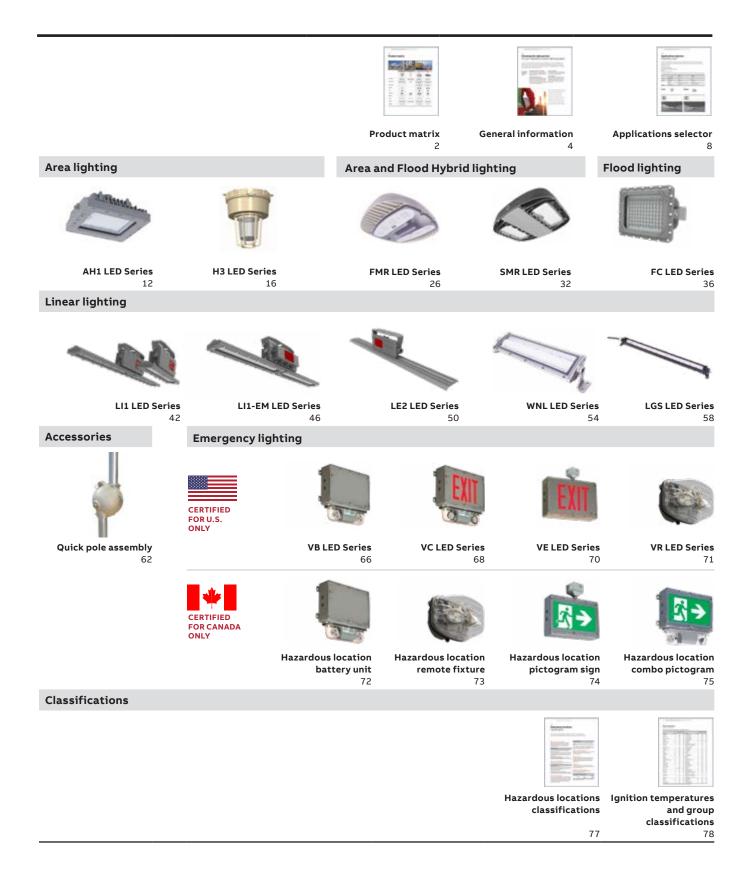




# Hazardous location lighting products and accessories

You can rely on Hazlux<sup>®</sup> to safely provide light where you need it, even under the harshest indoor and outdoor conditions. If safety, labor reduction, quality and reliability are your priorities, consider Hazlux<sup>®</sup> lighting products to reduce maintenance and prevent downtime.

# **Table of contents**



Area lighting

# **Product matrix**



Area/Flood lighting

AH1 LED H3 LED FMR LED SMR LED p. 12 p. 16 p. 26 p. 32 Classification сз) сз) С3) **Optics - IESNA** YPF YPE TYPE YPE 5 ТҮРЕ VPF YPE 5 CUT OFF GENERAL CUT OFF GENERAL CUT OFF **Optics - NEMA** NEMA3X3 NEMA7X4 NEMA3X3 NEMA7X4 \_ NEMA7X7 GENERAL NEMA7X7 GENERAL IP/NEMA NEMA 4X DLC DIG DLC Certification NSE **(h)** Wattage 40-60W 37-138W 107-310W 26-57W Lumen 6,499-8,514lm 5,600-20,000lm 12,000-32,000lm 3,000-6,300lm Voltage 120-277VAC, 50/60Hz 120-277VAC, 50/60Hz 120-277VAC, 50/60Hz 120-277VAC, 50/60Hz 347-480VAC, 50/60Hz 347-480VAC, 50/60Hz 347-480VAC, 50/60Hz 347VAC, 60Hz Dimming 0-10V dimming 0-10V dimming 0-10V dimming

|                | Flood lighting                                   |  |                         | Linear light                                     | ing  |   |
|----------------|--|--|-------------------------|--|--|---|
|                | FC LED<br>p. 36                                  | Ll1 LED<br>p. 42                                 | LI1-EM LED<br>p. 46     | LE2 LED<br>p. 50                                 | WNL LED<br>p. 54                                 | LGS LED<br>p. 58  |
|                |  | - M  | - Ale                   | 1  |  |   |
| Classification |  |  |                         |  |  | $\left< \begin{array}{c} \hline C1 \\ D2 \\ D2 \\ \end{array} \right> \left< \begin{array}{c} \hline C2 \\ D2 \\ D2 \\ \end{array} \right> \left< \begin{array}{c} C3 \\ C3 \\ \end{array} \right>$ |
| Optics - IESNA | -  | 60°<br>110°                                      | 60°<br>110°             | 110°   | GENERAL  | WIDE NARROW<br>CUT OFF  |
| Optics - NEMA  | 25°<br>60°<br>120°                               | -  | -                       | _  | -  | -   |
| IP/NEMA        |  | (1966)   |                         | (PGG)  | (1966)   |   |
| DLC            | -  | _  | -                       | _  | -  | -   |
| Certification  |  |  |                         |  |  |   |
| Wattage        | 80-150W  | 40-80W   | 80W (6W EMB)            | 40-80W   | 36-109W  | 12-41W  |
| Lumen          | 10,400-19,500lm                                  | 4,800-9,600lm                                    | 10,800lm<br>(812lm EMB) | 5,480-10,960lm                                   | 4,000-10,000lm                                   | 580-2,300lm   |
| Voltage        | 120-277VAC,<br>50/60Hz<br>347-480VAC,<br>50/60Hz | 120-277VAC,<br>50/60Hz<br>347-480VAC,<br>50/60Hz | 120-277VAC,<br>50/60Hz  | 120-277VAC,<br>50/60Hz<br>347-480VAC,<br>50/60Hz | 120-277VAC,<br>50/60Hz<br>347-480VAC,<br>50/60Hz | 120VAC, 50/60Hz<br>12V or 24V DC  |
| Dimming        | -  | -  | -                       | -  | 0-10V dimming                                    | -   |

# **Choosing the right partner** For your hazardous location lighting project

When you're looking for hazardous location lighting, you need an experienced partner you can trust. Someone who will accompany you every step of the way and provide expert advice and exceptional service. The ABB sales team has been doing just that for close to a century.

Since 2001, the ABB Hazlux® manufacturing facility has been ISO 9001, 1400 and OHSAS 18001 compliant.

### Engineering expertise at your fingertips

Our product engineers are readily available to answer all your technical questions, and partner with you in selecting the best lighting solution to reach your goals.

### High standards of quality control

Quality is built into every product at every step of the process, from design to final assembly. Each product is inspected and tested to ensure that it meets our strict quality standards, and then professionally packed so that your order will arrive intact at your installation site.

### **Product customization**

We design and manufacture units, giving us unparalleled capabilities to customize lighting fixtures to meet your specific needs.

### **Reduced lead time**

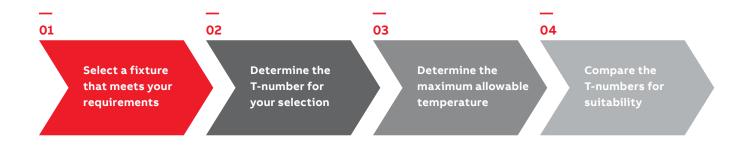
We produce what you need when you need it in our state-of-the-art North American Center of Excellence. We can easily accommodate both large and small production runs with a fast turnaround.



A sustainable development policy is in effect at the ABB production facility to reduce our carbon footprint and minimize the environmental impact of our operations. Through a series of initiatives, reductions in water usage, electricity and natural gas, packaging and pallets are being realized.

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# **Environment selection method** The right fixture in the right application



### — 01

# Select a fixture that meets your Class, Division and Group requirements.

For example : Class I, Division 2, Group D

### 02

### Determine the T-number for your selected fixture.

Be sure it is for the specific wattage, ballast housing, optical assembly and ambient temperature. Use the published information in this catalog or contact your Hazlux sales representative.

### 03

# Determine the maximum allowable temperature for the hazardous materials.

| Class I Gas   | Ignition temperature for the specific gas (from NFPA497M) |
|---------------|---|
| Class II Dust | Group E: 392°F (200°C)                                    |
|               | Group F: 392°F (200°C)                                    |
|               | Group G: 329°F (165°C)                                    |
|               | Or ignition temperature of dust if lower                  |
|               | Above from NEC table 500-3(F)                             |

### 04

# Compare T-number (from step 2) to maximum allowable temperature (from step 3).

- If T-number is cooler than the maximum allowable temperature, the selected fixture is suitable.
- If T-number is hotter than the maximum allowable temperature, the selected fixture is not suitable.

### T-number table

| Class I, II, Div. 1, 2 T-number | Max. temperature |
|---------------------------------|------------------|
| T1                              | 842°F (450°C)    |
| Т2                              | 572°F (300°C)    |
| T2A                             | 536°F (280°C)    |
| Т2В                             | 500°F (260°C)    |
| T2C                             | 446°F (230°C)    |
| T2D                             | 419°F (215°C)    |
| тз                              | 392°F (200°C)    |
| ТЗА                             | 356°F (180°C)    |
| ТЗВ                             | 329°F (165°C)    |
| ТЗС                             | 320°F (160°C)    |
| Τ4                              | 275°F (135°C)    |
| T4A                             | 248°F (120°C)    |
| Т5                              | 212°F (100°C)    |
| т6                              | 185°F (85°C)     |

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# Hazardous locations applications We have a fixture for virtually any condition

Hazlux lighting fixtures are built to withstand most hazardous application.

| Examples of hazardous locations                      |
|--|
| Chemical manufacturing<br>and processing plants      |
| Oil refineries                                       |
| Oil drilling rigs                                    |
| Offshore platforms                                   |
| Pipeline pumping stations                            |
| Pulp and paper plants                                |
| Aluminum and copper smelting                         |
| Steel mills and foundries                            |
| Mining operations                                    |
| Grain handling facilities                            |
| Flour, sugar and starch processing                   |
| Food processing plants                               |
| Paint and rubber manufacturing facilities            |
| Power generation plants                              |
| Waste treatment facilities                           |
| Paint, chemical and plastic mixing/<br>storage areas |
| Bulk truck terminals                                 |
| Solvent/cleaning areas                               |



### 01

### Hose-down and wet locations

- Certified for wet locations NEMA 4X, IP65, IP66, IP67/68 (indoor and outdoor); CSA and cULus Listed
- Superior gasketing system both tank and globe gasketing systems withstand hose-down pressures
- Uninterrupted globe thread assures positive seal
- Baked-on, dry epoxy coating not paint but 100% dry solids
- Globes, refractors and finish designed to withstand thermal shock during hose down

### 02

### High-ambient temperature areas

- All standard fixtures are tested and listed for at least 104°F (40°C) ambient – even under heavy dust blanket and no air flow
- Exclusive heat sink design results in a cool operating fixture, extended ballast/lamp life and lower maintenance costs
- Selection of high-ambient temperature rated fixtures – contact your ABB representative for fixtures certified for 131°F (55°C) and 149°F (65°C) applications
- Steam spray and thermal shock resistant

### 03



### Corrosion and abrasion

- Baked-on, dry epoxy coating not paint but 100% dry solids
- Stainless steel external hardware
- Sand-blast resistant finish
- Superior silicone gasketing system on both tank and globe (other gasketing systems available for special corrosive applications such as phosphates)
- Aluminum components contain less than 0.4% copper for maximum corrosion resistance
- Special HazCote<sup>®</sup> corrosion fighter finish available for extremely corrosive areas; consult your ABB representative for details

### Hazlux<sup>®</sup> fixture applications



### 04

### Ice and arctic conditions

- Gasketing system and finish allow for expansion and contraction through wide temperature variations
- High-strength mechanical mountings withstand ice loading
- Tempered glassware available for extra thermal shock safety margin



### 05

### Vibration and vandalism

- Vibration tested by UL and CSA
- Vibration-resistant hardware throughout fixture
- Screw retainers on guard ensure retention even if screws are not completely tightened
- Vibration-resistant globe thread and sealing system
- Optional refractors, high-strength tempered glass and Teflon<sup>®</sup>-coated globes for protection from vandalism



### 06

### Dust blanket

- Tested and listed by UL and CSA
- Cone pendant mount available (45° sloped sides) for areas where dust or other residue buildup is a problem
- Exclusive heat sink design results in a cool operating fixture, extended ballast/lamp life and lower maintenance costs



### 07

### Wind

- Wind-tunnel tested at McDonnell Douglas Corporation at air flow speeds in excess of 320 km/h (198 mph)
- Guard specially designed to secure reflector during high wind loading
- High-strength mechanical mountings withstand strong wind loads

Teflon is a registered trademark of The Chemours Company FC, LLC.

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# **Product application**

A wide range of products and features are available to suit the needs of specific hazardous locations. Consider the requirements of each space to select the best lighting fixtures:

- Average footcandles
- Average mounting height
- Lumen output required for the space
- Optics
- Type and number of units

The following examples provide guidance for selecting the right fixtures according to different environments:





**FMR LED** 

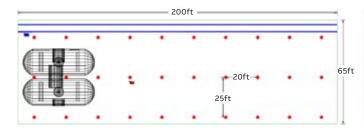


Machinery room

Machinery room

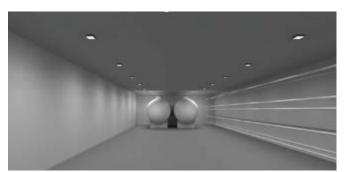
| H3 LED      |                    |                                       |  |  |
|-------------|--------------------|---------------------------------------|--|--|
| Site        | Room dimensions    | 200ft x 65ft                          |  |  |
|             | Mounting height    | 25'                                   |  |  |
| Photometric | AVG. Footcandle    | 30fc                                  |  |  |
|             | Reflectances       | 40-50-20                              |  |  |
| Product     | Lumen output       | 20,000 lumens                         |  |  |
|             | Wattage            | 138W                                  |  |  |
|             | Optics             | TG – Thermal<br>shock-resistant globe |  |  |
|             | Part number        | DL020EUNOTG                           |  |  |
| Quantity    | Number of fixtures | 30                                    |  |  |

| FMR LED     |                    |                                |  |
|-------------|--------------------|--------------------------------|--|
| Site        | Room dimensions    | 200ft x 65ft                   |  |
|             | Mounting height    | 25'                            |  |
| Photometric | AVG. Footcandle    | 30fc                           |  |
|             | Reflectances       | 40-50-20                       |  |
| Product     | Lumen output       | 32,000 lumens                  |  |
|             | Wattage            | 312W                           |  |
|             | Optics             | CUT – Wide beam<br>(no optics) |  |
|             | Part number        | FMR30-CUT-W-50-AC              |  |
| Quantity    | Number of fixtures | 16                             |  |









# **Product application**

### H3 LED



Inspection area

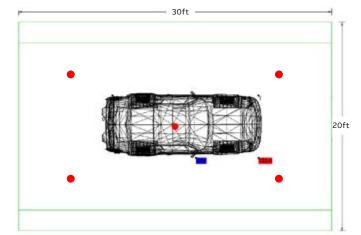
| H3 LED      |                    |  |  |
|-------------|--------------------|--|--|
| Site        | Room dimensions    | 30ft x 20ft                            |  |
|             | Mounting height    | 16'                                    |  |
| Photometric | AVG. Footcandle    | 108fc                                  |  |
|             | Reflectances       | 80-80-20                               |  |
| Product     | Lumen output       | 20,000 lumens                          |  |
|             | Wattage            | 138W                                   |  |
|             | Optics             | TG – Thermal shock-<br>resistant globe |  |
|             | Part number        | DL020EUNOTG                            |  |
| Quantity    | Number of fixtures | 5                                      |  |

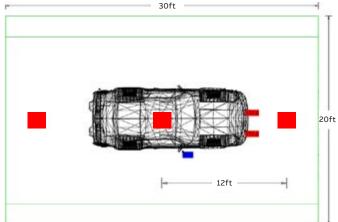
### **FMR LED**



Inspection area

| FMR LED     |                    |                                |  |
|-------------|--------------------|--------------------------------|--|
| Site        | Room dimensions    | 30ft x 20ft                    |  |
|             | Mounting height    | 16'                            |  |
| Photometric | AVG. Footcandle    | 108fc                          |  |
|             | Reflectances       | 80-80-20                       |  |
| Product     | Lumen output       | 32,000 lumens                  |  |
|             | Wattage            | 312W                           |  |
|             | Optics             | CUT – Wide beam<br>(no optics) |  |
|             | Part number        | FMR30-CUT-W-50-AC              |  |
| Quantity    | Number of fixtures | 3                              |  |









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# **Hazardous Location Lighting**



# Table of contents

# Area lighting products





AH1 LED Series

H3 LED Series

# Area and Flood Hybrid lighting products





FMR LED Series 26 SMR LED Series 32

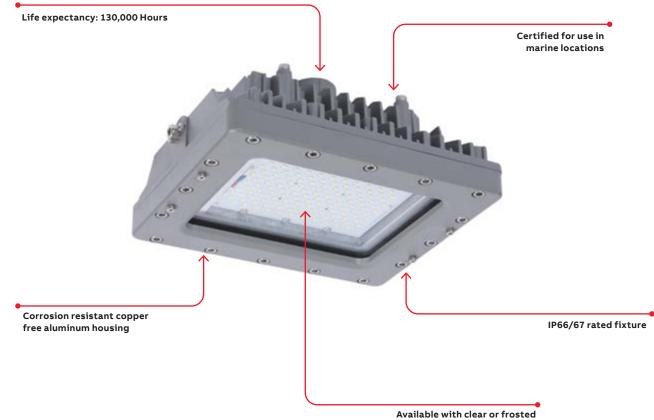
# Flood lighting product



FC LED Series 36

Explosion-proof, shock and vibration resistant lighting fixture, designed for use in marine and wet locations, and a variety of hazardous areas.





Available with clear or frosted tempered glass lens

### Key features and information

### FEATURES

| Temperature range 40W and 50W models:<br>-40°F to 149°F (-40°C to 65°C) |  |
|---|--|
| Temperature range 60W model:<br>-40°F to 147°F (-40°C to 64°C)          |  |

Exposed hardware made of stainless steel

### HOUSING

| Housing made | of copper-free | aluminium |
|--------------|----------------|-----------|
|--------------|----------------|-----------|

Anti-corrosion housing (tested for 1000hrs)

Tempered glass lens is impact and thermal

shock resistant

Lens tested to IK08

High temperature silicone gasketing

Available with multiple distribution patterns

### LED

### Efficacy: up to 150 Lm/W

Lumen output: From 6,499 Lumens to 8,514 Lumens

Nichia LED's

CRI Ra>75

Correlated Color Temperature (CCT): 5000K (standard), 3000K and 4000K (optional)

### ELECTRICAL

| Operating voltage: 120Vac-277Vac : 40W and 60W |
|--|
| Operating Voltage: 347Vac-480Vac: 50W          |

Frequency: 50/60Hz

Power factor .95

Driver efficiency 90%

THD <20%

Surge protection standard at 4KV. Contact your sales representative if higher protection is required.

### MOUNTING

### Pendant mount

Optional yoke/pipe bracket for wall/ceiling or pole mount

### APPROVALS

| CUL 844                            |  |
|------------------------------------|--|
| UL 1598 Wet Locations              |  |
| UL 1598A Marine                    |  |
| IP66/67                            |  |
| IK08                               |  |
| 5G (shock and vibration resistant) |  |
| 1000hrs salt spray                 |  |
|                                    |  |

### WARRANTY

5 Years limited warranty

### T-code chart

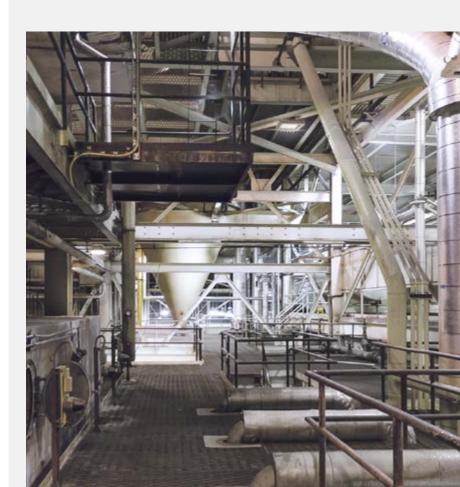
| Fixture | 40 watt | 50 watt | 60 watt |
|---------|---------|---------|---------|
| C1D1    | Т6      | Т6      | Т6      |
| C1D2    | T4      | T4A     | T4      |
| CIID2   | Т6      | Т6      | T5      |

### **Electrical specifications**

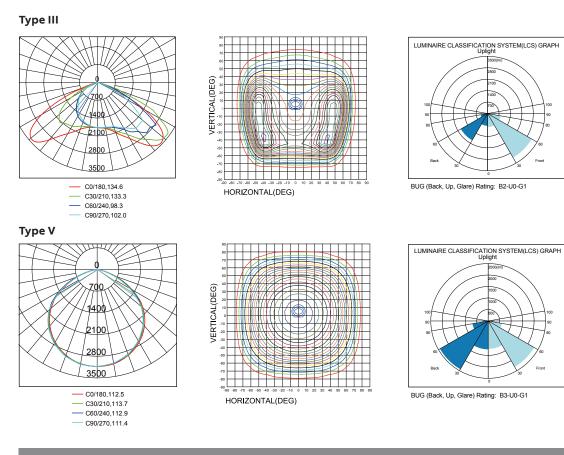
| Specification     |            | AH1-40     | AH1-50     | AH1-60      |
|-------------------|------------|------------|------------|-------------|
| Rated power       |            | 40W        | 50W        | 60W         |
| Input voltage     |            | AC120-277V | AC347-480V | AC120-277V  |
| Input frequency   |            | 50/60Hz    | 50/60Hz    | 50/60Hz     |
| In much as una mb | AC120/277V | 0.34/0.16A | N.A        | 0.48/0.215A |
| Input current     | AC347/480V | N.A        | 0.15/0.1A  | N.A         |
| Power factor      |            | ≥0.95      |            |             |

### **Lighting output**

| Fixture        | 40 watt | 50 watt | 60 watt |
|----------------|---------|---------|---------|
| Lumen output   | 6499    | 7179    | 8514    |
| Lumen per watt | 160     | 140     | 140     |



### PHOTOMETRY



**MOUNTING AND OPTIONAL ACCESSORIES** (sold separately)

Pendant Mount (Included standard)



PB02 - Yoke/Pipe Bracket (SUS 304) Stainless steel (Optional accessory)

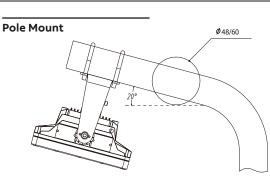




PC01 - Pipe clamp (1 pair) (Optional accessory)



PC01 = Pipe clamp (M8\*48mm) for pole Ø 1-7/8" (48 mm)



PC02 - Pipe clamp (1 pair) (Optional accessory)



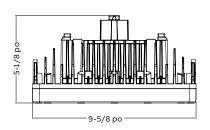
PC02 = Pipe clamp (M8\*60mm) for pole Ø 2-3/8" (60 mm)

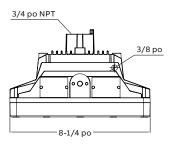
WG05 - Stainless steel wire guard (Optional accessory)





### DIMENSIONS





| Model  | Net weight C1D1 (Glass) | Product dimensions             |
|--------|-------------------------|--------------------------------|
| AH1-40 | 4.9kg/10.8lbs           |                                |
| AH1-50 | 5.3kg/11.7lbs           | 245x210x129mm<br>9.7x8.3x5.1in |
| AH1-60 | 5.3kg/11.7lbs           | 5.170.575.111                  |

### NUMBERING SYSTEM

### Lighting fixture 1 2 3 4 5 6 7 8 9 10 1 R3 ΤG υ AH1 4 КЗ 1 Ρ G Diffuser Fixture Wattage Voltage Color temp Hazloc Lens Mounting Color of Market series type type enclosure

### Ordering information

| Part                 | Part<br>number | Description                          |
|----------------------|----------------|--------------------------------------|
| 1 Fixture series     | AH1            | Hazlux LED Class I Div 1             |
| 2 Wattage            | 4              | 40 watts                             |
|                      | 5              | 50 watts                             |
|                      | 6              | 60 watts                             |
| 3 Voltage            | 1              | 120-277V (40W and 60W only)          |
|                      | 4              | 347-480V (50W only)                  |
| 4 Color temp         | К3             | 3000K1                               |
|                      | K4             | 4000K1                               |
|                      | K5             | 5000K                                |
| 5 Diffuser type      | R3             | Type 3 Diffuser <sup>1</sup>         |
|                      | R5             | 110° (no diffuser)                   |
| 6 Hazloc             | 1              | C1D1                                 |
| 7 Lens               | TG             | Clear glass                          |
|                      | FG             | Frosted glass <sup>1</sup>           |
| 8 Mounting type      | Р              | NPT 3/4 pendant mount                |
|                      | U              | NPT 3/4 pendant mount + Yoke bracket |
| 9 Color of enclosure | G              | Gray                                 |
| 10 Market            | U              | U.S. market                          |
|                      | Blank          | Canadian market                      |

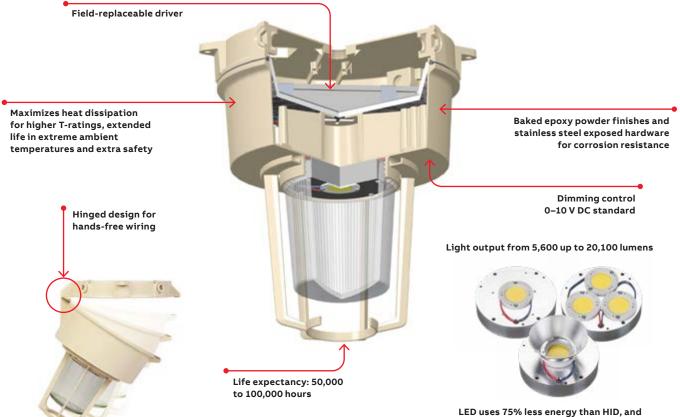
### Accessories (sold separately)

| PC01 | <b>Pipe clamp (1 pair)</b><br>Pipe clamp (M8*48mm) for pole ø 1-7/8" (48mm) |
|------|---|
| PC02 | Pipe clamp (1 pair)<br>Pipe clamp (M8*60mm) for pole Ø 2-3/8" (60mm)        |
| PB02 | Yoke/Pipe Bracket (SUS 304) Stainless steel                                 |
| WG05 | Stainless steel wire guard  |

Note: For Canadian market, please add "-CA" to the part no. (ex: PC01-CA).

A safe, dependable and rugged luminaire with an exclusive design that maximizes heat dissipation, offers excellent performance and energy efficiency.

| CERTIFICATION   | APPROVALS  | APPLICATIONS                   |
|---|--|--------------------------------|
| CLASS I   | Not all DL series are DLC qualified.<br>For all qualified products, please | High mast                      |
| Division 2 Group A, B, C, D   | visit: www.designlights.org/qpl  | Parking lots                   |
| Zone 2 Groups IIC, IIB, IIA   |  | Tunnels                        |
| CLASS II  |  | Swimming pools                 |
| Division 1 Group E, F, G <sup>1</sup>   |  | High bay                       |
| Division 2 Group F, G <sup>2</sup>  | US   | Coolers and freezers           |
| CLASS III   | UL844  | Inspection                     |
| Optics: CUT reflector not suitable for Class II, Div 1.   |  | Quality control areas          |
| Classification may vary depending on the product configuration. Please follow catalogue information and | LISTED UL8750  | Packaging areas                |
| exceptions.   | E76933   | Hangars                        |
|   |  | Storage facilities             |
|   |  | Oil and gas processing         |
|   |  | Agricultural                   |
|   |  | Chemical/industrial facilities |



### Key features and information

Operating Temperature: -40F to 131F (-40C to 55C) Field-replaceable driver

Higher T-ratings, extended life in extreme ambient temperatures and extra safety

Versatile optics include internal reflector options with 35°, 45° and 65° beam angles

### HOUSING

Baked epoxy powder finishes and stainless steel exposed hardware for corrosion resistance

Hinged design for hands-free wiring

Borosilicate glass globes and Polycarbonate CUT lens available

Available with multiple distribution patterns

Housing made of copper-free aluminum

Gray color option and special black anti-corrosion coating available (Hazcote)

Glass Teflon coating option available

Efficacy: up to 151 Lm/W

Lumen output: From 5,600 Lumens to 20,000 Lumens

Bridgelux LED's

CRI Ra>70

Correlated Color Temperature (CCT): 5000K (standard), 3000 K, 3500 K, 4000 K (optional)

0-10 V Dimming

Operating Voltage: Universal 120-277 V AC (voltage range includes 208 V, 220 V, 240 V etc.), 347-480 V AC (50/60Hz)

### Power factor 0.9

Driver efficiency 90%

### THD <20%

| MOUNTING                  |  |
|---------------------------|--|
| Cone-top pendant mount    |  |
| Ceiling and pendant mount |  |
| Wall mount                |  |
| Pendant mount             |  |
| 25° angle stanchion mount |  |
| 90° stanchion mount       |  |
| Hazvertor ring            |  |

### APPROVALS

UL844

```
CSA C22.2 No. 137
```

```
UL 1598 Wet Locations
```

UL 8750 LED Safety

DLC

Not all product variations listed on this page are DLC qualified. Visit www.designlights.org/search to confirm qualification. NEMA 4X

WARRANTY

5 Years limited warranty

### T-code chart

|                    |                        | Class I           |                  | Simultaneous     |
|--------------------|------------------------|-------------------|------------------|------------------|
|                    |                        | <b>Division 2</b> | Class II         | Class I          |
|                    | Class I Zone 2         | Groups A,         | Groups           | Division 2       |
|                    | Groups IIC, IIB, IIA   | B, C, D           | E, F, G          | and Class II     |
| Glass globe DL005  | , DL007, DL010         |                   |                  |                  |
| Ambient temp.      |                        |                   |                  |                  |
| -40 to 104°F       |                        |                   |                  |                  |
| (-40 to 40°C)      | Т5                     | Т5                | Т6               | Т5               |
| Ambient temp.      |                        |                   |                  |                  |
| -40 to 131°F       |                        |                   |                  |                  |
| (-40 to 55°C)      | T4                     | T4A               | Т6               | T4A              |
| Glass globe DL005  | , DL007, DL010 with in | ternal reflect    | or 13, 14, 16    |                  |
| Ambient temp.      |                        |                   |                  |                  |
| -40 to 104°F       |                        |                   |                  |                  |
| (-40 to 40°C)      | T4                     | T4A               | Т6               | T4A              |
| Glass globe DL015  | , DL017, DL020         |                   |                  |                  |
| Ambient temp.      |                        |                   |                  |                  |
| -40 to 104°F       |                        |                   |                  |                  |
| (-40 to 40°C)      | T4                     | T4A               | T4A              | T4A              |
| Optic type cut DLC | 005, DL007, DL010      |                   |                  |                  |
| Ambient temp.      |                        |                   |                  |                  |
| -40 to 104°F       |                        |                   |                  |                  |
| (-40 to 40°C)      | Т5                     | Т5                | T51              | T51              |
| Ambient temp.      |                        |                   |                  |                  |
| -40 to 131° F      |                        |                   |                  |                  |
| (-40 to 55°C)      | T4                     | T4A               | T4A <sup>1</sup> | T4A <sup>1</sup> |
| Optic type cut DLC | 015, DL017, DL020      |                   |                  |                  |
| Ambient temp.      |                        |                   |                  |                  |
| -40 to 104°F       |                        |                   |                  |                  |
| (-40 to 40°C)      | T4                     | T4A               | T4A <sup>1</sup> | T4A <sup>1</sup> |

<sup>1</sup>Cut reflector: Class II, Division 2, Groups F, G only

### Surge suppression rating

ANSI C82.77-5 CAT C low compliant – no external surge suppression device required.

| ANSI                                    | Differential mode | Common mode           |  |
|---|-------------------|-----------------------|--|
| surge type                              | (L-N)             | (L-G, N-G, L and N-G) |  |
| 1.2/50 μs combination wave<br>(w/t 2 Ω) | 6 kV              | 6 kV                  |  |

### ELECTRICAL SPECIFICATIONS

### Design Lights Consortium (DLC): summary of test results

| .20-277 VAC  | Photometry, 1 | .20-277 VAC | Photometry, 1 | 20-277 VAC | Electrical, 120-277 VAC |           |       |
|--------------|---------------|-------------|---------------|------------|-------------------------|-----------|-------|
| UT reflector | с             | TG globe    |               |            |                         |           |       |
| Lm/W         | Lumens        | Lm/W        | Lumens        | THD        | Power factor            | Power (W) | Model |
| 141.5        | 5,237         | 155.3       | 5,747         | 13.5%      | 0.91                    | 37.7      | DL005 |
| 140.8        | 6,832         | 156.6       | 7,607         | 13.3%      | 0.94                    | 49.4      | DL007 |
| 135.4        | 9,814         | 147.8       | 10,706        | 10.1%      | 0.97                    | 71.9      | DL010 |
| 140.7        | 14,564        | 155         | 16,063        | 11.0%      | 0.97                    | 103.0     | DL015 |
| 139.7        | 16,140        | 151.7       | 17,549        | 11.8%      | 0.97                    | 115       | DL017 |
| 135.3        | 18,782        | 147.2       | 20,468        | 12.3%      | 0.97                    | 137       | DL020 |

Photometry, 347 VAC

Lumens

9,659

19,065

-

-

-

-

CUT reflector

Lm/W

134.9

134.1

-

| Electrical, 347 VAC |              |       |  | Photo  | metry, 347 VAC |
|---------------------|--------------|-------|--|--------|----------------|
|                     |              |       |  |        | TG globe       |
| Power (W)           | Power factor | THD   |  | Lumens | Lm/W           |
| 36.7                | 0.98         | 10.2% |  | -      | -              |
| 47.9                | 0.99         | 8.3%  |  | -      | -              |
| 70.2                | 0.99         | 7.1%  |  | 10,582 | 147.7          |
| 104.9               | 0.99         | 7.6%  |  | -      | -              |
| 116.7               | 0.99         | 7.1%  |  | -      | -              |
| 141.2               | 0.99         | 7.8%  |  | 21,284 | 149.6          |

Summary of test results: Certified for optics TG globe and CUT reflector, and for AC input 120 V, 277 V and 347 V

Model

DL005

DL007

DL010

DL015

DL017

DL020

### PHOTOMETRY

Luminaire

classification system

BUG rating : B2-U3-G1

Standard globe

Catalog number Luminaire lumens

191

118

| Standard globe                     |                |
|------------------------------------|----------------|
| Catalog number                     | DL005EUN0-TGC2 |
| Luminaire lumens                   | 5,764          |
| Luminaire efficacy<br>rating (LER) | 156            |
| Input watts                        | 37.01          |
| Spacing criterion                  | 0.88           |
| Spacing criterion<br>(90–270)      | 0.88           |
| Spacing criterion<br>(diagonal)    | 1.52           |

\_

curve

17/03

127/

8/5/2/ 426

90

Candlepower

DL020EUN0-TGC2

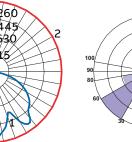
Candlepower

curve

20,530

| Standard globe                     |                |
|------------------------------------|----------------|
| Catalog number                     | DL010EUN0-TGC2 |
| Luminaire lumens                   | 10,739         |
| Luminaire efficacy<br>rating (LER) | 148            |
| Input watts                        | 72.44          |
| Spacing criterion                  | 0.82           |
| Spacing criterion<br>(90–270)      | 0.82           |
| Spacing criterion<br>(diagonal)    | 1.46           |

Luminaire classification system Candlepower curve



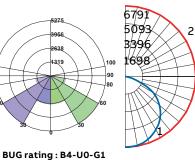
BUG rating : B3-U3-G3

0,35

| CUT reflector                      |                 |
|------------------------------------|-----------------|
| Catalog number                     | DL020EUN0-CUTC2 |
| Luminaire lumens                   | 18,841          |
| Luminaire efficacy<br>rating (LER) | 136             |
| Input watts                        | 138.8           |
| Spacing criterion                  | 1.30            |
| Spacing criterion<br>(90–270)      | 1.30            |
| Spacing criterion<br>(diagonal)    | 1.42            |

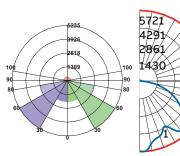
### Luminaire classification system

Candlepower curve

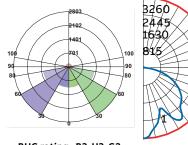


Luminaire efficacy 148 rating (LER) 139.02 Input watts Spacing criterion 1.10 Spacing criterion 1.10 (90-270) Spacing criterion 1.56 (diagonal)





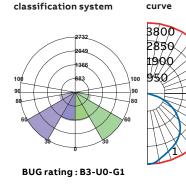
BUG rating : B4-U3-G3

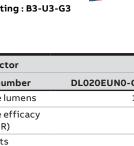


BUG rating : B3-U3-G2

| CUT reflector   |  |
|-----------------|--|
| DL010EUN0-CUTC2 |  |
| 9,846           |  |
| 136             |  |
| 72.47           |  |
| 1.22            |  |
| 1.22            |  |
| 1.38            |  |
|                 |  |

Luminaire classification system

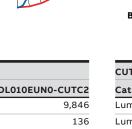




| DL015EUN0-TGC2 |
|----------------|
| 16,110         |
| 155            |
| 103.66         |
| 1.32           |
| 1.32           |
| 1.58           |
|                |

Luminaire classification system

Candlepower curve



Candlepower

### Hazlux<sup>®</sup> H3 LED

Luminaire

| R5 globe                           |          |
|------------------------------------|----------|
| Catalog number                     | DL010-R5 |
| Luminaire lumens                   | 9763     |
| Luminaire efficacy<br>rating (LER) | 132      |
| Input watts                        | 75       |
| Spacing criterion                  | 1.42     |
| Spacing criterion<br>(90–270)      | 1.42     |
| Spacing criterion<br>(diagonal)    | 1.54     |

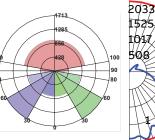
| R3 globe                           |          |
|------------------------------------|----------|
| Catalog number                     | DL010-R3 |
| Luminaire lumens                   | 9851     |
| Luminaire efficacy<br>rating (LER) | 133      |
| Input watts                        | 75       |
| Spacing criterion                  | 1.40     |
| Spacing criterion<br>(90–270)      | 1.82     |
| Spacing criterion<br>(diagonal)    | 1.46     |

Candlepower

2

curve

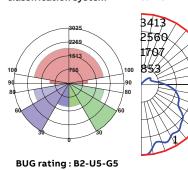
classification system



BUG rating : B2-U4-G3

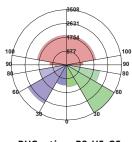
| R5 globe                           |          |  |
|------------------------------------|----------|--|
| Catalog number                     | DL020-R5 |  |
| Luminaire lumens                   | 18767    |  |
| Luminaire efficacy<br>rating (LER) | 137      |  |
| Input watts                        | 137      |  |
| Spacing criterion                  | 1.44     |  |
| Spacing criterion<br>(90–270)      | 1.44     |  |
| Spacing criterion<br>(diagonal)    | 1.62     |  |

Luminaire classification system



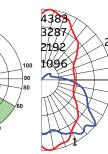
Candlepower curve

2



BUG rating : B3-U5-G5

Candlepower curve



### \_ Candlepower curve

2

10

90 80

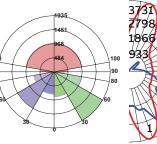
\_

Luminaire

classification system

Luminaire

classification system

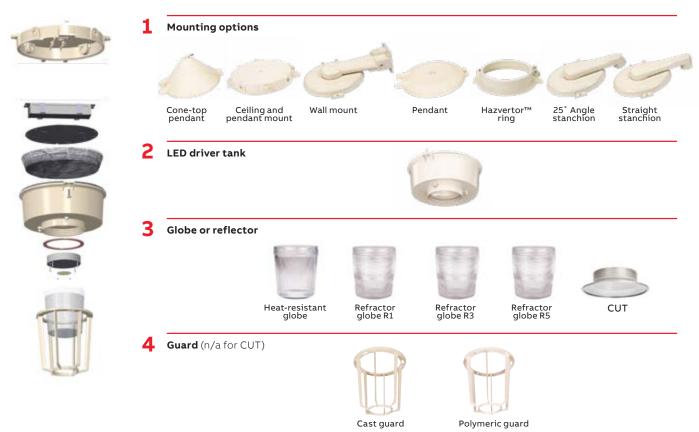


BUG rating : B2-U4-G3

| R3 globe |  |
|----------|--|
| DL020-R3 |  |
| 18764    |  |
| 137      |  |
| 137      |  |
| 1.40     |  |
| 1.90     |  |
| 1.58     |  |
|          |  |

MOUNTING AND OPTIONAL ACCESSORIES (sold separately)

### Fixture assembly guide



### Mounting accessories

| Part number | Description  | Conduit hub size   |
|-------------|--|--|
| VA2         | Const Ten Dendersti  | 3/4"   |
| VA3         | Cone-Top Pendant <sup>1</sup> ——                             | 1"   |
| VC2         |  | 3/4"   |
| VC3         | Ceiling & Pendant Mount <sup>1</sup>                         | 1"   |
| VB2-VIB     |  | 3/4"   |
| VB3-VIB     | Wall mount <sup>1</sup>                                      | 1"   |
| P2          | 3/4" Rigid Pendant <sup>1</sup>                              | 3/4"   |
| P3          | 1" Rigid Pendant <sup>1</sup>                                | 1"   |
| VS4-VIB     |  | 1-1/4"   |
| VS5-VIB     | 25° Angle Stanchion <sup>1</sup> —                           | 1-1/2"   |
| VL4-VIB     |  | 1-1/4"   |
| VL5-VIB     | Straight Stanchion <sup>1</sup>                              | 1-1/2"   |
| HV3*        | Hazvertor™ Adaptor Ring Crouse-Hi<br>& Straight              | nds Ceiling, Pendant <sup>2</sup><br>t stanchion top hats <sup>1,3</sup> |
| HV4*        | Hazvertor™ Adaptor Ring Stanchion Angle Mount <sup>1,3</sup> |  |
| HV5*        | Hazvertor™ Adap  | tor Ring Wall Mount <sup>1,3</sup>                                       |

\*HV3, HV4 and HV5 Hazvertors are CSA/CSAus certified

Note: For Canadian market, please add "-CA" to the part no. (ex: VA2-CA).

### **Globes or refractors**

| Part number | Description  |  |
|-------------|--|--|
| VGT15       | Heat-Resistant Prismatic Glass Globe <sup>4</sup>                    |  |
| VGL15R1     | IES Type I Refractor Globe <sup>4</sup>                              |  |
| VGL15R3     | IES Type III Refractor Globe <sup>4</sup>                            |  |
| VGL15R5     | IES Type V Refractor Globe <sup>4</sup>                              |  |
| СИТ         | Dark Sky Cut-Off reflector with Polycarbonate Flat Lens <sup>4</sup> |  |

Note: For Canadian market, please add "-CA" to the part no. (ex: VGT15-CA).

### Guards

| Part number | Description     |
|-------------|-----------------|
| VGU22       | Cast Guard      |
| VGU22P      | Polymeric Guard |

<sup>1</sup> For stainless steel inserts, please add "SI" to part no. (ex:VA2SI) <sup>2</sup> Not compatible with HPM2 crouse-hinds top hats

<sup>3</sup> Some installations may not be compatible

<sup>4</sup> Must be replaced by the same refractor.

Note: For Canadian market, please add "-CA" to the part no. (ex: VGU22-CA).

### Hazvertor<sup>™</sup> compatiblity



The HazVertor<sup>™</sup> adaptor ring is designed to let you quickly convert most Crouse-Hinds fixtures to Hazlux<sup>®</sup> H3 LED Generation 2 fixtures. It is available as an accessory or as an integral component to the Hazlux<sup>®</sup> H3 LED Generation 2 fixture.

| Mounting   | Crouse-Hinds<br>model | Crouse-Hinds<br>part number | HazVertor™<br>model |
|------------|-----------------------|-----------------------------|---------------------|
|            | APM2 3/4 in.          |                             |                     |
| Pendant    | APM3 1 in.            | APM2                        | HV3                 |
|            |                       | APM3                        | HV3                 |
|            | CM2 3/4 in.           |                             |                     |
| Ceiling    | CM3 1 in.             | CM2                         | HV3                 |
|            |                       | CM3                         | HV3                 |
|            | TWM2 3/4 in.          |                             |                     |
| Wall       | TWM3 1 in.            | TWM2                        | HV5                 |
|            |                       | TWM3                        | HV5                 |
| Stanchion  | JM5 1-1/2 in.         | JM5                         | HV4                 |
| Stanchion  | PM5 1-1/2 in.         | PM5                         | HV3                 |
| Quad mount | QM25 3/4 in.          | QM25                        | HV3                 |







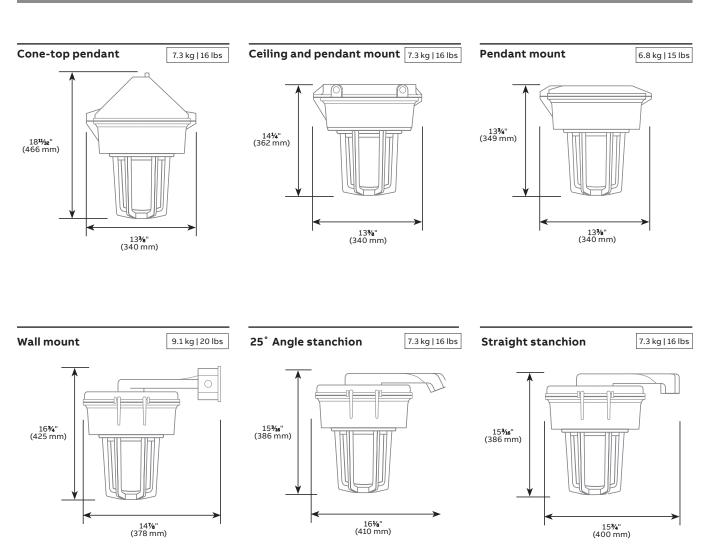
— 01 HazVertor™ adaptor ring, model HV3

02 HazVertor™ adaptor ring, angle machining, model HV4

03 HazVertor™ adaptor ring, wall mount machining, model HV5

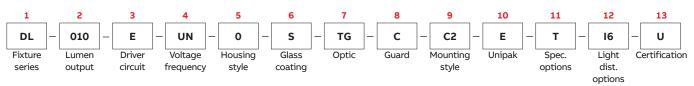


DIMENSIONS



NUMBERING SYSTEM

**Unipak**<sup>™</sup> = LED driver tank + optics and mountings + options (if necessary)



### LED driver tank

### Mounting

| Part                       | Part<br>number | Description   |
|----------------------------|----------------|---|
| 1 Fixture series           | DL             | Hazlux H3 gen 2   |
| 2 Lumen output             | 005            | 5,600 lumens, 37 W  |
|                            | 007            | 7,500 lumens, 48 W  |
|                            | 010            | 10,500 lumens, 74 W   |
|                            | 015            | 15,800 lumens, 103 W  |
|                            | 017            | 17,300 lumens, 115 W  |
|                            | 020            | 20,100 lumens, 138 W  |
| 3 Driver circuit           | E              | Electronic LED driver<br>with dimming 0–10 VDC  |
| 4 Voltage / Frequency      | UN             | Universal 120–277 V AC 50/60 Hz<br>(voltage range includes 208 V,<br>220 V, 240 V etc.) |
|                            | UN2            | Universal 347-480 V AC 50/60 Hz   |
| 5 LED driver housing style | 0              | Standard housing  |
|                            | S              | Standard housing with<br>stainless-steel insert   |

### Optics

| Part            | Part<br>number | Description  |
|-----------------|----------------|--|
| 6 Glass coating | Blank          | No teflon coating  |
|                 | S              | Teflon coating <sup>1</sup>                                |
| 7 Optic         | TG             | Thermal shock-resistant glass globe                        |
|                 | R1             | Type I glass refractor globe                               |
|                 | R3             | Type III glass refractor globe                             |
|                 | R5             | Type V glass refractor globe                               |
|                 | CUT            | Dark sky cut-off<br>polycarbonate flat lens <sup>1,2</sup> |
| 8 Guard option  | Blank          | No guard   |
|                 | С              | Cast aluminum guard <sup>3</sup>                           |
| 17.0            | L              | Polymeric guard <sup>3</sup>                               |

<sup>1</sup> Teflon coating NOT applicable to CUT.

<sup>2</sup> CUT optics: 3000K < CCT for Dark sky. Cannot be used with stanchion mount. Not suitable for Class II, Division 1

<sup>3</sup> Cannot be used with CUT

| Part             | Part<br>number | Description   |
|------------------|----------------|---|
| 9 Mounting style | A2             | ¾" Cone-top pendant   |
|                  | A3             | 1" Cone-top pendant   |
|                  | B2             | ¾" Wall mount   |
|                  | B3             | 1" Wall mount   |
|                  | C2             | ¾" Ceiling mount / pendant  |
|                  | С3             | 1" Ceiling mount / pendant  |
|                  | HV3            | Hazvertor™ adaptor ring Crouse-Hinds® ceiling,<br>pendant² and straight stanchion top hats¹ |
|                  | HV4            | Hazvertor adaptor ring stanchion angle mount <sup>1</sup>                                   |
|                  | HV5            | Hazvertor adaptor ring wall mount <sup>1</sup>  |
|                  | L4             | 1 <b>¼</b> " Straight stanchion   |
|                  | L5             | 1 <b>½</b> " Straight stanchion   |
|                  | P2             | ¾" Rigid pendant  |
|                  | P3             | 1" Rigid pendant  |
|                  | S4             | 1 <b>¼</b> " 25° Angle stanchion  |
|                  | <b>S</b> 5     | 1 <b>½</b> " 25° Angle stanchion  |
|                  | Blank          | No mounting (to replace existing fixt.)   |
| 10 Unipak        | E              | (Standard, Unipak with LED lamp   |

<sup>1</sup> HV3, HV4 and HV5 hazvertors are CSA/CSAus certified

### Options

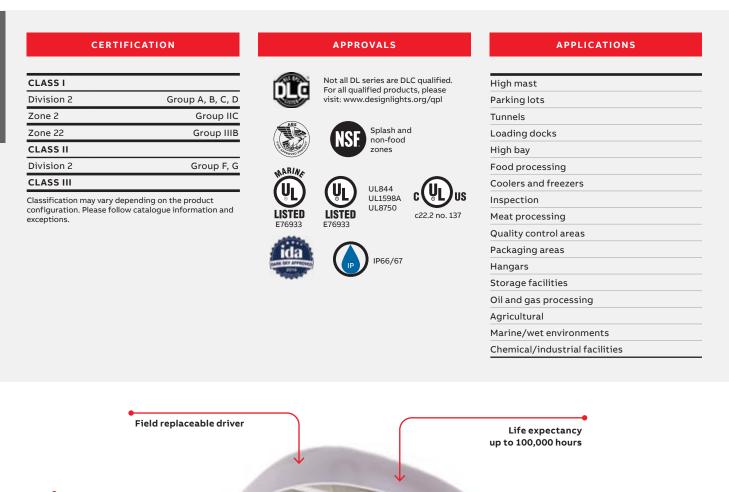
| Part                             | Part<br>number | Description  |
|----------------------------------|----------------|--|
| 11 Special options               | т              | Hazcote® black custom anti-corrosion<br>coating (consult ABB rep) <sup>1</sup> |
|                                  | G              | Gray color option  |
| 12 Light distribution<br>options | 13             | Internal reflector 35° beam angle²   |
|                                  | 14             | Internal reflector 45° beam angle²   |
|                                  | 16             | Internal reflector 65° beam angle²   |
|                                  | Blank          | 5000K  |
|                                  | К30            | 3000K <sup>1</sup>   |
|                                  | K35            | 3500K <sup>1</sup>   |
|                                  | K40            | 4000K <sup>1</sup>   |
| 13 Certification                 | U              | U.S market   |
|                                  | Blank          | Canadian market  |

<sup>1</sup> Option subject to extended lead time.

<sup>2</sup> DL005, DL007 and DL010 only, maximum 40 °C (104 °F) ambient temperature, cannot be combined with refractors and CUT. Cannot be added in the field.



These multi-functional and feature-rich fixtures are capable of both meeting and exceeding the demands of the food processing industry, industrial and commercial environments and architectural applications.



NSF certified for use in splash and non-food zones

long-term reliability

Vented enclosure ensures

Certified for use in marine locations

0–10 V Dimming

Thermally managed

for maximum longevity

Available with multiple

distribution patterns

### Key features and information

### Field replaceable driver

### Operating temperature: -40°F to 131°F (-40°C to 55°C)

Thermally managed for maximum longevity

### Special powder coating for extreme resistance to chemical attack, aggressive cleaning agents and biocides used in food processing industries

Low surface-energy coating and smooth surface texture prevent debris build-up and staining

Certified for Hazardous Locations. extreme water resistance, and corrosion protection for marine applications

IDA Dark Sky Approved to protect the night time environment and reduce light pollution

### HOUSING

Copper-free die-cast aluminum housing and high impact polycarbonate lens

Available with multiple distribution patterns

3/4" NPT conduit entry

Efficacy: up to 105 Lm/W

Lumen output: From 12,260 Lumens to 31,670 Lumens

### CREE LED's

CRI Ra>90

Correlated Color Temperature (CCT): 5000K (standard), 27000K, 3000K, 35000K and 4000K (optional)

### ELECTRICAL

0-10 V Dimming (10%-100%)

Operating voltage: 120-277VAC, 50/60Hz 347-480VAC

Frequency: 50/60Hz

Power factor 0.95

Driver efficiency 88%

THD <20%

Surge protection standard at 6KV

MOUNTING

| Surface/Suspended mount |  |
|-------------------------|--|
| Wall mount              |  |
| Hanging pendant         |  |
| Pole mount              |  |
| Yoke mount              |  |
| High vibration yoke     |  |

|      |        |      | -     |  |
|------|--------|------|-------|--|
| gilZ | fitter | voke | mount |  |

| APPROVALS |  |
|-----------|--|
| UL 844    |  |

| UL 8750 |  |
|---------|--|

UL 1598

- NSF-2: Splash and Non-Food Zones
- UL 1598A & ABS Marine Locations
- IDA Dark Sky Approved
- DLC

CUL approved to CSA 22.2 No. 137, CSA 22.2 No. 250.0-08, CSA 22.2 No. 250.13

IP66/67

WARRANTY

5 Years limited warranty

|           |                | Optic                         | al models                    | Floo                          | d models                     | All<br>models                 |
|-----------|----------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| Luminance | Input<br>volt. | Ambient<br>temp               | Class I,<br>Div 2<br>T-Codes | Ambient<br>temp               | Class I,<br>Div 2<br>T-Codes | Class II,<br>Div 2<br>T-Codes |
| FMR10     | AC             | -40 to 131°F<br>(-40 to 55°C) | T3C                          | -40 to 131°F<br>(-40 to 55°C) | T4A                          | T5                            |
| FMR10     | ΗV             | -40 to 129°F<br>(-40 to 54°C) | T3C                          | -40 to 123°F<br>(-40 to 51°C) | T4                           | Т5                            |
| FMR15     | AC             | -40 to 131°F<br>(-40 to 55°C) | T3C                          | -40 to 131°F<br>(-40 to 55°C) | T4A                          | Τ5                            |
| FMR15     | HV             | -40 to 129°F<br>(-40 to 54°C) | T3C                          | -40 to 123°F<br>(-40 to 51°C) | T4                           | T5                            |
| FMR20     | AC             | -40 to 131°F<br>(-40 to 55°C) | T3C                          | -40 to 131°F<br>(-40 to 55°C) | T4A                          | Т5                            |
| FMR20     | HV             | -40 to 129°F                  | T3C                          | -40 to 123°F                  | T4                           | Т5                            |

(-40 to 51°C)

-40 to 131°F

(-40 to 55°C)

-40 to 122°F

(-40 to 50°C)

-40 to 108°F

(-40 to 42°C)

-40 to 104°F

(-40 to 40°C)

T3C

тзв

Т3

ΤЗ

(-40 to 54°C)

-40 to 123°F

(-40 to 51°C)

-40 to 111°F

(-40 to 44°C)

-40 to 109°F

(-40 to 43°C)

-40 to 109°F

(-40 to 43°C)

| Els studies I | specifications |
|---------------|----------------|
| FIECTRICAL    | specifications |
| LICCUICAI     | Specifications |

AC

HV

AC

HV

T-code chart

FMR25

FMR25

FMR30

FMR30

| Luminance | Input<br>voltage | Rated<br>wattage<br>(watts) | Rated<br>voltage<br>(volts) | Frequency<br>(Hz) | Rated current<br>(amps) |
|-----------|------------------|-----------------------------|-----------------------------|-------------------|-------------------------|
| FMR10     | AC               | 107                         | 120-277                     | 50/60             | 1.11-0.48               |
| FMR10     | HV               | 129                         | 347-480                     | 50/60             | 0.43-0.31               |
| FMR15     | AC               | 145                         | 120-277                     | 50/60             | 1.42-0.61               |
| FMR15     | HV               | 145                         | 347-480                     | 50/60             | 0.47-0.34               |
| FMR20     | AC               | 190                         | 120-277                     | 50/60             | 1.74-0.75               |
| FMR20     | HV               | 187                         | 347-480                     | 50/60             | 0.59-0.42               |
| FMR25     | AC               | 247                         | 120-277                     | 50/60             | 2.18-0.95               |
| FMR25     | HV               | 248                         | 347-480                     | 50/60             | 0.74-0.53               |
| FMR30     | AC               | 312                         | 120-277                     | 50/60             | 2.82-1.22               |
| FMR30     | HV               | 310                         | 347-480                     | 50/60             | 0.96–0.70               |

Τ5

T5

Т5

Т5

T4A

T4A

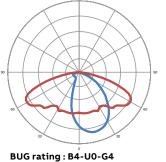
T4A

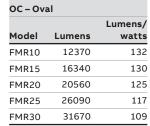
Т3

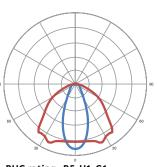
### PHOTOMETRY

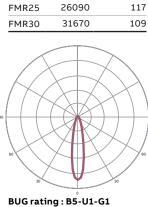
### Modular optics (20 options)

| R2 – IESNA Type 2 |        |                  |
|-------------------|--------|------------------|
| Model             | Lumens | Lumens/<br>watts |
| FMR10             | 12370  | 132              |
| FMR15             | 16340  | 130              |
| FMR20             | 20560  | 125              |
| FMR25             | 26090  | 117              |
| FMR30             | 31670  | 109              |









SC – Narrow 18°

Lumens

12370

16340

20560

Model

FMR10

FMR15

FMR20

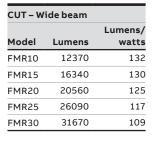
Lumens/

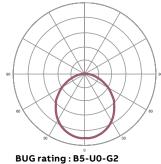
watts

132

130

125



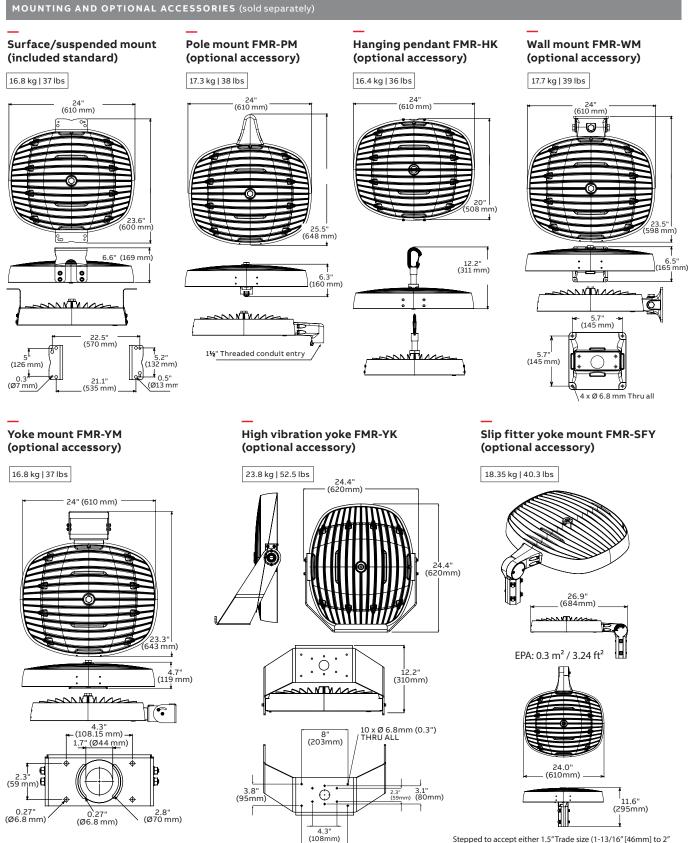


BUG rating : B5-U1-G1

Standard offering above, alternate optical profiles available upon request.

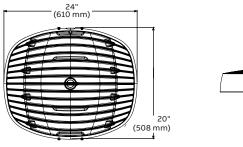
Contact sales representative for further details. Minimum order quantities, additional costs and lead times may incur.

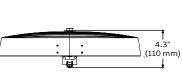




8" (203mm) Stepped to accept either 1.5" Trade size (1-13/16" [46mm] to 2" [50mm] OD) & 2" Trade size (2-1/8" [53mm] to 2-7/16" [63mm])

### DIMENSIONS





AREA AND FLOOD HYBRID LIGHTING

### NUMBERING SYSTEM

### Lighting fixture



### **Ordering information**

|          | Part   |  |
|----------|--------|--|
| Part     | number | Description                                  |
| 1 Model  | FMR10  | 12260 to 12370 lumens                        |
|          | FMR15  | 16200 to 16490 lumens                        |
|          | FMR20  | 20380 to 20730 lumens                        |
|          | FMR25  | 25860 to 26610 lumens                        |
|          | FMR30  | 31400 to 31670 lumens                        |
| 2 Optic  | CUT    | Wide beam (no optics)                        |
|          | oc     | Oval, 26° x 108°1                            |
|          | R2     | IESNA Type 21                                |
|          | SC     | Spot 18°1                                    |
| 3 Finish | GY     | Gray   |
| 4 Color  | 27     | Warm White (2700K) <sup>1</sup>              |
|          | 27H    | Warm White, High CRI (2700K) <sup>1</sup>    |
|          | 30     | Warm White (3000K) <sup>1</sup>              |
|          | 30H    | Warm White, High CRI (3000K) <sup>1</sup>    |
|          | 35     | Warm white (3500K) <sup>1</sup>              |
|          | 35H    | Warm white, high CRI (3500K) <sup>1</sup>    |
|          | 40     | Natural White (4000K) <sup>1</sup>           |
|          | 40H    | Natural White, High CRI (4000K) <sup>1</sup> |
|          | 50     | Cool white (5000K)                           |
|          | 50H    | Cool white, high CRI (5000K)                 |

| Part       | Part<br>number | Description        |
|------------|----------------|--------------------|
| 5 Power    | AC             | 120-277 V AC       |
|            | HV             | 347-480 V AC       |
| 6 Location | HL             | Hazardous location |
| 7 Market   | U              | U.S. market        |
|            | Blank          | Canadian market    |

### \_\_\_\_\_\_

### Accessories (sold separately)

| Part          | Part number | Description                          |
|---------------|-------------|--------------------------------------|
| Mounting type | FMR-WM-GY   | Wall mount <sup>1</sup>              |
|               | FMR-HK-GY   | Hanging pendant                      |
|               | FMR-PM-GY   | Pole mount <sup>1</sup>              |
|               | FMR-YM      | Yoke mount <sup>1,2</sup>            |
|               | FMR-YK      | High vibration yoke <sup>1,2,3</sup> |
|               | FMR-SFY-GY  | Slip fitter yoke mount               |

<sup>1</sup>IDA Fixture seal of approval only applies to fixtures with a CCT of 3000K or less, and that have fixed mounts aiming the fixture perpendicular to the ground. <sup>2</sup>Yoke mount only available in stainless steel finish.

 $^{\rm 3}\text{Custom}$  finishes and high vibration yoke mount are not available for NSF certified units.

Note: For Canadian market, please add "-CA" to the part no. (ex: FMR-WM-GY-CA).

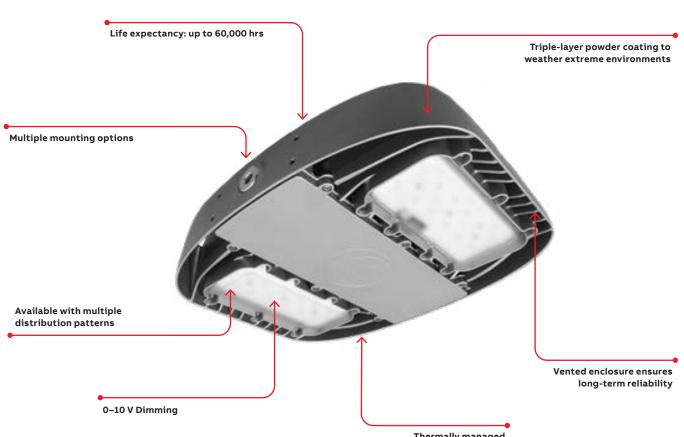
<sup>1</sup>Option subject to extended lead time and minimum order quantities.



The unique combination of flexibility and robust design allows the implementation of this light fixture in various new or existing facilities. The SMR not only exceeds the expectations of an HID replacement, but establishes a new benchmark in versatility for industrial LED lighting.

| CERTIFICATION                  |                           | APPROVALS   |         | APPLICATIONS                          |  |
|--------------------------------|---------------------------|-------------|---------|---------------------------------------|--|
| CLASS I                        |                           |             |         | Hazardous locations                   |  |
| Division 2                     | Group A, B, C, D          |             |         | Indoor lighting                       |  |
| Zone 2                         | Group IIC                 | LISTED LIST |         | Tunnel lighting                       |  |
| CLASS II                       |                           | E76933 E769 | 33      | Industrial facilities                 |  |
| Division 2                     | Group F, G                |             |         | Refinery and petrochemical facilities |  |
| Zone 22                        |                           | Ida         | IP66/67 |                                       |  |
| CLASS III                      |                           |             |         |                                       |  |
| Classification may yory depend | in a set the survey lives |             |         |                                       |  |

Classification may vary depending on the product configuration. Please follow catalogue information and exceptions.



Thermally managed for maximum longevity

### Key features and information

| FEATURES   |                   |
|--|-------------------|
| Field replaceable driver   |                   |
| Operating temperature -40°F to 131°F   | (-40°C to 55°C)   |
| Thermally managed for longevity  |                   |
| Easy field angle adjustment  |                   |
| Extreme vibration resistance   |                   |
| Direct heat transfer from power supply<br>for optimal performance                | to external case  |
| IDA Dark Sky Approved to protect the n<br>environment and reduce light pollution | -                 |
| HOUSING  |                   |
| Unique heat sink design creates increa<br>optimal LED and power supply operati   |                   |
| Copper-free Die-cast aluminum housin polycarbonate lens                          |                   |
| Available with multiple distribution pat   | terns             |
| 3/4" NPT conduit entry   |                   |
| Metal core PCB (MCPCB)   |                   |
| Modular optics   |                   |
| Physical separation of electronics for in reliability                            | ncreased system   |
| Triple-layer coating suitable for marine   | applications      |
| LED  |                   |
| Efficacy: up to 116 Lm/W   |                   |
| Lumen output: From 2,980 Lumens to 6   | 5,265 Lumens      |
| Nichia LED's   |                   |
| CRI Ra>80  |                   |
| Correlated Color Temperature (CCT): 5<br>2700K, 3000K, 3500K and 4000K (opti     |                   |
| ELECTRICAL   |                   |
| 0-10 V Dimming (1%–100%)   |                   |
| Operating voltage: 120-277VAC 50/60<br>60Hz                                      | Hz, 347-480VAC    |
| Power factor 0.96  |                   |
| Driver efficiency 86%  |                   |
| THD <20%   |                   |
| Surge protection standard at 2.5KV   |                   |
| MOUNTING   |                   |
| Surface/Suspended mount  |                   |
| Wall pack mount  |                   |
| Pole mount   |                   |
| Yoke mount   |                   |
| Conduit connection mount   |                   |
|  |                   |
| Hook pendant mount   |                   |
| Slip fitter yoke mount   |                   |
| APPROVALS  |                   |
| UL 844   |                   |
| UL 8750  |                   |
| UL 1598  |                   |
| UL 1598A   |                   |
| IDA Dark Sky Approved  |                   |
| CUL approved to CSA 22.2 No. 137, CSA<br>CSA 22.2 No. 250.13                     | 22.2 No. 250.0-08 |
| IP66/67  |                   |

### IP66/67

| WA | PP | ITV |
|----|----|-----|
|    |    |     |

5 Years limited warranty

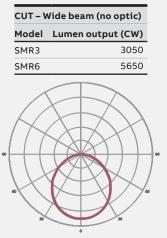
### T-code chart

| T4  | Class 1, Div 2, Groups A, B, C, D |
|-----|-----------------------------------|
|     | Class 1, Zone 2, Group IIC        |
| T4A | Class II, Div. 2, Groups F, G     |

### **Electrical specifications**

| Frequency | 120-277VAC 50/60 Hz                  |                   |  |
|-----------|--------------------------------------|-------------------|--|
|           | 347VAC 60 Hz                         |                   |  |
| Power     | SMR3: 26 W (Cut) - 29 W (R2, OC, SF) |                   |  |
|           | SMR6: 51 W (Cut) - 57 W (R2,         | OC, SF)           |  |
| Current   | SMR3: AC - 0.25A@120 VAC             | HV - 010A@347 VAC |  |
|           | SMR6: AC - 050A@120 VAC              | HV - 020A@347 VAC |  |

### Photometry



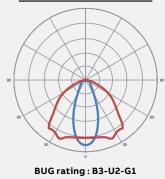
SMR3 2980 SMR6 5520

Model Lumen output (CW)

R2 – IESNA Type 2

BUG rating : B2-U0-G1

| OC – Oval 26° x 108° |                   |  |
|----------------------|-------------------|--|
| Model                | Lumen output (CW) |  |
| SMR3                 | 3290              |  |
| SMR6                 | 6090              |  |

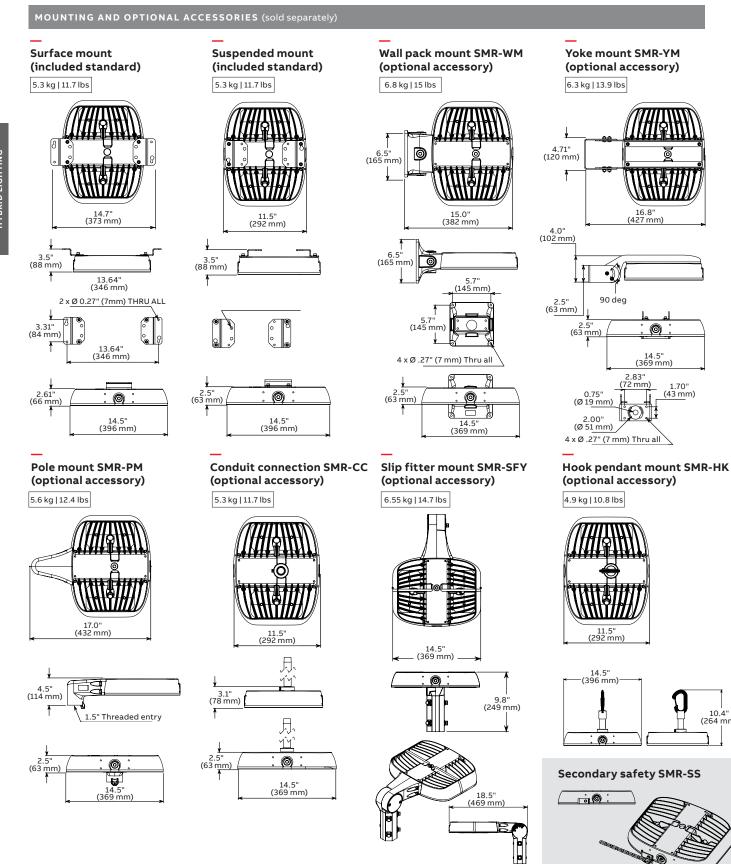


BUG rating : B1-U0-G1 SF - Spot 18° Model Lumen output (CW) SMR3 3380 SMR6 6265

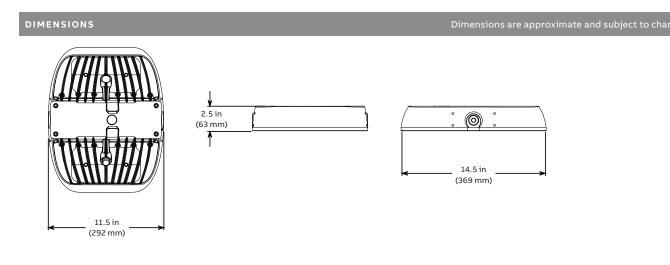


33

Standard offering above, alternate optical profiles available upon request. Contact sales representative for further details. Minimum order quantities, additional costs and lead times may incur.



10.4" (264 mm)







#### Ordering information

| Part       | Part<br>number | Description                        |
|------------|----------------|------------------------------------|
| 1 Model    | SMR3           | 2980 to 3380 Lumens                |
|            | SMR6           |                                    |
|            |                | 5520 to 6265 Lumens                |
| 2 Optic    | CUT            | Wide (no optic)                    |
|            | ос             | Oval 26° x 108°1                   |
|            | R2             | IESNA Type 21                      |
|            | SF             | Spot 18°1                          |
| 3 Finish   | GY             | Gray                               |
| 4 Color    | 27             | Warm White (2700K) <sup>1</sup>    |
|            | 30             | Warm White (3000K) <sup>1</sup>    |
|            | 35             | Warm white (3500K) <sup>1</sup>    |
|            | 40             | Natural White (4000K) <sup>1</sup> |
|            | CW             | Cool White (5000K)                 |
| 5 Power    | AC             | 120 to 277 V AC                    |
|            | HV             | 347 V AC                           |
| 6 Location | HL             | Hazardous location                 |
| 7 Market   | U              | U.S. market                        |
|            | Blank          | Canadian market                    |

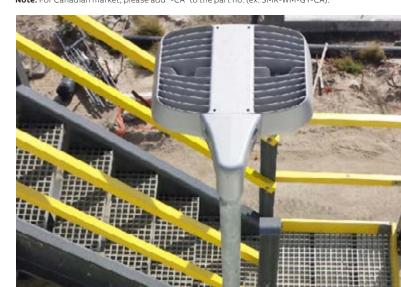
<sup>1</sup>Option subject to extended lead time and minimum order quantities.

#### Accessories (sold separately)

| SMR-WM-GY  | Wall pack mount <sup>3</sup>    |
|------------|---------------------------------|
| SMR-PM-GY  | Pole mount <sup>3</sup>         |
| SMR-YM     | Yoke mount <sup>2</sup>         |
| SMR-CC-GY  | Conduit connection <sup>3</sup> |
| SMR-HK-GY  | Hook pendant mount              |
| SMR-SS     | Secondary safety                |
| SMR-SFY-GY | Slip fitter mount               |

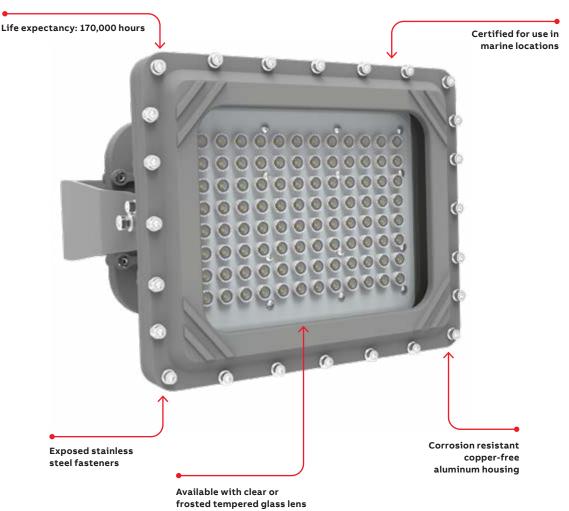
<sup>2</sup>Only available in stainless steel

<sup>3</sup>IDA Fixture seal of approval only applies to fixtures with a CCT of 3000K or less, and that have fixed mounts aiming the fixture perpendicular to the ground. Note: For Canadian market, please add "-CA" to the part no. (ex: SMR-WM-GY-CA).



The high-intensity floodlight is energy-efficient and made from corrosion-resistant, copper-free aluminum. The explosion-proof fixture can be installed in hazardous, marine locations like power plants, loading docks, and petrochemical facilities.

| CERTIFICATION |                  | APPROVALS |        | APPLICATIONS                |
|---------------|------------------|-----------|--------|-----------------------------|
| CLASS I       |                  |           | MARINE | Power plants                |
| Division 1    | Group C, D       |           |        | Paper mills                 |
| Division 2    | Group A, B, C, D | LISTED    | LISTED | Wastewater treatment plants |
| CLASS II      |                  |           |        | Loading docks               |
| Division 2    | Group F, G       |           |        | Chemical processing         |
| CLASS III     |                  | (P66)     | ік 09  | Petrochemical facilities    |



# Key features and information

#### FEATURES

Operating temperature: -40°F to 140°F (-40°C +60°C) optimal 77°F (25°C)

Exposed hardware made of stainless steel

High efficacy for increased energy savings

#### HOUSING

Housing made of copper-free aluminum

Anti-corrosion housing (tested for 1000hrs)

Tempered glass lens is impact and thermal shock resistant

Lens tested to IK09

High temperature silicone gasketing

#### LED

Efficacy: up to 130 Lm/W

Lumen output: From 10,400 lumens to 19,500 lumens

#### OSRAM LED's

CRI Ra>70

Correlated Color Temperature (CCT): 5000K (standard), 3000K and 4000K (optional)

#### ELECTRICAL

Operating voltage: universal 120-277 VAC, 347-480 VAC (50/60Hz)

#### Power factor 0.95

Driver efficiency 90%

#### THD <20%

Surge protection standard at 4KV (Contact your sales representative if high protection is required.)

#### MOUNTING

Pendant mount

Optional yoke/pipe bracket for wall/ceiling or pole mount

| APPROVALS                          |
|------------------------------------|
| UL844                              |
| UL1598A Marine                     |
| CSA C22.2 No.137-M1981             |
| CSA C22.2 No.30-M1986              |
| CSA C22.2 No.25-1966               |
| FCC                                |
| IP66                               |
| IK09                               |
| 5G (shock and vibration resistant) |
| 1000hrs salt spray                 |
| WARRANTY                           |
| 5 Years limited warranty           |

#### T-code chart

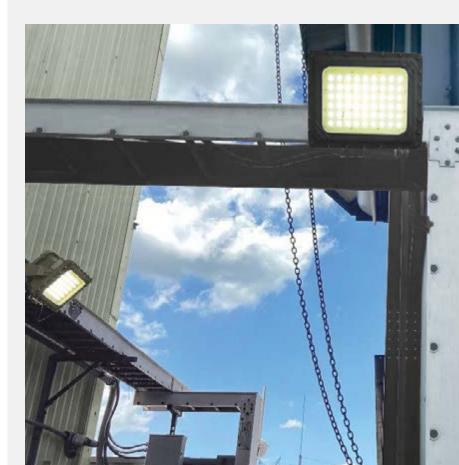
| Fixture | 80 watt | 100 watt | 150 watt |
|---------|---------|----------|----------|
| C1D1    | Т6      | Т6       | Т6       |
| C1D2    | T4A     | T4A      | T4A      |
| CIID2   | T4A     | T4A      | T4A      |

#### **Electrical specifications**

| Specification   |            | FC-8       | FC-10         | FC-15      |
|-----------------|------------|------------|---------------|------------|
| Rated power     |            | 80W        | 100W          | 150W       |
| Input voltage   |            | 120-       | 277, 347-480V |            |
| Input frequency |            |            | 50/60Hz       |            |
| Input current   | (120/277V) | 0.63/0.29A | 0.82/0.36A    | 1.7/0.54A  |
| Input current   | (347/480V) | 0.24/0.17A | 0.29/0.21A    | 0.43/0.31A |

#### **Lighting output**

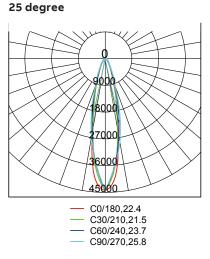
| Fixture        | 80 watt | 100 watt | 150 watt |
|----------------|---------|----------|----------|
| Lumen output   | 10400   | 13000    | 19500    |
| Lumen per watt | 130     | 130      | 130      |



60 degree

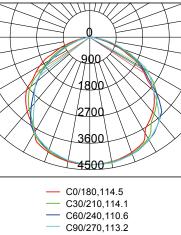
## Hazlux<sup>®</sup> FC LED Series

#### PHOTOMETRY



120 degree

BUG rating: B4-U0-G1



BUG rating: B4-U0-G1

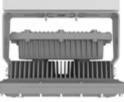
#### MOUNTING AND OPTIONAL ACCESSORIES (sold separate

#### **Pendant mount** (included standard)

#### Yoke/pipe bracket mount (optional accessory)



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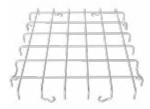






Requires yoke/pipe bracket.

Accessories



WG01 - Stainless steel wire guard

#### Yoke/pipe bracket



**UB01** -Yoke/pipe bracket (SUS 304) stainless steel

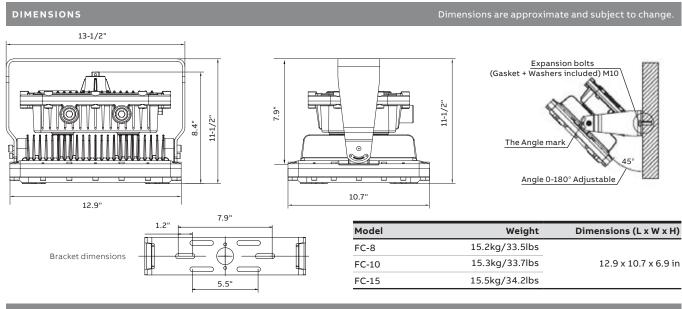


**UB03** ket Anti-vibration U-bracket

Pole type stanchion

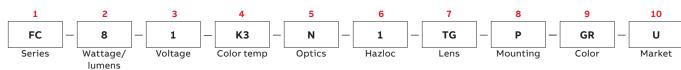


SN01 -Pole type stanchion Note: Standard slipfitter for 2-3/8" (60mm) pole



NUMBERING SYSTEM

#### Lighting fixture



#### Ordering information

|                  | Part   |   |
|------------------|--------|---|
| Part             | number | Description                             |
| 1 Series         | FC     | Hazlux® flood light LED                 |
| 2 Wattage/lumens | 8      | 80W (10,400 lm)                         |
|                  | 10     | 100W (13,000 lm)                        |
|                  | 15     | 150W (19,500 lm)                        |
| 3 Voltage        | 1      | 120-277V                                |
|                  | 4      | 347-480V                                |
| 4 Color temp     | К3     | 3000K1                                  |
|                  | К4     | 4000K1                                  |
|                  | К5     | 5000K (standard)                        |
| 5 Optics         | N      | 25°1                                    |
|                  | м      | 60°1                                    |
|                  | w      | 120° (standard)                         |
| 6 Hazloc         | 1      | CID1                                    |
|                  | 2      | C1D2, CIID2                             |
| 7 Lens           | TG     | Clear glass                             |
|                  | FG     | Frosted glass <sup>1</sup>              |
| 8 Mounting       | Р      | NPT 3/4 pendant mount                   |
|                  | U      | NPT 3/4 pendant mount +<br>yoke bracket |
| 9 Color          | G      | Gray                                    |
| 10 Market        | U      | U.S. market                             |
|                  | Blank  | Canadian market                         |

<sup>1</sup>Longer lead time, contact your sales representative for more details

#### Accessories (sold separately)

| Pole type stanchion                            |
|--|
| Yoke/pipe bracket<br>(SUS 304) stainless steel |
| Anti-vibration U-bracket                       |
| Stainless steel wire guard                     |
|  |

Note: For Canadian market, please add "-CA" to the part no. (ex: SN01-CA).





# **Table of contents**

# Linear lighting products



# Accessories



Quick pole assembly 62

Extremely durable and water-tight, the LI1 LED Series has a slim and compact design. This explosion-proof fixture can withstand the most demanding hazardous location environments like paper mills, chemical facilities, and wastewater treatment plants.

| CERTIFICATION   | APPROVALS     | APPLICATIONS   |
|---|---------------|--|
| CLASS I         Division 1       Group C, D         Division 2       Group A, B, C, D         Simultaneous presence         Classification may vary depending on the product configuration. Please follow catalogue information and exceptions. | LISTED LISTED | Mining<br>Paper mills<br>Chemical/industrial facilities<br>Wastewater treatment plants<br>Loading docks<br>Petrochemical facilities<br>Paint spray booth |
| •<br>Life expectancy: 140,000 hours   |               | Certified for use in<br>marine locations   |
| Exposed stainless   |               |  |
| Available with clear or<br>frosted tempered glass lens  |               | Corrosion resistant<br>copper-free<br>aluminum housing   |

# Key features and information

#### FEATURES

Operating temperature: -40°F to 140°F (-40°C +60°C) optimal 77°F (25°C)

Exposed hardware made of stainless steel

Slim and compact design

#### HOUSING

Housing made of copper-free aluminum

Anti-corrosion housing (tested for 1000hrs)

Tempered glass lens is impact and thermal shock resistant

#### LED

Efficacy: up to 120 Lm/W

Lumen output: from 4,800 lumens to 9,600 lumens OSRAM LED's

UL 8750 LED safety

CRI Ra>70

Correlated Color Temperature (CCT): 5000K (standard), 3000K and 4000K (optional)

#### ELECTRICAL

Operating voltage: universal 120-277 VAC, 347-480 VAC (50/60Hz)

Power factor 0.95

Driver efficiency 90%

#### THD <20%

Surge protection standard up to 10KV (Contact your sales representative if high protection is required.)

#### MOUNTING

Pendant mount

Optional yoke/pipe bracket for wall/ceiling or pole mount

Chain mount ("Chain" supplied by others)

| APPROVALS                    |
|------------------------------|
| UL 844                       |
| UL 1598A marine outside type |

| UL 1598 wet locations              |  |
|------------------------------------|--|
| UL 8750 LED safety                 |  |
| IP66                               |  |
| 5G (shock and vibration resistant) |  |
| 1000hrs salt spray                 |  |

.

WARRANTY

5 Years limited warranty

### T-code chart

| Fixture | 40 watt | 80 watt |
|---------|---------|---------|
| C1D1    | Т6      | T6      |
| C1D2    | T3C     | T3C     |

#### **Electrical specifications**

| Specification       | LI1-4 LI   |                  |            |
|---------------------|------------|------------------|------------|
| Rated power         | 40         |                  | 80W        |
| Input voltage       | 1          | 20-277, 347-480V |            |
| Input frequency     | 50/60Hz    |                  |            |
| lance and a summary | (120/277V) | 0.4/0.14A        | 0.8/0.29A  |
| Input current –     | (347/480V) | 0.14/0.08A       | 0.29/0.17A |

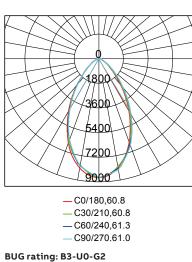
#### Lighting output

| Fixture        | 40 watt | 80 watt |
|----------------|---------|---------|
| Lumen output   | 4800    | 9600    |
| Lumen per watt | 120     | 120     |

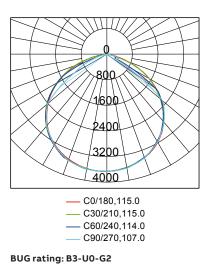


#### PHOTOMETRY

60 degree

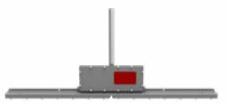


#### 110 degree



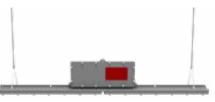
#### -

# MOUNTING AND OPTIONAL ACCESSORIES (sold separately) Pendant mount (included standard) Chain mo



Ceiling & wall mount (optional accessory)

### Chain mount (compatible)



Chain supplied by others.

#### Stanchion mount (optional accessory)



Pipe clamp and yoke/pipe bracket required for stanchion installation. Sold separately.





**PC01 - Pipe clamp (1 pair)** Pipe clamp (M8\*48mm) for pole Ø 1-7/8" (48mm)



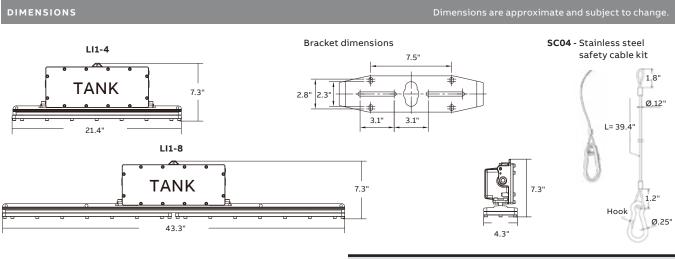
**PC02** - Pipe clamp (1 pair) Pipe clamp (M8\*60mm) for pole Ø 2-3/8" (60mm)



UB02 - Yoke/pipe bracket (SUS 304) stainless steel

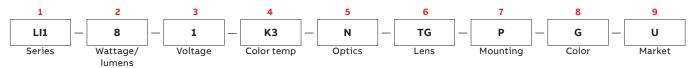


SC04 - Stainless steel safety cable kit



| Model | Weight         | Dimensions (L x W x H) |
|-------|----------------|------------------------|
| LI1-4 | 7.3kg/16.1lbs  | 21.4 x 4.3 x 7.3 in    |
| LI1-8 | 10.8kg/23.8lbs | 43.3 x 4.3 x 7.3 in    |

#### Lighting fixture



#### Ordering information

| Part             | Part<br>number | Description                             |
|------------------|----------------|---|
| 1 Series         | LI1            | Hazlux <sup>®</sup> linear light LED    |
| 2 Wattage/lumens | 4              | 40W (4,800 lm)                          |
|                  | 8              | 80W (9,600 lm)                          |
| 3 Voltage        | 1              | 120-277V                                |
|                  | 4              | 347-480V                                |
| 4 Color temp     | К3             | 3000K1                                  |
|                  | К4             | 4000K1                                  |
|                  | К5             | 5000K (standard)                        |
| 5 Optics         | N              | 60°1                                    |
|                  | w              | 110° (standard)                         |
| 6 Lens           | TG             | Clear glass                             |
|                  | FG             | Frosted glass <sup>1</sup>              |
| 7 Mounting       | Р              | NPT 3/4 pendant mount                   |
|                  | U              | NPT 3/4 pendant mount +<br>yoke bracket |
| 8 Color          | G              | Gray                                    |
| 9 Market         | U              | U.S. market                             |
|                  | Blank          | Canadian market                         |

#### Accessories (sold separately)

| PC02 | Pipe clamp (1 pair)                           |
|------|---|
|      | Pipe clamp (M8*60mm) for pole Ø 2-3/8" (60mm) |
| SC04 | Stainless steel safety cable kit              |
| UB02 | Yoke/pipe bracket (SUS 304) stainless steel   |

Note: For Canadian market, please add "-CA" to the part no. (ex: PC01-CA).

45

#### <sup>1</sup>Longer lead time, contact your sales representative for more details

Versatile, shock-resistant, and explosion-proof lighting with a slim design, the LI1-EM LED Series can be mounted on a wall, ceiling, and pole in various hazardous locations, ranging from mines to petrochemical facilities.

| CERTIFICATION   | AP                                 | PROVALS | AP   | PLICATIONS               |
|---|------------------------------------|---------|--|--------------------------|
| CLASS I   |                                    |         | Mining   |                          |
| Division 1 Group C, D   |                                    |         | Paper mills  |                          |
| Classification may vary depending on the product configuration. Please follow catalogue information and | LISTED                             |         | Chemical/indust                                    | rial facilities          |
| exceptions.   |                                    |         | Wastewater treat                                   |                          |
|   |                                    |         | Petrochemical fac                                  | cilities                 |
| Life expectancy: 147,000 hours  |                                    |         |  | Emergency battery backup |
| Exposed stainless<br>steel fasteners  |                                    |         |  |                          |
|   | with clear or<br>mpered glass lens |         | Corrosion resista<br>copper-fre<br>aluminum housir | e                        |

# Key features and information

#### FEATURES

| Operating temperature: -4°F to 113°F (-20°C +45°C) |
|--|
| optimal 77°F (25°C)                                |

Exposed hardware made of stainless steel

Slim and compact design

Emergency run time: 90 minutes

#### HOUSING

Housing made of copper-free aluminum

Tempered glass lens is impact and thermal shock resistant

Efficacy: up to 136 Lm/W

| Lumen outp | ut: 10,800 lumens |
|------------|-------------------|
|------------|-------------------|

OSRAM LED's

CRI Ra>70

Correlated Color Temperature (CCT): 5000K (standard)

#### ELECTRICAL

Operating voltage: 120-277 VAC (50/60Hz)

Power factor 0.95

Driver efficiency 90%

THD <20%

Surge protection standard up to 10KV (Contact your sales representative if high protection is required.)

#### MOUNTING

Pendant mount

Optional yoke/pipe bracket for wall/ceiling or pole mount Chain mount ("Chain" supplied by others)

| APPROVALS                          |  |
|------------------------------------|--|
| UL 844                             |  |
| UL924                              |  |
| CSA C22.2 No. 141-15               |  |
| CSA C22.2 No. 137                  |  |
| CSA C22.2 No. 30                   |  |
| CSA C22.2 No.250.0                 |  |
| CSA C22.2 No.250.13                |  |
| IP66                               |  |
| 5G (shock and vibration resistant) |  |
| 1000hrs salt spray                 |  |
| WARRANTY                           |  |
| 5 Years limited warranty           |  |

#### T-code chart

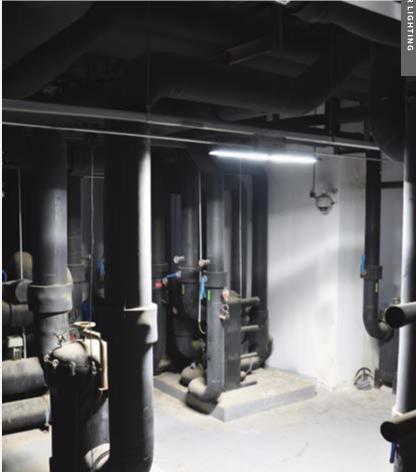
| Fixture | 80 watt |
|---------|---------|
| C1D1    | T6      |

#### **Electrical specifications**

| Specification                 | LI1-EM-8 (battery backup) |
|-------------------------------|---------------------------|
| Rated power                   | 80W (6W)                  |
| Input voltage                 | 120-277V only (50/60Hz)   |
| Battery                       | Nickel-cadmium            |
| Expected battery life         | 5 years                   |
| Charge time                   | 24 hours                  |
| Emergency run time            | 90 min.                   |
| Input current (standard mode) | 0.67/0.29A (AC120/277V)   |

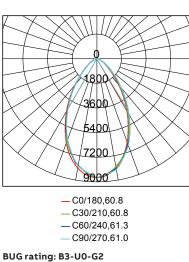
#### **Lighting output**

| Fixture                       | 80 watt |
|-------------------------------|---------|
| Lumen output - normal mode    | 10,800  |
| Lumen output - emergency mode | 812     |
| Lumen per watt - normal mode  | 136     |

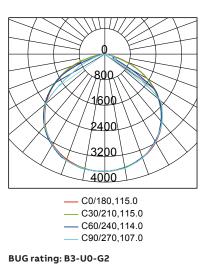


#### PHOTOMETRY

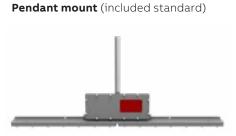
60 degree



#### 110 degree

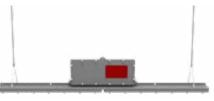


#### MOUNTING AND OPTIONAL ACCESSORIES (sold separately)



Ceiling & wall mount (optional accessory)

#### Chain mount (compatible)



Chain supplied by others.

#### Stanchion mount (optional accessory)



Pipe clamp and yoke/pipe bracket required for stanchion installation. Sold separately.

#### Accessories



**PC01 - Pipe clamp (1 pair)** Pipe clamp (M8\*48mm) for pole Ø 1-7/8" (48mm)



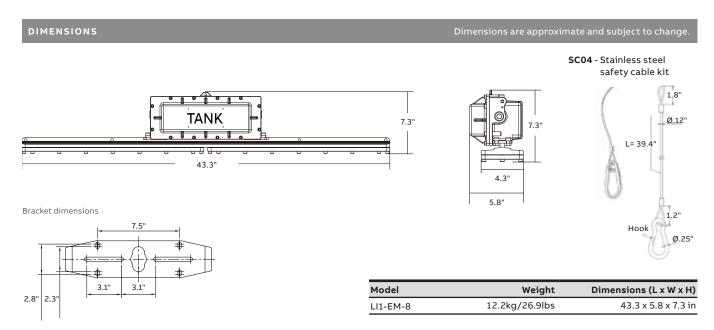
**PCO2 - Pipe clamp (1 pair)** Pipe clamp (M8\*60mm) for pole Ø 2-3/8" (60mm)



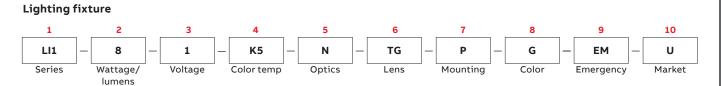
UB02 - Yoke/pipe bracket (SUS 304) stainless steel



SC04 - Stainless steel safety cable kit



#### NUMBERING SYSTEM



### Ordering information

|                  | Part   |                                      |
|------------------|--------|--------------------------------------|
| Part             | number | Description                          |
| 1 Series         | LI1    | Hazlux <sup>®</sup> linear light LED |
| 2 Wattage/lumens | 8      | 80W (10,800 lm)                      |
| 3 Voltage        | 1      | 120-277V                             |
| 4 Color temp     | К5     | 5000K                                |
| 5 Optics         | N      | 60°1                                 |
|                  | W      | 110° (standard)                      |
| 6 Lens           | TG     | Clear glass                          |
|                  | FG     | Frosted glass <sup>1</sup>           |
| 7 Mounting       | Р      | NPT 3/4 pendant mount                |
|                  | U      | NPT 3/4 pendant mount + yoke bracket |
| 8 Color          | G      | Gray                                 |
| 9 Emergency      | EM     | Emergency 90 minutes                 |
| 10 Market        | U      | U.S. market                          |
|                  | Blank  | Canadian market                      |

 ${}^{1}\text{Longer}$  lead time, contact your sales representative for more details

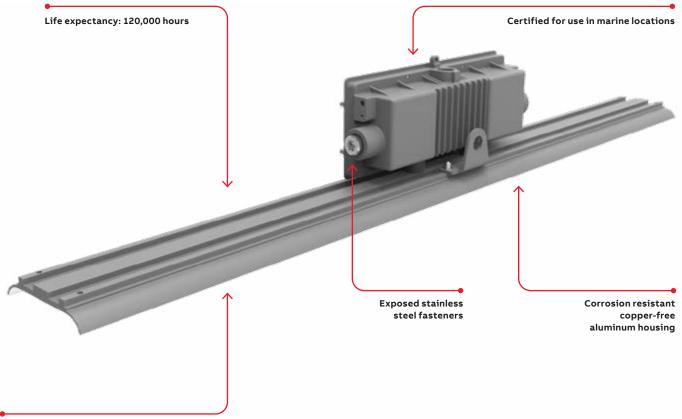
#### Accessories (sold separately)

| PC01 | <b>Pipe clamp (1 pair)</b><br>Pipe clamp (M8*48mm) for pole Ø 1-7/8'' (48mm) |  |
|------|--|--|
| PC02 | <b>Pipe clamp (1 pair)</b><br>Pipe clamp (M8*60mm) for pole Ø 2-3/8" (60mm)  |  |
| SC04 | Stainless steel safety cable kit   |  |
| UB02 | Yoke/pipe bracket (SUS 304) stainless steel                                  |  |

Note: For Canadian market, please add "-CA" to the part no. (ex: PC01-CA).

The LE2 LED Series is a slim, shock and vibration resistant fixture made of copperfree aluminum. This durable product has exposed hardware made from stainless steel and is suitable for marine and wet locations.

| CERTIFICATION  | APPROVALS     | APPLICATIONS                |
|--|---------------|-----------------------------|
| CLASS I  | MARINA C      | Power plants                |
| Division 2 Group A, B, C, D  |               | Paper mills                 |
| CLASS II   | LISTED LISTED | Wastewater treatment plants |
| Division 1 Group E, F, G   |               | Loading docks               |
| CLASS III  |               | Chemical processing         |
| Classification may vary depending on the product                   |               | Storage facilities          |
| configuration. Please follow catalogue information and exceptions. |               |                             |



Available with clear or frosted thermal shock and impact resistant polycarbonate lens

# Key features and information

| Operating temperature: -40°F to 122°F (-40°C +50°C) |
|---|
| optimal 77°F (25°C)                                 |

Exposed hardware made of stainless steel

Slim and compact design

#### HOUSING

Housing made of copper-free aluminum

Anti-corrosion housing (tested for 1000hrs)

Shock and impact resistant polycarbonate lens

#### Lens tested to IK08

#### LED

Efficacy: up to 137 Lm/W

Lumen output: from 5,480 lumens to 10,960 lumens

#### Meanwell LED's

UL 8750 LED safety

CRI Ra>70

Correlated Color Temperature (CCT): 5000K (standard), 3000K and 4000K (optional)

#### ELECTRICAL

| Operating voltage: universal 120-277 VAC, 347-480 VAC |  |
|---|--|
| (50/60Hz)   |  |

Power factor 0.95

Driver efficiency 90%

#### THD <20%

Surge protection standard at 4KV (Contact your sales representative if high protection is required.)

#### MOUNTING

#### Pendant mount

Optional yoke/pipe bracket for wall/ceiling or pole mount

Chain mount ("Chain" supplied by others)

| APPROVALS                          |
|------------------------------------|
| UL844 & CSA C22.2 No. 137-M1981    |
| UL 1598A marine                    |
| UL 1598 wet locations              |
| UL 8750 LED safety                 |
| FCC                                |
| IP66                               |
| IK08                               |
| 5G (shock and vibration resistant) |
| 1000hrs salt spray                 |
| WARRANTY                           |

5 Years limited warranty

#### T-code chart

| Fixture | 40 watt | 80 watt |
|---------|---------|---------|
| C1D2    | T3C     | T3C     |
| CIID1   | T4A     | T4A     |

#### **Electrical specifications**

| Specification   |                   | LE2-4 LE2-8 |            |
|-----------------|-------------------|-------------|------------|
| Rated power     |                   | 40W 80W     |            |
| Input voltage   | 120-277, 347-480V |             |            |
| Input frequency |                   | 50/60Hz     |            |
| Input current   | (120/277V)        | 0.34/0.16A  | 0.67/0.32A |
| Input current   | (347/480V)        | 0.13/0.09A  | 0.25/0.18A |

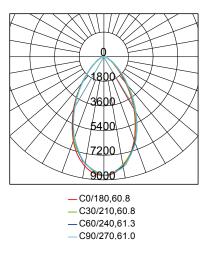
#### Lighting output

| Fixture        | 40 watt | 80 watt |
|----------------|---------|---------|
| Lumen output   | 5480    | 10960   |
| Lumen per watt | 137     | 137     |



#### PHOTOMETRY

#### 110 degree



#### BUG rating: B3-U0-G1

**MOUNTING AND OPTIONAL ACCESSORIES** (sold separately)

Pendant mount (included standard)

#### Chain mount (compatible)



Chain supplied by others.

Yoke/pipe bracket (optional accessory) Ceiling and wall

#### Stanchion mount (optional accessory)



Pipe clamp and yoke/pipe bracket required for stanchion installation. Sold separately.

Accessories



**PC01 - Pipe clamp (1 pair)** Pipe clamp (M8\*48mm) for pole Ø 1-7/8" (48mm)



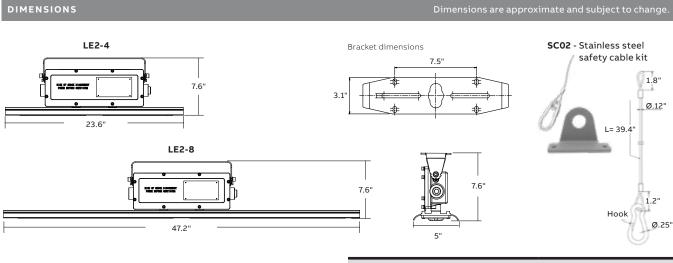
**PC02 - Pipe clamp (1 pair)** Pipe clamp (M8\*60mm) for pole Ø 2-3/8" (60mm)



UB02 - Yoke/pipe bracket (SUS 304) stainless steel



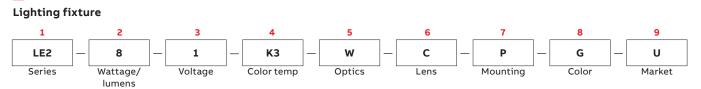
SC02 - Stainless steel safety cable kit



| Model | Weight        | Dimensions (L x W x H) |
|-------|---------------|------------------------|
| LE2-4 | 5.5kg/12.1lbs | 23.6 x 5.0 x 7.6 in    |
| LE2-8 | 7.6kg/16.7lbs | 47.2 x 5.0 x 7.6 in    |
|       |               |                        |

<sup>1</sup>Dimensions are approximate and subject to change.

NUMBERING SYSTEM



#### Ordering information

| Part             | Part<br>number | Description                          |
|------------------|----------------|--------------------------------------|
| 1 Series         | LE2            | Hazlux <sup>®</sup> linear light LED |
|                  |                | <u> </u>                             |
| 2 Wattage/lumens | 4              | 40W (5,480 lm)                       |
|                  | 8              | 80W (10,960 lm)                      |
| 3 Voltage        | 1              | 120-277V                             |
|                  | 4              | 347-480V                             |
| 4 Color temp     | К3             | 3000K1                               |
|                  | K4             | 4000K1                               |
|                  | К5             | 5000K (standard)                     |
| 5 Optics         | W              | 110°                                 |
| 6 Lens           | С              | Clear polycarbonate                  |
|                  | F              | Frosted polycarbonate <sup>1</sup>   |
| 7 Mounting       | Р              | NPT 3/4 pendant mount                |
|                  | U              | NPT 3/4 pendant mount + yoke bracket |
| 8 Color          | G              | Gray                                 |
| 9 Market         | U              | U.S. market                          |
|                  | Blank          | Canadian market                      |

Accessories (sold separately)

| PC01 | <b>Pipe clamp (1 pair)</b><br>Pipe clamp (M8*48mm) for pole Ø 1-7/8'' (48mm) |
|------|--|
| PC02 | <b>Pipe clamp (1 pair)</b><br>Pipe clamp (M8*60mm) for pole Ø 2-3/8" (60mm)  |
| SC02 | Stainless steel safety cable kit   |
| UB02 | Yoke/pipe bracket (SUS 304) stainless steel                                  |

Note: For Canadian market, please add "-CA" to the part no. (ex: PC01-CA).

A durable and robust linear luminaire designed to replace conventional fluorescent fixtures in industrial, commercial and tunnel applications.





# Key features and information

| FEATURES  | <br>T-code c   |
|---|----------------|
| Field replaceable driver  |                |
| Operating temperature: -40 to 114°F (-40 to 46°C)   |                |
| Ideal for dirty, wet and corrosive environments   | Model<br>WNL25 |
| IDA Dark Sky Approved to protect the night time   | WNL25          |
| environment and reduce light pollution Features   | W/NIL 211      |
| Multiple light output options to replace fluorescent<br>fixtures                                  | WNL2H          |
|   | WNL2X          |
| HOUSING   | WINLZA         |
| IP66 vented enclosure eliminates pressure differentials<br>for reliable sealing                   | WNL4S          |
| Powder-coated end caps  |                |
| Copper-free Die-cast aluminum housing and high impact polycarbonate lens                          | WNL4H          |
| Available with multiple distribution patterns   |                |
| 3/4" NPT conduit entry  |                |
| LED   |                |
| Efficacy: up to 115 Lm/W  | Electrica      |
| Lumen output: From 3,970 Lumens to 10,470 Lumens  |                |
| Nichia LED's  |                |
| CRI Ra>70   | Model          |
| Metal core PCB  | WNL2S          |
| Correlated Color Temperature (CCT): 5000K (standard),<br>2700K, 3000K, 3500K and 4000K (optional) | -              |
| ELECTRICAL  | WNL2H          |
| 0-10 V Dimming (1%–100%)  |                |
| Operating voltage: 120-277VAC, 347-480VAC   |                |
| Frequency: 50/60Hz  | WNL2X          |
| Power factor 0.95   | WINEZA         |
| Driver efficiency 88%   |                |
| THD <20%  |                |
| Surge protection standard at 6KV  | WNL4S          |
| Fault tolerant and fail-over design ensures reliability and resilience to damage                  | _              |
| MOUNTING  | WNL4H          |
| Surface mount   | WINE4H         |
| Suspended mount   |                |
| Angle adjustable mount  |                |
| APPROVALS   |                |
| UL 844  |                |
| UL 8750   |                |
| UL 1598   | рнотом         |
| UL 1598A and ABS Marine Locations   |                |
| CUL approved to CSA 22.2 No. 137, CSA 22.2 No. 250.0-08,  | Optic op       |
| CSA 22.2 No. 250.13   | opticop        |
| IP66  | WC Wide        |
| WARRANTY  | we wide        |
| 5 Years limited warranty  | Madal          |

5 Years limited warranty

#### chart

| Model | Input<br>voltage | Rated voltage<br>(Volts) | T-codes<br>(Class I Div. 2) | T-codes<br>(Class II Div. 2) |
|-------|------------------|--------------------------|-----------------------------|------------------------------|
| WNL2S | AC               | 120-277                  | T4A                         | T4                           |
|       | HV               | 347-480                  | T4A                         | T4                           |
| WNL2H | AC               | 120-277                  | T4A                         | T4                           |
|       | HV               | 347-480                  | T4A                         | T4                           |
| WNL2X | AC               | 120-277                  | T5                          | T4                           |
|       | HV               | 347-480                  | T5                          | T4A                          |
| WNL4S | AC               | 120-277                  | T4A                         | T4A                          |
|       | HV               | 347-480                  | T4A                         | T4A                          |
| WNL4H | AC               | 120-277                  | T4A                         | T4A                          |
|       | HV               | 347-480                  | T4A                         | T4A                          |

### al specifications and Lighting output

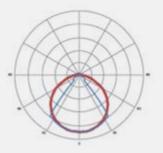
|       | Input   | Rated   | Rated voltage | Freq. |               | Total  |
|-------|---------|---------|---------------|-------|---------------|--------|
| Model | voltage | (Watts) | (Volts)       | (Hz)  | Ambient temp. | lumens |
| WNL2S |         |         |               |       | -40 to 131°F  |        |
|       | AC      | 36      | 120-277       | 50/60 | (-40 to 55°C) | 3,970  |
|       |         |         |               |       | -40 to 129°F  |        |
|       | HV      | 36      | 347-480       | 50/60 | (-40 to 54°C) | 3,970  |
| WNL2H |         |         |               |       | -40 to 131°F  |        |
|       | AC      | 52      | 120-277       | 50/60 | (-40 to 55°C) | 5,143  |
|       |         |         |               |       | -40 to 129°F  |        |
|       | HV      | 52      | 347-480       | 50/60 | (-40 to 54°C) | 5,143  |
| WNL2X |         |         |               |       | -40 to 126°F  |        |
|       | AC      | 70      | 120-277       | 50/60 | (-40 to 52°C) | 7,965  |
|       |         |         |               |       | -40 to 115°F  |        |
|       | HV      | 82      | 347-480       | 50/60 | (-40 to 46°C) | 7,965  |
| WNL4S |         |         |               |       | -40 to 131°F  |        |
|       | AC      | 85      | 120-277       | 50/60 | (-40 to 55°C) | 8,697  |
|       |         |         |               |       | -40 to 129°F  |        |
|       | HV      | 90      | 347-480       | 50/60 | (-40 to 54°C) | 8,697  |
| WNL4H |         |         |               |       | -40 to 129°F  |        |
|       | AC      | 105     | 120-277       | 50/60 | (-40 to 54°C) | 10,470 |
|       |         |         |               |       | -40 to 126°F  |        |
|       | HV      | 109     | 347-480       | 50/60 | (-40 to 52°C) | 10,470 |

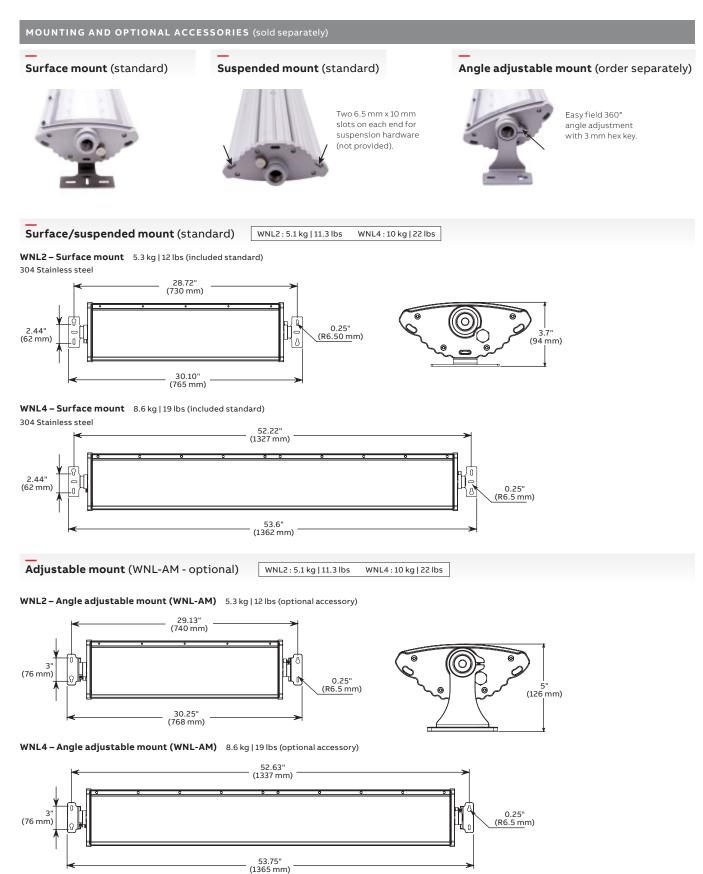
### METRY

#### otions

#### e 100°

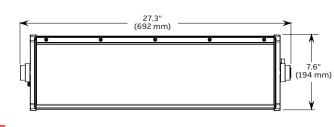
| BUG Rating |
|------------|
| B3-U1-G1   |
| B3-U2-G1   |
|            |



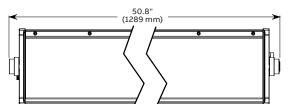


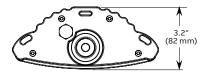
#### DIMENSIONS

#### WNL2



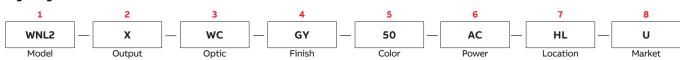
## WNL4





#### NUMBERING SYSTE





### Ordering information

| Part       | Part<br>number | Description                                    |
|------------|----------------|--|
| 1 Model    | WNL2           | 2 foot   |
|            | WNL4           | 4 foot   |
| 2 Output   | S              | Standard                                       |
|            | н              | High output                                    |
|            | x              | Extra high output<br>(not available with WNL4) |
| 3 Optic    | WC             | Wide (no optics)                               |
| 4 Finish   | GY             | Gray   |
| 5 Color    | 27             | Warm white (2700K) <sup>1</sup>                |
|            | 30             | Warm white (3000K) <sup>1</sup>                |
|            | 35             | Warm white (3500K) <sup>1</sup>                |
|            | 40             | Natural white (4000K) <sup>1</sup>             |
|            | 50             | Cool white (5000K)                             |
| 6 Power    | AC             | 120 to 277 V AC                                |
|            | HV             | 347 to 480 V AC                                |
| 7 Location | HL             | Hazardous location                             |
| 8 Market   | BLANK          | Canadian market                                |
|            | U              | US market                                      |

Accessories (sold separately)

| WNL-AM-GY               | Adjustable mount   |
|-------------------------|--|
| Note: For Canadian mark | et, please add "-CA" to the part no. (ex: WNL-AM-GY-CA). |

<sup>1</sup>Option subject to extended lead time and minimum order quantities.

Lightweight, extremely durable and water-tight linear strip fixtures to withstand the most demanding hazardous location environments.



## Key features and information

#### FEATURES

Operating temperature:

AC -40 to 149°F (-40 to 65°C) DC -40 to 140°F (-40 to 60°C)

Light weight linear strip luminaire

IDA Dark Sky Approved to protect the night time

environment and reduce light pollution Features

High-efficiency internal reflector maximizes output

Suitable for wet location

#### HOUSING

Heat-sink designed for optimal heat dissipation

Unique case design utilizes compression for sealing and eliminates fasteners on the front face

MIL-SPEC Hard anodizing (body) and super-durable powdercoat (end caps) suitable for rugged outdoor environments

Copper-free Die-cast aluminum housing and high impact polycarbonate lens

#### LED

Efficacy: up to 58 Lm/W

Lumen output: From 559 Lumens to 2,289 Lumens

CREE LED's

CRI Ra>80

Metal core PCB

Correlated Color Temperature (CCT): 5000K (standard), 3000K, 3500K and 4000K (optional)

Note : Special LED colors for LGS DC version available upon request (Amber, Blue, Green and Red).

#### ELECTRICAL

Standard with 3ft. whip AC and DC options

Operating voltage: 11–16 V DC; 21–28 V DC; 120 V AC, 50/60Hz

Power factor 0.95

Driver efficiency 80%

THD <20%

Surge protection standard at 2.5KV

12 V or 24 V DC input options can run directly off of vehicle or facility low voltage DC

#### MOUNTING

Adjustable mount

Carriage bolt mount

#### APPROVALS

UL 844 UL 8750

UL 1598

UL 1598A and ABS Marine Locations

#### IDA Dark Sky Approved

CUL approved to CSA 22.2 No. 137, CSA 22.2 No. 250.0-08, CSA 22.2 No. 250.13

### IP66/67/68

WARRANTY

5 Years limited warranty

### T-code chart

| Т5  | Class 1, Div 2, Groups A, B, C, D |
|-----|-----------------------------------|
| T4A | Class II, Div. 2, Groups F, G     |

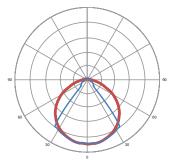
#### **Electrical specifications**

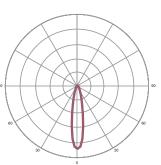
| Model   |         | LGS-1 | LGS-2 | LGS-3 | LGS-4 |
|---------|---------|-------|-------|-------|-------|
| Power   | 12 VDC  | 12W   | 21W   | 36W   | 48W   |
|         | 24 VDC  | 11W   | 21W   | 32W   | 42W   |
|         | 120 VAC | 10W   | 20W   | 31W   | 41W   |
| Current | 12 VDC  | 0.75A | 1.5A  | 2.3A  | 3.0A  |
|         | 24 VDC  | 0.40A | 0.75A | 1.1A  | 1.5A  |
|         | 120 VAC | 0.09A | 0.17A | 0.23A | 0.34A |



#### PHOTOMETRY

#### **Optic options**





| W – Wide 100°           |                |  |
|-------------------------|----------------|--|
| Model Lumen output (CW) |                |  |
| LGS-1                   | 586            |  |
| BUG rat                 | ing : B1-U0-G0 |  |

| LGS-2 | 1172 |
|-------|------|

#### LGS-4 2289 BUG rating : B2-U0-G0

| N – Narrow 30° (DC only) |                       |  |  |
|--------------------------|-----------------------|--|--|
| Model                    | Lumen output (CW)     |  |  |
| LGS-1                    | 1 559                 |  |  |
| BUG rating : B2-U0-G0    |                       |  |  |
| LGS-2                    | 1118                  |  |  |
| LGS-3                    | 1677                  |  |  |
| LGS-4                    | 2236                  |  |  |
| BUG rat                  | BUG rating : B3-U0-G0 |  |  |

LGS-3

#### MOUNTING OPTIONS

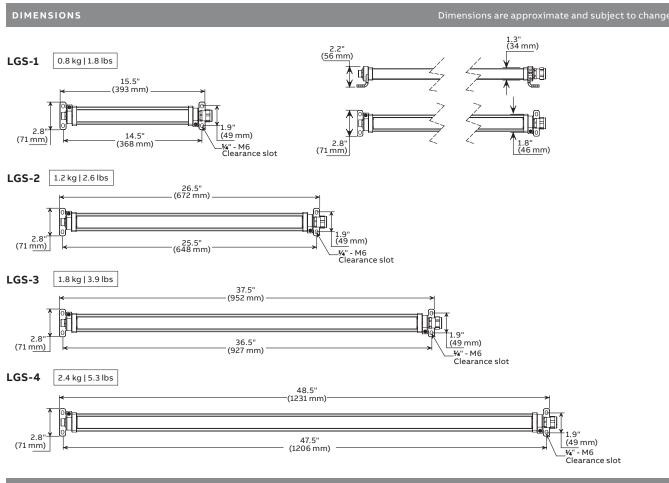
#### A - Adjustable mounting bracket (standard)

1758



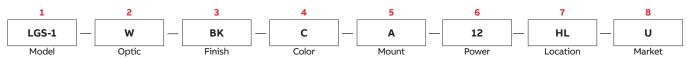
B - Carriage bolt/surface mount (optional)





NUMBERING SYSTEM

#### Lighting fixture



#### Ordering information

| Part     |        |                                     |
|----------|--------|-------------------------------------|
| Part     | number | Description                         |
| 1 Model  | LGS-1  | 559 to 586 lumens                   |
|          | LGS-2  | 1118 to 1172 lumens                 |
|          | LGS-3  | 1677 to 1758 lumens                 |
|          | LGS-4  | 2236 to 2289 lumens                 |
| 2 Optic  | W      | Wide 100°                           |
|          | N      | Narrow 30° (DC version only)        |
| 3 Finish | ВК     | Black                               |
| 4 Color  | 30     | Warm white (3000 K) <sup>1</sup>    |
|          | W      | Warm white (3500 K) <sup>1</sup>    |
|          | 40     | Natural white (4000 K) <sup>1</sup> |
|          | С      | Cool white (5000 K)                 |

| Part       | Part<br>number | Description                |
|------------|----------------|----------------------------|
| 5 Mount    | Α              | Adjustable                 |
|            | В              | Carriage bolt <sup>2</sup> |
| 6 Power    | 12             | 11–16 V DC                 |
|            | 24             | 21–28 V DC                 |
|            | 120            | 120 V AC, 50/60Hz          |
| 7 Location | HL             | Hazardous location         |
| 8 Market   | BLANK          | Canadian market            |
|            | U              | US market                  |

 $^2$  IDA Fixture Seal of Approval only applies to fixtures with a CCT of 3000K or less, and have fixed mounts aiming the fixture perpendicular to the ground.

<sup>1</sup>Option subject to extended lead time and minimum order quantities.

# **Accessories - Quick pole assembly** Key features and benefits



Sphere-shaped, quick knuckle features round edges, preventing injuries and contaminant build-up on components

The quick-release mechanism is activated using one hand and one pull pin

The quick pole assembly blocks at a 90° angle when the pull pin reaches the stopper

All quick knuckle hardware is made of stainless steel

Supplied standard with unique fixture hanging hook

QUICK POLE ASSEMBLY

Operates in any kind of weather

Overall length is 10' (3 m)

Pole trade size is 11/2" threaded NPT

Aluminum pole trade size is 2" threaded NPT

Top pole section is 70" (1.78 m) long

Lower pole section is 50" (1.27 m) long

Set screws secure top and bottom section

into the quick knuckle

#### QUICK KNUCKLE ASSEMBLY

Rotates 180° (90° left and right) around knuckle's center axis, allowing freedom of installation and easy adjustment

Easy one-man operation - after center bolt is loosened, use the pull pin to lock and unlock the assembly

Pre-fished with tape to ease wiring

#### BRACKETS

Universal mounting for 2" to 3" angle iron railings Contact your sales representative



The quick pole assembly blocks at a 90° angle.



I R054870

One-person operation

No ladders or lifts required

Simplified maintenance

Hot dipped galvanized steel and aluminum finishes

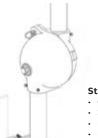
Frees up catwalks and walkways during maintenance

Suitable for 113 mph winds as per AASHTO LTS-4 2001

Maximum fixture weight capacity of 50 lbs.

Steel pole threads are treated and protected to prevent galvanic

#### NOTE: Please consult your local authority to confirm acceptability of the Quick pole installation in classified areas.



#### Standard kit

- Overall height of 10' (3 m)
- 11/2" NPT threads at both ends (11/8" O.D. pipe)
- Rotating quick knuckle assembly
  - Installed with two rail angle iron mounting brackets, allowing the pole section to rotate before final positionning

#### Q-P-5-10-N (Galvanized steel 1%" O.D. pipe) Q-P-A-5-10-N (Aluminum 2%" O.D. pipe) Standard Kit

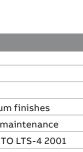
Note: For Canadian market, please add "-CA" to the part no. (ex: AMB-QP-A-BKT-N-CA).

#### Bracket sold separately

#### **Retrofit kit**

- Overall maximum and predetermined height of 10' (3 m) once assembled
- Can be adapted to existing pole
- Upgrades existing assembly with
- quick and easy maintenance features See instruction sheets provided
- with product for installation details Rotating guick knuckle assembly
- Steel and aluminum adaptor sleeve (2" ID) fits over standard 1¼" NPT (1.66" OD) or 1½" NPT (1.90" OD) pipe

**RQ-P-5-10-N** (Galvanized steel 17%" O.D. pipe) **RQ-P-A-5-10-N** (Aluminum 2%" O.D. pipe) **Retrofit Kit** 



reaction as per AASHTO LTS-4 2001

### **Quick pole assembly**

#### UNIVERSAL BRACKET KIT

#### Stainless Steel (aluminium pole)

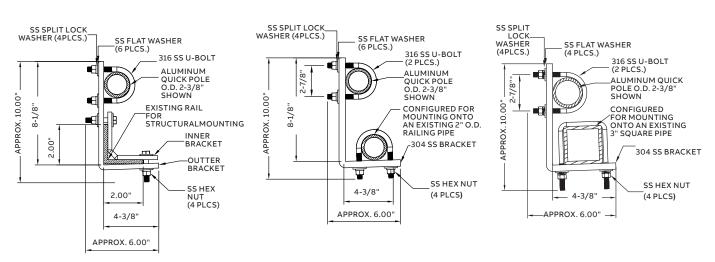
Note: For Canadian market, please add "-CA" to the part no. (ex: AMB-QP-A-BKT-N-CA).

RMB-QP-A-BKT-3

Bracket for structural square mounting

#### AMB-QP-A-BKT-N

Bracket for structural angle mounting



RMB-QP-A-BKT-N

RMB-QP-BKT-N

SPLIT LOCK

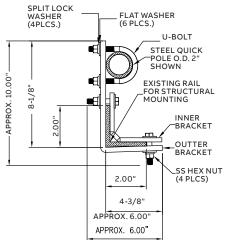
Bracket for structural pole mounting

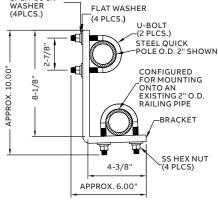
#### Galvanised steel (galvanized pole)

Note: For Canadian market, please add "-CA" to the part no. (ex: AMB-QP-A-BKT-N-CA).

#### AMB-QP-BKT-N

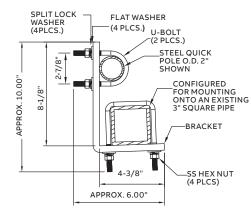
Bracket for structural angle mounting





Bracket for structural pole mounting

#### RMB-QP-BKT-3 Bracket for structural square mounting



ACCESSORIES

#### Universal bracket kit

- Quick bolt-on installation, no welding or drilling
- quardrails up to 3'
- structures 2" O.D. or less but designed for up to 2-3/8" U-Bolt in both positions
- Allows the pole sections to rotate before final positionning



# **Emergency Lighting Products**

IT S

# **Table of contents**

# Emergency lighting products



# **VB LED Series** Hazardous location battery unit

#### CERTIFICATION

| CLASS I                   |                  |
|---------------------------|------------------|
| Division 2                | Group A, B, C, I |
| Contact your ABB sales re | presentative     |

to verify classification



APPROVALS





#### Key features and benefits

#### HOUSING

US

Class I Division 2, Groups A, B, C and D Vandal-resistant UV stabilized polycarbonate lamp cover

Front and back plates are of a heavy duty aluminum

Stainless steel tamper-proof screws

Surface wall mount only Includes mounting lugs on each side of the housing

Universal J-box mounting

1/2 inch entry on both sides and top of housing

Lamp type

Choice of MR16 LED lamp wattages

#### LAMP TYPE

Choice of MR16 LED lamp wattages

#### ELECTRONICS

Pulse plus charger Low voltage disconnect Automatic brownout protection Battery lock-out Fused output circuit Magnetic test switch Standard Advanced Diagnostics (non-audible) Optional Nexus® monitoring system 120/277 60Hz

6 or 12V lead-calcium battery

APPROVALS

CSA-US (to UL 924 standards)

Evaluated to the UL 844 Standard for Class I Division 2, Groups A, B, C and D

FEATURES

NEC, OSHA and NEMA compliant for above Classes and Groups

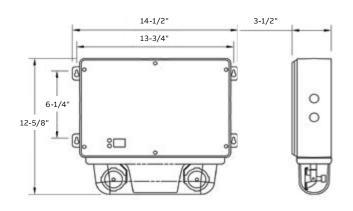
Temperature code T4 (for no lamp version only). Max temperature 275°F/135°C.

Damp and wet location 10 to 40°C (50 to 104°F)

Unit has a five-year limited warranty

## **VB LED Series**

#### DIMENSIONS



### TEMPERATURE CODES

| Temperature<br>code | Max.<br>temperature | Replacement part #   |
|---------------------|---------------------|--|
| code                | temperature         |  |
|                     |                     |  |
| T4A                 | 248°F/120°C         | 580.0097   |
| T4A                 | 248°F/120°C         | 580.0122   |
| Т5                  | 212°F/100°C         | 580.0080   |
| T4A                 | 248°F/120°C         | 580.0104   |
| T4                  | 275°F/135°C         | 580.0106   |
|                     | T4A<br>T5<br>T4A    | T4A         248°F/120°C           T5         212°F/100°C           T4A         248°F/120°C |

<sup>1</sup>Use qualified replacement lamps to avoid risk of over-heating

#### EMERGENCY LIGHTING FIXTURE

| Part           | Part number | Description                      |
|----------------|-------------|----------------------------------|
| 1 Series       | VB0618      | 6V 18W lead-calcium              |
|                | VB1236      | 12V 36W lead-calcium             |
|                | VB1260      | 12V 60W lead-calcium             |
|                | VB1272      | 12V 72W lead-calcium             |
| 2 Lamps        | 0           | No heads, no lamp                |
|                | L1          | 2 x MR16 LED 6V 4W               |
|                | L2          | 2 x MR16 LED 6V 5W               |
|                | L7          | 2 x MR16 LED 12V 4W              |
|                | L9          | 2 x MR16 LED 12V 5W              |
|                | L10         | 2 x MR16 LED 12V 6W              |
| 3 Voltage      | 03          | 120/277V 60 HZ                   |
| 4 Color        | G           | Gray housing                     |
| 5 Charger type | Blank       | Advanced Diagnostics non-audible |
|                | DA          | Advanced Diagnostics audible     |
|                | NEX         | Nexus <sup>®</sup> wired         |
|                | NEXRF       | Nexus <sup>®</sup> wireless      |
| 6 Options      | Blank       | No option                        |
|                | -ТЗ         | Time delay 15 minutes            |

# VC LED Series Hazardous location combination unit

#### CERTIFICATION

| CLASS I                  |                  |
|--------------------------|------------------|
| Division 2               | Group A, B, C, D |
| Contact your ABB sales r | epresentative    |

to verify classification



APPROVALS

### FEATURES







#### Key features and benefits

| CONSTRUCTION  |        |
|---|--------|
| Fully gasketed housing frame  |        |
| Faceplate: heavy-duty, vandal-resistant polycarbonate   |        |
| Backplate: heavy-duty aluminum  |        |
| Vandal-resistant UV stabilized polycarb<br>lamp cover   | onate  |
| Stainless steel tamper-proof screws   |        |
| 6 inch EXIT lettering legend, available in green  | red or |
| Field-selectable chevrons   |        |
|   |        |
| MOUNTING  |        |
| MOUNTING<br>Surface wall mount only   |        |
|   | for a  |
| Surface wall mount only<br>Backplate features universal knockouts   |        |
| Surface wall mount only<br>Backplate features universal knockouts<br>standard<br>4 inch junction box, and four mounting o   |        |
| Surface wall mount only<br>Backplate features universal knockouts<br>standard<br>4 inch junction box, and four mounting o<br>used in wall mount applications  |        |
| Surface wall mount only<br>Backplate features universal knockouts<br>standard<br>4 inch junction box, and four mounting o<br>used in wall mount applications<br>1/2 inch conduit entry on top and sides               |        |
| Surface wall mount only<br>Backplate features universal knockouts<br>standard<br>4 inch junction box, and four mounting of<br>used in wall mount applications<br>1/2 inch conduit entry on top and sides<br>LAMP TYPE |        |

Standard Advanced Diagnostics (non-audible)

Optional Nexus® monitoring system

120/277 60Hz

#### BATTERY TYPE

VC Model, nickel-cadmium battery, 6V-20W total battery capacity VC12N Model, nickel-cadmium battery, 12V-24W total battery capacity

APPROVALS

CSA-US (to UL 924 standards)

Evaluated to the UL 844 Standard for Class I Division 2,

Groups A, B, C and D

NEC, OSHA and NEMA compliant for above Classes and Groups

Damp and wet location 10 to 40°C (50 to 104°F)

Temperature code T4 (for no lamp version only). Max temperature 275°F/135°C.

Meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination standards

Temperature code T4 (for no lamp version only). Max temperature 275°F/135°C.

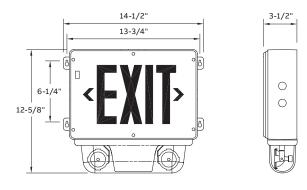
WARRANT

Five-year limited warranty

# **VC LED Series**

#### DIMENSIONS

Dimensions are approximate and subject to chance



### TEMPERATURE CODES

| Lamp rating <sup>1</sup> | Temperature | Max.        | Replacement part # |
|--------------------------|-------------|-------------|--------------------|
|                          | code        | temperature |                    |
| 6V-4W                    | T4A         | 248°F/120°C | 580.0097           |
| 6V-5W                    | T4A         | 248°F/120°C | 580.0122           |
| 12V-4W                   | Т5          | 212°F/100°C | 580.0080           |
| 12V-5W                   | T4A         | 248°F/120°C | 580.0104           |
| 12V-6W                   | T4          | 275°F/135°C | 580.0106           |
| 12V-6W                   | T4          | 275°F/135°C |                    |

<sup>1</sup>Use qualified replacement lamps to avoid risk of over-heating

#### EMERGENCY LIGHTING FIXTURE

| Part                 | Part number | Description                         |
|----------------------|-------------|-------------------------------------|
| 1 Series/capacity    | VC          | 6V-20W, NICD                        |
|                      | V12N        | 12V-24W, NICD                       |
| 2 LED                | 0           | No heads, no lamp                   |
|                      | L1          | 2 x MR16 LED 6V 4W                  |
|                      | L2          | 2 x MR16 LED 6V 5W                  |
|                      | L7          | 2 x MR16 LED 12V 4W                 |
|                      | L9          | 2 x MR16 LED 12V 5W                 |
|                      | L10         | 2 x MR16 LED 12V 6W                 |
| 3 Voltage            | 03          | 120/277V 60 HZ                      |
| 4 Housing/face color | GG          | Gray/gray                           |
| 5 Legend color       | R           | Red legend                          |
|                      | G           | Green legend                        |
| 6 Diagnostics        | Blank       | Advanced Diagnostics<br>non-audible |
|                      | DA          | Advanced Diagnostics audible        |
|                      | NEX         | Nexus <sup>®</sup> wired            |
|                      | NEXRF       | Nexus <sup>®</sup> wireless         |

# **VE LED Series** Hazardous location exit sign



#### CERTIFICATION







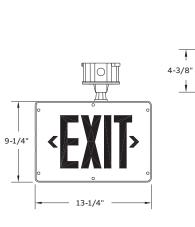


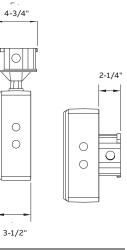


FEATURES

### Key features and benefits

| HOUSING         Fully gasketed housing frame         Faceplate: heavy-duty, vandal-resistant polycarbonate         Backplate: heavy-duty aluminum         Stainless steel tamper-proof screws         6 inch EXIT lettering legend, available in red or green         Field-selectable chevrons | DIMENSIONS   |
|---|--|
| Faceplate: heavy-duty, vandal-resistant polycarbonate<br>Backplate: heavy-duty aluminum<br>Stainless steel tamper-proof screws<br>6 inch EXIT lettering legend, available in red or green   |  |
| Backplate: heavy-duty aluminum<br>Stainless steel tamper-proof screws<br>6 inch EXIT lettering legend, available in red or green  | ٩  |
| Stainless steel tamper-proof screws<br>6 inch EXIT lettering legend, available in red or green  | ٩  |
| 6 inch EXIT lettering legend, available in red or green   | Ĩ  |
|   | ۹<br>۱   |
| Field-selectable chevrons   |  |
|   | ė  |
| MOUNTING  | 0  |
| Surface mount   |  |
| Junction box included for wall, end or ceiling mount applications   | 9-1/4"   |
| 1/2 inch conduit knock-out entry on top and sides   |  |
| ELECTRONICS   |  |
| Magnetic test switch  | - 13   |
| Standard Advanced Diagnostics (non-audible)   | - 13   |
| Optional Nexus® monitoring system   |  |
| 120/277 60Hz  |  |
| APPROVALS   | EXIT SIGN  |
| CSA-US (To UL 924 standards)  |  |
| Evaluated to the UL 844 Standard for Class I Division 2,<br>Groups A, B, and D  | Part   |
| NEC, OSHA and NEMA compliant for above Classes<br>and Groups  | 1 Series   |
| Temperature code T6 (Max. temperature 185°F/85°C)   | 2 Face(s)  |
|   |  |
| Damp and wet location 10 to 40°C (50 to 104°F)  | 3 Voltage  |
| Damp and wet location 10 to 40°C (50 to 104°F)<br>Meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination   |  |
| · · · · · · · · · · · · · · · · · · ·   | 4 Color of body/f                                    |
| Meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination   | <ul><li>4 Color of body/f</li><li>5 Legend</li></ul> |
| Meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination standards   | 5 Legend   |
| Meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination<br>standards<br>WARRANTY  | <b>,</b>   |
| Meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination<br>standards<br>WARRANTY  | 5 Legend   |





| Part                 | Part<br>number | Description  |
|----------------------|----------------|--|
| 1 Series             | VE             | AC/DC (50° to 104°F Amb)                           |
|                      | VEN            | Self-powered (Ni-Cd) (50° to 104°F)                |
| 2 Face(s)            | 1              | Single (ceiling/wall mount)                        |
|                      | 2              | Double (ceiling mount only)                        |
| 3 Voltage            | 03             | 120/277V 60 Hz                                     |
| 4 Color of body/face | GG             | Gray   |
| 5 Legend             | R              | Red  |
|                      | G              | Green  |
| 6 Diagnostic         | Blank          | AC/DC  |
|                      | D              | Advanced Diagnostics Non-Audible<br>(Self-Powered) |
|                      | NEX            | Nexus <sup>®</sup> wired <sup>1</sup>              |
|                      | NEXRF          | Nexus <sup>®</sup> wireless <sup>1</sup>           |
| 7 Options            | cw             | Cold weather (-4° to 104°F Amb)¹                   |

<sup>1</sup>Available with VEN only

# **VR LED Series** Hazardous location remote fixture





#### Key features and benefits

Five-year limited warranty

6

6

12

12

12

Lamp

suffix

L1

L2

L7

L9

L10

LAMP SELECTION CHART AND TEMPERATURE CODE

200

415

220

340

540

Voltage Watt. Lumens Replacement

4

5

4

5

6

| DESCRIPTION   | DIME   | NSIO |
|---|--------|------|
| Available with single or double lamp heads                                    |        |      |
| Die-cast aluminum back plate with gasket                                      |        |      |
| Vandal-resistant UV stabilized polycarbonate lamp cover                       |        |      |
| Comes standard with tamper-proof screws and bit                               |        | -    |
| Universal J-box mounting  |        |      |
| Extreme operational temperature range: 10 to 40°C<br>(50 to 104°F)            | 4      |      |
| MOUNTING  |        |      |
| Surface mount   | 4-5/8" | þ    |
| Conduit entry 1/2" NPT  |        | IF   |
| APPROVALS   |        |      |
| CSA-US (to UL 924 standards)  |        |      |
| Evaluated to the UL 844 Standard for Class I Division 2, Groups A, B, C and D |        |      |

Temp.

code

#

580.0097-E

580.0122-E

580.0093-E

580.0104-E

580.0106-E

Max temp.

T4A 248°F/120°C

T4A 248°F/120°C

T5 212°F/100°C

T4A 248°F/120°C

T4 275°F/135°C

### 5-7/8" · Remote Junction fixture box 3-3/4" 2-1/8" $(\mathbb{D}$

#### REMOTE FIXTURE

Description Part number Part 1 Series VR Single C1D2 VRD Double C1D2 2 LED L1 6V 4W, MR16 LED L2 6V 5W, MR16 LED L7 12V 4W, MR16 LED L9 12V 5W, MR16 LED L10 12V 6W, MR16 LED 3 Color G Gray

7-1/8"

# Hazardous location battery unit

Group A, B, C, D

Group E, F, G



CERTIFICATION



CLASS III

CLASS I

Division 2

CLASS II Division 1 & 2

Contact your ABB sales representative to verify classification

#### Key features and benefits

Includes the addition of Class II Div 1&2 Groups E, F and G as well as Class III ratings

Certified Class I Zone 2, Groups IIA, IIB and IIC

Certified Class I Division 2, Groups A, B, C and D as per CSA C22.2 No.137-M1981

Certified temperature codes for several types of emergency lamps Suited for areas with the risk of flammable gases, vapors or liquids that can create an explosive atmosphere

Heavy-duty 1/8" thick aluminum back plate with keyholes for secure wall-mount installation

Two LED lamps, shielded by a cast aluminum housing and a

polycarbonate cover

6W LED emergency lights provide 100 ft of egress illumination on a 6-foot wide path

Sealed, maintenance-free, Lead-Calcium batteries with up to 150W emergency power

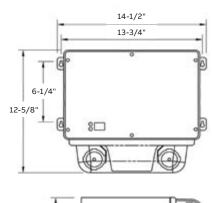
Built-in microcontroller-based battery charger and auto-diagnostics circuitry

1/2" electrical conduit entry on both sides and at the top

Auto-testing capabilities (specific load requirements)

Meets or exceeds CSA C22.2 No.141-15

**DIMENSIONS** Dimensions are approximate and subject to change.





# Hazardous location remote fixture

Group A, B, C, D

Group E, F, G



| CERTIFICATIO |  |
|--------------|--|
|              |  |
| CERTIFICATIO |  |



Contact your ABB sales representative to verify classification

#### Key features and benefits

Quality illumination requires fewer fixtures

Certified Class I Zone 2, Groups IIA, IIB and IIC

Certified Class I Division 2, Groups A, B, C and D as per CSA C22.2

No.137-M1981

CLASS I

Division 2 CLASS II Division 1 & 2

CLASS III

Temperature Codes: T4, T4A and T5 as per Canadian Electrical Code,

Part I and CSA C22.2 No.137-M1981)

Extreme operational temperature range: -40°C (-40°F)

Choice of single- or double-lamp models

High-efficacy LED lamps of 4W, 5W and 6W

Input voltage: 6V, 12V, 24V or 120V

Fully gasketed die-cast aluminum back plate

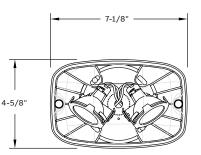
Clear polycarbonate cover, UV and impact resistant

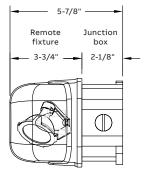
Easy installation on a 4-inch octagonal box (included)

Comes standard with tamper-proof screws and bit

Certified to CSA 22.2 No.141-15

#### DIMENSIONS Dimensions are approximate and subject to change





# **Hazardous** location pictogram sign



CERTIFICATION



CERTIFIED FOR CANADA ONLY

| CLASS I        |                  |
|----------------|------------------|
| Division 2     | Group A, B, C, D |
| CLASS II       |                  |
| Division 1 & 2 | Group E, F, G    |
| CLASS III      |                  |
|                |                  |

Contact your ABB sales representative to verify classification

#### Key features and benefits

Includes the addition of Class II Div 1&2 Groups E, F and G as well as Class III ratings

Certified Class I Zone 2, Groups IIA, IIB and IIC

Certified Class I Division 2, Groups A, B, C and D as per CSA C22.2 No.137-M1981

Certified temperature codes for several types of emergency lamps Suited for areas with the risk of flammable gases, vapors or liquids that can create an explosive atmosphere

Heavy-duty 1/8" thick aluminum back plate with keyholes for secure wall-mount installation

Two LED lamps, shielded by a cast aluminum housing and a

polycarbonate cover

6W LED emergency lights provide 100 ft of egress illumination on a 6-foot wide path

Sealed, maintenance-free, Lead-Calcium batteries with up to 150W emergency power

Built-in microcontroller-based battery charger and auto-diagnostics circuitry

1/2" electrical conduit entry on both sides and at the top

Auto-testing capabilities (specific load requirements)

Meets or exceeds CSA C22.2 No.141-15

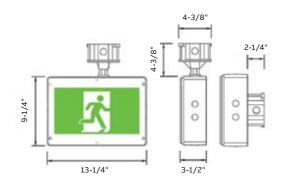
DIMENSIONS





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# Hazardous location combo pictogram

Group A, B, C, D

Group E, F, G



| CE  | RTI | EIC | A T I | ON |
|-----|-----|-----|-------|----|
| U E | . K | FIC | AII   | UN |
|     |     |     |       |    |



Contact your ABB sales representative

to verify classification

#### Key features and benefits

Certified Class I Division 2, Groups A, B, C and D as per CSA C22 .2 No .137-M1981

Includes the addition of Class II Div 1&2 Groups E, F and G as well as Class III ratings

Certified temperature Codes for several types of emergency lamps Polyvinyl chloride frame, with built-in gasket to prevent water

infiltration

CLASS I

Division 2

CLASS II Division 1 & 2

CLASS III

Heavy-duty 1/8-inch thick aluminum back plate with key-holes for wallmount installation

Sealed, polycarbonate vandal-resistant faceplate

Legend illuminated by long-life white LEDs is warrantied for 10 years

Comes standard with two pictogram films for direction selection

Two LED lamps shielded by a clear polycarbonate cover

Sealed, maintenance-free Lead-Calcium or Nickel-Cadmium batteries Comes standard with auto-test, non audible

Remote load capacity: covers with LED lights 200 ft up to 500 ft of egress illumination

Cold-weather option: -40°C (-40°F) with only 14W extra power consumption

Auto-testing capabilities (specific load requirements)

Meets or exceeds CSA C22 .2 No .141-15

#### **DIMENSIONS** Dimensions are approximate and subject to change

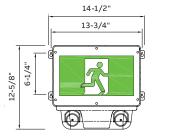


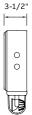


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# **Hazardous** locations Classification

Areas where the possibility of explosion and fire is created by the presence of flammable gases, vapors, liquids, dust, fibers or flyings.

#### Class I – Gases, vapors or liquids

Class I locations are those in which flammable gases, flammable liquid-produced vapors or combustible liquid-produced vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.

#### Typical class I locations

Petroleum refineries and gasoline storage and dispensing areas Industrial firms that use flammable liquids in dip tanks for parts cleaning or other operations

Petrochemical companies that manufacture chemicals from gas and oil

Dry cleaning plants where vapors from cleaning fluids can be present Companies that have spraying areas where they coat products with paint or plastics

Aircraft hangars and fuel serving areas

Utility gas plants and operations involving storage and handling of liquified petroleum gas or natural gas

#### Class II – Combustible dusts

Class II locations are those that are hazardous because of the presence of combustible dust.

#### Typical class II locations

Grain elevators, flour and feed mills

Plants that manufacture, use or store magnesium or aluminum powders Plants that have chemical or metallurgical processes: producers of plastics, medicines and fireworks, etc.

Producers of starch or candies

Spice-grinding plants, sugar plants and cocoa plants

Coal preparation plants and other carbon handling or processing areas

#### **Class III – Fibers and flyings**

Class III locations are those that are hazardous because of the presence of easily ignitable fibers or where materials producing combustible flyings are handled, manufactured or used, but in which such fibers/flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures.

#### Typical class III locations

Textile mills, cotton gins, cotton seed mills and flax processing plants Any plant that shapes, pulverizes or cuts wood and creates sawdust or flyings

Fibers and flyings are not likely to be suspended in the air but can collect around machinery or on lighting fixtures and where heat, a spark or hot metal can ignite them.

operation conditions or during frequent repair and maintenance activity.

#### **Division 2 – Not normally hazardous**

Hazardous gases, vapors or dusts are not present under normal operating conditions.

| 5                                | Area classification   Divisions versus zones |                   |  |  |  |  |  |
|----------------------------------|--|-------------------|--|--|--|--|--|
| Hazard under abnormal conditions | Intermittent hazard                          | Continuous hazard |  |  |  |  |  |
| Zone 2                           | Zone 1                                       | Zone 0            |  |  |  |  |  |
| Division 2                       | Division 1                                   |                   |  |  |  |  |  |

These are simplified definitions. Complete data is in the U.S. National Electrical Code (NEC) and the Canadian Electrical Code (CEC).

#### Groups A, B, C, D

The gases and vapors of Class I locations are broken into four groups by the code A, B, C and D. These materials are grouped according to the ignition temperature of the substance, its explosion pressure and other flammable characteristics.

#### Groups E, F, G

Class II dust locations groups E, F and G are classified according to the ignition temperature and the conductivity of the hazardous substance.

#### **Division 1 – Normally hazardous**

Hazardous gases, vapors or dusts are present under normal

## Ignition temperatures

## Group classifications

#### Ignition temperatures and group classifications for flammable gases and vapors

|                              | Autoigniti |           | emperature |   | 4     | Autoignition temperature |         |
|------------------------------|------------|-----------|------------|---|-------|--------------------------|---------|
| Material                     | Group      | °F        | °C         | Material                                | Group | °F                       | °C      |
| Acetaldehyde                 | C          | 347       | 175        | Di-N-Propylamine                        | C     | 570                      | 299     |
| Acetic acid                  | D          | 867       | 464        | Diacetone alcohol                       | D     | 1118                     | 603     |
| Acetic anhydride             | D          | 600       | 316        | O-Dichlorobenzene                       | D     | 1198                     | 647     |
| Acetone                      | D          | 869       | 465        | 1.1-Dichloroethane                      | D     | 820                      | 438     |
| Acetone cyanohydrin          | D          | 1270      | 688        | 1.2-Dichloroethylene                    | D     | 860                      | 460     |
| Acetonitrile                 | D          | 975       | 524        | Dicylopentadiene                        | С     | 937                      | 503     |
| Acetylene                    | A          | 581       | 305        | Diethyl benzene                         | D     | 743-842                  | 395-450 |
| Acrolein (inhibited)         | B (c)      | 455       | 285        | Diethyl ether                           | С     | 320                      | 160     |
| Acrylic acid                 | D          | 820       | 438        | Diethylamine                            | С     | 594                      | 312     |
| Acrylonitrile                | D          | 898       | 481        | Diethylene glycol monobutyl ether       | С     | 442                      | 228     |
| Allyl alcohol                | С          | 713       | 378        | Diethylene glycol monomethyl<br>ether   | С     | 465                      | 241     |
| Allyl chloride               | D          | 905       | 485        | N-N-Dimethyl aniline                    | С     | 700                      | 371     |
| Alpha-methyl styrene         | D          | 1066      | 574        | Dimethyl formamide                      | D     | 833                      | 455     |
| Ammonia                      | D          | 928       | 498        | Dimethyl sulfate                        | D     | 370                      | 188     |
| N-Amyl acetate               | D          | 680       | 360        | Dimethylamine                           | С     | 752                      | 400     |
| Aniline                      | D          | 1139      | 615        | 1,4-Dioxane                             | C     | 356                      | 180     |
| Benzene                      | D          | 928       | 498        | Dipentene                               | D     | 458                      | 237     |
| Benzyl chloride              | D          | 1085      | 1085       | Dodecene                                | D     | 491                      | 255     |
| 1.3-Butadiene                | B (d)      | 788       | 420        | Du-isopropylamine                       | C     | 600                      | 316     |
| Butane                       | D          | 550       | 288        | Epichlorohydrin                         | C     | 772                      | 411     |
| 1-Butanol                    | D          | 650       | 343        | Ethane                                  | D     | 882                      | 472     |
| 2-Butanol                    | D          | 761       | 405        | Ethanol                                 | D     | 685                      | 363     |
| N-Butyl acetate              | D          | 790       | 421        | Ethyl acetate                           | D     | 800                      | 427     |
| N-Butyl acrylate (inhibited) | D          | 559       | 293        | Ethyl acetate (inhibited)               | D     | 702                      | 372     |
| Butylamine                   | D          | 594       | 312        | Ethyl benzene                           | D     | 810                      | 432     |
| Butylene                     | D          | 725       | 385        | Ethyl chloride                          | D     | 966                      | 519     |
| N-Butyraldehyde              | C          | 425       | 218        | Ethyl formate                           | D     | 851                      | 455     |
| N-Butyric acid               | D          | 830       | 443        | 2-Ethyl hexanol                         | D     | 448                      | 231     |
| Carbon disulfide             | *          | 194       | 90         | 2-Ethyl hexyl acrylate                  | D     | 485                      | 252     |
| Carbon monoxide              | С          | 1128      | 609        | Ethyl mercaptan                         | C     | 572                      | 300     |
| Chlorobenzene                | D          | 1099      | 593        | Ethylamine                              | D     | 725                      | 385     |
| Cresol                       | D          | 1038-1110 | 559-599    | Ethylene                                | C     | 842                      | 450     |
| Crotonaldehyde               | C          | 450       | 232        | Ethylene chlorohydrin                   | D     | 797                      | 425     |
| Cumene                       | D          | 795       | 424        | Ethylene dichloride                     | D     | 775                      | 413     |
| Cyclohexane                  | D          | 473       | 245        | Ethylene glycol monobutyl ether         | C     | 460                      | 238     |
| Cyclohexanol                 | D          | 572       | 300        | Ethylene glycol monobutyl ether         | c     | 645                      | 340     |
|                              |            |           |            | acetate                                 |       |                          |         |
| Cyclohexanone                | D          | 473       | 245        | Ethylene glycol monoethyl ether         | C     | 455                      | 235     |
| Cyclohexene                  | D          | 471       | 244        | Ethylene glycol monoethyl ether acetate | С     | 715                      | 379     |
| Cyclopropane                 | D          | 938       | 503        | Ethylene glycol monomethyl ether        | D     | 545                      | 285     |
| P-Cymene                     | D          | 817       | 436        | Etheylene oxide                         | B (C) | 804                      | 429     |
| N-Decanol                    | D          | 550       | 288        | Ethylenediamine                         | D     | 725                      | 385     |
| Decene                       | D          | 455       | 235        | Ethylenimine                            | С     | 608                      | 320     |
| Di-Isobutyl ketone           | D          | 745       | 396        | 2-Ethylehexaldehyde                     | С     | 375                      | 191     |
| Di-Isobutylene               | D          | 736       | 391        | Formaldehyde (gas)                      | В     | 795                      | 429     |

\*Carbon Disulfide has characteristics which require safeguards beyond those required for any of the above groups

## Ignition temperatures

## Group classifications

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#### Ignition temperatures and group classifications for flammable gases and vapors

|                         | Autoignition temperature |         | mperature |  | Autoignition temperatur |         |         |
|-------------------------|--------------------------|---------|-----------|--|-------------------------|---------|---------|
| Material                | Group                    | °F      | °C        | Material                                   | Group                   | °F      | °C      |
| Fuel oils               | D                        | 410-765 | 210-407   | Monoethanolamine                           | D                       | 770     | 410     |
| Furfural                | С                        | 600     | 316       | Monoisopropanolamine                       | D                       | 705     | 374     |
| Furfuryl alcohol        | С                        | 915     | 490       | Monomethyl aniline                         | С                       | 900     | 482     |
| Gasoline                | D                        | 536-880 | 280-471   | Monomethyl hydrazine                       | С                       | 382     | 194     |
| Heptane                 | D                        | 399     | 204       | Morpholine                                 | С                       | 590     | 310     |
| Heptene                 | D                        | 500     | 260       | Naphtha (coal tar)                         | D                       | 531     | 277     |
| Hexane                  | D                        | 437     | 225       | Naphtha (petroleum)                        | D                       | 550     | 288     |
| 2-Hexanone              | D                        | 795     | 424       | Nitrobenzene                               | D                       | 900     | 482     |
| Hexenes                 | D                        | 473     | 245       | Nitroethane                                | С                       | 778     | 414     |
| Hydrazine               | С                        | 74–518  | 23–270    | Nitromethane                               | С                       | 785     | 418     |
| Hydrogen                | В                        | 968     | 520       | 2-Nitropropane                             | С                       | 802     | 428     |
| Hydrogen cyanide        | С                        | 1000    | 538       | 1-Nitropropane                             | С                       | 789     | 421     |
| Hydrogen sulfide        | С                        | 500     | 260       | Nonane                                     | D                       | 401     | 205     |
| Iso-Butyl acetate       | D                        | 790     | 421       | Octane                                     | D                       | 403     | 206     |
| Iso-Octyl aldehyde      | С                        | 387     | 197       | Octene                                     | D                       | 446     | 230     |
| Isoamyl acetate         | D                        | 680     | 360       | Pentane                                    | D                       | 470     | 243     |
| Isoamyl alcohol         | D                        | 662     | 350       | 1-Pentanol                                 | D                       | 572     | 300     |
| Isobutyl acrylate       | D                        | 800     | 427       | 2-Pentanone                                | D                       | 846     | 452     |
| Isobutyraldehyde        | С                        | 385     | 196       | 1-Pentene                                  | D                       | 527     | 275     |
| Isophorone              | D                        | 860     | 460       | Propane                                    | D                       | 842     | 450     |
| Isoprene                | D                        | 428     | 220       | 2-Propanol                                 | D                       | 750     | 399     |
| Isopropyl acetate       | D                        | 860     | 460       | 1-Propanol                                 | D                       | 775     | 413     |
| Isopropyl ether         | D                        | 830     | 443       | Propionaldehyde                            | С                       | 405     | 207     |
| Isopropylamine          | D                        | 756     | 402       | Proprionic acid                            | D                       | 870     | 466     |
| Kerosene                | D                        | 410     | 210       | Proprionic anhydride                       | D                       | 545     | 285     |
| Liquified petroleum gas | D                        | 761-842 | 405-450   | N-Propyl acetate                           | D                       | 842     | 450     |
| Mesityl oxide           | D                        | 652     | 344       | N-Propyl ether                             | С                       | 419     | 215     |
| Methane                 | D                        | 999     | 537       | Propyl nitrate                             | В                       | 347     | 175     |
| Methanol                | D                        | 725     | 385       | Propylene                                  | D                       | 851     | 455     |
| Methyl acetate          | D                        | 850     | 454       | Propylene dichloride                       | D                       | 1035    | 537     |
| Methyl acrylate         | D                        | 875     | 468       | Propylene oxide                            | B (C)                   | 840     | 449     |
| Methyl ether            | С                        | 662     | 350       | Pyridine                                   | D                       | 900     | 482     |
| Methyl ethyl ketone     | D                        | 759     | 404       | Styrene                                    | D                       | 914     | 490     |
| Methyl formal           | С                        | 460     | 238       | Tetrahydrofuran                            | С                       | 610     | 321     |
| Methyl formate          | D                        | 840     | 449       | Tetrahydronapthalene                       | D                       | 725     | 385     |
| Methyl isobutyl ketone  | D                        | 840     | 449       | Toluene                                    | D                       | 896     | 480     |
| Methyl isocyanate       | D                        | 994     | 534       | Turpentine                                 | D                       | 488     | 253     |
| Methyl methacrylate     | D                        | 792     | 422       | Unsymmetrical dimethyl hydrazine<br>(UDMH) | С                       | 480     | 249     |
| Methyl N-Amyl ketone    | D                        | 740     | 393       | Valeraldehyde                              | С                       | 432     | 222     |
| 2-Methyl-1-Propanol     | D                        | 780     | 416       | Vinyl acetate                              | D                       | 756     | 402     |
| 2-Methyl-2-Propanol     | D                        | 892     | 478       | Vinyl chloride                             | D                       | 882     | 472     |
| Methylamine             | D                        | 806     | 430       | Vinyl toluene                              | D                       | 921     | 494     |
| Methylcyclohexane       | D                        | 482     | 250       | Vinylidene chloride                        | D                       | 1058    | 570     |
| Methylcyclohexanol      | D                        | 565     | 296       | Xylenes                                    | D                       | 867–984 | 464-529 |

### Notes





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