

# 4L EVM Hazard•Gard® H.I.D. Luminaires

**Mogul Base  
Factory Sealed (Groups C, D)**

Cl. I, Div. 1, Groups B (GB suffix), C, D  
Cl. I, Zone 1, Groups IIB + H<sub>2</sub>  
(with suffix – GB), IIB IIA  
Cl. II, Div. 1, Groups E, F, G; Class III

Paint Spray  
(100W max)  
Marine & Wet  
Locations  
3, 3R, 4, 4X; IP66

## Applications:

Hazard•Gard® luminaires are used in:

- Heavy process industries where flammable or explosive vapors, gases or combustible dusts are present
- Hazardous areas, both indoors and outdoors where long life and low maintenance costs are desired
- Petroleum refineries, chemical, petrochemical and other heavy process industry facilities
- Paint spray facilities
- Hazardous locations requiring elevated ambient capability

## Features:

- Luminaire is factory wired; power is fed through "wireless" connection block which serves as a mechanical seal between conduit and ballast compartments, eliminating the need for an external, field installed seal. The result is fast, easy installation.
- Dome and 30° angle reflectors made of Krydon® material – won't rust, corrode, dent, chip or peel (order separately – see page 1059).
- High bay reflectors of Alzak® aluminum for high wattage applications.
- Internally fluted glass globes reduce glare and provide comfortable viewing light.
- Wide range of light sources and wattages to meet specific lighting needs – 50 – 400W high pressure sodium (HPS); 70 – 400W metal halide (MH).
- High power factor (90%+) ballasts reduce power costs – allow more luminaires per circuit.
- Four mounting arrangements to suit any lighting layout – pendant, ceiling, wall bracket and stanchion.
- Paint spray booth suitability on 50 to 100 watt luminaires provides efficient, economical H.I.D. lighting for areas where paint residue may accumulate on luminaires.
- Elevated ambient capability permits reliable operation at high ambient temperature. Selected luminaires are suitable for ambient temperature up to 75°C.
- Integral ballasts – separate ballasts are not required. Lowest installed cost.
- Factory sealed, porcelain, mogul base socket.



## Certifications and Complies:

- NEC and CEC:  
Class I, Division 1, Groups B (with suffix GB), C, D  
Class I, Zone 1, Groups IIB + H<sub>2</sub> (with suffix GB), IIB, IIA  
100W max – Paint Spray Suitability  
175W max – Class II, Class III
- UL Standards:  
844 Hazardous (Classified) Locations  
1598 Luminaires  
1598A Marine Locations
- CSA Standards:  
C22.2 No. 137

## Standard Materials:

- Mounting modules, cover, ballast housing, guard, globe ring – copper-free aluminum
- Globe – heat and impact resistant glass
- Exterior hardware – stainless steel
- Lamp socket – porcelain with stainless steel screw shell
- Reflectors – dome and angle: Krydon fiberglass-reinforced polyester material; high bay: Alzak aluminum

## Standard Finishes:

- Copper-free aluminum – epoxy powder coat
- Krydon – high reflectance white
- Alzak – natural (anodized)

## Options:

Description	Suffix
• Fused – to protect ballast and capacitor against abnormal line conditions. (Not suitable for marine applications).....	S658\$†
• Instant restrike – enables a hot HPS lamp to immediately restrike after a momentary loss of arc due to voltage fluctuation or power outage. It has no effect on the warm-up period of a cold lamp (50-150W LX HPS only).....	IR*
• Quartz auxiliary lighting – quartz lamp comes to full brightness instantly upon restoration of power to provide emergency illumination during the normal restrike period of the H.I.D. lamp (for use with ED28 lamp). (Quartz lamp not included; use 100 W single-ended lamp – Q100DC, Q100CL/DC, or 100Q/CL/DC.) .....	QT‡
• Ballast-Gard™ – to eliminate the normally continuous high voltage pulsing in the event of a cycling lamp, inoperative lamp, or no lamp in the socket extending the life of the ballast. (For use with 50-400W HPS lamps.) .....	BG*
• Group B suitability – luminaires suitable for use in Class I, Group B hazardous (classified) locations.....	GB
• Hazard•Gard® supplied with trunnion arm for floodlighting applications. For use on pendant mount luminaires only. See Floodlight Section .....	S812

## Size Ranges:

- 3/4", 1" and 1 1/4" hubs (see ordering information – see pages 1057–1058)

## Electrical Rating Ranges:

- 120, 208, 240, 277, 347, 480, 600, multi-tap\*
- 50 to 400 watts

\*IR and BG options cannot be used together.  
†When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.  
‡Can be used with BG option.  
§CSA Certified are not available with multi-tap ballast or S658 fuse option.

Alzak is a registered trademark of ALCOA.

**50–400W EVM**  
**Hazard•Gard®**  
**H.I.D. Luminaires**  
**Mogul Base**  
**Factory Sealed (Groups C, D)**

Cl. I, Div. 1, Groups B (GB suffix), C, D  
 Cl. I, Zone 1, Groups IIB + H<sub>2</sub>  
 (with suffix GB), IIB, IIA  
 Cl. II, Div. 1, Groups E, F, G; Class III

Paint Spray  
 (100W max)  
 Marine & Wet  
 Locations  
 3, 3R, 4, 4X; IP66

**4L**



Watts	Hub Size (In.)	Pendant Luminaires		Wall Bracket Luminaires		Ceiling Luminaires		Stanchion Luminaires (25°)	
		Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #
<b>High Pressure Sodium</b>									
50	3/4	EVMA42050	EVMA42051	EVMBX42050	EVMBX42051	EVMCX42050	EVMCX42051		
	1	EVMA43050	EVMA43051	EVMBX43050	EVMBX43051	EVMCX43050	EVMCX43051	EVMJ44050	EVMJ44051
	1 1/4								
70	3/4	EVMA42070	EVMA42071	EVMBX42070	EVMBX42071	EVMCX42070	EVMCX42071		
	1	EVMA43070	EVMA43071	EVMBX43070	EVMBX43071	EVMCX43070	EVMCX43071	EVMJ44070	EVMJ44071
	1 1/4								
100	3/4	EVMA42100	EVMA42101	EVMBX42100	EVMBX42101	EVMCX42100	EVMCX42101		
	1	EVMA43100	EVMA43101	EVMBX43100	EVMBX43101	EVMCX43100	EVMCX43101	EVMJ44100	EVMJ44101
	1 1/4								
150	3/4	EVMA42150	EVMA42151	EVMBX42150	EVMBX42151	EVMCX42150	EVMCX42151		
	1	EVMA43150	EVMA43151	EVMBX43150	EVMBX43151	EVMCX43150	EVMCX43151	EVMJ44150	EVMJ44151
	1 1/4								
200	3/4	EVMA42200	EVMA42201	EVMBX42200	EVMBX42201	EVMCX42200	EVMCX42201		
	1	EVMA43200	EVMA43201	EVMBX43200	EVMBX43201	EVMCX43200	EVMCX43201	EVMJ44200	EVMJ44201
	1 1/4								
250	3/4	EVMA42250	EVMA42251	EVMBX42250	EVMBX42251	EVMCX42250	EVMCX42251		
	1	EVMA43250	EVMA43251	EVMBX43250	EVMBX43251	EVMCX43250	EVMCX43251	EVMJ44250	EVMJ44251
	1 1/4								
400	3/4	EVMA42400	EVMA42401	EVMBX42400	EVMBX42401	EVMCX42400	EVMCX42401		
	1	EVMA43400	EVMA43401	EVMBX43400	EVMBX43401	EVMCX43400	EVMCX43401	EVMJ44400	EVMJ44401
	1 1/4								

**4L**

**Complete the Catalog Number by Adding Voltage and Options Suffixes as Follows:**

- Standard Voltage Ballasts – 60Hz
 

		NEC/UL			CEC/CSA (cUL)		
1. Voltage		120V	480V	Tri Tap	120V		
Suffix	Multi Tap /MT	/120	/480	/TT	/120		
- Optional Voltage Ballasts – 50 or 60Hz
 

		CEC/CSA (cUL)- CWI Isolated Ballasts				EXPORT				
Voltage		208V CWI	240V CWI	480V CWI	600V CWI	220V 60Hz	220V 50Hz	230V 50Hz	240V 50Hz	
Suffix		/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/230 50	/240 50	
- 150W HPS Luminaires, 55V Lamps is Standard, for 100V lamps - Add suffix "CE"
- Options - Add the Required Options Suffixes, see page 1056, in alpha-numeric order.

**4L** **70-400W EVM**  
**Hazard•Gard®**  
**H.I.D Luminaires**  
**Factory Sealed (Groups C, D)**

Cl. I, Div. 1, Groups B  
 (GB suffix), C, D  
 Cl. I, Zone 1, Groups IIB + H<sub>2</sub>  
 (with suffix GB), IIB, IIA  
 Cl. II, Div. 1, Groups E, F, G;  
 Class III

Paint Spray (100W max.)  
 Marine & Wet Locations  
 3, 3R, 4, 4X; IP66



Watts	Hub Size (In.)	Pendant Luminaires		Wall Bracket Luminaires		Ceiling Luminaires		Stanchion Luminaires (25°)	
		Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #
<b>Pulse Start Metal Halide</b>									
150	3/4	EVMA92150 S828	EVMA92151 S828	EVMBX92150 S828	EVMBX92151 S828	EVMCX92150 S828	EVMCX92151 S828		
	1	EVMA93150 S828	EVMA93151 S828	EVMBX93150 S828	EVMBX93151 S828	EVMCX93150 S828	EVMCX93151 S828		
	1 1/4							EVMJ94150 S828	EVMJ94151 S828
175	3/4	EVMA92170 S828	EVMA92171 S828	EVMBX92170 S828	EVMBX92171 S828	EVMCX92170 S828	EVMCX92171 S828		
	1	EVMA93170 S828	EVMA93171 S828	EVMBX93170 S828	EVMBX93171 S828	EVMCX93170 S828	EVMCX93171 S828		
	1 1/4							EVMJ94170 S828	EVMJ94171 S828
200	3/4	EVMA92200 S828	EVMA92201 S828	EVMBX92200 S828	EVMBX92201 S828	EVMCX92200 S828	EVMCX92201 S828		
	1	EVMA93200 S828	EVMA93201 S828	EVMBX93200 S828	EVMBX93201 S828	EVMCX93200 S828	EVMCX93201 S828		
	1 1/4							EVMJ94200 S828	EVMJ94201 S828
250	3/4	EVMA92250 S828	EVMA92251 S828	EVMBX92250 S828	EVMBX92251 S828	EVMCX92250 S828	EVMCX92251 S828		
	1	EVMA93250 S828	EVMA93251 S828	EVMBX93250 S828	EVMBX93251 S828	EVMCX93250 S828	EVMCX93251 S828		
	1 1/4							EVMJ94250 S828	EVMJ94251 S828
320	3/4	EVMA92320 S828	EVMA92321 S828	EVMBX92320 S828	EVMBX92321 S828	EVMCX92320 S828	EVMCX92321 S828		
	1	EVMA93320 S828	EVMA93321 S828	EVMBX93320 S828	EVMBX93321 S828	EVMCX93320 S828	EVMCX93321 S828		
	1 1/4							EVMJ94320 S828	EVMJ94321 S828
400	3/4	EVMA92400 S828	EVMA92401 S828	EVMBX92400 S828	EVMBX92401 S828	EVMCX92400 S828	EVMCX92401 S828		
	1	EVMA93400 S828	EVMA93401 S828	EVMBX93400 S828	EVMBX93401 S828	EVMCX93400 S828	EVMCX93401 S828		
	1 1/4							EVMJ94400 S828	EVMJ94401 S828
<b>Metal Halide</b>									
70	3/4	EVMA92070	EVMA92071	EVMBX92070	EVMBX92071	EVMCX92070	EVMCX92071		
	1	EVMA93070	EVMA93071	EVMBX93070	EVMBX93071	EVMCX93070	EVMCX93071		
	1 1/4							EVMJ94070	EVMJ94071
100	3/4	EVMA92100	EVMA92101	EVMBX92100	EVMBX92101	EVMCX92100	EVMCX92101		
	1	EVMA93100	EVMA93101	EVMBX93100	EVMBX93101	EVMCX93100	EVMCX93101		
	1 1/4							EVMJ94100	EVMJ94101
175	3/4	EVMA92170	EVMA92171	EVMBX92170	EVMBX92171	EVMCX92170	EVMCX92171		
	1	EVMA93170	EVMA93171	EVMBX93170	EVMBX93171	EVMCX93170	EVMCX93171		
	1 1/4							EVMJ94170	EVMJ94171
250	3/4	EVMA92250	EVMA92251	EVMBX92250	EVMBX92251	EVMCX92250	EVMCX92251		
	1	EVMA93250	EVMA93251	EVMBX93250	EVMBX93251	EVMCX93250	EVMCX93251		
	1 1/4							EVMJ94250	EVMJ94251
400	3/4	EVMA92400	EVMA92401	EVMBX92400	EVMBX92401	EVMCX92400	EVMCX92401		
	1	EVMA93400	EVMA93401	EVMBX93400	EVMBX93401	EVMCX93400	EVMCX93401		
	1 1/4							EVMJ94400	EVMJ94401

**Complete the Catalog Number by Adding Voltage and Options Suffixes as Follows:**

Standard Voltage Ballasts - 60Hz

Voltage Suffix	NEC/UL			CEC/CSA (cUL)		
	Multi Tap /MT	Dual-Tap /DT	120V /120	Tri Tap /TT	Dual-Tap /DT	120V /120
			120V /120	480V /480		120V /120

Optional Voltage Ballasts - 50 or 60Hz

Voltage Suffix	*CEC/CSA (cUL) - CWI Isolated Ballasts				EXPORT		
	208V CWI /208CWI	240V CWI /240CWI	600V CWI /600CWI	220V 60Hz /220	220V 50Hz /230 50	230V 50Hz /230 50	240V 50Hz /240 50

2. 150W HPS Luminaires, 55V Lamps is Standard, for 100V lamps - Add suffix \*CE\*

3. Options - Add the Required Options Suffixes, see page 1056, in alpha-numeric order.

\*CWI Isolated Ballasts are only available for 175W-400W metal halide (non pulse start) luminaires.

**Reflectors**



**Dome**



**30° Angle**



**High Bay**

Type	Cat. #
Dome	RD739
30° Angle	RA739
High Bay	EV3912

**Temperature Performance Data**  
Maximum Ambient

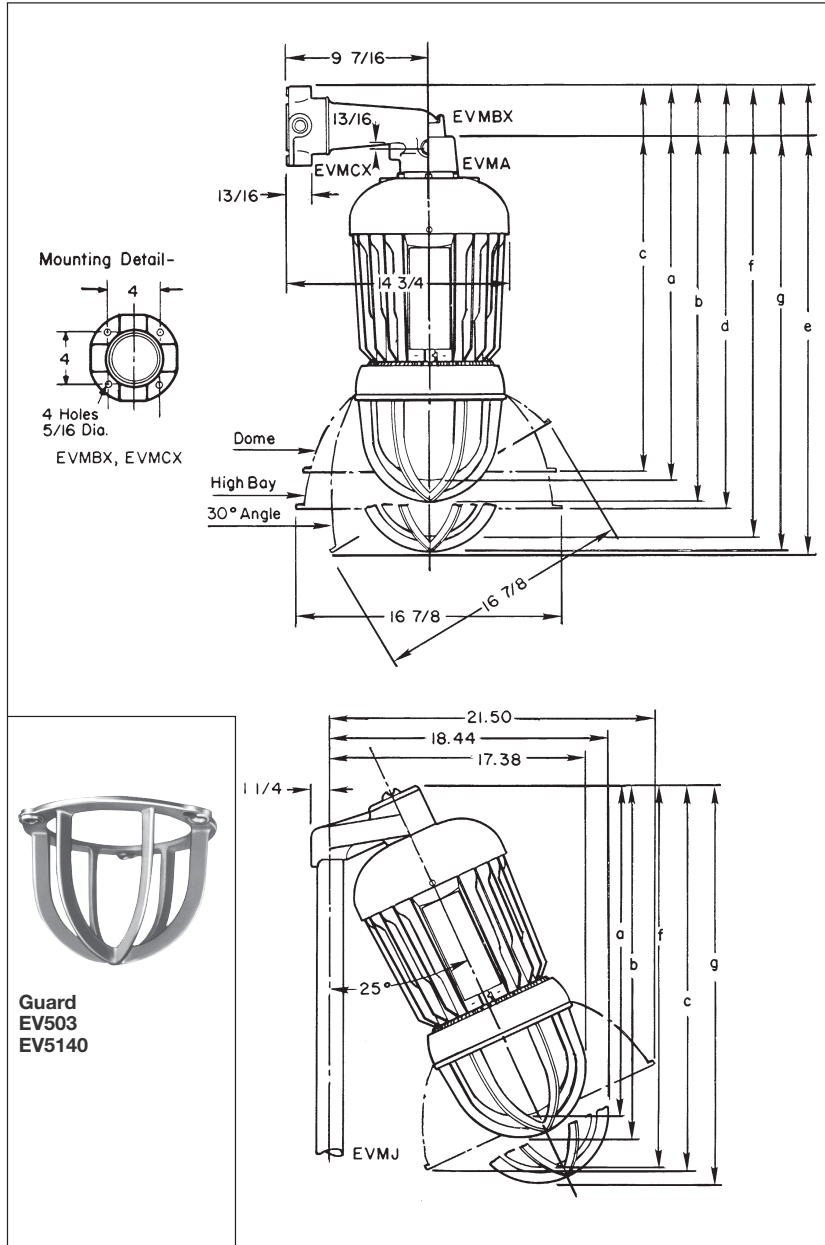
Watts	Class I				Class II (E, F, G)	Simultaneous Presence	Paint Spray Booth	Supply Wire
	40°C	55°C	65°C	75°C	40°C	40°C	40°C	°C
<b>High Pressure Sodium</b>								
50	T6	T6	T6	T5	T4	T4	T4A	90
70	T6	T6	T5	T4A	T4	T4	T4A	90
100	T5	T5	T4A	T4A	T4	T4	T4A	90
150	T4A	T4A	T4	—	T3C	T3C	—	90
200	T4A	T4A	T4	—	—	—	—	90
250	T4	T3C	—	—	—	—	—	90
400	T3C	—	—	—	—	—	—	90
<b>Metal Halide (Including Pulse Start)</b>								
70	T6	T6	T5	T3	T3C	T3C	T4A	90
100	T5	T5	T4A	T3	T3C	T3C	T4A	90
150	T4A	T4	T4	—	T3C	T3C	—	90
175	T4A	T4	T4	—	T3C	T3C	—	90
200	T4	T3C	—	—	—	—	—	90
250	T4	T3C	—	—	—	—	—	90
320	T3A	—	—	—	—	—	—	90
400	T3A	—	—	—	—	—	—	90

**4L**

# 4L EVM Hazard•Gard® H.I.D. Luminaires

## Dimensions and Weights

### Dimensions:



Guard  
EVM503  
EVM5140

### Luminaire Net Weights:

H.I.D. Source	Lamp Watts	Luminaire Only with Globe and Guard (lbs.)
High Pressure Sodium	50	40
	70	40
	100	44
	150 (55V)	45
	150 (100V)	44
	200	46
Metal Halide	250	46
	400	55
	70	39
	100	39
Metal Halide	175	42
	250	43
	400	51

Type	Lbs.	Type	Lbs.
<b>Add for Mounting Modules:</b>			
Pendant	1	Bracket	4 1/4
Ceiling	2	Stanchion	2 1/4

<b>Add for Reflectors:</b>			
RD739	1 3/4		
RA739	2		
EV3912	2 1/2		
<b>Deduct: 1 1/2 lbs. for luminaire without guard.</b>			

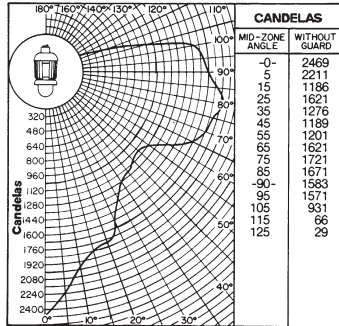
100, 175, 250W MV 50, 70, 100, 150W HPS 70, 100, 175, 250W MH  
All luminaires with QTZ option and 200, 250, 400W HPS 400W MV & MH

All - Reflectors

Type	a	b	f	g	Dome - c	High Bay - d	30° Angle - e
EVMA	25 1/16	26	27 5/16	28 1/4	23 5/8	26 7/16	28 5/8
EVMBX	27 7/8	28 13/16	30 1/8	31 1/16	26 11/16	29 3/4	31 5/8
EVMCX	24	24 15/16	26 1/4	27 3/16	22 13/16	25 5/8	27 1/2
EVMJ	22 11/16	24 1/8	25 1/4	26 5/8	25 3/8	27 1/16	28 3/4

**Lamp: 150W/E-23-1/2 high pressure sodium (HPS)  
Total bare lamp lumens: 16,000**

**Luminaire With Globe and Without Guard**



**Note:** Photometric data was developed using a 150 watt clear high pressure sodium lamp (16,000 lumens). For other clear lamps, use the following conversion factors (multipliers): 50W HPS – .25; 70W HPS – .40; 100W HPS – .59. Multipliers are for use with candela curve only.

Luminaire spacing ratio is 0.80.

**Coefficient of Utilization**

Effective Floor Cavity Reflectance 20%

% Reflectance Eff. Ceil.	Wall	Room Cavity Ratio				
		1	2	3	4	5
80	50	.695	.579	.494	.410	.382
	30	.644	.509	.417	.326	.305
	10	.599	.450	.356	.262	.246
70	50	.659	.549	.469	.387	.363
	30	.613	.484	.397	.311	.291
	10	.570	.431	.341	.251	.236
50	50	.592	.491	.419	.344	.327
	30	.555	.439	.360	.279	.265
	10	.522	.393	.312	.229	.218
30	50	.531	.438	.373	.304	.292
	30	.502	.396	.325	.250	.240
	10	.474	.358	.284	.207	.200
10	50	.476	.390	.331	.267	.260
	30	.451	.355	.291	.222	.217
	10	.429	.325	.257	.184	.181
0	0	.399	.295	.230	.159	.159
% Reflectance Eff. Ceil.	Wall	Room Cavity Ratio				
		6	7	8	9	10
80	50	.342	.306	.278	.265	.233
	30	.266	.234	.209	.198	.168
	10	.212	.184	.160	.153	.127
70	50	.324	.292	.265	.253	.222
	30	.254	.223	.201	.191	.163
	10	.202	.176	.155	.149	.123
50	50	.292	.263	.240	.231	.203
	30	.232	.203	.184	.177	.150
	10	.187	.162	.143	.139	.114
30	50	.262	.236	.218	.210	.185
	30	.211	.186	.167	.162	.138
	10	.172	.148	.132	.129	.105
10	50	.234	.213	.195	.191	.167
	30	.190	.169	.152	.149	.125
	10	.156	.135	.121	.118	.096
0	0	.135	.116	.103	.103	.081

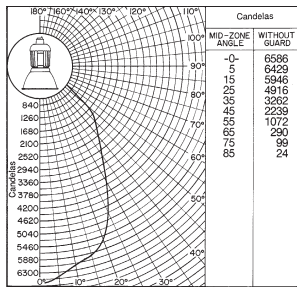
**4L**

# 4L EVM Hazard•Gard® H.I.D. Luminaires

Photometric Data

Lamp: 150W/E-23-1/2 high pressure sodium (HPS)  
Total bare lamp lumens: 16000

## Luminaire With Globe, Hi-Bay Reflector and Without Guard



**Note:** Photometric data was developed using a 150 watt clear high pressure sodium lamp (16,000 lumens). For other clear lamps, use the following conversion factors (multipliers): 50W HPS - .25; 70W HPS - .40; 100W HPS - .59. Multipliers are for use with candela curve only.  
Luminaire spacing ratio is 1.00.

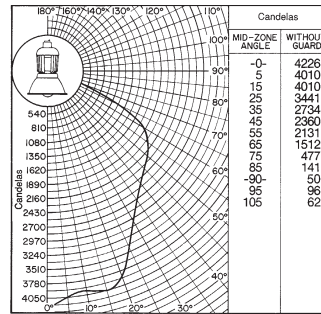
## Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectance	Room Cavity Ratio	Eff. Ceil. Wall				
		1	2	3	4	5
80	50	.668	.618	.573	.531	.494
	30	.651	.592	.542	.495	.455
	10	.636	.569	.517	.468	.427
70	50	.655	.608	.566	.525	.487
	30	.639	.583	.536	.491	.452
	10	.625	.564	.513	.464	.425
50	50	.629	.587	.550	.511	.476
	30	.616	.568	.525	.482	.446
	10	.606	.550	.505	.459	.422
30	50	.606	.569	.535	.498	.466
	30	.597	.554	.514	.474	.438
	10	.588	.539	.497	.454	.418
10	50	.586	.553	.522	.487	.457
	30	.578	.539	.504	.466	.433
	10	.570	.528	.489	.449	.413
0	0	.560	.517	.479	.439	.404
% Reflectance	Room Cavity Ratio	Eff. Ceil. Wall				
		6	7	8	9	10
80	50	.460	.427	.396	.369	.328
	30	.420	.388	.358	.330	.288
	10	.394	.361	.330	.303	.262
70	50	.455	.423	.392	.366	.325
	30	.418	.385	.356	.328	.288
	10	.391	.359	.329	.303	.262
50	50	.444	.414	.385	.360	.320
	30	.412	.380	.352	.325	.285
	10	.388	.357	.328	.301	.261
30	50	.436	.406	.379	.354	.315
	30	.407	.377	.348	.322	.282
	10	.385	.354	.326	.300	.259
10	50	.428	.400	.373	.348	.311
	30	.402	.373	.345	.319	.280
	10	.382	.352	.324	.298	.258
0	0	.373	.343	.315	.290	.249

Lamp: 150W/E-23-1/2 high pressure sodium (HPS)  
Total bare lamp lumens: 16000

## Luminaire With Globe, Dome Reflector and Without Guard



**Note:** Photometric data was developed using a 150 watt clear high pressure sodium lamp (16,000 lumens). For other clear lamps, use the following conversion factors (multipliers): 50W HPS - .25; 70W HPS - .40; 100W HPS - .59. Multipliers are for use with candela curve only.  
Luminaire spacing ratio is 1.20.

## Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectance	Room Cavity Ratio	Eff. Ceil. Wall				
		1	2	3	4	5
80	50	.716	.637	.568	.507	.455
	30	.689	.596	.519	.452	.398
	10	.666	.561	.480	.410	.355
70	50	.700	.624	.559	.498	.446
	30	.675	.585	.512	.447	.393
	10	.653	.555	.476	.407	.353
50	50	.668	.598	.538	.479	.432
	30	.648	.567	.498	.435	.385
	10	.631	.539	.466	.400	.349
30	50	.640	.575	.518	.463	.417
	30	.625	.549	.485	.425	.376
	10	.610	.526	.457	.394	.344
10	50	.615	.554	.500	.447	.404
	30	.602	.532	.472	.415	.369
	10	.590	.513	.448	.388	.339
0	0	.575	.498	.434	.373	.326
% Reflectance	Room Cavity Ratio	Eff. Ceil. Wall				
		6	7	8	9	10
80	50	.413	.373	.339	.312	.275
	30	.355	.318	.285	.258	.222
	10	.316	.280	.246	.221	.187
70	50	.405	.368	.334	.308	.271
	30	.352	.314	.283	.256	.222
	10	.312	.277	.245	.221	.187
50	50	.392	.356	.324	.299	.264
	30	.345	.307	.277	.252	.217
	10	.309	.274	.243	.219	.185
30	50	.380	.345	.316	.291	.257
	30	.338	.303	.272	.247	.214
	10	.306	.270	.241	.217	.183
10	50	.369	.337	.307	.283	.251
	30	.331	.298	.267	.244	.210
	10	.301	.267	.238	.215	.181
0	0	.289	.255	.226	.203	.170