance @ 25°C. Luminaire Useful Life accounts for LED lumen maintenance AND all of these additional factors including: LED life, driver life, PCB substrate, solder joints, on/off cycles, burning hours and corrosion.

Wiring

The connection of the luminaire is done using a terminal block connector 600V, 85A for use with #2-14 AWG. wires from the primary circuit, located inside the housing. Due to the inrush current that occurs with electronic drivers, recommend using a time-delay or slow blow fuse to avoid unnecessary and unwanted fuse blowing that can occur with fast acting fuses.

Hardware

All exposed screws shall be stainless steel for high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

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.

The RX1 and RX2 meet the ANSI C136.31, American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications. (Tested for 3G over 100,000 cycles by independent lab)

Certifications and Compliance

cULus Listed for Canada and USA. Luminaire meets DOE and MSSLC Model Specification for LED Roadway Luminaires. RX1 and RX2 LED Cobra Head luminaires are DesignLights Consortium qualified. Luminaire complies with or exceeds the following ANSI C136 standards: .2, .3, .10, .14, .15, .22, .25, .31, .37, .41.

Limited Warranty

10-year limited warranty. See [signify.com/warranties](https://www.signify.com/warranties) for details and restrictions.

Brackets/Arms

For brackets / arms available with this luminaire, see Lumec 3D for details.

Vibration Resistance

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

Ambient Temperature °C	Driver mA	Calculated L ₇₀ Hours	L ₇₀ per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1050 mA	>100,000 hours	>60,000 hours	>96%

RX1 LEDGINE, Cobrahead (small)

Roadway

LED light engine technical information (wattage and lumen values)

LED CRI = 70, CCT = 4000K nominal (3985K +/- 275K or 3710K to 4260K), System (LED + driver) rated life = 100,000 hrs¹

LED Module	Typical delivered lumens	Typical system wattage (W) ²	LED current (mA)	Typical System Current (A) @						Luminaire Efficacy Rating (Lm/W)	BUG rating
				120V	208V	240V	277V	347V	480V		
RX116-G2-2NA7	3,446	37	700	0.34	0.20	0.17	0.15	0.12	0.09	93	B1-U0-G1
RX116-G2-3NA7	3,311	37	700	0.35	0.20	0.17	0.15	0.12	0.09	89	B1-U0-G1
RX116-G2-4NA7	3,353	38	700	0.35	0.20	0.17	0.15	0.12	0.09	89	B1-U0-G1
RX116-G2-5NA7	3,187	37	700	0.34	0.20	0.17	0.15	0.12	0.09	87	B2-U0-G1
RX116-G2-2NA1	4,736	55	1050	0.51	0.29	0.26	0.22	0.18	0.13	86	B1-U0-G1
RX116-G2-3NA1	4,542	55	1050	0.51	0.29	0.26	0.22	0.18	0.13	82	B1-U0-G1
RX116-G2-4NA1	4,574	56	1050	0.51	0.30	0.26	0.22	0.18	0.13	82	B1-U0-G1
RX116-G2-5NA1	4,141	55	1050	0.51	0.29	0.25	0.22	0.17	0.13	76	B3-U0-G1
RX132-G2-2NA3	3,810	35	350	0.33	0.19	0.16	0.14	0.11	0.08	108	B1-U0-G1
RX132-G2-3NA3	3,684	36	350	0.33	0.19	0.16	0.14	0.11	0.08	104	B1-U0-G1
RX132-G2-4NA3	3,691	35	350	0.33	0.19	0.16	0.14	0.11	0.08	104	B1-U0-G1
RX132-G2-5NA3	3,597	35	350	0.33	0.19	0.16	0.14	0.11	0.08	102	B3-U0-G1
RX132-G2-2NA5	5,491	52	530	0.48	0.28	0.24	0.21	0.17	0.12	106	B1-U0-G1
RX132-G2-3NA5	5,177	52	530	0.48	0.28	0.24	0.21	0.17	0.12	100	B1-U0-G1
RX132-G2-4NA5	5,328	52	530	0.48	0.28	0.24	0.21	0.17	0.12	102	B1-U0-G2
RX132-G2-5NA5	5,192	52	530	0.48	0.28	0.24	0.21	0.17	0.12	100	B3-U0-G1
RX132-G2-2NA7	6,900	70	700	0.65	0.37	0.32	0.28	0.22	0.16	99	B2-U0-G1
RX132-G2-3NA7	6,706	70	700	0.65	0.37	0.32	0.28	0.22	0.16	96	B1-U0-G2
RX132-G2-4NA7	6,693	70	700	0.65	0.37	0.32	0.28	0.22	0.16	96	B1-U0-G2
RX132-G2-5NA7	6,522	70	700	0.65	0.37	0.32	0.28	0.22	0.16	93	B3-U0-G2
RX132-G2-2NA1	9,339	108	1050	1.00	0.58	0.50	0.43	0.35	0.25	87	B2-U0-G2
RX132-G2-3NA1	9,022	108	1050	1.00	0.58	0.50	0.43	0.35	0.25	84	B2-U0-G2
RX132-G2-4NA1	9,149	108	1050	1.00	0.58	0.50	0.43	0.35	0.25	84	B2-U0-G2
RX132-G2-5NA1	8,915	108	1050	1.00	0.58	0.50	0.43	0.35	0.25	82	B4-U0-G2
RX148-G2-2NA3	5,599	53	350	0.49	0.29	0.25	0.21	0.17	0.12	105	B1-U0-G1
RX148-G2-3NA3	5,428	53	350	0.49	0.28	0.25	0.21	0.17	0.12	102	B1-U0-G1
RX148-G2-4NA3	5,419	54	350	0.50	0.29	0.25	0.21	0.17	0.12	101	B1-U0-G2
RX148-G2-5NA3	5,281	54	350	0.50	0.29	0.25	0.21	0.17	0.12	99	B3-U0-G1
RX148-G2-2NA5	8,183	79	530	0.73	0.42	0.37	0.32	0.25	0.18	104	B2-U0-G1
RX148-G2-3NA5	7,827	78	530	0.72	0.42	0.36	0.31	0.25	0.18	100	B1-U0-G2
RX148-G2-4NA5	7,810	79	530	0.73	0.42	0.36	0.31	0.25	0.18	99	B1-U0-G2
RX148-G2-5NA5	7,611	78	530	0.73	0.42	0.36	0.31	0.25	0.18	97	B3-U0-G2
RX148-G2-2NA7	10,143	103	700	0.95	0.55	0.48	0.41	0.33	0.24	99	B2-U0-G2
RX148-G2-3NA7	9,833	102	700	0.95	0.55	0.47	0.41	0.33	0.24	96	B2-U0-G2
RX148-G2-4NA7	9,825	103	700	0.95	0.55	0.48	0.41	0.33	0.24	96	B2-U0-G2
RX148-G2-5NA7	9,574	103	700	0.95	0.55	0.48	0.41	0.33	0.24	93	B4-U0-G2

1. L₇₀ = 100,000 hrs (at ambient temperature = 25°C)

2. System wattage includes the lamp and the LED driver

Note: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Signify. IES files with HS external house side shield option are also available – contact the factory.

RX1 LEDGINE, Cobrahead (small)

Roadway

LED light engine technical information (wattage and lumen values) *continued*

LED CRI = 70, CCT = 4000K nominal (3985K +/- 275K or 3710K to 4260K), System (LED + driver) rated life = 100,000 hrs¹

LED Module	Typical delivered lumens	Typical system wattage (W) ²	LED current (mA)	Typical System Current (A) @						Luminaire Efficacy Rating (Lm/W)	BUG rating
				120V	208V	240V	277V	347V	480V		
RX164-G2-2NA3	7,384	70	350	0.65	0.38	0.33	0.28	0.22	0.16	105	B2-U0-G1
RX164-G2-3NA3	7,240	70	350	0.65	0.38	0.33	0.28	0.22	0.16	103	B1-U0-G2
RX164-G2-4NA3	7,173	70	350	0.65	0.38	0.33	0.28	0.23	0.16	102	B1-U0-G2
RX164-G2-5NA3	6,990	70	350	0.65	0.38	0.33	0.28	0.22	0.16	100	B3-U0-G2
RX164-G2-2NA5	10,773	103	530	0.95	0.55	0.48	0.41	0.33	0.24	104	B2-U0-G2
RX164-G2-3NA5	10,440	103	530	0.95	0.55	0.48	0.41	0.33	0.24	101	B2-U0-G2
RX164-G2-4NA5	10,344	103	530	0.96	0.55	0.48	0.41	0.33	0.24	100	B2-U0-G2
RX164-G2-5NA5	10,080	103	530	0.95	0.55	0.48	0.41	0.33	0.24	98	B4-U0-G2
RX164-G2-2NA7	13,377	135	700	1.25	0.72	0.63	0.54	0.43	0.31	99	B3-U0-G2
RX164-G2-3NA7	13,115	135	700	1.25	0.72	0.63	0.54	0.43	0.31	97	B2-U0-G2
RX164-G2-4NA7	12,995	135	700	1.25	0.72	0.63	0.54	0.43	0.31	96	B2-U0-G2
RX164-G2-5NA7	12,664	135	700	1.25	0.72	0.63	0.54	0.43	0.31	94	B4-U0-G2

1. L₇₀ = 100,000 hrs (at ambient temperature = 25°C)

2. System wattage includes the lamp and the LED driver

Note: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Signify.
IES files with HS external house side shield option are also available – contact the factory.

