

# Mercmaster™ LED Low Profile Luminaires

## Enclosed and Gasketed Fixtures

### NEC/CEC:

Class I, Division 2, Groups A,B,C,D  
Class I, Zone 2, Group IIC  
Class II, Division 1, Groups E,F,G  
Zone 20 and 21, Group IIIC  
Class II, Division 2, Groups F,G  
Zone 22, Group IIIB  
Class III

### NEC/CEC:

Type 3R, 4, 4X  
IP66  
Simultaneous Exposure  
Suitable for Use in Wet Locations  
Marine Outside Type (Salt Water) For USA ONLY ⌘

### Applications

- Enclosed and gasketed fixtures suitable for use in:
  - A wide range of industrial, chemical processing and other areas where flammable gases and vapors are present
  - Marine and wet locations
  - Areas of low clearance, low ceiling heights or where fixture weights must be minimized
- Typical applications include:
  - Pulp and paper mills
  - Processing plants
  - Chemical plants
  - Petrochemical facilities
  - Oil refineries
  - Drilling rigs
  - Foundries
  - Waste and sewage treatment
  - Mining
  - Steel mills

### Features

- Compact light weight low profile design is suited for low mounting heights.
- Six standard mounting hood designs allow for mounting in any location. Uses same mounting hoods as Mercmaster III.
- Customize to the application requirements with four different globe options: clear and diffused polycarbonate, clear glass, or prismatic glass refractor.
- Three light output levels for retrofit of HID fixtures up to 150 W.
- Hinge has high lip for added safety during installation and servicing. Hinge and bolt construction assures 360° compression at all points on fixture housing gasket for positive sealing. Swing away design of captive bolt and nut simplifies servicing.
- Ambient Temperature: BU: -40 °C to +55 °C (-40 °F to +131 °F)  
BH: -30 °C up to +55 °C (-22 °F up to +131 °F)
- Standard screw-type terminal block can accept UL/CSA 24-8 AWG wire.
- Standard NPT threads.
- Lamp life rated at 60,000 Hours.

### Options

- Glass globe guard is stainless steel wire. Glass refractor guard is die cast aluminum with gray epoxy powder coating to match fixtures.
- All Mercmaster mounting hoods have provision for fusing; add suffix -F at the end of the catalog number. ①
- Photocontrols are available with all except ceiling and pendant cone mounting hoods, and are configured to your operating voltage. ②

### Standard Materials

- Mounting hoods and bodies: cast copperfree (4/10 of 1% max.) aluminum
- All hardware and catch assemblies: stainless steel
- Globe: polycarbonate or glass
- Refractor: heat-resistant prismatic glass
- Glass globe guard: stainless steel wire
- Glass refractor guard: die cast aluminum
- Reflectors : fiberglass reinforced white polyester

① Factory Installed.

② Available for 120-277 Vac models only.

⌘ Use of fuse voids Marine Outside Type (Salt Water) rating.



### Standard Finishes

- Mounting hoods, bodies and glass refractor guard: gray epoxy powder coat finish, electrostatically applied for complete uniform protection

### NEC/CEC Certifications and Compliances

- UL Standard: UL 50; UL 844, UL 1598, UL 1598A, UL 8750
- CSA Standard: C22.2 No 0; C22.2 No. 94; C22.2 No. 60529; C22.2 No. 137; C22.2 No. 250.0
- ANSI/IEC Standard: 60529
- cCSAus Listed: Master contract 164460
- DLC Qualified Products Listed

### Related Products

- NEC, Class I, Division 2 photocells for classified use are available, see *PCD2 Series*.
  - Mounting hoods with photocontrols are not rated IP66, Type 4X or Marine Outside Type (Salt Water), or rated Class II.

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## Illustrated Features

### Heatsink

Reliable heat transfer via the cast, epoxy powder coat aluminum body. Provides maximum heat dissipation from the LED assembly to the outside environment.



### LED Chamber

Protected by polycarbonate or glass globe, allows for easy maintenance access.

### Driver Assembly

Utilizing non-sparking components avoiding the ignition of gases or vapors that may be present.

### Terminal Blocks

A seven-point terminal block is provided to facilitate wiring. Terminal block accommodates wire size ranging from 24-8 AWG.

### Epoxy Finish

Fixture housing, hoods and guards are copperfree aluminum with epoxy powder coat finish.

### Electrical Protection

Ground wire provided to bond mounting hood to fixture housing.

### "Safety" High Hinge

Extra-high hinge provides additional protection against accidental fixture housing disengagement during installation or maintenance.



### Cooler Operating Cone Hood

Larger sloped surface sheds dusts, dirt and combustible fibers providing better heat dissipation.

### Mounting Hood and Globe Gaskets

Silicone rubber gaskets seal out moisture, dirt and dust. Stays flexible, withstands high temperatures. Closure design assures uniform gasket compression.

### Stainless Steel Latch Assembly

Captive, stainless steel latch assembly bolt and nut closes securely, resists attack of corrosive atmospheres. Swing-away design simplifies servicing.



### Fuses (optional)

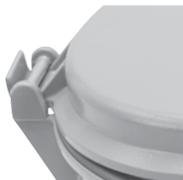
Two screws secure fuse kit to mounting boss in any Mercmaster mounting hood. Fuse included ①. Use of fuse voids Marine Outside Type (salt water) rating.

### Photocell (optional)

Available for all fixtures ② except cone and ceiling mount. Provides continuous ON-OFF dusk-to-dawn control. Note: Fixtures with PCD2 photocontrols are not rated IP66, Type 4X, Marine Outside Type (Salt Water), or Class II.

### Prismatic Refractors

Heat-resistant refractor threads directly into fixture housing and seal against a high-temperature silicone rubber gasket.



### Reflectors

Reflectors are thick, tough fiberglass reinforced white polyester. Quickly attach with furnished stainless steel screws.



① Factory Installed.

② Available for 120-277 Vac models only.

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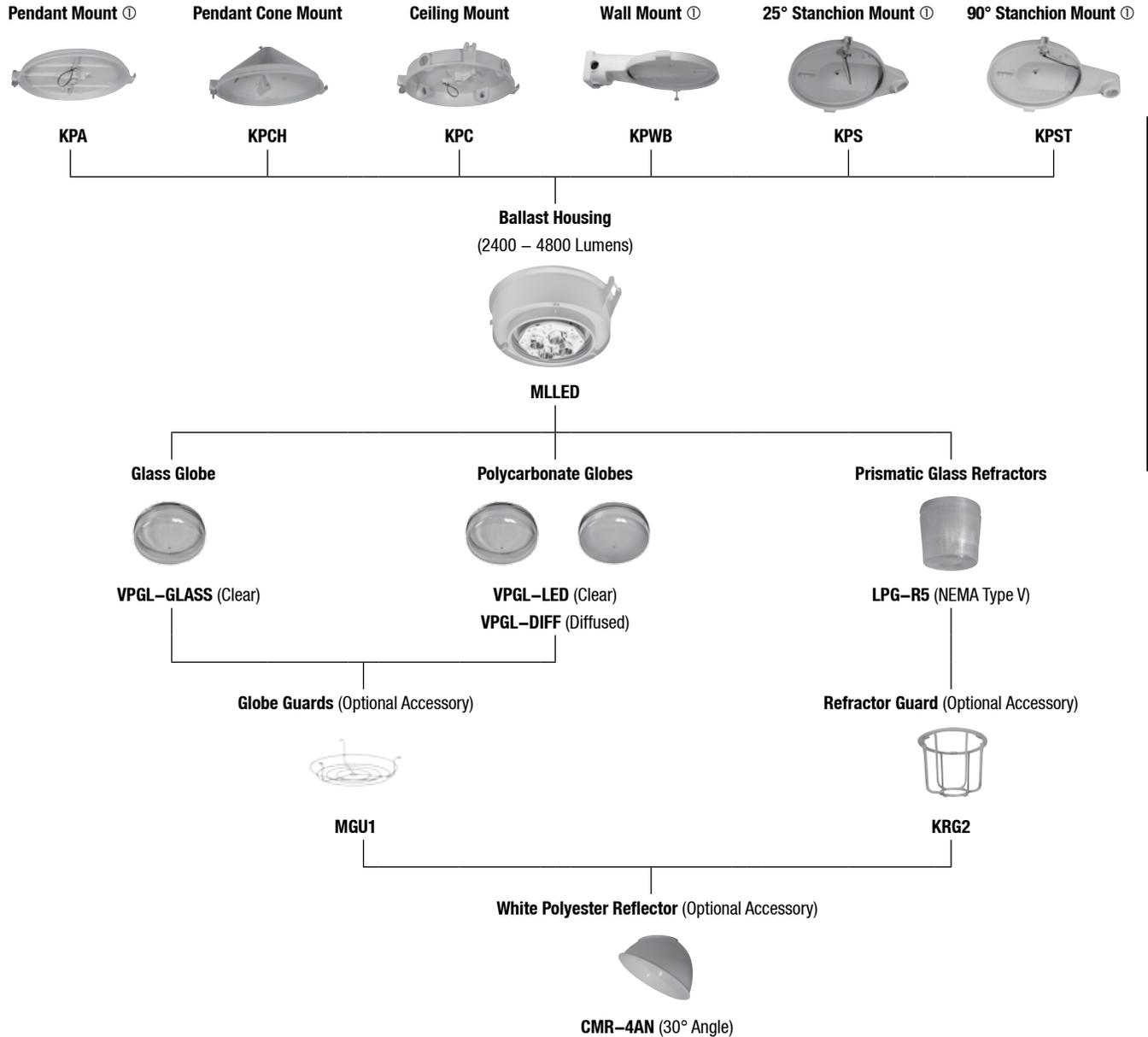
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### Mercmaster LED Low Profile Family Tree



**Appleton**

LED/AREA: NEC/CEC, ATEX/IECEx ENCLOSED AND GASKETED

① Mounting hood with a 120 V or 208-277 V factory installed photocell is available.

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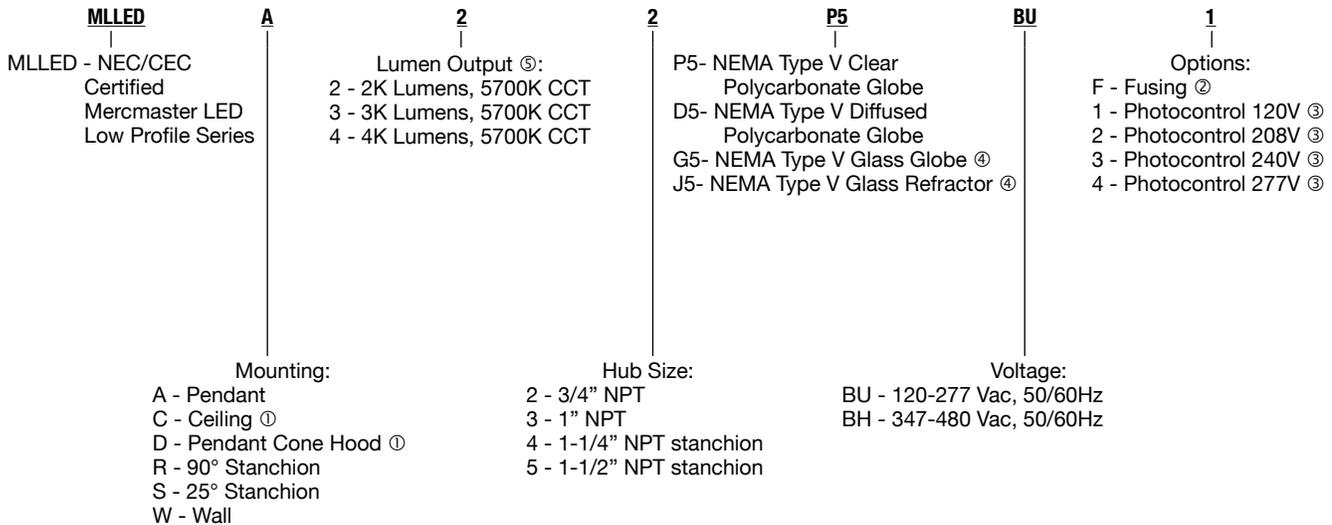
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Order using catalog numbering guides below or select catalog number from tables on following pages.

**Catalog Numbering Guide**

**For Hazardous Locations:**



**Appleton**

LED/AREA: NEC/CEC, ATEX/IECx ENCLOSED AND GASKETED

① Ceiling and pendant cone hood mounted luminaires are not designed to use the PCD2 photocontrol. Ceiling mounts must use an FS/FD box with a photocontrol. Contact your local sales representative for more information.

② Factory installed.

③ Luminaires with photocontrol are not rated IP66, Marine Outside Type (Salt Water), or Class II. Photocontrol available for 120-277 Vac only.

④ Guards for the glass refractors and globes are ordered separately. See the Accessories for more information.

⑤ For specific lumen output information, see Lamp Comparison Chart.

☼ Use of fuse voids Marine Outside Type (Salt Water) rating.

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### Technical Data

Lamp		Ambient Temperature °C (°F)	Supply Wire Temperature °C (°F)	NEC/CEC				Gas/Dust Simultaneous ① Class I, Division 2/ Class II, Division 1	
Model	Type			Class I, Division 2 ①	Gas Groups	Class I, Zone 2 Group IIC	Dust Class II, Division 1 and 2 ②		Zone 20, Group IIIC, IIIB, Group IIIA
MLLED2BU	LED	55 (131)	90 (194)	T4A	A, B, C, D	T4	T4A	E, F, G	T4A
MLLED3BU	LED	55 (131)	90 (194)	T4A		T4	T4A		T4A
MLLED4BU	LED	55 (131)	90 (194)	T4A		T4	T4A		T4A
MLLED2BH	LED	40 (104)	90 (194)	T5	A, B, C, D	T4	T4A	E, F, G	T4A
		55 (131)	90 (194)	T4A		T4	T4A		T4A
MLLED3BH	LED	40 (104)	90 (194)	T5		T4	T4A		T4A
		50 (122)	90 (194)	T5		T4	T4A		T4A
MLLED4BH	LED	40 (104)	90 (194)	T5		T4	T4A		T4A
		55 (131)	90 (194)	T4A		T4	T4A		T4A

“T” Numbers Represent the Maximum Internal Temperature ① or Maximum Surface Temperature ②

“T” #	NEC/CEC															
	T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
Temp. Range °C (°F)	351-450 (664-842)	326-350 (619-662)	301-325 (574-617)	281-300 (538-572)	261-280 (502-536)	231-260 (448-500)	216-230 (421-446)	201-215 (394-419)	181-200 (358-392)	166-180 (331-356)	161-165 (322-329)	136-160 (277-320)	121-135 (250-275)	101-120 (214-248)	86-100 (187-212)	85 (185)

### Electrical Specification

Model	Line Current Amps (50/60Hz)	Input Power	Power Factor	THD	Lumens ③							Color Temp CCT	Equivalent HID Luminaire
					Polycarbonate Clear Globe	Polycarbonate Diffused Globe	Glass Clear Globe	Type V Prismatic Glass Refractor	CRI				
MLLED2	.21 @120V	26	> .97	< 20%	2400	2300	2500	2200	>70	5700K	70 W		
	.10 @277V	26	> .90	< 20%	2300	2200	2400	2100	>70	5700K	70 W		
	.07 @347V	26	> .97	< 20%	3400	3300	3600	3100	>70	5700K	100 W		
	.05 @480V	26	> .90	< 20%	3500	3300	3600	3100	>70	5700K	100 W		
MLLED3	.29 @120V	35	> .97	< 20%	3400	3300	3600	3100	>70	5700K	100 W		
	.13 @277V	34	> .90	< 20%	3500	3300	3600	3100	>70	5700K	100 W		
	.10 @347V	34	> .97	< 20%	4800	4600	5000	4300	>70	5700K	150 W		
	.07 @480V	34	> .90	< 20%	4800	4600	5000	4500	>70	5700K	150 W		
MLLED4	.41 @120V	48	> .97	< 20%	4800	4600	5000	4500	>70	5700K	150 W		
	.20 @277V	48	> .90	< 20%	4800	4600	5000	4500	>70	5700K	150 W		
	.13 @347V	48	> .97	< 20%	4800	4600	5000	4500	>70	5700K	150 W		
	.10 @480V	48	> .90	< 20%	4800	4600	5000	4500	>70	5700K	150 W		

### NEMA Type V

MLLED2	.21 @120V	26	> .97	< 20%	2400	2300	2500	2200	>70	5700K	70 W
	.10 @277V	26	> .90	< 20%	2300	2200	2400	2100	>70	5700K	70 W
	.07 @347V	26	> .97	< 20%	3400	3300	3600	3100	>70	5700K	100 W
	.05 @480V	26	> .90	< 20%	3500	3300	3600	3100	>70	5700K	100 W
MLLED3	.29 @120V	35	> .97	< 20%	3400	3300	3600	3100	>70	5700K	100 W
	.13 @277V	34	> .90	< 20%	3500	3300	3600	3100	>70	5700K	100 W
	.10 @347V	34	> .97	< 20%	4800	4600	5000	4300	>70	5700K	150 W
	.07 @480V	34	> .90	< 20%	4800	4600	5000	4500	>70	5700K	150 W
MLLED4	.41 @120V	48	> .97	< 20%	4800	4600	5000	4500	>70	5700K	150 W
	.20 @277V	48	> .90	< 20%	4800	4600	5000	4500	>70	5700K	150 W
	.13 @347V	48	> .97	< 20%	4800	4600	5000	4500	>70	5700K	150 W
	.10 @480V	48	> .90	< 20%	4800	4600	5000	4500	>70	5700K	150 W

Surge protection common/differential mode:  
 1000kHz Ring Wave (w/t 30ohm)

BU:6kv

BH: 2.5kv

1.2/50 μs combination wave (w/t 2 Ω)

	BU	BH
MLLED2	4kv	3kv
MLLED3	4kv	3kv
MLLED4	3kv	3kv

① T numbers represent the maximum internal temperature for Class I, Division 2 and Class I, Zone 2 locations designated by the NEC.

② T numbers represent the maximum surface temperature under a dust blanket for Class II, Division 1 as designated by the NEC.

③ All lumen values are typical (tolerance +/- 10%).

⌘ Use of fuse voids Marine Outside Type (Salt Water) rating

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	Hub Size	Lumen Level	With Type V Polycarbonate Globe ①②	With Type V Polycarbonate Diffused Globe ①②	Glass Globe ①②③	With Type V Glass Refractor ①②③
<b>Pendant — One Hub</b>						
	3/4	2K	MLLEDA22P5	MLLEDA22D5	MLLEDA22G5	MLLEDA22J5
	3/4	3K	MLLEDA32P5	MLLEDA32D5	MLLEDA32G5	MLLEDA32J5
	3/4	4K	MLLEDA42P5	MLLEDA42D5	MLLEDA42G5	MLLEDA42J5
	1	2K	MLLEDA23P5	MLLEDA23D5	MLLEDA23G5	MLLEDA23J5
	1	3K	MLLEDA33P5	MLLEDA33D5	MLLEDA33G5	MLLEDA33J5
	1	4K	MLLEDA43P5	MLLEDA43D5	MLLEDA43G5	MLLEDA43J5
<b>Ceiling — Five Hubs, Four Close-up Plugs</b>						
	3/4	2K	MLLEDC22P5	MLLEDC22D5	MLLEDC22G5	MLLEDC22J5
	3/4	3K	MLLEDC32P5	MLLEDC32D5	MLLEDC32G5	MLLEDC32J5
	3/4	4K	MLLEDC42P5	MLLEDC42D5	MLLEDC42G5	MLLEDC42J5
	1	2K	MLLEDC23P5	MLLEDC23D5	MLLEDC23G5	MLLEDC23J5
	1	3K	MLLEDC33P5	MLLEDC33D5	MLLEDC33G5	MLLEDC33J5
	1	4K	MLLEDC43P5	MLLEDC43D5	MLLEDC43G5	MLLEDC43J5
<b>Pendant Cone — One Hub, Rigid Mounting</b>						
	3/4	2K	MLLEDD22P5	MLLEDD22D5	MLLEDD22G5	MLLEDD22J5
	3/4	3K	MLLEDD32P5	MLLEDD32D5	MLLEDD32G5	MLLEDD32J5
	3/4	4K	MLLEDD42P5	MLLEDD42D5	MLLEDD42G5	MLLEDD42J5
	1	2K	MLLEDD23P5	MLLEDD23D5	MLLEDD23G5	MLLEDD23J5
	1	3K	MLLEDD33P5	MLLEDD33D5	MLLEDD33G5	MLLEDD33J5
	1	4K	MLLEDD43P5	MLLEDD43D5	MLLEDD43G5	MLLEDD43J5

① For 120-277 Vac, use suffix **-BU**. For 347-480 Vac, use suffix **-BH**.

② For optional fusing, add suffix **-F** to the end of the catalog number. Factory installed.

③ Guards are available for fixtures with glass globe or refractor. See following pages for accessory ordering information.

⌘ Use of fuse voids Marine Outside Type (Salt Water) rating.

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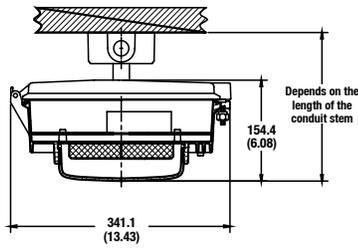
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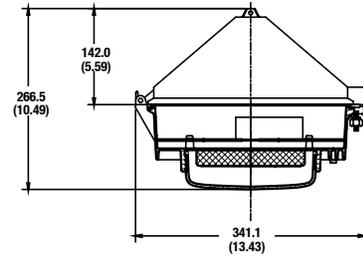
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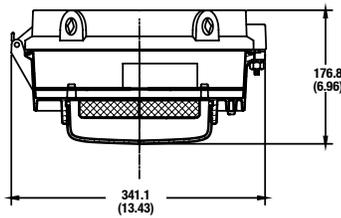
**Dimensions in Millimeters (Inches)**



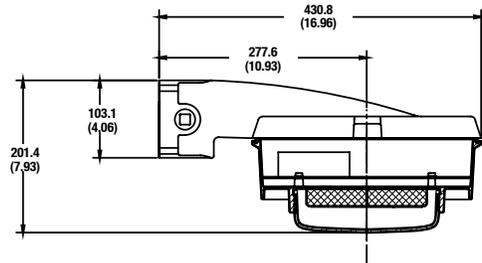
**Pendant Mount**



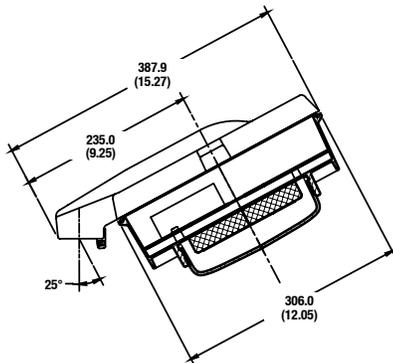
**Pendant Cone Mount**



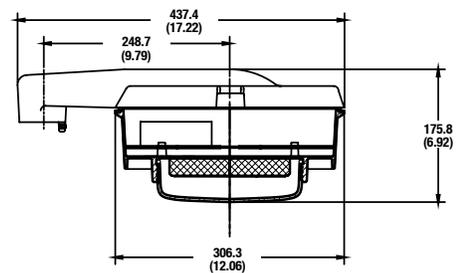
**Ceiling Mount**



**Wall Mount**



**Angle Stanchion Mount**



**Stanchion Mount**

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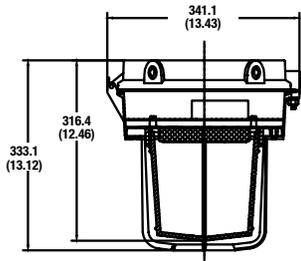
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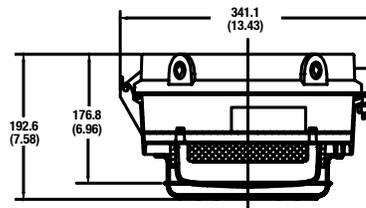
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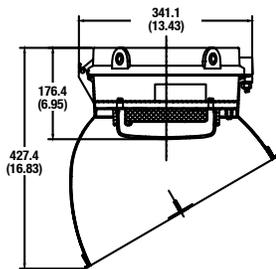
**Dimensions With Polycarbonate Globe in Millimeters (Inches)**



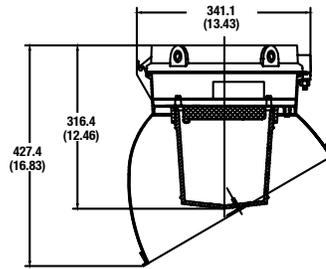
Ceiling Mount w/ Refractor and Guard



Ceiling Mount w/ Glass Globe and Guard



Ceiling Mount with Globe and 30° Reflector



Ceiling Mount with Refractor and 30° Reflector

**Mercmaster LED Low Profile Fixture and Mounting Hood Weights**

Description	Weight kg (lb)
Fixture Unit (MLLED2/MLLED3)	4.1 (9.00)
Fixture Unit (MLLED4)	4.6 (10.1)
Pendant Mounting Hood	1.0 (2.25)
Pendant Cone Mounting Hood	1.1 (2.50)
Ceiling Mounting Hood	1.4 (3.00)
Wall Mounting Hood	1.8 (4.00)
25° Stanchion Mounting Hood	1.5 (3.25)
90° Stanchion Mounting Hood	1.7 (3.75)

⌘ Use of fuse voids Marine Outside Type (Salt Water) rating.