

Champ® H.I.D. Luminaires

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

Standard Materials:

- Ballast housings and mountings – copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware – stainless steel
- Reflectors (dome and angle) – *Krydon* fiberglass-reinforced polyester material
- Globes – heat and impact resistant internally fluted glass
- Refractors – glass (50–175 watts); plastic (50–100 watts), for non-hazardous applications
- Guards: Globe – copper-free aluminum
Reflector – 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 Suitability Cooler Operating Temperatures (T-Numbers)	S826
• Certified for IEC Zone 2 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. Available for use with 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.....	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 977–978 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.

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)
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

3L

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	3/4	50	VMVS2A050GP	VMVS2A050G241	VMVS2A050R5
			70	VMVS3A050GP	VMVS3A050G241	VMVS3A050R5
		1	70	VMVS2A070GP	VMVS2A070G241	VMVS2A070R5
			100	VMVS3A070GP	VMVS3A070G241	VMVS3A070R5
		3/4	100	VMVS2A100GP	VMVS2A100G241	VMVS2A100R5
			150	VMVS3A100GP	VMVS3A100G241	VMVS3A100R5
	Flexible Pendant Mount	3/4	50	VMVS2HA050GP	VMVS2HA050G241	VMVS2HA050R5
			70	VMVS2HA070GP	VMVS2HA070G241	VMVS2HA070R5
		1	100	VMVS2HA100GP	VMVS2HA100G241	VMVS2HA100R5
			150	VMVS2HA150GP	VMVS2HA150G241	VMVS2HA150R5
	Ceiling Mount Thru-Feed	3/4	50	VMVS2C050GP	VMVS2C050G241	VMVS2C050R5
			70	VMVS3C050GP	VMVS3C050G241	VMVS3C050R5
		1	70	VMVS2C070GP	VMVS2C070G241	VMVS2C070R5
			100	VMVS3C070GP	VMVS3C070G241	VMVS3C070R5
		3/4	100	VMVS2C100GP	VMVS2C100G241	VMVS2C100R5
			150	VMVS3C100GP	VMVS3C100G241	VMVS3C100R5
		1	150	VMVS2C150GP	VMVS2C150G241	VMVS2C150R5
			1	150	VMVS3C150GP	VMVS3C150G241
	Wall Mount Thru-Feed	3/4	50	VMVS2TW050GP	VMVS2TW050G241	VMVS2TW050R5
			70	VMVS3TW050GP	VMVS3TW050G241	VMVS3TW050R5
		1	70	VMVS2TW070GP	VMVS2TW070G241	VMVS2TW070R5
			100	VMVS3TW070GP	VMVS3TW070G241	VMVS3TW070R5
		3/4	100	VMVS2TW100GP	VMVS2TW100G241	VMVS2TW100R5
			150	VMVS3TW100GP	VMVS3TW100G241	VMVS3TW100R5
		1	150	VMVS2TW150GP	VMVS2TW150G241	VMVS2TW150R5
			1	150	VMVS3TW150GP	VMVS3TW150G241
	Quad-Mount Pendant, Adjustable, Thru-Feed, 25° Angle, 12 1/2° Angle	3/4	50	VMVS25Q050GP	VMVS25Q050G241	VMVS25Q050R5
			70	VMVS25Q070GP	VMVS25Q070G241	VMVS25Q070R5
		1	100	VMVS25Q100GP	VMVS25Q100G241	VMVS25Q100R5
			150	VMVS25Q150GP	VMVS25Q150G241	VMVS25Q150R5
			Stanchion Mount 25° Angle	1 1/2	50	VMVSJ050GP
70	VMVSJ070GP				VMVSJ070G241	VMVSJ070R5
1 1/2	100			VMVSJ100GP	VMVSJ100G241	VMVSJ100R5
	150			VMVSJ150GP	VMVSJ150G241	VMVSJ150R5
	Stanchion Mount Straight			1 1/2	50	VMVSP050GP
		70	VMVSP070GP		VMVSP070G241	VMVSP070R5
		1 1/2	100	VMVSP100GP	VMVSP100G241	VMVSP100R5
			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

Voltage Suffix	NEC/UL				CEC/CSA (cUL)		
	Multi Tap /MT	Dual Tap /DT	120V /120	480V /480	Tri Tap /TT	Dual Tap /DT	120V /120
Multi Tap and Dual Tap ballasts are powered for 277V							

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 924, in alpha-numeric order.

Optional Voltage Ballasts - 50 or 60Hz

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








3L 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)
 Certified for IEC Zone 2
 (Suffix S826TB)

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	3/4	150	VMVM2A150GP S828	VMVM2A150G245 S828	VMVM2A150R5 S828
			1	VMVM3A150GP S828	VMVM3A150G245 S828	VMVM3A150R5 S828
		1	175	VMVM2A175GP S828	VMVM2A175G245 S828	VMVM2A175R5 S828
			1	VMVM3A175GP S828	VMVM3A175G245 S828	VMVM3A175R5 S828
	Flexible Pendant Mount	3/4	150	VMVM2HA150GP S828	VMVM2HA150G245 S828	VMVM2HA150R5 S828
		3/4	175	VMVM2HA175GP S828	VMVM2HA175G245 S828	VMVM2HA175R5 S828
	Ceiling Mount Thru-Feed	3/4	150	VMVM2C150GP S828	VMVM2C150G245 S828	VMVM2C150R5 S828
			1	VMVM3C150GP S828	VMVM3C150G245 S828	VMVM3C150R5 S828
		1	175	VMVM2C175GP S828	VMVM2C175G245 S828	VMVM2C175R5 S828
			1	VMVM3C175GP S828	VMVM3C175G245 S828	VMVM3C175R5 S828
	Wall Mount Thru-Feed	3/4	150	VMVM2TW150GP S828	VMVM2TW150G245 S828	VMVM2TW150R5 S828
			1	VMVM3TW150GP S828	VMVM3TW150G245 S828	VMVM3TW150R5 S828
		1	175	VMVM2TW175GP S828	VMVM2TW175G245 S828	VMVM2TW175R5 S828
			1	VMVM3TW175GP S828	VMVM3TW175G245 S828	VMVM3TW175R5 S828
	Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 12 1/2° Angle	3/4	150	VMVM25Q150GP S828	VMVM25Q150G245 S828	VMVM25Q150R5 S828
		3/4	175	VMVM25Q175GP S828	VMVM25Q175G245 S828	VMVM25Q175R5 S828
	Stanchion Mount 25° Angle	1 1/2	150	VMVMJ150GP S828	VMVMJ150G245 S828	VMVMJ150R5 S828
		1 1/2	175	VMVMJ175GP S828	VMVMJ175G245 S828	VMVMJ175R5 S828
	Stanchion Mount Straight	1 1/2	150	VMVMP150GP S828	VMVMP150G245 S828	VMVMP150R5 S828
		1 1/2	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

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

VMV Series 70-175W 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)
Certified for IEC Zone 2 (Suffix S826TB)

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

3L

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see 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	3/4	70	VMVM2A070GP	VMVM2A070G241	VMVM2A070R5
		1		VMVM3A070GP	VMVM3A070G241	VMVM3A070R5
		3/4	100	VMVM2A100GP	VMVM2A100G241	VMVM2A100R5
		1		VMVM3A100GP	VMVM3A100G241	VMVM3A100R5
		3/4	175	VMVM2A175GP	VMVM2A175G241	VMVM2A175R5
		1		VMVM3A175GP	VMVM3A175G241	VMVM3A175R5
	Flexible Pendant Mount	3/4	70	VMVM2HA070GP	VMVM2HA070G241	VMVM2HA070R5
		3/4	100	VMVM2HA100GP	VMVM2HA100G241	VMVM2HA100R5
		3/4	175	VMVM2HA175GP	VMVM2HA175G241	VMVM2HA175R5
	Ceiling Mount Thru-Feed	3/4	70	VMVM2C070GP	VMVM2C070G241	VMVM2C070R5
		1		VMVM3C070GP	VMVM3C070G241	VMVM3C070R5
		3/4	100	VMVM2C100GP	VMVM2C100G241	VMVM2C100R5
		1		VMVM3C100GP	VMVM3C100G241	VMVM3C100R5
		3/4	175	VMVM2C175GP	VMVM2C175G241	VMVM2C175R5
1		VMVM3C175GP	VMVM3C175G241	VMVM3C175R5		
	Wall Mount Thru-Feed	3/4	70	VMVM2TW070GP	VMVM2TW070G241	VMVM2TW070R5
		1		VMVM3TW070GP	VMVM3TW070G241	VMVM3TW070R5
		3/4	100	VMVM2TW100GP	VMVM2TW100G241	VMVM2TW100R5
		1		VMVM3TW100GP	VMVM3TW100G241	VMVM3TW100R5
		3/4	175	VMVM2TW175GP	VMVM2TW175G241	VMVM2TW175R5
1		VMVM3TW175GP	VMVM3TW175G241	VMVM3TW175R5		
	Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 12 1/2° Angle	3/4	70	VMVM25Q070GP	VMVM25Q070G241	VMVM25Q070R5
		3/4	100	VMVM25Q100GP	VMVM25Q100G241	VMVM25Q100R5
		3/4	175	VMVM25Q175GP	VMVM25Q175G241	VMVM25Q175R5
	Stanchion Mount 25° Angle	1 1/2	70	VMVMJ070GP	VMVMJ070G241	VMVMJ070R5
		1 1/2	100	VMVMJ100GP	VMVMJ100G241	VMVMJ100R5
		1 1/2	175	VMVMJ175GP	VMVMJ175G241	VMVMJ175R5
	Stanchion Mount Straight	1 1/2	70	VMVMP070GP	VMVMP070G241	VMVMP070R5
		1 1/2	100	VMVMP100GP	VMVMP100G241	VMVMP100R5
		1 1/2	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

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

2. 70W ballast not available in 480V.

3. Options - Add the required option suffixes, see page 924, in alpha-numeric order.

Optional Voltage Ballasts - 50 or 60Hz

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

3L 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	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:

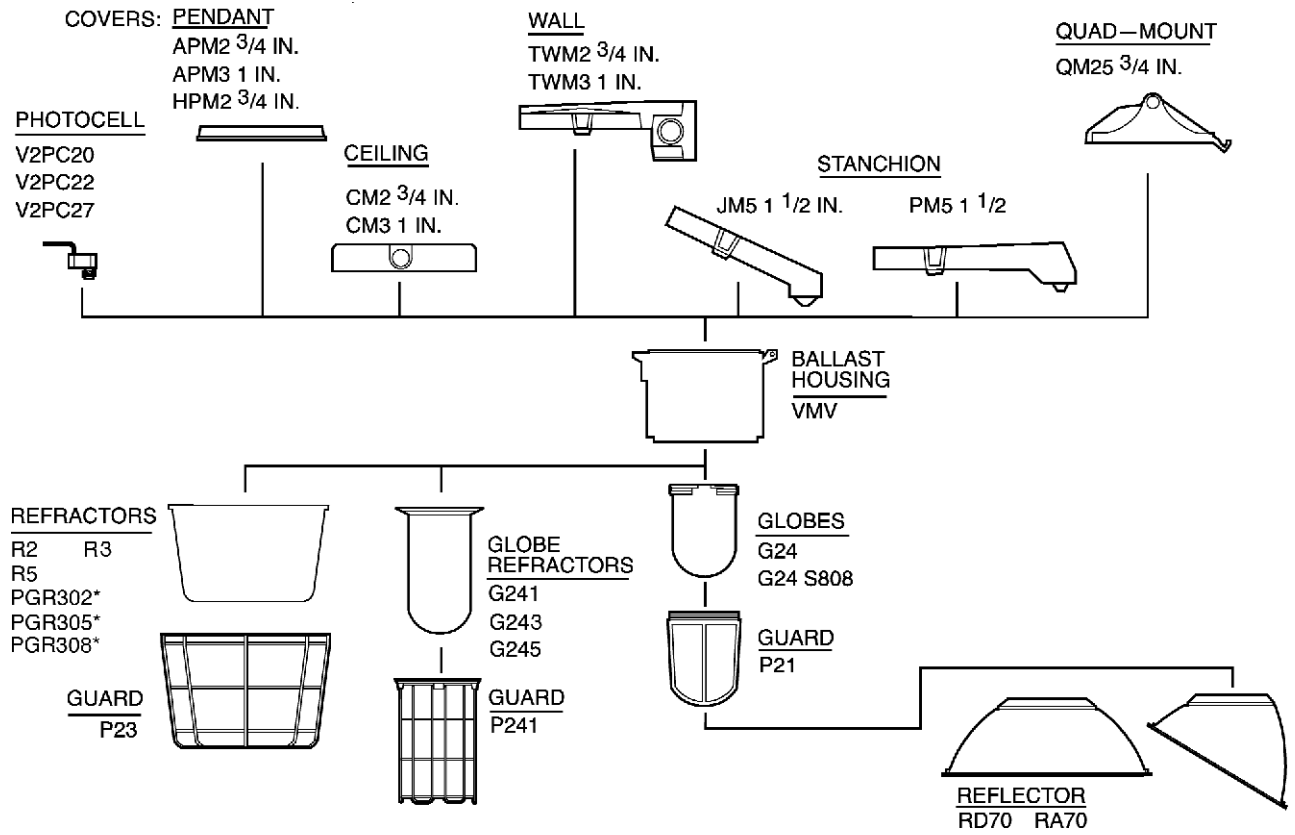
Complete catalog number must have the **voltage suffix** (MT shown) and any **options suffixes**.

Lamp Type	Lamp Watts	Cat. # For Globe and Compact Refractor	Cat. # For Large Refractor
High	50	VMVS050/DT	VMVS050/MT RM
Pressure	70	VMVS070/MT	VMVS070/MT RM
Sodium	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



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

Champ® H.I.D. Luminaires

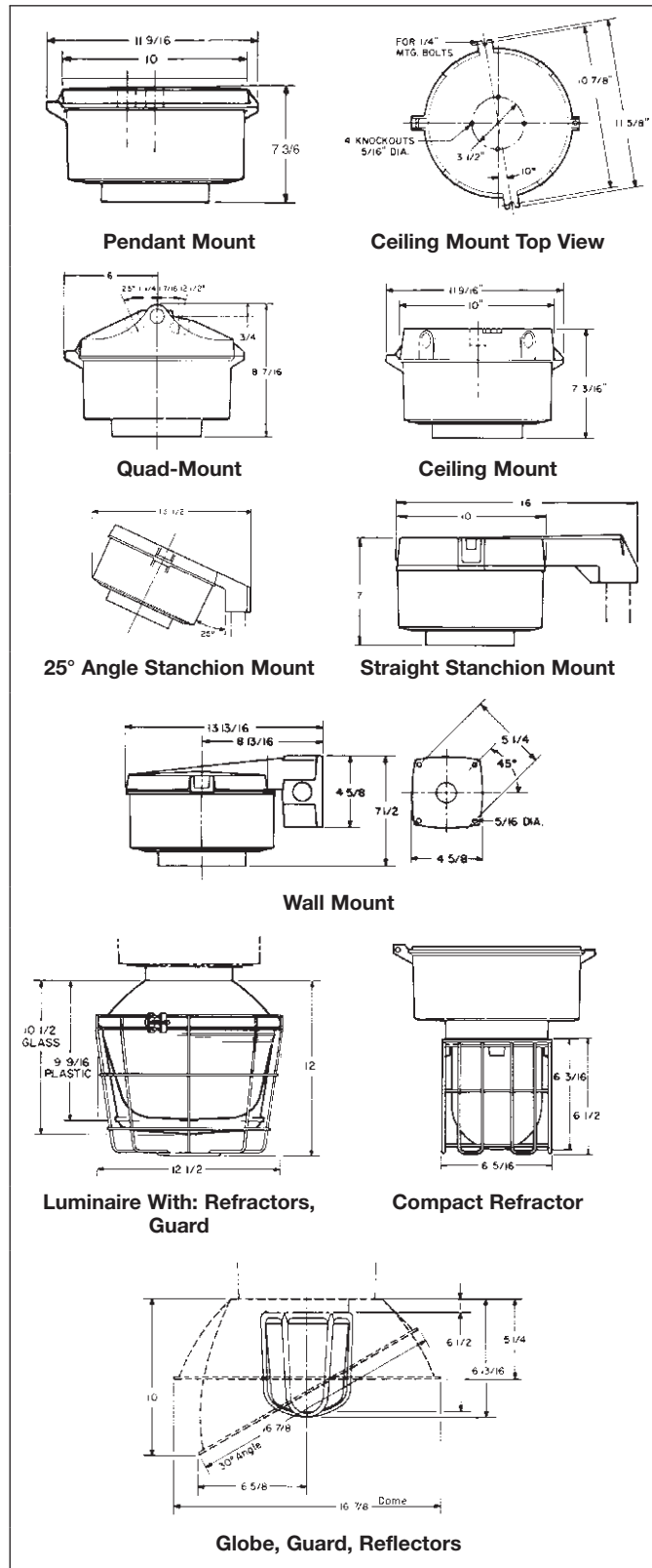
Cat. #	Lamp		Rated Ambient °C	Class I, Division 2				Class II, Division 1		Class I, Zone 2			Supply Wire Suitable For °C	
	Wattage	Type		Globe (G24, G241, G245)	Globe (G24) w/ Reflector (RA70 or RD70)	Reflector (R2, R3, or R5)	Group	Globe (G24) w/ or w/o Reflector (RA70 or RD70)	Simultaneous Presence Class I, Div. 2 Class II, Div. 2	Restricted Breathing Suffix S826 w/ Globe (G24, G241, G245)	Factory Sealed Suffix S865 AEx nA nR II	Globe (G24, G241, G245)	Reflector (R2, R3, or R5)	
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	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.

Champ® H.I.D. Luminaires

**Dimensions
In Inches:**



Net Luminaire Weights:

Luminaire Series	Lamp Watts				
	50	70	100	150	175
Luminaire with Globe, Guards (lbs.):					
VMVS	13 1/2	14 1/2	14 1/2	14 1/2	
VMVM		13	13 1/4		15 1/2
Luminaire with Glass Refractor (lbs.):					
VMVS	21 3/4	22 3/4	22 3/4	22 3/4	
VMVM		21	21 1/2		23 3/4

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

Add for reflectors:			
Dome	1 1/2	30° Angle	1 1/2

Deduct: 1/2" lb. for fixture without P21 Guard

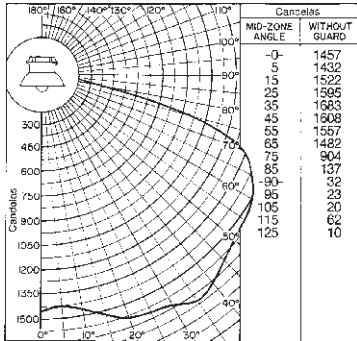
3L

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–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 candela curve only).

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

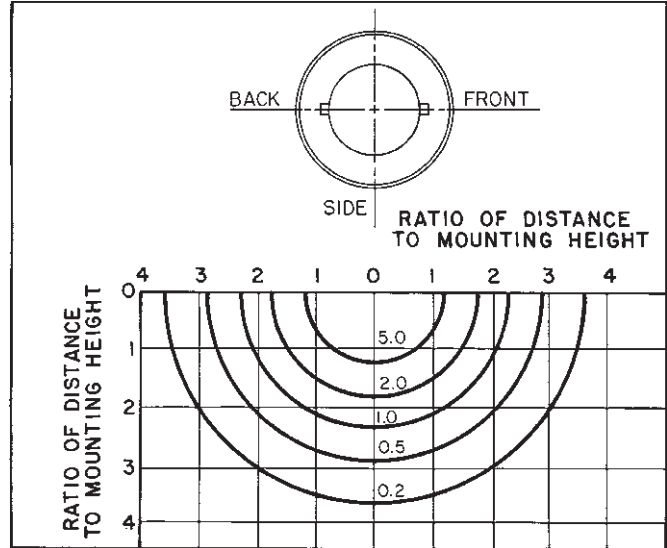
Luminaire spacing ratio: 1.85

Coefficient of Utilization

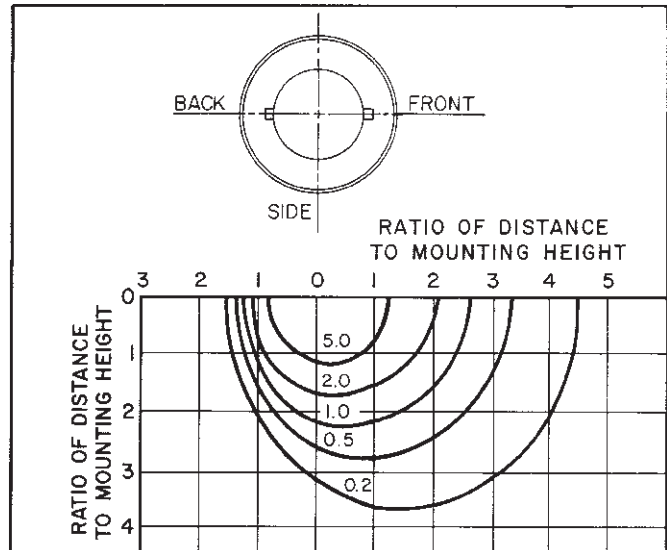
Effective Floor Cavity Reflectance 20%

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



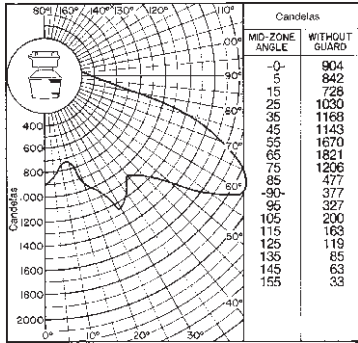
Isofootcandle charts show illumination in footcandles on work plane 10 feet below light center. Multiply by factor shown to convert to other mounting heights.

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



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	Con- version Factor
	50	0.42
VMVS	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 High Wattage Series 200-400W For Medium and High Mounting Heights

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

3L

Applications:

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 metal halide (MH) and pulse start metal halide
- 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

Certifications and Compliances:

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

Standard Materials:

- Ballast housings and mountings – copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware 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

Options:

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

Description	Suffix
• Restricted Breathing Construction..... Class I, Division 2 & Zone 2 Suitability Cooler Operating Temperatures (T-Numbers)	S826†
• Certified for IEC Zone 2..... 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 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
• Quartz auxiliary lighting – comes to full brightness immediately and remains lit until the HID lamp attains 60-70% of full illumination. For <i>non-hazardous</i> locations only.....	QTZ
• 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.....	BG
• Factory assembled with H.I.D. lamps installed for additional labor savings.....	FA
• Top hat with stainless steel threaded insert to attach ballast housing.....	S806

Note: (Quartz lamp not included use 100W single ended lamp – Q100DC, Q100CL/DC, or 100Q/CL/DC). Consult factory for top-hat limitations.

Electrical Ratings:

- 120 to 600 volts and multi-tap
- 200, 250, 400W HPS and MH

Accessories:

- See pages 977-978 for complete listing.

Alzak is a registered trademark of ALCOA.

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

†Not for use in Canada.

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







3L VMV High Wattage Series 200-400W High Pressure Sodium

**For Medium and High Mounting Heights
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

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

Mounting Style	Hub Size	Lamp Watts	BASIC CATALOG NUMBER		
			With G303 Globe and P33 Guard	With GR305 Glass Refractor *	With GRD4 Reflector/Lens
	3/4	200	VMVS2A200GP	VMVS2A200GR305	VMVS2A200GRD4
		1	VMVS3A200GP	VMVS3A200GR305	VMVS3A200GRD4
	3/4	250	VMVS2A250GP	VMVS2A250GR305	VMVS2A250GRD4
		1	VMVS3A250GP	VMVS3A250GR305	VMVS3A250GRD4
	3/4	200	VMVS2C200GP	VMVS2C200GR305	VMVS2C200GRD4
		1	VMVS3C200GP	VMVS3C200GR305	VMVS3C200GRD4
	3/4	250	VMVS2C250GP	VMVS2C250GR305	VMVS2C250GRD4
		1	VMVS3C250GP	VMVS3C250GR305	VMVS3C250GRD4
	3/4	200	VMVS2TW200GP	VMVS2TW200GR305	VMVS2TW200GRD4
		1	VMVS3TW200GP	VMVS3TW200GR305	VMVS3TW200GRD4
	3/4	250	VMVS2TW250GP	VMVS2TW250GR305	VMVS2TW250GRD4
		1	VMVS3TW250GP	VMVS3TW250GR305	VMVS3TW250GRD4
	3/4	200	VMVS25Q200GP	VMVS25Q200GR305	VMVS25Q200GRD4
		250	VMVS25Q250GP	VMVS25Q250GR305	VMVS25Q250GRD4
	3/4	400	VMVS25Q400GP	VMVS25Q400GR305	VMVS25Q400GRD4
		12 1/2° Angle			
	1 1/2	200	VMVSJ200GP	VMVSJ200GR305	VMVSJ200GRD4
	1 1/2	250	VMVSJ250GP	VMVSJ250GR305	VMVSJ250GRD4
	1 1/2	400	VMVSJ400GP	VMVSJ400GR305	VMVSJ400GRD4
	1 1/2	200	VMVSP200GP	VMVSP200GR305	VMVSP200GRD4
	1 1/2	250	VMVSP250GP	VMVSP250GR305	VMVSP250GRD4
	1 1/2	400	VMVSP400GP	VMVSP400GR305	VMVSP400GRD4

* For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. VMVS2A200GR302
For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. VMVS2A200GR303

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts - 60Hz

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

Optional Voltage Ballasts - 50 or 60Hz

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

2. Options - Add the required option suffixes, see page 951, in alpha-numeric order.

VMV High Wattage Series 250-400W Pulse Start Metal Halide


For Medium and High Mounting Heights
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

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

			BASIC CATALOG NUMBER		
Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor *	With GRD4 Reflector/Lens
	3/4	250	VMVM2A250GP S828	VMVM2A250GR305 S828	VMVM2A250GRD4 S828
		1	VMVM3A250GP S828	VMVM3A250GR305 S828	VMVM3A250GRD4 S828
	3/4	320	VMVM2A320GP S828	VMVM2A320GR305 S828	VMVM2A320GRD4 S828
		1	VMVM3A320GP S828	VMVM3A320GR305 S828	VMVM3A320GRD4 S828
		400**	VMVM2A400GP S828	VMVM2A400GR305 S828	VMVM2A400GRD4 S828
1	VMVM3A400GP S828	VMVM3A400GR305 S828	VMVM3A400GRD4 S828		
	3/4	250	VMVM2C250GP S828	VMVM2C250GR305 S828	VMVM2C250GRD4 S828
		1	VMVM3C250GP S828	VMVM3C250GR305 S828	VMVM3C250GRD4 S828
	3/4	320	VMVM2C320GP S828	VMVM2C320GR305 S828	VMVM2C320GRD4 S828
		1	VMVM3C320GP S828	VMVM3C320GR305 S828	VMVM3C320GRD4 S828
		400**	VMVM2C400GP S828	VMVM2C400GR305 S828	VMVM2C400GRD4 S828
1	VMVM3C400GP S828	VMVM3C400GR305 S828	VMVM3C400GRD4 S828		
	3/4	250	VMVM2TW250GP S828	VMVM2TW250GR305 S828	VMVM2TW250GRD4 S828
		1	VMVM3TW250GP S828	VMVM3TW250GR305 S828	VMVM3TW250GRD4 S828
	3/4	320	VMVM2TW320GP S828	VMVM2TW320GR305 S828	VMVM2TW320GRD4 S828
		1	VMVM3TW320GP S828	VMVM3TW320GR305 S828	VMVM3TW320GRD4 S828
		400**	VMVM2TW400GP S828	VMVM2TW400GR305 S828	VMVM2TW400GRD4 S828
1	VMVM3TW400GP S828	VMVM3TW400GR305 S828	VMVM3TW400GRD4 S828		
	3/4	250	VMVM25Q250GP S828	VMVM25Q250GR305 S828	VMVM25Q250GRD4 S828
	3/4	320	VMVM25Q320GP S828	VMVM25Q320GR305 S828	VMVM25Q320GRD4 S828
	3/4	400**	VMVM25Q400GP S828	VMVM25Q400GR305 S828	VMVM25Q400GRD4 S828
	1 1/2	250	VMVMJ250GP S828	VMVMJ250GR305 S828	VMVMJ250GRD4 S828
		320	VMVMJ320GP S828	VMVMJ320GR305 S828	VMVMJ320GRD4 S828
	1 1/2	400**	VMVMJ400GP S828	VMVMJ400GR305 S828	VMVMJ400GRD4 S828
	1 1/2	250	VMVMP250GP S828	VMVMP250GR305 S828	VMVMP250GRD4 S828
		320	VMVMP320GP S828	VMVMP320GR305 S828	VMVMP320GRD4 S828
	1 1/2	400**	VMVMP400GP S828	VMVMP400GR305 S828	VMVMP400GRD4 S828

* For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. VMVM2A250GR302-S828

For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. VMVM2A250GR303-S828

** To be used with ED28 (bulb shaped lamp).

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts - 60Hz

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

Optional Voltage Ballasts - 50 or 60Hz

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

2. Options - Add the required option suffixes, see page 0000, in alpha-numeric order.

Lamp Selection Table:

Fixture	Lamp Type	Bulb	Venture	Phillips	Sylvania
			MP 320W/BU/ED28/UVS/PS/EM/950	MS320/U/PS	MS320/PS/BU-HOR
VMVM320GP	320W PS MH	ED28, BT28	MP 320W/BU/ED28/UVS/PS/740	MS320/C/BU/PS	-
			MP 320W/C/BU/ED28/EVS/PS/737	-	-
VMVM400GP	400W PS MH	ED28, BT28	MP 400W/BU/ED28/UVS/PS/EM/950	N/A	M400/PS/U/BT28




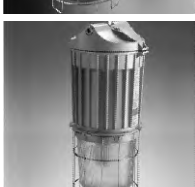
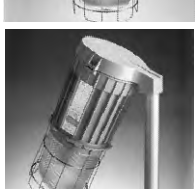
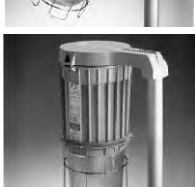
3L VMV High Wattage Series 250-400W Metal Halide

For Medium and High Mounting Heights
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

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

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

* For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. VMVM2A250GR302
For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. VMVM2A250GR303

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts - 60Hz

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

Optional Voltage Ballasts - 50 or 60Hz

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

2. Options - Add the required option suffixes, see page 951, in alpha-numeric order.

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. #
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:

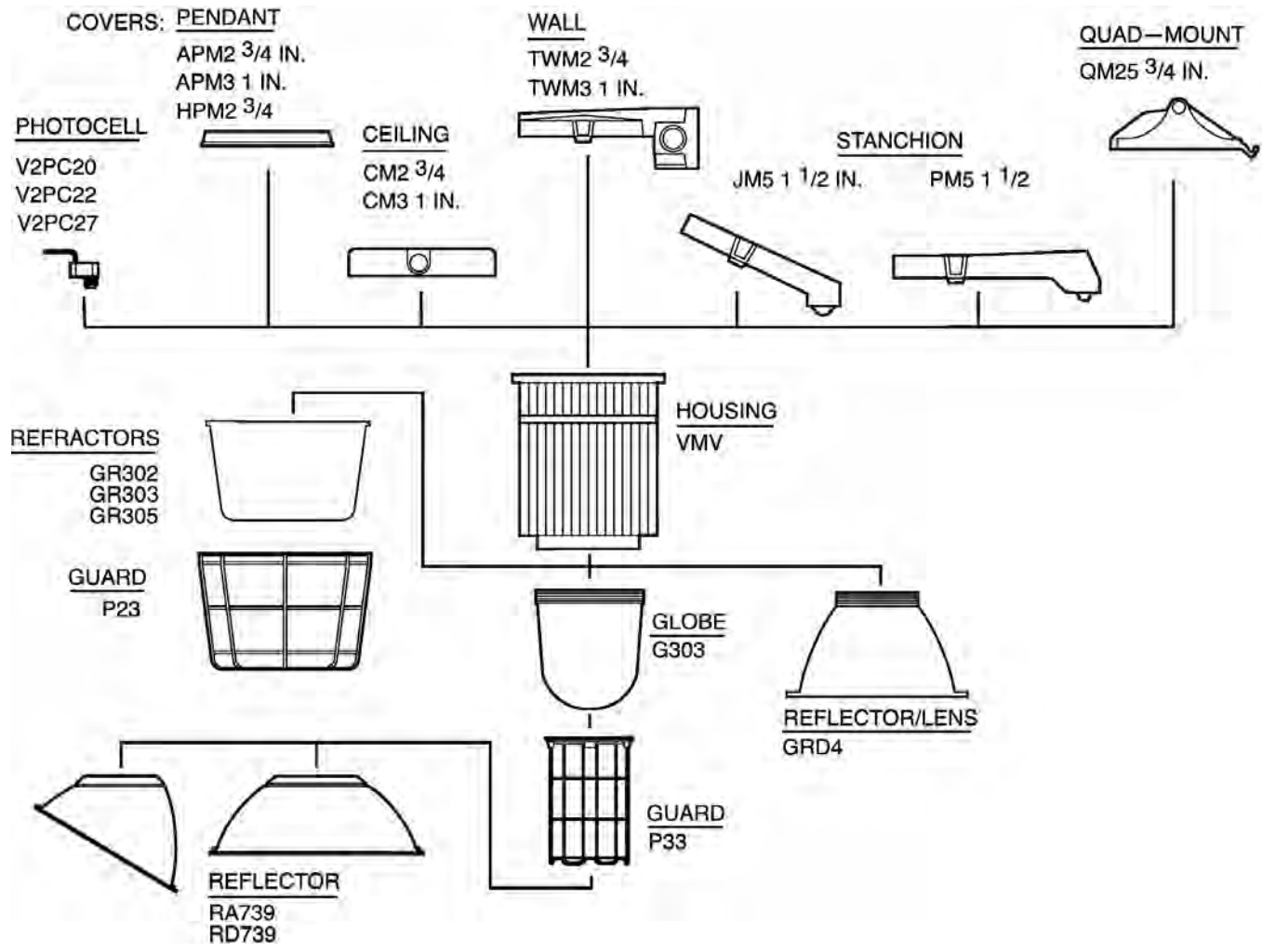
Complete catalog number must have the **voltage suffix** (MT shown) and any **options suffixes**.

Lamp Type	Lamp Watts	Cat. #
High Pressure Sodium	200	VMVS200/MT
	250	VMVS250/MT
	400	VMVS400/MT
Metal Halide	250	VMVM250/MT
	400	VMVM400/MT

III. Globe, Reflectors, Refractors, Guards:

Type	Cat. #
Globe	G303
Globe Guard	P33
Reflector – Dome	RD739
Reflector – Angle	RA739
Refractor – Type 2	GR302
Refractor – Type 3	GR303
Refractor – Type 5	GR305
Refractor Guard	P23
High Bay Reflector/Lens	GRD4

Champ® H.I.D. Luminaires



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		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	
		GRD4	-	-	X	-	-	-	

High Pressure Sodium

200	40	325 C	350 C	T2	T3	T4	T3C	T1/T3C	T3C	75
	55	325 C	350 C	T2	T3	T4	-	-	-	75
	65	325 C	350 C	T2	T3	-	-	-	-	85
250	40	350 C	350 C	325 C	T3	T4	T3C	T1/T3C	T3C	75
	55	350 C	350 C	350 C	T3	T4	-	-	-	85
	65	350 C	350 C	-	T3	-	-	-	-	-
400	40	350 C	350 C	T1	T3	T4	T3C	T1/T3C	T3C	85
	55	350 C	350 C	T1	T3	T4	-	-	-	90

Metal Halide

200	40	350 C	325 C	350 C	T3	T4	T3B	350 C/T3B	T3B	85
	55	350 C	350 C	350 C	T3	T4	-	-	-	90
250	40	350 C	325 C	350 C	T3	T4	T3B	350 C/T3B	T3B	85
	55	350 C	350 C	350 C	T3	T4	-	-	-	90
400	40	-	325 C	T1	-	T4	T3B	350 C/T3B	T3B	85
	55	-	350 C	T1	-	-	-	-	-	-

Pulse Start Metal Halide (S828)

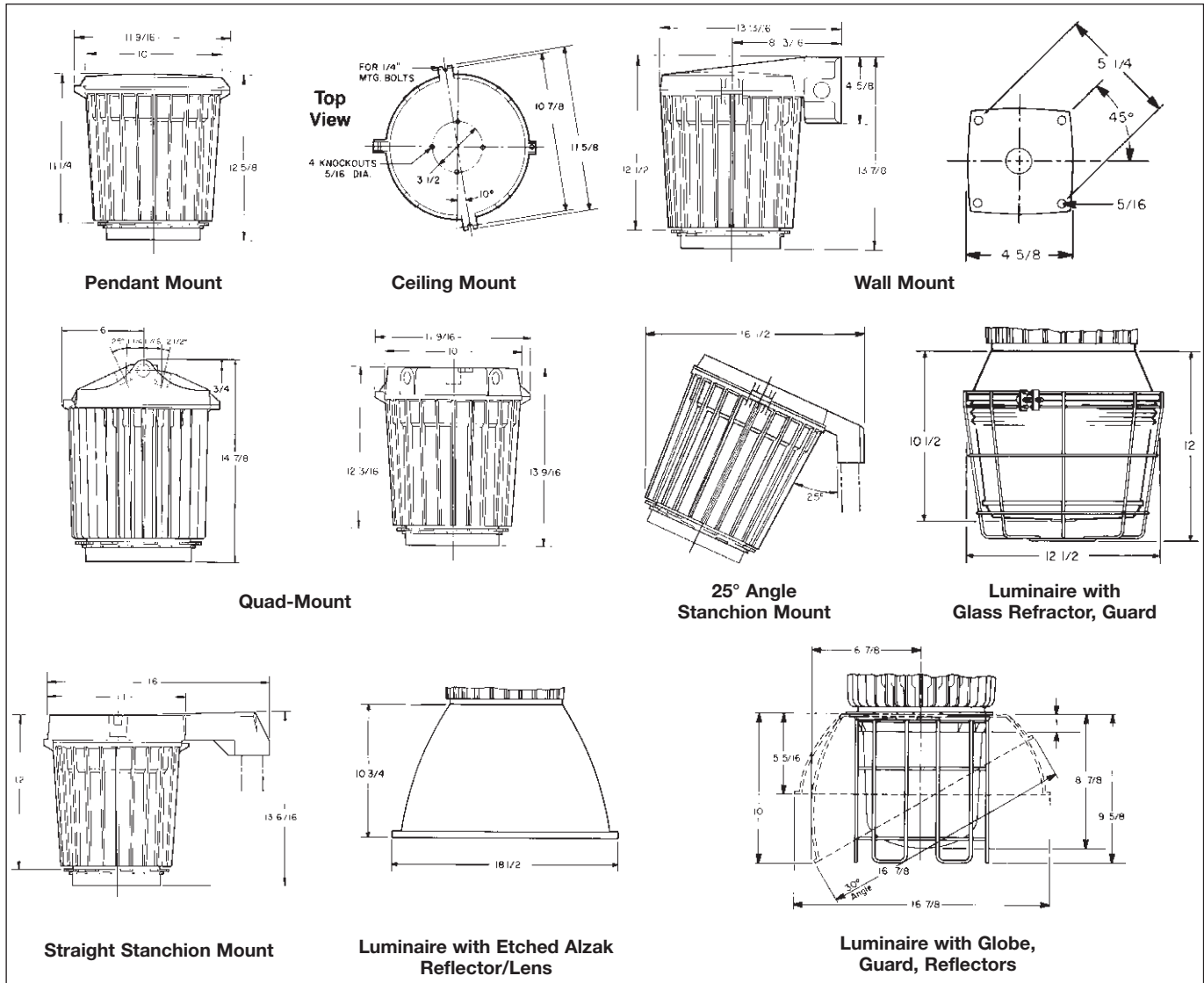
250	40	350 C	350 C	325 C	T3	T4	T3B	350 C/T3B	T3B	85
	55	350 C	350 C	350 C	T3	T4	-	-	-	90
320	40	T1	325 C	T2A	T3	-	-	-	-	90
400	40	T1	T1	T1	T3	T4	-	-	-	90

3L

Champ® H.I.D. Luminaires

Dimensions

In Inches:



Net Luminaire Weights (lbs.):

Luminaire Series	Lamp Watts	Luminaire with:		
		Globe, Guard (lbs.)	Reflector/ Lens	Glass Refractor (lbs.)
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
VMVM	250	32 1/2	33	35 1/4
	400		34	35 1/2

Type	Lbs.	Type	Lbs.
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Add for mounting modules:

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:

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

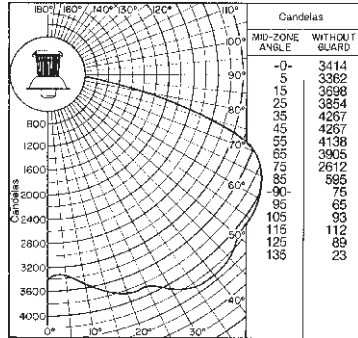
Deduct: 1 1/2 lb. for luminaire without P33 Guard

Champ® H.I.D. Luminaires

Lamp: 250W/E-18 high pressure sodium (HPS)
 Total bare lamp lumens: 27500

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 candela curve only).

Luminaire Series	Lamp Watts	Conversion Factor
VMVS	200	0.80
	400	1.82

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	.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. Ceil.	Wall	Room Cavity Ratio				
		6	7	8	9	10
80	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

3L