

Mercmaster™ III Low Profile 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
 - Areas of low clearance, low ceiling heights or where fixture weights must be minimized
 - 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
- Typical applications include:
 - Pulp and paper mills
 - Processing plants
 - Chemical plants
 - Oil refineries
 - Foundries
 - Manufacturing plants
 - Storage areas
 - Waste and sewage treatment
 - Parking garages
 - Other areas where dust, water, dirt and rough usage are a problem

Features

- Compact light weight low profile design is suited for low mounting heights in conjunction with lower wattage fixtures.
- Modular design allows scores of fixture component combinations to meet installation and lighting needs. Uses same mounting hoods and optical accessories as Mercmaster III.
- A choice of heat-resistant prismatic glass refractors (NEMA I, III or V) or heat-resistant globes which thread directly into ballast housing. Photometrics available upon request – contact your local sales representative.
- Standard dome or 30° angle reflectors made of fiberglass reinforced white polyester. Highly resistant to corrosive atmospheres.
- Accommodates medium base lamps.
- A wide range of voltages available (120 to 600 Volt) and ballast types (Reactor, CWA and Super CWA).
- Medium base lamp type and watts:
 - HPS 50 W-150 W
 - PSMH 50 W-175 W
- 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.
- All Mercmaster III mounting hoods have provision for easy field installation of fuses in fixtures (see fuse kits).
- Fixtures are for use in Class I, Zone 2 hazardous locations.
- 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.



Low Profile Mercmaster III with Prismatic Globe and Guard

Standard Materials

- Mounting hoods, bodies and guard: cast copperfree (4/10 of 1% max.) aluminum
- All hardware and catch assemblies: stainless steel
- Reflectors: Fiberglass reinforced white polyester
- Globes and Refractors: heat-resistant prismatic glass

Standard Finishes

- Mounting hoods, bodies and guards: baked gray epoxy-clad finish, electrostatically applied for complete uniform protection

Options

- 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 120 V quartz double-contact bayonet base lamp (not included). Add suffix **-E** ①.
- Guards with gray epoxy painted to match fixtures, supplied with stainless steel screws. Add suffix **-G** before voltage suffix.
- Hot Restrike to 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 fixtures. Add suffix **-S**.
- AEx nA nR fixtures, add suffix **-Z2**.
- AEx nR fixtures, add suffix **-ZB**.
- Reflectors are available as standard dome and 30° angle polyester. Order separately.

NEC/CEC Certifications and Compliances ②

- 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

Related Products

- Photocells for classified use are available, see *PCD2 Series*.

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

② Compliance data varies for specific fixtures. Consult Appleton regarding suitability of specific fixtures for a particular application.

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Illustrated Features

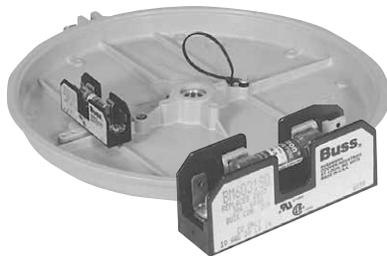


High Temperature Sockets
 Medium base high-temperature porcelain sockets.

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

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

Electrical Protection
 Ground wire provided to bond mounting hood to ballast housing.



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

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.



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

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.

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

Prismatic Glass Globes and Refractors
 Heat-resistant globes and refractors thread directly into ballast housing and seal against a high-temperature silicone rubber gasket.



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



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

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

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.



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.

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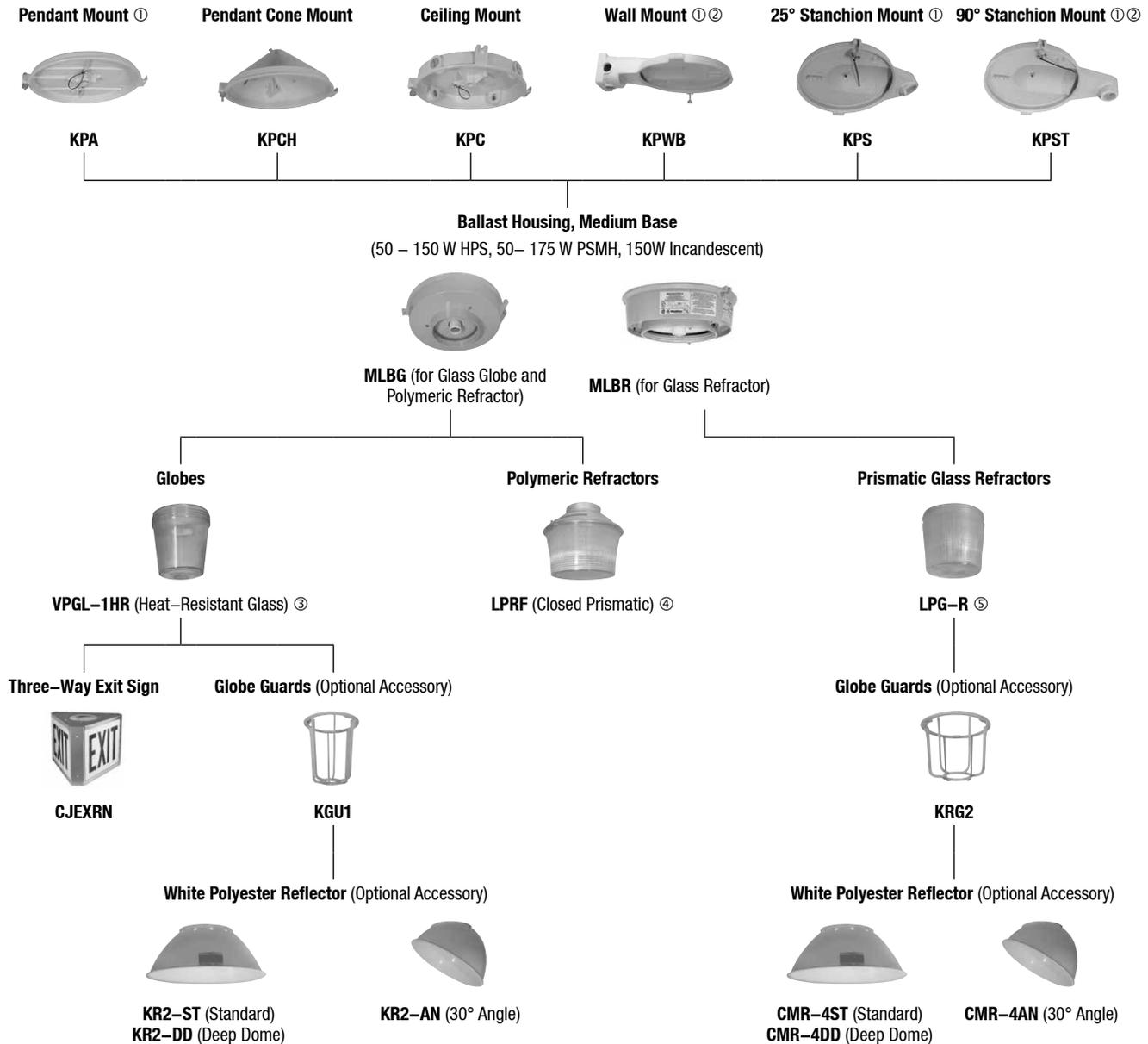
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Mercmaster III Low Profile Family Tree



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 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 PSMH Max.).

⑤ Available in NEMA Type I, III and V.

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Ballast Bodies



Ballast Body for Glass Refractor

High Pressure Sodium
 High Power Factor (Min. P.F. 90%)



Ballast Body for Glass Globe or Polymeric Refractor

Pulse Start Metal Halide
 Super Constant Wattage Autotransformer (Min. P.F. 90%)

Lamp Type	Lamp Watts	Catalog Number ④		Voltage Suffixes											
		For Globe	For Refractor	LB	MT	5MT	48	125	225	226	235	236	245	246	
Inc.	150 Max.	MLBG15I	MLBR15I	X	—	—	—	—	—	—	—	—	—	—	—
HPS	50	MLBG50L ①②	MLBR50L ①②	—	X	—	—	—	X	X	—	—	X	—	
HPS	70	MLBG70L ①②	MLBR70L ①②	—	X	—	X	X	X	X	—	X	X	X	
HPS	100	MLBG10L ①②	MLBR10L ①②	—	X	—	X	X	X	X	—	X	X	X	
HPS	150	MLBG15L ①②	MLBR15L ①②	—	X	—	X	X	X	X	—	X	X	X	
PSMH	50	MLBG50H ②③	MLBR50H ②③	—	X	—	X	—	—	—	—	—	—	—	
PSMH	70	MLBG70H ②③	MLBR70H ②③	—	X	—	X	X	X	—	—	—	X	—	
PSMH	100	MLBG10H ②③	MLBR10H ②③	—	X	—	X	X	X	—	—	—	X	—	
PSMH	150	MLBG15P ②③	MLBR15P ②③	—	X	—	X	—	—	—	—	—	X	—	
PSMH	175	MLBG17P ②③	MLBR17P ②③	—	X	X	X	—	—	—	—	—	X	—	

Voltages:

- LB** - Incandescent, 120 V 60 Hz
- 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
- 236** - 230 V 60 Hz
- 245** - 240 V 50 Hz
- 246** - 240 V 60 Hz

① After voltage suffix add: **-S** for Smart Starter, **-R** for ballast body with Hot Restrike Ignitor.
 ② Add **-E** after voltage suffix for ballast body with provision for Quartz Emergency Light. Not suitable for hazardous locations.
 ③ After voltage suffix add: **-S** for Smart Starter.
 ④ Add **-Z2** suffix for factory sealed non-sparking/restricted breathing protection (AEx nA nR). Add **-ZB** suffix for restricted breathing protection (AEx nR).

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Electrical Specifications

Line Voltage	Type of Ballast ①	Starting Amps	Operating Amps	Total Watts
50 Watt High Pressure Sodium				
120	HX-HPF	0.58	0.58	64
208	HX-HPF	0.35	0.33	64
240	HX-HPF	0.31	0.29	64
277	HX-HPF	0.25	0.25	64
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
50 Watt Pulse Start Metal Halide				
120	HX-HPF	0.87	0.62	67
208	HX-HPF	0.51	0.40	67
240	HX-HPF	0.47	0.35	67
277	HX-HPF	0.32	0.32	67
70 Watt Pulse Start Metal Halide				
120	HX-HPF	0.80	0.85	95
208	HX-HPF	0.50	0.52	95
240	HX-HPF	0.43	0.44	95
277	HX-HPF	0.39	0.39	95
480	HX-HPF	0.26	0.23	95
100 Watt Pulse Start Metal Halide				
120	HX-HPF	1.20	1.15	130
208	HX-HPF	0.70	0.70	130
240	HX-HPF	0.61	0.58	130
277	HX-HPF	0.55	0.50	130
480	HX-HPF	0.30	0.35	140

Electrical Specifications

Line Voltage	Type of Ballast ①	Starting Amps	Operating Amps	Total Watts
150 Watt Pulse Start Metal Halide				
120	HX-HPF	1.75	1.60	188
208	HX-HPF	1.30	1.00	188
240	HX-HPF	0.85	0.80	188
277	HX-HPF	0.77	0.70	188
480	Super C.W.A.	0.45	0.42	185
175 Watt Pulse Start Metal Halide				
120	Super C.W.A.	0.90	1.78	199
208	Super C.W.A.	0.50	1.08	199
240	Super C.W.A.	0.35	0.89	199
277	Super C.W.A.	0.30	0.76	199
480	Super C.W.A.	0.25	0.50	213

Fuse Kit for Field Installation

Lamp Watts	Volts	Fuse Quantity Required	Fuse Kit Catalog Number HPS	PSMH
50W	120	1	F5	F3
	208	2	F3	F3
	240	2	F3	F2
	277	1	F2	F2
70W	120	1	F5	F4
	208	2	F3	F3
	240	2	F3	F3
	277	1	F2	F2
	480	2	F2	F1
100W	120	1	F8	F6
	208	2	F5	F4
	240	2	F5	F3
	277	1	F3	F3
	480	2	F3	F2
150W	120	1	F10	F10
	208	2	F5	F5
	240	2	F5	F5
	277	1	F5	F4
	480	2	F3	F3
175W	120	1	—	F5
	208	2	—	F3
	240	2	—	F3
	277	1	—	F2
480	2	—	F2	

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

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

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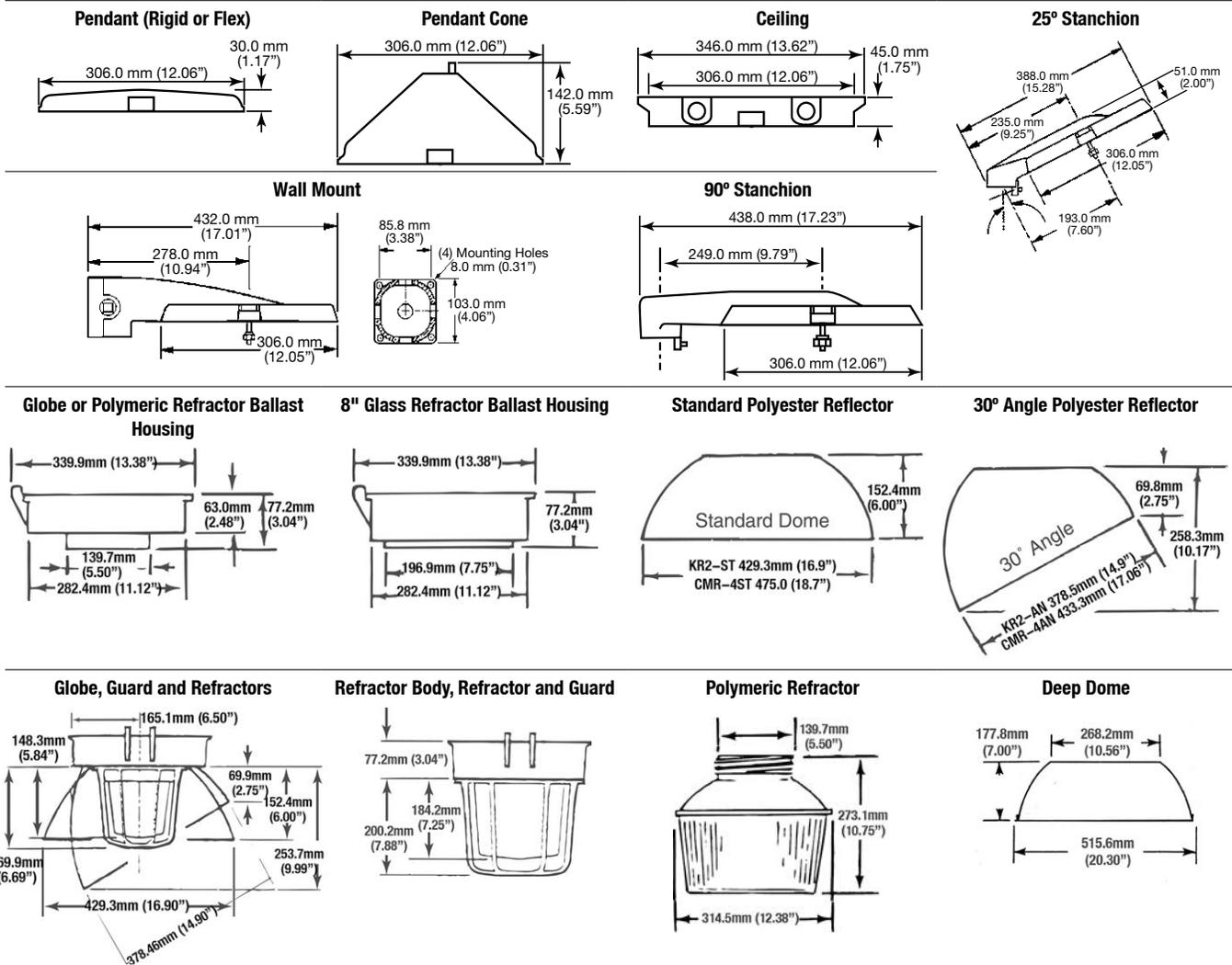
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Dimensions in Millimeters (Inches)



Mercmaster III Low Profile Ballast and Accessory Weights ①

Watts	Globe Housing Ballast Wt. kg (lb)		Refractor Housing Ballast Wt. kg (lb)		Mounting Hoods	Wt. Kg (Lb)	Refractors, Globes, Guards and Reflectors	Wt. Kg (Lb)
	HPS	PSMH	HPS	PSMH				
50	3.3 (7.28)	3.2 (7.05)	3.5 (7.72)	3.4 (7.50)	Pendant	1.0 (2.20)	8" Glass Refractor	2.4 (5.29)
70	3.7 (8.16)	3.5 (7.72)	4.0 (8.82)	3.7 (8.16)	Pendant Cone	1.1 (2.43)	Glass Globe	1.7 (3.75)
100	4.4 (9.70)	4.2 (9.26)	4.6 (10.14)	4.4 (9.70)	Ceiling	1.4 (3.09)	Refractor Guard	0.5 (1.10)
150	4.9 (10.80)	4.9 (10.80)	5.1 (11.24)	5.1 (11.24)	Wall	1.8 (3.97)	Globe Guard	0.5 (1.10)
175	—	5.0 (11.02)	—	5.2 (11.46)	25° Stanchion	1.5 (3.31)	Standard Dome	1.1 (2.43)
					90° Stanchion	1.7 (3.75)	Deep Dome	2.3 (5.07)
							30° Angle	1.1 (2.43)
							Polymeric Refractor	1.1 (2.43)

① Weights are approximate. Add 0.1 kg (0.25 lbs) for Quartz option.