Code•Master™ 2 HID Factory Sealed Luminaires

Explosionproof, Dust-Ignitionproof

Integrally Ballasted. 50 W, 70 W, 100 W, 150 W, 250 W, 400 W HPS; 175 W, 250 W, 320 W, 350 W, 400 W PSMH; 175 W, 250 W, 400 W MH . Mogul Base. For use with threaded metal conduit.

NEC:
- ***Class I, Division 1 and 2, Groups C, D***
- ***Class II, Division 1 and 2, Groups E, F, G***
- ***Class III***
- ***Marine Type Electric Fixtures***
- ***Outside Type (Salt Water)***

CEC:
- ***Class I, Division 1 and 2, Groups B, C, D***
- ***Class I, Zone 1 and 2; IIB, IIA***
- ***Class II, Division 1, Groups E, F, G***
- ***Class II, Division 2, Groups F, G***
- ***Class III***

CEC:
- ***CSA Type 4X***
- ***Exd IIB, Zone 1***

Applications

- Ideal for use in chemical and petrochemical plants, such as manufacturers of plastics, paints and thinners; in refineries; and in other process areas where ignitable vapors, dust, moisture and corrosive elements may be present.
- Suitable for use in wet locations.

Features

- Fixtures operate safely in high ambient temperatures. For example, in Class I areas the 150 W HPS fixture operates at a maximum temperature of +120 °C (+248 °F) in a +65 °C (+149 °F) ambient [+100 °C (+212 °F) temperature in a +40 °C (+104 °F) ambient].
- Arrangement of heat-producing components results in more efficient heat dissipation for cooler fixture operation.
- "Wireless" design. Threading of fixture unit onto mounting hood makes electrical connection. Only wiring required is attaching two wires to connection block in mounting hood.
- Connection block is easily wired: (a) loosen two screws, (b) make wire connections and (c) re-position connection block.
- Safe, easy servicing without disconnecting any wiring. "Wireless" fixture unit easily threads off mounting hood for convenient servicing or for immediate replacement with a "stand-by" unit.
- Acme double-lead threads speed installation and fixture removal from mounting hood — only half as many turns are required as for single-lead threads. The threads do not stick or gall, eliminating the troublesome problems often encountered with single lead threads during fixture unit removal.
- All threaded joints are flame-tight.
- Integrally ballasted HID lighting fixtures; separate ballasts not required.
- 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.
- Superior corrosion resistance, with epoxy powder coat finish.
- Porcelain socket with nickel-plated phosphor bronze screw shell. Assures long trouble-free operation in high ambient areas.
- Choice of mountings: pendant, ceiling, bracket and stanchion.
- Fiberglass-reinforced polyester reflectors, in standard dome, deep dome or 30° angle, are ideal in installations where luminaire is subject to exceptionally severe corrosive atmospheres. The high bay aluminum reflector is indicated in installations where mounting height from work plane ranges from 20 feet/6 meters and higher.
- Optional guards protect globes from damage. Secured to fixture with three screws.
- Light sources: high pressure sodium, pulse start metal halide or metal halide. HPS is excellent where long lamp life is required. HPS provides high lumens per watt and is less expensive to operate. PSMH/MH is desirable where colors of illuminated areas must be close to natural. PSMH/MH provides better color rendition, increased lumen output, longer lamp life, and faster restrike after momentary power interruption.
- A wide range of ballasts and voltages are available for both domestic and export applications.
- Ballasts operate at low temperatures – PSMH: -29 °C (-20 °F); HPS: -40 °C (-40 °F); MH: -35 °C (-31 °F).

- 50 W through 150 W high pressure sodium ballasts are high reactance, high power factor type.

Standard Materials

- Ballast bodies and guards: copperfree (4/10 of 1% max.) aluminum
- Pendant mounting hoods: diecast copperfree (4/10 of 1% max.) aluminum
- Ceiling, bracket and stanchion mounting hoods: sand cast copperfree (4/10 of 1% max.) aluminum
- Reflectors: aluminum or fiberglass reinforced polyester

Standard Finishes

- Ballast bodies, guards and mounting hoods: epoxy powder coat finish, electrostatically applied for complete, uniform corrosion protection

Options

- Fuses for field installation can be ordered by catalog number from fuse kit table.
- Quartz Auxiliary Emergency Lamp for PSMH/MH and HPS fixtures. Relay switch installed in fixture. Add suffix **-E** to fixture catalog number. ①
- Hot Restrike Option available for 50 W through 150 W HPS only. Add suffix **–R**.
- Smart Starter Option available for 50 W through 400 W HPS and PSMH/MH. Add suffix **–S**.

NEC/CEC Certifications and Compliances

- UL Standard: UL 1598, UL 844
- UL Listed: E10444
- CSA Standard: C22.2 No. 250, C22.2 No. 137
- CSA Certified: 025428

① *Quartz Auxiliary Emergency Lamps for PSMH/MH and HPS fixtures are for ordinary locations only.*

Code•Master™ 2 HID Factory Sealed Luminaires

Explosionproof, Dust-Ignitionproof. Groups C and D Applications

Integrally Ballasted. 50 W, 70 W, 100 W, 150 W, 250 W, 400 W HPS; 175 W, 250 W, 320 W, 350 W, 400 W PSMH.
Mogul Base. For use with threaded metal conduit.

NEC:
Class I, Division 1 and 2, Groups C, D◆
Class II, Division 1 and 2, Groups E, F, G
Class III
Marine Type Electric Fixtures
Outside Type (Salt Water)

Lamp Watts	ANSI Lamp Type HPS	ANSI Lamp Type PSMH	Hub Size (Inches)	Catalog Number ②③ HPS	Catalog Number ②③ PSMH
Pendant — One Hub, Rigid or Flexible Mounting					
50	S68	—	3/4	**CLP5075** ①	—
			1	**CLP5010** ①	—
70	S62	—	3/4	**CLP7075**	—
			1	**CLP7010**	—
100	S54	—	3/4	**CLP1075**	—
			1	**CLP1010**	—
150	S55	—	3/4	**CLP1575**	—
			1	**CLP1510**	—
175	—	M152	3/4	—	**CPP1775**
			1	—	**CPP1710**
250	S50	M153	3/4	**CLP2575**	**CPP2575**
			1	**CLP2510**	**CPP2510**
320	—	M154	3/4	—	**CPP3275**
			1	—	**CPP3210**
350	—	M131	3/4	—	**CPP3575**
			1	—	**CPP3510**
400	S51	M155	3/4	**CLP4075**	**CPP4075**
			1	**CLP4010**	**CPP4010**
Ceiling — Four Hubs, Three Close-Up Plugs					
50	S68	—	3/4	**CLC5075** ①	—
			1	**CLC5010** ①	—
70	S62	—	3/4	**CLC7075**	—
			1	**CLC7010**	—
100	S54	—	3/4	**CLC1075**	—
			1	**CLC1010**	—
150	S55	—	3/4	**CLC1575**	—
			1	**CLC1510**	—
175	—	M152	3/4	—	**CPC1775**
			1	—	**CPC1710**
250	S50	M153	3/4	**CLC2575**	**CPC2575**
			1	**CLC2510**	**CPC2510**
320	—	M154	3/4	—	**CPC3275**
			1	—	**CPC3210**
350	—	M131	3/4	—	**CPC3575**
			1	—	**CPC3510**
400	S51	M155	3/4	**CLC4075**	**CPC4075**
			1	**CLC4010**	**CPC4010**

① *Add voltage **-MT** for 120/208/240/277 V. For 480 V, contact your sales representative.*
② *Add voltage suffix **-MT** for -120/208/240/277 V; or **-480** for 480 V.*
③ *To order fixture with guard, add suffix -**G** (before adding voltage suffix).*

◆ *Shaded items are suitable for Class I, Group D ONLY.*

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Mogul Base. For use with threaded metal conduit.

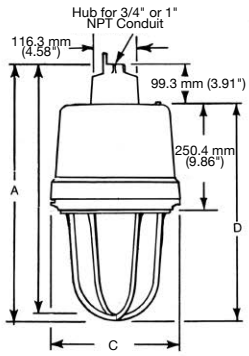
NEC:
- ***Class I, Division 1 and 2, Groups C, D***
- ***Class II, Division 1 and 2, Groups E, F, G***
- ***Class III***
- ***Marine Type Electric Fixtures***
- ***Outside Type (Salt Water)***

CEC:
- ***Class I, Division 1 and 2, Groups B, C, D***
- ***Class I, Zone 1 and 2; IIB, IIA***
- ***Class II, Division 1, Groups E, F, G***
- ***Class II, Division 2, Groups F, G***
- ***Class III***

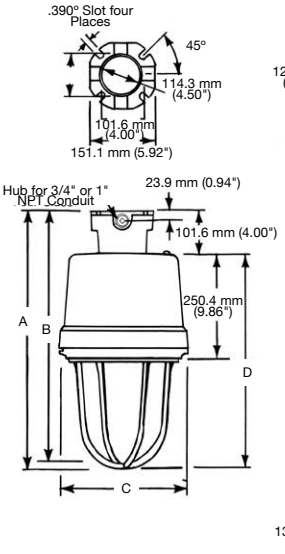
CEC:
- ***CSA Type 4X***
- ***Exd IIB, Zone 1***

Dimensions in Millimeters (Inches)

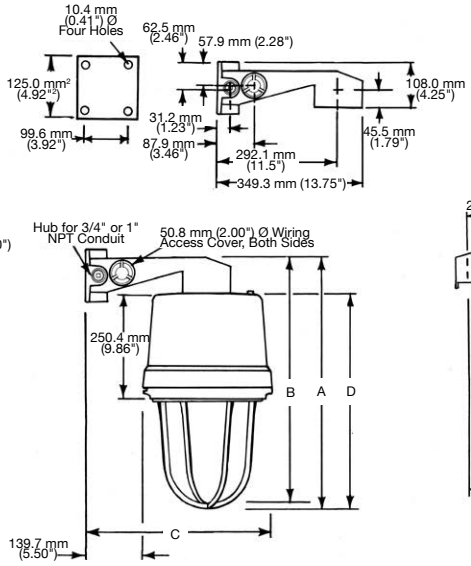
Pendant



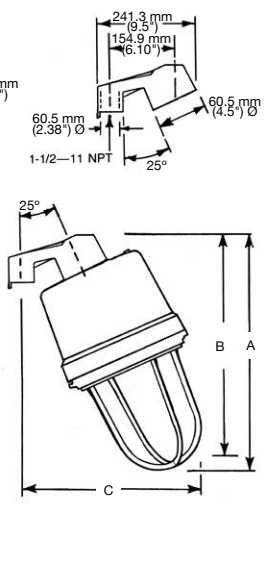
Ceiling



Bracket



25° Stanchion



	Pendant				Ceiling				Bracket				25° Stanchion			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	
50-250 W ①	546.1 (21.50)	520.7 (20.50)	304.8 (12.00)	447.3 (17.61)	548.9 (21.61)	523.5 (20.61)	304.8 (12.00)	447.3 (17.61)	555.2 (21.86)	529.8 (20.86)	444.5 (17.50)	447.3 (17.61)	495.3 (19.50)	475.0 (18.70)	406.4 (16.00)	
250-400 W ②	522.3 (24.50)	596.9 (23.50)	304.8 (12.00)	507.1 (20.36)	618.7 (24.36)	507.1 (20.36)	304.8 (12.00)	507.1 (20.36)	625.1 (24.61)	599.7 (23.61)	444.5 (17.50)	507.1 (20.36)	563.9 (22.20)	538.5 (21.20)	444.5 (17.50)	

Fixture and Accessory Weights kg (lb)

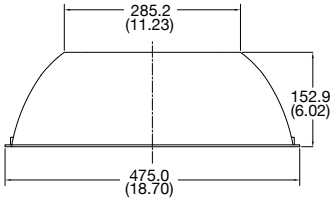
Fixture Size	Fixture Weight	Reflector Weight	Guard Weight
50 W through 175 W	14.5 (31.97)	1.4 (3.09)	0.5 (1.10)
250 W PSMH/MH	16.9 (37.26)	1.4 (3.09)	0.5 (1.10)
250 W HPS	18.1 (39.90)	1.4 (3.09)	0.9 (1.98)
320 W, 350 W and 400 W PSMH, 400 W MH	20.4 (44.97)	1.4 (3.09)	0.9 (1.98)

Mounting Hood Weights kgs (lbs)

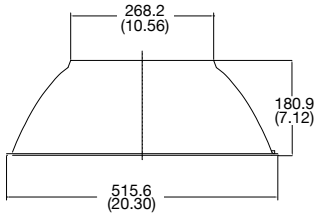
Pendant	Ceiling	Bracket	Stanchion
0.9 (2)	1.8 (4)	2.7 (6)	0.9 (2)

Reflector Dimensions in Millimeters (Inches)

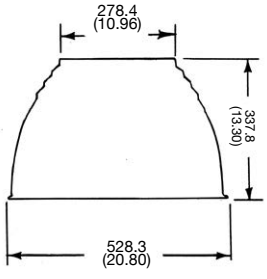
Standard



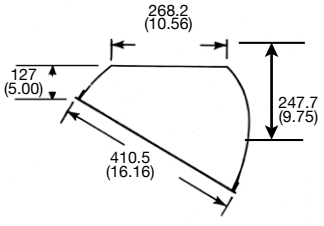
Deep Dome



30° Angle



High Bay



① 50, 70, 100 and 150 W HPS; 175 W PSMH; 175 and 250 W MH.
② 250 and 400 W HPS; 250, 320, 350, and 400 W PSMH; 400 W MH.

Code•Master™ 2 HID Factory Sealed Luminaires

Explosionproof, Dust-Ignitionproof

* Photometric data is based on a 100–watt clear HPS lamp (9,500 lumens). For candlepower values of fixtures with other lamps, use the following multipliers: 50 W HPS – 0.42 (4,000 lumens); 70 W HPS – 0.61 (6,300 lumens); and 150 W HPS – 1.68 (16,000 lumens).

NEC:
Class I, Division 1 and 2, Groups C, D
Class II, Division 1 and 2, Groups E, F, G
Class III
Marine Type Electric Fixtures
Outside Type (Salt Water)

CEC:
Class I, Division 1 and 2, Groups B, C, D
Class I, Zone 1 and 2; IIB, IIA
Class II, Division 1, Groups E, F, G
Class II, Division 2, Groups F, G
Class III

CEC:
CSA Type 4X
Exd IIB, Zone 1

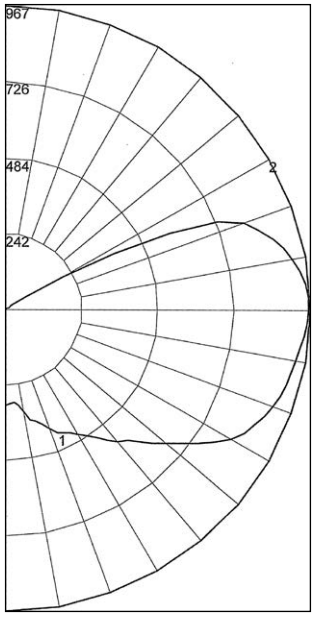
Photometric Data

Total Luminaire Efficiency = 76.4%

CIE Type – Semi–Direct

Plane	Spacing Criteria
0-180	2.66
90-270	2.66
Diagonal	2.84

Zone	Lumens
0-10	29.80
10-20	106.54
20-30	202.92
30-40	318.52
40-50	468.31
50-60	670.49
60-70	866.67
70-80	976.61
80-90	1038.41
90-100	1042.18
100-110	927.00
110-120	551.82
120-130	51.82
130-140	2.51
140-150	0.25
150-160	0.00
160-170	0.00
170-180	0.00



REPORT NUMBER: **CL10G**
Lamps: 100 W High Pressure Sodium with Globe only

Coefficients of Utilization – Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

% Ceiling	Rcc	80				70				50			30			10			0
% Walls	Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
	0	84	84	84	84	79	79	79	79	70	70	70	61	61	61	53	53	53	49
	1	72	66	61	56	66	61	57	52	53	49	46	45	42	40	38	36	34	30
	2	63	54	47	41	58	51	44	39	43	38	34	37	32	29	30	27	24	21
	3	56	46	38	32	52	43	36	30	36	31	26	31	26	22	25	22	18	15
	4	51	40	32	26	47	37	30	24	31	25	21	26	22	18	22	18	14	12
	5	46	35	27	21	42	32	25	20	28	22	17	23	18	14	19	15	12	9
	6	42	31	23	18	39	29	22	17	24	19	14	21	16	12	17	13	10	7
	7	39	28	20	15	36	26	19	14	22	16	12	18	14	10	15	11	8	6
	8	36	25	18	13	33	23	17	12	20	14	10	17	12	9	14	10	7	5
	9	33	23	16	11	31	21	15	11	18	13	9	15	11	8	13	9	6	4
	10	31	21	14	10	29	19	13	9	17	12	8	14	10	7	12	8	6	4

Zonal Lumen Summary

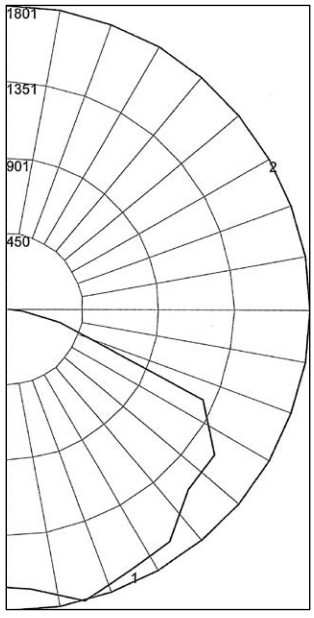
Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	339.26	3.6	4.7	90-120	2521.83	26.5	34.8
0-40	657.79	6.9	9.1	90-130	2572.83	27.1	35.5
0-60	1796.59	18.9	24.8	90-150	2575.59	27.1	35.5
0-90	4678.28	49.2	64.5	90-180	2575.59	27.1	35.5
				0-180	7253.87	76.4	100.0

Total Luminaire Efficiency = 71.3%

CIE Type – Direct

Plane	Spacing Criteria
0-180	1.54
90-270	1.54
Diagonal	1.66

Zone	Lumens
0-10	40.00
10-20	331.02
20-30	660.22
30-40	934.51
40-50	1131.33
50-60	1272.76
60-70	1322.68
70-80	826.95
80-90	254.44
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



REPORT NUMBER: **CL10ST**
Lamps: 100 W High Pressure Sodium with Standard Dome Reflector

Coefficients of Utilization – Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

% Ceiling	Rcc	80				70				50			30			10			0
% Walls	Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
	0	85	85	85	85	83	83	83	83	79	79	79	76	76	76	73	73	73	71
	1	76	71	68	64	74	70	66	63	67	64	61	64	61	59	61	59	57	56
	2	67	60	54	49	65	59	53	49	56	51	47	54	50	46	51	48	45	43
	3	60	51	44	39	58	50	44	38	48	42	38	46	41	37	44	40	36	34
	4	54	44	37	31	52	43	36	31	41	35	31	40	34	30	38	33	30	28
	5	49	39	31	26	48	38	31	26	36	30	25	35	29	25	33	29	25	23
	6	45	34	27	22	43	33	27	22	32	26	21	31	25	21	30	25	21	19
	7	41	30	23	19	40	30	23	18	29	23	18	28	22	18	27	22	18	16
	8	38	27	21	16	37	27	20	16	26	20	16	25	20	16	24	19	16	14
	9	35	25	18	14	34	24	18	14	24	18	14	23	18	14	22	17	14	12
	10	33	23	17	12	32	22	16	12	22	16	12	21	16	12	20	15	12	11

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	1031.23	10.9	15.2	90-120	0.00	0.0	0.0
0-40	1965.74	20.7	29.0	90-130	0.00	0.0	0.0
0-60	4369.83	46.0	64.5	90-150	0.00	0.0	0.0
0-90	6773.90	71.3	100.0	90-180	0.00	0.0	0.0
				0-180	6773.90	71.3	100.0

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NEC:
Class I, Division 1 and 2, Groups C, D
Class II, Division 1 and 2, Groups E, F, G
Class III
Marine Type Electric Fixtures
Outside Type (Salt Water)

CEC:
Class I, Division 1 and 2, Groups B, C, D
Class I, Zone 1 and 2; IIB, IIA
Class II, Division 1, Groups E, F, G
Class II, Division 2, Groups F, G
Class III

CEC:
CSA Type 4X
Exd IIB, Zone 1

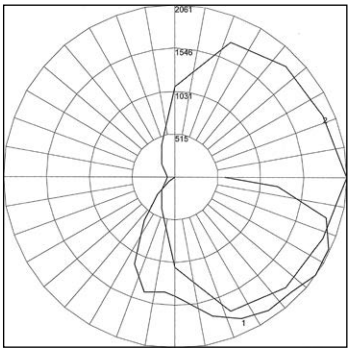
Photometric Data

Total Luminaire Efficiency = 61.9%

CIE Type – Direct

Plane	Spacing Criteria
0-180	1.96
90-270	1.62
Diagonal	1.50

Zone	Lumens
0-10	34.59
10-20	289.50
20-30	587.71
30-40	825.38
40-50	944.04
50-60	952.84
60-70	900.69
70-80	740.88
80-90	607.55
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



REPORT NUMBER: **CL10AN**
Lamps: 100 W High Pressure Sodium with 30° Angle Dome Reflector

Coefficients of Utilization – Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

% Ceiling	Rcc	80				70				50			30			10			0
% Walls	Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
	0	74	74	74	74	72	72	72	72	69	69	69	66	66	66	63	63	63	62
	1	64	60	56	53	62	59	55	52	56	53	50	53	51	49	51	49	47	46
	2	57	51	45	41	55	49	44	40	47	43	39	45	41	38	43	40	37	36
	3	51	43	37	32	50	42	37	32	40	35	31	38	34	31	37	33	30	28
	4	47	38	31	26	45	37	31	26	35	30	26	34	29	25	32	28	25	23
	5	42	33	27	22	41	32	26	22	31	26	21	30	25	21	28	24	21	19
	6	39	29	23	19	38	29	23	18	28	22	18	26	22	18	25	21	18	16
	7	36	26	20	16	35	26	20	16	25	20	16	24	19	16	23	19	15	14
	8	33	24	18	14	32	23	18	14	22	17	14	22	17	14	21	17	13	12
	9	31	22	16	12	30	21	16	12	20	15	12	20	15	12	19	15	12	11
	10	29	20	14	11	28	19	14	11	19	14	11	18	14	11	18	13	11	9

Zonal Lumen Summary

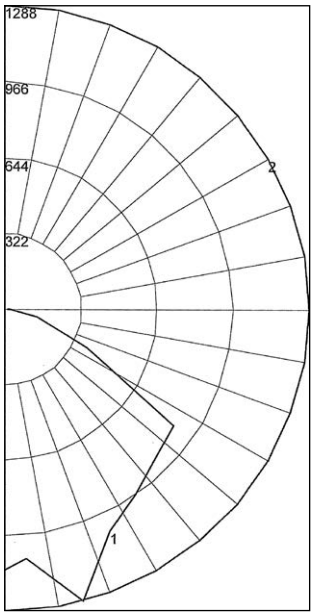
Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	911.80	9.6	15.5	90-120	0.0	0.0	0.0
0-40	1737.18	18.3	29.5	90-130	0.0	0.0	0.0
0-60	3634.06	38.3	61.8	90-150	0.0	0.0	0.0
0-90	5883.18	61.9	100.0	90-180	0.0	0.0	0.0
				0-180	5883.18	61.9	100.0

Total Luminaire Efficiency = 37.8%

CIE Type – Direct

Plane	Spacing Criteria
0-180	1.36
90-270	1.36
Diagonal	1.54

Zone	Lumens
0-10	26.07
10-20	224.04
20-30	437.71
30-40	551.18
40-50	656.83
50-60	743.35
60-70	592.81
70-80	265.53
80-90	94.52
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



REPORT NUMBER: **CL10DD**
Lamps: 100 W High Pressure Sodium with Deep Dome Reflector

Coefficients of Utilization – Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

% Ceiling	Rcc	80				70				50			30			10			0
% Walls	Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
	0	45	45	45	45	44	44	44	44	42	42	42	40	40	40	39	39	39	38
	1	41	39	37	35	40	38	36	35	36	35	34	35	34	33	33	32	32	31
	2	37	33	30	28	36	32	30	28	31	29	27	30	28	26	29	27	26	25
	3	33	29	25	22	32	28	25	22	27	24	22	26	23	21	25	23	21	20
	4	30	25	21	18	29	24	21	18	23	20	18	22	20	18	22	19	18	17
	5	27	22	18	15	26	21	18	15	21	17	15	20	17	15	19	17	15	14
	6	25	19	16	13	24	19	16	13	18	15	13	18	15	13	17	15	13	12
	7	23	17	14	11	22	17	14	11	16	13	11	16	13	11	15	13	11	10
	8	21	16	12	10	21	15	12	10	15	12	10	14	12	10	14	11	10	9
	9	20	14	11	9	19	14	11	9	13	11	9	13	10	8	13	10	8	8
	10	18	13	10	8	18	13	10	8	12	10	8	12	9	8	12	9	7	7

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	687.82	7.2	19.1	90-120	0.0	0.0	0.0
0-40	1239.00	13.0	34.5	90-130	0.0	0.0	0.0
0-60	2639.18	27.8	73.5	90-150	0.0	0.0	0.0
0-90	3592.04	37.8	100.0	90-180	0.0	0.0	0.0
				0-180	3592.04	37.8	100.0

Code•Master™ 2 HID Factory Sealed Luminaires

Explosionproof, Dust-Ignitionproof

* Photometric data is based on a 400–watt clear Pulse Start Metal Halide lamp (34,000 lumens). For candlepower values of fixtures with other lamps, use the following multipliers: 400 W HPS – 1.13 (50,000 lumens); and 250 W HPS – 0.68 (30,000 lumens).

NEC:
Class I, Division 1 and 2, Groups C, D
Class II, Division 1 and 2, Groups E, F, G
Class III
Marine Type Electric Fixtures
Outside Type (Salt Water)

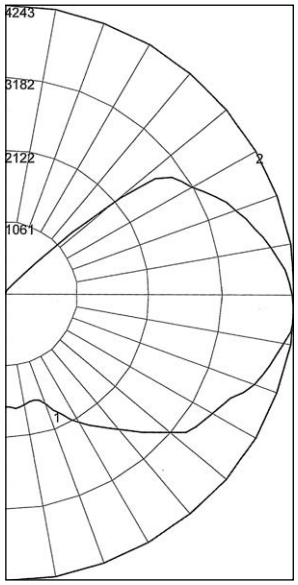
CEC:
Class I, Division 1 and 2, Groups B, C, D
Class I, Zone 1 and 2; IIB, IIA
Class II, Division 1, Groups E, F, G
Class II, Division 2, Groups F, G
Class III

CEC:
CSA Type 4X
Exd IIB, Zone 1

Photometric Data

Total Luminaire Efficiency = 81.9%

CIE Type – General Diffuse



Zone	Lumens
0-10	161.29
10-20	470.38
20-30	918.96
30-40	1511.24
40-50	2242.10
50-60	3052.29
60-70	3653.41
70-80	4255.87
80-90	4603.15
90-100	4476.83
100-110	4007.91
110-120	3380.83
120-130	2599.55
130-140	672.85
140-150	18.11
150-160	2.59
160-170	1.21
170-180	0.65

REPORT NUMBER: **CP40G**
Lamps: 400 W Pulse Start Metal Halide with Globe only

Coefficients of Utilization – Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

% Ceiling	Rcc	80				70				50			30			10			0
% Walls	Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
	0	89	89	89	89	83	83	83	83	72	72	72	61	61	61	52	52	52	47
	1	76	70	65	60	70	65	60	56	55	51	48	46	43	40	38	35	33	29
	2	67	59	51	45	62	54	48	42	45	40	36	37	33	30	30	27	24	20
	3	60	50	42	36	55	46	39	33	39	33	28	32	27	23	25	22	19	15
	4	55	43	35	29	50	40	32	27	33	27	23	27	22	19	22	18	15	12
	5	50	38	30	24	45	35	28	22	29	23	19	24	19	15	19	15	12	9
	6	45	34	26	20	41	31	24	18	26	20	16	21	16	13	17	13	10	8
	7	42	30	22	17	38	28	21	16	23	18	13	19	14	11	15	11	9	6
	8	39	27	20	15	35	25	18	14	21	15	12	17	13	9	14	10	7	5
	9	36	25	18	13	33	23	16	12	19	14	10	16	11	8	13	9	6	5
	10	33	22	16	11	31	21	15	10	18	12	9	15	10	7	12	8	6	4

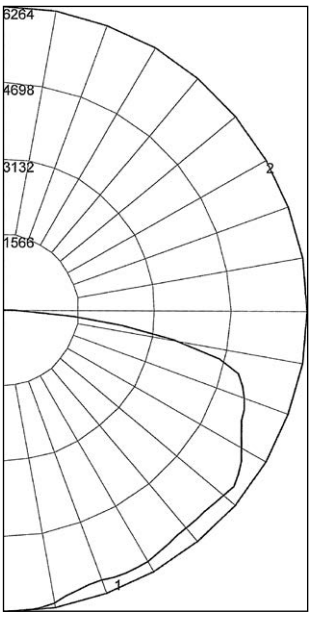
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	1550.63	3.5	4.3	90-120	11865.57	27.0	32.9
0-40	3061.87	7.0	8.5	90-130	14465.12	32.9	40.1
0-60	8356.25	19.0	23.2	90-150	15156.08	34.4	40.1
0-90	20868.68	47.4	57.9	90-180	15160.53	34.5	42.1
				0-180	36029.22	81.9	100.0

Total Luminaire Efficiency = 70.4%

CIE Type – Direct

Plane	Spacing Criteria
0-180	1.46
90-270	1.46
Diagonal	1.70



Zone	Lumens
0-10	595.04
10-20	1709.44
20-30	2776.90
30-40	3730.18
40-50	4573.20
50-60	5290.95
60-70	5418.07
70-80	5086.12
80-90	1757.09
90-100	33.71
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

REPORT NUMBER: **CP40ST**
Lamps: 400 W Pulse Start Metal Halide with Standard Dome Reflector

Coefficients of Utilization – Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

% Ceiling	Rcc	80				70				50			30			10			0
% Walls	Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
	0	84	84	84	84	82	82	82	82	78	78	78	75	75	75	72	72	72	70
	1	74	69	65	62	72	68	64	60	64	61	58	62	59	57	59	57	55	53
	2	65	58	52	47	63	57	51	46	54	49	45	51	47	44	49	46	43	41
	3	58	49	42	37	57	48	42	36	46	40	36	44	39	35	42	38	34	32
	4	53	43	35	30	51	42	35	30	40	34	29	38	33	29	36	32	28	26
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	7	41	30	23	18	39	29	23	18	28	22	18	27	22	18	26	21	18	16
	8	38	27	21	16	37	27	20	16	26	20	16	25	19	16	24	19	15	14
	9	35	25	18	14	34	24	18	14	23	18	14	23	18	14	22	17	14	12
	10	33	23	17	13	32	22	17	13	22	16	13	21	16	12	20	16	12	11

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	5081.38	11.5	16.4	90-120	33.71	0.1	0.1
0-40	8811.56	20.0	28.5	90-130	33.71	0.1	0.1
0-60	18675.71	42.4	60.3	90-150	33.71	0.1	0.1
0-90	30936.99	70.3	99.9	90-180	33.71	0.1	0.1
				0-180	30970.7	70.4	100.0

EMERSON

Code•Master™ 2 HID Factory Sealed Luminaires

Explosionproof, Dust-Ignitionproof

* Photometric data is based on a 400–watt clear Pulse Start Metal Halide lamp (34,000 lumens). For candlepower values of fixtures with other lamps, use the following multipliers: 400 W HPS – 1.13 (50,000 lumens); and 250 W HPS – 0.68 (30,000 lumens).

NEC:
Class I, Division 1 and 2, Groups C, D
Class II, Division 1 and 2, Groups E, F, G
Class III
Marine Type Electric Fixtures
Outside Type (Salt Water)

CEC:
Class I, Division 1 and 2, Groups B, C, D
Class I, Zone 1 and 2; IIB, IIA
Class II, Division 1, Groups E, F, G
Class II, Division 2, Groups F, G
Class III

CEC:
CSA Type 4X
Exd IIB, Zone 1

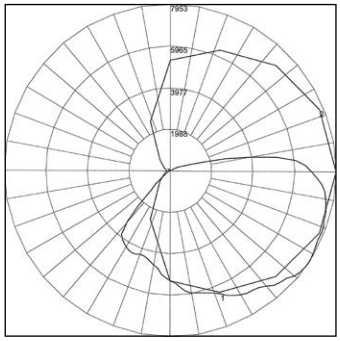
Photometric Data

Total Luminaire Efficiency = 62.5%

CIE Type – Direct

Plane	Spacing Criteria
0-180	2.02
90-270	1.48
Diagonal	1.64

Zone	Lumens
0-10	503.08
10-20	1461.14
20-30	2434.06
30-40	3353.43
40-50	3867.50
50-60	3954.40
60-70	3752.38
70-80	3368.71
80-90	2643.39
90-100	1531.50
100-110	421.63
110-120	86.74
120-130	65.68
130-140	20.81
140-150	11.94
150-160	7.93
160-170	4.46
170-180	1.47



REPORT NUMBER: **CP40AN**
Lamps: 400 W Pulse Start Metal Halide with 30° Angle Dome Reflector

Coefficients of Utilization – Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

% Ceiling	Rcc	80				70				50			30			10			0
% Walls	Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
	0	73	73	73	73	71	71	71	71	67	67	67	63	63	63	59	59	59	58
	1	64	60	56	53	62	58	55	52	54	52	49	51	49	47	48	46	44	42
	2	57	51	45	41	55	49	44	40	46	42	38	43	40	37	40	38	35	33
	3	51	44	38	33	49	42	37	32	39	35	31	37	33	30	35	31	26	27
	4	47	38	32	27	45	37	31	26	35	29	25	32	28	25	30	27	24	22
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	7	36	27	21	17	35	26	21	17	25	20	16	23	19	16	22	18	15	14
	8	34	24	19	15	32	24	18	15	22	18	14	21	17	14	20	16	13	12
	9	31	22	17	13	30	22	16	13	21	16	13	20	15	12	19	15	12	11
	10	29	20	15	12	28	20	15	12	19	14	11	18	14	11	17	13	11	10

Zonal Lumen Summary

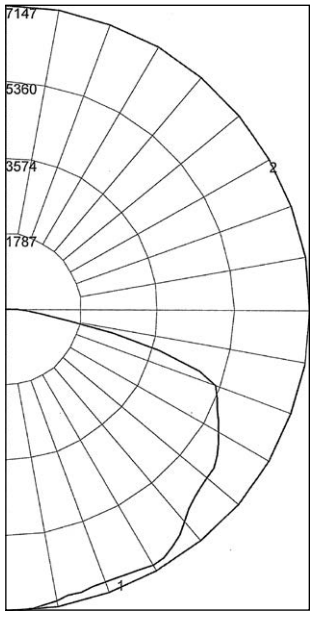
Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	4398.28	10.0	16.0	90-120	2039.87	4.6	7.4
0-40	7751.71	17.6	28.2	90-130	2105.55	4.8	7.7
0-60	15573.61	35.4	56.7	90-150	2138.30	4.9	7.7
0-90	25338.08	57.6	92.2	90-180	2152.16	4.9	7.8
				0-180	27490.24	62.5	100.0

Total Luminaire Efficiency = 69.1%

CIE Type – Direct

Plane	Spacing Criteria
0-180	1.48
90-270	1.48
Diagonal	1.62

Zone	Lumens
0-10	676.92
10-20	1962.51
20-30	3199.12
30-40	4281.42
40-50	4889.12
50-60	5408.09
60-70	5456.18
70-80	3822.90
80-90	693.25
90-100	20.14
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



REPORT NUMBER: **CP40DD**
Lamps: 400 W Pulse Start Metal Halide with Deep Dome Reflector

Coefficients of Utilization – Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

% Ceiling	Rcc	80				70				50			30			10			0
% Walls	Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
	0	82	82	82	82	80	80	80	80	77	77	77	73	73	73	70	70	70	69
	1	74	70	66	63	72	68	65	62	65	63	60	63	60	58	60	58	57	55
	2	66	59	54	49	64	58	53	49	55	51	47	53	49	46	51	48	45	44
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	4	54	44	38	32	52	43	37	32	42	36	32	40	35	31	38	34	31	29
	5	49	39	32	27	47	38	32	27	37	31	27	35	30	26	34	29	26	24
	6	45	35	28	23	44	34	28	23	33	27	23	32	26	23	30	26	22	21
	7	41	31	24	20	40	31	24	20	30	24	20	29	23	20	28	23	19	18
	8	38	28	22	18	37	28	22	18	27	21	17	26	21	17	25	21	17	16
	9	36	26	20	16	35	25	20	16	25	19	16	24	19	15	23	19	15	14
	10	34	24	18	14	33	23	18	14	23	18	14	22	17	14	21	17	14	12

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	5838.56	13.3	19.2	90-120	20.14	0.0	0.1
0-40	10119.98	23.0	33.3	90-130	20.14	0.0	0.1
0-60	20417.19	46.4	67.1	90-150	20.14	0.0	0.1
0-90	30389.51	69.1	99.9	90-180	20.14	0.0	0.1
				0-180	30409.65	69.1	100.0

Code•Master™ 2 HID Factory Sealed Luminaires

Explosionproof, Dust-Ignitionproof

* Photometric data is based on a 400–watt clear Pulse Start Metal Halide lamp (34,000 lumens). For candlepower values of fixtures with other lamps, use the following multipliers: 400 W HPS – 1.13 (50,000 lumens); and 250 W HPS – 0.68 (30,000 lumens).

NEC:
- ***Class I, Division 1 and 2, Groups C, D***
- ***Class II, Division 1 and 2, Groups E, F, G***
- ***Class III***
- ***Marine Type Electric Fixtures***
- ***Outside Type (Salt Water)***

CEC:
- ***Class I, Division 1 and 2, Groups B, C, D***
- ***Class I, Zone 1 and 2; IIB, IIA***
- ***Class II, Division 1, Groups E, F, G***
- ***Class II, Division 2, Groups F, G***
- ***Class III***

CEC:
- ***CSA Type 4X***
- ***Exd IIB, Zone 1***

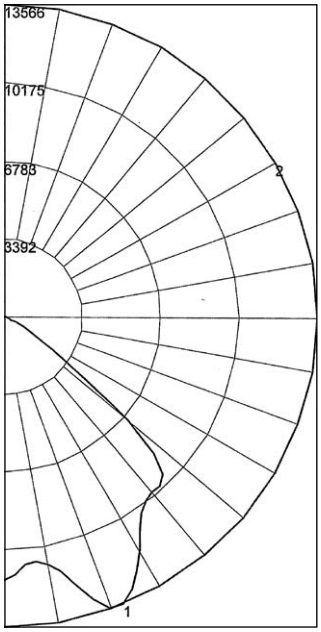
Photometric Data

Total Luminaire Efficiency = 63.4%

CIE Type – Direct

Plane	Spacing Criteria
0-180	1.40
90-270	1.40
Diagonal	1.52

Zone	Lumens
0-10	1044.42
10-20	3491.70
20-30	5976.88
30-40	6632.58
40-50	7143.25
50-60	2844.46
60-70	634.65
70-80	115.54
80-90	20.82
90-100	1.23
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



REPORT NUMBER: **CP40HB**
Lamps: 400 W Pulse Start Metal Halide with High Bay Reflector

Coefficients of Utilization – Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

% Ceiling	Rcc	80				70				50			30			10			0
% Walls	Rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
	0	76	76	76	76	74	74	74	74	70	70	70	67	67	67	65	65	65	63
	1	71	69	67	65	69	67	65	64	65	63	62	62	61	60	60	59	58	57
	2	66	62	59	56	64	61	58	55	59	56	54	57	55	53	55	53	52	50
	3	61	56	52	48	60	55	51	48	53	50	47	51	49	46	50	48	46	44
	4	57	50	46	42	55	50	45	42	48	44	42	47	44	41	45	43	40	39
	5	53	46	41	37	51	45	40	37	44	40	37	43	39	36	42	38	36	35
	6	49	42	37	33	48	41	36	33	40	36	33	39	35	32	38	35	32	31
	7	46	38	33	30	44	37	33	29	37	32	29	36	32	29	35	31	29	28
	8	42	35	30	27	42	34	30	26	34	29	26	33	29	26	32	29	26	25
	9	40	32	27	24	39	32	27	24	31	27	24	30	26	24	30	26	24	23
	10	37	29	25	22	36	29	25	22	29	24	22	28	24	22	27	24	21	20

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	10513.00	23.9	37.7	90-120	1.23	0.0	0.0
0-40	17145.58	39.0	61.4	90-130	1.23	0.0	0.0
0-60	27133.29	61.7	97.2	90-150	1.23	0.0	0.0
0-90	27904.30	63.4	100.0	90-180	1.23	0.0	0.0
				0-180	27905.53	63.4	100.0