

Code•Master™ 2 HID Factory Sealed Floodlights

Marine (Outside Type). Explosionproof

Integrally Ballasted. 150 W, 250 W, 400 W HPS; 175 W, 250 W, 400 W PSMH; 175 W, 250 W, 400 W MH. Mogul Base.

NEC:

Class 1, Division 1 and 2, Groups C, D
Marine Type Electric Fixtures
Outside Type (Salt Water)

CEC:

Class I, Division 1 and 2, Groups B, C, D
Class II, Division 1, Groups E, F, G
Class II, Division 2, Groups F, G
Class III
CSA 4X

Applications

- UL Listed for Marine Type Electric Fixtures Outside Type (Salt Water).
- Ideal in Class I, Division 1 and 2 installations in refineries, in pipeline transportation facilities, at drilling rigs and in production facilities on land and marine platforms.
- Class I, Division 1 areas include:
 - (1) enclosed derricks, mud tanks, desander-desilter, gas-operated control devices, oil-gas separation vessels, shale shakers and flowing or beam wells
 - (2) flowing or beam wells in open areas with cellar or below grade sump
 - (3) on refinery docks where tankers are loaded with hoses or loading arms
 - (4) in compressor buildings (open or enclosed) where methane gas is present
- Virtually all enclosed areas at drilling operations or refineries where ventilation is inadequate, or where a cellar or below grade sump exists, are Class I, Division 1.

Features

- Choice of mountings: (1) crossarm with degree indicator; (2) junction box for horizontal or vertical mount; and (3) swivel for pole mount (screws onto standard 2" pipe threads).
- Fixtures operate safely in high ambient temperatures. For example, in Class I areas the 150 W HPS unit operateSee page 1290 for classified area suitability.
- Arrangement of heat-producing components results in more efficient heat dissipation for cooler fixture operation.
- All threaded joints are flame-tight.
- Five threads are always fully engaged in an explosionproof manner.
- Factory sealed. External seals not required.
- Strategic location of lamp socket, in combination with the interior prism design of the glass globe, provides optimum light distribution and control.
- Heat- and impact-resistant globes have smooth dust-resistant exterior.
- Superior corrosion resistance, with epoxy powder coat finish.
- Ballasts operate at low temperatures – PSMH: -29 °C (-20 °F); HPS: -40 °C (-40 °F).

Standard Materials

- Ballast housing, guard and junction box, and pole mounts: copperfree (4/10 of 1% max.) aluminum
- Crossarm mount: malleable iron
- Trunnion: steel.
- High bay reflector: aluminum
- Standard dome, deep dome and 30° angle reflectors: fiberglass reinforced polyester
- Socket: porcelain
- Screw shell: nickel-plated phosphor bronze

Standard Finishes

- Ballast housing, guard, trunnion and mounting accessories: epoxy-clad finish. Powder coat baked finish, electrostatically applied for complete, uniform corrosion protection



Shown with Optional High Bay Reflector

Effective Protected area: 1.8 Square Feet

Options

- Fuses for field installation are ordered by catalog number from the fuse kit table
- Quartz Auxiliary Emergency Lamp for PSMH and HPS fixtures. Relay switch installed fixture. Add suffix **-E** to fixture catalog number.
- Hot Restrike Option available for 150 W HPS. Add suffix **-R**.
- Smart Starter. Add suffix **-S**

NEC/CEC Certifications and Compliances

- UL Standard: UL 1598, UL 844
- UL Listed: E10794
- CSA Standard: C22.2 No. 250, C22.2 No. 137
- CSA Certified: 025428

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Classified Area Suitability — Suitability includes use of reflector

Lamp Type	Lamp Watts	Supply Wire °C (°F)	Ambient Temp °C (°F)	Class I, Division 1 and 2 With Globe or with Globe and Reflector UL/NEC/CEC Temp. Ident. No.			Class II, Division 1 and 2 With Globe or with Globe and Reflector CEC Temp. Ident. No.	
				Nameplate Marking	NEC Groups	CEC Groups	Nameplate Marking	CEC Groups
High Pressure Sodium	150	50 (122)	40 (104)	T5	C, D	B, C, D	T3A	E, F
	150	75 (167)	55 (131)	—	C, D	B, C, D	T3	—
	250	75 (167)	40 (104)	T4	C, D	B, C, D	—	—
	250	75 (167)	55 (131)	—	C, D	B, C, D	—	—
	400	85 (185)	40 (104)	T3A	C, D	B, C, D	—	—
Pulse Start Metal Halide	175	75 (167)	40 (104)	T3B	C, D	B, C, D	T3C	E, F, G
	250	75 (167)	40 (104)	T3B	C, D	B, C, D	T3A	E, F
	400	75 (167)	40 (104)	T3	C, D	B, C, D	—	—
Metal Halide ①	175	75 (167)	40 (104)	T4	—	B, C, D	T3C	E, F, G
	250	75 (167)	40 (104)	T4	—	B, C, D	T3A	E, F
	400	75 (167)	40 (104)	T3C	—	B, C, D	—	—

① Mercury vapor and metal halide luminaires are not available for purchase within the United States. Please check with your countries governing legislation regarding allowable lamp types before ordering.

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Marine Type Electric Fixtures
Outside Type (Salt Water)

	Lamp Watts	ANSI Lamp Type		Catalog Number ①③	
		HPS	PSMH	HPS	PSMH
Fixture Unit					
	Furnished with Trunnion 3/4" hub. (3/4 – 14 NPT)				
	150	S55	M102	CFL150	—
	175	—	M137/M152	—	CFP175
	250	S50	M138/M153	CFL250	CFP250
	400	S51	M135/M155	CFL400	CFP400
Fixture Unit with Junction Box for Horizontal or Vertical Mounting ②					
	3/4" fixture hub and two conduit openings (3/4 – 14 NPT). 30" Flexible Coupling connects to 3/4" fixture hub and to 1/2" junction box opening. Furnished with one 3/4" Close-up Plug. Has Locking Screw for horizontal adjustment.				
	150	S55	M102	CFL150JB	—
	175	—	M137/M152	—	CFP175JB
	250	S50	M138/M153	CFL250JB	CFP250JB
	400	S51	M135/M155	CFL400JB	CFP400JB
Fixture Unit with Pole-Top Mount (on 2" Threaded Pipe) ②					
	2" tapered threads (2 – 11-1/2 NPT). Locking Screw for horizontal adjustment. 30" Flexible Coupling connects to 3/4" fixture hub (3/4 – 14 NPT) and to 1/2" pole-top opening (1/2-14 NPT).				
	150	S55	M102	CFL150SF	—
	175	—	M137/M152	—	CFP175SF
	250	S50	M138/M153	CFL250SF	CFP250SF
	400	S51	M135/M155	CFL400SF	CFP400SF
Fixture Unit with Crossarm Mounting ②					
	For mounting to flat surface. 180° horizontal adjustment with degree indicator. 30" Flexible Coupling connects to 3/4" fixture hub (3/4 – 14 NPT) and to any 1/2" opening (1/2 – 14 NPT).				
	150	S55	M102	CFL150CA	—
	175	—	M137/M152	—	CFP175CA
	250	S50	M138/M153	CFL250CA	CFP250CA
	400	S51	M135/M155	CFL400CA	CFP400CA

① To order fixture with guard, add suffix **-G** before voltage suffix.

② Fixtures furnished with trunnion and bolts, flexible coupling and fittings, and mounting accessory. The trunnion provides vertical adjustment and the mounting accessory provides horizontal adjustment.

③ Add voltage suffix to end of the part number. See chart voltage suffix availability by fixture type.

Lamp Type	Lamp Watts	Voltage Suffixes												
		MT	5MT	480	226	236	TT	CN	GP	XC	XQ	XK	XR	AM
HPS	150	X		X	X	X	X	X	X	—	—	—	—	—
	250	X	X	X	—	X	—	—	—	—	X	—	—	—
	400	X	X	X	—	—	X	X	—	X	X	X	X	X
PSMH	175	X	—	X	—	—	—	—	—	—	—	—	—	X
	250	X	X	X	—	—	X	—	—	—	X	—	—	—
	400	X	X	X	—	—	X	—	—	—	X	—	—	—

Voltages:

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

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

480 - 480 V, 60 HZ

226 - 220 V 60 HZ

236 - 230V 60 HZ

TT - 120/277/347 V 60 HZ

CN - 240/480 V 60 HZ

GP - 120/220 V 50 HZ

XC - 230 V 50 HZ

XQ - 120/230 V 50 HZ

XK - 220/240 V 50 HZ

XR - 380/415 V 50 HZ

AM - 127/220 V 60 HZ

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Class II, Division 2, Groups F, G

Class III

CSA 4X

APPLETON™

HID/FLOODLIGHT: NEC/CEC EXPLOSIONPROOF

	Lamp Watts	ANSI Lamp Type			Catalog Number ① ③		
	HPS	PSMH	MH	HPS	PSMH	MH	
Fixture Unit							
	Furnished with Trunnion 3/4" hub. (3/4 – 14 NPT)						
	150	S55	M102	—	CFL150	—	—
	175	—	M137/M152	M57/H39	—	CFP175	CFH175
	250	S50	M138/M153	M58/H37	CFL250	CFP250	CFH250
	400	S51	M135/M155	M59/H33	CFL400	CFP400	CFH400

Fixture Unit with Junction Box for Horizontal or Vertical Mounting ②



3/4" fixture hub and two conduit openings (3/4 – 14 NPT). 30" Flexible Coupling connects to 3/4" fixture hub and to 1/2" junction box opening. Furnished with one 3/4" Close-up Plug. Has Locking Screw for horizontal adjustment.

150	S55	M102	—	CFL150JB	—	—
175	—	M137/M152	M57/H39	—	CFP175JB	CFH175JB
250	S50	M138/M153	M58/H37	CFL250JB	CFP250JB	CFH250JB
400	S51	M135/M155	M59/H33	CFL400JB	CFP400JB	CFH400JB

Fixture Unit with Pole-Top Mount (on 2" Threaded Pipe) ②



2" tapered threads (2 – 11-1/2 NPT). Locking Screw for horizontal adjustment. 30" Flexible Coupling connects to 3/4" fixture hub (3/4 – 14 NPT) and to 1/2" pole-top opening (1/2-14 NPT).

150	S55	M102	—	CFL150SF	—	—
175	—	M137/M152	M57/H39	—	CFP175SF	CFH175SF
250	S50	M138/M153	M58/H37	CFL250SF	CFP250SF	CFH250SF
400	S51	M135/M155	M59/H33	CFL400SF	CFP400SF	CFH400SF

Fixture Unit with Crossarm Mounting ②



For mounting to flat surface. 180° horizontal adjustment with degree indicator. 30" Flexible Coupling connects to 3/4" fixture hub (3/4 – 14 NPT) and to any 1/2" opening (1/2 – 14 NPT).

150	S55	M102	—	CFL150CA	—	—
175	—	M137/M152	M57/H39	—	CFP175CA	CFH175CA
250	S50	M138/M153	M58/H37	CFL250CA	CFP250CA	CFH250CA
400	S51	M135/M155	M59/H33	CFL400CA	CFP400CA	CFH400CA

① To order fixture with guard, add suffix **-G** before voltage suffix.

② Fixtures furnished with trunnion and bolts, flexible coupling and fittings, and mounting accessory. The trunnion provides vertical adjustment and the mounting accessory provides horizontal adjustment.

③ Add voltage suffix to end of the part number. See chart voltage suffix availability by fixture type.

Lamp Type	Lamp Watts	MT	TT	C2	Voltage Suffixes			
					C3	C6	C7	XP
HPS	150	X	X	X	X	X	X	X
	250	X	X	X	X	X	X	X
	400	X	X	X	X	X	X	X
MH	175	X	X	X	X	X	X	X
	250	X	X	X	X	X	X	X
	400	X	X	X	X	X	X	X
PSMH	175	X	X	—	—	—	—	—
	250	X	X	—	—	—	—	—
	400	X	X	—	—	—	—	—

Voltages:

MT - 120-208 V 60 HZ

TT - 120/277/347 V 60 HZ

C2 - 208V 60 HZ

C3 - 240 V 60 HZ

C6 - 480 V 60 HZ

C7 - 600 V 60 HZ

XP - 120, 220-240 V 50 HZ

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Description		Catalog Number
Junction Box for Horizontal or Vertical Mounting 	Box has 1/2" opening for threading to Flexible Coupling, and two 3/4" conduit openings (3/4 – 14NPT) and is furnished with one 3/4" close-up plug. Locking screw for horizontal adjustment. Trunnion bolts furnished. Aluminum, gray epoxy finish.	AF-JB
Pole-Top Mount (on 2" Threaded Pipe) 	Threads onto 2" pipe with tapered threads (2-11 – 1/2 NPT). Includes floodlight trunnion bolts. Locking screw for horizontal floodlight adjustment. Aluminum, gray epoxy finish.	AF-SF
Crossarm Mounting Bracket 	Has 180° horizontal adjustment – degree-marked. Facilitates mounting floodlight to crossarm or other flat surface, or to G-AM-8-WB Pole/Wall Mounting Bracket (see photo below). Includes floodlight trunnion bolts. Malleable iron, plated, chromate sealed, architectural bronze EPOXY finish.	G-AM-8-CA
Polyester Reflectors – 150 W through 400 W 	Standard Dome Deep Dome 30° Angle	CMR-4ST CMR-4DD CMR-4AN
Aluminum High Bay Reflectors – 150 W through 400 W 		CMR-4HB
Flexible Coupling – 30" Long 	Connects to 3/4" Fixture Unit hub (3/4 – 14 NPT) and to 1/2" Junction Box or Pole-Top Accessory opening (1/2 – 14 NPT).	AF-EXL
Quartz Emergency Lamp for Pulse Start Metal Halide and High Pressure Sodium Fixtures Fixtures 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, independent of the lighting fixture voltage.		Add Suffix-E
HPS Smart Hot Restrike Smart Hot Restrike will immediately restrike an HPS lamp when power is restored after a momentary power interruption. The smart function removes the hot restrike ignitor from the circuit if the lamp burns out or is removed from the socket. Eliminates starter failures caused by prolonged operation with cycling or failing lamps and simplifies finding their location, reducing maintenance and repair costs.		Add Suffix -SR
Optional for 150 W fixtures (HPS only) HPS Hot Restrike Restrikes HPS lamp immediately when power is restored after a momentary power interruption.		Add Suffix -R
Optional for 150 W fixtures (HPS only) HPS Smart Starter Smart Starter for HPS and PSMH fixtures. 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.		Add Suffix -S
	Optional for all fixture watts G-AM-8-CA Crossarm Mounting Bracket Shown with G-AM-8-WB Pipe/Wall Mounting Bracket. The G-AM-8-WB bracket is not furnished with fixtures.	

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Lamp		High Pressure Sodium ①		Ballast Amps Pulse Start Metal Halide Super CWA		Metal Halide CWA		Fuse Quantity Required	Fuse Kit Catalog Number		
		Start	Operating	Start	Operating	Start	Operating		HPS	PSMH	MH ②
150	120	2.00	1.70	—	—	—	—	1	CF-10	—	—
	208	1.15	0.95	—	—	—	—	2	CF-5	—	—
	240	1.00	0.85	—	—	—	—	2	CF-5	—	—
	277	0.88	0.72	—	—	—	—	1	CF-5	—	—
	347	0.52	0.56	—	—	—	—	1	CF-5	—	—
	480	0.50	0.47	—	—	—	—	2	CF-3	—	—
175	120	—	—	0.80	1.80	1.30	1.80	1	—	CF-5	CF-5
	208	—	—	0.50	1.00	0.75	1.10	2	—	CF-3	CF-3
	240	—	—	0.40	0.90	0.65	0.90	2	—	CF-3	CF-3
	277	—	—	0.40	0.80	0.55	0.80	1	—	CF-2	CF-2
	347	—	—	0.25	0.65	0.50	0.65	1	—	CF-2	CF-2
	480	—	—	0.15	0.45	—	—	2	—	CF-3	—
250	120	2.00	2.80	2.00	2.30	1.20	2.60	1	CF-8	CF-10	CF-8
	208	1.20	1.50	1.10	1.40	0.65	1.50	2	CF-5	CF-6	CF-5
	240	1.00	1.30	1.00	1.20	0.60	1.30	2	CF-5	CF-6	CF-5
	277	0.85	1.10	0.80	1.00	0.50	1.12	1	CF-5	CF-5	CF-3
	347	0.60	0.93	0.62	0.90	0.80	0.90	1	CF-5	CF-3	CF-3
	480	0.40	0.65	0.30	0.60	—	—	2	CF-2	CF-3	—
400	120	3.30	3.80	3.10	3.70	3.25	4.00	1	CF-15	CF-12	CF-10
	208	1.80	2.20	1.70	2.10	1.90	2.30	2	CF-8	CF-6	CF-8
	240	1.60	1.90	1.50	1.90	1.65	2.00	2	CF-8	CF-6	CF-5
	277	1.40	1.70	1.30	1.60	1.40	1.75	1	CF-5	CF-5	CF-5
	347	1.00	1.32	1.10	1.35	1.20	1.40	1	CF-5	CF-5	CF-5
	480	0.80	1.00	0.80	0.95	—	—	2	CF-5	CF-3	—

Fuse Kit includes fuse, fuse holder and necessary hardware for field installation. Mounts easily in ballast body with one screw. Order one fuse for 120 and 277 V, and 2 fuses for 208, 240 and 480 V. **CF-2** = 2 amp; **CF-3** = 3 amp; **CF-5** = 5 amp; **CF-6** = 6 amp; **CF-8** = 8 amp; **CF-10** = 10 amp; **CF-12** = 12 amp

① 50 through 150 W HPS have H.P.F. High Reactance ballasts; 250 W and 400 W HPS have CWA ballasts.

② Mercury vapor and metal halide luminaires are not available for purchase within the United States. Please check with your countries governing legislation regarding allowable lamp types before ordering.

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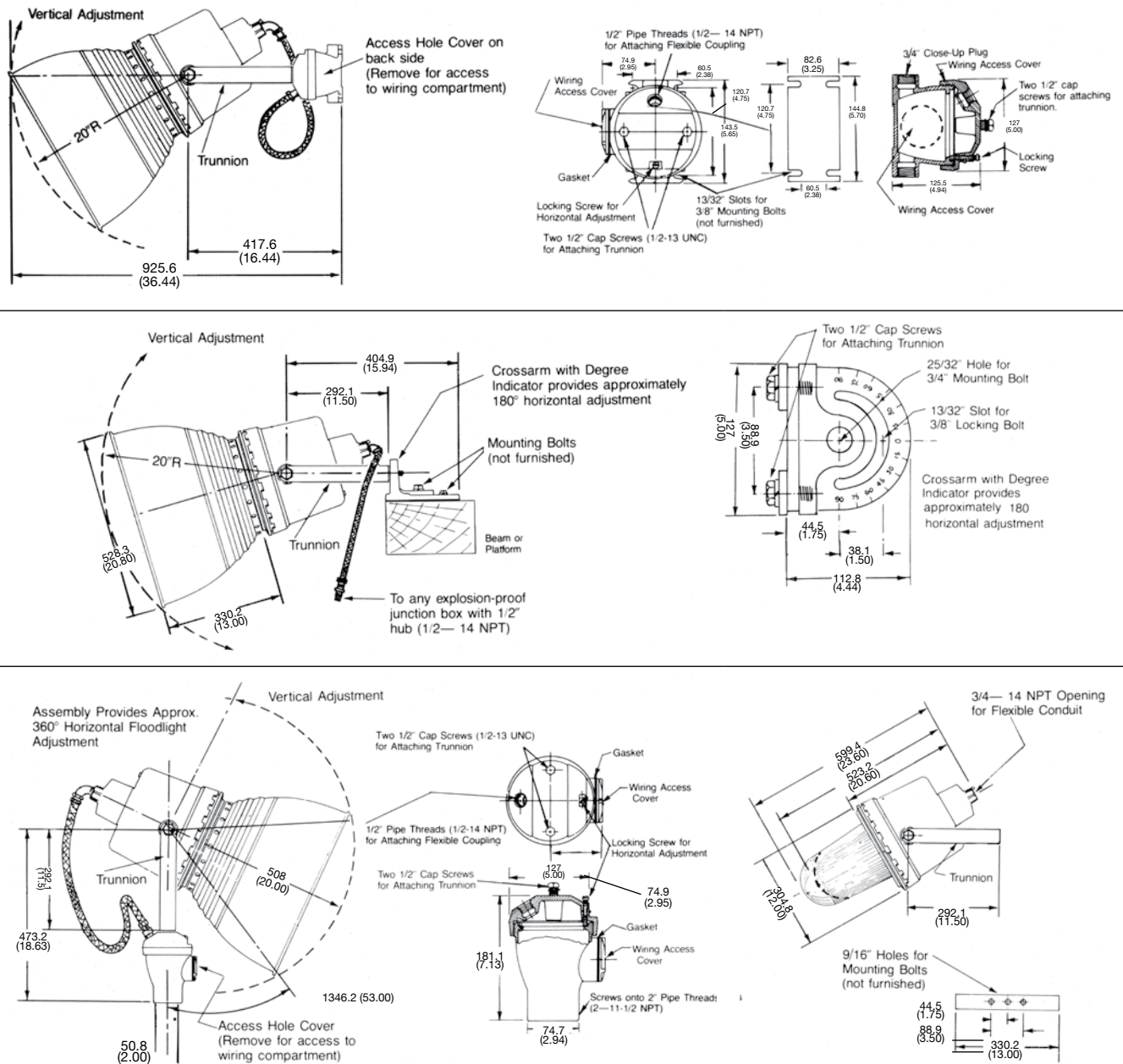
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Class III
CSA 4X

Dimensions in Millimeters (Inches)



Weights kg (lb)

150 W	175 W	250 W	320 W	350 W	400 W
21 (46.30)	21 (46.30)	32 (70.55)	32 (70.55)	32 (70.55)	32 (70.55)

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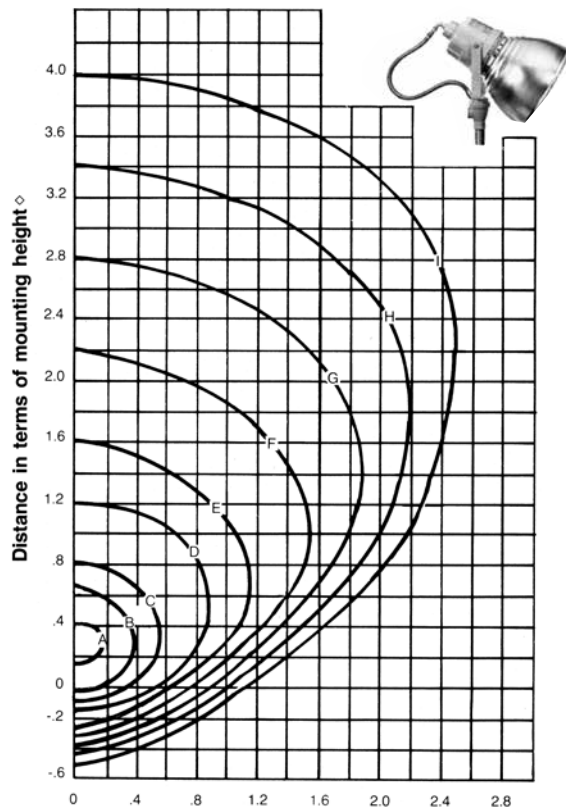
Typical Footcandle Values for Iso-Footcandle Curves. Data Based on 400 W HPS (50,000 Lumens) Clear Mogul Base Lamps.

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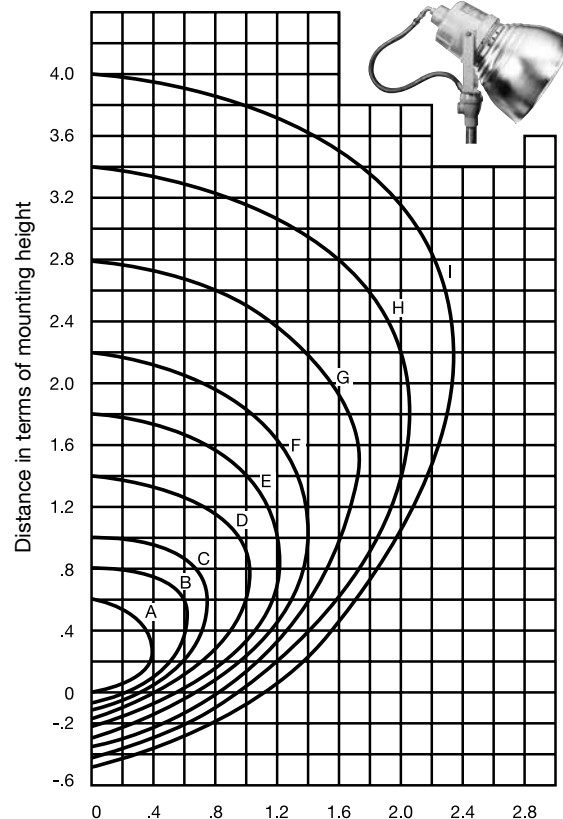
Photometric Data

400 W HPS Floodlight at 45° Angle with High Bay Reflector ①

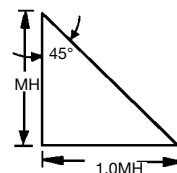
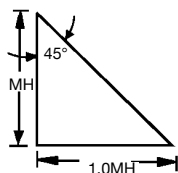


Mounting Height (feet)	FOOTCANDLE VALUES FOR ISO-FOOTCANDLE CURVES								
	A	B	C	D	E	F	G	H	I
15	52.52	43.34	31.00	17.05	10.23	4.77	2.43	1.36	0.84
20	29.54	24.38	17.44	9.59	5.75	2.68	1.37	0.77	0.47
25	18.91	15.60	11.16	6.14	3.68	1.72	0.87	0.49	0.30
30	13.13	10.84	7.75	4.26	2.56	1.19	0.61	0.34	0.31
35	9.65	7.96	5.69	3.13	1.88	0.88	0.45	0.25	0.15
40	7.39	6.10	4.36	2.40	1.44	0.67	0.34	0.19	0.12

400W MH Floodlight at 45° Angle with High Bay Reflector



Mounting Height (feet)	FOOTCANDLE VALUES FOR ISO-FOOTCANDLE CURVES								
	A	B	C	D	E	F	G	H	I
15	33.97	22.10	16.12	9.69	6.40	4.12	2.13	1.13	.67
20	19.11	12.43	9.07	5.45	3.60	2.31	1.20	.64	.38
25	12.23	7.96	5.80	3.49	2.30	1.48	.77	.41	.24
30	8.49	5.52	4.03	2.42	1.60	1.03	.53	.28	.17
35	6.24	4.06	2.96	1.78	1.18	.76	.39	.21	.12
40	4.78	3.11	2.27	1.36	.90	.58	.30	.16	.10



① For 250 Watt HPS Clear, 30,000 Lumen lamp, multiply all FTC values by 0.60.