

Mercmaster™ III HID 50–250 Watt Luminaires

High Pressure Sodium and Pulse Start Metal Halide

Listed for simultaneous exposure to combustible dusts and flammable gases or vapors.

NEC/CEC:

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, AEx nR IIC (ZB)
Class II, Division 1 and 2, Groups E, F, G
Class III

NEC/CEC:

Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)
Fixtures Outside Type (Salt Water)
Type 4X
IP66

Applications

- Enclosed and gasketed fixtures suitable for use in:
 - Marine and wet locations
 - A wide range of industrial, chemical processing and other areas where flammable gases and vapors or combustible dusts are present under conditions defined by the National Electrical Code as Class I, Division 2; Class II, Division 1 and 2; and Class III
 - For Zone 2, the method of protection is AEx nA nR – Restricted Breathing/Nonsparking or AEx nR – Restricted Breathing
 - Non-hazardous locations where severe weather conditions, excessive moisture, dirt, dust, corrosive atmosphere or high ambient temperatures are encountered. 18% cooler operation allows use in ambient temperatures up to 65 °C (149 °F) depending on fixture component combinations
- Typical applications include:
 - Pulp and paper mills
 - Processing plants
 - Chemical plants
 - Oil refineries
 - Foundries
 - Manufacturing plants
 - Storage areas
 - Marine applications
- Fixtures have NEMA 4X listing.
- Suitability includes listing for use where there may be simultaneous exposure to combustible dusts and flammable gases and vapors. See listing pages for compliance data on specific fixture component combinations.

Features

- Modular design allows scores of fixture component combinations to meet installation and lighting needs. Many most-used combinations are offered prewired and assembled, complete with lamp, packaged in a single carton and ready to install.
- Mogul lamp types and wattages:
 - HPS 50W-150W
 - PSMH 175W-250W
- Choice of heat-resistant prismatic glass refractors (NEMA distributions I, III and V), or heat-resistant prismatic glass globes for hazardous area fixtures. Colored and clear polycarbonate globes and Tuff-skin® ① coated glass globes are available but are NOT approved for use in classified areas. Fixtures with these globes do NOT comply with code requirements, and should be used in non-classified areas only. Globes and refractors thread directly into ballast housing.
- Mounting hoods include cone-shaped pendant hood, standard pendant, flexible pendant, ceiling and wall pendants (tapped for 3/4" or 1" NPT), 25° angle stanchion, and 90° (straight) stanchion (both tapped for 1-1/4" or 1-1/2" NPT).
- Cone hood fixtures for pendant mounting shed dust, dirt and combustible fibers. Cone hood inhibits build-up that "insulates" fixture and slows heat transfer, and provides increased surface area for more effective heat dissipation.



Pendant Mount Fixture
with Prismatic Glass Refractor



Straight Stanchion-Mount Fixture
with Prismatic Glass Refractor and
Guard



Pendant Cone Fixture with
Prismatic Glass Globe and Guard



Ceiling Mount Fixture
with Prismatic Glass Globe, Guard
and Polyester 30° Angle Reflector

- Reflector choice includes standard dome and 30° angle types, both made of Fiberglass reinforced white polyester. Highly resistant to unusually corrosive applications. Reflectors are vented for cooler, dirt-free operation and maintained lumen output. They secure to ballast housing with stainless steel screws threading into stainless steel inserts.
- For high corrosion resistance, fixture housing, mounting hoods and guards are copperfree cast aluminum with baked epoxy finish, electrostatically applied for uniformity. All exposed hardware is stainless steel.
- Hinge has high lip for added safety during installation and servicing. Hinge and bolt construction assures 360° compression at all points on ballast housing gasket for positive sealing. Swing-away design of captive bolt and nut simplifies servicing.
- Body gaskets and globe gaskets are high-temperature silicone rubber.
- Capacitors are non-PCB type, thermally isolated from ballast.

① Tuff-skin is a registered trademark of Thomas Manufacturing Corp., Parkton, Maryland.

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- Mogul base porcelain socket with nickel-plated contacts has 200 °C (392 °F) welded leads, prewired to the ballast. Assures trouble-free operation in installations where high ambient temperatures are encountered.
- HPS ballasts are High Power Factor (min. P.F. 90%).
- A wide range of voltages available (120 to 600 Volt) and ballast types (Reactor and CWA).
- All Mercmaster III mounting hoods have provision for easy field installation of fuses in fixtures (see fuse kit listings in this catalog section).
- For electrical protection, a ground wire is provided on each Mercmaster to bond hood and ballast housing.
- The AEx nA nR factory sealed Mercmaster III prevents vapors and gases from entering the globe chamber. There are no seals or putty required which will reduce installation time and installation errors.
- The AEx nR Mercmaster III fixture requires all wiring entries to be sealed.

Standard Materials

- Mounting hoods, ballast bodies and guards: copperfree cast aluminum (less than 4/10 of 1%)
- Exposed hardware: stainless steel; latch assemblies have stainless steel bolt and captive nut; reflectors and guards attach with stainless steel screws threading into stainless steel inserts.
- Reflectors: Fiberglass reinforced white polyester
- Globes: heat-resistant prismatic glass
- Refractors: heat-resistant prismatic glass

Standard Finishes

- Mounting hoods, ballast bodies, guards: epoxy powder coat finish, electrostatically applied for complete, uniform surface protection
- Reflectors: white polyester finish

Options

- AEx nA nR fixtures are available with a Class I, Zone 2 rating. Add suffix **-Z2**.
- AEx nR fixtures are available with a Class I, Zone 2 rating. Add suffix **-ZB**.
- Fuses can be field-installed on Mercmaster III fixtures. Kits include fuse block, wire connectors and screws for attaching to mounting hood. Fixtures with fuses do not comply with Marine Type Electric Fixtures Outside Type (Salt Water) requirements for marine listing. For fuse kits, see *Electrical Specifications and Fuse Kits* page.
- Hot Restrike will restrike HPS lamp immediately when power is restored after a momentary power interruption. Add suffix **-R**.
- Smart Starter incorporates a 1-1/2-minute timer and performs as a conventional starter to normally start lamp. Removes itself from circuit if lamp burns out or is removed from socket. Eliminates starter failures caused by prolonged operation with cycling or failing lamps and simplifies finding their location, reducing maintenance and repair costs. Available for all HPS and PSMH fixtures. Add suffix **-S**.
- Optional photocell for all fixtures except cone and ceiling mount provides automatic "on-off" control.
- Quartz Auxiliary comes to full brightness immediately and remains lit until the HID lamp attains 25-50% of full illumination. Quartz Auxiliary supplied with relay switch and socket to accept 120 V quartz double contact bayonet base lamp (not included). Add suffix **-E** to fixture catalog number. ①

NEC/CEC Certifications and Compliances

- cULus Listed: E10444
- UL Standard: ANSI/UL 844, 1598, 60079-0, 60079-15, Marine Type Electric Fixtures Outside Type (Salt Water)
- CSA Certified: 025428
- CSA Standard: CSA C22.2 No. 9, C22.2 No. 137; CAN/CSA E60079-0, E60079-15
- PSMH 250W MT (120/208/240/277, 60 Hz) Fixtures are not UL Listed

Related Products

- Classified area photo controls are also available.

① Fixtures equipped with a quartz auxiliary lamp do not comply with UL requirements and are not suitable for use in classified locations.

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Illustrated Features



High Temperature Sockets

Mogul base high-temperature porcelain sockets.

Aluminum Inner Reflector

Solid aluminum inner reflector (for refractor ballast housings only) improves photometric efficiency.

Globe Chamber (Zone 2)

Completely sealed from the ballast housing and outside vapors/air (nA nR).



Vented Reflectors

Reflectors are thick, tough fiberglass-reinforced white polyester, vented for cooler operation. Quickly attach with furnished stainless steel screws.

Terminal Blocks (Zone 2)

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

Stainless Steel Inserts

Ballast bodies have stainless steel threaded inserts to receive stainless steel screws for reflectors and guard. Prevents "freezing", allowing guards and reflectors to be easily removed and replaced at any time, without damage to the housing.



Ballast Assembly (Zone 2)

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

Mounting Hood and Globe Gaskets

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

Electrical Protection

Ground wire provided to bond mounting hood to ballast housing.



"Safety" High Hinge

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

Epoxy Finish

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

Photocell

Available for all fixtures except cone and ceiling mount. Installs through knock-out in mounting hood. Provides continuous ON-OFF dusk-to-dawn control.



Cooler Operating Cone Hood

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

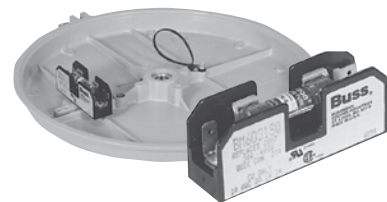


Stainless Steel Latch Assembly

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

Heat-Resistant Globes and Refractors

Prismatic glass globes and refractors are heat-resistant. They thread directly into the ballast housing and seal against a high-temperature silicone rubber gasket.



Fuses

Two screws secure fuse kit to mounting boss in any Mercmaster mounting hood. Fuse included.

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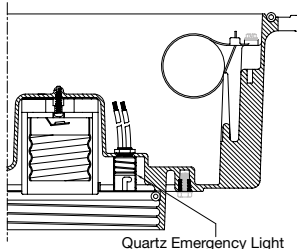
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Quartz Emergency Light for Pulse Start Metal Halide or High Pressure Sodium Fixtures ①



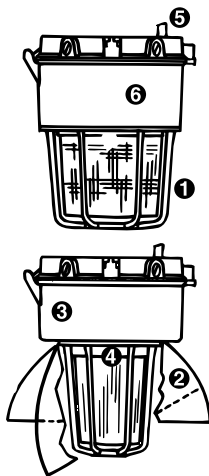
Quartz Emergency Light for
PSMH or HPS Fixtures

Mercmaster fixtures for or metal halide and high pressure sodium lamps can be supplied with a socket to accept a 150 W or 250 W, 120 V quartz lamp. This D.C. bayonet base socket is in addition to the standard lamp socket. In the event of a momentary power interruption, the quartz lamp is automatically switched on. The single ended quartz lamp remains energized until the HID restrikes and reaches about 60% output.

The quartz emergency lamp socket is wired to a 120 V tap on the ballast and is therefore independent of the lighting fixture voltage. No special field wiring is necessary.

Description	Catalog Suffix
For fixture volts of 120, 208, 240 or 277	-MTE
For fixture volts of 480	-48E

Accessory Options



- ① **Guards:** Guards are die-cast copperfree aluminum with baked epoxy finish to match fixtures. Fixture supplied with stainless steel mounting screws which thread into stainless steel inserts on fixture housing to attach guard. To order fixture with guard, add suffix **-G** to catalog number before adding voltage suffix.
- ② **Reflectors:** Standard dome and 30° angle polyester reflectors are shown elsewhere in this catalog section.
- ③ **Hot Restrike:** Instantly restrikes a hot HPS lamp when power is restored after a momentary outage. Available factory-installed only. To order, add suffix **-R** to catalog number.
- ④ **Quartz Emergency Light:** When ordered, HPS fixtures will be supplied with a prewired special DC bayonet base socket to accept a 150W, 120 V quartz lamp (not furnished) that automatically switches on when a power outage occurs. Fixtures ordered with this quartz emergency lamp feature do NOT comply with requirements for classified areas and should be used only in non-classified locations. To order, add suffix **-E** to catalog number and specify if a relay switch is desired.
- ⑤ **Photocell and Fuses:** Photocontrols are available.
- ⑥ **Smart Starter:** Performs as a conventional starter in lamp start-up. Removes itself from circuit at end of lamp life or if lamp is out of socket. Add suffix **-S** to catalog number.

① NOTE: Fixtures equipped with quartz emergency light do not comply with UL requirements and are not suitable for use in classified locations.

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Mercmaster III 50-250 Family Tree

Pendant & Flexible Pendant Mount ①



KPA & KPAF

Pendant Cone Mount



KPCH

Ceiling Mount



KPC

Wall Mount ①②



KPWB

25° Stanchion Mount ①



KPS

90° Stanchion Mount ①②



KPST

Ballast Housing, Mogul Base

(50 – 150 W HPS, 175– 250 W PSMH)



KPB (for Glass Globe)



KPBR (for Glass Refractor and G3 Globe)

Globes



VPGL-2HR

(Heat-Resistant Glass) ③



VPGL-2HRT

(Coated Heat-Resistant Glass)



VPGL-2PL

(Polycarbonate) ④

Polymeric Refractors



LPRF

(Closed Prismatic) ⑤

G3 Globe



VPGL-3HR

(Heat-Resistant Glass)

Prismatic Glass Refractors



LPG-R ⑥

Three-Way Exit Sign



CJEXRN

Globe Guards (Optional Accessory)



KGU2

White Polyester Reflector (Optional Accessory)



KR2-ST (Standard)
KR2-DD (Deep Dome)



KR2-AN (30° Angle)

Globe Guards (Optional Accessory)



KRG2

White Polyester Reflector (Optional Accessory)



CMR-4ST (Standard)
CMR-4DD (Deep Dome)



CMR-4AN (30° Angle)

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

② Standard and deep dome reflectors may interfere with bottom conduit entry if used with KPST and KPWB mounting hoods..

③ Available in clear, amber, blue, green and red.

④ Available in clear, amber, green and red.

⑤ Available in NEMA Type II, III, IV and V. Polymeric Refractor suitable for Class II, Groups F and G, NEMA 4X and Marine Type Electric Fixtures Outside Type (Salt Water) only (100 W HPS Max.).

⑥ Available in NEMA Type I, III and V.

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

Catalog Numbering Guide

KP	A	L	70	10	J5	G	MT	R	Z2
Series: KP - Mercmaster III 250		Lamp Type: L - High Pressure Sodium P - Pulse Start Metal Halide		Hub Size: 75 - 3/4" NPT 10 - 1" NPT 125 - 1-1/4" NPT stanchion 150 - 1-1/2" NPT stanchion		Guard Options: G - Guard Blank - No Guard		Options: E - Emergency Quartz F - Fuse Kit (Specify Voltage) R - Hot Restrike (50-150 W HPS only) S - Smart Starter K - Kynar Coating H1 - Photocontrol 120 V H2 - Photocontrol 208 V H3 - Photocontrol 240 V H4 - Photocontrol 277 V C - Safety Cable Adapted E40 - Export Socket T - Terminal Blocks <i>Optional Fusing</i> ② FN - 120 V FP - 208 V FS - 240 V FT - 277 V FF - 480 V	
Mounting: A - Pendant (rigid mounting) C - Ceiling CH - Pendant Cone Hood F - Pendant (flexible mounting) ST - 90° Stanchion S - 25° Stanchion WB - Wall		Wattage: 10 - 100 W HPS 15 - 150 W HPS 17 - 175 W PSMH 25 - 250 W PSMH ③ 50 - 50 W HPS (MT - Voltage Only) 70 - 70 W HPS		Optical Assembly: Blank - Glass Globe J1 - NEMA I Glass Refractor J3 - NEMA III Glass Refractor J5 - NEMA V Glass Refractor G3 - Large Glass Globe		Voltage: ① MT - 120/208/240/277, 60 Hz 5MT - 120/208/240/ 277/480, 60 Hz 48 - 480, 60 Hz 125 - 120, 50 Hz 225 - 220, 50 Hz 226 - 220, 60 Hz 236 - 230, 60 Hz 245 - 240, 50 Hz 246 - 240, 60 Hz		Suffix: Z2 - Zone 2 suffix (required for AEx nA nR rating) ZB - Zone 2 suffix (required for AEx nR rating)	

Reflectors are ordered separately – see Accessories page.

① Voltages shown are limited to specific combinations.

② Optional fusing is available for use with MT, 5MT and 48 voltage suffixes ONLY.

③ PSMH 250 W, MT fixtures are not UL Listed.

Mercmaster™ III HID 50–250 Watt Luminaires

Class I, Division 2; Class II, Division 1; Simultaneous Exposure to Hazardous Conditions of Both Classifications

Temperature Identification Numbers of Mercmaster III fixtures.

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Class I, Zone 2, AEx nR IIC (ZB)
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Mercmaster III fixtures are listed for “Simultaneous Exposure” to combinations of Class I, Division 2 and Class II, Division 1 hazardous conditions.

“T” Numbers for Mercmaster III Fixtures

Watts	Lamp Type	Supply Wire Temp. °C (°F)	Ambient Temp. °C (°F)	Class I, Division 2				Class II, Division 1 Groups E, F and G ①				Simultaneous Exposure Class I, Division 2 / Class II, Division 1			
				Globe	Reflector	G3	8” Refractor	Globe	Reflector	G3	8” Refractor	Globe	Reflector	G3	8” Refractor
50	HPS	90 °C (194 °F)	40 °C (104 °F)	T3C	T3B	—	T3C	T4A	T4	—	T6	T3A	T3	—	T3C
		90 °C (194 °F)	55 °C (131 °F)	T3A	T3A	—	T3A	T4	T3B	—	T5	T3	T3	—	T3A
		90 °C (194 °F)	65 °C (149 °F)	T3A	T3	—	T3A	T3C	T3C	—	T4A	T2D	T2D	—	T3
70	HPS	90 °C (194 °F)	40 °C (104 °F)	T3B	T3A	—	T3C	T4	T3C	—	T6	T3	T3	—	T3A
		90 °C (194 °F)	55 °C (131 °F)	T3A	T3A	—	T3B	T3C	T3C	—	T5	T2D	T2D	—	T3
		90 °C (194 °F)	65 °C (149 °F)	T3	T3A	—	T3A	T3C	T3B	—	T4A	T2C	T2C	—	T3
100	HPS	90 °C (194 °F)	40 °C (104 °F)	T2D	T2D	T3	T3	—	T3A (EF)	T3 (EF)	—	—	—	—	—
		90 °C (194 °F)	40 °C (104 °F)	—	—	—	—	T3B	—	T4A	T4A	T2B	T2B	T2C	T2C
		90 °C (194 °F)	55 °C (131 °F)	T2D	T2D	T3	T3	—	—	T4	T4	—	—	T2B	T2B
		90 °C (194 °F)	65 °C (149 °F)	T2D	T2D	T2D	T2D	—	—	—	—	—	—	—	—
150	HPS	90 °C (194 °F)	40 °C (104 °F)	T2B	T2B	—	T2C	—	—	—	T3C	T2	—	—	T2B
		90 °C (194 °F)	40 °C (104 °F)	—	—	—	—	T3 (EF)	—	—	—	—	—	—	—
		90 °C (194 °F)	55 °C (131 °F)	T2B	T2A	—	T2B	—	—	—	—	—	—	—	—
175	PSMH	90 °C (194 °F)	40 °C (104 °F)	T2B	T2B	—	T2B	—	—	—	T3C	—	—	—	T2B
		90 °C (194 °F)	55 °C (131 °F)	T2A	T2A	—	T2B	—	—	—	T3C	—	—	—	T2A
		125 °C (257 °F)	65 °C (149 °F)	T2A	T2	—	T2B	—	—	—	—	—	—	—	—
250	PSMH	90 °C (194 °F)	40 °C (104 °F)	T2	T2	—	T2	—	—	—	—	—	—	—	—
		90 °C (194 °F)	55 °C (131 °F)	T2	T2	—	T2	—	—	—	—	—	—	—	—

“T” Numbers Represent the Maximum Lamp Temperature for Class I, Division 2 Locations and Maximum Surface Temperature Under Dust Blanket for Class II, Division 1 Locations.

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

① All Class II T Numbers are E, F, G unless otherwise indicated.

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Class I, Zone 2, AEx nA nR IIC; Class 1 Zone 2, AEx nR IIC; IP66; and NEMA 4X

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Operating Temperatures: “T” Numbers for Zone 2 Mercmaster III Fixtures

The “T” number is established by separately determining the maximum temperature of the globe surface and ballast compartment. The hotter of the two is taken to determine the “T” number for the overall fixture.

Lamp		Supply Wire Temp. °C (°F)	Ambient Temp. °C (°F)	Class I, Zone 2 AEx nA nR IIC				Class I, Zone 2 AEx nR IIC			
Watts	Type			Globe	Globe & Reflector	Refractor Only	G3/Refractor & Reflector	Globe	Globe & Reflector	Refractor Only	G3/Refractor & Reflector
50	HPS	90 °C (194 °F)	40 °C (104 °F)	T4	T4	T6	T4	T4	T4	T6	T4
		90 °C (194 °F)	55 °C (131 °F)	T4	T3	T5	T3	T4	T3	T5	T3
		90 °C (194 °F)	65 °C (149 °F)	T3	T3	T4	T3	T3	T3	T4	T3
70	HPS	90 °C (194 °F)	40 °C (104 °F)	T4	T4	T4	T4	T6	T5	T6	T4
		90 °C (194 °F)	55 °C (131 °F)	T4	T4	T4	T3	T5	T4	T5	T3
		90 °C (194 °F)	65 °C (149 °F)	T4	T4	T3	T3	T4	T4	T5	T3
100	HPS	90 °C (194 °F)	40 °C (104 °F)	T4	T4	T4	T4	T5	T4	T6	T4
		90 °C (194 °F)	55 °C (131 °F)	T4	T4	T3	T3	T4	T4	T5	T3
		90 °C (194 °F)	65 °C (149 °F)	T4	T4	T3	T3	T4	T4	T4	T3
150	HPS	90 °C (194 °F)	40 °C (104 °F)	T4	T3	T3	T3	T4	T4	T5	T4
		90 °C (194 °F)	55 °C (131 °F)	T3	T3	T3	T3	T4	T4	T4	T3
		105 °C (221 °F)	65 °C (149 °F)	T3	T3	T3	T3	T4	T3	T4	T3
175	PSMH	90 °C (194 °F)	40 °C (104 °F)	T3	T3	T4	—	T3	T3	T4	—
		90 °C (194 °F)	55 °C (131 °F)	T3	T3	T3	—	T3	T3	T4	—
		105 °C (221 °F)	65 °C (149 °F)	T3	T3	T3	—	T3	T3	T4	—
250	PSMH	90 °C (194 °F)	40 °C (104 °F)	T3	T3	T3	—	T3	T3	T3	—
		90 °C (194 °F)	55 °C (131 °F)	T3	T3	T3	—	T3	T3	T3	—

“T” Numbers Represent the Maximum Surface Temperature for Luminaires with AEx nA nR or AEx nR rating

“T” Number	T1	T2	T3	T4	T5	T6
Temp. Range (°C)	301-450	201-300	136-200	101-135	86-100	85
Temp. Range (°F)	547-842	394-572	277-392	214-275	187-212	185

Appleton®

HID/AREA: NEC/CEC ENCLOSED AND GASKETED

Mercmaster™ III HID 50–250 Watt Luminaires

Class I, Division 2; Class II, Division 1; Simultaneous Exposure to Hazardous Conditions of Both Classifications

Maximum Temperatures in °C (°F) Obtained from Tests in a 40 °C (104 °F) Ambient, Vertical Position, Lamp Base Up, as per NEC.

NEC/CEC:

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, AEx nR IIC (ZB)
Class II, Division 1 and 2, Groups E, F, G
Class III

NEC/CEC:

Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)
Fixtures Outside Type (Salt Water)
Type 4X
IP66

Fixture Selection Guide Indicates atmosphere for which fixture is suitable.

① Denotes fixture with Globe Only. ② Denotes fixture with Globe and Reflector. ③ Denotes fixture with 8" Refractor / G3 Globe

Class I, Division 2 Chemical	Ignition °C (°F) ④	Minimum Fixture “T” Number for Chemical	HPS (Watts)				PSMH (Watts)	
			50	70	100	150	175	250
Group A Atmospheres								
acetylene	305 °C (581 °F)	T2	①②③	①②③	①②③	①②③	①②③	①②
Group B Atmospheres								
acrolein (inhibited)	220 °C (428 °F)	T2D	①②③	①②③	①②③			①②
arsine	NA ②							
butadiene	420 °C (788 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
ethylene oxide	429 °C (804 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
hydrogen	500 °C (932 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
propylene oxide	449 °C (840 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
propylnitrate	175 °C (347 °F)	T3B	①②③	①②③				
Group C Atmospheres								
acetaldehyde	175 °C (347 °F)	T3B	①②③	① ③				
allyl alcohol	378 °C (712 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
n-butyraldehyde	218 °C (424°F)	T2D	①②③	①②③	①②③			①②
carbon monoxide	609 °C (1128 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
crotonaldehyde	232 °C (450 °F)	T2C	①②③	①②③	①②③	③		①②
cyclopropane	498 °C (928 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
diethyl ether (ethyl ether)	160 °C (320 °F)	T3C	① ③	③				
diethylamine	312 °C (594 °F)	T2	①②③	①②③	①②③	①②③	①②③	①②
ethylene	450 °C (842 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
ethylenimine	320 °C (608 °F)	T2	①②③	①②③	①②③	①②③	①②③	①②
ethly mercaptan	300 °C (572 °F)	T2	①②③	①②③	①②③	①②③	①②③	①②
ethyl sulfide	NA ⑤							
hydrogen cyanide	538 °C (1000 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
hydrogen sulfide	260 °C (500 °F)	T2B	①②③	①②③	①②③	①②③	①②③	①②
morpholine	310 °C (590 °F)	T2	①②③	①②③	①②③	①②③	①②③	①②
2-nitropropane	428 °C (802 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
tetrahydrofuran	321 °C (610 °F)	T2	①②③	①②③	①②③	①②③	①②③	①②
unsymmetrical dimethyl hydrazine	249 °C (480 °F)	T2C	①②③	①②③	①②③	③		①②
Group D Atmospheres								
acetic acid (glacial)	464 °C (867 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
acetone	465 °C (869 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
acrylonitrile	481 °C (898 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
ammonia	651 °C (1204 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
benzene	498 °C (928 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
butane	287 °C (549 °F)	T2A	①②③	①②③	①②③	①②③	①②③	①②
1-butanol (butyl alcohol)	343 °C (649 °F)	325	①②③	①②③	①②③	①②③	①②③	①②

This classified area suitability chart is based on NEC requirements and Appleton and UL testing. However, the ultimate decision on suitability of these fixtures for classified areas depends solely on the judgement of the owner, insurance company, inspector and/or authority having jurisdiction.

④ Ignition temperatures shown should be regarded as approximations only. Per NFPA Bulletin 325M, ignition temperatures may vary according to such factors as vapor/air mixture, size and space where ignition may occur, rate and duration of heating, oxygen concentration and other materials present.

⑤ Not Available.

Mercmaster™ III HID 50–250 Watt Luminaires

Class I, Division 2; Class II, Division 1; Simultaneous Exposure to Hazardous Conditions of Both Classifications

Maximum Temperatures in °C (°F) Obtained from Tests in a 40 °C (104 °F) Ambient, Vertical Position, Lamp Base Up, as per NEC.

NEC/CEC:

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, AEx nR IIC (ZB)
Class II, Division 1 and 2, Groups E, F, G
Class III

NEC/CEC:

Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)
Fixtures Outside Type (Salt Water)
Type 4X
IP66

Fixture Selection Guide Indicates atmosphere for which fixture is suitable.

① Denotes fixture with Globe Only. ② Denotes fixture with Globe and Reflector. ③ Denotes fixture with 8" Refractor / G3 Globe

Class I, Division 2 Chemical	Ignition °C (°F) ④	Minimum Fixture “T” Number for Chemical	HPS (Watts)				PSMH (Watts)	
			50	70	100	150	175	250
Group D Atmospheres								
2-butanol (secondary butyl alcohol)	405 °C (761 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
n-butyl acetate	425 °C (797 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
isobutyl acetate	421 °C (790 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
sec-butyl alcohol	343 °C (649 °F)	325	①②③	①②③	①②③	①②③	①②③	①②
di-isobutylene	391 °C (736 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
ethane	472 °C (882 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
ethanol (ethyl alcohol)	363 °C (685 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
ethyl acetate	426 °C (799 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
ethylene diamine (anhydrous)	385 °C (725 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
ethylene dichloride	413 °C (775 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
gasoline (56-60 octane)	280 °C (536 °F)	T2A	①②③	①②③	①②③	①②③	①②③	①②
heptanes	204 °C (399 °F)	T3	①②③	①②③	①②③			
hexanes	223 °C (433 °F)	T2D	①②③	①②③	①②③			
isoprene	395 °C (743 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
isopropyl ether	443 °C (829 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
mesityl oxide	344 °C (651 °F)	325	①②③	①②③	①②③	①②③	①②③	①②
methane (natural gas)	537 °C (999 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
methanol (methyl alcohol)	385 °C (725 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
3-methyl-1-butanol (isoamyl alcohol)	350 °C (662 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
methyl ethyl ketone	404 °C (759 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
methyl isobutyl ketone	448 °C (838 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
2-methyl-1-propanol (isobutyl alcohol)	415 °C (779 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
2-methyl-1-propanol (tertiary butyl alcohol)	478 °C (892 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
petroleum naphtha ⑥	288 °C (550 °F)	T2A	①②③	①②③	①②③	①②③	①②③	①②
pyridine	482 °C (900 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
octanes	206 °C (403 °F)	T3	①②③	①②③	①②③			
pentanes	260 °C (500 °F)	T2B	①②③	①②③	①②③	①②③	①②③	①②
1-pentanol (amyl alcohol)	300 °C (572 °F)	T2	①②③	①②③	①②③	①②③	①②③	①②
propane	432 °C (810 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
1-propanol (propyl alcohol)	412 °C (774 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
2-propanol (isopropyl alcohol)	399 °C (750 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
propylene	455 °C (851 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
styrene	490 °C (914 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
toluene	480 °C (896 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
vinyl acetate	402 °C (756 °F)	350	①②③	①②③	①②③	①②③	①②③	①②
vinyl chloride	472 °C (882 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②
xylene (o-xylene)	463 °C (865 °F)	T1	①②③	①②③	①②③	①②③	①②③	①②

This classified area suitability chart is based on NEC requirements and Appleton and UL testing. However, the ultimate decision on suitability of these fixtures for classified areas depends solely on the judgement of the owner, insurance company, inspector and/or authority having jurisdiction.

④ Ignition temperatures shown should be regarded as approximations only. Per NFPA Bulletin 325M, ignition temperatures may vary according to such factors as vapor/air mixture, size and space where ignition may occur, rate and duration of heating, oxygen concentration and other materials present.

⑥ A saturated hydrocarbon mixture. Also known by synonyms benzene, ligroin, petroleum, ether and naphtha.

Mercmaster™ III HID 50–250 Watt Luminaires

Class I, Zone 2, AEx nA nR IIC; Class 1 Zone 2, AEx nR IIC; IP66; and NEMA 4X

Maximum Temperatures in °C (°F) Obtained from Tests in a 40 °C (104 °F) Ambient, Vertical Position, Lamp Base Up.

NEC/CEC:

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, AEx nR IIC (ZB)
Class II, Division 1 and 2, Groups E, F, G
Class III

NEC/CEC:

Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)
Fixtures Outside Type (Salt Water)
Type 4X
IP66

Fixture Selection Guide Indicates atmosphere for which fixture is suitable.

② Denotes fixture with Globe and Reflector. ③ Denotes fixture with 8" Refractor.

Class I, Division 2 Chemical	Ignition °C (°F) ④	Minimum Fixture “T” Number for Chemical	HPS (Watts)				PSMH (Watts)	
			50	70	100	150	175	250
Group IIC								
acetylene	305 °C (581 °F)	T2	②③	②③	②③	②③	②③	②③
acetylene	300 °C (572 °F)	T2	②③	②③	②③	②③	②③	②③
hydrogen	500 °C (932 °F)	T1	②③	②③	②③	②③	②③	②③
Group IIB								
ethylene	490 °C (914 °F)	T1	②③	②③	②③	②③	②③	②③
butadiene 1.3	425 °C (797 °F)	T2	②③	②③	②③	②③	②③	②③
carbon monoxide coke oven gas	560 °C (1040 °F)	T1	②③	②③	②③	②③	②③	②③
diethyl ether (ethyl ether)	160 °C (320 °F)	T4	②③	②③	②③	②③		
ethylene	450 °C (842 °F)	T1	②③	②③	②③	②③	②③	②③
ethylenimine ethylene oxide	425 °C (797 °F)	T2	②③	②③	②③	②③	②③	②③
Group IIA								
acetone	465 °C (869 °F)	T1	②③	②③	②③	②③	②③	②③
amyl acetate	375 °C (707 °F)	T2	②③	②③	②③	②③	②③	②③
ammonia	651 °C (1204 °F)	T1	②③	②③	②③	②③	②③	②③
benzene	498 °C (928 °F)	T1	②③	②③	②③	②③	②③	②③
butane	287 °C (549 °F)	T3	②③	②③	②③	②③	②③	
1-butanol (butyl alcohol)	343 °C (649 °F)	T2	②③	②③	②③	②③	②③	②③
n-butyl acetate cyclohexane	260 °C (500 °F)	T3	②③	②③	②③	②③	②③	
ethyl methyl ketone	515 °C (959 °F)	T1	②③	②③	②③	②③	②③	②③
ethanol (ethyl alcohol)	363 °C (685 °F)	T2	②③	②③	②③	②③	②③	②③
ethyl acetate	426 °C (799 °F)	T1	②③	②③	②③	②③	②③	②③
heptanes	204 °C (399 °F)	T3	②③	②③	②③	②③	②③	
hexanes	223 °C (433 °F)	T3	②③	②③	②③	②③	②③	
isoprene isobutanol	430 °C (806 °F)	T2	②③	②③	②③	②③	②③	②③
mesityl oxide methyl acetate	500 °C (932 °F)	T1	②③	②③	②③	②③	②③	②③
methanol (methyl alcohol)	385 °C (725 °F)	T2	②③	②③	②③	②③	②③	②③
n-propyl acetate	500 °C (932 °F)	T1	②③	②③	②③	②③	②③	②③
n-butyl acetate	420 °C (788 °F)	T2	②③	②③	②③	②③	②③	②③
pentanes	260 °C (500 °F)	T3	②③	②③	②③	②③	②③	
propane	432 °C (810 °F)	T2	②③	②③	②③	②③	②③	②③
xylene (o-xylene)	463 °C (865 °F)	T1	②③	②③	②③	②③	②③	②③

This classified area suitability chart is based on NEC requirements and Appleton and UL testing. However, the ultimate decision on suitability of these fixtures for classified areas depends solely on the judgement of the owner, insurance company, inspector and/or authority having jurisdiction.

④ Ignition temperatures shown should be regarded as approximations only. Per NFPA Bulletin 325M, ignition temperatures may vary according to such factors as vapor/air mixture, size and space where ignition may occur, rate and duration of heating, oxygen concentration and other materials present.

Mercmaster™ III HID 50–250 Watt Luminaires

50 W, 70 W, 100 W, 150 W HPS

High Reactance, High Power Factor (min. P.F. 90%). Heat-Resistant Prismatic Glass Globe or Closed Prismatic Glass Refractor. Mogul Base Lamps.

NEC/CEC:

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, AEx nR IIC (ZB)
Class II, Division 1 and 2, Groups E, F, G
Class III

NEC/CEC:

Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)
Fixtures Outside Type (Salt Water)
Type 4X
IP66

				Catalog Numbers ③④⑤ with Type V 8" Refractor or G3 Globe ②	
Lamp Type	Lamp Watts	Hub Size (Inches)		with Globe	
Wall — Five Hubs, Four Close-Up Plugs					
	HPS	50	3/4 1	KPWBL5075 KPWBL5010	KPWBL5075J5 KPWBL5010J5
	HPS	70	3/4 1	KPWBL7075 KPWBL7010	KPWBL7075J5 KPWBL7010J5
	HPS	100	3/4 1	KPWBL1075 KPWBL1010	KPWBL1075J5 KPWBL1010J5
	HPS	150	3/4 1	KPWBL1575 KPWBL1510	KPWBL1575J5 KPWBL1510J5
25° Stanchion — One Hub					
	HPS	50	1-1/4 1-1/2	KPSL50125 KPSL50150	KPSL50125J5 KPSL50150J5
	HPS	70	1-1/4 1-1/2	KPSL70125 KPSL70150	KPSL70125J5 KPSL70150J5
	HPS	100	1-1/4 1-1/2	KPSL10125 KPSL10150	KPSL10125J5 KPSL10150J5
	HPS	150	1-1/4 1-1/2	KPSL15125 KPSL15150	KPSL15125J5 KPSL15150J5
90° Stanchion — One Hub					
	HPS	50	1-1/4 1-1/2	KPSTL50125 KPSTL50150	KPSTL50125J5 KPSTL50150J5
	HPS	70	1-1/4 1-1/2	KPSTL70125 KPSTL70150	KPSTL70125J5 KPSTL70150J5
	HPS	100	1-1/4 1-1/2	KPSTL10125 KPSTL10150	KPSTL10125J5 KPSTL10150J5
	HPS	150	1-1/4 1-1/2	KPSTL15125 KPSTL15150	KPSTL15125J5 KPSTL15150J5

② To order fixtures with large globe change **J5** to **G3**; for fixture with NEMA Type I or NEMA Type III refractor, change final digit 5 in catalog number to 1 or 3.

③ Add the following voltage and frequency designation before **Z2** suffix:

Lamp Type	Lamp Watts	MT	5MT	48	Voltage Suffixes					
					125	225	226	236	245	246
HPS	50	X	—	—	—	X	X	—	X	—
HPS	70	X	—	X	X	X	X	X	X	X
HPS	100	X	—	X	X	X	X	X	X	X
HPS	150	X	—	X	X	X	X	—	X	X
PSMH	175	X	—	X	—	—	—	X	—	—
PSMH	250	X	—	—	—	—	—	—	—	—

Voltages:

MT - 120/208/240/277 V 60 Hz

5MT - 120/208/240/277/480 V 60 Hz

48 - 480 V 60 Hz

125 - 120 V 50 Hz

225 - 225 V 50 Hz

226 - 220 V 60 Hz

236 - 230 V 60 Hz

245 - 240 V 50 Hz

246 - 240 V 60 Hz

④ Add **-Z2** suffix for factory sealed non-sparking/restricted breathing protection (AEx nA nR). Add **-ZB** suffix for restricted breathing protection (AEx nR).

⑤ For fixtures with guards, add letter **G** before adding voltage designation.

Mercmaster™ III HID 50–250 Watt Luminaires

High Pressure Sodium and Pulse Start Metal Halide

Listed for simultaneous exposure to combustible dusts and flammable gases or vapors.

NEC/CEC:

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, AEx nR IIC (ZB)
Class II, Division 1 and 2, Groups E, F, G
Class III

NEC/CEC:

Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)
Fixtures Outside Type (Salt Water)
Type 4X
IP66

Ballast Housing Weights

Lamp Watts	HPS Wt. kg (lb) ①②	PSMH Wt. kg (lb) ①②
Globe Housing with Ballast		
50	5.7 (12.6)	—
70	6.8 (15.0)	—
100	7.3 (16.0)	—
175	—	7.8 (17.2)
250	—	8.4 (18.5)
Reflector Housing with Ballast		
70	7.0 (15.4)	—
100	7.5 (16.5)	—
150	7.9 (17.4)	—
175	—	8.1 (17.9)
250	—	8.4 (18.5)

Component and Accessory Weights

Item	Wt. kg (lb) ①
Mounting Hoods	
Pendant Cone	1.1 (2.43)
Ceiling	1.4 (3.09)
Wall	1.8 (3.97)
25° Stanchion	1.5 (3.31)
Straight Stanchion	1.7 (3.75)
8" Glass Refractor/G3 Globe	2.4 (5.29)
Glass Globe	1.7 (3.75)
Globe Guard	0.5 (1.10)
Refractor Guard	0.5 (1.10)
Reflectors	
30° Angle	1.1 (2.43)

Fuse Kits

Lamp Watts	Volts	Fuse Quantity Required	Fuse Kit Catalog Number	
			HPS	PSMH
50	120	1	F5	—
	208	2	F3	—
	240	2	F3	—
	277	1	F2	—
70	120	1	F5	—
	208	2	F3	—
	240	2	F3	—
	277	1	F2	—
100	480	2	F2	—
	120	1	F8	—
	208	2	F5	—
	240	2	F5	—
150	277	1	F3	—
	480	2	F3	—
	120	1	F10	—
	208	2	F5	—
175	240	2	F5	—
	277	1	F5	—
	480	2	F3	—
	120	1	—	F5
250	208	2	—	F3
	240	2	—	F3
	277	1	—	F2
	480	2	—	F3
250	120	1	—	F10
	208	2	—	F6
	240	2	—	F6
	277	1	—	F5

① Weights are approximate.

② Add 0.5 kg (1 lbs) for HPS fixtures with Hot Restrike. Add 0.1 kg (0.25 lbs) for Quartz Emergency Light.

Mercmaster™ III HID 50–250 Watt Luminaires

High Pressure Sodium and Pulse Start Metal Halide

Listed for simultaneous exposure to combustible dusts and flammable gases or vapors.

NEC/CEC:

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, AEx nR IIC (ZB)
Class II, Division 1 and 2, Groups E, F, G
Class III

NEC/CEC:

Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)
Fixtures Outside Type (Salt Water)
Type 4X
IP66

Electrical Specifications

Line Voltage	Type of Ballast ①	StartingAmps	OperatingAmps	Total Watts
50 Watt High Pressure Sodium				
120	HX-HPF	0.65	0.61	66
208	HX-HPF	0.37	0.35	66
240	HX-HPF	0.32	0.31	66
277	HX-HPF	0.30	0.26	66
70 Watt High Pressure Sodium				
120	HX-HPF	0.90	0.82	94
208	HX-HPF	0.50	0.48	94
240	HX-HPF	0.44	0.41	94
277	HX-HPF	0.35	0.36	94
480	HX-HPF	0.21	0.21	94
100 Watt High Pressure Sodium				
120	HX-HPF	1.30	1.15	130
208	HX-HPF	0.76	0.67	130
240	HX-HPF	0.66	0.60	130
277	HX-HPF	0.60	0.52	130
480	HX-HPF	0.33	0.31	135
150 Watt High Pressure Sodium ②				
120	HX-HPF	2.00	1.70	188
208	HX-HPF	1.15	0.95	188
240	HX-HPF	1.00	0.85	188
277	HX-HPF	0.85	0.72	188
480	HX-HPF	0.50	0.47	189
175 Watt Pulse Start Metal Halide				
120	C.W.A.	0.80	1.80	198
208	C.W.A.	0.50	1.00	198
240	C.W.A.	0.40	0.90	198
277	C.W.A.	0.40	0.80	198
480	C.W.A.	0.15	0.45	196
250 Watt Pulse Start Metal Halide				
120	C.W.A.	2.00	2.30	278
208	C.W.A.	1.10	1.40	278
240	C.W.A.	1.00	1.20	278
277	C.W.A.	0.80	1.00	278

① C.W.A. – Constant Wattage Autotransformer. HX-HPF – High Reactance High Power Factor Autotransformer.

② 150 W HPS units equipped with ballasts to operate 55 volt lamps only.

Mercmaster™ III HID 50–250 Watt Luminaires

High Pressure Sodium and Pulse Start Metal Halide

Listed for simultaneous exposure to combustible dusts and flammable gases or vapors.

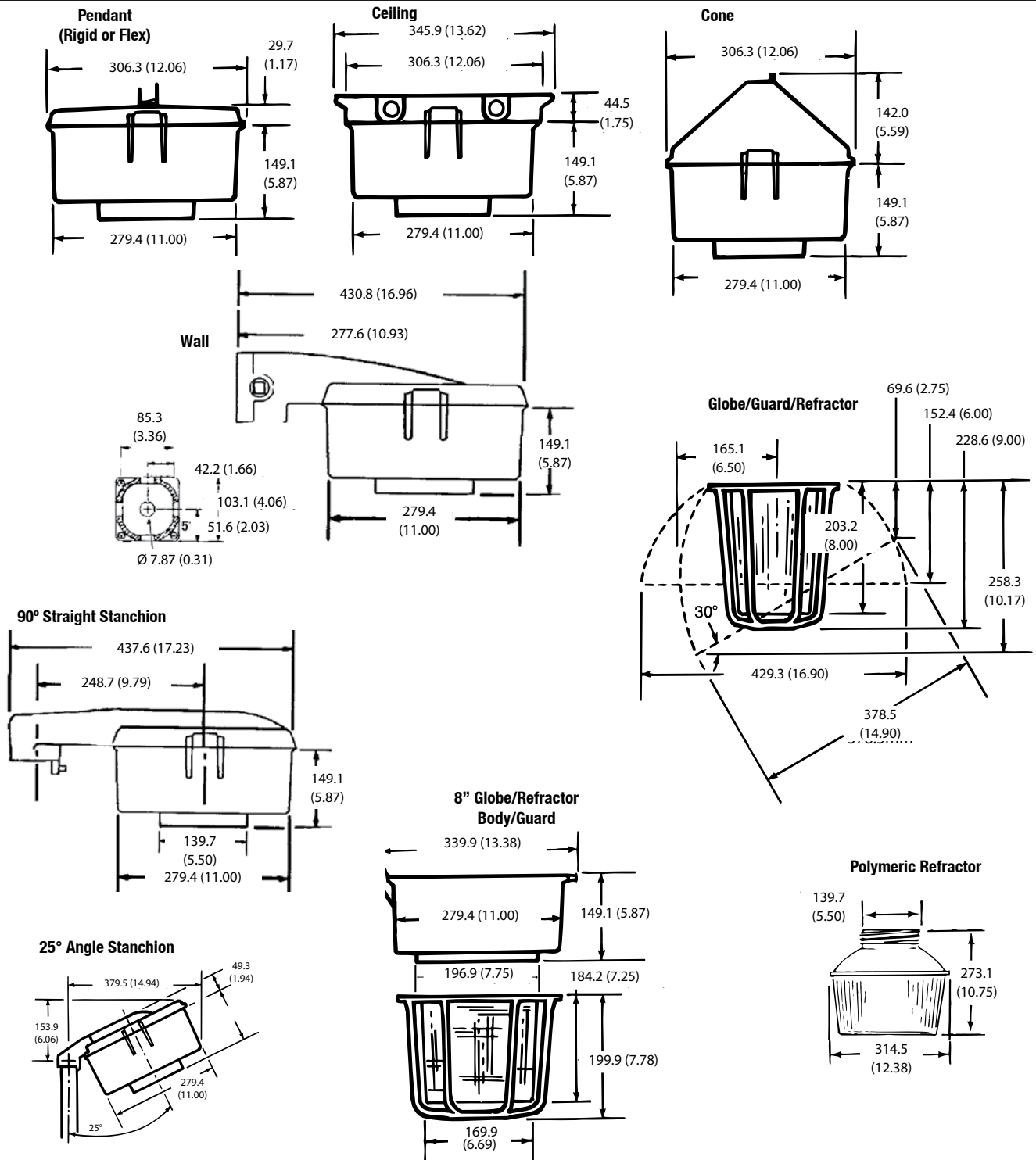
NEC/CEC:

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, AEx nR IIC (ZB)
Class II, Division 1 and 2, Groups E, F, G
Class III

NEC/CEC:

Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)
Fixtures Outside Type (Salt Water)
Type 4X
IP66

Dimensions in Millimeters (Inches)



Appleton®

HID/AREA: NEC/CEC ENCLOSED AND GASKETED