Champ® VMV LED Series Luminaires

Improve safety, reliability and energy efficiency

Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zone 2
Cl. II, Groups E, F, G
Cl. III

UL / cUL Listed
IECEx / ATEX
Simultaneous Presence
Wet Locations, Type 4X, IP66

The Champ VMV LED Family

VMV LED Series Luminaires are designed to provide full-spectrum, crisp, white light with custom IES Type I, III and V distribution. Five versions of the Champ VMV LED are available, providing ideal solutions for a wide range of applications.

Model	Nominal† Lumens (Type V)	Wattage	Equivalent HID Luminaire	Typical Energy Savings / Lifetime
VMV3L	3,515	41	70W-100W	Up to 77%
VMV5L	5,288	67	100W-150W	Up to 67%
VMV7L	7,404	94	150W-175W	Up to 67%
VMV9L	9,515	114	250W-400W	Up to 74%
VMV11L	10,935	118	400W	Up to 74%

†Tolerance +/- 10%.

Applications:

- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Areas requiring frequent on-and-off of lights
- Where flammable vapors, gases, ignitable dusts, fibers or flyings are present; indoors or outdoors
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Manufacturing plants; heavy industrial, chemical, petrochemical or pharmaceutical facilities; food and beverage facilities; mining; platforms; loading docks; tunnels; indoor/outdoor spot lighting; outdoor wall and stanchion mounted general area lighting

Champ VMV LED Benefits:

- Instant illumination and restrike
- Better visibility with crisp, white light
- Cold temperature operation / no warm-up required
- Redundancy in drivers with multiple series circuits connected to each driver to avoid complete loss of illumination
- Easy installation – compact modular fixture attaches onto existing Champ mounting module
- Energy-efficient technology – up to 77% energy savings over HID fixtures
- Provides up to 60,000 hours rated life and up to 170,000 hours of economic life – 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 55°C
- Dark sky compliant
- 5 year fixture warranty‡

‡Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions.

Certifications and Compliances:

- DesignLights Consortium® pending for select models*

NEC and CEC
- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, nA nR
- Class II, Groups E, F, G
- Class III
- Zone 21 tb
- Simultaneous Presence
- Wet Locations, Type 4X, IP66

UL Standards
- UL844
- UL1598 Luminaires, UL1598A Marine

CSA Standard
- cUL Listed to CSA Standard CSA C22.2 No. 137

IECEx/ATEX Standards
- IEC60079-0:2011/EN60079-0:2012
- IEC60079-15:2010/EN60079-15:2010
- IEC60079-31:2008/EN60079-31:2009
- IEC60529:2001/EN60529:2001
- IEC60598-1:2008/EN60598-1:2008
- IEC60598-2:2008/EN60598-2:2008
- IECEx UL 13.0052X
- DEMKO 13 ATEX 1305741X
- DEMKO 13 ATEX 1475013X**
- CE

100-277 VAC / 108-250 VDC
- Ex nA nR IIC T6 Gc -40°C to +40°C
- Ex nA nR IIC T5 Gc -40°C to +55°C
- Ex tb IIIC T72°C Db IP66 -40°C to +40°C
- Ex tb IIIC T87°C Db IP66 -40°C to +55°C
- Ⓔx II 3 G Ex nA nR IIC T6 Gc -40°C to +40°C**
- Ⓔx II 3 G Ex nA nR IIC T5 Gc -40°C to +55°C**
- Ⓔx II 2 D Ex tb IIIC T72°C Db IP66 -40°C to +40°C
- Ⓔx II 2 D Ex tb IIIC T87°C Db IP66 -40°C to +55°C

347-480 VAC
- Ex nA nR IIC T4 Gc -40°C to +55°C
- Ex tb IIIC T70°C Db IP66 -40°C to +40°C
- Ex tb IIIC T85°C Db IP66 -40°C to +55°C
- Ⓔx II 3 G Ex nA nR IIC T4 Gc -40°C to +55°C**
- Ⓔx II 2 D Ex tb IIIC T70°C Db IP66 -40°C to +40°C
- Ⓔx II 2 D Ex tb IIIC T85°C Db IP66 -40°C to +55°C

*Cool white 120-277 VAC 3L-11L models. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions.

Standard Materials:

- Lamp housing and adapter – die cast aluminum with Corro-free™ epoxy powder coat
- Lens – heat- and impact-resistant glass
- Gaskets – silicone
- External hardware – stainless steel
- Factory-sealed, no external seals required

LED System:

- High intensity discrete power emitters
- Cool white (5000K, 70 CRI) and warm white (3000K, 80 CRI)
- Custom optics designed to go over each discrete LED

Custom Optics:

Three optical options to maximize light distribution and intensity:

TYPE I
Ideal for:
- Mining conveyor belts
- Aisleways and hallways
- Catwalks and walkways
- Ramps and loading docks
- Tunnels with overhead mounts

TYPE III
Ideal for:
- Narrow crosswalks or passages with wall mounted fixtures
- Tunnels with wall mount
- Wall or stanchion mount requiring 180° forward throw beam patterns

TYPE V
Ideal for:
- Pendant, ceiling or stanchion mount overhead building mounts
- Processing mills, industrial plants, large buildings, warehouses, etc.

Crouse-Hinds by EATON

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Drivers:

Option	3L - 11L
/UNV1	120-277 VAC, 50 / 60 Hz
/UNV34**	347-480 VAC, 50 / 60 Hz
/VDC‡	108-250 VDC, 50 / 60 Hz

**No separate external transformer required to step down voltage.
‡Separate driver for DC applications.

Electrical Ratings:

	VMV3L	VMV5L	VMV7L	VMV9L	VMV11L
Voltage Range, VAC	120-277	120-277	120-277	120-277	120-277
Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Input Power (Watts)	41	67	94	114	118
Input Amps at 120-277 VAC	0.34-0.17	0.57-0.29	0.80-0.42	0.96-0.49	0.96-0.49
Voltage Range, VDC	108-250	108-250	108-250	108-250	108-250
Power Factor	>0.90	>0.90	>0.90	>0.90	>0.90
Nominal Lumens† (Type V)	3,515	5,288	7,404	9,515	10,935

†Tolerance +/- 10%.

Design Features:

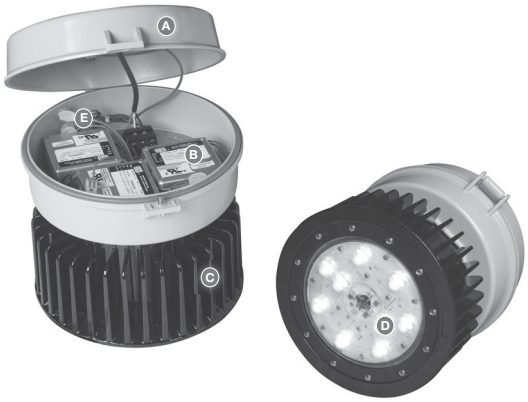
Ⓐ Installation and replacement made simple - this contractor-friendly, modular design is ideal for both retrofit and new construction applications. These luminaires are installed in the same manner and use the same mounting modules as existing Champ® Series luminaires. The compact modular design of the VMVL allows for easy component replacement and future upgrade.

Ⓑ High efficiency and lumen output - custom high efficiency LED drivers are designed to provide reliable operation in even the harshest environments. Various AC and DC input voltage options are available to suit virtually any drive requirement.

Ⓒ Safe, reliable heat transfer - die cast aluminum housing provides safe and effective heat transfer from the LED assembly to the outside environment, ensuring low LED junction temperature, reliability, and sustained lumen performance. The vertical fin design facilitates air flow and dust shedding. The impact-resistant lens is sealed from the outside environment and provides ingress protection against water and dust.

Ⓓ Custom optics - custom optics designed for discrete LED power emitters.

Ⓔ Ease of wiring and installation - available with lever lock connectors and standard three-pole terminal block for ease of wiring and installation.



Custom Optics:

Custom optics designed for discrete LED power emitters:

- Type V standard
- Type I and Type III optional

Type I

Type III

Type V

Colored LED Options:

- Available in red, blue, green and amber
- Reduction in light pollution for night space observation and sky glow due to isolating blue wavelength in red and amber colors
- Wildlife friendly
- Improves visibility for telescopes in observatories during night sky space exploration

2L Champ® VMV LED Series Luminaires

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Catalog Numbering System:

VMV 7L W 2A R1 G /UNV1 S890

Lamp/Function

3L	3,515 Lumen LED
5L	5,288 Lumen LED
7L	7,404 Lumen LED
9L	9,519 Lumen LED
11L	10,935 Lumen LED
RL	Red (3,200 Lumen)
GL	Green (4,300 Lumen)
BL	Blue (2,100 Lumen)
AL	Amber (5,000 Lumen)

Color Temperature

BLANK	Cool (5000 ± 200K)
W	Warm (3000K ± 200K)

Guard

BLANK	No Guard
G	P3001 Wire Guard

Voltage

/UNV1	120-277 VAC, 50/60 Hz
/UNV34	347-480 VAC, 50/60 Hz
/VDC	108-250 VDC, 50/60 Hz

Suffixes

S812	Trunnion Mount Kit with Pin
S890	Quick Clip
S891	Diffused Lens†
S896	Teflon Coated Lens†
S903	Polycarbonate Lens
TB6	Six-pole Terminal Block†

Mounting Style

BLANK	No Cover
J	1-½" Stanchion 25°
P	1-½" Stanchion Straight
2A	¾" Pendant
3A	1" Pendant
2B	¾" Cone Pendant
3B	1" Cone Pendant
2C	¾" Ceiling
3C	1" Ceiling
2HA	¾" Flexible Pendant
2TW	¾" Wall
3TW	1" Wall

Optics

BLANK	Type V Optic Standard (All Mounts)
R1	Type I Optic (All Mounts Minus Ceiling)
R1A	Type I Optic (Ceiling with Conduit 45° Counterclockwise or 135° Clockwise from Hinge)*
R1B	Type I Optic (Ceiling with Conduit 45° Clockwise or 135° Counterclockwise from Hinge)*
R3	Type III Optic (All Mounts Minus Ceiling)
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)**

*For new construction, order R1A only.
**For new construction, order R3A1 only.
†Not available for IEC applications.

Options:

Description	Suffix
Wire guard with captive mounting hardware	P3001
Trunnion mount with redundant pin locking mechanism (ceiling mount required)	S812 K1
Quick Clip for quick installation	S890
Diffused lens for glare reduction‡‡	S891
Teflon coating on lens for additional shatter protection‡‡	S896
Polycarbonate lens available in applications where glass is prohibited	S903
Six-pole terminal block‡‡	TB6

‡‡Not available for IEC applications.

Accessories (Ordered Separately):

Description	Cat. # (Ordered Separately)
Photocell, 120V, 50 / 60 Hz	D2S20
Photocell, 208-277V	D2S208 277
Occupancy sensor, ½" entry, 120 / 277 VAC***	COS1/UNV1
Occupancy sensor, ¾" entry, 120 / 277 VAC***	COS2/UNV1
Occupancy sensor, 1" entry, 120 / 277 VAC***	COS3/UNV1

***For 347-480 VAC, replace /UNV1 with /UNV34.

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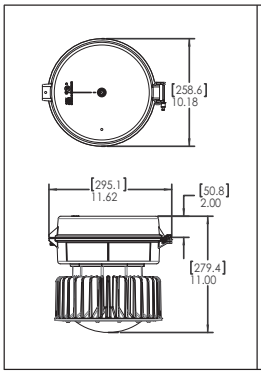
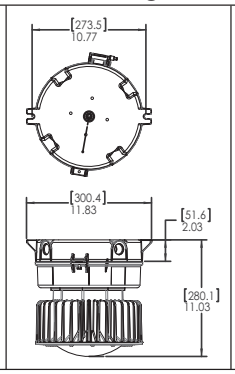
Dimensions:

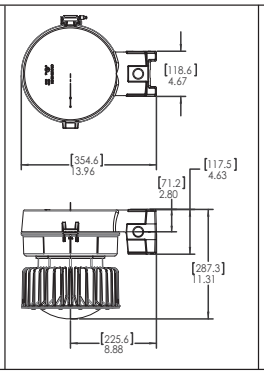
Pendant



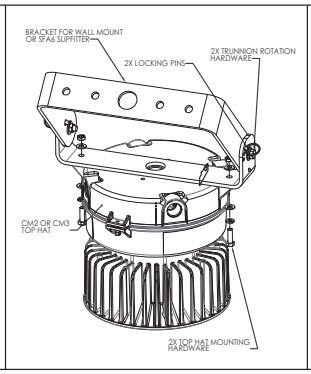
Ceiling



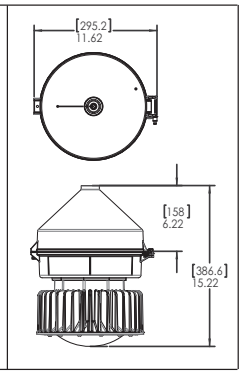
Wall



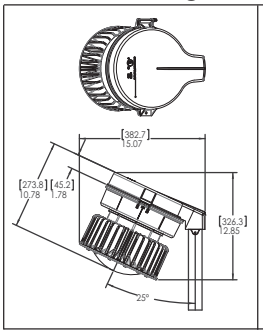
Trunnion



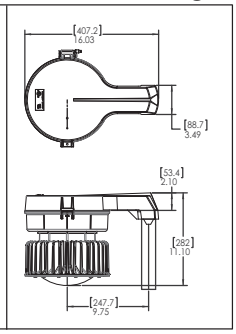
Cone Pendant



Stanchion Angled



Stanchion Straight



Weights:

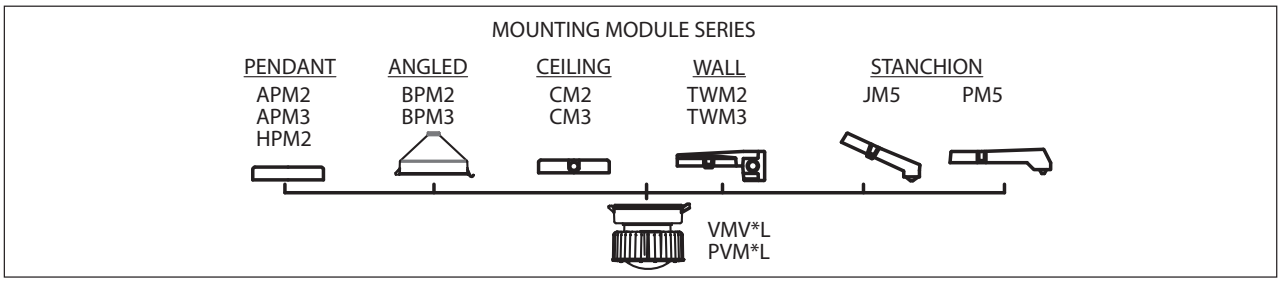
Net Luminaire Weight:	21.8 lbs.	8.07 kg.
Mounting Module add (lb.)		
Pendant	1.25	0.57
Cone Pendant	4.00	1.81
Flexible Pendant	1.50	0.68
Ceiling	2.75	1.25
Wall	4.50	2.04
Angle Stanchion	3.50	1.59
Straight Stanchion	4.50	2.04

Temperature Codes:

Model	Driver Type	Ambient	Cl. I, Div. 2 / Zone 2, nA, nR	Cl. II, Div. 1	Sim. Pres. / Cl. I, Div. 2 / Cl. II, Div. 1	Zone 21
3L, 5L, 7L, 9L, 11L‡	/UNV1 (100-277 VAC)	40°C	T6	T5	T3C	T72
	/VDC (108-250 VDC)	55°C	T5	T4A	T3B	T87
	/UNV34 (347-480 VAC)	40°C	T4	T5	T3C	T70
		55°C	T4	T4A	T3A	T85
RL, GL, BL, AL	/UNV1 (100-277 VAC)	40°C	T5	T6	T4A	T60
		55°C	T4	T6	T4A	T75

‡Teflon and diffused glass options are only NEC certified for: Class I, Division 2/Sim. Pres. - T3C (40°C); T3B (55°C) for /UNV1 and /VDC, and T3C (40°C); T3A (55°C) for /UNV34. Class II, Division 1 - T5 (40°C); T4A (55°C) for /UNV1, /VDC and /UNV34.

Family Tree:



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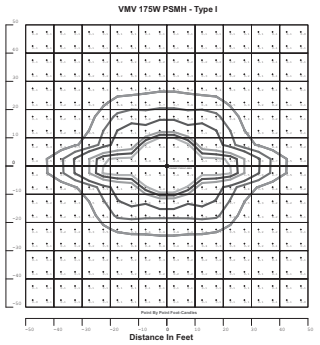
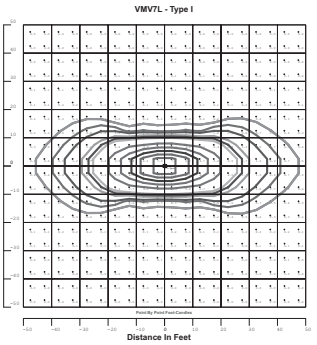
Photometric Data:

Photometric Layout Comparison - Champ® VMV7L LED Versus 175W Metal Halide:

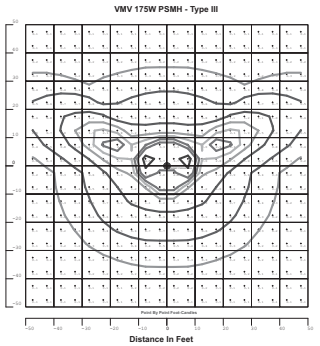


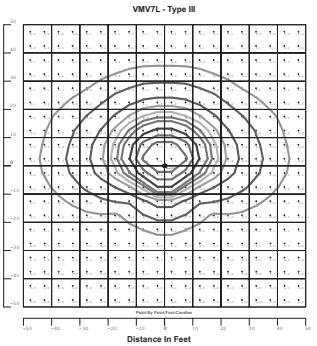


TYPE I OPTICAL PATTERN

Calculation Summary

Label	Calc. Type (in Fc)	Avg.	Max.	Min.
VMV 175W MH Grid	Illuminance	0.49	3.0	0.0
VMV LED Grid	Illuminance	0.58	7.3	0.0

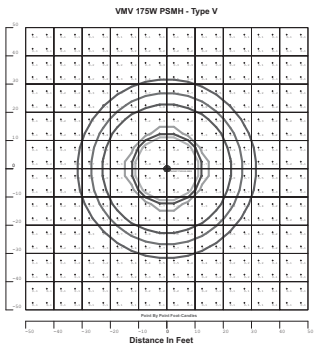


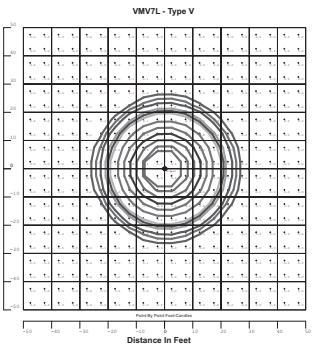


TYPE III OPTICAL PATTERN

Calculation Summary

Label	Calc. Type (in Fc)	Avg.	Max.	Min.
VMV 175W MH Grid	Illuminance	0.59	4.5	0.1
VMV LED Grid	Illuminance	0.61	7.6	0.0





TYPE V OPTICAL PATTERN

Calculation Summary

Label	Calc. Type (in Fc)	Avg.	Max.	Min.
VMV 175W MH Grid	Illuminance	0.51	2.8	0.1
VMV LED Grid	Illuminance	0.69	7.3	0.0

Actual Lumens (Nominal†)	3L	5L	7L	9L	11L
Type I	3,115	4,687	6,562	8,437	9,692
Type III	3,271	4,921	6,890	8,859	10,177
Type V	3,515	5,288	7,404	9,519	10,935

†Tolerance +/- 10%.

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