

Mercmaster™ III 400 Luminaire for Hazardous and Wet Locations

High Pressure Sodium and Pulse Start Metal Halide

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

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, Ex nR IIC (Z) ¹
Class I, Zone 2, AEx nR IIC (ZB)

Class II, Division 1 and 2, Groups E, F, G
Class III
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
 - In applications involving medium and high mounting heights
 - In applications where energy efficient, high lumen output is required
 - The AEx nA nR Mercmaster III fixture is factory sealed and prevents vapors and gases from entering the globe chamber. There are no seals or putty required.
 - The AEx nR Mercmaster III fixture requires all wiring entries to be sealed.
 - Non-hazardous locations where severe weather conditions, excessive moisture, dirt, dust, corrosive atmosphere or high ambient temperatures are encountered
- Typical applications include:
 - Pulp and paper mills
 - Processing plants
 - Chemical plants
 - Oil refineries
 - Foundries
 - Manufacturing plants
 - Storage areas
 - Waste and sewage treatment
 - Other areas where dust, water, dirt and rough usage are a problem

Features

- Superior corrosion resistance.
- Choice of light sources: high pressure sodium, and pulse start metal halide.
- Six mounting arrangements to suit any lighting layout: pendant, ceiling, wall bracket, 25° (angle) stanchion, 90° (straight) stanchion and cone.
- 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.
- Choice of optical assemblies: prismatic globe; enclosed reflector with sealed lens; or Type V or Type II closed prismatic glass refractor, with or without guards.
- Wide choice of photometric distributions.
- All fixtures designed to perform in a 104 °F/40 °C ambient temperature. Selected fixtures are suitable for ambient temperatures up to 149 °F/65 °C.
- Mogul base porcelain lamp holder with nickel-plated contacts has 392 °F/200 °C rated welded leads, pre-wired to the ballast. Assures trouble-free operation in installations where high ambient temperatures are encountered.
- For electrical protection, a ground wire is provided on each Mercmaster to bond hood and ballast housing.
- Terminal blocks are provided for Zone 2 fixtures to facilitate wiring.
- Standard dome of 30° angle reflectors made of fiberglass reinforced white polyester. Highly resistant to corrosive atmospheres.
- A wide range of voltages available (120 to 600 Volt) and ballast types (CWA, CWI and Super CWA).



Enclosed Reflector Prismatic Glass Globe 12" Glass Refractor

- One-piece ballast housing for each component provides even heat dissipation for cooler operation and longer ballast life.
- All Mercmaster mounting hoods have provision for easy field installation of fuses in fixtures (see fuse kit listings).

Standard Materials

- Mounting hoods and ballast bodies: cast copperfree (less than 4/10 of 1% copper) aluminum
- Reflectors: Fiberglass reinforced white polyester
- Guards, hardware and catch assemblies: stainless steel
- Globe: heat- and impact-resistant internally fluted glass
- Refractors: prismatic glass
- Enclosed reflector: etched Alzak aluminum with sealed, tempered heat- and impact-resistant lens
- Body and globe gaskets: high-temperature silicone rubber

Standard Finishes

- Mounting hoods and guards: epoxy powder coat, electrostatically applied for complete and uniform protection

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**.
- Ex nR fixtures are available with a Class I, Zone 2 rating. Add suffix **-Z** ¹.
- Quartz Auxiliary comes to full brightness immediately and remains lit until the HID lamp attains 60-70% of full illumination. Quartz Auxiliary supplied with relay switch and socket to accept 120V quartz double-contact bayonet base lamp (not included). (Not suitable for hazardous locations.) Add suffix **-E**.
- Factory sealed photocontrol available. See PCD2 Series.
- 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**.

Certifications and Compliances

- UL Standard: UL 1598, UL 1598A, UL 844, UL 60079-0, UL 60079-15
- UL Listed: E10444

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Class II, Division 1 and 2, Groups E, F, G
Class III
Simultaneous Exposure (Class I, Division 2/
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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	40	10	J5	G	MT	S	Z2
Series: KP - Mercmaster III 400	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: ② G - Globe Guard BG - Refractor Guard Blank - No Guard	Options: E - Emergency Quartz F - Fuse Kit (Specify Voltage) S - Smart Starter H1 - Photocontrol 120 V H2 - Photocontrol 208 V H3 - Photocontrol 240 V H4 - Photocontrol 277 V C - Safety Cable Adapted ¹ E40 - Export Socket D - E-40 Export Socket ¹ T - Terminal Blocks ¹ V - Anti-Vibration Modifications ¹ X - Appledapter ③ Mounting Hood Adapter ¹ Optional Fusing ⑦ 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: 25 - 250 W HPS, PSMH ⑤ 32 - 320 W PSMH 35 - 350 W PSMH 40 - 400 W PSMH & HPS 40 - 400 W MH ¹	Optical Assembly: ① Blank - Glass Globe J2 - NEMA II Glass Refractor ④ J5 - NEMA V Glass Refractor ④ R - Enclosed Refractor with Sealed Lens	Voltage: ⑥ MT - 120/208/240/277, 60Hz 5MT - 120/208/240/ 277/480, 60Hz 48 - 480, 60Hz 125 - 120, 50Hz 226 - 220, 60Hz 235 - 230, 50Hz 245 - 240, 50 Hz C2 - 208, 60 Hz, CWI ¹ C3 - 240, 60 Hz, CWI ¹ C6 - 480, 60 Hz, CWI ¹ C7 - 600, 60 Hz, CWI ¹ TT - 120/277/347, 60 Hz, CWA ¹	Suffix: Z2 - Zone 2 suffix (required for AEx nA nR rating) ZB - Zone 2 suffix (required for AEx nR rating) Z - Zone 2 suffix (required for Ex nR) ¹

Refer to "Mounting Hoods and Ballast" page for available Voltage Configuration.

① NO DESIGNATION is required for fixtures with standard type globe.

② NO DESIGNATION is required for fixtures without guards.

③ Other voltages available. Contact your local sales representative.

④ J2 and J5 refractors are not available with Z2 or ZB suffix.

⑤ Available for 480 V, 50 Hz and 5MT ballast options. For MT and TT voltage suffix, see Mercmaster III 50-250 Luminaires.

⑥ Appledapter is available for use with the pendant, ceiling and angled stanchion mounting only.

⑦ Optional fusing is available for use with MT, 5MT and 48 voltage suffixes ONLY.

¹ CSA Certification only.

Mercmaster™ III 400 Luminaire Thermal Performance

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

Temperature identification numbers of Mercmaster III – 400 Fixtures.

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nR IIC (Z2)
Class I, Zone 2, Ex nR IIC (Z) ¹
Class I, Zone 2, AEx nR IIC (ZB)

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Class III
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Type 4X
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“T” Numbers

Watts	Lamp Type	Supply Wire Temp. (°F/°C) ①	Ambient Temp. (°F/°C) ①	Class I, Division 2				Class II, Division 1 Groups E, F and G				Simultaneous Exposure Class I, Division 2 / Class II, Division 1			
				Globe	Reflector	Refractor	Enclosed Reflector	Globe	Reflector	Refractor	Enclosed Reflector	Globe	Reflector	Refractor	Enclosed Reflector
250	HPS	257/125	104/40	T2	T2	T2	T2	T3B	T3B	T4	T4A	325	325	325	325
		257/125	131/55	325	325	T2	T2	—	—	T3B	T4A	—	—	T1	325
		257/125	149/65	—	—	T2	T2	—	—	T3B	T4	—	—	T1	350
400	HPS	194/90	104/40	350	T1	T1	350	T3 *	T3 *	T3C	T3C	T1	T1	T1	350
		194/90	104/40	T2A	T2A	T2B	T2C	T3 (EF)	T3 (EF)	T4	T4A	—	—	—	—
250	PSMH	194/90	131/55	T2A	T2A	T2B	T2C	—	—	—	—	—	—	—	—
		194/90	149/65	—	—	—	T2C	—	—	—	—	—	—	—	—
		194/90	104/40	T2B	T2B	T2B	T2B	—	—	T3C	T3C	—	—	—	—
320	PSMH	194/90	131/55	T2A	T2A	T2A	T2B	—	—	—	—	—	—	—	—
		194/90	104/40	T2B	T2B	T2B	T2B	—	—	T3C	T3C	—	—	—	—
350	PSMH	194/90	131/55	T2A	T2A	T2A	T2B	—	—	—	—	—	—	—	—
		194/90	104/40	T2B	T2B	T2B	T2B	—	—	T3C	T3C	—	—	—	—
400	PSMH	194/90	104/40	T2A	T2A	T2B	T2B	—	—	T3C	T3C	—	—	—	—
400	MH ¹	194/90	104/40	T2	T2	T2A	T2A	—	—	T3A	T4	—	—	—	—

“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 (°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
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

① “T” numbers are for Groups E and F only.

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Mercmaster™ III 400 Luminaires for Hazardous and Wet Locations

250 W, 400 W HPS

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Type Mounting	Lamp Type	Lamp Watts	Hub Size (Inches)	With Globe	Catalog Numbers ^{②③④}	
					With Type V 12" Refractor ^⑤	With Enclosed Reflector

Pendant — One Hub, Rigid Mounting ^①



Shown with Globe

HPS	250	3/4	1	KPAL2575	KPAL2575J5	KPAL2575R
			1	KPAL2510	KPAL2510J5	KPAL2510R
HPS	400	3/4	1	KPAL4075	KPAL4075J5	KPAL4075R
			1	KPAL4010	KPAL4010J5	KPAL4010R

Pendant Cone — One Hub, Rigid Mounting



Shown with 12" Glass Refractor

HPS	250	3/4	1	KPCHL2575	KPCHL2575J5	KPCHL2575R
			1	KPCHL2510	KPCHL2510J5	KPCHL2510R
HPS	400	3/4	1	KPCHL4075	KPCHL4075J5	KPCHL4075R
			1	KPCHL4010	KPCHL4010J5	KPCHL4010R

Ceiling — Five Hubs, Four Close-Up Plugs



Shown with Enclosed Reflector

HPS	250	3/4	1	KPCL2575	KPCL2575J5	KPCL2575R
			1	KPCL2510	KPCL2510J5	KPCL2510R
HPS	400	3/4	1	KPCL4075	KPCL4075J5	KPCL4075R
			1	KPCL4010	KPCL4010J5	KPCL4010R

^① For Flexible Pendant Mount, change **A** to **F** in catalog number.

^② To order fixture with NEMA Type II refractor, change digits **J5** in catalog number to **J2**. Refractor not available for Z, Z2 or ZB suffix.

^③ For fixtures with guards, add suffix **G** before adding voltage suffix. **BG** for refractor. **NG** for enclosed reflector.

^④ Add the following voltage and frequency designations before Z, Z2 or ZB suffix:

Lamp Type	Lamp Watts	Voltage Suffixes												
		MT	5MT	48	125	225	226	235	245	C2 ¹	C3 ¹	C6 ¹	C7 ¹	TT ¹
HPS	250	X	X	X	X	—	X	X	—	—	—	—	—	X
HPS	400	X	X	X	X	—	—	X	—	—	—	—	—	X
PSMH	250	—	X	X	X	—	—	X	—	—	—	—	—	—
PSMH	320	X	X	X	X	—	—	X	—	—	—	—	—	X
PSMH	350	X	X	X	X	—	—	X	—	—	—	—	—	X
PSMH	400	X	X	X	—	—	—	X	—	—	—	—	—	X
MH ¹	400	X	—	—	X	X	—	—	X	X	X	X	X	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

235 - 230 V 50 Hz

245 - 240 V 50 Hz

C2 - 208 V 60 Hz, CWI ¹

C3 - 240 V 60 Hz, CWI ¹

C6 - 480 V 60 Hz, CWI ¹

C7 - 600 V 60 Hz, CWI ¹

TT - 120/277/347 V 60 Hz, CWA ¹

^⑤ Add **Z2** suffix for factory sealed non-sparking/restricted breathing protection (AEx nA nR). Add **ZB** suffix for restricted breathing protection (AEx nR).

^⑥ Add **Z** for factory sealed restricted breathing protection (Ex nR) ¹.

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Mercmaster™ III 400 Luminaire Electrical Specifications and Fuse Kits

High Pressure Sodium and Pulse Start Metal Halide - Hazardous and Wet Locations

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Electrical Specifications

Line Voltage	Type of Ballast ¹	Frequency	Starting Amps	Operating Amps	Total Watts
250 Watt High Pressure Sodium					
120	C.W.A.	60	2.00	2.50	295
208	C.W.A.	60	1.20	1.50	295
240	C.W.A.	60	1.00	1.30	295
277	C.W.A.	60	0.85	1.10	295
347 ^{CSA}	C.W.A.	60	0.60	0.93	295
480	C.W.A.	60	0.40	0.65	295
120	C.W.A.	50	1.85	2.75	300
230	C.W.A.	50	0.95	1.44	300
400 Watt High Pressure Sodium					
120	C.W.A.	60	3.30	3.80	465
208	C.W.A.	60	1.80	2.20	465
240	C.W.A.	60	1.60	1.90	465
277	C.W.A.	60	1.40	1.70	465
347 ^{CSA}	C.W.A.	60	1.00	1.32	464
480	C.W.A.	60	0.80	1.00	465
120	C.W.A.	50	3.70	4.00	465
230	C.W.A.	50	1.85	2.00	465
250 Watt Pulse Start Metal Halide					
120	C.W.A.	60	1.96	2.50	291
208	C.W.A.	60	1.13	1.45	291
240	C.W.A.	60	0.98	1.25	291
277	C.W.A.	60	0.85	1.10	291
347 ^{CSA}	C.W.A.	60	0.62	0.90	291
480	C.W.A.	60	0.32	0.69	298
480	Super C.W.A.	60	0.45	0.60	285
120	Super C.W.A.	50	1.90	2.60	288
230	Super C.W.A.	50	1.00	1.35	288
320 Watt Pulse Start Metal Halide					
120	Super C.W.A.	60	2.60	3.25	368
208	Super C.W.A.	60	1.50	1.90	368
240	Super C.W.A.	60	1.30	1.65	368
277	Super C.W.A.	60	1.15	1.40	368
347 ^{CSA}	Super C.W.A.	60	0.70	1.10	368
480	Super C.W.A.	60	0.60	0.80	368
120	Super C.W.A.	50	2.28	3.05	365
230	Super C.W.A.	50	1.14	1.60	365
350 Watt Pulse Start Metal Halide					
120	Super C.W.A.	60	3.30	3.60	400
208	Super C.W.A.	60	1.90	2.10	400
240	Super C.W.A.	60	1.65	1.80	400
277	Super C.W.A.	60	1.40	1.55	400
347 ^{CSA}	Super C.W.A.	60	0.85	1.20	400
480	Super C.W.A.	60	0.75	0.90	400
120	Super C.W.A.	50	2.45	3.34	394
230	Super C.W.A.	50	1.26	1.74	394
400 Watt Pulse Start Metal Halide					
120	Super C.W.A.	60	3.50	4.00	454
208	Super C.W.A.	60	2.00	2.30	454
240	Super C.W.A.	60	1.75	2.00	454
277	Super C.W.A.	60	1.50	1.25	454
347 ^{CSA}	Super C.W.A.	60	1.10	1.35	452
480	Super C.W.A.	60	0.90	1.00	454
120	Super C.W.A.	50	3.17	3.90	454
230	Super C.W.A.	50	1.65	2.00	454

Electrical Specifications

Line Voltage	Type of Ballast ¹	Frequency	Starting Amps	Operating Amps	Total Watts
400 Watt Metal Halide ^{CSA}					
120	C.W.A.	60	3.25	4.00	458
208	C.W.A.	60	1.90	2.30	458
240	C.W.A.	60	1.80	2.00	458
277	C.W.A.	60	1.70	1.75	458
347	C.W.A.	60	1.40	1.75	458
480	C.W.I.	60	0.85	1.00	462
600	C.W.I.	60	0.30	0.70	475
120	C.W.A.	50	2.70	4.10	462
220	C.W.A.	50	1.50	2.10	462
240	C.W.A.	50	1.50	2.10	462

Fuse Kit

Order fuses as a separate item by catalog number from right columns.

Lamp Watts	Volts	Fuse Quantity Required	Fuse Catalog Number		
			HPS	PSMH	MH ^{CSA}
250	120	1	F7	—	—
	208	2	F4	—	—
	240	2	F4	—	—
	277	1	F3	—	—
	347 ^{CSA}	1	F3	F3	F3
	480	2	F2	—	—
	120	1	F7	—	—
250	230	2	F4	—	—
	480	2	—	F2	—
	230	1	—	F3	—
	120	1	—	F9	—
320	208	2	—	F6	—
	240	2	—	F5	—
	277	1	—	F4	—
	347 ^{CSA}	1	—	F3	F3
	480	2	—	F3	—
	120	1	—	F10	—
	230	2	—	F5	—
350	120	1	—	F10	—
	208	2	—	F7	—
	240	2	—	F5	—
	277	1	—	F5	—
	347 ^{CSA}	1	—	F3	—
	480	2	—	F3	—
	120	1	—	F10	—
400	230	2	—	F5	—
	120	1	F15	F10	—
	208	2	F8	F7	—
	240	2	F8	F5	—
	277	1	F5	F5	—
	347 ^{CSA}	1	F5	F5	F5
	480	2	F5	F3	—
120	1	F10	F10	—	
230	2	F6	F5	—	

¹ C.W.A. – Constant Wattage Autotransformer. HX-HPF – High Reactance High Power Factor Autotransformer.
Super C.W.A. – Super Constant Wattage Autotransformer.
^{CSA} CSA Certification only.

Mercmaster™ III 400 Luminaire Dimensions and Weights

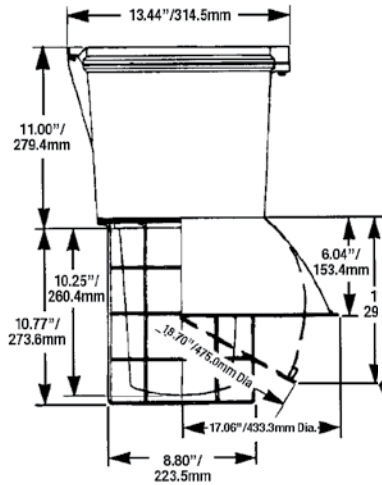
High Pressure Sodium and Pulse Start Metal Halide - Hazardous and Wet Locations

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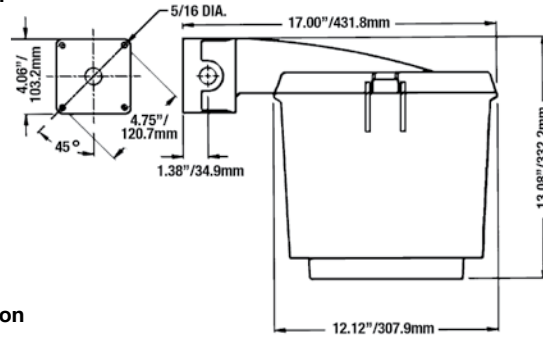
Lighting

LIGHTING: ENCLOSED AND GASKETED — AREA — HID

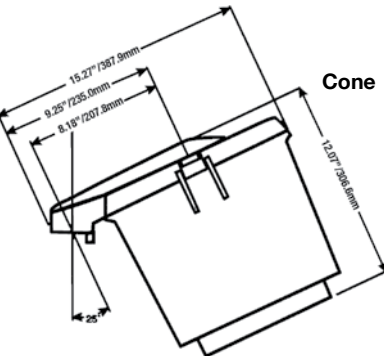
Pendant with Globe, Guard and Reflectors



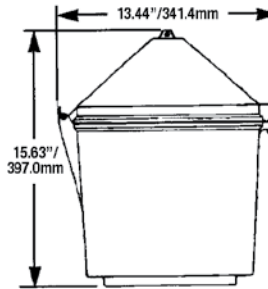
Wall



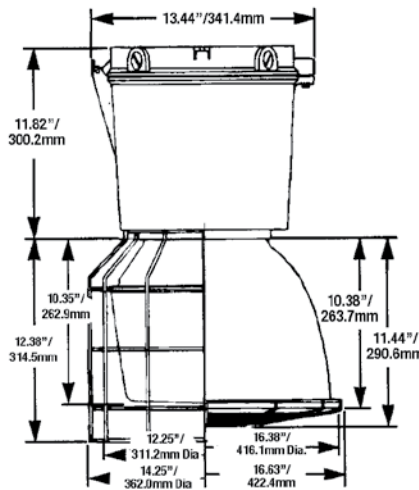
25° Stanchion



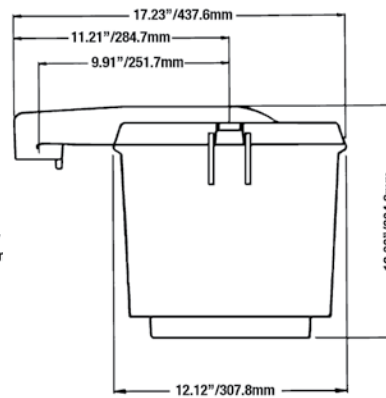
Cone



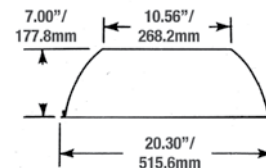
Ceiling with Refractor Enclosed Reflector and Guards



90° Stanchion



Deep Dome



Mercmaster III – 400 Ballast and Accessory Weights

Lamp Watts	Ballast Housing (Wt. Lbs/Kg)		Mounting Hoods and Reflectors	Wt. Lbs.	Globe Refractor, Enclosed Reflector and Guards	Wt. Lbs/Kg
	HPS	PSMH				
250	24.5/11.1	—	Pendant	2.25/1.0	Glass Globe	7.0/3.2
			Pendant Cone	2.50/1.1	Globe Guard	3.0/1.4
320	—	28.0/12.7	Ceiling	3.00/1.4	12" Glass Refractor	12.0/5.4
			Wall	4.00/1.8	Refractor Guard	4.5/2.0
350	—	28.5/12.9	25° Stanchion	3.25/1.5	Enclosed Reflector	11.0/5.0
			90° Stanchion	3.75/1.7	Enclosed Reflector Guard	2.0/0.9
400	28.5/12.9	28.5/12.9	Standard Dome	3.50/1.6		
			30° Angle	3.50/1.6		

Weights are approximate. Add 0.25 lb. for Quartz option.