

# High Intensity Discharge (H.I.D.) Lighting

## Hazardous and Non-Hazardous

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H.I.D. Lighting

### Application:

Luminaires included in this section are enclosed and gasketed, designed for use with H.I.D. lamps as follows:

- in locations where protection is required from wet, dirty and corrosive atmospheres
- where long life lamps provide desirable maintenance cost savings and return on investment through use of fewer luminaires, circuits and ancillary apparatus.
- where relamping and maintenance difficulties require long life lamps.

### Considerations for Selection:

#### Environmental:

- What are the hazardous areas classifications (NEC/CEC) of the locations in which the luminaires will be installed?
- Must luminaires be suitable for use in marine, hosedown, corrosive applications?

#### Lighting levels required:

- What wattage luminaire(s) will provide the desired light level? (See Lighting Selector Guide, Section L to determine number and location of luminaires required)

### Product Selection:

Quick Selector Chart - (See specific sections for lamp type and wattage suitability)			
- Series -	- Watts HPS, MH & MV Lamps	Hazardous Area & Other Environmental Suitabilities NEC, CEC, IEC	- Ballast Voltages -
VMV Champ	50, 70, 100, 150, 175 Mogul Base	<b>NEC &amp; CEC</b> Cl. I, Div. 2 Groups A, B, C, D Cl. II, Groups E, F, G Class III Simultaneous Presence  <b>Restricted Breathing (Suffix - S826)</b> CL. I Div. 2 & Zone 2 AEx nR, Ex nR IIC  Marine Outdoor & Wet Locations  Type 3, 3R, 4, 4X IP56 to 1P66	<b>Standard Voltage Ballasts (60 Hz)</b> <b>NEC (UL)</b> Multi-tap: 120, 208, 240 & 277 Volt 60 Hz. Dual-tap: 120 & 277 Volt 60 Hz (50W HPS) 120 Volt 60 Hz 480 Volt 60 Hz  <b>CEC/CSA (cUL)</b> Tri-tap: 120, 277 & 347 Volt 60 Hz Dual-tap: 120 & 277 Volt 60 Hz (50W HPS) 120 Volt 60 Hz
VMV High Wattage Champ	200, 250, 400 Mogul Base		
LMV Champ Low Profile	35, 50, 70, 100, 150 Medium Base		<b>Optional Voltage Ballasts (50 or 60 Hz)</b>  <b>CEC/CSA (cUL)</b> 208 Volt 60 Hz CWI - Isolated 240 Volt 60 Hz CWI - Isolated 480 Volt 60 Hz CWI - Isolated 600 Volt 60 Hz CWI - Isolated
DMV Champ Expanded Class II Suitability	50, 70, 100, 150, 175, 250 Mogul Base		
N2MV Champ Non Metallic	50, 70, 100, 150, 175 Mogul Base		<b>EXPORT</b> 220 Volt 50 Hz 230 Volt 50 Hz 240 Volt 50 Hz

# Champ® H.I.D. Luminaires

VMV, LMV, DMV, VMV

High Wattage & N2MV Series

- 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
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP56 to IP66

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The *Champ* family is an extremely versatile industrial lighting system. Five different series of *Champ* Luminaires embrace a broad range of wattages, lamp sources, compliances, optics, and accessories. Each series is covered in detail on the following pages. General information to help in the proper selection of series and luminaires is shown below.

## Application:

Heavy duty *Champ* lighting luminaires are used:

- in manufacturing plants, refineries, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, offshore, dockside, and harbor installations, and other heavy industrial applications
- in areas where ignitable concentrations of flammable gases or vapors will be present only due to abnormal, unusual, or accidental conditions
- where combustible dusts are present
- in marine applications where water spray and corrosive atmospheres are considerations
- in elevated ambient temperatures often found in industrial applications
- in installations where moisture, dirt, dust, vibration, corrosion, and rough usage are problems
- wherever the damaging effects of water, wind, snow, sleet, hot sun, or any combination of these elements are found.



## Features:

- Cast copper-free aluminum construction (less than 0.4 of 1% copper) and epoxy powder finish provide excellent resistance to corrosion.
- Seven mounting arrangements in each series, to suit any lighting layout – pendant, flexible pendant, ceiling, wall bracket, angle stanchion, straight stanchion, and quad-mount.
- Wide range of light sources and wattages to meet specifiers' needs: 35, 50, 70, 100, 150, 200, 250 and 400 watt high pressure sodium (HPS); 100, 175, 250, and 400 watt mercury vapor (MV); 70, 100 175, 250, and 400 watt metal halide (MH).
- Hinged ballast housings for ease of installation and maintenance; all mounting modules fit all ballast housings.
- Wide choice of photometric distributions. Globes available for lamps up through 400 watt HPS, and 250 watt MV and MH. Glass refractors available for all VMV and DMV units; reflector/lens for 200-400 watt VMV units
- All luminaires are 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*® fiberglass-reinforced polyester 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
- Ballasts are high power factor (min P.F. 90%) and available in a variety of voltages to meet local area requirements.

- 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 50W, 70W)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66

### Application:

VMV series Champ luminaires are used:

- in manufacturing plants, refineries, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, offshore, dockside, and harbor installations, and other heavy industrial applications
- 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
- in marine applications where water spray and corrosive atmospheres are considerations
- in elevated ambient temperatures often found in industrial applications
- in installations where moisture, dirt, dust, vibration, corrosion, and rough usage are problems
- wherever the damaging effects of water, wind, snow, sleet, hot sun, or any combination of these elements are found

### Features:

- Compact, lightweight design is ideal for medium and 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 bracket, angle stanchion, straight stanchion, and quad-mount
- Wide range of light sources and wattages to meet specifiers' needs: 50, 70, 100, and 150 watt high pressure sodium (HPS); 100, and 175 watt mercury vapor (MV); 70, 100, 175 watt metal halide (MH)
- Hinged ballast housing for ease of installation and maintenance
- Wide choice of photometric distributions. Glass globes, refractors and compact refractors available for all wattage luminaires; plastic refractors (for non-hazardous applications only) for 50-100 watt luminaires
- All luminaires are 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
- High power factor ballasts (Min P.F. 90%) and available in a variety of voltages to meet local area requirements.
- Mogul base porcelain lamp socket



### 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
- Refractors – glass (50-175 watts); plastic (50-100 watts), for non-hazardous applications.
- Guards: globe – copper-free aluminum refractor – stainless steel

### Standard Finishes:

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

### Electrical Ratings:

- 120, 208, 240, 277, 347, 480, 600, Multi-tap\* (120, 208, 240 and 277)
- 50 to 150W HPS; 100 to 175W MV; 70 to 175W MH

### Certifications and Compliances:

- NEC & CEC:
    - Class I, Division 2, Groups A,B,C,D
    - HPS 50W, 70W - 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, 2279 Hazardous (Classified) Locations
    - 1598 Luminaires
    - 1598A Marine Locations
  - CSA Standards
    - C22.2 No. 137
  - IEC Standards
    - 60079-15
- ◆ VMV Series now available with Champ Induction Lighting System. See Section 5L.

### Options:

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

Description	Suffix to be added to Cat. No.
• Factory Sealed Champs .....	S865†
- Class I Division 2 & Zone 2	
- Provides T3 code without conduit or cable seals	
<b>Restricted breathing/Non-sparking</b>	
• 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)	
• Ballast-Gard™ starter cut-out switch – prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life. Available for use with 50-150W LX HPS only . . . . .	BG
• 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 . . . . .	IR
• Quartz auxiliary lighting for use with R2 & R5 large glass refractors only! – comes to full brightness immediately and remains lit until the HID lamp attains 60-70% of full illumination. For non-hazardous locations only . . . . .	QTZ
• Stainless steel insert - top hat with stainless steel threaded insert to attach ballast housing . . . . .	S806
• TEFLON coating on globe for increased shatter protection . . . . .	S808
T-Numbers not affected	
• Factory assembled with H.I.D. lamps installed for additional labor savings . . . . .	FA
(Note: BG and IR options cannot be used together. IR and QTZ options cannot be used together.)	
<b>Accessories:</b>	
• See pages 775 and 776 for complete listing.	
TEFLON is a registered trademark of E.I. duPont Co.	
* When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.	
† For detailed information on Restricted Breathing and Non-Sparking, see page 32 of the Cooper Crouse-Hinds 2005 Code Digest.	

# 50-150W High Pressure Sodium VMV Series Champ® H.I.D. Luminaires

- CI. 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 (50W, 70W)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66



See Notes 1 (to specify voltage), 2 and 3. For guards and other optics see VMV Luminaires – Ordering by Components section.

## BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G24 Globe and P21 Guard	With G241 Type I Compact Refractor	With G245 Type V Compact Refractor	With R5 Glass Refractor
	Pendant Mount	50	VMVS2A050GP	VMVS2A050G241	VMVS2A050G245	VMVS2A050R5
		1	VMVS3A050GP	VMVS3A050G241	VMVS3A050G245	VMVS3A050R5
		70	VMVS2A070GP✓	VMVS2A070G241✓	VMVS2A070G245✓	VMVS2A070R5✓
		100	VMVS3A070GP✓	VMVS3A070G241✓	VMVS3A070G245✓	VMVS3A070R5✓
		150	VMVS2A100GP✓	VMVS2A100G241✓	VMVS2A100G245✓	VMVS2A100R5✓
		1	VMVS3A100GP✓	VMVS3A100G241✓	VMVS3A100G245✓	VMVS3A100R5✓
		150	VMVS2A150GP✓	VMVS2A150G241✓	VMVS2A150G245✓	VMVS2A150R5✓
	Flexible Pendant Mount	50	VMVS2HA050GP	VMVS2HA050G241	VMVS2HA050G245	VMVS2HA050R5
		70	VMVS2HA070GP✓	VMVS2HA070G241✓	VMVS2HA070G245✓	VMVS2HA070R5✓
		100	VMVS2HA100GP✓	VMVS2HA100G241✓	VMVS2HA100G245✓	VMVS2HA100R5✓
		150	VMVS2HA150GP✓	VMVS2HA150G241✓	VMVS2HA150G245✓	VMVS2HA150R5✓
	Ceiling Mount Thru-Feed	50	VMVS2C050GP	VMVS2C050G241	VMVS2C050G245	VMVS2C050R5
		1	VMVS3C050GP	VMVS3C050G241	VMVS3C050G245	VMVS3C050R5
		70	VMVS2C070GP✓	VMVS2C070G241✓	VMVS2C070G245✓	VMVS2C070R5✓
		100	VMVS3C070GP✓	VMVS3C070G241✓	VMVS3C070G245✓	VMVS3C070R5✓
		150	VMVS2C100GP✓	VMVS2C100G241✓	VMVS2C100G245✓	VMVS2C100R5✓
		1	VMVS3C100GP✓	VMVS3C100G241✓	VMVS3C100G245✓	VMVS3C100R5✓
		150	VMVS2C150GP✓	VMVS2C150G241✓	VMVS2C150G245✓	VMVS2C150R5✓
	Wall Mount Thru-Feed	50	VMVS2TW050GP	VMVS2TW050G241	VMVS2TW050G245	VMVS2TW050R5
		1	VMVS3TW050GP	VMVS3TW050G241	VMVS3TW050G245	VMVS3TW050R5
		70	VMVS2TW070GP✓	VMVS2TW070G241✓	VMVS2TW070G245✓	VMVS2TW070R5✓
		100	VMVS3TW070GP✓	VMVS3TW070G241✓	VMVS3TW070G245✓	VMVS3TW070R5✓
		150	VMVS2TW100GP✓	VMVS2TW100G241✓	VMVS2TW100G245✓	VMVS2TW100R5✓
		1	VMVS3TW100GP✓	VMVS3TW100G241✓	VMVS3TW100G245✓	VMVS3TW100R5✓
		150	VMVS2TW150GP✓	VMVS2TW150G241✓	VMVS2TW150G245✓	VMVS2TW150R5✓
	Quad-Mount	50	VMVS25Q050GP	VMVS25Q050G241	VMVS25Q050G245	VMVS25Q050R5
	Pendant,	70	VMVS25Q070GP	VMVS25Q070G241	VMVS25Q070G245	VMVS25Q070R5
	Adjustable	100	VMVS25Q100GP	VMVS25Q100G241	VMVS25Q100G245	VMVS25Q100R5
	Thru-Feed,	150	VMVS25Q150GP	VMVS25Q150G241	VMVS25Q150G245	VMVS25Q150R5
	25° Angle, 12½° Angle					
	Stanchion Mount	50	VMVSJ050GP	VMVSJ050G241	VMVSJ050G245	VMVSJ050R5
		70	VMVSJ070GP✓	VMVSJ070G241✓	VMVSJ070G245✓	VMVSJ070R5✓
	25° Angle	100	VMVSJ100GP✓	VMVSJ100G241✓	VMVSJ100G245✓	VMVSJ100R5✓
		150	VMVSJ150GP✓	VMVSJ150G241✓	VMVSJ150G245✓	VMVSJ150R5✓
	Stanchion Mount	50	VMVSP050GP	VMVSP050G241	VMVSP050G245	VMVSP050R5
		70	VMVSP070GP✓	VMVSP070G241✓	VMVSP070G245✓	VMVSP070R5✓
	Straight	100	VMVSP100GP✓	VMVSP100G241✓	VMVSP100G245✓	VMVSP100R5✓
		150	VMVSP150GP✓	VMVSP150G241✓	VMVSP150G245✓	VMVSP150R5✓

### Standard Voltage Ballasts - 60Hz

NEC/UL

CEC/CSA (cUL)

1. Voltage Suffix	Multi Tap /MT	Dual Tap /DT	120V /120	480V /480	Tri Tap /TT	Dual Tap /DT	120V /120
(Multi Tap and Dual Tap ballasts are prewired for 277V)							

### Optional Voltage Ballasts - 50 or 60Hz

CEC/CSA (cUL) - CWI Isolated Ballasts

EXPORT

Voltage Suffix	208V CWI /208CWII	240V CWI /240CWII	480V CWI /480CWII	600V CWI /600CWII	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50
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2. 150W HPS Luminaires, 55V Lamps is standard; for 100V lamps - Add suffix "CE". 50W HPS Luminaire is dual tap only.

3. Options - Add the required options suffixes from page 724, In Alpha-numeric order.

✓ - available with Lightning Service™ delivery. See Section G for complete details.

3L

# 150-175W Pulse Start Metal Halide VMV Series

## 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

See Note 1 (to specify voltage). For guards and other optics see VMV Luminaires – Ordering by Components section.

### BASIC CATALOG NUMBER



Mounting Style	Hub Size	Lamp Watts	With G24 Globe and P21 Guard	With G245 Type V Compact Refractor	With R5 Glass Refractor
<b>Pendant Mount</b>	9/4	150	VMVM2A150GP-S828	VMVM2A150G245-S828	VMVM2A150R5-S828
	1	150	VMVM3A150GP-S828	VMVM3A150G245-S828	VMVM3A150R5-S828
	9/4	175	VMVM2A175GP-S828	VMVM2A175G245-S828	VMVM2A175R5-S828
	1	175	VMVM3A175GP-S828	VMVM3A175G245-S828	VMVM3A175R5-S828



<b>Flexible Pendant Mount</b>	9/4	150	VMVM2HA150GP-S828	VMVM2HA150G245-S828	VMVM2HA150R5-S828
	9/4	175	VMVM2HA175GP-S828	VMVM2HA175G245-S828	VMVM2HA175R5-S828



<b>Ceiling Mount Thru-Feed</b>	9/4	150	VMVM2C150GP-S828	VMVM2C150G245-S828	VMVM2C150R5-S828
	1	150	VMVM3C150GP-S828	VMVM3C150G245-S828	VMVM3C150R5-S828
	9/4	175	VMVM2C175GP-S828	VMVM2C175G245-S828	VMVM2C175R5-S828
	1	175	VMVM3C175GP-S828	VMVM3C175G245-S828	VMVM3C175R5-S828



<b>Wall Mount Thru-Feed</b>	9/4	150	VMVM2TW150GP-S828	VMVM2TW150G245-S828	VMVM2TW150R5-S828
	1	150	VMVM3TW150GP-S828	VMVM3TW150G245-S828	VMVM3TW150R5-S828
	9/4	175	VMVM2TW175GP-S828	VMVM2TW175G245-S828	VMVM2TW175R5-S828
	1	175	VMVM3TW175GP-S828	VMVM3TW175G245-S828	VMVM3TW175R5-S828



<b>Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle</b>	9/4	150	VMVM25Q150GP-S828	VMVM25Q150G245-S828	VMVM25Q150R5-S828
	9/4	175	VMVM25Q175GP-S828	VMVM25Q175G245-S828	VMVM25Q175R5-S828



<b>Stanchion Mount 25° Angle</b>	1 1/2	150	VMVMJ150GP-S828	VMVMJ150G245-S828	VMVMJ150R5-S828
	1 1/2	175	VMVMJ175GP-S828	VMVMJ175G245-S828	VMVMJ175R5-S828



<b>Stanchion Mount Straight</b>	1 1/2	150	VMVMP150GP-S828	VMVMP150G245-S828	VMVMP150R5-S828
	1 1/2	175	VMVMP175GP-S828	VMVMP175G245-S828	VMVMP175R5-S828

1.

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

# 100-175W Metal Halide VMV Series

## 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



See Note 1 (to specify voltage), 2 and 3. For guards and other optics see VMV Luminaires – Ordering by Components section.

### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G24 Globe and P21 Guard	With G241 Type I Compact Refractor	With G245 Type V Compact Refractor	With R5 Glass Refractor
<b>Pendant Mount</b>	3/4	70	VMVM2A070GP	VMVM2A070G241	VMVM2A070G245	VMVM2A070R5
	1	70	VMVM3A070GP	VMVM3A070G241	VMVM3A070G245	VMVM3A070R5
	1	100	VMVM2A100GP✓	VMVM2A100G241✓	VMVM2A100G245✓	VMVM2A100R5✓
	3/4	175	VMVM3A100GP✓	VMVM3A100G241✓	VMVM3A100G245✓	VMVM3A100R5✓
	1	175	VMVM2A175GP✓	VMVM2A175G241✓	VMVM2A175G245✓	VMVM2A175R5✓
<b>Flexible Pendant Mount</b>	3/4	70	VMVM2HA070GP	VMVM2HA070G241	VMVM2HA070G245	VMVM2HA070R5
	3/4	100	VMVM2HA100GP✓	VMVM2HA100G241✓	VMVM2HA100G245✓	VMVM2HA100R5✓
	3/4	175	VMVM2HA175GP✓	VMVM2HA175G241✓	VMVM2HA175G245✓	VMVM2HA175R5✓
<b>Ceiling Mount Thru-Feed</b>	3/4	70	VMVM2C070GP	VMVM2C070G241	VMVM2C070G245	VMVM2C070R5
	1	70	VMVM3C070GP	VMVM3C070G241	VMVM3C070G245	VMVM3C070R5
	3/4	100	VMVM2C100GP✓	VMVM2C100G241✓	VMVM2C100G245✓	VMVM2C100R5✓
	1	100	VMVM3C100GP✓	VMVM3C100G241✓	VMVM3C100G245✓	VMVM3C100R5✓
	3/4	175	VMVM2C175GP✓	VMVM2C175G241✓	VMVM2C175G245✓	VMVM2C175R5✓
<b>Wall Mount Thru-Feed</b>	3/4	70	VMVM2TW070GP	VMVM2TW070G241	VMVM2TW070G245	VMVM2TW070R5
	1	70	VMVM3TW070GP	VMVM3TW070G241	VMVM3TW070G245	VMVM3TW070R5
	3/4	100	VMVM2TW100GP✓	VMVM2TW100G241✓	VMVM2TW100G245✓	VMVM2TW100R5✓
	1	100	VMVM3TW100GP✓	VMVM3TW100G241✓	VMVM3TW100G245✓	VMVM3TW100R5✓
	3/4	175	VMVM2TW175GP✓	VMVM2TW175G241✓	VMVM2TW175G245✓	VMVM2TW175R5✓
<b>Quad-Mount</b> Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	3/4	70	VMVM25Q070GP	VMVM25Q070G241	VMVM25Q070G245	VMVM25Q070R5
	3/4	100	VMVM25Q100GP	VMVM25Q100G241	VMVM25Q100G245	VMVM25Q100R5
	3/4	175	VMVM25Q175GP	VMVM25Q175G241	VMVM25Q175G245	VMVM25Q175R5
<b>Stanchion Mount 25° Angle</b>	1½	70	VMVMJ070GP	VMVMJ070G241	VMVMJ070G245	VMVMJ070R5
	1½	100	VMVMJ100GP✓	VMVMJ100G241✓	VMVMJ100G245✓	VMVMJ100R5✓
	1½	175	VMVMJ175GP✓	VMVMJ175G241✓	VMVMJ175G245✓	VMVMJ175R5✓
<b>Stanchion Mount Straight</b>	1½	70	VMVMP070GP	VMVMP070G241	VMVMP070G245	VMVMP070R5
	1½	100	VMVMP100GP✓	VMVMP100G241✓	VMVMP100G245✓	VMVMP100R5✓
	1½	175	VMVMP175GP✓	VMVMP175G241✓	VMVMP175G245✓	VMVMP175R5✓

1.

#### Standard Voltage Ballasts - 60Hz NEC/UL

CEC/CSA (cUL)

Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120
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#### Optional Voltage Ballasts - 50 or 60Hz

EXPORT

Voltage Suffix	208V CWI /208CWCI	480V CWI /240CWCI	600V CWI /600CWCI	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50
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2. Options - Add the required options suffixes from page 718, In Alpha-numeric order.

3. 70W Ballast not available in 480V.

✓ - available with Lightning Service™ delivery. See Section G for complete details.

3L



# 100-175W Mercury Vapor VMV Series 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

See Notes 1 (to specify voltage) and 2. For guards and other optics see VMV Luminaires – Ordering by Components section.

## BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G24 Globe and P21 Guard	With G241 Type I Compact Refractor	With G245 Type V Compact Refractor	With R5 Glass Refractor
<b>Pendant Mount</b>	9/4 1 3/4 1	100 175	VMVC2A100GP✓ VMVC3A100GP✓ VMVC2A175GP✓ VMVC3A175GP✓	VMVC2A100G241✓ VMVC3A100G241✓ VMVC2A175G241✓ VMVC3A175G241✓	VMVC2A100G245✓ VMVC3A100G245✓ VMVC2A175G245✓ VMVC3A175G245✓	VMVC2A100R5✓ VMVC3A100R5✓ VMVC2A175R5✓ VMVC3A175R5✓
<b>Flexible Pendant Mount</b>	9/4 9/4	100 175	VMVC2HA100GP✓ VMVC2HA175GP✓	VMVC2HA100G241✓ VMVC2HA175G241✓	VMVC2HA100G245✓ VMVC2HA175G245✓	VMVC2HA100R5✓ VMVC2HA175R5✓
<b>Ceiling Mount Thru-Feed</b>	9/4 1 3/4 1	100 175	VMVC2C100GP✓ VMVC3C100GP✓ VMVC2C175GP✓ VMVC3C175GP✓	VMVC2C100G241✓ VMVC3C100G241✓ VMVC2C175G241✓ VMVC3C175G241✓	VMVC2C100G245✓ VMVC3C100G245✓ VMVC2C175G245✓ VMVC3C175G245✓	VMVC2C100R5✓ VMVC3C100R5✓ VMVC2C175R5✓ VMVC3C175R5✓
<b>Wall Mount Thru-Feed</b>	9/4 1 9/4 1	100 175	VMVC2TW100GP✓ VMVC3TW100GP✓ VMVC2TW175GP✓ VMVC3TW175GP✓	VMVC2TW100G241✓ VMVC3TW100G241✓ VMVC2TW175G241✓ VMVC3TW175G241✓	VMVC2TW100G245✓ VMVC3TW100G245✓ VMVC2TW175G245✓ VMVC3TW175G245✓	VMVC2TW100R5✓ VMVC3TW100R5✓ VMVC2TW175R5✓ VMVC3TW175R5✓
<b>Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle</b>	9/4 9/4	100 175	VMVC25Q100GP VMVC25Q175GP	VMVC25Q100G241 VMVC25Q175G241	VMVC25Q100G245 VMVC25Q175G245	VMVC25Q100R5 VMVC25Q175R5
<b>Stanchion Mount 25° Angle</b>	1½ 1½	100 175	VMVCJ100GP✓ VMVCJ175GP✓	VMVCJ100G241✓ VMVCJ175G241✓	VMVCJ100G245✓ VMVCJ175G245✓	VMVCJ100R5✓ VMVCJ175R5✓
<b>Stanchion Mount Straight</b>	1½ 1½	100 175	VMVCP100GP✓ VMVCP175GP✓	VMVCP100G241✓ VMVCP175G241✓	VMVCP100G245✓ VMVCP175G245✓	VMVCP100R5✓ VMVCP175R5✓

1.

### Standard Voltage Ballasts - 60Hz

NEC/UL CEC/CSA (cUL)

Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120
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### Optional Voltage Ballasts - 50 or 60Hz EXPORT

Voltage Suffix	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50
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2. Options - Add the required options suffixes from page 724, In Alpha-numeric order.  
 ✓ – available with Lightning Service™ delivery. See Section G for complete details.



# VMV Luminaires - Ordering by Components

3L

VMV luminaires are available in components.

A complete luminaire consists of:

- I. Champ Cover (Mounting Module)
- II. VMV Ballast Housing - Include voltage and required option(s)
- III. Optical & Guard components - Globe, Reflector, Refractor, Guard

## I. Champ Cover (Mounting Module)

Type	Conduit	Cat. No.
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

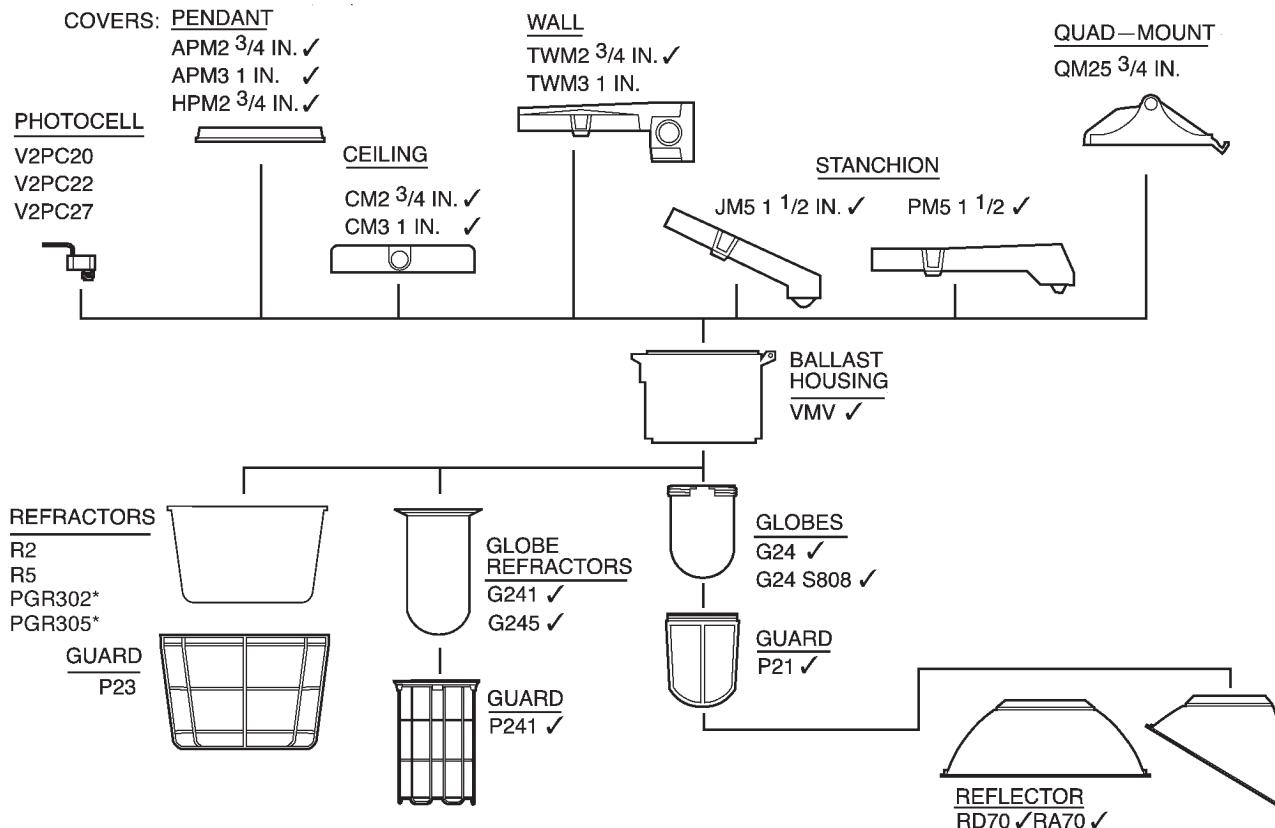
## II. Ballast Housings.

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

Lamp Type	Lamp Watts	Cat No.	
		For Globe and Compact Refractor	For Large Refractor
High Pressure Sodium	50	VMVS050/MT	VMVS050/MT-RM
	70	VMVS070/MT	VMVS070/MT-RM
	100	VMVS100/MT	VMVS100/MT-RM
	150	VMVS150/MT LX	VMVS150/MT LX-RM
Metal Halide	70	VMVM070/MT	VMVM070/MT-RM
	100	VMVM100/MT	VMVM100/MT-RM
	175	VMVM175/MT	VMVM175/MT-RM
Mercury Vapor	100	VMVC100/MT	VMVC100/MT-RM
	175	VMVC175/MT	VMVC175/MT-RM

## III. Globe, Reflectors, Refractors, Guards

Type	Cat. No.
Globe	G24
Globe - Teflon Coated	G24-S808
Globe Guard	P21
Reflector - Dome	RD70
Reflector - Angle	RA70
Compact Refractor Type 1	G241
Compact Refractor Type 5	G245
Compact Refractor Guard	P241
Large Refractor Type 2	R2
Large Refractor Type 5	R5
Large Refractor Guard	P23
Large Plastic Refractor Type 2	PR2
Large Plastic Refractor Type 3	PR3
Large Plastic Refractor Type 5	PR5



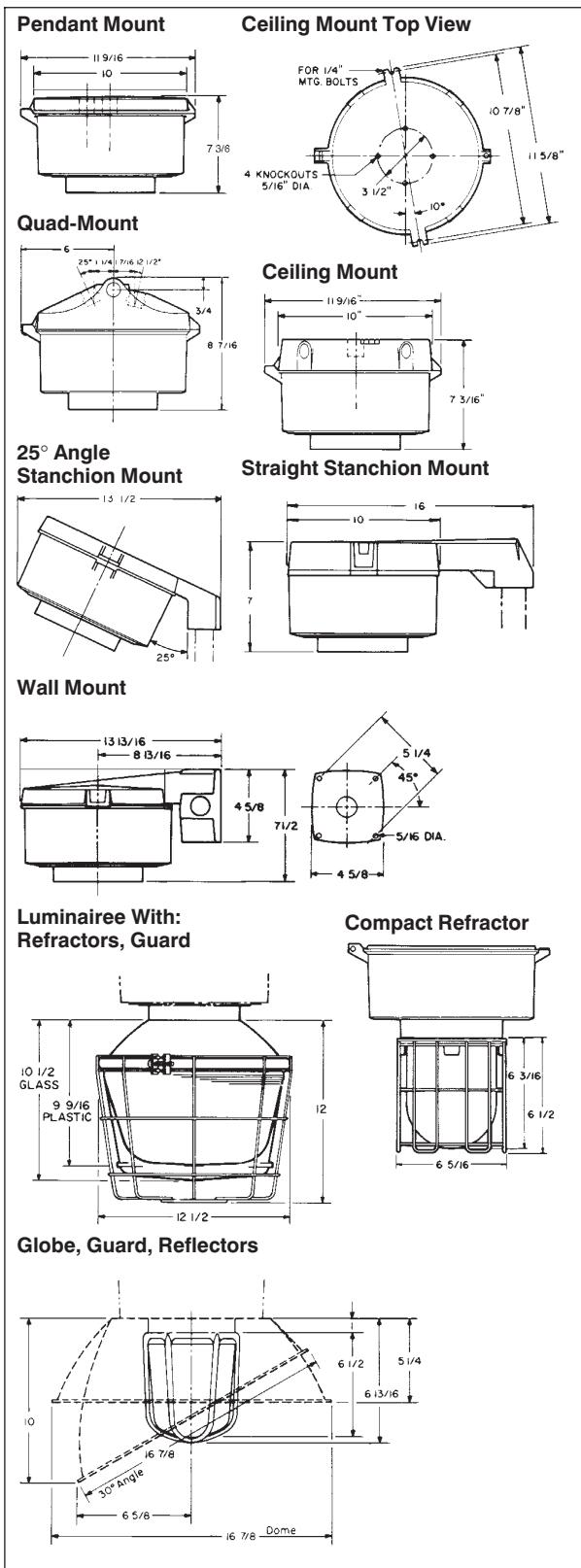
✓ – available with Lightning Service™ delivery. See Section G for complete details.  
 \* Plastic refractors are for non-hazardous areas only (50-100W Max.)

## Champ® H.I.D Luminaires

Cat. No.	LAMP		RATED AMBIENT °C	CLASS I, DIVISION 2			CLASS II, DIVISION 1		CLASS I, ZONE 2			SUPPLY WIRE SUITABLE FOR °C	
	Wattage	Type		Globe (G24)	Globe (G24) w/ Reflector (RA70 or RD70)	Refractor (G241 or G245)	Group	Globe (G24) w/ or w/o Reflector (RA70 or RD70)	Simultaneous Presence Class I, Div. 2 Class II, Div.2	Restricted Breathing Suffix S826 w/ Globe (G24)	Factory Sealed Suffix S865 AEx nA nR II	Globe (G24)	Refractor (G241 or G245)
VMVC100-S712	100	MV	40	T2B	T2B	—				T4	T3	75	—
VMVC100	100	MV	40	—	—	—				T4	T3	75	75
VMVC175	175	MV	40	T2	T2	T2B				T3	T3	90	85
VMVM70	70	MH	40	T3A	T3A	T3A				T5	T3	90	90
VMVM70	70	MH	55	T3	T3	T3				T4	T3	90	90
VMVM70	70	MH	65	T3	T3	T3				T4	T3	90	90
VMVM100	100	MH	40	T2D	T2D	T2D				T4	T3	90	90
VMVM100-S849	100	MH	40	T2	T2	T2				T4	T3	75	75
VMVM100	100	MH	55	T2D	T2D	T2D				T4	T3	90	90
VMVM150	150	MH	40	T2A	T2A	T2B				T3	T3	90	90
VMVM175	175	MH	40	T2A	T2A	T2B				T3	T3	90	90
VMVS50	50	HPS	40	T3A	T3A	T3B	EFG	T4A	T3A	T5	T3	75	65
VMVS50	50	HPS	55	T3A	T3A	T3A	EFG	T4	T3	T5	T3	75	75
VMVS50	50	HPS	65	T3	T3	T3	EFG	T4	T2D	T5	T3	75	75
VMVS70	70	HPS	40	T3	T3	T3B	EFG	T3C	T2C	T4	T3	75	65
VMVS70	70	HPS	55	T3	T3	T3	EFG	T3C	T2B	T4	T3	90	90
VMVS100	100	HPS	40	T2C	T2C	T2D	EFG	T3A	T2A	T4	T3	90	75
VMVS100	100	HPS	55	T2B	T2B	T2B	EFG			T3	T3	105	90
VMVS150	150	HPS	40	T2A	T2A	T2B				T3	T3	90	85
VMVS150	150	HPS	55	T2	T2	T2A				T3	T3	105	105
VMVIG055	55	Induction	40	T2C	T2C	—				T6	—	65	—
VMVIG055	55	Induction	55	T2C	T2C	—				T5	—	65	—

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.



### Net Luminaire Weights (lbs.):

Luminaire Series	50	70	100	150	175
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#### Luminaire with Globe, Guards (lbs.):

VMVS	13½	14½	14½	14½
VMVC		13¼		15½
VMVM		13	13¼	15½

#### Luminaire with Glass Refractor (lbs.):

VMVS	21¼	22¾	22¾	22¾
VMVC		21½		23¾
VMVM	21	21½		23¾

#### Add for mounting modules (lbs.):

Pendant	1¼	Quad-Mount	3½
Flexible Pendant	1½	Angle Stanchion	3½
Ceiling	2¾	Straight Stanchion	4½
Wall	4½		

#### Add for reflectors (lbs.):

Dome	1½	30° Angle	1½
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**Deduct:** ½ lb. for fixture without P21 Guard

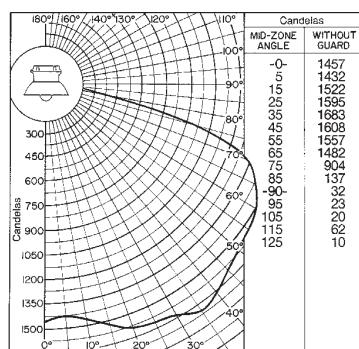
Lamp: 100W/E-23½ high pressure sodium (HPS)

Total bare lamp lumens: 9500

To determine number and placement of luminaires see Lighting Selector Guide, pages 665 to 689.

NOTE: All data provided is for high pressure sodium luminaires with 100W/E-23½ 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 luminaire.

### Luminaire with Globe and Dome Reflector



Multipliers (for use with candelier curve only).

Luminaire Series	Lamp Watts	Conversion Factor
VMVS	50	0.42
	70	0.67
	150	1.68

Luminaire spacing ratio: 1.85

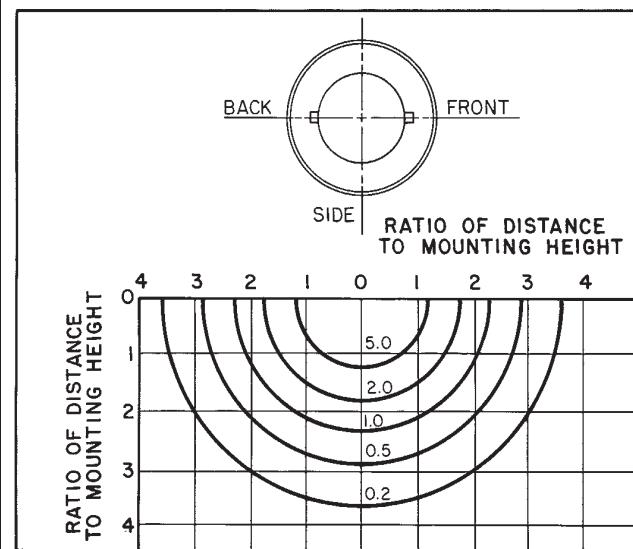
### Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

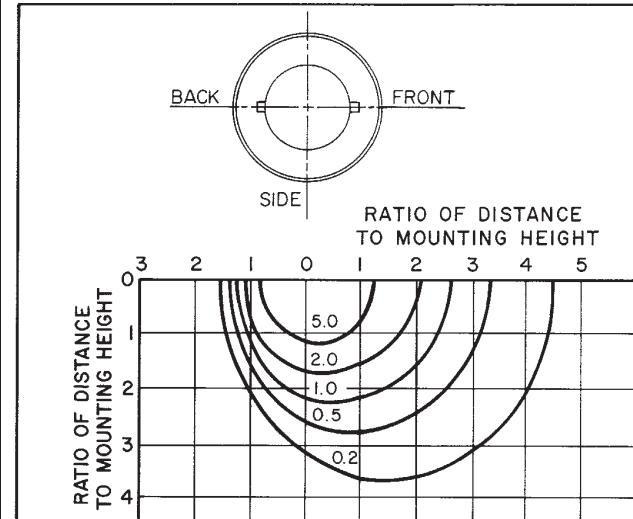
#### % Reflectance

Eff. Cell	Wall	Room Cavity Ratio				
		1	2	3	4	5
80	50	.823	.707	.610	.529	.464
	30	.784	.646	.538	.451	.384
	10	.749	.594	.482	.391	.324
70	50	.804	.690	.597	.517	.452
	30	.767	.633	.530	.445	.377
	10	.734	.587	.477	.388	.321
50	50	.765	.658	.571	.494	.434
	30	.735	.611	.513	.431	.368
	10	.709	.569	.466	.381	.318
30	50	.731	.629	.546	.473	.416
	30	.708	.591	.497	.419	.357
	10	.685	.555	.456	.375	.312
10	50	.701	.603	.524	.454	.399
	30	.681	.569	.482	.406	.348
	10	.662	.541	.446	.367	.307
0	0	.644	.521	.427	.348	.288
% Reflectance	Room Cavity Ratio					
	Wall	6	7	8	9	10
	50	.412	.366	.326	.296	.258
	30	.334	.290	.253	.224	.187
	10	.278	.239	.201	.175	.142
70	50	.403	.359	.320	.291	.252
	30	.329	.285	.250	.221	.187
	10	.274	.235	.200	.174	.142
50	50	.386	.344	.307	.279	.244
	30	.320	.277	.244	.216	.182
	10	.271	.231	.197	.172	.140
30	50	.371	.329	.296	.269	.235
	30	.312	.272	.237	.210	.178
	10	.267	.227	.195	.170	.137
10	50	.357	.319	.285	.260	.227
	30	.304	.266	.232	.206	.173
	10	.263	.224	.192	.167	.135
0	0	.245	.207	.176	.152	.120

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



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

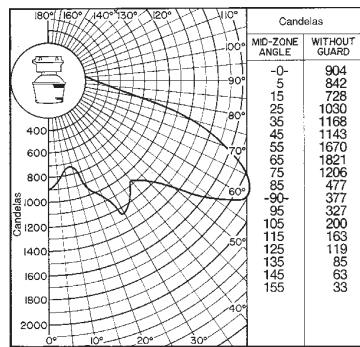


Isofootcandle charts show illumination in footcandles on work plane 10 feet below light center. Multiply by factor shown to convert to other mounting heights.

Height (Ft.)	Factor	Height (Ft.)	Factor
6	2.78	14	0.51
8	1.56	16	0.39
12	0.70		

**Lamp: 100W/E-23½ high pressure sodium (HPS)**

To determine number and placement of luminaires, see Lighting Selector Guide, pages 665 to 689.

**Luminaire with I.E.S. Type V Glass Refractor**

NOTE: Photometric data was developed using a 100 watt clear high pressure sodium lamp (9500 lumens). For other clear lamps, use the following conversion factors (multipliers):

Luminaire Series	Lamp Watts	Conversion Factor
VMVS	50	0.42
	70	0.67
	150	1.68

Luminaire spacing ratio: 2.0

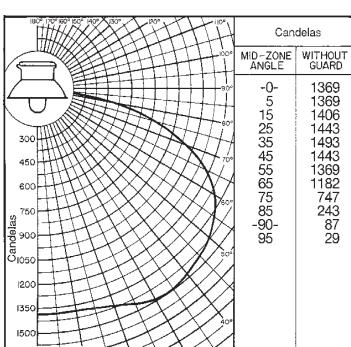
**Coefficient of Utilization**

Effective Floor Cavity Reflectance 20%

% Reflectance		Room Cavity Ratio				
Eff. Cel.	Wall	1	2	3	4	5
80	50	.848	.709	.597	.508	.437
	30	.796	.631	.509	.414	.343
	10	.750	.566	.439	.341	.271
70	50	.818	.682	.576	.489	.419
	30	.770	.611	.493	.402	.331
	10	.726	.552	.428	.334	.264
50	50	.759	.632	.533	.451	.389
	30	.720	.574	.464	.377	.312
	10	.685	.521	.407	.318	.253
30	50	.706	.586	.493	.417	.359
	30	.675	.538	.435	.354	.291
	10	.645	.495	.386	.302	.240
10	50	.658	.544	.457	.385	.331
	30	.632	.504	.408	.331	.274
	10	.608	.469	.366	.286	.227
0	0	.581	.441	.340	.260	.203
% Reflectance		Room Cavity Ratio				
Eff. Cel.	Wall	6	7	8	9	10
80	50	.384	.337	.299	.272	.238
	30	.292	.249	.214	.189	.159
	10	.226	.189	.154	.132	.103
70	50	.369	.325	.288	.262	.229
	30	.283	.240	.203	.183	.156
	10	.218	.182	.150	.130	.105
50	50	.341	.301	.266	.243	.214
	30	.266	.225	.195	.173	.146
	10	.209	.173	.143	.124	.099
30	50	.316	.277	.248	.225	.198
	30	.249	.213	.182	.161	.136
	10	.199	.163	.136	.117	.093
10	50	.292	.258	.223	.209	.134
	30	.233	.200	.171	.151	.127
	10	.188	.154	.128	.110	.087
0	0	.165	.133	.108	.091	.070

**Lamp: 175W/E-28 mercury vapor (MV)**

To determine number and placement of luminaires, see Lighting Selector Guide, pages 665 to 689.

**Luminaire with Globe and Dome Reflector**

NOTE: Photometric data was developed using a 175 watt diffuse mercury vapor lamp (8600 lumens). For other diffuse lamps, use the following conversion factors (multipliers):

Luminaire Series	Lamp Watts	Conversion Factor
VMVC	100	0.49
VMVM	70	0.65
	100	0.91
	175	1.63

Luminaire spacing ratio: 1.60

**Coefficient of Utilization**

Effective Floor Cavity Reflectance 20%

% Reflectance		Room Cavity Ratio				
Eff. Cel.	Wall	1	2	3	4	5
80	50	.793	.682	.591	.515	.453
	30	.753	.623	.522	.440	.376
	10	.718	.572	.468	.382	.319
70	50	.775	.667	.580	.505	.442
	30	.738	.611	.514	.435	.370
	10	.705	.566	.463	.379	.316
50	50	.739	.637	.555	.483	.426
	30	.709	.591	.498	.422	.362
	10	.682	.550	.454	.374	.313
30	50	.707	.611	.532	.484	.409
	30	.683	.572	.485	.411	.352
	10	.660	.537	.445	.388	.309
10	50	.679	.588	.512	.446	.394
	30	.658	.553	.471	.400	.345
	10	.639	.525	.436	.362	.304
0	0	.622	.506	.418	.343	.287
% Reflectance		Room Cavity Ratio				
Eff. Cel.	Wall	6	7	8	9	10
80	50	.403	.359	.320	.291	.253
	30	.328	.285	.250	.221	.185
	10	.275	.236	.199	.174	.142
70	50	.395	.352	.314	.286	.248
	30	.324	.281	.247	.219	.185
	10	.271	.233	.198	.174	.142
50	50	.379	.339	.303	.276	.241
	30	.316	.274	.241	.215	.181
	10	.298	.230	.196	.172	.140
30	50	.366	.325	.293	.266	.233
	30	.309	.268	.235	.209	.177
	10	.265	.226	.195	.170	.138
10	50	.353	.318	.282	.257	.225
	30	.301	.264	.231	.208	.179
	10	.282	.224	.193	.168	.136
0	0	.245	.208	.177	.153	.122

# 35-150W LMV Series

## Champ® H.I.D. Luminaires Medium Base

3L

- 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 35, 50W)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66

### Application:

- 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 specifiers needs: 35, 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.



### 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★
- 35, 50, 70, 100, 150 watts HPS
- 70 and 100 watts MH

### Certifications and Compliances:

- NEC and CEC:
  - Class I, Division 2, Groups A,B,C,D
  - HPS 35W, 50W - Class II, Class III & Simultaneous Presence (Class 1, Division 2 and Class II)
  - Class I Zone 2
- IEC:
  - Zone 2 Ex nR IIC
- UL Standards:
  - 844, 2279 Hazardous (Classified) Locations
  - 1598 Luminaires
  - 1598A Marine Locations
- CSA Standards
  - C22.2 No. 137
- IEC Standards
  - 60079-15

### Options:

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

Suffix to be Added to Cat. No.	Description
S826	• Restricted Breathing Construction....
- Class I Division 2 & Zone 2 Suitability	
- Cooler Operating Temperatures (T-Numbers)	
S826TB	• Certified for IEC Zone 2 .....
- Furnished with terminal block, crimp terminals and dedicated voltage ballasts (no MT, DT, or TT)	
S658*	• Fused – to protect ballast and capacitors against abnormal line conditions ....
(Not for use in Canada)	
BG	• 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.....
FA	• Factory assembled with H.I.D. lamps installed for additional labor savings.....
S806	• Stainless steel insert - top hat with stainless steel threaded insert to attach ballast housing .....

### Accessories:

- See pages 775 and 776 for complete listing

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

3L

H.I.D. Lighting

3L



## 35-150W High Pressure Sodium

### LMV Series Champ® H.I.D. Luminaires Medium Base

- 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

See Note 1 (to specify voltage), 2 and 3. For guards and other optics see LMV Luminaires - Ordering by Components section.

#### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G54 Globe and P50 Guard
<b>Pendant Mount</b>	3/4	35	LMVS2A035GP
	1	35	LMVS3A035GP
	3/4	50	LMVS2A050GP
	1	50	LMVS3A050GP
	3/4	70	LMVS2A070GP✓
	1	70	LMVS3A070GP✓
	3/4	100	LMVS2A100GP✓
	1	100	LMVS3A100GP✓
	3/4	150	LMVS2A150GP
<b>Flexible Pendant Mount</b>	1	150	LMVS3A150GP
	3/4	35	LMVS2HA035GP
	3/4	50	LMVS2HA050GP
	3/4	70	LMVS2HA070GP✓
	3/4	100	LMVS2HA100GP✓
<b>Ceiling Mount Thru-Feed</b>	3/4	150	LMVS2HA150GP
	3/4	35	LMVS2C035GP
	1	35	LMVS3C035GP
	3/4	50	LMVS2C050GP
	1	50	LMVS3C050GP
	3/4	70	LMVS2C070GP✓
	1	70	LMVS3C070GP✓
	3/4	100	LMVS2C100GP✓
	1	100	LMVS3C100GP✓
<b>Wall Mount Thru-Feed</b>	3/4	150	LMVS2C150GP
	1	150	LMVS3C150GP
	3/4	35	LMVS2TW035GP
	1	35	LMVS3TW035GP
	3/4	50	LMVS2TW050GP
	1	50	LMVS3TW050GP
	3/4	70	LMVS2TW070GP✓
	1	70	LMVS3TW070GP✓
	3/4	100	LMVS2TW100GP✓
<b>Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle</b>	1	100	LMVS3TW100GP✓
	3/4	150	LMVS2TW150GP
	1	150	LMVS3TW150GP
	3/4	35	LMVS25Q035GP
	3/4	50	LMVS25Q050GP
<b>Stanchion Mount 25° Angle</b>	3/4	70	LMVS25Q070GP
	3/4	100	LMVS25Q100GP
	3/4	150	LMVS25Q150GP
	1 1/2	35	LMVSJ035GP
	1 1/2	50	LMVSJ050GP
	1 1/2	70	LMVSJ070GP✓
<b>Stanchion Mount Straight</b>	1 1/2	100	LMVSJ100GP✓
	1 1/2	150	LMVSJ150GP
	1 1/2	35	LMVSP035GP
	1 1/2	50	LMVSP050GP
	1 1/2	70	LMVSP070GP✓
	1 1/2	100	LMVSP100GP✓
	1 1/2	150	LMVSP150GP

1.

Standard Voltage Ballasts - 60Hz  
NEC/UL

CEC/CSA (cUL)

Voltage Suffix	Multi Tap /MT	Dual Tap /DT	120V /120	480V /480	Tri Tap /TT	Dual Tap /DT	120V /120

2. 150W HPS Luminaires, 55V Lamps is Standard . 50W HPS luminaire is dual-tap only.

3. Options - Add the Required Options Suffixes from page 735, In Alpha-numeric Order

✓ – available with Lightning Service™ delivery. See Section G for complete details

# 70-100W Metal Halide

## LMV Series Champ® H.I.D. Luminaires Medium Base

- 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

**3L**

See Note 1 (to specify voltage), 2 and 3. For guards and other optics see LMV Luminaires - Ordering by Components section.

**BASIC CATALOG NUMBER**



Mounting Style	Hub Size	Lamp Watts	With G54 Globe and P50 Guard
<b>Pendant Mount</b>	3/4	70	LMVM2A070GP
	1		LMVM3A070GP
	3/4	100	LMVM2A100GP
	1		LMVM3A100GP



<b>Flexible Pendant Mount</b>	3/4	70	LMVM2HA070GP
	3/4	100	LMVM2HA100GP



<b>Ceiling Mount Thru-Feed</b>	3/4	70	LMVM2C070GP
	1		LMVM3C070GP
	3/4	100	LMVM2C100GP
	1		LMVM3C100GP



<b>Wall Mount Thru-Feed</b>	3/4	70	LMVM2TW070GP
	1		LMVM3TW070GP
	3/4	100	LMVM2TW100GP
	1		LMVM3TW100GP



<b>Stanchion Mount</b>	1 1/2	70	LMVMJ070GP
25° Angle	1 1/2	100	LMVMJ100GP



<b>Stanchion Mount</b>	1 1/2	70	LMVMP070GP
Straight	1 1/2	100	LMVMP100GP

**3L**  
H.I.D. Lighting

Standard Voltage Ballasts - 60Hz NEC/UL				CEC/CSA (cUL)	
Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120

2. Options - Add the Required Options Suffixes from page 735 in Alpha-numeric Order  
3. 70W Ballast not available in 480V.

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. No.
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

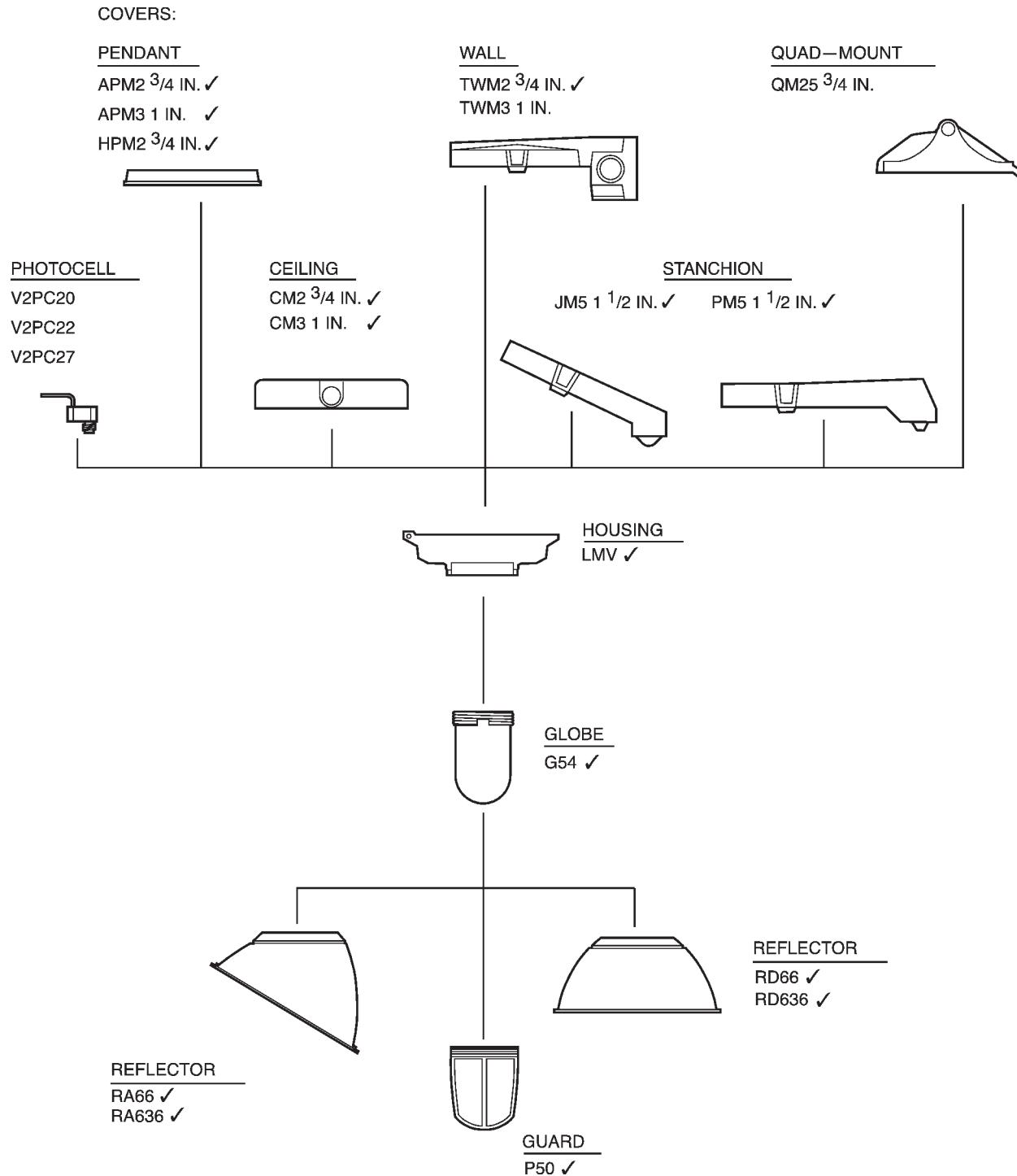
## II. Ballast Housings:

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

Lamp Type	Lamp Watts	Catalog Number
High Pressure Sodium	35	LMVS035/MT
	50	LMVS050/MT
	70	LMVS070/MT
	100	LMVS100/MT
	150	LMVS150/MT LX
Metal Halide	70	LMVM070/MT
	100	LMVM100/MT

## III. Globe, Guards and Reflectors:

Type	Catalog Number
Globe	G54
Globe Guard	P50
Globe Reflector-Dome	RD636
Globe Reflector-Angle	RA636



✓ – available with Lightning Service™ delivery. See Section G for complete details.

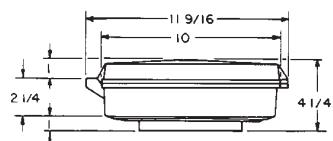
Cat. No.	LAMP		RATED AMBIENT °C	CLASS I, DIVISION 2	CLASS II, DIVISION 1		Simultaneous Presence Class I, Div. 2 Class II, Div. 1	CLASS I, ZONE 2		Supply Wire Suitable for °C
	Wattage	Type		Globe (G54) w/ or w/o Reflector (RA636 or RD636)*	Group	Globe (G54) w/ or w/o Reflector (RA636 or RD636)		Restricted Breathing Suffix S826 w/ Globe (G54)	Factory Sealed Suffix S865 AEx nA nR II	
LMVS35	35	HPS	40	T3A	EFG	T4A	T2D	T6	T3	N/A
LMVS35	35	HPS	55	T3	EFG	T4	T2C	T5	T3	75
LMVS35	35	HPS	65	T3	EFG	T3C	T2C	T4	T3	85
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.

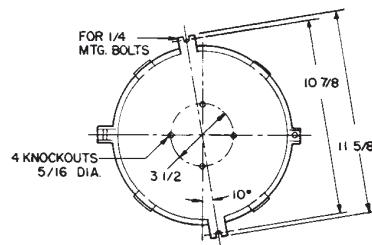
The Class I, Zone 2 T-codes are for luminaires that are additionally listed to UL 60079-15 that specify a different method for measuring temperatures. Since NEC® 501.1 states that equipment "...for use in Class I, Zone 0, 1 or 2 locations shall be permitted in Class I, Division 2 locations..." then these 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.

## Dimensions

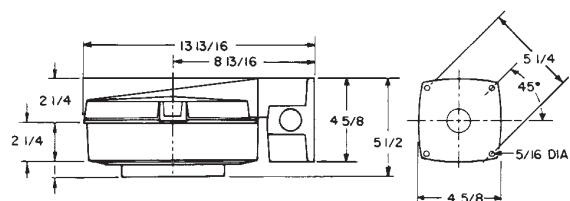
Pendant Mount



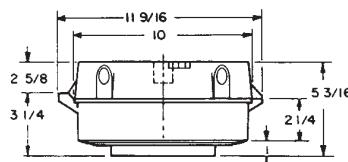
Top View



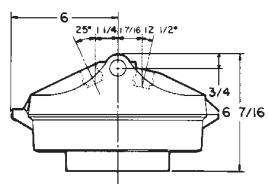
Wall Mount



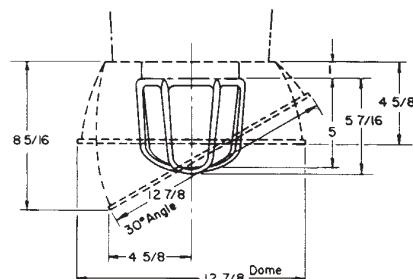
Ceiling Mount



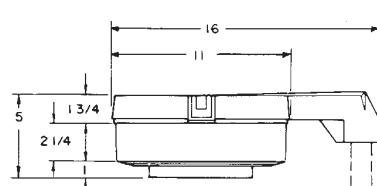
Quad-Mount



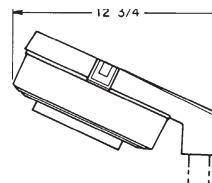
Luminaire with Globe, Guard, Reflectors



Straight Stanchion Mount



25° Angle Stanchion Mount



## Luminaire Net Weights:

Luminaire Series	Lamp Watts	Luminaire with Globe, Guard (lbs.)
LMVS	35	7 1/4
	50	7 3/4
	70	8 1/4
	100	8 3/4
	150	9 1/4
LMVM	70	9
	100	9

## Add for mounting modules (lbs.)

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

## Add for reflectors (lbs.):

Dome 1.0      30° Angle 1.0

**Deduct for luminaire without guard (lbs.):**  
P50 Guard 1/2

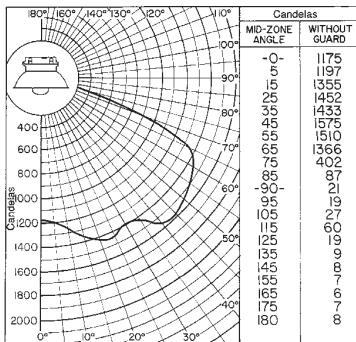
Lamp: 100W/E-17 high pressure sodium (HPS)

Total bare lamp lumens: 9500

To determine number and placement of luminaires, see Lighting Selector Guide, pages 665 to 689.

NOTE: 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 Cooper Crouse-Hinds for additional photometric data on any *Champ* Series luminaire.

### Luminaire with Globe and Dome Reflector



**Multipliers** (for use with candlepower curves only).

Luminaire Series	Lamp Watts	Conversion Factors
LMVS	35	0.24
	50	0.42
	70	0.67
	150	1.68

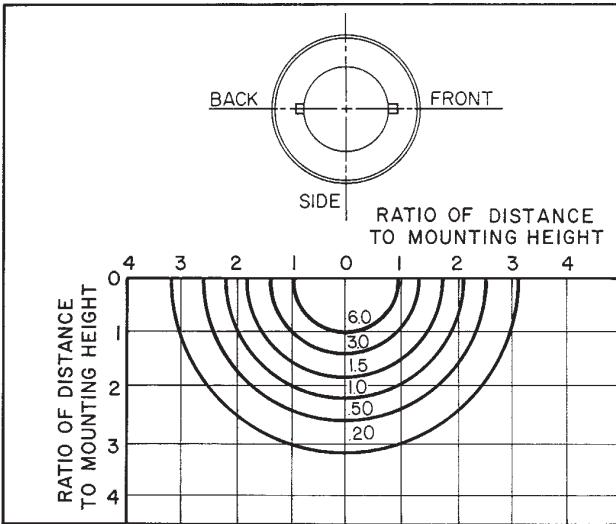
Luminaire spacing ratio: 2.0

### Coefficient of Utilization

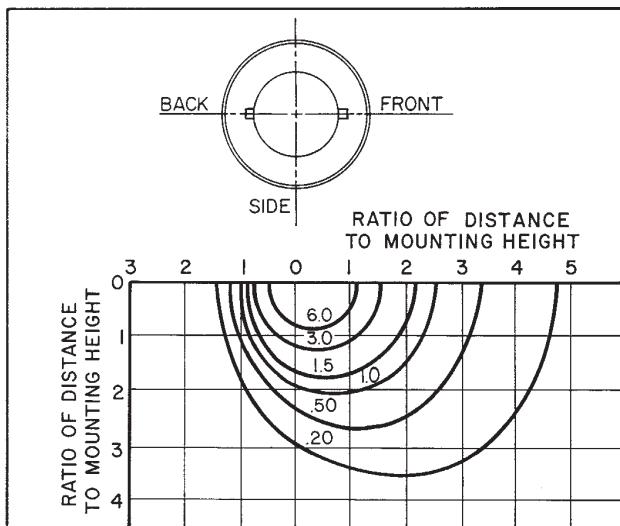
Effective Floor Cavity Reflectance 20%

% Reflectance Eff. Cell	Wall	Room Cavity Ratio				
		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 Eff. Cell	Wall	Room Cavity Ratio				
		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		

# 50-250W DMV Series

**Champ®**  
**H.I.D. Lighting Luminaires**  
**Enclosed & Gasketed**

**3L**

- 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 (175W max)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66

## Application:

DMV series Champ luminaires are used:

- in applications made hazardous by the presence of combustible dusts
- in areas in which ignitable concentrations of flammable gases or vapors will be present only due to abnormal, unusual, or accidental conditions
- in marine applications where water spray and corrosive atmospheres are considerations
- in areas where combustible dusts and flammable vapors are present simultaneously
- in elevated ambient temperatures often found in industrial applications
- in installations where moisture, dirt, dust, vibration, corrosion and rough usage are problems
- wherever the damaging effects of wind, snow, sleet, or hot sun are found
- in grain handling, storage and processing plants, coal preparation plants, coal conveying areas, food processing plants, manufacturing plants, refineries, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, offshore, dockside, and harbor installations, and other heavy industrial applications

## Features:

- 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 bracket, angle stanchion, straight stanchion, and quad-mount.
- Wide range of light sources and wattages to meet specifiers needs: 50, 70, 100, 150 watt high pressure sodium (HPS); 100, 175, 250 watt mercury vapor (MV); 70, 100, 175, 250 watt metal halide.
- 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.
- Mogul base porcelain lamp socket.
- Stainless steel open bottom guard permits direct access to the globe for easy relamping.

## DMV Series

\* Now available with Champ Induction Lighting System. See Section 5L.



- Grounding wire for safety.
- Ballasts available in voltages of 120, 208, 240, 277, 347, 480, 600 and multi-tap.\*

## Standard Materials:

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

## Standard Finishes:

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

## Electrical Ratings:

- 120, multi-tap\* (120, 208, 240 and 277), tri-tap (120, 208, 347) 208, 240, 277, 347, 480, 600 volts
- 50-250W HPS; 100-250W† MV; 70-250W MH

## Certifications and Compliances:

- NEC & CEC:
  - Class I, Division 2, Groups A,B,C,D
  - 175W max - 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, 2279 Hazardous (Classified) Locations
  - 1598 Luminaires
  - 1598A Marine Locations
- CSA Standards
  - C22.2 No. 137
- IEC Standards
  - 60079-15

## Options:

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

Suffix to be Added to Cat. No.	Description
<b>S826</b>	• Restricted Breathing Construction....
	- Class I Division 2 & Zone 2 Suitability
	- Cooler Operating Temperatures (T-Numbers)
<b>S865</b>	• Restricted Breathing/Non-Sparking....
	- Class I Division 2 & Zone 2
	- Provides T3 code without conduit or cable seals
<b>S826TB</b>	• Certified for IEC Zone 2 .....
	- Furnished with terminal block, crimp terminals and dedicated voltage ballasts (no MT, DT or TT)
<b>S658*</b>	• Fused – to protect ballast and capacitors against abnormal line conditions .....
	(Not for use in Canada)
<b>BG</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 50-150W LX HPS only .....
<b>IR</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>QTZ</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>FA</b>	• Factory assembled with H.I.D. lamps installed for additional labor savings. ....
<b>S808</b>	• TEFLON® coated globe-for additional protection against breakage. For use with 50-150W HPS, 70-175W MH and 100-175W MV .....
<b>NOTE:</b> Some T-numbers (operating temperatures) change. See "Temperature Performance Data" section.	
<b>S806</b>	• Stainless steel insert - top hat with stainless steel threaded insert to attach ballast housing .....
<b>(Note: BG and IR options cannot be used together. IR and QTZ options cannot be used together.)</b>	
<b>Accessories:</b>	
• See pages 775 and 776 for complete listing.	
• See page 749 for family tree.	
◆ TEFLON is a registered trademark of E.I. duPont Co.	
* When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.	

**3L**  
H.I.D. Lighting

3L



# 50-150W High Pressure Sodium

## DMV Series

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

See notes 1 (to specify voltage) 2 and 3. For guards and other optics see DMV Luminaires - Ordering by Components section.

#### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor				
<b>Pendant Mount</b>	3/4	50	DMVS2A050GP	DMVS2A050GR305				
	1	50	DMVS3A050GP	DMVS3A050GR305				
	3/4	70	DMVS2A070GP	DMVS2A070GR305				
	1	70	DMVS3A070GP	DMVS3A070GR305				
	3/4	100	DMVS2A100GP✓	DMVS2A100GR305✓				
	1	100	DMVS3A100GP✓	DMVS3A100GR305✓				
	3/4	150	DMVS2A150GP✓	DMVS2A150GR305✓				
<b>Flexible Pendant Mount</b>	1	150	DMVS3A150GP✓	DMVS3A150GR305✓				
	3/4	50	DMVS2HA050GP	DMVS2HA050GR305				
	3/4	70	DMVS2HA070GP	DMVS2HA070GR305				
	3/4	100	DMVS2HA100GP✓	DMVS2HA100GR305✓				
<b>Ceiling Mount Thru-Feed</b>	3/4	150	DMVS2HA150GP✓	DMVS2HA150GR305✓				
	1	50	DMVS2C050GP	DMVS2C050GR305				
	1	70	DMVS3C050GP	DMVS3C050GR305				
	3/4	70	DMVS2C070GP	DMVS2C070GR305				
	1	70	DMVS3C070GP	DMVS3C070GR305				
	3/4	100	DMVS2C100GP✓	DMVS2C100GR305✓				
	1	100	DMVS3C100GP✓	DMVS3C100GR305✓				
<b>Wall Mount Thru-Feed</b>	3/4	150	DMVS2C150GP✓	DMVS2C150GR305✓				
	1	150	DMVS3C150GP✓	DMVS3C150GR305✓				
<b>Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle</b>	3/4	50	DMVS25Q050GP	DMVS25Q050GR305				
	3/4	70	DMVS25Q070GP	DMVS25Q070GR305				
	3/4	100	DMVS25Q100GP	DMVS25Q100GR305				
	3/4	150	DMVS25Q150GP	DMVS25Q150GR305				
	1 1/2	50	DMVSJ050GP	DMVSJ050GR305				
	1 1/2	70	DMVSJ070GP	DMVSJ070GR305				
	1 1/2	100	DMVSJ100GP✓	DMVSJ100GR305✓				
<b>Stanchion Mount</b>	1 1/2	150	DMVSJ150GP✓	DMVSJ150GR305✓				
	1 1/2	50	DMVSP050GP	DMVSP050GR305				
	1 1/2	70	DMVSP070GP	DMVSP070GR305				
	1 1/2	100	DMVSP100GP✓	DMVSP100GR305✓				
<b>Stanchion Mount</b>	1 1/2	150	DMVSP150GP✓	DMVSP150GR305✓				
	1	50	Standard Voltage Ballasts - 60Hz NEC/UL	CEC/CSA (cUL)				
	Voltage Suffix	Multi Tap /MT	Dual Tap /DT 120V /120	480V /480 Tri Tap /TT	Dual Tap /DT 120V /120			
	1	70	Optional Voltage Ballasts - 50 or 60Hz CEC/CSA (cUL) - CWI Isolated Ballasts	EXPORT				
Voltage Suffix	208V CWI /208CW	240V CWI /240CW	480V CWI /480CW	600V CWI /600CW	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50

2. 150W HPS Luminaires, 55V Lamps is Standard, for 100W lamps - Add suffix "CE". 50W HPS luminaire is dual-tap only.

3. Options - Add the Required Options Suffixes from page 743, In Alpha-numeric order.

✓ - available with Lightning Service™ delivery. See Section G for details.

# 150-250W Pulse Start Metal Halide

## DMV Series Champ® H.I.D. Luminaires

3L

- 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 (175W max)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66

See Notes 1 (to specify voltage) and 2. For Guards and other optics see DMV Luminaires - Ordering by Components Section

### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard Cat. No.	With GR305 Glass Refractor Cat. No.
<b>Pendant Mount</b>	3/4	150	DMVM2A150GP-S828	DMVM2A150GR305-S828
	1	175	DMVM3A150GP-S828	DMVM3A150GR305-S828
	3/4	200	DMVM2A175GP-S828	DMVM2A175GR305-S828
	1	225	DMVM3A175GP-S828	DMVM3A175GR305-S828
	3/4	250	(Use Ceiling Mount) - Ceiling Mount has pendant conduit hub	DMVM2A200GP-S828
	1	250	(Use Ceiling Mount) - Ceiling Mount has pendant conduit hub	DMVM3A200GP-S828
	3/4	250	(Use Ceiling Mount) - Ceiling Mount has pendant conduit hub	DMVM3A200GR305-S828
	3/4	250	(Use Ceiling Mount) - Ceiling Mount has pendant conduit hub	DMVM2HA150GP-S828
<b>Flexible Pendant Mount</b>	3/4	150	DMVM2HA150GP-S828	DMVM2HA150GR305-S828
	3/4	175	DMVM2HA175GP-S828	DMVM2HA175GR305-S828
	3/4	200	DMVM2HA200GP-S828	DMVM2HA200GR305-S828
	3/4	250	(Use Ceiling Mount) - Ceiling Mount has pendant conduit hub	DMVM2HA250GP-S828
	3/4	250	(Use Ceiling Mount) - Ceiling Mount has pendant conduit hub	DMVM2C150GP-S828
	1	150	DMVM3C150GP-S828	DMVM3C150GR305-S828
	3/4	175	DMVM2C175GP-S828	DMVM2C175GR305-S828
	1	175	DMVM3C175GP-S828	DMVM3C175GR305-S828
<b>Ceiling Mount Thru-Feed</b>	3/4	200	DMVM2C200GP-S828	DMVM2C200GR305-S828
	1	200	DMVM3C200GP-S828	DMVM3C200GR305-S828
	3/4	225	DMVM2C225GP-S828	DMVM2C225GR305-S828
	1	225	DMVM3C225GP-S828	DMVM3C225GR305-S828
	3/4	250	DMVM2C250GP-S828	DMVM2C250GR305-S828
	1	250	DMVM3C250GP-S828	DMVM3C250GR305-S828
	3/4	250	(Use Ceiling Mount) - Ceiling Mount has pendant conduit hub	DMVM2TW150GP-S828
	1	150	DMVM3TW150GP-S828	DMVM3TW150GR305-S828
<b>Wall Mount Thru-Feed</b>	3/4	175	DMVM2TW175GP-S828	DMVM2TW175GR305-S828
	1	175	DMVM3TW175GP-S828	DMVM3TW175GR305-S828
	3/4	200	DMVM2TW200GP-S828	DMVM2TW200GR305-S828
	1	200	DMVM3TW200GP-S828	DMVM3TW200GR305-S828
	3/4	225	DMVM2TW225GP-S828	DMVM2TW225GR305-S828
	1	225	DMVM3TW225GP-S828	DMVM3TW225GR305-S828
	3/4	250	DMVM2TW250GP-S828	DMVM2TW250GR305-S828
	1	250	DMVM3TW250GP-S828	DMVM3TW250GR305-S828
<b>Quad-Mount</b> Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	3/4	150	DMVM25Q150GP-S828	DMVM25Q150GR305-S828
	3/4	175	DMVM25Q175GP-S828	DMVM25Q175GR305-S828
	3/4	200	DMVM25Q200GP-S828	DMVM25Q200GR305-S828
	3/4	225	DMVM25Q225GP-S828	DMVM25Q225GR305-S828
	3/4	250	DMVM25Q250GP-S828	DMVM25Q250GR305-S828
<b>Stanchion Mount</b> 25° Angle	1½	150	DMVMJ150GP-S828	DMVMJ150GR305-S828
	1½	175	DMVMJ175GP-S828	DMVMJ175GR305-S828
	1½	200	DMVMJ200GP-S828	DMVMJ200GR305-S828
	1½	225	DMVMJ225GP-S828	DMVMJ225GR305-S828
	1½	250	DMVMJ250GP-S828	DMVMJ250GR305-S828
<b>Stanchion Mount</b> Straight	1½	150	DMVMP150GP-S828	DMVMP150GR305-S828
	1½	175	DMVMP175GP-S828	DMVMP175GR305-S828
	1½	200	DMVMP200GP-S828	DMVMP200GR305-S828
	1½	225	DMVMP225GP-S828	DMVMP225GR305-S828
	1½	250	DMVMP250GP-S828	DMVMP250GR305-S828

1.

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

2. Options - Add the Required Options Suffixes for page 743 in Alpha-numeric Order

# 70-250W Metal Halide

## DMV Series

### 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 (175W max)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66

See Note 1 (to specify voltage), 2 and 3. For Guards and other optics see DMV Luminaires - Ordering by Components Section

#### BASIC CATALOG NUMBER



Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard Cat. No.	With GR305 Glass Refractor Cat. No.
<b>Pendant Mount</b>	3/4	70	DMVM2A070GP	DMVM2A070GR305
	1	70	DMVM3A070GP	DMVM3A070GR305
	3/4	100	DMVM2A100GP	DMVM2A100GR305
	1	100	DMVM3A100GP	DMVM3A100GR305
	3/4	175	DMVM2A175GP	DMVM2A175GR305
	1	175	DMVM3A175GP	DMVM3A175GR305
	3/4	250	(Use Ceiling Mount)	- Ceiling Mount has pendant conduit hub
	1	250	(Use Ceiling Mount)	- Ceiling Mount has pendant conduit hub



<b>Flexible Pendant Mount</b>	3/4	70	DMVM2HA070GP	DMVM2HA070GR305
	3/4	100	DMVM2HA100GP	DMVM2HA100GR305
	3/4	175	DMVM2HA175GP	DMVM2HA175GR305
	3/4	250	(Use Ceiling Mount)	- Ceiling Mount has pendant conduit hub



<b>Ceiling Mount Thru-Feed</b>	3/4	70	DMVM2C070GP	DMVM2C070GR305
	1	70	DMVM3C070GP	DMVM3C070GR305
	3/4	100	DMVM2C100GP	DMVM2C100GR305
	1	100	DMVM3C100GP	DMVM3C100GR305
	3/4	175	DMVM2C175GP	DMVM2C175GR305
	1	175	DMVM3C175GP	DMVM3C175GR305
	3/4	250	DMVM2C250GP	DMVM2C250GR305
	1	250	DMVM3C250GP	DMVM3C250GR305



<b>Wall Mount Thru-Feed</b>	3/4	70	DMVM2TW070GP	DMVM2TW070GR305
	1	70	DMVM3TW070GP	DMVM3TW070GR305
	3/4	100	DMVM2TW100GP	DMVM2TW100GR305
	1	100	DMVM3TW100GP	DMVM3TW100GR305
	3/4	175	DMVM2TW175GP	DMVM2TW175GR305
	1	175	DMVM3TW175GP	DMVM3TW175GR305
	3/4	250	DMVM2TW250GP	DMVM2TW250GR305
	1	250	DMVM3TW250GP	DMVM3TW250GR305



<b>Quad-Mount</b>	3/4	70	DMVM25Q070GP	DMVM25Q070GR305
Pendant, Adjustable	3/4	100	DMVM25Q100GP	DMVM25Q100GR305
Thru-Feed, 25° Angle,	3/4	175	DMVM25Q175GP	DMVM25Q175GR305
12½° Angle	3/4	250	DMVM25Q250GP	DMVM25Q250GR305



<b>Stanchion Mount</b>	1½	70	DMVMJ070GP	DMVMJ070GR305
25° Angle	1½	100	DMVMJ100GP	DMVMJ100GR305
	1½	175	DMVMJ175GP	DMVMJ175GR305
	1½	250	DMVMJ250GP	DMVMJ250GR305



<b>Stanchion Mount</b>	1½	70	DMVMP070GP	DMVMP070GR305
Straight	1½	100	DMVMP100GP	DMVMP100GR305
	1½	175	DMVMP175GP	DMVMP175GR305
	1½	250	DMVMP250GP	DMVMP250GR305

1.

Voltage Suffix	Standard Voltage Ballasts - 60Hz			CEC/CSA (cUL)	
	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120

Optional Voltage Ballasts - 50 or 60Hz  
CEC/CSA (cUL) - CWI Isolated Ballasts - 175W and  
250W MH only

Voltage Suffix	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 options suffixes from page 743, in Alpha-numeric order.

US: 1-866-764-5454 CAN: 1-800-265-0502 Copyright® 2006 Cooper Crouse-Hinds

# 100-250W Mercury Vapor DMV Series 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 (175W max)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66

**3L**

See Note 1 (to specify voltage) and 2. For Guards and other optics see DMV Luminaires - Ordering by Components Section

## BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard Cat. No.	With GR305 Glass Refractor Cat. No.
<b>Pendant Mount</b>	3/4	100	DMVC2A100GP	DMVC2A100GR305
	1	100	DMVC3A100GP	DMVC3A100GR305
	3/4	175	DMVC2A175GP	DMVC2A175GR305
	1	175	DMVC3A175GP	DMVC3A175GR305
	3/4	250	DMVC2A250GP	DMVC2A250GR305
	1	250	DMVC3A250GP	DMVC3A250GR305
<b>Flexible Pendant Mount</b>	3/4	100	DMVC2HA100GP	DMVC2HA100GR305
	3/4	175	DMVC2HA175GP	DMVC2HA175GR305
	3/4	250	DMVC2HA250GP	DMVC2HA250GR305
<b>Ceiling Mount Thru-Feed</b>	3/4	100	DMVC2C100GP	DMVC2C100GR305
	1	100	DMVC3C100GP	DMVC3C100GR305
	3/4	175	DMVC2C175GP	DMVC2C175GR305
	1	175	DMVC3C175GP	DMVC3C175GR305
	3/4	250	DMVC2C250GP	DMVC2C250GR305
	1	250	DMVC3C250GP	DMVC3C250GR305
<b>Wall Mount Thru-Feed</b>	3/4	100	DMVC2TW100GP	DMVC2TW100GR305
	1	100	DMVC3TW100GP	DMVC3TW100GR305
	3/4	175	DMVC2TW175GP	DMVC2TW175GR305
	1	175	DMVC3TW175GP	DMVC3TW175GR305
	3/4	250	DMVC2TW250GP	DMVC2TW250GR305
	1	250	DMVC3TW250GP	DMVC3TW250GR305
<b>Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle</b>	3/4	100	DMVC25Q100GP	DMVC25Q100GR305
	3/4	175	DMVC25Q175GP	DMVC25Q175GR305
	3/4	250	DMVC25Q250GP	DMVC25Q250GR305
<b>Stanchion Mount 25° Angle</b>	1½	100	DMVCJ100GP	DMVCJ100GR305
	1½	175	DMVCJ175GP	DMVCJ175GR305
	1½	250	DMVCJ250GP	DMVCJ250GR305
<b>Stanchion Mount Straight</b>	1½	100	DMVCP100GP	DMVCP100GR305
	1½	175	DMVCP175GP	DMVCP175GR305
	1½	250	DMVCP250GP	DMVCP250GR305

**3L**  
H.I.D. Lighting

### Standard Voltage Ballasts - 60Hz NEC/UL

Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120
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### Optional Voltage Ballasts - 50 or 60Hz EXPORT

Voltage Suffix	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50
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2. Options - Add the required options suffixes from page 743, in Alpha-numeric order.

DMV luminaires are available in components

A complete luminaire consists of:

- I. Champ Cover (mounting module)
- II. DMV Ballast Housing - Include voltage and required option(s)
- III. Globe, Refractor, Guard, Reflector

## I. Champ Cover (Mounting Module):

Type	Conduit	Cat. No.
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

## II. Ballast Housings.

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

Lamp Type	Lamp Watts	Catalog Number
High Pressure Sodium	50	DMVS050/MT
	70	DMVS070/MT
	100	DMVS100/MT
	150	DMVS150/MT LX
	250	DMVS250/MT
Metal Halide	70	DMVM070/MT
	100	DMVM100/MT
	175	DMVM175/MT
	250	DMVM250/MT
Mercury Vapor	100	DMVC100/MT
	175	DMVC175/MT
	250	DMVC250/MT

## III. Globe, Refractors, Reflectors, Guards

Type	Catalog Number
Globe	G303
Globe - Teflon Coated	G303-S808
Globe Guard	P33
Reflector-Dome	RD739
Reflector-Angle	RA739
Refractor - Type 2	GR302
Refractor - Type 5	GR305
Large Plastic Refractor Type 2	PGR302
Large Plastic Refractor Type 3	PGR303
Large Plastic Refractor Type 5	PGR305
Refractor Guard	P23
High Bay Reflector/Lens	GRD4

# 50-250W DMV Series

## Champ® H.I.D. Luminaires

Family Tree

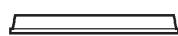
3L



### COVERS:

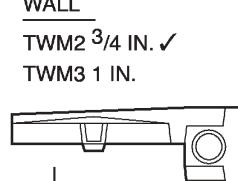
#### PENDANT

- APM2 3/4 IN. ✓
- APM3 1 IN. ✓
- HPM2 3/4 IN. ✓



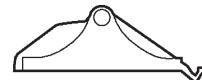
#### WALL

- TWM2 3/4 IN. ✓
- TWM3 1 IN.



#### QUAD-MOUNT

- QM25 3/4 IN.



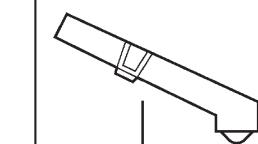
#### CEILING

- CM2 3/4 IN. ✓
- CM3 1 IN. ✓



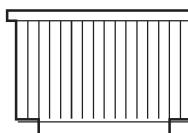
#### STANCHION

- JM5 1 1/2 IN. ✓
- PM5 1 1/2 IN. ✓



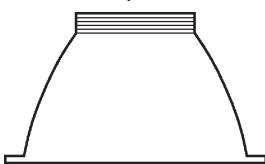
#### HOUSING

- DMV F



#### GLOBE

- G303 ✓
- G303 S808 ✓



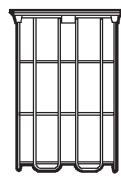
#### REFLECTOR/LENS

- GRD4 ✓



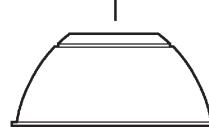
#### REFRACTOR

- GR302
- GR305 ✓
- PGR302\*
- PGR305\*



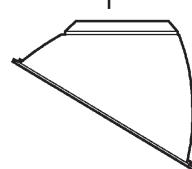
#### GUARD

- P33 ✓



#### REFLECTOR

- RA79 ✓ RA739 ✓
- RD79 ✓ RD739 ✓



✓ – available with Lightning Service™ delivery. See Section G for complete details.  
\* Plastic refractors are for non-hazardous areas only (50-100W Max.)

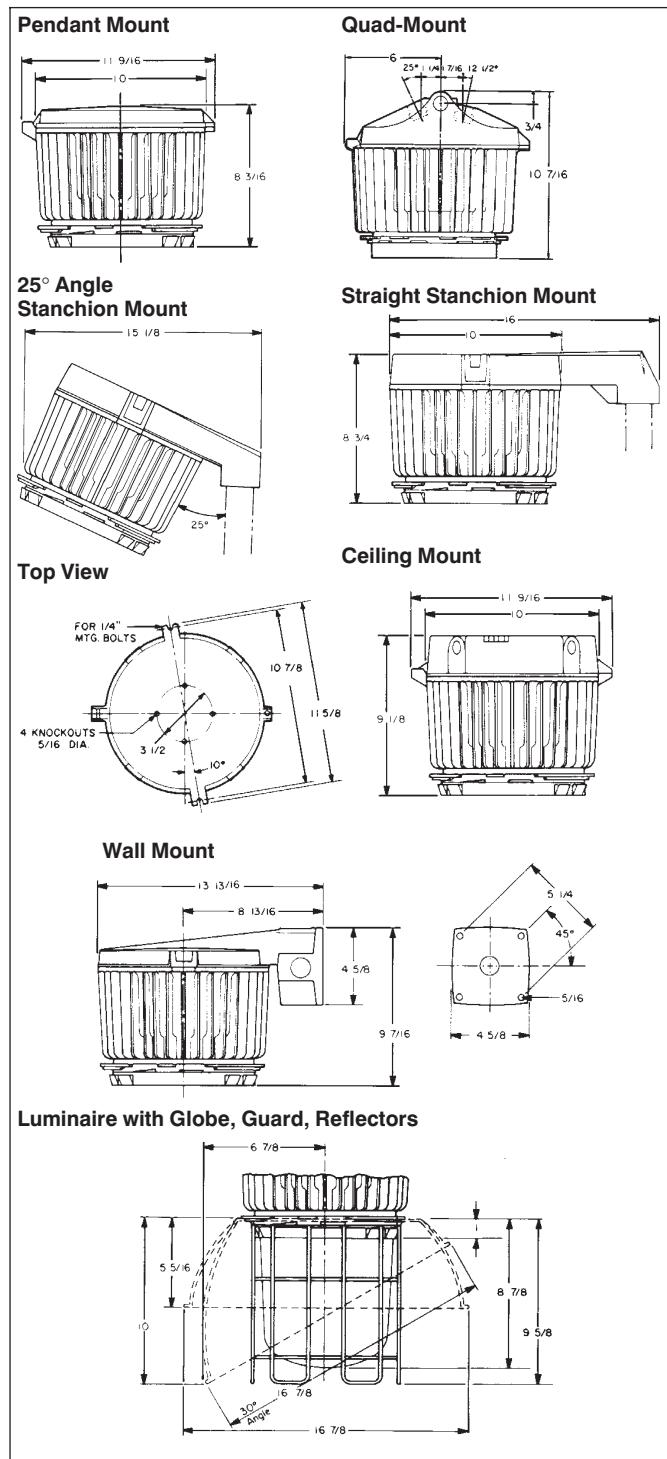
Cat. No.	Wattage	Type	RATED AMBIENT °C	CLASS I, DIVISION 2			CLASS II, DIVISION 1			CLASS I, ZONE 2			Supply Wire Suitable for °C
				Globe (G303) w/ or w/o Reflector (RA739 or RD739)*	Refractor (GR302 or GR305)	Group	Refractor (G302 or G305) or Globe (G303)**	Globe (G303) with Reflector (RA739 or RD739)	Simultaneous Presence Class I, Div.2 Class II, Div.1 (with G303 Globe only)	Restricted Breathing Suffix S826 w/ Globe (G303)	Globe (G303) with Reflector (RA739 or RD739)	Factory Sealed Suffix S865 AEx nA nR II	
DMVS50	50	HPS	40	T3A	T3A	EFG	T6	T6	T3A	T6	T6	T3	75
DMVS50	50	HPS	55	T3	T3	EFG	T5	T5	T3	T5	T5	T3	85
DMVS50	50	HPS	65	T3	T3	EFG	T4A	T4A	T3	T5	T5	T3	90
DMVS70	70	HPS	40	T3A	T3A	EFG	T6	T6	T3A	T6	T6	T3	75
DMVS70	70	HPS	55	T3	T3	EFG	T5	T5	T3	T5	T5	T3	85
DMVS70	70	HPS	65	T3	T3	EFG	T4A	T4A	T3	T5	T5	T3	90
DMVS100	100	HPS	40	T2D	T2D	EFG	T5	T5	T3D	T6	T6	T3	75
DMVS100	100	HPS	55	T2C	T2C	EFG	T4A	T4A	T2C	T5	T5	T3	85
DMVS100	100	HPS	65	T2C	T2C	—	—	—	T4	T4	T4	T3	90
DMVS150	150	HPS	40	T2B	T2B	EFG	T3C	T3C	T2A	T5	T5	T3	75
DMVS150	150	HPS	55	T2B	T2B	EFG	T4A	—	—	T4	T4	T3	85
DMVS150	150	HPS	65	T2A	T2B	EFG	—	—	—	—	—	T3	85
DMVC100	100	MV	40	T3	T3	EFG	T4A	T4A	T2B	T5	T5	T3	75
DMVC100	100	MV	55	T2D	T2D	EFG	T4	T4	T2B	T4	T4	T3	85
DMVC100	100	MV	65	T2C	T2C	EFG	T3C	T3C	T2B	T4	T4	T3	90
DMVC175	175	MV	40	T2A	T2	EFG	T3B	T3C	T2A	T4	T4	T3	75
DMVC175	175	MV	55	T2A	T2	EFG	T4	—	—	T4	T4	T3	85
DMVC175	175	MV	65	T2A	T2	—	—	—	—	T3	T3	T3	90
DMVC250	250	MV	40	T1	—	—	—	—	—	T3	T3	T3	85
DMVC250	250	MV	55	T1	—	—	—	—	—	T3	T3	T3	110
DMVM70	70	MH	40	T3C*	T3C	—	—	—	—	T6	T6	T3	60
DMVM70	70	MH	55	T3B*	T3C	—	—	—	—	T5	T5	T3	75
DMVM70	70	MH	65	T3A*	T3A	—	—	—	—	T5	T5	T3	85
DMVM100	100	MH	40	T3*	T3A	—	—	—	—	T5	T5	T3	60
DMVM100	100	MH	55	T3*	T3A	—	—	—	—	T5	T5	T3	75
DMVM100	100	MH	65	T2D*	T2D	—	—	—	—	T4	T4	T3	85
DMVM175	175	MH	40	T2B*	T2	EFG	T3C	T3C	T2A	T4	T4	T3	85
DMVM175	175	MH	55	T2A*	T2	EFG	T4	—	—	T4	T4	T3	85
DMVM175	175	MH	65	T2A*	T2	—	—	—	—	T3	T3	T3	90
DMVM200	200	MH	40	T2	—	—	—	—	—	T4	T4	T3	75
DMVM200	200	MH	55	T1 (325)	—	—	—	—	—	T3	T3	T3	90
DMVM250	250	MH	40	T2	—	—	—	—	—	T4	T4	T3	75
DMVM250	250	MH	55	T1 (325)	—	—	—	—	—	T3	T3	T3	90
DMVF26	2/13 (26)	CF	40	T3A	—	EFG	T6	T6	—	T6	T6	T3	60
DMVF39	3/13 (39)	CF	40	T3A	—	EFG	T6	T6	—	T6	T6	T3	60
DMVF52	2/26 (52)	CF	40	T3	—	EFG	T6	—	—	T6	T6	T3	60
DMVF64	2/32 (64)	CF	40	T3	—	EFG	T6	—	—	T6	T6	T3	60
DMVIG85	85	Induction	40	T3	—	—	T2D	—	T2D	T6	T6	—	60
DMVIG165	165	Induction	40	T3	—	—	—	—	—	T5	—	—	75

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.

\* All DMVM 175W and below MH luminaires provided with Catalog number G303-S808 have a T2A T-code.

\*\* For use with refractor only when this table indicates by means of a T-code that the refractor is suitable for use with Class I, Division 2 luminaires.

**Champ® H.I.D. Luminaires**  
**Dimensions and Weights**
**DMV Dimensions****Net Luminaire Weights (lbs.)**

Luminaire Series	Lamp Watts	Luminaire with Globe, Guard (lbs.)	Lamp Watts	Luminaire with Globe, Guard (lbs.)
DMVS	50	23	70	23 1/16
	100	24 1/16	150	26 1/8
DMVC	100	21 1/16	175	22 1/4
	250	24		
DMVM	70	21	100	21 1/16
	175	22 1/4	250	24

**Add for mounting modules (lbs.):**

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

**Add for reflectors (lbs.):**

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

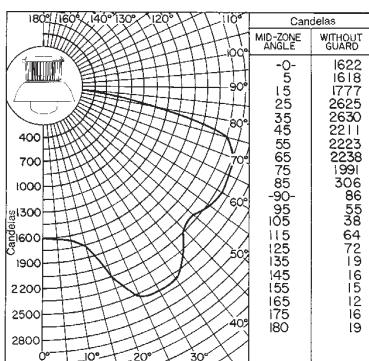
Lamp: 150W/E-23-1/2 clear high pressure sodium (HPS)

Total bare lamp lumens: 16000

To determine number and placement of luminaires, see Lighting Selector Guide, pages 665 to 689.

NOTE: All data provided is for high pressure sodium luminaires with 150W/E-23½ 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 cedula curves only).

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

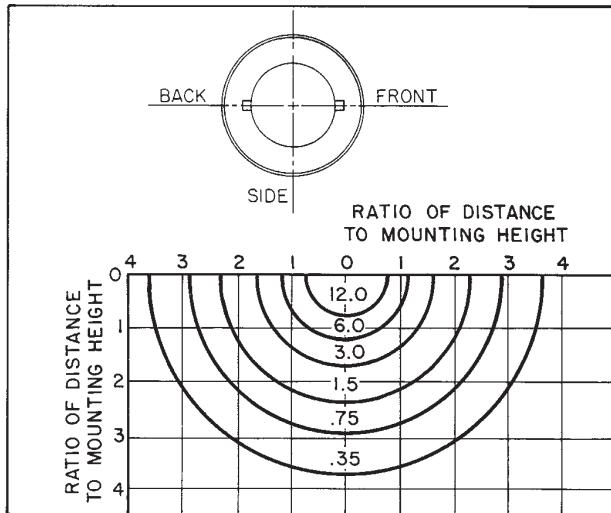
Luminaire spacing ratio: 1.90

### Coefficient of Utilization

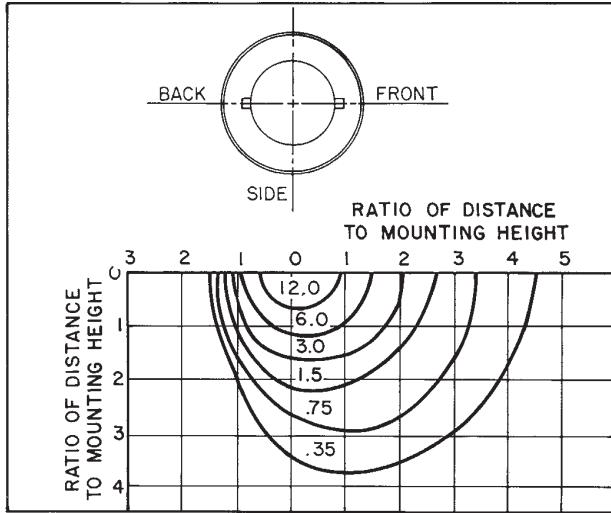
Effective Floor Cavity Reflectance 20%

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

### 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.

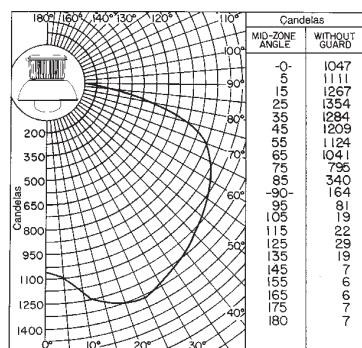
Height (Ft.)	Factor	Height (Ft.)	Factor
8	1.56	16	.391
12	.694	20	.250
14	.510		

Lamp: 175W/E-28 coated mercury vapor (MV)  
 Total bare lamp lumens: 8600

To determine number and placement of luminaires, see Lighting Selector Guide, pages 665 to 689.

NOTE: All data provided is for mercury vapor luminaires with 175W/E-28 diffuse lamps. Use conversion factors (multipliers) shown below for other diffuse lamp types and wattages. Consult Cooper Crouse-Hinds for additional photometric data on any *Champ* series luminaire.

### Luminaire with Globe and Dome Reflector



**Multipliers:** (for use with candelabra curves only).

Luminaire Series	Lamp Watts	Conversion Factor
DMVC	100	0.49
	250	1.41
DMVM	175	1.63
	250	2.38

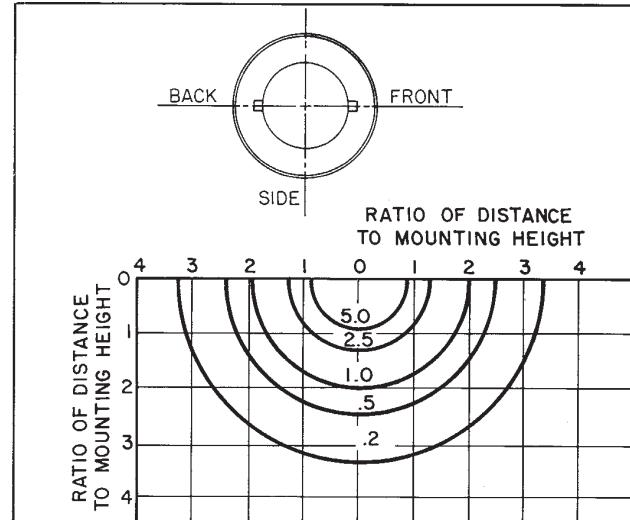
Luminaire spacing ratio: 1.7

### Coefficient of Utilization

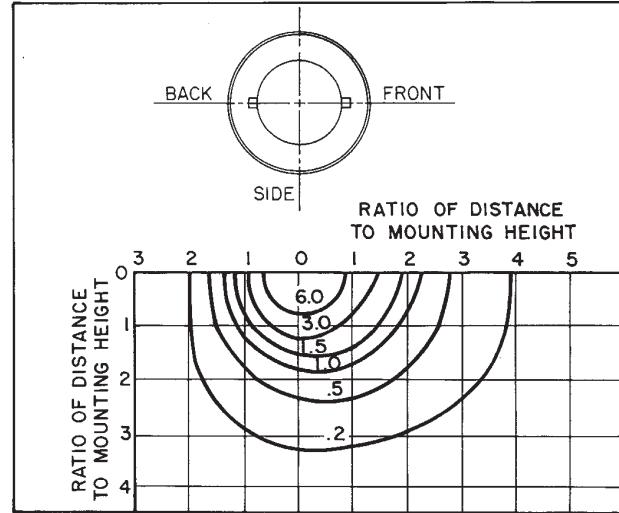
Effective Floor Cavity Reflectance 20%

% Reflectance	Room Cavity Ratio					
Eff. Cell. Wall	1	2	3	4	5	
50	.723	.619	.536	.467	.412	
80	.684	.561	.470	.396	.340	
10	.649	.512	.417	.342	.286	
	50	.705	.604	.524	.456	.401
70	.668	.549	.461	.390	.334	
	10	.635	.505	.412	.338	.283
	50	.668	.572	.498	.434	.384
50	.638	.528	.445	.377	.324	
	10	.611	.488	.401	.331	.279
	50	.635	.545	.474	.414	.366
30	.611	.508	.429	.365	.314	
	10	.588	.474	.391	.324	.273
	50	.606	.519	.453	.395	.350
10	.585	.488	.414	.352	.305	
	10	.566	.460	.381	.317	.268
0	0	.549	.442	.363	.299	.251
% Reflectance	Room Cavity Ratio					
Eff. Cell. Wall	6	7	8	9	10	
50	.368	.329	.294	.269	.234	
80	.298	.261	.229	.204	.172	
10	.248	.215	.182	.160	.131	
	50	.359	.322	.289	.263	.229
70	.293	.256	.226	.201	.171	
	10	.244	.211	.181	.159	.131
	50	.343	.308	.276	.252	.221
50	.284	.248	.220	.196	.166	
	10	.240	.207	.178	.157	.128
	50	.329	.294	.266	.243	.212
30	.276	.243	.213	.190	.162	
	10	.236	.203	.176	.154	.126
	50	.315	.284	.255	.233	.205
10	.268	.236	.208	.186	.157	
	10	.231	.200	.173	.151	.123
0	0	.216	.184	.158	.138	.110

### 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		

- 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 (with Glass Refractor)
- Marine (with Globe or Glass Refractor) & Wet Locations
- 3, 3R, 4, 4X; IP66

### Application:

VMV high wattage series *Champ* luminaires are used:

- in manufacturing plants, refineries, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, and other heavy industrial applications
- in applications involving medium and high mounting heights
- in applications where energy efficient, high lumen output is required
- in areas in which ignitable concentrations of flammable gases or vapors will be present only due to abnormal, unusual, or accidental conditions
- in marine applications where water spray and corrosive atmospheres are considerations
- in elevated ambient temperatures often found in industrial applications
- in installations where moisture, dirt, dust, vibration, corrosion and rough usage are problems
- wherever the damaging effects of water, wind, snow, sleet, hot sun, or any combination of these elements, are problems

### Features:

- Cast copper-free aluminum construction (less than 0.4 of 1% copper) and epoxy powder finish provide excellent resistance to corrosion
- Six mounting arrangements to suit any lighting layout – pendant, ceiling, wall bracket, angle stanchion, straight stanchion and quad-mount.
- Wide range of light sources and wattages to meet specifiers needs: 200, 250, 400 watt high pressure sodium (HPS); 250 and 400 watt mercury vapor (MV); 250 and 400 watt metal halide (MH)
- Hinged ballast housing for ease of installation and maintenance
- Wide choice of photometric distributions. Glass globes, glass refractors, and reflector/lens are available
- 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 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 and etched Alzak® high bay reflectors provide superior reflectivity
- Grounding wire for safety
- High power factor ballasts (Min. P. F. 90%) are available in a variety of voltages to meet local area requirements.
- Mogul base lamp socket

### Standard Materials:

- Ballast housings and mountings – copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware and guards – stainless steel
- Reflectors (dome and angle) – *Krydon* fiberglass-reinforced polyester material
- Globes – heat and impact resistant internally fluted glass
- Refractors – glass
- Reflector lens – spun Alzak aluminum, tempered glass, stainless steel door frame

### Standard Finishes:

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

### Certifications and Compliances:

- NEC and CEC:
  - Class I, Division 2, Groups A, B, C, D
  - with Glass Refractor - Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II)
  - Class 1 Zone 2
- IEC:
  - Zone 2 Ex nR IIC
- UL Standards:
  - 844, 2279 Hazardous (Classified) Locations
  - 1598 Luminaires
  - 1598A Marine Locations
- CSA Standards
  - C22.2 No. 137
- IEC Standards
  - 60079-15

### Options:

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

Description	Suffix to be Added to Cat. No.
• Restricted Breathing Construction ..	<b>S826†</b>
- Class I Division 2 & Zone 2	
Suitability	
Cooler Operating Temperatures (T-Numbers)	
• Certified for IEC Zone 2 .....	<b>S826TB‡</b>
- 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 .....	<b>S658†*</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 .....	<b>QTZ</b>
(NOTE: Quartz lamp not included use 100W single ended lamp – Q100DC, Q100CL/DC, or 100Q/CL/DC). Consult factory for top-hat limitations.	
• Ballast-gard™ starter cutout switch – prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life. Available for use with 200-400W HPS only .....	<b>BG</b>
• Factory assembled with H.I.D. lamps installed for additional labor savings.....	<b>FA</b>
• Top hat with stainless steel threaded insert to attach ballast housing.....	<b>S806</b>



Pendant mount with globe and guard



Ceiling mount with etched Alzak reflector and tempered glass lens



Ceiling mount with glass refractor

### Electrical Ratings:

- 120 to 600 volts and multi-tap\*
- 200, 250, 400W HPS; 250, 400W MV and MH

### Accessories:

- See pages 775 to 776 for complete listing.

\*Alzak is a registered trademark of ALCOA.

† Not for use in Canada.

‡Suffix S826 and S826TB cannot be used with GRD4 Reflector/Lens

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

# 200-400W High Pressure Sodium

## VMV High Wattage Series 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 (with Glass Refractor)
- Marine (with Globe or Glass Refractor) & Wet Locations
- 3, 3R, 4, 4X; IP56 to IP66

**3L**



See notes 1 (to specify voltage) and 2. For guards and other optics see VMV Luminaires - Ordering by Components section.

### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor	With GRD4 Reflector/Lens <sup>2</sup>
<b>Pendant Mount (Rigid or Flexible)</b>	3/4	200	VMVS2A200GP	VMVS2A200GR305	VMVS2A200GRD4
	1		VMVS3A200GP	VMVS3A200GR305	VMVS3A200GRD4
	3/4	250	VMVS2A250GP✓	VMVS2A250GR305✓	VMVS2A250GRD4✓
	1		VMVS3A250GP✓	VMVS3A250GR305✓	VMVS3A250GRD4✓
	3/4	400	VMVS2A400GP✓	VMVS2A400GR305✓	VMVS2A400GRD4✓
	1		VMVS3A400GP✓	VMVS3A400GR305✓	VMVS3A400GRD4✓
<b>Ceiling Mount Thru-Feed</b>	3/4	200	VMVS2C200GP	VMVS2C200GR305	VMVS2C200GRD4
	1		VMVS3C200GP	VMVS3C200GR305	VMVS3C200GRD4
	3/4	250	VMVS2C250GP✓	VMVS2C250GR305✓	VMVS2C250GRD4✓
	1		VMVS3C250GP✓	VMVS3C250GR305✓	VMVS3C250GRD4✓
	3/4	400	VMVS2C400GP✓	VMVS2C400GR305✓	VMVS2C400GRD4✓
	1		VMVS3C400GP✓	VMVS3C400GR305✓	VMVS3C400GRD4✓
<b>Wall Mount Thru-Feed</b>	3/4	200	VMVS2TW200GP	VMVS2TW200GR305	
	1		VMVS3TW200GP	VMVS3TW200GR305	
	3/4	250	VMVS2TW250GP✓	VMVS2TW250GR305✓	
	1		VMVS3TW250GP✓	VMVS3TW250GR305✓	
	3/4	400	VMVS2TW400GP✓	VMVS2TW400GR305✓	
	1		VMVS3TW400GP✓	VMVS3TW400GR305✓	
<b>Quad-Mount</b> Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	3/4	200	VMVS25Q200GP	VMVS25Q200GR305	VMVS25Q200GRD4
	3/4	250	VMVS25Q250GP	VMVS25Q250GR305	VMVS25Q250GRD4
	3/4	400	VMVS25Q400GP	VMVS25Q400GR305	VMVS25Q400GRD4
<b>Stanchion Mount</b> 25° Angle	1½	200	VMVSJ200GP	VMVSJ200GR305	VMVSJ200GRD4
	1½	250	VMVSJ250GP✓	VMVSJ250GR305✓	VMVSJ250GRD4✓
	1½	400	VMVSJ400GP✓	VMVSJ400GR305✓	VMVSJ400GRD4✓
<b>Stanchion Mount</b> Straight	1½	200	VMVSP200GP	VMVSP200GR305	
	1½	250	VMVSP250GP✓	VMVSP250GR305✓	
	1½	400	VMVSP400GP✓	VMVSP400GR305✓	

**3L**  
H.I.D. Lighting

1.

#### Standard Voltage Ballasts - 60Hz

NEC/UL

CEC/CSA (cUL)

Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120
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#### Optional Voltage Ballasts - 50 or 60Hz

CEC/CSA (cUL) - CWI Isolated Ballasts

EXPORT

Voltage Suffix	208V CWI /208CWCI	240V CWI /240CWCI	480V CWI /480CWCI	600V CWI /600CWCI	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50
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2. Options - Add the Required Options Suffixes from page 754, In Alpha-numeric Order.

✓ - available with Lightning Service™ delivery. See Section G for details

# 250-400W Pulse Start Metal Halide

## VMV High Wattage Series 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 (with Glass Refractor)
- Marine (with Globe or Glass Refractor) & Wet Locations
- 3, 3R, 4, 4X; IP56 to IP66

See Note 1 (to specify voltage) and 2. For guards and other optics, see VMV luminaires - ordering by components section

### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor	With GRD4 Reflector/Lens
<b>Pendant Mount (Rigid or Flexible)</b>	3/4	250	VMVM2A250GP-S828	VMVM2A250GR305-S828	VMVM2A250GRD4-S828
	1		VMVM3A250GP-S828	VMVM3A250GR305-S828	VMVM3A250GRD4-S828
	3/4	320		VMVM2A320GR305-S828	VMVM2A320GRD4-S828
	1			VMVM3A320GR305-S828	VMVM3A320GRD4-S828
	3/4	400		VMVM2A400GR305-S828	VMVM2A400GRD4-S828
	1			VMVM3A400GR305-S828	VMVM3A400GRD4-S828
<b>Ceiling Mount Thru-Feed</b>	3/4	250	VMVM2C250GP-S828	VMVM2C250GR305-S828	VMVM2C250GRD4-S828
	1		VMVM3C250GP-S828	VMVM3C250GR305-S828	VMVM3C250GRD4-S828
	3/4	320		VMVM2C320GR305-S828	VMVM2C320GRD4-S828
	1			VMVM3C320GR305-S828	VMVM3C320GRD4-S828
	3/4	400		VMVM2C400GR305-S828	VMVM2C400GRD4-S828
	1			VMVM3C400GR305-S828	VMVM3C400GRD4-S828
<b>Wall Mount Thru-Feed</b>	3/4	250	VMVM2C250GP-S828	VMVM2TW250GR305-S828	VMVM2TW250GRD4-S828
	1		VMVM3C250GP-S828	VMVM3TW250GR305-S828	VMVM3TW250GRD4-S828
	3/4	320		VMVM2TW320GR305-S828	VMVM2TW320GRD4-S828
	1			VMVM3TW320GR305-S828	VMVM3TW320GRD4-S828
	3/4	400		VMVM2TW400GR305-S828	VMVM2TW400GRD4-S828
	1			VMVM3TW400GR305-S828	VMVM3TW400GRD4-S828
<b>Quad-Mount</b> Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	3/4	250	VMVM25Q250GP-S828	VMVM25Q250GR305-S828	VMVM25Q250GRD4-S828
	3/4	320		VMVM25Q320GR305-S828	VMVM25Q320GRD4-S828
	3/4	400		VMVM25Q400GR305-S828	VMVM25Q400GRD4-S828
<b>Stanchion Mount</b> 25° Angle	1½	250	VMVMJ250GP-S828	VMVMJ250GR305-S828	VMVMJ250GRD4-S828
	1½	320		VMVMJ320GR305-S828	VMVMJ320GRD4-S828
	1½	400		VMVMJ400GR305-S828	VMVMJ400GRD4-S828
<b>Stanchion Mount</b> Straight	1½	250	VMVMP250GP-S828	VMVMP250GR305-S828	VMVMP250GRD4-S828
	1½	320		VMVMP320GR305-S828	VMVMP320GRD4-S828
	1½	400		VMVMP400GR305-S828	VMVMP400GRD4-S828

1.

#### Standard Voltage Ballasts - 60Hz

NEC/UL

CEC/CSA (cUL)

Voltage Suffix  
/MTMulti Tap  
/MT120V  
/120480V  
/480Tri Tap  
/TT120V  
/120

#### Optional Voltage Ballasts - 50 or 60Hz EXPORT

Voltage Suffix  
/220220V 60Hz  
/220220V 50Hz  
/220 50230V 50Hz  
/230 50240V 50Hz  
/240 50

2. Options - Add the Required Options Suffixes from page 754, In Alpha-numeric Order.

# 250-400W Metal Halide

## VMV High Wattage Series 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 (with Glass Refractor)
- Marine (with Globe or Glass Refractor) & Wet Locations
- 3, 3R, 4, 4X; IP56 to IP66

**3L**

See Note 1 (to specify voltage) and 2. For guards and other optics, see VMV luminaires - ordering by components section

### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor	With GRD4 Reflector/Lens
<b>Pendant Mount (Rigid or Flexible)</b>	3/4	250	VMVM2A250GP	VMVM2A250GR305	VMVM2A250GRD4
	1	250	VMVM3A250GP	VMVM3A250GR305	VMVM3A250GRD4
	3/4	400	N/A	VMVM2A400GR305	VMVM2A400GRD4
	1	400	N/A	VMVM3A400GR305	VMVM3A400GRD4
<b>Ceiling Mount Thru-Feed</b>	3/4	250	VMVM2C250GP	VMVM2C250GR305	VMVM2C250GRD4
	1	250	VMVM3C250GP	VMVM3C250GR305	VMVM3C250GRD4
	3/4	400	N/A	VMVM2C400GR305	VMVM2C400GRD4
	1	400	N/A	VMVM3C400GR305	VMVM3C400GRD4
<b>Wall Mount Thru-Feed</b>	3/4	250	VMVM2TW250GP	VMVM2TW250GR305	VMVM2TW250GRD4
	1	250	VMVM3TW250GP	VMVM3TW250GR305	VMVM3TW250GRD4
	3/4	400	N/A	VMVM2TW400GR305	VMVM3TW400GR305
	1	400	N/A	VMVM3TW400GR305	VMVM3TW400GRD4
<b>Quad-Mount</b> Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	3/4	250	VMVM25Q250GP	VMVM25Q250GR305	VMVM25Q250GRD4
	3/4	400	N/A	VMVM25Q400GR305	VMVM25Q400GRD4
<b>Stanchion Mount</b> 25° Angle	1½	250	VMVMJ250GP	VMVMJ250GR305	VMVMJ250GRD4
	1½	400	N/A	VMVMJ400GR305	VMVMJ400GRD4
<b>Stanchion Mount</b> Straight	1½	250	VMVMP250GP	VMVMP250GR305	VMVMP250GRD4
	1½	400	N/A	VMVMP400GR305	VMVMP400GRD4

**3L**  
H.I.D. Lighting

1.	Standard Voltage Ballasts - 60Hz					CEC/CSA (cUL)
	Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	
Optional Voltage Ballasts - 50 or 60Hz						
CEC/CSA (cUL) - CWI Isolated Ballasts						EXPORT
Voltage Suffix	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. Options - Add the Required Options Suffixes from page 754, In Alpha-numeric Order.

# 250-400W Mercury Vapor

## VMV High Wattage Series 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 (with Glass Refractor)
- Marine (with Globe or Glass Refractor) & Wet Locations
- 3, 3R, 4, 4X; IP66

See Note 1 (to specify voltage) and 2. For guards and other optics see VMV - Luminaires - Ordering by Components section.

### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor	With GRD4 Reflector/Lens <sup>2</sup>
<b>Pendant Mount (Rigid or Flexible)</b>	3/4	250	VMVC2A250GP	VMVC2A250GR305	VMVC2A250GRD4
	1	250	VMVC3A250GP	VMVC3A250GR305	VMVC3A250GRD4
	3/4	400	N/A	VMVC2A400GR305	VMVC2A400GRD4
	1	400	N/A	VMVC3A400GR305	VMVC3A400GRD4
<b>Ceiling Mount Thru-Feed</b>	3/4	250	VMVC2C250GP	VMVC2C250GR305	VMVC2C250GRD4
	1	250	VMVC3C250GP	VMVC3C250GR305	VMVC3C250GRD4
	3/4	400	N/A	VMVC2C400GR305	VMVC2C400GRD4
	1	400	N/A	VMVC3C400GR305	VMVC3C400GRD4
<b>Wall Mount Thru-Feed</b>	3/4	250	VMVC2TW250GP	VMVC2TW250GR305	VMVC2TW250GRD4
	1	250	VMVC3TW250GP	VMVC3TW250GR305	VMVC3TW250GRD4
	3/4	400	N/A	VMVC2TW400GR305	VMVC2TW400GRD4
	1	400	N/A	VMVC3TW400GR305	VMVC3TW400GRD4
<b>Quad-Mount</b> Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	3/4	250	VMVC25Q250GP	VMVC25Q250GR305	VMVC25Q250GRD4
	3/4	400	N/A	VMVC25Q400GR305	VMVC25Q400GRD4
<b>Stanchion Mount</b> 25° Angle	1½	250	VMVCJ250GP	VMVCJ250GR305	VMVCJ250GRD4
	1½	400	N/A	VMVCJ400GR305	VMVCJ400GRD4
<b>Stanchion Mount</b> Straight	1½	250	VMVCP250GP	VMVCP250GR305	VMVCP250GRD4
	1½	400	N/A	VMVCP400GR305	VMVCP400GRD4

1.

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

2. Options - Add the required options suffixes from page 754, in Alpha-numeric order.

# VMV High Voltage Luminaires - Ordering by Components

3L

VMV High Wattage Luminaires are available in components

A complete luminaire consists of:

- I. Champ Cover (mounting module)
- II. VMV Ballast Housing - Include voltage and required option(s)
- III. Optical & Guard Components - Globe, Reflector, Refractor, Guard

## I. Champ Cover (Mounting Module):

Type	Conduit	Cat. No.
Pendant	3/4	APM2
	1	APM3
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

## II. Ballast Housings.

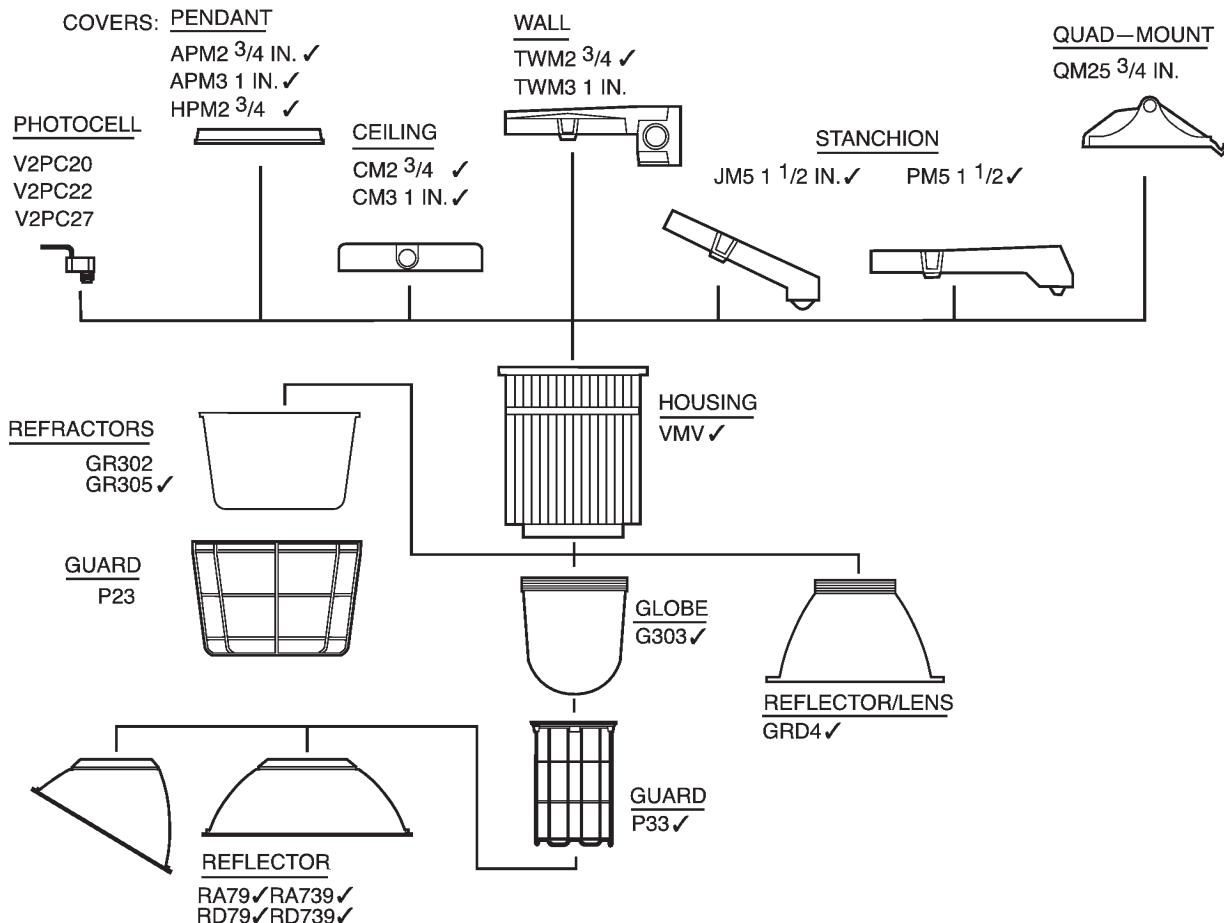
Complete catalog number must have the **voltage suffix** (MT shown) and any **options suffixes**.

Lamp Type	Lamp Watts	Catalog Number
High Pressure Sodium	200	VMVS200/MT
	250	VMVS250/MT
	400	VMVS400/MT
Metal Halide	70	LMVM070/MT
	250	VMVM250/MT
	400	VMVM400/MT
Mercury Vapor	250	VMVC250/MT
	400	VMVC400/MT

## III. Globe, Refractors, Reflectors, Guards

Type	Catalog Number
Globe	G303
Globe Guard	P33
Reflector-Dome	RD739
Reflector-Angle	RA739
Refractor - Type 2	GR302
Refractor - Type 5	GR305
Refractor Guard	P23
High Bay Reflector/Lens	GRD4

3L  
H.I.D. Lighting



**200-400W VMV**  
**High Wattage Series**  
**Champ® H.I.D. Luminaires**

Temperature Performance Data

**3L**

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	Restricted Breathing		Non Restricted Breathing	Restricted Breathing	
			Ex nR		Standard Product	Ex nR		
			Option S826(TB)		Standard Product	Option S826		
			Division 2	Zone 2 or Division 2	Standard Product	Class I, Division 2 and Class II	Class I, Zone 2 or Division 2 and Class II	
	G303	X	-	X	-	-	-	
	GR305	-	X	-	X	X	X	
	GRD4	X	-	-	-	-	-	

**High Pressure Sodium**

200	40	325 C	325 C	T3	T4	T3C	T1/T3C	T3C	75
	55	325 C	325 C	T3	T4	-	-	-	75
	65	325 C	325 C	T3	-	-	-	-	85
250	40	350 C	350 C	T3	T4	T3C	T1/T3C	T3C	75
	55	350 C	350 C	T3	T4	-	-	-	85
	65	350 C	350 C	T3	-	-	-	-	-
400	40	350 C	350 C	T3	T4	T3C	T1/T3C	T3C	85
	55	T1	T1	T3	T4	-	-	-	90

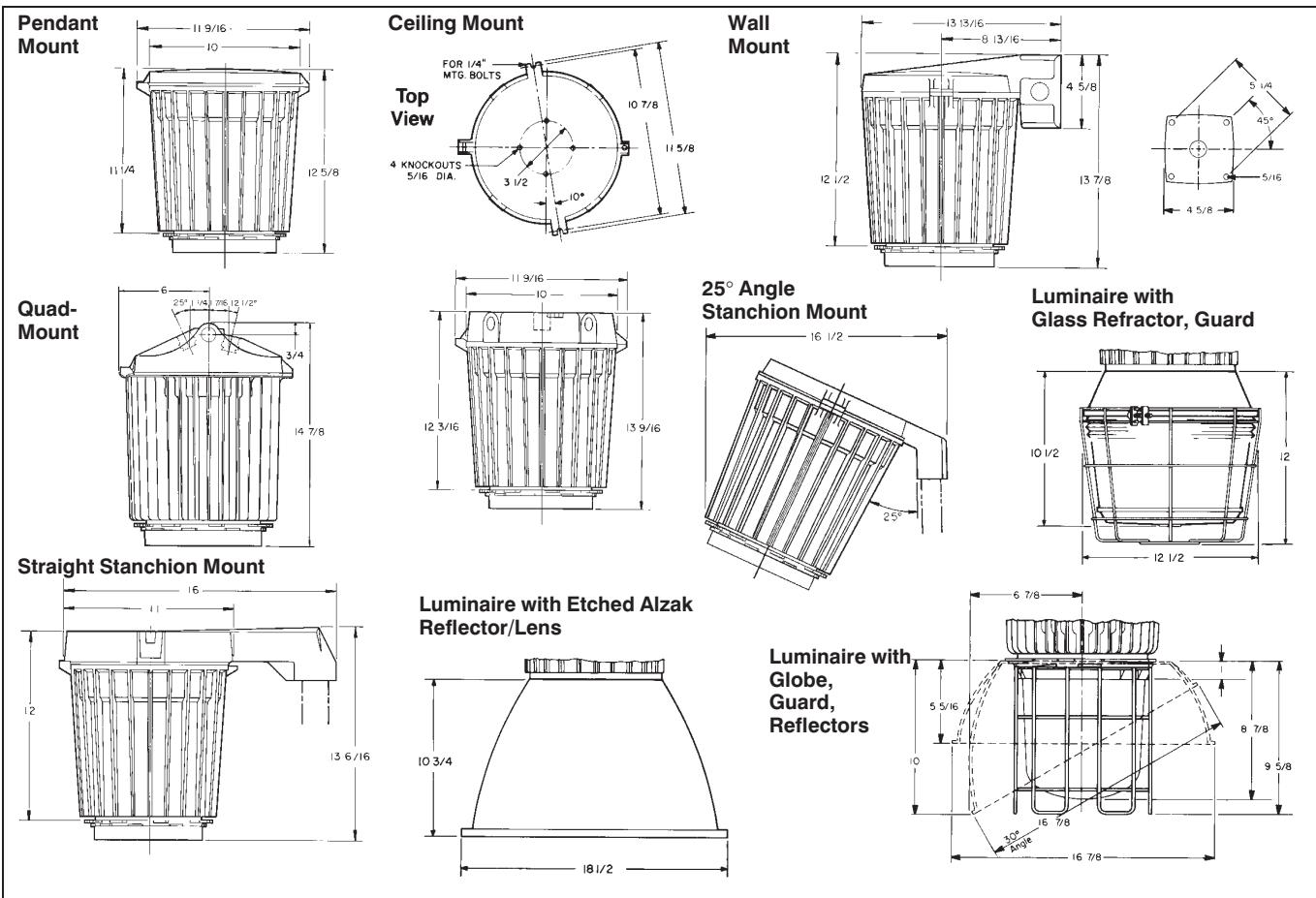
**Metal Halide**

200	40	350 C	325 C	T3	T4	T3B	350 C/T3B	T3B	85
(S828)	55	350 C	350 C	T4	T3	-	-	-	90
250	40	350 C	325 C	T3	T4	T3B	350 C/T3B	T3B	85
(Includes S828)	55	350 C	350 C	T3	T3	-	-	-	90
320	40	-	325 C	T1	T4	T3B	350 C/T3B	T3B	85
(S828)	55	-	-	-	-	-	-	-	-
400	40	-	325 C	T1	T4	T3B	350 C/T3B	T3B	85
(includes S828)	55	-	-	-	-	-	-	-	-

**Mercury Vapor**

250	40	350 C	325 C	T3	T4	T3B	350 C/T3B	T3B	85
	55	T1	350 C	T3	T3	-	-	-	90
400	40	-	325 C	T1	T4	T3B	350 C/T3B	T3B	85
	55	-	-	-	-	-	-	-	-

**3L**  
H.I.D. Lighting



#### Net Luminaire Weights (lbs.):

Luminaire with:				
Luminaire Series	Lamp Watts	Globe, Guard	Reflector/Lens	Glass Refractor
VMVS	200	29 1/2	30	32 1/2
	250	29 1/2	30	32 1/2
	400	38 1/2	39	41 1/2
VMVC	250	29 1/2	30	35 1/2
	400		33	35 1/2
VMVM	250	32 1/2	33	35 3/4
	400		34	35 1/2

#### Add for mounting modules (lbs.):

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

#### Add for reflectors (lbs.):

Dome	1 1/2	30° Angle	1 1/2
High Bay	1 3/4		

**Deduct:** 1 1/2 lb. for Luminaire without P33 Guard

# 200-400W VMV High Wattage Series

## Champ® H.I.D. Luminaires

Photometric Data

3L

Lamp: 250W/E-18 high pressure sodium (HPS)

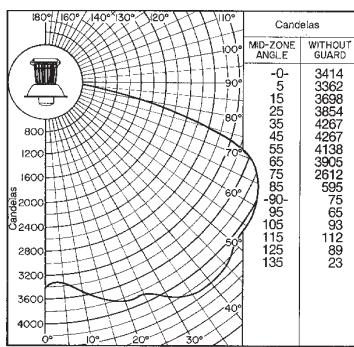
Total bare lamp lumens: 27500

To determine number and placement of luminaires, see Lighting Selector Guide, pages 665 to 689. NOTE: All data provided is for high pressure sodium luminaires with 250W/E-18 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 luminaire.

### Luminaire with Globe and Dome Reflector



Multipliers (for use with candelas curves only)

Luminaire Series	Lamp Watts	Conv- ersion Factors
VMVS	200	0.80
	400	1.82

Luminaire spacing ratio: 2.0

### Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectance Eff. Cel. Wall	Room Cavity Ratio					
	1	2	3	4	5	
80	50	.750	.640	.550	.476	.416
	30	.711	.582	.482	.402	.341
	10	.677	.532	.429	.346	.285
70	50	.732	.625	.538	.465	.405
	30	.696	.570	.474	.397	.335
	10	.664	.526	.424	.343	.282
50	50	.695	.594	.513	.443	.388
	30	.666	.549	.458	.384	.326
	10	.641	.509	.414	.336	.279
30	50	.663	.567	.490	.423	.371
	30	.640	.530	.443	.372	.316
	10	.618	.496	.405	.330	.273
10	50	.635	.542	.469	.405	.355
	30	.615	.510	.429	.360	.307
	10	.597	.483	.395	.323	.268
0	0	.580	.464	.377	.305	.251
% Reflectance Eff. Cel. Wall	Room Cavity Ratio					
80	6	7	8	9	10	
	50	.369	.327	.290	.263	.229
	30	.295	.255	.222	.196	.163
10	.243	.208	.173	.150	.121	
70	50	.360	.320	.285	.258	.224
	30	.291	.251	.219	.193	.163
	10	.239	.204	.172	.149	.121
50	50	.344	.306	.272	.247	.216
	30	.283	.243	.213	.189	.159
	10	.236	.200	.170	.147	.119
30	50	.330	.292	.262	.238	.207
	30	.275	.238	.207	.183	.154
	10	.233	.196	.167	.145	.116
10	50	.317	.282	.251	.229	.200
	30	.267	.233	.202	.179	.150
	10	.229	.194	.165	.142	.114
0	0	.212	.178	.149	.128	.101

### Temperature Performance Data with Globe & Guard

Lamp Watts	Ambient Temp °C	Class I Division 2	Globe & Guard	Supply Wire °C
<b>High Pressure Sodium:</b>				
200	40		325°C	75
	55		325°C	75
	65		325°C	85
250	40		350°C	75
	55		350°C	85
	65		350°C	—
400	40		T1	85
	55		T1	90
	65		—	—
<b>Mercury Vapor:</b>				
250	40		350°C	85
	55		T1	85
	65		—	—
400	40		—	85
	55		—	—
	65		—	—
<b>Metal Halide:</b>				
250	40		350°C	75
	55		350°C	90
	65		—	90
400	40		—	75
	55		—	—
	65		—	—

(Data not applicable with QTZ suffix)

### Temperature Data With GR305 or GR302 Refractor

Wattage	Ambient Temp °C	Simultaneous Presence			Supply Wire °C
		Class I Division 2	Class II Division 1	Class I, Div. 2 / Class II, Div. 1	
<b>High Pressure Sodium</b>					
200	40	350°C	T3C	T1/T3C	75
	55	T1	—	—	75
250	40	350°C	T3C	T1/T3C	75
	55	T1	—	—	85
400	40	350°C	T3C	T1/T3C	85
	55	T1	—	—	90
<b>Mercury Vapor</b>					
250	40	325°C	T3B	350°C/T3B	85
	55	350°C	—	—	85
400	40	325°C	T3B	350°C/T3B	85
<b>Metal Halide</b>					
250	40	325°C	T3B	350°C/T3B	85
	55	350°C	—	—	90
400	40	325°C	T3B	350°C/T3B	85

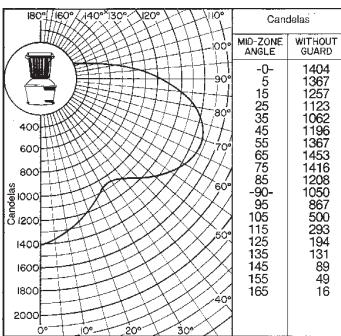
3L  
H.I.D. Lighting

Lamp: 250W/E-28 coated (DX) mercury vapor (MV)  
 Total bare lamp lumens: 13000

To determine number and placement of luminaires, see Lighting Selector Guide, pages 665 to 689.

NOTE: All data provided is for mercury vapor luminaires, with 250W/E-28 diffuse lamps. Use conversion factors (multipliers) shown below for other diffuse lamp types and wattages. Consult Cooper Crouse-Hinds for additional photometric data on any *Champ* series luminaire.

### Luminaire with I.E.S. Type V Glass Refractor



**Multipliers:** (for use with cedula curves only).

Luminaire Series	Lamp Watts	Conversion Factor
VMVC	400	1.73
VMVM	250	1.58
	400	2.77

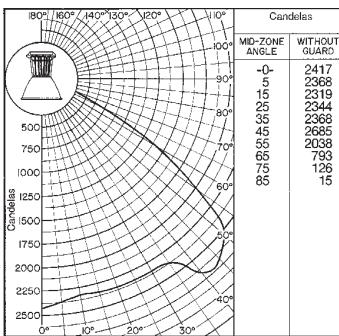
Luminaire spacing ratio: 1.30

### Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectance	Room Cavity Ratio				
Eff. Cel. Wall	1	2	3	4	5
50	.711	.585	.508	.440	.384
	.659	.524	.430	.358	.304
	.614	.464	.368	.295	.244
70	.677	.566	.484	.418	.365
	.630	.500	.411	.343	.291
	.586	.446	.353	.285	.234
50	.611	.509	.435	.376	.330
	.573	.456	.375	.313	.266
	.538	.409	.326	.263	.217
30	.551	.457	.390	.337	.296
	.521	.414	.341	.285	.242
	.482	.375	.299	.242	.200
10	.496	.409	.349	.301	.265
	.471	.374	.308	.257	.219
	.449	.343	.273	.220	.182
0	0	.419	.314	.246	.195
<hr/>					
% Reflectance	Room Cavity Ratio				
Eff. Cel. Wall	6	7	8	9	10
50	.343	.306	.274	.251	.223
	.285	.231	.203	.181	.156
	.209	.180	.152	.134	.113
70	.326	.292	.262	.240	.213
	.253	.220	.195	.174	.151
	.199	.171	.147	.129	.109
50	.294	.264	.237	.218	.195
	.232	.201	.179	.160	.139
	.185	.158	.136	.120	.101
30	.265	.237	.215	.197	.177
	.212	.185	.162	.146	.127
	.171	.145	.125	.110	.092
10	.238	.215	.193	.178	.160
	.191	.168	.148	.133	.115
	.155	.133	.114	.101	.083
0	0	.135	.113	.096	.084
					.068

### Luminaire with Etched Alzak® Reflector and Tempered Glass Lens



**Multipliers:** (for use with cedula curves only).

Luminaire Series	Lamp Watts	Conversion Factor
VMVC	400	1.73
VMVM	250	1.58
	400	2.77

Luminaire spacing ratio: 1.60

### Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectance	Room Cavity Ratio				
Eff. Cel. Wall	1	2	3	4	5
50	.681	.609	.544	.483	.430
	.658	.573	.500	.433	.376
	.638	.542	.465	.394	.337
70	.667	.598	.536	.476	.422
	.646	.564	.494	.429	.372
	.627	.537	.461	.391	.335
50	.639	.576	.518	.459	.410
	.622	.548	.482	.419	.366
	.607	.523	.453	.387	.332
30	.615	.556	.501	.445	.397
	.602	.533	.471	.410	.358
	.589	.512	.446	.382	.328
10	.594	.537	.486	.432	.386
	.582	.518	.460	.401	.352
	.571	.501	.438	.377	.324
0	0	.559	.489	.426	.364
% Reflectance	Room Cavity Ratio				
Eff. Cel. Wall	6	7	8	9	10
50	.383	.340	.302	.273	.234
	.329	.286	.249	.220	.182
	.291	.250	.212	.183	.148
70	.377	.335	.298	.269	.230
	.326	.283	.248	.218	.182
	.288	.247	.211	.183	.148
50	.365	.325	.289	.261	.225
	.320	.277	.243	.214	.178
	.286	.245	.209	.182	.147
30	.356	.315	.282	.254	.218
	.315	.274	.238	.210	.175
	.284	.242	.208	.180	.145
10	.346	.308	.274	.247	.213
	.309	.270	.235	.208	.173
	.281	.240	.206	.179	.144
0	0	.269	.228	.194	.168

Alzak is a registered trademark of Alcoa.

# 50-175W N2MV

## Series

### Champ® H.I.D. Luminaires Non-Metallic

- 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 F, G, Cl. III & Simultaneous Presence (100W max)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP56

3L

#### Application:

- 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.



#### 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; 100-175W MV; 70-175W MH

#### Certifications and Compliances:

- 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)
  - Class 1 Zone 2
- IEC:
  - Zone 2 Ex nR IIC
- UL Standards:
  - 844, 2279 Hazardous (Classified) Locations
  - 1598 Luminaires
  - 1598A Marine Locations
- CSA Standards
  - C22.2 No. 137
- IEC Standards
  - 60079-15

#### Options:

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

Suffix to be Added to Cat. No.	Description
<b>S826</b>	• Restricted Breathing Construction.... - Class I Division 2 & Zone 2 Suitability Cooler Operating Temperatures (T-Numbers)
<b>S826TB</b>	• Certified for IEC Zone 2 ..... - Furnished with terminal block crimp terminals and dedicated voltage ballasts (no MT, DT, or TT)
<b>N2MV-WM1</b>	• Wall Mount Arm. For converting a ceiling-mount luminaire to a wall-mount.
<b>BG</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>FA</b>	• Factory Assembled. For a factory assembled luminaire with lamp installed ..
<b>IR</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>QTZ</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>S658</b>	• Fused. To protect ballast and capacitor against abnormal line conditions .....
<b>S714</b>	• Furnished with Lamps.....
<b>S808</b>	• Teflon® Coated Globe. For additional protection against breakage. For use with 50-100W HPS, 70-175W MH and 100-175W MV .....

#### Accessories:

- See pages 775 and 776 for complete listing.

3L  
H.I.D. Lighting

3L

# 50-150W High Pressure Sodium

## N2MV Series

### 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 F, G, Cl. III & Simultaneous Presence (100W max)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP56

See notes 1 (to specify voltage) 2 and 3. For guards and other optics see N2MV Luminaires - Ordering by Components Section.

#### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor
<b>Pendant Mount</b>	3/4	50	N2MVS2A050GP	N2MVS2A050GR305
	1		N2MVS3A050GP	N2MVS3A050GR305
	3/4	70	N2MVS2A070GP	N2MVS2A070GR305
	1		N2MVS3A070GP	N2MVS3A070GR305
	3/4	100	N2MVS2A100GP	N2MVS2A100GR305
	1		N2MVS3A100GP	N2MVS3A100GR305
	3/4	150	N2MVS2A150GP	N2MVS2A150GR305
	1		N2MVS3A150GP	N2MVS3A150GR305
<b>Ceiling Mount Thru-Feed</b>	3/4	50	N2MVS2C050GP	N2MVS2C050GR305
	1		N2MVS3C050GP	N2MVS3C050GR305
	3/4	70	N2MVS2C070GP	N2MVS2C070GR305
	1		N2MVS3C070GP	N2MVS3C070GR305
	3/4	100	N2MVS2C100GP	N2MVS2C100GR305
	1		N2MVS3C100GP	N2MVS3C100GR305
	3/4	150	N2MVS2C150GP	N2MVS2C150GR305
	1		N2MVS3C150GP	N2MVS3C150GR305
<b>Stanchion Mount</b> 25° Angle	1 1/2	50	N2MVSJ050GP	N2MVSJ050GR305
	1 1/2	70	N2MVSJ070GP	N2MVSJ070GR305
	1 1/2	100	N2MVSJ100GP	N2MVSJ100GR305
	1 1/2	150	N2MVSJ150GP	N2MVSJ150GR305

1.	Standard Voltage Ballasts - 60Hz						CEC/CSA (cUL)	
	NEC/UL			Optional Voltage Ballasts - 50 or 60Hz				
Voltage Suffix	Multi Tap /MT	Dual Tap /DT	120V /120	480V /480	Tri Tap /TT	Dual Tap /DT	120V /120	
<b>Optional Voltage Ballasts - 50 or 60Hz</b>								
CEC/CSA (cUL) - CWI Isolated Ballasts	<b>EXPORT</b>							
Voltage Suffix	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, 55V Lamps is standard, for 100V lamps - Add suffix "CE". 50W HPS luminaire is dual-tap only.

3. Options - Add the required options suffixes from page 765, In Alpha-numeric order.

# 150-175W Pulse Start Metal Halide

## N2MV Series 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 F, G, Cl. III & Simultaneous Presence (100W max)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP56

**3L**

See notes 1 (to specify voltage) and 2. For guards and other optics see N2MV Luminaires - Ordering by Components Section.

### BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305-S828 Glass Refractor
<b>Pendant Mount</b>	3/4	150	N2MVM2A150GP-S828	N2MVM2A150GR305-S828
	1		N2MVM3A150GP-S828	N2MVM3A150GR305-S828
	3/4	175	N2MVM2A175GP-S828	N2MVM2A175GR305-S828
	1		N2MVM3A175GP-S828	N2MVM3A175GR305-S828
<b>Ceiling Mount Thru-Feed</b>	3/4	150	N2MVM2C150GP-S828	N2MVM2C150GR305-S828
	1		N2MVM3C150GP-S828	N2MVM3C150GR305-S828
	3/4	175	N2MVM2C175GP-S828	N2MVM2C175GR305-S828
	1		N2MVM3C175GP-S828	N2MVM3C175GR305-S828
<b>Stanchion Mount</b> 25° Angle	1 1/2	150	N2MVMJ150GP-S828	N2MVMJ150GR305-S828
	1 1/2	175	N2MVMJ175GP-S828	N2MVMJ175GR305-S828
1. Standard Voltage Ballasts - 60Hz NEC/UL				
Voltage Suffix		Multi Tap /MT	120V /120	480V /480
Optional Voltage Ballasts - 50 or 60Hz EXPORT				
Voltage Suffix		220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50
				240V 50Hz /240 50

2. Options - Add the required options suffixes from page 765, In Alpha-numeric order

**3L**  
H.I.D. Lighting

**3L**

# **70-175W Metal Halide**

## **N2MV Series 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 F, G, Cl. III & Simultaneous Presence (100W max)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP56

See notes 1 (to specify voltage), 2 and 3. For guards and other optics see N2MV Luminaires - Ordering by Components Section.

### **BASIC CATALOG NUMBER**

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard Cat. No.	With GR305 Glass Refractor Cat. No.
<b>Pendant Mount</b>	3/4	70	N2MVM2A070GP	N2MVM2A070GR305
	1		N2MVM3A070GP	N2MVM3A070GR305
	3/4	100	N2MVM2A100GP	N2MVM2A100GR305
	1		N2MVM3A100GP	N2MVM3A100GR305
	3/4	175	N2MVM2A175GP	N2MVM2A175GR305
	1		N2MVM3A175GP	N2MVM3A175GR305
<b>Ceiling Mount Thru-Feed</b>	3/4	70	N2MVM2C070GP	N2MVM2C070GR305
	1		N2MVM3C070GP	N2MVM3C070GR305
	3/4	100	N2MVM2C100GP	N2MVM2C100GR305
	1		N2MVM3C100GP	N2MVM3C100GR305
	3/4	175	N2MVM2C175GP	N2MVM2C175GR305
	1		N2MVM3C175GP	N2MVM3C175GR305
<b>Stanchion Mount</b> 25° Angle	1 1/2	070	N2MVMJ070GP	N2MVMJ070GR305
	1 1/2	100	N2MVMJ100GP	N2MVMJ100GR305
	1 1/2	175	N2MVMJ175GP	N2MVMJ175GR305

# **100-175W Mercury Vapor**

## **N2MV Series 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 F, G, Cl. III & Simultaneous Presence (100W max)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP56

### **BASIC CATALOG NUMBER**

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor
<b>Pendant Mount</b>	3/4	100	N2MVC2A100GP	N2MVC2A100GR305
	1		N2MVC3A100GP	N2MVC3A100GR305
	3/4	175	N2MVC2A175GP	N2MVC2A175GR305
	1		N2MVC3A175GP	N2MVC3A175GR305
<b>Ceiling Mount Thru-Feed</b>	3/4	100	N2MVC2C100GP	N2MVC2C100GR305
	1		N2MVC3C100GP	N2MVC3C100GR305
	3/4	175	N2MVC2C175GP	N2MVC2C175GR305
	1		N2MVC3C175GP	N2MVC3C175GR305
<b>Stanchion Mount</b> 25° Angle	1 1/2	100	N2MVCJ100GP	N2MVCJ100GR305
	1 1/2	175	N2MVCJ175GP	N2MVCJ175GR305

1.	Standard Voltage Ballasts - 60Hz 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 CEC/CSA (cUL) - CWI Isolated Ballasts								
	Voltage Suffix	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 options suffixes from page 765, in Alpha-numeric order.

# N2MV Luminaires - Ordering by Components

3L

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. No.
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	Catalog Number
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
Mercury Vapor	100	N2MVC100/MT
	175	N2MVC175/MT

## III. Globe, Refractors, Guards and Reflectors

Type	Catalog Number
Globe	G303
Globe Teflon Coated	G303-S808
Globe Guard	P33
Reflector-Dome	RD739
Reflector-Angle	RA739
Refractor - Type 2	GR302
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

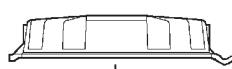
**N2MV Champ Series Luminaire**

**A complete luminaire consists of a cover mount, a ballast housing and a globe, with or without guard, refractor or reflector.**

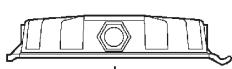
PHOTOCELL  
V2PC20  
V2PC22  
V2PC27



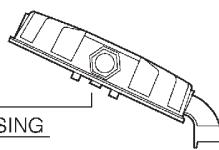
COVERS: PENDANT  
N2APM2 3/4 IN.  
N2APM3 1 IN.



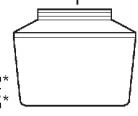
CEILING  
N2CM2 3/4 IN.  
N2CM3 1 IN.



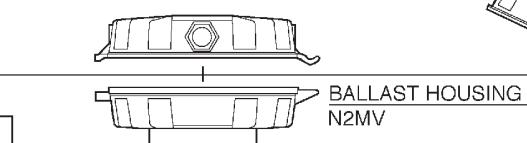
STANCHION  
N2JM5 1 1/2 IN.



REFRACTOR  
GR302 PGR302\*  
GR305 PGR305\*



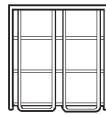
GUARD  
P23



BALLAST HOUSING

N2MV

GLOBE  
G303  
G303 S808



GUARD  
P33



REFLECTOR  
RD739 -OR- RA739

\* These plastic refractors are for non-hazardous areas only (50–100W max.)

## 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	Restricted Breathing		Non Restricted Breathing	Restricted Breathing	
				Ex nR			Ex nR	
			Standard Product	Option S826(TB)	Standard Product	Standard Product	Option S826	
			Division 2	Zone 2 or Division 2		Class I, Division 2 and Class II	Class I, Zone 2 or Division 2 and Class II	
		G303	X	X	X	X	X	
		GR305	X	X	X	X	X	

**High Pressure Sodium**

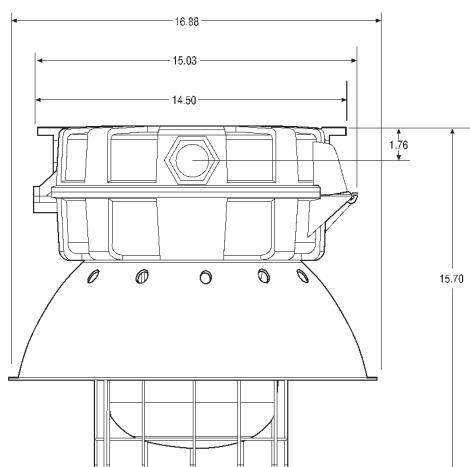
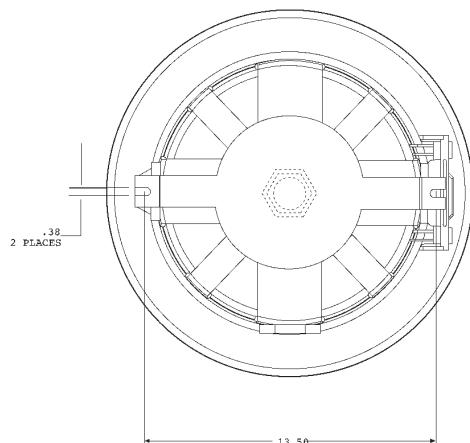
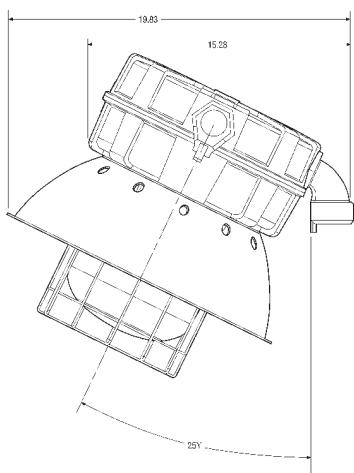
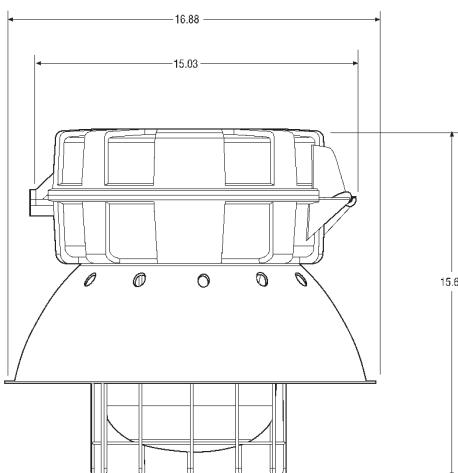
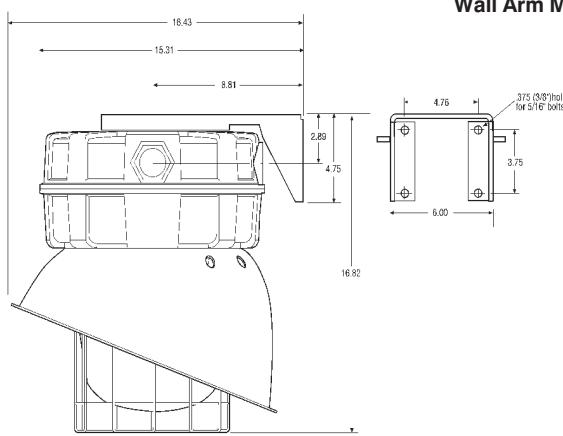
50	40	T3A	T5	T4A	T2C/T4A	T4A	75
	55	T3A	T5	—	—	—	85
	65	—	—	—	—	—	—
70	40	T3A	T5	T4A	T2C/T4A	T4A	75
	55	T3A	T5	—	—	—	85
	65	—	—	—	—	—	—
100	40	T2D	T5	T4A	T2C/T4A	T4A	85
	55	T2C	T4	—	—	—	100
	65	—	—	—	—	—	—
150	40	T2C	T4	—	—	—	85
	55	—	—	—	—	—	—
	65	—	—	—	—	—	—

**Metal Halide**

70	40	T3C	T5	T4	T2B/T4	T4	75
	55	T3B	T5	—	—	—	85
	65	—	—	—	—	—	—
100	40	T2B	T4	T4	T2B/T4	T4	85
	55	T2B	T4	—	—	—	—
	65	—	—	—	—	—	—
150	40	T2	T3	—	—	—	—
(S828)	55	—	—	—	—	—	—
	65	—	—	—	—	—	—
175	40	T2	T3	—	—	—	—
(Includes S828)	55	—	—	—	—	—	—
	65	—	—	—	—	—	—

**Mercury Vapor**

100	40	T2B	T4	T4	T2B/T4	T4	75
	55	T2B	T4	—	—	—	85
	65	—	—	—	—	—	—
175	40	T2	T3	—	—	—	85
	55	—	—	—	—	—	—
	65	—	—	—	—	—	—

**N2MV Dimensions****Ceiling Mount****Ceiling Mount – Top View****25° Angle Stanchion Mount****Pendant Mount****Wall Arm Mount****Net Luminaire Weights (lbs.)**

Luminaire Lamp Series	Lamp Watts	Luminaire with Globe, Guard (lbs.)	Lamp Watts	Luminaire with Globe, Guard (lbs.)
N2MVS	50	23	70	23 1/16
	100	24 1/16	150	26 1/8
N2MVC	100	21 1/16	175	22 1/4
	250	24		
N2MVM	70	21	100	21 1/16
	175	22 1/4	250	24

**Add for mounting modules (lbs.):**

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

**Add for reflectors (lbs.):**

Dome	1 1/4	30° Angle	1 3/4
------	-------	-----------	-------

**Deduct:** 1 lb. for luminaire without P33 Guard.**Add:** 5 1/2 lbs. for luminaire with GR305 refractor.

# 50-175W N2MV Series

## Champ® H.I.D. Luminaires

### Non-Metallic

Photometric Data

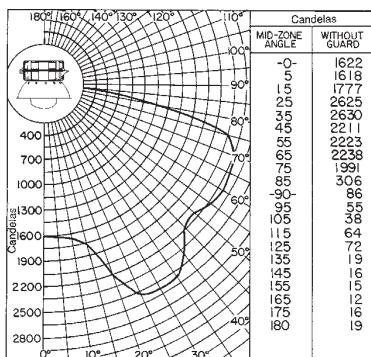
3L

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

To determine number and placement of luminaires, see Lighting Selector Guide, pages 665 to 689.

NOTE: All data provided is for high pressure sodium luminaires with 150W/E-23½ 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 candelas curves only).

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

Luminaire spacing ratio: 1.90

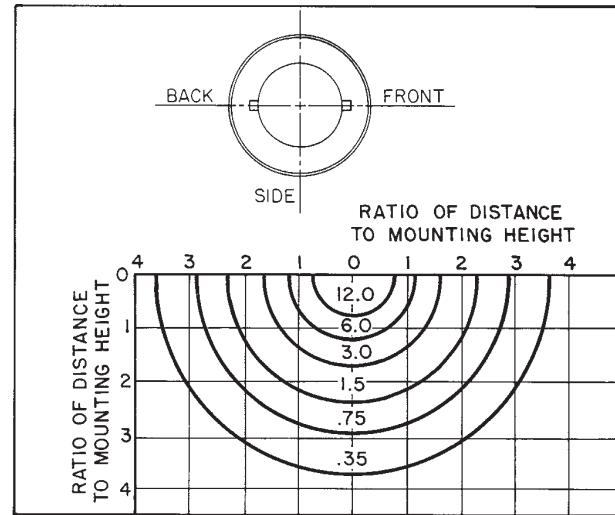
#### Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

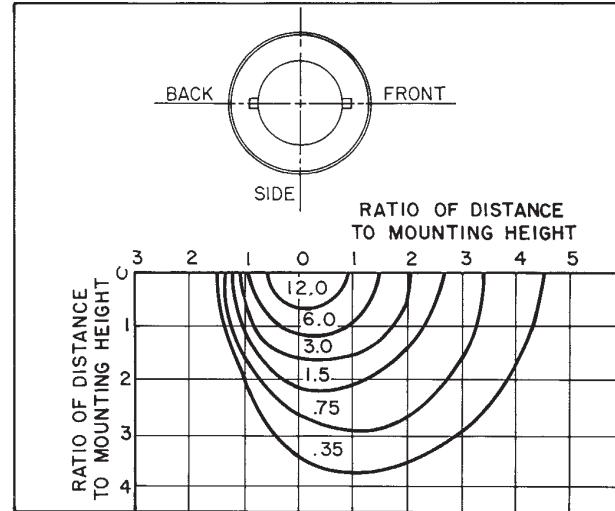
#### % Reflectance Room Cavity Ratio

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

#### 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.

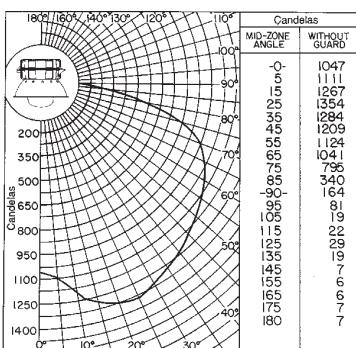
Height (Ft.)	Factor	Height (Ft.)	Factor
8	1.56	16	.391
12	.694	20	.250
14	.510		

Lamp: 175W/E-28 coated mercury vapor (MV)  
 Total bare lamp lumens: 8600

To determine number and placement of luminaires, see Lighting Selector Guide, pages 665 to 689.

NOTE: All data provided is for mercury vapor luminaires with 175W/E-28 diffuse lamps. Use conversion factors (multipliers) shown below for other diffuse lamp types and wattages. Consult Cooper Crouse-Hinds for additional photometric data on any *Champ* series luminaire.

#### Luminaire with Globe and Dome Reflector



**Multipliers:** (for use with candelas curves only).

Luminaire Series	Lamp Watts	Conversion Factor
N2MVC	100	0.49
	250	1.41
N2MVM	175	1.63
	250	2.38

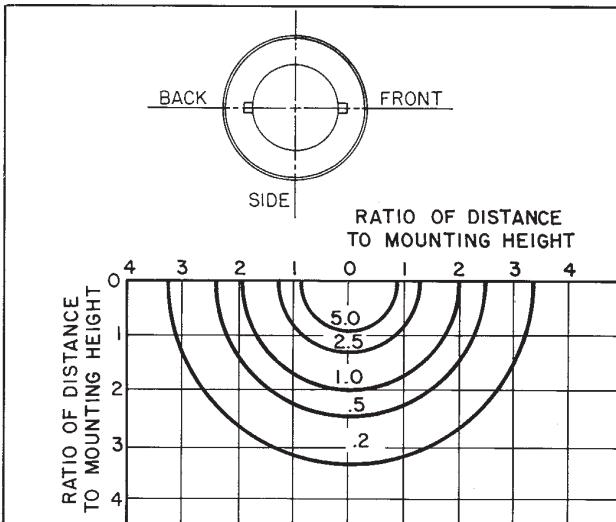
Luminaire spacing ratio: 1.7

#### Coefficient of Utilization

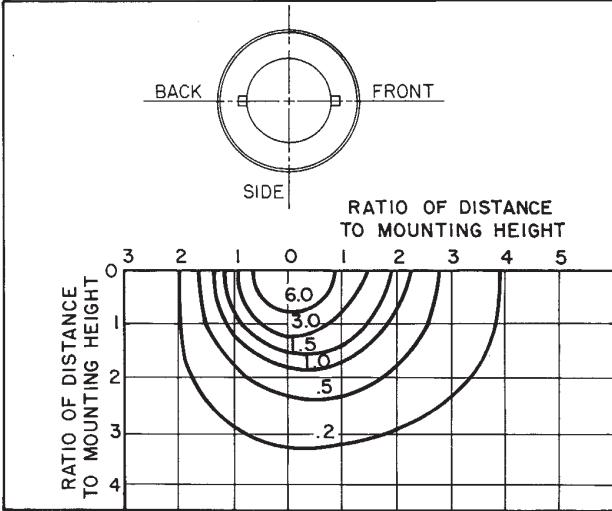
Effective Floor Cavity Reflectance 20%

% Reflectance	Room Cavity Ratio				
Eff. Cel. Wall	1	2	3	4	5
50	.723	.619	.536	.467	.412
	.684	.561	.470	.396	.340
	.649	.512	.417	.342	.286
70	.705	.604	.524	.456	.401
	.668	.549	.461	.390	.334
	.635	.505	.412	.338	.283
50	.668	.572	.498	.434	.384
	.638	.528	.445	.377	.324
	.611	.488	.401	.331	.279
30	.635	.545	.474	.414	.366
	.611	.508	.429	.365	.314
	.588	.474	.391	.324	.273
10	.606	.519	.453	.395	.350
	.585	.488	.414	.352	.305
	.566	.460	.381	.317	.268
0	0	.549	.442	.363	.299
					.251
% Reflectance	Room Cavity Ratio				
Eff. Cel. Wall	6	7	8	9	10
50	.368	.329	.294	.269	.234
	.298	.261	.229	.204	.172
	.248	.215	.182	.160	.131
70	.359	.322	.289	.263	.229
	.293	.256	.226	.201	.171
	.244	.211	.181	.159	.131
50	.343	.308	.276	.252	.221
	.284	.248	.220	.196	.166
	.240	.207	.178	.157	.128
30	.329	.294	.266	.243	.212
	.276	.243	.213	.190	.162
	.236	.203	.176	.154	.126
10	.315	.284	.255	.233	.205
	.268	.236	.208	.186	.157
	.231	.200	.173	.151	.123
0	0	.216	.184	.158	.138
					.110

#### 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		

## VMV, LMV, DMV, VMV High Wattage &amp; N2MV Series

**Globes**

G54



G24



G303

Lamp Watts	Luminaire Series	Type	Cat. #
35-150	LMVS, LMVM	Heat/impact resistant	G54✓
50-175	VMVC, VMVM, VMVS	Heat/impact resistant	G24✓
50-250	DMVC, DMVM, DMVS	Heat/impact resistant	G303✓
200-400	VMVS	Heat/impact resistant	G303✓
250	VMVC, VMVM	Heat/impact resistant	G303✓
50-175	N2MVC, N2MVM, N2MVS	Heat/impact resistant	G303✓

**Guards**

P50 – use with G54 globe



P21 – use with G24 globe



P33 – use with G303 globe



P23 – use with refractors

Lamp Watts	Luminaire Series	Type	Cat. #
35-150	LMVS, LMVM	Copper-free aluminum	P50✓
50-175	VMVC, VMVM, VMVS	Copper-free aluminum	P21✓
50-250	DMVC, DMVM, DMVS	Stainless steel	P33✓
200-400	VMVS	Stainless steel	P33✓
250	VMVC, VMVM	Stainless steel	P33✓
Refractors	All	Stainless steel	P23
50-175	N2MVC, N2MVM, N2MVS	Stainless steel	P33

✓ – available with Lightning Service™ delivery.  
See Section G. for complete details.

**Reflectors**

Dome – Krydon® material



30° Angle – Krydon material

Lamp Watts	Luminaire Series	Dome Cat. #	Angle Cat. #
35-150	LMVS, LMVM	RD636 (RD66)✓	RA636 (RA66)✓
50-175	VMVC, VMVM, VMVS	RD70✓	RA70✓
50-250	DMVC, DMVM, DMVS	RD739 (RD79)✓	RA739 (RA79)✓
200-400	VMVS	RD739 (RD79)✓	RA739 (RA79)✓
250	VMVC, VMVM	RD739 (RD79)✓	RA739 (RA79)✓
50-175	N2MV, N2MVF(B)	RD739✓	RA740



Reflector/Lens – Etched Alzak aluminum reflector/tempered glass lens

Lamp Watts	Luminaire Series	Type	Cat. #
200-400	VMVC, VMVM, VMVS	Reflector/Lens	GRD4✓
70-250	DMVS, DMVC, DMVM	Reflector/Lens	GRD4✓

**Globes – Teflon Coated**

Teflon coated for increased shatter protection

Lamp Watts	Luminaire Series	Cat. #
50-175	VMVC, VMVM, VMVS	G24-S808
50-175	DMVC, DMVM, DMVS	G303-S808

Alzak is a registered trademark of Alcoa.

Teflon is a registered trademark of E.I. DuPont Co.



### Refractors



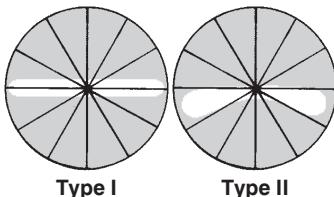
R2, R5, PR2, PR3, PR5



GR302, GR305

Lamp Watts	Luminaire Series	I.E.S. Type	Glass Cat. #	Plastic (100W max. non hazardous) Cat. #
50-175	VMVC, VMVM, VMVS } V	II	R2	PR2
		III	PR3	
		V	R5	PR5
200-400	VMVC, VMVM, VMVS }	II	GR302	
		V	GR305✓	
50-250	DMVC, DMVS, DMVM }	II	GR302	PGR302
		III		PGR303
	N2MV	V	GR305✓	PGR305

### I.E.S. Distribution Curves



Type III

### Compact Refractors



G241, G245



With optional P241 wire guard.

Lamp Watts	Luminaire Series	IES Type	Glass Cat. #
50-175	VMVC, VMVM, VMVS }	I	G241✓
		V	G245✓

Optional stainless steel wire guard

P241✓

### Safety Lighting Options

#### Quartz Auxiliary Lamp



The quartz auxiliary lamp comes to full brightness instantly and remains lit until the H.I.D. lamp attains 60-70% of full illumination. Quartz auxiliary lamps can be used with all DMV, VMV and VMV high wattage series *Champ*® luminaires. Use for non-hazardous applications ONLY.

(NOTE: VMV luminaires (50-175W) ordered with this option must use large glass refractor optics, not compact refractors).

**Quartz auxiliary lamp** (100W single ended lamp – Q100CL/DC, Q100DC or 100Q/CL/DC NOT furnished)

Add suffix **QTZ** to Cat. No.

#### Instant Restrike

Factory installed instant restrike device will restart a hot high pressure sodium lamp (50-150W LX) after a momentary power interruption, without the typical delay for cooling.

**Instant restrike** for use in 50-150W "LX" HPS luminaires.

Add suffix **IR** to Cat. No.

#### Ballast-gard™

Ballast-gard starter cut-out switch prevents starter pulsing after a time delay of approximately two minutes if the lamp fails to start. For use in 50-400 watt HPS luminaires only. Add suffix **BG** to Cat. No.

✓ – available with Lightning Service™ delivery.  
See Section G for complete details

- Cl. I, Div. 2, Groups A,B,C,D
- Maintains Cl. I, Div 2
- Suitability of Cooper Crouse-Hinds Champ® Series Luminaires

The only UL recognized photocell for Class I, Division 2 areas eliminates the need for an explosionproof box.

When mounting in EIH enclosures for Class I, Division 1 applications (EV21H Series) seals are not required for Groups C & D.

Cooper Crouse-Hinds V2PC factory-sealed, field installed photocell offers reliable, dusk-to-dawn lighting control in Class I, Division 2 locations. The V2PC is ideal for walkways, security lighting, and any other outdoor lighting application that utilizes Champ® H.I.D. lighting luminaires.

## Applications:

The V2PC is designed:

- to provide control for automatic dusk-to-dawn lighting.
- for use with LMV, DMV, VMV, VMV High Wattage, N2MV and FMV Series Champ® lighting luminaires.
- for use on 35-400 watt H.I.D., incandescent, or fluorescent lighting luminaires.
- to save energy by operating luminaires only when necessary.
- for safety by turning on outdoor luminaires in critical passageways at night.
- for walkways, parking areas, outdoor process areas, security lighting, or any outdoor lighting application in Class I, Division 2 locations and corrosive environments.
- for remote mounting in FS boxes (D2S Series).
- for mounting in EIH enclosures for Class I, Division 1 applications (EV2IH Series).

## Features:

- Field-installable.
  - Solid-state design for performance and dependability.
  - Factory sealed components.
- Explosionproof enclosure not required for Class I, Division 2 locations.
- Luminaires turn on at 3 footcandles, off at 8 footcandles insuring that the luminaires are operating only when needed.
  - Built-in 10 second time delay to eliminate nuisance tripping.
  - Eight-year operating life.
  - Furnished with 6" stranded 600 volt color coded wire leads.
  - Constructed from corrosion-resistant thermoplastic polyester.
  - Available on a DS cover for use with any FS/FD box (D2S Series).
  - Available in an EIH enclosure for use in Class I, Division 1, Groups B†, C, and D locations (EV2IH Series). No seals required.

## Electrical Rating Ranges:

- 120, 208, 220, 240, 277 VAC
- 50/60 Hz
- 35-400 watt H.I.D., incandescent, or fluorescent
- V2PC20 – 3.3A max. current rating
- V2PC22 – 1.8A max. current rating
- V2PC27 – 1.4A max. current rating

† For Group B applications, seal within 1½" of enclosure in accordance with Section 501-5 of the National Electric Code®.



## Certifications and Compliances:

V2PC and D2S

- NEC/CEC: Class I, Division 2, Groups A, B, C, D
  - UL Standard: 844 – Hazardous (Classified) Locations
  - CSA: C22.2 No. 55
- EV2IH
- NEC/CEC:
    - Class I, Division 1 and 2, Groups B, C, D
    - Class II, Division 1, Groups E, F, G
    - Class II, Division 2, Groups F, G
    - Class III
  - NEMA: 3, 4, 7BCD, 9EFG
  - UL Standard: 844 – Hazardous (Classified) Locations
  - CSA: C22.2 No. 30, 55

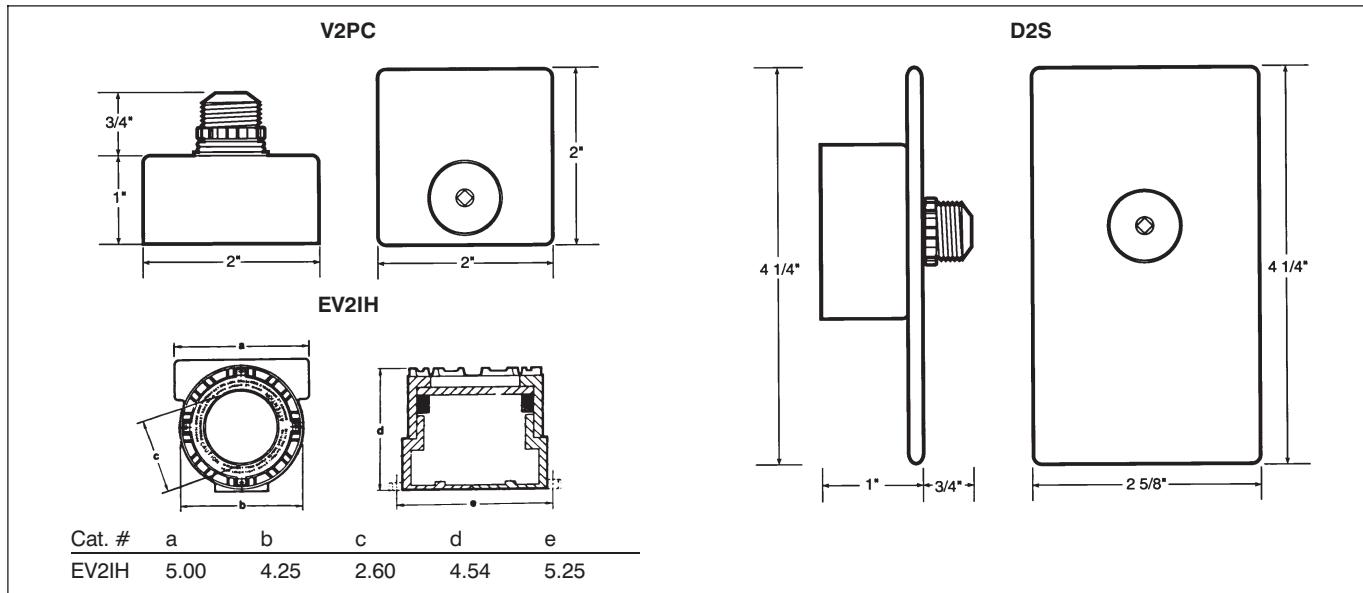
## Options:

To order luminaire with **photocell factory installed**:

1. Specify luminaire dedicated supply voltage (not MT, DT, or TT)
2. Add photocell Cat. No. to fixture Cat. No. as follows:
  - V2PC20
  - V2PC22
  - V2PC27

Example: VMVSJ070GP/120-V2PC20 is a 120V 60Hz luminaire with a factory installed photocell.

- Cl. I, Div. 2, Groups A,B,C,D
- Maintains Cl.I, Div. 2
- Suitability of Cooper Crouse-Hinds Champ® Series Luminaires

**Dimensions:****Ordering Information****Photocell in DS cover for use with FS/FD box**

Catalog #	Voltage Range
D2S20	120V, 50/60 Hz
D2S22	208-240V, 50/60 Hz
D2S27	277V, 50/60 Hz



**Photocell in EIH enclosure for use in Class I,  
Division 1, Groups B, C, and D; Class II,  
Division 1, Groups E, F, and G; and Class III  
locations**

Catalog #	Voltage Range
EV2IH20	120V, 50/60 Hz
EV2IH22	208-240V, 50/60 Hz
EV2IH27	277V, 50/60 Hz

