

# Durable Lighting Made for Industrial Safety



## Hazardous Location LED Luminaire EX-R Series

Specsheet-2023-07 EN

**VENAS**  
Venas International Co., Ltd



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

1200 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

Note: All values are typical (tolerance +/- 10%)

### • Electrical

Specification		EX-20WR2	EX-30WR2	EX-40WR2	EX-50WR4	EX-60WR4
Power Consumption		20W	30W	40W	50W	60W
Input Voltage		AC120-277V	AC120-277V	AC120-277V	AC120-277V	AC120-277V
Input Frequency		50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Input Current		0.17/0.08A	0.26/0.12A	0.34/0.15A	0.42/0.19A	0.5/0.22A
THD	AC120V	1.29%	1.56%	1.38%	1.47%	1.89%
	AC277V	4.01%	4.37%	3.92%	3.24%	5.31%
Power Factor		> 0.9	> 0.9	> 0.9	> 0.9	> 0.9
Surge Protection		4kV	4kV	4kV	4kV	4kV
Driver Efficiency		≥90%	≥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-40WR2	EX-50WR4	EX-60WR4
Lumen Output		2730lm	4012lm	5067lm	7024lm	8381lm
Lumens Per Watt		136.5lm/W	136.5lm/W	136.5lm/W	136.5lm/W	136.5lm/W
Beam Angle		120°	120°	120°	120°	120°
CCT		2700K/4000K/5000K				
CRI		Ra=83	Ra=83	Ra=84	Ra=84	Ra=85

### • Mechanical

Specification		EX-20WR2	EX-30WR2	EX-40WR2	EX-50WR4	EX-60WR4
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 NPT3/4 (Side x1 open, Side x3 with stopping plugs) W/EM: 3 x NPT3/4 (Side x1 open, Side x2 with stopping plugs) x self testing button				

## Technical Parameter

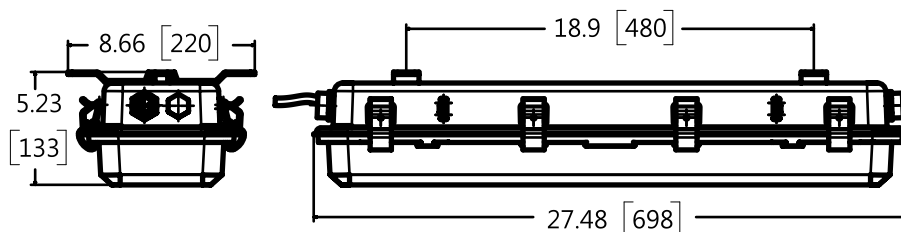
### • Environmental

Specification	EX-30WR2	EX-40WR2	EX-50WR4	EX-60WR4
Rated Ambient Temp. Range	-40°C to 50°C	-40°C to 50°C	-40°C to 50°C	-40°C to 50°C
Operating Temp. (T Code)	80 C (T6)	100 C (T5)	100 C (T5)	100 C (T5)

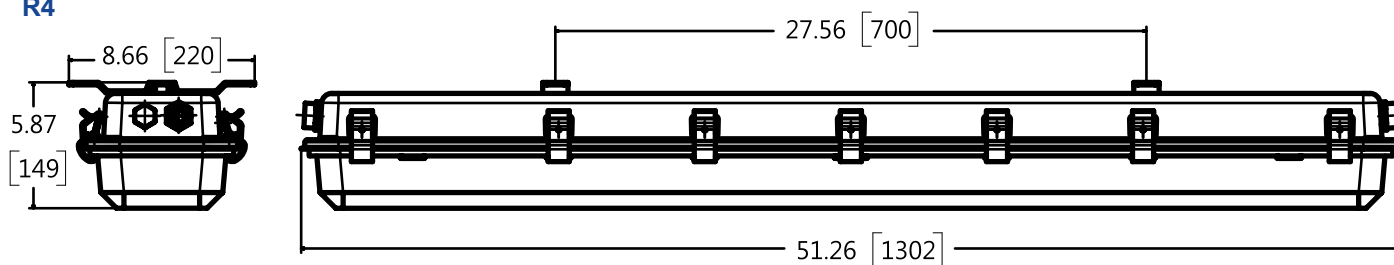
## Product Dimensions

Unit: inch[mm]

### R2



### R4

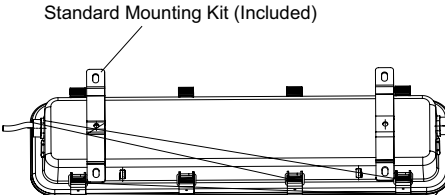
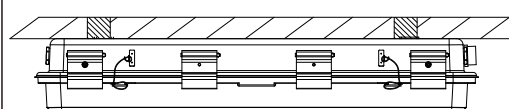
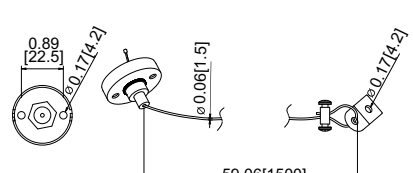
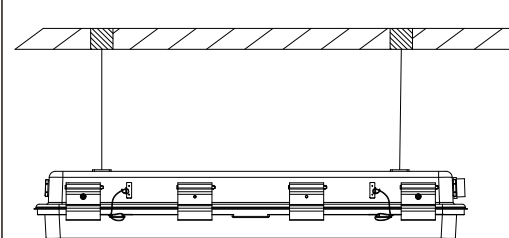
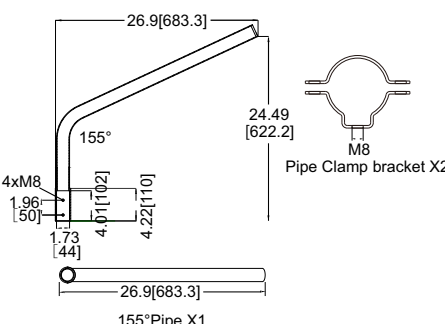
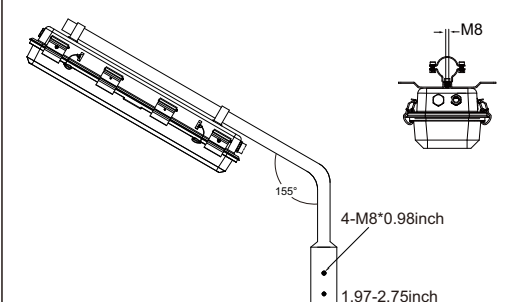


### • Packing Information

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

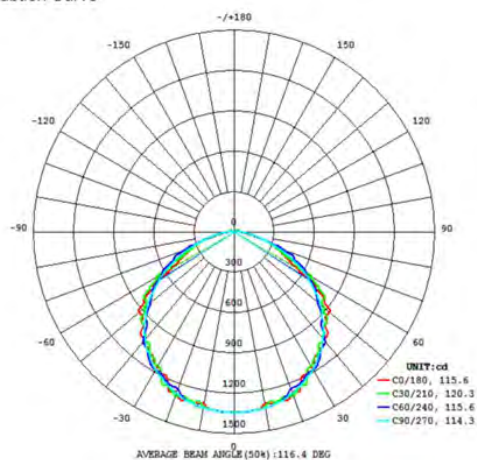
Options	Description	Kit(inch[mm])	Installed
Ceiling Mount	Provided with two stainless steel mounting kits welded at the back of Housing	<p>Standard Mounting Kit (Included)</p> 	
Rope Mount	Provided with two stainless steel wire. Measured 1 mm diameter.		
Pole Mount	(1) 155° Pipe (2) Pipe Clamp bracket		

\*Mounting screws not provided

\*\* Ordered separately, field installed

## Photometric

Light Distribution Curve

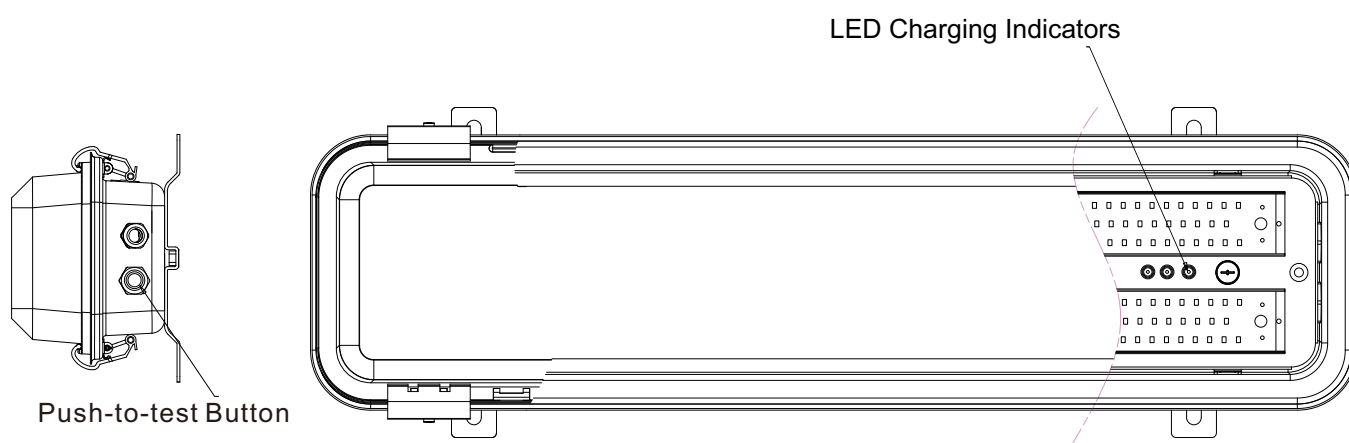





## EM DRIVER SPECIFICATION FEATURES - EM-10W-HL

**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-10W-HL	120-277	50/60	0.15	9	42-50	10

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



LED Indicator State	Representation
 Green Light On	Battery charging capacity is more than 80% or fully charged
 Red Light On	Battery charging capacity is less than or equal to 80%
 Yellow Light On	1. Product failure. 2. Battery charging or discharging capacity is less than or equal to 20%

## 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	$V_{DE3}$	Over current detection voltage	$0.15V \pm 0.02V$
	$I_{DP}$	Over current detection current	8.0 ~ 15.0A
	$tV_{DE3}$	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	6.0μ A Max
Operating temperature		normal operating temperature range of lithium batteries	Charging 0~ 45°C Discharging -20~ 60°C



## DRIVER SPECIFICATION FEATURES - HL18650

## Battery cells size chart

Specification	18650
Nominal voltage	3.7V
Nominal capacity	3400mAh
Resistance	≤ 30mΩ

## Ordering Guide

EX	30W	R2	N	50	D120	C	X	XX
1	2	3	4	5	6	7	8	9

1. Model Series	2. Wattage	3. House Length	4. For All Luminaires	5. Color Temp.
Explosion-proof Light	-20: 20W -30: 30W -40: 40W -50: 50W -60: 60W	R2: 2 feet R4: 4 feet	N: 0-10V Dimming AC120-277V 50/60Hz <i>* Non-dimmable model is optional</i>	27: 2700K 40: 4000K 50: 5000K

6. Beam Angle	7. Mounting Means	8. Lens Type*	9. Emergency Back Up*
D120: 120°	C: Ceiling mount R: Rope mount P: Pole mount	Blank = Transparent PC F = Diffuse PC	Blank = w/o EM EM = w/ EM

\*: Suffix not within nomenclature as per Certifications, for marketing purpose only