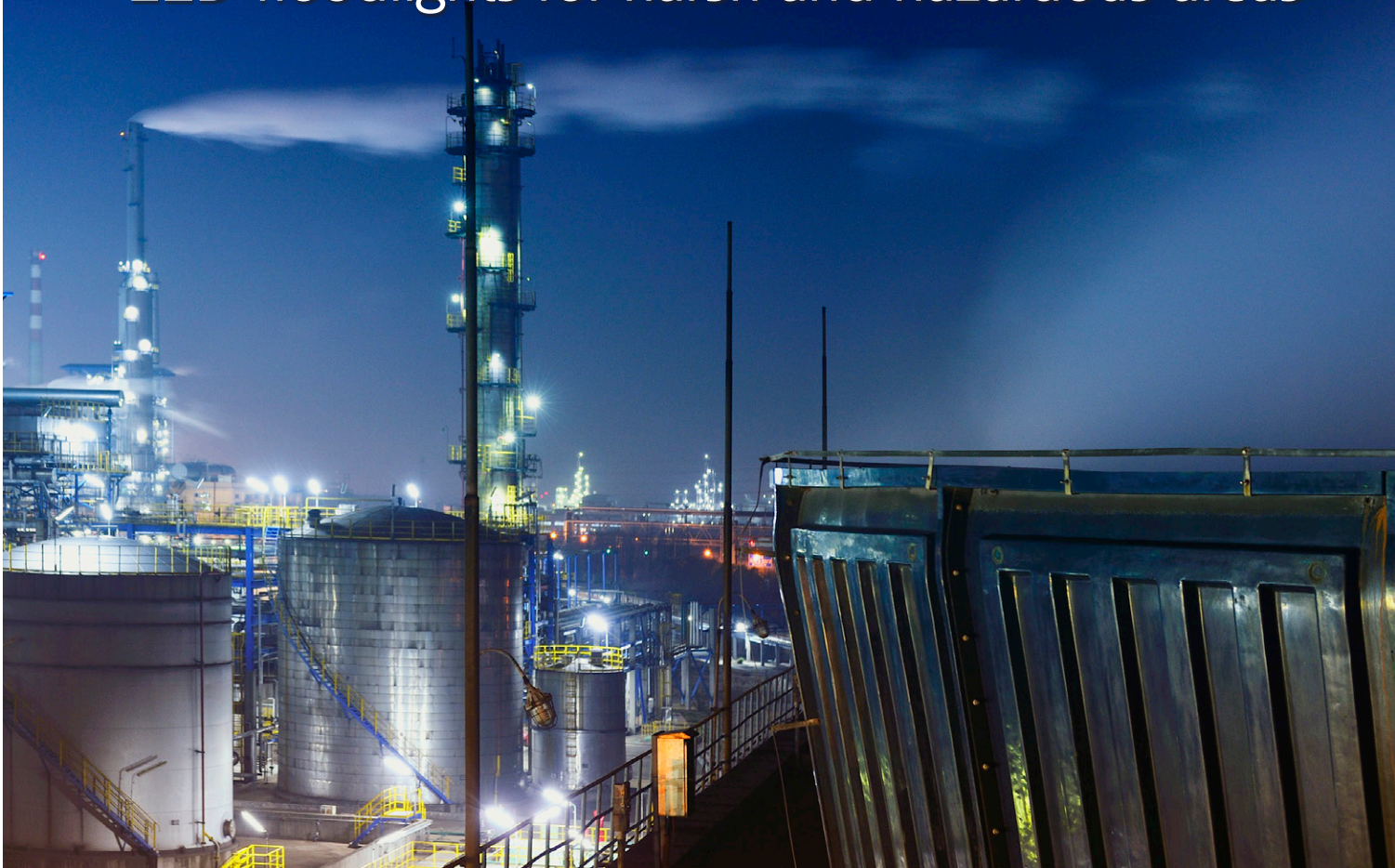


Hazardous Area LED Lighting  
Champ® FMVA LED Luminaires

CROUSE-HINDS  
SERIES

# Champ® FMVA

## LED floodlights for harsh and hazardous areas



**EATON**

*Powering Business Worldwide*





Champ® FMVA LED floodlights

# Safe. Reliable. Efficient.

Featuring the industry's broadest range of LED luminaires for harsh, hazardous and industrial environments, Eaton's Crouse-Hinds can deliver a lighting solution that performs reliably in even the worst operating conditions. All the while reducing your energy, maintenance and manpower costs.

## Why LED?

### **Energy efficiency**

LED average energy consumption is significantly less than traditional fluorescent and HID fixtures

### **Start/restart time**

Instant illumination vs. 10 minute restrike time for HID

### **Light quality**

Higher color rendering compared to fluorescent and HID

### **Environmental benefits**

Mercury-free LED eliminates disposal costs and lower energy consumption for a smaller carbon footprint

## Why Crouse-Hinds?

### **Industry-best reliability**

Built to withstand a wide array of applications

### **Thermal management**

Effective heat sinking ensures longer life

### **Quality of light**

Custom optics designed to maximize light distribution and intensity

### **Globally certified**

Designed to global specifications for IEC and NEC applications

### **Serviceable drivers**

Easy access to drivers for service or replacement

# Design features

## Versatile design

- Can be used for outdoor or indoor applications, and for a wide range of mounting heights depending on model and light level requirement

## Smaller and lighter\*

- 25% smaller footprint
- 10 lbs. (4.5 kg) less weight

\*Compared to Champ FMV generation I models

## Full frame yoke

- Designed to utilize the SFA6 slipfitter and SWB6 wall mount bracket, making it ideal for retrofit or new installations



## High lumen output:

- Up to 144 lumens per watt
- Up to 72% energy savings over traditional HID fixtures (compared to 400W MH)



## Multiple lens options:

- Tempered clear glass lens standard
- Polycarbonate and diffused glass lens options available

## Rugged heat sink

- Heat sink designed to perform and provide maximum light levels in high ambient temperatures up to +65°C and as low as -40°C
- Thick walled castings make for a tough, rugged housing that keeps the internal driver and LED temperature down



## Why choose Champ FMVA floodlights?

**Reliable floodlights.** FMMA LED luminaires are engineered to deliver high lumen output and maintenance-free long life in the toughest conditions.

### PFMA13L vs. 400 watt HID



**72%**  
ENERGY  
EFFICIENCY



**75%**  
TOTAL COST  
OF OWNERSHIP



**100%**  
MAINTENANCE  
REDUCTION

Assumptions: Calculations based on overall life of the LED system. Energy cost of \$.09 per kilowatt; 24 hour per day operation; labor rate of \$75 each for 2 workers; average time for fixture maintenance of 1 hour.

# Features & specifications

## Champ FMVA LED floodlights

Champ FMVA LED floodlights are designed to provide full-spectrum, crisp, white light. Seven versions of the Champ FMVA are available, from 3,000 to 15,000 lumens, providing ideal solutions for a wide range of harsh and hazardous applications.

**Up to 75% reduction in energy costs and 150,000 hours of continuous operation.**

| Model number | Nominal lumens* | Wattage | Lumens per watt | Equivalent HID luminaire |
|--------------|-----------------|---------|-----------------|--------------------------|
| FMVA3L       | 3,312           | 26      | 129             | 70W                      |
| FMVA5L       | 5,381           | 40      | 133             | 100W                     |
| FMVA7L       | 7,274           | 55      | 132             | 175W                     |
| FMVA9L       | 9,479           | 67      | 142             | 250W                     |
| FMVA11L      | 11,776          | 82      | 144             | 320W                     |
| FMVA13L      | 13,362          | 93      | 143             | 400W                     |
| FMVA15L      | 15,183          | 108     | 140             | 500W                     |

\*Tolerance +/- 10%; @120 VAC, 25°C ambient, 7x6 optics.

## Applications:

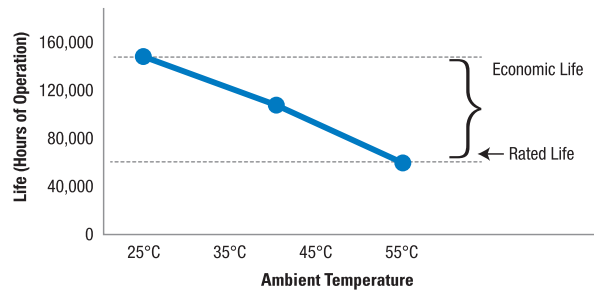
- Oil and gas refineries, drilling rigs, petrochemical facilities, food and beverage facilities, platforms, loading docks, tunnels, outdoor wall and stanchion mounted general area lighting, and where flammable vapors, gases, ignitable dusts, fibers or flyings are present
- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- IP66, Type 4X, marine, wet locations and hose-down environments
- Classified and hazardous locations

## Champ FMVA LED benefits:

- Instant illumination and restrike
- Better visibility with crisp, white light
- Cold temperature operation / no warm-up required
- Minimum T3C temperature rating – safely operate in the most hazardous environments and any non-hazardous location
- Serviceable drivers
- Easy installation – yoke design to mount to SFA6
- Energy-efficient technology – up to 72% energy savings over HID fixtures
- 60,000 hours of rated life at 55°C – eliminates need for frequent lamp replacement
- Contains no mercury or other hazardous substances
- Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break – greatly reduces the risk of premature failure
- Operating ambient -40°C to 65°C (NEC only; IEC -40°C to 55°C)
- 5 year fixture warranty†

†Extension of standard terms and conditions to five years. Refer to page 2 of the D-0914 authorized distributor price book for Crouse-Hinds standard Terms and Conditions.

## LED system lifetime rated versus economic life:



**Economic life can range anywhere between 50,000 to 150,000 hours, or 5 to 20 years of maintenance-free operation.**

## Fixture life and years of maintenance-free operation

| Ambient temperature | Fixture life (hours) | No. of years at 24 hours usage | No. of years at 12 hours usage |
|---------------------|----------------------|--------------------------------|--------------------------------|
| 25°C                | 150,000              | 17                             | 34                             |
| 40°C                | 90,000               | 10                             | 20                             |
| 55°C                | 60,000               | 7                              | 14                             |

\*Over 5 years of continuous operation at 65°C ambient.

## Fixture life:

- Rated life of 60,000 hours @ 55°C operating ambient and 24/7 continuous operation for 365 days
- Economic life of 150,000 hours @ 25°C ambient

## Electrical ratings:

| Model number | Input power (watts) | Input amps at 120-277 VAC |
|--------------|---------------------|---------------------------|
| FMVA3L       | 25                  | 0.27 - 0.10               |
| FMVA5L       | 40                  | 0.41 - 0.16               |
| FMVA7L       | 54-56               | 0.56 - 0.21               |
| FMVA9L       | 67-69               | 0.78 - 0.28               |
| FMVA11L      | 81-84               | 0.84 - 0.30               |
| FMVA13L      | 91-95               | 0.95 - 0.34               |
| FMVA15L      | 107-113             | 1.12 - 0.40               |

## FMVA3L - FMVA15L

|                            |                      |
|----------------------------|----------------------|
| <b>Voltage range, VAC*</b> | 100-277V @ 50/60 Hz, |
| <b>Voltage range, VDC</b>  | 127-250V             |
| <b>Power factor</b>        | >0.9**               |

\*IEC voltage; 100-250VAC @ 50/60 Hz

\*\*For FMVA3L: PF > 0.9 from 100 -255VAC. From 255-277 it varies +/- 10%. All other lumen levels are above 0.9 PF across full voltage range.

## LED system:

- Cool white (5000K, 70 CRI) and warm white (3000K, 80 CRI)
- Custom designed optics – 7x6 standard, 3x3 optional (3L-15L)

## Standard materials:

- Lamp housing and adapter – die cast aluminum with Corro-free™ epoxy powder coat
- Lens – heat- and impact-resistant glass (standard)
- Gaskets – silicone and neoprene
- External hardware – stainless steel

## Qualifications and compliances:

- DesignLights Consortium® Qualified (pending)\*





**Certifications and compliances:**

**NEC and CEC:**

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2
- Class II, Groups E, F, G
- Wet Location, Type 4X, IP66

**UL Standards:**

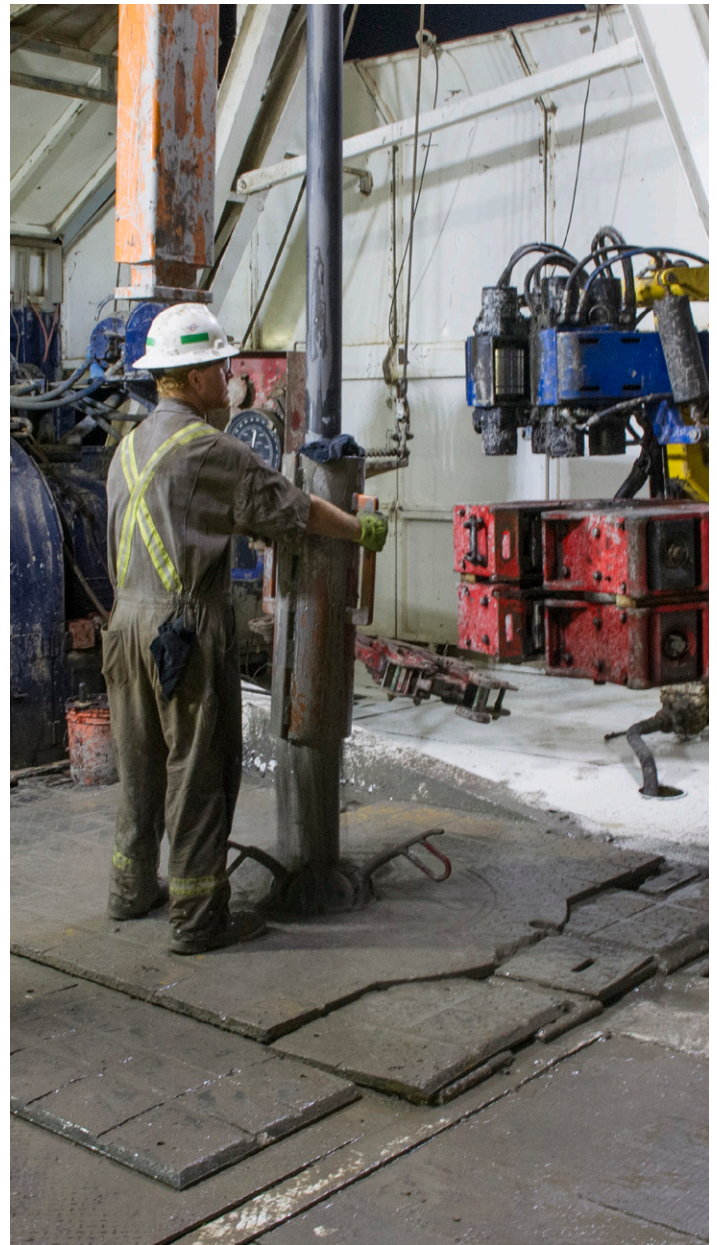
- UL844; UL1598; UL1598A; UL8750

**IEC Standards:**

- IEC 60079-0, 6th Edition (2011-06) + Corr. 1 (2012-01) + Corr. 2 (2013-12) + I-SH 01 (2013-11) + I-SH 02 (2014-10)/EN 60079-0:2012 + A11:2013
- IEC 60079-7, Edition 5.1 (2017-08)/EN 60079-7: 2015 +A1:2018
- IEC 60079-31, 2nd Edition (2013-11)/EN 60079-31:2014
- IEC 60598-1:2008/EN60598-1:2008
- IEC 60598-2:2008/EN60598-2:2008

**IECEX & ATEX:**

- CE<sub>0539</sub>
  - IECEX UL15.0029X
  - DEMKO 15 ATEX 1377X
  - DEMKO 15 ATEX 1383
  - Ex II 3 G Ex ec mb IIC T5 Gc Tamb -40° - +40°C
  - Ex II 3 G Ex ec mb IIC T5 Gc Tamb -40° - +40°C\*
  - Ex ec IIC T5 Gc Tamb -40°C - +40°C
  - Ex ec IIC T4 Gc Tamb -40°C - +55°C
  - Ex II 2 D Ex tb IIIC T65 Db Tamb -40°C - +40°C
  - Ex II 2 D Ex tb IIIC T80 Db Tamb -40°C - +55°C
  - Ex tb IIIC T65 Db Tamb -40°C - +40°C
  - Ex tb IIIC T80 Db Tamb -40°C - +55°C
- \*T4 from -40°C to +40°C when used with 3x3 optic



**Temperature codes:**

| Model          | Ambient temperature | Simultaneous rating |                  |                         |                 |         |         | Minimum wire temperature |
|----------------|---------------------|---------------------|------------------|-------------------------|-----------------|---------|---------|--------------------------|
|                |                     | Class I, Div. 2     | Class II, Div. 1 | Class I, Div. 2, Div. 1 | Class I, Zone 2 | ATEX 3G | ATEX 2D |                          |
| FMVA3L-FMVA15L | 40°C                | T5                  | T4               | T4                      | T5              | T5      | T65     | 105°C                    |
|                | 55°C                | T4A                 | T3C              | T3C                     | T4              | T4      | T80     | 105°C                    |
|                | 65°C                | T4A                 | T3C              | T3C                     | T4              | -       | -       | 105°C                    |

**Weights:**

| Model number   | Lbs. | Kg.  |
|----------------|------|------|
| FMVA3L-FMVA15L | 32   | 14.5 |

**Drivers:**

| Option | FMVA3L - FMVA15L   |
|--------|--|
| /UNV1  | NEC: 100-277 VAC, 50/60 Hz; 127-250 VDC<br>IEC: 100-240 VAC, 50/60 Hz; 127-250 VDC |

# Ordering information

## Part number example

**FMVA7LCY-UNV1-76-M20-S891-BZ**

Champ FMVA floodlight, 16,510 lumens, cool white, yoke mount, 100-277 VAC driver, 20mm entry, diffused glass lens, bronze paint

**FMVA 7L C Y - UNV1 - 76 - M20 - S891 - BZ**

### Light source/intensity

|            |                        |
|------------|------------------------|
| <b>3L</b>  | 3,312 nominal lumens*  |
| <b>5L</b>  | 5,381 nominal lumens*  |
| <b>7L</b>  | 7,274 nominal lumens*  |
| <b>9L</b>  | 9,479 nominal lumens*  |
| <b>11L</b> | 11,776 nominal lumens* |
| <b>13L</b> | 13,362 nominal lumens* |
| <b>15L</b> | 15,183 nominal lumens* |

\*7x6 model

### Color temperature

|          |                            |
|----------|----------------------------|
| <b>C</b> | 5000K, 70 CRI (cool white) |
| <b>W</b> | 3000K, 70 CRI (warm white) |

### Mount

|          |      |
|----------|------|
| <b>Y</b> | Yoke |
|----------|------|

### Voltage

|              |   |
|--------------|---|
| <b>UNV1*</b> | 100 - 277 VAC, 50/60 Hz;<br>127 - 250 VDC |
|--------------|---|

\*IEC voltage; 100-250V @ 50/60 Hz

### Optical distribution

|           |                               |
|-----------|-------------------------------|
| <b>76</b> | 7x6 floodlight pattern optics |
| <b>33</b> | 3x3 floodlight pattern optics |

### Entries

|              |          |
|--------------|----------|
| <b>BLANK</b> | 3/4" NPT |
| <b>M20</b>   | 20mm     |
| <b>M25</b>   | 25mm     |

### Paint

|              |        |
|--------------|--------|
| <b>BLANK</b> | Gray   |
| <b>BZ</b>    | Bronze |
| <b>WH</b>    | White  |

### Lens material

|              |                     |
|--------------|---------------------|
| <b>BLANK</b> | Clear glass lens    |
| <b>S891</b>  | Diffused glass lens |
| <b>S903</b>  | Polycarbonate lens  |

### Accessories (ordered separately)

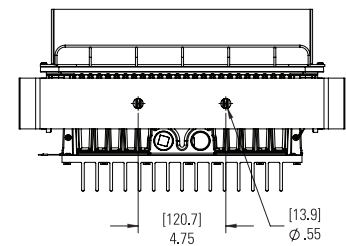
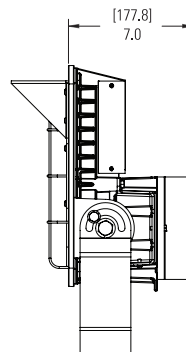
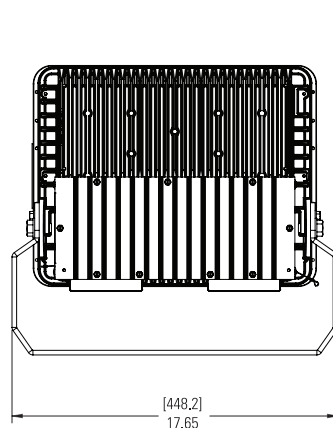
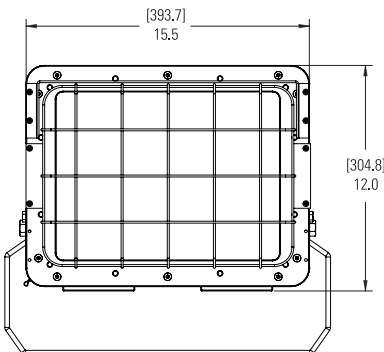
|                |                   |              |                    |             |                       |
|----------------|-------------------|--------------|--------------------|-------------|-----------------------|
| <b>BLHN</b>    | Bull horn, gray   | <b>DSV2</b>  | Bolt-on visor      | <b>SFA6</b> | Slipfitter            |
| <b>BLHN-BZ</b> | Bull horn, bronze | <b>P62</b>   | Bolt-on wire guard | <b>SWB6</b> | Slipfitter wall mount |
| <b>BLHN-WH</b> | Bull horn, white  | <b>SC831</b> | Safety cable       |             |                       |

### Replacement driver kits (ordered separately)

|                                      |   |
|--------------------------------------|---|
| <b>FMVA 3-5-7L UNV1 DRIVER KIT</b>   | Replacement driver kit for 3L, 5L and 7L models   |
| <b>FMVA 9-11-13L UNV1 DRIVER KIT</b> | Replacement driver kit for 9L, 11L and 13L models |
| <b>FMVA 15L UNV1 DRIVER KIT</b>      | Replacement driver kit for 15L model              |

### Dimensions:

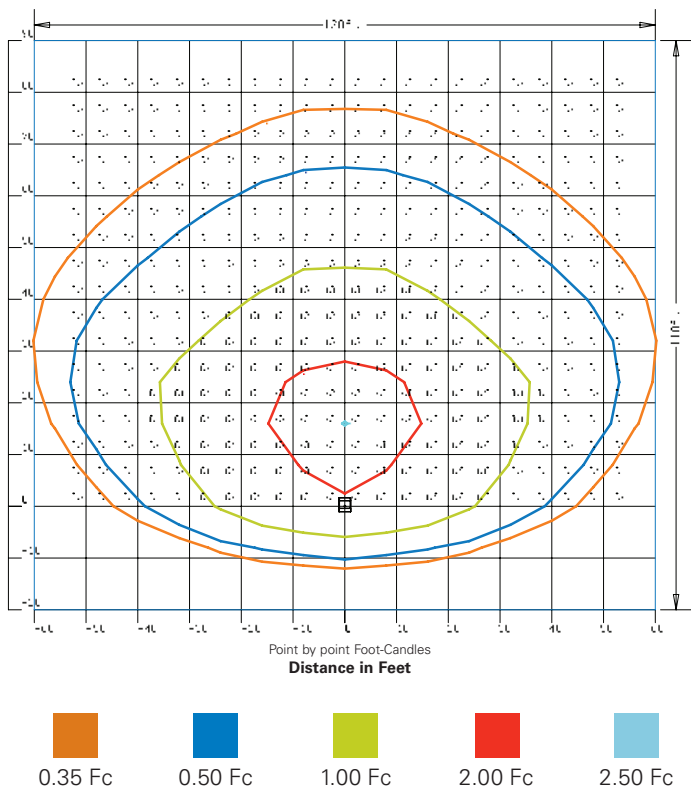
| Model number   | Width |       | Height |       | Depth |       |
|----------------|-------|-------|--------|-------|-------|-------|
|                | in.   | mm.   | in.    | mm.   | in.   | mm.   |
| FMVA3L-FMVA15L | 15.5  | 393.7 | 12.0   | 304.8 | 7.0   | 177.8 |



# Photometric data

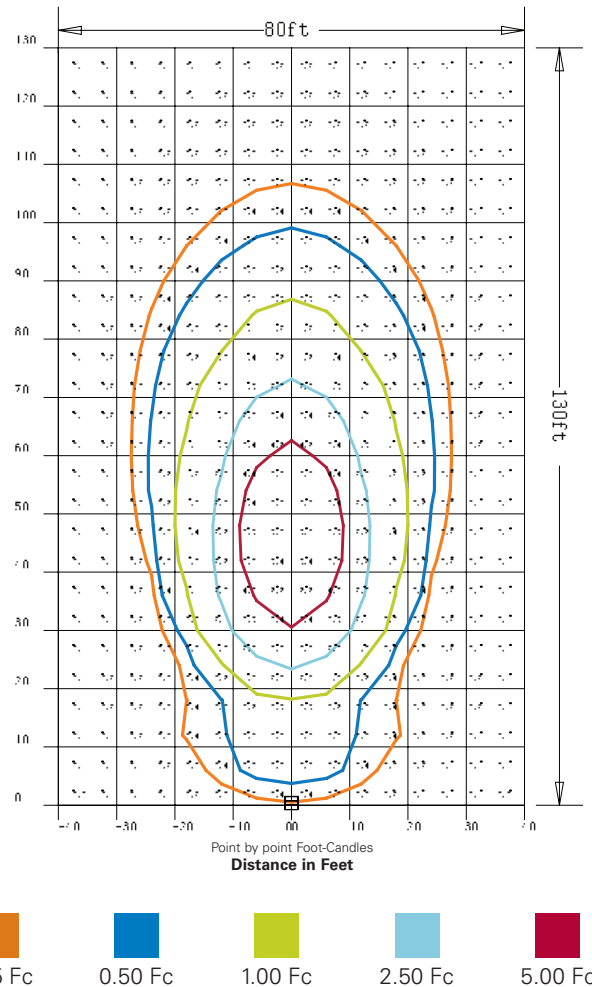
## 7x6 optics

FMVA13L Height: 40 ft.; Tilt angle: 45°



## 3x3 optics

FMVA11L Height: 30 ft.; Tilt angle: 45°



### Effective projected area (ft.-sq.):

| Position             | FMVA3L - FMVA15L |
|----------------------|------------------|
| @ 0° Tilt            | 1.5              |
| @ 45° Backwards tilt | 1.1              |
| @ 60° Forward tilt   | 0.8              |

### Lumen output for glass lens models

| Optic | FMVA3L | FMVA5L | FMVA7L | FMVA9L | FMVA11L | FMVA13L | FMVA15L |
|-------|--------|--------|--------|--------|---------|---------|---------|
| 7x6   | 3,312  | 5,381  | 7,274  | 9,479  | 11,776  | 13,362  | 15,183  |

Higher average footcandles/lux, uniformity and distribution coverage with **72% less energy consumption** compared to 400W metal halide.



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Publication No. 5242-0819  
August 2019

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