

3L LMV Series 50-150W Low Profile - Medium Base Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D
Restricted Breathing Cl. I,
Div. 2 & Zone 2 (Suffix S826)
Certified for IEC Zone 2
(Suffix S826TB)

Cl. II, Groups E, F, G; Cl. III
& Simultaneous Presence
(HPS 35W, 50W)
Marine & Wet Locations
3, 3R, 4, 4X; IP66

Applications:

LMV series *Champ*® luminaires are used:

- In applications involving low luminaire mounting heights or restricted mounting space or where luminaire weight is a factor
- In areas in which ignitable concentrations of flammable gases or vapors will be present only due to abnormal, unusual, or accidental conditions
- Where combustible dusts are present
- Where combustible dusts and flammable vapors are present simultaneously
- In elevated ambient temperatures often found in industrial applications
- In marine applications where water spray and corrosive atmospheres are considerations
- Wherever the damaging effects of wind, snow, sleet, or hot sun are found
- In manufacturing plants, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, offshore or dockside installations, cold storage facilities, parking garages or wherever dust, dirt, water, vibration and rough usage are a problem

Features:

- Compact, lightweight design is ideal for low mounting heights.
- Cast copper-free aluminum construction (less than 0.4 of 1% copper) and epoxy powder finish provide excellent resistance to corrosion.
- Seven mounting arrangements to suit any lighting layout – pendant, flexible pendant, ceiling, wall, straight stanchion, angle stanchion, and quad-mount.
- Wide range of lamp wattages to meet specifier's needs: 50, 70, 100 and 150 watt (HPS); 70 and 100 watt (MH) medium base lamps.
- Hinged ballast housing for ease of installation and maintenance.
- All luminaires designed to perform in a 40°C ambient temperature. Selected luminaires are suitable for ambient temperatures up to 65°C.
- Superior gasketing seals between the mounting module, housing, and optical assembly for optimum performance in wet and corrosive environments.
- Hubs with an integral conduit stop and bushing to help prevent damage to field wiring during installation.
- Low ambient capability to -40°C.
- Dome and 30° angle reflectors made of bright white *Krydon*® material provide superior reflectivity, with twist-on feature requiring no tools or additional hardware. Will not chip, peel, dent, rust, or corrode.
- Grounding wire for safety.
- Medium base lamp sockets.



Certifications and Complies:

- NEC/CEC:
Class I, Division 2, Groups A, B, C, D
HPS 35W, 50W – Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II)
Class I, Zone 2
- IEC:
Zone 2 Ex nR IIC
- UL Standards:
844 Hazardous (Classified) Locations
1598 Luminaires
1598A Marine Locations
- CSA Standards:
C22.2 No. 137
- IEC Standards:
60079-15

Standard Materials:

- Ballast housings and mountings – copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware – stainless steel
- Reflectors (dome and angle) – *Krydon* fiberglass-reinforced polyester material
- Globes – heat and impact resistant, internally fluted glass
- Guards – copper-free aluminum

Standard Finishes:

- Copper-free aluminum – epoxy powder coat
- *Krydon* material – high reflectance white
- Stainless steel – natural

Electrical Ratings:

- 120 volts, dual-tap (120/277), multi-tap*
- 50, 70, 100, 150 watts HPS**
- 70 and 100 watts MH

* When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.

** 150W HPS is not available with multi tap ballast. 120V only.

Options:

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

| Description | Suffix |
|---|---------------|
| • Restricted Breathing Construction | S826 |
| Class I, Division 2 & Zone 2 Suitability Cooler Operating Temperatures (T-Numbers) | |
| • Certified for IEC Zone 2..... | S826TB |
| Furnished with terminal block, crimp terminals and dedicated voltage ballasts (no MT, DT, or TT) | |
| • Fused – to protect ballast and capacitors against abnormal line conditions | S658* |
| (Not for use in Canada) (Not suitable for marine applications) | |
| • Quick-Clip - Holds weight of housing when closed. No need to support luminaire while screwing the housing to the cover | S890 |
| • Ballast-Gard™ starter cut-out switch – prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life. Available for use with 50–100W HPS only | BG |
| • Factory assembled with H.I.D. lamps installed for additional labor savings | FA |
| • Stainless steel insert – top hat with stainless steel threaded insert to attach ballast housing | S806 |

Accessories:

- See pages 1022–1023 for complete listing

LMV Series 50–150W High Pressure Sodium





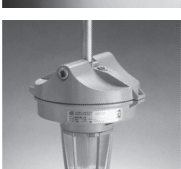


Low Profile - Medium Base
Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D
Restricted Breathing Cl. I,
Div. 2 & Zone 2 (Suffix S826)
Certified for IEC Zone 2
(Suffix S826TB)

Cl. II, Groups E, F, G; Cl. III
& Simultaneous Presence
(35W, 50W)
Marine & Wet Locations
3, 3R, 4, 4X; IP66

3L

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

| Mounting Style | Hub Size | Lamp Watts | BASIC CATALOG NUMBER | |
|---|--|------------|------------------------------|------------------------------|
| | | | With G54 Globe and P50 Guard | |
|  | 3/4 | 50 | LMVS2A050GP LMVS3A050GP | |
| | | 70 | LMVS2A070GP LMVS3A070GP | |
| | 3/4 | 100 | LMVS2A100GP LMVS3A100GP | |
| | | 150 | LMVS2A150GP LMVS3A150GP | |
| |  | 3/4 | 50 | LMVS2HA050GP |
| | | 3/4 | 70 | LMVS2HA070GP |
| 3/4 | | 100 | LMVS2HA100GP | |
| 3/4 | | 150 | LMVS2HA150GP | |
|  | 3/4 | 50 | LMVS2C050GP LMVS3C050GP | |
| | | 70 | LMVS2C070GP LMVS3C070GP | |
| | 3/4 | 100 | LMVS2C100GP LMVS3C100GP | |
| | | 150 | LMVS2C150GP LMVS3C150GP | |
| |  | 3/4 | 50 | LMVS2TW050GP LMVS3TW050GP |
| | | | 70 | LMVS2TW070GP LMVS3TW070GP |
| 3/4 | | 100 | LMVS2TW100GP LMVS3TW100GP | |
| | | 150 | LMVS2TW150GP LMVS3TW150GP | |
|  | | 3/4 | 50 | LMVS25Q050GP |
| | | 3/4 | 70 | LMVS25Q070GP |
| | 3/4 | 100 | LMVS25Q100GP | |
| | 3/4 | 150 | LMVS25Q150GP | |
|  | 1 1/2 | 50 | LMVSJ050GP | |
| | | 70 | LMVSJ070GP | |
| | 1 1/2 | 100 | LMVSJ100GP | |
| | | 150 | LMVSJ150GP | |
|  | 1 1/2 | 50 | LMVSP050GP | |
| | | 70 | LMVSP070GP | |
| | 1 1/2 | 100 | LMVSP100GP | |
| | | 150 | LMVSP150GP | |

3L

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 | 120V /120 |

2. 150W HPS Luminaires: For 55V lamps - add suffix LX. 50W HPS luminaire is dual tap only. 150W HPS is not available with multi tap ballast. 120V only.
3. Options - Add the required option suffixes, see page 972, in alpha-numeric order.

Crouse-Hinds
by **E.T.N**







3L LMV Series 70-100W Metal Halide

Low Profile - Medium Base Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D
 Restricted Breathing Cl. I,
 Div. 2 & Zone 2 (Suffix S826)
 Certified for IEC Zone 2
 (Suffix S826TB)

Marine & Wet Locations
 3, 3R, 4, 4X; IP66

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

| Mounting Style | Hub Size | Lamp Watts | BASIC CATALOG NUMBER |
|---|----------|------------|------------------------------|
| | | | With G54 Globe and P50 Guard |
|  Pendant Mount | 3/4 | 70 | LMVM2A070GP |
| | 1 | | LMVM3A070GP |
| | 3/4 | 100 | LMVM2A100GP |
| | 1 | | LMVM3A100GP |
|  Flexible Pendant Mount | 3/4 | 70 | LMVM2HA070GP |
| | 3/4 | 100 | LMVM2HA100GP |
|  Ceiling Mount Thru-Feed | 3/4 | 70 | LMVM2C070GP |
| | 1 | | LMVM3C070GP |
| | 3/4 | 100 | LMVM2C100GP |
| | 1 | | LMVM3C100GP |
|  Wall Mount Thru-Feed | 3/4 | 70 | LMVM2TW070GP |
| | 1 | | LMVM3TW070GP |
| | 3/4 | 100 | LMVM2TW100GP |
| | 1 | | LMVM3TW100GP |
|  Stanchion Mount 25° Angle | 1 1/2 | 70 | LMVMJ070GP |
| | 1 1/2 | 100 | LMVMJ100GP |
|  Stanchion Mount Straight | 1 1/2 | 70 | LMVMP070GP |
| | 1 1/2 | 100 | LMVMP100GP |

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts - 60Hz

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

2. 70W ballast not available in 480V.

3. Options - Add the required option suffixes, see page 972, in alpha-numeric order.

LMV luminaires are available in components.

A complete luminaire consists of:

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

I. Champ Cover (Mounting Module):

| Type | Conduit | Cat. # |
|-----------------------------|---------|--------|
| Pendant | 3/4" | APM2 |
| | 1" | APM3 |
| Flexible Pendant | 3/4" | HPM2 |
| Ceiling* | 3/4" | CM2 |
| | 1" | CM3 |
| Wall | 3/4" | TWM2 |
| | 1" | TWM3 |
| Stanchion – 25 Degree Angle | 1 1/2" | JM5 |
| Stanchion – Straight | 1 1/2" | PM5 |
| Quad-Mount | 3/4" | QM25 |

*Not available with V2PC photocell.

II. Ballast Housings:

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

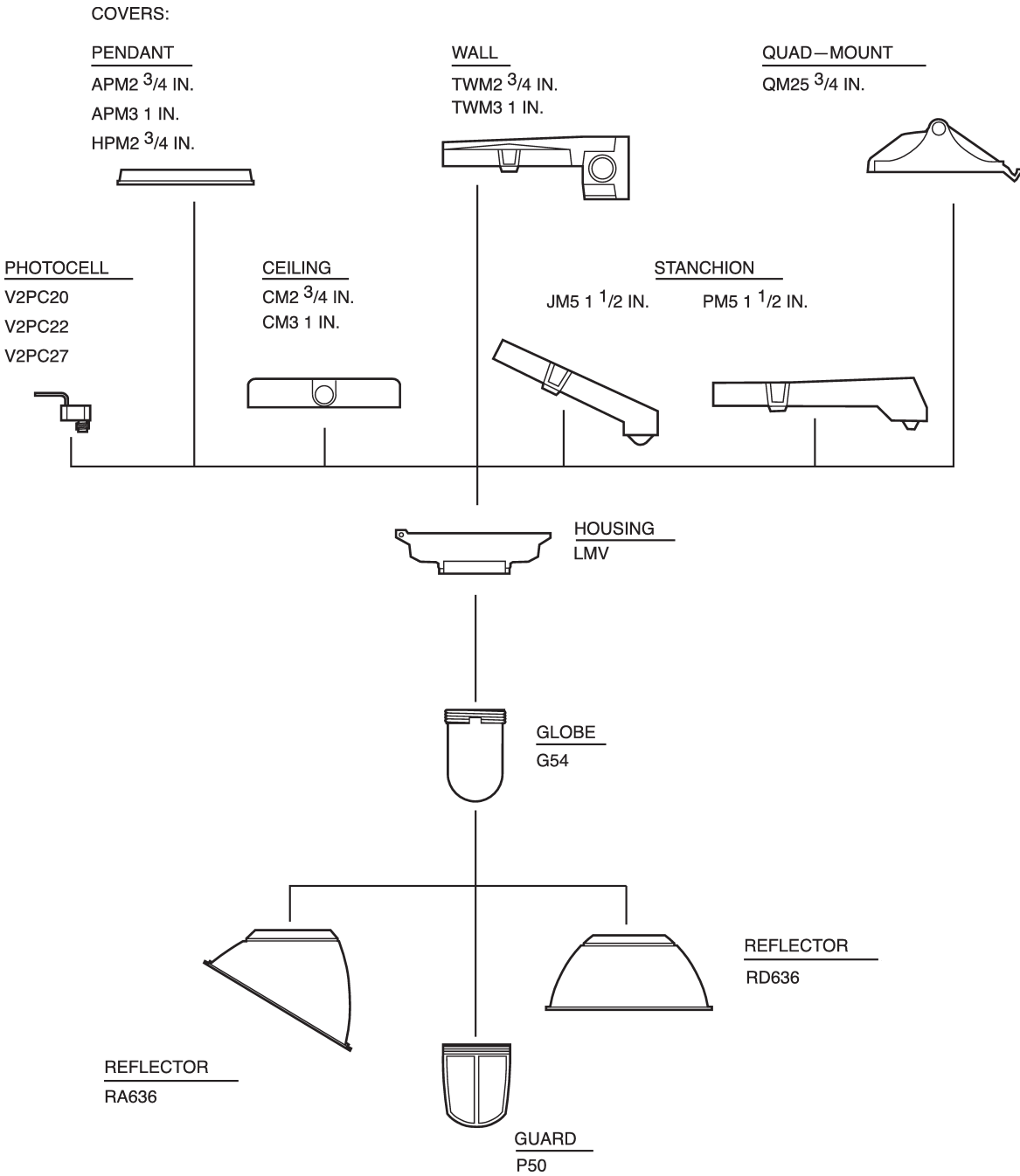
| Lamp Type | Lamp Watts | Cat. # |
|----------------------|------------|----------------|
| High Pressure Sodium | 50 | LMVS050/120 |
| | 70 | LMVS070/MT |
| | 100 | LMVS100/MT |
| | 150 | LMVS150/120 LX |
| Metal Halide | 70 | LMVM070/MT |
| | 100 | LMVM100/MT |

III. Globe, Guards and Reflectors:

| Type | Cat. # |
|-------------------|--------|
| Globe | G54 |
| Globe Guard | P50 |
| Reflector – Dome | RD636 |
| Reflector – Angle | RA636 |



Champ® H.I.D. Luminaires



Champ® H.I.D. Luminaires

| Cat. # | Lamp | | Rated Ambient °C | Class I, Division 2 | Class II, Division 1 | | Simultaneous Presence Class I, Div. 2 Class II, Div. 1 | Class I, Zone 2 | | Supply Wire Suitable for °C |
|---------|---------|------|------------------|--|----------------------|--|--|---|---|-----------------------------|
| | Wattage | Type | | Globe (G54) w/ or w/o Reflector (RA636 or RD636) | Group | Globe (G54) w/ or w/o Reflector (RA636 or RD636) | | Restricted Breathing Suffix S826 w/ Globe (G24) | Factory Sealed Suffix S865 AEx nA nR II | |
| LMVS50 | 50 | HPS | 40 | T2D | EFG | T3C | T2B | T5 | T3 | N/A |
| LMVS50 | 50 | HPS | 55 | T2C | — | — | — | T4 | T3 | 75 |
| LMVS50 | 50 | HPS | 65 | T2C | — | — | — | T4 | T3 | 85 |
| LMVS70 | 70 | HPS | 40 | T2B | — | — | — | T4 | T3 | 75 |
| LMVS70 | 70 | HPS | 55 | T2B | — | — | — | T4 | T3 | 85 |
| LMVS100 | 100 | HPS | 40 | T2 | — | — | — | T4 | T3 | 85 |
| LMVS100 | 100 | HPS | 50 | — | — | — | — | T3 | T3 | 90 |
| LMVM70 | 70 | MH | 40 | T2B | — | — | — | T4 | T3 | 75 |
| LMVM70 | 70 | MH | 55 | T2B | — | — | — | T4 | T3 | 85 |
| LMVM100 | 100 | MH | 40 | — | — | — | — | T3 | T3 | 85 |
| LMVM150 | 150 | HPS | 40 | T1 350°C | — | — | — | — | — | 85 |

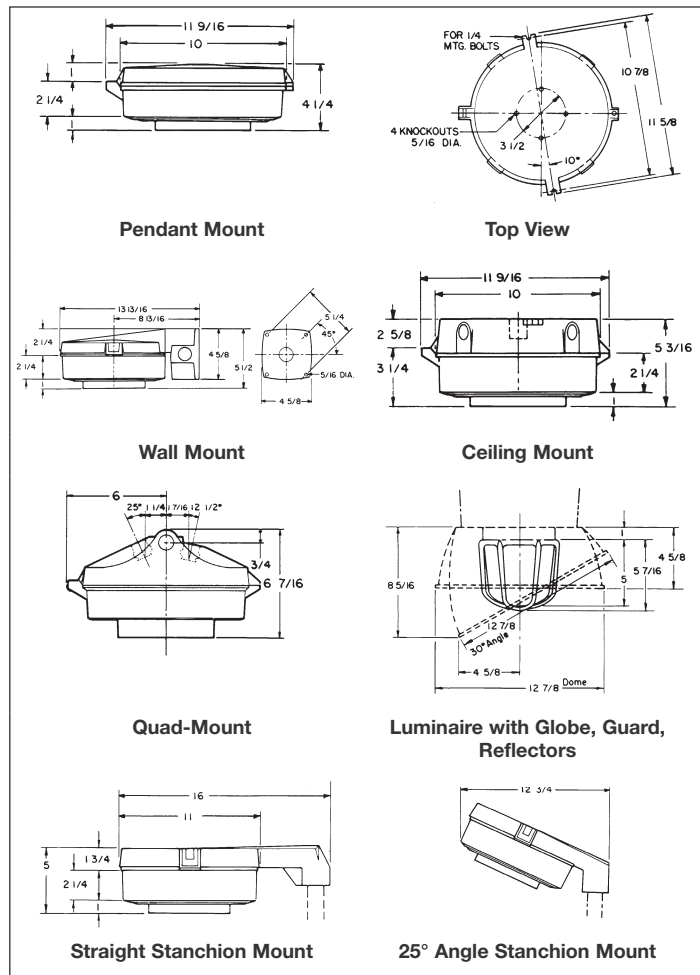
The Class I, Division 2 T-codes apply to luminaires without the restricted breathing (S826) or factory sealed (S865) options. These luminaires are listed to UL 844. UL 844 specifies how the temperatures are measured.

The Class I, Zone 2 T-codes are for luminaires that are additionally listed to UL 60079-15 that specify a different method for measuring temperatures. Since NEC® 501.1 states that equipment "...for use in Class I, Zone 0, 1, or 2 locations shall be permitted in Class I, Division 2 locations..." then these luminaires are suitable for Class I, Division 2 but with lower temperature ratings. They also have the advantage of meeting the more rigorous mechanical tests of UL 844.



Champ® H.I.D. Luminaires

Dimensions
In Inches:



Luminaire Net Weights:

| Luminaire Series | Lamp Watts | Luminaire with Globe, Guard (lbs.) |
|------------------|------------|------------------------------------|
| LMVS | 50 | 7 3/4 |
| | 70 | 8 1/4 |
| | 100 | 8 3/4 |
| | 150 | 9 1/4 |
| LMVM | 70 | 9 |
| | 100 | 9 |

Type Lbs.

Add for mounting modules:

| | |
|--------------------|-------|
| Pendant | 1 1/4 |
| Flexible Pendant | 1 1/2 |
| Ceiling | 2 3/4 |
| Quad-Mount | 3 1/2 |
| Wall | 4 1/2 |
| Angle Stanchion | 3 1/2 |
| Straight Stanchion | 4 1/2 |

Type lbs.

Add for reflectors:

| | |
|-----------|-----|
| Dome | 1.0 |
| 30° Angle | 1.0 |

Deduct for luminaire without guard:

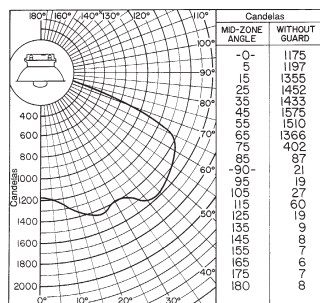
| | |
|-----------|-----|
| P50 Guard | 1/2 |
|-----------|-----|

Champ® H.I.D. Luminaires

Lamp: 100W/E-17 high pressure sodium (HPS)
 Total bare lamp lumens: 9500

All data provided is for high pressure sodium luminaires with 100W/E-17 clear lamps. Use conversion factors (multipliers) shown below for other lamp types and wattages. Consult Eaton's Crouse-Hinds for additional photometric data on any Champ Series.

Luminaire with Globe and Dome Reflector



Multipliers (for use with candela curve only).

| Luminaire Series | Lamp Watts | Conversion Factor |
|------------------|------------|-------------------|
| LMVS | 35 | 0.24 |
| | 50 | 0.42 |
| | 70 | 0.67 |
| | 150 | 1.68 |

Luminaire spacing ratio: 2.0

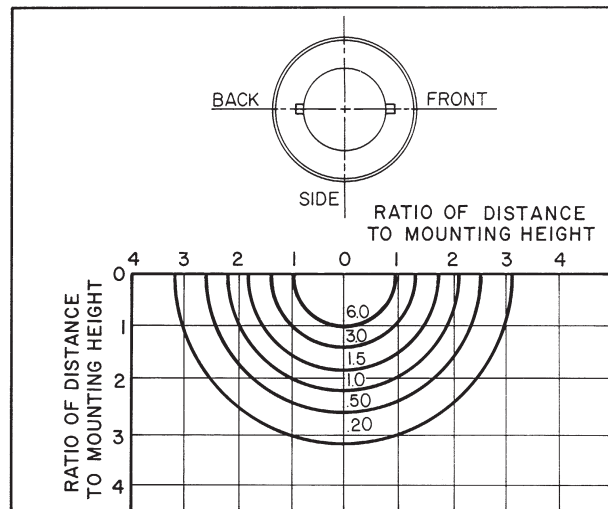
Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

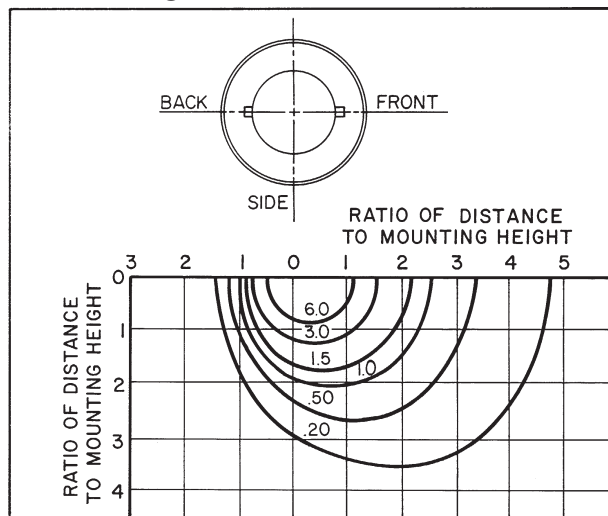
| % Reflectance | | Room Cavity Ratio | | | | |
|---------------|------|-------------------|------|------|------|------|
| Eff. Ceil. | Wall | 1 | 2 | 3 | 4 | 5 |
| 80 | 50 | .722 | .628 | .545 | .473 | .413 |
| | 30 | .691 | .579 | .487 | .408 | .346 |
| | 10 | .663 | .537 | .441 | .358 | .296 |
| 70 | 50 | .705 | .613 | .534 | .463 | .403 |
| | 30 | .676 | .568 | .479 | .403 | .340 |
| | 10 | .650 | .531 | .436 | .355 | .293 |
| 50 | 50 | .671 | .585 | .511 | .442 | .387 |
| | 30 | .647 | .548 | .464 | .390 | .332 |
| | 10 | .627 | .514 | .426 | .349 | .289 |
| 30 | 50 | .641 | .560 | .489 | .424 | .371 |
| | 30 | .623 | .529 | .450 | .379 | .322 |
| | 10 | .605 | .501 | .416 | .342 | .284 |
| 10 | 50 | .614 | .537 | .470 | .407 | .356 |
| | 30 | .598 | .510 | .436 | .367 | .341 |
| | 10 | .584 | .488 | .407 | .335 | .279 |
| 0 | 0 | .568 | .471 | .391 | .319 | .263 |

| % Reflectance | | Room Cavity Ratio | | | | |
|---------------|------|-------------------|------|------|------|------|
| Eff. Ceil. | Wall | 6 | 7 | 8 | 9 | 10 |
| 80 | 50 | .366 | .324 | .288 | .261 | .226 |
| | 30 | .300 | .259 | .225 | .199 | .165 |
| | 10 | .253 | .215 | .180 | .156 | .127 |
| 70 | 50 | .358 | .318 | .282 | .256 | .221 |
| | 30 | .295 | .255 | .223 | .196 | .165 |
| | 10 | .249 | .212 | .179 | .156 | .126 |
| 50 | 50 | .343 | .305 | .271 | .246 | .214 |
| | 30 | .288 | .248 | .217 | .192 | .161 |
| | 10 | .246 | .209 | .177 | .154 | .124 |
| 30 | 50 | .330 | .292 | .261 | .237 | .206 |
| | 30 | .280 | .243 | .210 | .186 | .157 |
| | 10 | .242 | .205 | .175 | .152 | .122 |
| 10 | 50 | .317 | .282 | .251 | .228 | .199 |
| | 30 | .272 | .237 | .206 | .182 | .152 |
| | 10 | .238 | .202 | .172 | .149 | .120 |
| 0 | 0 | .223 | .187 | .158 | .136 | .107 |

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 |
|--------------|--------|--------------|--------|
| 6 | 2.78 | 14 | 0.51 |
| 8 | 1.56 | 16 | 0.39 |
| 12 | 0.70 | | |