Application:

- General illumination of hazardous and non-hazardous areas

Table 500-3(d) Identification Numbers.

Maximum Temperature		Identification Number
Deg. C	Deg. F	
450	842	T1
300	572	T2
280	536	T2A
260	500	T2B
230	446	T2C
215	419	T2D
200	392	T3
180	356	T3A
165	329	T3B
160	320	T3C
135	275	T4
120	248	T4A
100	212	T5
85	185	T6

Considerations for Selection:

Environmental:

- What is the hazardous area classification (NEC®/CEC) of the location in which the luminaires will be installed?

Lighting levels required:

- What wattage luminaire(s) will provide the desired light levels? See Lighting Selector Guide, pages 665 to 689, to determine number and location of luminaires required.

Physical arrangement:

- Type of luminaire mounting required, threaded hub or mounting feet.

Quick Selector Chart

Luminaire	NEC Hazardous Area Compliance	Lamp Size (Watts)	Lamp Base
CPMV	Cl. I, Division 2	50-150 HID	Mogul
EVMA-S812	Cl. I, Groups C, D Cl. I, Groups B (suffix GB), C & D	50–400 HID	Mogul
VOYAGER nR (SSFMV)	Cl. I, Division 2 Cl. I, Zone 2	150-400 HID	Mogul
F2MV, FMV, FMV High Wattage	Cl. I, Division 2	70-1500 HID	Mogul
FZD	Cl. I, Division 1 Groups B, C, D	150-400 HID	Mogul
RCDE-6	Cl. I, Groups C, D Cl. I, Group D	150 Incandescent 300 Incandescent	Medium
RCDE-10	Cl. I, Group D	500 Incandescent	Extended Mogul End Prong

Champ-Pak™ Wall Pack Luminaires

Cl. I, Div. 2, Groups A,B,C,D
Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826)
Certified for IEC Zone 2 (Suffix S826TB)
Cl. II, Groups F & G
Cl. III & Simultaneous Presence
Marine & Wet Locations ● Enclosure Type 4X, IP66

NEW!

The first low-profile wall pack designed specifically for hazardous areas.

The Cooper Crouse-Hinds® Champ-Pak™ wall pack luminaire is ideal for low-profile mounting in hazardous and industrial environments. **In fact, it is suitable for any area with adverse conditions such as dust, dirt, moisture, vibration, high-pressure hosedowns and high thermal ambients.** Its precisely designed glass refractor minimizes fixture depth while providing uniform, glare-free illumination.

- Unique compact shallow-profile design mounts virtually anywhere.
- Side-hinged cover with two-screw closing for easy installation and maintenance.
- Gray Corro-free™ epoxy powder-coated two-piece housing provides superior corrosion resistance.
- Unique stainless steel wire guard accessory attaches without any additional hardware for easy installation and maintenance.
- Glass refractor provides uniform light distribution to eliminate glare.
- Vertical lamp design provides even lamp heat distribution for cooler operation, providing expanded hazardous area suitability.
- Silicone gaskets make luminaire suitable for enclosure Type 4X, Marine and IP66 environments.
- Available in two different conduit entry configurations to permit flexible installation and mounting.
  - four ¾″ NPT hubs, one on each side
  - two ½″ NPT hubs on bottom for feed-through applications

APPLICATIONS

- indoor and outdoor wall mounting or vertical surface mounting where minimal fixture depth is required in:
  - manufacturing plants and heavy industrial facilities
  - industrial process facilities such as refineries, chemical, petrochemical, pharmaceutical, and production platforms
  - waste or sewage treatment plants
  - offshore, dockside and harbor installations
- for security and safety lighting in industrial facilities
- for lighting of loading docks, tunnels and stairways
- for marine, wet location, hosedown and corrosive environments

ADDITIONAL FEATURES & BENEFITS

- Variety of lamp types and wattages—HID, fluorescent and induction—to meet specific lighting needs.
- High-power-factor ballasts (+90%) are standard, which allow more luminaires per circuit.
- Up to 65°C ambient suitability on select lamp types and wattages. Ambient suitability of +40°C is standard. Allows for installation in higher ambient environments commonly found in industrial facilities.
- Low ambient starting capability (to -40°C)—perfect for colder climates.
- Shock-absorbing HID mogul base lamp socket cushions lamp, improves lamp life in harsh environments.
- Compact fluorescent emergency luminaire provides 90 minutes of lighting during power outages, meeting UL924 and life safety code.
- Cost-effective induction lamp system provides extra-long lamp life—up to 100,000 hours. Reaches full illumination immediately, providing crisp white light.
- NEC/CEC Restricted Breathing construction is available to provide cooler temperature classes (T codes) for expanded hazardous area suitability.
- Simplified method for compliance to NEC Restricted Breathing conduit sealing requirements makes installation easier.

US: 1-866-764-5454 CAN: 1-800-265-0502

7L Champ-Pak™ Wall Pack Luminaires

NEW!

Cl. I, Div. 2, Groups A,B,C,D
Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826)
Certified for IEC Zone 2 (Suffix S826TB)
Cl. II, Groups F & G
Cl. III & Simultaneous Presence
Marine & Wet Locations ● Enclosure Type 4X, IP66

STANDARD MATERIALS

- fixture housing and door frame assembly—copper-free aluminum
- external hardware—stainless steel
- refractor lens—borosilicate glass
- gasket—silicone
- reflector—aluminum light sheet
- wire guard—stainless steel

STANDARD FINISHES

- aluminum—Corro-free™ epoxy powder coat
- stainless steel—natural

CERTIFICATIONS & COMPLIANCES

Luminaires For Use With ANSI Lamps (Mogul Base)

- UL/cUL Listed
- NEC and CEC Class I, Division 2 and Class I, Zone 2
- Restricted Breathing Class I, Division 2 and Zone 2 (suffix S826)
- Class II, Groups F and G
- Class III
- Simultaneous Presence
- Certified for IEC Zone 2 (suffix S826TB)
- Wet Locations; Marine Locations; Enclosure Type 4X; IP66

UL Standards

- 844—hazardous (divisions classified) locations
- 2279—hazardous (zones classified) locations
- 1598—luminaires
- 1598A—luminaires for marine vessels
- 924—emergency lighting (fluorescent emergency luminaire)

CSA Standards

- C22.2 No. 9 and 137
- CAN/CSA-E60079-15:02

IEC Standards

- 60079-15

RATINGS (ELECTRICAL/SIZE)

Sources/Wattages

● high-pressure sodium (HPS)—mogul base	50, 70, 100 & 150
● metal halide (MH)—mogul base	70, 100 & 150
● mercury vapor (MV)—mogul base	100
● compact fluorescent	26, 32, 42, 52, 64 & 84
● emergency fluorescent	26
● induction	55 & 85

Voltages

HID STANDARD-VOLTAGE BALLASTS

- Dual tap (120 & 277 V, 60 Hz—for 50 W HPS only)—prewired at 277 V
- Multitap (120, 208, 240 & 277 V, 60 Hz)—prewired at 277 V
- Tritap (120, 277 & 347 V, 60 Hz)—prewired at 347 V
- 120 V, 60 Hz
- 480 V, 60 Hz

FLUORESCENT STANDARD-VOLTAGE BALLASTS

- 120–277 V, 50–60 Hz
- 120 V, 50 Hz (for Canada only)
- 347 V, 60 Hz (for Canada only)

INDUCTION STANDARD-VOLTAGE BALLASTS

- 120 V, 50–60 Hz (also 120 V DC)
- 230 V, 50–60 Hz (also 240 V DC)

HID OPTIONAL VOLTAGE BALLASTS

- 220 V, 50 Hz
- 220 V, 60 Hz
- 240 V, 50 Hz

FLUORESCENT OPTIONAL VOLTAGE BALLASTS (Consult Factory)

- 125 V DC
- 12 V DC
- 24 V DC

ISOLATED BALLASTS AND SPECIALS (Consult Factory)

- 208 V, 60 Hz CWI Isolated Ballast
- 240 V, 60 Hz CWI Isolated Ballast
- 480 V, 60 Hz CWI Isolated Ballast

Conduit Entries

- four ¾″ NPT entries, one on each side, top and bottom (3 plugged)
- two ½″ NPT entries on bottom for feed-through (1 plugged)
- metric entries—consult factory

Champ-Pak™ Wall Pack Luminaires

Cl. I, Div. 2, Groups A,B,C,D
Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826)
Certified for IEC Zone 2 (Suffix S826TB)
Cl. II, Groups F & G
Cl. III & Simultaneous Presence
Marine & Wet Locations ● Enclosure Type 4X, IP66

NEW!

ORDERING INFORMATION

To complete Catalog Number, add Voltage and Option suffix(es).

HID Luminaires

HUB SIZE	LAMP WATTS	CATALOG NUMBER FOR USE WITH ANSI LAMPS
HIGH-PRESSURE SODIUM		
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	50	CPMVS2W050 CPMVS1W050
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	70	CPMVS2W070 CPMVS1W070
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	100	CPMVS2W100 CPMVS1W100
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	150 (for 55 V lamp)	CPMVS2W150 CPMVS1W150
METAL HALIDE		
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	70	CPMVM2W070 CPMVM1W070
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	100	CPMVM2W100 CPMVM1W100
METAL HALIDE—PULSE START		
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	150	CPMVM2W150-S828 CPMVM1W150-S828
MERCURY VAPOR		
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	100	CPMVC2W100 CPMVC1W100

VOLTAGE SUFFIXES

NEC (UL)

Voltage (60 Hz)	Dual Tap	Multitap	120	480
Suffix	/DT	/MT	/120	/480

CEC (CSA/cUL)

Voltage (60 Hz)	Dual Tap	Tritap	120
Suffix	/DT	/TT	/120

50 W HPS is available only with suffix /DT.

Induction Luminaires With Lamp (100,000 hours)

HUB SIZE	LAMP WATTS	CATALOG NUMBER
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	55	CPMVIG2W055 CPMVIG1W055
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	85	CPMVIG2W085 CPMVIG1W085

VOLTAGE SUFFIXES

Voltage	120 V (also 120 V DC) (50–60 Hz)	230 V (also 240 V DC) (50–60 Hz)
Suffix	/120	/230

Fluorescent Luminaires

HUB SIZE	LAMP WATTS	CATALOG NUMBER
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	26 (one 26 W lamp)	CPMVF2W026 CPMVF1W026
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	32 (one 32 W lamp)	CPMVF2W032 CPMVF1W032
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	42 (one 42 W lamp)	CPMVF2W042 CPMVF1W042
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	52 (two 26 W lamps)	CPMVF2W052 CPMVF1W052
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	64 (two 32 W lamps)	CPMVF2W064 CPMVF1W064
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	84 (two 42 W lamps)	CPMVF2W084 CPMVF1W084

VOLTAGE SUFFIXES

	NEC/CEC (UL, CSA, cUL)	CEC (CSA, cUL)
Voltage	120–277 V (50–60 Hz)	347 V (60 Hz)
Suffix	/UNV	/347

Fluorescent Emergency Luminaires —Continuous Operation

HUB SIZE	LAMP WATTS	CATALOG NUMBER
Four ¾″ NPT (one each side) Two ½″ NPT (on bottom)	26 (one 26 W lamp)	CPMVFB2W026 CPMVFB1W026

VOLTAGE SUFFIXES

	NEC (UL)	CEC (CSA, cUL)	
Voltage	120–277 V (50–60 Hz)	120 V (60 Hz)	347 V (60 Hz)
Suffix	/UNV	/120 CAN	/347

Compelling reasons to choose the new Champ Induction luminaire as the light source for industrial and hazardous locations include:

- Crisp white light (80+ color rendering index) provides increased safety by clearly illuminating signs, instrument panels, equipment and more with vibrant natural colors.
- Up to 100,000 hours of lamp life minimizes routine maintenance costs. If you operate this luminaire for 24 hours, 7 days a week, you will not need to change the lamp for up to 11 years!
- Instant illumination — no waiting for lamp warm-up time. Increases productivity and safety.
- Delivers the best possible luminaire temperature rating — T6 (85°C) when used with the Champ restricted breathing option. Ideal for hazardous areas where a low ignition temperature is required.
- Starts in low temperatures — as low as -40°C.

7L Champ-Pak™ Wall Pack Luminaires

NEW!

Cl. I, Div. 2, Groups A,B,C,D
Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826)
Certified for IEC Zone 2 (Suffix S826TB)
Cl. II, Groups F & G
Cl. III & Simultaneous Presence
Marine & Wet Locations ● Enclosure Type 4X, IP66

OPTIONS

	SUFFIX TO ADD TO CATALOG NUMBER
BALLAST-GARD™ STARTER CUT-OUT SWITCH	**BG**
● prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life ● available for use with HPS only ● not available with IR or QTZ options	
FACTORY ASSEMBLED WITH LAMP INSTALLED	**FA**
INSTANT RESTRIKE	**IR**
● enables a hot HPS lamp to immediately restrike after a momentary loss of arc due to voltage fluctuation or power outage; it has no effect on the warm-up period of cold lamps ● available for use with HPS only ● not available with BG or QTZ options	
GUARD—FACTORY INSTALLED ON LUMINAIRE	**P**
(Guard suffix follows wattage designation, e.g., CPMVS2W100P/MT)	
QUARTZ AUXILIARY	**QTZ**
● quartz auxiliary lighting comes to full brightness immediately and remains lit until the HID lamp attains 60–70% of full illumination ● available for use with HID only ● for nonhazardous locations only ● quartz lamp not furnished—use 100 W single-ended lamp Q100DC, Q100DL/DC or 100Q/CL/DC	
FUSED	**S658***
● protects ballast and capacitors against abnormal line conditions (not for use in Canada or marine locations) ● not available with CPMVIG and CPMVFB luminaires	
RESTRICTED BREATHING CONSTRUCTION (AEx nR, Ex nR)	**S826**
Suitable for NEC/CEC Class I, Division 2 and Zone 2 ● provides cooler temperature classes (T codes) ● furnished with P55 guard	

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.

OPTIONS

	SUFFIX TO ADD TO CATALOG NUMBER
CERTIFIED FOR IEC ZONE 2 (Ex nR) (UL CLASSIFIED TO THE IEC STANDARD)	**S826TB**
Furnished with: ● 4 mm², 3-point terminal block ● crimp internal wiring connections ● P55 guard	
V2PC PHOTOCELL—FACTORY INSTALLED	
● 120 V, 50–60 Hz	**/V2PC20**
● 208–240 V, 50–60 Hz	**/V2PC22**
● 277 V, 50–60 Hz	**/V2PC27**
OPTIONAL VOLTAGE BALLASTS FOR HID LUMINAIRES	
● 220 V, 50 Hz	**/220 50**
● 220 V, 60 Hz	**/220 60**
● 240 V, 50 Hz	**/240 50**
OPTIONAL VOLTAGE BALLASTS FOR FLUORESCENT LUMINAIRES (Consult Factory)	
● 125 V DC	**/125 VDC**
● 12 V DC	**/12 VDC**
● 24 V DC	**/24 VDC**
ISOLATED BALLAST FOR HID LUMINAIRES (Consult Factory)	
● 208 V, 60 Hz	**/208CWI**
● 240 V, 60 Hz	**/240CWI**
● 480 V, 60 Hz	**/480CWI**

ACCESSORIES (ORDER SEPARATELY)

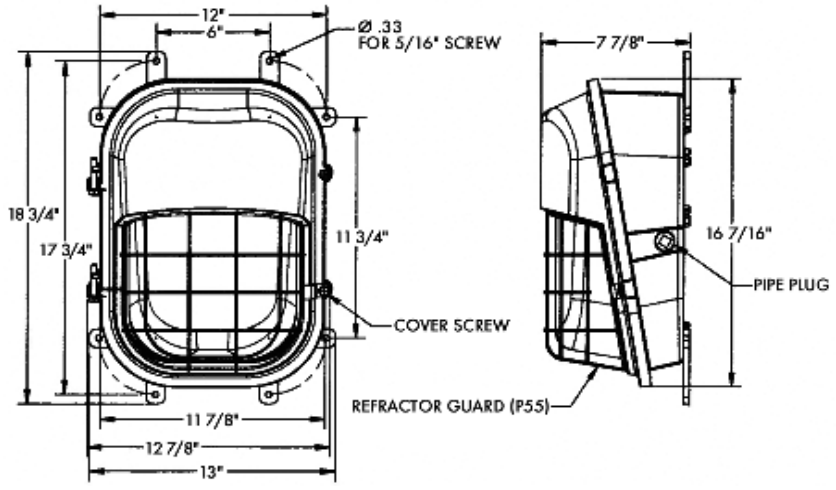
PHOTOCELL FOR FIELD INSTALLATION	CATALOG NUMBER
● 120 V, 50–60 Hz	**V2PC20**
● 208–240 V, 50–60 Hz	**V2PC22**
● 277 V, 50–60 Hz	**V2PC27**

In Canada, use factory-installed photocell only.

STAINLESS STEEL WIRE GUARD	**P55**

DIMENSIONS (INCHES)

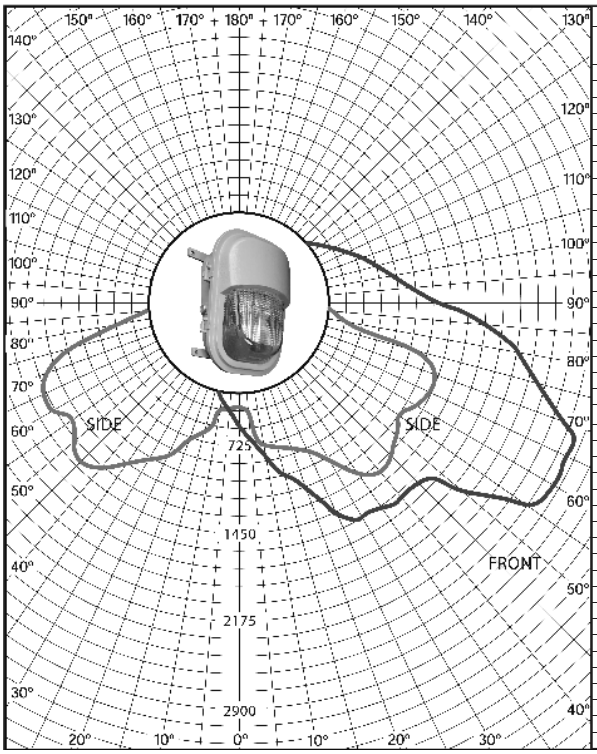
NOTE: Approximate weight less guard 28 lbs. P55 guard 0.5 lbs.



CPMV PHOTOMETRIC DATA

LUMINAIRE WITH REFRACTOR LESS WIRE GUARD

CPMVS2W150 Lamp: 150 W/E23-1/2 Clear High Pressure Sodium (HPS)



CANDELAS			
Vertical Angle	Front	Side	Back
0	413	413	413
5	470	418	367
15	877	654	265
25	1343	947	169
35	1629	1135	126
45	1614	1369	68
55	2434	1267	17
65	2505	1281	0
75	2084	916	4
85	1555	322	8
90	1148	265	11
95	956	228	8
105	723	156	9
115	527	86	9
125	355	56	8
135	224	40	4
145	150	20	1
155	64	11	1
165	19	9	3
175	0	8	1
180	3	3	3

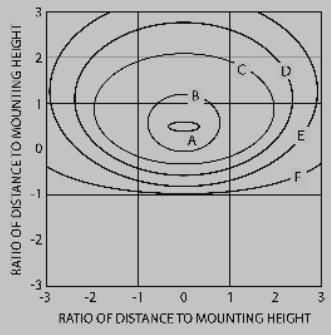
ZONAL LUMENS	
Zone	Lumens
0-10	42
10-20	178
20-30	371
30-40	587
40-50	760
50-60	1095
60-70	1277
70-80	1028
80-90	666
90-100	462
100-110	338
110-120	236
120-130	175
130-140	91
140-150	31
150-160	10
160-170	2
170-180	0
Total	7349

Note: Photometric data was developed using a 150 watt E23-1/2 clear high pressure sodium lamp (16,000 lumens). For other clear lamp wattages, use the following conversion factors (multipliers) with both candlepower distribution and isofootcandle charts. For luminaires with guard use an additional conversion factor (multiplier) of .96.

LAMP WATTS	CONVERSION FACTOR
50 W (HPS)	0.25
70 W (HPS)	0.40
100 W (HPS)	0.59

(For additional photometric data, contact Cooper Crouse-Hinds)

ISOFOOTCANDLE CHART:



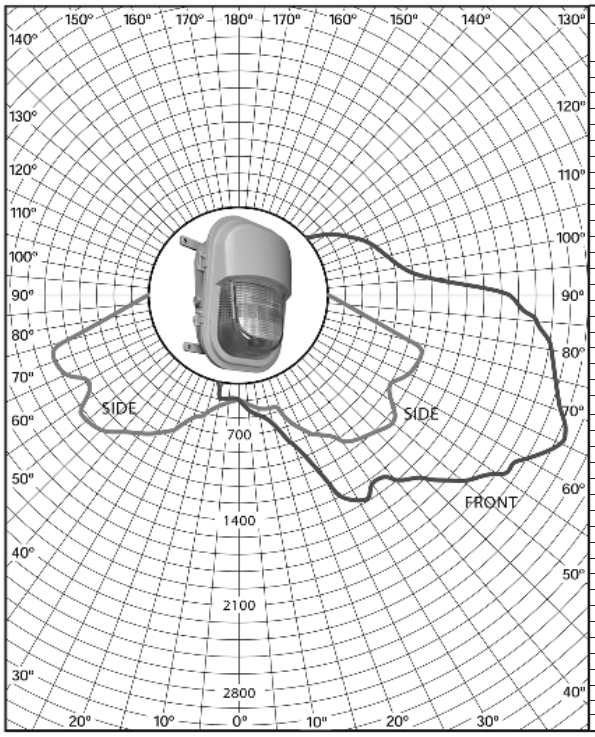
Footcandle Values for Isofootcandle Lines

Mtg. Hgt.	A	B	C	D	E	F
8'	15.63	7.81	3.13	1.56	0.78	0.31
10'	10.00	5.00	2.00	1.00	0.50	0.20
12'	6.94	3.47	1.39	0.69	0.35	0.14
16'	3.91	1.95	0.78	0.39	0.20	0.08
20'	2.50	1.25	0.50	0.25	0.13	0.05
25'	1.60	0.80	0.32	0.16	0.08	0.03

Isofootcandle chart shows illuminance in footcandles at ground level.

LUMINAIRE WITH REFRACTOR LESS WIRE GUARD

CPMVM2W150-S828 Lamp: 150 W/ED28 Clear Pulse Start Metal Halide



CANDELAS			
Vertical Angle	Front	Side	Back
0	404	404	404
5	442	424	413
15	692	549	238
25	1345	748	136
35	1475	946	99
45	1683	1121	56
55	2105	1095	15
65	2421	1107	3
75	2230	924	0
85	1946	349	0
90	1612	280	0
95	1154	231	0
105	738	164	0
115	535	97	0
125	360	55	0
135	237	39	0
145	139	22	0
155	56	12	0
165	17	8	0
175	0	8	0
180	3	3	0

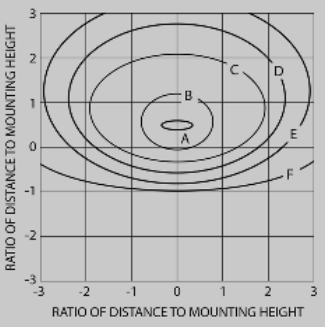
ZONAL LUMENS	
Zone	Lumens
0-10	42
10-20	150
20-30	320
30-40	537
40-50	709
50-60	921
60-70	1218
70-80	1153
80-90	829
90-100	492
100-110	347
110-120	242
120-130	167
130-140	113
140-150	35
150-160	10
160-170	2
170-180	0
Total	7287

Note: Photometric data was developed using a 150 watt ED28 clear metal halide pulse start lamp (14,000 lumens). For other clear lamp wattages, use the following conversion factors (multipliers) with both candlepower distribution and isofootcandle charts. For luminaires with guard use an additional conversion factor (multiplier) of .96.

LAMP WATTS	CONVERSION FACTOR
70 W (MH)	.40
100 W (MH)	.56
100 W (MV)	.30

(For additional photometric data, contact Cooper Crouse-Hinds)

ISOFOOTCANDLE CHART:



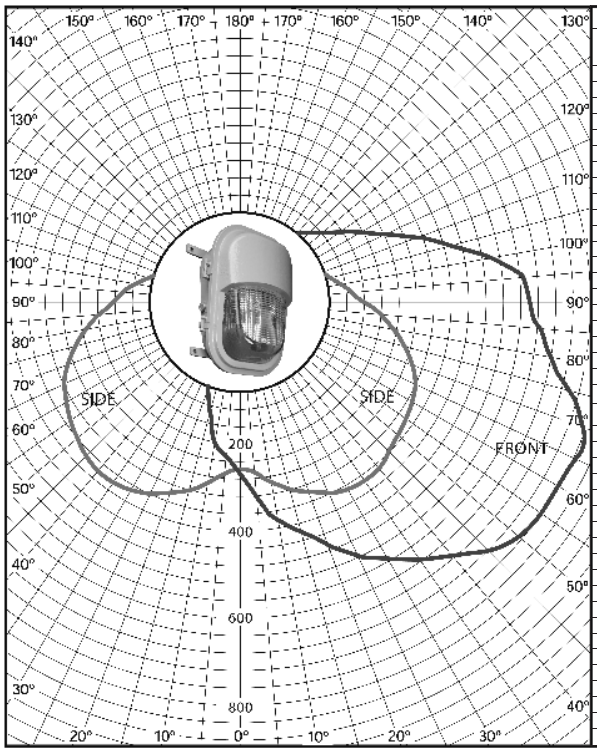
Footcandle Values for Isofootcandle Lines

Mtg. Hgt.	A	B	C	D	E	F
8'	15.63	7.81	3.13	1.56	0.78	0.31
10'	10.00	5.00	2.00	1.00	0.50	0.20
12'	6.94	3.47	1.39	0.69	0.35	0.14
16'	3.91	1.95	0.78	0.39	0.20	0.08
20'	2.50	1.25	0.50	0.25	0.13	0.05
25'	1.60	0.80	0.32	0.16	0.08	0.03

Isofootcandle chart shows illuminance in footcandles at ground level.

For additional photometric data, contact Cooper Crouse-Hinds.

LUMINAIRE WITH REFRACTOR LESS WIRE GUARD
CPMVF2W084 Lamps: (2) PL-T 42W/30/4P Compact Fluorescent



CANDELAS			
Vertical Angle	Front	Side	Back
0	258	258	258
5	319	269	227
15	421	316	139
25	516	361	58
35	590	376	33
45	671	362	10
55	720	347	0
65	725	317	0
75	657	264	0
85	566	195	0
90	541	160	0
95	526	132	0
105	409	86	0
115	277	49	0
125	145	31	0
135	97	21	0
145	52	11	0
155	34	3	0
165	8	1	0
175	0	0	0
180	0	0	0

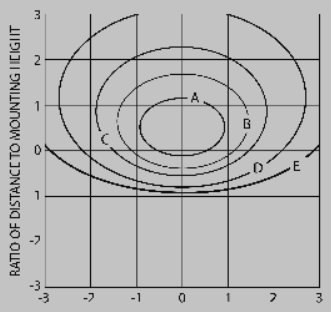
ZONAL LUMENS	
Zone	Lumens
0-10	26
10-20	87
20-30	155
30-40	223
40-50	286
50-60	334
60-70	357
70-80	349
80-90	309
90-100	262
100-110	188
110-120	113
120-130	64
130-140	36
140-150	16
150-160	5
160-170	0
170-180	0
Total	2810

Note: Photometric data was developed using two clear compact fluorescent lamps (3,200 lumens each). For other clear lamp wattages, use the following conversion factors (multipliers) with both candlepower distribution and isofootcandle charts. For luminaires with guard use an additional conversion factor (multiplier) of .96.

LAMP WATTS	CONVERSION FACTOR
52 W (FLUORESCENT)	.56
64 W (FLUORESCENT)	.75

For additional photometric data, contact Cooper Crouse-Hinds.

ISOFOOTCANDLE CHART:

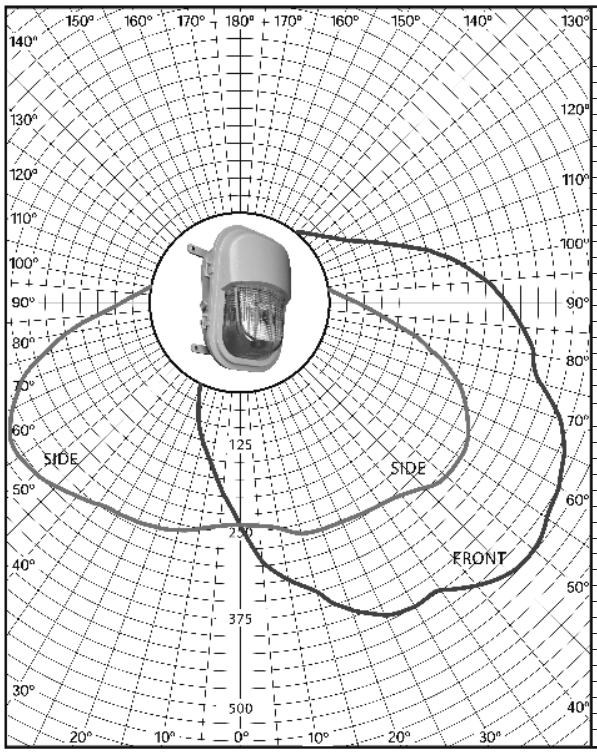


Footcandle Values for Isofootcandle Lines

Mtg. Hgt.	A	B	C	D	E
8'	3.13	1.56	0.78	0.31	0.16
10'	2.00	1.00	0.50	0.20	0.10
12'	1.39	0.69	0.35	0.14	0.07
16'	0.78	0.39	0.20	0.08	0.04
20'	0.50	0.25	0.13	0.05	0.03
25'	0.32	0.16	0.08	0.03	0.02

Isofootcandle chart shows luminance in footcandles at ground level.

LUMINAIRE WITH REFRACTOR LESS WIRE GUARD
CPMVIG2W055 Lamp: 55 W Philips Induction Lamp System



CANDELAS			
Vertical Angle	Front	Side	Back
0	241	241	241
5	290	243	199
15	352	259	110
25	414	268	45
35	427	274	28
45	475	295	12
55	462	306	3
65	439	285	0
75	364	214	0
85	330	124	1
90	309	86	2
95	276	63	2
105	206	38	2
115	121	28	1
125	80	20	2
135	55	18	1
145	32	8	1
155	21	5	2
165	5	2	0
175	0	2	0
180	1	1	1

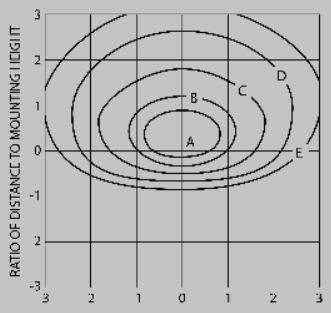
ZONAL LUMENS	
Zone	Lumens
0-10	23
10-20	70
20-30	114
30-40	154
40-50	194
50-60	224
60-70	228
70-80	205
80-90	169
90-100	130
100-110	86
110-120	52
120-130	34
130-140	21
140-150	9
150-160	3
160-170	1
170-180	0
Total	1717

Note: Photometric data was developed using a 55 W Philips QL Series induction lamp system (3,500 lumens). For other lamp wattages, use the following conversion factors (multipliers) with both candlepower distribution and isofootcandle charts. For luminaires with guard use an additional conversion factor (multiplier) of .96.

LAMP WATTS	CONVERSION FACTOR
85 W	1.72

For additional photometric data, contact Cooper Crouse-Hinds.

ISOFOOTCANDLE CHART:



Footcandle Values for Isofootcandle Lines

Mtg. Hgt.	A	B	C	D	E
8'	3.13	1.56	0.78	0.31	0.16
10'	2.00	1.00	0.50	0.20	0.10
12'	1.39	0.69	0.35	0.14	0.07
16'	0.78	0.39	0.20	0.08	0.04
20'	0.50	0.25	0.13	0.05	0.03
25'	0.32	0.16	0.08	0.03	0.02

Isofootcandle chart shows luminance in footcandles at ground level.

TEMPERATURE PERFORMANCE DATA

WATTS	AMBIENT Temp °C	CLASS I DIVISION 2 and ZONE 2		CLASS II and CLASS III	SIMULTANEOUS PRESENCE CLASS I/CLASS II (Gas and Dust Present in the Same Area)		SUPPLY WIRE TEMP °C
		STANDARD PRODUCT	RESTRICTED BREATHING AEx nR/Ex nR OPTION S826		STANDARD PRODUCT Suitable for Class I. Division 2/Class II	RESTRICTED BREATHING AEx nR/Ex nR OPTION S826 Suitable for Class I, Division 2 or Zone 2 and Class II	
HIGH-PRESSURE SODIUM							
50	40	T3A	T6	T5	T3A/T5	T5	90
	55	T3A	T6	T4A*	T3/T4A*	T4*	105
	65*	T3	T5	—	—	—	105
70	40	T3A	T6	T5	T3A/T5	T5	90
	55	T3A	T6	—	—	—	105
	65*	T3	T5	—	—	—	105
100	40	T2C	T5	Consult Factory for Class II Suitability with 105°C Supply Wire			90
	55*	T2C	T4				105
150	40*	T2B	T4	—	—	—	105
METAL HALIDE							
70	40	T3C	T6	T5	T3C/T5	T5	90
	55	T3C	T6	—	—	—	105
	65*	T3C	T5	—	—	—	105
100	40	T3	T6	—	—	—	90
150PS (S828)	40	T2D	T5	—	—	—	105
MERCURY VAPOR							
100	40	T2C	T5	—	—	—	90
	55*	T2B	T4	—	—	—	105
COMPACT FLUORESCENT							
26	40	T3B	T6	T6	T3B/T6	T6	75
26 (347 V)	55	T3A	T6	—	—	—	75
	40	T3	T6	—	—	—	75
32	40	T3B	T6	T6	T3B/T6	T6	75
	55	T3A	T6	—	—	—	75
32 (347 V)	40	T3	T6	—	—	—	75
42 (120–277 V)	40	T3B	T6	T6	T3B/T6	T6	75
42 (347 V)	55	T3A	T6	—	—	—	75
	40	T3	T6	—	—	—	75
52	40	T3	T6	T6	T3/T6	T6	75
	55	T3	T6	—	—	—	90
64	40	T3	T6	T6	T3/T6	T6	75
	55	T3	T6	—	—	—	90
84	40	T2C	T6	—	—	—	90
EMERGENCY FLUORESCENT							
26	40*	T3B	T6	—	—	—	75
INDUCTION							
55	40*	T2D	T6	T6	—	T6	75
	55*	T2D	T6	—	—	—	75
85	40*	T2B	T6	—	—	—	75

***Fuses (suffix S658) are not available for indicated light sources and ambient temperatures.**

NOTE: Luminaires requiring 105°C supply wire are furnished with 3 ft. of rated wire for external wiring connection

7L Champ® Voyager nR™ Stainless Steel Floodlight

Cl. I, Div. 2, Groups A,B,C & D
Cl. I, Zone 2, Group IIC
Enclosure Type 4X
IP66
UL and cUL Listed

Wet Locations
Marine Locations

NEW!

At last, a hazardous-area luminaire with complete stainless steel exterior, low temperature ratings and standard with the restricted breathing rating (vapor-tight design).

Cooper Crouse-Hinds® Champ Voyager nR stainless steel floodlight offers the industry's coolest temperature. ratings—so it can operate below the ignition temperature of vapors and gases in your classified area.

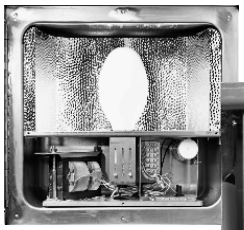
It's also the only mogul-base Class I, Division 2 and Zone 2 stainless steel floodlight with restricted breathing (vapor-tight design) as standard construction.

The Champ Voyager nR Floodlight boasts a wide, powerful beam to deliver more light to your process or pathway. Standard terminal blocks and a removable ballast-component tray bring you the best combination of easy wiring and simple maintenance in one rugged package.

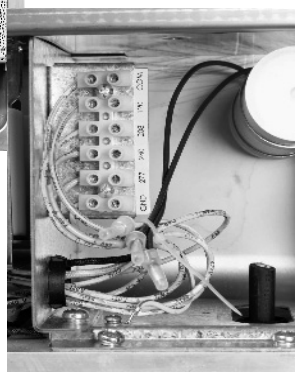
This unique combination of features makes the Champ Voyager nR Floodlight ideal for outdoor, marine, corrosive, and high temperature locations such as:

- offshore platforms and drilling rigs, ship channels and refineries
- chemical, petrochemical and pharmaceutical plants, waste water and sewage treatment plants, pulp and paper mills
- storage tanks and racks, vehicle and pedestrian passageways, outdoor process areas and parking areas

And because the Champ Voyager nR Floodlight meets international standards, you can install it anywhere in the world.



Removable ballast component tray



Easy wiring with standard terminal blocks

KEY FEATURES AND BENEFITS

- **AEx nR, Ex nR restricted breathing rating is standard—**a hazardous location luminaire with excellent T-3 and T-4 ratings without additional accessories or options.
- **NEMA 7x6 "butterfly beam" floodlight pattern—**wide, uniform and far reaching to reduce the number of luminaires you need providing excellent luminaire efficiency—more light where you need it.
- **easy wiring—**standard terminal block with marked terminals saves time and eliminates wiring errors.
- **removable ballast-component tray—**for capacitor, igniter and terminal block to simplify maintenance and save money.
- **316 stainless steel housing, hinges, door cover and mounting yoke for marine and wet locations—**robust construction suitable for saltwater and corrosive applications.

Champ® Voyager nR™ Stainless Steel Floodlight

CI. I, Div. 2, Groups A,B,C & D
CI. I, Zone 2, Group IIC
Enclosure Type 4X
IP66
UL and cUL Listed

Wet Locations
Marine Locations

NEW!

CERTIFICATIONS AND COMPLIANCES

NEC/CEC
- Class I, Division 2
- Class I, Zone 2
- Wet Locations
- Marine Locations
- Enclosure Type 4X, IP66
- UL Listed
- cUL Listed (Certified by UL to CSA Standards)

IEC/NEC/CEC
- Class I, Zone 2, Group IIC
- Class I, Division 2, Group A,B,C,D

UL STANDARDS
- 844 — Hazardous (Divisions Classified) Locations
- 1598 — Luminaires
- 1598A — Supplemental requirements for luminaires for installation on marine vessels.

CSA STANDARDS
- C22.2 No. 137
- CAN/CSAD9 Series

IEC STANDARDS
- .60079-15

STANDARD MATERIALS

- Enclosure (housing & lens frame)—316 Stainless Steel
- Lens—heat and impact resistant tempered glass
- Gaskets—silicone rubber
- Yoke and yoke bracket—316 Stainless Steel
- Reflector—formed specular (dimpled glossy surface) aluminum
- Cable gland cord grip and locknut—polyamide 6, neoprene bushing

STANDARD FINISHES

- 316 Stainless Steel—natural

RATINGS

SOURCES/WATTAGES
(MOGUL BASE LAMPS)
- High Pressure Sodium (HPS) 150, 250 & 400 watts
- Metal Halide (MH) 175, 250 & 400 watts

VOLTAGES
Standard Voltage Ballasts
- Multi-tap (120, 208, 240 & 277 V, 60 Hz)
- 480 V, 60 Hz
- Tri-tap (120, 277, 347 V, 60 Hz)

Optional Voltage Ballasts
- 220 V or 240 V, 50 Hz (for export)
- 220 V, 60 Hz (for export)

Isolated Ballasts (consult Cooper Crouse-Hinds)
- 208, 240, or 480 V (for Canada)

HUB SIZE
- Standard: ¾″ NPT with a ¾″ sealing cord grip installed

ORDERING INFORMATION

To complete catalog number, add voltage and option suffix(es)
Example: SSFMVSY150/MT-76 BG-FA

LAMP TYPE	WATTS	CATALOG NUMBER
High-Pressure Sodium	150	SSFMVSY150
	250	SSFMVSY250
	400	SSFMVSY400
Metal Halide	175	SSFMVMY175
	250	SSFMVMY250
	400	SSFMVMY400

VOLTAGE SUFFIXES

VOLTAGE (60 Hz)	SUFFIX	OPTIONAL VOLTAGES	SUFFIX
Tri-tap (120, 277, 347, 60 Hz)	/TT	220 50 Hz	/220 50
Multi-tap (120, 208, 240, 277V, 60 Hz)	/MT	220 60 Hz	/220
480 V, 60 Hz	/480	240 50 Hz	/240 50

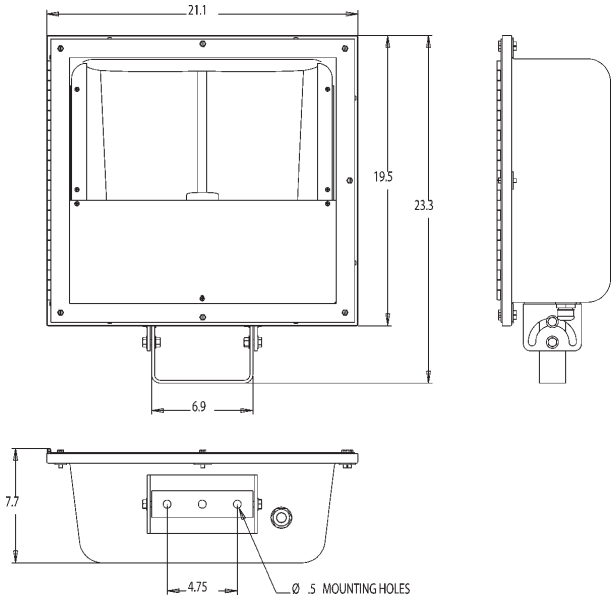
OPTIONS

	SUFFIX TO ADD TO CAT. NO.
Ballast-Gard™ starter cut-out switch prevents starter pulsing when lamp is cycling or inoperative. Prolongs ballast and igniter life 150 W HPS only. Not available with options IR or QTZ	BG
Factory assembled w/HID lamp installed	FA
Instant restrike—150W HPs only. Not available with options BG or QTZ	IR
Quartz auxiliary (lamp not supplied). For non-hazardous applications only. Not available with options BG or IR	QTZ
Fused (not for marine or cUL)	S658

ACCESSORIES (order separately)

	CATALOG NO.
Stainless Steel Slipfitter Adapter	SFA6 SS
Stainless Steel Wall Mount Bracket	SWB6 SS
Standard Slipfitter adapter (cast aluminum, epoxy coat)	SFA6
Standard Wall Mount bracket (cast aluminum, epoxy coat)	SWB6

DIMENSIONS (inches)



LUMINAIRE WEIGHTS (lbs.)

LUMINAIRE	HPS	MH
150W	39	—
175W	—	39
250W	43	41
400W	45	43

US: 1-866-764-5454 CAN: 1-800-265-0502

Champ® Voyager nR™ Stainless Steel Floodlight

Cl. I, Div. 2
Cl. I, Zone 2
Enclosure Type 4X
IP66
UL and cUL Listed

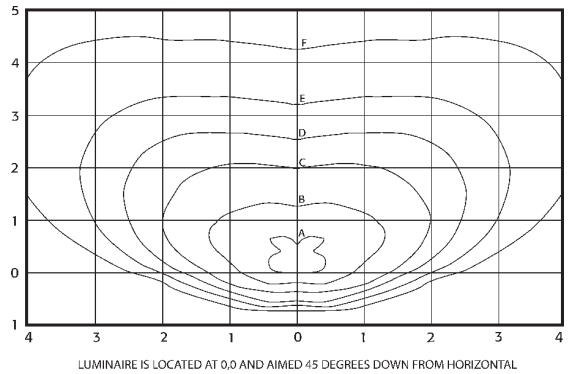
Wet Locations
Marine Locations

PHOTOMETRICS

HPS Wide Beam Reflector

ISO FOOTCANDLE CHART
Stainless Steel Floodlight 400 W High Pressure Sodium (HPS)
Catalog Number: SSMVSY400/MT
Lamp: 400 W Clear HPS
Lumen Rating: 50,000
Luminaire located at 0,0° Aiming Angle at 45° down from horizontal
For 150 W HPS, multiply footcandles by 0.32.
For 250 W HPS, multiply footcandles by 0.57.

MOUNTING HEIGHT	FOOTCANDLE VALUES FOR ISO FOOTCANDLE LINES					
	A	B	C	D	E	F
10′	40.000	20.000	8.000	4.000	2.000	0.800
15′	17.778	8.889	3.555	1.778	0.889	0.356
20′	10.000	5.000	2.000	1.000	0.500	0.200
25′	6.400	3.200	1.280	0.640	0.320	0.128
30′	4.444	2.222	0.889	0.444	0.222	0.089
35′	3.265	1.633	0.653	0.327	0.163	0.065
40′	2.500	1.250	0.500	0.250	0.125	0.050

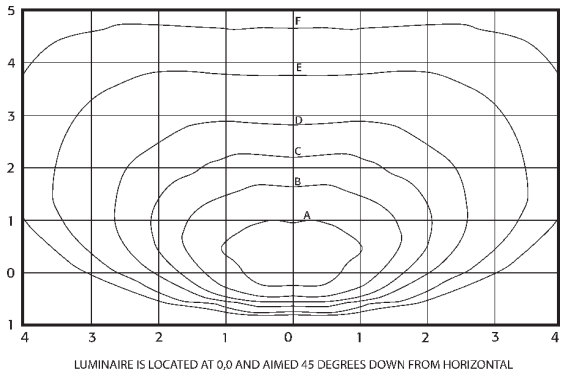


LUMINAIRE IS LOCATED AT 0,0 AND AIMED 45 DEGREES DOWN FROM HORIZONTAL

MH Wide Beam Relfector

ISO FOOTCANDLE CHART
Stainless Steel Floodlight 400 W Metal Halide (MH)
Catalog Number: SSFMVMY400/MT
Lamp: 400 W Clear MH
Lumen Rating: 34,000
Luminaire located at 0,0° Aiming Angle at 45° down from horizontal
For 175 W MH, multiply footcandles by 0.42
For 250 W HPS, multiply footcandles by 0.65

MOUNTING HEIGHT	FOOTCANDLE VALUES FOR ISO FOOTCANDLE LINES					
	A	B	C	D	E	F
10′	20.000	8.000	4.000	2.000	0.800	0.400
15′	8.889	3.555	1.778	0.889	0.356	0.178
20′	5.000	2.000	1.000	0.500	0.200	0.100
25′	3.200	1.280	0.640	0.320	0.128	0.064
30′	2.222	0.889	0.444	0.222	0.089	0.044
35′	1.633	0.653	0.327	0.163	0.065	0.033
40′	1.250	0.500	0.250	0.125	0.050	0.025



LUMINAIRE IS LOCATED AT 0,0 AND AIMED 45 DEGREES DOWN FROM HORIZONTAL

TEMPERATURE PERFORMANCE DATA

AMBIENT TEMP.	DIV. 2 40°C	DIV. 2 55°C	ZONE 2 40°C	ZONE 2 55°C	SUPPLY WIRE 0°C (40°C)	SUPPLY WIRE 0°C (55°C)
150 W HPS	T1(350°C)	T1(350°C)	T4	T3	90°C	105°C
250 W HPS	T1(350°C)	T1(350°C)	T4	T3	90°C	105°C
400 W HPS	T1(400°C)	—	T3	—	90°C	—
175 W MH	T1(325°C)	T1(325°C)	T3	T3	90°C	105°C
250 W HPS	T1(325°C)	T1(325°C)	T3	T3	90°C	105°C
400 W MH	T1(325°C)	—	T3	—	105°C	—

EFFECTIVE PROJECTED AREA (EPA)

• For windloading AIMING ANGLE	• For proper pole selection EPA
0 degrees	2.15 ft²
30 degrees	1.86 ft²
60 degrees	1.07 ft²

50-175W F2MV Series

Champ® H.I.D. Luminaires

- Cl. I, Div 2, Groups A, B, C, D
- Restricted Breathing Cl. I, Div 2 & Zone 2 (Suffix S826)
- Certified for IEC Zone 2 (Suffix S826TB)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66

Application:

Champ F2MV floodlights are used:
- on platforms and in refineries, chemical and petrochemical plants, pharmaceutical plants, waste water and sewage treatment plants, pulp and paper mills, and other outdoor as well as indoor industrial locations.
- to light outdoor industrial applications such as storage tanks and racks, vehicle and pedestrian passageways, outdoor process areas, and parking areas in industrial facilities.
- for security & safety lighting in industrial and process facilities.
- in high ambient temperatures.
- in marine and wet locations
- in outdoor locations where the damaging effects of rain, snow, wind, dirt & other contaminants are present
- in Class I, Division 2 hazardous (classified) locations as defined by the NEC & CEC
- in Class I, Zone 2 hazardous (classified) areas as defined by the NEC & CEC
- in Zone 2 hazardous (classified) areas as defined by the IEC

Ratings (Electrical/Size):

Sources/Wattage (Mogul Base Lamps)
- High Pressure Sodium (HPS) 50, 70, 100 & 150
- Metal Halide (MH) 70, 100, & 175
- Mercury Vapor (MV) 100 & 175

Voltages

Standard Voltage Ballasts
- Multi-tap (120, 208, 240 & 277 volts 60 Hz)
- Dual tap (120, 277 volts 60 Hz) — 50W HPS only
- 480 volts 60 Hz
- Tri-tap (120, 277. 347 volts 60 Hz).

Optional Voltage Ballasts (consult Cooper Crouse-Hinds)
- 220 volt or 240 volt 50 Hz (for export)
- 220 volt 60 Hz (for export)
- Isolated Ballasts 208, 240 or 480 volt (For Canada)

Hub Sizes
- Standard — (2) ¾″ NPT
- Optional — (2) 25mm (M25x1.5)

Key Features	Benefits
• Copper free aluminum enclosure with stainless steel hardware	Robust design, Industrial grade construction
• Continuous silicone gasketing	Insures wet & marine locations integrity
• Small compact size	Easy to install & maintain
• Available in a variety of lamp sources and wattages	Provides specifiers with the right product for the task at hand.
• NEMA 7x6 standard floodlight pattern with lamp orientation base down	Most common for industrial applications
• 40° and 55°C ambient suitability standard with some wattages (less fuses) to 65°C	Addresses high ambients common at industrial facilities
• Stainless steel chain secures cover to housing	Ease of maintenance
• Low ambient capability to –40°C	Perfect for colder climates
• Shock absorbing mogul base lamp socket	Cushions lamp, improves lamp life in harsh environments
• Variety of system voltages available	Meets global supply voltage requirements
• Trunnion (yoke) mount design	Standard construction provides the greatest mounting flexibility — can be mounted vertically (wall), horizontally (floor) or any angle in between
• For use with other accessories • SFA-6 Slip Fitter Adapter • SWMB-6 Wall Mount Bracket	Further enhances mounting flexibility
• Restricted Breathing sealing compliance	Complies with the NEC sealing requirements for Class I Zone 2 and Class I Division 2 locations using the standard wiring method of a Cooper Crouse-Hinds CGB 294SA connector with 16/3 SO extra hard usage cord
• Severe vibration testing compliance • UL 844 • 3-Axis Resonance Withstand	Exceeds vibration tests as required by UL

Standard Materials:

- Enclosure (housing & lens cover) — copper-free aluminum
- Cover chain and external hardware — stainless steel
- Lens — heat & impact resistant glass
- Gaskets — silicone rubber
- Yoke — galvanized steel
- Reflector — diffuse aluminum lighting sheet

Standard Finishes:

Enclosure & Yoke — Corro-free epoxy powder coat
- Stainless steel — natural

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

Certifications and Compliances:

- NEC/CEC:
  Class I Division 2, Groups A, B, C, D
  Class I Zone 2
- IEC:
  Zone 2 Ex nR IIC
- UL Standards:
  844, 2279 Hazardous (Classified) Locations
  1598 Luminaires
  1598A Marine Locations
- CSA Standards:
  C22.2 No. 137:
- IEC Standards:
  60079-15

Options:

Description	Suffix to be Added to Cat. No.
• Ballast-Gard -50-150W HPS only -Cannot use with options IR or QTZ	**BG**
• Factory assembled w/HID lamp installed	**FA**
• Instant Restrike -50-150W HPS only -Cannot use with options BG or QTZ	**IR**
• Quartz auxiliary (lamp not supplied) -For nonhazardous applications only. -Cannot use with options BG or IR	**QTZ**
• Fused	**S658***
• Restricted Breathing, (AEx nR, Ex nR) -For NEC/CEC Class I Zone 2	**S826**
• Restricted Breathing (Ex nR) for IEC Zone 2. Includes: -3pt. 4mm squared terminal block -Crimp internal wiring connections -For use with dedicated voltages only -(not DT, MT, TT)	**S826TB**
• V2PC Photocell Available Factory Installed Only	Consult Crouse-Hinds

Accessories: (Order Separately)

- SFA-6 Slipfitter adapter
- SWB-6 Wall Mount bracket

Description	Suffix to be added to Cat. No.
• Restricted Breathing Construction Class I Division 2 & Zone 2 Suitability Cooler Operating Temperatures (T-Numbers)	**S826**
• Certified for IEC Zone 2 (Suffix S826TB) Furnished with • Terminal Block • Crimp Terminals • Dedicated voltage ballasts (no MT, DT or TT).	**S826TB**

7L 50-175W F2MV Series

Champ® H.I.D. Luminaires

- Cl. I, Div 2, Groups A, B, C, D
- Restricted Breathing Cl. I, Div 2 & Zone 2 (Suffix S826)
- Certified for IEC Zone 2 (Suffix S826TB)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66

Ordering Information

*To complete Catalog Number, add Voltage and Option suffix(s)
Example: F2MVSY150/MT-BG-FA-S658-S826

Lamp Type	Lamp Watts	Base Catalog Number* with ¾″ NPT Hub	with 25MM Hub
High Pressure Sodium	50	F2MVSY050	F2MVS25Y050
	70	F2MVSY070	F2MVS25Y070
	100	F2MVSY100	F2MVS25Y100
	150	F2MVSY150	F2MVS25Y150
Metal Halide	70	F2MVMY070	F2MVM25Y070
	100	F2MVMY100	F2MVM25Y100
	175	F2MVMY175	F2MVM25Y175
Pulse Start Metal Halide	150	F2MVMY150-S828	
	175	F2MVMY175-S828	
Mercury Vapor	100	F2MVCY100	F2MVC25Y100
	175	F2MVCY175	F2MVC25Y175

Voltage Suffixes

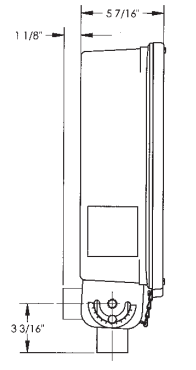
Voltage (60Hz)	Dual-Tap (50W HPS)	Tri-Tap	Multi-Tap	480
Suffix	/DT	/TT	/MT	/480

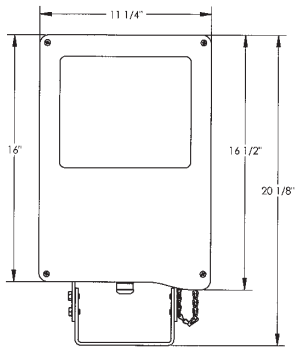
Temperature Performance Data

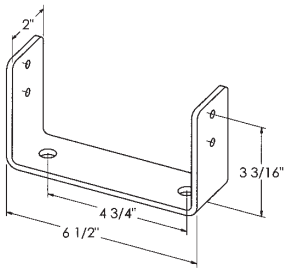
		Class 1		
		Non Restricted Breathing	Restricted Breathing (S826TB)	
Lamp Watts	Ambient Temp °C	Division 2	Zone 2	Supply Wire °C
High Pressure Sodium				
50 Watt	40	T3C	T6	75
	55	T3C	T5	75
	65	T3B	T5	75
70 Watt	40	T3A	T6	60
	55	T3A	T5	75
	65	T3	T4	85
100 Watt	40	T2D	T4	75
	55	T2C	T4	90
	65	n/a	n/a	n/a
150 Watt	40	T2A	T4	75
	55	T2A	T4	85
	65**	T2A	T3	110
Metal Halide				
70 Watt	40	T3C	T6	75
	55	T3A	T5	75
	65	T3A	T4	85
100 Watt	40	T2D	T4	75
	55	T2D	T4	75
	65	T2C	T4	85
175 Watt	40	T2A	T3	75
	55	T2A	T3	85
	65**	T2	T3	110
Mercury Vapor				
100 Watt	40	T2B	T4	75
	55	T2B	T4	85
	65	T2A	T4	90
175 Watt	40	T2B	T3	75
	55	T2A	T3	85
	65**	T2A	T3	110

*Restricted breathing explosion protection
**Suitable for use in 65°C ambient without optional fuses

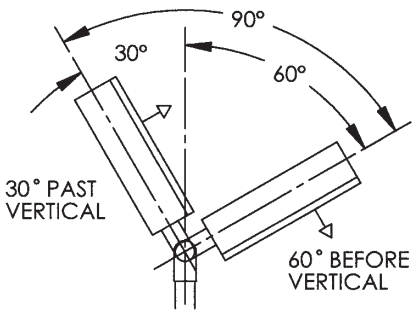
Dimensions and Weights:





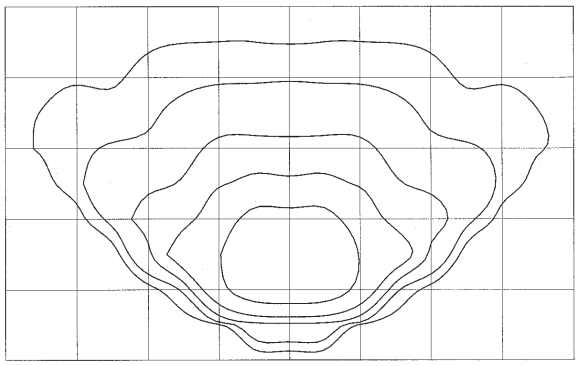


Aiming Range

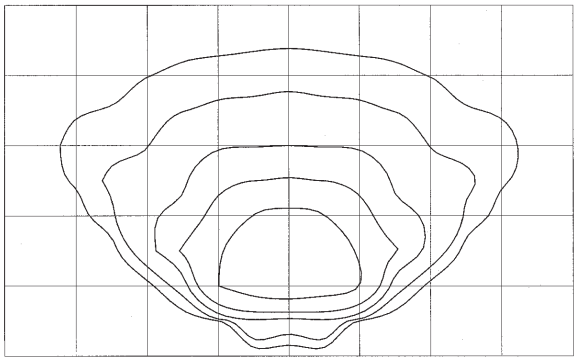


Luminaire Weight: 26 lbs.

Isofootcandle Chart
F2MV 150W High Pressure Sodium
Catalog Number F2MVSY150
Lamp: 150 watt clear high pressure sodium
Lumen rating: 16,000
For 100W high pressure sodium, multiply footcandles by .55
For 70W high pressure sodium, multiply footcandles by .40
For 50W high pressure sodium, multiply footcandles by .24

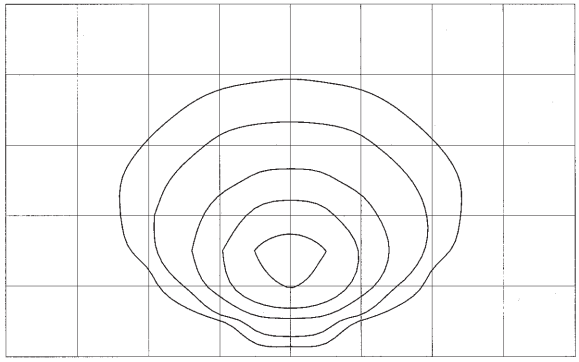


Isofootcandle Chart
F2MV 175W Mercury Vapor
Catalog Number F2MVCY175
Lamp: 175 watt clear mercury vapor
Lumen rating: 8,600
For 100W mercury vapor, multiply footcandles by .49



Luminaire located a 0°, 0°
Aiming angle 45°
Note: Luminaire aiming angle limited to 30° past vertical through 60° before vertical.

Isofootcandle Chart
F2MV 175W Metal Halide
Catalog Number F2MVMY175
Lamp: 175 watt clear metal halide
Lumen rating: 14,000
For 100W metal halide, multiply footcandles by .58
For 70W metal halide, multiply footcandles by .37



Footcandle Table

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	**B**	**C**	**D**	**E**
10′	8.00	4.00	2.00	0.80	0.40
15′	3.56	1.78	0.89	0.36	0.18
20′	2.00	1.00	0.50	0.20	0.10
25′	1.28	0.64	0.32	0.13	0.06
30′	0.89	0.44	0.22	0.09	0.04

Effective Projected Area (EPA)

- For windloading
- For proper pole selection

Aiming Angle	EPA
0°	1.6 ft²
30°	1.6 ft²
60°	1.1 ft²

7L 150-400W FMV

Series Champ® H.I.D. Luminaires

- Cl. I, Div 2, Groups A, B, C, D
- Restricted Breathing Cl. I, Div 2 & Zone 2 (Suffix S826)
- Certified for IEC Zone 2 (Suffix S826TB)
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP56 to IP66

Application:

Champ FMV Floodlights are used:
- in refineries, chemical and petrochemical plants, waste and sewage treatment plants, pulp and paper mills, and other outdoor industrial locations.
- to light outdoor industrial applications such as storage tanks and racks, vehicle and pedestrian passageways, outdoor process areas, and parking areas in industrial facilities.
- for security and safety lighting in industrial and process facilities.
- in Class I, Division 2 hazardous (classified) locations, as defined by the National Electrical Code.
- in high ambient temperatures
- in wet locations/marine locations
- in outdoor locations where the damaging effects of rain, snow, wind, dirt, and other contaminants are present.

Features:

- Available in a wide variety of light sources and wattages: 70-400 watt high pressure sodium, 175-400 watt metal halide, and 175-400 watt mercury vapor.
- Multi-tap ballasts are standard, offering a choice of 120, 208, 240, and 277 volts. 220V 50 Hz, 240V 50 Hz, Tri-Tap (120, 277 and 347) and 480 volt ballasts are also available.
- All luminaires are high power factor for energy efficient operation and optimal circuit conductor sizing.
- Three mounting styles – yoke (trunnion), slipfitter adapter & wall mount bracket – are available to satisfy all mounting requirements.
- Door frame assembly is hinged and has captive cover screws for ease of relamping.
- Silicone rubber gaskets are standard, ensuring long life and reliable environmental sealing even under adverse conditions.
- All die-cast aluminum components are provided with powder epoxy finish for superior corrosion resistance.
- All external hardware is stainless steel for corrosion resistance and reliability.
- Yoke is aluminum for excellent combination of strength, corrosion resistance and durability.
- All FMV Champ floodlights can be easily adjusted to aim light where it is needed.
- NEMA 7x6 beam spread is ideal for most industrial floodlighting requirements.
- Includes ballast core handle for convenient ballast replacement.
- Wing-type ballast insulators protect personnel during maintenance and relamping and provide quick and easy accessibility to internal components.

Standard Materials:

- Luminaire housing and door frame assembly – die-cast aluminum.
- External hardware – stainless steel.
- Lens – heat and impact-resistant glass.
- Yoke – aluminum.

Standard Finishes:

- Die-cast aluminum – epoxy powder coat
- Stainless steel – natural.

Electrical Rating Ranges:

- 70-150 (HPS), 175, 250, 400 watt
- Multi-tap★ (120, 208, 240, 277 volts), 480 volts and 220V, 240V 50 Hz.
- Tri-tap (120, 277, 347 volts)

Certifications and Compliances

- NEC/CEC:
Class I, Division 2, Groups A,B,C,D
Class I Zone 2
- IEC:
Zone 2 Ex nR IIC
- UL Standards:
844, 2279 Hazardous (classified) locations
1598 Luminaires
1598A Marine locations
- CSA Standards:
C22.2 No. 137
- IEC Standards:
60079-15

Yoke mounted FMV Champ floodlight with SFA6 slipfitter adapter.

Ordering Information:

(For Voltages, See Note 1)	Lamp Watts	Yoke Mount
High Pressure Sodium	150 (See Note 2)	FMVSY150/MT-76
	250	FMVSY250/MT-76
	400	FMVSY400/MT-76
Metal Halide	175	FMVMY175/MT-76
	250	FMVMY250/MT-76
	400	FMVMY400/MT-76
Pulse Start Metal Halide	250	FMVMY250/MT-76 S828
	320	FMVMY320/MT-76 S828
	400	FMVMY400/MT-76 S828
Mercury Vapor	175	FMVCY175/MT-76
	250	FMVCY250/MT-76
	400	FMVCY400/MT-76

Notes to Ordering Information
1. Catalog numbers shown are for multi-tap ballasts (120, 208, 240, or 277 volt; wired for 277 volt operation). 220 V 50 Hz, 240 V 50 Hz, and 480 volts ballasts also available. To order with other ballasts, change ''MT'' in catalog number to appropriate voltage. Example: FMVSY400/220-50-76. For Tri-tap ballast (120, 277, 347 volts) change MT to TT.
2. 150 watt HPS luminaires are furnished with ANSI spec./S55 ballasts for 55 volt lamps.
3. Luminaires are furnished with a ¾″ NPT drilled and tapped entrance.

Accessories

(Order Separately) **Cat. No.**

Slipfitter adapter (To be mounted to yoke mount luminaire) **SFA6**
(Note: SFA6 fits onto 2″ pipe/conduit)

Wall bracket (use with slipfitter adapter SFA6 for easy wall mounting & increased adjustability.) **SWB6**

Options

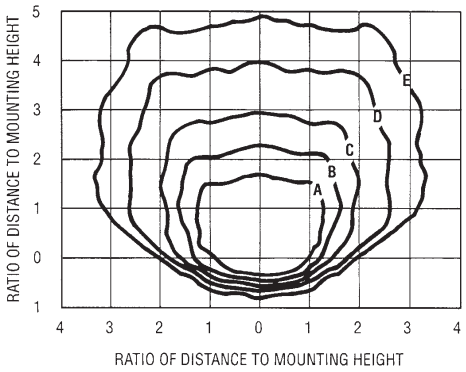
Description	Suffix to be Added to Cat. No.
Fused (not available with IR)	S658★
Quartz auxiliary	QTZ
● Non-hazardous locations only.	
● Lamp not furnished	
Instant restrike	IR
● Cannot be used with BG or QTZ.	
● 50-150W LX HPS only.	
Ballast Guard	BG
● Restricted Breathing Construction.	**S826**
Class I Division 2 & Zone 2 Suitability Cooler Operating Temperatures (T-Numbers)	
● Certified for IEC Zone 2	**S826TB**
Furnished with Terminal Block Crimp Terminals Dedicated voltage ballasts (no MT, DT or TT).	

★ CSA certified luminaires are not available with multi-tap ballasts or fusing option.

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

Isofootcandle Chart
FMV 400W high pressure sodium
Catalog number FMVSY400-76
Lamp: 400 watt clear high pressure sodium
Lumen rating: 50,000

For 150 watt high pressure sodium, multiply footcandles by 0.32. For 250 watt superior high pressure sodium, multiply footcandles by 0.6.

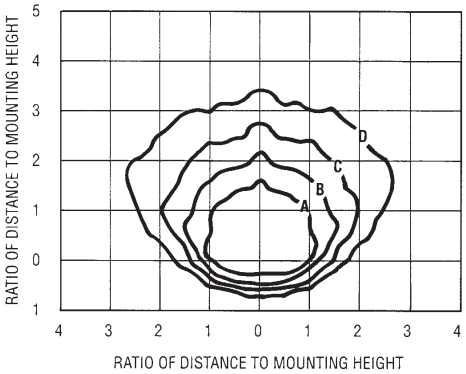


Luminaire located at 0°, 0° Aiming angle at 45°

(Note: Luminaire aiming angle limited to 30° past vertical through 60° before vertical.)

Isofootcandle Chart
FMV 400W metal halide
Catalog number FMVMY400-76
Lamp: 400 watt clear metal halide
Lumen rating: 34,000

For 250 watt clear metal halide, multiply footcandles by 0.6.



Luminaire located at 0°, 0° Aiming angle at 45°

(Note: Luminaire aiming angle limited to 30° past vertical through 60° before vertical.)

EPA Data – Aiming Angle

0°=2.9 30°=2.5 45°=2.1

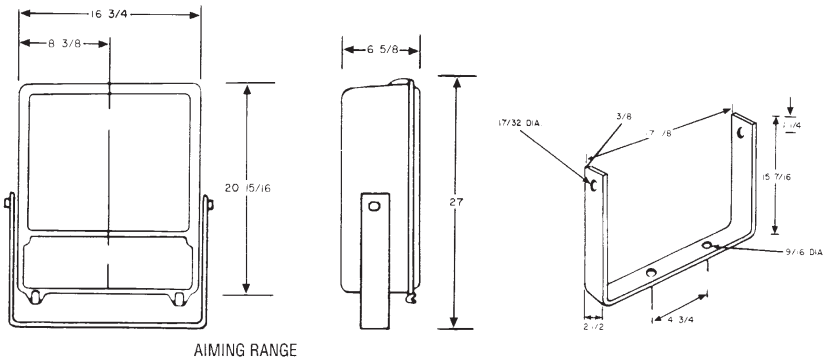
- 50 hertz ballast – luminaires can be ordered with either 220V 50 hertz or 240V 50 hertz ballasts.
- Ballast-Gard™ starter cut-out switch – prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life. Available for use with 70-400W HPS only. . . . . add suffix **BG.**

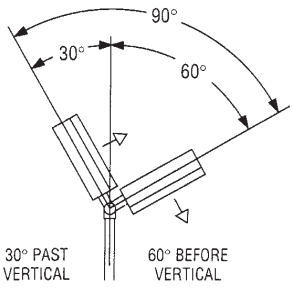
Table of Footcandle Values at Various Mounting Heights FMV 400W

Footcandle Values for both Isofootcandle Charts

Mounting Height	A	B	C	D	E
15′	8.0	4.0	2.0	0.8	0.4
20′	4.5	2.3	1.1	0.5	0.23
25′	2.9	1.4	0.7	0.3	0.14
30′	2.0	1.0	0.5	0.2	0.1
35′	1.5	0.7	0.4	0.15	0.07
40′	1.1	0.6	0.3	0.11	0.06

Dimensions





7L Floodlights

Temperature Performance Data:

Lamp Watts	Ambient Temp °C	Class 1 Non-restricted Breathing Division 2	Class 1 Restricted Breathing (S826TB) Zone 2	Supply Wire °C
High Pressure Sodium				
150 Watt	40	T2C	T6	75
	55	T2C	T5	90
	65	T2B	T4	90
250 Watt	40	T2	T4	75
	55	T2	T4	90
	65	325 °C	T4	90
400 Watt	40	T1	T4	75
	55	T1	T3	90
	65	—	—	—
Metal Halide & Pulse Start				
175 Watt	40	T2	T4	75
	55	T2	T3	90
	65	325 °C	T3	90
250 Watt	40	T2	T4	75
	55	T2	T3	90
	65	325 °C	T3	90
320/400 Watt	40	325 °C	T3	75
	55	T1	T3	90
	65	—	—	—
Mercury Vapor				
175 Watt	40	325 °C	T4	75
	55	325 °C	T3	90
	65	325 °C	T3	90
250 Watt	40	325 °C	T3	75
	55	325 °C	T3	90
	65	325 °C	T3	90
400 Watt	40	325 °C	T3	75
	55	T1	T3	90
	65	—	—	—

Net Weights (lbs.)

Luminaires	FMVS	FMVM	FMVC
70-150W	37	—	—
175-250W	40	42	37
400W	44	44	41

SFA6 (Slipfitter Adapter) – Add 4 lbs.
SWB6 (Wall Bracket) – Add 6 lbs.

1000-1500W FMV

High Wattage Series Champ® H.I.D. Luminaires

- Wet Locations
- 3, 3R

Application:

FMV1000 Series Very High Wattage Floodlights with wet locations suitability are used outdoors:

- at refineries, chemical, pharmaceutical and petrochemical plants, waste and sewage treatment plants, pulp and paper mills and other industrial facilities containing hazardous (classified) areas.
- to light process areas, storage tank and rack areas, loading docks, rail yards, building perimeters, parking areas, vehicle and pedestrian passageways and even sports applications.
- for security and safety lighting in industrial and process facilities.
- in industrial locations where the damaging effects of rain, snow, wind, moisture, dirt, corrosion, vibration and rough usage may be a problem.
- to produce superior light at low cost with great efficiency.

Standard Materials:

- Housing—Copper-free aluminum
- External hardware—stainless steel
- Yoke—Steel
- Lens—Heat and impact-resistant tempered glass
- Gasketing—neoprene

Standard Finishes:

- Aluminum—epoxy powder coat
- Steel (Yoke)—hot dipped galvanized
- Stainless Steel—natural

Ratings (Electrical/Size):

Sources/Wattages (Mogul Base Lamps)

- High Pressure Sodium (HPS) 1000W
- Metal Halide (MH) 1000W & 1500W
- Mercury Vapor (MV) 1000W

Voltages

Standard Voltage Ballasts

Hub Size

- ¾″ NPT
- Furnished prewired with cord connector And 3 ft. of 14/3 SO cord

Certifications and Compliances:

- NEC:
  Class I, Division 2, Groups A, B, C, D
- UL Standards
  844
  1598 Luminaires

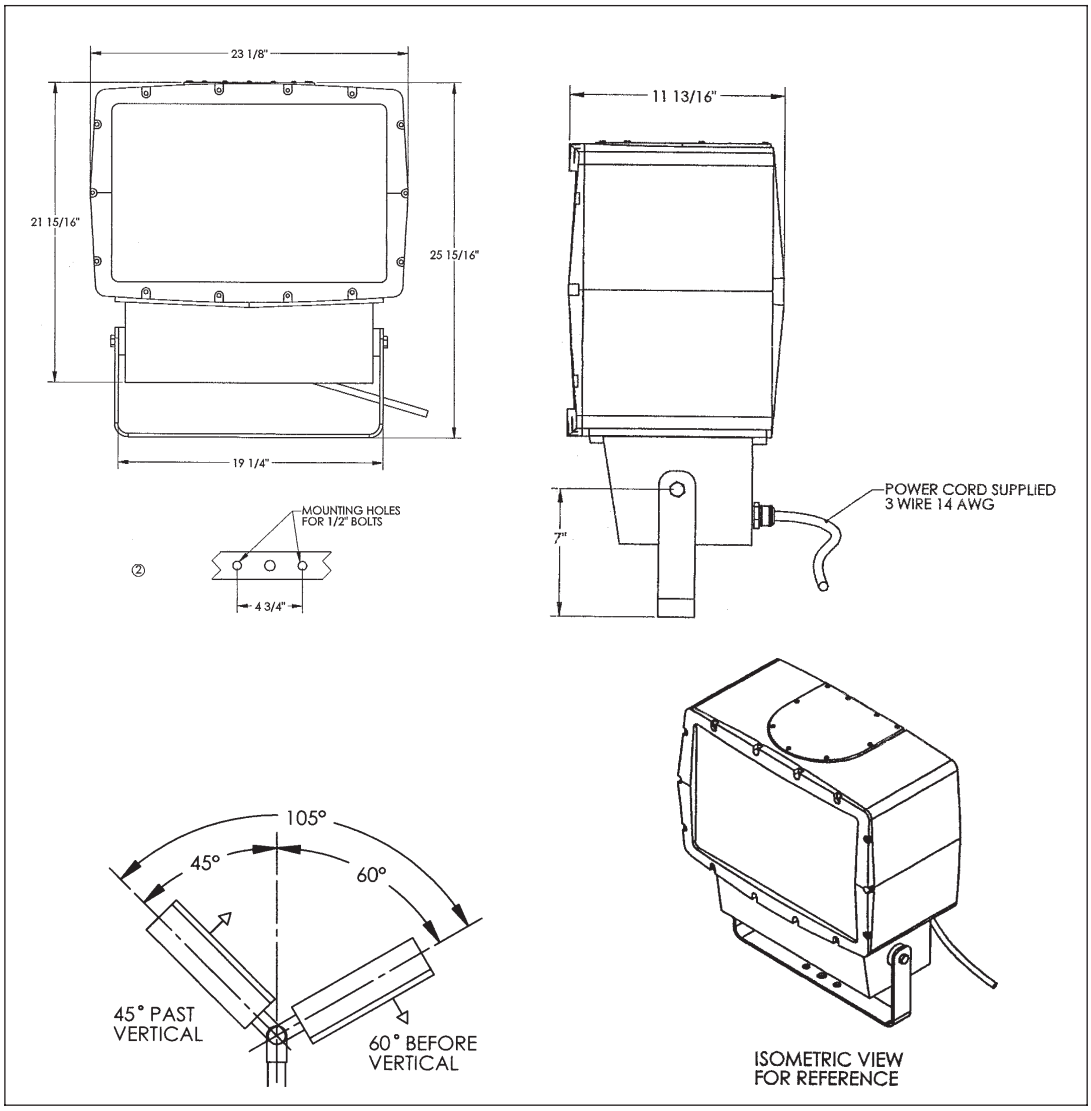
* When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.

Key Features	Benefits
• Heavy duty copper-free aluminum housing with epoxy powder coat finish.	Superior performance, life and corrosion resistance
Unique 3 piece housing design.	Provides coolest operation for increased component life
• Prewired with 3 ft. of 14/3 SO cord. • Requires only two bolts to mount	Simplifies installation
• Easily adjustable to aim light where desired	Allows mounting location flexiblity, roof top, wall mount, etc.
• Heat and impact resistant tempered glass lens	Provides exceptional stability
• Heavy duty neoprene gasketing	Insures a reliable and long life environmental seal
• Anodized precision formed aluminum reflector	Superior beam control, distribution and efficiency.
• NEMA 7x6 beam spread for light pattern	The ideal light distribution for industrial applications
• Removable top plate provides easy access to lamp compartment	Minimizes maintenance. Lens removal is not required for lamp replacement.

Options:

Description	Suffix to be Added to Cat. No.
• Fusing	**S658***
• **Slipfitter adapter** (To be mounted to yoke mount luminaire) (Note: SFA6 fits onto 2″ pipe/conduit)	**SFA6**
• **Wall bracket** (use with slipfitter adapter SFA6 for easy wall mounting & increased adjustability.)	**SWB6**

Dimensions:



Net Luminaire Weights (lbs)

Luminaire Series	Weight (lbs.)
FMVSY1000	95
FMVMY1000	88
FMVMY1500	98
FMVCY1000	92

Ordering Information:

*To complete Catalog Number, add Voltage and Options suffix(es)

Example: FMVSY1000/480-76-S658

Lamp Type	Watts	Base Catalog No.*
High Pressure Sodium	1000	FMVSY1000__-76
Metal Halide	1000	FMVMY1000__-76
	1500	FMVMY1500__-76
Pulse Start Metal Halide	1000	FMVMY1000__-76 S828
Mercury Vapor	1000	FMVCY1000__-76

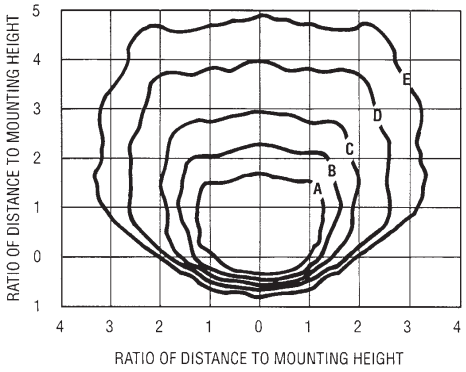
Complete the Catalog Number by Adding Voltage and Options Suffixes as Follows:

1. Standard Voltages - Add one of the following Suffixes (For other Voltages Consult Cooper Crouse-Hinds)

Voltage	120	480	MT	TT
Suffix	/120	/480	/MT	/TT

2. Options - Add the Required Options Suffixes from page 883, In Alpha-numeric Order

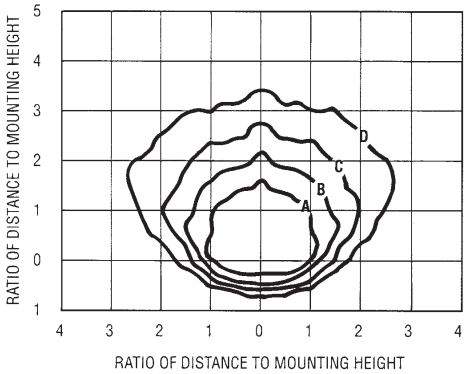
Isofootcandle Chart
FMV1000W High Pressure Sodium
Catalog Number FMVSY1000-76
Lamp: 1000 watt clear high pressure sodium
Lumen rating: 140,000



Luminaire located at 0°, 0°
Aiming Angle at 45°
(**Note:** Luminaire aiming angle limited to 45° past vertical through 60° before vertical.)

Isofootcandle Chart
FMV1000W Metal Halide
Catalog Number FMVMY1000-76
Lamp: 1000 watt clear metal halide
Lumen rating: 110,000

For 1500 watt clear metal halide, multiply footcandles by 1.4.



Luminaire located at 0°, 0°
Aiming Angle at 45°
(**Note:** Luminaire aiming angle limited to 45° past vertical through 60° before vertical.)

Footcandle Table for FMVS1000W

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	**B**	**C**	**D**	**E**
20′	12.6	6.4	3.1	1.4	.64
25′	8.1	3.9	2.0	0.8	0.4
30′	5.6	2.8	1.4	0.6	2.8
35′	4.2	2.1	1.0	.42	0.2
40′	3.1	1.6	0.8	.32	.17

Effective Projected Area (EPA)

- For windloading
- For proper pole selection

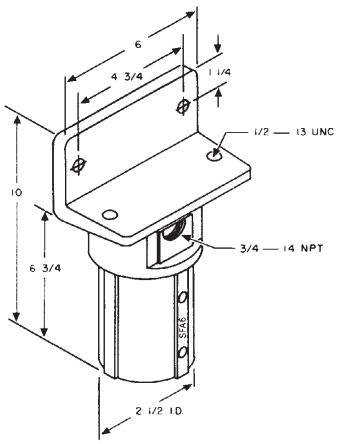
Aiming Angle	EPA
0°	3.5 ft²
45°	3.6 ft²
60°	2.9 ft²

Temperature Performance Data:

Class 1

Lamp	Watts	Non-restricted Breathing	Restricted Breathing	Ambient
		Division 2	**Zone 2**	
HPS	1000	T1	—	40 °C
Metal Halide	1000	T1	—	40 °C
Mercury Vapor	1000	T1	—	40 °C

2.5″ O.D.
SWB6 Wall Bracket



SFA6 Slipfitter

FZD Series Floodlight Luminaire

Cl. I, Div. 1 & 2, Groups C & D
Cl, I, Zone I
Marine Locations
Wet Locations, IP66

NEW!

Finally, a true floodlight luminaire for hazardous areas.

Cooper Crouse-Hinds® FZD-Series™ Luminaires are the first to deliver NEMA 7x6 floodlight distribution patterns for Class I, Division 1 and Zone 1 environments. That means you'll need fewer of them to illuminate a given area. With their labor-saving features and flexible mounting options, the FZD series is ideal for:

- heavy process industries where flammable or explosive vapors or gases are present
- hazardous areas, both indoors and outdoors, including those requiring elevated ambient capability, where long life and low maintenance costs are desired
- petroleum refineries, chemical, petrochemical and other heavy-process industrial facilities
- mounting to a wall, structure or pole (with pole mount adapter accessory)

FZD with separate ballest enclosure

KEY FEATURES AND BENEFITS

- **NEMA 7x6 floodlight distribution pattern is standard**—ideal light distribution for industrial applications; requires fewer luminaires in general lighting applications than required when using general-area luminaires with high-bay reflectors
- **Internal reflector**—available in wide and narrow-beam options; enclosed in glass tube, reducing maintenance and enhancing light output
- **Heavy-duty, cast copper-free aluminum construction with epoxy powder-coat finish and stainless steel hardware**— provides long life in industrial, abusive environments
- **Explosionproof threaded construction**—suitable for hazardous and industrial applications; easy to maintain with no bolted covers
- **O-ring gaskets on all threaded openings**— allow NEMA Type 4X and Marine Listing for the harshest outdoor environments
- **40°C, 55°C and 65°C ambient suitability**— ideal for use in high ambient temperature areas common in industrial facilities
- **Factory-sealed ballast housing**—keeps ballast isolated from wiring chamber
- **Trunnion (yoke) mount design**—standard construction provides the greatest mounting flexibility; can be vertically (wall) or horizontally (rooftop or floor) mounted
- **Simple installation**—requires only two bolts to mount
- **Mounting flexibility**—pole mount with SFA6-XP pole mount adapter (shown below) or wall or ceiling mount with FZD-KIT1 mounting accessory kit (shown above).

POLE MOUNT ADAPTER

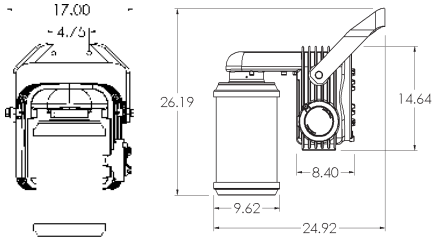
CERTIFICATIONS AND COMPLIANCES

NEC/CEC

- Class I, Division 1, Groups B (with suffix -GB*), C and D
- Class I, Zone 1, Groups IIB+H_2 (with suffix -GB*), IIB
- AEx d IIB+H_2 (with suffix -GB*), IIB
- Ex d IIB+H_2 (with suffix -GB*), IIB
- Marine Locations
- Wet Locations
- Enclosure Type 4X
- IP66
- UL Listed (UL Standards 844, 1598, 1598A, 2279)
- cUL Listed (certified by UL to CSA Standard C22.2 No. 137 and CAN/CSA-E60079-1)

*See options for Group B and IIB+H_2 ordering information

DIMENSIONS (inches)



STANDARD MATERIALS

- luminaire housing, covers, socket holder, lamptube end rings— copper-free aluminum
- external hardware—stainless steel
- glass lamp tube—heat and impact-resistant tempered glass
- O-ring gaskets—neoprene/silicone
- yoke—aluminum
- trunnion adapter—brass

STANDARD FINISHES

- aluminum—Corro-free™ epoxy powder coat
- stainless steel—natural
- brass—natural

LUMINAIRE WEIGHTS (lbs)

LUMINAIRE	FZDS (HPS)	FZDM (MH)
150-watt	72	75
175 to 250-watt	77	77
400-watt	80	80

RATINGS

SOURCES/WATTAGES (MOGUL BASE LAMPS)

- HPS—150, 250 & 400 watts
- MH—175, 250 & 400 watts

VOLTAGES

Standard Voltage Ballasts

- Multi-tap (120, 208, 240 & 277 V, 60 Hz)
- 120 V, 60 Hz
- 480 V, 60 Hz
- Tri-tap (120, 277 & 347 V, 60 Hz)

Optional Voltage Ballasts

- 220 V, 60 Hz
- 220 V, 50 Hz

HUB SIZE

- Standard: Two ¾″ NPT entries
- Optional: Two 25 mm (M25) entries (consult Cooper Crouse-Hinds)

EFFECTIVE PROJECTED AREA (EPA)

- For windloading
- For proper pole selection

AIMING ANGLE	EPA
0 degrees	1.8 ft²
45 degrees	2.3 ft²

7L FZD Series Floodlight Luminaire

Cl. I, Div. 1 & 2, Groups C & D
Cl, I, Zone I
Marine Locations
Wet Locations, IP66

NEW!

ORDERING INFORMATION

To complete the catalog number, add option suffix(es) if desired.
Example: FZDS2NY400W/MT-S658

LAMP TYPE	WATTS	CATALOG NUMBER* YOKE MOUNT WITH ¾″ NPT HUBS
WIDE-BEAM REFLECTOR—NEMA 7x6 DISTRIBUTION		
High-Pressure Sodium	150**	FZDS2NY150W/MT
	250	FZDS2NY250W/MT
	400	FZDS2NY400W/MT
Metal Halide	175	FZDM2NY175W/MT
	250	FZDM2NY250W/MT
	400	FZDM2NY400W/MT
Pulse-Start Metal Halide	175	FZDM2NY175W/MT-S828
	250	FZDM2NY250W/MT-S828
	400	FZDM2NY400W/MT-S828
NARROW-BEAM REFLECTOR—SPOTLIGHT DISTRIBUTION		
High-Pressure Sodium	150**	FZDS2NY150N/MT
	250	FZDS2NY250N/MT
	400	FZDS2NY400N/MT
Metal Halide	175	FZDM2NY175N/MT
	250	FZDM2NY250N/MT
	400	FZDM2NY400N/MT
Pulse-Start Metal Halide	175	FZDM2NY175N/MT-S828
	250	FZDM2NY250N/MT-S828
	400	FZDM2NY400N/MT-S828

*All FZD catalog numbers shown above are with multi-tap ballasts (120, 208, 240 & 277 V, 60 Hz). The ''MT'' in the catalog number may be changed to any of the voltage suffixes listed below.
**150-watt HPS luminaires are furnished with ANSI spec/S55 ballasts for 55 V lamps.

FZD WITH SEPARATE BALLAST ENCLOSURE

GLASS FIBER REINFORCED POLYESTER BALLAST ENCLOSURE WITH CABLE ENTRY

LAMP TYPE	WATTS	T-CODE	CATALOG NUMBER
WIDE BEAM RELFECTOR – NEMA 7×6 DISTRIBUTION			
HPS/MH	250	T4	NOR 000 005 192 506
Metal Halide	400	T3	NOR 000 005 194 106
High Pressure Sodium	400	T3	NOR 000 005 194 006
NARROW BEAM RELFECTOR – SPOTLIGHT DISTRIBUTION			
HPS/MH	250	T4	NOR 000 005 192 505
Metal Halide	400	T3	NOR 000 005 194 105
High Pressure Sodium	400	T3	NOR 000 005 194 005

STAINLESS STEEL BALLAST ENCLOSURE WITH CABLE ENTRY

WIDE BEAM RELFECTOR – NEMA 7×6 DISTRIBUTION			
HPS/MH	250	T4	NOR 000 005 192 502
Metal Halide	400	T3	NOR 000 005 194 102
High Pressure Sodium	400	T3	NOR 000 005 194 002
NARROW BEAM RELFECTOR – SPOTLIGHT DISTRIBUTION			
HPS/MH	250	T4	NOR 000 005 192 501
Metal Halide	400	T3	NOR 000 005 194 101
High Pressure Sodium	400	T3	NOR 000 005 194 001

VOLTAGE SUFFIXES

STANDARD VOLTAGES	SUFFIX	OPTIONAL VOLTAGES	SUFFIX
Multi-tap (120, 208, 240, 277 V, 60 Hz)	/MT	220 V, 50 Hz	/220 50
Tri-tap (120, 277, 347 V, 60 Hz)	/TT	220 V, 60 Hz	/220
120 V, 60 Hz	/120		
480 V, 60 Hz	/480		

OPTIONS

	SUFFIX TO ADD TO CAT.NO.
Ballast-Gard™ starter cut-out switch prevents starter pulsing when lamp is cycling or inoperative. Prolongs ballast and igniter life. HPS only. Not available with IR option.	-BG
Factory Assembled with HID lamp installed for additional labor savings.	-FA
Factory Certified: Class I, Division 1, Group B and Class I, Zone 1, Group IIB+H2	-GB
Instant Restrike enables a hot HPS lamp to immediately restrike after a momentary loss of arc due to voltage fluctuation or power outage. It has no effect on the warm-up period of cold lamps. Available for use with 150-watt HPS only.	-IR
Fusing protects ballast and capacitor against abnormal line conditions.	-S658*

ACCESSORIES (order separately)

	CATALOG NO.
FOR POLE MOUNTING	
Pole mount adapter ● Class I, Division 1, Groups B, C and D ● Attach to yoke; fits 2″ NPT conduit pole	SFA6-XP
Flexible explosionproof coupling	ECLK236
Elbow fitting	EL296-SA
FOR WALL OR CEILING MOUNTING	
Kit includes: EABC26-SA conduit outlet box, ECLK236 flexible explosionproof coupling, and EL296-SA elbow fitting.	FZD-KIT1

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

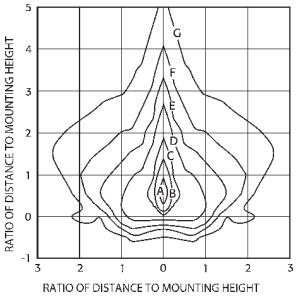
TEMPERATURE PERFORMANCE DATA

LAMP	AMBIENT TEMP °C	CLASS I, DIVISION 1, ZONE 1	SUPPLY WIRE °C
150-watt HPS	40	T3C	75
	55	T3C	75
	65	T3B	90
250-watt HPS	40	T3C	75
	55	T3C	75
	65	T3B	90
400-watt HPS	40	T3C	75
	55	T3C	75
	65	T3B	90
175-watt Metal Halide	40	T3A	75
	55	T3	75
	65	T3	90
250-watt Metal Halide	40	T3A	75
	55	T3	75
	65	T3	90
400-watt Metal Halide	40	T3A	75
	55	T3	75
	65	T3	90

PHOTOMETRICS

Note: There are no aiming angle limitations for the FZD. The only limitations are those encountered by interference of the trunnion arm. The trunnion arm may be mounted on vertical or horizontal surfaces to overcome any limitations.

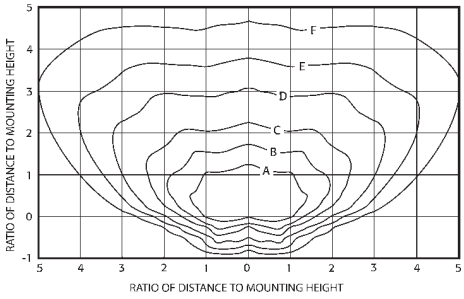
HPS Narrow Beam Reflector



ISO FOOTCANDLE CHART
FZD 400 W High Pressure Sodium (HPS)
Catalog Number FZDS2NY400N
Lamp: 400 W Clear HPS
Lumen rating: 50,000
Luminaire located at 0°,0°Aiming Angle
at 45°down from horizontal
For 150 W HPS, multiply footcandles by 0.32.
For 250 W HPS, multiply footcandles by 0.6.

MOUNTING HEIGHT	FOOTCANDLE VALUES FOR ISO FOOTCANDLE LINES						
	A	B	C	D	E	F	G
10′	200.00	100.00	50.00	20.00	10.00	5.00	2.00
12′	138.89	69.44	34.72	13.89	6.94	3.47	1.39
16′	78.13	39.06	19.53	7.81	3.91	1.95	0.78
20′	50.00	25.00	12.50	5.00	2.50	1.25	0.50
25′	32.00	16.00	8.00	3.20	1.60	0.8	0.32

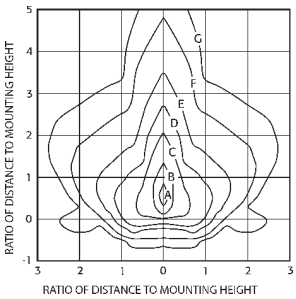
HPS Wide Beam Reflector



ISO FOOTCANDLE CHART
FZD 400 W High Pressure Sodium (HPS)
Catalog Number FZDS2NY400W
Lamp: 400 W Clear HPS
Lumen rating: 50,000
Luminaire located at 0°,0°Aiming Angle
at 45°down from horizontal
For 150 W HPS, multiply footcandles by 0.32.
For 250 W HPS, multiply footcandles by 0.6.

MOUNTING HEIGHT	FOOTCANDLE VALUES FOR ISO FOOTCANDLE LINES					
	A	B	C	D	E	F
10′	20.00	10.00	5.00	2.00	1.00	0.50
12′	13.89	6.94	3.47	1.39	0.69	0.35
16′	7.81	3.91	1.95	0.78	0.39	0.20
20′	5.00	2.50	1.25	0.50	0.25	0.13
25′	3.20	1.60	0.80	0.32	0.16	0.08

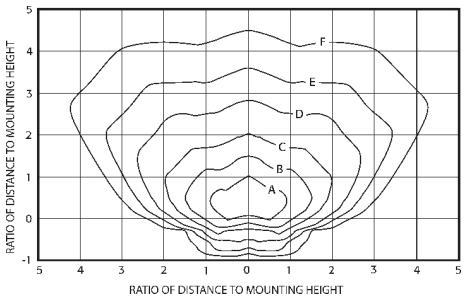
MH Narrow Beam Reflector



ISO FOOTCANDLE CHART
FZD 400 W Metal Halide (MH)
Catalog Number FZDM2NY400N
Lamp: 400 W Clear MH
Lumen rating: 34,000
Luminaire located at 0°,0°Aiming Angle
at 45°down from horizontal
For 175 W MH, multiply footcandles by 0.38.
For 250 W MH, multiply footcandles by 0.6.

MOUNTING HEIGHT	FOOTCANDLE VALUES FOR ISO FOOTCANDLE LINES						
	A	B	C	D	E	F	G
10′	100.00	50.00	20.00	10.00	5.00	2.00	1.00
12′	64.99	34.72	13.89	6.94	3.47	1.39	0.69
16′	39.06	19.53	7.81	3.91	1.95	0.78	0.39
20′	25.00	12.50	5.00	2.50	1.25	0.50	0.25
25′	16.00	8.00	3.20	1.60	0.80	0.32	0.16

MH Wide Beam Reflector



ISO FOOTCANDLE CHART
FZD 400 W Metal Halide (MH)
Catalog Number FZDM2NY400W
Lamp: 400 W Clear MH
Lumen rating: 34,000
Luminaire located at 0°,0°Aiming Angle
at 45°down from horizontal
For 175 W MH, multiply footcandles by 0.38.
For 250 W MH, multiply footcandles by 0.6.

MOUNTING HEIGHT	FOOTCANDLE VALUES FOR ISO FOOTCANDLE LINES					
A	B	C	D	E	F	
10′	20.00	10.00	5.00	2.00	1.00	0.50
12′	13.89	6.49	3.47	1.39	0.69	0.35
16′	7.81	3.91	1.95	0.78	0.39	0.20
20′	5.00	2.50	1.25	0.50	0.25	0.13
25′	3.20	1.60	0.80	0.32	0.16	0.08

7L Hazard•Gard® H.I.D. Floodlights

Factory Sealed

Cl. I, Div. 1 & 2, Groups C & D
Cl. I, Div. 1 & 2, Groups B, C, D (Add suffix GB)
Cl. I, Zone 1
Marine Locations, IP66
Wet Locations

Application:

Hazard•Gard luminaires with Trunnion Arm (S812 suffix) and EV912 high bay reflector are used in:
- heavy process industries where flammable or explosive vapors or gases are present
- hazardous areas, both indoors and outdoors where long life and low maintenance costs are desired
- petroleum refineries, chemical, petrochemical and other heavy process industry facilities
- hazardous locations requiring elevated ambient capability
- for mounting to a wall or structure
- mounted on a pole, when used with the SFA6 slipfitter adapter

Features:

- Luminaire is factory wired; power is fed through ''wireless'' connection block which serves as a mechanical seal between conduit and ballast compartments, eliminating the need for an external, field installed seal. The result is fast, easy installation.
- High bay reflectors of Alzak® aluminum
- Internally fluted glass globes reduce glare and provide comfortable viewing light.
- Wide range of light sources and wattages to meet specific lighting needs – 50, 70, 100, 150, 200, 250 and 400W high pressure sodium (HPS); 100, 175, 250 and 400W mercury vapor (MV); 70, 100, 175, 250 and 400W metal halide (MH).
- High power factor (90% +) ballasts reduce power costs – allow more luminaires per circuit.
- Elevated ambient capability permits reliable operation at high ambient temperature. Selected luminaires are suitable for ambient temperatures up to 65°C.
- Integral ballasts – separate ballasts are not required. Lowest installed cost.
- Factory sealed, porcelain, mogul base socket.
- the trunion arm gives you the ability to offer a Hazard•Gard floodlight with varying degrees of adjustability between –90° and +90°.
- when mounting on a wall, there are numerous mounting arrangements – due to the pre-drilled openings in the wall bracket.

Standard Materials:

- Mounting module, cover, ballast housing, guard, globe ring – copper-free aluminum
- Globe – heat and impact resistant glass
- Exterior hardware – stainless steel
- Lamp socket – porcelain with stainless steel screw shell
- Reflector – high bay: Alzak aluminum

Standard Finishes:

- Copper-free aluminum – epoxy powder coat
- Alzak – natural (anodized)

Options:

Description	Suffix to be Added to Cat. No.
• Fused	S658
• Ballast•Gard	BG
• 50-400 HPS only	
• Instant Restrike	IR
• Cannot be used with BG or QTZ options	
• 50-150W LX HPS only	
• Quartz Auxiliary Lighting	QTZ
• Not available with 400W MH or MV	
• Uses 100 watt single ended lamp	
• Lamp not included	
• Group B Suitability	GB

Size Ranges:

¾″

Electrical Rating Ranges:

- 120, 208, 240, 277, 347, 480, 600, multi-tap★.
- 50 to 400 watts

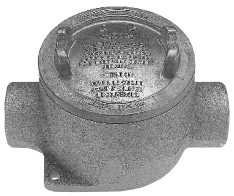
Certifications and Compliances:

- NEC/CEC
  Class I, Division 1 and 2, Groups B (with GB suffix), C, D
- UL Standard: 844, 595
- CSA Standard: C22.2 No. 137

Ordering Information

- Catalog number includes Guard, Trunnion Arm and High Bay Reflector

Luminaire Cat. No. NOTE: Replace ''volts'' with Suffix from Voltage Suffix Table below	Watts	Hub Size
HIGH PRESSURE SODIUM		
EVMA42051/volts S812 EV3912	50	¾
EVMA42071/volts S812 EV3912	70	¾
EVMA42101/volts S812 EV3912	100	¾
EVMA42151/volts S812 EV3912	150	¾
EVMA42201/volts S812 EV3912		¾
EVMA42251/volts S812 EV3912		¾
EVMA42401/volts S812 EV3912		¾
MERCURY VAPOR		
EVMA82101/volts S812 EV3912	100	¾
EVMA82171/volts S812 EV3912	175	¾
EVMA82251/volts S812 EV3912	250	¾
EVMA82401/volts S812 EV3912	400	¾
METAL HALIDE		
EVMA92071/volts S812 EV3912	70	¾
EVMA92101/volts S812 EV3912	100	¾
EVMA92171/volts S812 EV3912	175	¾
EVMA92251/volts S812 EV3912	250	¾
EVMA92401/volts S812 EV3912	400	¾



EABC

Hub Size	Cat. #
¾	EABC26

UNL

90° Angle

Size	Cat. #
¾ to ¾	UNL205

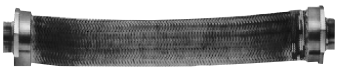
Temperature Performance Data
Hazard•Gard Luminaire with Trunnion Arm (S812 suffix)

Watts	Maximum Ambient Class I 40°C	55°C	65°C
High Pressure Sodium			
50	T4	T4	T3C
70	T4	T4	T3C
100	T4	T4	T3C
150	T4	T4	T3C
200	T3A	—	—
250	T3A	—	—
400	T3A	—	—
Mercury Vapor			
100	T3	T3	—
175	T3	T3	—
250	T3	T3	—
400	T2D	—	—
Metal Halide			
70	T3	T3	—
100	T3	T3	—
175	T3	T3	—
250	T3	T3	—
400	T2D	—	—

NOTE: See Section 4L for additional luminaire information.

Alzak is a registered trademark of ALCOA

★ CSA Certified luminaires are not available with multi-tap ballast or S658 fuse option.



ECGJH

Flexible

Length	Size	Cat. #
30	¾	ECGJH230

Application:
RCDE incandescent lighting luminaires are permanently installed to provide general illumination in locations having hazardous atmospheres, such as:
- oil refineries
- oil and gasoline loading docks
- aircraft servicing docks and shelters
- distilleries
- paint manufacturing plants
- pumping stations
- other Class I, Groups C and D locations

Features:
RCDE incandescent lighting luminaires have fixed mountings as follows:
- RCDE-6 – junction box base with four mounting feet or 2″ threaded hub (fill sealing chamber with *Chico*® A after conductors are in place)
- RCDE-6 adjustment allows rotation of 360° horizontally and 75° vertically.
- Locking screws hold housing firmly in position
- RCDE-10 – junction box base with four mounting feet
- door which threads into housing includes heat and impact-resistant lens. Door has notches or holes provided for ease of removing or tightening
- factory wired leads through explosion-proof seal to junction box
- adjustment that allows rotation of 360° horizontally and 135° vertically. Locking bolts or clamps hold housing firmly in position

Standard Materials:
Body – copper-free aluminum; Lens – glass, heat and impact resistant

Standard Finishes:
- Natural

Size Ranges:
- RCDE – Fixed mounting – ¾″ hubs

Capacity Ranges:
- RCDE-6 – 150 watt, PAR38 or R40; 300 watt, R40 (medium base)
- RCDE-10 – 500 watt, PAR64 (Ext. Mog End Prong)

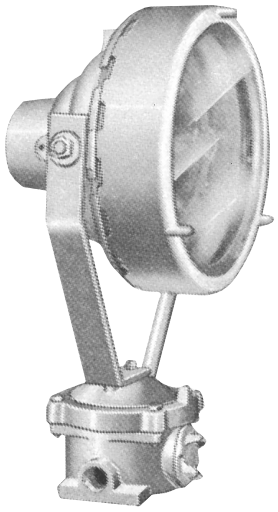
Certifications and Compliances:
- NEC/CEC:
  RCDE – Class I, Division 1 and 2, Groups C,D Class I, Zone 1 (see photometric data listing)
- UL Standard: 844
- CSA Standard: C22.2 No. 137 (RCDE6 only)

Note: CEC/CSA Certified RCDE6- Cooper Crouse-Hinds Canada luminaires only.

Ordering Information:
After identifying the hazardous area, select the model of lighting luminaire required for that area. Then from the photometric data, select appropriate Cat. No. based on type of mounting desired. Example: RCDE-10 No. 47282

RCDE-6

Description	Cat. #
Junction box base (2″ threaded hub)	44978A
Junction box base (4 mtg. feet)	44719B



RCDE-10

Description	Cat. #
Junction box base (4 mtg. feet)	47282A

Temperature Performance Data
(based on 40°C Ambient)

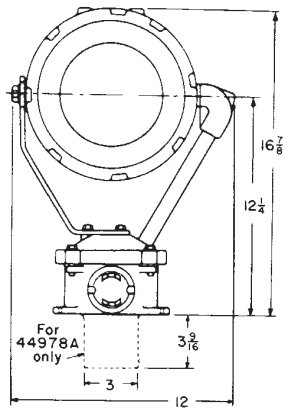
	150W	300W	500W
RCDE-6	T3B	T2B	
RCDE-10			T3C

RCDE Series
Incandescent Floodlights

Dimensions & Weights
Photometric Data
Cl. I, Div. 1 and 2, Group D
Explosionproof

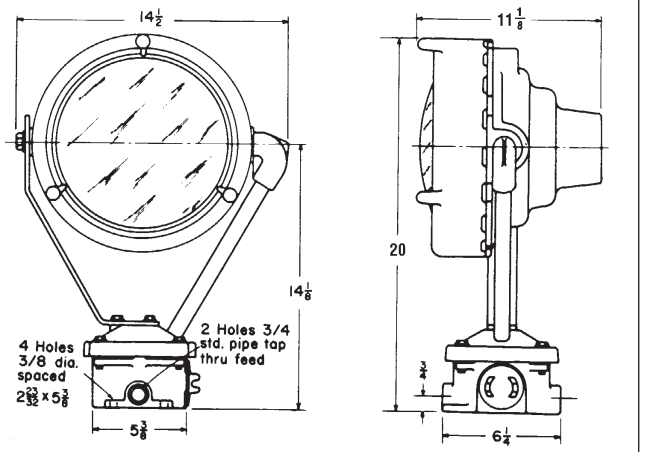
Dimensions (inches)

RCDE-6



Dimensions

RCDE-10



Fixture Weights

RCDE-6

Cat. #	Lbs. (Net)
44719B	21.0
44978A	21.0

RCDE-10

Cat. #	Lbs. (Net)
47282A	26.0

RCDE Photometric Data

Lamp Watts and Type	Location	Beam Spread Hor.	Beam Spread Vert.	Beam Lumens	Av. Max. Candle Power	Model
150 Watt PAR38 Flood	Class I Groups C,D	60°	60°	1690	4000	RCDE-6
150 Watt PAR38 Spot		28°	28°	1200	11500	
300 Watt* R40 Flood	Class I Group D	123°	123°	3200	1950	
300 Watt R40 Spot		60°	60°	3100	8900	
500 Watt, PAR64 (500 PAR64/NSP)	Class I, Group D	19°	14°	3000	110000	RCDE-10
500 Watt, PAR64 (500 PAR64/MFL)		35°	19°	3300	37000	
500 Watt, PAR64 (500 PAR64/WFL)		55°	32°	3400	13000	

* CSA certified fixtures are for 150 watt lamp maximum.

8L Luminaire Hangers and Accessories – For Pendant Mount

Application & Selection

Application:

Luminaire hangers listed in this section are used for pendant suspension of incandescent, high intensity discharge and fluorescent industrial luminaires. They are especially suitable for use in locations where moisture, dust, and corrosion are a problem.

Hangers for Non-Hazardous Locations:

- Hangers listed provide a wide variety of mounting means. Luminaires may be suspended from cast outlet boxes, stamped steel outlet boxes, or directly from the conduit system. Also offered are several styles of hook type hangers, used to suspend luminaires by means of conduit stems or support rods from span wires, horizontal conduit and luminaire loops.
- All hangers are flexible, permitting luminaire and supporting stem to swing freely. This feature permits luminaires to hang plumb and prevents damage to the luminaire, stem and outlet box in case of high wind or accidental impact.
- Hangers are constructed so that luminaires cannot be rotated, thereby eliminating wire twisting and possible damage to connections.
- Cushion hangers, listed for most styles, include a spring which carries the weight of the luminaire. This feature prolongs lamp life and protects the luminaire assembly from shock or vibration.
- All hangers are easily installed. With many, the luminaire, stem and support member can be assembled and wired at the work bench before making the final installation. With several, a quick disconnect plug and receptacle feature is either provided or can be easily arranged, to facilitate luminaire installation and removal for maintenance.

Hangers for Hazardous Locations:

- As required by NEC Article 501 and CEC Part I Section 18, rigid conduit luminaire stems longer than 12″ must be permanently and effectively braced or flexibility provided in the form of a fitting or flexible support.
- A variety of hangers is offered for both rigid conduit suspension and flexible suspension. Flexible luminaire hangers listed comply with NEC Article 501 and CEC Part I Section 18 and also permit luminaires to hang plumb.

Considerations for Selection:

Location:

- Will it be a hazardous or non-hazardous location?
- Will it require more stringent corrosion protection material?

Lighting luminaire to be used:

- Some hangers can be used with a multitude of luminaires; others are specialized.
- Weight of luminaire is a consideration in selecting cushion hangers.

Typical Luminaire Weights:

Luminaire Type	Weight (lbs.)
Incandescent:	
VAPORGARD™ Series	
VDA12	1½
VDA12G	4
VDA12GP	4¼
VDA15	1¼
VDA15G	3
VDA15GP	3¼
VDA23	1½
VDA23G	4
V Series	
V275	2¾
V2759	4¼
EV Series	
EVA240	7½
EVA210	7¾
EVA215	8
EVA220	10½
EVA230	19
EVA292	18
Corro•Gard® Series	
NDA32	5½
NDA32G	7½
NDA33	5½
NDA33G	8¼

Luminaire Type	Weight (lbs.)
H.I.D.:	
Champ® Series	
AMV	20¼
DMVC2A100GP	28¾
DMVC2A175GP	30
DMVC2A250GP	31¾
DMVM2A175GP	33
DMVM2A250GP	33¾
DMVS2A070GP	30¾
DMVS2A100GP	31¾
DMVS2A150GP	34
LMVS2A035GP	10¾
LMVS2A050GP	11¾
LMVS2A070GP	11¾
LMVS2A100GP	12¼
VMVC2A100GP	15
VMVC2A175GP	17¼
VMVC2A250GP	31
VMVC2A250GR305	34
VMVC2A250GRD4	31½
VMVC2A400GR305	37
VMVC2A400GRD4	34½
VMVM2A175GP	17¼
VMVM2A250GP	34
VMVM2A250GR305	37
VMVM2A250GRD4	34½
VMVM2A400GR305	38
VMVM2A400GRD4	35½
VMVS2A050GP	15¼
VMVS2A070GP	16¼
VMVS2A100GP	16¼
VMVS2A150GP	16½
VMVS2A200GP	31
VMVS2A200GR305	34
VMVS2A200GRD4	31½
VMVS2A250GP	31
VMVS2A250GR305	34
VMVS2A250GRD4	31½
VMVS2A400GP	40
VMVS2A400GR305	43
VMVS2A400GRD4	40½

Luminaire Type	Weight (lbs.)
Hazard-Gard® Series	
EVMA50W HPS	41
EVMA70W HPS	41
EVMA100W HPS	45
EVMA100W MV	39
EVMA150W HPS (55V)	46
EVMA150W HPS (100V)	45
EVMA175W MV	42
EVMA175W MH	43
EVMA200W HPS	47
EVMA250W HPS	47
EVMA250W MV	44
EVMA250W MH	44
EVMA400W HPS	56
EVMA400W MV	50
EVMA400W MH	52
Fluorescent:	
DMVF2A026GP	19¼
DMVF2A039GP	22¼
DMVFB2A026GP	19½
DMVFB2A039GP	22½
EVF22062	57
EVF24062	94
EVF22082	52
FVN4240	52
FVN4340	54
FVN4260	58
NFW4240	21
VFA222G	4
EVFT (2 Lamp)	19½
EVFT (4 Lamp)	36½
FVS	12
Reflector/Refractor Type	
EV3912	1
RA64, 636	1¼
RA70, 71, 739, 725	1
RD64, 636	1¼
RD70, 71, 739, 725	1
PR2, 3, 5	3
R2	13½
R5	13
GRD4	13¾
G241	2¼
G245	2¼
GR305, GR205	14

Luminaire Hangers and Accessories – For Pendant Mount

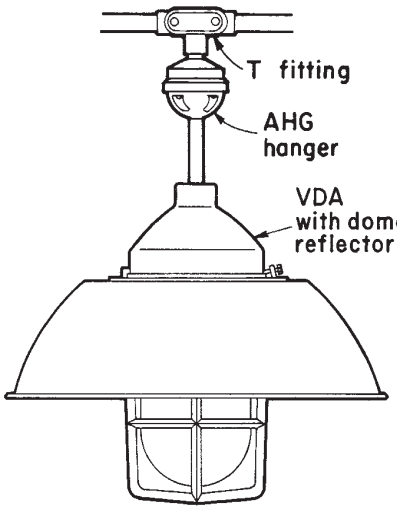
Quick Selector Chart

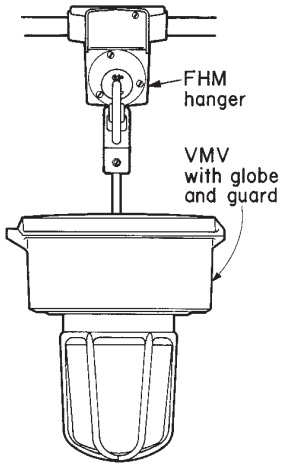
Quick Selector Chart

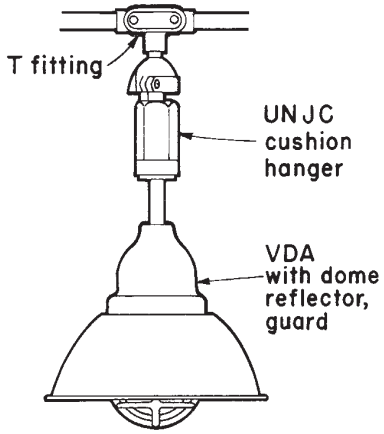
Hanger Type	Function	NEC/CEC Hazardous Area Compliances	Use with Luminaire Type	Use with Mtg. Box	Luminaire Weight Capacity (Cushion)	Luminaire Weight Capacity (Ball or Plain Type)	Standard Material
AL	Outlet box and hanger	Class I, Div. 2	Any non-hazardous or Class I, Div. 2	None needed	3-48 lbs.	125 lbs.	Body – Feraloy® iron alloy Nipple – malleable iron Cover – sheet steel
FHM	Quick disconnect between luminaire and outlet box	Not applicable	Any non-hazardous	None needed		125 lbs.	Body – copper-free aluminum Cover – steel Loop and assembly – copper-free aluminum or steel
AHG	Gasketed hanger (vaportight)	Class I, Div. 2; Class II, Div. 2; Class III Wet locations NEMA 3, 3R	Any non-hazardous or Div. 2 luminaires	Any	4-30 lbs.	—	Housing – malleable iron and Feraloy iron alloy Stem support – Feraloy iron alloy
UNJ/UNJC	Ball and cushion hanger	Class I, Div. 2	Any non-hazardous or Class I, Div. 2	Any	6-48 lbs.	125 lbs.	Body – malleable iron Clamp – copper-free aluminum
ARB	Ball or cushion hanger	Class I, Div. 2	Any non-hazardous or Class I, Div. 2	GRF	4-30 lbs.	125 lbs.	Body – Feraloy iron alloy
UNE, UNH, UNHC	Quick disconnect hanger hook	Class I, Div. 2	Any non-hazardous or Class I, Div. 2	Not applicable	12-64 lbs.	125 lbs.	Malleable iron, copper-free aluminum
EC	Explosion-proof flexible hanger	Cl. I, Groups A, B, C, D; Cl. II, Groups E, F, G; Cl. III	Any hazardous	Any	—	—	Body – bronze hose Fittings – steel
GUA, GUJ, GUF	Explosion-proof boxes and hanger covers	Cl. I, Groups C, D; Cl. II, Groups E, F, G; Cl. III	Any hazardous	None needed	—	125 lbs.	Boxes – Feraloy iron alloy Cover – copper-free aluminum
EAHC, EFHC	Explosion-proof hanger	Cl. I, Groups A, B, C, D; Cl. II, Groups E, F, G; Cl. III	Any hazardous	None needed	—	125 lbs.	Body – Feraloy iron alloy Cover – copper-free aluminum
UNR	Explosion-proof adjustable hanger	Cl. I, Groups C, D; Cl. II, Groups E, F, G; Cl. III	Any hazardous or non-hazardous	Any	—	125 lbs.	Feraloy iron alloy
EFH	Explosion-proof boxes and hangers	Cl. I, Groups C, D; Cl. II, Groups E, F, G; Cl. III	Any hazardous	None needed	65 lbs.	—	Feraloy iron alloy

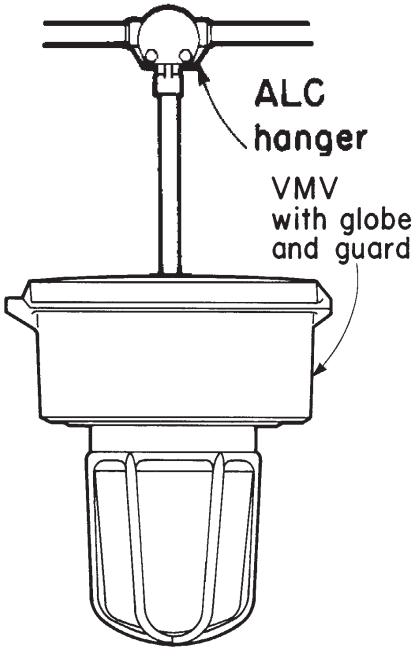
Luminaire Hangers and Accessories – For Pendant Mount

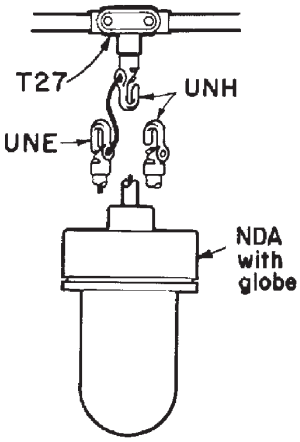
Typical Installations





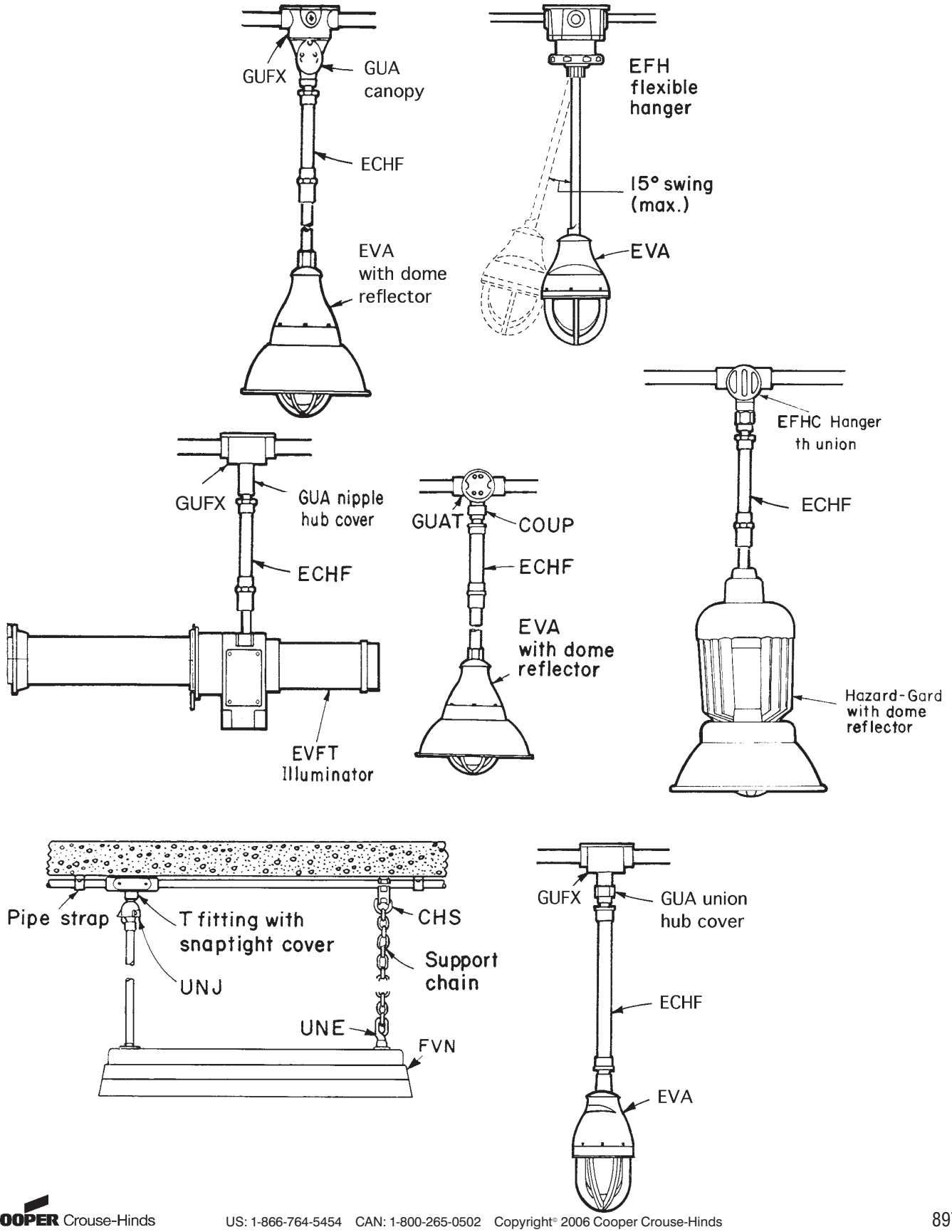






Luminaire Hangers and Accessories – For Pendant Mount

Typical Installations



AL Flexible Luminaire Hangers

Class I, Div. 2, Groups A, B, C, D

For Pendant Mount

Features:

Functions as both conduit outlet box and luminaire hanger. Hubs are provided for threading the conduit directly into the hanger body. For use with incandescent, H.I.D. and fluorescent luminaires.

- Supporting nipple, ball or cushion type, is a universal joint permitting luminaire to swing through an angle of 20 degrees in any direction from the perpendicular.
- Cover has one screw hole and one open slot – easily swung aside for wiring without removal and possible loss of cover.
- Luminaire, conduit stem and nipple can be assembled and wired at the work bench. The assembly is then placed in the hanger body and luminaire wires spliced to the circuit wires.
- Provided with a separate grounding wire for ground connections.

Standard Materials:

- Body – *Feraloy*® iron alloy
- Nipple – malleable iron
- Cover – sheet steel

Standard Finishes:

- Feraloy and malleable iron – zinc electroplate and aluminum acrylic paint
- Sheet steel – electrogalvanized with chromate finish

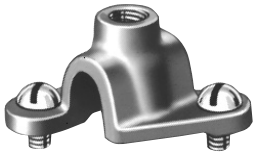
Size Ranges:

- Conduit hubs – ¾″ to 1″
- Luminaire stem – ½″ and ¾″
- Luminaire weight – cushion type, 3 to 48 lbs.; ball type, 125 lbs.

Options:

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

Description	Suffix to be Added to Cat. #
Suspension attachment for span wire or threaded rod. See listings	S1



Suspension Attachment

For horizontal cable or vertical support rod

AL hangers can be furnished with a loop fastened to the top of the body to provide a means for suspending luminaires from vertical support rods or horizontal span wires. The loop will take a wire or cable with a maximum diameter of ⅜″. The boss on top of the loop is tapped ⅜″-16 to accept a threaded rod.

Ball

Cushion

ALC

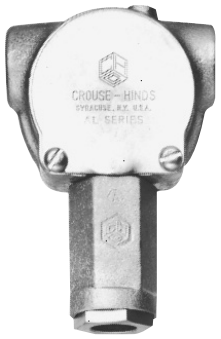
Ball

Luminaire Stem Size	Conduit Size	Cat. #
½	¾	ALC21
¾	¾	ALC22
¾	1	ALC32

Cushion

Luminaire Stem Size	Conduit Size	Luminaire Weight Lbs.	Cat. #
½	¾	3 to 6	ALC214
¾	¾		ALC224
¾	1		ALC324
½	¾	6 to 12	ALC218
¾	¾		ALC228
¾	1		ALC328
½	¾	12 to 24	ALC2116
¾	¾		ALC2216
¾	1		ALC3216
½	¾	24 to 48	ALC2132
¾	¾		ALC2232
¾	1		ALC3232

Ball



Cushion

ALT

Ball

Luminaire Stem Size	Conduit Size	Cat. #
½	¾	ALT21
¾	¾	ALT22
¾	1	ALT32

Cushion

Luminaire Stem Size	Conduit Size	Luminaire Weight Lbs.	Cat. #
½	¾	3 to 6	ALT214
¾	¾		ALT224
¾	1		ALT324
½	¾	6 to 12	ALT218
¾	¾		ALT228
¾	1		ALT328
½	¾	12 to 24	ALT2116
¾	¾		ALT2216
¾	1		ALT3216
½	¾	24 to 48	ALT2132
¾	¾		ALT2232
¾	1		ALT3232

AHG, UNJ and UNJC Flexible Luminaire Hangers

For Pendant Mount

AHG – Class I, Div. 2, Groups A, B, C, D
Class II, Div. 2, F, G
Class III
Wet Locations NEMA 3, 3R
UNJ, UNJC – Class I, Div. 2, Groups A, B, C, D

Features:

- For connection to conduit hub or hub cover of supporting conduit fitting
- For incandescent, H.I.D., and fluorescent luminaires
- Cushion support for conduit stem is a universal joint permitting luminaire to swing through an angle of 8 degrees in any direction from the perpendicular
- Gasketed by means of a durable neoprene diaphragm which excludes moisture and dirt from both luminaire and conduit system

Standard Materials:

- Housing: top cap – malleable iron; bottom cap – *Feraloy*® iron alloy
- Luminaire stem support – *Feraloy* iron alloy

Standard Finishes:

- *Feraloy* iron alloy and malleable iron – electrogalvanized and aluminum acrylic paint

Size Ranges:

- Male nipple – ¾″
- Luminaire stem – ¾″
- Luminaire weight – 4 to 30 lbs.

AHG

Cushion Vaportight for Class I, Div. 2; Class II, Div. 2; Class III

Luminaire Stem Size*	Male Nipple Size*	Luminaire Weight Lbs.	Cat. #
¾	¾	4 to 8	AHG22103
¾	¾	8 to 16	AHG22104
¾	¾	16 to 30	AHG22111

Certifications and Compliances:

Class I, Div. 2
Class II, Div. 2
Class III
Wet Locations
NEMA 3,3R

Features:

- For connection to conduit hub or hub cover of supporting conduit fitting
- For incandescent, H.I.D., and fluorescent luminaires
- Supporting nipple, ball or cushion type, is a universal joint permitting luminaires to swing through an angle of 20 degrees in any direction from the perpendicular

Standard Materials:

- Body and nipple – malleable iron
- Clamp – copper-free aluminum

Standard Finishes:

- Malleable iron – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural finish

Size Ranges:

- Male nipple – ½″ and ¾″
- Luminaire stem – ½″ and ¾″
- Luminaire weight: cushion type – 6 to 48 lbs.; ball type – 125 lbs.

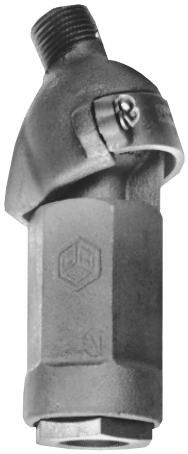
Certifications and Compliances:

- NEC: Class I, Div. 2.

UNJ

Ball

Luminaire Stem Size	Male Nipple Size	Cat. #
½	½	UNJ1
¾	¾	UNJ2



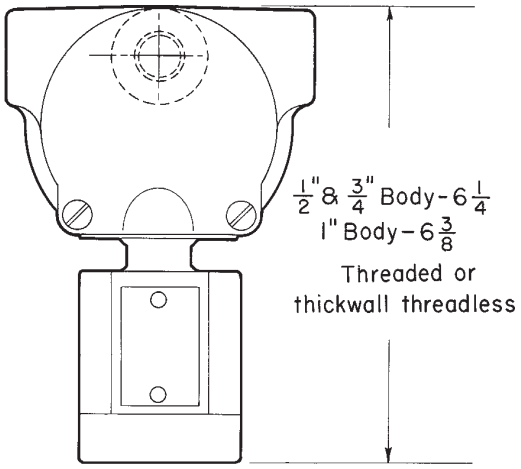
UNJC

Cushion

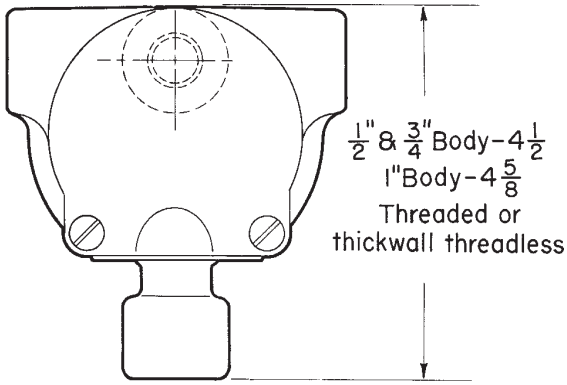
Luminaire Stem Size*	Male Nipple Size*	Luminaire Weight Lbs.	Cat. #
¾	¾	6 to 12	UNJC28
¾	¾	12 to 24	UNJC216
½	½	24 to 48	UNJC132
¾	¾		UNJC232

* ½″ connection can be made by using reducers.

AL Series

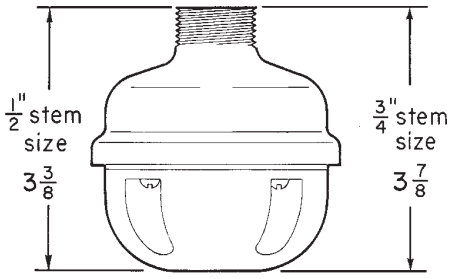


Cushion

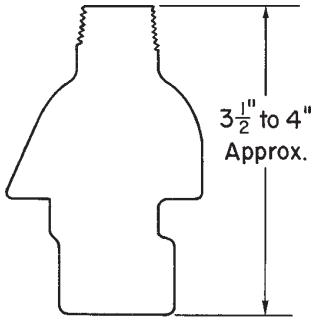


Ball

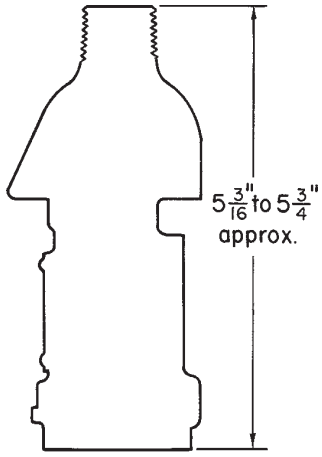
AHG



UNJ



UNJC



ARB and GS Flexible Luminaire Hangers

For Pendant Mount

Features:

- Available in two styles – one for direct attachment to GRF cast outlet boxes by 4 screws, the other for direct attachment to 4″ octagonal stamped steel outlet boxes by 2 screws. For incandescent, H.I.D. and fluorescent luminaires
- Both styles available with ball or cushion support for conduit stem to permit luminaire swing in any direction. Ball type provides 11 degree swing, cushion type 8 degree swing from the perpendicular
- Gasketed cushion hangers for GRF are provided with a durable neoprene diaphragm which excludes moisture and dirt from both luminaire and conduit system

Standard Materials:

- Mounting plate: for GRF – *Feraloy*® iron alloy; for 4″ outlet boxes – sheet steel
- Hanger body and luminaire stem support – *Feraloy* iron alloy

Standard Finishes:

- *Feraloy* – electrogalvanized and aluminum acrylic paint
- Sheet steel – electrogalvanized with chromate finish

Size Ranges:

- Luminaire stem – ½″ and ¾″
- Luminaire weight: cushion type – 4 to 30 lbs.; ball type – 125 lbs. (ARB6 and ARB2 maximum weight 60 lbs.)

For GRF and VXF outlet boxes only

Ball

Cushion

For GRF and VXF outlet boxes and 4″ octagonal outlet boxes

Ball

Cushion

ARB Fits GRF and VXF Outlet Boxes

Ball

Description	Luminaire Stem Size	Luminaire Weight (Max.)	Cat. #
Surface	½	125	ARB62
Flush	½	125	ARB67
Surface	125	¾	ARB662

Cushion Surface

Luminaire Stem Size	Luminaire Weight Lbs.	Cat. #
½	4 to 8	ARB82
½	8 to 16	ARB102
½	16 to 30	ARB122

Cushion Surface – Vaportight with Neoprene Diaphragm

Luminaire Stem Size	Luminaire Weight Lbs.	Cat. #
½	4 to 8	ARB821
½	8 to 16	ARB1021
½	16 to 30	ARB1221

ARB Fits GRF, VXF and 4″ Outlet Boxes

Ball

Luminaire Stem Size	Luminaire Weight (Max.)	Cat. #
½	60	ARB6
¾	60	ARB2

Cushion

Luminaire Stem Size	Luminaire Weight Lbs.	Cat. #
½	4 to 8	ARB8
½	8 to 16	ARB10
½	16 to 30	ARB12

UNE, UNH and UNHC Flexible Luminaire Hangers

For Pendant Mount

The following applies to all items on this page:

Application:

- Provides a simple, inexpensive, quick disconnect method for hanging pendant luminaires. For incandescent, H.I.D. and fluorescent luminaires
- Permits free swing in any direction to prevent damage to luminaire stem. Cushion style provides additional protection from vibration to prolong lamp life

Features:

- Female hooks and loops are used with rigid conduit luminaire stems to suspend luminaires. They may also be used with male hooks and loops, threaded into a conduit outlet hub.
- All hooks and loops are provided with openings for passage of luminaire wires. Luminaire, conduit stem and hook or loop can be assembled and wired at the work bench. The assembly is then hung on the fixed hook and connection made.
- For ease of relamping and maintenance, the outlet fitting can be equipped with an attachment plug receptacle cover and a matching plug cap used with the luminaire assembly. For permanent wiring a wire hole cover may be used.

Applicable to UNE and UNH (upper listings) only:

Features:

- Shape of hooks is such that accidental disengagement is impossible
- Diameter of wire opening ½″

Standard Materials:

- Malleable iron

Standard Finishes:

- Cadmium electrogalvanized and aluminum acrylic paint

Size Ranges:

- Luminaire stem or hub – ½″ and ¾″
- Luminaire weight – 125 lbs.

Applicable to UNH and UNHC (lower listings) only:

Features:

- Hooks are shaped to permit easy installation of large heavy luminaires, such as H.I.D. and fluorescent units
- Diameter of wire opening ⅝″

Standard Materials:

- Copper-free aluminum

Standard Finishes:

- Natural

Size Ranges:

- Luminaire stem – ½″ and ¾″
- Luminaire weight: cushion type – 12 to 64 lbs.; plain type – 125 lbs.

Male

Female

UNH

Male

Female

UNE

UNE and UNH Flexible Luminaire Hangers

For Pendant Mount

Type	Style	Luminaire Stem Size	Luminaire Weight Lbs.	Cat. #
UNH	Male	½	125	UNH16
		¾	125	UNH26
	Female	½	125	UNH1
		¾	125	UNH2
UNE	Male	½	125	UNE16
		¾	125	UNE26
	Female	½	125	UNE1
		¾	125	UNE2

Female

Female Cushion

UNH and UNHC Flexible Luminaire Hangers

Type	Style	Luminaire Stem Size	Luminaire Weight Lbs.	Cat. #
UNH	Female	½	125	UNH182
UNHC	Female Cushion	¾	12 to 24	UNHC216
		¾	24 to 48	UNHC232
		¾	48 to 64	UNHC264

UNHC Flexible Luminaire Hangers

For Support Only
CHS Conduit Clamp; UNH Conduit Hook;
For Pendant Mount Fluorescent Luminaires

Application:

- Used for support of pendant fluorescent luminaires
- UNHC provides cushion support for luminaires suspended by ¼″ or 5⁄16″ threaded rod, and is used with the ring of CHS conduit clamps
- UNH hook provides an extremely simple means of conduit suspension for the unwired end of a fluorescent luminaire, as it merely hooks over the horizontal supporting conduit

Features:

- The bushing in UNHC cushion hangers is tapped for both ¼″ and 5⁄16″ suspension rod, with the lower half tapped 5⁄16″. Either size rod can be used without reversing the bushing
- CHS conduit clamp firmly grips the conduit and the ring at bottom accepts either a hooked rod or the UNHC cushion hanger for threaded rod. Will also accept UNH and UNHC hangers for conduit stem listed on the preceding page.
- The UNH conduit hook fits over conduit up to and including 1″ and has a hub for attachment of a ½″ conduit stem

Standard Materials:

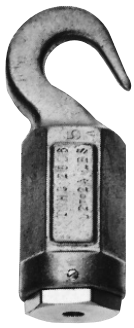
- UNHC – copper-free aluminum
- CHS-body – malleable iron; clamp – copper-free aluminum; ring – steel wire
- UNH – *Feraloy*® iron alloy

Standard Finishes:

- Copper-free aluminum – natural finish
- *Feraloy* and malleable iron – electrogalvanized and aluminum acrylic paint
- Steel wire – electrogalvanized with chromate finish

Size Ranges:

- Luminaire stem (UNH) – ½″
- Conduit (CHS): ½″ to 1″
- Luminaire weight: UNHC cushion – 12 to 64 lbs.; CHS, UNH – 125 lbs.



UNHC Cushion Luminaire Hangers

Luminaire Weight Lbs.	Support Rod Tap	Cat. #
12 to 24	¼″-20	UNHC2816
24 to 48	and	UNHC2832
48 to 64	5⁄16″-18	UNHC2864

Clamp

Hook

CHS Conduit Clamp and UNH Hook

Conduit Size	Clamp Cat. #	Hook Cat. #	Hook Hub Size
½	CHS1437		
¾	CHS2437	UNH13	½
1	CHS3437		

8L FHM Power Hook Luminaire Hangers

For Pendant Luminaires

Features:

- For mounting H.I.D. type luminaires in non-hazardous locations
- Power hook housing has two ¾″ through feed hubs and one ¾″ hub on the top for pendant mounting. Through feed hubs are furnished with flush plugs
- Cast mounting lugs are provided for direct ceiling mounting
- Housing contains a roomy 15 cu. in. splicing chamber and interlocking type receptacle with leads
- Plugs and receptacles are interlocking type to prevent accidental disengagement. When plug is inserted, hook is blocked and luminaire assembly cannot be removed. To service the luminaire, pull the plug, unhook the loop luminaire assembly and take it to a convenient servicing area
- Loop can move a maximum of 30°, allowing the power hook to be mounted on a canted ceiling. The luminaire assembly will hang true to the vertical
- Loop and hook are shaped for self alignment and resist twisting of luminaire by gusts of wind or light drafts
- Supporting loop is furnished with 16″ of #16-3/C type SO cord and an interlocking type plug

Standard Materials:

- Power hook body – copper-free aluminum
- Access cover – zinc plated cold rolled steel
- Loop – copper-free aluminum

Standard Finishes:

- Copper-free aluminum – natural finish
- Steel – electrogalvanized with chromate finish

Size Ranges:

- Hubs – ¾″
- Luminaire weights: loop – up to 125 lbs.;
- Loop luminaire stem size – ¾″

Electrical Rating Ranges:

- 480 volts, 14 amps, 2 wire, 3 pole

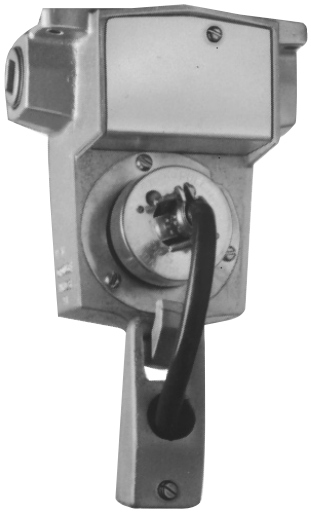
Certifications and Compliances:

- Meet UL and NEMA requirements for the listed electrical ratings

FHM

For H.I.D. Type Luminaires with voltages up to 480 volts

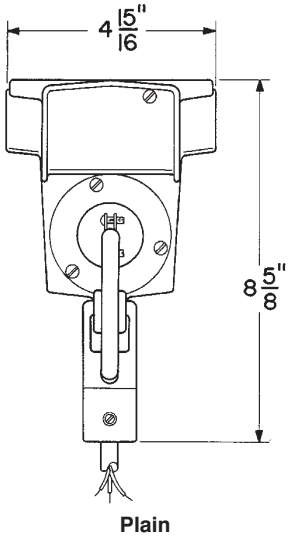
Loop	Hubs*	Luminaire Stem*	Luminaire Weight Lbs.	Cat. #
Plain	¾	¾	125	FHM201



Plain

* ½″ connection can be obtained by using reducers

Dimensions



Plain

ECHF Flexible Luminaire Supports

For Pendant Mount

Cl. I, Div. 1 & 2, Groups A, B, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III

Explosionproof
Dust-Ignitionproof

Application:

ECHF series flexible luminaire supports are used in hazardous locations:
- where a luminaire must hang more than 12″ from its supporting junction box (as specified by NEC Article 501 and CEC Part I Section 18)
- to assure that luminaires hang plumb and will swing freely if accidentally struck. Prevents damage to luminaire and supporting outlet fitting

Features:

- Complies with NEC Article 501/CEC Part I Section 18
- Free swinging in any direction through a large arc
- Good electrical continuity – no bonding jumpers needed
- Watertight construction
- Insulating liner of asphalt impregnated fiber to protect conductors
- Constructed to reinforced flexible metal hose
- Two female end fittings, each with a removable short nipple
- Nipples fit set screw type luminaire hubs
- Female end fittings are equipped with set screws to prevent turning during relamping and loosening of fitting with vibrations

Standard Materials:

- Inner core – brass
- Outer braid – bronze
- End fittings – bronze
- End fittings – brass (CSA certified units)

Standard Finishes:

- Brass and bronze – natural

Options:

Description	Suffix to be Added to Cat. #
Material – stainless steel hose and end fittings	S516
Finish – flexible neoprene protective coating	S758
Special lengths and sizes available	Detailed information on request

Size Ranges:

- Flexible length – 4″ to 18″
- Nipple size – ½″ and ¾″ (see ''Options'')
- Luminaire weight – up to 125 lbs.

Certifications and Compliances:

- NEC/CEC: Class I, Groups A, B, C, D
  Class II, Groups E, F, G
  Class III
- UL Standard: 886
- CSA Standard: C22.2 No. 30

ECHF

Description

Flexible Length	Nipple Size	Overall Length	Cat. #
4	½	10	ECHF14
	¾	10	ECHF24
6	½	12	ECHF16
	¾	12	ECHF26
8	½	14	ECHF18
	¾	14	ECHF28
10	½	16	ECHF110
	¾	16	ECHF210
12	½	18	ECHF112
	¾	18	ECHF212
15	½	21	ECHF115
	¾	21	ECHF215
18	½	24	ECHF118
	¾	24	ECHF218

EAHC and EFHC Luminaire Hangers

For Pendant Mount

Cl. I, Div. 1 & 2, Groups A*, B*, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III

Explosionproof
Dust-Ignitionproof

Application:

EAHC and EFHC luminaire hangers are for use in hazardous areas to:
- suspend explosionproof pendant luminaires from the conduit system
- function as both conduit outlet box and luminaire hanger

Features:

- Through feed hubs are provided for threading the conduit directly into the hanger body
- Has large threaded cover for accessibility and ease of wiring
- Bottom hub, threaded or union style, is equipped with set screws to securely lock luminaire stem in place. Takes conduit stem or EC flexible luminaire hanger for stems longer than 12″ (in compliance with NEC Article 501 and CEC Part I Section 18)

Standard Materials:

- Bodies – *Feraloy*® iron alloy
- Covers – copper-free aluminum

Standard Finishes:

- *Feraloy* – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural

Options:

Description	Suffix to be Added to Cat. #
Finish – *Corro-free*™ epoxy enamel	S752
Suspension attachment for span wire or threaded rod – see listings	S1
Mounting strap – see listings	S294

Size Ranges:

- Conduit hubs – ¾″ and 1″
- Luminaire stem – ½″ and ¾″
- Luminaire weight – 125 lbs.

Certifications and Compliances:

- NEC/CEC:
  - EAHC –
    - Class I, Groups A, B, C, D
    - Class II, Groups E, F, G
    - Class III
  - EFHC –
    - Class I, Groups C, D
    - Class II, Groups E, F, G
    - Class III
- UL Standard: 886
- CSA Standard: C22.2 No. 30

With union hub

With threaded hub

EAHC*

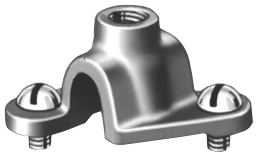
Hub Size	Luminaire Stem Size	Threaded Hub for Luminaire Stem Cat. #	Union Hub for Luminaire Stem Cat. #
¾	½	EAHC2701	EAHC2601
	¾	EAHC2702	EAHC2602
1	½	EAHC3701	EAHC3601
	¾	EAHC3702	EAHC3602

EFHC

¾	½	EFHC2701	EFHC2601
	¾	EFHC2702	EFHC2602
1	½	EFHC3701	EFHC3601
	¾	EFHC3702	EFHC3602

Mounting Strap

Mounting strap can be furnished to fasten luminaire hangers to mounting surface, independent of conduit straps. To order, add suffix S294 to EAHC or EFHC Cat. No.

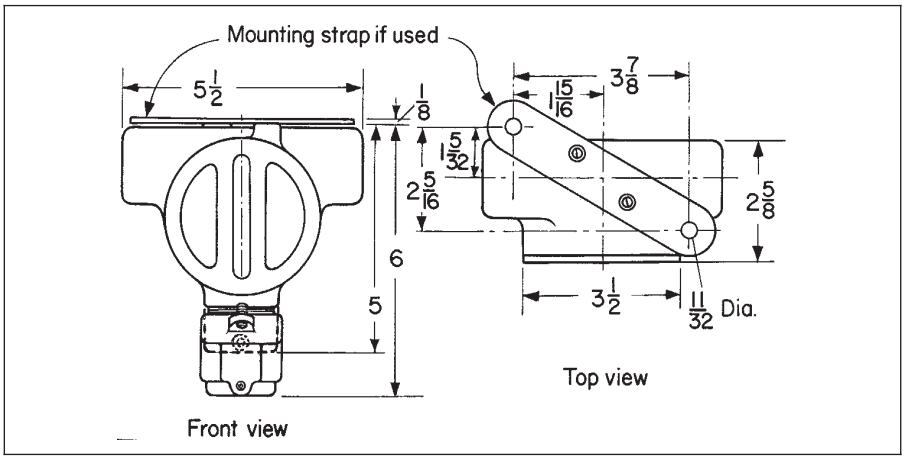


Suspension Attachment

EAHC and EFHC hangers can be furnished with a loop fastened to the top of the body to suspend luminaire and conduit from vertical support rods or horizontal span wires. The loop will take a wire or cable with a maximum diameter of ⅜″. The boss on top of the loop is tapped ⅜″-16 to accept a threaded rod. To order, add suffix S1 to Cat. No.

*EAHC only

Dimensions



Application:

EFH flexible cushion luminaire hangers are used in hazardous locations:

- where a luminaire must hang more than 12″ from its supporting junction box (as required by NEC Article 501 and CEC Part I Section 18)
- to assure that luminaires hang plumb and will swing freely if accidentally struck. Prevents damage to luminaire, stem and supporting outlet box
- to provide a cushion support, prolonging lamp life and protecting the luminaire from shock and vibration. For luminaires weighing up to 65 lbs.

Features:

- Complies with NEC Article 501 and CEC Part I Section 18
- Free swinging in any direction through an angle of 15 degrees from perpendicular
- Weight of luminaire is supported by a high-strength brass bellows and a stainless steel cushioning spring
- Two part assembly consisting of luminaire hanger cover and CPS12 outlet box. Provides a wide variety of conduit arrangements. A set screw locks the conduit stem in place

Standard Materials:

- *Feraloy*® iron alloy

Standard Finishes:

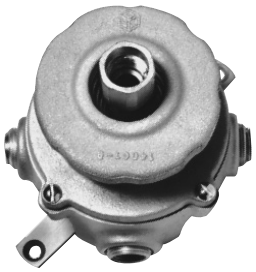
- Electrogalvanized and aluminum acrylic paint

Size Ranges:

- Conduit hubs – ¾″ with ¾″ to ½″ reducers
- Luminaire stem – ½″ and ¾″
- Luminaire weight – 65 lbs. max.

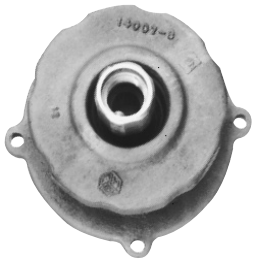
Certifications and Compliances:

- NEC/CEC: Class I, Groups C, D
  Class II, Groups E, F, G
  Class III
- UL Standard: 886
- CSA Standard: C22.2 No. 30



EFHX

Body Hub Size‡	Luminaire Stem Size	With Mtg. Feet Cat. #
½ and ¾	½	EFHX111
½ and ¾	¾	EFHX221

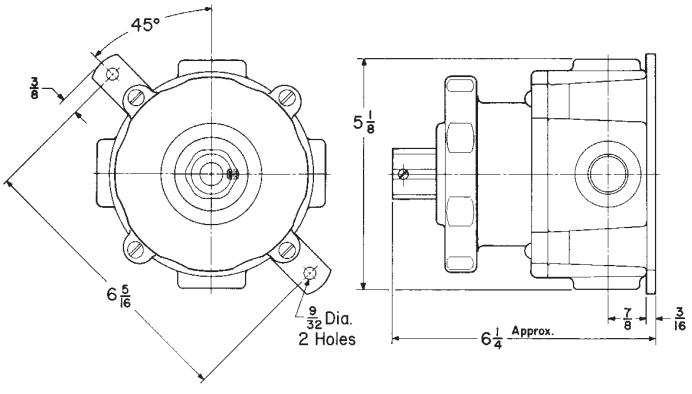


Cushion Luminaire Hanger Only

Stem Size	Cat. #
½	EFH01
¾	EFH02

‡ Furnished with four ¾″ standard taper tapped, integrally bushed hubs. Each hub as a ¾″ to ½″ reducer. Three hubs are plugged.

Dimensions



Condulet® Conduit Outlet Boxes with Covers

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III

Explosionproof
Dust-Ignitionproof

Application:

CPS series conduit outlet boxes are installed in conduit systems in hazardous areas to:
- protect conductors in threaded rigid conduit
- act as pull and splice boxes
- change conduit direction
- interconnect lengths of conduit
- act as luminaire hangers with hub covers
- provide access to conductors for maintenance and future system changes

Features:

CPS conduit outlet boxes have:
- two types of cover:
  – blank for splice or pull box use
  – threaded hub for mounting luminaires
- wide, accurately machined body and cover mating surfaces, to insure flametight joint
- blind tapped holes for cover screws to further insure flametightness
- removable mounting feet for flush or surface mounting to wall or ceiling

Standard Materials:

- *Feraloy*® iron alloy

Standard Finishes:

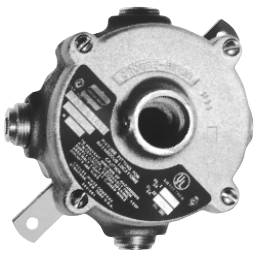
- Electrogalvanized and aluminum acrylic paint

Options:

- *Corro-free*™ epoxy powder coat . . . . . Information available on request

Certifications and Compliances:

- NEC/CEC: Class I, Groups C, D
  Class II,
  Groups E, F, G
  Class III
- UL Standard: 886
- CSA Standard: C22.2 No. 30



Box with Hub Cover

Hub Size

Body‡	Cover	Cat. #
½ and ¾	½	CPS12021
½ and ¾	¾	CPS12022

Body

Hub Size‡	Cat. #
½ and ¾	CPS12

Box with Blank Cover

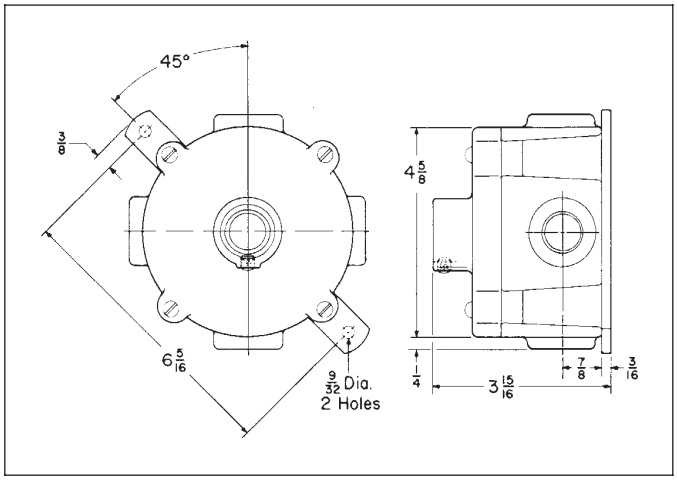
Hub Size	Cat. #
½ and ¾	CPS12026

Hub Covers

Hub Size	Cat. #
½	CPS021
¾	CPS022

‡ Furnished with four ¾″ standard taper tapped, integrally bushed hubs. Each hub has a ¾″ to ½″ reducer. Three hubs are plugged.

Dimensions

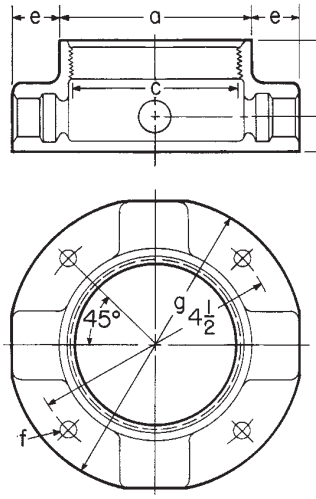


GUFX

Hub Size	Cat. #
½	GUFX160
¾	GUFX260

Dimensions

GUF Series



Hub Size	a	b	c	d	e	f	g
½	3½	2	3	⅝	⅞	5⁄16	5⅜
¾	3½	2	3	¾	⅞	5⁄16	5⅜
1	3½	2⅜	3	⅞	1	5⁄16	5⅜

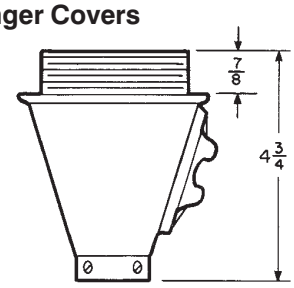
Luminaire Hanger Covers

For GUA and GUF Series Junction Boxes

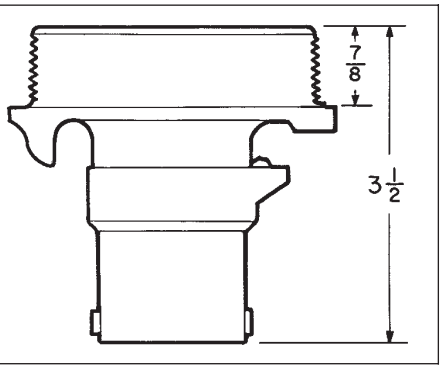
Nom. Dia. Cover Opening	Luminaire Stem Size	Luminaire canopies Cat. #	Luminaire covers union hub Cat. #	Nipple covers Cat. #
3	¾	GUA068	GUA0687	GUA0672

Dimensions

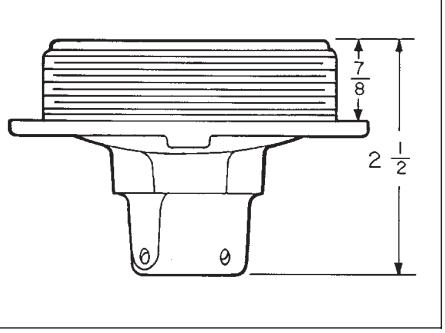
Hanger Covers



GUA 068



GUA 0687



GUA 0671

GUA Series Outlet Bodies

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III

Explosionproof
Dust-Ignitionproof

Application:

GUA, GUF and GUJ outlet bodies are used:
- with luminaire canopies, union hub and nipple covers for mounting EVA, EVM, EVLP, and EVF luminaires

Features:

- A threaded cover opening in the side of the canopy permits access to the interior for making splices or taps
- The luminaire with its conduit stem and canopy is wired before installation, which eliminates wire twisting when the canopy is screwed into the outlet body
- Union hub covers permits the cover to be screwed into the body without twisting wire leads
- All covers have set screws to lock the conduit stem or EC series flexible luminaire support firmly to the cover

Standard Materials:

Outlet bodies:
- GUA Series – *Feraloy* iron alloy
- GUFX – Copper-free aluminum

Luminaire hanger covers:
- GUA068 – *Feraloy* iron alloy
- GUA0687, GUA0672 – Copper-free aluminum

Standard Finishes:

- *Feraloy* iron alloy – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural

Options:

Description	Suffix to be Added to Cat. #
Finish – *Corro-free*™ epoxy enamel	S752

Size Ranges:

- Bodies – ½″ to 1″ hubs
- Canopies – ½″, ¾″ and 1¼″ luminaire stem
- Union hub and nipple covers – ½″ and ¾″ luminaire stem

Certifications and Compliances:

- NEC/CEC: Class I, Groups C, D
  Class II, Groups E, F, G
  Class III
- UL Standard: 886
- CSA Standard: C22.2 No. 30

GUA

Hub Size	Cat. #
½	GUA160
¾	GUA260
1	GUA360

GUAC

Hub Size	Cat. #
½	GUAC160
¾	GUAC260
1	GUAC360

GUAL

Hub Size	Cat. #
½	GUAL160
¾	GUAL260
1	GUAL360

GUAT

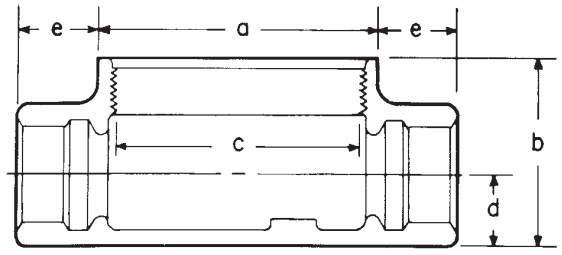
Hub Size	Cat. #
½	GUAT160
¾	GUAT260
1	GUAT360

GUAX

Hub Size	Cat. #
½	GUAX160
¾	GUAX260
1	GUAX360

Dimensions

GUA Series



Hub Size	a	b	c	d	e
½	3½	2	3	⅝	⅞
¾	3½	2	3	¾	⅞
1	3½	2 5/16	3	⅞	1

UNR Adjustable Luminaire Hangers; COUP Locking Couplings

For Pendant Mount

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III

Explosionproof
Dust-Ignitionproof

Application:

UNR adjustable luminaire hangers are used in hazardous areas to:
- mount between a luminaire and its outlet box so that the luminaire can be adjusted within the range of 0 degrees to 90 degrees
- permit pendant type luminaires to illuminate vertical surfaces such as a control board
- hang luminaires plumb when the supporting outlet box is not horizontal

Features:

The luminaire is nippled onto one end of the UNR, and the other end of the UNR is nippled into the support outlet box
- Set screws are located on each end to lock the nipples in place to prevent loosening in relamping or from vibration
- Adjustment of UNR to the angle setting needed provides for the desired angle of the luminaire
- Degree markings are cast into the UNR
- Two set screws and a large stud and nut are provided, which are tightened to clamp the unit rigid

Standard Materials:

- *Feraloy*® iron alloy

Standard Finishes:

- Electrogalvanized and aluminum acrylic paint

Size Ranges:

- Hub – ¾″
- Luminaire weight – 125 lbs.

Certifications and Compliances:

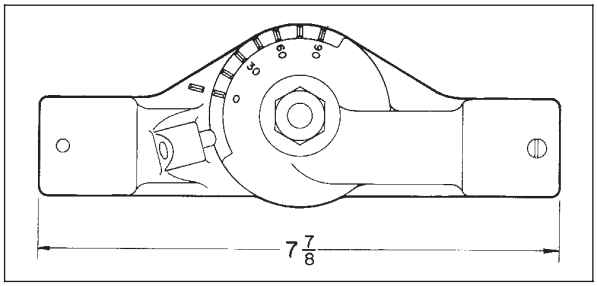
- NEC: Class I, Groups C, D
  Class II, Groups E, F, G
  Class III
- UL Standard: 886

UNR

Adjustable Luminaire Hanger

Hub Size	Angle Adjustment	Cat. #
¾	0° to 90°	UNR29

Dimensions



Application:

COUP locking couplings are used in both hazardous and non-hazardous areas to:
- lock a luminaire conduit stem into a conduit hub to prevent the conduit stem from loosening when the luminaire is relamped and torque transferred to luminaire stem
- prevent loosening of luminaire stem due to vibration
- hang pendant type luminaires from standard cast outlet boxes which do not have set screws in the hub where the luminaire stem is attached

Features:

- The large end is slipped over the cast hub and the set screws tightened. The luminaire stem is slipped through the small end and threaded securely into the cast hub. The set screws in the small end are then tightened, thereby preventing the stem from turning
- Permits support of luminaire from conduit hub of a hazardous location outlet body

Standard Materials:

- *Feraloy*® iron alloy

Standard Finishes:

- Electrogalvanized and aluminum acrylic paint

Size Ranges:

- Hub size – ½″ to 1″
- Stem size – ½″ and ¾″

Certifications and Compliances:

- UL Standard: 886

COUP

Locking Couplings

Hub Size	Stem Size	Cat. #
½	½	COUP101
¾	½	COUP201
¾	¾	COUP202
1	¾	COUP302

Notes Page

Hazardous and Non-Hazardous Locations
Application and Selection
Quick Selector Chart

Applications:

Portable luminaires and accessories can be used:

- in areas made hazardous by the abnormal presence of flammable gases and vapors, combustible dusts or easily ignitable fibers and flyings.
- in areas where combustible dusts and flammable gases are present simultaneously.
- in aircraft manufacturing and maintenance facilities, shipyards, paint spray booths, refueling depots, storage tank cleanings, railcar manufacturing and maintenance facilities, refineries, chemical and petrochemical plants, textile mills, grain elevators, pharmaceutical plants, sewage treatment plants and wastewater treatment plants.
- during plant 'shut downs' for maintenance and installation requirements.
- in any adverse environment where portable lighting is preferred or required.
- in locations where fixed lighting is not practical.
- for task oriented lighting.
- for emergency lighting applications.
- when inspecting aircraft wing tanks, vats, process vessels, fuel tanks, etc. (handlamps).

Considerations for Selection:

Environmental:

- What is the hazardous area classification (NEC/CEC) of the location in which the luminaires will be installed?
- What wattages and light source (ie. fluorescent) will provide the desired light levels?
- Type of luminaire required: handlamp, portable flood or other special requirements.

Table 500-3(d) Identification Numbers.

Maximum Temperature		Identification Number
Deg. C	Deg. F	
450	842	T1
300	572	T2
280	536	T2A
260	500	T2B
230	446	T2C
215	419	T2D
200	392	T3
180	356	T3A
165	329	T3B
160	320	T3C
135	275	T4
120	248	T4A
100	212	T5
85	185	T6

Quick Selector Chart

Luminaire	NEC Hazardous Area Compliances	Lamp Watts	Volts
EVH Handlamp (Incandescent)	Cl. I, Groups C and D Cl. II, Group G Cl. III	100 max.	250 vac
EVH Handlamp (Fluorescent)	Cl. I, Groups C and D Cl. II, Groups E, F, G Cl. III	13, 15	120, 220-50
EVP	Cl. I, Groups C and D Cl. II, Groups F and G Cl. III	35-150	120, 277, 347
RCDER	Cl. I, Groups C and D	150-500	
VS	Non-Hazardous areas	100 max.	

Application:

The incandescent VS portable hand lamps are used:
- in wet or corrosive locations to exclude moisture, dirt, corrosive chemicals, etc.
- where an incandescent lamp of up to 100 watts is required in a portable hand lamp

Features:

- Enclosed and gasketed
- Flexible cord or cable is attached through a watertight gland in the handle
- Is of rugged construction
- Clamp type guard available
- Provision is made in the lamp receptacle for a third conductor to ground all non-current-carrying metal parts

Standard Materials:

- Handle – molded rubber
- Globe – clear, plain glass
- Guard – cast aluminum or steel wire

Standard Finishes:

- Handle – Natural
- Guard – Zinc plated

Options:

- Materials: heat resistant glass globe; polycarbonate globe

Size Ranges:

- Up to 100 watt, A-23 lamp
- .250 to .625 cord O.D.

Certifications and Compliances:

- Weather resistant
- UL Standard: 298

(Note: CEC/CSA Certified VS handlamps - Cooper Crouse-Hinds Canada fixtures only.)

(No Cable Included)

Globe Length	Max Lamp Size	Cord Dia.	Rubber Cat. #
6⅞	100 W A-23†	.125 to .625	VS30

Note: Furnished with clear globe, wire guard and 4 rubber bushings.

Glass Globes

Polycarbonate Globes

Description	Maximum Lamp Size	Cat. #
Clear Glass, (Heat Resisting)	100W, A-23 – 6⅞″†	V63
Clear, Polycarbonate, Plain	75W, A-21″†	V470

Guards

Description	Size	Cat. #
Steel Wire	6⅞ globe	VS97

Lamp Receptacle (medium base)

Description	Size	Cat. #
Composition keyless	660W, 600V	GS156

Cord Gland Bushings

Description	Size	Cat. #
Rubber	.125 to .250 Cord	BUSH92
	.250 to .375 Cord	BUSH93
	.375 to .500 Cord	BUSH 94
	.500 to .625 Cord	BUSH05

† Will take lamps with maximum dimensions of 6½″ long and 2⅞″ diameter.

9L EVH Portable Handlamp

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1 & 2, Group G
Cl. III
Cl. I, Zone 1 IIB

Application:

EVH106 is used:
- as a portable handlamp in hazardous areas
- in inspecting aircraft wing tanks, vats, process vessels, fuel tanks, etc.

Features:

- Pressure connector terminals for portable cord
- Light weight – 4¼ lbs.
- Designed for rough service – swivel hook, ease in relamping

Standard Materials:

- Guard and globe holder – copper-free aluminum
- Handle – molded phenolic composition
- Globe – glass, heat and impact resistant

Standard Finishes:

- Natural

Size Ranges:

- #16 – 3 type SO cord/cable is to be used (not supplied)

Capacity Ranges:

- 50 to 100 watt, A-21
- Max. volts – 250 VAC

Certifications and Compliances:

- NEC/CEC:
  Class I, Division 1 and 2, Groups C, D – 100 watts max.
  Class I, Zone 1 IIB
  Class II, Division 1 and 2, Group G – 75 watts max.
  Class III – 75 watts max.
- UL Standard: 781
- CSA Standard: C22.2 No. 137

Temperature Performance Data: (based on 40°C Ambient)

Class I, Groups C, D
Class II, Group G
Class III
— T3C

Cat. #	Cord Dia.
EVH106 (Model M10)	.375 to .625

Replacement Parts

Description	Cat. #
Guard & globe assembly	EVH606
Handle assembly (including lampholder)	EVH607
Cord connector assembly	EVH605
Lampholder only	20V19-001

Note: See Section 2P of this catalog for suitable male plug.

Application:
RCDER portable incandescent luminaires provide general illumination in locations having hazardous atmospheres, such as:
- oil refineries
- oil and gasoline loading docks
- aircraft servicing docks and shelters
- distilleries
- paint manufacturing plants
- pumping stations
- other Class I, Groups C and D locations

Features:
- Wheel base
- Carrying handle
- Adjustment allows rotation of 75° vertically.
- Locking screws hold housing firmly in position
- Door which threads into housing includes heat and impact-resistant lens. Door has notches or projections for ease of removing or tightening
- Factory sealed

Standard Materials:
- Body – copper-free aluminum; Lens – glass, heat and impact resistant

Standard Finishes:
- Natural

Size Ranges:
- Take cable with O.D. of .375″ to .500″

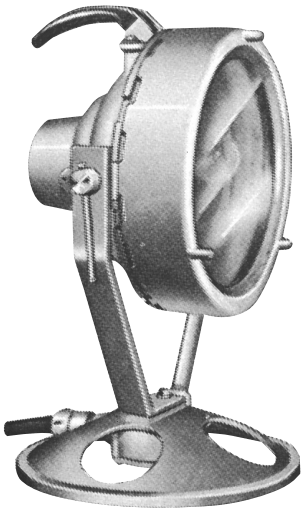
Capacity Ranges:
- RCDER-6 – 150 watt, PAR38 or R40; 300 watt, R40 (medium base)
- RCDER-10 – 500 watt, PAR64 (Ext. Mog End Prong)

Certifications and Compliances:
- NEC/CEC:
  RCDER – Class I, Division 1 and 2, Groups (C), D Class I, Zone 1 II(B) A (see photometric data listing)
- UL Standard: 844
- CSA Standard: C22.2 No. 137 (RCDER-6 only)

Note: CEC/CSA Certified RCDER6 - Cooper Crouse-Hinds Canada luminaires only.

Ordering Information:
After identifying the hazardous area, select the model of luminaire required for that area. Then from the photometric data, select appropriate Cat. No. based on type of mounting desired. Example: RCDER-10 No. 47283A

RCDER-6
Cat. # 44655B



RCDER-10
Cat. # 47283A

Temperature Performance Data (based on 40°C Ambient)

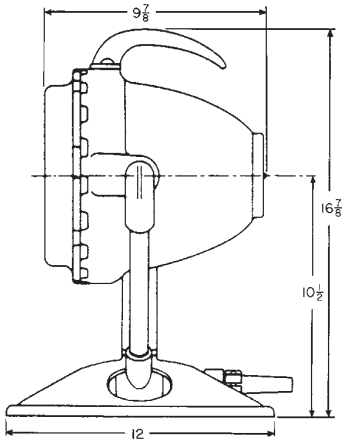
	150W	300W	500W
RCDER-6	T3B	T2B	
RCDER-10			T3C

RCDER
Photometric Data

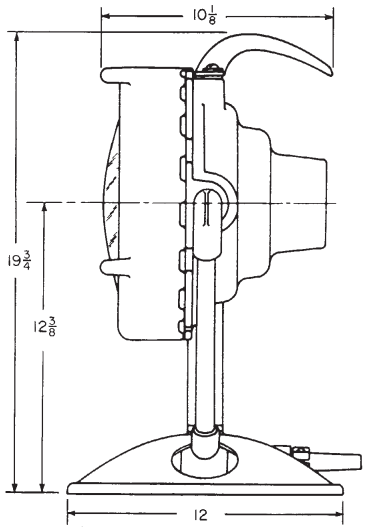
Lamp Watts and Type	Location	Beam Spread Hor.	Beam Spread Vert.	Beam Lumens	Av. Max. Candle Power	Model
150 Watt PAR38 Flood	Class I Groups C, D (Zone 1 IIB)	60°	60°	1690	4000	RCDER-6
150 Watt PAR38 Spot		28°	28°	1200	11500	
300 Watt R40 Flood	Class I Group D (Zone 1 IIA)	123°	123°	3200	1950	
300 Watt R40 Spot		60°	60°	3100	8900	
500 Watt, PAR64 (500 PAR64/NSP)	Class I, Group D (Zone 1 IIA)	19°	14°	3000	110000	RCDER-10
500 Watt, PAR64 (500 PAR64/MFL)		35°	19°	3300	37000	
500 Watt, PAR64 (500 PAR64/WFL)		55°	32°	3400	13000	

Dimensions

RCDER-6



RCDER-10



Fixture Weights

RCDER-6

Cat. #	Lbs. (Net)
44655	26.0

RCDER-10

Cat. #	Lbs. (Net)
47283	25.0

EVP Portable H.I.D. Floodlight

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1 & 2, Groups F, G
Cl. III
Cl. I, Zone 1 IIB
Wet Locations
Marine Locations

Applications:

The EVP portable H.I.D. floodlight† is suitable for maintenance or emergency lighting:
- in areas made hazardous by the presence of flammable gases and vapors, combustible dusts, or easily ignitable fibers and flyings.
- in aircraft manufacturing and maintenance facilities, shipyards, refueling depots, storage tank cleaning, railcar manufacturing and maintenance facilities, refineries, chemical and petrochemical plants, textile mills, grain elevators and pharmaceutical plants, printing operations, wastewater and sewage treatment plants.
- in any adverse environment where portable lighting is preferred or required.
- in locations where lighting is not practical.
- for task oriented lighting.

Standard Materials:

- Housing – copper-free aluminum
- Wheel base – spun aluminum
- Handle – plastic rib covered aluminum
- Reflector – aluminum
- O-ring gasket – Nitrile rubber

Certifications and Compliances:

EVP and EVPG
- NEC/CEC:
  Class I, Division 1 & 2, Groups C, D
  Class I, Zone 1 IIB
  Class II, Division 1 and 2, Groups F, G
  Class III
  Wet Locations
  Marine Locations
- UL Standards: 781, 595, 1572
- CSA Standard: C22.2 No. 137, No. 12

Electrical Ratings

High pressure sodium – (medium base)
- 70, 100, & 150 watt
- 120 volt 60Hz

Metal Halide – (double end)
- 70 watt
- 120, 277 & 347 volt; 60Hz

† EVP fixtures are not supplied with plug.

Features and Benefits:

Product Features	User Benefits
Strong spun aluminum wheel base.	Provides stability, allows fixture to be hung on a wall or lowered in an inverted position.
Sturdy hand knob.	Tightens to hold position for steady illumination and easy aiming.
Plastic rib covered handle.	Firm, non-slip grip for transporting fixture.
Aluminum specular reflector.	Directs intense beam for better visibility.
Tempered, ¾″ thick cover glass.	Heavy duty service.
Nitrile rubber O-ring gasket.	Excellent sealing for use in wet locations.
Strain-relief clamps.	Provides extra protection against cord damage.
Pre-wired, factory-sealed 100′ of 16/3 type SOW cord supplied.	Saves on installation time and maintenance costs.
Light weight (25 lbs.).	Easy to handle when transporting.
Fixture housing has a safety yellow finish.	Highly visible for safety precautions.

Ordering Information:

Cl. I, Div. 1, Groups C, D Cl. II, Div. 1, Group F	Cat. #
70 watts HPS, 120 volts	EVP4070
100 watts HPS, 120 volts	EVP4100
150 watts HPS, 120 volts	EVP4150*
70 watt MH, 120 volts	EVP9070
70 watt MH, 277 volts	EVP9070/277
70 watt MH, 347 volts	EVP9070/347

* Class II not available.

Cl. I, Div. 1, Groups C, D Cl. II, Div. 1, Groups F, G Cl. III	Cat. #
100 watts HPS, 120 volts	EVPG4100
70 watt MH, 120 volts	EVPG9070
70 watt MH, 277 volts	EVPG9070/277
70 watt MH, 347 volts	EVPG9070/347

Fixtures for grain dust applications have a special limiting device to prevent the fixture head from being positioned in an upright position limiting dust buildup.

Temperature Performance Data:

Cat. #	Max. Ambient °C	Class I, Division 1 T-Rating	Class I, Division 1 Groups	Class II, Division 1 T-Rating	Class II, Division 1 Groups
EVP4070	40	T4A	C, D	T3	F
EVP4100	40	T4A	C, D	T3	F
EVP4150	25	T3C	C, D	—	—
EVP9070	40	T4	C, D	T3	F
EVPG4100	40	T4A	C, D	T3C	F, G
EVPG9070	40	T4	C, D	T4	F, G

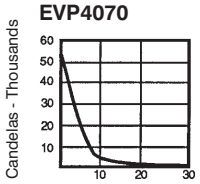
US: 1-866-764-5454 CAN: 1-800-265-0502

Fixture Weight:

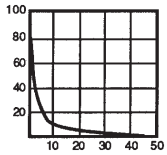
25.5 lbs.

Photometric Data:

EVP4070

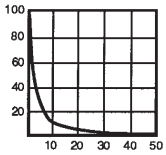


EVP4100



Degrees from beam axis

EVP4150



Dimensions: 12½″ D × 13⅛″ W × 15⅞″ H

EVH Fluorescent Handlamps & Worklights

Cl. I, Div. 1 and 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
Cl. I, Zone 1, IIB

Application:

Portable handlamps and worklights can be used:
- in areas made hazardous by the presence of flammable gases and vapors, combustible dusts or easily ignitable fibers & flyings.
- in aircraft manufacturing and maintenance facilities, shipyards, refueling depots, storage tank cleaning, railcar manufacturing and maintenance facilities, refineries, chemical and petrochemical plants, textile mills, grain elevators, pharmaceutical plants, sewage treatment plants and wastewater treatment plants.
- during plant 'shut downs' for maintenance and installation requirments.
- in any adverse environment where portable lighting is preferred or required.
- in locations where fixed lighting is not practical.
- for task oriented lighting.
- for emergency lighting applications.
- when inspecting aircraft wing tanks, vats, process vessels, fuel tanks, etc.

Features:

- built in metal reflector which eliminates glare and blinding, focusing all light on subject.
- protected by patented shock absorbers to withstand rough usage.
- enclosed ballast, remote from light source for easier handling and maneuverability.
- special rubber compound bumper guards and end caps combined with cast guard and metal rods, protecting against damage from falling objects, bumping, or dropping.
- luminaires come complete with lamp(s) and cord.
- The New EVH2625E and EVH2650E incorporate an electronic ballast in the handle for efficiency, cool operation and easy handling.

Standard Materials:

- Body and In line Ballast Unit – aluminum
- Tubeshield – annealed glass
- Bumper guards – rubber

Standard Finishes:

- Aluminum Body – White epoxy (handlamps)
- Aluminum Body – Natural (worklights)
- In Line Ballast Unit – Natural
- Rubber bumper guards – safety yellow

Size Ranges:

- Supplied with 18/3 SOW cord (25 ft or 50 ft)

Electrical Ratings:

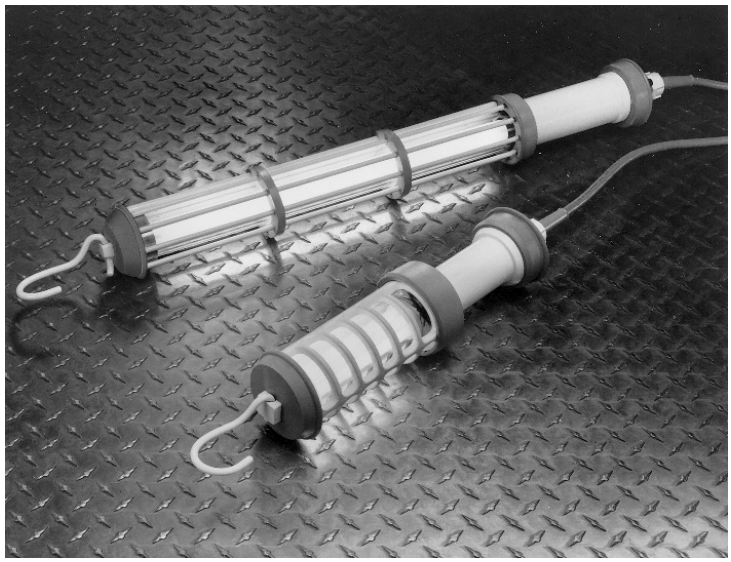
- 13 to 26 Watts
- Max. Volts 220VAC

Certifications and Compliances:

- NEC: Fluorescent Workights (15 watt units)
  Class I, Div. 1 and 2, Group D
  Class I, Zone 1 IIB
  Class II, Div. 1, Groups E, F, G
  Class II, Div. 2, Groups F, G
  Class III
- NEC: Fluorescent Handlamps (13 and 26 watt units)
  Class I, Div. 1 and 2, Groups C, D
  Class II, Div. 1, Groups E, F, G
  Class II, Div. 2, Groups F, G
  Class III
- FM: Classification 3615
- CSA: C22.2

Options:

- An isolated ballast is available on the EVH 13 Watt handlamps for additional protection, use suffix IB.



Temperature Performance Data: (Based on 40°C Ambient Temperature)

	Class I, Div. 1		Class II, Div. 1	
Cat. No.	**T-Rating**	**Groups**	**T-Rating**	**Groups**
EVH1525	T5	D	T5	E, F, G
EVH1550	T5	D	T5	E, F, G
EVH1325	T5	C, D	T5	E, F, G
EVH1350	T5	C, D	T5	E, F, G
EVH2625	T3	C, D	T3	E, F, G
EVH2650	T3	C, D	T3	E, F, G
EVH1325 IB	T5	C, D	T5	E, F, G
EVH1350 IB	T5	C, D	T5	E, F, G
EVH2625E	T6	C, D	T6	E, F, G
EVH2650E	T6	C, D	T6	E, F, G

Ordering Information:

EVH Fluorescent Worklights

Line Voltage (60 Hz)	Watts	Cord Length (ft)	Lamp Type	Cat. No.
120	15	25 ft.	F15T8	EVH1525
120	15	50 ft.	F15T8	EVH1550

EVH Fluorescent Handlamps (With Magnetic Ballast in Cord)

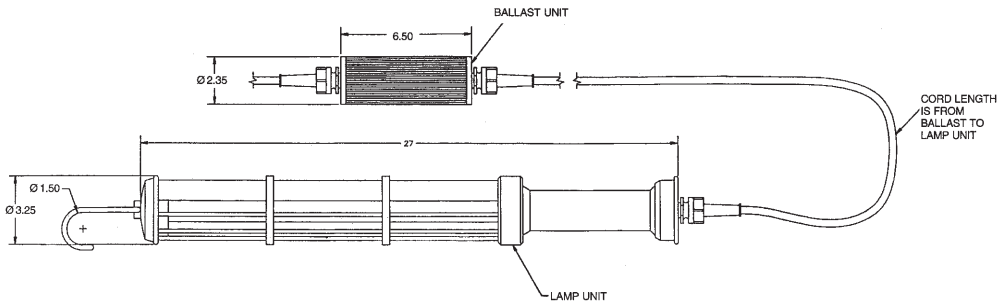
Line Voltage (60 Hz)	Watts	Cord Length (ft)	Lamp Type	Cat. No.
120	13	25 ft.	F13TT	EVH1325
120	13	50 ft.	F13TT	EVH1350
120	26	25 ft.	F26DTT	EVH2625
120	26	50 ft.	F26DTT	EVH2650
(50 Hz)				
220	13	25 ft.	F13TT	EVH1325/220 50
220	13	50 ft.	F13TT	EVH1350/220 50
220	26	25 ft.	F26DTT	EVH2625/220 50
220	26	50ft.	F26DTT	EVH2650/220 50

New – EVH Fluorescent Handlamps (With Electronic Ballast in Handle)

Line Voltage (60 Hz)	Watts	Cord Length (ft)	Lamp Type	Cat. No.
120	26	25 ft.	CF26DD/E/841	EVH2625E
120	26	50 ft.	CF26DD/E/841	EVH2650E

Dimensions (inches)

Work Light



Hand Lamp
(Magnetic Ballast Handlamps Only)

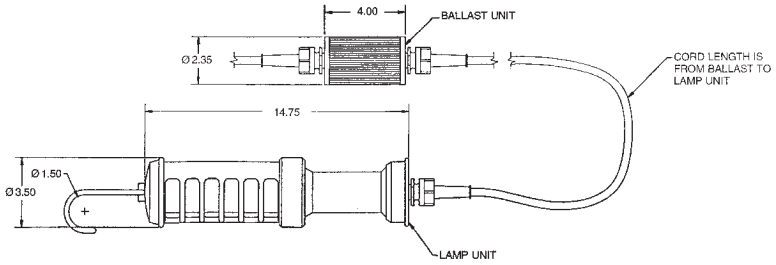


Table 500-3(d)
Identification Numbers.

Maximum Temperature		Identification Number
Deg. C	Deg. F	
450	842	T1
300	572	T2
280	536	T2A
260	500	T2B
230	446	T2C
215	419	T2D
200	392	T3
180	356	T3A
165	329	T3B
160	320	T3C
135	275	T4
120	248	T4A
100	212	T5
85	185	T6

10L EXL Explosionproof Exit Sign

Factory Sealed

Cl. I, Div. 1 & 2, Groups C, D
Cl. I, Zone 1 IIB
Cl. II, Div. 1, Groups E, F, G

Application:

EXL exit signs are used:
- in locations deemed hazardous due to the presence of flammable vapors or gases, or combustible dusts
- in any building or enclosed area where people work – where illuminated exit signs are required
- to provide distinct, highly visible exit marking
- to indicate the direction of travel to exits

Features:

- Two incandescent lamps (not included) wired in parallel – to provide extra margin of light source reliability
- Solid state circuit for extended lamp life in AC units
- Six inch red letters on white acrylic sign panel make word ''exit'' stand out boldly and clearly
- Edge lighting characteristic of sign panel makes visibility excellent at all lighting levels
- Factory sealed explosion-proof housing
- Pendant, wall and end bracket mounts provide universal installation options
- Impact-resistant acrylic sign panel needs no guard – makes cleaning easy
- Internal rectifier extends lamp life beyond 1,000-hour rated life – reduces relamping cost
- Relamping tool provided

Standard Materials:

- Body – copper-free aluminum
- Sign panel – acrylic

Conduit Entrance:

- ¾″ hubs

Lamp Wattage:

- Two 60-watt, 60T10 clear lamps for AC units
- Two 25-watt, 25T10 clear lamps for DC units
- Lamps not included with luminaire

Electrical Ratings:

- 120VDC or 120VAC operation.

Certifications and Compliances:

- NEC: Class I, Groups C and D
  Class II, Groups E, F, and G
- UL Standard: 844
- NFPA Life Safety Code No. 101-1991

Temperature Performance Data (for both AC & DC operation):

Ambient Temp (°C)	Class I (C,D) Class II (E,F,G)	Supply Wire °C
25	T3C	150°C
40	T3C	

Ordering Information:

I. When ordering an EXL Series Exit Sign, you will need to specify:
(A) Voltage (120VAC or 120VDC)
(B) Mounting (Wall, End Bracket, or Pendant)
(C) Exit Sign Designation
All units come standard with ¾″ hubs and exit signs with red lettering and white background. Complete catalog numbering is as follows:

EXL (A) 2 (B) (C)

(A) Voltage: 120VAC . . . . . leave blank
120VDC . . . . . D

(B) Mounting: Wall 1
End Bracket 2
Pendant 3

(C) Exit Sign Designation:

A	Single Face (Wall Mount)
AA	Double Face (End Bracket & Pendant)
AB	Double Face, one side arrowhead right, the other no arrowhead (End Bracket & Pendant)
AC	Double Face, one side arrowhead left, the other no arrowheads (End Bracket & Pendant)
AD	Double Face, one side arrowhead both ends, the other no arrowheads (End Bracket & Pendant)
B	Single Face, arrowhead right (Wall Mount)
BC	Double Face, one side arrowhead right, the other arrowhead left (End Bracket & Pendant)
BD	Double Face, one side arrowhead both ends, the other arrowhead right (End Bracket & Pendant)
C	Single Face, arrowhead left (Wall Mount)
CD	Double Face, one side arrowhead both ends, the other arrowhead left (End Bracket & Pendant)
D	Single Face, arrowhead both ends (Wall Mount)
DD	Double Face, both sides arrowhead both ends (End Bracket & Pendant)

Pendant Style

End Bracket Style

Wall Style

Ordering Examples Table:

Mounting Type	Sign Panel Description	Hub Size	AC Cat. #	DC Cat. #
Wall	Single face	¾	EXL21A	EXLD21A
End bracket	Double face	¾	EXL22AA	EXLD22AA
Pendant	Double face	¾	EXL23AA	EXLD23AA

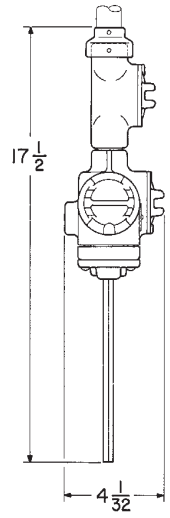
Suffix Options:

Exit Signs with green lettering on white background . . . . . GN
Unit Provided with Epoxy powder Coat S752
277VAC – *(Order ECT413 Transformer Separately)*

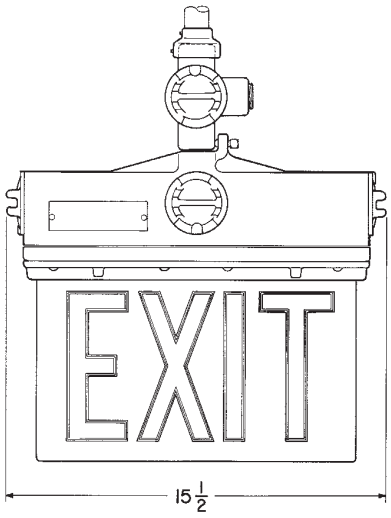
COOPER Crouse-Hinds

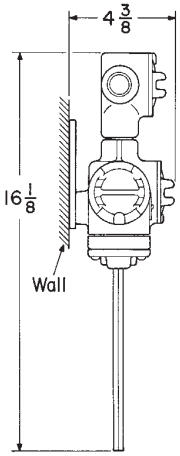
EXL Explosionproof Exit Sign

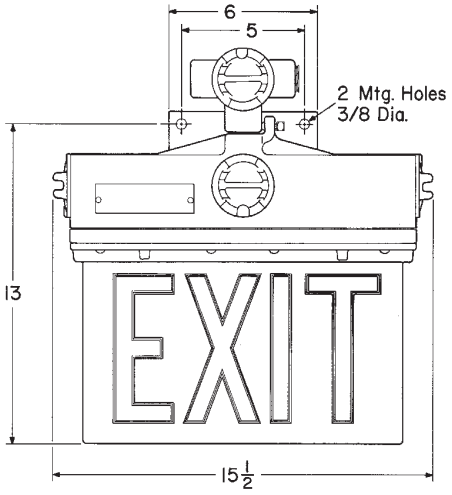
Factory Sealed
Dimensions



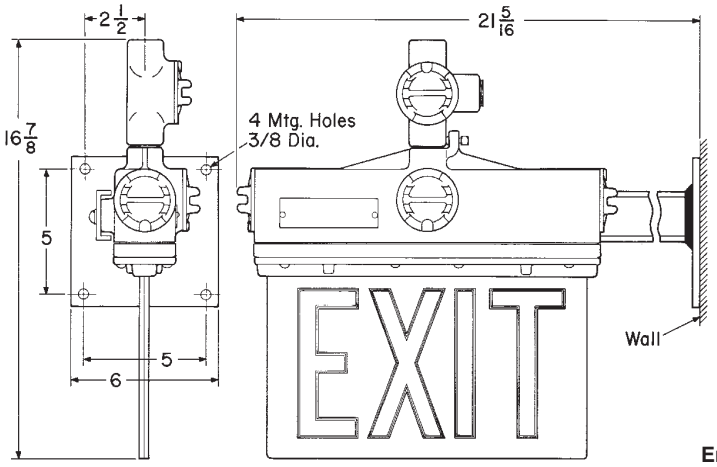
Pendant Style







Wall Style



End Bracket Style

10L EVLPF(B) - Exit Sign Fluorescent Luminaire

- Cl. I, Div 1, Groups B (suffix GB), C, D
- Cl. I, Zone 1, Groups IIB + H2 (GB suffix), IIB
- Cl. II, Div 1, Groups E, F, G; Class III, Simultaneous Presence
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66

Application:

EVLPF(B)-EXD exit signs are used:
- in any building or enclosed area where people work - where illuminated exit signs are required
- to provide distinct, highly visible exit marking
- to indicate the direction of travel to exits
- in locations deemed hazardous due to the presence of flammable vapours or gases, or combustible dusts

Features - Benefits:

- Six inch red letters on white glass sign panel make the word '' EXIT'' stand out boldly and clearly
- Light weight copper-free aluminum housing with powdered epoxy finish
- All exterior hardware is corrosion-resistant stainless steel
- Three mounting arrangements pendant, ceiling and wall bracket
- Integral ballast
- High power factor (90%+) ballasts
- Easier assembly, installation and maintenance
- Outdoor, hose down, marine and corrosive environments suitable
- Ideal for adverse environments typical of industrial facilities
- Ground wire for safety
- Optional battery backup for operation during power outage

About the battery:

- Bodine fluorescent battery pack ballasts are UL Component Recognized
- Sealed, maintenance-free, high-temperature nickel-cadmium
- Solid state chargers are sealed inside the ballast case
- 90 minute illumination time
- 10-year life expectancy
- 2-year full warranty
- During emergency use 1 lamp has continuous operation
- A red indicator light indicates the battery is charging
- Wiring instructions for a ″Push-to-Test″ button is supplied with the luminaire

Standard Materials:

- Mounting modules, cover, ballast housing, globe holder – copper free aluminum
- Globe – heat and impact resistant glass
- Exterior hardware – stainless steel

Standard Finishes:

Copper-free aluminum – *Corro-free™ powdered epoxy*

Ratings (Electrical/Size):

Sources/wattage:
- 52W (2-26W lamps)
- 120-277V, 50-60Hz
- 120V, 60Hz
- 347V, 60Hz

Conduit entries:
- ¾″, 1″ NPT – Pendant, Wall Bracket, Ceiling

Energy Savings

- Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output

Certification & Compliances:

- NEC and CEC:
  - Class I, Division 1, Groups B (GB suffix), C, D
  - Class I, Zone 1 Groups IIB + H2 (GB Suffix), IIB, IIA
  - Class II, Class III & Simultaneous Presence (Class I and Class II)
- UL Standards
  - 844 Hazardous (Classified) Locations
  - 1598 Luminaires
  - 1598A Marine Locations
- CSA Standards
  - C22.2 No. 137

Options:

Description	Suffix to be added to Cat. #
Group B suitability	GB
Factory assembled with lamps	FA

Ordering Information:

Mounting Type	Supply Voltage Volts/Hertz	Catalog Number Fluorescent	Catalog Number Fluorescent with Battery Back-up
Pendant	120-277V / 50-60Hz	EVLPFA02520/UNV-EXD	EVLPFBA02520/UNV-EXD
	120V / 60Hz (Canada)		EVLPFBA0520/120CAN-EXD
	347V / 60Hz	EVLPFA02520/347-EXD	EVLPFBA0520/347-EXD
Ceiling	120-277V / 50-60Hz	EVLPFCX02520/UNV-EXD	EVLPFBCX02520/UNV-EXD
	120V / 60Hz (Canada)		EVLPFBCX02520/120CAN-EXD
	347V / 60Hz	EVLPFCX02520/347-EXD	EVLPFBCX02520/347-EXD
Wall	120-277V / 50-60Hz	EVLPFBX02520/UNV-EXD	EVLPFBBX02520/UNV-EXD
	120V / 60Hz (Canada)		EVLPFBBX02520/120CAN-EXD
	347V / 60Hz	EVLPFBX02520/347-EXD	EVLPFBBX02520/347-EXD

DMVF(B) - Exit Sign Fluorescent Luminaire

- Cl. I, Div. 2; Groups A, B, C, D
- Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826)
- Certified for IEC Zone 2 (Suffix S826TB)
- Cl. II, Groups E, F, G, Cl. III & Simultaneous Presence
- Marine & Wet Locations
- 3, 3R, 4X; IP66

Application:

DMVF(B) exit signs are used:
- in any building or enclosed area where people work.
- where illuminated exit signs are required.
- to provide distinct, highly visable exit markings.
- to indicate the direction of travel to exits.
- in locations deemed hazardous due to the presence of flammable vapors or gases, or combustible dusts.

Features:

- Six inch letters on white glass sign panel make the word ''exit'' stand out boldly and clearly.
- Housings made of die-cast copper-free aluminum (less than 0.4 of 1% copper) for strength and resistance to corrosion).
- Mounting module equipped with integral hub set screws for vibration resistance (ceiling and pendant mounts).
- Hubs are provided with an integral conduit stop and bushing to help prevent damage to field wiring during installation.
- Epoxy powder finish and stainless steel external hardware for resistance to corrosion.
- Long life gaskets which provide seals between mounting module, housing, and globe assembly.
- Grounding wire for safety.
- Cool operating design.
- Optional emergency battery backup operation during power outage.

About the battery:

- Bodine fluorescent battery pack ballasts are UL Component Recognized.
- Sealed, maintenance-free, high-temperature nickle-cadmium
- Solid state chargers are sealed inside the ballast case.
- 90 minute illumination time.
- 10-year life expectancy.
- 2-year full warranty.
- During emergency use, 1 lamp has continuous operation.
- A red indicator light indicates the battery is charging.
- Wiring instructions for a ''Push-to-Test'' button is supplied with the fixture.

Energy Savings

- Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output.

Standard Materials:

- Ballast housings and mountings - copper-free aluminum (less than 0.4 of 1%).
- Exterior hardware - stainless steel.
- Globe - heat and impact resistant internally fluted glass.

Standard Finishes:

- Aluminum - gray epoxy powder coat.
- Krydon material - high reflectance white.
- Stainless steel - natural.

Electrical Rating Ranges:

- 52 Watt.
- 120-277V, 50-60 Hz.
- 120V, 60 Hz.
- 347V, 60 Hz.

Options:

Description	Suffix added to Cat. No.
Lamps supplied with exit sign	S714
Top hat with stainless steel threaded insert.	S806
Restricted breathing construction.	S826
Class I Division 2 & Zone 2 suitability.	
Cooler operating temperatures (T -Numbers).	
Certified for IEC Zone 2 (Suffix S826TB).	S826TB
Furnished with	
Terminal Block.	
Crimp Terminals.	
Dedicated voltage ballasts (no MT, DT or TT).	

Certifications and Compliances:

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

Ordering Information:

Mounting Type	Supply Voltage Volts/Hertz	Catalog Number Fluorescent	Catalog Number Fluorescent with Battery Back-up
Pendant	120-277V / 50-60Hz	DMVF2A052G/UNV-EXD	DMVFB2A052G/UNV-EXD
	120V / 60Hz (Canada)		DMVFB2A052G/120CAN-EXD
	347V / 60Hz	DMVF2A052G/347-EXD	DMVFB2A052G/347-EXD
Ceiling	120-277V / 50-60Hz	DMVF2C052G/UNV-EXD	DMVFB2C052G/UNV-EXD
	120V / 60Hz (Canada)		DMVFB2C052G/120CAN-EXD
	347V / 60Hz	DMVF2C052G/347-EXD	DMVFB2C052G/347-EXD
Wall	120-277V / 50-60Hz	DMVF2TW052G/UNV-EXD	DMVFB2TW052G/UNV-EXD
	120V / 60Hz (Canada)		DMVFB2TW052G/120CAN-EXD
	347V / 60Hz	DMVF2TW052G/347-EXD	DMVFB2TW052G/347-EXD

10L ELPS Light-Pak™ Emergency Lighting System

Cl. I, Div. 1 & 2; Groups C, D
Cl. I, Div. 1 & 2, Groups B, C, D (With suffix GB)
Cl. II, Div. 1; Groups E, F, G
Cl. III

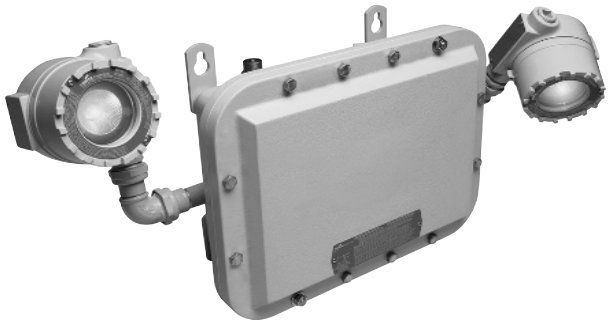
Cl. I, Zone 1
Simultaneous Presence
Wet Locations
NEMA 3, 3R, 12

Application:

ELPS series emergency lighting systems are used:
- to provide safe, reliable illumination indoors or outdoors to designated areas during failure or interruption of power to the normal lighting system
- in areas made hazardous by the presence of flammable gases and vapors, combustible dusts or easily ignitible fibers and flyings
- in areas where corrosion, vibration, moisture, dirt and rough usage may be encountered
- where required by the National Electrical Code®, the Life Safety Code or other codes
- in refineries, chemical and petrochemical facilities, grain processing, handling or storage facilities, manufacturing plants, waste water treatment facilities and other areas where safe, reliable, hazardous area emergency lighting is needed

Features:

- Compact factory sealed luminaire assemblies are each furnished with a 12 watt tungsten-halogen lamp and inner reflector for appropriate photometrics in hazardous areas.
- Luminaire assemblies are fully adjustable and lockable on two axes to provide flexible and consistent light aiming capabilities.
- Luminaire lens ring is threaded for easy relamping and locks in place with hex head set screw; will not loosen due to vibration.
- Ground joint cover with external flange design permits large opening and easy access to internal components. Stud bolts in diagonally opposite corners of body ease cover removal and installation.
- Neoprene cover gasket seals out moisture for superior protection of internal components against wetness and corrosion.
- Light weight, compact size, and mounting feet ease installation and allow placement in confined areas.
- Two 1″ NPT drilled and tapped conduit openings, with plugs, are standard, for choice of top or bottom feed.
- Factory-installed PUSH-TO-TEST pushbutton enables easy testing of system.
- MAIN POWER ON pilot light indicates AC power is being supplied to the battery charger; pilot light jewel is threaded for easy lamp replacement.
- Stainless steel drain minimizes moisture collection. Stainless steel breather with aluminum cap provides ventilation, minimizes moisture collection.
- CID 101 corrosion inhibitor device is provided with each ELPS system to help protect electrical components and connections.
- Rugged, long-life, maintenance-free, nickel cadmium battery provides 30 watts of power for the required 1½ hours.
- Solid state battery charger for long life and reliable service prevents deep discharge by automatically disconnecting luminaires from battery.



- Terminal block facilitates field wiring connections.
- Instruction sheet and maintenance record card provided with unit in a protective plastic envelope.
- A time delay is standard; time delay is preset at factory for 5 minute delay but can be field set for 5 seconds or 15 minutes, thus allowing HID type lamps time to restrike and reach desired illumination levels.
- Solid state battery charger will accept 120, 220/240 or 277 VAC, 50/60 Hz.

Electrical Ratings:

- Power supply:
  Input: 120, 220/240, 277 VAC, 50 or 60 hertz
  0.5 Amps Maximum
  Output: 12 VDC
  UL listed for 28 watts for 1½ hours at 0° – 40°C
- Luminaires:
  Voltage: 12 VDC
  Lamp Type: #789, miniature Tungsten halogen, G4, 2-pin, 14 watt.

Certifications and Compliances:

- NEC: Class I, Groups B, C, D
  Class II, Groups E, F, G
  Class III
  Simultaneous Presence
- NEMA: 3R, 4X*, 12 (ELPS power supply)
- Suitable for wet locations (EVLA fixtures)
- Marine (EVLA fixtures)
- UL Standard:
  844 – Electric Luminaire – Hazardous Locations
  924 – Emergency Lighting and Power Equipment
  1203 – Explosionproof and Dust-Ignition-Proof Electrical Equipment
- Life Safety Code:
  Section 5-9 (Emergency Lighting)
- Suitable for Wet Locations
- NEMA 3, 3R, 12
- Marine

* NEMA 4X pending with new ECD 4X breather and drain

Standard Materials:

- Power supply enclosure and luminaire assembly – copper-free aluminum (less than 0.4 of 1% copper)

Standard Finishes:

- Power supply enlosure and fixture assemblies—powder coat epoxy paint finish

Ordering Information:

CATALOG NUMBER	DESCRIPTION
ELPS502*	Standard unit with adjustable heads
ELPS-K50	Replacement power interior, includes circuit board and battery pack
ELPS50*	Power Supply
EVLA12*	Lamphead and arm
ELPS502-EXD	Exit sign, double sided with EVI, red letters
ELPS502-EXD GN	Exit sign, double sided with EVI, green letters
ELPS502-EXD GB	Exit sign, **single or double** sided with Group B EVA, red letters
ELPS502-EXD GB GN	Exit sign, **single or double** sided with Group B EVA, green letters
ELPS502-EXS	Exit sign, single sided with EVI, red letters
ELPS502-EXS GN	Exit sign, single sided with EVI, green letters

* Base unit comes standard with Class I, Division 1, Group B.

Options:

- Remote mounted EVLA12 lamp head mounted to a Cooper Crouse-Hinds EABC36 or EABL36 1″ NPT outlet box
- S794 key operated disconnect switch as part of the ELPS502 emergency light system
- S854 keyless operated designated disconnect switdch as part of the ELPS502 emergency light system

Temperature Performance Data:

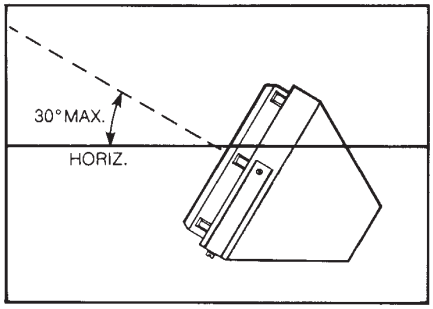
EVLA12—Maximum Ambient Temperature 55°C (131°C)
EVLA12 Temperature Codes (T-numbers):

- Class I—T4A
- Class II*—T3B
- Class III*—T3B

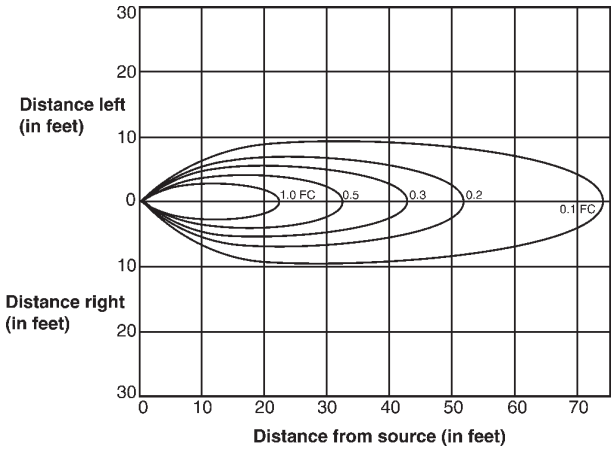
* For Class II and Class III applications, fixtures must not be aimed more than 30° above horizontal (see diagram below).

ELPS EVI & ELPS EVA—Maximum Ambient Temperature 40°C

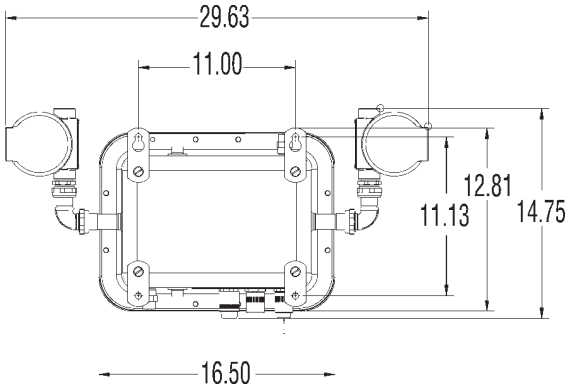
- Class I—T4
- Class II—T3C

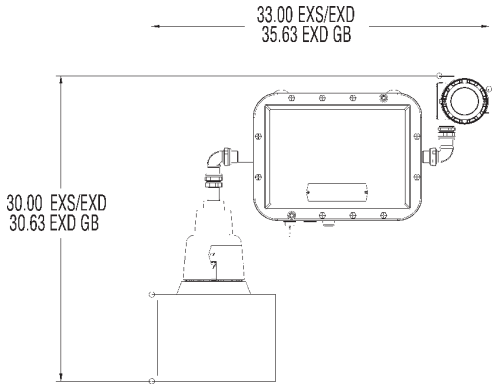


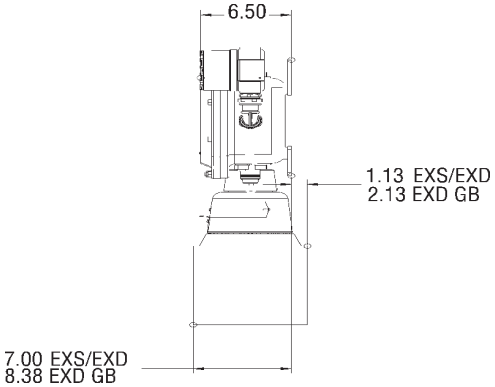
Photometric Data:



Dimensions







Unit Net Weights:

- ELPS502 complete emergency lighting system – 50 lbs.
- ELPS50 power supply – 40 lbs.
- EVLA12 luminaire assembly – 5 lbs.

Status Indication

LED Status	Condition	Meaning of the Indication
	No light	AC power is removed from the circuit
●	Steady light (no blinking)	Fully charged
●	Light blinks once	Charging
●●	Light blinks twice	Battery failure
●●●	Light blinks three times	Circuit failure
●●●●	Light blinks four times	Lamp failure

10L LIGHT-PAK™ N2LPS Emergency Lighting System

Cl. I, Div. 2, Groups B, C, D
Class I, Zone 2
Wet Locations
NEMA 3, 3R

Application:

Light-Pak N2LPS emergency lighting systems are used:
- to provide reliable illumination for egress areas during failure or interruption of power to the normal lighting system
- in areas where flammable gases or vapors may become present due to abnormal, unusual, or accidental conditions
- in manufacturing plants, refineries, petrochemical and chemical plants, waste and sewage treatment facilities, oil terminals, food processing facilities, breweries, and other industrial manufacturing or process industry facilities subject to wet or corrosive conditions
- to illuminate machinery or panels during a loss of AC power
- where moisture, dirt, dust, or corrosion will limit the life and reliability of ordinary emergency lighting systems
- where required by the National Electrical Code®, the Life Safety Code® or other applicable codes
- Outdoor applications

Features:

- Compact factory assembled system with two 8 watt sealed beam halogen lamps.
- Nonmetallic, enclosed and gasketed construction; a CID101 corrosion inhibitor device is also included.
- Solid state battery charger will accept 120, 220, and 277 VAC, 50/60 Hz.
- A time delay is standard; time delay is preset at factory for 5 minute delay but can be field set for 5 seconds or 15 minutes, thus allowing HID type lamps time to restrike and reach desired illumination levels.
- ''Push-to-Test'' button and ''Main Power On'' pilot light are conveniently located on side of system.
- Sealed, lead calcium battery(ies); one battery supplies 28 watts of power (two batteries 56 watts) for 1½ hrs.
- Luminaire heads constructed of rugged Noryl® thermoplastic material with nylon and plastic coated hardware.
- Cover has six captive stainless steel screws; factory installed ¾″ conduit hub opening is standard, located on top of system.
- Remote luminaire head assemblies (one or two) are available for mounting of luminaire heads away from main power supply system.

Temperature Performance Data: (based on 40°C ambient)

Cat. #	Class I, Division 2
N2LPS (all)	T4A
N2RF (all)	T5

(NOTE: Ambient temperature at which the Light-Pak system is rated is 0°C (32°F) to 40°C (104°F). Lower ambient temperatures will reduce battery capacity.)

National Electrical Code and **Life Safety Code** are registered trademarks of the National Fire Protection Association, Inc.
Noryl is a registered trademark of General Electric Company.

Standard Materials:

- Power supply and remote luminaire enclosures – Krydon® fiberglass-reinforced polyester
- Luminaire heads – Noryl® thermoplastic
- Exterior hardware – Nylon, plastic coated, and stainless steel
- Cover gasket – Hypalon® synthetic rubber

Electrical Ratings:

- Power supply –
  Input: 120, 220, or 277 VAC, 50 or 60 Hz; 25 watts max.
  Output: 6 VDC;
  N2LPS6222, N2CPS6220 – 28 watts for 1½ Hrs.
  N2LPS6422, N2LPS6420 – 56 watts for 1½ Hrs.
- Luminaires – Voltage: 6 VDC; Lamp type: 8 watt, tungsten halogen PAR36 sealed beam (General Electric #H7551)

Certifications and Compliances:

- NEC – Class I, Division 2, Groups B,C,D
- UL Standards: 924 (Emergency Lighting and Power Equipment); 844 (Electric Luminaires Hazardous Locations)
- Life Safety Code NFPA101® – Section 5-9 (Emergency Lighting)
- Wet Locations Suitability

Unit Net Weights:

- N2LPS6222 – 16 lbs.
- N2LPS6422 – 21 lbs.
- N2LPS6220 – 12 lbs.
- N2LPS6420 – 17 lbs.
- N2RF621 – 6 lbs.
- N2RF622 – 8 lbs.

Ordering Information:

Description	Cat. #
28 watt, 6 volt output power supply with two 8 watt tungsten halogen luminaires	N2LPS6222
56 watt, 6 volt output power supply with two 8 watt tungsten halogen luminaires	N2LPS6422
28 watt, 6 volt output power supply only (less luminaire heads)	N2LPS6220
56 watt, 6 volt output power supply only (less luminaire heads)	N2LPS6420
Remote luminaire assembly with one 8 watt luminaire head	N2RF621
Remote luminaire assembly with two 8 watt luminaire heads	N2RF622
Remote luminaire assembly with one 12 watt 6 volt lamp for mounting in Class 1, Division 1, Group C and D areas	EVLA126
Power supply with two 8 watt tungsten halogen luminaires and single face exit sign. Exit sign operates in emergency mode only.	N2LPS6422-EXS
Power supply with two 8 watt tungsten halogen luminaires and double face exit sign. Exit sign operates in emergency mode only.	N2LRS6422-EXD

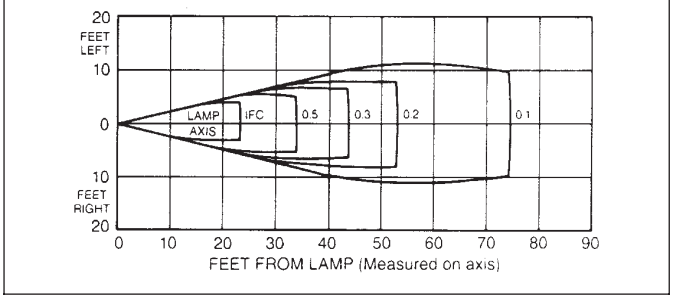
Option:

Description	Suffix to be Added to Cat. #
N2LPS6422 with exit sign EXS or EXD that operates in both normal and emergency mode.	S840

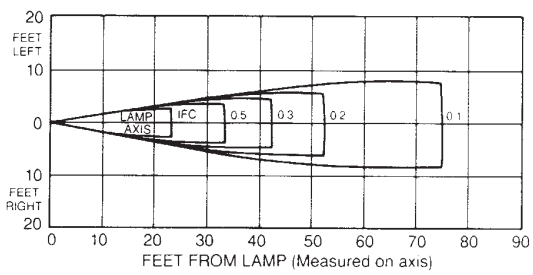
Photometric Data:

Isofootcandle Chart

Horizontal Distribution



Vertical Distribution



Wire Sizing for Remote Installation:

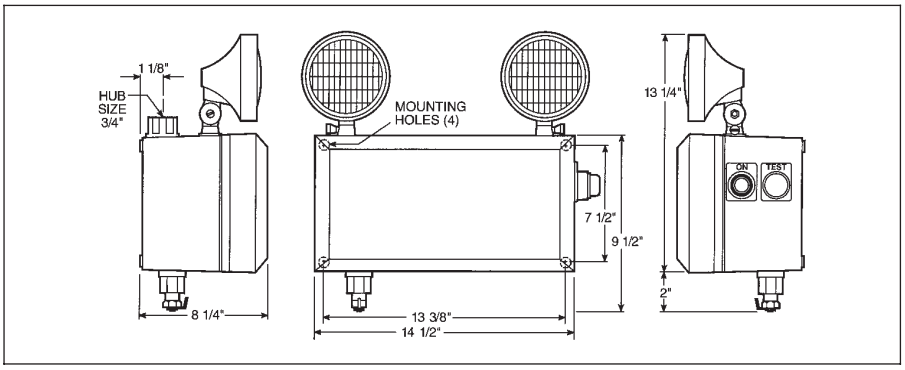
For Copper Wire –

Running Distance* (ft.) Between Power Supply and Remote Luminaire

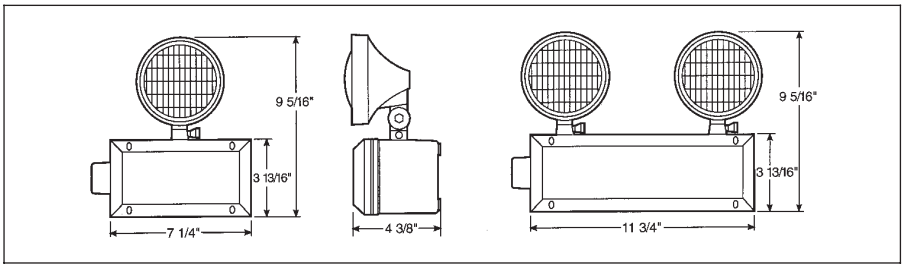
	Load In Watts						Load In Watts			
Wire Size	**8**	**16**	**24**	**32**	**Wire Size**	**8**	**16**	**24**	**32**
16 AWG	26	13	6	3	10 AWG	106	53	26	13
14 AWG	42	21	10	5	8 AWG	168	84	42	21
12 AWG	66	33	16	8	6 AWG	270	135	67	33

* Maximum distance to limit line voltage drop to 5%.

Dimensions (N2LPS):



Dimensions – Remote Luminaires (N2RF621 – N2RF622)



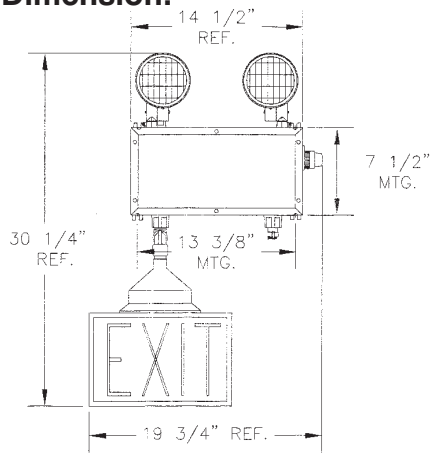
Weights:

Description	Weight
N2LPS6222 (28 watt system)	16 lbs.
N2LPS6422 (56 watt system)	21 lbs.

Weights:

Description	Weight
N2RF621 (8 watt)	6 lbs.
N2RF622 (16 watt)	8 lbs.

Dimension:



10L CPMVFB Emergency Compact Fluorescent

Continuous Operation Champ-Pak™ Luminaires

- Cl. I, Div. 2, Groups A, B, C, D
- Restricted Breathing Cl. I, Div 2 & Zone 2 (Suffix S826)
- Certified for IEC Zone 2 (Suffix S826TB)
- Cl. II Groups E, F, G, Cl. III & Simultaneous Presence *
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66
- Emergency Lighting

Application:

- where emergency lighting is required to permit workers in industrial areas to safely encounter their surroundings during power failures
- where emergency egress lighting is required, such as: catwalks, walkways, tunnels, doorways, stairs, stairwells, ramps and aisles
- indoor and outdoor wall mounting or vertical surface mounting where minimal luminaire depth is required in:
  - Manufacturing plants and heavy industrial facilities
  - Industrial process facilities such as refineries, chemical, petrochemical, pharmaceutical and platforms
  - Waste or sewage treatments plants
  - Offshore, dockside and harbor installations
- For security and safety lighting in industrial facilites for lighting of loading docks, tunnels and stairways
- For marine, wet location, hosedown and corrosive environments

Features & Benefits:

- Unique compact shallow-profile design mounts virtually anywhere
- Side hinged cover with two screw closing for easy installation and maintenance
- Gray Corro-free™ epoxy powder coat two-piece housing provides superior corrosion resistance
- Unique stainless steel wire guard accessory attaches without any additional hardware for easy installation and maintenance
- Glass refractor provides uniform light distribution to eliminate glare
- Silicon gaskets make luminaire suitable for NEMA 4X, Marine enviroments
- High power factor ballasts (+90%) are standard, which allow more luminaires per circuit

Standard Materials:

- Luminaire housing and door frame assembly - copper-free aluminum
- External hardware - stainless steel
- Lens - heat and impact-resistant refractor style glass
- Gaskets - silicon rubber
- Reflector - aluminum light sheet
- Wire guard - stainless steel

Standard Finishes:

- Aluminum - Corro-free™ epoxy powder coat
- Stainless steel - natural

* Consult Cooper Crouse-Hinds

Certifications and Compliances:

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

About the battery:

- Bodine fluorescent battery pack ballasts are UL Component Recognized
- Sealed, maintenance-free, high-temperature nickel-cadmium
- Solid state chargers are sealed inside the ballast case
- 90 minute illumination time
- 10-year life expectancy
- 2-year full warranty
- During auxiliary use 1 lamp has continuous operation
- A red indicator light indicates the battery is charging
- Wiring instructions for a ''Push-to-Test'' button is supplied with the fixture

Electrical Rating Ranges:

- 52 watts
- 120-277V, 50-60Hz
- 120V, 60Hz
- 347V, 60Hz

Options:

	Suffix to be added to Cat. #
Restricted Breathing Construction Class I Division 2 & Zone 2 Suitability Cooler Operating Temperatures (T-numbers)	S826
Certified for IEC Zone 2 (Suffix S826TB) Furnished with Terminal Block Crimp Terminals Dedicated voltage ballasts (no MT, DT or TT)	S826TB
Factory Assembled with Lamp installed	FA
Fused - projects ballast and capacitors against abnormal line conditions (Not for use in Canada) (Not for Marine use)	S658†

Accessories:

	Cat. #
Stainless Steel Wire Guard	P55

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

CPMVFB Emergency Compact Fluorescent

Continuous Operation Champ-Pak™ Luminaires

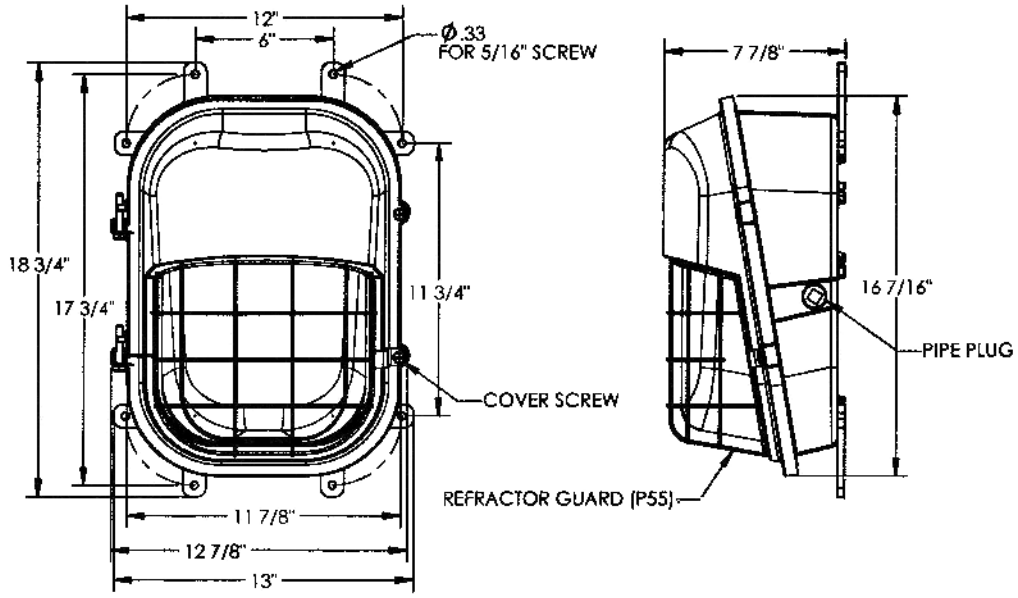
Ordering Information:

Hub Size	Lamp Watts	Catalog Number for use with ANSI Lamps
¾NPT	26	CPMVFB2W026

Standard Voltage Ballasts

	NEC/UL	CEC/CSA (cUL)	
Voltage	120-277V 50-60Hz	120V/60Hz	347V 60Hz
Suffix	/UNV	/120CAN	/347

Dimensions (Inches):



Net Weight:

Luminaire Less Guard	18.6 Lbs.
P55 Guard	0.5 Lbs.

10L DMVFB Emergency Compact Fluorescent

Continuous Operation Champ® Luminaires

- Cl. I, Div. 2, Groups A, B, C, D
- Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826)
- Certified for IEC Zone 2 (Suffix S826TB)
- Cl. II Groups E, F, G, Cl.III & Simultaneous Presence
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66
- Emergency Lighting

Application:

DMVF series Champ lighting luminaires are used:

- where emergency lighting is required to permit workers in industrial areas to safely encounter their surroundings during power failures.
- Where emergency egress lighting is required, such as: catwalks, walkways, tunnels, doorways, stairs, stairwells, ramps, and aisles.
- in areas made hazardous by abnormal conditions resulting in the presence of flammable vapors or gases.
- in areas made hazardous by the presence of combustible dusts.
- where combustible dusts and flammable vapors are present simultaneously.
- in marine applications where water spray and corrosive atmospheres are considerations.
- on installations where vibration and rough usage are problems.
- where a cool, efficient light source is required.
- in areas that require lamps to reach full illumination immediately.
- in refineries, chemical and petrochemical facilities, grain processing, handling or storage facilities, manufacturing plants waste water treatment plants sewage treatment plants, oil terminals, food processing facilities, breweries, and any other manufacturing or processing facility where safe, reliable, hazardous area fluorescent or auxiliary lighting is needed.

Standard Features:

- Housings made of die-cast copper-free aluminum (less than 0.4 of 1% copper) for strength and resistance to corrosion.
- Mounting modules equipped with integral hub set screws for vibration resistance (ceiling, pendant, and quad mounts).
- Hubs are provided with an integral conduit stop and bushing to help prevent damage to field wiring during installation.
- Epoxy powder finish and stainless steel external hardware for resistance to corrosion.
- Long-life gaskets which provide seals between mounting module, housing, and optical assembly.
- Grounding wire for safety.
- Cool operating design.
- Optional stainless steel open bottom guard permits direct access to the globe for easy relamping.
- Battery pack ballast for emergency lighting.

Energy Savings

- Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output.

About the battery: (DMVFB Units)

- Bodine fluorescent battery pack ballasts are UL Component Recognized.
- Sealed, maintenance-free, high-temperature nickel-cadmium
- Solid state chargers are sealed inside the ballast case.
- 90 minute illumination time
- 10-year life expectancy
- 2-year full warranty
- During auxiliary use 1 lamp has continuous operation
- A red indicator light indicates the battery is charging.
- Wiring instructions for a ''Push-to-Test'' button is supplied with the luminaire.

Standard Materials:

- Ballast housings and mountings – copper-free aluminum (less than 0.4 of 1%).
- Exterior hardware and guards – stainless steel.
- Reflectors – Krydon® fiberglass-reinforced polyester material.
- Globe – heat and impact resistant internally fluted glass.

Standard Finishes:

- Aluminum – gray epoxy powder coat.
- Krydon material – high reflectance white.
- Stainless steel – natural.

Electrical Rating Ranges:

- 52 and 64 watts
- 120-277V, 50-60 Hz
- 347V, 60 Hz

Certifications and Compliances:

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

Options:

Description	Suffix to be added to Cat. No.
• Restricted Breathing Construction - Class I Division 2 & Zone 2 Suitability - Cooler Operating Temperatures (T-Numbers)	**S826**
• Certified for IEC Zone 2 (Suffix S826TB) - Furnished with Terminal Block Crimp Terminals	**S826TB**
• Emergency Operation only	**Consult Crouse- Hinds**

- Factory Assembled with lamps installed for additional labor savings . . . . . add suffix **FA.**
- Fused – to protect ballast against abnormal line conditions (not for use in Canada) (not for Marine use) . . . . . add suffix **S658.***
- Lamps supplied with luminaire . . . add suffix **S714.**
- Top hat with stainless steel threaded insert to attach ballast housing . . . . add suffix **S806.**
- TEFLON® coating on globe for increased shatter protection . . . . . add suffix **S808.**

Accessories:

(Order separately)

- Dome Cat. # RD739
- 30° Angle Cat. # RA739

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

DMVFB Emergency Compact Fluorescent

Continuous Operation Champ® Series Luminaires

- Cl. I, Div. 2, Groups A, B, C, D
- Restricted Breathing Cl. I, Div 2 & Zone 2 (Suffix S826)
- Certified for IEC Zone 2 (Suffix S826TB)
- Cl. II Groups E, F, G, Cl. III & Simultaneous Presence
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66
- Emergency Lighting

	Mounting Style	Hub Size	Lamp Watts	DMVFB Series Fluorescent with Battery Back-Up with G303 Globe and P33 Guard Cat. No.
	**Pendant Mount**	¾	52	DMVFB2A052GP
		1		DMVFB3A052GP
		¾	64	DMVFB2A064GP
		1		DMVFB3A064GP
	**Flexible Pendant Mount**	¾	52	DMVFB2HA052GP
		¾	64	DMVFB2HA064GP
	**Ceiling Mount Thru-Feed**	¾	52	DMVFB2C052GP
		1		DMVFB3C052GP
		¾	64	DMVFB2C064GP
		1		DMVFB3C064GP
	**Wall Mount Thru-Feed**	¾	52	DMVFB2TW052GP
		1		DMVFB3TW052GP
		¾	64	DMVFB2TW064GP
		1		DMVFB3TW064GP
	**Quad-Mount** Pendant, Adjustable Thru-Feed, 25° Angle, 12-1/2° Angle	¾	52	DMVFB25Q052GP
		¾	64	DMVFB25Q064GP
	**Stanchion Mount** 25° Angle	1-½	52	DMVFBJ052GP
		1-½	64	DMVFBJ064GP
	**Stanchion Mount** Straight	1-½	52	DMVFBP052GP
		1-½	64	DMVFBP064GP

Note: For technical information on family trees, temperature performance data, dimensions, weights, and photometrics, refer to DMVF Series in Section 6L.

NOTES:
1. Catalog numbers are basic numbers. **Voltage must be specified.**

Standard Voltage Ballasts

	NEC/UL	CEC/CSA (cUL)	
Voltage Suffix	120-277V 50-60Hz /UNV	120V/60Hz /120CAN	347V 60Hz /347

10L EVLPFB Emergency Compact Fluorescent

Continuous Operation Low Profile Luminaires

- Cl. I, Div. 1, Groups B (GB Suffix), C, D
- Cl. I, Zone 1, Groups IIB + H2 (GB suffix), IIB, IIA
- Cl. II, Div. 1, Groups E, F, G; Class III, Simultaneous Presence
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66
- Emergency Lighting

Application:

Cooper Crouse-Hinds Low Profile Hazard•Gard® luminaires are used in:
- areas that require lamps to reach full lumination immediately.
- where emergency lighting is required to permit workers in industrial areas to safely encounter their surroundings during power failures.
- where emergency lighting is required such as: catwalks, walkways, tunnels, doorways, stairs, stairwells, ramps and aisles.
- areas where flammable or explosive vapors or gases are present
- hazardous areas, both indoors and outdoors, where long life and low maintenance costs are desired
- petroleum refineries, chemical, petrochemical and pharmaceutical plants, oil terminals, gas plants and other heavy process industry facilities
- waste treatment facilities
- drilling platforms and other coastal and offshore hazardous areas

Features - Benefits:

- Small compact size
- Two start Acme threaded construction
- Easier assembly, installation and maintenance
- Light weight copper-free aluminum housing with powdered epoxy finish
- All exterior hardware is corrosion-resistant stainless steel
- Four mounting arrangements pendant, ceiling, wall bracket and stanchion
- Integral ballast
- High power factor (90%+) ballasts
- Uses same mounting modules as the standard Hazard•Gard®
- Internally fluted glass globes
- Krydon® construction dome and angle reflectors – won't rust, corrode, dent, chip or peel
- Now available in components – luminaire body, mounting module, guard, reflectors
- Three wire construction
- For energy conservation, luminaires can be switched off without affecting the emergency operation feature

Standard Materials:

- Mounting modules, cover, ballast housing, globe holder – copper free aluminum
- Globe – heat and impact resistant glass
- Exterior hardware – stainless steel
- Reflectors (dome & angle) – Krydon™ fiberglass-reinforced polyester

Energy Saving:

- Less wattage used with compact fluorescent lamps compared to equivalet incandecent lamps providing the same light output.

Standard Materials:

- Mounting modules, cover, ballast housing, globe holder – copper free aluminum
- Globe – heat and impact resistant glass
- Exterior hardware – stainless steel
- Reflectors (dome & angle) – Krydon™ fiberglass-reinforced polyester

Standard Finishes:

Copper-free aluminum – *Corro-free™ powdered epoxy*
- Krydon – *white*
- Stainless steel guard

Ratings (Electrical/Size):

Sources/wattage:
- Fluorescent continuous operation Emergency Lighting 52W (2-26W lamps) and 64W (2-32W lamps) Compact fluorescent

Voltages:
- Fluorescent Emergency Lighting
  - 120-277V, 50-60 Hz
  - 120V, 60 Hz
  - 347V 60Hz

Conduit entries:
- ¾″, 1″ NPT – pendant, wall bracket, ceiling
- 1¼″ NPT – stanchion

Options:

Description	Suffix to be added to Cat. #
Group B suitability	GB
Fused (not for use in Canada) (not for Marine use)	S658*
Factory assembled with lamps	FA
Emergency Operation only	Consult Cooper Crouse-Hinds

Accessories:

Description	Cat. #
Dome reflector	RD739
Angle reflector	RA739

About the Battery

- Bodine fluorescent battery pack ballasts are UL Component Recognized.
- Sealed, maintenance-free, high-temperature nickle-cadmium.
- Solid state chargers are sealed inside the ballast case.

90 minute illumination time.
10-year life expectancy
- 2-year warranty.
- During emergency use, 1 lamp has continuous operation.
- A red indicator light indicates the battery is charging.
- Wiring instructions for a ''Push-to-Test'' button is supplied with the fixture.

Certification & Compliances:

- NEC and CEC:
  Class I, Division 1, Groups B (with GB suffix), C, D
  Class I, Zone 1 Groups IIB + H2 (GB Suffix), IIB, IIA
  Class II, Class III & Simultaneous Presence (Class I and ClassII)
  Emergency Lighting
- UL Standards
  844 Hazardous (Classified) Locations
  1598 Luminaires
  1598A Marine Locations
  924 Emergency Lighting
- CSA Standards
  C22.2 No. 137

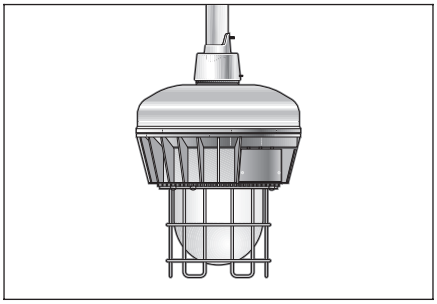
* When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.

EVLPFB Emergency Compact Fluorescent

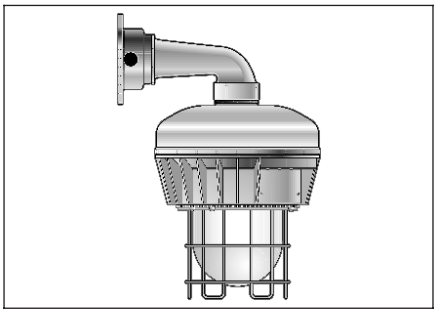
Continuous Operation Low Profile Luminaires

- Cl. I, Div. Groups B (GB suffix), C, D
- Cl. I, Zone 1, Groups IIB + H2 (with Suffix GB), IIB, IIA
- Cl. II, Div 1, Groups E, F, G; Class III, Simultaneous Presence
- Marine & Wet Locations
- 3, 3R, 4, 4X; IP66
- Emergency Lighting

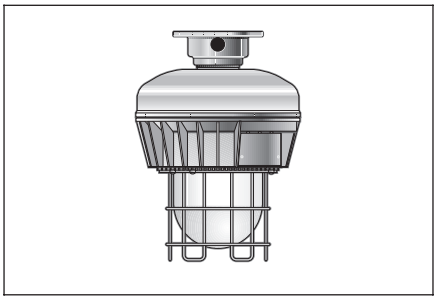
Ordering Information



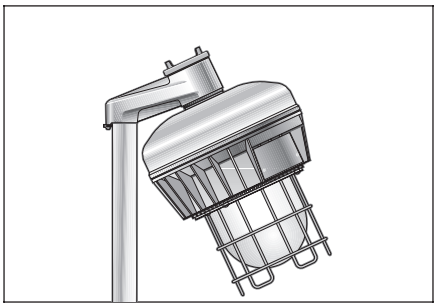
Pendant Mount



†Wall Bracket Mount



†Ceiling Mount



Stanchion Mount

†Ceiling and bracket mounts have 4 hubs: 3 are plugged.

Watt	Hub Size	Pendant With Guard *Catalog #*	Wall Bracket† With Guard *Catalog #*	Ceiling† With Guard *Catalog #*	Stanchion With Guard *Catalog #*	Luminaire Body Less Mounting Module & Guard *Catalog #*
Fluorescent with Emergency Ballast – High Power Factor Ballast (Min. P.F. 90%)						
52W	¾	EVLPFBA02521	EVLPFBBX02521	EVLPFBCX02521		EVLPFB0520
	1	EVLPFBA03521	EVLPFBBX03521	EVLPFBCX03521		
	1¼				EVLPFBJ04521	
64W	¾	EVLPFBA02641	EVLPFBBX02641	EVLPFBCX02641		EVLPFB0640
	1	EVLPFBA03641	EVLPFBBX03641	EVLPFBCX03641		
	1¼				EVLPFBJ04641	

Complete Catalog Numbers as follows:

1. **Standard Voltage Ballasts**

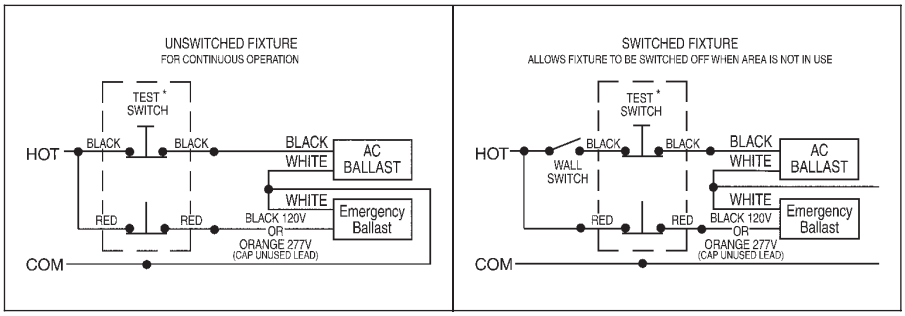
	NEC/UL	CEC/CSA (cUL)	
Voltage Suffix	120-277V 50-60Hz /UNV	120V/60Hz /120CAN	347V 60Hz /347

Example: **EVLPFB02521/UNV**
2. Other Voltages - Consult Cooper Crouse-Hinds

Note: For technical information on family trees, temperature performance data, dimensions, weights, and photometrics, refer to DMVF Series in Section 5L.

EVFPFB Fluorescent Emergency Lighting

- Three wire construction, for switching purposes, is standard on Fluorescent Emergency Lighting.
- For energy conservation, luminaires can be switched off without affecting the emergency operation feature.



*Test Switch is remote mounted.
Use Cooper Crouse-Hinds EDSC218 (Not furnished).

Notes Page

"Steady On" Beacons, "Rotating" Beacons and "Flashing" Strobe Lights

Luminaires for Hazardous and Non-Hazardous Locations

11L Visual Signaling Devices
"Steady On" Beacons, "Rotating" Beacons and "Flashing" Strobe Lights
Luminaires for Hazardous and Non-Hazardous Locations

Application:

- for use in hazardous and non-hazardous areas (as shown in the quick selector chart shown below).
- to supplement audible signals, especially in high noise areas.
- as visual signals or warning lights.
- to identify the location of safety equipment such as emergency shower, eye wash stations, and emergency telephones, fire extinguishers and emergency stop switches.
- for status indication of machinery or processes.
- to indicate dangerous areas or areas requiring caution.
- to signal dangerous or hazardous conditions.

Considerations for Selection:

Environmental:
- What is the hazardous area classification (NEC/CEC) of the location in which the luminaire will be installed?

Signaling Requirements:
- What will the visual signal be used for (Communicating, alerting, warning)?

Physical Arrangements:
- Type of luminaire mounting needed.

Quick Selector Chart:

Series	Hazardous Area Suitability	Lamp Watts	Volts	No. of Lamps
VF - "Steady On" Beacons	CL. I, Div 2, Groups A, B, C, D CL. I, Zone 2, Group IIC Wet Locations - 3, 3R	(2) 9W	120V 60 Hz.	2
EX Strobes, Steady-On Beacons, & Rotating Beacons	Cl. I, Div. I, Groups C,D Cl. I, Zone 1 & 2, Group IIB Cl. II, Div. I, Groups E,F,G Wet Locations - 4X, Marine	Xenon Strobe Halogen Beacon	120 VAC 24 VDC 12-48 VDC 24-28 VDC	
VDAS Strobes	CL. I, Div 2, Groups A, B, C, D CL. I, Zone 2, Group IIC CL. II, Div 2, Groups F, G; Cl. III Wet Locations - 3, 3R, 4, 4X	Xenon Strobe	120V 60 Hz 240V 60 Hz 12-24VDC	1

Warning and Visual Indication Colors Available	Typical Uses
Green	Emergency Shower or Eye Wash Station
Blue	Emergency Telephones
Red	Danger, Equipment Operating
Yellow	Caution
Clear	Equipment end of cycle

VF "Steady On" Beacon

Compact Fluorescent Warning and Visual Indication Light

- Cl. I, Div. 2, Groups A, B, C, D
- Cl. I, Zone 2, Groups IIC
- Wet Locations
- 3, 3R
- Green - Safety Shower
- Blue - Emergency Telephones
- Red - Danger
- Amber - Warning
- Visual Signal

Application:

VF series ''Steady On'' fluorescent beacons are used indoors or outdoors:
- where the energy efficiency and long life of compact fluorescent lamps are desired
- for continuous signaling requirements.
- where a continuous ''Steady-On'' fluorescent light signal is required
- where ambient noise makes audible signals difficult to hear.
- as visual signals or warning lights on loading docks; at obstructions, exits or entrances.
- for identifying the location of safety equipment such as safety showers or emergency telephones.
- for call signals.
- for status indication or area lighting on offshore rigs, mines, refineries etc.
- in locations which are hazardous due to the presence of flammable vapors or gases and where dampness or corrosion are present.
- to identify a potentially dangerous obstacle.
- as a continuous source to warn or communicate.

Typical Applications are:
- Green - Identify safety shower locations
- Blue - Identify emergency telephones
- Amber - Caution signal
- Red - Danger signal
- Red & Amber - Emergency situations
- Blue & Red - Security or malfunctioning equipment.
- Green & Clear - Equipment end of cycle.

Features:

- Extremely energy efficient, only 18 watt (2-9 watt compact fluorescent lamps)
- Packs considerable punch for ample visibility even in harsh enviroments.
- Compact size and light weight allow adaptation and easy installation in many industrial applications
- Cast copper-free aluminum (less than 0.4 of 1% copper) construction and epoxy powder finish provide excellent resistance to corrosion
- Variety of mounting arrangements to suit any lighting layout – pendant, ceiling, wall bracket, angle stanchion.
- Glass globes are internally fluted and stippled to enhance visibility. Exteriors are smooth to shed dust
- Grounding wire for safety

Standard Materials:

- Bodies and guards – copper-free aluminum (less than 0.4 of 1%)
- Globes – glass

Standard Finishes:

- Copper-free aluminum – powder epoxy finish

Electrical Ratings:

- Input voltage – 120 VAC, 60 hertz
- Wattages: 18W (Two 9W lamps)

Certifications and Compliances:

NEC and CEC:
Class I, Division 2, Groups A, B, C, D
Class I, Zone 2
- UL Standards
  844
  1598 Luminaires
- CSA standards
  c22.2 No. 137

Options:

Description	Suffix added to Cat. No.
• 250 volt Nameplate for export applications	/250

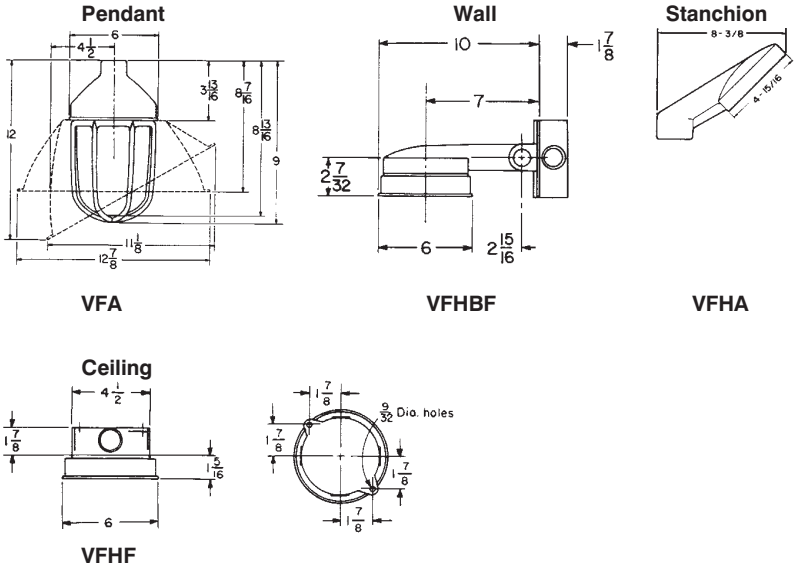
Weights:

Luminaire Type	2-Lamp Luminaire With Globe & Guard (lbs.)
VFA	5
VFHF	5¼
VFHBF	7½

Temperature Performance Data:

Style 1 & 2 Lamp	Class I Div. 2	Max. Ambient	Supply Wire °C	Minimum Operating
9W	T3B	40°C	75°C	–4°C (25°F)

Dimensions



Ordering Information:

Style	Catalog Number - by Globe Color				
	Red	Amber	Green	Blue	Clear
Pendant	VFA222GRP	VFA222GAP	VFA222GGP	VFA222GBP	VFA222GP
Wall	VFHBF222GRP	VFHBF222GAP	VFHBF222GGP	VFHBF222GBP	VFHBF222GP
Ceiling	VFHF222GRP	VFHF222GAP	VFHF222GGP	VFHF222GBP	VFHF222GP
Stanchion	VFHA422GRP	VFHA422GAP	VFHA422GGP	VFHA422GBP	VFHA422GP

11L Hazard•Gard EX Series Visual Signaling Devices

Explosionproof Fire Alarm Strobe Light

NEW!

Class I, Division 1, Groups C & D
Class I, Zone 1 & 2, Group IIB
Class II, Division 1, Groups E,F,G ● Class III
UL 1638, 1203 and 1971 Listed
NEMA 4X watertight, IP 66

The **Hazard•Gard™ EXFASC Series** is a visual fire alarm signaling device for hazardous areas. The EXFASC Series strobes are UL 1971 Listed for indoor signaling applications for the hearing impaired in non-sleeping areas. They are also UL listed for Type 3R, 4X installations. The strobes are available for pendant, wall and ceiling mounts.

The **EXFASC Series Fire Alarm Explosionproof Strobe** contains a supervisory diode for use in fire alarm applications. Under normal operation the diode is reversed biased, meaning it blocks voltage from being applied to the strobe light and prevents it from lighting. When a fire-initiating device such as a smoke alarm is activated, the diode's polarity is reversed through a fire alarm panel. The diode becomes forward biased, allowing voltage to the device and activating the strobe.

Primary Applications

- Visual fire alarm signaling device for hazardous areas

Typical Industries

- Energy exploration
- Utilities
- Wastewater treatment plants
- Pulp & paper plants
- Petrochemical plants
- Petroleum refineries
- Oil rigs

Key Features and Benefits

- Meets NFPA requirements for fire safety warning devices.
- State of the art electronic design (full wave rectified design).
  - Low current draw is efficient.
  - 24VDC regulated full wave rectified
  - Limited in-rush current favorable to other fire alarm system components.
  - Proven, reliable circuitry designed specifically for use with fire alarm control panels.
- Available in pendant, wall and ceiling mount.
- Strobe light produces 65 flashes per minute.
- Factory sealed — no external seals required.
- Quick connect — Strobe fixture threads onto mounting module for easy installation.
- Small compact size — ceiling mount is 13¾-inch long.

Certifications and Compliances

- Class I, Division 1, Groups C & D
- Class I, Zone 1 & 2, Group IIB
- Class II, Division 1, Groups E, F & G
- Class III
- UL 1638 and 1203 Listed
- UL 1971 Listed for indoor visual signaling for the hearing impaired in non-sleeping areas
- cUL Listed C22.2 No. 205
- NEMA 4X watertight, IP 66

Materials & Finishes

- Body, mounting modules and guard — Copper-free aluminum
- Globe — Heat and impact-resistant glass
- Gaskets — Silicone
- External hardware — Stainless steel
- Internal components — Solid-state electronics in a moistureresistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings

- 16-33VDC
- Operating Current: 1.08 - 0.83 amps
- Peak Candlepower: 800,000

Hub Size

- 3/4-inch NPT pendant, ceiling and wall mount

Ordering Information

STEP 1 Order Strobe Type

Catalog Number	Voltage	Lens Color	NEMA Rating
FIRE ALARM RATED EXPLOSIONPROOF STROBES			
EXFASC301/16 33	24VDC regulated full wave rectified	Clear	3R, 4X

STEP 2 Order Mounting Module

Catalog Number	Hub Size	Mounting Style
EVMP2	¾″	Pendant
EV22 & EV87	¾″	Wall
EV22	¾″	Ceiling
EVMJ4	1¼″	Stanchion

Temperature Performance Data

See page 944.

COOPER Crouse-Hinds

Hazard●Gard EX Series Visual Signaling Devices

Explosionproof Strobe Light

Class I, Division 1, Groups C & D
Class I, Zone 1 & 2, Group IIB
Class II, Division 1, Groups E,F,G ● Class III
UL 1638, 1203 and 844 Listed
1598A Marine Listed (120VAC and 24VDC only)
NEMA 4X watertight, IP 66

NEW!

Cooper Crouse-Hinds Hazard●Gard **EXS and EXDS Series Explosionproof Strobe Lights** are designed for installation indoors and outdoors in locations which are hazardous due to the presence of flammable vapors or gases, ignitible dusts or ignitible fibers and flyings. The units are UL listed for Type 3R and 4X installations. The 120V and 24VDC models are Marine Rated. The strobes are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

The **EXDS Series** is diode polarized for use in electrically supervised circuits. Electrically supervised circuits are typically used in life-safety or security applications.

Under normal operation the diode is reversed biased, meaning it blocks voltage from being applied to the strobe and prevents it from lighting. When an initiating device such as a smoke detector is activated, the diode's polarity is reversed through a circuit panel. The diode becomes forward biased, allowing voltage to the device and activating the strobe.

Primary Applications

- Condition signaling
- Equipment obstruction warning
- Security alert
- Emergency evacuation signaling
- In areas where audible signals cannot be heard

Typical Industries

- Utility gas plants
- Petroleum refineries
- Wastewater treatment plants
- Chemical & petrochemical
- Mining
- Pulp & paper

Key Features and Benefits

- Strong strobe signal that produces 65 flashes per minute.
- Compact design will not obstruct in low ceiling or small areas. Ceiling mount is only 13¾-inch long.
- Quick connect — Strobe fixture threads onto mounting module for easy installation.
- Factory sealed — No external seals required.
- Available in pendant, wall, stanchion and ceiling mount.
- Available in six different globe colors — clear, red, blue, amber, green and magenta.
- Silicone gasket seals out dirt and moisture.

Certifications and Compliances

- Class I, Division 1, Groups C & D
- Class I, Zone 1 & 2, Group IIB
- Class II, Division 1, Groups E, F & G
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed (120VAC and 24VDC only)
- cUL Listed C22.2 No. 205
- NEMA 4X watertight, IP 66

Materials & Finishes

- Body, mounting modules and guard — Copper-free aluminum
- Globe — Heat and impact-resistant glass
- Gaskets — Silicone
- External hardware — Stainless steel
- Internal components — Solid-state electronics in a moistureresistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings

- 120VAC (EXS), 12–48VDC (EXSNM) and 24VDC nominal, voltage operating range is 16–33VDC (EXDS)
- Operating Current: 0.10 amps at 120VAC
  1.2–3.8 amps at 12–48VDC
  0.8 amps at 24VDC
- Peak Candlepower: 800,000

Hub Size

- 3/4-inch NPT pendant, ceiling and wall mount
- 1¼-inch NPT stanchion mount

US: 1-866-764-5454 CAN: 1-800-265-0502

11L Hazard•Gard EX Series Visual Signaling Devices

Explosionproof Strobe Light

NEW!

Class I, Division 1, Groups C & D
Class I, Zone 1 & 2, Group IIB
Class II, Division 1, Groups E,F,G ● Class III
UL 1638, 1203 and 844 Listed
1598A Marine Listed (120VAC and 24VDC only)
NEMA 4X watertight, IP 66

Ordering Information

STEP 1 Order Strobe Type

Catalog Number	Voltage	Lens Color	NEMA Rating
EXPLOSIONPROOF STROBES			
EXS301A/120	120VAC	Amber	3R, 4X, Marine
EXS301B/120	120VAC	Blue	3R, 4X, Marine
EXS301C/120	120VAC	Clear	3R, 4X, Marine
EXS301G/120	120VAC	Green	3R, 4X, Marine
EXS301M/120	120VAC	Magenta	3R, 4X, Marine
EXS301R/120	120VAC	Red	3R, 4X, Marine
EXSNM301A/12 48	12–48VDC	Amber	3R, 4X
EXSNM301B/12 48	12–48VDC	Blue	3R, 4X
EXSNM301C/12 48	12–48VDC	Clear	3R, 4X
EXSNM301G/12 48	12–48VDC	Green	3R, 4X
EXSNM301M/12 48	12–48VDC	Magenta	3R, 4X
EXSNM301R/12 48	12–48VDC	Red	3R, 4X
DIODE POLARIZED EXPLOSIONPROOF STROBES			
EXDS301A/24	24VDC	Amber	3R, 4X, Marine
EXDS301B/24	24VDC	Blue	3R, 4X, Marine
EXDS301C/24	24VDC	Clear	3R, 4X, Marine
EXDS301G/24	24VDC	Green	3R, 4X, Marine
EXDS301M/24	24VDC	Magenta	3R, 4X, Marine
EXDS301R/24	24VDC	Red	3R, 4X, Marine

STEP 2 Order Mounting Module

Catalog Number	Hub Size	Mounting Style
EVMP2	¾″	Pendant
EV22 & EV87	¾″	Wall
EV22	¾″	Ceiling
EVMJ4	1¼″	Stanchion

Temperature Performance Data

	Ambient Max. Temp.	Supply Wire	Class I Div. 1, 2 Group C, D Class I, Zone 1 Group II B	Class II, Class III Div. 1 Group E, F, G	Class II, Class III Div. 2 Group F, G
EXFASC Series Fire Alarm Voltage 24VDC Regulated Full Wave Rectified (Operating Range 16-33VDC) (Marine Listed)	40°C 55°C	75°C 90°C	T6(85°C) T5(100°C)	T4A(120°C) T4(135°C)	T4A(120°C) T4(135°C)
EXS Series Strobe Light Voltage 120VAC (Marine Listed)	40°C 55°C **65°C**	75°C 90°C **105°C**	T6(85°C) T6(85°C) **T6(85°C)**	T4A(120°C) T4(135°C) **T4(135°C)**	T4A(120°C) T4(135°C) **T4(135°C)**
EXSNM Series Strobe Light Voltage 12-48 VDC (Not Marine Listed)	40°C 55°C **65°C**	75°C 90°C **105°C**	T6(85°C) T6(85°C) **T6(85°C)**	T4A(120°C) T4(135°C) **T4(135°C)**	T4A(120°C) T4(135°C) **T4(135°C)**
EXDS Series Strobe Light-Diode Polarized Voltage 24 VDC (Marine Listed)	40°C 55°C	75°C 90°C	T6(85°C) T5(100°C)	T4A(120°C) T4(135°C)	T4A(120°C) T4(135°C)

Hazard●Gard EX Series Visual Signaling Devices

Explosionproof Steady-On Beacons

Class I, Division 1, Groups C & D
Class I, Zone 1 & 2, Group IIB
Class II, Division 1, Groups E,F,G ● Class III
UL 1638, 1203 and 844 Listed
1598A Marine Listed
NEMA 4X watertight, IP 66

NEW!

Cooper Crouse-Hinds Hazard●Gard **EXSO and EXDSO (Diode Polarized) Series Explosionproof Steady On Beacons** are designed for installation in hazardous locations where a visual signal is required for tough environmental conditions involving corrosives, water, dust and extreme temperature.

The units are UL listed for Type 3R, 4X and marine installations. The steady-on beacons are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

Typical industrial and commercial applications include food processing plants, refineries, mines, tankers, laboratories, sewage treatment plants, off-shore oil rigs, water and filtration plants and chemical plants.

The diode polarized steady-on beacon is used in electrically supervised circuitry for life-safety or security applications.

Primary Applications

- Safety lighting
- Exit or entrance lights
- Obstacle warning
- Continuous source to communicate
- For identifying the location of safety equipment such as showers or emergency telephones

Typical Industries

- Chemical plants
- Storage handling
- Dust conveyor systems
- Energy exploration
- Textile mills
- Flour and feed mills

Key Features and Benefits

- Powerful halogen light source for clear visual indication.
- Available in six different globe colors — amber, blue, clear, green, magenta and red.
- Factory sealed — no external seals required.
- Quick connect — Steady-on beacon fixture threads onto mounting module for easy installation.
- Small compact size — ceiling mount is 13¾-inch long.
- Available in pendant, wall, stanchion and ceiling mount.

Certifications and Compliances

- Class I, Division 1, Groups C & D
- Class I, Zone 1 & 2, Group IIB
- Class II, Division 1, Groups E, F & G
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed
- NEMA 4X watertight, IP 66

Materials & Finishes

- Body, mounting modules and guard — Copper-free aluminum
- Globe — Heat and impact-resistant glass
- Gaskets — Silicone
- External hardware — Stainless steel
- Internal components — Solid-state electronics in a moistureresistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings

- 120VAC and 24–28VDC
- Operating Current: 0.35 amps at 120VAC (EXSO) 0.8 amps at 24–28VDC (EXDSO, diode polarized)
- Peak Candlepower: 3328

Hub Size

- 3/4-inch NPT pendant, ceiling and wall mount
- 1¼-inch NPT stanchion mount

US: 1-866-764-5454 CAN: 1-800-265-0502

11L Hazard•Gard EX Series Visual Signaling Devices

Explosionproof Steady-On Beacons

NEW!

Class I, Division 1, Groups C & D
Class I, Zone 1 & 2, Group IIB
Class II, Division 1, Groups E,F,G ● Class III
UL 1638, 1203 and 844 Listed
1598A Marine Listed
NEMA 4X watertight, IP 66

Ordering Information

STEP 1 Order Steady-On Beacon Type

Catalog Number	Voltage	Lens Color	NEMA Rating
EXPLOSIONPROOF STEADY-ON BEACONS			
EXSO301A/120	120VAC	Amber	3R, 4X, Marine
EXSO301B/120	120VAC	Blue	3R, 4X, Marine
EXSO301C/120	120VAC	Clear	3R, 4X, Marine
EXSO301G/120	120VAC	Green	3R, 4X, Marine
EXSO301M/120	120VAC	Magenta	3R, 4X, Marine
EXSO301R/120	120VAC	Red	3R, 4X, Marine
DIODE POLARIZED EXPLOSIONPROOF STEADY-ON BEACONS			
EXDSO301A/24 28	24–28VDC	Amber	3R, 4X, Marine
EXDSO301B/24 28	24–28VDC	Blue	3R, 4X, Marine
EXDSO301C/24 28	24–28VDC	Clear	3R, 4X, Marine
EXDSO301G/24 28	24–28VDC	Green	3R, 4X, Marine
EXDSO301M/24 28	24–28VDC	Magenta	3R, 4X, Marine
EXDSO301R/24 28	24–28VDC	Red	3R, 4X, Marine

STEP 2 Order Mounting Module

Catalog Number	Hub Size	Mounting Style
EVMP2	¾″	Pendant
EV22 & EV87	¾″	Wall
EV22	¾″	Ceiling
EVMJ4	1¼″	Stanchion

Temperature Performance Data

	Ambient Max. Temp.	Supply Wire	Class I Div. 1, 2 Group C, D Class I, Zone 1 Group II B	Class II, Class III Div. 1 Group E, F, G	Class II, Class III Div. 2 Group F, G
EXSO Series Steady-On Beacon	40°C	75°C	T6(85°C)	T4A(120°C)	T4A(120°C)
Voltage 120VAC	55°C	90°C	T5(100°C)	T4(135°C)	T4(135°C)
	65°C	105°C	T5(100°C)	T4(135°C)	T4(135°C)
EXDSO Series Steady-On Beacon — Diode Polarized	40°C	75°C	T6(85°C)	T4A(120°C)	T4A(120°C)
Voltage 24-28 VDC	55°C	90°C	T6(85°C)	T4(135°C)	T4(135°C)
	65°C	105°C	T6(85°C)	T4(135°C)	T4(135°C)

Hazard●Gard EX Series Visual Signaling Devices

Explosionproof Rotating Beacons

Class I, Division 1, Groups C & D
Class I, Zone 1 & 2, Group IIB
Class II, Division 1, Groups E,F,G ● Class III
UL 1638, 1203 and 844 Listed
1598A Marine Listed
NEMA 4X watertight, IP 66

NEW!

Cooper Crouse-Hinds Hazard●Gard **EXR Series Explosionproof Rotating Beacons** are designed for installation in hazardous locations, such as manufacturing plants, heavy industrial facilities, refineries, chemical, petrochemical, pharmaceutical and off-shore drilling platforms.

The units are UL listed for Type 3R, 4X and marine installations. The rotating beacons are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

The **EXDR Series Explosionproof Rotating Beacon** is diode polarized for use in standard 24–28VDC electrical circuits or in electrically supervised circuits. Electrically supervised circuits are typically used in life-safety or security applications.

Under normal operation in an electrically supervised circuit, the diode is reversed biased, meaning it blocks voltage from being applied to the rotating beacon and prevents it from lighting. When a warning detecting device is activated, the diode's polarity is reversed through a circuit panel. The diode becomes forward biased, allows voltage to the device and activates the rotating beacon.

Primary Applications

- Security alert
- Obstacle warning
- Areas under construction or off limits
- Equipment obstruction warning
- Status indication of a process
- Supplement audible signaling

Typical Industries

- Utility gas plants
- Wastewater treatment plants
- Chemical plants
- Pharmaceutical plants
- Refineries
- Mining

Key Features and Benefits

- Powerful halogen rotating beacon emits bright light to provide critical visual warning.
- Available in pendant, wall, stanchion and ceiling mount.
- Available in six different globe colors — amber, blue, clear, green, magenta and red.
- Beacon produces 75 rotations per minute.
- Factory sealed — No external seals required.
- Quick connect — Strobe fixture threads onto mounting module for easy installation.

Certifications and Compliances

- Class I, Division 1, Groups C & D
- Class II, Division 1, Groups E, F & G
- Class I, Zone 1 & 2, Group IIB
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed
- NEMA 4X watertight, IP 66

Materials & Finishes

- Body, mounting modules and guard — Copper-free aluminum
- Globe — Heat and impact-resistant glass
- Gaskets — Silicone
- External hardware — Stainless steel
- Internal components — Solid-state electronics in a moistureresistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings

- 120VAC (EXR) and 24–28VDC (EXDR)
- Operating Current: 0.382 amps at 120VAC
  0.8 amps at 24–28VDC
- Peak Candlepower: 3328 (EXR)
  2838 (EXDR)

Hub Size

- ¾-inch NPT pendant, ceiling and wall mount
- 1¼-inch NPT stanchion mount

11L Hazard•Gard EX Series Visual Signaling Devices

Explosionproof Rotating Beacons

NEW!

Class I, Division 1, Groups C & D
Class I, Zone 1 & 2, Group IIB
Class II, Division 1, Groups E,F,G ● Class III
UL 1638, 1203 and 844 Listed
1598A Marine Listed
NEMA 4X watertight, IP 66

Ordering Information

STEP 1 Order Rotating Beacon Type

Catalog Number	Voltage	Lens Color	NEMA Rating
EXPLOSIONPROOF ROTATING BEACONS			
EXR301A/120	120VAC	Amber	3R, 4X, Marine
EXR301B/120	120VAC	Blue	3R, 4X, Marine
EXR301C/120	120VAC	Clear	3R, 4X, Marine
EXR301G/120	120VAC	Green	3R, 4X, Marine
EXR301M/120	120VAC	Magenta	3R, 4X, Marine
EXR301R/120	120VAC	Red	3R, 4X, Marine
DIODE POLARIZED EXPLOSIONPROOF ROTATING BEACONS			
EXDR301A/24 28	24–28VDC	Amber	3R, 4X, Marine
EXDR301B/24 28	24–28VDC	Blue	3R, 4X, Marine
EXDR301C/24 28	24–28VDC	Clear	3R, 4X, Marine
EXDR301G/24 28	24–28VDC	Green	3R, 4X, Marine
EXDR301M/24 28	24–28VDC	Magenta	3R, 4X, Marine
EXDR301R/24 28	24–28VDC	Red	3R, 4X, Marine

STEP 2 Order Mounting Module

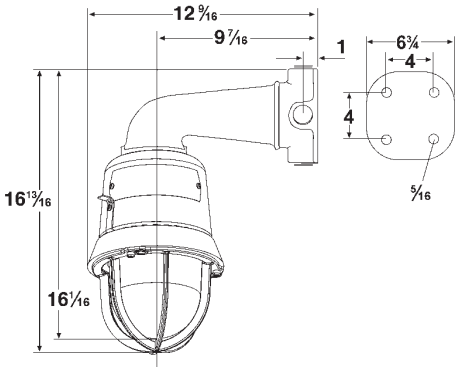
Catalog Number	Hub Size	Mounting Style
EVMP2	¾″	Pendant
EV22 & EV87	¾″	Wall
EV22	¾″	Ceiling
EVMJ4	1¼″	Stanchion

Temperature Performance Data

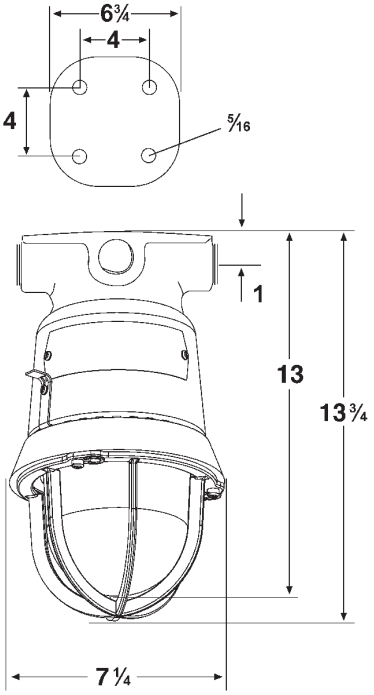
	Ambient Max. Temp.	Supply Wire	Class I Div. 1, 2 Group C, D Class I, Zone 1 Group II B	Class II, Class III Div. 1 Group E, F, G	Class II, Class III Div. 2 Group F, G
EXR Series Rotating Beacon	40°C	75°C	T6(85°C)	T4A(120°C)	T4A(120°C)
Voltage 120VAC	55°C	90°C	T5(100°C)	T4(135°C)	T4(135°C)
	65°C	105°C	T5(100°C)	T4(135°C)	T4(135°C)
EXDR Series Rotating Beacon — Diode Polarized	40°C	75°C	T6(85°C)	T4A(120°C)	T4A(120°C)
Voltage 24-28 VDC	55°C	90°C	T6(85°C)	T4(135°C)	T4(135°C)
	65°C	105°C	T6(85°C)	T4(135°C)	T4(135°C)

Dimensions & Weights

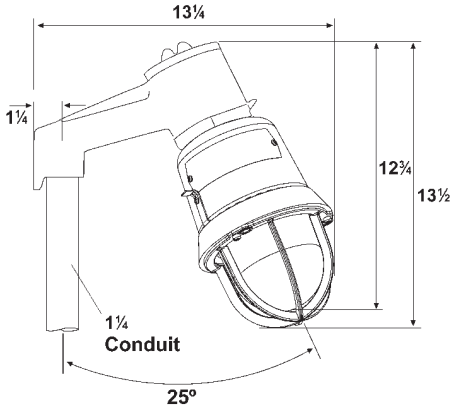
Wall Mount



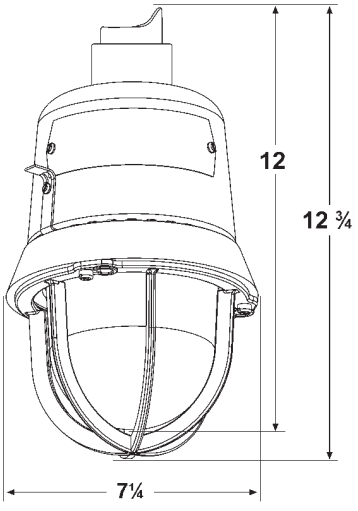
Ceiling Mount



Stanchion Mount



Pendant Mount



NET LUMINAIRE WEIGHTS

Luminaire Housing with Guard	11.0 lbs.
Add mounting modules	
Pendant	1.0 lbs.
Ceiling	1.0 lbs.
Wall	4.5 lbs.
Stanchion	2.5 lbs.

11L VDAS Strobe Lights

Warning and Visual Indication

- Cl. I, Div. 2, Groups A, B, C, D
- Cl. I, Zone 2, Group IIC
- Cl. II, Div 2, Groups F, G; Cl. III
- Wet Locations
- 3, 3R, 4, 4X

Application:

VDAS strobe lights are used:
- in areas with high noise levels
- to visually indicate warnings or hazards

Features:

- Reliable solid state components.
- Compact enclosure design provides 60 high intensity flashes per minute.
- Choice of globe colors to meet various requirements.
- Gasketed to seal out dirt and liquids.
- Designed for globe up or globe down applications.
- Easy to install.
- Lightweight corrosion-resistant copper-free aluminum construction.
- Conduit locking hub for increased safety and security.

Standard Materials:

- Body – copper-free aluminum
- Globe – LEXAN® fresnel lens

Standard Finishes:

- Body – gray epoxy

Size Range:

- ¾″ conduit

Certifications and Compliances:

- NEC and CEC:
  Class I, Division 2,
  Groups A, B, C, D
  Class I, Zone 2, IIC
- UL Standards
  844
  1598 Luminaires
- CSA Standards
  C22.2 No. 137

Electrical Ratings:

- 120, 240 VAC 50/60 Hz
- 12, 24 VDC

Photometric Data, Clear Globe

- Peak flash – 3.45 million candlepower
- Effective candlepower (light intensity if light is burning steadily) – 201 ECP

Photometric Data:

Globe Color	Output	Intensity
Clear	201	ECP
Red	46	ECP
Amber	152	ECP
Blue	38	ECP
Green	38	ECP

Operating Current:

Voltage	Operating Current
120 VAC	.3A
240 VAC	.15A
12 VDC	.9A
24 VDC	.45A

CSA Enclosure 3, 4, 5 Replacement Parts

Electronic Strobe Subassembly (includes flash tube):

120 VAC CHTFI-120H
240 VAC CHTFI-240H
12 VDC CHTFI-012
24 VDC CHTFI-024
Flash Tube . . . . . RSTC
Globe Assembly
Clear . . . . . VDAG/C
Red . . . . . VDAG/R
Green . . . . . VDAG/G
Amber . . . . . VDAG/A
Blue . . . . . VDAG/B

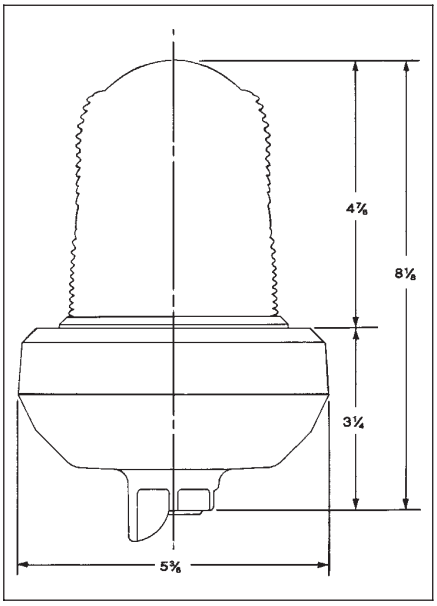
Ordering Information

Globe Color	Pendant Hub Size	Cat. # 120 VAC	Cat. # 240 VAC	Cat. # 12 VDC	Cat. # 24 VDC
Red	¾″	VDAS/R	VDAS/R/240	VDAS/R/012	VDAS/R/024
Blue	¾″	VDAS/B	VDAS/B/240	VDAS/B/012	VDAS/B/024
Amber	¾″	VDAS/A	VDAS/A/240	VDAS/A/012	VDAS/A/024
Green	¾″	VDAS/G	VDAS/G/240	VDAS/G/012	VDAS/G/024
Clear	¾″	VDAS/C	VDAS/C/240	VDAS/C/012	VDAS/C/024

Temperature Performance Data:

Ambient °C	Class I Div 2	Class II Div 2, Class III
40°	T3B	T3B
55°	T3A	---
65°	T3	---

Dimensions



12L Specialty Lighting

Tank, Task and Gauge Hazardous and Non-Hazardous Locations Application and Selection

Application:

Specialty lighting luminaires are used:
- for various task lighting requirements in locations that are hazardous (classified) due to the presence of combustible dusts or easliy ignitible fibers and flyings
- in areas where conventional lighting is not acceptable due to size and/or location
- in locations where an adequate light source is necessary for tank, instrument, and gauge applications
- in manufacturing plants, refineries, pharmaceutical, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, grain processing and handling facilities and other heavy industrial applications

Considerations for Selection:

Environmental:
- What is the hazardous area classification (NEC)/(CEC) of the location in which the luminaire will be installed?

Lighting levels required:
- What wattage luminaire(s) will provide the desired light level (See lighting Selector Guide, pages 665 through 689, to determine number and location of fixture required).

Physical Arrangement:
- Type of fixture mounting needed.

Product Selection:

- EV Tank Lights are suitable for use in Class I, Groups C, D hazardous (classified) locations. Tank lights are used to light the inside of tanks, vats, process vessels, etc.
- EVTL Explosionproof Task Lights are suitable for use in Class I, Group B, C, D and Class II, Groups E, F, G hazardous (classified) locations. EVTL Lights are ideal for applications in which water spray and corrosive atmospheres are considerations.
- ELG gauge lights are suitable for use in Class I, Groups C, D hazardous (classified) locations. The light is used to illuminate liquid level gauges and to direct the light over the length of the column.

V Observation Incandescent Luminaire

Application:

The incandescent V observation luminaire is used:

- in tanks or kettles where food is processed
- to light the inside of tanks for observation of the contents through a window

Features:

- Watertight
- Supported by a mounting ring which contains holes for riveting when placed around a hole in the tank. It can also be welded or brazed to the tank.
- Heavy heat and impact-resistant glass globe eliminates breakage and resultant contamination of food from glass particles
- Relamping is easily accomplished by removal of the two thumb-screws which fasten the body to the mounting ring
- The flexible cord or cable should be connected by an EC flexible coupling or CG Series connector

Standard Materials:

- Mounting ring – silicon bronze
- Fixture body – *Feraloy*® iron alloy
- Globe – heat-resisting glass

Standard Finishes:

Feraloy – electrogalvanized and aluminum acrylic paint

- Bronze – natural

Size Ranges:

- Up to 100 watt, A-21 lamp

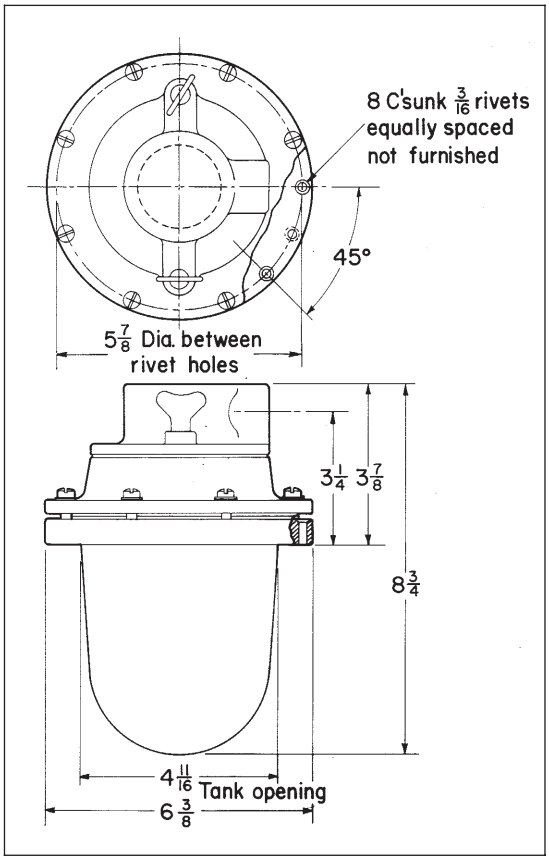
Certifications and Compliances:

- UL Standard: 1571
- CSA Standard: C22.2

Furnished with EV10 Globe, and C166 Medium Base Lamp Receptacle

Hub Size	Lamp Size	Cat. #
½	50, 60, 75 or 100W, A-21	V160

Dimensions



12L EV Tank Luminaires

Cl. I, Div. 1 & 2, Groups C, D
Cl. I, Zone I & 2 IIB
Cl. II, Div. 1, Groups E, F, G – EVO only

Application:

EV tank light luminaires are used:
- to light inside of tanks, vats, process vessels, etc.
- in chemical plants, petrochemical plants and petroleum process industries
- suspended over tank porthole by EC flexible hanger (EVO style)
- mounted directly in tank wall (EVA)

Features:

- High light output
- Compact design

EVA160:
- Furnished with tank ring having eight 3⁄16″ holes for riveting to tank
- Can be brazed if desired
- Luminaire ring is attached to the tank ring by eight 1/4-20 Allen Head cap screws
- Luminaire attached to luminaire ring by four wing screws
- EC flexible luminaire support should be used so relamping can be accomplished without disturbing the globe

Standard Materials:

- Bodies – EVA: Receptacle housing and intermediate ring – *Feraloy*® iron alloy. Tank ring – silicon bronze; EVO: copper-free aluminum
- Globes: EVA – glass, heat and impact resistant; EVO – glass, heat strengthened plate glass

Standard Finishes:

- *Feraloy* iron alloy – cadmium electrogalvanized and aluminum acrylic paint; copper-free aluminum – aluminum acrylic paint; silicon bronze – natural

Size Ranges:

- ½″ and ¾″ hubs

Capacity Ranges:

- EVO – 75 watt, reflector spot max.
- EVA – 100 watt, A-21 max.

Certifications and Compliances:

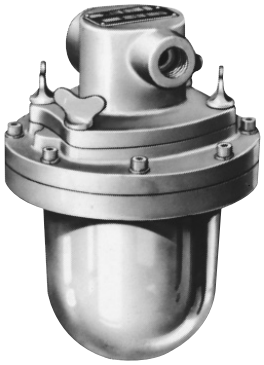
- NEC:
  Class I, Division 1 and 2, Groups C, D – EVO and EVA
  Class II, Division 1, Groups E, F, G – EVO only
- UL Standard: 844

Temperature Performance Data: (based on 40°C Ambient)

	Class I Groups C, D	Class II Groups E, F, G	Supply Wire (°C)
EVO2376	T3C	T3C	75
EVA160	T3C*	—	75

*All mounting positions

EVO2376

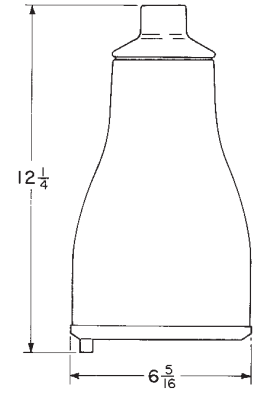


EVA160

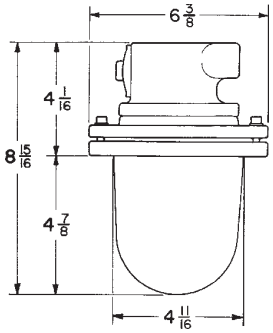
Watts	Lamp (not furnished)	Hub Size	Cat. #
75	75R 30/SP reflector spot (medium base)	½ & ¾	EVO2376
100, A-21	Medium base	½	EVA160

Dimensions

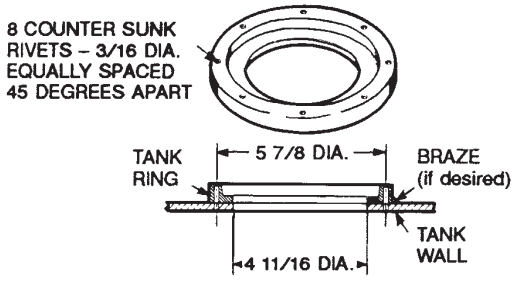
EVO2376



EVA160



Tank Ring Mounting (EVA160)



EVTL
Explosionproof Task Light

Class I Groups B, C, D
Class I Zone I, IIB+H_2
Class II Groups E, F, G
Class III Simultaneous Service

Wet Locations
Marine Locations
NEMA 3, 3R, 4, 4X

Application

EVTL task light luminaires are used:
- For various task lighting requirements in locations that are hazardous (classified) due to the presence of flammable gases or vapors, combustible dusts or easily ignitible fibers & flyings.
- in marine applications where water spray and corrosive atmospheres are considerations.
- in areas where conventional lighting is not acceptable due to size and/or location.
- in locations where an adequate light source is necessary for tank, instrument, and gauge applications.
- in porthole or sightglass applications where a spotlight is required for visibility inside tanks, vats and process vessels.
- in manufacturing plants, refineries, pharmaceutical, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, grain processing and handling facilities and other heavy industrial applications.

Standard Materials:

- Housing—Copper-free aluminum
- ¾″ NPT hub and plug—Aluminum
- Mounting bracket(s) and External hardware—Stainless Steel
- Gasket—Silicone rubber
- Lens—Heat and impact resistant clear glass

Standard Finishes:

- Aluminum housing (exterior)—Corro-free epoxy powder coat
- Stainless Steel—Natural

Ratings (Electrical/Size)

Source/Wattage (Medium Base Lamps)

- 50PAR20 type—50W 120V halogen parabolic reflector. Lamp life 2000-2500 hrs.
- 130V lamps available to extend lamp life to 5000+ hrs.

Voltage

- 120V 60 Hz

Hub Size

- (1) ½″ NPT
- For through feed, use EVTL-TF1

Certifications and Compliances:

NEC/CEC

- Class I Division 1 & 2 Groups B, C, D
- Class II Group E, F, G
- Class III
- Class I Zone 1 & 2 Group IIB + H_2
- Wet locations
- Marine locations
- NEMA 4X

NEC

- Simultaneous Presence

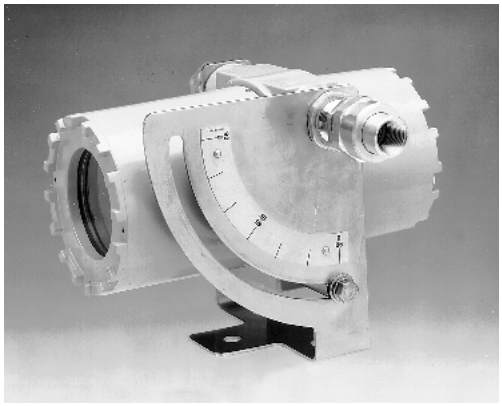
UL Standards

844—Hazardous (Divisions Classified) Locations
1571—Ordinary and Wet Locations, Marine Outside Type

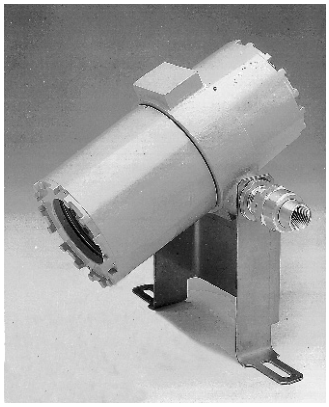
CSA Standards

C22.2 No. 137

Note: Install luminaire within aiming ranges shown on nameplate (See Dimensions)



EVTL1B50



EVTL1L50

Key Features	Benefits
Class I, II, III, Simultaneous Presence	Suitable for most hazardous (classified) areas
Class I Group B standard	Suitable for areas containing hydrogen
Wet and Marine (NEMA 4X) Suitability	Perfect for hose down applications
55° ambient suitability	Addresses higher ambients typical of industrial plants.
Cast copper-free aluminum housing with Corro-free™ epoxy powder coat finish.	Superior corrosion resistance
Stainless steel mounting brackets and hardware.	Superior corrosion resistance
Two mounting styles bracket and leg • Bracket (Universal) • Leg (Site Glass)	Maximize mounting flexibility Ceiling, Wall or Base mounting Site Glass mounting
Uses standard 50 watt PAR 20 medium base 120V lamps	Improved light output, economical, long life 2000-2500 hour light source
Uses 50PAR20 130V lamps for added lamp life	Increase lamp life to 5000+ hours while maintaining 76% lumen output
50PAR20 lamps available in both flood and spot light patterns	Vary the illumination characteristics by simply changing lamps
Easy access interior	Reduced maintenance and lamp replacement time
Seal within 5 ft. (not 18″) of luminaire	Provides greater flexibility in seal location

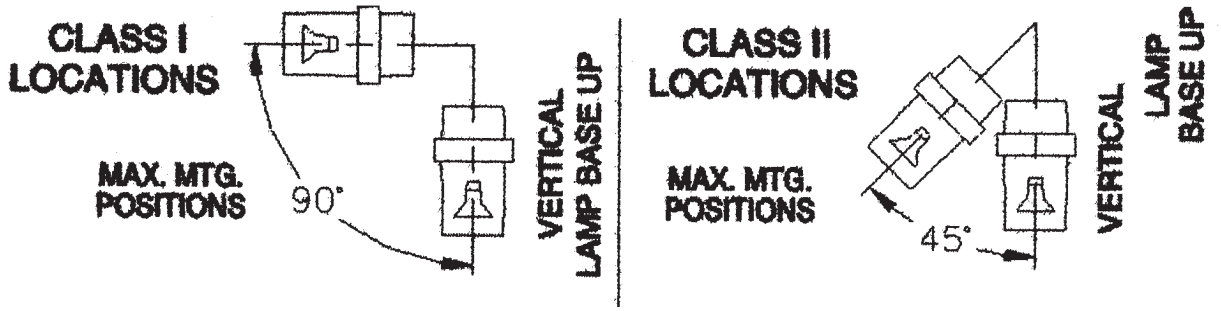
Ordering Information:

Luminaire Cat. #	Conduit Entry	Mounting Style	Wattage
EVTL1B50	½″	Bracket (Universal)	50
EVTL1L50	½″	Leg (Site Glass)	50

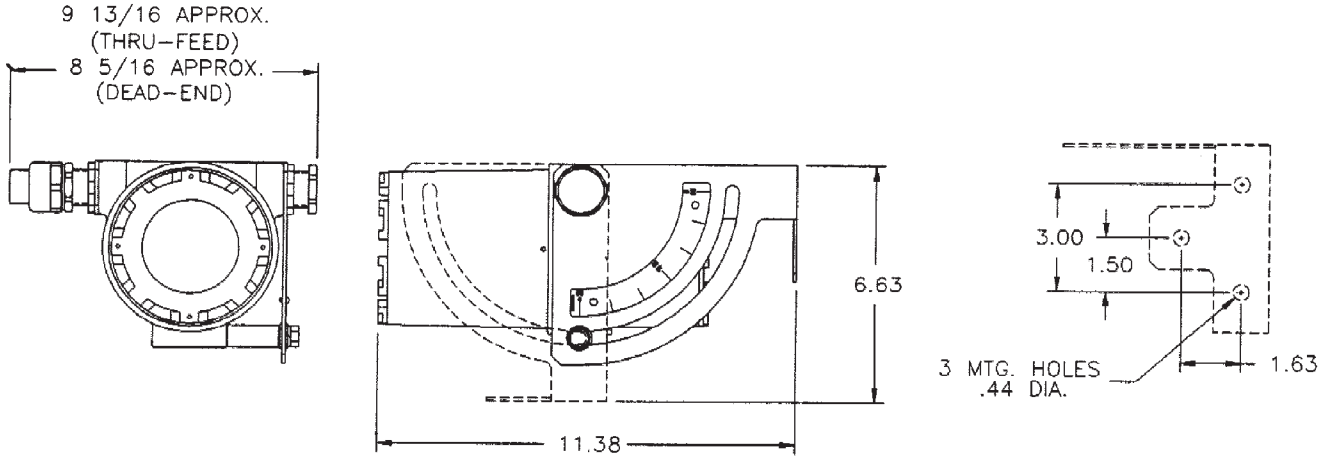
Temperature Performance Data:

Catalog Number	Maximum Ambient °C	Class I, Div, 1, B, C, D Class II, Div. 1, E, F, G Class III Simultaneous Presence Class I, Zone 1, IIB + H_2	Supply Wire °C
EVTL1B50	40	T3B	85
EVTL1L50	40	T3B	85

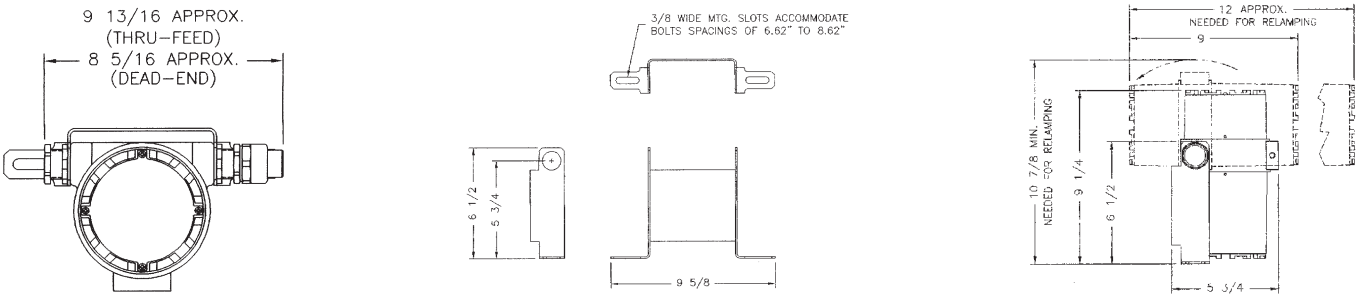
Aiming Range



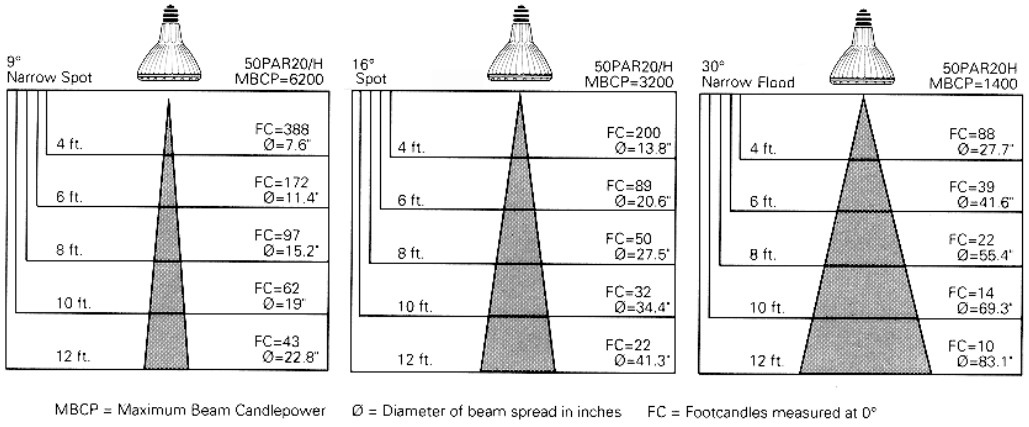
Dimensions: Bracket Mount



Dimensions: Leg Mount



Net Luminaire Weights (lbs)	
Luminaire Catalog	Weight (lbs.)
EVTL1B50	7
EVTL1L50	7
EVTL-TF1	½



MBCP = Maximum Beam Candlepower Ø = Diameter of beam spread in inches FC = Footcandles measured at 0°

Lamp Light Distribution – (Philips lamp data shown. Similar for other manufacturers)
Data shown is for 120 volt lamps
For 130 volt lamps adjust data using a .76 multiplier

Application:

ELG Gauge lights are used:
- in hazardous areas to illuminate liquid level gauges over entire length of gauge
- clamped to **rear** of liquid level gauge and conduit is attached to the ELG hubs. Light is reflected by Lucite reflector along the entire length of the gauge. Liquid level shows on front of gauge. All light is concentrated on liquid column – no spill light.

Features:

- Even illumination over entire length of gauge
- Variety of sizes to fit many gauges
- Several lights can be used in tandem to illuminate long gauge

Standard Materials:

- Body – copper-free aluminum
- Reflectors – plexiglass

Standard Finishes:

- Body – electrogalvanized and aluminum acrylic paint

Size Ranges:

- 1″ conduit through feed

Capacity Ranges:

- 120V medium screw base ''A19'' style incandescent lamp 58W maximum
- 25 watt – medium base – 1000 hour life
- 52 watt – medium base – 2500 hour life
- 58 watt – medium base – 3000 hour life

Certifications and Compliances:

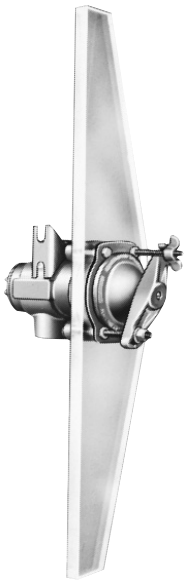
- NEC/CEC:
  Class I, Division 1 and 2, Groups C, D

Temperature Performance Data: (based on 40°C ambient)

58 Watt – T4A
Maximum

Options:

Description	Suffix to be Added to Cat. No.
● Group B suitability	GB



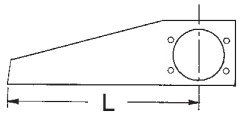
ELG329 with LE49 reflector

Ordering Information:

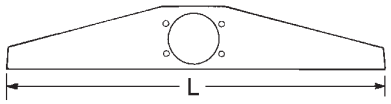
Description	Catalog No.	Length (L) (inches)
Gauge Light (less reflector)	ELG329	—
Reflector – Short style	LE34	4½
	LE35	5½
Reflector – Long style	LE46	13
	LE47	15
	LE48	17
	LE49	19¾
	LE410	22
	LE412	25¼
	LE413	26¾

Dimensions

Plexiglass reflectors
Short style



Long style



Suggested Lamps (Lamps not furnished)

Manufacturer	Catalog Number			Volts
	25 Watt	52 Watt	58 Watt	
General Electric	25A	60A/52WMP/98		120
Osram/Sylvania	25A	60A/52/SS/XL	58A19/62	120
Philips	25A	60A-52A/99/EW		120

Plugs & Receptacles

Section P

COOPER Crouse-Hinds

The Plugs and Receptacles Section of the Cooper Crouse-Hinds Product Catalog contains complete technical information on the Cooper Crouse-Hinds line of these products.
In addition to product listings and features, the section contains information on interchangeability of plugs and receptacles, the different grounding methods incorporated in the construction of the units, and separate sections devoted to receptacles interlocked with switches and/or circuit breakers.
The product lines featured are *Arktite*,® and ARK-trol plugs and receptacles and Cable-Gard™ cord and cable reels.

Arktite Series

Metallic and non-metallic *Arktite* series units are available for use in hazardous and non-hazardous areas for general purpose, heavy-duty applications in power circuits. All units through 200 ampere rating offer circuit breaking capability under load; some units are offered with interlocking mechanism with switch and/or circuit breaker, where dead front receptacles are desired, 400 ampere units are for service disconnect use only and are not for current interrupting.
An interchangeability table on page 961 graphically shows interchangeability between products in the complete line of pin and sleeve type plugs and receptacles. Full electrical rating details are shown in the interchangeability charts at the beginning of each section in the Plugs and Receptacles Section of this catalog.

ARK-trol Series

Units are available for use in hazardous and non-hazardous areas for special purpose application in power and/or control circuits where environmental factors are important or a wide range of contacts, sizes and configurations is required.

Cable-Gard Series

Electric cord and cable reels are used extensively in modern factories for ''managing'' all loose extension cables to ensure safety, increase efficiency, and extend cable and portable equipment life.
Electric reels automatically transmit electric current (power or control) from a stationary position to a moving consumer of current.

Considerations for Selection

The considerations in the selection of plugs and receptacles are the electrical ratings desired and the physical location of the units. This information, together with the product features, construction details, and customer benefits, is shown on the individual pages in selecting the proper plugs and receptacles, other factors in addition to the electrical ratings and the physical aspects regarding location of the application (e.g., hazardous areas) should be considered. Principally, these factors are: interchangeability of plug and receptacle, interlocking and grounding.

Grounding

Cooper Crouse-Hinds utilizes two methods for completing the grounding circuit in plugs and receptacles.

Style 1:
A Style 1 plug is one in which the grounding conductor in the flexible cable is bonded to the plug sleeve by a pressure connector. A Style 1 receptacle is one which is grounded by virtue of the fact that it is an integral part of a grounded conduit system. On insertion, the plug sleeve makes contact with detent springs of the grounded receptacle housing before line and load poles engage, and on withdrawal, remains in contact until after line and load poles disengage. Therefore, exposed metal parts of the portable equipment or plug are suitably grounded.

Style 2:
A Style 2 plug is one in which the grounding conductor in the flexible cable is bonded to the extra (grounding) pole and sleeve by a pressure connector. A Style 2 receptacle is one in which the extra (grounding) pole is electrically connected to the equipment grounding conductor and the receptacle housing which itself is grounded by virtue of the fact that it is an integral part of a grounded conduit system. In a Style 2 receptacle, the grounding connection is made before line and load poles engage, and is broken after line and load poles disengage. Furthermore, upon insertion, the plug sleeve of metal shelled units makes contact with detent springs of the grounded receptacle housing before line and load poles engage, and on withdrawal, remains in contact until after line and load poles disengage. Therefore, exposed metal parts of the portable equipment or plug are suitably grounded.
This method is used on plugs and receptacles for hazardous areas, on configured Arktite and on all *Arktite* products made of *Krydon*® material.
It meets the National Electrical Code/ Canadian Electrical Code requirements for this equipment. The Arktite line offers a choice of both methods; other plugs and receptacles are offered in one of the two styles (details are given on the individual pages). Details on construction and diagrams of both methods are found in Section 1P, pages 966 and 967.

Interlocked Units

Where added safety is desired and for units of higher ratings, Sections 3P and 4P detail receptacles with interlocked switches and/or circuit breakers. The ability to break the load before removal of the plug, circuit protection and disconnect capability are the prime benefits to be derived from equipment shown in those sections.

Interchangebility Between Cooper Crouse-Hinds Product Families

A unique capability exists throughout much of the Cooper Crouse-Hinds plug and receptacle line that enables a variety of receptacles to be used with the same plug—*provided the electrical rating and style of plug and receptacle are the same* (see Interchangeability Table on next page).
Where a common wiring system is in use, it is possible to use the same standard plug with a number of different receptacle assemblies located in different areas where each receptacle is selected to meet the physical or environmental requirement of the specific area. For example, a process industry facility could include Class I, Groups C and D areas and Class II, Group G areas as well as nonhazardous areas. A portable device suitable for use in the hazardous areas could be equipped with an *APJ Arktite* plug or NPJ *Arktite* plug made of *Krydon*® material and be used in all areas of the plant. The receptacle installation could include AR or NR units in the nonhazardous areas; DR receptacles or DBR interlocked receptacles in the Class II, Groups F and G areas and FSQ or EPC interlocked receptacles in the Class I, Groups C and D areas—all of which will accept the same APJ or NPJ plug.
CPH Plugs can also be used with any receptacle which accepts a standard APJ or NPJ *Arktite* plug of the same ampere rating, style, and number of poles. This feature permits the use of a portable device, suitable for hazardous locations, in all areas of a plant, but prevents the use of an ''ordinary locations'' device in the hazardous areas.
The following table is a summary of possible combinations. Full details describing the possibilities for interchanging plugs and receptacles are given in this section of the Cooper Crouse-Hinds Product Catalog.

Plugs and Receptacles

Interchangeability Table

Cooper Crouse-Hinds Heavy Duty Receptacles and Connectors†	Cat. Pg.	Cooper Crouse-Hinds Pin and Sleeve Design Plugs†								
										
		APJ	AP	BHP	BP	FP CPH	CPP	DP	NPJ	SP
Delayed Action for Hazardous Areas										
CPS	1002						●			
CES/CESD	1011					●				
Non-Interlocked For Non-Hazardous Areas										
APR	966	●	●			●	●		●	
AR	966	●	●			●	●		●	
CPR	1006						●			
NR	983	●				●	●		●	
NPR	983	●				●	●		●	
Interlocked for Hazardous Areas										
BHR	1049			●						●
DBR	1061	●				●			●	
EBBR	1053	●				●			●	
EPC	1056	●				●		●	●	
EPCB	1059	●				●			●	
FSQ230	1042				●					
FSQ232	1042					●				
FSQC	1042	●				●			●	
SRD	1051			●						●
W2SR	1048	●				●			●	
Interlocked for Non-Hazardous Areas										
CSR	1024	●				●			●	
DBR	1030	●				●			●	
NBR	1034	●				●			●	
NSR	1032	●				●			●	
SRG	1028			●						●
WSR	1018	●				●			●	
WSQC	1037	●				●			●	
WSRD	1018	●				●			●	
WSRD SS	1020	●				●			●	
WSRDW	1018	●				●			●	

● Plugs mate with indicated receptacles.

† Consult individual catalog pages for complete listing of Cooper Crouse-Hinds plugs, receptacles and connectors

P Plugs and Receptacles

Table of Contents

***** Do not use in hazardous areas

Industrial Heavy Duty Application and Selection

Application:

- Distribution of secondary electrical power
- Provide quick disconnect from power source

Considerations for Selection:

Electrical System:
- Amperage and voltage required for application

Wiring system and number of conductors required. See page 969 for contact sizes.
Compatibility with System:
- Need for interchangeability with plugs in existing system and within parts of new system. Grounding styles. Two styles utilized. See page 967 for complete description to determine which is suitable for needs.

Mounting Arrangement:
- Three types of mounting available – surface, flush and panel

Application:
- Fixed receptacle for power outlet; cable connectors for portable cable extensions

Other Considerations:
- Wire sizes and recess dimensions available. See page 969 for complete details.

National Electrical Code, UL, NEMA, Canadian Electrical Code, CSA compliances
- Environment – need for operation in harsh, dirty or corrosive conditions.

Options:

- Special polarity arrangements available as well as special back boxes and hub arrangements. See listing pages for details.

Quick Selector Chart

	Electrical Characteristics						
Receptacle Series	Receptacle Type	Amperage (Range)	Volts (Max.)	No. of Poles (Range)	Grounding Style†	Mounting	Mating Plug
APR	Portable cable	20, 30, 60, 100, 200, 400	600VAC 250VDC	2-5	1-2		APJ, NPJ, APQ, AP
APRC	Portable cable	30, 60, 100	600VAC 250VDC	3-5	2		APJC, APQC
AR	Fixed	20, 30, 60, 100, 200, 400	600VAC 250VDC	2-5	1-2	Back box (surface)	APJ, NPJ, AP
ARC	Fixed	30, 60, 100	600VAC 250VDC	3-5	2	Back box (surface)	APJC
AR	Fixed	30, 60, 100, 200	600VAC 250VDC	2-4	1-2	Panel mtg. (semi-flush)	APJ, NPJ, AP
NPR	Portable cable	30, 60, 100	600VAC 250VDC	3-4	2		NPQ, APJ, NPJ (fixed)
NR	Fixed	30, 60, 100	600VAC 250VDC	3-4	2	Back box (surface)	APJ, NPJ

† See page 967 for detailed explanation.

Industrial Heavy Duty Interchangeability Chart

Interchangeability Chart

Many of the plugs listed in this section can be used interchangeably with receptacles from other sections, both in hazardous and non-hazardous areas, **provided electrical rating and style of plug and receptacle are the same.** The following table is a summary of possible combinations.

Plugs Shown in Section 1P	Can be Used with These Receptacle Series	Listed in Section	Plugs & Receptacle Electrical Rating
APJ, NPJ*	DR	2P	30, 60 amp. 2-wire, 2-pole 3-wire, 3-pole 4-wire, 4-pole 2-wire, 3-pole 3-wire, 4-pole
	DBR	3P	30, 60, 100 amp. 3-wire, 3-pole 3-wire, 4-pole
	FSQ	4P	30 amp. 2-wire, 3-pole 3-wire, 4-pole
	EPC, EPCB, EBBR	4P	30, 60, 100 amp. 2-wire, 3-pole 3-wire, 4-pole
	NBR, NSR	3P	30, 60, 100 amp. 3-wire, 3-pole 3-wire, 4-pole
	WSR	3P	30, 60, 100 amp. 3-wire, 3-pole 3-wire, 4-pole
	WSRD	3P	60 amp. 3-wire, 3-pole 3-wire, 4-pole
CPH	AR, NR*, NPR*	1P	30 and 60 amp. 2-wire, 3-pole
	DR, CES, CESD	2P	
	FSQ, EPC, EPCB, DBR	4P	
	DBR, NBR, NSR, WSR, WSRD	3P	30 and 60 amp. 3-wire, 4-pole

* NPJ, NR and NPR available in 2-wire, 3-pole and 3-wire, 4-pole electrical ratings only.

Arktite® Heavy Duty Circuit Breaking Plugs and Receptacles

NEMA 4 Watertight

Industrial Heavy Duty Non-Hazardous Areas

Application:

Arktite circuit breaking plugs and receptacles are used:

- to supply power to portable electrically operated devices such as motor-generator sets, compressors, heating and cooling units, welders, conveyors, lighting systems and similar equipment
- where temporary power is needed, such as at trailers, building units, heavy machinery and similar equipment
- wherever electrical loads must be quickly disconnected from power source
- in a typical installation, where a large machine utilizes a number of electrical motor drives and for ease of adjustment, removal, maintenance and replacement, each motor is connected by portable cord and *Arktite* receptacles rather than permanently wired
- in areas where dust, dirt, moisture and corrosion are a problem
- indoors and outdoors in non-hazardous areas of chemical plants, process industry facilities, meat packing plants, manufacturing plants and similar industrial locations

Features:

- Circuit breaking: Plugs through 200 ampere rating may be disconnected under load; 400 ampere units are for service disconnect use only.
- Receptacles accept only plugs of the same amperage rating, style and number of poles, making it impossible to mismate, and provides for positive polarization.
- Extra wide electrical spacing allows for maximum safety.
- Insulator materials are the result of intensive testing. Selection has been made based on highest dielectric strength, maximum mechanical and impact resistance, lowest moisture absorption and highest arc tracking resistance.
- A variety of installations is possible due to the availability of several types of back boxes.
- Designed to withstand rough usage and the effects of adverse environments.
- Reversible interiors, 30, 60 and 100 ampere (except 30 and 60 ampere, 5-pole) *Arktite* plug and receptacle interiors are interchangeable using a screwdriver. This makes it possible to feed a normally deenergized receptacle from an energized plug with usual *Arktite* safety; no energized contacts are exposed.
- Additional features are indicated in the view at right:

❶ Grounding contact in Style 2 is bonded to the receptacle housing.

❷ Easily wired interior assemblies in receptacles and plugs. See table on page 938 for type of contacts in units.

❸ *Arktite* Style 2, illustrated here, has an extra grounding contact which forms a parallel circuit with the circuit formed by the plug sleeve and receptacle detent spring, and assures continuity of the grounding safety circuit under severe service. Grounding contact is no longer than the others, so grounding circuit is made first and broken last.

❹ The arc formed by pulling the plug is instantly snuffed in the deep, confined insulated arcing chamber while the plug contact is still a considerable distance inside. The arc cannot travel over to the other side of the circuit or to the housing.

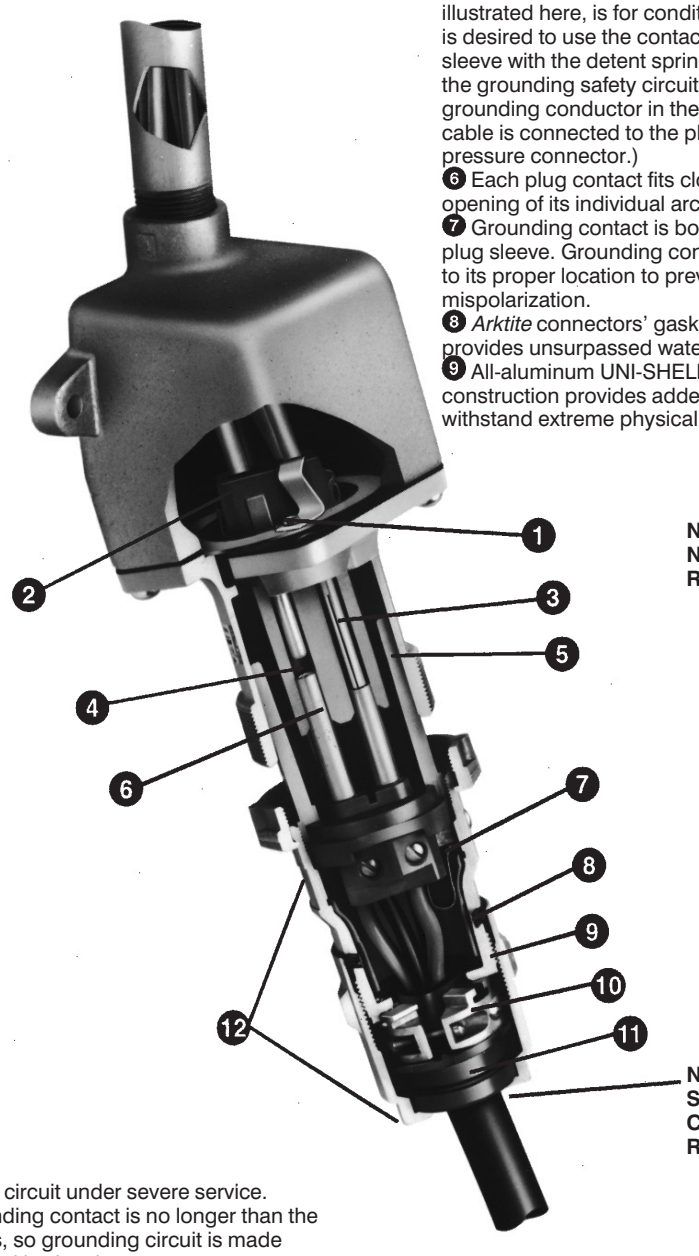
❺ Detent spring forms a grounding path from plug sleeve to receptacle housing. *Arktite* plugs and receptacles are made in two styles. With either style, the portable appliance is grounded before it is energized and remains grounded until after it is deenergized. (*Arktite* Style 1, not illustrated here, is for conditions where it is desired to use the contact of the plug sleeve with the detent spring to complete the grounding safety circuit. The extra grounding conductor in the portable cable is connected to the plug sleeve by a pressure connector.)

❻ Each plug contact fits closely the opening of its individual arcing chamber.

❼ Grounding contact is bonded to the plug sleeve. Grounding contact is keyed to its proper location to prevent mispolarization.

❽ *Arktite* connectors' gasketing system provides unsurpassed watertight integrity.

❾ All-aluminum UNI-SHELL™ threaded construction provides added strength to withstand extreme physical abuse.



❿ *Arktite's* TRI-LOCK™ cable grip has three clamps that tighten around the cable to securely lock it in place, even when subjected to extreme flexing and jerking.

⓫ The unique SURE-SEAL™ cable gland provides a complete environmental seal by distributing pressure equally around the circumference of the cable.

⓬ Wrenching surfaces make *Arktite* connector quick and easy to assemble.

Arktite® Heavy Duty Circuit Breaking Plugs and Receptacles

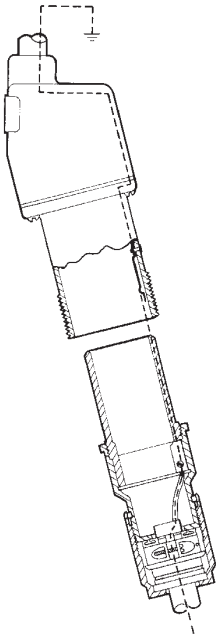
Industrial Heavy Duty Non-Hazardous Areas

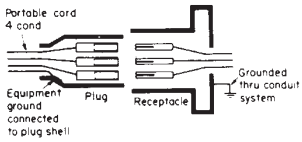
Grounding: Style 1 vs. Style 2

Cooper Crouse-Hinds Arktite devices utilize two methods, or styles, for completing the grounding circuit in plugs and receptacles. NEC reference 250.138 (A) & (B).

Style 1 – Metallic

A Style 1 plug is one in which the grounding conductor in the flexible cable is bonded to the plug sleeve by a pressure connector. A Style 1 receptacle is one which is grounded by virtue of the fact that it is an integral part of a grounded conduit system. On insertion, the plug sleeve makes contact with detent springs of the grounded receptacle housing before line and load poles engage, and on withdrawal, remains in contact until after line and load poles disengage. Therefore, exposed metal parts of the portable equipment or plug are suitably grounded.

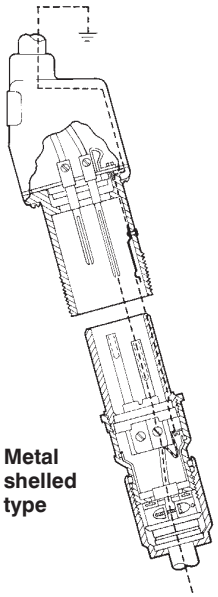




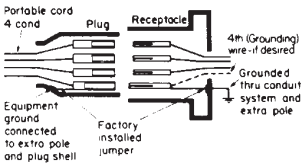
Style 1
Ground conductor attaches to shell.

STYLE 2 – Metallic

A Style 2 metallic housing plug is one in which the grounding conductor in the flexible cable is bonded to the extra (grounding) pole and metal plug sleeve by a pressure connector. A Style 2 metallic housing receptacle is one in which the extra (grounding) pole is electrically connected to the equipment grounding conductor and the metal receptacle housing which itself is grounded by virtue of the fact that it is an integral part of a grounded conduit system. In Style 2, non-metallic housing plugs and receptacles, the extra pole is used for grounding since the housings are non-conductive.



Metal shelled type

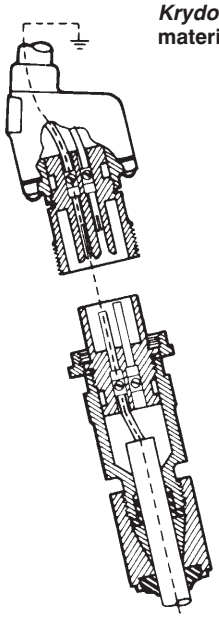


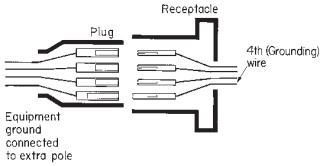
Style 2
Ground conductor attaches to contact, which is bonded to shell.

Style 2 – Non-Metallic

In a Style 2 receptacle, the grounding connection is made before line and load poles engage, and is broken after the line load poles disengage. Furthermore, upon insertion, the plug sleeve of metal shelled units, makes contact with detent springs of the grounded receptacle housing before line and load poles engage, and on withdrawal, remains in contact until after line and load poles disengage. Therefore, exposed metal parts of the portable equipment or plug are suitably grounded.

Made of non-metallic *Krydon* material





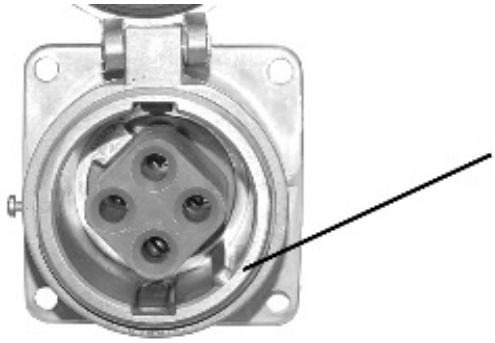
Arktite® Heavy Duty Circuit Breaking§ Plugs and Receptacles

Industrial Heavy Duty Non-Hazardous Areas

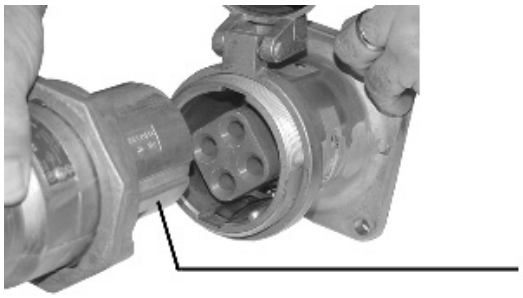
Options:

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

Suffix to be Added to Cat. #	Description
S22.	Reversed contacts. Receptacle assembled with plug interior (exposed contacts), plug assembled with receptacle interior (recessed contacts). For applications where plug is energized to feed normally de-energized receptacle. Available on 30 through 400 ampere units NOTE: 30 (2, 3, 4-pole), 60 and 100 ampere interiors can be interchanged in the field using a screwdriver. Factory conversion is required for 200 and 400 ampere products.
S4.	Special polarity. For use where two or more receptacles of the same ampere rating, style and number of poles are to be installed in the same area for use on different voltages and/or frequencies. Prevents insertion of a plug in a receptacle with different electrical rating. Available on 20 through 400 ampere units as follows: Receptacle interior rotated 22½ degrees to right and plug changed to match (See photo to right)



Arktite receptacles have a cast raised rib located inside the receptacle sleeve. The location of the rib is in a specific relationship to the receptacle insulator that houses the contacts.



The mating plug has a cast groove located on the outside of the plug sleeve. This groove lines up with the raised rib.

Standard Materials:

● Metallic receptacle housings, plug and cord connector bodies – high impact strength copper-free aluminum
● Nonmetallic receptacles, plugs and cord connectors – *Krydon*® fiberglass-reinforced polyester material
● Back boxes: 20, 30, 60, 100 and 200 ampere – cast aluminum; 400 ampere – *Feraloy*® iron alloy
● Insulation (metallic products): (2-, 3-, and 4-pole) 30, 60, 100, 200, 400 ampere – fiberglass-reinforced polyester; 20, 30 ampere (5-pole) – melamine
● Contacts: pressure, solder, binding screw – brass; crimp/solder – leaded red brass; 20, 30, 60, 100 ampere – telurium copper; 200, 400 ampere

Standard Finishes:

● *Feraloy*—electrogalvanized and aluminum acrylic paint
● Aluminum – natural
● *Krydon* fiberglass-reinforced polyester material – grey
● Fiberglass-reinforced polyester insulation – (red)
● Melamine – natural (brown)
● Brass – natural
● Leaded red brass – electro-tin-plate

§ 400A rated units are for service disconnect use only.

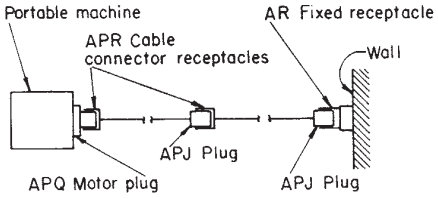
Accessories:

Accessories include a variety of angle adapters, panel adapters and back boxes for *Arktite* receptacles, listed on pages 990-993. Included throughout 1P are wire mesh cable grips and protective caps for *Arktite* plugs.

Certifications and Compliances:

● UL Standards: 1682, 514; 1010 (APJ and NPJ plugs only)
● CSA Standard: C22.2 No. 182.1

Typical installation



Arktite® Heavy Duty Circuit Breaking§ Plugs and Receptacles

Industrial Heavy Duty Non-Hazardous Areas

Arktite Horsepower Ratings

● Locked-Rotor Interrupting

Electrical System	Ampere Rating Plug and Receptacle	Motor Horsepower† 120 Volts	240 Volts	480 Volts	600 Volts
Single-phase	30	2	3	7.5	10
	60	5	10	25	20
	100	10	20		
	200	15	40		
Three-phase	30	3	5	10	10
	60	10	20	40	50
	100	15	30	40	25
	200	30	60	25	15

● Emergency Interrupting

Electrical System	Ampere Rating Plug and Receptacle	H.P. Rating 120 Volts	240 Volts	480 Volts	600 Volts
Single-phase	30	2	3	10	10
	60	5	10	25	20
	100	7.5	20	30	30
	200	15	40	40	40
Three-phase	30	3	7.5	15	20
	60	10	20	40	50
	100	10	30	40	40
	200	20	60	50	50

Wire Sizes:

The table below lists the diameter of the wire recess in *Arktite* plug and receptacle contacts so that maximum size of bare conductor can be figured. Range of wire sizes shown in table is intended only as a guide. Depending on type of wire used (building wire, flexible or extra flexible cable) and its construction (number and size of strands), bare copper diameters vary widely.

Diameter of Wire Recess in Plug and Receptacle Contacts

Ampere Rating	Contact Type	Diameter of Recess	Wire Size‡ Building	Extra Flex
20	Binding Screw	N/A	#14-#12	#14-#12
30 (2, 3, & 4-pole)	Pressure	.281	#10-#6	#10-#8
30 (2, 3, & 4-pole)	Crimp/Solder	.180	#10-#8**	#10-#8
30 (5-pole)	Solder	.188	#12-#6	#12-#8
60 (2, 3, 4 & 5-pole)	Pressure	.312	#6-#4	#8-#4
60 (3 & 4-pole)	Crimp/Solder	.277	#6-#4**	#8-#4
100 (2, 3 & 4-pole)	Pressure	.390	#4-#1	#4-#2
100 (3 & 4-pole)	Crimp/Solder	.390	#2-#1**	#2-#2
200 (Std. 3 & 4-pole)	Crimp/Solder	.56	#1-4/0	#1-3/0
200 (Lg. 3 & 4-pole)	Crimp/Solder	.75	4/0-250MCM	3/0-250MCM
400 (Std. 3 & 4-pole)	Crimp/Solder	.84	250-500MCM	250-400MCM
400 (Lg. 3 & 4-pole)	Crimp/Solder	1.25	500-1000MCM	400-750MCM

** Smaller sizes may be used with well reducers – information on request.

† Horsepower ratings are based on Cooper Crouse-Hinds testing in which locked-rotor currents were interrupted by withdrawing the plug from the receptacle. It is highly recommended, however, that such use be limited to emergency conditions only; and that a horsepower rated switch be used for motor disconnect.

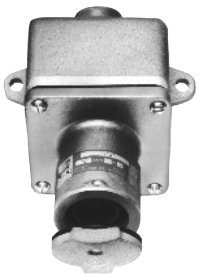
‡ Do not use wire size smaller than minimum size recommended.

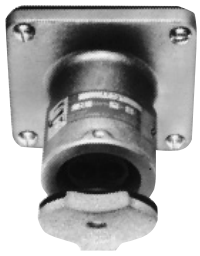
§ 400A rated units are for service disconnect use only.

Notes Page

Arktite® Heavy Duty Circuit Breaking Receptacles, Plugs and Connectors

20 A, 600 VAC/250 VDC, 50**-400 hertz





Receptacle with Back Box

Config.	Hub Size	Descrip.	Cat No. #
2W 2P	½	Spring Door	**ARE2211**
	½	Threaded Cap	**ARE2271**
2W 2P	¾	Spring Door	**ARE2212**
	¾	Threaded Cap	**ARE2272**

Receptacle

Config.	Descrip.	Cat No. #
2W 2P	Spring Door	**AR221**
	Threaded Cap	**AR227**

Plug

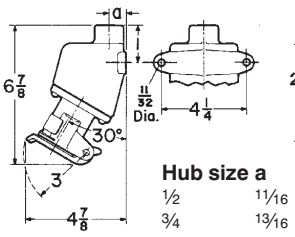
Config.	Cable Dia.	Descrip.	Cat No. #
2W 2P	.250–.500	Fastening Ring	**APJ2271**
	.250–.500	W/O Fastening Ring	**APJ2251**
2W 2P	.500–.875	Fastening Ring	**APJ2273**
	.500–.875	W/O Fastening Ring	**APJ2253**

Connector

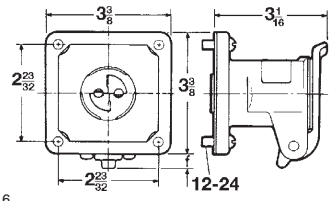
Config.	Cable Dia.	Descrip.	Cat No. #
2W 2P	.250–.500	Connector	**APR2251**
	.500–.850	Connector	**APR2253**

Dimensions

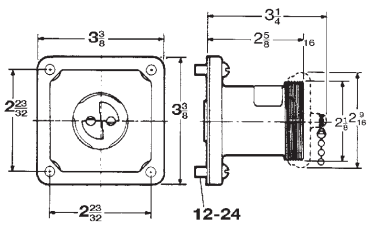
ARE Assembly



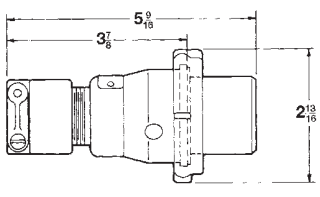
AR Receptacle - Spring Door



AR Receptacle - Open and with cap



APJ Plug



NOTE: For listing of additional back boxes, see pages 999 and 991.

** For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies and Housings

NEMA 4 Watertight

30 A, 600 VAC/250 VDC, 50**-400 hertz

Receptacle Assembly

Receptacle

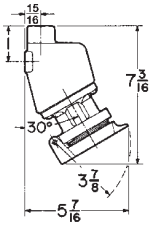
Mating Plug

Mating Connector

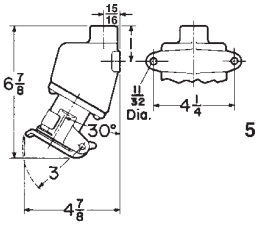
With ARE Back Boxes Style 1			Receptacle Housings Only Style 1		Mating APJ Plugs† Style 1		Mating APR Connectors Style 1	
Description	**Hub‡ Size**	**Spring Door Cat. #**	**Spring Door Cat. #**	**Threaded Cap Only Cat. #**	**Cat. #**	**Cable Dia.**	**Cat. #**	**Cable Dia.**
2-wire, 2-pole	½ ¾	ARE3211 ARE3212	AR321	AR327	APJ3275	0.39 to 1.20	APR3255	0.39 to 1.20
3-wire, 3-pole	¾ 1	ARE3312 ARE3313	AR331	AR337	APJ3375	0.39 to 1.20	APR3355	0.39 to 1.20
4-wire, 4-pole	¾ 1	ARE3412 ARE3413	AR341	AR347	APJ3475	0.39 to 1.20	APR3455	0.87 to 1.02
5-wire, 5-pole	1	ARE3513	AR351		APJ3573	.500 to .875	APR3553	.500 to .875
Style 2			**Style 2**		**Style 2**			**Style 2**
2-wire, 3-pole	¾ 1	ARE3322 ARE3323	AR332	AR338	APJ3575	.875 to 1.375	APR3555	.875 to 1.375
3-wire, 4-pole	¾ 1	ARE3422 ARE3423	AR342	AR348	APJ3485	0.39 to 1.20	APR3465	0.39 to 1.20
4-wire, 5-pole	1	ARE3523	AR352		APJ3583 APJ3585	.500 to .875 .875 to 1.375	APR3563 APR3565	.500 to .875 .875 to 1.375

Dimensions

ARE Assembly

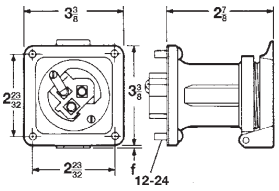


30A
2,3 and 4 POLE

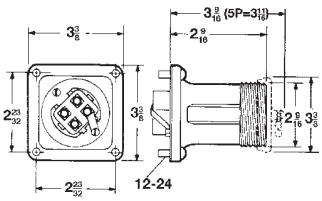


30 A
5 POLE

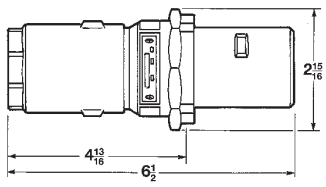
AR Receptacle - Spring Door



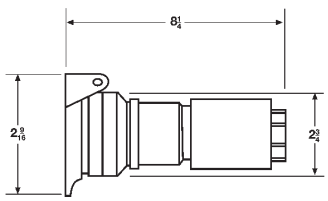
AR Receptacle - Open and with cap



Plug



Connector



** For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies and Housings

30 A, 600 VAC/250 VDC, 50**-400 hertz

Plug Closure Caps:

Application:

CPK caps for *Arktite* plugs are used:
- where portable equipment is on a standby basis and plugs are not in use
- to effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion
- with 30, 60, 100 and 200 ampere plugs with fastening ring and standard 200 ampere plugs for the clamp door housing

Config.	Cat No. #
2P & 3P & 4P	**CPK13**
5P	**CPK32**

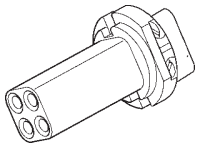
Standard Materials:

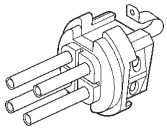
- Copper-free aluminum

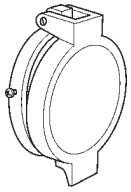
Standard Finishes:

- Natural

Replacement Parts:







Config.	Receptacle Interior	Plug Interior	Spring Door	Screw Cap
2W 2P	ATP275	ATP270	QE50	QE13
2W 3P	ATP278	ATP273		
3W 3P	ATP276	ATP271		
3W 4P	ATP279	ATP274		
4W 4P	ATP277	ATP272		
4W 5P	ATP125	ATP109	N/A	N/A
5W 5P	ATP94	ATP73		

Replacement Pin & Sleeve Contacts:

Description	Recep	Plug
Available as a kit only. 5 phase contacts & 1 ground contact included	AR30CONKIT	AP30CONKIT

** For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies and Housings

NEMA 4 Watertight

60 A, 600 VAC/250 VDC, 50**-400 hertz

Receptacle Assembly | **Receptacle** | **Mating Plug** | **Mating Connector**

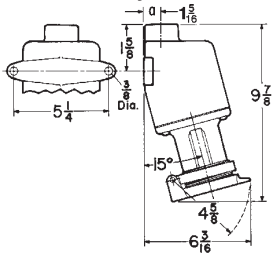


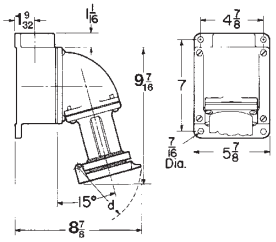


Style 1		With AJ Back Boxes and Angle Adapters		with ARE Back Boxes	Receptacle Housing Only				
Description	Hub Size	Spring Door Cat. #	Threaded Cap Only Cat. #	Spring Door Cat. #	Spring Door Cat. #	Threaded Cap Only Cat. #	Cable Dia.	Cat. #	Cat. #
2-wire, 2-pole	1 1¼	AREA6213 AREA6214		ARE6213 ARE6214	AR621	AR627	0.50 to 1.45	APJ6275	APR6255
3-wire, 3-pole	1 1¼	AREA6313 AREA6314		ARE6313 ARE6314	AR631	AR637	0.50 to 1.45	APJ6375	APR6355
4-wire, 4-pole	1¼ 1½	AREA6414 AREA6415		ARE6414 ARE6415	AR641		0.50 to 1.45	APJ6475	APR6455
5-wire, 5-pole	1¼ 1½		AREA6574 AREA6575			AR657	0.50 to 1.45	APJ6575	
Style 2									
2-wire, 3-pole	1 1¼	AREA6323 AREA6324		ARE6323 ARE6324	AR632	AR638	0.50 to 1.45	APJ6385	APR6365
3-wire, 4-pole	1¼ 1½	AREA6424 AREA6425		ARE6424 ARE6425	AR642	AR648	0.50 to 1.45	APJ6485	APR6465
4-wire, 5-pole	1¼ 1½		AREA6584 AREA6585			AR658	0.75 to 1.45	APJ6585	APR6585 APR6567

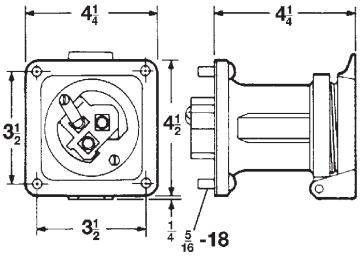
Dimensions

ARE Assembly

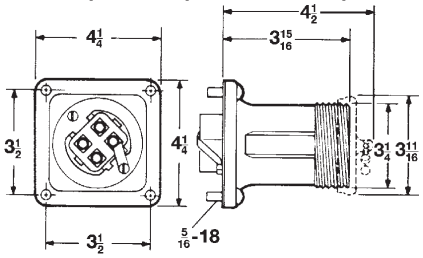




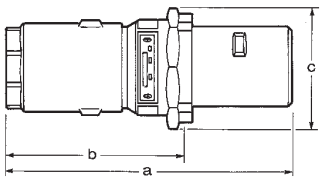
AR Receptacle - Spring Door



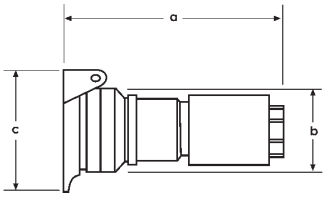
AR Receptacle - Open and with cap



APJ Plug



APR Connector



Config	Plug a	Plug b	Plug c	Connector a	Connector b	Connector c
2P or 3P	8½	5¾	3⅝	6½	3⅝	2 15/16
4P	8½	5 13/16	3¾	8¼	3⅝	2 15/16
5P	9	6 3/16	4 7/16	8¼	3⅝	3¼

** For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

COOPER Crouse-Hinds

Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies and Housings

60 A, 600 VAC/250 VDC, 50**-400 hertz

Plug Closure Caps:

Application:

CPK caps for *Arktite* plugs are used:
- where portable equipment is on a standby basis and plugs are not in use
- to effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion
- with 30, 60, 100 and 200 ampere plugs with fastening ring and standard 200 ampere plugs for the clamp door housing

Config.	Cat No. #
2P & 3P	**CPK32**
4P	**CPK34**

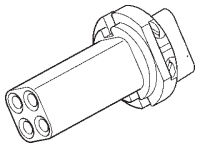
Standard Materials:

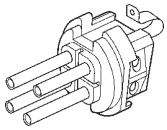
- Copper-free aluminum

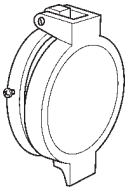
Standard Finishes:

- Natural

Replacement Parts:







Config.	Receptacle Interior	Plug Interior	Spring Door	Screw Cap
2W 2P	ATP295	ATP290	QE51	QE32
2W 3P	ATP298	ATP293		
3W 3P	ATP296	ATP291		
3W 4P	ATP299	ATP294	QE52	QE34
4W 4P	ATP297	ATP292		
4W 5P	ATP385	ATP387	N/A	AR:11393B
5W 5P	ATP384	ATP386	N/A	

Replacement Pin & Sleeve Contacts:

Description	Recep	Plug
Available as a kit only. 5 phase contacts & 1 ground contact included	AR60CONKIT	AP60CONKIT

** For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies and Housings

NEMA 4 Watertight

100 A, 600 VAC/250 VDC, 50**-400 hertz

Receptacle Assembly

Receptacle

Mating Plug

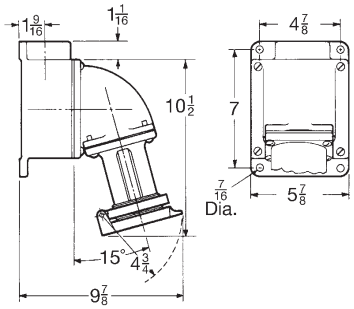
Mating Connector

Style 1 — **Receptacle Housings Only**

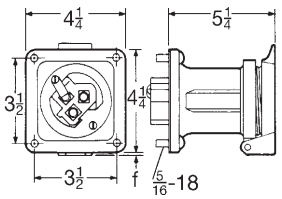
Description	Hub Size	Spring Door Cat. #	Spring Door Cat. #	Threaded Cap Only Cat. #	Cable Dia.	Cat. #	Cat. #
2-wire, 2-pole	1¼ 1½	AREA10214 AREA10215	AR1021	AR1027	0.875 to 1.70	APJ10277	APR10257
3-wire, 3-pole	1¼ 1½	AREA10314 AREA10315	AR1031	AR1037	0.875 to 1.70	APJ10377	APR10357
4-wire, 4-pole	1½ 2	AREA10415 AREA10416	AR1041	AR1047	0.875 to 1.70	APJ10477	APR10457
Style 2			**Style 2**		**Style 2**		
2-wire, 3-pole	1¼ 1½	AREA10324 AREA10325	AR1032	AR1038	0.875 to 1.70	APJ10387	APR10367
3-wire, 4-pole	1½ 2	AREA10425 AREA10426	AR1042	AR1048	0.875 to 1.70	APJ10487	APR10467

Dimensions

ARE Assembly

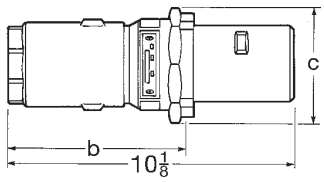


AR Receptacle - Spring Door



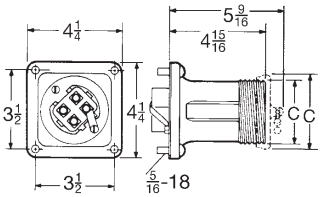
No. Poles	f
2 or 3	9/32
4	13/32

APJ Plug



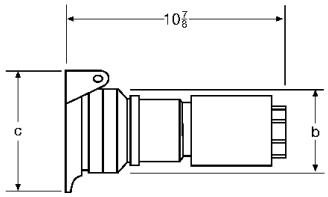
No. Poles	b	c
3	6 9/16	3 3/4
4	6 5/8	4 1/8

AR Receptacle - Open and with cap



No. Poles	Housing	c
2 or 3	open	3 3/16
4	open	3 7/16
2 or 3	with cap	3 11/16
4	with cap	3 7/8

APR Connector



No. Poles	b	c
3	3 3/8	3 3/16
4	3 1/2	3 7/16

** For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

Plug Closure Caps:

Application:

CPK caps for *Arktite* plugs are used:
- where portable equipment is on a standby basis and plugs are not in use
- to effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion
- with 30, 60, 100 and 200 ampere plugs with fastening ring and standard 200 ampere plugs for the clamp door housing

Config.	Cat No. #
2P & 3P	**CPK62**
4P	**CPK64**

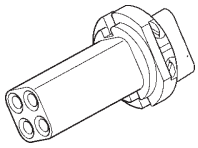
Standard Materials:

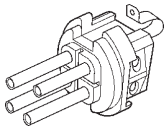
- Copper-free aluminum

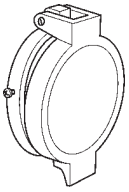
Standard Finishes:

- Natural

Replacement Parts:







Config.	Receptacle Interior	Plug Interior	Spring Door	Screw Cap
2W 2P	ATP315	ATP310	QE53	QE62
2W 3P	ATP318	ATP313		
3W 3P	ATP316	ATP311		
3W 4P	ATP319	ATP314	QE54	QE64
4W 4P	ATP317	ATP312		
4W 5P	N/A	N/A	N/A	N/A
5W 5P	N/A	N/A		

Replacement Pin & Sleeve Contacts:

Description	Recep	Plug
Available as a kit only. 5 phase contacts & 1 ground contact included	AR100CONKIT	AP100CONKIT

** For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies

Weatherproof

200 A, 600 VAC/250 VDC, 50**-400 hertz

See pages 966–969 for general Application, Features, Grounding, Standard Materials, Standard Finishes, Options, Accessories, Compliances, Electrical Rating Ranges, and Wire Sizes.

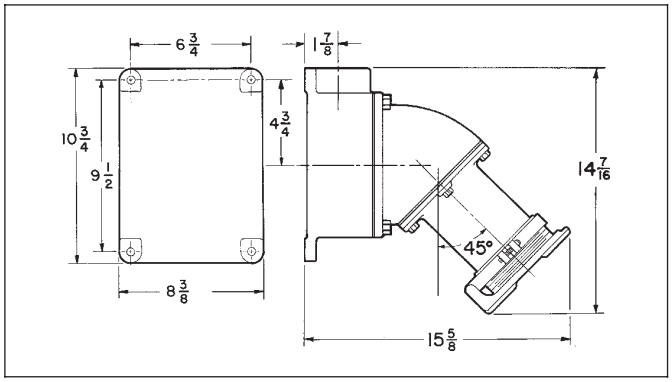
Features:

- Grounding contact wire terminators will accommodate ground wire of same size as phase wire.
- Spring band contact design provides multiple points of electrical contact. Improves electrical reliability and significantly reduces effort required for insertion and withdrawal
- Crimp/solder type contacts are standard
- Large wire wells are available for ''extra flexible'' wire
- Larger wire well size connectors will interchange with connectors of other wire well size of same amperage and contact configuration.
- Self-closing spring doors on receptacles and cord connectors provide environmental sealing
- Threaded nuts provide positive plug retention
- Two piece plug and cord connector design provide easy installation

NOTES:
1. For listing of additional back boxes, see page 991.
2. S22 suffix for reverse interiors is available from factory only. Field conversion cannot be done.
3. Replacement interiors for standard units vs. S22 units vary in length. Specify the unit type when ordering parts.

Dimensions

AREA Assembly



Plug Closure Caps:

Application:

CPK caps for *Arktite* plugs are used:
- where portable equipment is on a standby basis and plugs are not in use
- to effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion
- with 30, 60, 100 and 200 ampere plugs with fastening ring and standard 200 ampere plugs for the clamp door housing

Config.	Cat No. #
3P	**CPK102**
4P	**CPK104**

Standard Materials:

- Copper-free aluminum

Standard Finishes:

- Natural

Wire Mesh Grips:

Application:

Wire mesh grips are used:
- to provide secure cable termination
- to extend cable life
- **with 20, 200 and 400 ampere plugs**

Features:

- Eliminate sharp radius of cable bend at the point where cable enters plug, thereby reducing cable failure
- Absorb longitudinal stresses placed on the point of termination caused by pulling the cable
- Gripping action increases in direct proportion to amount of tension applied to cable

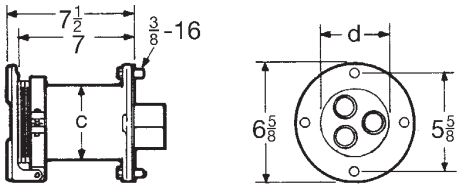
Standard Material & Finishes:

- Stainless steel wire braid – Natural

Ordering Information:

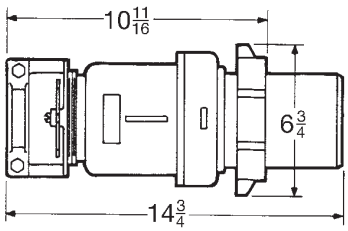
Plug Cable Range	Grip Range	Nominal Grip Length – Inches	Grip Cat. #
1.375 to 1.875	1.375 to 1.625	8	K163
	1.625 to 1.875	11	K188
1.875 to 2.500	1.875 to 2.000	10	K200
	2.000 to 2.250	11¾	K225

AR Receptacle

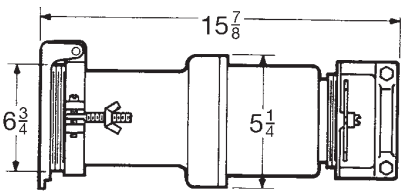


No. Poles	c	d
3	4 3/16	3 1/4
4	4 9/16	3 5/8

AP Plug



APR Connector



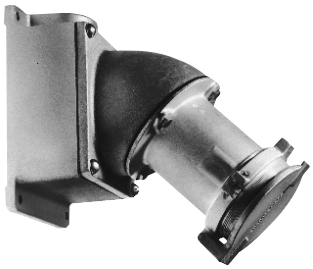
** For use on system less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

COOPER Crouse-Hinds

Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies

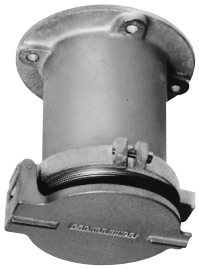
200 A, 600 VAC/250 VDC, 50**-400 hertz

Receptacle Assembly



With AJ Back Boxes and Angle Adapters

Receptacle



Receptacle Housings only

Mating Plug

Mating Connector

Style 1 – Wire Well Takes .56″ Maximum Conductor Size

Description	Hub Size	Spring Door Cover Cat. #	Spring Door Cat. #	Cable Dia.	Plug Cat. #	Connector Cat. #
3-wire, 3-pole	1½	AREA20315	AR2031	0.875 to 1.375	AP20355	APR20315
	2	AREA20316		1.375 to 1.875	AP20357	APR20317
	2½	AREA20317		1.875 to 2.500	AP20358	APR20318
4-wire, 4-pole	2	AREA20416	AR2041	0.875 to 1.375	AP20455	APR20415
	2½	AREA20417		1.375 to 1.875	AP20457	APR20417
				1.875 to 2.500	AP20458	APR20418

Style 1 – Wire Well Takes .75″ Maximum Conductor Size

3-wire, 3-pole	1½	AREA203125	AR20312			
	2	AREA203126		1.375 to 1.875	AP203511	APR203111
	2½	AREA203127		1.875 to 2.500	AP203512	APR203112
4-wire, 4-pole	2	AREA204126	AR20412	1.375 to 1.875	AP204511	APR204111
	2½	AREA204127		1.875 to 2.500	AP204512	APR204112
				2.500 to 3.000	AP204513	APR204113

Style 2 – Wire Well Takes .56″ Maximum Conductor Size

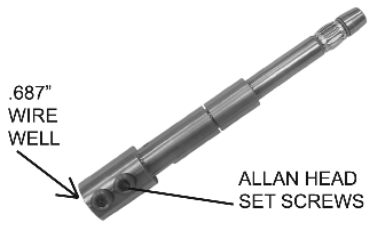
2-wire, 3-pole	1½	AREA20325	AR2032	0.875 to 1.375	AP20365	APR20325
	2	AREA20326		1.375 to 1.875	AP20367	APR20327
	2½	AREA20327		1.875 to 2.500	AP20368	APR20328
3-wire, 4-pole	1½	AREA20425	AR2042	0.875 to 1.375	AP20465	APR20425
	2	AREA20426		1.375 to 1.875	AP20467	APR20427
	2½	AREA20427		1.875 to 2.500	AP20468	APR20428

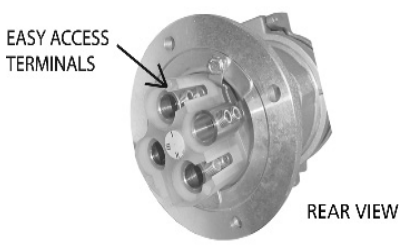
Style 2 – Wire Well Takes .75″ Maximum Conductor Size

2-wire, 3-pole	1½	AREA203225	AR20322	0.875 to 1.375	AP203610	APR203210
	2	AREA203226		1.375 to 1.875	AP203611	APR203211
	2½	AREA203227		1.875 to 2.500	AP203612	APR203212
3-wire, 4-pole	1½	AREA204225	AR20422	1.375 to 1.875	AP204611	APR204211
	2	AREA204226		1.875 to 2.500	AP204612	APR204212
	2½	AREA204227				

Option:

- Mechanical lug wire conductor terminations. Add ''L'' to catalog prefix i.e. : ARL2042



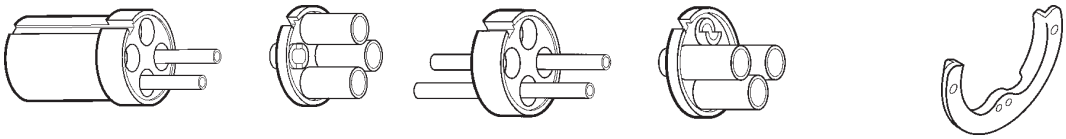


Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies

Weatherproof

200 A, 600 VAC/250 VDC, 50**-400 hertz

200A Replacement Parts

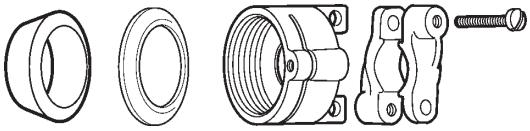


200A Standard and S4

	Receptacle Interior		Plug Interior		Brass Retaining Shoe	
	.56 wire well	.75 wire well	.56 wire well	.75 wire well	.56 wire well	.75 wire well
2W 3P	ATP401	ATP402	ATP433	ATP434	0490335	0490335
3W 3P	ATP397	ATP398	ATP429	ATP430	0490327	0490328
3W 4P	ATP403	ATP404	ATP435	ATP436	0490337	0490337
4W 4P	ATP399	ATP400	ATP431	ATP432	0490331	0490332

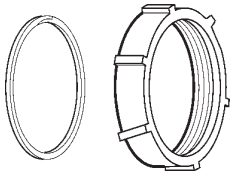
200A ST22 and S4 S22

	Receptacle Interior		Plug Interior		Brass Retaining Shoe	
	.56 wire well	.75 wire well	.56 wire well	.75 wire well	.56 wire well	.75 wire well
2W 3P	ATP417	ATP418	ATP449	ATP450	0490335	0490335
3W 3P	ATP413	ATP414	ATP445	ATP446	0490327	0490328
3W 4P	ATP419	ATP420	ATP451	ATP452	0490337	0490337
4W 4P	ATP415	ATP416	ATP447	ATP448	0490331	0490332



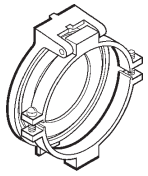
Cord Grip Assembly

Cord Diameter Range	
.875 - 1.375	AP2 KIT1 M80
1.375 - 1.875	AP2 KIT2 M80
1.875 - 2.500	AP2 KIT3 M80



Plug Clamp Nut

2W 3P 3W 3P	AP:0401965
2W 3P 3W 3P	AP:0401964



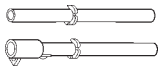
Rec Spring Door

AR:0401502-2
AR:0401502-1

Replacement Pin & Sleeve Contacts

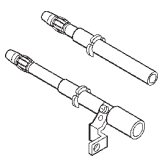
200A Standard & S4

	Receptacle		Plug	
	.56 wire well	.75 wire well	.56 wire well	.75 wire well
Phase Contact	0490339	0490340	0490319	0490320
Ground Contact	0490343	0490344	0490323	0490324



200A S22 & S4 S22

	Receptacle		Plug	
	.56 wire well	.75 wire well	.56 wire well	.75 wire well
Phase Contact	0490351	0490352	0490355T	0490356
Ground Contact	0490347	0490348	0490359	0490360



Arktite® Heavy Duty Receptacle Assemblies

400 A, 600 VAC/250 VDC, 50-400 hertz

Features:

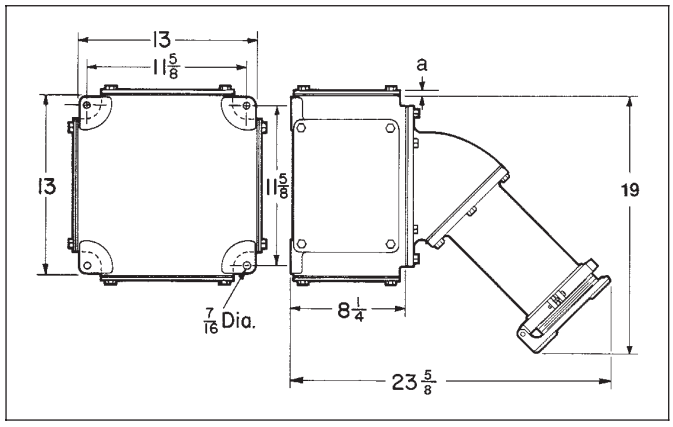
- Grounding contact wire terminators will accommodate ground wire of same size as phase wire
- Spring band contact design provides multiple points of electrical contact. Improves electrical reliability and significantly reduces effort required for insertion and withdrawal
- Crimp/solder type contacts are standard.
- Large wire wells are available for ''extra flexible'' wire
- Larger wire well connectors will interchange with connectors of other wire well size, of same amperage and contact configuration.
- Self-closing spring doors on receptacles and cord connectors provide environmental sealing
- Threaded nuts provide positive plug retention
- Two piece plug and cord connector design provide easy installation
- For disconnect use only – not for current interrupting

NOTES:
1. For listing of additional back boxes, see page 991. Illustration shows 3 blank plates and 1 hub plate.
2. S22 suffix for reverse interiors is available from factory only. Field conversion cannot be done.
3. Replacement interiors for standard units vs. S22 units vary in length. Specify the unit type when ordering parts.

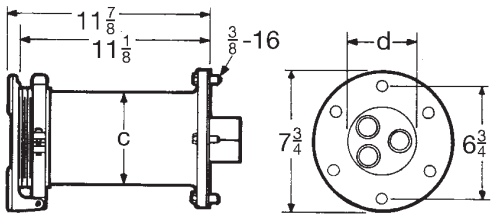
Dimensions

AREX Assemblies

Description	a
With blank hub plate	5/16
With hub plate max.	4 5/8



AR Receptacles



No. Poles	c	d
3	5 3/16	4 3/16
4	5 13/16	4 11/16

Wire Mesh Grips

Application:

Wire mesh grips are used:
- to provide secure cable termination
- to extend cable life
- **with 20, 200 and 400 ampere plugs**

Features:

- Eliminate sharp radius of cable bend at the point where cable enters plug, thereby reducing cable failure
- Absorb longitudinal stresses placed on the point of termination caused by pulling the cable
- Gripping action increases in direct proportion to amount of tension applied to cable

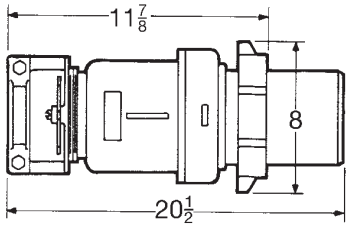
Standard Material & Finishes:

- Stainless steel wire braid – Natural

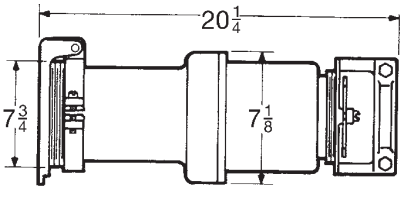
Ordering Information:

Plug Cable Range	Grip Range	Nominal Grip Length – Inches	Grip Cat. #
1.375 to 1.875	1.375 to 1.625	8	K163
	1.625 to 1.875	11	K188
1.875 to 2.500	1.875 to 2.000	10	K200
	2.000 to 2.250	11 3/4	K225

AP Plugs



APR Connectors

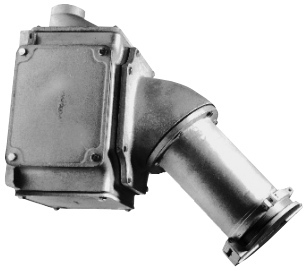


Arktite® Heavy Duty Receptacle Assemblies

Weatherproof

400 A, 600 VAC/250 VDC, 50-400 hertz

Receptacle Assembly



With AJ Back Boxes‡ and Angle Adapters

Receptacle

Receptacle Housings only

Mating Plug

Mating Connector

Style 1 – Wire Well Takes .84″ Maximum Conductor Size

Description	Hub Size	Spring Door Cover Cat.#	Spring Door Cat. #	Cable Dia.	Plug Cat. #	Connector Cat. #
3-wire, 3-pole	2½ 3	AREX40317 AREX40318	AR4031	1.375 to 1.875 1.875 to 2.500	AP40357 AP40358	APR40317 APR40318
4-wire, 4-pole	2½ 3	AREX40417 AREX40418	AR4041	1.375 to 1.875 1.875 to 2.500	AP40457 AP40458	APR40417 APR40418
Style 1 – Wire Well Takes 1.25″ Maximum Conductor Size						
3-wire, 3-pole	3 3½ 4	AREX403128 AREX403129 AREX4031210	AR40312	2.500 to 3.000 3.000 to 3.800	AP403510 AP403512	APR403110 APR403112
4-wire, 4-pole	4 5	AREX4041210 AREX4041212	AR40412	2.500 to 3.000 3.000 to 3.800	AP404510 AP404512	APR404110 APR404112
Style 2 – Wire Well Takes .84″ Maximum Conductor Size						
2-wire, 3-pole	2 2½ 3	AREX40326 AREX40327 AREX40328	AR4032	1.375 to 1.875 1.875 to 2.500	AP40367 AP40368	APR40327 APR40328
3-wire, 4-pole	2½ 3	AREX40427 AREX40428	AR4042	1.375 to 1.875 1.875 to 2.500	AP40467 AP40468	APR40427 APR40428
Style 2 – Wire Well Takes 1.25″ Maximum Conductor Size						
2-wire, 3-pole	3 3½ 4	AREX403228 AREX403229 AREX4032210	AR40322	2.500 to 3.000 3.000 to 3.500	AP403610 AP403612	APR403210 APR403212
3-wire, 4-pole	4 5	AREX4042210 AREX4042212	AR40422	2.500 to 3.000 3.000 to 3.500	AP404610 AP404612	APR404210 APR404212

† Furnished with cable grip and neoprene bushing.

‡ Hub plates and blank plates may be interchanged to permit conduit feed from bottom or sides.