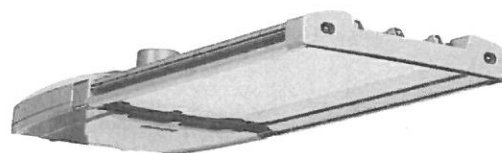
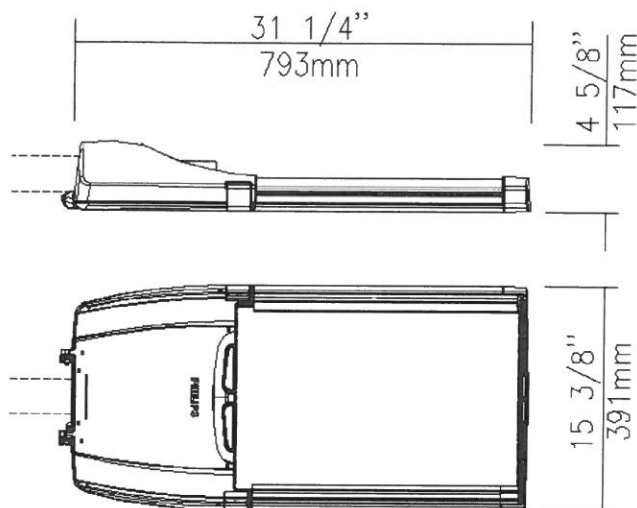




LEDGINE



EPA: 0.71 sq ft / weight: 33.9 lb (15.4 kg)

Note: 3D image may not represent color or option selected.  
Logos above include link, click to access.

Qty	1	Type	C
		Luminaire	RVM-160W96LED4K-R-LE3-UNIV-DMG-[API-008]-RCD7-GY3

### Description of Components:

**Housing:** Made of die cast A360 Aluminum alloy 0.090 (2.4mm) minimum thickness. Fits on a 1.66" (42mm) to 2 3/8" (60mm) OD by 6" (152mm) long tenon. Comes with an easy step adjustable reversible zinc plated clamping system with 4 hexagonal bolts 3/8 16 UNC for ease of maintenance and installation. The clamping system is pre-assembled for a 2 3/8" (60mm) diameter tenon. For a 1.66" (42mm) or 1.9" (48mm) diameter tenon the clamping system must be reversed by others. Permits an adjustment of +/- 5°. The housing is complete with a tool-free removable and secured power door avoiding accidental dropping giving access to electronics components and to a terminal block that accepts (#2 max.) wires from the primary circuit. A clearance of 13" (330mm) at the rear is required in order to remove the door.

**Light Engine: LEDgine** composed of 4 main components: **Heat Sink / LED lamp / Optical System / Driver**  
Electrical components are RoHS compliant.

**Heat Sink:** Made of 6063-T5 extruded aluminum optimising the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device). **Finish of extrusion will be clear anodized not painted.**

**Lens:** Made of soda-lime tempered glass lens, mechanically assembled and sealed onto the lower part of the heat sink.

**Lamp: LED Module (Included),** LED type Philips Lumileds LUXEON R. Composed of 96 high-performance white LEDs. Color temperature of 4000 Kelvin nominal, 70 CRI. Operating lifespan based on TM-21 extrapolation to get results after which 50% of LEDs still emits over 70% (L70) of its original lumen output. Use of metal core board ensures greater heat transfer and longer lifespan of the light engine. The LED circuit board is included with a quick disconnect wiring connection for ease of replacement.

**Optical System:** (LE3), IES type III (asymmetrical). Composed of high-performance optical grade PMMA acrylic refractor

lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. System is rated IP66. 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.

**End Cap:** Made of die cast A360.1 Aluminum alloy 0.100 (2.5mm) minimum thickness, mechanically assembled to the heat sink.

**Driver:** 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. Maximum ambient operating temperature from -40F(-40C) to 130F(55C) degrees. Certified in compliance to UL1310 cULus requirement. Dry and damp location. Assembled on a unitized removable tray with Tyco quick disconnect plug resisting to 221F(105C) degrees.

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: (DMG)**, Dimming compatible 0-10 volts. For applicable warranty, certification and operation guide see *"Philips Lumec dimmable luminaire specification document for unapproved device installed by other"*. To get document, click on this link: [Specification document](http://www.lumec.com/Lumec3DV2/PdfWebLink/Philips%20Lumec%20dimmable%20luminaire%20specification%20document%20for%20unapproved%20device%20installed%20by%20other.pdf) or go on web site on this address: <http://www.lumec.com/Lumec3DV2/PdfWebLink/Philips Lumec dimmable luminaire specification document for unapproved device installed by other.pdf>

**Surge Protector:** 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.

**Luminaire Options: [API-008] Two ANSI Pattern Indicator label; one to identify system wattage and LED source and a second one to identify the type C. (RCD7)**, Receptacle with 7 pins enabling dimming and with two extra connections for future use (these connections are capped off at the factory - requires connections to be made in the field), can be used with a twist-lock Starsense or photoelectric cell or a shorting cap. Use of photocell or shorting cap is required to ensure proper illumination.

Miscellaneous

Description of Components:

**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 10Amp fuse to avoid unwanted fuse blowing (false tripping) that can occur with normal or fast acting fuses.

**Hardware:** All exposed screws shall be complete with Ceramic primer-seal basecoat to reduce seizing of the parts and offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

**Finish:** Color to be **medium grey (GY3)** and in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with  $\pm 1$  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.

**Surface Finish:** *The above mentioned product has been specified in a smooth finish. We wish to inform you that we cannot guarantee a finish without imperfections (e.g. apparent grinding marks and porosity). We strongly recommend the use of a textured finish which provides better uniformity of surface finish. No return of merchandise showing above mentioned imperfection will be granted.*

**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:** The RVM meets the **ANSI C136.31**, American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications (Tested for 3G over 100 000 cycles by an independent lab).

The RVM meets the **California Test 611, Testing durability of mast arm mounted luminaires**, specifications (a 2 000 000 cycle test by an independent lab).

**Web site information details:** / [ISO 9001-2008 Certification](#) / [ISO 14001-2004 Certification](#)

## LED light engine technical information for RVM

LED = Philips Lumileds Luxeon R, CRI = 75, CCT = 4000K (+/- 350K)

System (LED + driver) rated life = 100,000 hrs<sup>1</sup>

Lamp	Typical delivered lumens	Typical system wattage <sup>2</sup> (W)	Typical current @ 120 V (A)	Typical current @ 208 V (A)	Typical current @ 240 V (A)	Typical current @ 277 V (A)	Typical current @ 347 V (A)	Typical current @ 480 V (A)	LED current (mA)	HID equivalent <sup>3</sup>	Luminaire Efficacy Rating (lm/W)	BUG rating
110W96LED4K-R-LE2	10532	105	0.77	0.44	0.45	0.43	0.33	0.26	350	200-250W	100.3	B2-U0-G2
110W96LED4K-R-LE3	10516	105	0.77	0.44	0.45	0.43	0.33	0.26	350	200-250W	100.2	B2-U0-G2
110W96LED4K-R-LE4	10242	105	0.77	0.44	0.45	0.43	0.33	0.26	350	200-250W	97.5	B2-U0-G2
110W96LED4K-R-LE5	9348	105	0.77	0.44	0.45	0.43	0.33	0.26	350	200-250W	89.0	B3-U0-G2
160W96LED4K-R-LE2	15219	160	1.26	0.72	0.67	0.62	0.48	0.36	530	250-320W	95.1	B3-U0-G2
160W96LED4K-R-LE3	15196	160	1.26	0.72	0.67	0.62	0.48	0.36	530	250-320W	95.0	B3-U0-G2
160W96LED4K-R-LE4	14801	160	1.26	0.72	0.67	0.62	0.48	0.36	530	250-320W	92.5	B3-U0-G2
160W96LED4K-R-LE5	13514	160	1.26	0.72	0.67	0.62	0.48	0.36	530	250-320W	84.5	B4-U0-G2
215W96LED4K-R-LE2	18673	208	1.72	1.00	1.00	0.86	0.60	0.44	700	310-320W	89.8	B3-U0-G2
215W96LED4K-R-LE3	18646	208	1.72	1.00	1.00	0.86	0.60	0.44	700	310-320W	89.6	B3-U0-G3
215W96LED4K-R-LE4	18160	208	1.72	1.00	1.00	0.86	0.60	0.44	700	310-320W	87.3	B3-U0-G3
215W96LED4K-R-LE5	16578	208	1.72	1.00	1.00	0.86	0.60	0.44	700	310-320W	79.7	B4-U0-G2
125W112LED4K-R-LE2	12520	120	0.96	0.56	0.55	0.51	0.41	0.33	350	200-250W	104.3	B3-U0-G2
125W112LED4K-R-LE3	12589	120	0.96	0.56	0.55	0.51	0.41	0.33	350	200-250W	104.9	B3-U0-G2
125W112LED4K-R-LE4	12104	120	0.96	0.56	0.55	0.51	0.41	0.33	350	200-250W	100.9	B3-U0-G2
125W112LED4K-R-LE5	10902	120	0.96	0.56	0.55	0.51	0.41	0.33	350	200-250W	90.9	B4-U0-G2
190W112LED4K-R-LE2	18092	183	1.43	0.82	0.76	0.69	0.58	0.46	530	310-320W	98.9	B3-U0-G3
190W112LED4K-R-LE3	18193	183	1.43	0.82	0.76	0.69	0.58	0.46	530	310-320W	99.4	B3-U0-G3
190W112LED4K-R-LE4	17477	183	1.43	0.82	0.76	0.69	0.58	0.46	530	310-320W	95.5	B3-U0-G3
190W112LED4K-R-LE5	15767	183	1.43	0.82	0.76	0.69	0.58	0.46	530	310-320W	86.2	B4-U0-G2
145W128LED4K-R-LE2	14089	137	1.16	0.68	0.64	0.60	0.48	0.40	350	200-250W	102.8	B3-U0-G2
145W128LED4K-R-LE3	14150	137	1.16	0.68	0.64	0.60	0.48	0.40	350	200-250W	103.3	B3-U0-G2
145W128LED4K-R-LE4	13822	137	1.16	0.68	0.64	0.60	0.48	0.40	350	200-250W	100.9	B3-U0-G2
145W128LED4K-R-LE5	12478	137	1.16	0.68	0.64	0.60	0.48	0.40	350	200-250W	91.1	B4-U0-G2
215W128LED4K-R-LE2	20360	209	1.60	0.92	0.84	0.76	0.69	0.56	530	310-400W	97.4	B3-U0-G3
215W128LED4K-R-LE3	20448	209	1.60	0.92	0.84	0.76	0.69	0.56	530	310-400W	97.8	B3-U0-G3
215W128LED4K-R-LE4	19974	209	1.60	0.92	0.84	0.76	0.69	0.56	530	310-400W	95.6	B3-U0-G3
215W128LED4K-R-LE5	18019	209	1.60	0.92	0.84	0.76	0.69	0.56	530	310-400W	86.2	B4-U0-G2
160W144LED4K-R-LE2	15063	154	1.36	0.77	0.72	0.64	0.54	0.53	350	250-320W	97.8	B3-U0-G2
160W144LED4K-R-LE3	15559	154	1.36	0.77	0.72	0.64	0.54	0.53	350	250-320W	101.0	B3-U0-G3
160W144LED4K-R-LE4	14594	154	1.36	0.77	0.72	0.64	0.54	0.53	350	250-320W	94.8	B3-U0-G2
160W144LED4K-R-LE5	14033	154	1.36	0.77	0.72	0.64	0.54	0.53	350	250-320W	91.1	B4-U0-G2
245W144LED4K-R-LE2	21768	235	1.95	1.07	1.00	0.88	0.77	0.63	530	310-400W	92.6	B3-U0-G3
245W144LED4K-R-LE3	22484	235	1.95	1.07	1.00	0.88	0.77	0.63	530	310-400W	95.7	B3-U0-G3
245W144LED4K-R-LE4	21083	235	1.95	1.07	1.00	0.88	0.77	0.63	530	310-400W	89.7	B3-U0-G3
245W144LED4K-R-LE5	20272	235	1.95	1.07	1.00	0.88	0.77	0.63	530	310-400W	86.3	B4-U0-G2
180W160LED4K-R-LE2	15798	170	1.56	0.86	0.80	0.68	0.59	0.50	350	250-320W	92.9	B3-U0-G2
180W160LED4K-R-LE3	16370	170	1.56	0.86	0.80	0.68	0.59	0.50	350	250-320W	96.3	B3-U0-G2
180W160LED4K-R-LE4	16210	170	1.56	0.86	0.80	0.68	0.59	0.50	350	250-320W	95.4	B3-U0-G3
180W160LED4K-R-LE5	15587	170	1.56	0.86	0.80	0.68	0.59	0.50	350	250-320W	91.7	B4-U0-G2
270W160LED4K-R-LE2	22829	260	2.30	1.22	1.16	1.00	0.86	0.70	530	400W	87.8	B3-U0-G3
270W160LED4K-R-LE3	23657	260	2.30	1.22	1.16	1.00	0.86	0.70	530	400W	91.0	B3-U0-G3
270W160LED4K-R-LE4	23426	260	2.30	1.22	1.16	1.00	0.86	0.70	530	400W	90.1	B3-U0-G3
270W160LED4K-R-LE5	22524	260	2.30	1.22	1.16	1.00	0.86	0.70	530	400W	86.6	B5-U0-G3

<sup>1</sup> L70 = 100,000 hrs (at ambient temperature = 25°C and forward current = 700 mA)<sup>2</sup> System wattage includes the lamp and the LED driver.<sup>3</sup> Equivalence should always be confirmed by a photometric layout**Note:** Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Philips.