



Hazardous Location LED Luminaire **EX-R** Series

Specsheet-2023-07 EN



R4 with frosted PC cover



R2 with clear PC cover



R2 with frosted PC cover



R4 with clear PC cover



Product Description

The EX-R series linear vapor tight is designed for use in hazardous locations that feature the presence of flammable gases, vapors, or liquids during normal facility operations. The combination of the style and design of new LED technology with the ruggedness and durability of a hazardous location fixture makes it ideal for retrofit of existing HPS/MH and offers higher efficacy for energy savings, lower maintenance costs and shorter payback. The optional battery backup system provides a minimum of 90 minutes operation after AC power is lost during an emergency. It operates with 120 or 277V dual voltage.

Features

- UV stabilized, impact-resistant fiberglass reinforced polycarbonate lens
- Available in two and four foot lengths
- Ceiling, rope and pole mount
- Suitable for dead end, through feed* or single-ended "T" wiring
- Maximum total wattage for interconnection is 150 W
- Operating ambient: -40°C to +50°C
T-rating of T5 / T6
- Replaceable LED light strip
- Optional emergency battery back-up (self-contained min. 90 minute with Push-to-test button and LED charging indicators)

Compliance

ATEX Marking:



II 2GD

Ex db eb mb IIC T6/T5 Gb

Ex tb IIIC T80°C/T95°C Db IP66

IECEX Marking:

Ex db eb mb IIC T6/T5 Gb

Ex tb IIIC T80°C/T95°C Db IP66

Ta. -40°C~+60°C

1000 hours Salt spray

IP66

IK10



Application

- Locations requiring continuous and consistent light levels
- Marine applications, like engine rooms, decks and walkways
- Pulp and paper production facilities
- Water/wastewater treatment facilities
- Petrochemical facilities



Warranty

3-Year Standard Warranty for Battery Backup and

5-Year Standard Warranty for Fixture

50,000-hour LED lifespan based on IES LM-80 results and
TM-21 calculations

Technical Parameter

• Electrical

| Specification | EX-20WR2 | EX-30WR2 | EX-40WR4 | EX-50WR4 |
|-------------------|----------------------------------------------------------------------------------------------------------------|------------|------------|------------|
| Power Consumption | 20W | 30W | 40W | 50W |
| Input Voltage | AC200-250V | AC200-250V | AC200-250V | AC200-250V |
| Input Frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| Input Current | 0.62/0.21A | 0.62/0.21A | 0.62/0.21A | 1.0/0.38A |
| THD | AC120V | 1.56% | 1.38% | 1.47% |
| | AC277V | 4.37% | 3.92% | 3.24% |
| Power Factor | > 0.9 | > 0.9 | > 0.9 | > 0.9 |
| Surge Protection | 4kV | 4kV | 4kV | 4kV |
| Driver Efficiency | ≥90% | ≥90% | ≥90% | ≥90% |
| Dimming | Driver includes dimming control wiring for 0-10V dimming systems Requires separate 0-10V DC dimming circuit | | | |

• Optical

| Specification | EX-20WR2 | EX-30WR2 | EX-40WR4 | EX-50WR4 |
|-----------------|-------------------|-------------------|-------------------|-------------------|
| Lumen Output | 2410lm | 3618lm | 4844lm | 6125lm |
| Lumens Per Watt | 120.5lm/W | 120.6lm/W | 121.1lm/W | 122.5lm/W |
| Beam Angle | 120° | 120° | 120° | 120° |
| CCT | 2700K/4000K/5000K | 2700K/4000K/5000K | 2700K/4000K/5000K | 2700K/4000K/5000K |
| CRI | Ra=83 | Ra=84 | Ra=84 | Ra=85 |

• Mechanical

| Specification | EX-20WR2 | EX-30WR2 | EX-40WR4 | EX-50WR4 |
|------------------|----------------------------------------------------------------------------------------------------------------------|----------|----------|----------|
| Housing Material | SUS 304 stainless steel | | | |
| Lens Material | Transparent fiberglass-reinforced polycarbonate (standard) Diffuse fiberglass-reinforced polycarbonate (optional) | | | |
| Gasket | Silicone Rubber | | | |
| Latches/Clips | Aluminum alloy | | | |
| Color | Milky White | | | |
| Finish | Epoxy powder coating | | | |
| Protection | IP66/IK10/3G Vibration/1200hrs salt spray | | | |
| Mounting | Ceiling, rope, and pole mount | | | |
| Cable entries | Standard: 4 x M20 | | | |

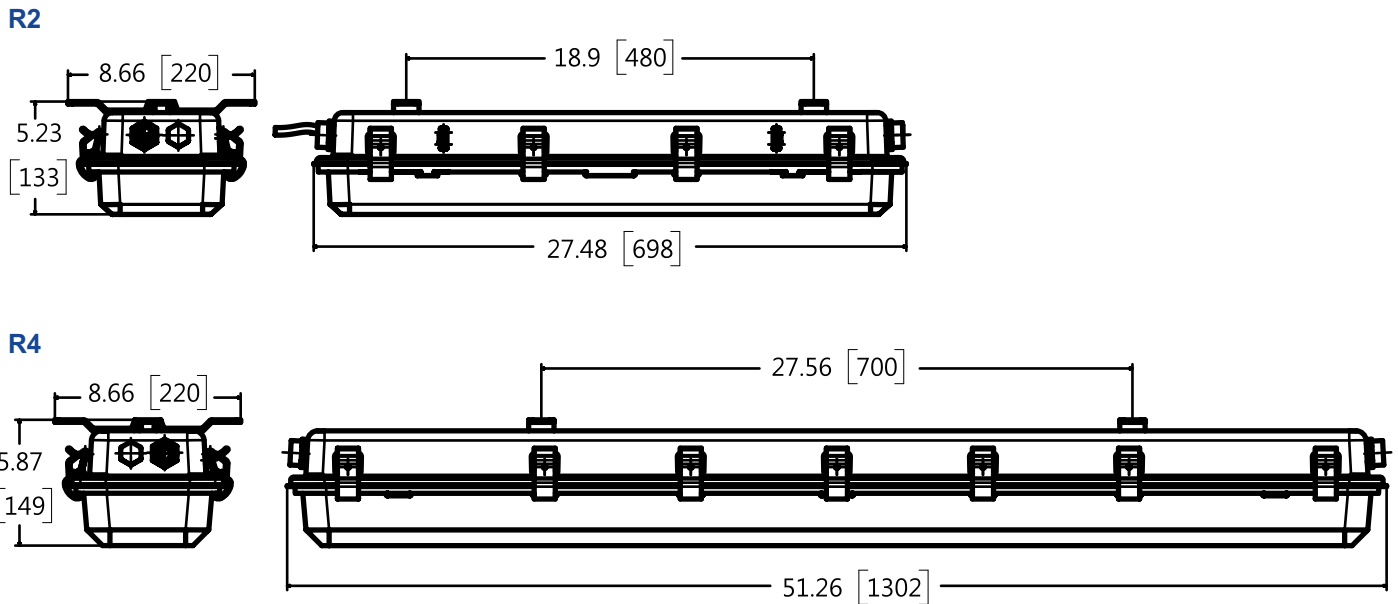
Technical Parameter

• Environmental

| Specification | EX-20WR2 | EX-30WR2 | EX-40WR4 | EX-50WR4 |
|--------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|
| Rated Ambient Temp. Range | -40°C - +45°C for T6/T80°C -40°C - +60°C for T5/T95°C | -40°C - +45°C for T6/T80°C -40°C - +60°C for T5/T95°C | -40°C - +45°C for T6/T80°C -40°C - +60°C for T5/T95°C | -40°C - +45°C for T6/T80°C -40°C - +60°C for T5/T95°C |
| Rated Ambient Range(Emergency) | -10°C - +45°C for T6/T80°C -10°C - +60°C for T5/T95°C | -10°C - +45°C for T6/T80°C -10°C - +60°C for T5/T95°C | -10°C - +45°C for T6/T80°C -10°C - +60°C for T5/T95°C | -10°C - +45°C for T6/T80°C -10°C - +60°C for T5/T95°C |

Product Dimensions

Unit: inch[mm]

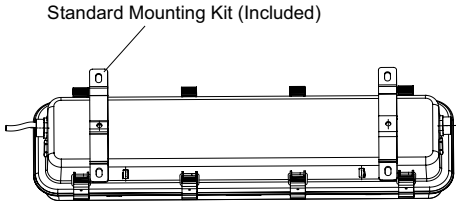
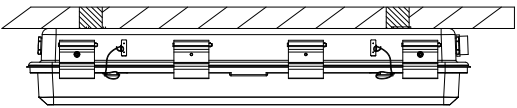
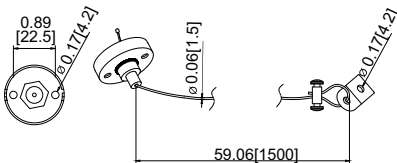
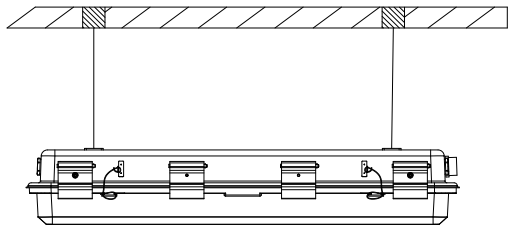
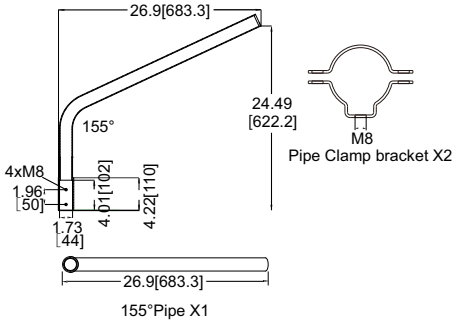
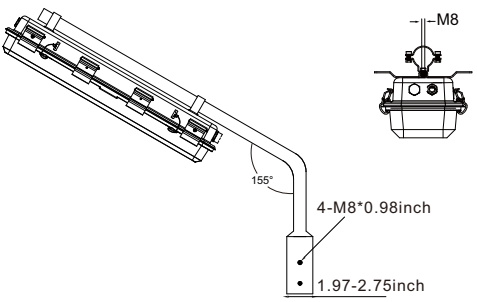


• Packing Information

| Model | Net Weight (Product) | Product Dimensions (LxWxH) | Quantity/ Carton | Gross Weight* | Package Dimensions (LxWxH) |
|---------|----------------------|----------------------------|------------------|---------------|----------------------------|
| R2 | 5.27kg | 698x220x133mm | 1 pc | 6.5kg | 820x260x190mm |
| R2 w/EM | 6.5kg | 698x220x133mm | 1 pc | 7.43kg | 820x260x190mm |
| R4 | 8.92kg | 1302x220x149mm | 1 pc | 10.5kg | 1420x260x190mm |
| R4 w/EM | 10.2kg | 1302x220x149mm | 1 pc | 11.54kg | 1420x260x190mm |

*the gross weights are estimated values

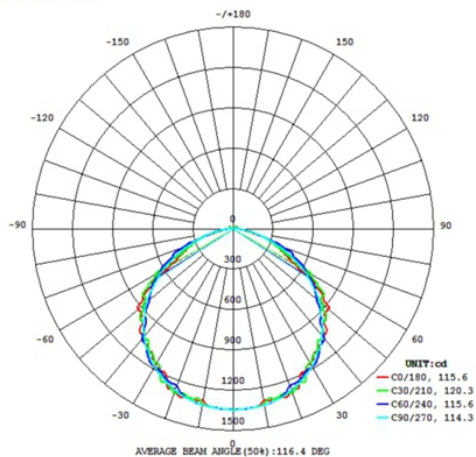
Mounting

| Options | Description | Kit(inch[mm]) | Installed |
|---------------|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Ceiling Mount | Provided with two stainless steel mounting kits welded at the back of Housing | <p>Standard Mounting Kit (Included)</p>  |  |
| Rope Mount | Provided with two stainless steel wire. Measured 1 mm diameter. |  |  |
| Pole Mount | (1) 155° Pipe (2) Pipe Clamp bracket |  |  |

*Mounting screws not provided
 ** Ordered separately, field installed

Photometric

Light Distribution Curve



Ordering Guide

| | | | | | | | |
|----|-----|----|---|----|------|---|----|
| EX | 30W | R2 | N | 50 | D120 | X | XX |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| 1. Model Series | 2. Wattage | 3. House Length | 4. For All Luminaires | 5. Color Temp. |
|-----------------------|----------------------------------------------|--------------------------|-----------------------|-------------------------------------|
| Explosion-proof Light | -30: 30W -40: 40W -50: 50W -60: 60W | R2: 2 feet R4: 4 feet | N: for without sensor | 27: 2700K 40: 4000K 50: 5000K |

| 6. Beam Angle | 7. Type of Glass | 8. Emergency Back Up* |
|---------------|--------------------------------------|----------------------------|
| D120: 120° | Blank for clear and F for frosted | Blank=w/o EM EM = w/ EM |

EM DRIVER SPECIFICATION FEATURES - EM-15W-HL

CAUTION: Sealed unit. Battery not replaceable. Replace entire unit when necessary.

| Model | Input Rating | | | | Emergency Output Rating | |
|-----------|--------------|-------|-------|-------|-------------------------|---------------------|
| | Vac | Hz | Max.A | Max.W | Vdc | Constant Wattage, W |
| EM-15W-HL | 200-250 | 50/60 | 0.15 | 9 | 42-50 | 15 |

| Model | Charge Time, Hours | Emergency Run Time, Min | Use Environment | Rated Ambient Range, °C | Battery Life Expectancy |
|-----------|--------------------|-------------------------|-----------------|-------------------------|-------------------------|
| EM-15W-HL | 24 | 90 | Damp | -10~60 | 5 Years |

DRIVER SPECIFICATION FEATURES - HL18650

Technology Parameters

| Item | Symbol | Content | Criterion |
|---------------------------|-------------|------------------------------------------------------------|---------------------------------------------|
| Chemistry of Batteries | | Battery Type | Li-ion |
| Pack Voltage | | Cell/pack nominal voltage | 11.1V |
| Set of Batteries | | Internal cell series/ parallel configuration | 3S1P |
| Pack Capacity | | Battery/pack nominal capacity | 3400mAh |
| Over charge Protection | V_{DET1} | Over charge detection voltage | $12.75 \pm 0.075V$ |
| | tV_{DET1} | Over charge detection delay time | 200mS(Max) |
| | V_{REL1} | Over charge release voltage | $12.39 \pm 0.15V$ |
| | | Maximum charge current | $\leq 1C$ |
| Over discharge protection | V_{DET2} | Over discharge detection voltage | $8.4 \pm 0.24V$ |
| | tV_{DET2} | Over discharge detection delay time | 100 mS(Max) |
| | V_{REL2} | Over discharge release voltage | $9.0 \pm 0.3V$ |
| Over current protection | V_{DEB} | Over current detection voltage | $0.15V \pm 0.02V$ |
| | I_{DP} | Over current detection current | 8.0 ~ 15.0A |
| | tV_{DEB} | Detection delay time | 20mS(Max) |
| | | Release condition | Cut load |
| | | Maximum continuous current | $\leq 1C$ |
| Short protection | | Detection condition | Exterior short circuit |
| | T_{SHORT} | Detection delay time | 230~ 500uS |
| | | Release condition | Cut short circuit |
| Interior resistance | R_{SS} | Main loop electrify resistance | $V_C=11.1V; R_{SS} \leq 260m\Omega$ |
| Current consumption | I_{DD} | Current consume in normal operation | 6.0 μ A Max |
| Operating temperature | | normal operating temperature range of lithium batteries | Charging 0 ~ 45°C Discharging -20 ~ 60°C |