

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, 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

Integrally Ballasted. 50 W, 70 W, 100 W, 150 W, 250 W, 400 W HPS; 175 W, 250 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

Classified Area Suitability of Code•Master 2 Series HID Fixtures — 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 UL/NEC/CEC Temp. Ident. No. ①	
				Nameplate Marking	NEC Groups	CEC Groups	Nameplate Marking	Groups
High Pressure Sodium	50	60 (140)	40 (104)	T6	C, D	B, C, D	T4	E, F, G
	50	75 (167)	55 (131)	T5	C, D	B, C, D	—	—
	50	85 (185)	65 (149)	T5	C, D	B, C, D	—	—
	70	60 (140)	40 (104)	T6	C, D	B, C, D	T4	E, F, G
	70	75 (167)	55 (131)	T5	C, D	B, C, D	—	—
	70	85 (185)	65 (149)	T5	C, D	B, C, D	—	—
	100	60 (140)	40 (104)	T5	C, D	B, C, D	T4	E, F, G
	100	75 (167)	55 (131)	T5	C, D	B, C, D	—	—
	100	85 (185)	65 (149)	T4A	C, D	B, C, D	—	—
	150	60 (140)	40 (104)	T5	C, D	B, C, D	T3A	E, F
	150	75 (167)	55 (131)	T4A	C, D	B, C, D	T3	—
	250	75 (167)	40 (104)	T3C	C, D	B, C, D	—	—
Pulse Start Metal Halide	250	75 (167)	55 (131)	T3C	C, D	B, C, D	—	—
	400	85 (185)	40 (104)	T3C	C, D	B, C, D	—	—
	175	75 (167)	40 (104)	T4	C, D	B, C, D	T3C	E, F, G
	250	75 (167)	40 (104)	T4	C, D	B, C, D	T3A	E, F
Metal Halide ②	400	75 (167)	40 (104)	T3C	C, D	B, C, D	—	—
	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	—	—

“T” Numbers Represent the Maximum Surface Temperature for Class I, Division 1 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	187-12	185

NOTE: The maximum operating temperature of the fixture must not exceed the ignition temperature of the gas, vapor or dust to be encountered per the National Electrical Code and the Canadian Electrical Code.

① Applies to Code•Master 2 only.

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.

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, 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		Hub Size (Inches)	Catalog Number ②③	
		HPS	PSMH		HPS	PSMH
	Bracket - Four Hubs, Three Close-Up Plugs					
	50	S68	—	3/4	CLB5075 ①	—
				1	CLB5010 ①	—
	70	S62	—	3/4	CLB7075	—
				1	CLB7010	—
	100	S54	—	3/4	CLB1075	—
				1	CLB1010	—
	150	S55	—	3/4	CLB1575	—
				1	CLB1510	—
	175	—	M152	3/4	—	CPB1775 ②
				1	—	CPB1710 ②
	250	S50	M153	3/4	CLB2575	CPB2575 ②
				1	CLB2510	CPB2510 ②
	400	S51	M155	3/4	CLB4075	CPB4075 ②
1				CLB4010	CPB4010 ②	
25° Stanchion - One Hub						
	50	S68	—	1-1/4 or 1-1/2 ④	CLS50150 ①	—
	70	S62	—	1-1/4 or 1-1/2 ④	CLS70150	—
	100	S54	—	1-1/4 or 1-1/2 ④	CLS10150	—
	150	S55	—	1-1/4 or 1-1/2 ④	CLS15150	—
	175	—	M152	1-1/4 or 1-1/2 ④	—	CPS17150 ②
	250	S50	M153	1-1/4 or 1-1/2 ④	CLS25150	CPS25150 ②
	400	S51	M155	1-1/4 or 1-1/2 ④	CLS40150 ②	CPS40150 ②

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).

④ 1-1/2" tapped hub furnished with 1-1/2" to 1-1/4" reducer.

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

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, 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)

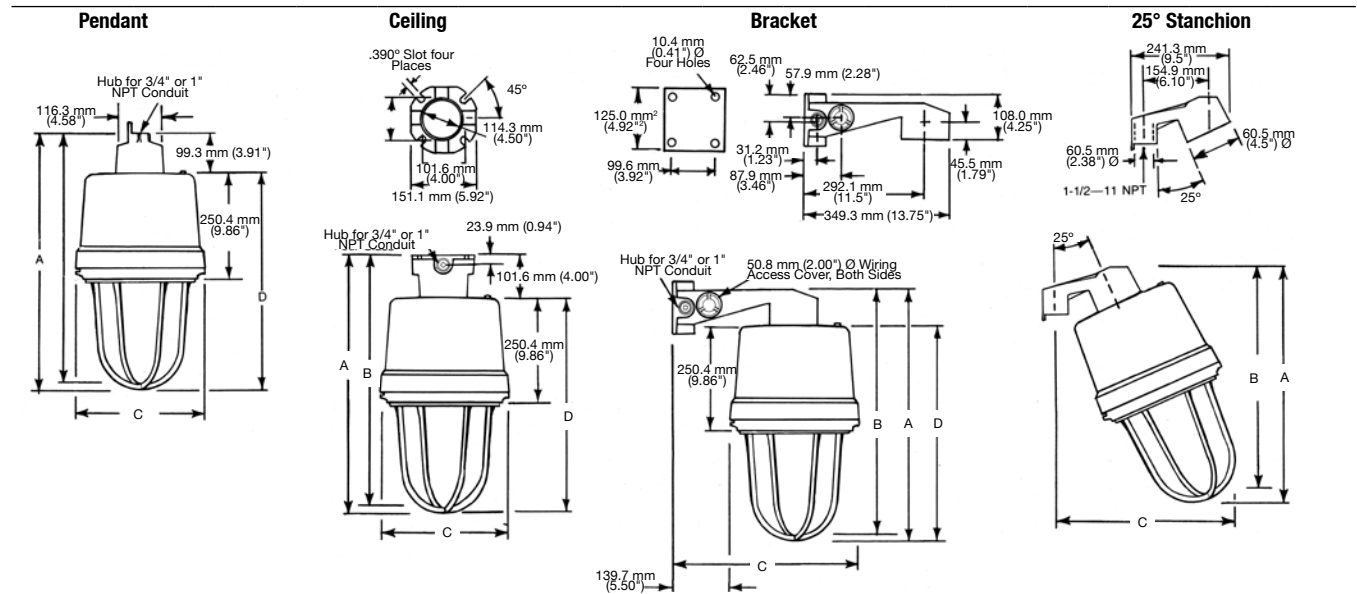
CEC:

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

Dimensions in Millimeters (Inches)



	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)

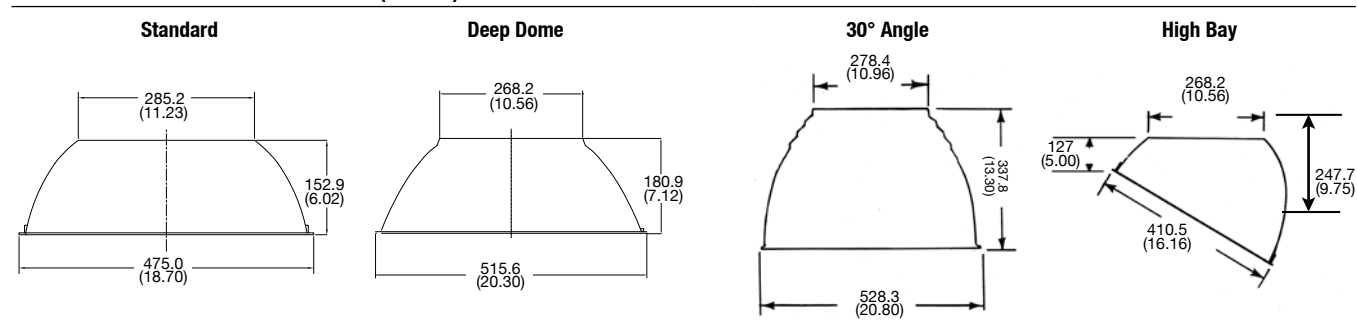
Fixture and Accessory Weights kg (lb)

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)
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)



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

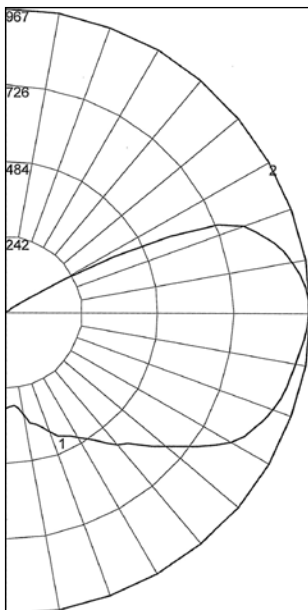
Photometric Data

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

Zonal Lumen Summary

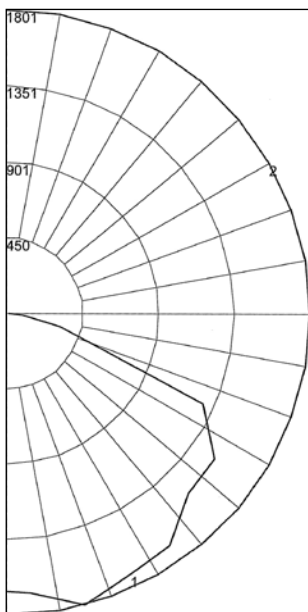
Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	339.26	3.6	4.7	90-120	2521.83	26.5	34.8
0-40	657.79	6.9	9.1	90-130	2572.83	27.1	35.5
0-60	1796.59	18.9	24.8	90-150	2575.59	27.1	35.5
0-90	4678.28	49.2	64.5	90-180	2575.59	27.1	35.5
				0-180	7253.87	76.4	100.0

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

Code•Master™ 2 HID Factory Sealed Luminaires

Explosionproof, Dust-Ignitionproof

* Photometric data is based on a 100-watt clear High Pressure Sodium 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

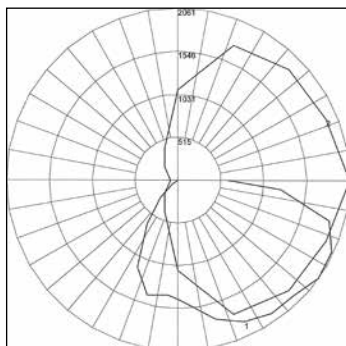
Photometric Data

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

Zonal Lumen Summary

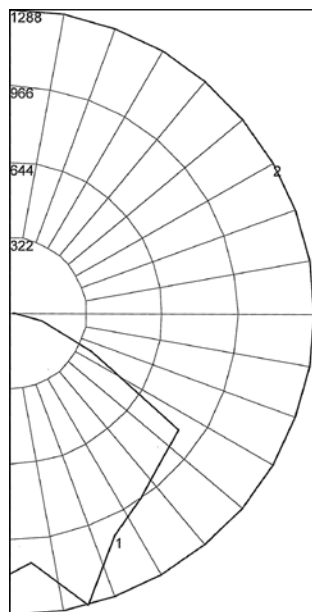
Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	911.80	9.6	15.5	90-120	0.0	0.0	0.0
0-40	1737.18	18.3	29.5	90-130	0.0	0.0	0.0
0-60	3634.06	38.3	61.8	90-150	0.0	0.0	0.0
0-90	5883.18	61.9	100.0	90-180	0.0	0.0	0.0
0-180	5883.18	61.9	100.0				

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

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:

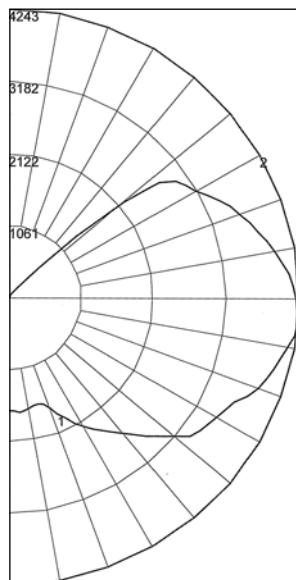
CSA Type 4X
Exd IIB, Zone 1

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

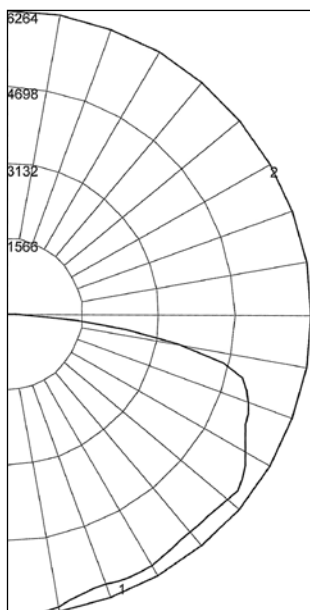
Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	1550.63	3.5	4.3	90-120	11865.57	27.0	32.9
0-40	3061.87	7.0	8.5	90-130	14465.12	32.9	40.1
0-60	8356.25	19.0	23.2	90-150	15156.08	34.4	40.1
0-90	20868.68	47.4	57.9	90-180	15160.53	34.5	42.1
				0-180	36029.22	81.9	100.0

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	
5	48	38	30	25	46	37	30	25	35	29	24	34	28	24	32	27	24	22	
6	44	33	26	21	43	33	26	21	31	25	21	30	25	21	29	24	20	19	
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

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

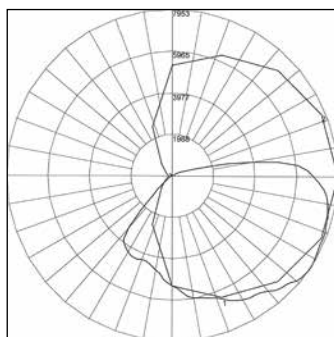
Photometric Data

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	50	30	10	0
0	73	73	73	73	71	71	71	71	67	67	67	63	63	63	59	59	59	58	58	58	58	58
1	64	60	56	53	62	58	55	52	54	52	49	51	49	47	48	46	44	42	42	42	42	42
2	57	51	45	41	55	49	44	40	46	42	38	43	40	37	40	38	35	33	33	33	33	33
3	51	44	38	33	49	42	37	32	39	35	31	37	33	30	35	31	26	27	27	27	27	27
4	47	38	32	27	45	37	31	26	35	29	25	32	28	25	30	27	24	22	22	22	22	22
5	43	34	27	23	41	33	27	22	31	25	22	29	24	21	27	23	20	19	19	19	19	19
6	39	30	24	19	38	29	23	19	27	22	18	26	21	18	24	20	17	16	16	16	16	16
7	36	27	21	17	35	26	21	17	25	20	16	23	19	16	22	18	15	14	14	14	14	14
8	34	24	19	15	32	24	18	15	22	18	14	21	17	14	20	16	13	12	12	12	12	12
9	31	22	17	13	30	22	16	13	21	16	13	20	15	12	19	15	12	11	11	11	11	11
10	29	20	15	12	28	20	15	12	19	14	11	18	14	11	17	13	11	10	10	10	10	10

Zonal Lumen Summary

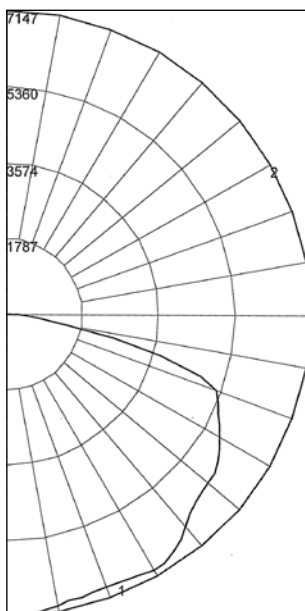
Zone	Lumens	% Lamp	% Fixture	Zone	Lumens	% Lamp	% Fixture
0-30	4398.28	10.0	16.0	90-120	2039.87	4.6	7.4
0-40	7751.71	17.6	28.2	90-130	2105.55	4.8	7.7
0-60	15573.61	35.4	56.7	90-150	2138.30	4.9	7.7
0-90	25338.08	57.6	92.2	90-180	2152.16	4.9	7.8
				0-180	27490.24	62.5	100.0

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	50	30	10	0
0	82	82	82	82	80	80	80	80	77	77	77	73	73	73	70	70	70	69	69	69	69	69
1	74	70	66	63	72	68	65	62	65	63	60	63	60	58	60	58	57	55	55	55	55	55
2	66	59	54	49	64	58	53	49	55	51	47	53	49	46	51	48	45	44	44	44	44	44
3	59	51	44	39	57	50	44	39	48	42	38	46	41	38	44	40	37	35	35	35	35	35
4	54	44	38	32	52	43	37	32	42	36	32	40	35	31	38	34	31	29	29	29	29	29
5	49	39	32	27	47	38	32	27	37	31	27	35	30	26	34	29	26	24	24	24	24	24
6	45	35	28	23	44	34	28	23	33	27	23	32	26	23	30	26	22	21	21	21	21	21
7	41	31	24	20	40	31	24	20	30	24	20	29	23	20	28	23	19	18	18	18	18	18
8	38	28	22	18	37	28	22	18	27	21	17	26	21	17	25	21	17	16	16	16	16	16
9	36	26	20	16	35	25	20	16	25	19	16	24	19	15	23	19	15	14	14	14	14	14
10	34	24	18	14	33	23	18	14	23	18	14	22	17	14	21	17	14	12	12	12	12	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

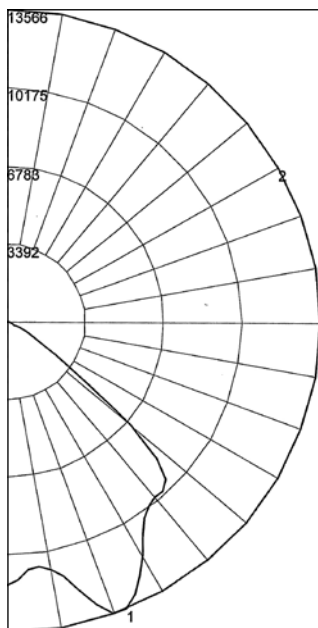
Photometric Data

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

HID/AREA: NEC/CEC EXPLOSIONPROOF

Appleton®