

Heavy industrial LED lighting

CROUSE-HINDS
SERIES

Champ Pro PVML

High lumen LED lighting for industrial areas



Safe. Reliable. Efficient.
17,000 to 25,000 lumens

EATON

Powering Business Worldwide



Champ® PVML LED

Safe. Reliable. Efficient.

Featuring a broad range of LED luminaires for harsh, hazardous and industrial environments, Eaton Crouse-Hinds series lighting solutions are designed to perform reliably in the most extreme conditions while helping reduce energy, maintenance and manpower costs.

Why LED?

Useful life

Rated life is up to 60,000 hours of maintenance-free and safe operation

Energy efficiency

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

Start/restart time

Instant illumination versus 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?

Rugged design

Built to withstand extreme temperatures, vibration, water and dust

High efficacy

Up to 125 lumens per watt (model dependent)

Thermal management

Effective heat sinking ensures longer life

Quality of light

Custom optics designed to maximize light distribution and intensity

Versatile mounting

LED fixtures are compatible with Crouse-Hinds series HID installed base

Why Champ PVML LED?

Rugged high bay solutions. Champ PVML LED luminaires are engineered to provide maintenance-free operation while delivering long life and high lumen performance.



Optimized for 30-60 foot mounting heights

Built to last:

- Type 4X and IP66 rated
- Impact-resistant lens sealed from the outside environment provides ingress protection against water and dust
- Die cast aluminum LED housing provides efficient thermal path to heat sink assembly
- Vertical fin design facilitates air flow and dust shedding

Custom optics:

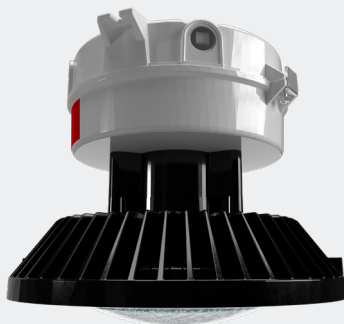
- Type I, III and V optics designed to maximize light distribution and intensity

Increased efficiency and durability:

- Up to 125 lumens per watt

Simple installation and replacement:

- Contractor-friendly design is ideal for both retrofit and new construction
- Easy to retrofit using existing HID or LED Champ mounting module
- Mounting adapters available for retrofit to other commonly installed mounts
- Available with lever lock connectors and standard three-pole terminal block



Why choose Champ PVML?

Safe, reliable and efficient. PVML LED luminaires are engineered to deliver high lumen output and maintenance-free long life in the toughest conditions.

PVML-21 vs. 750 watt HID



77%
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.

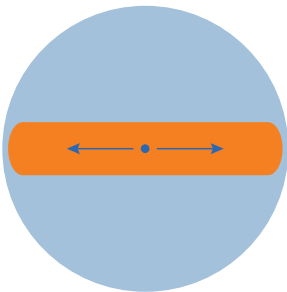
Custom optics

Eaton's Crouse-Hinds continuously focuses on engineering product solutions tailored to our customers' unique needs and applications.

Champ PVML LED luminaires feature custom optics designed to maximize light distribution and intensity, providing flexibility for retrofits or new installations throughout the site.

Type III optics minimize light spillover onto the walls and direct light to the ground.

Three optical options to maximize light distribution and intensity

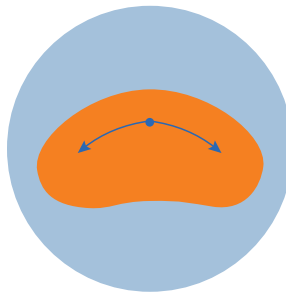


TYPE I*

Long and rectangular for hallways, walkways, loading docks, catwalks.

Ideal for:

- Mining conveyor belts
- Aisleways and hallways
- Catwalks and walkways
- Ramps and loading docks
- Tunnels with overhead mounts

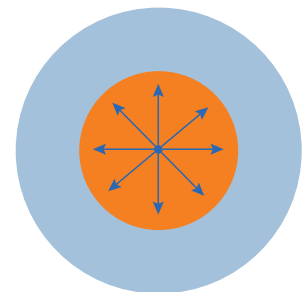


TYPE III*

Stanchion and wall mount light distribution, minimizing spillover on the wall.

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

Regular circular distribution pattern for high/low bay indoor and outdoor ceiling or pendant mount lighting.

Ideal for:

- Pendant, ceiling or stanchion mount overhead building mounts
- Processing mills, industrial plants, large buildings, warehouses, etc.

* Type I and III optic clocking patterns can be adjusted in the field. Each optic is suitable for use with any mount style for 17-25L.

Case study: Type I optics

Catwalk/conveyor lighting

Utilizing Eaton's Crouse-Hinds lighting layout services, Champ PVML luminaires with Type I optics and HID luminaires are shown installed on a catwalk to compare photometrics.

Comparison

Champ Type I LEDs have a wider linear pattern than equivalent HID luminaires and provide more efficient light dispersion, which fully illuminates the catwalk.

Results

Champ PVML LED with Type I optics provides superior illumination along the conveyor and walkway safely. With no gaps in illumination, the optical pattern allows for increased spacing of fixtures and a safer conveyor system.

Savings realized

- **Champ Type I pattern allows for greater fixture spacing** along the catwalk or conveyor system
- Increased visibility with no dark spots results in safer conditions for workers
- Up to 74% energy savings over the life of the fixture

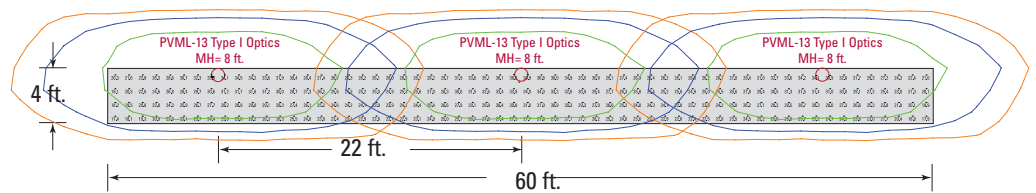
Lighting layout & design services:

Let us help you design your next big project!

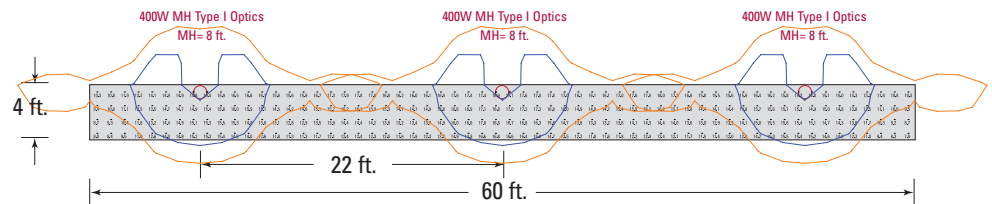
Contact Crouse-Hinds Customer Service

crousecustomerctr
@eaton.com
(866) 764-5454

Champ Pro PVML w/ Type I optics



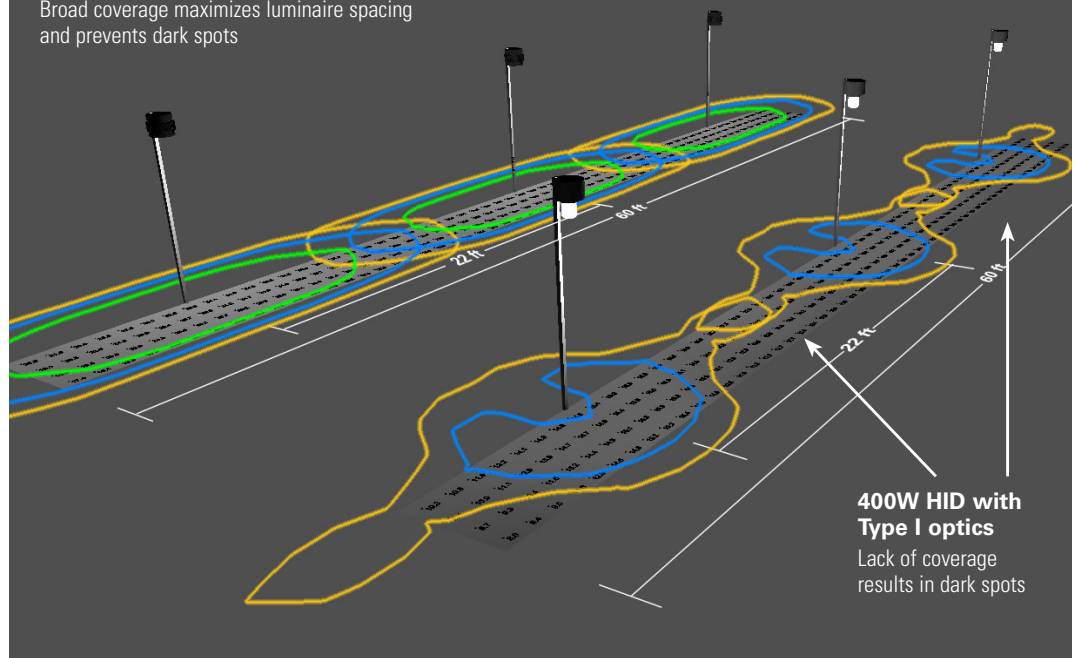
400W metal halide w/ Type I optics



Champ PVML has broader coverage area, higher delivered footcandles and uniformity for a typical catwalk or conveyor application.

Champ PVML with Type I optics

Broad coverage maximizes luminaire spacing and prevents dark spots



400W HID with Type I optics
Lack of coverage results in dark spots

Rugged solutions for complex environments.

Champ PVML LED luminaires are engineered to provide maintenance-free illumination in the most demanding harsh and heavy industrial environments.

The Champ PVML features a compact, high efficacy design with custom optics to ensure maximum efficiency and mounting flexibility, including the ability to retrofit the Crouse-Hinds installed base to service both LED upgrades and new projects.

Model	Typical lumens*	Wattage	Lumens per watt	Equivalent HID luminaire	Typical energy savings / lifetime
PVML-17	17,800	147	121	400W-600W	Up to 75%
PVML-21	21,500	172	125	600W-750W	Up to 77%
PVML-25	25,000	206	121	750W-1000W	Up to 80%

*Tolerance +/- 10%.

**Typical lumens is measured with Type V optics.

Applications:

- Non-hazardous locations with mounting heights up to 60 feet
- Heavy industrial, mine site processing areas, platforms, loading docks, tunnels, indoor/outdoor spotlighting, outdoor wall, stanchion mounted general area lighting and areas requiring frequent on-and-off of lights
- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Type 4X, IP66, marine, wet locations and hose-down environments

Champ Pro PVML benefits:

- Instant illumination and restrike
- Dimmable driver, 0-10V
- Better visibility with crisp, white light
- Cold temperature operation / no warm-up required
- Option for redundant drivers to avoid complete loss of illumination
- Easy installation - compact modular fixture attaches onto existing Champ mounting module
- Energy-efficient - up to 77% energy savings over HID
- 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
- Full cut-off with no wasted light above the fixture
- 5 year fixture warranty†

†Refer to the current distributor price book for Crouse-Hinds standard Terms and Conditions.



Drivers:

Option	Voltage: PVML-17 to PVML-25
UNV1	100-277 VAC, 50/60 Hz; 127-250 VDC, 50/60 Hz
UNV34	347-480 VAC, 50/60 Hz

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
- Standard: cool white (5000K, 70 CRI); optional: warm white, (3000K, 80 CRI) or neutral white (4000K, 70 CRI)
- Custom Type I, III and V optics available
- Optics clocking in field to align Type I and Type III light patterns to illumination path for PVML-17 to PVML-25

Certifications and compliances:

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

Accessories (ordered separately):

- Photocell, 120V, 50/60 Hz
- Photocell, 208-277V
- Occupancy sensor with photocell, 120/277 VAC
- Trunnion mount kit with redundant pin locking mechanism (ceiling mount required)
- Remote control for customizing occupancy sensor performance



ORDC/UNV1



REMOTE CONTROL 1

Occupancy sensor and remote (ordered separately)

Electrical ratings:

UNV1	PVML-17	PVML-21	PVML-25
Voltage range UNV1 (VAC 50/60 Hz)	100-277	100-277	100-277
Voltage range UNV1 (VDC 50/60 Hz)	127-250	127-250	127-250
Input power (watts)	147	172	206
Input amps at 100-277 VAC	0.52-1.47	0.61-1.72	0.72-2.06
Input amps at 127-250 VDC	0.56-1.14	0.66-1.33	0.79-1.58

UNV34	PVML-17	PVML-21	PVML-25
Voltage range UNV34 (VAC 50/60 Hz)	347-480	347-480	347-480
Input power (watts)	141	164	195
Input amps at 347-480 VAC	0.29-0.41	0.34-0.47	0.40-0.56

All models	All models
THD Total Harmonic Distortion	Power factor
<20%	>0.90

Weights:

Luminaire	lbs.	kg.
All models PVML17-25	25.15	11.41

Mounting module	lbs.	kg.
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
Straight stanchion	4.50	2.04



Ordering information

Part number example

PVML-17-W-2A-R1-G-UNV1-S890-M2

PVML - 17 - W - 2A - R1 - G - UNV1 - S890 - M2

Lamp/function

17	17,800 lumen LED
21	21,500 lumen LED
25	25,000 lumen LED

Color temperature

BLANK	Cool (5000K) or colored
W	Warm (3000K)
N	Neutral (4000K)

*Consult with factory for additional color temperature options.

Optics

BLANK	Type V
R1	Type I
R3	Type III

Guard

BLANK	No wire lens guard
G	Wire lens guard

Voltage (50/60 Hz)

UNV1	120-277 VAC; 108-250 VDC
UNV34	347-480 VAC

Suffixes

S812*	Trunnion mount kit with pin
S831**	Safety cable
S890	Quick clip
S891**	Diffused lens
S896**	Teflon coated lens
S903	Polycarbonate lens
TB6	Six-pole terminal block

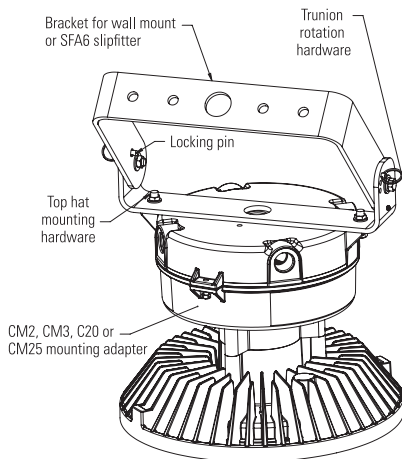
*Order with ceiling mount only.

**Not available for IEC.

Mounting style

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

Accessories (ordered separately)



Mounting & hardware

VMVL S812 K1	Trunnion mount kit with pin*
VMVL S812 K1 DBR	PVC coated trunnion mount kit with pin*
VMVLS 831 K1	Safety cable
VMVL S890 K1	Quick clip
CHMM1	Mounting adapter for Appleton Merc Master III mounts
CHMM2	Mounting adapter for Appleton Merc Master II mounts
CHMM3	Mounting adapter for Thomas & Betts HazLux mounts
CHMM4	Mounting adapter for GE Filtr-Gard mounts

*Available with ceiling mounted modules only.

Replacement drivers UNV1

VMVL-17L-UNV1-DRIVER-KIT	UNV1 replacement driver kit for VMVL-17
VMVL-21L-25L-UNV1-DRIVER-KIT	UNV1 replacement driver kit for VMVL-21, -25
VMVL-17L-25L-UNV34-DRIVER-KIT	UNV34 replacement driver kit for VMVL-17, -21, -25

Photocells

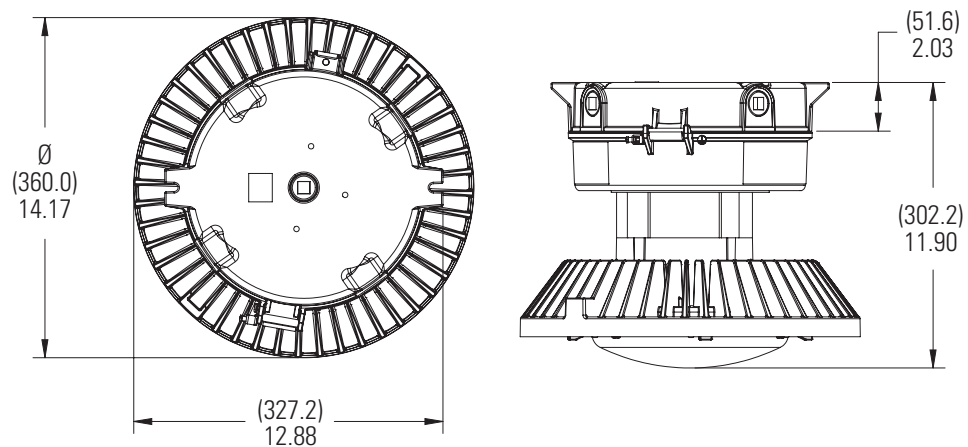
D2S20	Photocell, 120V
D2S208 277	Photocell, 208-277V

Lens guard

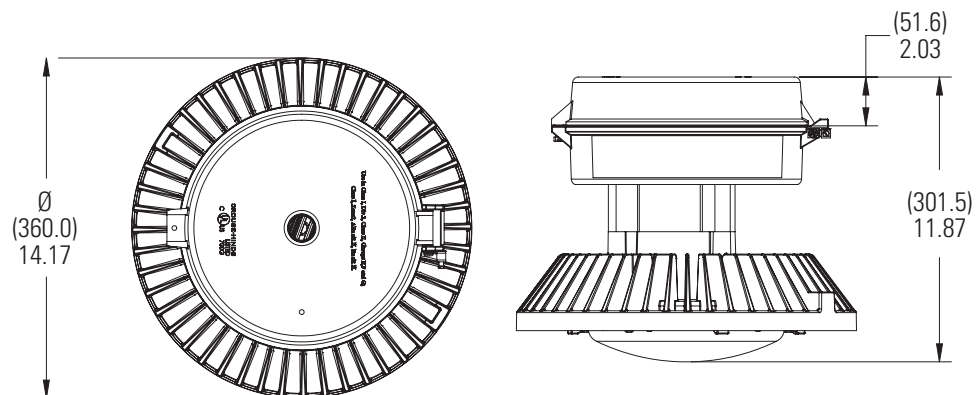
P3002	Wire lens guard
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Mounting options and dimensions

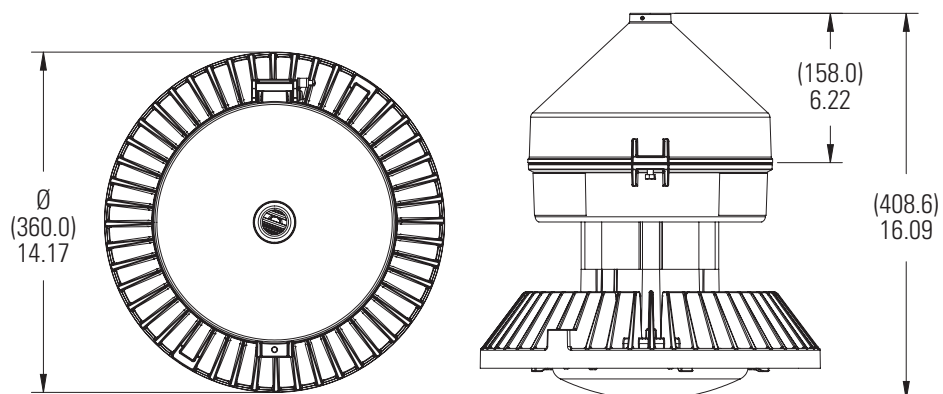
Ceiling



Pendant

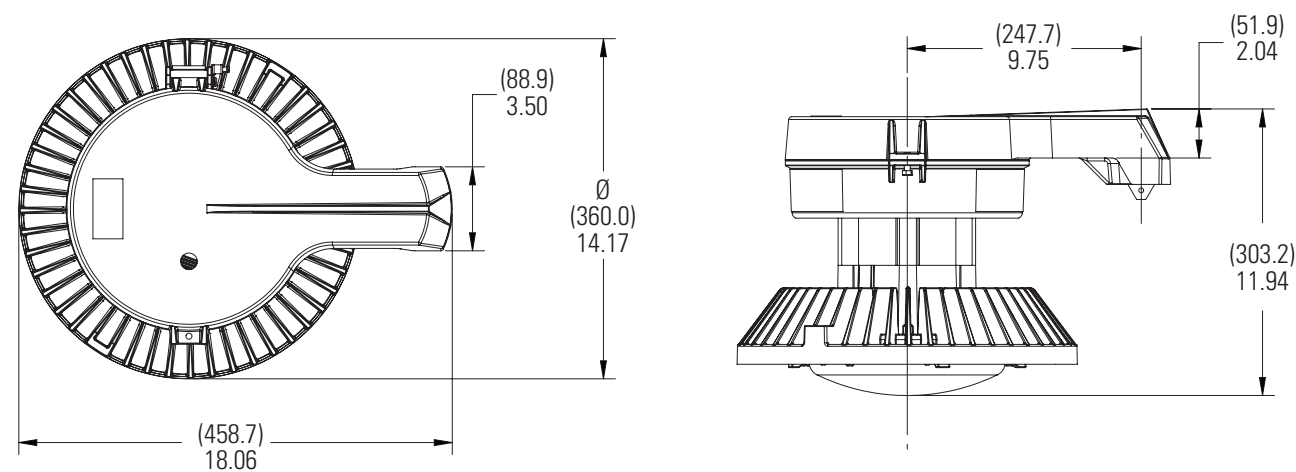


Cone pendant

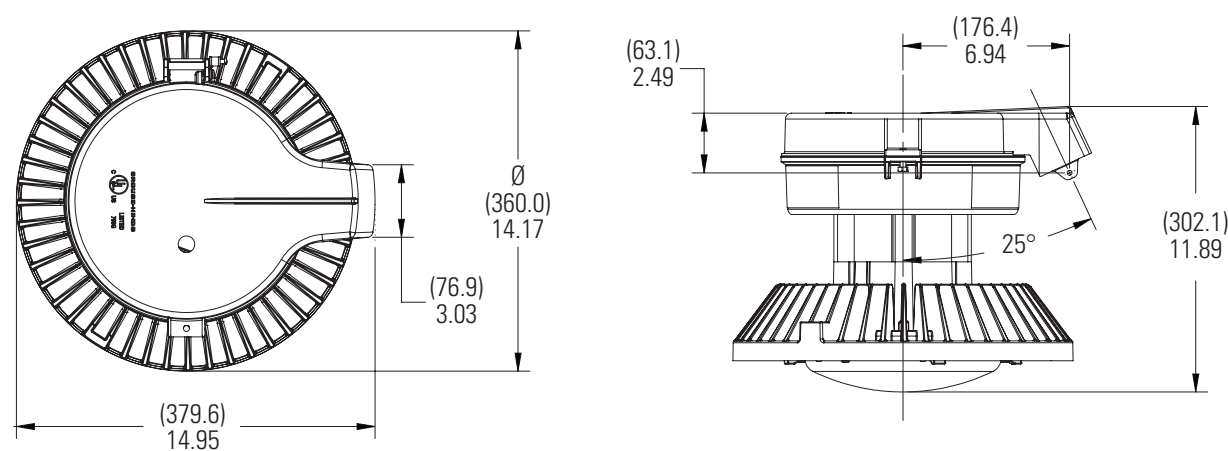


Mounting options and dimensions

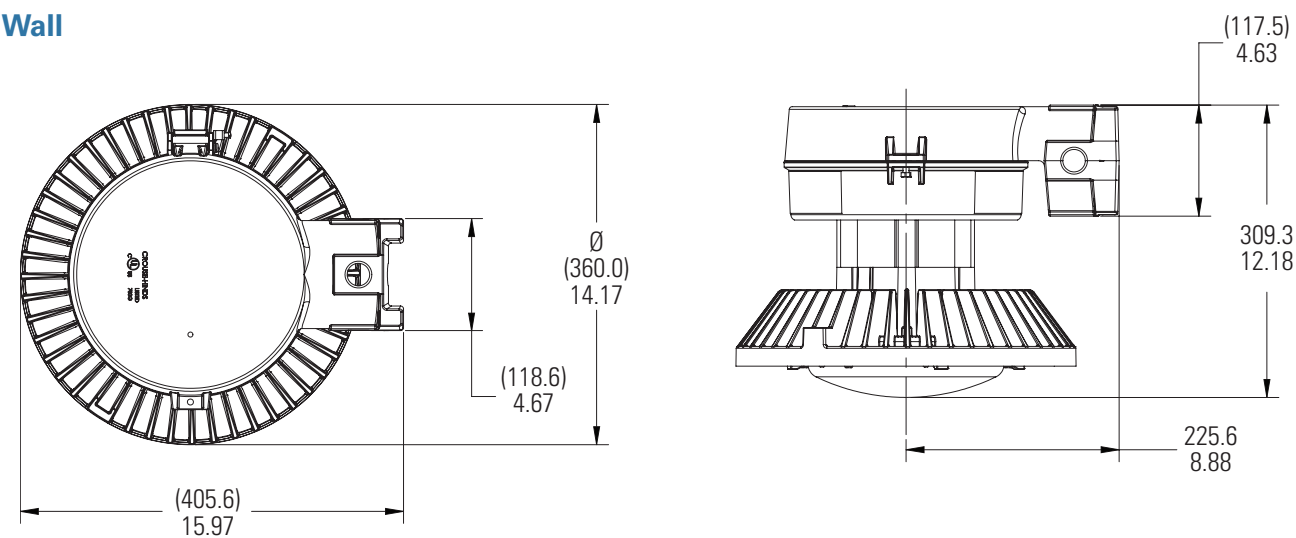
Stanchion



25° angled stanchion



Wall



Notes

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Eaton's Crouse-Hinds business**

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