



FEATURES & SPECIFICATIONS

INTENDED USE

Use for parking garage applications.

CONSTRUCTION

Rugged, die-cast aluminum housing with one-piece silicone gasketing. Precision injection-molded, UV-stabilized, acrylic lens. Hinged and secured with four rust resistant screws. Polycarbonate lens available.

US Patent no. D402,075. Canada Patent No. 86779.

FINISH

Standard finish is white; other finishes include dark bronze, black, natural aluminum and charcoal gray.

OPTICAL SYSTEM

Lower- semi-specular faceted vacuum metalized aluminum reflector;

Upper precision injection-molded, prismatic acrylic refractor. Polycarbonate refractor and downlight focused options available.

ELECTRICAL SYSTEM

All high pressure sodium and 100W -150W metal halide ballasts are high reactance autotransformer, high power factor. 175W metal halide ballast is a constant-wattage autotransformer. 200W metal halide requires a Super CWA Pulse Start ballast. All ballasts are precision-wound and 100% factory tested. 180°C Class H insulation system. Medium-base porcelain socket with copper alloy, nickel-plated screw shell and center contact. UL listed 660W, 600V, 4KV pulse-rated.

INSTALLATION

Quick-mount plate is galvanized steel with full pad gasket, and has integral mounting support that allows fixture to hinge down for easy electrical connections. Mounts to recessed or surface mount outlet box. Fixture secures in place with twist-lock motion. Mounting options include yoke mount and offset junction box for use with rigid or free-swinging canopy and 3/4" NPT (by others). See Installation Instructions for details.

LISTING

UL listed 25°C ambient operation and wet locations. 40°C ambient option available. Listed and labeled to comply with Canadian Standards (see Options).

Ok for phase 1/2 structure

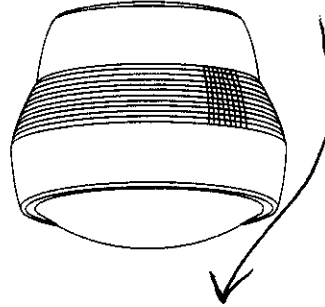
Catalog Number

Notes

Type

A,B

No for phase 3 structure



Parking Garage Lighting

PGR

High Pressure Sodium and Metal Halide

70W, 100W, 150W HPS
100W, 150W, 175W, 200W MH
8' to 15' Mounting

full cut off

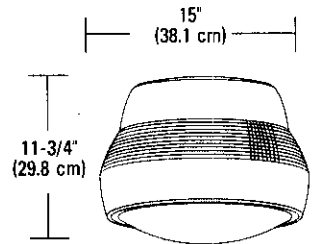
"Inselco" fixture

Specifications

Weight: 20 lbs (9 kg)

Height: 11-3/4" (29.8 cm)

Width: 15" (38.1 cm)



ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog numbers (shipped separately).

Example: PGR 175M 120 LPI

PGR

Series	Wattage/lamp	Voltage	Options	
PGR	70S	120	Shipped Installed in Fixture	
	100S	208 ²	SF	Single fuse (120, 277, 347V) ⁵
	150S	240 ²	DF	Double fuse (208, 240, 480V) ⁵
	100M	277	LP	Lamp factory installed
	150M	347	LPI	Lamp included as standard
	175M	480 ³	L/LP	Less lamp
	200M ¹	TB ⁴	QRS	Quartz restrike system (100W max.) ⁶
			QRSTD	Quartz restrike time delay (100W max.) ^{6,8}
			HA	40°C ambient ⁹
			KW1	KiloWatch 120V control relay (150S and 175M only) ⁷
			CSA	Listed and labeled to comply with Canadian Standards
			DN	Downlight focused (not available with HA or HS option)
			CR	Enhanced corrosion resistance
			CRT	Non-stick protective coating (black finish only)
			TP	Tamper resistant lens screws
			PC	Polycarbonate refractor/lower housing/lens
			FRL	Frosted lower lens
			SCWA	Super CWA Pulse Start Ballast
			HS	House side glare shield
			EC	Emergency circuit-DC bayonet socket ^{6,10}
			Shipped Separately	
			OJB	Offset junction box ¹¹
			YK	Yoke mount
			BDS	Bird deterrent shroud (for use with non-surface mounting options; rigid conduit, YK or OJB)
			Optional Colors	
			DWH	White (standard)
			DDB	Dark bronze
			DBL	Black
			DNA	Natural aluminum
			DGC	Charcoal gray

NOTES:

- Requires Super CWA Pulse Start ballast.
- Consult factory for availability in Canada.
- Available in 150S, 175M and 200M only.
- Optional multi-tap ballast (120, 208, 240, 277) (120, 277, 347 for Canada).
- Not available with multi-tap ballast.
- Lamp not included.
- For specific ordering information, see KiloWatch brochure, form no. 720.146, or consult factory.
- Not available with KiloWatch.
- N/A with house side shield or 200M.
- Lamp wattage not to exceed ballast wattage.
- Required when pendant is free-swinging. OJB excepts 3/4" pipe thread.

Accessories

- Order as separate catalog number
- RK1 T20BIT Hex-base driver bit, Torx TX20, for tamper resistant screws with center reject pin.
 - RK1 T20DRV Torx TX20 screwdriver for use with tamper resistant screws with center reject pin.

Outdoor

63-DR-2000#2
12/13/04

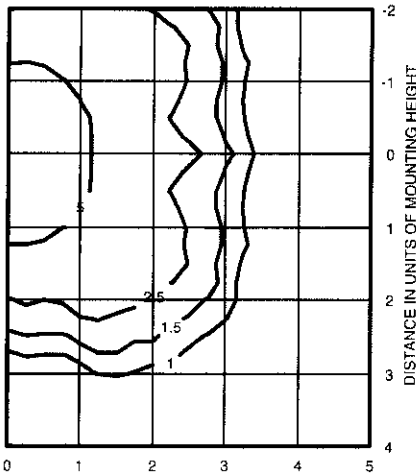
Sheet #: PGR-M-S

GC-100

PGR Parking Garage Lighting

PGR 150S TEST NO: LTL12888

ISOILLUMINANCE PLOT (Footcandle)



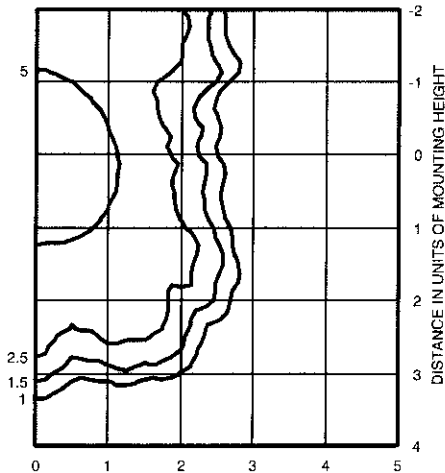
150W high pressure sodium lamp
Footcandle values based on 9'
mounting height

COEFFICIENTS OF UTILIZATION

pf	20%										
	50%			30%			10%			0%	
pc	30%	10%	0%	50%	30%	10%	50%	30%	10%	0%	
pw	0	87	87	87	81	81	81	75	75	75	73
	1	65	62	60	64	61	58	59	57	55	52
	2	50	44	42	51	46	42	47	43	39	36
	3	39	33	30	42	36	31	38	33	29	26
	4	31	26	23	35	29	24	32	27	23	20
	5	26	20	18	31	24	19	28	22	18	16
	6	22	17	15	27	21	16	25	19	15	13
	7	19	14	12	24	18	13	22	17	13	10
	8	17	12	10	22	16	12	20	15	11	09
	9	15	11	09	20	14	10	19	13	09	08
	10	14	09	08	19	13	09	17	12	08	07

PGR 175M TEST NO: LTL12833

ISOILLUMINANCE PLOT (Footcandle)



175W metal halide lamp, rated 14000
lumens. Footcandle values based on 9'
mounting height

COEFFICIENTS OF UTILIZATION

pf	20%										
	50%			30%			10%			0%	
pc	30%	10%	0%	50%	30%	10%	50%	30%	10%	0%	
pw	0	86	86	86	80	80	80	74	74	74	72
	1	66	63	61	64	61	59	60	57	55	52
	2	51	46	43	52	47	43	47	44	40	37
	3	40	34	32	43	37	32	39	34	30	27
	4	32	27	24	36	30	25	33	28	23	21
	5	27	22	19	31	25	20	29	23	19	17
	6	23	18	16	28	21	17	25	20	16	13
	7	20	15	13	25	19	14	23	17	13	11
	8	18	13	11	22	17	12	21	15	11	10
	9	16	11	10	21	15	11	19	14	10	08
	10	14	10	08	19	13	10	17	13	09	07

NOTES:

- 1 Photometric data for other distributions can be accessed from the Lithonia Lighting website (www.lithonia.com).
- 2 Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory and actual field measurements. Dimensions and specifications are based on the most current data and are subject to change.
- 3 For electrical characteristics, consult technical data tab.

$$\left(\frac{\text{Existing Mounting Height}}{\text{New Mounting Height}} \right)^2 = \text{Correction Factor}$$



Lithonia Lighting
Acuity Lighting Group, Inc.
Outdoor Lighting
One Lithonia Way, Conyers, GA 30012-3957
Phone: 770-922-9000 Fax: 770-918-1209
In Canada: 160 avenue Labrosse, Pointe-Claire, P.Q., H9R 1A1
www.lithonia.com

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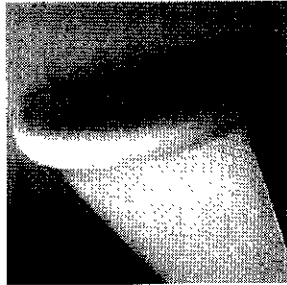
Millenium STRETCH™

MLHA12 Series - Individual Luminaires

T5, T5HO, T8 and T8HO Lamps

Ceiling/Wall/Corner Mount

Nominal 12"x24", 12"x48" 12"x96"



Rounded End Cap



Flat End Cap

Architectural Linear Lighting for High Abuse Environments

Specifications

Lens: U.V. stabilized, high impact extruded clear or pearlescent polycarbonate. Smooth exterior, linear prismatic interior. Nominal thickness .156". Lens securely positioned in body channels and end caps. Lens locked in place with tamper-resistant stainless steel POSIGRIP™ fasteners and sealed with closed cell gaskets.

Housing: Marine grade aluminum. Extruded body with die-cast end caps. Housing, with end caps, post assembly urethane powder coat finished – 5-step pre-treatment. See Ordering Information for standard, optional, architectural and custom finishes.

End Caps: Marine grade die-cast aluminum. Two styles available: Flat and rounded. Multiple conduit and "Wiremold™ ready" knockouts visible only from interior of end cap.

Reflector: Full reflector/wire cover – 92% reflectivity.

Electrical: Standard electronic ballast for T8 lamps (EB): Instant Start; UL listed, Class P; Class A audible noise rating; >98% power factor; <20% THD; 0°F minimum starting temperature. Optional electronic ballast for T8 lamps: (PB8): Instant Start; UL listed, Class P; Class A audible noise rating; >98% power factor; <10% THD; 0°F minimum starting temperature. Standard electronic ballast for T8HO lamps (PB8): Programmed start; UL listed, Class P; Class A audible noise rating; >90% power factor; <10% THD; -20°F minimum starting temperature. Standard electronic ballast for T5 and T5HO lamps: (PB5): Program Rapid Start; Suitable for use with occupancy switches; UL listed, Class P; Class A audible noise rating; >98% power factor; <10% THD; 0°F minimum starting temperature. Two lamp maximum per PB5 ballast.

Sockets: Shock-resistant sockets with internal locking collar to ensure positive lamp retention.

Hardware: Stainless steel, tamper-resistant POSIGRIP™ fasteners secure lens in housing body's lens channel (eight on 96" housings, four on 48" housings, two on 24" housing).

Listings/Certifications: UL and CUL listed for Wet Locations – covered ceiling mount. UL Classified IP64 rated – ceiling mount (E185326). Corner, horizontal wall and pendant mount installation – damp location only. Patents pending.

Installation: Standard four-point (24" housing) six-point (48" housings) and twelve-point (96" housing) mounting required for Peace of Mind Lifetime Guarantee®.

Ordering Information

Series	Length	End Caps	Finish	Lens	Lamp Qty	Lamp Type	Ballast Type	Circuit Qty	Voltage	Options	Accessories
MLHA12											
Length		End Caps		Lamp Qty (Cross Section)		Ballast Type		Voltage		Options	
24 2'		R Rounded		1 One		Two Foot Lengths		120 120 Volts		DL Damp Location (Interior use NO gasketing)	
48 4'		F Flat		2 Two		17 F17T8		277 277 Volts		NAT Natatorium Environment Option	
96 Two 4' (factory connected)				3 Three		24' F24T5HO		347▲ 347 Volts (T8, T5HO)		NSF National Sanitation Foundation Listed	
				4 Four		Four Foot Lengths		DV 120/277 Volts (<10% THD), electronic ballasts only		EL** 500 Minimum Lumen Battery Pack (90 Minutes; 32°F Starting Temperature)	
						Lamp Type				PEL** 1100 Minimum Lumen Battery Pack (90 Minutes; 32°F Starting Temperature)	
						Two Foot Lengths				FS Single Fuse & Holder	
						14' F14T5				TN Twin Tube Night Light (7.9 watt-120/277 Volts)	
						17 F17T8				CDF Captive Diffuser Fasteners	
						24' F24T5HO				PH Phillips Head Fasteners	
						Four Foot Lengths				CMB Corner Mount Bracket (damp only)	
						28 F28T5				PM Pendant Mount (stems by others; damp only)	
						32 F32T8				UC Uplight Component (damp only)	
						44 F48T8HO (2 lamp only)					
						54 F54T5HO					
						Ballast Type					
						EB Elec <20%THD (T8 only)					
						PB8 Elec <10%THD (T8 and T8HO)					
						PB5 Elec <10%THD (T5 and T5HO only)					
						SB Specified Ballast					
						Circuit Qty					
						1 One					
						2 Two (Two Ballast Minimum)					
										Accessories	
										9500 POSIGRIP™ Screwdriver	
										D-0552 POSIGRIP Driver Bit (Required for CMB Option)	

* Dry Location listing only available with T5 and T5HO lamps.

Not available on 2' fixtures with T5/T5HO lamps and EL or TN option.

▲ 347V available with EL and PEL options only with two T8 lamps.

■ 2' Fixtures have minimum 350-450 lumen battery pack.

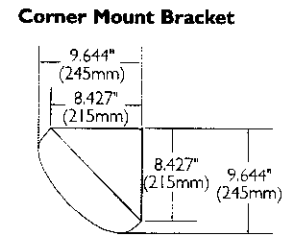
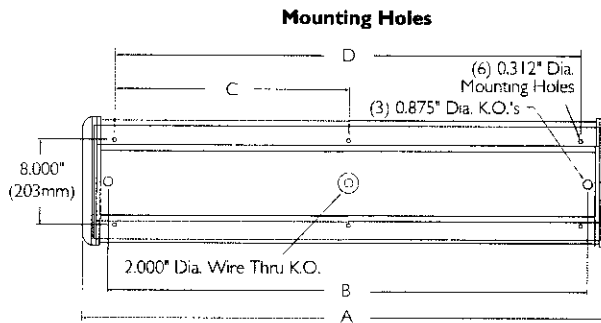
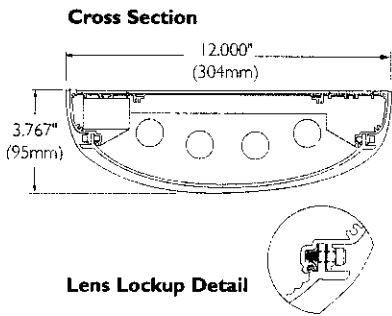
• Not available on 2' fixtures.



Millenium STRETCH™

MLHA12 Series

Dimensional Data



Nominal Two Foot Fixture Legend

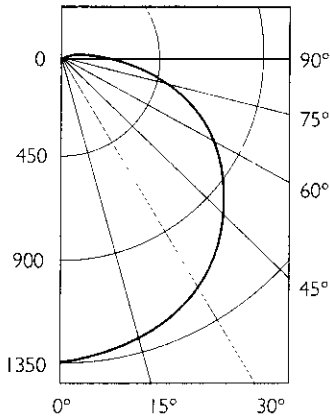
LMP	End Cap	A	B	C	D
T8	R	27.132	22.312	N/A	21.000
T8	F	25.308	22.312	N/A	21.000
T5	R	25.548	20.728	N/A	20.875
T5	F	23.724	20.728	N/A	20.875

Nominal Four Foot Fixture Legend

LMP	End Cap	A	B	C	D
T8	R	51.132	46.312	22.500	45.000
T8	F	49.308	46.312	22.500	45.000
T5	R	49.170	44.350	22.250	44.500
T5	F	47.346	44.350	22.250	44.500

Photometric Information

Candlepower Distribution



Coefficients of Utilizations - Zonal Cavity Method

Test Report Number: ITL50747
Lamps: Two 32 Watt T8 (2850 Lumens per Lamp)

RF	20										
	80		70		50		10				
RC	70	50	30	10	70	50	30	10	50	30	10
0	89	89	89	89	87	87	87	87	83	83	83
1	81	77	73	70	78	75	71	68	71	68	66
2	73	66	61	56	71	65	60	55	62	57	54
3	66	58	51	46	64	57	51	46	54	49	45
4	61	51	44	39	59	50	44	39	48	42	38
5	56	46	39	33	54	45	38	33	43	37	32
6	51	41	34	29	50	40	34	29	38	33	28
7	48	37	30	25	46	36	30	25	35	29	25
8	44	34	27	23	43	33	27	23	32	26	22
9	41	31	25	20	40	30	24	20	29	24	20
10	39	29	22	18	38	28	22	18	27	22	18

Luminance Data in Candela

Total Luminaire Efficiency: 75.4%
Cross Spacing: 1.3

Angle in DEG	Average 0 DEG	Average 45 DEG	Average 90 DEG
45	3623	3920	4277
55	3296	3949	4460
65	2693	3831	4785
75	1648	3874	5043
85	453	3516	4987

Peace of Mind Guarantee

Kenall high abuse luminaires are designed and built to take exceptional physical punishment. When installed according to our instructions, Kenall will repair or replace any fixture rendered inoperable due to physical abuse for the product life of the original installation.

PEACE OF MIND
Lifetime Guarantee™

Quick Specification

Lens: U.V. stabilized, high impact extruded polycarbonate. Smooth exterior; linear prismatic interior. Nominal thickness .156".

Housing: Marine grade aluminum. Extruded body with die-cast end caps. Housing, with end caps, post assembly urethane powder coat finished - 5-step pre-treatment.

End Caps: Marine grade die-cast aluminum. Multiple conduit/Wiremold™ knockouts visible only from interior of end cap.

Hardware: Stainless steel, tamper-resistant POSIGRIP™ fasteners secure lens in housing body's lens channel.

Listings: UL/CUL Listed for Wet Locations - ceiling mount. UL Classified IP64 rated - ceiling mount (E185326).

Project Information

Job Name _____

Job Location _____

Fixture Type _____ Quantity _____

Catalog Number _____

Approved by _____

Date _____





FEATURES

INTENDED USE

Suitable for cold weather (down to -40°C with CW option), wet location, security/prisons and high-abuse applications.

CONSTRUCTION

Durable cast-aluminum construction – rugged low-profile housing is .250 to .525" thick.

NEMA 4X option is available for wet and hose-down applications.

Clear, UV-stable polycarbonate cover is .130" thick to prevent cracking or breaking. Cover is secured with four stainless steel Torx T20, tamperproof screws with center pin.

Polycarbonate faceplate incorporates universal directional chevron knockouts that are concealed and easily removed and replaced.

Universal mount (UM) option available – top, back, end mounting or conduit entry. (canopy provided)

Letters 6" high with 3/4" stroke. **U.S. Patent No. 5,611,163 and D383,501.**

LAMPS

Lamp is constructed using new LED technology. Provides perfectly uniform illumination.

LED life exceeds 25 years, based on continuous operation. Single-face exit uses one LED lamp; double-face exit uses two LED lamps. Low energy consumption — red lamp consumes 3.3 watts (120V) [6.7 watts (120V) with CSA option]; green lamp consumes 1.7 watts (120V).

BATTERY

Sealed, maintenance-free nickel-cadmium battery delivers 90 minutes capacity to lamp (30 minutes with CSA option). Constant-current series charger, automatic recharge after battery discharge.

Vandal-resistant magnetic test switch (magnet included) and LED indicator mounted on bottom of housing provide a safe, easy means for testing. Manual test switch also provided inside housing.

Polarized battery connector simplifies installation and maintenance; prevents charger damage from improper connection.

Brownout protection.

Low voltage disconnect allows battery connection before AC power is applied and prevents battery damage from deep discharge.

Self-diagnostics (optional). Automatically tests once a month for five minutes and once every six months for 30 minutes. Bi-color LED status indicator, test and service required.

Universal and back (no canopy) mount available.

Catalog Number	
Notes	Type D

All-Conditions Exits

LV EL N

LED LAMPS EMERGENCY
NEMA 4X Rating Available



EXTREME®

Conduit entry (1/2" - 14 UNC) included with universal mounting.

Cast-aluminum canopy attaches to 10-gauge steel mounting plate for top or end mounting (not required for back mounting).

Canopy mounting bracket provides 160 lbs. of mounting strength when mounted to suitable structure. Bracket will only fit a 2-gang junction box.

LISTINGS

UL Listed (standard). CSA Certified or NOM Certified (see Options). 4X option is UL listed to NEMA 4X ratings. Meets UL 924, NFPA 101 (current Life Safety Code), CSA C-860 and C22.2 No. 141 (see Options), NEC and OSHA illumination standards, and State of Minnesota energy-efficient legislation requiring less than 20W consumption. Meets Energy Star standards.

WARRANTY

Three-year total customer satisfaction warranty on exit, including lamp. See Product Selection Guide for details.

ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number.

Example: **LV S W 1 R 120/277 EL N**

LV		S					EL N		Options	
Family	LV LED	Face type	S Stencil	Number of faces	Letter color	Input voltage⁴	Emergency operation			
				1 Single-face	R Red	120/277 Dual voltage ⁵	EL N Nickel-cadmium battery			
				2 Double-face ²	G Green ³	120 120V ⁵	Mounting			
						277 277V ⁵	(blank) Back mount ⁶			
						347 347V ⁵	UM Universal mount			
Faceplate/housing color				NOTES:						
(blank) Black faceplate on black housing				1 Not available with C-860 compliance.						
W White on white				2 Available with universal mount only.						
WB White on black				3 Not available with CSA option.						
BW Black on white				4 Some special voltages available. Consult factory.						
AB Aluminum on black ¹				5 Only available with CSA option.						
AW Aluminum on white ¹				6 Back mount standard with single face unless UM is specified. Not available on double face.						
				7 Choice of F or FI. Not available with both.						
Options										
(blank) None										
F Flashing emergency operation (45 flashes/min) ^{3,7}										
FI Fire alarm flashing interface ^{3,7}										
DL UL listed for damp locations										
4X UL listed for NEMA 4X ³										
CW Cold temperature and NEMA 4X wet location battery pack (down to -40°C) ³										
SD Self-diagnostics ³										
CSA CSA Certified										
NOM NOM Certified										
Accessories										
Order as separate item.										
ELA TPS T20 Torx tamperproof bit for T20 center-pin screw										

LV EL N Emergency LED, Extreme

SPECIFICATIONS

ELECTRICAL

Primary Circuit

Lamp type	Rated LED life ¹	Supply voltage	Number of lamps ²	Input watts	Max. amps	Cold Weather amps	watts
Red	25+ years	120	1	3.3	.14	.22	18.2
			2	4.8	.13	.28	29.1
Red	25+ years	277	1	3.3	.13	.26	16.6
			2	5.2	.13	.31	24.5
Green	25+ years	120	1	2.2	.10	.17	17.0
			2	3.2	.09	.24	27.3
Green	25+ years	277	1	2.5	.10	.19	12.2
			2	4.0	.10	.27	24.2
Red w/ CSA option	25+ years	120	1	6.7	.11	-	-
			2	7.8	.11	-	-
Red w/ CSA option	25+ years	277	1	6.8	.04	-	-
			2	8.0	.04	-	-
Red w/ CSA option	25+ years	347	1	6.9	.04	-	-
			2	8.0	.04	-	-

BATTERY

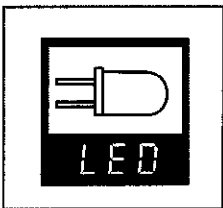
Sealed Nickel-Cadmium

Type	Shelf life ³	Expected life ³	Maintenance	Optimum temperature ⁵
STD	3 yrs.	7-9 yrs.	none ⁴	10°C - 40°C
CW	3 yrs.	7-9 yrs.	none ⁴	-40°C ⁵ - 40°C

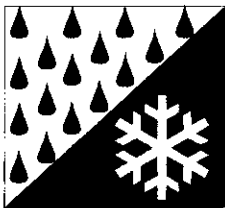
Notes:

- Based on continuous operation.
- Two-lamp version available with double-face only.
- At 77°F (25°C).
- Periodic system status test recommended.
- Optimum ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity. Consult factory for detailed information.

KEY FEATURES



Unique LEDs provide extremely long life and low energy consumption.



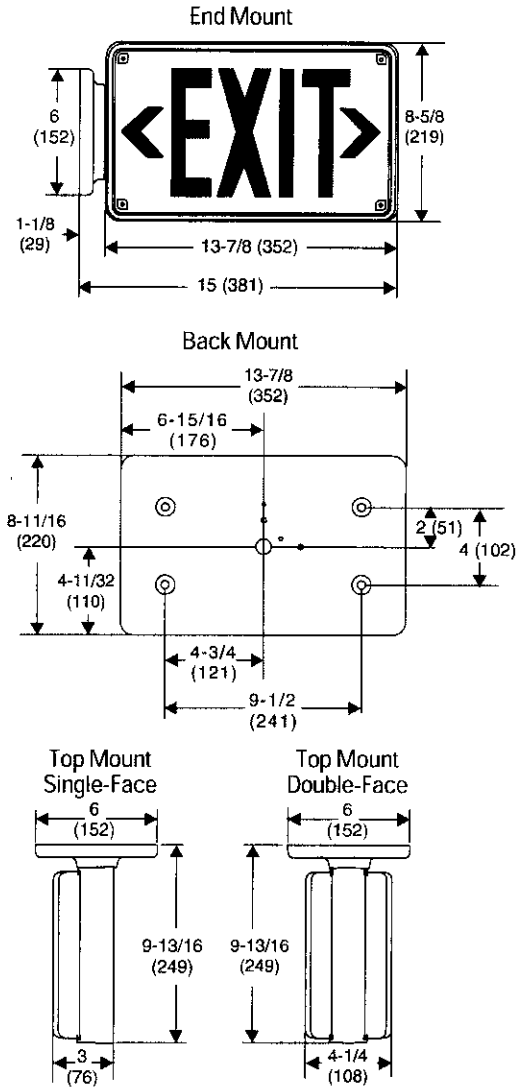
UL approved for damp, NEMA 4X wet or cold locations (see options).



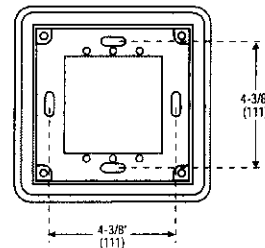
Listed and labeled to comply with Canadian Standard C-860.

MOUNTING

All dimensions are in inches (millimeters).
Shipping weight: 12 lbs. (5.45 kgs.).



NEMA 4X Mounting Plate



Housing or canopy mounting bracket should be attached to mounting surface using suitable fastener for type of wall material. All four mounting hole positions should be used, and anchors or screws should have a minimum pullout rating of 160 lbs. Bracket will only fit a 2-gang junction box.



Lithonia Lighting
 Acuity Lighting Group, Inc.
 Emergency Lighting Systems
 One Lithonia Way, Decatur, GA 30035
 Phone: 800-334-8694
 In Canada: 160 avenue Labrosse, Pointe-Claire, P.Q., H9R 1A1
 www.lithonia.com



FEATURES & SPECIFICATIONS

INTENDED USE — Use for parking lots, streets and surrounding areas.

CONSTRUCTION — Heavy-gauge, spun aluminum housing is fabricated using a computer-controlled, numeric spinning process. Integral structural support plate for mounting arm and electrical components ensures rigidity and strength. Hinged aluminum door frame incorporates stainless steel hardware. Continuous silicone gasketing surrounds lens for weather-tight seal. Optional tool-less hardware is available to maximize installation and maintenance ease. Thermal shock-resistant, tempered drop glass lens.

FINISH — Standard finish is dark bronze electrostatically applied powder paint. Linear embossed accent reveals are standard.

OPTICS — Vertical-lamp reflectors are one-piece spun and formed anodized aluminum. Specialized distributions for flat glass lens. Reflectors are independently designed to optimize light output for the lens type. Anodized, hydroformed aluminum reflectors or high-performance segmented aluminum reflectors also are available for use with horizontal lamps. Mogul-base porcelain socket with copper alloy, nickel-plated screw shell and center contact. Vertically oriented for types VFA, SYM, and ASY distributions. Horizontal position-oriented for types R2, R3 and R4. UL listed 1500W-600V, 4kV pulse rated. Reflectors are rotatable and interchangeable.

ELECTRICAL SYSTEM — All electrical components are mounted to a heavy-gauge plate to maximize heat dissipation and ensure structural integrity for optimal component life. Constant wattage autotransformer ballasts are copper wound and 100% factory tested. Super CWA pulse-start ballasts are required for 320 and 350 watt (must order SCWA option).

INSTALLATION — Extruded aluminum arm with integral splice compartment. Standard arm is 9" in length (12" arm is required for fixtures mounted at 90°). Arms are available for use with multiple poles, wall mounting and unique configurations.

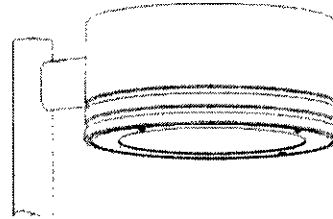
LISTING — UL Listed to US and Canadian safety standards (see Options). NOM Certified (see Options). UL listed for wet locations. Optical chamber is rated IP certified for ingress protection per IEC529 international standards.

Catalog Number	
Notes	Type E,F,J

Architectural Round Area Full Cutoff Lighting

KVR2

METAL HALIDE
250W, 320W, 350W, 400W,
20' to 40' Mounting



Specifications

EPA: 1.60 ft² (.49m²) (includes arm)
Diameter: 25.9 (65.7)
Height: 14 (35.5)
Arm length: 9 (22.8)
Weight: 56 lbs (25 kg)



All dimensions are inches (centimeters) unless otherwise specified.

Mounting Option	Drilling Template
SPDxx,RPDxx,	5
WBDxx	6
WWDxx	7

ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it in the appropriate blank.

Example: **KVR2 400M SYMFL 120 SPD09 SF DNA LPI**

Series	Voltage	Mounting ³	Options	
KVR2 175M	120	SPD04 Square pole (4" arm)	Shipped Installed in Fixture LPI Lamp (standard) TLS Tool-less Access L/LP Less Lamp SF Single fuse (120, 277, 347V; not avail. with TB) DF Double fuse (208, 240, 480V; not avail. with TB) PER NEMA twist-lock receptacle only (photocontrol not included) QRS Quartz restrike system (250W max, lamp not included) QRSTD QRS time delay (250W max, lamp not included) KW1 KiloWatch® 120V control relay ⁵ KW4 KiloWatch 277V control relay ⁵ CR Corrosion resistant EHS External houseside shield (matches fixture finish, included in the carton) EHSB External houseside shield black (painted black to maximize light control, included in the carton) CSA Listed and labeled to comply with Canadian Standards SCWA Super CWA Pulse Start Ballast NOM NOM Certified (consult factory) Shipped Separately⁶ PE1 NEMA twist-lock PE (120, 208, 240V) PE3 NEMA twist-lock PE (347V) PE4 NEMA twist-lock PE (480V) PE7 NEMA twist-lock PE (277V)	
KVR2 250M	208 ¹	RPD04 Round pole (4" arm)		
KVR2 320M	240 ¹	SPD09 Square pole (9" arm) ⁴		
KVR2 350M	277	RPD09 Round pole (9" arm) ⁴		
KVR2 400M	347	SPD12 Square pole (12" arm)		
	480 ¹	RPD12 Round pole (12" arm)		
	TB ²	WWD09 Wood pole or wall (9")		
		WWD12 Wood pole or wall (12" arm)		
		WBD09 Wall bracket (9" arm)		
		WBD12 Wall bracket (12" arm)		
		MAA Mast Arm (external fitter)		
Distribution				
Vertical Lamp Distributions:		High-performance segmented reflectors:		
SYMFL Symmetric square, flat lens		(square aperture)		
ASYFL Asymmetric, flat lens		SR2FL Seg. Type II Roadway, flat lens		
VFAFL Vert. forward throw automotive, flat lens		SR3FL Seg. Type III Asymmetric, flat lens		
Horizontal Lamp Distributions:		SR4SCFL Seg. Type IV For. throw sharp cutoff, flat lens		
R2FL Type II Roadway, flat lens		SR4WFL Seg. Type IV For. throw wide, flat lens		
R3FL Type III Asymmetric, flat lens				

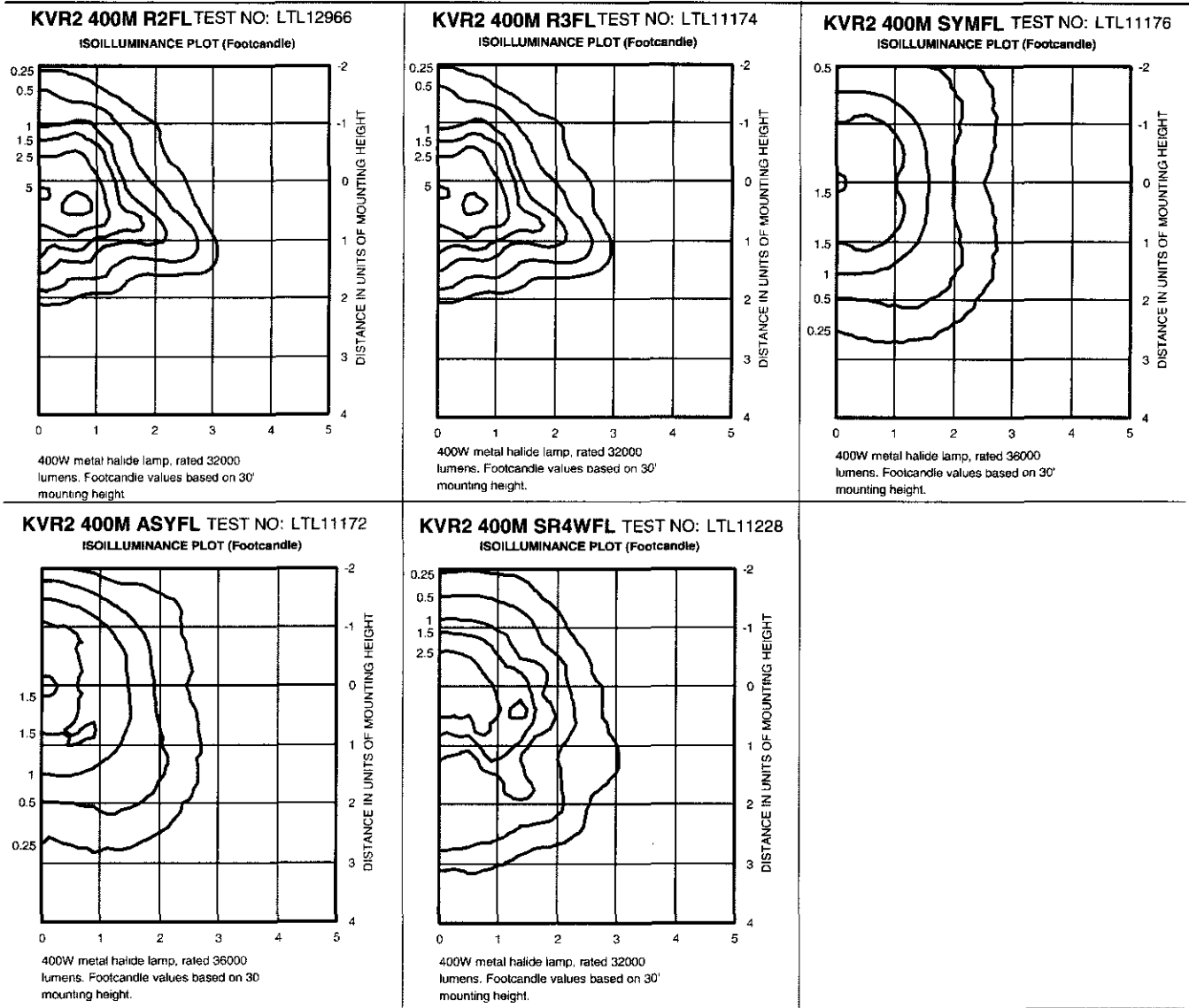
NOTES:

- Consult factory for availability in Canada.
- Optional multi-tap ballast (120, 208, 240, 277V). (120, 277, 347V in Canada.)
- For arm mounting, refer to technical data section in the Outdoor binder for drilling template.
- SPD12 or RPD12 must be used when two or more luminaires are oriented on a 90° drilling pattern.
- For specific ordering info., consult factory.
- May be ordered as accessory.
- Use KVR2EHS SR for segmented reflectors.
- Additional architectural colors available; please see Architectural Colors Brochure on www.lithonia.com.
- Order as separate line item. Important with this accessory, a RPD12 mounting arm must be ordered on the fixture.

Accessories: Tenon Mounting Slipfitter⁸

Tenon O.D.	Number of fixtures					
	One	Two@180°	Two@90°	Three@120°	Three@90°	Four@90°
2-3/8" (6)	T20-190	T20-280	T20-290	T20-320	T20-390	T20-490
2-7/8" (7.3)	T25-190	T25-280	T25-290	T25-320	T25-390	T25-490
4" (10.2)	T30-190	T30-280	T30-290	T30-320	T30-390	T30-490

KVR2 Arm-Mounted Area Lighting Metal Halide



NOTES:

- 1 Photometric data for other distributions can be accessed from the Lithonia Lighting website. (www.lithonia.com)
- 2 For electrical characteristics, consult technical data tab.
- 3 Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change.

Mounting Height Correction Factor

(Multiply the fc level by the correction factor)
 20 ft.= 2.25
 25 ft.= 1.44
 35 ft.= 0.73
 40 ft.= 0.56

$$\left(\frac{\text{Existing Mounting Height}}{\text{New Mounting Height}} \right)^2 = \text{Correction factor}$$





FEATURES & SPECIFICATIONS

INTENDED USE — For building- and wall-mounted applications.

CONSTRUCTION — Rugged, die-cast, single-piece aluminum housing. Die-cast door frame has a 1/8" thick tempered glass lens. Door frame is fully gasketed with one-piece solid silicone.

FINISH — Standard finish is new textured dark bronze (DDBT) corrosion-resistant polyester powder finish, with other architectural colors available.

OPTICAL SYSTEM — Segmented reflectors for superior uniformity and control. Reflectors are interchangeable. Three full cutoff downlight distributions available: FT (forward throw), MD (medium throw) and WT (wide throw). Four uplight distributions available: FTU (forward throw, 10% up), MDU (medium throw, 10% up), WTU (wide throw, 10% up) and MDU5 (up/down medium throw, 50% up 50% down).

ELECTRICAL SYSTEM — 50W-150W utilizes a high reactance, high power factor ballast. 35S utilizes a reactance high power factor ballast. 175W utilizes a constant-wattage auto transformer ballast. Quick disconnect plug easily disconnects reflector from ballast. Ballasts are copper-wound and 100% factory-tested. Porcelain, medium-base socket with copper alloy, nickel-plated screw shell and center contact. UL listed 660W, 600V 4KV pulse rated.

INSTALLATION — Universal mounting mechanism with integral mounting support allows fixture to hinge down. Bubble level provides correct alignment with every installation.

LISTING — UL Listed (standard). CSA Certified (see Options). Suitable for wet locations (damp location listed in lens-up orientation). WLU option offers wet location listing in up orientation (see Options). IP65 rated.

Catalog Number	
Notes	Type G

Decorative Wall-Mounted Lighting

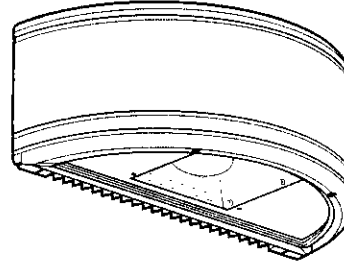
WSR

METAL HALIDE

50W-175W

HIGH PRESSURE SODIUM

35W-150W



Specifications

Length: 18.0 (45.7)
 Depth: 9.0 (22.8)
 Overall Height: 7.25 (18.4)
 Max. Weight: 30 lbs (13.6 kg)

All dimensions are inches (centimeters) unless otherwise specified.

ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line.

Example: **WSR 175M FT 120 SF LPI DNAT**

WSR

Series	Wattage/Source	Distribution	Voltage	Options					
WSR	Metal Halide	Downlight Distributions	120	Shipped Installed In Fixture	WSRWG Wire guard ⁶				
			208²			SF Single fuse (120, 277, 347V, n/a TB)	WSRVG Vandal guard ⁶		
			240²			DF Double fuse (208, 240V, n/a TB or TBV)		Architectural Colors⁸	
			277						EC Emergency circuit (25W max 120V, incandescent lamp included)
			347			DC12 Emergency circuit 12 volt (35W lamp included std.) ⁵			
	TB³	DC2012 Emergency circuit 12 volt (20W lamp included)	DSST Sandstone						
	TBV⁴		QRS Quartz restrike system (100W max 120V, quartz lamp not included)	DNAT Natural aluminum					
	High Pressure Sodium	Up/Down Distributions		FTU Forward throw with 10% uplight	CR Enhanced corrosion resistance	DWHG White			
			MDU Medium throw with 10% uplight (coated lamp std.)	CRT Non-stick protective coating (black only)		DBLB Black			
						WTU Wide throw with 10% uplight	PE Photoelectric cell-button type (n/a TB/TBV) ⁶	Optional Textured Colors	
			MDU5 Up/down medium throw with 50% uplight & 50% downlight (coated lamp std.)	WLU Wet location door for up orientation					DBNH Bronze
						IBS Internal backlight shield ⁷	DFL Diffusing lens		DSPD Dark gray
	DFL Diffusing lens	LPI Lamp included (std.)	DSPJ Light gray						
			L/LP Less lamp	CSA CSA Certified	DSPE Green				
	CSA CSA Certified	UCS Uplight component shield ⁹			DSPG Dark red				
UCS Uplight component shield ⁹			Shipped Separately	DSPF Rust					
	WSBBW Surface-mounted back box	UT5 Uplight 5 degrees		DSPH Red					
UT5 Uplight 5 degrees				Striping					
				SDDB Dark bronze					
				SDWH White					
				SDBL Black					
				SDNA Natural aluminum					
				SDTG Tennis green					
				SDBR Bright red					
				SDBUA Dark blue					
				SDGYM Gray					
				SDYLB Yellow					

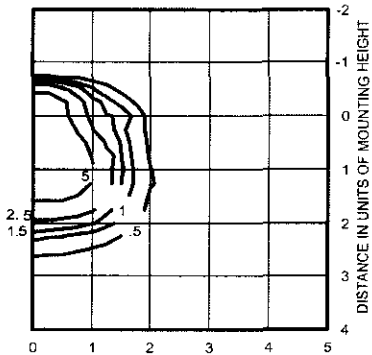
NOTES:

- 120V only
- Consult factory for availability in Canada.
- Optional multi-tap ballast (120, 208, 240, 277V); (120, 277, 347V in Canada).
- Optional penta-tap ballast (120, 208, 240, 277, 480V; not available in Canada). 175W metal halide only.
- Not available with SF, DF or QRS.
- Must be ordered with fixture; cannot be field installed.
- Not available with medium throw (MD) distribution.
- Additional architectural colors available; see www.lithonia.com for more information.
- Used with FTU & WTU distributions to conceal internal electrical components.

WSR Metal Halide, High Pressure Sodium Building Mounted

WSR 175M FT TEST NO: LTL11336

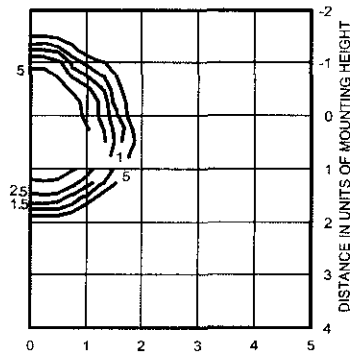
ISOILLUMINANCE PLOT (Footcandle)



175W metal halide lamp, horizontal lamp orientation
Footcandle values based on 12' mounting height, 12800 rated lumens.
Luminaire Efficiency: 52.9%

WSR 175M MD TEST NO: LTL11335

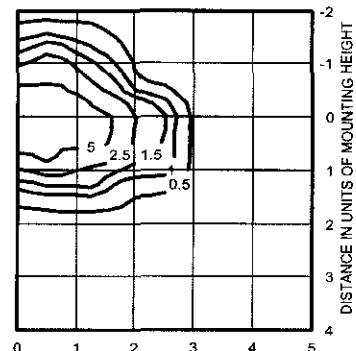
ISOILLUMINANCE PLOT (Footcandle)



175W metal halide lamp, horizontal lamp orientation
Footcandle values based on 12' mounting height, 11080 rated lumens.
Luminaire Efficiency: 60.2%

WSR 175M WT TEST NO: LTL11337

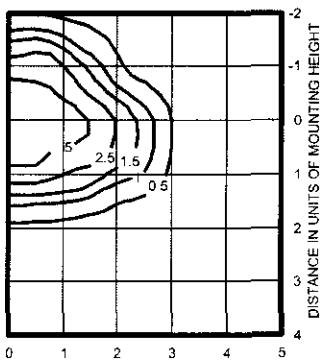
ISOILLUMINANCE PLOT (Footcandle)



175W metal halide lamp, horizontal lamp orientation
Footcandle values based on 12' mounting height, 12800 rated lumens.
Luminaire Efficiency: 62.4%

WSR 175M WTU TEST NO: LTL11312

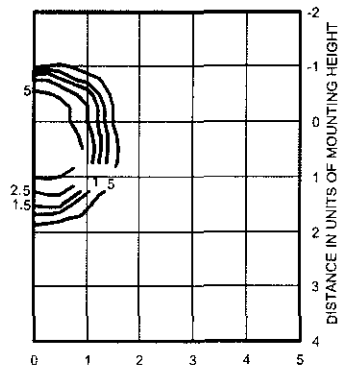
ISOILLUMINANCE PLOT (Footcandle)



175W metal halide lamp, horizontal lamp orientation
Footcandle values based on 12' mounting height, 12800 rated lumens.
Luminaire Efficiency: 69.7%

WSR 175M MDU5 TEST NO: LTL11310

ISOILLUMINANCE PLOT (Footcandle)



175W metal halide lamp, horizontal lamp orientation
Footcandle values based on 12' mounting height, 11080 rated lumens.
Luminaire Efficiency: 77.1%

Lamp	Initial Lumens	Mounting Height			
		10'	12'	14'	16'
Metal Halide					
50W MH	3,900	0.43	0.30	0.22	0.17
70W MH	5,500	0.62	0.43	0.31	0.24
100W MH	8,500	0.95	0.66	0.48	0.37
150W MH	12,500	1.41	0.98	0.72	0.55
175W MH	12,800	1.44	1.0	0.73	0.56
High Pressure Sodium					
35W HPS	2,250	0.26	0.18	0.13	0.10
50W HPS	4,000	0.45	0.31	0.23	0.17
70W HPS	6,400	0.72	0.50	0.37	0.28
100W HPS	9,500	1.07	0.74	0.54	0.41
150W HPS	16,000	1.80	1.25	0.91	0.70



An Acuity Brands Company

Lithonia Lighting

Acuity Lighting Group, Inc.

Outdoor Lighting

One Lithonia Way, Conyers, GA 30012

Phone: 770-922-9000 Fax: 770-918-1209

In Canada: 160 avenue Labrosse, Pointe-Claire, P.Q., H9R 1A1

www.lithonia.com



FEATURES & SPECIFICATIONS

INTENDED USE — Use for parking lots, streets and surrounding areas.

CONSTRUCTION — Heavy-gauge, spun aluminum housing is fabricated using a computer-controlled, numeric spinning process. Integral structural support plate for mounting arm and electrical components ensures rigidity and strength. Hinged aluminum door frame incorporates stainless steel hardware. Continuous silicone gasketing surrounds lens for weather-tight seal. Optional tool-less hardware is available to maximize installation and maintenance ease. Thermal shock-resistant, tempered drop glass lens.

FINISH — Standard finish is dark bronze electrostatically applied powder paint. Linear embossed accent reveals are standard.

OPTICS — Vertical-lamp reflectors are one-piece spun and formed anodized aluminum. Specialized distributions for flat glass lens. Reflectors are independently designed to optimize light output for the lens type. Anodized, hydroformed aluminum reflectors or high-performance segmented aluminum reflectors also are available for use with horizontal lamps. Mogul-base porcelain socket with copper alloy, nickel-plated screw shell and center contact. Vertically oriented for types VFA, SYM, and ASY distributions. Horizontal position-oriented for types R2, R3 and R4. UL listed 1500W-600V, 4kV pulse rated. Reflectors are rotatable and interchangeable.

ELECTRICAL SYSTEM — All electrical components are mounted to a heavy-gauge plate to maximize heat dissipation and ensure structural integrity for optimal component life. Constant wattage autotransformer ballasts are copper wound and 100% factory tested. Super CWA pulse-start ballasts are required for 320 and 350 watt (must order SCWA option).

INSTALLATION — Extruded aluminum arm with integral splice compartment. Standard arm is 9" in length (12" arm is required for fixtures mounted at 90°). Arms are available for use with multiple poles, wall mounting and unique configurations.

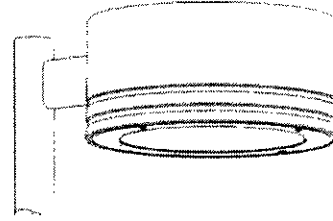
LISTING — UL Listed to US and Canadian safety standards (see Options). NOM Certified (see Options). UL listed for wet locations. Optical chamber is rated IP certified for ingress protection per IEC529 international standards.

Catalog Number	
Notes	Type H

Architectural Round Area Full Cutoff Lighting

KVR2

METAL HALIDE
250W, 320W, 350W, 400W,
20' to 40' Mounting



Specifications

EPA: 1.60 ft² (49m²) (includes arm)
Diameter: 25.9 (65.7)
Height: 14 (35.5)
Arm length: 9 (22.8)
Weight: 56 lbs (25 kg)



All dimensions are inches (centimeters) unless otherwise specified.

Mounting Option	Drilling Template
SPDxx,RPDxx,	5
WBDxx	6
WWDxx	7

ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it in the appropriate blank.

Example: **KVR2 400M SYMFL 120 SPD09 SF DNA LPI**

Series	Voltage	Mounting ³	Options
KVR2 175M	120	SPD04 Square pole (4" arm)	Shipped Installed In Fixture LPI Lamp (standard) TLS Tool-less Access L/LP Less Lamp SF Single fuse (120, 277, 347V; not avail. with TB) DF Double fuse (208, 240, 480V; not avail. with TB) PER NEMA twist-lock receptacle only (photocontrol not included) QRS Quartz restrike system (250W max, lamp not included) QRSTD QRS time delay (250W max, lamp not included) KW1 KiloWatch® 120V control relay ⁵ KW4 KiloWatch 277V control relay ⁵ CR Corrosion resistant EHS External houseside shield (matches fixture finish, included in the carton) EHSB External houseside shield black (painted black to maximize light control, included in the carton) CSA Listed and labeled to comply with Canadian Standards SCWA Super CWA Pulse Start Ballast NOM NOM Certified (consult factory) Shipped Separately⁶ PE1 NEMA twist-lock PE (120, 208, 240V) PE3 NEMA twist-lock PE (347V) PE4 NEMA twist-lock PE (480V) PE7 NEMA twist-lock PE (277V)
KVR2 250M	208 ¹	RPD04 Round pole (4" arm)	
KVR2 320M	240 ¹	SPD09 Square pole (9" arm) ⁴	
KVR2 350M	277	RPD09 Round pole (9" arm) ⁴	
KVR2 400M	347	SPD12 Square pole (12" arm)	
	480 ¹	RPD12 Round pole (12" arm)	
	TB ²	WWD09 Wood pole or wall (9")	
		WWD12 Wood pole or wall (12" arm)	
		WBD09 Wall bracket (9" arm)	
		WBD12 Wall bracket (12" arm)	
		KWA Mast Arm (external fitter)	
		SC Shorting cap	
		KVRZVG Vandal guard	
		KVRZEHS External Houseside shield ⁷ (specify color)	
		Architectural Colors (powder finish)⁸	
		Standard Colors	
		DOB Dark bronze (standard)	
		DWH White	
		DBL Black	
		Classic Colors	
		DMB Medium bronze	
		DNA Natural aluminum	
		DSS Sandstone	
		DGC Charcoal gray	
		DTG Tennis green	
		DBR Bright red	
		DSB Steel blue	
		Striping	
		SDDB Dark bronze	
		SDWH White	
		SDBL Black	
		SDNA Natural alum.	
		SDTG Tennis green	
		SDBR Bright red	
		SDBLA Dark blue	
		SDGYM Gray	
		SDYLB Yellow	

Distribution

Vertical Lamp Distributions:	High-performance segmented reflectors:
SYMFL Symmetric square, flat lens	(square aperture)
ASYFL Asymmetric, flat lens	SR2FL Seg. Type II Roadway, flat lens
VFAFL Vert. forward throw automotive, flat lens	SR3FL Seg. Type III Asymmetric, flat lens
Horizontal Lamp Distributions:	SR4SFL Seg. Type IV For. throw sharp cutoff, flat lens
R2FL Type II Roadway, flat lens	SR4WFL Seg. Type IV For. throw wide, flat lens
R3FL Type III Asymmetric, flat lens	

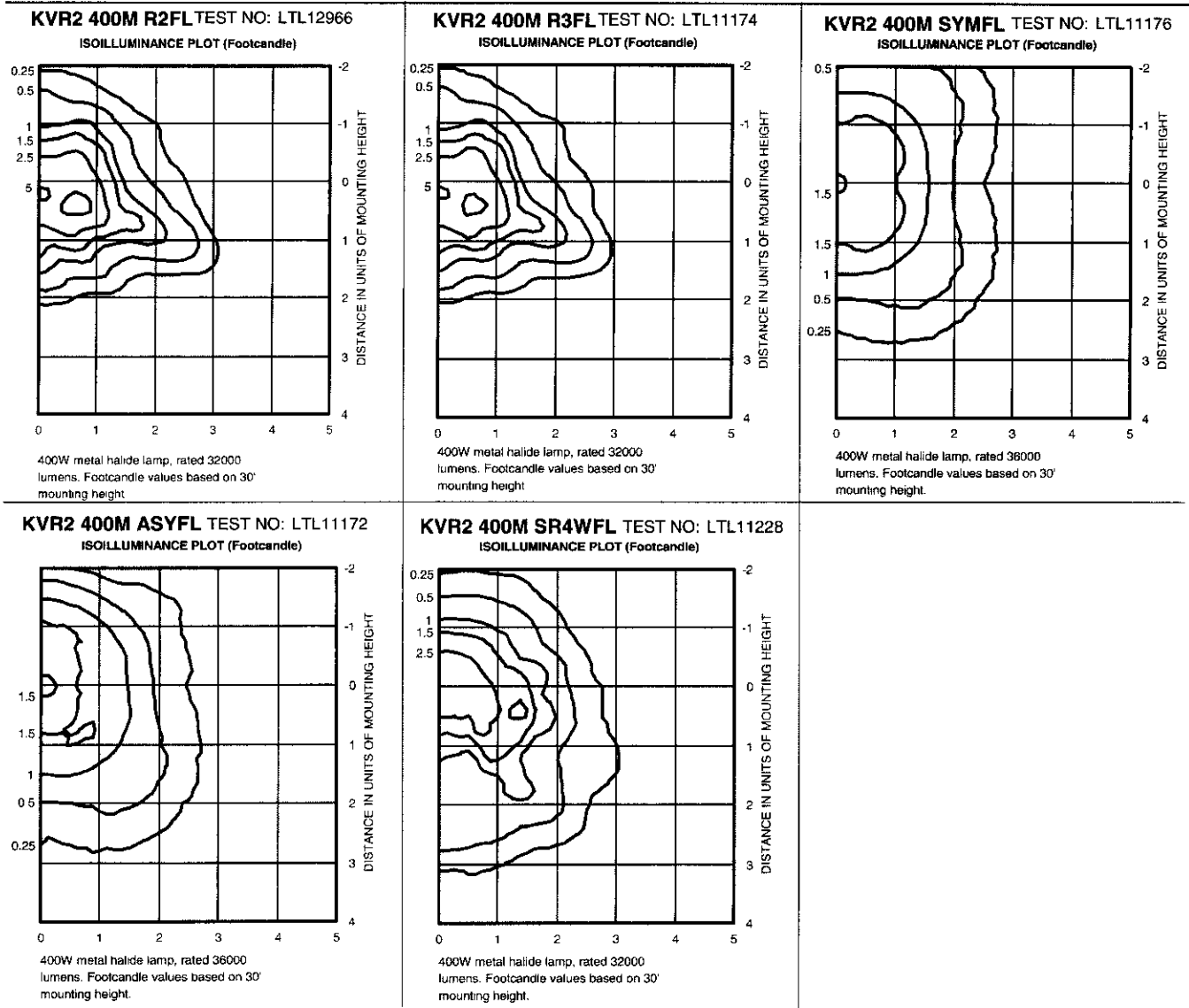
NOTES:

- Consult factory for availability in Canada.
- Optional multi-tap ballast (120, 208, 240, 277V; (120, 277, 347V in Canada.)
- For arm mounting, refer to technical data section in the Outdoor binder for drilling template.
- SPD12 or RPD12 must be used when two or more luminaires are oriented on a 90° drilling pattern.
- For specific ordering info., consult factory.
- May be ordered as accessory.
- Use KVR2EHS SR for segmented reflectors.
- Additional architectural colors available; please see Architectural Colors Brochure on www.lithonia.com.
- Order as separate line item. Important with this accessory, a RPD12 mounting arm must be ordered on the fixture.

Accessories: Tenon Mounting Slipfitter⁶

Tenon O.D.	Number of fixtures					
	One	Two@180°	Two@90°	Three@120°	Three@90°	Four@90°
2-3/8" (6)	T20-190	T20-280	T20-290	T20-320	T20-390	T20-490
2-7/8" (7.3)	T25-190	T25-280	T25-290	T25-320	T25-390	T25-490
4" (10.2)	T30-190	T30-280	T30-290	T30-320	T30-390	T30-490

KVR2 Arm-Mounted Area Lighting Metal Halide



NOTES:

- 1 Photometric data for other distributions can be accessed from the Lithonia Lighting website. (www.lithonia.com)
- 2 For electrical characteristics, consult technical data tab.
- 3 Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change.

Mounting Height Correction Factor

(Multiply the fc level by the correction factor)

- 20 ft.= 2.25
- 25 ft.= 1.44
- 35 ft.= 0.73
- 40 ft.= 0.56

$$\left(\frac{\text{Existing Mounting Height}}{\text{New Mounting Height}} \right)^2 = \text{Correction factor}$$



An AcuityBrands Company

Lithonia Lighting

Outdoor Lighting
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In Canada: 160 avenue Labrose, Point-Claire, P.Q. H9R 1A1
www.lithonia.com

FEATURES

- Die-cast aluminum socket housing with heat-dissipating fins and vented top. Horizontally-mounted, two-pin, positive-latch, thermoplastic sockets in double-lamp configuration.
- Expandable, self-locking mounting bars provide horizontal and vertical adjustment.
- Spun aluminum housing. Specular upper reflector. Lower trim finished in white polyester powder.
- Regressed white splay or optional stepped black baffle. Available with tempered prismatic lens (T73), flat fresnel lens (FFL) or concave Holophane lens (CHL). Door is retained by two self-aligning, constant-tension support springs.
- Galvanized steel junction box with bottom-hinged access covers and spring latches. Three combination 1/2"-3/4" knockouts and one 1/2" knockout for straight-through conduit runs. Capacity: 8 (4 in, 4 out) No. 12 AWG conductors, rated for 75°C.
- Class P (thermally-protected) high power factor ballast(s) mounted to junction box.
- Die-formed galvanized steel mounting/plaster frame. Maximum 7/8" ceiling thickness.
- Fixtures are UL listed and CSA certified for thru-branch wiring, recessed mounting and wet locations.

Catalog Number	Type I
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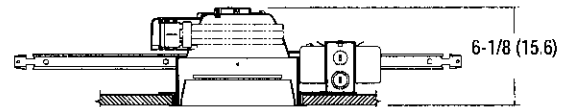
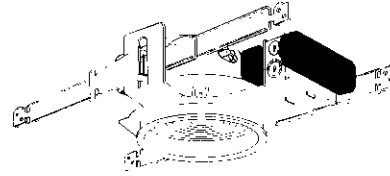
GOTHAM®

Compact Fluorescent Downlights

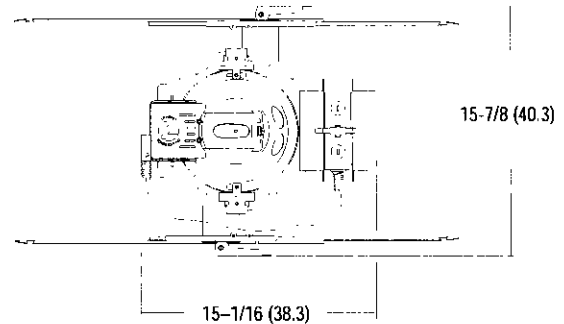
7" LGF

Round Lens

Wet Location
Horizontal Lamp
Twin-Tube or Double Twin-Tube



Aperture: 7-7/16 (18.9)
Ceiling opening: 8-1/8 (20.6)
Overlap trim: 8-5/8 (21.9)



All dimensions are inches (centimeters).
Two ballasts shown for maximum dimension.
Actual configuration may vary.

ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog numbers (shipped separately).

Example: **LGF 2/13TT 7RW T73 120**

LGF						
Series	Wattage/lamp		Door frame	Shielding	Voltage	Options
LGF	2/13TT	Two 13W twin-tube	7RW Regressed white splay	T73 Prismatic lens	120	SSC Provides compatibility with Lithonia Reloc System 820. System 820 can be installed less this option with connectors provided by others.
	2/13DTT	Two 13W double twin-tube	7SB Stepped black baffle	CHL Concave Holophane lens	277	GMF Single slow-blow fuse.
	2/18DTT	Two 18W double twin-tube		FFL Flat Fresnel lens	347	RIF Radio interference filter.
	2/26DTT	Two 26W double twin-tube				DMHL Lutron Hi-lume* solid-state dimming ballast, 120V or 277V, 18W and 26W only. Requires Osram/Sylvania four-pin lamp.
						DS Dual switching.
						GEB Solid-state electronic ballast. Requires four-pin lamp. (26W, 18W, 13W DTT ONLY.)
						ELR Emergency battery pack. Remote test switch required. (Consult factory for dimensional changes.)

*Hi-lume is a registered trademark of Lutron Electronics.

7" LGF Round Lens, Gotham Series

Distribution curve	Distribution data	Output data	Coefficient of utilization	Single luminaire data 30" above floor																																									
LGF 2/26DTT 7RW T73, (2) 26W PL-C 26W/27SH lamp, 1.1 s/mh, 1800 rated lumens per lamp, test no. 2196010503																																													
	From 0°	cp. Lumens	Zone Lumens %lamp	pf pc pw 80% 30% 20% 70% 30% 50% 30%	<table border="1"> <thead> <tr> <th rowspan="2">Mount height</th> <th rowspan="2">Initial fc at beam center</th> <th colspan="2">50% beam angle 56.9°</th> <th colspan="2">10% beam angle 90.9°</th> </tr> <tr> <th>Beam diameter</th> <th>fc at beam edge</th> <th>Beam diameter</th> <th>fc at beam edge</th> </tr> </thead> <tbody> <tr><td>8'</td><td>23.7</td><td>6.0'</td><td>11.8</td><td>11.2'</td><td>2.4</td></tr> <tr><td>10'</td><td>12.7</td><td>8.1'</td><td>6.4</td><td>15.2'</td><td>1.3</td></tr> <tr><td>12'</td><td>7.9</td><td>10.7'</td><td>4.0</td><td>19.3'</td><td>0.8</td></tr> <tr><td>14'</td><td>5.4</td><td>12.4'</td><td>2.7</td><td>23.4'</td><td>0.5</td></tr> <tr><td>16'</td><td>3.9</td><td>14.6'</td><td>2.0</td><td>27.4'</td><td>0.4</td></tr> </tbody> </table>	Mount height	Initial fc at beam center	50% beam angle 56.9°		10% beam angle 90.9°		Beam diameter	fc at beam edge	Beam diameter	fc at beam edge	8'	23.7	6.0'	11.8	11.2'	2.4	10'	12.7	8.1'	6.4	15.2'	1.3	12'	7.9	10.7'	4.0	19.3'	0.8	14'	5.4	12.4'	2.7	23.4'	0.5	16'	3.9	14.6'	2.0	27.4'	0.4
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35°	391 247	90°-180° 0 0.0	5 24 22 24 22 23 22																																										
45°	212 168	0°-180° 1134 31.5*	6 23 20 22 20 22 20																																										
55°	112 104	* Efficiency	7 21 19 21 18 20 18																																										
65°	60 62		8 19 17 19 17 19 17																																										
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Distribution curve	Distribution data	Output data	Coefficient of utilization	Single luminaire data 30" above floor																																									
LGF 2/26DTT 7RW FFL, (2) 26W PL-C 26W/27SH lamp, 0.9 s/mh, 1800 rated lumens per lamp, test no. 2196010501																																													
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	5°	999 95	0°-40° 915 25.4	2 36 34 35 34 34 33																																									
	15°	888 250	0°-60° 1190 33.1	3 33 31 32 31 32 30																																									
25°	669 308	0°-90° 1273 35.4	4 31 29 30 28 29 28																																										
35°	416 265	90°-180° 0 0.0	5 28 26 28 26 27 26																																										
45°	221 175	0°-180° 1273 35.4*	6 26 24 26 24 26 24																																										
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Distribution curve	Distribution data	Output data	Coefficient of utilization	Single luminaire data 30" above floor																																									
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	15°	756 212	0-60° 1222 34.0	3 34 31 33 31 32 30																																									
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90°	0																																												

ELECTRICAL CHARACTERISTICS

Lamp	120 Volt HPF		277 Volt HPF		347 Volt HPF	
	Maximum current	Input watts	Maximum current	Input watts	Maximum current	Input watts
(2) 13TT/DTT	0.570	34.0	0.680	44.0	0.660	48.0
(2) 18DTT	0.720	48.0	0.340	50.0	0.480	52.0
(2) 26DTT	0.580	60.0	0.620	64.0	0.780	76.0

Conversion Factor

Use multiplier to determine candlepower, lumens and footcandles of other lamps.
 13TT = .50; 13DTT = .48;
 18DTT = .69

Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change without notice.

215-LGF7

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 215-LGF7.pm5

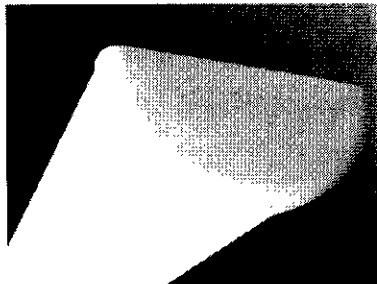


1615 EAST ELMORE ST., CRAWFORDSVILLE, INDIANA 47933, TELEPHONE 317 362-1837, FAX 317 362-9083
 IN CANADA: 1100 50TH AVE., LACHINE, QUEBEC H8T 2V3, DIVISION OF N.S.I. HOLDINGS, INC.

Millenium STRETCH™

Architectural Linear Lighting for High Abuse Environments

MLHA8 Series - Individual Luminaires
T5, T5HO and T8 Lamps
Ceiling/Wall/Corner Mount
Nominal 8"x24", 8"x48" 8"x96"



Rounded End Cap



Flat End Cap

Specifications

Lens: U.V. stabilized, high impact extruded clear or pearlescent polycarbonate. Smooth exterior, linear prismatic interior. Nominal thickness .156". Lens securely positioned in body channels and end caps. Lens locked in place with tamper-resistant stainless steel POSIGRIP™ fasteners and sealed with closed cell gaskets.

Housing: Marine grade aluminum. Extruded body with die-cast end caps. Housing, with end caps, post assembly urethane powder coat finished - 5-step pre-treatment. See Ordering Information for standard, optional, architectural and custom finishes.

End Caps: Marine grade die-cast aluminum. Two styles available: Flat and rounded. Multiple conduit and "Wiremold™ ready" knockouts visible only from interior of end cap.

Reflector: Full reflector/wire cover - 92% reflectivity.

Electrical: Standard electronic ballast for T8 lamps (EB): Instant Start; UL listed, Class P; Class A audible noise rating; >98% power factor; <20% THD; 0°F minimum starting temperature. Optional electronic ballast for T8 lamps: (FB8): Instant Start; UL listed, Class P; Class A audible noise rating; >98% power factor; <10% THD; 0°F minimum starting temperature. Standard electronic ballast for T5 and T5HO lamps: (PB5): Program Rapid Start; Suitable for use with occupancy switches; UL listed, Class P; Class A audible noise rating; >98% power factor; <10% THD; 0°F minimum starting temperature.

Sockets: Shock-resistant sockets with internal locking collar to ensure positive lamp retention.

Hardware: Stainless steel, tamper-resistant POSIGRIP™ fasteners secure lens in housing body's lens channel (eight on 96" housings, four on 48" housings, two on 24" housing).

Listings/Certifications: UL and CUL listed for Wet Locations - covered ceiling mount. UL Classified IP64 rated - ceiling mount (E185326). Corner, horizontal wall and pendant mount installation - damp location only. Patents pending.

Installation: Standard four-point (24" housing), six-point (48" housing) and twelve-point (96" housing) mounting required for Peace of Mind Lifetime Guarantee®.

Ordering Information

Series	Length	End Caps	Finish	Lens	Lamp Qty	Lamp Type	Ballast Type	Circuit Qty	Voltage	Options	Accessories
MLHA8											
Length		End Caps		Lamp Type		Ballast Type		Voltage		Options	
24	2'	R	MW	14	1	EB	1	120	DL		
48	4'	F	MB	17	2	PB8	2	277	NAT		
96	Two 4' (factory connected)		LG	24	2	PB5	2	347 [▲]	NSF		
			CC	28	2	SB	2	DV	EL ^{••}		
				32	2			PEL ^{••}			
				54	2			FS			
								TN			
								CDF			
								PH			
								CMB			
								PM			
								UC			
								Accessories			
								9500			
								D-0552			

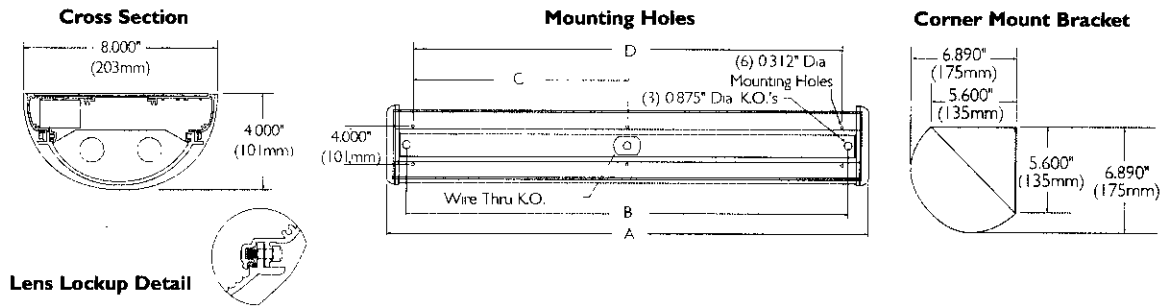
* Dry Location listing only available with T5 and T5HO lamps.
 ▲ Not available on 2' fixtures with T5/T5HO lamps and EL or TN option.
 • 347V not available with EL or PEL options.
 • 2' fixtures have minimum 350-450 lumen battery pack.
 • Not available on 2' fixtures.



Millenium STRETCH™

MLHA8 Series

Dimensional Data



Nominal Two Foot Fixture Legend

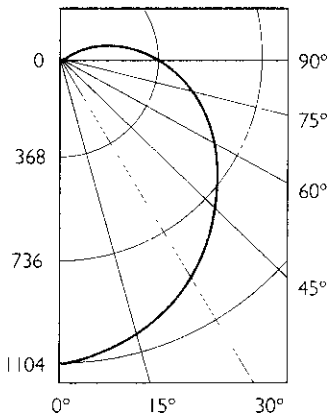
LMP	End Cap	A	B	C	D
T8	R	26.524	22.312	N/A	21.000
T8	F	25.308	22.312	N/A	21.000
T5	R	24.940	20.728	N/A	20.875
T5	F	23.724	20.728	N/A	20.875

Nominal Four Foot Fixture Legend

LMP	End Cap	A	B	C	D
T8	R	50.524	46.312	22.500	45.000
T8	F	49.308	46.312	22.500	45.000
T5	R	48.562	44.350	22.250	44.500
T5	F	47.346	44.350	22.250	44.500

Photometric Information

Candlepower Distribution



Coefficients of Utilizations - Zonal Cavity Method

Test Report Number: ITL51054
 Lamps: Two 32 Watt T8 (2850 Lumens per Lamp)

RF	80						20					
RC	70						50					
RW	70	50	30	10	70	50	30	10	50	30	10	
0	78	78	78	78	76	76	76	76	72	72	72	
1	70	67	63	60	68	65	62	59	61	58	56	
2	63	57	52	48	61	56	51	47	53	49	45	
3	58	50	44	39	55	49	43	39	46	41	38	
4	53	44	38	33	51	43	37	33	41	36	32	
5	48	39	33	28	46	38	32	28	36	31	27	
6	44	35	29	25	43	34	29	24	33	28	24	
7	41	32	26	22	40	31	25	21	30	25	21	
8	38	29	23	19	37	28	23	19	27	22	19	
9	36	27	21	17	35	26	21	17	25	20	17	
10	34	25	19	16	32	24	19	15	23	18	15	

Luminance Data in Candela

Total Luminaire Efficiency: 67%
 Cross Spacing: 1.3

Angle in DEG	Average 0 DEG	Average 45 DEG	Average 90 DEG
45	5292	4545	4524
55	4934	4186	4322
65	4396	3855	4194
75	3337	3651	4203
85	1153	3597	4456

Peace of Mind Guarantee

Kenall high abuse luminaires are designed and built to take exceptional physical punishment. When installed according to our instructions, Kenall will repair or replace any fixture rendered inoperable due to physical abuse for the product life of the original installation.



Quick Specification

Lens: U.V. stabilized, high impact extruded polycarbonate. Smooth exterior; linear prismatic interior; Nominal thickness .156".

Housing: Marine grade aluminum. Extruded body with die-cast end caps. Housing, with end caps, post assembly urethane powder coat finished - 5-step pre-treatment.

End Caps: Marine grade die-cast aluminum. Multiple conduit/Wiremold™ knockouts visible only from interior of end cap.

Hardware: Stainless steel, tamper-resistant POSIGRIP™ fasteners secure lens in housing body's lens channel.

Listings: UL/CUL listed for Wet Locations - ceiling mount. UL Classified IP64 rated - ceiling mount (E185326).

Project Information

Job Name _____

Job Location _____

Fixture Type _____ Quantity _____

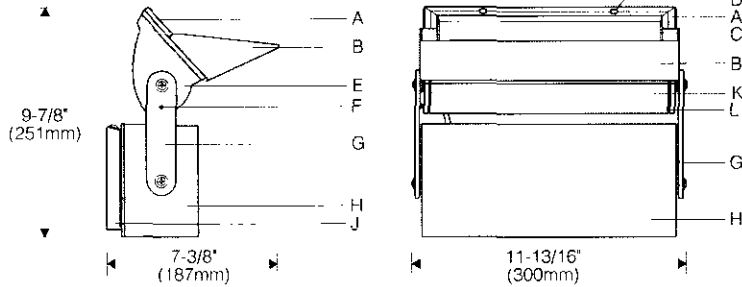
Catalog Number _____

Approved by _____

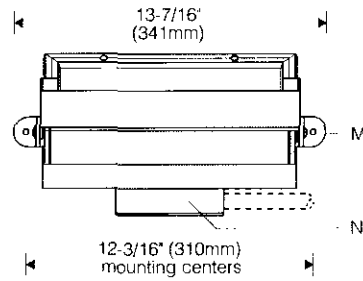
Date _____



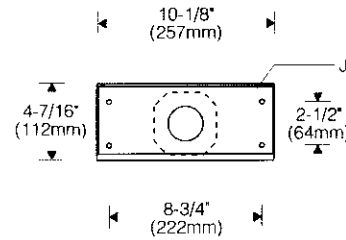
W Mount (Shown in upright position) 1:8 Scale



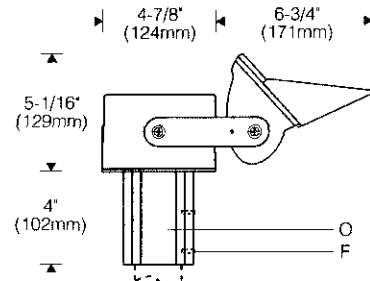
S Mount (Shown in prone position) 1:8 Scale



Mounting Plate (W mount)



F Mount: Slipfitter



Specifications

- | | | | |
|--|--|---|---|
| A Mitred extruded aluminum door frame with silicone gasket | D Tamper-resistant aluminum door screws | J Stainless steel latch/hinge mounting plate (black) | M Aluminum mounting feet |
| B Cutoff visor (included) | E Die-cast end plates | K Specular extruded aluminum reflector | N Die-cast external splice compartment, (4) 1/2" NPT threaded entries |
| C Micro-prismatic, thermal and impact resistant tempered glass lens | F Locking set screw | L Aluminum reveal plates (black) | O Extruded aluminum slipfitter for 2-3/8" O.D. pipe or tenon (by others) |
| | G Die-cast sidearms | | |
| | H Die-cast ballast housing | | |

Finish:

Exterior surfaces - 6 stage pretreatment and electrostatically applied thermoset polyester powder coating for a durable abrasion, fade and corrosion resistant finish. Choice of semi-gloss colors (see ordering information).

Reflector - extruded high purity aluminum with clear anodized specular finish. All hardware and components - non corrosive stainless steel or aluminum. Door secured with captive tamper-resistant (#10 Torx) screws in stainless steel threaded reflector inserts to prevent seizing.

Mounting:

Sidearms can be rotated 90° in the field to position the reflector above or in front of the ballast housing.

W mount - latch/hinge mounting plate fastens over recessed outlet box; suitable backing structure required (by others). Fixture hinges on wall plate for hands-free access to splices.

S mount - L-shaped mounting feet attach under sidearms. 9/32" dia. (7mm) clearance holes for 1/4" fasteners (by others).

F mount - slipfitter mounts over 2-3/8" O.D. rigid conduit or tenon (by others).

REV. 4/04

Electrical:

Use 90°C wire for supply connections. Leads exit reflector and enter ballast housing through watertight flush cord entries and silicone coated fiberglass sleeving.

S mount - external splice compartment with four 1/2" NPT threaded entries. Liquidtight fittings and conduit by others.

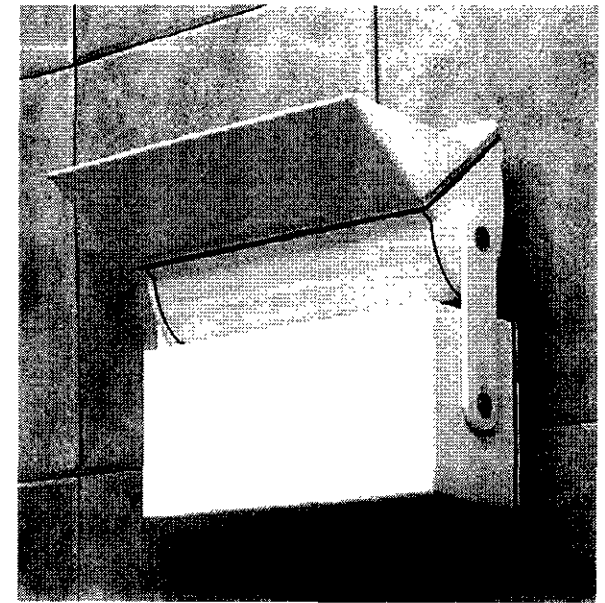
F mount - 10" (254mm) leads exposed within slipfitter for splicing inside rigid conduit or tenon. For mounting atop pole higher than 8', specify **VS** option; see ordering information.

G12 lampholder for use with single ended lamp. Integral HPF high reactance autotransformer (HX-HPF) ballast rated for -20°F/-29°C starting. Optional electronic ballast with automatic shut-off to eliminate end-of-life cycling.

For complete ballast specifications, see Accessories Section.

Standard:

UL listed or CSA certified for wet locations.

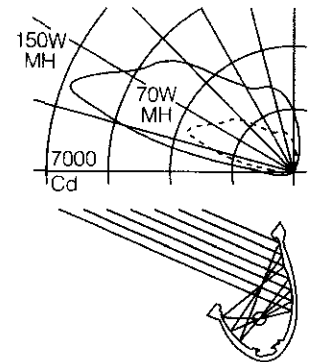


Features

- Design flexibility - sidearms rotate 90°; choice of wall plate, mounting feet or slipfitter
- Adjustable - tailor performance to surface and setback
- Compact yet powerful - up to 150W ceramic metal halide
- Durable - extruded aluminum reflector and door frame; die-cast end plates, sidearms and ballast housing

Performance

Two parabolic reflector sections drive light across the overhead plane from one edge. An elliptical section redirects its light to a parabola and shields the lamp. Asymmetry is maximized resulting in high beam efficiency and superior surface uniformity. The last "runback" minimizes wasted spill light. Wide lateral distribution permits greater spacings.



For complete photometrics, visit www.elliptipar.com

elliptipar



To Order

Style 452

To form a Catalog Number

M | 4 | 5 | 2 | | | | | V | | | |

1 2 3 4 5 6 7 8

1 Source

M = Metal halide

2 Style

452 = Small outdoor, integral ballast

3 Lamp

Lamp Code	Wattage	Lamp Number	Voltage(s)	Ballast
-----------	---------	-------------	------------	---------

Ceramic Metal Halide*

035G	35	CMH35/T6/G12	A, B	HX-HPF
			1, 2	Electr.
070G	70	CMH70/T6/G12	A, B, H	HX-HPF
			1, 2	Electr.
150G	150	CMH150/T6/G12	A, B, H	HX-HPF
			1, 2	Electr.

For complete lamp and ballast information, see Accessories Section.

* Metal halide lamps using ceramic arc tubes yield higher light output than lamps with quartz arc tubes. They offer improved lamp-to-lamp color consistency and a more stable color temperature over their life (±200K). Standard lamp color is 3000K / 80+ CRI.

4 Mounting

- W = Latch/hinge mounting plate for recessed outlet box. Wall mounting only.
- S = L-shaped feet for surface mounting. External splice compartment with (4) 1/2" NPT threaded entries.
- F = Slipfitter for 2-3/8" O.D. stanchion, pole or tenon. For pole higher than 8' (2.4m), specify VS option code.

5 Finish

- 02 = Semi-gloss white 99 = Custom RAL or computer matched color to be specified, consult sales representative.
- 06 = Dark bronze
- 07 = Silver
- 08 = Semi-gloss black
- 12 = Green

6 Voltage/Ballast

- | | |
|--------------------|------------|
| Magnetic | Electronic |
| A = 120V | 1 = 120V |
| B = 277V | 2 = 277V |
| H = 347V (Canada)* | |

* 347V not available for 35W metal halide

Project:

7 Option (See Accessories Section for specifications)

- V0 = Cutoff visor included, no other options
- 00 = Cutoff visor NOT included, no other options (Suggested when enclosure or architectural detail will provide shielding of lens brightness.)
- VS = F mount with slipfitter for mounting on pole higher than 8' (2.4m). Supplied with 30' (9m) wire leads.
- VX = For modification not listed, include detailed description. Consult factory prior to specification.

Note: Cutoff visor included unless specified otherwise.

8 Standard

- 0 = UL, Underwriters Laboratories
- J = CSA, Canadian Standards Association

Example

M452 - 035G - S - 02 - B - V00

Small outdoor model for use with 35 watt metal halide lamp. Surface mounted with L-shaped feet. External splice compartment (liquidtight conduit and fittings by others). Semi-gloss white powder coat finish. Integral 277V ballast. UL. Cutoff visor included.

Type:

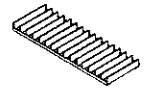
Accessories

Order separately. See Accessories Section for specifications.

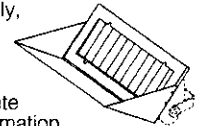
AEBV 0D0 = External vertical blade baffle, black for lengthwise shielding

1 = 25° shielding

4 = 45°



AXF = Wet location color filter assembly, interchangeable frame with stripped color glass, visor. **Maximum 70W CMH.**



Note: Consult factory for complete specifications and ordering information.

AFK000X = Ballast fuse kit

- 0 = UL
- J = CSA



U
5.1

REV. 4/04

elliptipar

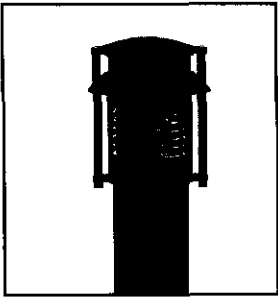
elliptipar
114 Boston Post Road, West Haven, Connecticut 06516, USA
Voice 203.931.4455 • Fax 203.931.4464 • www.elliptipar.com

The external shapes of the asymmetric reflectors are trademarks of **elliptipar**. Certain products illustrated may be covered by applicable patents and patents pending. For a list of patents, see Contents pages. These specifications supersede all prior publications and are subject to change without notice. ©2004 **elliptipar**.

Saturn Bollard

se'lux®

150 ~~150~~ Cut-off



Project: _____
 Type: N

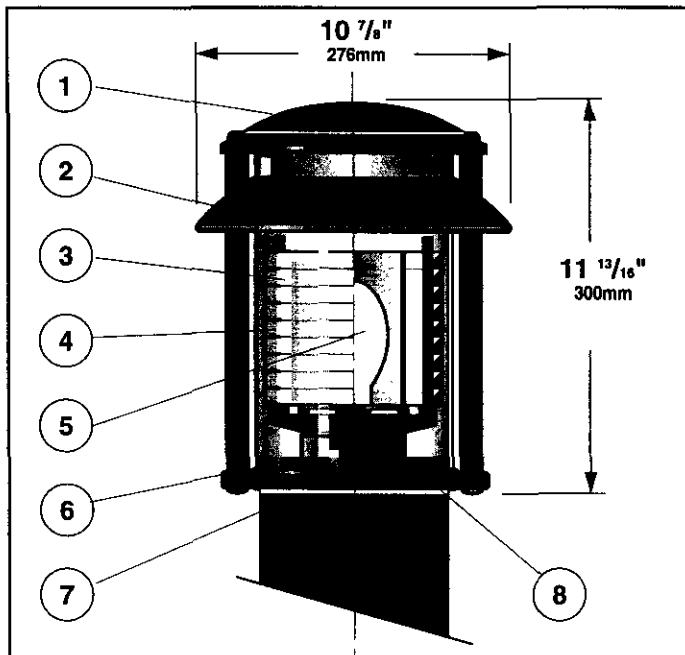
SAB - - - - -
 Fixture Series Shielding Height Lamp Type / Wattage Finish Voltage

Series	Shielding	Height	Lamp Type / Wattage			Finish	Voltage
			Metal Halide	HPS	Fluorescent		
SAB Saturn Bollard	SP Type V Silver Louver	2 2' (.6m)				WH White	120
	WP Type V White Louver	3 3' (.9m)	H050** 50w	S050** 50w	F32*** 32w	BK Black	277
	MR Type V MTR* 150 Refractor	4 4' (1.2m)	H070 70w	S070 75w	F42*** 42w	BZ Bronze	347
	B3 Type III Borosilicate	or specify custom height				SV Silver	
	B5 Type V Borosilicate	W Wall				SP Specify Color	

* US Patent No. 4,669,034

**Only available in 120v and 277v

***Not available in 208v or 240v



1. Fixture Cover - Die-cast aluminum cover painted white on the interior for maximum luminaire efficiency. Removes for easy access to lamp chamber.

2. Fixture Hood - Die-cast aluminum shade.

3. Shielding - Select Type V silver louver or white louver; or Type V MTR 150 refractor. Also available are borosilicate glass refractors in Type III and Type V distributions

4. Diffuser - Clear, U.V. stabilized, acrylic with a minimum wall thickness of 0.125" (3mm).

5. Lamp - One coated, base down, medium base ED-17 metal halide up to 70w; high pressure sodium up to 70w; or triple tube, four pin, compact fluorescent lamps in 32w or 42w. Lamp provided by others.

6. Gasketing - Continuous neoprene gasket provides weather-proofing, dust, and insect control for all fixture connections.

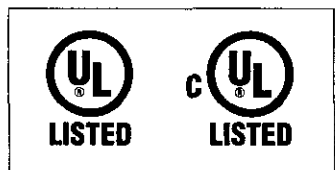
7. Column - Extruded aluminum tubing houses core and coil ballast for HID lamps and cold-weather electronic ballast for fluorescent lamps. Pulse rated porcelain medium base socket for HID lamps attaches to die-cast aluminum socket cup for maximum heat dissipation and is pre-wired to ballast. Consult factory for more detailed ballast information.

8. Column Fitter - Die-cast aluminum fitter base secured to column with stainless steel, threaded fasteners.

Exterior Luminaire Finish - The se'lux high quality exterior finish is achieved by utilizing a multistep process. Each luminaire undergoes a five-step cleaning, etching and sealing process. It is then painted with two coats of polyurethane paint. This ensures that it will withstand all weather conditions.

Luminaire coatings are designed to offer excellent salt spray and humidity resistance (tested in accordance with ASTM B-117 & D-2247).

Standard exterior colors are White (WH), Black (BK), Bronze (BZ), and Silver (SV). Custom color is available upon request. Please submit color chip.



Union Made
 Affiliated with
 IBEW Local 363

SELUX Corp. © 2000
 PO Box 1060, 3 Lumen Lane
 Highland, NY 12528-1060
 TEL: (845) 691-7723
 FAX: (845) 691-6749
 E-mail: seluxus@selux.com
 Web Site: www.selux.com/usa
 SAB-1100-01 (ss-V2.2)

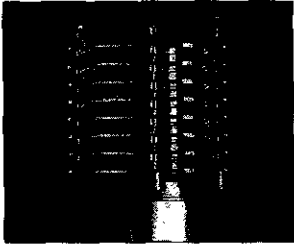
In a continuing effort to offer the best product possible, we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product.

Saturn Bollard

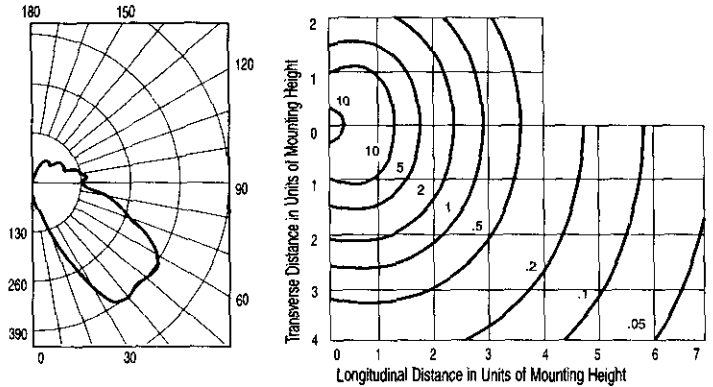


Silver Louver

Catalog # SAB-SP-3-H70
Report # sx 8040

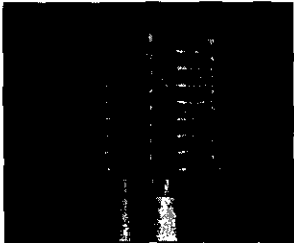


- Mirror finish with prismatic underside shields light source and controls glare.
- Resulting "dark light" effect offers superior visual comfort.
- Maximum candela of 400.0 at 55° from vertical.
- IES classification, Type V Semi-cutoff.

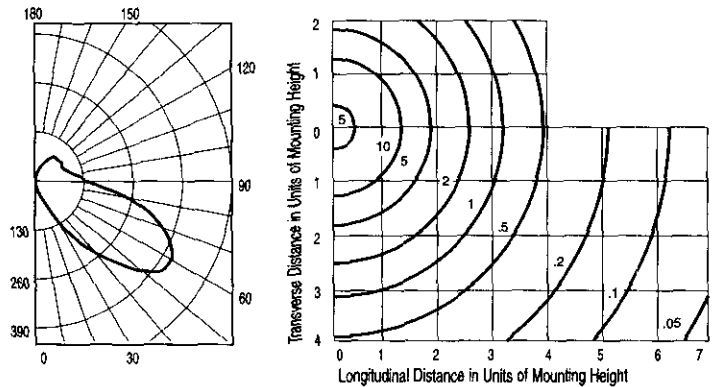


White Louver

Catalog # SAB-WP-3-H70
Report # sx 9314

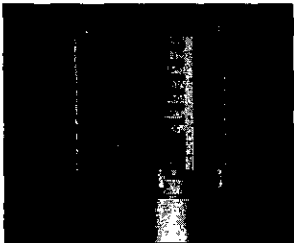


- A SELUX variation of a classic louver design.
- Combines brightness control with a subtle luminance around the source.
- Maximum candela of 416.0 at 60° from vertical.
- IES classification, Type V Semi-cutoff.

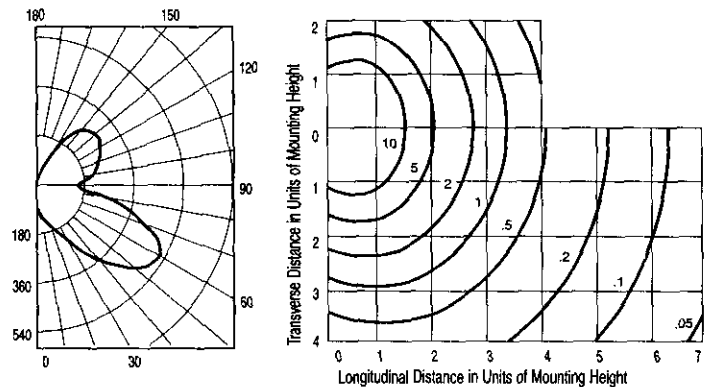


MTR 150 Refractor

Catalog # SAB-MR-3-H70
Report # sx 8041

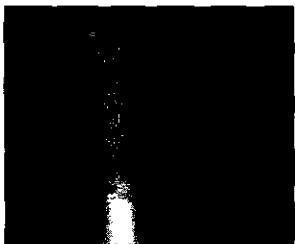


- Innovative "multi-prisms for total reflection" incorporates light-bending characteristics of a prism. US patent no. 4,669,034.
- Directs light precisely with minimum intensity at critical viewing angles.
- Blends efficiency with visual comfort.
- Maximum candela of 528.0 at 60° from vertical.
- IES classification, Type V Semi-cutoff.

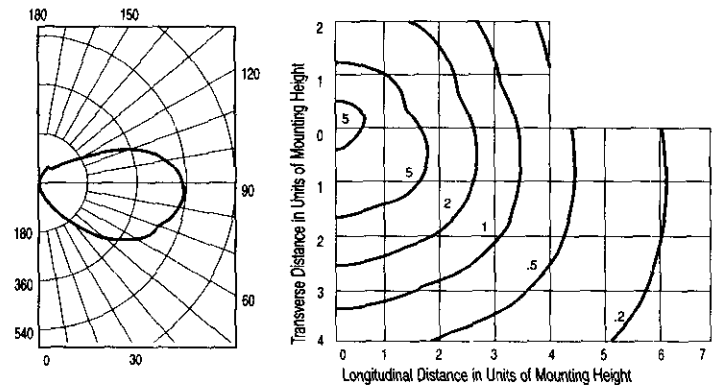


B3 Refractor

Catalog # SAB-B3-3-H70
Report # sx 9315



- High efficiency, molded borosilicate refractor system.
- Ideal for applications demanding maximum spacing
- Maximum candela distribution of 538.0 at 85.0° from vertical
- IES classification, Type III Non-cutoff.



Lamp Prorate Table								
High Pressure Sodium			Metal Halide			Fluorescent		
Wattage	Factor	Initial Lumens	Wattage	Factor	Initial Lumens	Wattage	Factor	Initial Lumens
50	0.74	3700	50	0.68	3400	32	0.48	2400
70	1.16	5800	70	1.00	5000	42	0.64	3200

Conversion Chart	
Values based on 3' (.9m) mounting height	
Mounting Height	Multiply
2.0' (.6m)	1.50
2.5' (.8m)	1.20
3.0' (.9m)	1.00
3.5' (1.1m)	0.86
4.0' (1.2m)	0.75

Very prominent on site

TYPE "O"



MDB Series

Lamp Types: Mercury Vapor, Single and Double Ended Metal Halide, High Pressure Sodium, Incandescent, Low Voltage, and Fluorescent.

Housing: Compression molded, glass fiber reinforced polymer, providing high strength and U-V stability. Warranted for five full years against corrosion.

Finish: Cover is available in textured bronze or black. Housing color is black.

Fasteners: All exposed fasteners are black oxide coated stainless steel.

Lampholder: Matched to lamp: Glazed porcelain, Medium base, 4KV pulse rated with spring center contact, or Double Ended, 5KV pulse rated with silver plated contacts, or high temperature thermoplastic for use with Compact Fluorescent, MR-16 Bi-Pin, or DC Bayonet.

Lens: Tempered, heat resistant glass.


Optics/Aiming: Adjustable hydroformed reflectors are available for spot and flood applications with nonreflectorized lamps. An asymmetrical wall wash reflector is available for Double Ended Metal Halide and Halogen. Optical assemblies allow the use of eight different types of reflector lamps. All optic sets can be rotated for aiming purposes.

Ballast: High power factor, -20°F starting, Class H, 180°C insulation system. Ballast is encapsulated in silica filled resin for heat control. Capacitor and ignitor are isolated in a separate compartment.

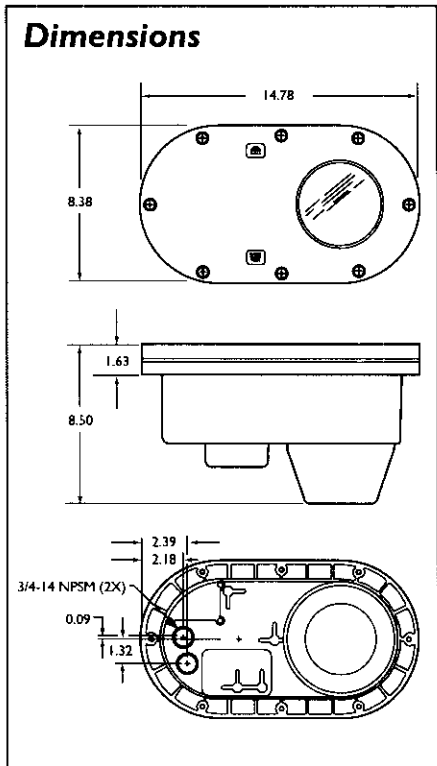
Wiring: Pre-wired with 150°C rated wire which passes through an anti-siphon chamber. A ground lead and two 3/4" conduit entries are provided in the junction box. Seal Pack is standard.

EXTRA VALUE FEATURES:

- Composite housing is warranted for 5 years against corrosion.
- No paint to chip, peel, or fade
- Non-conductive construction.
- Encapsulated ballast provides longer life.
- Adjustable beam spread optics.
- Internal anti-siphon barrier.
- Available with compact fluorescent lamps.
- Seal Pack is standard.

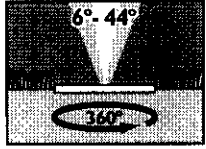
 suitable for wet locations.
LISTED

 LISTED



Due to its versatility the MDB is a very popular uplight. High performance, compact size, and a wide variety of adjustable optics contribute to its popularity.

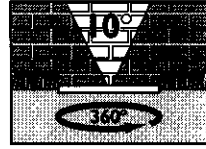
Optics



VSA - Variable Spot
MH 50, 70, 100
MV 50, 75, 100
Tilt up to 6°



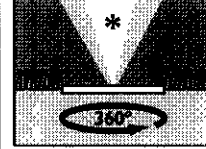
VFA - Variable Flood
MH 50, 70, 100
MV 50, 75, 100
Tilt up to 6°



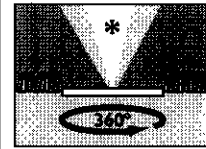
SP - Fixed Spot
MH 50, 70, 100
MV 50, 75, 100
Tilt up to 6°



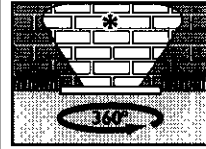
PAR20/30/30L
INC 50 PAR 20
50, 75 PAR 30
MH 39 PAR20, PAR 30L
* Beam Spread Depends on Lamp
Tilt up to 15°



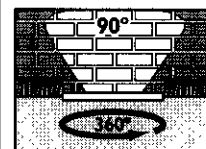
PAR36
LV 36, 50, 75
* Beam Spread Depends on Lamp
Tilt up to 25°



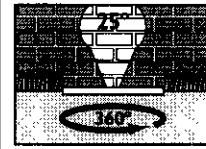
PAR38/RFL
MH 70, 100 PAR 38
INC 45, 60, 75, 90, 150
MV 50, 100 R30
* Beam Spread Depends on Lamp
Tilt 0°



DMH/A - Wall Wash
DMH 70
* Wall Wash
Tilt 0°



CFF - Fluorescent Flood
CFL 32
Tilt 0°



VFR - HPS Flood
HPS 35, 50, 70, 100
Tilt up to 6°

TO ORDER: Select appropriate choice from each column as in example below.

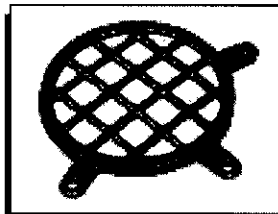
EXAMPLE :

MDB	70MH	120	VSA	BLK	TR
Series	Wattage/Lamp Type	Voltage	Optics (See previous page)	Finish	Accessories
MDB	39', 50', 70, 100 MH 50', 75, 100 MV 35, 50, 70, 100 HPS	120 208 240 277	VFA – Variable Flood/E-17/Medium Base VFR – Sodium Flood/E-17/Medium Base VSA – Variable Spot/E-17/Medium Base SP – Narrow Spot/E-17/Medium Base DMH/A – Double Ended MH RFL – Medium Base/R-20, R-30 MV 50R20 MV 100R30 PAR20/30L – MH39, 70 PAR38 – MH 70, 100	BRZ – Bronze BLK – Black	HL – Internal Hexcell Louver ³ TR – Tamper Resistant Fasteners – Order TR Key separately TR Key – Key for TR Fasteners MBM – Mounting Frame with Stainless Steel Trim for Installation in Pavers, Brick and Tile MFM – Concrete Mounting Frame DSM – Directional Shield RSM – Combination Rock Guard and Directional Shield RGM – Rock Guard Seal Pack – Now Standard CFX - Color Filters ³
	32 CFL	UE ²	CFF – Compact Fluorescent Flood		
	INC – Up to 150 watt	120	PAR20 – Medium Base/50 watt PAR30 – Medium Base/50, 75 watt PAR38 – Medium Base/Up to 150 watt		
	LV – Up to 75 watt	120:12 ⁴	MR16 – Bi-Pin/up to 75 watt PAR36 – Screw Term/up to 75 watt- (and up to 50 watt AR111)		

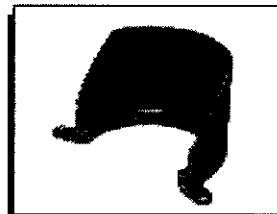
LAMP is included with HID versions of the MDB. See Lamp guide for additional information.
 1. 50 Watt MV ballast as well as 39 and 50 watt MH ballast are available in 120/277 volt only.
 2. Universal Electronic 120-277V 50 or 60HZ Ballast.
 4. Only 120:12 volt step down transformers are available. Units require 12 volt lamps.
 Seal Pack and waterproof wire-nuts are standard.

3. Restricted use item. Consult page 17, website or factory for details.

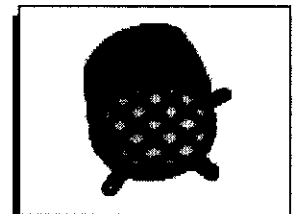
Accessories/Options



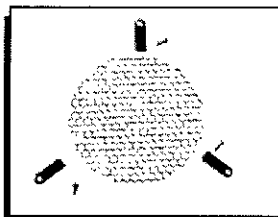
Rock Guard (RGM)



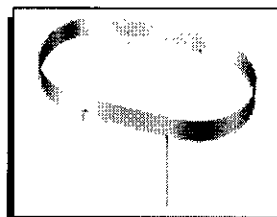
Directional Shield (DSM)



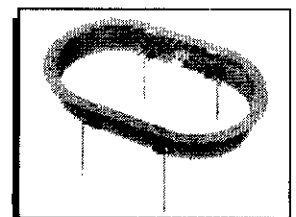
Rock Guard/Shield Combo (RSM)



Internal Hex-Cell Louver (HL)



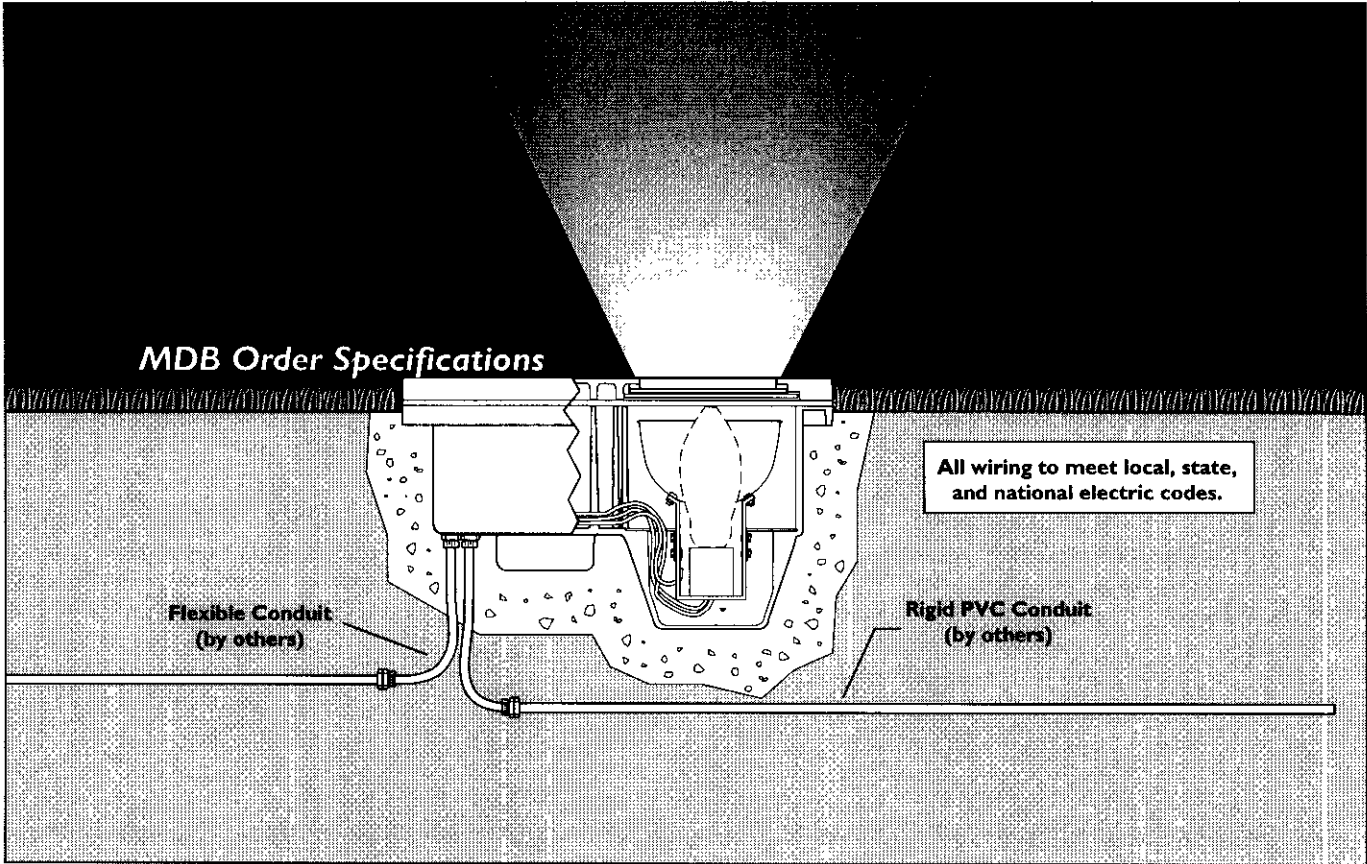
Mounting Frame (MFM)



Mounting Frame w/SS Trim Kit (MBM)
for Installation in Pavers

INGROUND

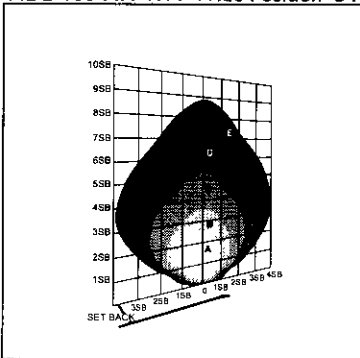
MDB Installation



- Keep gasket and sealing surfaces clean during installation.
- Tighten all fasteners until fixture cover seats against fixture housing.
- Use Seal Pack and waterproof wire-nuts supplied as standard equipment.
- Additional information is contained in fixture installation instruction sheet.
- Seal conduit connection(threads)with teflon tape or other thread sealant.

MDB Photometrics

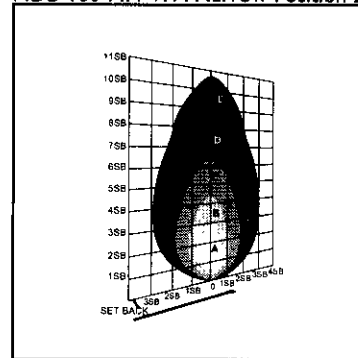
MDB-100-MH-VFA Wide Position 54°



Shown with optics tilted 5°

Set Back Distance (SB)					
S.B.	A	B	C	D	E
2.5	17.66	9.60	3.92	1.96	0.98
3	13.61	6.81	2.72	1.36	0.68
3.5	10.00	5.00	2.00	1.00	0.50
4	9.60	3.83	1.53	0.77	0.38

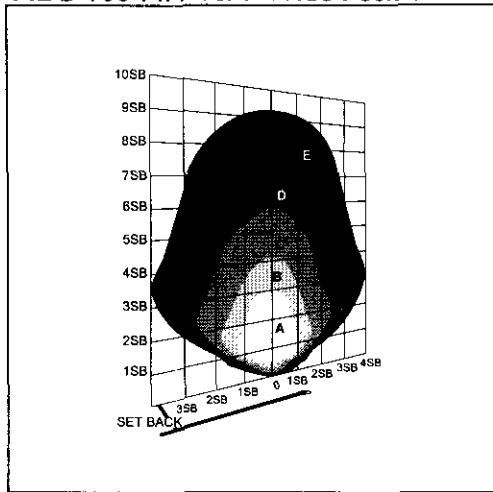
MDB-100-MH-VFA Narrow Position 25°



Shown with optics tilted 5°

Set Back Distance (SB)					
S.B.	A	B	C	D	E
2.5	17.66	9.80	3.92	1.96	0.98
3	13.61	6.81	2.72	1.36	0.68
3.5	10.00	5.00	2.00	1.00	0.50
4	9.60	3.83	1.53	0.77	0.38

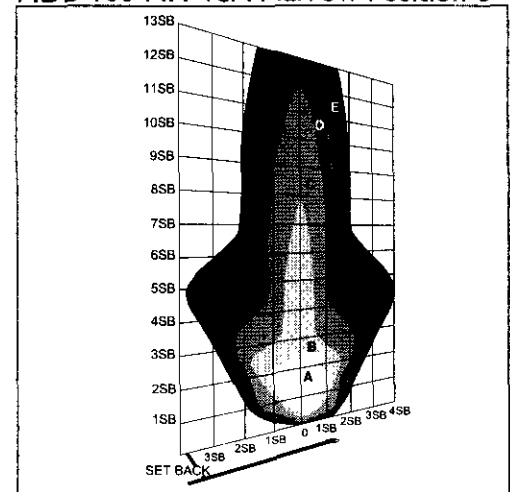
MDB-100-MH-VSA Wide Position 44°



Shown with optics tilted 5°

Set Back Distance (SB)					
S.B.	A	B	C	D	E
2.5	17.66	9.80	3.92	1.96	0.98
3	13.61	6.81	2.72	1.36	0.68
3.5	10.00	5.00	2.00	1.00	0.50
4	9.60	3.83	1.53	0.77	0.38

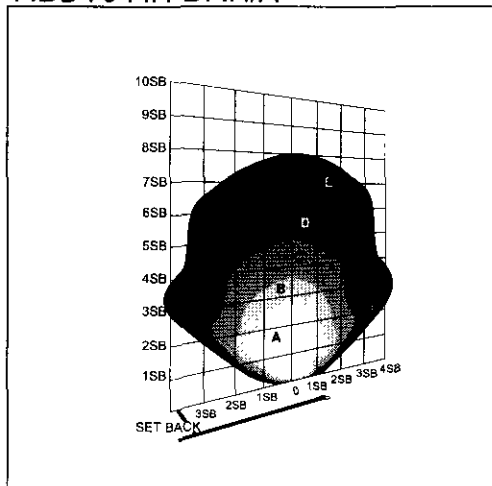
MDB-100-MH-VSA Narrow Position 6°



Shown with optics tilted 5°

Set Back Distance (SB)					
S.B.	A	B	C	D	E
2.5	17.66	9.80	3.92	1.96	0.98
3	13.61	6.81	2.72	1.36	0.68
3.5	10.00	5.00	2.00	1.00	0.50
4	9.60	3.83	1.53	0.77	0.38

MDB-70-MH-DMH/A

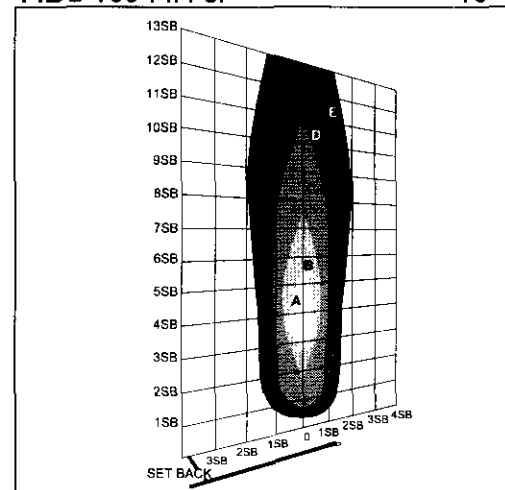


Shown with optics not tilted

Set Back Distance (SB)					
S.B.	A	B	C	D	E
2.5	17.66	9.80	3.92	1.96	0.98
3	13.61	6.81	2.72	1.36	0.68
3.5	10.00	5.00	2.00	1.00	0.50
4	9.60	3.83	1.53	0.77	0.38

MDB-100-MH-SP

10°



Shown with optics tilted 5°

Set Back Distance (SB)					
S.B.	A	B	C	D	E
2.5	17.66	9.80	3.92	1.96	0.98
3	13.61	6.81	2.72	1.36	0.68
3.5	10.00	5.00	2.00	1.00	0.50
4	9.66	3.83	1.53	0.77	0.38