

**Applications:**

N2MV series *Champ* luminaires are used:

- In areas in which ignitable concentrations of flammable gases or vapors will be present due to abnormal, unusual or accidental conditions.
- In installations where moisture, dirt, vibration, corrosion or rough usage are concerns.
- Wherever the damaging effects of water, wind, snow, sleet, hot sun or any combination of these elements are found.
- Ideal for marine use; resists the harmful effects of salt water.
- Withstands the harshest of corrosive environments.
- To provide low wattage spot and floodlighting.
- For general area lighting.
- In areas where the ambient temperature will get as low as 40°C (-40°F).
- In manufacturing plants, refineries, chemical, petrochemical and other industrial process facilities, wastewater and sewage treatment facilities, offshore, dockside and harbor installations as well as other heavy industrial applications.

**Features:**

- Housing and mounting modules made of polyphenylene sulfide (PPS) for strength and maximum resistance to corrosion.
- Pendant mounting module equipped with integral hub set screws for vibration resistance.
- Hubs are provided with an integral bushing to help prevent damage to field wiring during installation and ground connection for positive bonding.
- Guard, hub inserts, stanchion elbow and hardware made of stainless steel for maximum resistance to corrosion.
- Grounding wire for safety.
- Stainless steel open bottom guard permits direct access to the globe for easy relamping.
- Hinged assembly allows the luminaire to hang free during installation to permit the use of both hands when wiring.
- One external captive screw for ease of installation.
- Handle – hinge assembly doubles as a handle for ease of installation, especially when carrying up a ladder.



**Certifications and Complies:**

- NEC and CEC:  
Class I, Division 2, Groups A, B, C, D  
100W Maximum – Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II)
- UL Standards:  
844 Hazardous (Classified) Locations  
1598 Luminaires  
1598A Marine Locations
- CSA Standards  
C22.2 No. 137

**Standard Materials:**

- Housing, mounting modules, component pallets – polyphenylene sulfide (PPS)
- Guard, hub inserts, stanchion elbow, hardware – stainless steel
- Globe – heat tempered
- Gaskets – silicone rubber

**Electrical Ratings:**

- 120, multi-tap/MT (120, 208, 240 and 277), Dual-Tap/DT (120, 277 volts), Tri-Tap/TT (120, 277, 347 volts) 480 volt, 600 volt, 220 / 240 volt-50 Hz
- 50–150W HPS; 70–175W MH and Pulse Start MH

**Options:**

The following special options are available from the factory by adding suffix to luminaire Cat. No.:

Description	Suffix
• Wall Mount Arm. For converting ceiling mount luminaire to a wall mount.....	<b>N2MV-WM1</b>
• Ballast-Gard™ starter cut-out switch. Prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life. Available for use with 50–150 watt – HPS.....	<b>BG</b>
• Factory Assembled. For a factory assembled luminaire with lamp installed.....	<b>FA</b>
• 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 cold lamps. Available for use with 50–150W LX HPS only.....	<b>IR</b>
• Quartz Auxiliary Lighting. Comes to full brightness immediately and remains lit until the HID lamp attains 60–70% of full illumination. For non-hazardous locations only. (Note: QTZ lamp not included; use 100W single ended lamp – Q100DC, Q100CL/DC, or 100Q/CL/DC) Consult factory for top-hat limitations.....	<b>QTZ</b>
• Fused. To protect ballast and capacitor against abnormal line conditions.....	<b>S658</b>
(Not available with /MT ballast ) (Not for use in Canada) (Not suitable for marine applications)	
• Furnished with Lamps.....	<b>S714</b>
• Teflon® Coated Globe. For additional protection against breakage. For use with 50–100W HPS, 70–175W MH and pulse start MH.....	<b>S808</b>

**Accessories:**

- See pages 977–978 for complete listing.

# N2MV Series 50–150W High Pressure Sodium

**Non-metallic  
Champ® H.I.D. Luminaires**

Cl. I, Div. 2, Groups A, B, C, D  
Cl. II, Groups F, G  
Cl. III & Simultaneous  
Presence (100W max)

Marine & Wet Locations  
3, 3R, 4, 4X; IP56

**3L**

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see N2MV Series - Ordering By Components page.

Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER	
			With G303 Globe and P33 Guard	With GR305 Glass Refractor *
Pendant Mount	3/4	50	N2MVS2A050GP	N2MVS2A050GR305
	1		N2MVS3A050GP	N2MVS3A050GR305
	3/4	70	N2MVS2A070GP	N2MVS2A070GR305
	1		N2MVS3A070GP	N2MVS3A070GR305
	3/4	100	N2MVS2A100GP	N2MVS2A100GR305
	1		N2MVS3A100GP	N2MVS3A100GR305
Ceiling Mount Thru-Feed	3/4	50	N2MVS2C050GP	N2MVS2C050GR305
	1		N2MVS3C050GP	N2MVS3C050GR305
	3/4	70	N2MVS2C070GP	N2MVS2C070GR305
	1		N2MVS3C070GP	N2MVS3C070GR305
	3/4	100	N2MVS2C100GP	N2MVS2C100GR305
	1		N2MVS3C100GP	N2MVS3C100GR305
Stanchion Mount 25° Angle	3/4	150	N2MVS2A150GP	N2MVS2A150GR305
	1		N2MVS3A150GP	N2MVS3A150GR305
	1 1/2	50	N2MVSJ050GP	N2MVSJ050GR305
	1 1/2	70	N2MVSJ070GP	N2MVSJ070GR305
	1 1/2	100	N2MVSJ100GP	N2MVSJ100GR305
	1 1/2	150	N2MVSJ150GP	N2MVSJ150GR305

\* For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. N2MVS2A050GR302  
For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. N2MVS2A050GR303

**1. Add voltage suffix to end of catalog number**

Standard Voltage Ballasts – 60Hz

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

Optional Voltage Ballasts - 50 or 60Hz

Voltage Suffix	CEC/CSA (cUL) - CWI Isolated Ballasts				EXPORT			
	208V CWI /208CWI	240V CWI /240CWI	480V CWI /480CWI	600V CWI /600CWI	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50

2. 150W HPS Luminaires: For 55V lamps - add suffix LX; for 100V lamps - add suffix CE. 50W HPS luminaire is dual tap only.  
3. Options - Add the required option suffixes, see page 960, in alpha-numeric order.

3L

# N2MV Series 150–175W Pulse Start Metal Halide

**Non-metallic  
Champ® H.I.D. Luminaires**

Cl. I, Div. 2, Groups A, B, C, D  
Cl. II, Groups F, G  
Cl. III & Simultaneous  
Presence (100W max)

Marine & Wet Locations  
3, 3R, 4, 4X; IP56

To complete the catalog #, include information in notes 1 and 2 below. For guards and other optics see N2MV Series - Ordering By Components page.

**BASIC CATALOG NUMBER**

Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER	
			With G303 Globe and P33 Guard *	With GR305–S828 Glass Refractor
Pendant Mount	3/4	150	N2MVM2A150GP S828	N2MVM2A150GR305 S828
	1		N2MVM3A150GP S828	N2MVM3A150GR305 S828
	3/4	175	N2MVM2A175GP S828	N2MVM2A175GR305 S828
	1		N2MVM3A175GP S828	N2MVM3A175GR305 S828
Ceiling Mount Thru-Feed	3/4	150	N2MVM2C150GP S828	N2MVM2C150GR305 S828
	1		N2MVM3C150GP S828	N2MVM3C150GR305 S828
	3/4	175	N2MVM2C175GP S828	N2MVM2C175GR305 S828
	1		N2MVM3C175GP S828	N2MVM3C175GR305 S828
Stanchion Mount 25° Angle	1 1/2	150	N2MVMJ150GP S828	N2MVMJ150GR305 S828
	1 1/2	175	N2MVMJ175GP S828	N2MVMJ175GR305 S828

\* For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. N2MVM2A150GR302-S828  
For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. N2MVM2A150GR303-S828

**1. Add voltage suffix to end of catalog number**

		NEC/UL		CEC/CSA (cUL)	
Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120
	Optional Voltage Ballasts - 50 or 60Hz	<b>EXPORT</b>			
Voltage Suffix	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50	

**2. Options - Add the required option suffixes, see page 960, in alpha-numeric order.**

# N2MV Series 70–175W Metal Halide

**Non-metallic  
Champ® H.I.D. Luminaires**

Cl. I, Div. 2, Groups A, B, C, D  
Cl. II, Groups F, G  
Cl. III & Simultaneous  
Presence (100W max)

Marine & Wet Locations  
3, 3R, 4, 4X; IP56

**3L**

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see N2MV Series - Ordering By Components page.

Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER	
			With G303 Globe and P33 Guard	With GR305 Glass Refractor *
Pendant Mount	3/4	70	N2MVM2A070GP	N2MVM2A070GR305
	1		N2MVM3A070GP	N2MVM3A070GR305
	3/4	100	N2MVM2A100GP	N2MVM2A100GR305
	1		N2MVM3A100GP	N2MVM3A100GR305
	3/4	175	N2MVM2A175GP	N2MVM2A175GR305
	1		N2MVM3A175GP	N2MVM3A175GR305
Ceiling Mount Thru-Feed	3/4	70	N2MVM2C070GP	N2MVM2C070GR305
	1		N2MVM3C070GP	N2MVM3C070GR305
	3/4	100	N2MVM2C100GP	N2MVM2C100GR305
	1		N2MVM3C100GP	N2MVM3C100GR305
	3/4	175	N2MVM2C175GP	N2MVM2C175GR305
	1		N2MVM3C175GP	N2MVM3C175GR305
Stanchion Mount 25° Angle	1 1/2	70	N2MVMJ070GP	N2MVMJ070GR305
	1 1/2	100	N2MVMJ100GP	N2MVMJ100GR305
	1 1/2	175	N2MVMJ175GP	N2MVMJ175GR305

\* For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. N2MVM2A070GR302  
For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. N2MVM2A070GR303

**1. Add voltage suffix to end of catalog number**  
Standard Voltage Ballasts - 60Hz

Voltage Suffix	Multi Tap /MT	NEC/UL		CEC/CSA (cUL)	
		120V /120	480V /480	Tri Tap /TT	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 /220 50	230V 50Hz /230 50	240V 50Hz /240 50

2. 70W ballast not available in 480V.

3. Options - Add the required option suffixes, see page 960, in alpha-numeric order.



# 3L N2MV Series – Ordering by Components

## N2MV luminaires are available in components.

A complete luminaire consists of:

- I. N2MV Cover (Mounting Module)
- II. N2MV Ballast Housing – Include voltage and required option(s)
- III. Globe, Refractor, Guard, Reflector

### I. N2MV Cover (Mounting Module):

Type	Conduit	Cat. #
Pendant	3/4"	N2APM2
	1"	N2APM3
Ceiling	3/4"	N2CM2
	1"	N2CM3
Wall (Use wall bracket accessory with Ceiling Cover)	3/4"	N2MV WM1 and N2CM2
	1"	N2MV WM1 and N2CM3
Stanchion – 25 Degree Angle	1 1/2"	N2JM5

### II. Ballast Housings:

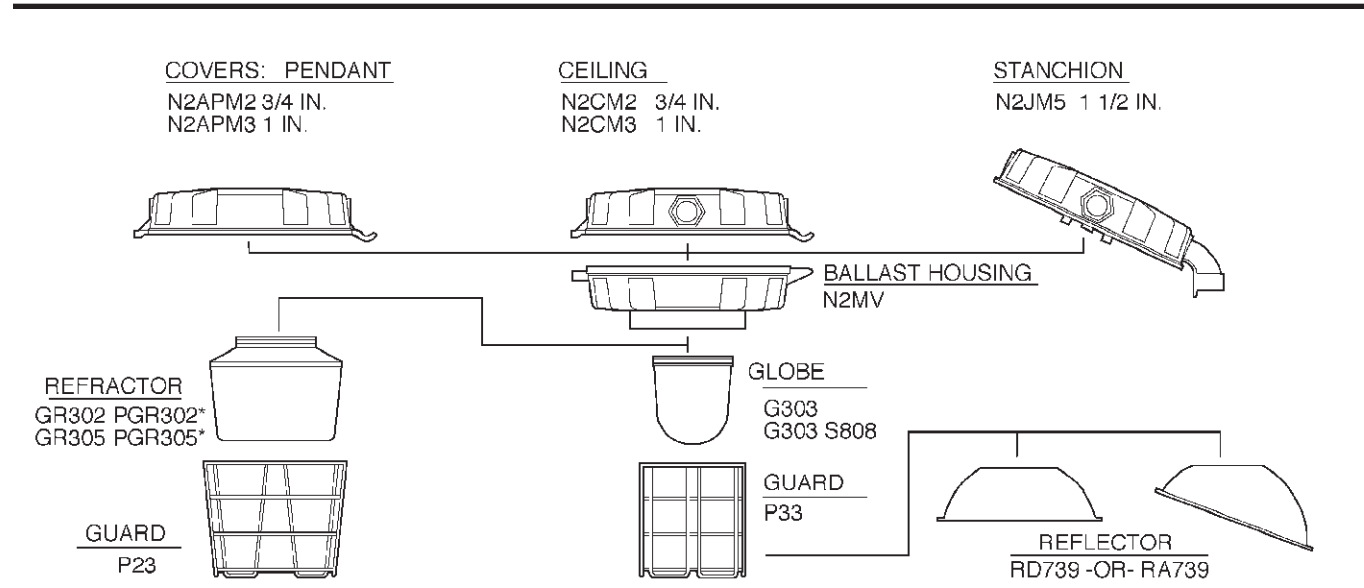
Complete catalog number must have the **voltage suffix** (MT shown) and any **options suffixes**.

Lamp Type	Lamp Watts	Cat. #
High Pressure Sodium	50	N2MVS050/MT
	70	N2MVS070/MT
	100	N2MVS100/MT
	150	N2MVS150/MT LX
Metal Halide	70	N2MVM070/MT
	100	N2MVM100/MT
	175	N2MVM175/MT

### III. Globe, Refractors, Guards and Reflectors:

Type	Cat. #
Globe	G303
Globe Teflon Coated	G303S808
Globe Guard	P33
Reflector – Dome	RD739
Reflector – Angle	RA739
Refractor – Type 2	GR302
Refractor – Type 3	GR303
Refractor – Type 5	GR305
Refractor Guard	P23
Large Plastic Refractor Type 2	PGR302
Large Plastic Refractor Type 3	PGR303
Large Plastic Refractor Type 5	PGR305

**Champ® H.I.D Luminaires**



\*Plastic refractors are non-hazardous areas only (50-100W Max.)

3L

Champ® H.I.D Luminaires

Lamp Watts	Ambient Temp C	Optics	Class I (Gas/Vapors)	Class II (Dust) and Class III	Simultaneous Presence Gas and Dust Present in the Same Area	Supply Wire Temp C
			Non Restricted Breathing		Non Restricted Breathing	
			Standard Product	Standard Product	Standard Product	
			Division 2		Class I, Division 2 and Class II	
		G303	X	X	X	
		GR305	X	X	X	

High Pressure Sodium

50	40	T3A	T4A	T2C/T4A	75
	55	T3A	-	-	85
	65	-	-	-	-
70	40	T3A	T4A	T2C/T4A	75
	55	T3A	-	-	85
	65	-	-	-	-
100	40	T2D	T4A	T2C/T4A	85
	55	T2C	-	-	100
	65	-	-	-	-
150	40	T2C	-	-	85
	55	-	-	-	-
	65	-	-	-	-

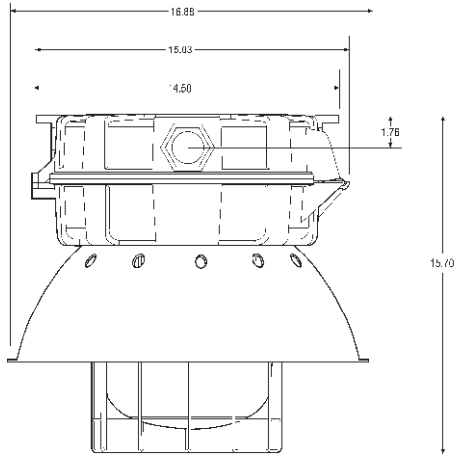
Metal Halide

70	40	T3C	T4	T2B/T4	75
	55	T3B	-	-	85
	65	-	-	-	-
100	40	T2B	T4	T2B/T4	85
	55	T2B	-	-	-
	65	-	-	-	-
150 (S828)	40	T2	-	-	-
	55	-	-	-	-
	65	-	-	-	-
175 (Includes S828)	40	T2	-	-	-
	55	-	-	-	-
	65	-	-	-	-

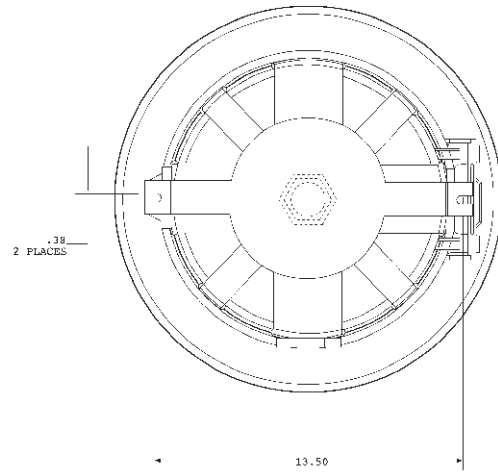
3L

Champ® H.I.D. Luminaires

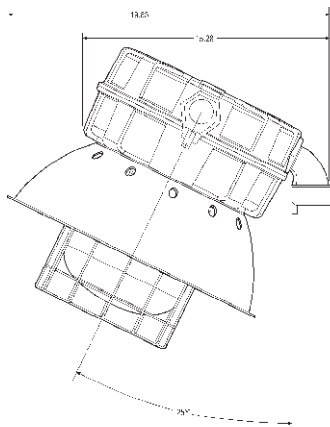
Dimensions  
In Inches:



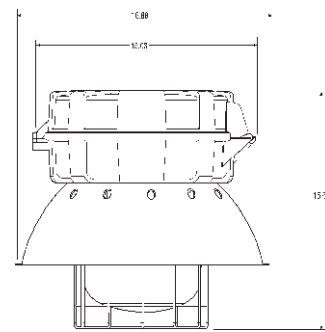
Ceiling Mount



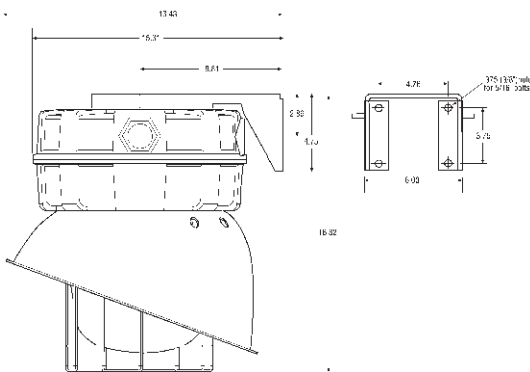
Ceiling Mount - Top View



25° Angle Stanchion Mount



Pendant Mount



Wall Arm Mount

Net Luminaire Weights (lbs.):

Luminaire Series	Lamp Watts	Luminaire with Globe, Guard (lbs.)	Lamp Watts	Luminaire with Globe, Guard (lbs.)
N2VMS	50	23	70	23 <sup>1</sup> / <sub>16</sub>
	100	24 <sup>1</sup> / <sub>16</sub>	150	26 <sup>1</sup> / <sub>8</sub>
N2MVM	70	21	100	21 <sup>1</sup> / <sub>16</sub>
	175	22 <sup>1</sup> / <sub>4</sub>	250	24

Type	Lbs.	Type	Lbs.
<b>Add for mounting modules:</b>			
Pendant	1 <sup>1</sup> / <sub>4</sub>	Flexible Pendant	1 <sup>1</sup> / <sub>2</sub>
Ceiling	2 <sup>3</sup> / <sub>4</sub>	Wall	4 <sup>1</sup> / <sub>2</sub>
Quad-Mount	3 <sup>1</sup> / <sub>2</sub>	Angle Stanchion	3 <sup>1</sup> / <sub>2</sub>
Straight Stanchion	4 <sup>1</sup> / <sub>2</sub>		

**Add for reflectors:**  
 Dome 1<sup>1</sup>/<sub>4</sub> 30° Angle 1<sup>3</sup>/<sub>4</sub>  
**Deduct:** 1 lb. for luminaire without P33 Guard.  
**Add:** 5<sup>1</sup>/<sub>2</sub> lbs. for luminaire with GR305 refractor.



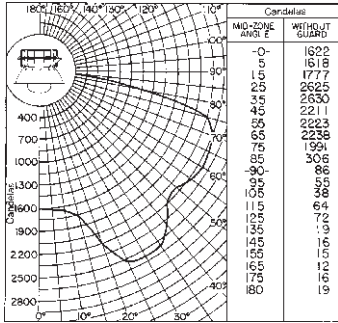


**Champ® H.I.D Luminaires**

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

All data provided is for high pressure sodium luminaires with 150W/E-23-1/2 clear lamps. Use conversion factors (multipliers) shown below for other clear lamp types and wattages. Consult Cooper Crouse-Hinds for additional photometric data on any *Champ* series luminaires.

**Luminaire with Globe and Dome Reflector**



Multipliers (for use with candela curve only).

Luminaire Series	Lamp Watts	Conversion Factor
N2MVS	50	0.25
	70	0.40
	100	0.59

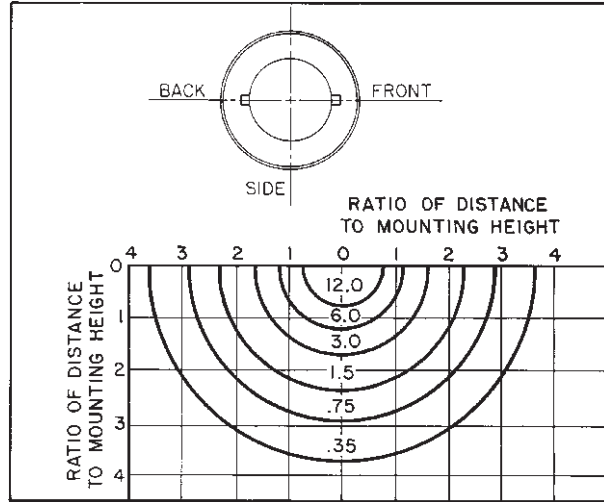
Luminaire spacing ratio: 1.90

**Coefficient of Utilization**

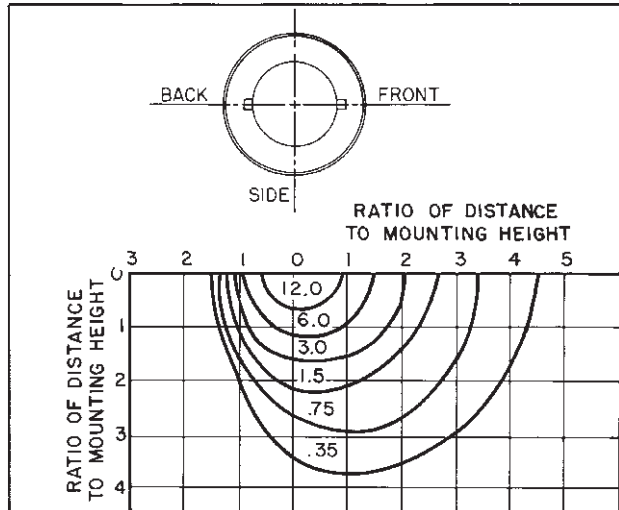
Effective Floor Cavity Reflectance 20%

% Reflectance Eff. Ceil.	% Reflectance Wall	Room Cavity Ratio				
		1	2	3	4	5
80	50	.759	.643	.551	.476	.418
	30	.719	.582	.480	.400	.340
	10	.683	.530	.424	.342	.283
70	50	.740	.627	.538	.465	.406
	30	.703	.570	.471	.394	.334
	10	.669	.523	.418	.338	.280
50	50	.703	.595	.512	.442	.388
	30	.672	.548	.455	.381	.324
	10	.645	.506	.408	.332	.276
30	50	.669	.567	.488	.422	.370
	30	.646	.528	.439	.368	.314
	10	.622	.492	.399	.325	.270
10	50	.640	.541	.466	.403	.354
	30	.619	.508	.424	.356	.305
	10	.600	.479	.389	.318	.265
0	0	.582	.459	.370	.299	.247
% Reflectance Eff. Ceil.	% Reflectance Wall	Room Cavity Ratio				
		6	7	8	9	10
80	50	.371	.330	.294	.267	.231
	30	.296	.257	.224	.198	.164
	10	.243	.208	.174	.151	.121
70	50	.362	.323	.288	.262	.226
	30	.291	.252	.221	.195	.164
	10	.238	.204	.173	.151	.121
50	50	.345	.309	.275	.250	.218
	30	.283	.244	.215	.190	.159
	10	.235	.201	.170	.148	.119
30	50	.331	.294	.265	.240	.209
	30	.275	.239	.208	.184	.154
	10	.231	.196	.168	.146	.116
10	50	.317	.284	.253	.231	.201
	30	.266	.233	.203	.180	.150
	10	.227	.193	.165	.143	.114
0	0	.210	.177	.149	.128	.100

**Isofootcandle Chart: Luminaire with Globe and Dome Reflector**



**Isofootcandle Chart: Luminaire with Globe and 30° Angle Reflector**



Isofootcandle charts show illumination in footcandles on work plane 10 feet below light center. Multiply by factor shown to convert to other mounting heights.

Height (Ft.)	Factor	Height (Ft.)	Factor
8	1.56	16	.391
12	.694	20	.250
14	.510		

3L