

Champ PVML Intelligent LED luminaires

3,000 to 7,000 lumens

UL/cUL Listed
IEC/CE
Wet Locations
Type 4X; IP66

2L

2L

The Champ PVML LED family

The Champ® Intelligent lighting fixture is a field-proven design that helps ensure safety, reliability and performance in harsh areas. Now, it's combined with intelligent control and insight capabilities to deliver more operational value and better total cost of ownership.

Applications:

- Suited for customer specifically seeking to optimize benefits from control features such as scheduling, occupancy sensing, dimming, etc.
- Convenient centralized controls through software (high end trim, scheduling, dimming, etc. instead of circuit level control)
- Where opportunities exist for optimizing light levels and minimizing energy usage and run time
- Where wet, dusty, hot and/or cold conditions exist
- Manufacturing plants; heavy industrial, chemical, food and beverage facilities; mining; platforms; loading docks; tunnels; outdoor wall and pole mounted areas

Features:

- Installation flexibility: seven mounting module styles help ensure that the fixtures are installed in the correct location to properly light your facility
- Energy-efficient technology: up to 77% energy savings over HID fixtures
- 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
- Up to 60,000 hours lifetime at +65°C
- 7 year fixture warranty*

*Refer to the authorized distributor price book for Crouse-Hinds standard Terms and Conditions. Standard 7 year warranty extends to 10 year warranty from date of installation with active subscription to Brightlayer Industrial Advanced plan.

Certifications and compliances:

- DesignLights Consortium® Qualified (pending)^A

NEC/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

Standard materials:

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

Photometrics:

- Refer to www.eaton.com (under the Resources tab of each product family) for specific photometric IES files



LED system:

- High intensity discrete power emitters
- Standard: cool white (5000K, 70 CRI); optional: warm white, (3000K, 80 CRI), neutral white (4000K, 70 CRI), deep warm (2200K, 70 CRI, DarkSky ready)
- Custom Type I, III and V optics available

Colored LED options:

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

Electrical ratings and weights:

Catalog number	Weight kg (lb)	Nominal lumens (lm) ^B	Efficacy (lm/W)	Nominal wattage (W)	Max. wattage (W) ^E	Voltage	Nominal amperes (A)	Max. amperes (A) ^E	Power factor	THD (%)	Surge protection (kV)
PVML-3-UNV1	5.45 (12)	3,225	153	21	23	100-277 VAC, 50/60 Hz; 127-250 VDC	0.22 - 0.08	0.26	>0.90 ^D	<15	6
PVML-5-UNV1	5.45 (12)	5,456	155	35	39	100-277 VAC, 50/60 Hz; 127-250 VDC	0.36 - 0.13	0.45	>0.90	<15	6
PVML-7-UNV1	5.45 (12)	7,607	152	50	54	100-277 VAC, 50/60 Hz; 127-250 VDC	0.5 - 0.19	0.60	>0.90	<15	6
PVML-AT-UNV1	5.45 (12)	2,030	75	27	33	100-277 VAC, 50/60 Hz; 127-250 VDC	0.27 - 0.10	0.37	>0.90	<15	6
PVML-GT-UNV1	5.45 (12)	2,900	145	20	23	100-277 VAC, 50/60 Hz; 127-250 VDC	0.2 - 0.07	0.27	>0.90 ^D	<15	6

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

^B Nominal lumens are based on Type V optics, 5000K CCT with a clear glass lens. The nominal wattage is measured at 120 VAC.

^C Custom optics not available with colored LEDs.

^D For PVML-3-UNV1 and PVML-GT-UNV1: PF >0.9 from 100-255 VAC.

^E In the event of an abnormal condition (single-string functioning), the maximum wattage and current will be reached.

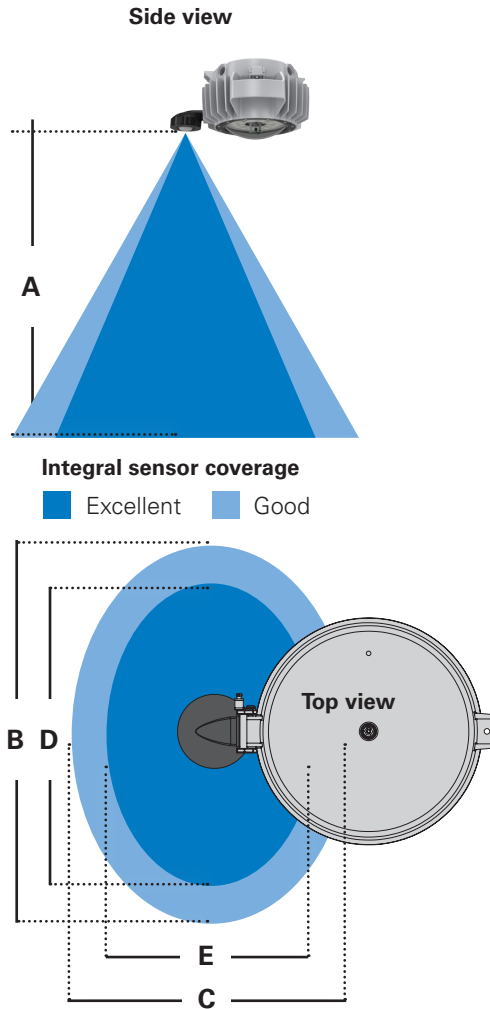
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Integral sensor coverage



Mounting height of fixture	Good coverage		Excellent coverage	
	B	C	D	E
A				
12	15	12	12	9
30	40	36	36	30

Numbers above are listed in feet.

System control functionality



Live fixture ID

Our intuitive app-based dashboard enables quick and easy identification of individual lights installed in the field. Simply select "live ID" for a specific fixture and it will cycle on and off three times.



Wireless ON/OFF and dimming

Turn lights on and off directly from the app. Reduce energy consumption by setting dimming levels or high end trim. Used in conjunction with other control features, such as scheduling and occupancy sensing, to further improve energy savings.



Occupancy sensing^A

Ideal for areas that see infrequent traffic, such as storage areas of warehouses. Sensor controls can automatically illuminate the area once presence is sensed and turn lights back off when presence is no longer sensed.



Device grouping^A

An added benefit that maximizes control in a defined area. By grouping light fixtures, the same control settings can be applied to them all, increasing efficiency and response time.



Intelligent scheduling^A

Allows for improving energy efficiency during non-operational hours. Easy app-based configuration lets a user set up schedules for lights to be on and off at pre-defined times, removing the challenges of manual management.



Daylight harvesting^A

Allows for use of the daylight and adjusts the light level of the luminaire to maintain desired light levels. It is best suited for outdoor environments or indoor areas where daylight is present during operational hours of a facility.

Provide the RIGHT amount of light, WHEN and WHERE you need it

With our intuitive app-based interface, you can utilize combinations of the above control functions across your facility to optimize light levels by site, while minimizing run time to lower your energy and maintenance costs.



Site 1: Low traffic, remote or restricted areas

Keep lights off or dimmed to a safe minimum
Utilize occupancy sensing to immediately bring grouped lights to a working level when triggered by movement
Return lights to OFF or dimmed setting after a set period of inactivity

Site 2: High traffic area with heavy employee activity, typically during shifts

Schedule lights to be OFF during non-operational hours and turn on when work starts
Utilize daylight harvesting where applicable for system-driven changes of fixture light output to maintain consistent lumen levels throughout the day

^A Requires advanced service plan subscription.

Design features

The anatomy of a Champ Intelligent lighting fixture

The Champ Intelligent lighting fixture is a field-proven design that helps ensure safety, reliability and performance in harsh areas. Now, it's combined with intelligent control and insight capabilities to deliver more operational value and better total cost of ownership.

INTELLIGENT CONTROL AND INSIGHTS

A Smart driver and controller

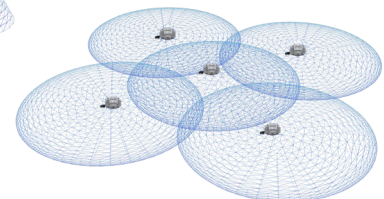
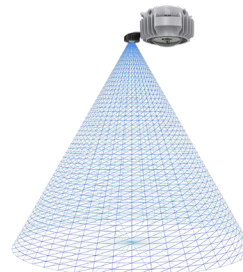
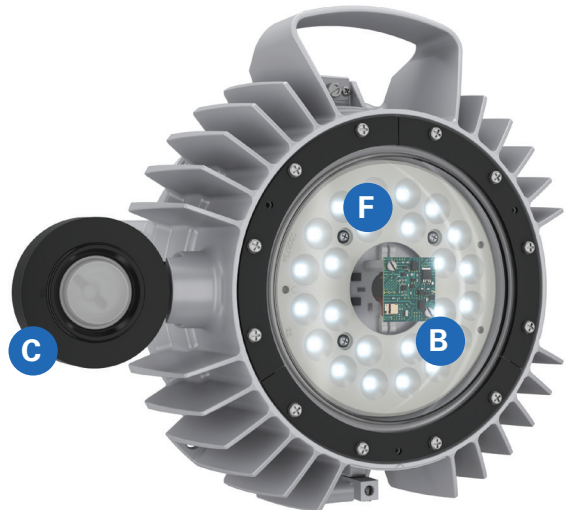
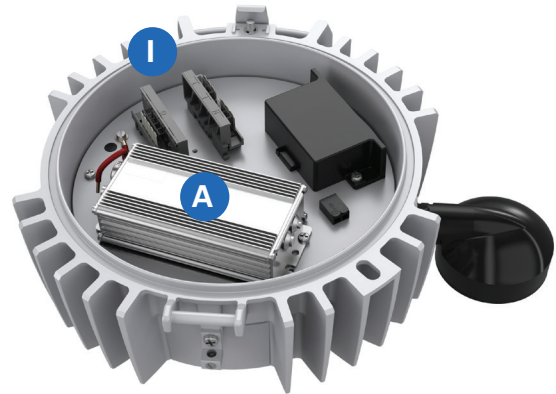
- Fully serviceable drivers are isolated from the primary heat source (LED engine) to maximize economic life
- User-selected option for thermal rollback enables driver and LED protection during extreme temperature events
- 90-minute on-board back-up memory maintains system clock and control profiles in event of power disruption
- Controller manages dimming, scheduling and grouping functionality, as well as notifications and alarming
- Every VMVL intelligent light fixture features connectivity capability

B Integrated antenna

- Attached to the optics board inside the lens, maintaining the fixture's harsh ratings
- Enables effortless connection to our Brightlayer Industrial lighting control interface. No complex hardware required to commission and control the lights
- Bluetooth Low Energy (BLE) protocol enables decentralized control of the system without complex and expensive IT network gear
- Up to 30 foot range fixture-to-fixture
- Backed by Eaton's Cybersecurity Center of Excellence, which enforces security through training, technology, best practices and industry standards

C Intelligent multi-sensor

- Replaceable sensor can be factory installed at purchase, or field installed at a later date
- Sensor is integral to light fixture – no field wiring required
- PIR occupancy sensor with LED indicator
 - Automatically illuminates the area once presence is detected
 - Light turns back off when presence is no longer sensed for a set period of time
- Photo sensor for daylight harvesting and lux reporting
 - Measures available daylight and adjusts the light level of the luminaire to maintain desired light levels



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LONG-LIFE RELIABILITY

D Thermal management

- Heat fins help ensure proper air flow and facilitate dust shedding for effective heat dissipation and thermal management of LED engine

E Performance in extreme environments

- Operating ambient: -40°C to +65°C
- Type 4X, IP66
- Corrosion-resistant aluminum housing with Corro-free epoxy power coating
- Vibration tested in accordance with Section 33 of UL844
- Impact tested in accordance with Section 68 of UL844
- 6 kV surge protection

LIGHT PERFORMANCE AND QUALITY

F Custom optics and colors

- Directs light where you need it, helping eliminate gaps and dark spots
- Can potentially reduce the number of light fixtures required in your application
- Green and amber LEDs available for wildlife conservation applications



TYPE I

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



TYPE III

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

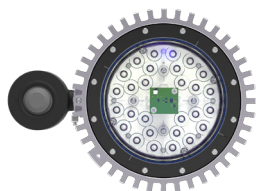


TYPE V

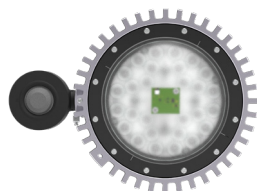
Regular circular distribution pattern for high/low bay indoor and outdoor ceiling or pendant mount lighting

G Glass or polycarbonate lens with clear or diffused finish

- A variety of lens materials and finishes available to meet customer requirements or preference



CLEAR



DIFFUSED

INSTALLATION EASE

H Retrofit-friendly universal top hats

- Crouse-Hinds series Champ LED luminaires utilize the same mounting modules as our legacy products, simplifying installation and significantly reducing costs in retrofit projects
- We also offer mounting adapters and kits for quick connection to other manufacturers' modules (Appleton, Thomas and Betts, GE)

I Lever lock connectors and terminal blocks

- Plug and play wiring simplifies and speeds installations
- Accepts 10–20 AWG wire

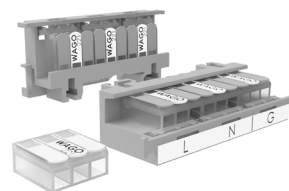
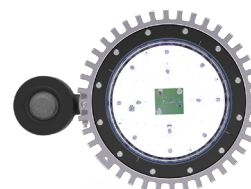
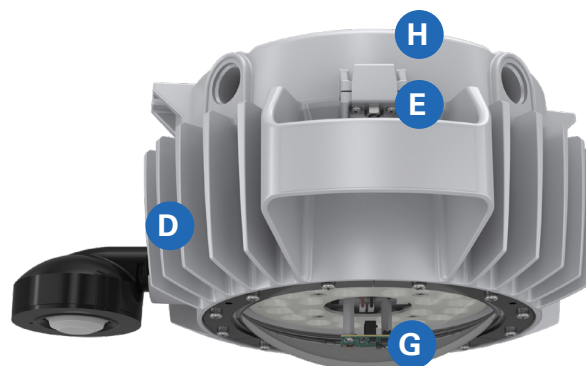
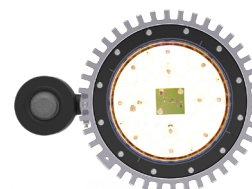


Image is representative only.



5000K – COOL

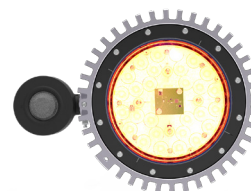
Crisp, bright white with a blue hue



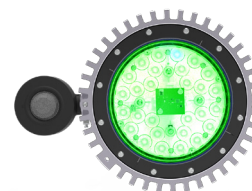
3000K – WARM

Warm white with a yellow hue

Note: Also available in 2200K and 4000K upon request.



TRUE AMBER



TRUE GREEN

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Ordering information:

Part number example: **PVML-3-N-A2-R1-G-UNV1-SS12-M3**

Champ PVML LED, 3000 lumens, 4000K neutral white, ¾" pendant mount, Type I optics, clear glass lens, wire guard, 100-277 VAC driver, integrated sensor, intelligent light fixture.

PVML - 3 - N - A2 - R1 - - G - UNV1 - SS12 - M3

Light source/intensity

3	3250 nominal lumens
5	5537 nominal lumens
7	7442 nominal lumens
AT ^{A F G}	True amber LEDs (dominant wavelength 585-595 nm)
GT ^{A F G}	True green LEDs (dominant wavelength 520-535 nm)

Color temperature

BLANK	5000K, 70 CRI (cool white)
N ^A	4000K, 70 CRI (neutral white)
W	3000K, 80 CRI (warm white)
D	2200K CCT, 70 CRI (deep warm white)

Lens guard

BLANK	No guard
G	Wire guard

Lens material

BLANK	Clear glass
DG	Diffused glass ^{C D}
PC	Polycarbonate ^C
UP	Uplight glass globe refractor ^{C D}
TG	Teflon coated glass ^{C D}

Accessories and options

BLANK	No external sensor included
SS12	Sensor with barrier board (12-30 ft. mounting height)
SC	Safety cable
TB6	6-pole terminal block
TM ^E	Trunnion mount kit with pin

Voltage

UNV1	100-277 VAC, 50/60 Hz; 127-250 VDC
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Optics

BLANK	Type V optic standard
R1 ^B	Type I optic (all mounts minus ceiling)
R3 ^B	Type III optic (all mounts minus ceiling)
R1A ^B	Type I optic (ceiling with conduit 45° counterclockwise from top hat hinge)
R3A1 ^B	Type III optic (ceiling with conduit 45° counterclockwise from top hat hinge)

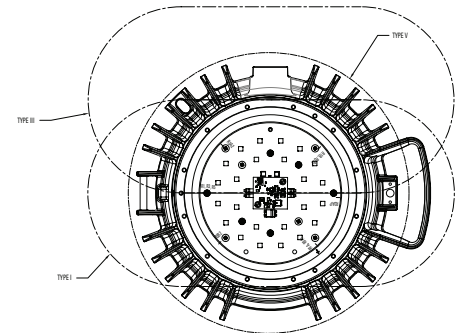
Mounting style

BLANK	No mounting module	T2	¾" wall	A20	20mm pendant
J5	1½" stanchion, 25° angled	T3	1" wall	A25	25mm pendant
P5	1½" stanchion, straight	C2	¾" ceiling	C20	20mm ceiling
A2	¾" pendant	C3	1" ceiling	C25	25mm ceiling
A3	1" pendant	B2	¾" dust shedding	T20	20mm wall
H2	¾" offset pendant	B3	1" dust shedding	T25	25mm wall

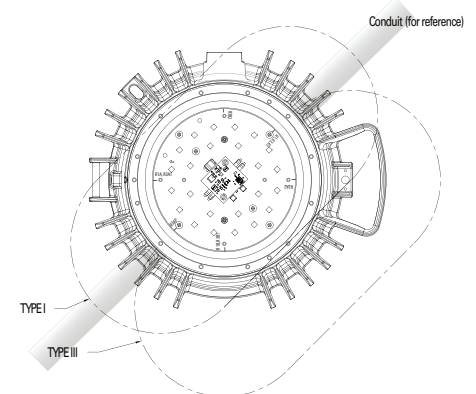
- ^A Consult customer service for lead time.
- ^B Additional clocked optics available upon request. Please contact customer service.
- ^C Only one lens option may be selected.
- ^D Available with Type V optic only.
- ^E Must be used with ceiling mounting modules.
- ^F Green and amber options not available in combination with color temperature suffixes (ex. -N, -W, -D).
- ^G Green and amber options not available with type R1 or R3 optics.

Brightlayer Industrial Intelligent Lighting service plan

BLI-CH-DL-ADV	1 year Advanced service plan – 1 device
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Type R1 and R3 optic



Type R1A and R3A1 optic

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Accessories:

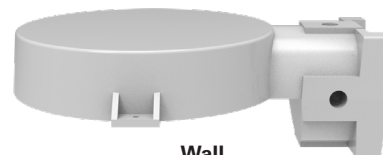
Mounting modules



Stanchion—straight



Stanchion—25° angled



Wall



Ceiling



Cone pendant



Pendant

Hub size	Stanchion—straight	Stanchion—angled	Pendant	Offset pendant	Wall	Ceiling	Cone pendant
¾"	—	—	APM2	HPM2	TWM2	CM2	BPM2
1"	—	—	APM3	—	TWM3	CM3	BPM3
1½"	PM5	JM5	—	—	—	—	—
20mm	—	—	APM20	—	—	—	—
25mm	—	—	APM25	—	TWM25	—	—

Mounting module	lb.	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
Angled stanchion	3.50	1.59
Straight stanchion	4.50	2.04

Mounting adapters

CHMM1	Mounting adapter for Appleton MercMaster III mounts
CHMM2	Mounting adapter for Appleton MercMaster II mounts
CHMM3	Mounting adapter for Thomas and Betts HazLux mounts
CHMM4	Mounting adapter for GE H2 Filtr-Gard mounts

Replacement driver kits

VMVL-3-UNV1-M3-DRIVER KIT	UNV1 replacement driver kit for PVML-3 fixtures
VMVL-5-UNV1-M3-DRIVER KIT	UNV1 replacement driver kit for PVML-5 fixtures
VMVL-7-UNV1-M3-DRIVER KIT	UNV1 replacement driver kit for PVML-7 fixtures
VMVL-AT-UNV1-M3-DRIVER KIT	UNV1 replacement driver kit for PVML True Amber
VMVL-GT-UNV1-M3-DRIVER KIT	UNV1 replacement driver kit for PVML True Green

Mounting kits and hardware

VMVL S812 K1	Trunnion mount kit with pin ^A ^B
VMVL S812 K1 DBR	PVC coated trunnion mount kit with pin ^A ^B
VMVL S831 K1	Safety cable
VMVL S890 K1	Quick clip

^A Available with ceiling mounted modules only.

^B Can be mounted in 90°, 113° and 135° with fixed locking positions.

Intelligent lighting and control components

NORS-SS12 KIT	Sensor assembly kit
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Lens guard

PA3001	Wire guard
PU3003	Uplight wire guard



CHMM1



CHMM2



CHMM3



CHMM4



VMVL S812 K1



PA3001



NORS-SS12 KIT



PU3003

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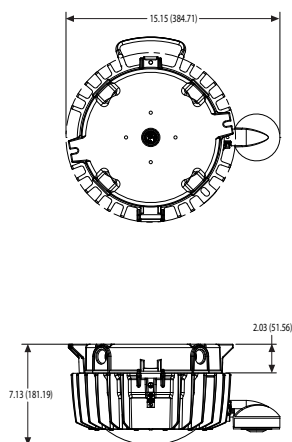
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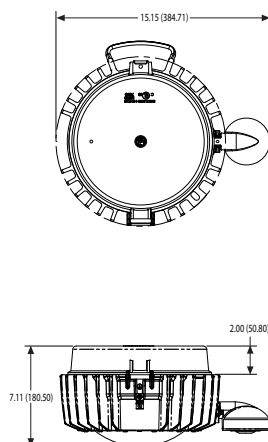
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Dimensions:

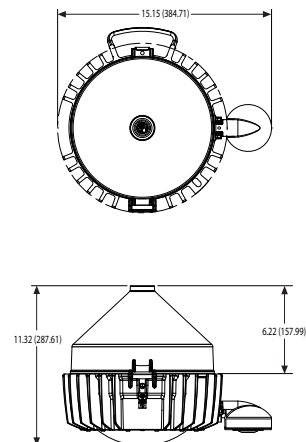
Ceiling



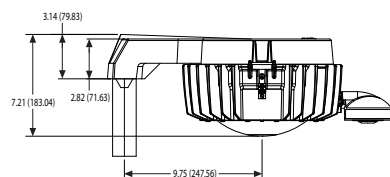
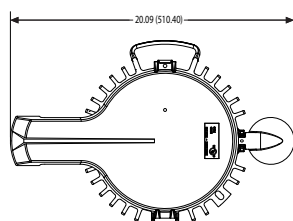
Pendant



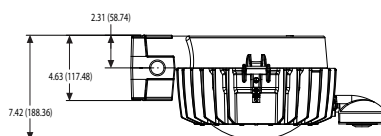
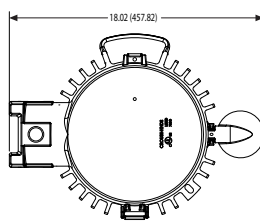
Cone



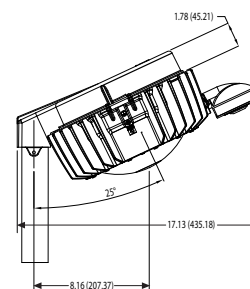
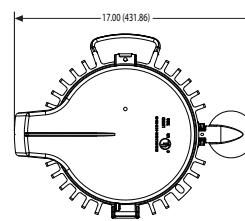
Stanchion—straight



Wall



Stanchion— 25° angled



Trunnion

