



Engineering
Safety &
Productivity



Pro Series Industrial LED Luminaires

Leading the way in LED technology
for industrial applications

Pro Series Industrial LED Luminaires

With LED Solutions from Cooper Crouse-Hinds, the Future is Bright

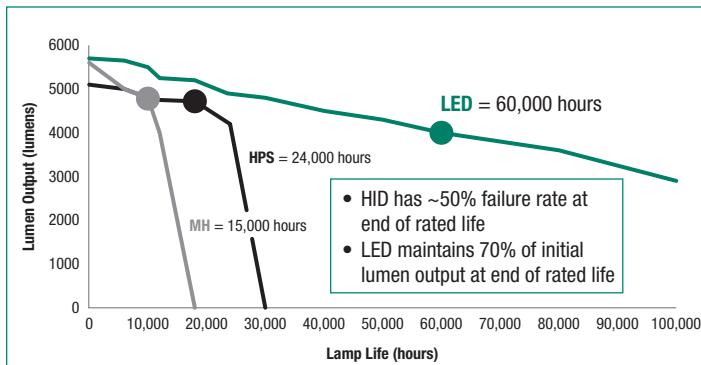
Cooper Crouse-Hinds offers the broadest portfolio of LED luminaires for any industrial or hazardous application. Additionally, we utilize more than 100 years of lighting expertise to optimize the benefits of LED technology to offer the safest and most reliable LED luminaire in the market.



Cooper Crouse-Hinds' LED Luminaires Have Numerous Advantages

Product Life

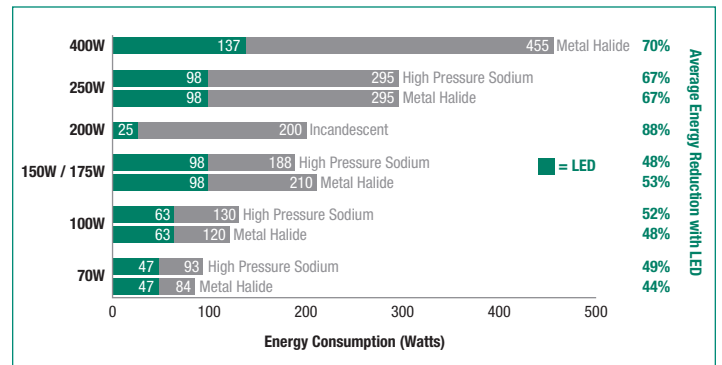
- **Operating life** – expected operating life of a Cooper Crouse-Hinds LED is 60,000 hours. This is a significant upgrade over traditional light sources, such as incandescent and HID lamps.
- **Vibration** – shock- and vibration-resistant solid-state devices have no filaments or glass components that could break, greatly reducing the risk of premature failure.
- **Heat dissipation** – Cooper Crouse-Hinds' heat sinks are specifically engineered to remove heat from the LEDs and driver to ensure longer life, better lumen output, and accurate color temperature.



Cooper Crouse-Hinds' LED luminaires remove the high maintenance costs associated with traditional lamps.

Energy Efficiency and Lumen Output

- Cooper Crouse-Hinds' LED luminaires on average consume 50% less energy than HID luminaires and 85% less energy than incandescent luminaires.
- LED luminaires provide higher lumens per watt as compared with many traditional lighting technologies (incandescent, compact fluorescent, HID).



Cooper Crouse-Hinds' LED luminaires provide the same or better light output at a fraction of the energy.



Bright Lights, Big Benefits

In addition to extreme long life and energy efficiency, Cooper Crouse-Hinds' LEDs also offer these advantages:

- **Disposal** – LEDs contain no mercury or other hazardous substances, thereby reducing disposal costs and limiting future liability.
- **Retrofittable mounting modules** – compact modular fixtures attach to existing Cooper Crouse-Hinds installed mounting modules, reducing installation costs.
- **Color temperature** – Cooper Crouse-Hinds offers a variety of color temperatures to meet customers' needs.




Pro Series Industrial LED Luminaires

The robust Pro Series LED family allows for replacement of existing HID, floodlights, and incandescent industrial fixtures, and provides an energy-efficient, proven light source for use in applications where reliability is crucial.

APPLICATIONS

- Robust Pro Series LED family allows for replacement of existing HID, floodlights, and incandescent industrial fixtures
- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Areas requiring frequent on-and-off of lights
- Areas that are difficult to relamp or that cause production to be stopped during the lamp maintenance process
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Type 4X, marine, wet locations and hose-down environments
- Warehouses, outdoor areas, production facilities, etc.

PRODUCT SELECTOR CHART

Series	Champ® Pro PVM Series	Champ® Pro PFM Series	Vaporgard™ Pro P2L Series
			
Certifications	UL1598; UL1598A; cUL; NEMA 4X; IP66	UL1598; UL1598A; cUL; NEMA 4X; IP67	UL1598; UL1598A; cUL; NEMA 4X; IP68
Applications / Uses	<ul style="list-style-type: none"> • General high bay/low bay illumination 	<ul style="list-style-type: none"> • Outdoor/indoor flood illumination 	<ul style="list-style-type: none"> • Low mounting heights, such as stairways, walkways, and doorways • Targeted illumination
Equivalent Output	Replaces 70W to 400W HID	Replaces 70W to 400W HID	Replaces up to 200W incandescent
Mounting Styles	Wall; Ceiling; Pendant; Stanchion	Yoke Mounted	Wall; Ceiling; Pendant; Stanchion
Photometrics and Test Reports Available	<ul style="list-style-type: none"> • IES Photometric Files • LM-80 Lumen Maintenance Report • LM-79 Test Report 	<ul style="list-style-type: none"> • IES Photometric Files • LM-80 Lumen Maintenance Report • LM-79 Test Report 	<ul style="list-style-type: none"> • IES Photometric Files • LM-80 Lumen Maintenance Report • LM-79 Test Report



PRO SERIES LED BENEFITS

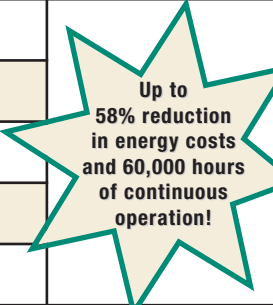
- A Customized heat sinks**
Cooper Crouse-Hinds' heat sinks are specifically engineered to remove heat from the LEDs and driver to ensure longer life, better lumen output, and accurate color temperature.
- B Retrofittable mounting modules**
Compact modular fixtures attach to existing Cooper Crouse-Hinds installed mounting modules, reducing installation costs.
- C Long life LEDs eliminate maintenance cost**
Cooper Crouse-Hinds' luminaires remove the high maintenance costs associated with traditional lamps.

Champ® Pro PVM Series

Champ® Pro PVM Series - ideal for general high bay/low bay illumination

THE CHAMP® PRO PVM FAMILY

Champ® Pro PVM Series Luminaires are designed to provide full-spectrum, crisp, white light with a true IES type V distribution. Five versions of the PVM Series are available, providing ideal solutions for a wide range of applications.

Champ® Pro PVM Model	Equivalent HID Luminaire	Typical Energy Savings / Lifetime
PVM3L	70W-100W	 <p>Up to 58% reduction in energy costs and 60,000 hours of continuous operation!</p>
PVM5L	100W-150W	
PVM7L	150W-175W	
PVM9L	175W-200W	
PVM11L	200W-400W	



LED SYSTEM

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) and 5600K (CRI 65) options available
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions

DRIVERS

Champ® Pro PVM Model	3L - 9L	11L
Standard	90-305 VAC, 50/60 Hz; 108-250 VDC	100-240, 277 VAC
Option 1	347 VAC Model	347 VAC Kit Available
Option 2	480 VAC Model	480 VAC Kit Available

STANDARD MATERIALS

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

AMBIENT TEMPERATURE

Champ® Pro PVM Model	Max. Temp. °C
PVM3L	55
PVM5L	55
PVM7L	55
PVM9L	55
PVM11L	40



ELECTRICAL RATINGS

	PVM3L	PVM5L	PVM7L	PVM9L	PVM11L
Voltage Range, VAC	100-277V	100-277V	100-277V	100-277V	100-240, 277V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Input Power	47 Watts	70 Watts	98 Watts	98 Watts	137 Watts
Input Amps (Max.)	0.5	0.7	0.98	0.98	1.4
Voltage Range, VDC	108-250	108-250	108-250	108-250	N/A
Power Factor	>0.85	>0.85	>0.85	>0.85	>0.85

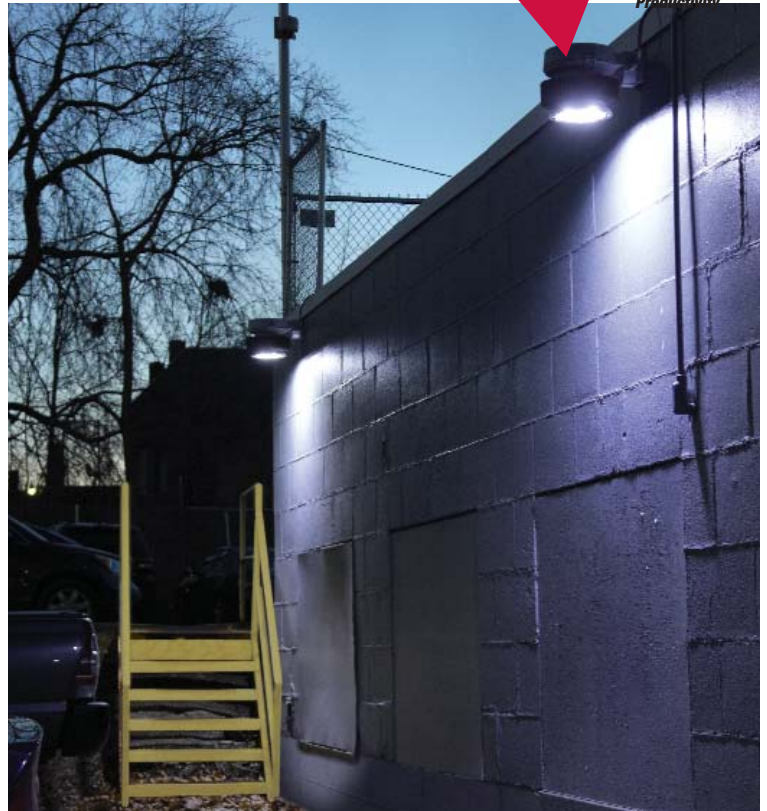
OPTIONS

Suffix to add to Catalog No.

Quick Clip for quick installation. **S890**

Diffuse lens reduces glare in applications where the user may have direct visual contact with the light source. **S891**

Teflon coating on lens for additional shatter protection **S896**



ORDERING INFORMATION

MOUNTING STYLE	3L SERIES	5L SERIES	7L SERIES	9L SERIES	11L SERIES
Luminaire Less Mounting Module	PVM3LDM2/UNV1	PVM5LDM2/UNV1	PVM7LDM2/UNV1	PVM9LDM2/UNV1	PVM11LDM1/UNV
¾" Pendant	PVM3L2ADM2/UNV1	PVM5L2ADM2/UNV1	PVM7L2ADM2/UNV1	PVM9L2ADM2/UNV1	PVM11L2ADM1/UNV
1" Pendant	PVM3L3ADM2/UNV1	PVM5L3ADM2/UNV1	PVM7L3ADM2/UNV1	PVM9L3ADM2/UNV1	PVM11L3ADM1/UNV
¾" Flexible Pendant	PVM3L2HADM2/UNV1	PVM5L2HADM2/UNV1	PVM7L2HADM2/UNV1	PVM9L2HADM2/UNV1	PVM11L2HADM1/UNV
¾" Ceiling Mount Thru Feed	PVM3L2CDM2/UNV1	PVM5L2CDM2/UNV1	PVM7L2CDM2/UNV1	PVM9L2CDM2/UNV1	PVM11L2CDM1/UNV
1" Ceiling Mount Thru Feed	PVM3L3CDM2/UNV1	PVM5L3CDM2/UNV1	PVM7L3CDM2/UNV1	PVM9L3CDM2/UNV1	PVM11L3CDM1/UNV
¾" Wall Mount Thru Feed	PVM3L2TWD2/UNV1	PVM5L2TWD2/UNV1	PVM7L2TWD2/UNV1	PVM9L2TWD2/UNV1	PVM11L2TWD1/UNV
1" Wall Mount Thru Feed	PVM3L3TWD2/UNV1	PVM5L3TWD2/UNV1	PVM7L3TWD2/UNV1	PVM9L3TWD2/UNV1	PVM11L3TWD1/UNV
1 ½" Stanchion 25°	PVM3LJDM2/UNV1	PVM5LJDM2/UNV1	PVM7LJDM2/UNV1	PVM9LJDM2/UNV1	PVM11LJDM1/UNV
1 ½" Stanchion	PVM3LPDM2/UNV1	PVM5LPDM2/UNV1	PVM7LPDM2/UNV1	PVM9LPDM2/UNV1	PVM11LPDM1/UNV

For 347 VAC option, replace DM2/UNV1 with DM3/347. For 480 VAC option, replace DM2/UNV1 with DM4/480. **NOTE: Requires additional enclosure for use with 11L series.**
For warm white color temperature, use W designation after luminaire style (Example: PVM3LWDM2/UNV1). **NOTE: Not available for 9L series.**



Champ® Pro PFM Series - perfect for outdoor/indoor flood illumination

THE CHAMP® PRO PFM FAMILY

Champ® Pro PFM Series Floodlights are designed to provide full-spectrum, crisp, white light. Four versions of the Champ PFM LED are available, providing ideal solutions for a wide range of applications.

Champ® Pro PFM Model	Equivalent MH HID Lamp	Energy Savings
PFM5L	100W-150W	
PFM7L	150W-175W	
PFM9L	175W-250W	
PFM11L	250W-400W	



LED SYSTEM

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) and 5600K (CRI 65) options available
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions

DRIVERS

Champ® Pro PFM Model	5L - 11L
Standard	90-305 VAC, 50/60 Hz; 108-250 VDC
Option 1	347 VAC Model
Option 2	480 VAC Model

STANDARD MATERIALS

- Housing – copper-free aluminum with Corro-free™ epoxy powder coat
- Lens – shatter-resistant glass
- Gaskets – silicone
- External hardware – stainless steel
- Factory-sealed, no external seals required

AMBIENT TEMPERATURE

Champ® Pro PFM Model	Max. Temp. °C
PFM5L	55
PFM7L	55
PFM9L	55
PFM11L	40
	55

ELECTRICAL RATINGS

	PFM5L	PFM7L	PFM9L	PFM11L
Voltage Range, VAC	100-277V 50-60 Hz			
	347/480V 60 Hz			
Voltage Range, VDC	108-250	108-250	108-250	108-250
Input Power (Nom.)	64	94	126	188
Input Amps (Max.)	0.550	0.800	1.083	1.608
Power Factor	>0.85	>0.85	>0.85	>0.85

OPTIONS

Suffix to add to Catalog No.

Fused (only applies to UNV1 model, not available for 347V or 480V; NOT marine or cUL Listed with fusing) **S658**

ACCESSORIES

Catalog No. Sold Separately

Bolt-on visor (sold separately) **DSV1**
 Bolt-on wire guard (sold separately) **P61**
 Floodlight slipfitter (sold separately) **SFA6**
 Slipfitter wall mount adapter (sold separately) **SWB6**

ORDERING INFORMATION

COLOR TEMPERATURE	5L SERIES	7L SERIES	9L SERIES	11L SERIES
Cool Color Temperature	PFM5LCY/UNV1 76	PFM7LCY/UNV1 76	PFM9LCY/UNV1 76	PFM11LCY/UNV1 76
Warm Color Temperature	PFM5LWY/UNV1 76	PFM7LWY/UNV1 76	PFM9LWY/UNV1 76	PFM11LWY/UNV1 76

For 347 VAC option, replace /UNV1 with /347. For 480 VAC option, replace /UNV1 with /480.
To order fixture without optics, remove '76' from the end of the catalog number.



Vaporgard™ Pro P2L Series

Vaporgard™ Pro P2L Series - for targeted illumination in low mounting height areas

THE VAPORGARD™ PRO P2L FAMILY

P2LC/UNV1 - Cool White Color Temperature

The P2LC/UNV1 Luminaire provides uniform crisp, white light and is suitable for lower mounting heights, confined spaces, tunnels, or utility rooms. Using four high power, high brightness LED arrays, this fixture can deliver similar light levels to 150 watt incandescent.

P2LW/UNV1 - Warm White Color Temperature

The P2LW/UNV1 Luminaire provides similar benefits as the cool white version, but with a color rendering more consistent with a warm incandescent or HPS lamp source. Perfect for situations where Vaporgard Pro will be installed next to a warmer color light source.

DC Power Supply - Available for Applications Requiring DC Power

For applications with DC power requirements such as solar or back-up battery. The DC power supply is suitable for 12VDC through 24VDC.



LED ARRAY

- (4) High brightness LED arrays
- Cool white (5600K), CRI 65
- Warm white (3000K), CRI 82
- 70% lumen maintenance (L₇₀) at 50K hours

LED DRIVER

- Constant current regulated power supply
- 90VAC - 264VAC, 277VAC, 50/60Hz
- Internal fusing
- Active power factor correction, >0.9
- Low harmonic distortion, <20%
- Low inrush current, <20 amps
- EMC compliant to 47CFR, Part 2, Part 15
- 12VDC/24VDC option available

AMBIENT TEMPERATURE

Vaporgard™ Pro P2L Model	Max. Temp. °C
P2L/UNV1	40
P2L/UNV1 S902	55
P2L/DC1	40

ELECTRICAL RATINGS

	SERIES			
	P2LC/UNV1	P2LW/UNV1	P2LC/DC1	P2LW/DC1
Voltage	90-264VAC, 277VAC	90-264VAC, 277VAC	12-24VDC	12-24VDC
Input Power (Watts)	25	25	25	25
Input Current	0.23 / 0.10	0.23 / 0.10	2.1 / 1.0	2.1 / 1.0
Power Factor	>0.9	>0.9	N/A	N/A
THD (I) (%)	<20%	<20%	N/A	N/A
Maintained Lumens	1600	1400	1600	1400
Efficacy, LPW	64	56	64	56
Color Temperature	5600K	3000K	5600K	3000K

OPTIONS

Suffix to add to Catalog No.

Frosted lens reduces glare in applications where the user may have direct visual contact with the light source **S891**

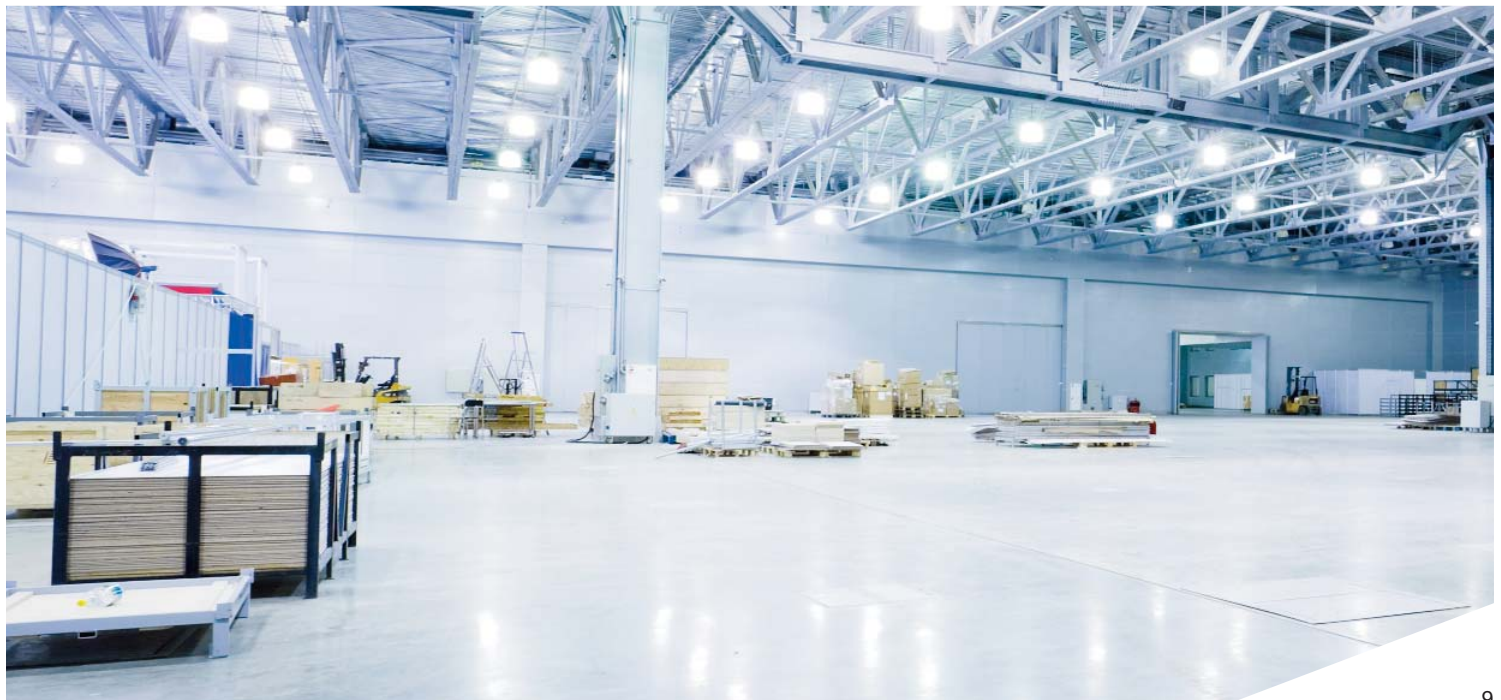
Teflon coating on lens provides additional shatter protection for applications in food and beverage facilities **S896**

High temperature option allows operation up to 55°C ambient temperature (AC unit only) **S902**



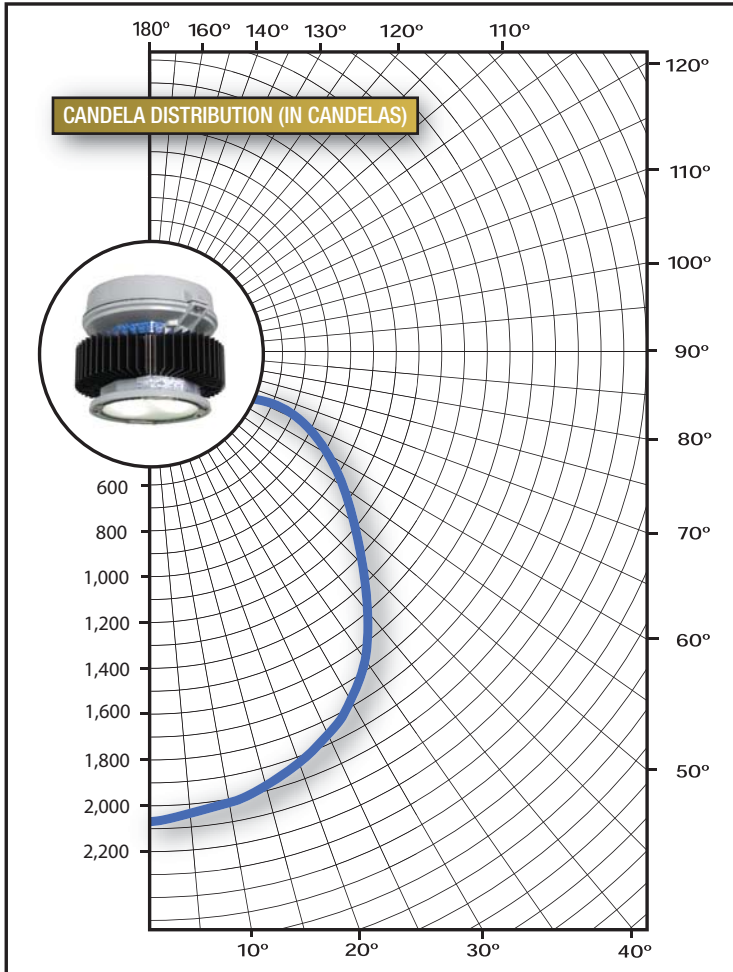
ORDERING INFORMATION

Mounting Style	Cool White		Warm White	
	AC Drive	DC Drive	AC Drive	DC Drive
½" Pendant	P2LCA1/UNV1	P2LCA1/DC1	P2LWA1/UNV1	P2LWA1/DC1
¾" Pendant	P2LCA2/UNV1	P2LCA2/DC1	P2LWA2/UNV1	P2LWA2/DC1
1" Pendant	P2LCA3/UNV1	P2LCA3/DC1	P2LWA3/UNV1	P2LWA3/DC1
½" Wall with Junction Box	P2LCHBF1/UNV1	P2LCHBF1/DC1	P2LWHBF1/UNV1	P2LWHBF1/DC1
¾" Wall with Junction Box	P2LCHBF2/UNV1	P2LCHBF2/DC1	P2LWHBF2/UNV1	P2LWHBF2/DC1
½" Junction Box	P2LCHF1/UNV1	P2LCHF1/DC1	P2LWHF1/UNV1	P2LWHF1/DC1
¾" Junction Box	P2LCHF2/UNV1	P2LCHF2/DC1	P2LWHF2/UNV1	P2LWHF2/DC1
½" Wall	P2LCHT1/UNV1	P2LCHT1/DC1	P2LWHT1/UNV1	P2LWHT1/DC1
¾" Wall	P2LCHT2/UNV1	P2LCHT2/DC1	P2LWHT2/UNV1	P2LWHT2/DC1
1 ¼" Stanchion	P2LCHJ4/UNV1	P2LCHJ4/DC1	P2LWHJ4/UNV1	P2LWHJ4/DC1
Adapter Only	P2LCHR/UNV1	P2LCHR/DC1	P2LWHR/UNV1	P2LWHR/DC1



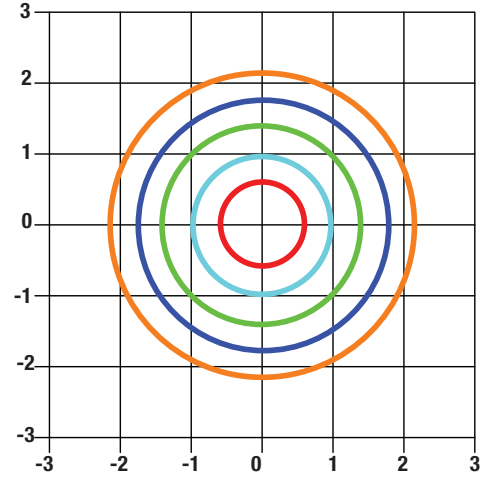
PHOTOMETRIC DATA - CHAMP® PRO PVM SERIES

Champ® Pro PVM LED 98 Watt* - PVM7L



CANDELAS		ZONAL LUMENS		
VERTICAL ANGLE	FRONT SIDE	ZONE	WITH LUMENS	% LUMEN
0	2062	0-10	195	4%
5	2050	10-20	565	10%
15	1994	20-30	863	15%
25	1873	30-40	1039	18%
35	1688	40-50	1087	19%
45	1423	50-60	976	17%
55	1091	60-70	690	12%
65	698	70-80	277	5%
75	261	80-90	14	0%
85	4	90-100	0	0%
90	0	100-120	0	0%
		Total	5706	100%

DISTANCE TO MOUNTING HEIGHT
Isofootcandle chart shows illuminance in footcandles at ground level



ISOFOOTCANDLE CHART
Footcandle Values for Isofootcandle Lines



Mtg. Hgt.	A	B	C	D	E
10'	11.00	5.50	2.20	1.10	0.55
12'	7.63	3.81	1.50	0.76	0.39
16'	4.30	2.14	0.86	0.43	0.22
20'	2.75	1.38	0.55	0.28	0.14
25'	1.76	0.88	0.35	0.18	0.09

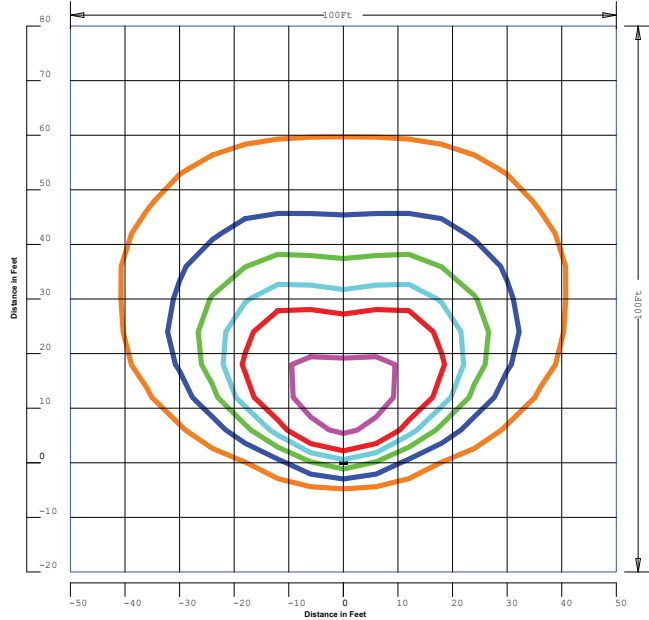
LUMEN OUTPUT FOR OTHER CHAMP® LED LUMINAIRES

Series	System Watts	Lumens
PVM3L	47	3240
PVM5L	63	3778
PVM9L	98	6340
PVM11L	137	9720

*Testing performed in accordance with IES LM-79-08.

PHOTOMETRIC DATA - CHAMP® PRO PFM SERIES

**PFM11L @ 30 Ft. High; Tilt Angle = 45 Degrees
(Isofootcandles)**



MULTIPLIERS FOR OTHER LED FLOODLIGHTS

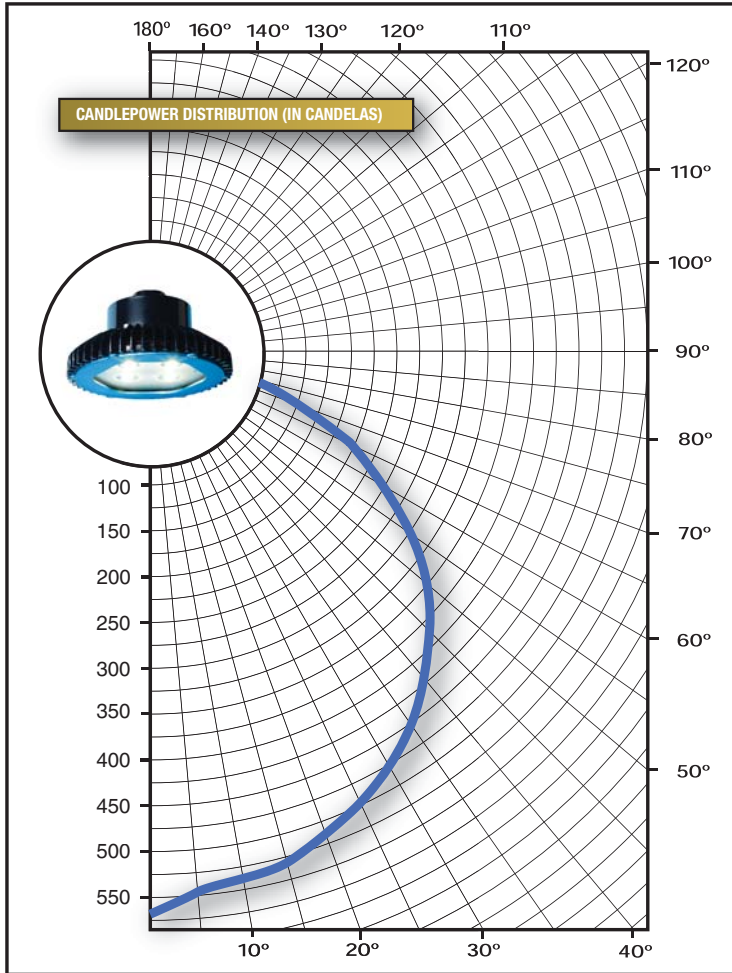
Luminaire Series	Lumen Multiplier	Lumens*
PFM5L	0.33	3160
PFM7L	0.50	4740
PFM9L	0.67	6320

*PFM 11L output is 9481.



PHOTOMETRIC DATA - VAPORGARD™ PRO P2L SERIES

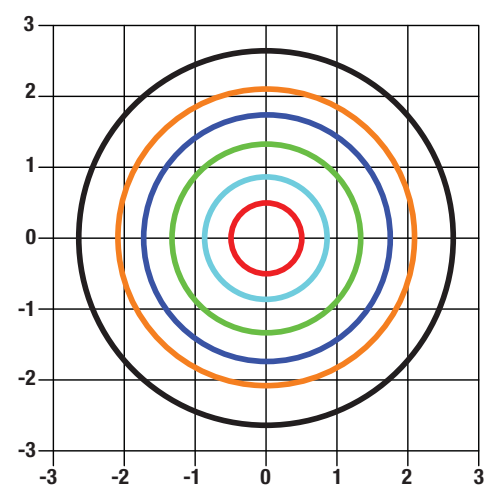
Vaporgard™ Pro LED (25 Watt)



CANDELAS		ZONAL LUMENS		
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VERTICAL ANGLE	FRONT SIDE	ZONE	WITH LUMENS	% LUMEN
0	564	0-10	52	3%
5	545	10-20	150	10%
15	530	20-30	230	15%
25	500	30-40	282	18%
35	452	40-50	297	19%
45	385	50-60	269	17%
55	301	60-70	194	12%
65	197	70-80	85	6%
75	80	80-90	6	0%
85	1	90-100	0	0%
90	0	100-120	0	0%
		Total	1565	100%

DISTANCE TO MOUNTING HEIGHT
Isofootcandle chart shows illuminance in foot-candles at ground level



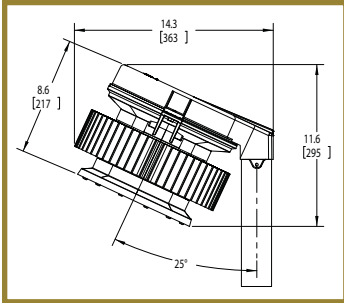
ISOFOOTCANDLE CHART
Footcandle Values for Isofootcandle Lines



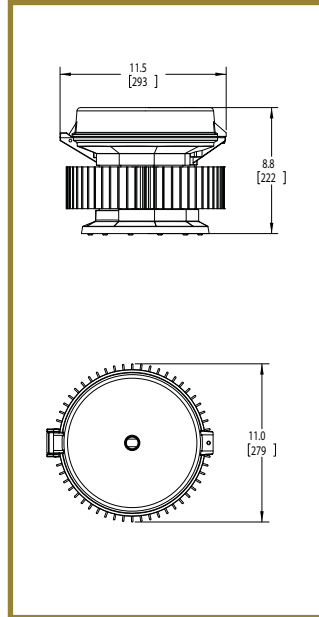
Mtg. Hgt.	A	B	C	D	E	F
6'	10.00	5.00	2.00	1.00	0.50	0.20
8'	5.62	2.81	1.13	0.56	0.28	0.11
10'	3.60	1.80	0.72	0.36	0.18	0.07
12'	2.50	1.25	0.50	0.25	0.13	0.05
14'	1.84	0.92	0.37	0.18	0.09	0.04

DIMENSIONS - CHAMP® PRO PVM SERIES

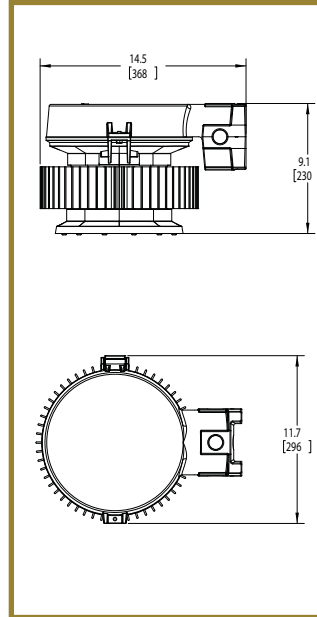
STANCHION



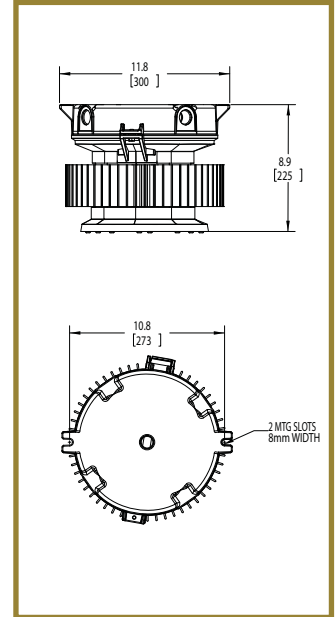
PENDANT



WALL



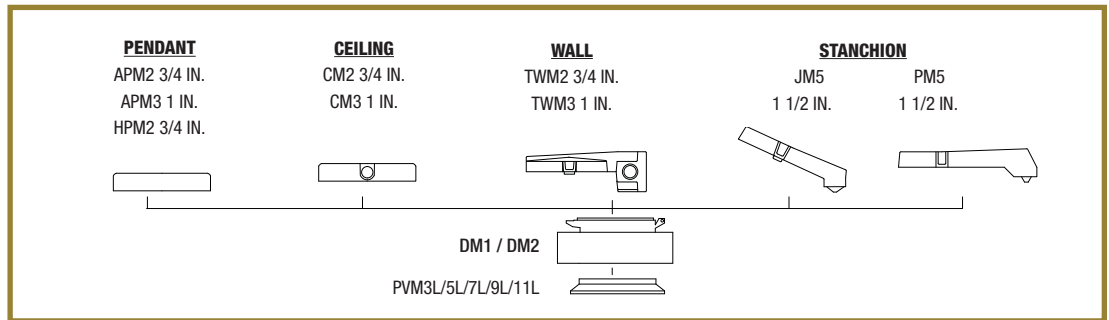
CEILING



WEIGHTS - CHAMP® PRO PVM SERIES

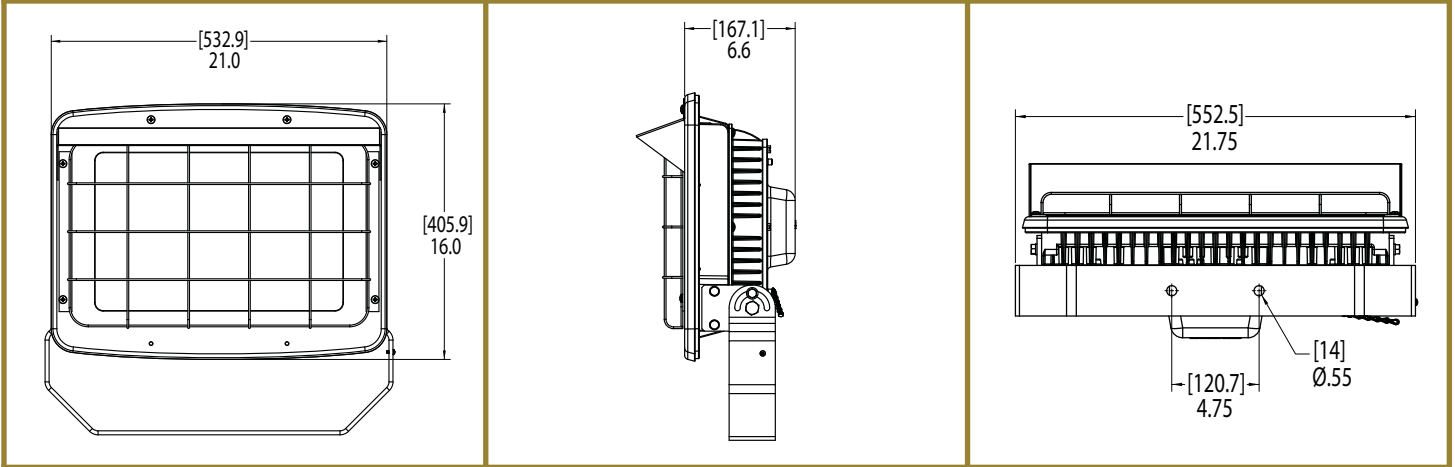
NET LUMINAIRE WEIGHT	17.8 lb.	8.07 kg.
Mounting Module (lb.)		
Pendant	1.25	0.57
Flexible Pendant	1.50	0.68
Ceiling	2.75	1.25
Wall	4.50	2.04
Angle Stanchion	3.50	1.59
Straight Stanchion	4.50	2.04

FAMILY TREE - CHAMP® PRO PVM SERIES



Dimensions, Weights, and Family Trees

DIMENSIONS - CHAMP® PRO PFM SERIES



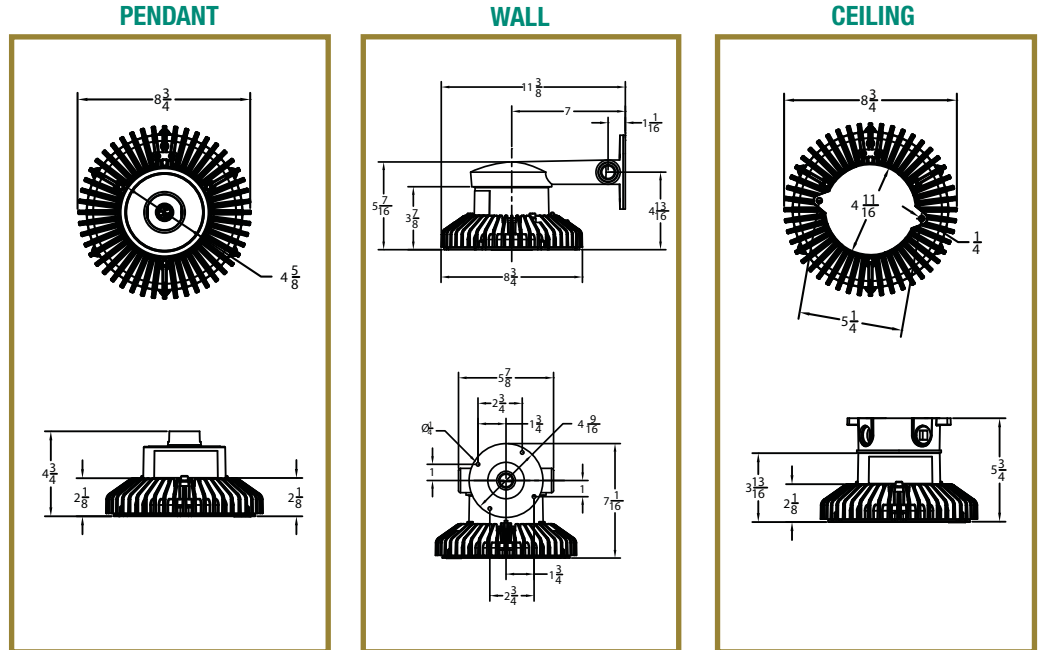
WEIGHTS - CHAMP® PRO PFM SERIES

MODEL	LBS.
5L	39.11
7L	39.16
9L	39.73
11L	40.35

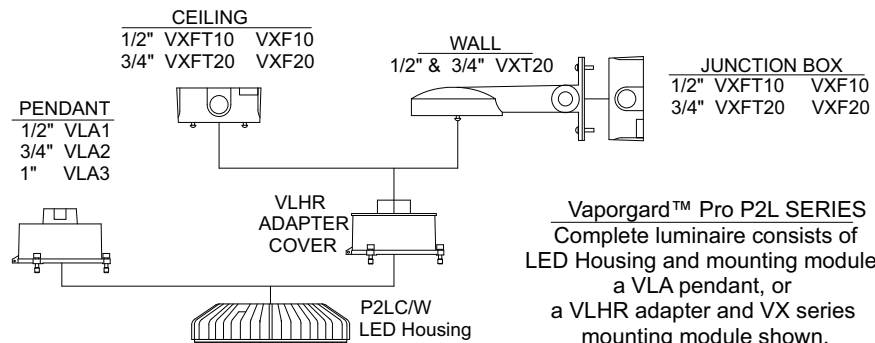
WEIGHTS - VAPORGARD™ PRO P2L SERIES

LUMINAIRE & MOUNTING MODULE WEIGHT	LBS.
Pendant Mount	5.7
Ceiling Mount	6.8
Wall Mount	7.9

DIMENSIONS - VAPORGARD™ PRO P2L SERIES



FAMILY TREE - VAPORGARD™ PRO P2L SERIES



For more information:

If further assistance is required, please contact an authorized Cooper Crouse-Hinds Distributor, Sales Office, or Customer Service Department

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FAX Orders Only: (866) 653-0640
crouse.customerctr@cooperindustries.com

Canada:

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