LED lighting solutions for industrial applications

EATON
Powering Business Worldwide
Industrial lighting solutions

Power generation. Food processing. Waste water treatment. Pulp and paper mills. Shipyards and ports. These are around-the-clock operations where employee safety and zero downtime are critical requirements. You need to maximize your efficiency and minimize the risk of damage to equipment or personnel. You need a partner like Eaton.

Eaton offers a large portfolio of innovative and reliable LED products for non-hazardous, industrial applications. We utilize more than 100 years of lighting expertise to optimize the benefits of LED technology to offer the safest and most reliable LED luminaires on the market today. These luminaires are engineered to thrive where vibration, corrosion, moisture, dust and extreme temperatures exist.

With its Crouse-Hinds Series LED luminaires, Eaton can deliver a lighting solution that performs reliably in the worst operating conditions, all the while reducing your energy and maintenance costs.
Focused on reliability

Products engineered for long life and high lumen performance in harsh and heavy industrial areas

High Bay LED Lighting
Up to 117 lumens per watt and 67% energy savings over traditional HID fixtures.
The perfect replacement for 250W to 1500W HID and 2-10 lamp fluorescent fixtures.

High/Mid Bay LED Lighting
A durable, shock-resistant light source that provides up to 6 times greater life and 53% energy savings over HID.
Available with custom Type I, III and V optics to direct light where customers need it most.

LED Floodlighting
Up to 6 times longer life and 65% reduction in power consumption compared to equivalent HID floodlights.
8 models available ranging from 3,000 to 50,000 lumens.

LED Wallpacks
Uniquely engineered to provide a low profile wall pack solution for industrial lighting applications.
Available from 3,000 to 7,000 lumens and designed for extreme conditions.

Linear LED Lighting
Engineered to handle demanding conditions.
Stands up to high vibration, hose down, shock and impact, while delivering high lumen output for up to 20 years.

Low Bay/Targeted LED Lighting
85% more energy-efficient than a 200W incandescent and over 200 times the rated life.
Ideal for lower mounting heights, confined spaces, processing areas or utility rooms.
Industrial High Bay LED Luminaires

IH8 series LED luminaires are the perfect replacement for 250W-1,500W+ HID and 2-10 lamp T8, T12 and T5HO fluorescent high bay fixtures. Designed for light industrial locations that:

- require continuous and consistent light levels
- require frequent on-and-off of lights
- are difficult to re-lamp

Key design features and benefits:

- 5 models ranging from 16,000 to 67,000 lumens replace 250W-1,500W+ HID and 2-10 lamp T8, T12 and T5HO fluorescent
- High efficacy: up to 117 lumens per watt
- 80 CRI
- Up to 67% energy savings over traditional HID fixtures
- Aluminum heat sinks designed to provide long life
- Multiple lens options available: tempered clear glass; diffused glass or diffused polycarbonate
- Versatile mounting options
- Optional 0-10V dimming capabilities
- Damp location rated
- Operating ambient: -40°C to +60°C

<table>
<thead>
<tr>
<th>Model</th>
<th>Equivalent luminaires</th>
<th>@ 120V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HID</td>
<td>Fluorescent</td>
</tr>
<tr>
<td>IH816L</td>
<td>250-500W</td>
<td>4 lamp T5HO</td>
</tr>
<tr>
<td>IH824L</td>
<td>400-750W</td>
<td>4-6 lamp T5HO</td>
</tr>
<tr>
<td>IH832L</td>
<td>500-1,000W</td>
<td>6-8 lamp T5HO</td>
</tr>
<tr>
<td>IH848L</td>
<td>750-1,500W</td>
<td>8-10 lamp T5HO</td>
</tr>
<tr>
<td>IH864L</td>
<td>1,000-1,500W</td>
<td>10 lamp T5HO</td>
</tr>
</tbody>
</table>

†Preliminary typical values (+/- 10%); data subject to change. 8L option available; consult product line for availability.

Certifications:

- UL1598 Luminaires
- UL8750 LED
- cULus
- Damp location

* DesignLights Consortium® Qualified (some models are not DLC qualified)*

* Approved models include: IH816L/UNV1; IH816L/UNV34; IH824L/UNV1; IH824L/UNV34; IH832L/UNV1; IH832L/UNV34; IH848L/UNV1; IH848L/UNV34; IH864L/UNV1; IH864L/UNV34. Refer to www.designlights.org Qualified Products List under Family Models for full listing details. Not all models are approved for all application categories.
Industrial High Bay LED Luminaires - Ordering Information

Part number example
IHB16LP1R1/UNV1 S903
IHB series high bay LED, 15,900 lumens, 145 watts, cool white, ¾" pendant mount, aisle optics, 100-277 VAC/127-250 VDC driver, polycarbonate lens

<table>
<thead>
<tr>
<th>Series</th>
<th>IHB series light industrial high bay fixture</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Lumens/watts*</th>
<th>8,450 lumens, 71 watts</th>
</tr>
</thead>
<tbody>
<tr>
<td>16L</td>
<td>16,900 lumens, 145 watts</td>
</tr>
<tr>
<td>24L</td>
<td>25,350 lumens, 216 watts</td>
</tr>
<tr>
<td>32L</td>
<td>31,800 lumens, 289 watts</td>
</tr>
<tr>
<td>48L</td>
<td>50,700 lumens, 416 watts</td>
</tr>
<tr>
<td>64L</td>
<td>67,600 lumens, 582 watts</td>
</tr>
</tbody>
</table>

*Typical values (+/- 10%), data subject to change.

**BL option available; consult product line for availability.

<table>
<thead>
<tr>
<th>Color temperature</th>
<th>BLANK Cool white</th>
</tr>
</thead>
</table>

**Mounting kits (ordered separately)**
- IHB1P KIT ¾" pendant mount kit (BL-32L models)
- IHB2P KIT ¾" pendant mount kit (48L-64L models)
- IHB1J KIT 48" jack chain kit
- IHB2J KIT 72" jack chain kit
- IHB3J KIT 96" jack chain kit
- IHB4J KIT 120" jack chain kit
- IHB5J KIT 144" jack chain kit
- IHB1A KIT 40" aircraft cable kit
- IHB2A KIT 80" aircraft cable kit
- IHB3A KIT 120" aircraft cable kit
- IHB4A KIT 180" aircraft cable kit

**Mounting options:**
- BLANK No mount
- P1 ¾" pendant mount kit (BL-32L models)
- P2 ¾" pendant mount kit (48L-64L models)

**Options**
- BLANK Glass lens
- S901 Diffused glass lens
- S903 Polycarbonate lens
- S903D Diffused polycarbonate lens
- S010 10 ft. 50 cable

**Voltage @ 50/60 Hz**
- /UNV1 100-277 VAC, 127-250 VDC
- /UNV34 347-480 VAC
- /UNV1D Dimmable; 100-277 VAC, 127-250 VDC
- /UNV34D Dimmable; 347-480 VAC

**Optics**
- BLANK Wide optic
- R1 Aisle optic

**Replacement drivers (ordered separately)**
- **100-277 VAC; 127-250 VDC**
  - IHB UNV1D 75W DRIVER KIT* Dimmable, 75W replacement driver
  - IHB UNV1D 150W DRIVER KIT** Dimmable, 150W replacement driver
  *BL and 24L models; **1BL, 24L, 32L, 48L and 64L models.
  (24L model uses a single 75W and a single 150W driver)

- **347-480 VAC**
  - IHB UNV34D 75W DRIVER KIT* Dimmable, 75W replacement driver
  - IHB UNV34D 150W DRIVER KIT** Dimmable, 150W replacement driver
  *BL and 24L models; **1BL, 24L, 32L, 48L and 64L models.
  (24L model uses a single 75W and a single 150W driver)
Champ® Pro PFMA Series LED Floodlights

Champ Pro PFMA LED floodlights are designed to provide full-spectrum, crisp, white light. With eleven versions available from 3,000 to 50,000 lumens, the Champ Pro PFMA floodlight provides years of high quality lighting and maintenance-free performance.

- Ideal for indoor and outdoor wall or pole mounted area lighting in manufacturing plants, mine sites, processing areas, platforms, loading docks and parking areas

Key design features and benefits:

- Reduced footprint - Now 25% smaller footprint and 10-20 lbs. lighter than previous models.
- High efficiency LEDs and drivers provide up to 144 lumens per watt
- Up to 78% reduction in energy used versus equivalent HID fixtures
- Engineered for long life in extreme ambients. 3L-15L models rated for 60,000 hours in -40°C to 65°C ambients. 20L-50L models rated 60,000 hours in -40°C to 55°C ambients
- 7x6 and 3x3 floodlight pattern options provides maximum light distribution
- Full frame yoke utilizes the SFA6 slipfitter and SWB6 wall mount bracket (3L-25L models), making it ideal for retrofit or new installations
- Options include diffused glass or polycarbonate lens, bolt-on wire guard, bolt-on visor and slipfitter mounting adapters

<table>
<thead>
<tr>
<th>Model</th>
<th>Nominal lumens</th>
<th>Wattage*</th>
<th>Lumens per watt</th>
<th>Equivalent HID luminaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFMA3L</td>
<td>3,312</td>
<td>26</td>
<td>129</td>
<td>70W</td>
</tr>
<tr>
<td>PFMA5L</td>
<td>5,381</td>
<td>40</td>
<td>133</td>
<td>100W</td>
</tr>
<tr>
<td>PFMA7L</td>
<td>7,274</td>
<td>55</td>
<td>132</td>
<td>175W</td>
</tr>
<tr>
<td>PFMA9L</td>
<td>9,479</td>
<td>67</td>
<td>142</td>
<td>250W</td>
</tr>
<tr>
<td>PFMA11L</td>
<td>11,776</td>
<td>82</td>
<td>144</td>
<td>320W</td>
</tr>
<tr>
<td>PFMA13L</td>
<td>13,362</td>
<td>93</td>
<td>143</td>
<td>400W</td>
</tr>
<tr>
<td>PFMA15L</td>
<td>15,183</td>
<td>108</td>
<td>140</td>
<td>500W</td>
</tr>
<tr>
<td>PFMA20L</td>
<td>20,500</td>
<td>175</td>
<td>117</td>
<td>600W-750W</td>
</tr>
<tr>
<td>PFMA25L</td>
<td>25,500</td>
<td>216</td>
<td>118</td>
<td>750W-1000W</td>
</tr>
<tr>
<td>PFMA40L</td>
<td>40,500</td>
<td>340</td>
<td>119</td>
<td>1500W+</td>
</tr>
<tr>
<td>PFMA50L</td>
<td>50,500</td>
<td>411</td>
<td>123</td>
<td>1500W+</td>
</tr>
</tbody>
</table>

* UNV1 at 120 VAC.

Certifications:

NEC and CEC:
- Wet Locations, Type 4X, IP66

UL Standards:
- UL8750 (PFM3L-PFM15L only); UL1598; UL1598A
- cUL Listed to CSA Standard CSA C22.2 No. 250

IEC Standards:
- IEC 60598
- CE

(nPFM20LnPFM50L only):
- IEC 60598-1 and IEC 60598-2-1
- Wet Locations, IP66
- CE marked
Champ® Pro PFMA LED Floodlights - Ordering information

Part number example
PFMA7LCY-UNV1-76-M20-S891-BZ
Champ PFMA floodlight, 7,274 lumens, cool white, yoke mount, 100-277 VAC driver, 20mm entry, diffused glass lens, bronze paint

**Light source/intensity**

<table>
<thead>
<tr>
<th>Power</th>
<th>Lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td>3L</td>
<td>3,312 nominal lumens*</td>
</tr>
<tr>
<td>5L</td>
<td>5,381 nominal lumens*</td>
</tr>
<tr>
<td>7L</td>
<td>7,274 nominal lumens*</td>
</tr>
<tr>
<td>9L</td>
<td>9,479 nominal lumens*</td>
</tr>
<tr>
<td>11L</td>
<td>11,776 nominal lumens*</td>
</tr>
<tr>
<td>13L</td>
<td>13,362 nominal lumens*</td>
</tr>
<tr>
<td>15L</td>
<td>15,183 nominal lumens*</td>
</tr>
<tr>
<td>20L</td>
<td>20,500 nominal lumens*</td>
</tr>
<tr>
<td>25L</td>
<td>25,500 nominal lumens*</td>
</tr>
<tr>
<td>40L</td>
<td>40,500 nominal lumens*</td>
</tr>
<tr>
<td>50L</td>
<td>50,500 nominal lumens*</td>
</tr>
</tbody>
</table>

* 7x6 model

**Voltage**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Range</th>
</tr>
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<tbody>
<tr>
<td>UNV1**</td>
<td>100 - 277 VAC, 50/60 Hz, 127 - 250 VDC</td>
</tr>
<tr>
<td>UNV34**</td>
<td>347-480 VAC, 50/60 Hz</td>
</tr>
</tbody>
</table>

† For 20L,50L, models, change to /UNV1 and /UNV34
* IEC voltage: 100-240V @ 50/60 Hz
** Available for PFMA5L,50L, only

**Optical distribution**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>76</td>
<td>7x6 floodlight pattern optics</td>
</tr>
<tr>
<td>33</td>
<td>3x3 floodlight pattern optics</td>
</tr>
</tbody>
</table>

**Entries**

<table>
<thead>
<tr>
<th>Entry</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLANK</td>
<td>1¼” NPT</td>
</tr>
<tr>
<td>M20</td>
<td>20mm</td>
</tr>
<tr>
<td>M25</td>
<td>25mm</td>
</tr>
</tbody>
</table>

**Paint**

<table>
<thead>
<tr>
<th>Paint</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLANK</td>
<td>Gray</td>
</tr>
<tr>
<td>BZ</td>
<td>Bronze</td>
</tr>
<tr>
<td>WH</td>
<td>White</td>
</tr>
</tbody>
</table>

**Lens material**

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLANK</td>
<td>Clear glass lens</td>
</tr>
<tr>
<td>S891</td>
<td>Diffused glass lens</td>
</tr>
<tr>
<td>S803*</td>
<td>Polycarbonate lens</td>
</tr>
</tbody>
</table>

*3L/5L models only

**Color temperature**

<table>
<thead>
<tr>
<th>Color</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>5000K, 70 CRI (cool white)</td>
</tr>
<tr>
<td>W</td>
<td>3000K, 70 CRI (warm white)</td>
</tr>
</tbody>
</table>

**Mount**

<table>
<thead>
<tr>
<th>Mount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Yoke</td>
</tr>
</tbody>
</table>

**Accessories (ordered separately)**

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLHN</td>
<td>Bull horn, 1 tenon, gray</td>
</tr>
<tr>
<td>BLHN-BZ</td>
<td>Bull horn, 1 tenon, bronze</td>
</tr>
<tr>
<td>BLHN-WH</td>
<td>Bull horn, 1 tenon, white</td>
</tr>
<tr>
<td>BLHN2</td>
<td>Bull horn, 2 tenon, gray</td>
</tr>
<tr>
<td>BLHN-BZ2</td>
<td>Bull horn, 2 tenon, bronze</td>
</tr>
<tr>
<td>BLHN-WH2</td>
<td>Bull horn, 2 tenon, white</td>
</tr>
<tr>
<td>BLHN3</td>
<td>Bull horn, 3 tenon, gray</td>
</tr>
<tr>
<td>BLHN-BZ3</td>
<td>Bull horn, 3 tenon, bronze</td>
</tr>
<tr>
<td>BLHN-WH3</td>
<td>Bull horn, 3 tenon, white</td>
</tr>
<tr>
<td>DSV2</td>
<td>Bolt-on visor</td>
</tr>
<tr>
<td>P62</td>
<td>Bolt-on wire guard</td>
</tr>
<tr>
<td>SC831</td>
<td>Safety cable</td>
</tr>
<tr>
<td>SFA6*</td>
<td>Slipfitter</td>
</tr>
<tr>
<td>SWB6*</td>
<td>Slipfitter wall mount</td>
</tr>
</tbody>
</table>

*3L/5L models only
Champ® Pro PVML Series
LED Luminaires

Champ® Pro PVML luminaires are designed to provide full-spectrum, crisp, white light with custom Type I, III and V distribution. Nine versions of the PVML series are available, providing ideal solutions for a wide range of heavy industrial, non-hazardous applications, including:

- areas with mounting heights from 8 feet up to 60 feet
- Type 4X, marine, wet locations and hose-down environments
- locations requiring continuous and consistent light levels in extreme ambient temperatures

Key design features and benefits:

- Rated life of 60,000 hours @ 65°C operating ambient and 24/7 continuous operation for 365 days. Economic life of 170,000 hours @ 25°C ambient
- Die cast aluminum heat sink increases surface areas and improves airflow, optimizing both LED and driver life
- Custom Type V, Type III and Type I optics distribute the light where it is needed most and can help reduce the number of fixtures required for certain lighting applications
- Cool white standard (5000K, 70 CRI); warm white (3000K, 80 CRI) and neutral white (4000K, 70 CRI) optional
- Energy-efficient technology - up to 77% energy savings over HID fixtures
- Operating ambient: -40°C to 65°C (PVML3-PVML11L models); -40°C to 55°C (PVML13L-PVML25L models)
- High efficiency drivers provide reliable operation in the harshest environments. Various AC and DC input voltage options are available to suit virtually any drive requirement
- Option for redundancy in drivers with multiple series circuits connected to each driver to avoid complete loss of illumination
- Provided with lever lock connectors and standard three-pole terminal block for easy installation
- Contractor-friendly PVML LED utilizes the same mounting modules as our legacy HID luminaires, simplifying installation and reducing costs in retrofit projects

Certifications:

- DesignLights Consortium® Qualified (some models are not DLC qualified)*
- NEC and CEC
  - Wet Locations, Type 4X, IP66
- UL Standards
  - UL1598 Luminaires, UL1598A Marine
- CSA Standard
  - cUL Listed to CSA Standard CSA C22.2 No. 250
- IEC Standard
  - CE

* Refer to www.designlights.org Qualified Products List under family models for full listing details. Not all models are approved for all application categories

<table>
<thead>
<tr>
<th>Model</th>
<th>Typical lumen (Type VI)*</th>
<th>Wattage</th>
<th>Lumens per watt</th>
<th>Equivalent HID luminaire</th>
<th>Typical energy savings / lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVML-3</td>
<td>3,250</td>
<td>26</td>
<td>123</td>
<td>70W</td>
<td>Up to 77%</td>
</tr>
<tr>
<td>PVML-6</td>
<td>5,537</td>
<td>43</td>
<td>127</td>
<td>100W</td>
<td>Up to 67%</td>
</tr>
<tr>
<td>PVML-7</td>
<td>7,442</td>
<td>59</td>
<td>127</td>
<td>175W</td>
<td>Up to 67%</td>
</tr>
<tr>
<td>PVML-9</td>
<td>9,234</td>
<td>73</td>
<td>126</td>
<td>250W</td>
<td>Up to 74%</td>
</tr>
<tr>
<td>PVML-11</td>
<td>11,114</td>
<td>91</td>
<td>122</td>
<td>330W</td>
<td>Up to 74%</td>
</tr>
<tr>
<td>PVML13L</td>
<td>13,226</td>
<td>130</td>
<td>102</td>
<td>400W</td>
<td>Up to 68%</td>
</tr>
<tr>
<td>PVML17L</td>
<td>18,793</td>
<td>168</td>
<td>112</td>
<td>400-600W</td>
<td>Up to 72%</td>
</tr>
<tr>
<td>PVML21L</td>
<td>22,110</td>
<td>196</td>
<td>113</td>
<td>600-750W</td>
<td>Up to 74%</td>
</tr>
<tr>
<td>PVML25L</td>
<td>26,531</td>
<td>232</td>
<td>114</td>
<td>750-1000W</td>
<td>Up to 77%</td>
</tr>
</tbody>
</table>

* Tolerance +/- 10%.
Champ® Pro PVML LED Luminaires - Ordering information 3L-11L

Part number example
PVML-3-N-2A-R1-G-UNV1-S831-S891
Champ PVML, 3,000 lumens, 4000K neutral white, ¾” pendant mount, Type I optics, wire guard, 100 - 277 VAC driver, safety cable, diffused glass lens

PVML - 3 - N - 2A - R1 - G - UNV1 - S831 - S891

<table>
<thead>
<tr>
<th>Light source/intensity†</th>
<th>3</th>
<th>3,250 nominal lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>5,537 nominal lumens</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>7,442 nominal lumens</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>9,234 nominal lumens</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>11,114 nominal lumens</td>
</tr>
</tbody>
</table>

*Refer to Champ PVML ordering information on page 11 for 13,000 to 25,000 lumen models.

<table>
<thead>
<tr>
<th>Color temperature**</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLANK 5000K, 70 CR (cool white)</td>
</tr>
<tr>
<td>N* 4000K, 70 CR (neutral white)</td>
</tr>
<tr>
<td>W 3000K, 80 CR (warm white)</td>
</tr>
</tbody>
</table>

Consult factory for lead time. **5000K and 6500K are available upon request; consult factory.

Optics

- **BLANK** Type V optic standard
- **R1** Type I optic
- **R3** Type II optic (all mounts minus ceiling)
- **R3AP** Type II optic (select when using Appleton® top hat adapter with Champ fixture)
- **R3A1** Type II optic (ceiling with conduit 45° clockwise from top hat hinge)
- **R3A2** Type II optic (ceiling with conduit 135° clockwise from top hat hinge)
- **R3B1** Type II optic (ceiling with conduit 45° clockwise from top hat hinge)
- **R3B2** Type II optic (ceiling with conduit 135° clockwise from top hat hinge)

*Available with ceiling mount modules only.

Mounting

- **BLANK** No mounting module
- **J** 1-½” stanchion, 25° angled
- **P** 1-½” stanchion, straight
- **2A** ¾” pendant
- **3A** 1” pendant
- **20A** 20mm pendant
- **25A** 25mm pendant
- **2B** ¾” cone pendant
- **3B** 1” cone pendant
- **2HA** ¾” flexible pendant
- **2C** ¾” ceiling
- **3C** 1” ceiling
- **20C** 20mm ceiling
- **25C** 25mm ceiling
- **2TW** ¾” wall
- **3TW** 1” wall
- **20TW** 20mm wall
- **25TW** 25mm wall

Custom optics:
Three optical options to maximize light distribution and intensity:

- **TYPE I**
  - Long and rectangular.
  - Conveyor belts
  - Hallways, aisles, walkways
  - Ramps and loading docks
  - Tunnels with overhead mounts

- **TYPE III**
  - Wall mount light distribution, minimizing spillover.
  - Narrow crosswalks or passages
  - Alleys or walkways
  - Tunnels with wall mount
  - Wall or stanchion mount requiring 90° forward throw beam patterns

- **TYPE V**
  - Regular circular distribution pattern.
  - Pendant, ceiling or stanchion mount overhead building mounts
  - Processing mills, industrial plants, large buildings, warehouses, etc.

Accessories & options†

- **S812** Trunnion mount kit with pin (available with ceiling mount only)
- **S831** Safety cable
- **S890** Quick clip
- **S933** 80 CRI minimum (4000K & 5000K only)
- **TB6** Six-pole terminal block
*Ordered with fixture or available separately.
*For NEC/CEC only.

Voltage

- **UNV1** 100-277 VAC, 50/60 Hz; 127-250 VDC
- **UNV34** 347-482 VAC, 50/60 Hz
- IEC voltage: 100-240VAC • 50/60 Hz

Lens material

- **BLANK** Clear glass
- **S891** Diffused glass
- **S896** Teflon coated lens
- **S903** Clear polycarbonate
*NEC/CEC only.
Champ® Pro PVML LED Luminaires - Ordering information 13L-25L

Part number example
PVM17LW2AR1G/UNV1 S890
Champ PVM, 18,793 lumens, 3000K warm white, K pendant mount, Type I optics, wire guard, 100-277VAC driver, safety cable, diffused glass lens

<table>
<thead>
<tr>
<th>Lamp/function</th>
<th>PVM 17L W 2A R1 G /UNV1 S890</th>
</tr>
</thead>
<tbody>
<tr>
<td>13L</td>
<td>13,226 lumen LED</td>
</tr>
<tr>
<td>17L</td>
<td>18,793 lumen LED</td>
</tr>
<tr>
<td>21L</td>
<td>22,110 lumen LED</td>
</tr>
<tr>
<td>25L</td>
<td>26,531 lumen LED</td>
</tr>
<tr>
<td>GL*</td>
<td>Green (4,300 lumen LED)</td>
</tr>
<tr>
<td>AL*</td>
<td>Amber (5,000 lumen LED)</td>
</tr>
</tbody>
</table>

*Custom optics not available with colored LEDs.

<table>
<thead>
<tr>
<th>Color temperature*</th>
<th>BLANK</th>
<th>N</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cool (5000K) or colored</td>
<td>Neutral (4000K)</td>
<td>Warm (3000K)</td>
</tr>
</tbody>
</table>

*Consult with factory for additional color temperature options.

<table>
<thead>
<tr>
<th>Mounting style</th>
<th>BLANK</th>
<th>P</th>
<th>2A</th>
<th>3A</th>
<th>20A</th>
<th>2SA</th>
<th>2B</th>
<th>3B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No cover</td>
<td>1½” stanchion, straight</td>
<td>¾” pendant</td>
<td>1” pendant</td>
<td>20mm pendant</td>
<td>25mm pendant</td>
<td>¾” cone pendant</td>
<td>1” cone pendant</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suffixes</th>
<th>S812*</th>
<th>S831</th>
<th>S890</th>
<th>S891</th>
<th>S896</th>
<th>S903</th>
<th>TB6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tunnion mount kit with pin</td>
<td>Safety cable</td>
<td>Quick clip</td>
<td>Diffused lens</td>
<td>Teflon coated lens</td>
<td>Polycarbonate lens</td>
<td>Six-pole terminal block</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voltage</th>
<th>/UNV1</th>
<th>/UNV34</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>120-277 VAC, 50/60 Hz</td>
<td>347-480 VAC, 50/60 Hz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Guard</th>
<th>BLANK</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No guard</td>
<td>Wire guard (3L-11L)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optics</th>
<th>BLANK</th>
<th>R1</th>
<th>R3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Type V optic standard</td>
<td>Type I optic</td>
<td>Type III optic (all mounts minus ceiling)</td>
</tr>
</tbody>
</table>

Custom optics:
Three optical options to maximize light distribution and intensity:

**TYPE I**
Long and rectangular.
- Conveyor belts
- Hallways, aisles, catwalks and walkways
- Ramps and loading docks
- Tunnels with overhead mounts

**TYPE III**
Wall mount light distribution, minimizing spillover.
- Narrow crosswalks or passages with wall mounted fixtures
- Tunnels with wall mount
- Wall or stanchion mount requiring 180° forward throw beam patterns

**TYPE V**
Regular circular distribution pattern.
- Pendant, ceiling or stanchion mount overhead building mounts
- Processing mills, industrial plants, large buildings, warehouses, etc.
Champ® Pro PVML LED Luminaires - Accessories

**Mounting & Hardware**
- VMVL S812 K1* Trunnion mount kit with pin
- VMVL S831 K1 Safety cable
- VMVL S890 K1 Quick clip
- CHMM1 Top hat adapter (mounts to Appleton Merkmast III top hats)
- 347/480 K1 Step down transformer for 347/480 VAC applications

*Available with ceiling mounted modules only

**Replacement Driver Kit**
- VMVL-3-5-7L-UVN1-DRIVER KIT Replacement driver kit for PVML-3, -5 and -7 models
- VMVL-9-11L-UVN1-DRIVER KIT Replacement driver kit for PVML-9 and -11 models

**Photocells**
- D2S20 Photocell, 120V
- D2S208 277 Photocell, 220-277V

**Lens Guard**
- P3001 Wire guard (3L-11L)
- P3002 Wire guard (13L-25L)

**Occupancy Sensors**
- ORDC/UNV1 3/4" NPT entry, 100-277 VAC

**Occupancy Sensor Accessories (Ordered Separately)**
- CABLE KIT ORD 1 TECK armored cable (5ft) with TECK glands (3/4"
- CABLE KIT ORD 2 PVC non-armored cable (5ft) with ADE1F glands (3/4"
- CABLE KIT ORD 3 Metal-clad armored cable (5ft) with TMC glands (3/4"
- CABLE KIT ORD 4 SD cable (5ft) with ADE1F glands (3/4"
- ORDCKIT Wall mount kit
- ORDCPKIT Pendant mount kit
- ORDCSKIT Stanchion mount kit
- REMOTE CONTROL 1 Remote control for programming sensor

**Mounting Options and Dimensions:**

**Stanchion - 25° angled**

**Pendant**

**Ceiling**

**Wall**

**Cone Pendant**

EATON’S CROUSE-HINDS SERIES 11
Champ® Pro PVMA Series LED Luminaires

The Champ Pro PVMA LED features a compact, high efficacy design with custom Type I, III and V optics to ensure maximum efficiency and mounting flexibility. The compact and lightweight PVMA LED is available in 5,000 and 7,500 lumen models.

- Performs reliably in medium or heavy duty industrial environments where extreme ambient temperatures, corrosive, wet, dusty conditions or significant vibration are common
- Mining, marine, food & beverage, wood, pulp & paper, pharmaceutical, livestock, wastewater, steel, power generation, chemical, automotive, aviation, aerospace and general industrial manufacturing

Key design features and benefits:
- Rugged design – engineered for durability in complex environments
- High efficiency – up to 122 lumens per watt and custom optics to maximize light on the work plane
- Ease of installation – compact footprint with ceiling, pendant, wall or stanchion mount options and the ability to retrofit Crouse-Hinds installed base
- Temperature rating: -40°C to 55°C
- 5-year fixture warranty - refer to the authorized distributor price book for Crouse-Hinds standard terms and conditions

Certifications:
- DesignLights Consortium® Qualified
- IP66
- RoHS
- UL Standards
  - UL1598, UL1598A
- CSA Standards
  - C22.2 No. 250
- IEC Standard
  - CE
  - IEC 60598

<table>
<thead>
<tr>
<th>Model</th>
<th>Typical lumens</th>
<th>Wattage</th>
<th>Lumens per watt</th>
<th>Equivalent MID luminaire</th>
<th>Typical energy savings / lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVMA8L</td>
<td>5,884</td>
<td>48</td>
<td>122</td>
<td>150W</td>
<td>Up to 67%</td>
</tr>
<tr>
<td>PVMA7.5L</td>
<td>7,766</td>
<td>64</td>
<td>122</td>
<td>175W</td>
<td>Up to 67%</td>
</tr>
</tbody>
</table>

* Nominal lumens based on Type V optics, 5000K CCT with clear glass lens. Wattage measured at 120 VAC.
# Champ® Pro PVMA LED Luminaires - Ordering information

## Part number example
**PMVA5LW2CR1G/UNV1** S831 S891
Champ Pro PVMA, 5,800 lumens, 3000K warm white, 3/4” ceiling mount, Type I optics, wire guard, 120-277 VAC driver, safety cable, diffused glass lens

<table>
<thead>
<tr>
<th>Light source/intensity</th>
<th>5L</th>
<th>75L</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,800 nominal lumens</td>
<td></td>
<td>7,700 nominal lumens</td>
</tr>
</tbody>
</table>

| Color temperature* | A | 5000K, 70 CRI (cool white) |

### Optics
- **BLANK**: Type V optic standard
- **R1**: Type I optic
- **R3**: Type III optic (all mounts minus ceiling)
- **R3AP**: Type III optic (select when using Appleton® top hat adapter with Champ fixture)
- **R3A1**: Type III optic (ceiling with conduit 45° counterclockwise from top hat hinge)
- **R3A2**: Type III optic (ceiling with conduit 135° clockwise from top hat hinge)
- **R3B1**: Type III optic (ceiling with conduit 45° clockwise from top hat hinge)
- **R3B2**: Type III optic (ceiling with conduit 135° counterclockwise from top hat hinge)

### Accessories (ordered separately)

#### Replacement driver kits
- **PVMA5L/UNV1 DRIVER KIT**: Replacement driver kit for UNV1 driver (120-277 VAC, 50/60 Hz; 127-300 VDC)
- **PVMA5L/UNV34 DRIVER KIT**: Replacement driver kit for UNV34 driver (347-480 VAC, 60 Hz)
- **PVMA7.5L/UNV1 DRIVER KIT**: Replacement driver kit for UNV1 driver (120-277 VAC, 50/60 Hz; 127-300 VDC)
- **PVMA7.5L/UNV34 DRIVER KIT**: Replacement driver kit for UNV34 driver (347-480 VAC, 60 Hz)

#### Mounting & hardware
- **VMVL S812 K1**: Trunnion mount kit with pin
- **VMVL S831 K1**: Safety cable
- **VMVL S890 K1**: Quick clip

### Accessories
- **S812**: Trunnion mount kit with pin
- **S831**: Safety cable
- **S890**: Quick clip

### Voltage
- **/UNV1**: 120-277 VAC, 50/60 Hz; 127-300 VDC
- **/UNV34**: 347-480 VAC, 60 Hz

### Lens guard
- **BLANK**: No guard
- **G**: Wire guard
- **PA3001**: Wire guard

### Lens material
- **BLANK**: Clear glass
- **S891**: Diffused glass
- **S903**: Polycarbonate
- **S903D**: Diffused polycarbonate

- **20C**: 20mm ceiling
- **25C**: 25mm ceiling
- **2TW**: 3/4” wall
- **3C**: 1” ceiling
- **3TW**: 1” wall
- **20TW**: 20mm wall
- **25TW**: 25mm wall
Champ-Pak WPMV Series
LED Wallpacks

The Crouse-Hinds series Champ-Pak WPMV is uniquely engineered to provide a low profile wall pack solution for industrial lighting applications. It’s the ideal choice for vertical surface lighting where conditions require high quality, reliable illumination.

Champ-Pak WPMV LED wall packs are engineered to provide maintenance free illumination, long life and high performance in industrial areas. It is available from 3,000 to 7,000 lumens and is designed for extreme conditions.

- Heavy industrial, mine site processing areas, platforms, loading docks, tunnels, outdoor wall and areas requiring frequent on-and-off of lights

Key design features and benefits:

- Rated life of 60,000 hours @ 55°C operating ambient and 24/7 continuous operation for 365 days. Economic life of 170,000 hours @ 25°C ambient
- Impact-resistant lens sealed from the outside environment provides ingress protection against water and dust
- High efficiency: Up to 116 lumens per watt
- Engineered to perform in ambient temperatures from -40°C to +55°C
- Die cast aluminum LED housing provides efficient thermal path to heat sink assembly
- Vertical fin design facilitates airflow and dust shedding
- Multiple lens options: Clear glass lens standard. Optional lenses include diffused glass, clear polycarbonate and diffused polycarbonate
- Narrow & wide optics available for ideal light output and performance
- Factory-installed photocell available
- Wall, yoke and hub mount options for installation flexibility and optimal aiming
- Available with lever lock connectors for simple installation
- Contractor-friendly design is ideal for both retrofit and new construction
- 5-year fixture warranty - refer to the authorized distributor price book for Crouse-Hinds standard terms and conditions

Certifications:

- DesignLights Consortium® Qualified (pending)
- NEC and CEC
  - Marine and Wet Locations, NEMA 4X, IP66
- UL Standards
  - UL1598 Luminaires, UL1598A Marine, UL8750
- CSA Standard
  - CSA C22.2 No. 250

<table>
<thead>
<tr>
<th>Model</th>
<th>Typical lumens</th>
<th>Wattage</th>
<th>Lumens per watt</th>
<th>Equivalent MH luminaire</th>
<th>Typical energy savings / lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPMV3L</td>
<td>3,400</td>
<td>30.6</td>
<td>111</td>
<td>70W</td>
<td>Up to 70%</td>
</tr>
<tr>
<td>WPMV5L</td>
<td>5,200</td>
<td>44.8</td>
<td>116</td>
<td>100W</td>
<td></td>
</tr>
<tr>
<td>WPMV7L</td>
<td>6,800</td>
<td>58.9</td>
<td>115</td>
<td>150W-175W</td>
<td></td>
</tr>
</tbody>
</table>

*Nominal lumens based on 5000K CCT with clear glass lens.
Wattage measured at 120 VAC.
Champ-Pak WPMV LED Wallpacks - Ordering information

Part number example

**WPMV3LWY-UNV1-S891 PC1**

Champ-Pack WPMV LED wall pack, NEC/CEC rated, 3,400 lumens, 3000K warm white, wide optic, yoke mount, 120-277 VAC, diffused glass window, 120V photocell.

### Specifications

**Light source/intensity**
- 3L: 3,400 nominal lumens
- 5L: 5,200 nominal lumens
- 7L: 6,800 nominal lumens

**Color temperature**
- BLANK: Cool (5000K)
- N*: Neutral (4000K)
- W: Warm (3000K)

**Optics**
- BLANK: Wide
- R5: Narrow

**Mounting**
- BLANK: Wall
- H: Hub
- Y: Yoke

**Voltage**
- `-UNV1`: 120-277 VAC, 50/60 Hz, 125, 250VDC
- `-UNV34`: 347-480 VAC, 50/60 Hz

**Photocell**
- PC1: 120V
- PC2: 208-277V

**Window material**
- BLANK: Clear glass
- S891: Diffused glass
- S903: Clear polycarbonate
- S903D: Diffused polycarbonate

### Dimensions

- Dimensions of the wallpack are provided with measurements in inches.

---

*Consult factory for availability.*
Champ® Pro PLLA Series
Linear LED Luminaires

Champ Pro PLLA linear LED luminaires are designed to replace fluorescent T12, T8 and T5HO lighting in heavy and harsh industrial applications. Available in 2 foot and 4 foot versions with 3,900 lumens and 7,900 lumens respectively, the PLLA features a rugged and durable design with the industry’s most versatile and flexible mounting options.

The PLLA LED stands up to high vibration, hose down, shock and impact, while delivering long life and high lumen performance for up to 20 years.

- Ideal for a variety of rugged industrial applications such as mining, food processing, marine, waste water treatment, heavy manufacturing and general wash down areas

Key design features and benefits:
- High efficacy: up to 132 LPW
- 60,000 hour lifetime @ 65°C ambient
- -40°C to +65°C ambient operating temperature
- Ultra slim profile: 2.7” height (excluding mounting brackets). Perfect for confined or low height areas
- Wide (120°) and narrow (80°) beam optics for uniform illumination
- Vibration-, impact- and shock-resistant. 2,000 psi high pressure hose rated
- Versatile ceiling/swivel, wall, flush, pole and pendant mounting options
- Four points of secondary retention and through feed wiring options
- Surge protection: 4kV line to line, 6kV line to earth
- Emergency battery back-up (90 minutes) and surge protection options (up to 10kV+) with PLL models
- 5-year fixture warranty - refer to the authorized distributor price book for Crouse-Hinds standard terms and conditions

Certificates:
- NEC/CEC standards:
  - Type 4X
  - IP66
  - Wet Locations
- UL standards:
  - UL1598 Luminaire
  - UL1598A Luminaire for Installation on Marine Vessels
- CSA standard:
  - C22.2 No. 250

Additional standards:
- ABS design assessed

<table>
<thead>
<tr>
<th>Model</th>
<th>Typical lumens</th>
<th>Wattage</th>
<th>Lumens per watt</th>
<th>Equivalent HID luminaire</th>
<th>Typical energy savings / lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLLA2</td>
<td>3,700</td>
<td>28.4</td>
<td>130</td>
<td>T12HO</td>
<td>Up to 63%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T8H0</td>
<td>Up to 59%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T5H0</td>
<td>Up to 47%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T12</td>
<td>Up to 36%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T8</td>
<td>Up to 25%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T5</td>
<td>Up to 9%</td>
</tr>
<tr>
<td>PLLA4</td>
<td>7,900</td>
<td>55.8</td>
<td>132</td>
<td>T12H0</td>
<td>Up to 58%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T8H0</td>
<td>Up to 54%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T5H0</td>
<td>Up to 43%</td>
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<td></td>
<td></td>
<td>T12</td>
<td>Up to 37%</td>
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<td></td>
<td>T8</td>
<td>Up to 22%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T5</td>
<td>Up to 10%</td>
</tr>
</tbody>
</table>
Champ® Pro PLLA LED Luminaires - Ordering Information

Part number example
PLLAW4N-UNV1-S903-TF-P
Champ Pro PLLA linear LED, warm white, 4 foot, ¾" hubs, 80° narrow light pattern, 120-277 VAC driver, polycarbonate lens, through feed hubs, painted

**PLLAW4N-UNV1-S903-TF-P**

**Series**
- PLLA: Champ Pro series linear LED luminaire

**Optics**
- BLANK: Cool white, 5000K
- W: Warm white, 3500K
- N: Narrow (80°)

**Lens**
- BLANK: Clear glass
- S903: Clear polycarbonate
- S903D: Diffused polycarbonate

**Finish**
- BLANK: Natural aluminum
- P: Painted (gray, epoxy)
- WH: Painted (white, epoxy)

**Voltage**
- UNV1: 120-277 VAC, 12/240 VDC
- UNV34: 347-480 VAC

**Length/iumens**
- 4: 4 ft. length, 7,900 lumens
- 2: 2 ft. length, 3,900 lumens

**Accessories (ordered separately)**
- DP1057MTK: Flush/back mount back plate
- DP1050MTK: Ceiling/swivel mount
- DP1053MTK: Ceiling/wall mount offset
- MP1054MTK KIT: Ceiling mount bracket and adapter kit
- MP1054MTK A KIT: Bracket adapter kit
- DP1052MTK: Offset wall mount
- PM KIT 1.25: Pole mount kit, 1.25" conduit
- PM KIT 1.5: Pole mount kit, 1.5" conduit
- PM KIT 2.0: Pole mount kit, 2.0" conduit
- PEND KIT: Pendant mount kit
- SS KIT: Safety chain kit
- CABLE KIT ORD 1: Teck non armored cable (5ft) with Tack glands
- CABLE KIT ORD 2: Type non armored cable (5ft) with ADE11 glands
- CABLE KIT ORD 3: SD cord (5ft) with ADE11 glands
- *MLA4WC030F: 3 ft. Mini-Line LynxPOWER cordset
- *MLA4WC060F: 6 ft. Mini-Line LynxPOWER cordset
- *MLA4WC120F: 12 ft. Mini-Line LynxPOWER cordset
- VMML/UNV1 80W 1A KIT: 1 amp driver replacement kit 90-277 VAC for 4 ft. linear
- VMML/UNV34 80W 1A KIT: 1 amp driver replacement kit 347-480 VAC for 4 ft. linear
- VMML/UNV1 80W 0.5A KIT: 0.5 amp driver replacement kit 90-277 VAC for 2 ft. linear
- VMML/UNV34 80W 0.5A KIT: 0.5 Amp driver replacement kit 347-480 VAC for 2 ft. linear

**Replacement driver kits (ordered separately)**
- MLLA2-UNV1 DRIVER KIT: 120-277 VAC driver replacement for 2 ft. linear (40W) driver: EU(0)(0105027M)
- MLLA4-UNV1 DRIVER KIT: 120-277 VAC driver replacement for 4 ft. linear (60W) driver: EU(0)(0105027M)
- PLL EM1 DRIVER KIT: Driver replacement kit for integral emergency battery back up option

*Additional lengths available. Contact Eaton’s Crouse-Hinds customer service for additional options.

See page 10 for 347-480 VAC option models
Pauluhn® APEX Series
Linear LED Luminaires

Crouse-Hinds series Pauluhn Apex linear LED light fixtures replace fluorescent T12, T8 and T5HO luminaires in food processing, hose down and corrosive environments.

The APEX LED was designed with food and beverage processing facilities in mind. The fixture housing is angled to mitigate debris build-up and features a food rated epoxy powder coat finish. Plus, its robust design can withstand 1,500 PSI hose pressure for wash down applications.

Three models of the APEX are available, from 13,000 to 25,000 lumens.

- Food and beverage, pharmaceutical and agriculture processing facilities.
- High pressure wash down and corrosive environments

Key design features and benefits:
- 100+ lumens per watt provides highly efficient lighting
- Rated life is up to 60,000 hours of maintenance-free and safe operation
- Type 6061 aluminum housing with epoxy powder coat for protection against corrosion
- Angled light fixture mitigates debris build-up
- Dimmable and occupancy sensor configurations available to reduce energy consumption
- Available with polycarbonate or diffused polycarbonate lens
- Operating temperature: -40°C to +55°C*
- 1,500 PSI hose down tested
- Surface mount, cable mount and threaded rod mount options with a through feed design for simplified multiple fixture wiring
- 5000K, 80 CRI
- 5-year fixture warranty - refer to the authorized distributor price book for Crouse-Hinds standard terms and conditions

* APX2SL model is 50°C maximum ambient operating temperature.

<table>
<thead>
<tr>
<th>Model</th>
<th>Typical lumens</th>
<th>Wattage</th>
<th>Lumens per watt</th>
<th>Equivalent MH luminaire</th>
<th>Typical energy savings / lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>APX13L</td>
<td>13,000</td>
<td>122</td>
<td>106</td>
<td>3-lamp T5HO</td>
<td></td>
</tr>
<tr>
<td>APX17L</td>
<td>17,000</td>
<td>144</td>
<td>118</td>
<td>4-lamp T5HO</td>
<td>Up to 38%</td>
</tr>
<tr>
<td>APX25L</td>
<td>25,000</td>
<td>217</td>
<td>115</td>
<td>6-lamp T5HO</td>
<td></td>
</tr>
</tbody>
</table>

*All T5HO lamps used in comparison are 4 foot length.

Certifications:
NEC/CEC standards:
- Type 4X
- IP66
- NSF Splash Zone

UL standards:
- UL1598
- UL8750

CSA standard:
- C22.2 No. 250

13,000 & 12,000 lumen models
25,000 lumen model
**Pauluhn® APEX LED Luminaires - Ordering Information**

**Part number example**  
APX13L/UNV1 S903  
Pauluhn Apex, 13,000 lumens, cool white, 120-277VAC, 127-250 VDC, polycarbonate lens

<table>
<thead>
<tr>
<th>Series</th>
<th>Lumens</th>
<th>Voltage at 50/60 Hz</th>
<th>Lenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>APX</td>
<td>13L</td>
<td>13,000 lumens</td>
<td>S903</td>
</tr>
<tr>
<td></td>
<td>17L</td>
<td>17,000 lumens</td>
<td>Polycarbonate lens</td>
</tr>
<tr>
<td></td>
<td>25L</td>
<td>25,000 lumens</td>
<td>S903D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/UNV1 120-277VAC, 127-250 VDC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>/UNV34 347-480 VAC</td>
<td></td>
</tr>
</tbody>
</table>

**Dimensions**

**Mounting**

**Adjustable surface mount**  
APX1097MTK  
Standard adjustable surface mounting kit includes:  
• (2) 304 SS brackets and 316 SS mounting hardware

**Chain mount**  
APX1093MTK  
Standard jack chain/aircraft cable mounting kit includes:  
• (2) 304 SS brackets and 316 SS mounting hardware
Vaporgard™ Pro P2L/P3L Series LED Luminaires

Vaporgard Pro LED luminaires provide uniform, crisp light and are suitable for lower mounting heights and areas or equipment requiring targeted illumination. Its unique domeless, low profile design is ideal for compact spaces where incandescent and HID based luminaires are too large to fit in the mechanical envelope required.

The Vaporgard LED is available in 1500 and 3300 lumen models, with color temperature options of cool white, neutral white, and warm white. Using four high power, high brightness LED arrays, this fixture delivers similar light levels to a 50W HID or 150-200W incandescent.

- For use indoors or outdoors in confined spaces or low ceiling areas, such as tunnels, catwalks, utility rooms, over doorways, entries, landings, etc.
- Ideal for areas requiring shatter-protected products, such as food processing facilities

Key design features and benefits:
- Instant illumination and re-strike
- Cold temperature operation; no warm-up time
- Lightweight, low profile and cool surface temperatures
- Heat sink designed to perform in high ambient temperatures up to +55°C and as low as -30°C
- Thick walled castings make for a tough, rugged housing that keeps the internal driver and LED temperature down
- High efficacy LEDs can save up to 90% in energy costs
- 70,000 hours rated life can provide 8 years of maintenance-free lighting
- Driver with internal fusing for branch circuit protection
- Tempered clear glass lens standard. Diffused glass lens and teflon coated lens (for increased safety in food processing facilities) available
- Shock- and vibration-resistant
- No mercury or hazardous chemicals - eliminates disposal concerns
- Installed using the same wall and ceiling mounts as incandescent Vaporgard fixtures
- 5-year fixture warranty - refer to the authorized distributor price book for Crouse-Hinds standard terms and conditions

<table>
<thead>
<tr>
<th>Model</th>
<th>Nominal lumens</th>
<th>Wattage</th>
<th>Equivalent incandescent luminaire</th>
<th>Typical energy savings/lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2LM2C/UNV1</td>
<td>1,772</td>
<td>14</td>
<td>50W HID or 150-200W incandescent</td>
<td>90% energy savings and 50,000 hours of 24/7 operation!</td>
</tr>
<tr>
<td>P3LM2C/UNV1</td>
<td>3,335</td>
<td>29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Certifications:
- DesignLights Consortium® (pending)
- NEC and CEC
  - Wet Locations, Type 4X, IP66
- UL Standards
  - UL1598 Luminaires, UL1598A Marine
- CSA Standard
  - cUL Listed to CSA Standard CSA C22.2 No. 250
- IEC Standard
  - CE
CASE STUDY - Mining shovel retrofit

**Challenge:** A copper mine runs P&H 2300 electric shovels 24 hours a day, 365 days a year and at a cost of $12,500 per hour. Each shovel has 10-16 luminaires; ~6 above the tracks for visibility of potential material obstructions and ~8-10 inside the interior for walkways, safety lighting and general illumination.

**Problem:** Current lighting on shovel is incandescent

- Lamps need replacing every 1-2 weeks due to excessive vibration on equipment and can take up to an hour to replace
- Lumen output is low and creates poor visibility in critical areas both inside and outside the shovel due to inadequate lighting.

**Solution:** Vaporgard™ LED Series Luminaires; ceiling mount (P2LC-HF2/DC) for inside and above the tracks and wall mount (P2LC-TZ/DC) for service areas.

**Benefit:** Vaporgard LEDs essentially eliminated lamp maintenance and saved over $1M in downtime

- First shovel outfitted has operated without fixture failure for over 18 months
- Plant maintenance took lamp replacement off of the PM list
- Fixtures paid for themselves in roughly 3 months due to maintenance free operation

*Rated to 40°C*
Specification and Support Services

Eaton’s Crouse-Hinds Series offers a suite of specification support tools that help simplify, streamline and speed up the industrial design and specification process. From lighting designs and drawing support tools to ROI calculators, submittal sheets and spec forms, Eaton has you covered in virtually every aspect of the process.

CoSPEC 3D Drawing and Design

The CoSPEC Online 3D Drawing Catalog gives you the ability to select and view Crouse-Hinds products in 2D and 3D formats. Then, with just a few clicks, you can download design content and parametric data in one of nearly 100 file formats. File format outputs are native to the selected software, which eliminates translation errors and speeds the integration of content into your project. Combine this handy tool with our SKU-level Submittal Sheets for extra convenience.

SKU-level Submittal Sheets

These dynamic PDFs feature both SKU-level specification data and key family specs. The sheets also include a custom text area for unique data such as project name or fixture type, as well as an embedded 3D drawing.

For more information on our specification and support services, please visit www.crouse-hinds.com/cospec
Convenient resources for engineers, designers and drafters

Lighting Layouts

From simple layouts to complex drawings, our lighting design engineers deliver precise, efficient, application and environment-appropriate lighting designs. Our experts can save you time and money by creating a virtual model of a proposed design, revealing luminaire characteristics and effects within the installation.

- 3D fixture placement with access to alternate fixtures and mounting heights
- Point-by-point footcandle diagram calculations
- AutoCAD®-generated floor plan overlays
- Complete bill of material

ROI Calculators

Use our interactive online cost calculators to determine how much you or your clients will save with LED luminaires from Eaton's Crouse-Hinds Business. These handy, intuitive calculators allow you to enter design parameters unique to a project and view the specific savings and payback period realized.

<table>
<thead>
<tr>
<th>Energy Savings &amp; Maintenance Savings</th>
<th>Total Cost of Ownership Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Cost of Ownership</strong></td>
<td><strong>Total Savings</strong></td>
</tr>
<tr>
<td><strong>LED System</strong></td>
<td><strong>Energy savings</strong> $1,343,520.00</td>
</tr>
<tr>
<td>Initial Investment</td>
<td><strong>Labor &amp; material savings</strong> $50,818.18</td>
</tr>
<tr>
<td>Utility rebate</td>
<td><strong>Total savings</strong> $1,013,401.82</td>
</tr>
<tr>
<td>Tax rebate</td>
<td><strong>Initial Investment</strong> $750,899.00</td>
</tr>
<tr>
<td>Total investment</td>
<td><strong>Estimated Utility Rebate</strong> $0.00</td>
</tr>
<tr>
<td>Total energy costs</td>
<td><strong>Estimated Tax Rebate</strong> $0.00</td>
</tr>
<tr>
<td>Incremental Air</td>
<td><strong>Total return</strong> $44,435.38</td>
</tr>
<tr>
<td>Costs</td>
<td></td>
</tr>
<tr>
<td>Total labor costs</td>
<td></td>
</tr>
<tr>
<td>Total cost of ownership</td>
<td>$2,287,458.18</td>
</tr>
<tr>
<td>Payback Period on the incremental LED Cost (years): 0.5</td>
<td>$750,899.00</td>
</tr>
<tr>
<td>Payback period on the entire LED Installation (years): 1.0</td>
<td></td>
</tr>
</tbody>
</table>

Specification Guide Forms

Written to CSI guidelines, our Specification Guide Forms are ideal for designers whose customers have out-of-date or incomplete spec libraries. They're a quick and easy way to optimize the safety, reliability and efficiency of your design requirements.