VMV Series 50–175W

Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D
Restricted Breathing Cl. I,
Div. 2 & Zone 2 (Suffix S826)
Cl. II, Groups E, F, G, Cl. III &
Simultaneous Presence
(HPS 50W, 70W)

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

Applications:

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 ignitible 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); 70, 100, 175 watt metal halide (MH and Pulse Start 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

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
- UL Standards:
  - 844 Hazardous (Classified) Locations
  - 1598 Luminaires
  - 1598A Marine Locations
- CSA Standards:
  - C22.2 No. 137
- IEC Standards:
  - 60079-15

Standard Materials:

- Ballast housings and mountings – copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware – stainless steel
- Reflectors (dome and angle) – *Krydon* fiberglass-reinforced polyester material
- Globes – heat and impact resistant internally fluted glass
- 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; 70 to 175W MH

Options:

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

Description	Suffix
Factory Sealed Champs Class I, Division 2 & Zone 2 Provides T3 code without conduit or cable seals Restricted breathing/Non-sparking	**S865**
Restricted Breathing Construction Class I, Division 2 & Zone 2 Suitabilty Cooler Operating Temperatures (T-Numbers)	**S826**
Terminal block Furnished with terminal block, crimp terminals and dedicated voltage ballasts (no MT, DT or TT)	**S826TB**
Fused – to protect ballast and capacitors against abnormal line conditions (Not available with /MT Ballast) (Not for use in Canada) (Not suitable for marine applications)	**S658***
Quick-Clip - Holds weight of housing when closed. No need to support luminaire while screwing the housing to the cover	**S890**
Ballast-Gard™ starter cut-out switch – prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life. Available for use with 50–150W LX HPS only	**BG**
Instant restrike – enables a hot HPS lamp to immediately restrike after a momentary loss arc due to voltage fluctuation or power outage. It has no effect on the warm-up period of cold lamps. 50–150W LX HPS only	**IR**
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. Must use R2, R3 and R5 refractors.	**QTZ**
Refractor Mount - For ballast housing only. Used with R2, R3 and R5 refractors.	**RM**
Stainless steel insert – top hat with stainless steel threaded insert to attach ballast housing	**S806**
TEFLON coating on globe for increased shatter protection G24 only. T-Numbers not affected	**S808**
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.

Accessories:

- See pages 1022–1023 for complete listing.

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

Crouse-Hinds by EATON

VMV Series 50–150W High Pressure Sodium

Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D
Restricted Breathing Cl. I,
Div. 2 & Zone 2 (Suffix S826)
Cl. II, Groups E, F, G, Cl. III &
Simultaneous Presence
(50W, 70W)

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

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

	Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER With G24 Globe and P21 Guard	With G241 Type I Compact Refractor *	With R5 Glass Refractor †
	**Pendant Mount**	¾	50	**VMVS2A050GP**	**VMVS2A050G241**	**VMVS2A050R5**
		1		**VMVS3A050GP**	**VMVS3A050G241**	**VMVS3A050R5**
		¾	70	**VMVS2A070GP**	**VMVS2A070G241**	**VMVS2A070R5**
		1		**VMVS3A070GP**	**VMVS3A070G241**	**VMVS3A070R5**
		¾	100	**VMVS2A100GP**	**VMVS2A100G241**	**VMVS2A100R5**
		1		**VMVS3A100GP**	**VMVS3A100G241**	**VMVS3A100R5**
		¾	150	**VMVS2A150GP**	**VMVS2A150G241**	**VMVS2A150R5**
		1		**VMVS3A150GP**	**VMVS3A150G241**	**VMVS3A150R5**
	**Flexible Pendant Mount**	¾	50	**VMVS2HA050GP**	**VMVS2HA050G241**	**VMVS2HA050R5**
		¾	70	**VMVS2HA070GP**	**VMVS2HA070G241**	**VMVS2HA070R5**
		¾	100	**VMVS2HA100GP**	**VMVS2HA100G241**	**VMVS2HA100R5**
		¾	150	**VMVS2HA150GP**	**VMVS2HA150G241**	**VMVS2HA150R5**
	**Ceiling Mount Thru-Feed**	¾	50	**VMVS2C050GP**	**VMVS2C050G241**	**VMVS2C050R5**
		1		**VMVS3C050GP**	**VMVS3C050G241**	**VMVS3C050R5**
		¾	70	**VMVS2C070GP**	**VMVS2C070G241**	**VMVS2C070R5**
		1		**VMVS3C070GP**	**VMVS3C070G241**	**VMVS3C070R5**
		¾	100	**VMVS2C100GP**	**VMVS2C100G241**	**VMVS2C100R5**
		1		**VMVS3C100GP**	**VMVS3C100G241**	**VMVS3C100R5**
		¾	150	**VMVS2C150GP**	**VMVS2C150G241**	**VMVS2C150R5**
		1		**VMVS3C150GP**	**VMVS3C150G241**	**VMVS3C150R5**
	**Wall Mount Thru-Feed**	¾	50	**VMVS2TW050GP**	**VMVS2TW050G241**	**VMVS2TW050R5**
		1		**VMVS3TW050GP**	**VMVS3TW050G241**	**VMVS3TW050R5**
		¾	70	**VMVS2TW070GP**	**VMVS2TW070G241**	**VMVS2TW070R5**
		1		**VMVS3TW070GP**	**VMVS3TW070G241**	**VMVS3TW070R5**
		¾	100	**VMVS2TW100GP**	**VMVS2TW100G241**	**VMVS2TW100R5**
		1		**VMVS3TW100GP**	**VMVS3TW100G241**	**VMVS3TW100R5**
		¾	150	**VMVS2TW150GP**	**VMVS2TW150G241**	**VMVS2TW150R5**
		1		**VMVS3TW150GP**	**VMVS3TW150G241**	**VMVS3TW150R5**
	**Quad-Mount** Pendant, Adjustable, Thru-Feed, 25° Angle, 12½° Angle	¾	50	**VMVS25Q050GP**	**VMVS25Q050G241**	**VMVS25Q050R5**
		¾	70	**VMVS25Q070GP**	**VMVS25Q070G241**	**VMVS25Q070R5**
		¾	100	**VMVS25Q100GP**	**VMVS25Q100G241**	**VMVS25Q100R5**
		¾	150	**VMVS25Q150GP**	**VMVS25Q150G241**	**VMVS25Q150R5**
	**Stanchion Mount** 25° Angle	1½	50	**VMVSJ050GP**	**VMVSJ050G241**	**VMVSJ050R5**
		1½	70	**VMVSJ070GP**	**VMVSJ070G241**	**VMVSJ070R5**
		1½	100	**VMVSJ100GP**	**VMVSJ100G241**	**VMVSJ100R5**
		1½	150	**VMVSJ150GP**	**VMVSJ150G241**	**VMVSJ150R5**
	**Stanchion Mount** Straight	1½	50	**VMVSP050GP**	**VMVSP050G241**	**VMVSP050R5**
		1½	70	**VMVSP070GP**	**VMVSP070G241**	**VMVSP070R5**
		1½	100	**VMVSP100GP**	**VMVSP100G241**	**VMVSP100R5**
		1½	150	**VMVSP150GP**	**VMVSP150G241**	**VMVSP150R5**

* For G243 Type III Compact Refractor, change "241" at end of catalog number to "243". Ex. VMVS2A050G243
For G245 Type V Compact Refractor, change "241" at end of catalog number to "245". Ex. VMVS2A050G245

† For R2 Glass Refractor, change "R5" at end of catalog number to "R2". Ex. VMVS2A050R2.
For R3 Glass Refractor, change "R5" at end of catalog number to "R3". Ex. VMVS2A050R3.

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts – 60Hz

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

Multi Tap and Dual Tap ballasts are powered for 277V

Optional Voltage Ballasts - 50 or 60Hz

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

2. 150W HPS Luminaires: For 55V lamps - add suffix LX; for 100V lamps - add suffix CE. 50W HPS luminaire is dual tap only.

3. Options - Add the required option suffixes, see page 962, in alpha-numeric order.

VMV Series 150–175W Pulse Start Metal Halide

Champ® H.I.D. Luminaires

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

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

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

	Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER With G24 Globe and P21 Guard	With G245 Type V Compact Refractor *	With R5 Glass Refractor †
	**Pendant Mount**	¾	150	**VMVM2A150GP S828**	**VMVM2A150G245 S828**	**VMVM2A150R5 S828**
		1		**VMVM3A150GP S828**	**VMVM3A150G245 S828**	**VMVM3A150R5 S828**
		¾	175	**VMVM2A175GP S828**	**VMVM2A175G245 S828**	**VMVM2A175R5 S828**
		1		**VMVM3A175GP S828**	**VMVM3A175G245 S828**	**VMVM3A175R5 S828**
	**Flexible Pendant Mount**	¾	150	**VMVM2HA150GP S828**	**VMVM2HA150G245 S828**	**VMVM2HA150R5 S828**
		¾	175	**VMVM2HA175GP S828**	**VMVM2HA175G245 S828**	**VMVM2HA175R5 S828**
	**Ceiling Mount Thru-Feed**	¾	150	**VMVM2C150GP S828**	**VMVM2C150G245 S828**	**VMVM2C150R5 S828**
		1		**VMVM3C150GP S828**	**VMVM3C150G245 S828**	**VMVM3C150R5 S828**
		¾	175	**VMVM2C175GP S828**	**VMVM2C175G245 S828**	**VMVM2C175R5 S828**
		1		**VMVM3C175GP S828**	**VMVM3C175G245 S828**	**VMVM3C175R5 S828**
	**Wall Mount Thru-Feed**	¾	150	**VMVM2TW150GP S828**	**VMVM2TW150G245 S828**	**VMVM2TW150R5 S828**
		1		**VMVM3TW150GP S828**	**VMVM3TW150G245 S828**	**VMVM3TW150R5 S828**
		¾	175	**VMVM2TW175GP S828**	**VMVM2TW175G245 S828**	**VMVM2TW175R5 S828**
		1		**VMVM3TW175GP S828**	**VMVM3TW175G245 S828**	**VMVM3TW175R5 S828**
	**Quad-Mount** Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	¾	150	**VMVM25Q150GP S828**	**VMVM25Q150G245 S828**	**VMVM25Q150R5 S828**
		¾	175	**VMVM25Q175GP S828**	**VMVM25Q175G245 S828**	**VMVM25Q175R5 S828**
	**Stanchion Mount** 25° Angle	1½	150	**VMVMJ150GP S828**	**VMVMJ150G245 S828**	**VMVMJ150R5 S828**
		1½	175	**VMVMJ175GP S828**	**VMVMJ175G245 S828**	**VMVMJ175R5 S828**
	**Stanchion Mount** Straight	1½	150	**VMVMP150GP S828**	**VMVMP150G245 S828**	**VMVMP150R5 S828**
		1½	175	**VMVMP175GP S828**	**VMVMP175G245 S828**	**VMVMP175R5 S828**

* For G241 Type I Compact Refractor, change "245" at end of catalog number to "241". Ex. VMVM2A150G241-S828
For G243 Type III Compact Refractor, change "245" at end of catalog number to "243". Ex. VMVM2A150G243-S828

† For R2 Glass Refractor, change "R5" at end of catalog number to "R2". Ex. VMVM2A150R2-S828.
For R3 Glass Refractor, change "R5" at end of catalog number to "R3". Ex. VMVM2A150R3-S828.

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts – 60Hz

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

Optional Voltage Ballasts - 50 or 60Hz

	EXPORT			
Voltage	220V 60Hz	220V 50Hz	230V 50Hz	240V 50Hz
Suffix	/220	/220 50	/230 50	/240 50

Crouse-Hinds by EATON

Champ® H.I.D. Luminaires

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

	Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER With G24 Globe and P21 Guard	With G241 Type I Compact Refractor *	With R5 Glass Refractor †
	**Pendant Mount**	¾	70	**VMVM2A070GP**	**VMVM2A070G241**	**VMVM2A070R5**
		1		**VMVM3A070GP**	**VMVM3A070G241**	**VMVM3A070R5**
		¾	100	**VMVM2A100GP**	**VMVM2A100G241**	**VMVM2A100R5**
		1		**VMVM3A100GP**	**VMVM3A100G241**	**VMVM3A100R5**
		¾	175	**VMVM2A175GP**	**VMVM2A175G241**	**VMVM2A175R5**
		1		**VMVM3A175GP**	**VMVM3A175G241**	**VMVM3A175R5**
	**Flexible Pendant Mount**	¾	70	**VMVM2HA070GP**	**VMVM2HA070G241**	**VMVM2HA070R5**
		¾	100	**VMVM2HA100GP**	**VMVM2HA100G241**	**VMVM2HA100R5**
		¾	175	**VMVM2HA175GP**	**VMVM2HA175G241**	**VMVM2HA175R5**
	**Ceiling Mount Thru-Feed**	¾	70	**VMVM2C070GP**	**VMVM2C070G241**	**VMVM2C070R5**
		1		**VMVM3C070GP**	**VMVM3C070G241**	**VMVM3C070R5**
		¾	100	**VMVM2C100GP**	**VMVM2C100G241**	**VMVM2C100R5**
		1		**VMVM3C100GP**	**VMVM3C100G241**	**VMVM3C100R5**
		¾	175	**VMVM2C175GP**	**VMVM2C175G241**	**VMVM2C175R5**
		1		**VMVM3C175GP**	**VMVM3C175G241**	**VMVM3C175R5**
	**Wall Mount Thru-Feed**	¾	70	**VMVM2TW070GP**	**VMVM2TW070G241**	**VMVM2TW070R5**
		1		**VMVM3TW070GP**	**VMVM3TW070G241**	**VMVM3TW070R5**
		¾	100	**VMVM2TW100GP**	**VMVM2TW100G241**	**VMVM2TW100R5**
		1		**VMVM3TW100GP**	**VMVM3TW100G241**	**VMVM3TW100R5**
		¾	175	**VMVM2TW175GP**	**VMVM2TW175G241**	**VMVM2TW175R5**
		1		**VMVM3TW175GP**	**VMVM3TW175G241**	**VMVM3TW175R5**
	**Quad-Mount** Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	¾	70	**VMVM25Q070GP**	**VMVM25Q070G241**	**VMVM25Q070R5**
		¾	100	**VMVM25Q100GP**	**VMVM25Q100G241**	**VMVM25Q100R5**
		¾	175	**VMVM25Q175GP**	**VMVM25Q175G241**	**VMVM25Q175R5**
	**Stanchion Mount** 25° Angle	1½	70	**VMVMJ070GP**	**VMVMJ070G241**	**VMVMJ070R5**
		1½	100	**VMVMJ100GP**	**VMVMJ100G241**	**VMVMJ100R5**
		1½	175	**VMVMJ175GP**	**VMVMJ175G241**	**VMVMJ175R5**
	**Stanchion Mount** Straight	1½	70	**VMVMP070GP**	**VMVMP070G241**	**VMVMP070R5**
		1½	100	**VMVMP100GP**	**VMVMP100G241**	**VMVMP100R5**
		1½	175	**VMVMP175GP**	**VMVMP175G241**	**VMVMP175R5**

* For G243 Type III Compact Refractor, change "241" at end of catalog number to "243". Ex. VMVM2A070G243
For G245 Type V Compact Refractor, change "241" at end of catalog number to "245". Ex. VMVM2A070G245

† For R2 Glass Refractor, change "R5" at end of catalog number to "R2". Ex. VMVM2A070R2.
For R3 Glass Refractor, change "R5" at end of catalog number to "R3". Ex. VMVM2A070R3.

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts – 60Hz

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

Optional Voltage Ballasts - 50 or 60Hz

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

2. 70W ballast not available in 480V.

3. Options - Add the required option suffixes, see page 962, in alpha-numeric order.

VMV Series – Ordering by Components

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. #
Pendant	¾"	**APM2**
	1"	**APM3**
Flexible Pendant	¾"	**HPM2**
Ceiling*	¾"	**CM2**
	1"	**CM3**
Wall	¾"	**TWM2**
	1"	**TWM3**
Stanchion – 25 Degree Angle	1½"	**JM5**
Stanchion – Straight	1½"	**PM5**
Quad-Mount	¾"	**QM25**

*Not available with V2PC photocell.

II. Ballast Housings:

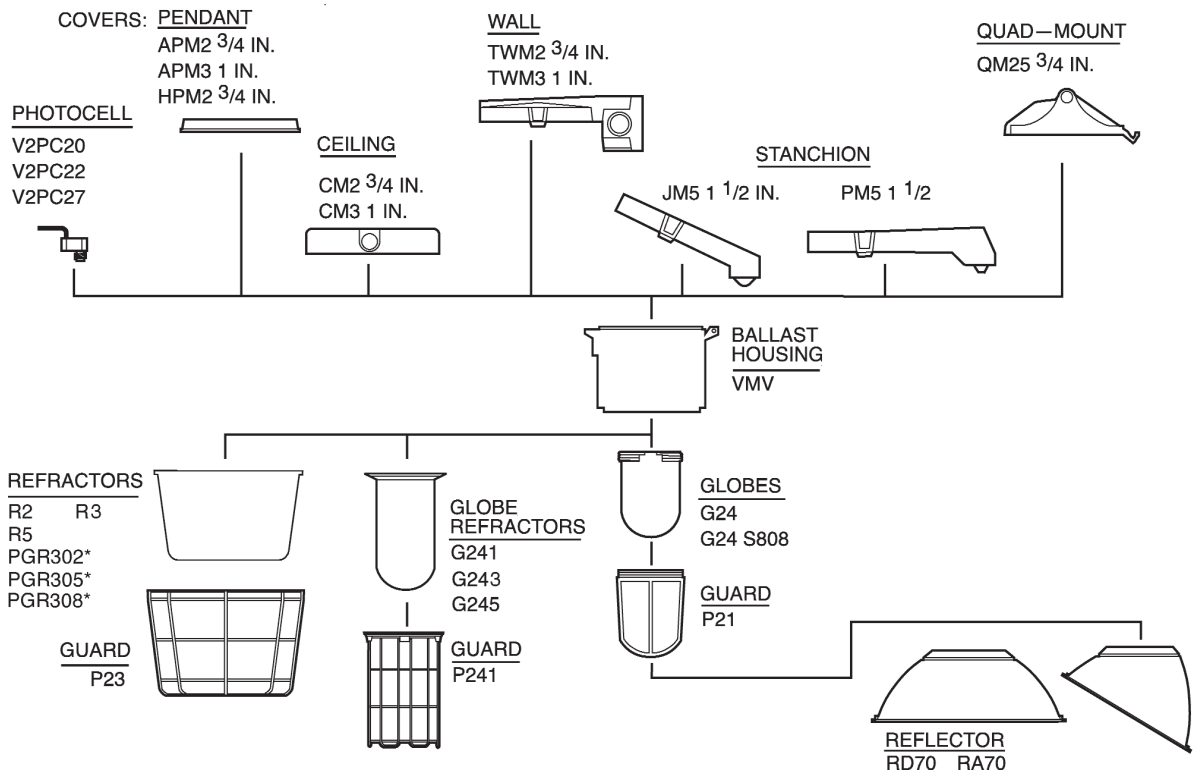
Complete catalog number must have the **voltage suffix** (MT shown) and any **options suffixes**.

Lamp Type	Lamp Watts	Cat. # For Globe and Compact Refractor	Cat. # For Large Refractor
High Pressure Sodium	50	**VMVS050/DT**	**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/TT RM**
	100	**VMVM100/MT**	**VMVM100/MT RM**
	175	**VMVM175/MT**	**VMVM175/MT RM**

III. Globe, Reflectors, Refractors, Guards:

Type	Cat. #
Globe	**G24**
Globe – Teflon Coated	**G24 S808**
Globe Guard	**P21**
Reflector – Dome	**RD70**
Reflector – Angle	**RA70**
Compact Refractor Type 1	**G241**
Compact Refractor Type 3	**G243**
Compact Refractor Type 5	**G245**
Compact Refractor Guard	**P241**
Large Refractor Type 2	**R2**
Large Refractor Type 3	**R3**
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**

Champ® H.I.D. Luminaires



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

Champ® H.I.D. Luminaires

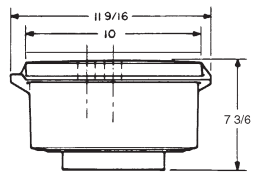
	Lamp		Rated Ambient °C	Class I, Division 2				Class II, Division 1		Class I, Zone 2		Supply Wire Suitable For °C	
Cat. #	Wattage	Type		Globe (G24, G241, G245)	Globe (G24) w/ Reflector (RA70 or RD70)	Refractor (R2, R3, or R5)	Group	Globe (G24) w/ or w/o Reflector (RA70 or RD70)	Simultaneous Presence Class I, Div. 2 Class II, Div. 1	Restricted Breathing Suffix S826 w/ Globe (G24, G241, G245)	Factory Sealed Suffix S865 AEx nA nR II	Globe (G24, G241, G245)	Refractor (R2, R3, or R5)
VMVM70	70	MH	40	T3A	T3A	T3A		T3A		T5	T3	90	90
VMVM70	70	MH	55	T3	T3	T3		T3		T4	T3	90	90
VMVM70	70	MH	65	T3	T3	T3		T3		T4	T3	90	90
VMVM100	100	MH	40	T2D	T2D	T2D		T2D		T4	T3	90	90
VMVM100 S849	100	MH	40	T2	T2	T2		T2		T4	T3	75	75
VMVM100	100	MH	55	T2D	T2D	T2D		T2D		T4	T3	90	90
VMVM150	150	MH	40	T2A	T2A	T2B		T2A		T3	T3	90	90
VMVM175	175	MH	40	T2A	T2A	T2B		T2A		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	T2C	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. UL844 specifies how the temperatures are measured.

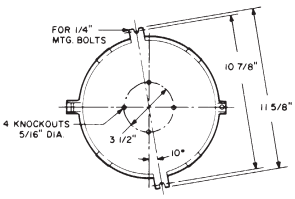
The Class I, Zone 2 T-codes are for luminaires that are additionally listed to UL 60079-15 that specify a different method for measuring temperatures. Since NEC® 501.1 states that equipment "…for use in Class I, Zone 0, 1, or 2 locations shall be permitted in Class I, Division 2 locations…" then these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

Dimensions

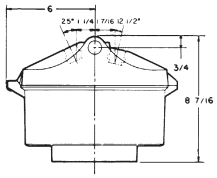
In Inches:



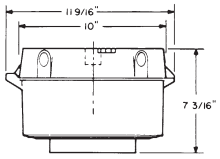
Pendant Mount



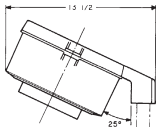
Ceiling Mount Top View



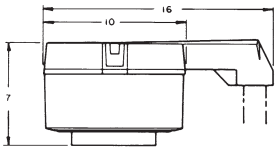
Quad-Mount



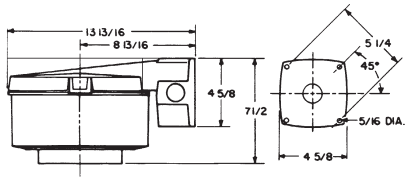
Ceiling Mount



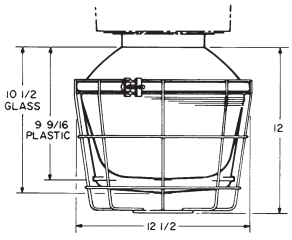
25° Angle Stanchion Mount



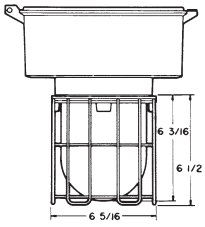
Straight Stanchion Mount



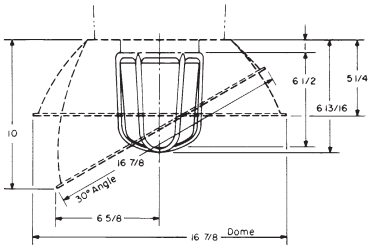
Wall Mount



Luminaire With: Refractors, Guard



Compact Refractor



Globe, Guard, Reflectors

Net Luminaire Weights:

Luminaire Series	Lamp Watts 50	70	100	150	175
Luminaire with Globe, Guards (lbs.):					
VMVS	13½	14½	14½	14½	
VMVM		13	13¼		15½
Luminaire with Glass Refractor (lbs.):					
VMVS	21¾	22¾	22¾	22¾	
VMVM		21	21½		23¾

Type	Lbs.	Type	Lbs.
Add for mounting modules:			
Pendant	1¼	Quad-Mount	3½
Flexible Pendant	1½	Angle Stanchion	3½
Ceiling	2¾	Straight Stanchion	4½
Wall	4½		
Add for reflectors:			
Dome	1½	30° Angle	1½

Deduct: ½" lb. for fixture without P21 Guard

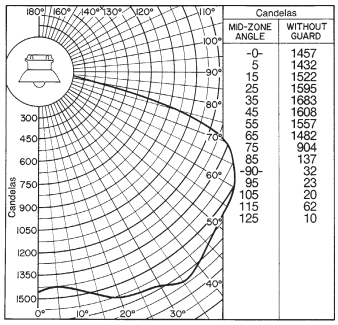
3L

Champ® H.I.D. Luminaires

Lamp: 100W/E – 23½ high pressure sodium (HPS)
Total bare lamp lumens: 9500

NOTE: All data provided is for high pressure sodium luminaires with 100W/E–23-½ clear lamps. Use conversion factors (multipliers) shown below for other clear lamp types and wattages. Consult Eaton's Crouse-Hinds for additional photometric data on any *Champ* Series luminaire.

Luminaire with Globe and Dome Reflector



Multipliers (for use with candela curve only).

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

Luminaire spacing ratio: 1.85

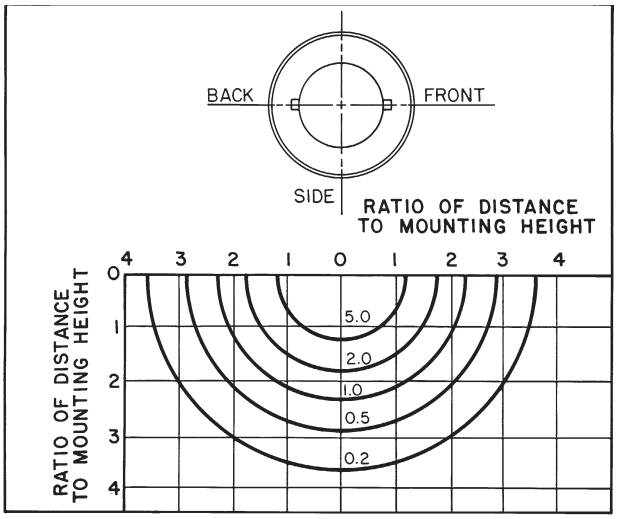
Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

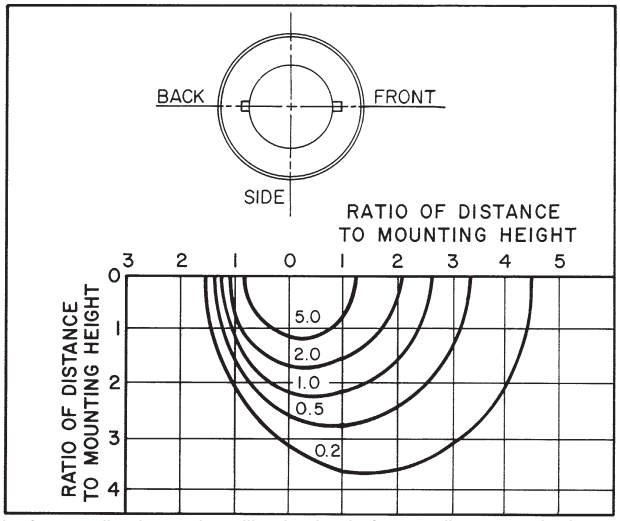
% Reflectance		Room Cavity Ratio				
Eff. Ceil.	Wall	1	2	3	4	5
80	50	.823	.707	.610	.529	.464
	30	.784	.646	.538	.451	.384
	10	.749	.594	.482	.391	.324
70	50	.804	.690	.597	.517	.452
	30	.767	.633	.530	.445	.377
	10	.734	.587	.477	.388	.321
50	50	.765	.658	.571	.494	.434
	30	.735	.611	.513	.431	.368
	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				
Eff. Ceil.	Wall	6	7	8	9	10
80	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



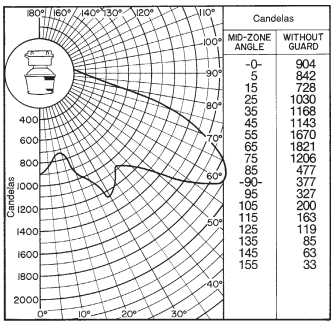
Isofootcandle charts show illumination in footcandles on work plane 10 feet below light center. Multiply by factor shown to convert to other mounting heights.

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

Champ® H.I.D. Luminaires

Lamp: 100W/E0 – 23½ high pressure sodium (HPS)

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



Candelas	
MID-ZONE ANGLE	WITHOUT GUARD
-0-	904
5	842
15	728
25	1030
35	1168
45	1143
55	1670
65	1821
75	1206
85	477
-90-	377
95	327
105	200
115	163
125	119
135	85
145	63
155	33

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 Eff. Ceil.	Wall	Room Cavity Ratio 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 Eff. Ceil.	Wall	Room Cavity Ratio 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

VMV Series 50–175W

Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D
Restricted Breathing Cl. I,
Div. 2 & Zone 2 (Suffix S826)
Cl. II, Groups E, F, G, Cl. III &
Simultaneous Presence
(HPS 50W, 70W)

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

Applications:

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 ignitible 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); 70, 100, 175 watt metal halide (MH and Pulse Start 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

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
- UL Standards:
  - 844 Hazardous (Classified) Locations
  - 1598 Luminaires
  - 1598A Marine Locations
- CSA Standards:
  - C22.2 No. 137
- IEC Standards:
  - 60079-15

Standard Materials:

- Ballast housings and mountings – copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware – stainless steel
- Reflectors (dome and angle) – *Krydon* fiberglass-reinforced polyester material
- Globes – heat and impact resistant internally fluted glass
- 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; 70 to 175W MH

Options:

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

Description	Suffix
Factory Sealed Champs Class I, Division 2 & Zone 2 Provides T3 code without conduit or cable seals Restricted breathing/Non-sparking	**S865**
Restricted Breathing Construction Class I, Division 2 & Zone 2 Suitabilty Cooler Operating Temperatures (T-Numbers)	**S826**
Terminal block Furnished with terminal block, crimp terminals and dedicated voltage ballasts (no MT, DT or TT)	**S826TB**
Fused – to protect ballast and capacitors against abnormal line conditions (Not available with /MT Ballast) (Not for use in Canada) (Not suitable for marine applications)	**S658***
Quick-Clip - Holds weight of housing when closed. No need to support luminaire while screwing the housing to the cover	**S890**
Ballast-Gard™ starter cut-out switch – prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life. Available for use with 50–150W LX HPS only	**BG**
Instant restrike – enables a hot HPS lamp to immediately restrike after a momentary loss arc due to voltage fluctuation or power outage. It has no effect on the warm-up period of cold lamps. 50–150W LX HPS only	**IR**
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. Must use R2, R3 and R5 refractors.	**QTZ**
Refractor Mount - For ballast housing only. Used with R2, R3 and R5 refractors.	**RM**
Stainless steel insert – top hat with stainless steel threaded insert to attach ballast housing	**S806**
TEFLON coating on globe for increased shatter protection G24 only. T-Numbers not affected	**S808**
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.

Accessories:

- See pages 1022–1023 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.

Crouse-Hinds by EATON

VMV Series 50–150W High Pressure Sodium

Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D
Restricted Breathing Cl. I,
Div. 2 & Zone 2 (Suffix S826)
Cl. II, Groups E, F, G, Cl. III &
Simultaneous Presence
(50W, 70W)

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

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

	Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER With G24 Globe and P21 Guard	With G241 Type I Compact Refractor *	With R5 Glass Refractor †
	**Pendant Mount**	¾	50	**VMVS2A050GP**	**VMVS2A050G241**	**VMVS2A050R5**
		1		**VMVS3A050GP**	**VMVS3A050G241**	**VMVS3A050R5**
		¾	70	**VMVS2A070GP**	**VMVS2A070G241**	**VMVS2A070R5**
		1		**VMVS3A070GP**	**VMVS3A070G241**	**VMVS3A070R5**
		¾	100	**VMVS2A100GP**	**VMVS2A100G241**	**VMVS2A100R5**
		1		**VMVS3A100GP**	**VMVS3A100G241**	**VMVS3A100R5**
		¾	150	**VMVS2A150GP**	**VMVS2A150G241**	**VMVS2A150R5**
		1		**VMVS3A150GP**	**VMVS3A150G241**	**VMVS3A150R5**
	**Flexible Pendant Mount**	¾	50	**VMVS2HA050GP**	**VMVS2HA050G241**	**VMVS2HA050R5**
		¾	70	**VMVS2HA070GP**	**VMVS2HA070G241**	**VMVS2HA070R5**
		¾	100	**VMVS2HA100GP**	**VMVS2HA100G241**	**VMVS2HA100R5**
		¾	150	**VMVS2HA150GP**	**VMVS2HA150G241**	**VMVS2HA150R5**
	**Ceiling Mount Thru-Feed**	¾	50	**VMVS2C050GP**	**VMVS2C050G241**	**VMVS2C050R5**
		1		**VMVS3C050GP**	**VMVS3C050G241**	**VMVS3C050R5**
		¾	70	**VMVS2C070GP**	**VMVS2C070G241**	**VMVS2C070R5**
		1		**VMVS3C070GP**	**VMVS3C070G241**	**VMVS3C070R5**
		¾	100	**VMVS2C100GP**	**VMVS2C100G241**	**VMVS2C100R5**
		1		**VMVS3C100GP**	**VMVS3C100G241**	**VMVS3C100R5**
		¾	150	**VMVS2C150GP**	**VMVS2C150G241**	**VMVS2C150R5**
		1		**VMVS3C150GP**	**VMVS3C150G241**	**VMVS3C150R5**
	**Wall Mount Thru-Feed**	¾	50	**VMVS2TW050GP**	**VMVS2TW050G241**	**VMVS2TW050R5**
		1		**VMVS3TW050GP**	**VMVS3TW050G241**	**VMVS3TW050R5**
		¾	70	**VMVS2TW070GP**	**VMVS2TW070G241**	**VMVS2TW070R5**
		1		**VMVS3TW070GP**	**VMVS3TW070G241**	**VMVS3TW070R5**
		¾	100	**VMVS2TW100GP**	**VMVS2TW100G241**	**VMVS2TW100R5**
		1		**VMVS3TW100GP**	**VMVS3TW100G241**	**VMVS3TW100R5**
		¾	150	**VMVS2TW150GP**	**VMVS2TW150G241**	**VMVS2TW150R5**
		1		**VMVS3TW150GP**	**VMVS3TW150G241**	**VMVS3TW150R5**
	**Quad-Mount** Pendant, Adjustable, Thru-Feed, 25° Angle, 12½° Angle	¾	50	**VMVS25Q050GP**	**VMVS25Q050G241**	**VMVS25Q050R5**
		¾	70	**VMVS25Q070GP**	**VMVS25Q070G241**	**VMVS25Q070R5**
		¾	100	**VMVS25Q100GP**	**VMVS25Q100G241**	**VMVS25Q100R5**
		¾	150	**VMVS25Q150GP**	**VMVS25Q150G241**	**VMVS25Q150R5**
	**Stanchion Mount** 25° Angle	1½	50	**VMVSJ050GP**	**VMVSJ050G241**	**VMVSJ050R5**
		1½	70	**VMVSJ070GP**	**VMVSJ070G241**	**VMVSJ070R5**
		1½	100	**VMVSJ100GP**	**VMVSJ100G241**	**VMVSJ100R5**
		1½	150	**VMVSJ150GP**	**VMVSJ150G241**	**VMVSJ150R5**
	**Stanchion Mount** Straight	1½	50	**VMVSP050GP**	**VMVSP050G241**	**VMVSP050R5**
		1½	70	**VMVSP070GP**	**VMVSP070G241**	**VMVSP070R5**
		1½	100	**VMVSP100GP**	**VMVSP100G241**	**VMVSP100R5**
		1½	150	**VMVSP150GP**	**VMVSP150G241**	**VMVSP150R5**

* For G243 Type III Compact Refractor, change "241" at end of catalog number to "243". Ex. VMVS2A050G243
For G245 Type V Compact Refractor, change "241" at end of catalog number to "245". Ex. VMVS2A050G245

† For R2 Glass Refractor, change "R5" at end of catalog number to "R2". Ex. VMVS2A050R2.
For R3 Glass Refractor, change "R5" at end of catalog number to "R3". Ex. VMVS2A050R3.

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts – 60Hz

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

Multi Tap and Dual Tap ballasts are powered for 277V

Optional Voltage Ballasts - 50 or 60Hz

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

2. 150W HPS Luminaires: For 55V lamps - add suffix LX; for 100V lamps - add suffix CE. 50W HPS luminaire is dual tap only.

3. Options - Add the required option suffixes, see page 962, in alpha-numeric order.

VMV Series 150–175W Pulse Start Metal Halide

Champ® H.I.D. Luminaires

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

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

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

	Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER With G24 Globe and P21 Guard	With G245 Type V Compact Refractor *	With R5 Glass Refractor †
	**Pendant Mount**	¾	150	**VMVM2A150GP S828**	**VMVM2A150G245 S828**	**VMVM2A150R5 S828**
		1		**VMVM3A150GP S828**	**VMVM3A150G245 S828**	**VMVM3A150R5 S828**
		¾	175	**VMVM2A175GP S828**	**VMVM2A175G245 S828**	**VMVM2A175R5 S828**
		1		**VMVM3A175GP S828**	**VMVM3A175G245 S828**	**VMVM3A175R5 S828**
	**Flexible Pendant Mount**	¾	150	**VMVM2HA150GP S828**	**VMVM2HA150G245 S828**	**VMVM2HA150R5 S828**
		¾	175	**VMVM2HA175GP S828**	**VMVM2HA175G245 S828**	**VMVM2HA175R5 S828**
	**Ceiling Mount Thru-Feed**	¾	150	**VMVM2C150GP S828**	**VMVM2C150G245 S828**	**VMVM2C150R5 S828**
		1		**VMVM3C150GP S828**	**VMVM3C150G245 S828**	**VMVM3C150R5 S828**
		¾	175	**VMVM2C175GP S828**	**VMVM2C175G245 S828**	**VMVM2C175R5 S828**
		1		**VMVM3C175GP S828**	**VMVM3C175G245 S828**	**VMVM3C175R5 S828**
	**Wall Mount Thru-Feed**	¾	150	**VMVM2TW150GP S828**	**VMVM2TW150G245 S828**	**VMVM2TW150R5 S828**
		1		**VMVM3TW150GP S828**	**VMVM3TW150G245 S828**	**VMVM3TW150R5 S828**
		¾	175	**VMVM2TW175GP S828**	**VMVM2TW175G245 S828**	**VMVM2TW175R5 S828**
		1		**VMVM3TW175GP S828**	**VMVM3TW175G245 S828**	**VMVM3TW175R5 S828**
	**Quad-Mount** Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	¾	150	**VMVM25Q150GP S828**	**VMVM25Q150G245 S828**	**VMVM25Q150R5 S828**
		¾	175	**VMVM25Q175GP S828**	**VMVM25Q175G245 S828**	**VMVM25Q175R5 S828**
	**Stanchion Mount** 25° Angle	1½	150	**VMVMJ150GP S828**	**VMVMJ150G245 S828**	**VMVMJ150R5 S828**
		1½	175	**VMVMJ175GP S828**	**VMVMJ175G245 S828**	**VMVMJ175R5 S828**
	**Stanchion Mount** Straight	1½	150	**VMVMP150GP S828**	**VMVMP150G245 S828**	**VMVMP150R5 S828**
		1½	175	**VMVMP175GP S828**	**VMVMP175G245 S828**	**VMVMP175R5 S828**

* For G241 Type I Compact Refractor, change "245" at end of catalog number to "241". Ex. VMVM2A150G241-S828
For G243 Type III Compact Refractor, change "245" at end of catalog number to "243". Ex. VMVM2A150G243-S828

† For R2 Glass Refractor, change "R5" at end of catalog number to "R2". Ex. VMVM2A150R2-S828.
For R3 Glass Refractor, change "R5" at end of catalog number to "R3". Ex. VMVM2A150R3-S828.

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts – 60Hz

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

Optional Voltage Ballasts - 50 or 60Hz

	EXPORT			
Voltage	220V 60Hz	220V 50Hz	230V 50Hz	240V 50Hz
Suffix	/220	/220 50	/230 50	/240 50

Crouse-Hinds by EATON

Champ® H.I.D. Luminaires

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

	Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER With G24 Globe and P21 Guard	With G241 Type I Compact Refractor *	With R5 Glass Refractor †
	**Pendant Mount**	¾	70	**VMVM2A070GP**	**VMVM2A070G241**	**VMVM2A070R5**
		1		**VMVM3A070GP**	**VMVM3A070G241**	**VMVM3A070R5**
		¾	100	**VMVM2A100GP**	**VMVM2A100G241**	**VMVM2A100R5**
		1		**VMVM3A100GP**	**VMVM3A100G241**	**VMVM3A100R5**
		¾	175	**VMVM2A175GP**	**VMVM2A175G241**	**VMVM2A175R5**
		1		**VMVM3A175GP**	**VMVM3A175G241**	**VMVM3A175R5**
	**Flexible Pendant Mount**	¾	70	**VMVM2HA070GP**	**VMVM2HA070G241**	**VMVM2HA070R5**
		¾	100	**VMVM2HA100GP**	**VMVM2HA100G241**	**VMVM2HA100R5**
		¾	175	**VMVM2HA175GP**	**VMVM2HA175G241**	**VMVM2HA175R5**
	**Ceiling Mount Thru-Feed**	¾	70	**VMVM2C070GP**	**VMVM2C070G241**	**VMVM2C070R5**
		1		**VMVM3C070GP**	**VMVM3C070G241**	**VMVM3C070R5**
		¾	100	**VMVM2C100GP**	**VMVM2C100G241**	**VMVM2C100R5**
		1		**VMVM3C100GP**	**VMVM3C100G241**	**VMVM3C100R5**
		¾	175	**VMVM2C175GP**	**VMVM2C175G241**	**VMVM2C175R5**
		1		**VMVM3C175GP**	**VMVM3C175G241**	**VMVM3C175R5**
	**Wall Mount Thru-Feed**	¾	70	**VMVM2TW070GP**	**VMVM2TW070G241**	**VMVM2TW070R5**
		1		**VMVM3TW070GP**	**VMVM3TW070G241**	**VMVM3TW070R5**
		¾	100	**VMVM2TW100GP**	**VMVM2TW100G241**	**VMVM2TW100R5**
		1		**VMVM3TW100GP**	**VMVM3TW100G241**	**VMVM3TW100R5**
		¾	175	**VMVM2TW175GP**	**VMVM2TW175G241**	**VMVM2TW175R5**
		1		**VMVM3TW175GP**	**VMVM3TW175G241**	**VMVM3TW175R5**
	**Quad-Mount** Pendant, Adjustable Thru-Feed, 25° Angle, 12½° Angle	¾	70	**VMVM25Q070GP**	**VMVM25Q070G241**	**VMVM25Q070R5**
		¾	100	**VMVM25Q100GP**	**VMVM25Q100G241**	**VMVM25Q100R5**
		¾	175	**VMVM25Q175GP**	**VMVM25Q175G241**	**VMVM25Q175R5**
	**Stanchion Mount** 25° Angle	1½	70	**VMVMJ070GP**	**VMVMJ070G241**	**VMVMJ070R5**
		1½	100	**VMVMJ100GP**	**VMVMJ100G241**	**VMVMJ100R5**
		1½	175	**VMVMJ175GP**	**VMVMJ175G241**	**VMVMJ175R5**
	**Stanchion Mount** Straight	1½	70	**VMVMP070GP**	**VMVMP070G241**	**VMVMP070R5**
		1½	100	**VMVMP100GP**	**VMVMP100G241**	**VMVMP100R5**
		1½	175	**VMVMP175GP**	**VMVMP175G241**	**VMVMP175R5**

* For G243 Type III Compact Refractor, change "241" at end of catalog number to "243". Ex. VMVM2A070G243
For G245 Type V Compact Refractor, change "241" at end of catalog number to "245". Ex. VMVM2A070G245

† For R2 Glass Refractor, change "R5" at end of catalog number to "R2". Ex. VMVM2A070R2.
For R3 Glass Refractor, change "R5" at end of catalog number to "R3". Ex. VMVM2A070R3.

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts – 60Hz

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

Optional Voltage Ballasts - 50 or 60Hz

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

2. 70W ballast not available in 480V.

3. Options - Add the required option suffixes, see page 962, in alpha-numeric order.

VMV Series – Ordering by Components

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. #
Pendant	¾"	**APM2**
	1"	**APM3**
Flexible Pendant	¾"	**HPM2**
Ceiling*	¾"	**CM2**
	1"	**CM3**
Wall	¾"	**TWM2**
	1"	**TWM3**
Stanchion – 25 Degree Angle	1½"	**JM5**
Stanchion – Straight	1½"	**PM5**
Quad-Mount	¾"	**QM25**

*Not available with V2PC photocell.

II. Ballast Housings:

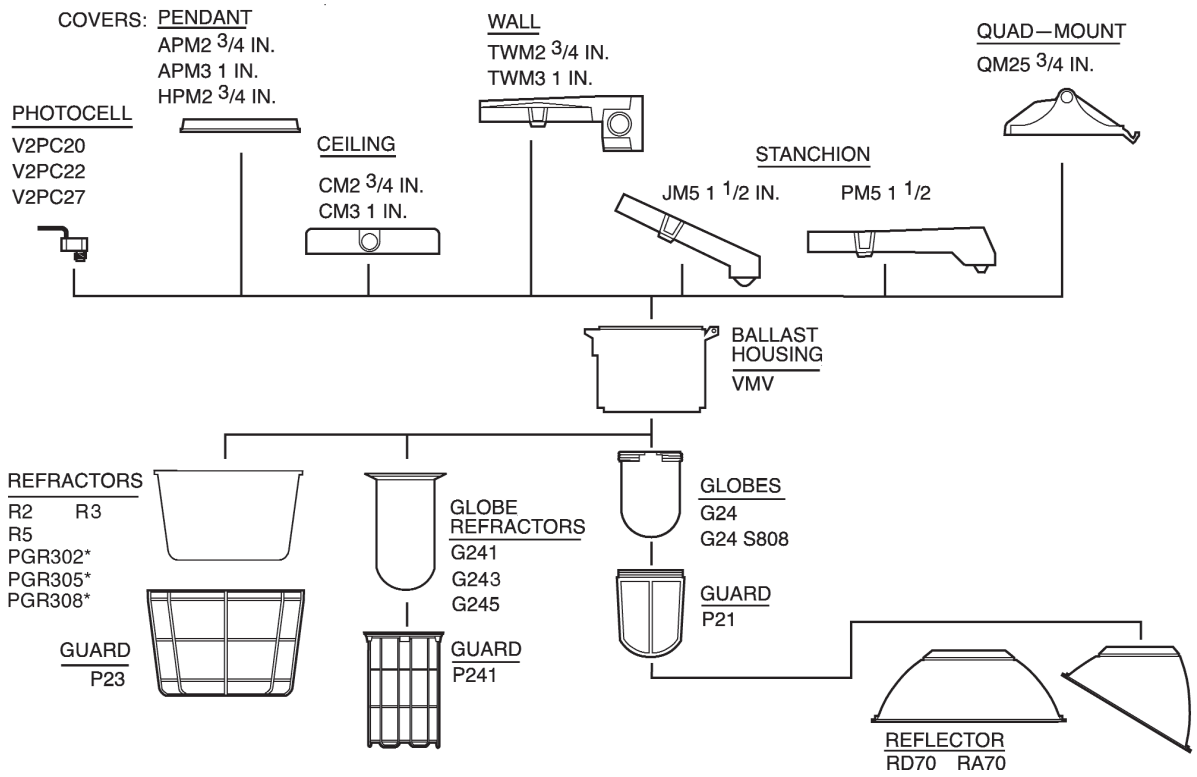
Complete catalog number must have the **voltage suffix** (MT shown) and any **options suffixes**.

Lamp Type	Lamp Watts	Cat. # For Globe and Compact Refractor	Cat. # For Large Refractor
High Pressure Sodium	50	**VMVS050/DT**	**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/TT RM**
	100	**VMVM100/MT**	**VMVM100/MT RM**
	175	**VMVM175/MT**	**VMVM175/MT RM**

III. Globe, Reflectors, Refractors, Guards:

Type	Cat. #
Globe	**G24**
Globe – Teflon Coated	**G24 S808**
Globe Guard	**P21**
Reflector – Dome	**RD70**
Reflector – Angle	**RA70**
Compact Refractor Type 1	**G241**
Compact Refractor Type 3	**G243**
Compact Refractor Type 5	**G245**
Compact Refractor Guard	**P241**
Large Refractor Type 2	**R2**
Large Refractor Type 3	**R3**
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**

Champ® H.I.D. Luminaires



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

Champ® H.I.D. Luminaires

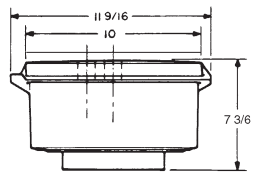
	Lamp		Rated Ambient °C	Class I, Division 2				Class II, Division 1		Class I, Zone 2		Supply Wire Suitable For °C	
Cat. #	Wattage	Type		Globe (G24, G241, G245)	Globe (G24) w/ Reflector (RA70 or RD70)	Refractor (R2, R3, or R5)	Group	Globe (G24) w/ or w/o Reflector (RA70 or RD70)	Simultaneous Presence Class I, Div. 2 Class II, Div. 1	Restricted Breathing Suffix S826 w/ Globe (G24, G241, G245)	Factory Sealed Suffix S865 AEx nA nR II	Globe (G24, G241, G245)	Refractor (R2, R3, or R5)
VMVM70	70	MH	40	T3A	T3A	T3A		T3A		T5	T3	90	90
VMVM70	70	MH	55	T3	T3	T3		T3		T4	T3	90	90
VMVM70	70	MH	65	T3	T3	T3		T3		T4	T3	90	90
VMVM100	100	MH	40	T2D	T2D	T2D		T2D		T4	T3	90	90
VMVM100 S849	100	MH	40	T2	T2	T2		T2		T4	T3	75	75
VMVM100	100	MH	55	T2D	T2D	T2D		T2D		T4	T3	90	90
VMVM150	150	MH	40	T2A	T2A	T2B		T2A		T3	T3	90	90
VMVM175	175	MH	40	T2A	T2A	T2B		T2A		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	T2C	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. UL844 specifies how the temperatures are measured.

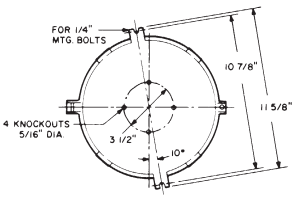
The Class I, Zone 2 T-codes are for luminaires that are additionally listed to UL 60079-15 that specify a different method for measuring temperatures. Since NEC® 501.1 states that equipment "…for use in Class I, Zone 0, 1, or 2 locations shall be permitted in Class I, Division 2 locations…" then these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

Dimensions

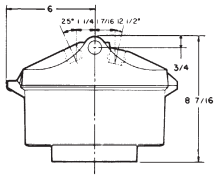
In Inches:



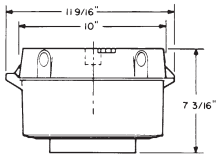
Pendant Mount



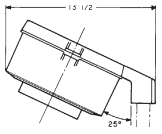
Ceiling Mount Top View



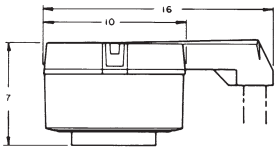
Quad-Mount



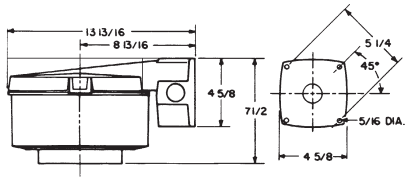
Ceiling Mount



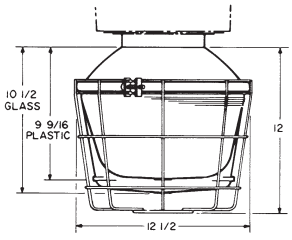
25° Angle Stanchion Mount



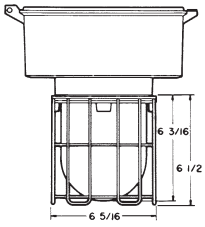
Straight Stanchion Mount



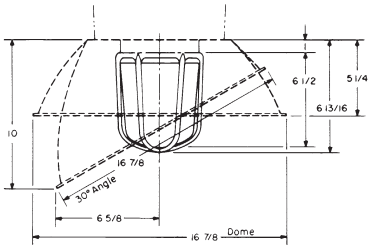
Wall Mount



Luminaire With: Refractors, Guard



Compact Refractor



Globe, Guard, Reflectors

Net Luminaire Weights:

Luminaire Series	Lamp Watts 50	70	100	150	175
Luminaire with Globe, Guards (lbs.):					
VMVS	13½	14½	14½	14½	
VMVM		13	13¼		15½
Luminaire with Glass Refractor (lbs.):					
VMVS	21¾	22¾	22¾	22¾	
VMVM		21	21½		23¾

Type	Lbs.	Type	Lbs.
Add for mounting modules:			
Pendant	1¼	Quad-Mount	3½
Flexible Pendant	1½	Angle Stanchion	3½
Ceiling	2¾	Straight Stanchion	4½
Wall	4½		
Add for reflectors:			
Dome	1½	30° Angle	1½

Deduct: ½" lb. for fixture without P21 Guard

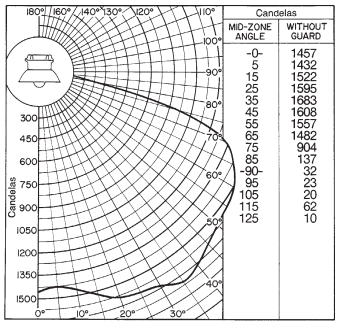
3L

Champ® H.I.D. Luminaires

Lamp: 100W/E – 23½ high pressure sodium (HPS)
Total bare lamp lumens: 9500

NOTE: All data provided is for high pressure sodium luminaires with 100W/E–23-½ clear lamps. Use conversion factors (multipliers) shown below for other clear lamp types and wattages. Consult Eaton's Crouse-Hinds for additional photometric data on any *Champ* Series luminaire.

Luminaire with Globe and Dome Reflector



Multipliers (for use with candela curve only).

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

Luminaire spacing ratio: 1.85

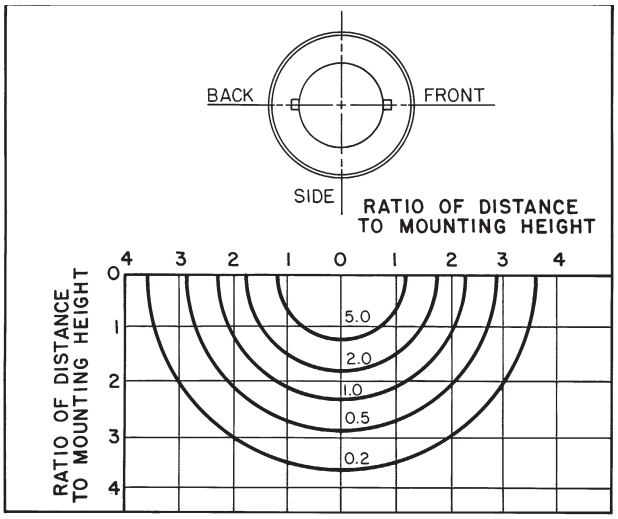
Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

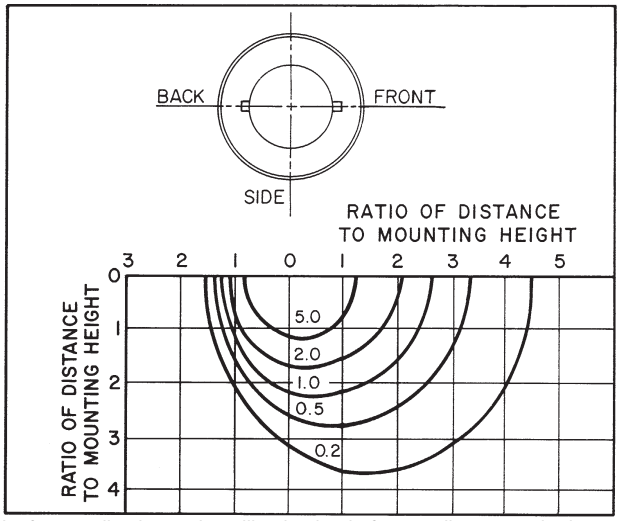
% Reflectance		Room Cavity Ratio				
Eff. Ceil.	Wall	1	2	3	4	5
80	50	.823	.707	.610	.529	.464
	30	.784	.646	.538	.451	.384
	10	.749	.594	.482	.391	.324
70	50	.804	.690	.597	.517	.452
	30	.767	.633	.530	.445	.377
	10	.734	.587	.477	.388	.321
50	50	.765	.658	.571	.494	.434
	30	.735	.611	.513	.431	.368
	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				
Eff. Ceil.	Wall	6	7	8	9	10
80	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



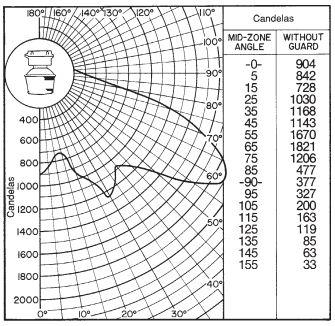
Isofootcandle charts show illumination in footcandles on work plane 10 feet below light center. Multiply by factor shown to convert to other mounting heights.

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

Champ® H.I.D. Luminaires

Lamp: 100W/E0 – 23½ high pressure sodium (HPS)

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



Candelas	
MID-ZONE ANGLE	WITHOUT GUARD
-0-	904
5	842
15	728
25	1030
35	1168
45	1143
55	1670
65	1821
75	1206
85	477
-90-	377
95	327
105	200
115	163
125	119
135	85
145	63
155	33

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 Eff. Ceil.	Wall	Room Cavity Ratio 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 Eff. Ceil.	Wall	Room Cavity Ratio 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

