

Coastal 1g	Approved Development-Lighting
<p>g. Lighting. All interior lighting shall be located so as to minimize the potential for light and glare to be visible from within adjacent habitat areas, including adjacent restoration and enhancement areas. All exterior lighting shall be shielded and be of the lowest intensity feasible in order to avoid artificial light pollution from project facilities into adjacent areas and the night sky. All exterior lighting elements adjacent to habitat areas, including adjacent to restoration and enhancement areas, shall be avoided where possible and where unavoidable for safety purposes shall be the minimum necessary to meet safety requirements, shall be shielded, and shall be directed downward and away from such habitat areas.</p>	
<p>Evidence of compliance:</p> <p>Staff at the facility will operate during working hours during the day. Activity and direct light from the facility during night hours is only expected during an emergency when the facility components need staff attention.</p> <p>Exterior lighting utilized during an emergency during nighttime hours will be outfitted with “nighttime friendly” fixtures, light hoods that are dark-colored. These lights are directed downward and away from habitat areas.</p> <p>See attached lighting schedules and manufacturer catalog sheets for reference. The location of exterior lights in relation to the habitat areas are screened by vegetation around the facility boundary to minimize visual impact of above-ground facilities (enclosed as part of Coastal Condition C1h is a copy of the Landscape Drawing).</p>	

Condition Satisfied

Executive Director, CCC

Date

Plot Date: 30-AUG-2013 2:25:58 PM

User: EJohnson

PlotScale: 2:1

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen

LAST SAVED BY: ejohnson

1 2 3 4 5 6 7 8 9 10 11 12 13

LUMINAIRE SCHEDULE

8/30/2013

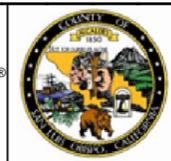
ITEM	DESCRIPTION	MOUNTING METHOD	LAMP		LUMINAIRE SPECIFICATIONS				
			QUANTITY	TYPE	MANUFACTURER	CATALOG	VOLTS	LOAD (WATTS)	USE
A	WALL MOUNT LED FIXTURE, COPPER FREE ALUMINUM HOUSING WITH EPOXY POWER COAT FINISH, NEMA 4X RATED, FACTORY SEALED, EQUIVALENT TO 200-400 W HID LUMINAIRE.	WALL MOUNT	-	LED	CROUSE-HINDS CHAMP PRO PVM SERIES	PVM11L2TWD1/UNV	120	134w	EXTERIOR FACILITIES
B	STANCHION MOUNT LED FIXTURE, COPPER FREE ALUMINUM HOUSING WITH EPOXY POWER COAT FINISH, NEMA 4X RATED, FACTORY SEALED 25" STANCHION MOUNT, FOR 1 1/2" STANCHION. EQUIVALENT TO 200-400 W HID LUMINAIRE.	10-FOOT STANCHION	-	LED	CROUSE-HINDS CHAMP PRO PVM SERIES	PVM11LJDM1/UNV	120	134w	EXTERIOR FACILITIES
	ROUND PVC COATED STEEL POLE 10' HIGH, 2" DIAMETER, SCHEDULE 80, WITH BASE PLATE AND CONDUIT REDUCER FOR 1 1/2" CONNECTION TO LIGHT FIXTURE. TO COME WITH GFCI 120V RECEPTACLE WHEN NOTED ON DRAWINGS								
C	STANCHION MOUNT LED FIXTURE, COPPER FREE ALUMINUM HOUSING WITH EPOXY POWER COAT FINISH, NEMA 4X RATED, FACTORY SEALED 90" STANCHION MOUNT, FOR 1 1/2" STANCHION. EQUIVALENT TO 200-400W HID LUMINAIRE.	10-FOOT STANCHION	-	LED	CROUSE-HINDS CHAMP PRO PVM SERIES	PVM11LPDM1/UNV	120	134w	EXTERIOR FACILITIES (ON WALKWAYS)
	ROUND PVC COATED STEEL POLE 10' HIGH, 2" DIAMETER, SCHEDULE 80, WITH BASE PLATE AND CONDUIT REDUCER FOR 1 1/2" CONNECTION TO LIGHT FIXTURE. TO COME WITH GFCI 120V RECEPTACLE WHEN NOTED ON DRAWINGS								
D	PENDANT MOUNTED HIGHBAY LED FIXTURE, COPPER FREE ALUMINUM HOUSING WITH EPOXY POWDER COAT FINISH, WET LOCATIONS, NEMA 4 RATED, UL-1598, UL-1598A, UL-8750, UL-844, SILICON RUBBER GASKET, STAINLESS STEEL RETENTIVE BOLTS ON LENS DOOR, THERMAL SHOCK & IMPACT RESISTANT FLAT TEMPERED GLASS LEDS, T4, -25°C TO 40°C AMBIANT.	CEILING MOUNT OR SUSPENDED AS NEEDED	-	LED	APPLETON AREA MASTER SERIES	AMLED77YBU1	120	143w	EXTERIOR & INTERIOR FACILITIES (FLOODLIGHT UNDER SUNSHADE OR ROOF)
E	WALL MOUNTED HIGHBAY LED FIXTURE, COPPER FREE ALUMINUM HOUSING WITH EPOXY POWDER COAT FINISH, WET LOCATIONS, NEMA 4 RATED, UL-1598, UL-1598A, UL-8750, UL-844, SILICON RUBBER GASKET, STAINLESS STEEL RETENTIVE BOLTS ON LENS DOOR, THERMAL SHOCK & IMPACT RESISTANT FLAT TEMPERED GLASS LEDS, T4, -25°C TO 40°C AMBIANT, WITH WALL MOUNT BRACKET.	WALL MOUNT	-	LED	APPLETON AREA MASTER SERIES	AMLED77YBU1, WITH WALL MOUNT BRACKET G-AM-8-WB	120	143w	EXTERIOR & INTERIOR FACILITIES (FLOODLIGHT)
F	EMERGENCY LIGHTING UNIT, DAMP LOCATION, SEALED NICKEL-CADMIUM BATTERY, LOW-PROFILE, THERMOPLASTIC HOUSING, LV DISCONNECT, SOLID STATE CHARGER, SHORT CIRCUIT PROTECTION, SELF DIAGNOSTICS TEST SWITCH/PILOT LIGHT.	WALL MOUNT	-	LED	LITHONIA	ELM2 LED SD	120	3w	INTERIOR FACILITIES (EMERGENCY LIGHT)
G	QUANTUM SINGLE FACE EXIT SIGN, UL DAMP LOCATION LISTED, DUAL VOLTAGE 120/277 W/GREEN EXIT LETTERS, SELF-CONTAINED, SEALED MAINTENANCE FREE 1.2V BATTERIES.	WALL MOUNT	-	LED	LITHONIA	LQM S W 3 G 120/277 EL N	120	1w	INTERIOR FACILITIES (EXIT LIGHT)
H	LINEAR LED 2'X4', DAMP LOCATION, LOW PROFILE, ALUMINUM HOUSING (COPPER/FREE) IMPACT RESISTANT GLASS, NEMA 4X, OPERATING TEMPERATURE RANGE- 35°C TO 55°C.	CEILING MOUNT	-	LED	CROUSE-HINDS LL48 SERIES	LL48-60W-765/F-1M	120	56w	EXTERIOR FACILITIES (UNDER SUNSHADES)
I	POLE MOUNTED LED STREET LIGHT, 2 LIGHT ENGINES, 4000K, NEMA TYPE 3 DISTRIBUTION PATTERN, 277V, COLOR PER CLIENT	POLE	-	LED	AMERICAN ELECTRIC LIGHTING AUTOBAHN SERIES ATBO	ATBO-30BLEDE10-MVOLT-R3-4000K-UP	277	143w	EXTERIOR ROADWAYS
	LITHONIA				SSS-20-4C with SMACST				
J	STANCHION MOUNT LED FIXTURE, COPPER FREE ALUMINUM HOUSING WITH EPOXY POWDER COAT FINISH, CLASS 1, DIVISION 2, GROUPS ABCD, NEMA 4X, 25" STANCHION MOUNT, T5, FOR 1 1/2" STANCHION, EQUIVALENT TO 200 - 400 W HID LUMINAIRE.	10 FOOT STANCHION	-	LED	CROUSE-HINDS VMV LED SERIES	VMV11LJDM1/UNV	120	134w	EXTERIOR FACILITIES
	ROUND PVC COATED STEEL POLE 10' HIGH, 2" DIAMETER, SCHEDULE 80, WITH BASE PLATE AND CONDUIT REDUCER FOR 1 1/2" CONNECTION TO LIGHT FIXTURE. TO COME WITH GFCI 120V RECEPTACLE WHEN NOTED ON DRAWINGS								
K	STANCHION MOUNT LED FIXTURE, COPPER FREE ALUMINUM HOUSING WITH EPOXY POWDER COAT FINISH, CLASS 1, DIVISION 2, GROUPS ABCD, NEMA 4X, 90" STANCHION MOUNT, T5, 1 1/2" STANCHION, EQUIVALENT TO 200 - 400 W HID LUMINAIRE.	10 FOOT STANCHION	-	LED	CROUSE-HINDS VMV LED SERIES	VMV11LPDM1/UNV	120	134w	EXTERIOR FACILITIES (ON WALKWAYS)
	ROUND PVC COATED STEEL POLE 10' HIGH, 2" DIAMETER, SCHEDULE 80, WITH BASE PLATE AND CONDUIT REDUCER FOR 1 1/2" CONNECTION TO LIGHT FIXTURE. TO COME WITH GFCI 120V RECEPTACLE WHEN NOTED ON DRAWINGS								
L	WALL MOUNT LED FIXTURE, COPPER FREE ALUMINUM HOUSING WITH EPOXY POWDER COAT FINISH, CLASS 1, DIVISION 2, GROUPS ABCD, NEMA 4X, 90" STANCHION MOUNT, T5, 1 1/2" STANCHION, EQUIVALENT TO 200 - 400 W HID LUMINAIRE.	WALL MOUNT	-	LED	CROUSE-HINDS VMV LED SERIES	VMV11L2TWD1/UNV	120	134w	EXTERIOR FACILITIES
M	CEILING MOUNTED (CHAIN HUNG) 2 X 4' FLUORESCENT LIGHT FIXTURE, NEMA 1, ELECTRONIC BALLAST, BATTERY BACK UP, WITH CAPABILITY FOR REMOTE OPERATION. (REMOTE SWITCH).	CEILING MOUNT OR SUSPENDED AS NEEDED	2	2-F32W/T8	COUSE-HIND HAZMAX INTREPID	SPP-4-2-1-7-0	120	80w	INTERIOR FACILITIES (BATTERY BACKUP LITES AT GENERATOR)
N	CEILING MOUNTED 4' FLUORESCENT LIGHT FIXTURE, NEMA 1, CONTINUOUS INTERLOCKING WRAPAROUND ACRYLIC PRISMATIC DIFFUSER, THERMALLY PROTECTED, CLASS P UL LISTED BALLAST, CONFORMS TO UL 935 AND 1570, T8 LAMPS.	CEILING MOUNT	2	2-F32W/T8 FLUORESCENT	LITHONIA LIGHTING CB SERIES	CB-2-32-120-GEB10IS	120	80w	INTERIOR FACILITIES (DEWATER BLDG ELEC & CONTROL RMS)
O	CEILING MOUNTED (CHAIN HUNG) 4' NON-METALLIC, SEALED, AND GASKETED FLUORESCENT, SUITABLE FOR WET LOCATIONS, WITH ELECTRONIC HIGH OUTPUT BALLAST.	CEILING MOUNT OR SUSPENDED AS NEEDED	2	2-F32W/T8 FLUORESCENT	HOLOPHANE LTG EMS SERIES	EMS4-2-32-BMPCL-120V-GEB10ISH-LP830	120	80w	INTERIOR FACILITIES (ELECT BLDG ELEC & CONTROL RMS)

GENERAL NOTES:

- LIGHTING FIXTURES SHALL MEET COUNTY DESIGN STANDARDS. THIS SHALL INCLUDE PROPER SHIELDING, PROPER ORIENTATION, AND APPLICABLE HEIGHT STANDARDS. ALL LIGHTING FIXTURES SHALL BE SHIELDED SO THAT NEITHER THE LAMP NOR THE RELATED REFLECTOR INTERIOR APPLICABLE HEIGHT STANDARDS. ALL LIGHTING FIXTURES SHALL BE SHIELDED SO THAT NEITHER THE LAMP NOR THE RELATED REFLECTOR INTERIOR SURFACE IS VISIBLE FROM ADJACENT PROPERTIES OR PUBLIC AREAS. LIGHT HOODS SHALL BE DARK-COLORED. LIGHTING ASSOCIATED WITH ALL PROJECT COMPONENTS SHALL BE THE MINIMUM NEEDED FOR PUMP STATION OPERATIONS WHICH REQUIRE LIGHTING FOR OPERATIONS AND/OR DURING EMERGENCY SITUATIONS. LIGHTING FIXTURE SUBMITTALS SHALL PROVIDE CONFIRMATION OF COMPLIANCE WITH THESE REQUIREMENTS.

DESIGNED	AMS
DRAWN	VCP
CHECKED	
DATE	SEPT 2013

REV	DATE	BY	DESCRIPTION
1			



SAN LUIS OBISPO COUNTY

SAN LUIS OBISPO COUNTY
 LOS OSOS WATER RECYCLING FACILITY PROJECT
 ELECTRICAL
 LUMINAIRE SCHEDULE

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8930A.11
 DRAWING NO. 00E04
 SHEET NO. OF XX

SEE NOTE	100A, 120/208 V, 3Ø, 4W, MLO	(N) PANEL	SURFACE MOUNT, NEMA 1	SEE NOTE						
	42 FULL SIZE BOLT-ON CB SPACES 42K AIC PANEL & BRANCH CB'S WITH 100A MCB	LB	LOCATION: ELEC. ROOM WITH EQUIP'T GND BUS							
CKT #	DESCRIPTION	AMP CB #	WIRE SIZE	PHASE A VA	PHASE B VA	PHASE C VA	WIRE SIZE	AMP CB #	DESCRIPTION	CKT #
3	1 BREAK ROOM DISHWASHER	20	12	1000			12	20	MICROWAVE OVEN	2
3	3 CONF./WAITING RECEPTACLES	20	12	1000			10	30	LAB 208V RECEPTACLE	4
3	5 CONF./WAITING RECEPTACLES	20	12		900		10	20		6
3	7 BREAK ROOM RECEPTACLES	20	12	1000			12	20	OFFICE/RECEPTION RECEPTACLE	8
3	9 BREAK ROOM RECEPTACLES	20	12	900			12	20	OFFICE/RECEPTION RECEPTACLE	10
3	11 BREAK ROOM REFRIGERATOR	20	12		1000		12	20	OFFICE/RECEPTION RECEPTACLE	12
3	13 LAB REFRIGERATOR	20	12	1000			12	20	BREAK/TOILET RECEPTACLE	14
3	15 LAB RECEPTACLES	20	12		1500		12	20	BREAK/TOILET RECEPTACLE	16
3	17 LAB RECEPTACLES	20	12		1500		12	20	BREAK/TOILET RECEPTACLE	18
3	19 LAB DISHWASHER	20	12	1000			12	20	FIRE ALARM CONTROL PANEL	20
3	21 LAB RECEPTACLES	20	12		500		12	20	LIGHTING CONTROLS	22
3	23 LAB RECEPTACLES	20	12		500		12	20	EXTERIOR LIGHTING	24
3	25 LAB FUME HOOD	20	12	500			12	20	EXTERIOR LIGHTING	26
3	27 LAB RECEPTACLES	20	12		500		12	20	INTERIOR LIGHTING	28
3	29 OFFICE RECEPTACLES	20	12			720	12	20	INTERIOR LIGHTING	30
3	31 VACUUM PUMP	20	12	500			12	20	INTERIOR LIGHTING	32
3	33 LAB AUTOCLAVE	20	12	1200			12	20	SITE LIGHTING	34
3	35 SPARE	20	12				12	20	SITE LIGHTING	36
3	37 SPARE	20	12			1000			SPACE	38
3	39 SPARE	20	12						SPACE	40
3	41 SPARE	20	12						SPACE	42
CONNECTED LOAD (VA) =		9250	9920	9300						
25% OF CONTINUOUS LOAD =		338	450	525						
TOTAL (VA) =		9588	10370	9825						
TOTAL ÷ 120 VOLT =		80 A	86 A	82 A						

SEE NOTE	225A, 120/208V, 3Ø, 4W, MCB	(N) PANEL	SURFACE MOUNT, NEMA 1	SEE NOTE						
	42 FULL SIZE BOLT-ON CB SPACES 42K AIC PANEL & BRANCH CB'S WITH 225A MCB	LA	LOCATION: ELEC. ROOM WITH EQUIP'T GND BUS							
CKT #	DESCRIPTION	AMP CB #	WIRE SIZE	PHASE A VA	PHASE B VA	PHASE C VA	WIRE SIZE	AMP CB #	DESCRIPTION	CKT #
3	1 DS-1	20	12	1500			12	20	F-1	2
3	3	2	12	1176			12	20	F-2	4
3	5 CU-1	40	8	1500	1500		12	20	WH-1	6
3	7	2	8	2280			12	20	SPARE	8
3	9 CU-2	50	8	2520	1500		10	30	FUME HOOD 208V RECEPTACLE	10
3	11	2	8	2520	1500		10	2		12
3	13 LAB 208V RECEPTACLE	30	10	1500			6	60	SURGE PROTECTION DEVICE	14
3	15	2	10	1500			6			16
3	17 LAB 208V RECEPTACLE	30	10	1500			6	3		18
3	19	2	10	1500			12	20	FIRE SPKLR BELL	20
3	21 LAB 208V RECEPTACLE	30	10	1500	800		12	20	EF-2, EF-3	22
3	23	2	10	1500	360		12	20	GFI RECEPT ON ROOF	24
3	25 LAB 208V RECEPTACLE	30	10	1500	800		12	20	EF-1, FSC	26
3	27	2	10	1500	840		2	100	EF-6	28
3	29 SERVER ROOM RECEPTACLE	20	12	1000	840		2	1500	EF-6	30
3	31 SERVER ROOM RECEPTACLE	20	12	1000	840		2	3	EF-6	32
3	33 SERVER ROOM RECEPTACLE	20	12	1000					SPACE	34
3	35 SERVER ROOM RECEPTACLE	20	12	1000					SPACE	36
3	37 WH-1	20	12	240	8088		2	100	PANEL "LB"	38
3	39 SPARE	20	12		9870		2		PANEL "LB"	40
3	41 SPARE	20	12		9825		2	3	PANEL "LB"	42
CONNECTED LOAD (VA) =		20524	24186	23065						
25% OF CONTINUOUS LOAD =		0	0	0						
TOTAL (VA) =		20524	24186	23065						
TOTAL ÷ 120 VOLT =		171 A	202 A	192 A						

SEE NOTE	200A, 4808V, 3Ø, 4W, MCB	(N) PANEL	SURFACE MOUNT, NEMA 1	SEE NOTE						
	24 FULL SIZE BOLT-ON CB SPACES 42K AIC PANEL & BRANCH CB'S WITH 200A MCB	HA	LOCATION: ELEC. ROOM WITH EQUIP'T GND BUS							
CKT #	DESCRIPTION	AMP CB #	WIRE SIZE	PHASE A VA	PHASE B VA	PHASE C VA	WIRE SIZE	AMP CB #	DESCRIPTION	CKT #
1	SPACE						6	60	SURGE PROTECTION DEVICE	2
3	SPACE						6			4
5	SPACE						6	3		6
7	SPACE								SPACE	8
9	SPACE								SPACE	10
11	SPACE								SPACE	12
13	SPACE								SPACE	14
15	SPACE								SPACE	16
17	SPACE								SPACE	18
19	TRANSFORMER "TA"	100	2	20524					SPACE	20
21			2	24186						22
23			2			23065				24
CONNECTED LOAD (VA) =		20524	24186	23065						
25% OF CONTINUOUS LOAD =		0	0	0						
TOTAL (VA) =		20524	24186	23065						
TOTAL ÷ 277 VOLT =		74 A	86 A	83 A						

PANEL SCHEDULE NOTES

- LONG CONTINUOUS LOAD (LCL). ADDITIONAL 25% ADDED AT BOTTOM OF PANEL. FEEDER CALCULATED AT 125% OF TOTAL CONNECTED LOAD.
- ROUTE BRANCH CIRCUIT THROUGH LIGHTING CONTROLS. SEE DIAGRAM ON SHEET 05AE05.
- PROVIDE SEPARATE NEUTRAL WITH THIS CIRCUIT.
- PROVIDE LOCKING DEVICE ON THIS CIRCUIT BREAKER.
- SITE LIGHTING AND SITE LIGHTING BRANCH CIRCUIT IS PROVIDED AND INSTALLED BY OTHERS. COORDINATE WORK WITH INSTALLING CONTRACTOR.

LUMINAIRE SCHEDULE

TYPE	ILLUSTRATION	MANUFACTURER	CATALOG NO.	VOLTAGE	MAX. VA.	LAMPING	MOUNTING	DESCRIPTION	TYPE	ILLUSTRATION	MANUFACTURER	CATALOG NO.	VOLTAGE	MAX. VA.	LAMPING	MOUNTING	DESCRIPTION
A		LITHONIA	ZL2-L24-2300L-MVOLT	120	20	LED	SURFACE	2' LED STRIP LIGHT MOUNTED ABOVE LENSE	R		GOTHAM	EVO-35/14-6AR-120	120	31	LED	RECESSED	6" RECESSED LED DOWNLIGHT
B		LITHONIA	ZL2-L48-2300L-MVOLT	120	32	LED	SURFACE	4' LED STRIP LIGHT MOUNTED ABOVE LENSE	R1		GOTHAM	EVO-35/14-6AR-120-LEL	120	31	LED	RECESSED	6" RECESSED LED DOWNLIGHT WITH EMERGENCY BATTERY PACK
C		LITHONIA	PTNSL4-WD-MVOLT	120	47	LED	CABLE	4' CABLE MOUNTED LED STRIP LIGHT	R2		GOTHAM	EVO-35/14-6DFR-120	120	22	LED	RECESSED	6" RECESSED LED DOWNLIGHT WITH SHOWER LENS
D		LITHONIA	2VTL4-40L-ADP-D40-LP835	120	40	LED	RECESSED GRID	2'x4' RECESSED LED TROFFER WITH SYMMETRICAL DISTRIBUTION AND DIMMING DRIVER	S		LITHONIA	CSXW-LED-30B350-SR3-MVOLT	120	38	LED	WALL	WALL MOUNTED LED FLOOD LIGHT FIXTURE WITH ASYMMETRICAL DISTRIBUTION
E		LITHONIA	ZL2-L48-2300L-MVOLT	120	32	LED	SURFACE	1'x4' SURFACE LED FIXTURE	S1		GOTHAM	EVO-35/10-6DFR-120	120	31	LED	RECESSED	6" RECESSED LED DOWNLIGHT
P		METALUMEN	CALEDONIA SERIES	120	60	LED	PENDANT	8' LONG PENDANT, DIRECT LED FIXTURE	S2		GOTHAM	EVO-35/10-6DFR-120-LEL	120	31	LED	RECESSED	6" RECESSED LED DOWNLIGHT WITH EMERGENCY BATTERY PACK
P1		METALUMEN	CALEDONIA SERIES	120	60	LED	PENDANT	8' LONG PENDANT, DIRECT LED FIXTURE WITH 90 MIN. BATTERY BACK-UP	X		LITHONIA	LES-1-R-120/277-ELN	120		LED	SURFACE	DIE CAST EXIT SIGN WITH EMERGENCY BATTERY PACK.
P2		METALUMEN	CALEDONIA SERIES	120	192	LED	PENDANT	PENDANT MOUNTED DIRECT LED FIXTURE, PROVIDE IN CONFIGURATION AS SHOWN.									
P3		METALUMEN	CALEDONIA SERIES	120	60	LED	PENDANT	4' LONG PENDANT, DIRECT LED FIXTURE									

LIGHTING FIXTURE SCHEDULE NOTES

- ILLUSTRATIONS AND/OR DIMENSIONS ARE APPROXIMATIONS ONLY INTENDED TO REPRESENT BASIC FIXTURE TYPE; DO NOT USE AS EXACT INFORMATION SOURCE. REFER TO MANUFACTURER CUT SHEETS.
- EXACT LOCATIONS: BEFORE CONSTRUCTION, VERIFY WITH ARCHITECT EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL LIGHT FIXTURES. SEE ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS AS APPLICABLE.
- FIXTURE BRANCH CIRCUIT THROUGH-WIRING: VERIFY AND COMPLY WITH FIXTURE MANUFACTURER RESTRICTIONS AS DETERMINED BY UL. & NEC.
- VERIFY CEILING TYPES/FINISHES FOR ALL RECESSED FIXTURES PRIOR TO FORWARDING SUBMITTALS.
- ALL FLAT PRISMATIC LENSES IN FLUORESCENT FIXTURES SHALL BE MINIMUM .125" THICK.
- ALL EQUIPMENT PROVIDED FOR THIS PROJECT SHALL COMPLY WITH THE REQUIREMENTS OF (ARRA).
- ALL LIGHTING FIXTURES SHALL MEET COUNTY DESIGN STANDARDS. THIS SHALL INCLUDE PROPER SHIELDING, PROPER ORIENTATION, AND APPLICABLE HEIGHT STANDARDS. ALL LIGHTING FIXTURES SHALL BE SHIELDED SO THAT NEITHER THE LAMP NOR THE RELATED REFLECTOR INTERIOR SURFACE IS VISIBLE FROM ADJACENT PROPERTIES OF PUBLIC AREAS. LIGHT HOODS SHALL BE DARK COLORED. LIGHTING ASSOCIATED WITH ALL PROJECT COMPONENTS SHALL BE THE MINIMUM NEEDED FOR PUMP STATION OPERATIONS WHICH REQUIRE LIGHTING FOR OPERATIONS AND/OR DURING EMERGENCY SITUATIONS. LIGHTING FIXTURE SUBMITTALS SHALL PROVIDE CONFIRMATION OF COMPLIANCE WITH THESE REQUIREMENTS.

DESIGNED RP					SAN LUIS OBISPO COUNTY	SAN LUIS OBISPO COUNTY LOS OSOS WATER RECYCLING FACILITY PROJECT ELECTRICAL ADMINISTRATION BUILDING ELECTRICAL SCHEDULES	VERIFY SCALES	JOB NO. 8930A.11
DRAWN DM							BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 05AE06
CHECKED JD							0 1"	SHEET NO. OF XX
DATE SEPTEMBER 2013							IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

LUMINAIRE SCHEDULE

TYPE	ILLUSTRATION	MANUFACTURER	CATALOG NO.	VOLTAGE	MAX. VA.	LAMPING	MOUNTING	DESCRIPTION
A		APPELTON	ADILE077-BU	120	127	LED	CHAIN	CHAIN MOUNTED LED HIGH BAY FIXTURE WITH SYMMETRICAL DISTRIBUTION. 15" OVERALL MOUNTING HEIGHT.
B		LITHONIA	2L2-L48-2300L-MVOLT	120	32	LED	SURFACE	4' LED STRIP LIGHT MOUNTED ABOVE LENSE.
C		LITHONIA	PTNSL4-WD-MVOLT	120	47	LED	CHAIN	4' CHAIN MOUNTED LED STRIP LIGHT.
S		LITHONIA	CSXW-LED-30B350-SR3-MVOLT	120	38	LED	WALL	WALL MOUNTED LED FLOOD LIGHT FIXTURE WITH ASYMMETRIC DISTRIBUTION.

LIGHTING FIXTURE SCHEDULE NOTES

- ILLUSTRATIONS AND/OR DIMENSIONS ARE APPROXIMATIONS ONLY INTENDED TO REPRESENT BASIC FIXTURE TYPE; DO NOT USE AS EXACT INFORMATION SOURCE. REFER TO MANUFACTURER CUT SHEETS.
- EXACT LOCATIONS: BEFORE CONSTRUCTION, VERIFY WITH ARCHITECT EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL LIGHT FIXTURES. SEE ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS AS APPLICABLE.
- FIXTURE BRANCH CIRCUIT THROUGH-WIRING: VERIFY AND COMPLY WITH FIXTURE MANUFACTURER RESTRICTIONS AS DETERMINED BY UL & NEC.
- VERIFY CEILING TYPES/FINISHES FOR ALL RECESSED FIXTURES PRIOR TO FORWARDING SUBMITTALS.
- ALL FLAT PRISMATIC LENSES IN FLUORESCENT FIXTURES SHALL BE MINIMUM .125" THICK.
- BALLASTS AND LAMPS SHALL BE COMPATIBLE FOR THE APPLICATION IN WHICH THEY ARE BEING USED FOR THIS PROJECT. EACH BALLAST SHALL BE COMPATIBLE WITH THE CONTROL DEVICES USED FOR THIS JOB. BALLASTS NOT RECOMMENDED FOR USE WITH CONTROL DEVICES SHALL NOT BE USED AND THE APPROPRIATE BALLAST SHALL BE USED.
- ALL EQUIPMENT PROVIDED FOR THIS PROJECT SHALL COMPLY WITH THE REQUIREMENTS OF (ARRA).
- ALL LIGHTING FIXTURES SHALL MEET COUNTY DESIGN STANDARDS. THIS SHALL INCLUDE PROPER SHIELDING, PROPER ORIENTATION, AND APPLICABLE HEIGHT STANDARDS. ALL LIGHTING FIXTURES SHALL BE SHIELDED SO THAT NEITHER THE LAMP NOR THE RELATED REFLECTOR INTERIOR SURFACE IS VISIBLE FROM ADJACENT PROPERTIES OF PUBLIC AREAS. LIGHT HOODS SHALL BE DARK COLORED. LIGHTING ASSOCIATED WITH ALL PROJECT COMPONENTS SHALL BE THE MINIMUM NEEDED FOR PUMP STATION OPERATIONS WHICH REQUIRE LIGHTING FOR OPERATIONS AND/OR DURING EMERGENCY SITUATIONS. LIGHTING FIXTURE SUBMITTALS SHALL PROVIDE CONFIRMATION OF COMPLIANCE WITH THESE REQUIREMENTS.

SEE NOTE	200A, 120/208V, 3Ø, 4W	PANEL			FLUSH MOUNT, NEMA 1			SEE NOTE	
	42 FULL SIZE BOLT ON CB SPACES	LA			LOCATION: OFFICE				
	42K AIC PANEL & BRANCH CB'S				WITH EQUIP'T GND BUS				
	WITH 125A MCB								
CKT #	DESCRIPTION	AMP CB #	WIRE SIZE	PHASE A VA	PHASE B VA	PHASE C VA	WIRE SIZE	DESCRIPTION	CKT #
1	DS-2	20	12	500			12	WAREHOUSE RECEPTACLES	2
3	DS-2	20	12	720			12	WAREHOUSE RECEPTACLES	4
5	EF-5	20	12			1176	12	WAREHOUSE RECEPTACLES	6
7	FIRE SPRINKLER BELL	20	12	100			12	WAREHOUSE RECEPTACLES	8
9	FIRE ALARM CONTROL PANEL	20	12	720			12	WAREHOUSE RECEPTACLES	10
11	LV TERMINATION CABINET	20	12			180	12	WAREHOUSE RECEPTACLES	12
13	WAREHOUSE RECEPTACLES	20	12	500			12	OFFICE RECEPTACLES	14
15	WAREHOUSE RECEPTACLES	20	12	500			12	RESTROOM/EXTERIOR RECEPTACLES	16
17	WAREHOUSE RECEPTACLES	20	12	500		2000	6	208V RECEPTACLE	18
19	WAREHOUSE RECEPTACLES	20	12	500		2000	6	"	20
21	WAREHOUSE RECEPTACLES	20	12	500		2000	6	208V RECEPTACLE	22
23	WAREHOUSE RECEPTACLES	20	12	500		2000	6	"	24
25	WAREHOUSE RECEPTACLES	20	12	500		2000	6	208V RECEPTACLE	26
27	EXTERIOR LIGHTING	20	12	1016		2000	6	"	28
29	LIGHTING CONTROLS	20	12			1016	12	INTERIOR LIGHTING	30
31	MONORAIL	40	8	2100		1000	12	INTERIOR LIGHTING	32
33	MONORAIL	8		2100		300	12	EXTERIOR LIGHTING	34
35	MONORAIL	3	8	2100		300	12	EXTERIOR LIGHTING	36
37	WH-2	20	12	1500			6	60 SURGE PROTECTION DEVICE	38
39	SPARE	20	1				6	"	40
41	SPARE	20	1				6	"	42
CONNECTED LOAD (VA) =		12680	10956	11312					
25% OF CONTINUOUS LOAD =		250	254	329					
TOTAL (VA) =		12930	11210	11641					
TOTAL + 120 VOLT =		108 A	93 A	97 A					

SEE NOTE	200A, 480V, 3Ø, 3W, MCB	PANEL			FLUSH MOUNT, NEMA 1			SEE NOTE	
	24 FULL SIZE BOLT ON CB SPACES	HA			LOCATION: OFFICE				
	42K AIC PANEL & BRANCH CB'S				WITH EQUIP'T GND BUS				
	WITH 200A MCB								
CKT #	DESCRIPTION	AMP CB #	WIRE SIZE	PHASE A VA	PHASE B VA	PHASE C VA	WIRE SIZE	DESCRIPTION	CKT #
1	SPACE						6	60 SURGE PROTECTION DEVICE	2
3							6	60 SURGE PROTECTION DEVICE	4
5							6	3 SURGE PROTECTION DEVICE	6
7								SPACE	8
9								SPACE	10
11								SPACE	12
13								SPACE	14
15								SPACE	16
17								SPACE	18
19							2	100 TRANSFORMER "TA"	20
21							2	"	22
23							2	"	24
CONNECTED LOAD (VA) =		12930	11210	11641					
25% OF CONTINUOUS LOAD =		0	0	0					
TOTAL (VA) =		12930	11210	11641					
TOTAL + 277 VOLT =		47 A	41 A	42 A					

PANEL SCHEDULE NOTES

1. LONG CONTINUOUS LOAD (LCL). ADDITIONAL 25% ADDED AT BOTTOM OF PANEL. FEEDER CALCULATED AT 125% OF TOTAL CONNECTED LOAD.
2. ROUTE BRANCH CIRCUIT THROUGH LIGHTING CONTROLS. SEE DIAGRAM ON SHEET A6AE05.
3. PROVIDE SEPARATE NEUTRAL WITH THIS CIRCUIT.
4. PROVIDE LOCKING DEVICE ON THIS CIRCUIT BREAKER.

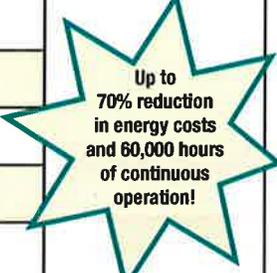
DESIGNED RP						SAN LUIS OBISPO COUNTY		VERIFY SCALES	JOB NO. 8930A.11
DRAWN DM						LOS OSOS WATER RECYCLING FACILITY PROJECT		BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 06AE06
CHECKED JD						ELECTRICAL		0 1"	SHEET NO.
DRAWN JD						MAINTENANCE BUILDING		IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	OF XX
REV	DATE	BY	DESCRIPTION	EXP. 06/30/15	REF. #13-8008				
1									

Champ® Pro PVM Series

Champ® Pro PVM Series - ideal for general high bay/low bay illumination

THE CHAMP® PRO PVM FAMILY

Champ® Pro PVM Series Luminaires are designed to provide full-spectrum, crisp, white light with a true IES type V distribution. Five versions of the PVM Series are available, providing ideal solutions for a wide range of applications.

Champ® Pro PVM Model	Equivalent HID Luminaire	Typical Energy Savings / Lifetime
PVM3L	70W-100W	 <p>Up to 70% reduction in energy costs and 60,000 hours of continuous operation!</p>
PVM5L	100W-150W	
PVM7L	150W-175W	
PVM9L	175W-200W	
PVM11L	200W-400W	



LED SYSTEM

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) where a warmer color is preferred and 5600K (CRI 65) where a cooler color is required
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions

STANDARD MATERIALS

- Lamp housing and adapter – die cast aluminum with Corro-free™ epoxy powder coat
- Lens – heat- and impact-resistant glass
- Gaskets – silicone
- External hardware – stainless steel
- Factory-sealed, no external seals required

DRIVERS

Champ® Pro PVM Model	3L - 9L	11L
Standard	90-305 VAC, 50/60 Hz; 108-250 VDC	100-240, 277 VAC
Option 1	347 VAC Model	347 VAC Kit Available
Option 2	480 VAC Model	480 VAC Kit Available

AMBIENT TEMPERATURE

Champ® Pro PVM Model	Max. Temp. °C
PVM3L	55
PVM5L	55
PVM7L	55
PVM9L	55
PVM11L	40



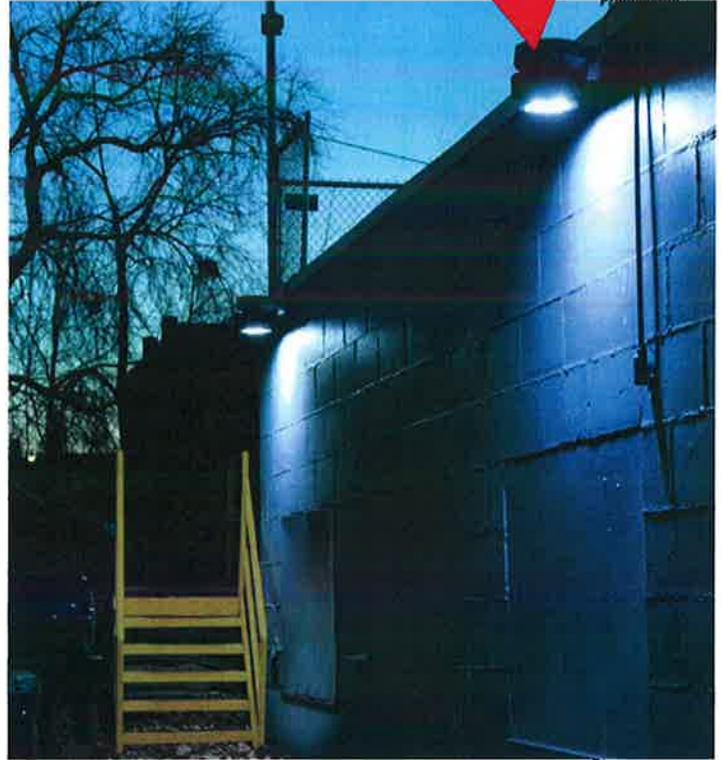
ELECTRICAL RATINGS

	PVM3L	PVM5L	PVM7L	PVM9L	PVM11L
Voltage Range, VAC	100-277V	100-277V	100-277V	100-277V	100-240, 277V
Frequency	50/60 Hz				
Input Power	46 Watts	60 Watts	78 Watts	94 Watts	134 Watts
Input Amps (Max.)	0.5	0.7	0.8	0.98	1.7
Voltage Range, VDC	108-250	108-250	108-250	108-250	N/A
Power Factor	>0.90	>0.90	>0.90	>0.90	>0.90

OPTIONS

Suffix to add to Catalog No.

- Wire guard** with captive mounting hardware **P3001**
- Trunnion mount** with redundant pin locking mechanism . . **S812 K1**
- Quick Clip** for quick installation **S890**
- Diffuse lens** reduces glare in applications where the user may have direct visual contact with the light source . . **S891**
- Teflon coating** on lens for additional shatter protection . . . **S896**
- Polycarbonate lens** available in applications where glass is prohibited. **S903**



ORDERING INFORMATION

MOUNTING STYLE	3L SERIES†	5L SERIES†	7L SERIES†	9L SERIES†	11L SERIES†
Luminaire Less Mounting Module	PVM3LDM2/UNV1	PVM5LDM2/UNV1	PVM7LDM2/UNV1	PVM9LDM2/UNV1	PVM11LDM1/UNV
¾" Pendant	PVM3L2ADM2/UNV1	PVM5L2ADM2/UNV1	PVM7L2ADM2/UNV1	PVM9L2ADM2/UNV1	PVM11L2ADM1/UNV
1" Pendant	PVM3L3ADM2/UNV1	PVM5L3ADM2/UNV1	PVM7L3ADM2/UNV1	PVM9L3ADM2/UNV1	PVM11L3ADM1/UNV
¾" Cone Pendant	PVM3L2BDM2/UNV1	PVM5L2BDM2/UNV1	PVM7L2BDM2/UNV1	PVM9L2BDM2/UNV1	PVM11L2BDM1/UNV
1" Cone Pendant	PVM3L3BDM2/UNV1	PVM5L3BDM2/UNV1	PVM7L3BDM2/UNV1	PVM9L3BDM2/UNV1	PVM11L3BDM1/UNV
¾" Flexible Pendant	PVM3L2HADM2/UNV1	PVM5L2HADM2/UNV1	PVM7L2HADM2/UNV1	PVM9L2HADM2/UNV1	PVM11L2HADM1/UNV
¾" Ceiling Mount Thru Feed	PVM3L2CDM2/UNV1	PVM5L2CDM2/UNV1	PVM7L2CDM2/UNV1	PVM9L2CDM2/UNV1	PVM11L2CDM1/UNV
1" Ceiling Mount Thru Feed	PVM3L3CDM2/UNV1	PVM5L3CDM2/UNV1	PVM7L3CDM2/UNV1	PVM9L3CDM2/UNV1	PVM11L3CDM1/UNV
¾" Wall Mount Thru Feed	PVM3L2TWDM2/UNV1	PVM5L2TWDM2/UNV1	PVM7L2TWDM2/UNV1	PVM9L2TWDM2/UNV1	PVM11L2TWDM1/UNV
1" Wall Mount Thru Feed	PVM3L3TWDM2/UNV1	PVM5L3TWDM2/UNV1	PVM7L3TWDM2/UNV1	PVM9L3TWDM2/UNV1	PVM11L3TWDM1/UNV
1 ½" Stanchion 25°	PVM3LJDM2/UNV1	PVM5LJDM2/UNV1	PVM7LJDM2/UNV1	PVM9LJDM2/UNV1	PVM11LJDM1/UNV
1 ½" Stanchion	PVM3LPDM2/UNV1	PVM5LPDM2/UNV1	PVM7LPDM2/UNV1	PVM9LPDM2/UNV1	PVM11LPDM1/UNV

†Design Lights Consortium approved models. Cool white only. 3L through 9L models approved at 120V only. For 120 VAC option, replace DM2/UNV1 with DM2/120*. 11L model approved at 120-277V. For 347 VAC option, replace DM2/UNV1 with DM3/347. For 480 VAC option, replace DM2/UNV1 with DM4/480. **NOTE: Requires additional enclosure for use with 11L series.** For warm white color temperature, use W designation after luminaire style (Example: PVM3LWDM2/UNV1). **NOTE: Not available for 9L series.** *5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Cooper Crouse-Hinds standard Terms and Conditions.

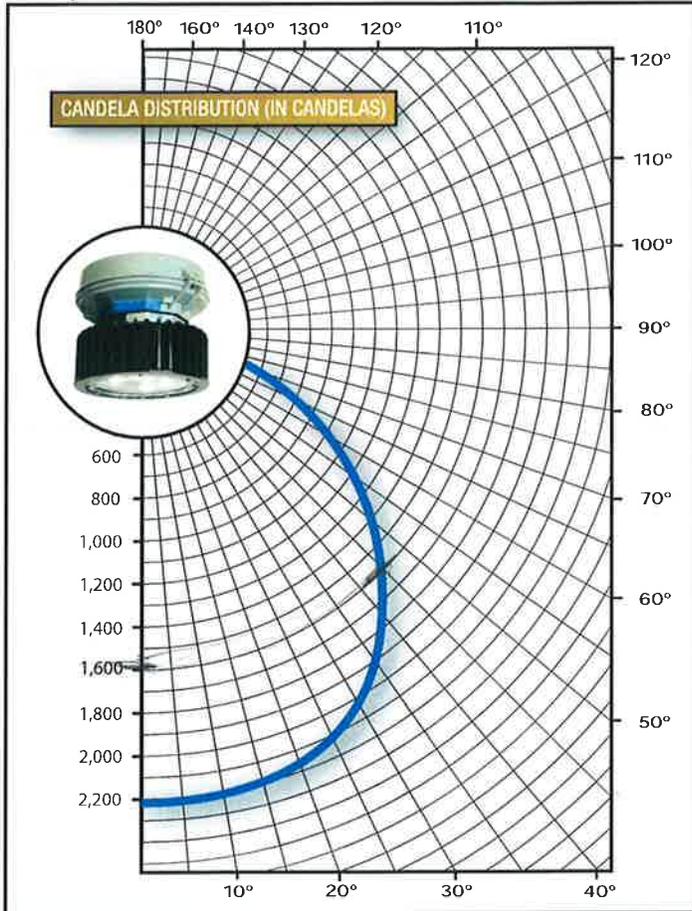


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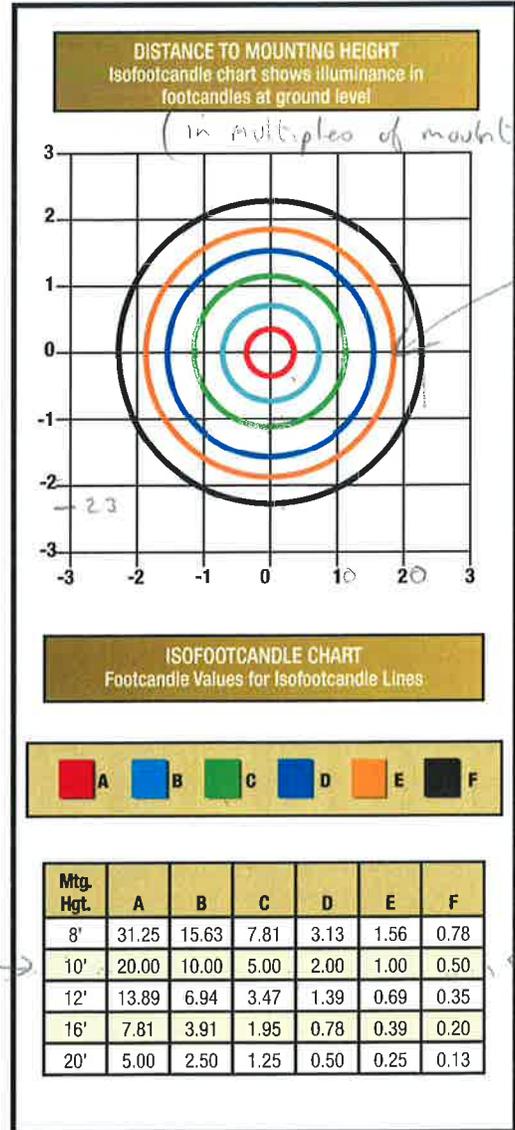
Photometrics

PHOTOMETRIC DATA - CHAMP® PRO PVM SERIES

Champ® Pro 78 Watt* - PVM7L



CANDELAS		ZONAL LUMENS		
VERTICAL ANGLE	FRONT SIDE	ZONE	WITH LUMENS	% LUMEN
0	2245	0-10	212	4%
5	2234	10-20	612	10%
15	2167	20-30	941	15%
25	2041	30-40	1155	18%
35	1846	40-50	1207	19%
45	1566	50-60	1077	17%
55	1207	60-70	764	12%
65	775	70-80	286	5%
75	251	80-90	13	0%
85	0	90-100	0	0%
90	0	100-120	0	0%
		Total	6267	100%



LUMEN OUTPUT FOR CHAMP® LED LUMINAIRES

Luminaire Series	System Watts	Lumens
PVM3L	46	3748
PVM5L	60	4654
PVM7L	78	6267
PVM9L	94	7085
PVM11L	134	8880

+ 30% pwr

*Testing performed in accordance with IES LM-79-08.

2L Champ® Pro PVM Series Luminares

UL/cUL Listed
NEMA 4X
IP66

Ideal for general high bay/low bay illumination

The Champ® Pro PVM Family

Champ® Pro PVM Series Luminares are designed to provide full-spectrum, crisp, white light with a true IES type V distribution. Five versions of the PVM Series are available, providing ideal solutions for a wide range of applications.

Champ® Equivalent Pro PVM HID Model	Equivalent Luminaire	Typical Energy Savings / Lifetime
PVM3L	70W-100W	Up to 70% reduction in energy costs and 60,000 hours of continuous operation!
PVM5L	100W-150W	
PVM7L	150W-175W	
PVM9L	175W-200W	
PVM11L	200W-400W	

LED System:

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) where a warmer color is preferred and 5600K (CRI 65) where a cooler color is required
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions

Standard Materials:

- Lamp housing and adapter – die cast aluminum with Corro-free™ epoxy powder coat
- Lens – heat- and impact-resistant glass
- Gaskets – silicone
- External hardware – stainless steel
- Factory-sealed, no external seals required



Drivers:

Model	3L - 9L	11L
Standard	90-305 VAC, 50 / 60 Hz; 108-250 VDC	100-240, 277 VAC
Option 1	347 VAC Model	347 VAC Kit Available
Option 2	480 VAC Model	480 VAC Kit Available

Electrical Ratings:

	PVM3L	PVM5L	PVM7L	PVM9L	PVM11L
Voltage Range, VAC	100-277V	100-277V	100-277V	100-277V	100-240, 277V
Frequency	50 / 60 Hz				
Input Power	46 Watts	60 Watts	78 Watts	94 Watts	134 Watts
Input Amps (Max.)	0.5	0.7	0.8	0.98	1.7
Voltage Range, VDC	108-250	108-250	108-250	108-250	Not Available
Power Factor	>0.90	>0.90	>0.90	>0.90	>0.90

Ordering Information:

Mounting Style	3L Series	5L Series	7L Series	9L Series	11L Series
Luminaire Less Mounting Module	PVM3LDM2/UNV1	PVM5LDM2/UNV1	PVM7LDM2/UNV1	PVM9LDM2/UNV1	PVM11LDM1/UNV
3/4" Pendant	PVM3L2ADM2/UNV1	PVM5L2ADM2/UNV1	PVM7L2ADM2/UNV1	PVM9L2ADM2/UNV1	PVM11L2ADM1/UNV
1" Pendant	PVM3L3ADM2/UNV1	PVM5L3ADM2/UNV1	PVM7L3ADM2/UNV1	PVM9L3ADM2/UNV1	PVM11L3ADM1/UNV
3/4" Cone Pendant	PVM3L2BDM2/UNV1	PVM5L2BDM2/UNV1	PVM7L2BDM2/UNV1	PVM9L2BDM2/UNV1	PVM11L2BDM1/UNV
1" Cone Pendant	PVM3L3BDM2/UNV1	PVM5L3BDM2/UNV1	PVM7L3BDM2/UNV1	PVM9L3BDM2/UNV1	PVM11L3BDM1/UNV
3/4" Flexible Pendant	PVM3L2HADM2/UNV1	PVM5L2HADM2/UNV1	PVM7L2HADM2/UNV1	PVM9L2HADM2/UNV1	PVM11L2HADM1/UNV
3/4" Ceiling Mount Thru Feed	PVM3L2CDM2/UNV1	PVM5L2CDM2/UNV1	PVM7L2CDM2/UNV1	PVM9L2CDM2/UNV1	PVM11L2CDM1/UNV
1" Ceiling Mount Thru Feed	PVM3L3CDM2/UNV1	PVM5L3CDM2/UNV1	PVM7L3CDM2/UNV1	PVM9L3CDM2/UNV1	PVM11L3CDM1/UNV
3/4" Wall Mount Thru Feed	PVM3L2TWD2/UNV1	PVM5L2TWD2/UNV1	PVM7L2TWD2/UNV1	PVM9L2TWD2/UNV1	PVM11L2TWD1/UNV
1" Wall Mount Thru Feed	PVM3L3TWD2/UNV1	PVM5L3TWD2/UNV1	PVM7L3TWD2/UNV1	PVM9L3TWD2/UNV1	PVM11L3TWD1/UNV
1 1/2" Stanchion 25°	PVM3LJDM2/UNV1	PVM5LJDM2/UNV1	PVM7LJDM2/UNV1	PVM9LJDM2/UNV1	PVM11LJDM1/UNV
1 1/2" Stanchion	PVM3LPDM2/UNV1	PVM5LPDM2/UNV1	PVM7LPDM2/UNV1	PVM9LPDM2/UNV1	PVM11LPDM1/UNV

For 347 VAC option, replace DM2/UNV1 with DM3/347. For 480 VAC option, replace DM2/UNV1 with DM4/480.

NOTE: Requires additional enclosure for use with 11L series.

For warm white color temperature, use W designation after luminaire style (Example: PVM3LWDM2/UNV1). NOTE: Not available for 9L series.

Options:

Description	Suffix
Wire guard with captive mounting hardware	P3001
Trunnion mount with redundant pin locking mechanism	S812 K1
Quick Clip for quick installation	S890
Diffuse lens reduces glare in applications where the user may have direct visual contact with the light source	S891
Teflon coating on lens for additional shatter protection	S896
Polycarbonate lens available in applications where glass is prohibited	S903

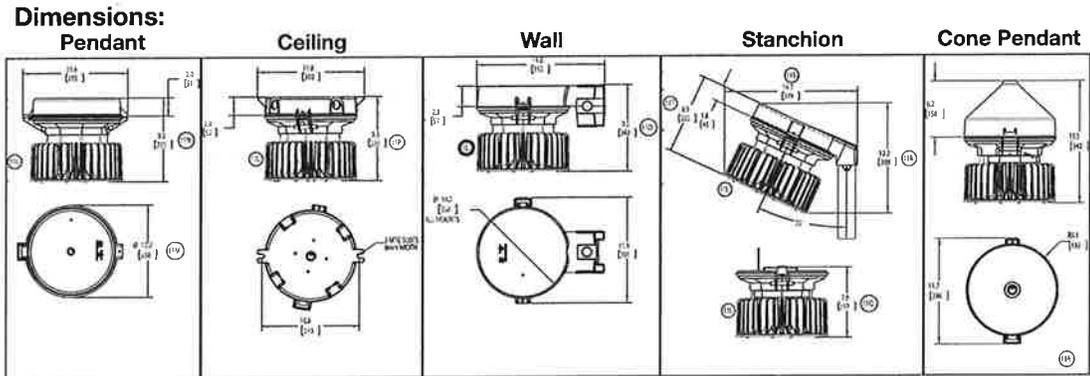
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Champ® Pro PVM Series Luminaires

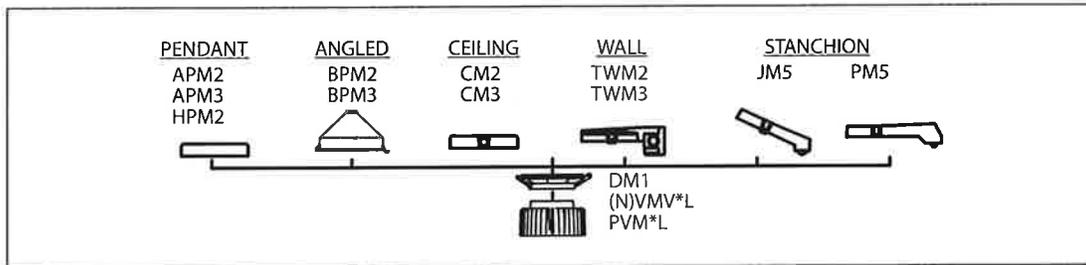
UL/cUL Listed
NEMA 4X
IP66

2L

Ideal for general high bay/low bay illumination



Family Tree:



Weights:

Net Luminaire Weight:	17.8 lb.	8.07 kg.
Mounting Module add (lb.)		
Pendant	1.25	0.57
Cone Pendant	4.00	1.81
Flexible Pendant	1.50	0.68
Ceiling	2.75	1.25
Wall	4.50	2.04
Angle Stanchion	3.50	1.59
Straight Stanchion	4.50	2.04

Ambient Temperature:

Champ® Pro PVM Model	Max. Temp. °C
PVM3L	55
PVM5L	55
PVM7L	55
PVM9L	55
PVM11L	40

2L

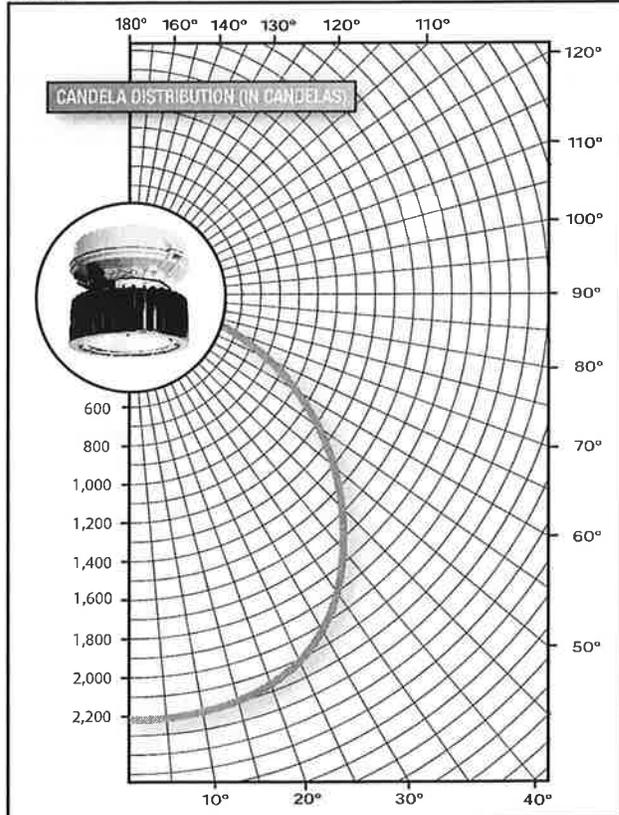
Champ® Pro PVM Series Luminaires

UL/cUL Listed
NEMA 4X
IP66

Ideal for general high bay/low bay illumination

Photometric Data:

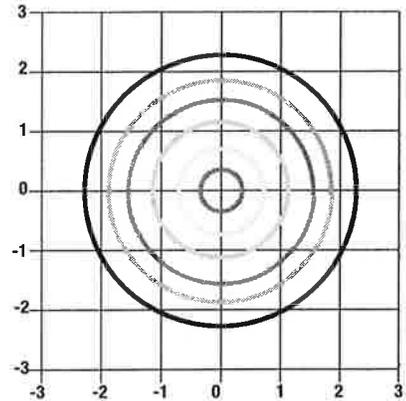
Champ® Pro 78 Watt* - PVM7L



CANDELAS ZONAL LUMENS

VERTICAL ANGLE	FRONT SIDE	ZONE	WITH LUMENS	% LUMEN
0	2245	0-10	212	4%
5	2234	10-20	612	10%
15	2167	20-30	941	15%
25	2041	30-40	1155	18%
35	1846	40-50	1207	19%
45	1566	50-60	1077	17%
55	1207	60-70	764	12%
65	775	70-80	286	5%
75	251	80-90	13	0%
85	0	90-100	0	0%
90	0	100-120	0	0%
Total			6267	100%

DISTANCE TO MOUNTING HEIGHT
Isofootcandle chart shows illuminance in footcandles at ground level



ISOFOOTCANDLE CHART
Footcandle Values for Isofootcandle Lines



Mtg. Hgt.	A	B	C	D	E	F
8'	31.25	15.63	7.81	3.13	1.56	0.78
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

LUMEN OUTPUT FOR CHAMP® LED LUMINAIRES

Luminaire Series	System Watts	Lumens
PVM3L	46	3748
PVM5L	60	4654
PVM7L	78	6267
PVM9L	94	7082
PVM11L	134	8880

*Testing performed in accordance with IES LM-79-08.

2L

Type D & E



AREAMASTER™ LED LUMINAIRE



BRIGHT, LONG-LASTING, ENERGY-EFFICIENT LED FIXTURES FOR FLOODLIGHT AND HIGH BAY APPLICATIONS

Save energy costs with the most efficient lighting technology available in the marketplace. Save maintenance costs with luminaires that run for 60,000 hours – four times as long as pulse start metal halide. Count on reliable operation in harsh weather, extreme temperatures and rugged conditions. Give your workers the bright, consistent light they need to be safe and productive on the job.

We have elevated LED lighting to a new level:
The Appleton Areamaster™ LED Floodlight and High Bay Luminaire

Industrial Flood and High Bay Lighting with All the Benefits of LED

Appleton understands the science and engineering that goes into designing a successful LED luminaire for rough and hazardous industrial use. We have brought these same advantages to new heights in a single product that can serve as either flood or high bay lighting: the Areamaster™ LED Luminaire, designed for superior heat management, optimum driver-diode pairing and with rugged, corrosion resistant materials.



Features and Benefits:

- Energy efficient, virtually maintenance free lighting for pulp and paper mills, chemical plants, oil refineries, foundries, waste treatment facilities – anywhere that dust, water, dirt and rough usage are a problem
- Suitable for Class I, Division 2 hazardous locations, wet locations and marine environments and Zone 2
- Compact, contemporary design can be mounted as a floodlight or high bay fixture
- Easy to install and service, with one piece housing and one piece hinged lens/cover secured by four captive stainless steel bolts, modular quick connect
- Lightweight: only 10 kg (22 lb.)
- Heavy duty, high temperature, single piece, formed silicone rubber gasket
- Cool operating temperatures for extended luminaire life – 60,000 hours
- Rugged aluminum housing withstands vibration and adverse conditions
- Corrosion-resistant architectural bronze polyester finish
- Thermal shock and impact resistant glass lens
- Electrical:
 - NEC/CEC: 120–277 Vac, 50/60 Hz; 347–480 Vac, 50/60 Hz
 - ATEX: 220/240 Vac, 50/60 Hz

Certifications:

- NEC/CEC:
 - UL: 1598, 1598A, 8750, 844
 - CSA: C22.2 No. 250.0, C22.2 No. 137
 - cULus
 - Nema 4, 3R
- ATEX:
 - EN 60079-0:2009; EN 60079-15:2010
 - Ⓜ II 3 G; Ex nA IIC Gc T4

Take Measure of the LED Difference

Providing 13,000+ lumens at only 127 watts, with no light scattered into the fixture or surroundings, the Areamaster LED is the most efficient flood or high bay lighting you can install. And with 60,000 hours of reliable operation, it is practically maintenance free. We offer tools to help calculate your overall savings and payback time. Contact your Appleton representative, and shine a light on all the advantages of LED.

United States: 1.800.621.1506 • Asia/Pacific: 65.6891.7600 • Australia: 61.3.9721.0348
 Brazil — São Paulo/SP: 55.11.2122.5777 • Brazil — Camaçari/BA: 55.71.3623.2028 • Canada: 888.765.2226
 China: 86.21.3418.3888 • Europe: 33.3.2254.2759 • Mexico/Latin America: 52.55.5809.5049 • Middle East/Africa/India: 971.4.811.8100


EMERSON.
 Industrial Automation

Areamaster™ LED Flood/High Bay Luminaires

NEC/CEC:

Class I, Division 2, A, B, C, D
Marine Outside Type (Salt Water)
Wet Locations
Type 4 and 3R

Applications

- Typical applications include:
 - Pulp and paper mills
 - Processing plants
 - Chemical plants
 - Oil refineries
 - Foundries
 - Storage areas
 - Waste and sewage treatment
 - Parking garages
 - Other areas where dust, water, dirt and rough usage are a problem

Features

- Compact in size, attractively styled contemporary design, rugged and dependable.
- Easy to install and service.
- One-piece housing.
- One-piece lens hinged cover. Secured by four M6 captive stainless steel slotted hex-head bolts.
- Thermal shock and impact resistant glass lens.
- Heavy duty, high temperature silicone rubber gasket, mechanically secured.
- Universal design for flood and highbay mounting
- Floodlight Mounting:
 - Yoke mount, zinc plated steel yoke with architectural bronze polyester finish.
- High Bay Mounting:
 - (1) Conduit entry on back of luminaire with locking set screw.
 - Rotate yoke up or remove.
- Vibration rated in all configurations.
- Cool operating temperatures translate into long luminaire life.
- Total of three (3) 3/4" NPT entries with integral bushings.

Standard Materials

- Ballast housing and lens door: aluminum
- Gasket: silicone rubber
- Reflector: polymaris metallized high reflectance finish
- Yoke mount: zinc plated steel
- Bolts: stainless steel
- Plugs: (2) aluminum provided
- Tempered glass lens
- Locking set screw: stainless steel

Standard Finishes

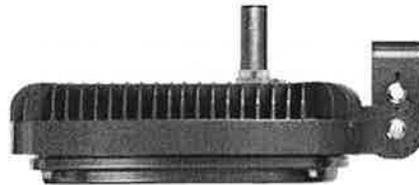
- Housing, lens cover and yoke mount: architectural bronze polyester

Certifications and Compliances

- NEC/CEC
 - UL Standard: UL 1598, UL 1598A, UL 8750, UL 844
 - CSA Standards: C22.2 No. 250.0, C22.2 No. 137
 - cULus



Floodlight



High Bay

LIGHTING: ENCLOSED AND GASKETED – FLOODLIGHT

Areamaster™ LED Flood/High Bay Luminaires

NEC/CEC:
 Class I, Division 2, A, B, C, D
 Marine Outside Type (Salt Water)
 Wet Locations
 Type 4 and 3R

"T" Numbers

Lamp	Supply Wire Temp. (°F/°C)	Ambient Temp. (°F/°C)	NEC/CEC Class I, Division 2, Groups A, B, C, D
LED	140/60	104/40	T4

"T" Numbers Represent the Maximum Lamp Temperature for Class I, Division 2 Locations

"T" Number	T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
Temp. Range (°F)	664-842	619-662	574-617	538-572	502-536	448-500	421-446	394-419	358-392	331-356	322-329	277-320	250-275	214-248	187-212	185
Temp. Range (°C)	351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	85

Electrical Specifications

Voltage Suffix	Voltage Range Vac	Watts – Input Power (Nom.)	Input Amps (Max.)	Power Factor
BU	120 - 277	143	1.40 - 0.60	> 0.90
BH	347 - 480	138	0.50 - 0.35	> 0.90

LIGHTING: ENCLOSED AND GASKETED – FLOODLIGHT

Lighting

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Areamaster™ LED Flood/High Bay Luminaires

NEC/CEC:
 Class I, Division 2, A, B, C, D
 Marine Outside Type (Salt Water)
 Wet Locations
 Type 4 and 3R

	Line Voltage	For Class I, Division 2 Classified Duty and Marine Yoke Mount Catalog Number	
	120-277	AMLED77YBU	X
	347-480	AMLED77YBH	

Accessories

	Description	Catalog Numbers
Crossarm Mounting Bracket		
	Has 180° horizontal adjustment — degree marked. Facilitates mounting floodlight to crossarm or other flat surface, or to G-AM-8-WB. Includes floodlight yoke bolts. Malleable iron, zinc plated, chromate sealed, architectural bronze polyester finish.	G-AM-8-CA
Pipe or Wall Mount Bracket		
	Used with G-AM-8-CA. Clamps to 1" to 2-1/2" pipe, vertical or horizontal, or mounts on flat surfaces. Includes U-bolt and crossarm bracket bolts. Malleable iron, zinc plated, chromate sealed, with architectural bronze polyester finish.	G-AM-8-WB
Poletop Slip-Fitter		
	Slip-fits 1-1/2" or 2" pipe size poletop tenons. Includes floodlight yoke bolts, 3 locking bolts, and cord grip. Body is malleable iron-zinc plated, chromate sealed, with cast aluminum cap. Assembly has architectural bronze polyester finish.	G-SF20
Poletop Slip-Fitter		
	Slip-fits 2" or 2-1/2" poletop tenons. Includes floodlight yoke bolts, 3 locking bolts, and cord grip. Malleable iron, zinc plated, chromate sealed, with architectural bronze polyester finish.	G-AM-8-SF

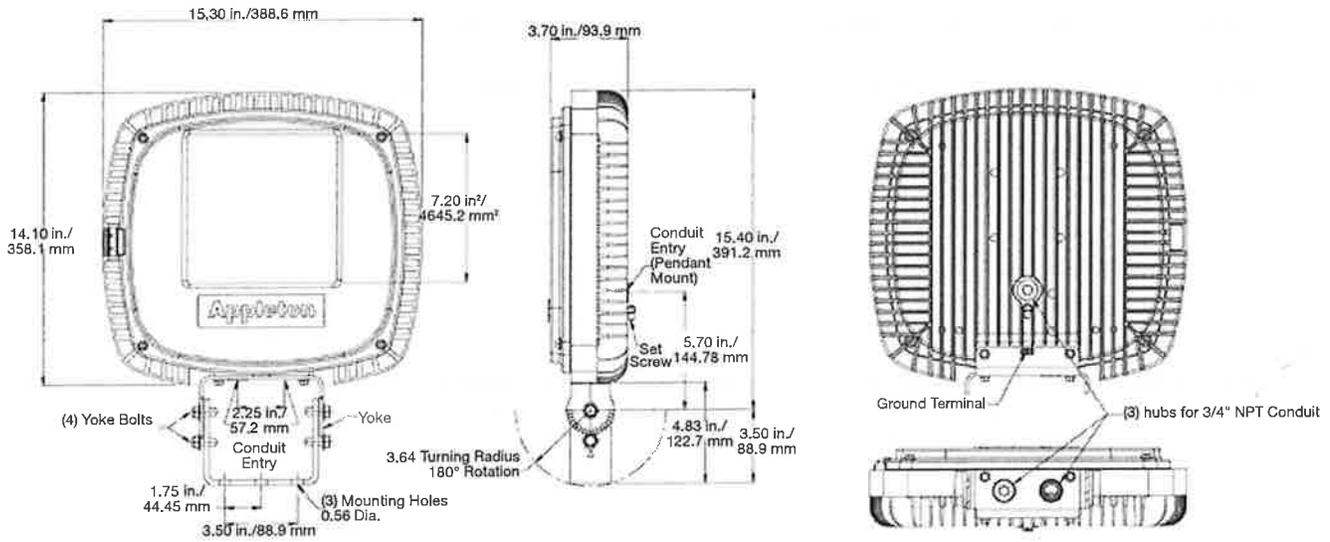
LIGHTING: ENCLOSED AND GASKETED — FLOODLIGHT

Areamaster™ LED Flood/High Bay Luminaires

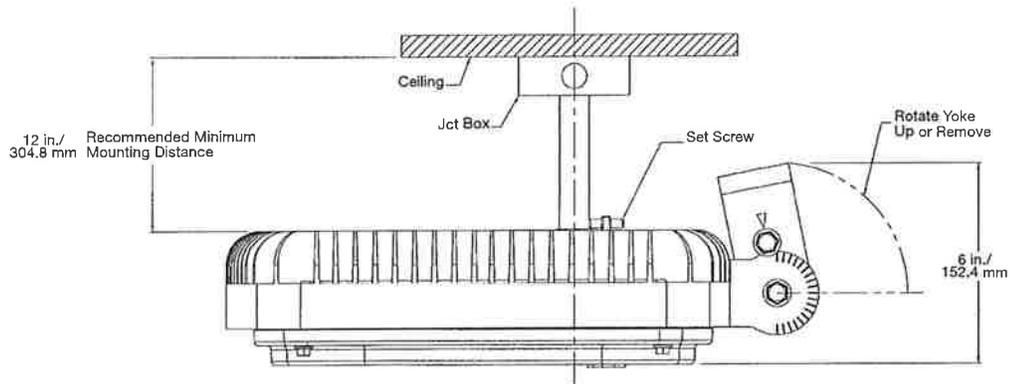
NEC/CEC:
 Class I, Division 2, A, B, C, D
 Marine Outside Type (Salt Water)
 Wet Locations
 Type 4 and 3R

Dimensions in Inches/Millimeters

Floodlight



High Bay Pendant Mount



LIGHTING: ENCLOSED AND GASKETED - FLOODLIGHT

Lighting

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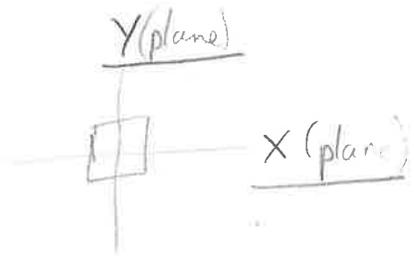
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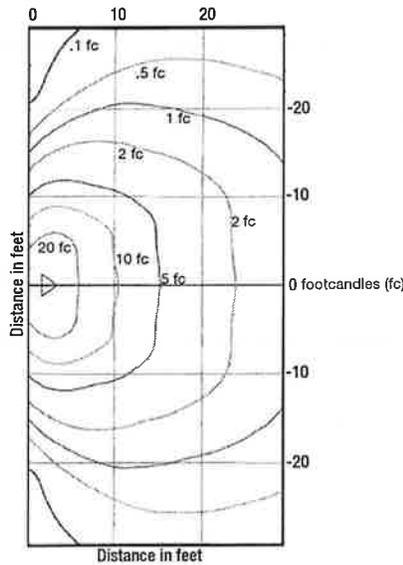
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Areamaster™ LED Flood/High Bay Luminaires



NEC/CEC:
 Class I, Division 2, A, B, C, D
 Marine Outside Type (Salt Water)
 Wet Locations
 Type 4 and 3R

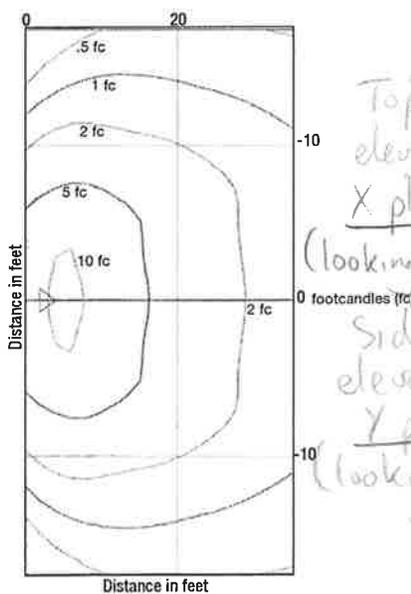
Floodlight
 Luminaire Lumens = 13138
 Mounting Height = 12.00 ft, Tilt = 45°
 Maximum Calculated Value = 25 Fc
 Typical Footcandle Values



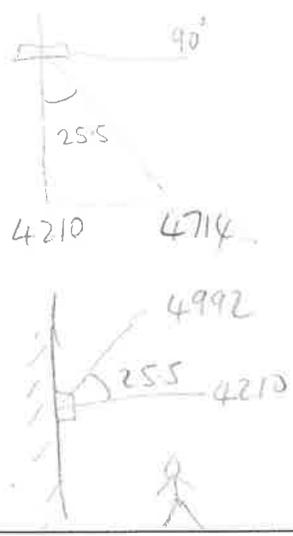
2700' 54'

Degree (X)	Axial Candela		Vertical (Y)
	Horizontal	Degree	
90 (plane)	0	90	0 (plane)
85	24	85	3
75	35	75	57
65	803	65	690
55	2179	55	2348
47.5	3011 2730	47.5	3017 2730
42.5	3457	42.5	3371
37.5	3969	37.5	3916
33	4390	33	4432
29	4697	29	4785
25.5	4714	25.5	4992
22.5	4765	22.5	4932
19.5	4619	19.5	4726
17	4514	17	4452
15	4435	15	4350
13	4338	13	4262
11	4241	11	4214
9	4201	9	4183
7	4199	7	4198
5	4186	5	4207
3	4186	3	4212
1	4205	1	4212
0	4210	0	4210
		-1	4208
		-3	4196
		-5	4179
		-7	4183
		-9	4198
		-11	4234
		-13	4262
		-15	4334
		-17	4507
		-19.5	4733
		-22.5	4925
		-25.5	4929
		-29	4681
		-33	4357
		-37.5	3845
		-42.5	3319
		-47.5	2970
		-55	2299
		-65	648
		-75	7
		-85	3
		-90	0

Floodlight
 Luminaire Lumens = 13138
 Mounting Height = 20.00 ft, Tilt = 45°
 Maximum Calculated Value = 10 Fc
 Typical Footcandle Values



Top elevat.
 X plane
 (looking down)
 Side elevat.
 Y plane
 (looking side)



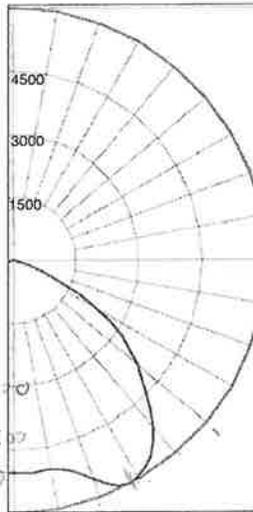
LIGHTING: ENCLOSED AND GASKETED - AREA - HID

Areamaster™ LED Flood/High Bay Luminaires

NEC/CEC:
 Class I, Division 2, A, B, C, D
 Marine Outside Type (Salt Water)
 Wet Locations
 Type 4 and 3R

High Bay
 CIE Type - General Diffuse
 Luminaire Lumens = 13211

Polar Graph – High Bay



Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	3849	29.1
0-40	6804	51.2
0-60	12051	91.2
0-90	13196	99.9
90-120	4	0.00
90-130	6	0.1
90-150	11	0.1
90-180	14	0.1
0-180	13211	100.0

Coefficients of Utilization – Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

Rcc	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	83	80	78	76
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65
4	86	75	67	61	84	74	66	61	71	65	60	69	63	59	67	62	58	56
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	60	52	46	71	60	52	46	58	51	45	56	50	45	55	49	45	43
7	68	55	46	41	66	54	46	40	52	45	40	51	45	40	50	44	39	38
8	63	50	42	36	61	49	41	36	48	41	36	47	40	35	45	40	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

LIGHTING: ENCLOSED AND GASKETED – FLOODLIGHT

Lighting

1160



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Type 'F'

Catalog Number	ELM 2-LED-SD.
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — Provides a minimum of 90 minutes of illumination for the rated wattage upon loss of AC power. Ideal for applications requiring attractive unit equipment with quick installation. **Certain airborne contaminants can diminish integrity of acrylic.** [Click here for Acrylic Environmental Compatibility table, for suitable uses.](#)

CONSTRUCTION — White, compact, low-profile contemporary design. Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant and corrosion-proof. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light sources.

Two LED lamp heads with 12 series-parallel white LEDs each, provide redundant light sources to ensure emergency lighting performance. The typical life of the LED lamp is 10 years.

Dual-voltage input capability (120/277V). Edge connector on printed circuit board ensures long-term durability.

Low-profile, integrated test switch/pilot light. Easily visible bright red status indicator.

Unique track-and-swivel arrangement permits full range of direction of lamp head adjustment. Universal J-box mounting pattern. Tool-less access for maintenance. Flexible conduit entry provision on top of the unit. Ceiling- or wall-mount standard.

ELECTRICAL — Current-limiting charger maximizes battery life and minimizes energy consumption. Provides low operating costs.

Short-circuit protection — current-limiting charger circuitry protects printed circuit board from shorts.

Thermal compensation adjusts charger output to provide optimum charge voltage relative to ambient temperature. Regulated charge voltage maintains constant-charge voltage over a wide range of line voltages. Prevents over/undercharging that shortens battery life and reduces capacity.

Filtered charger input minimizes charge voltage ripple and extends battery life.

AC/LVD reset allows battery connection before AC power is applied and prevents battery damage from deep discharge.

Single multi-color LED indicator to display two-state charging, test activation and three-state diagnostic test. Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection. Self-diagnostic testing for 30 seconds every 30 days, 30 minute every 180 days and 90 minutes annually. Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition.

Battery Sealed, maintenance-free nickel-cadmium battery delivers 90 minute capacity to emergency lamps. Two-state constant-current charge maximizes battery life and automatically recharges after battery discharge. Low-voltage disconnect prevents excessively deep discharge that can permanently damage the battery. Optional high-output battery available to power both local and optional LED remote lamp heads simultaneously.

LISTINGS — UL damp location listed standard 50-104°F (10-40°C). Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards.

WARRANTY — 5-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Actual performance may differ as a result of end-user environment and application.

Note: Specifications subject to change without notice.



Thermoplastic Emergency Light

ELM2 LED

LED Lamp Head
Ni-Cad Battery



ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: ELM2 LED

X

ELM2 Family	Lamp type	Housing	Options
ELM2	LED Two 1.5W/3.6V white LED	(blank) White B Black	HO High-output ni-cad battery for 6W remote capacity SD Self-diagnostics NOM Meets Mexican standards ¹

Accessories: ^{2,3,5} Order as separate catalog number.	
ELA Q L0304	Single LED indoor remote head, white
ELA T Q L0304	Twin LED indoor remote head, white
ELA QWP L0304	Single LED weather-proof remote head, gray
ELA T QWP L0304	Twin LED weather-proof remote head, gray
ELA WG1	Wireguard, 15" W x 13-1/2" H x 6" D ⁴

Notes

- Available in black or white. Consult factory for options.
- Also available in black. Add "B" after ELA to order black finish. Example: ELA B Q L0304.
- Only compatible with Quantum LED series. For use with self-diagnostics fixture, add SD to end of catalog number. Example: ELA Q L0304 SD.
- See spec sheet [ELA-WG](#)
- See spec sheet [ELA-Q-LED](#).

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ELM2 LED QUANTUM® Thermoplastic Emergency Light

SPECIFICATIONS

ELECTRICAL

Primary Circuit

Typical LED Life ¹	Supply Voltage	Max Amps	Max Watts
10 years	120	.04	1.44
	277	.03	1.44

BATTERY

Ni-Cad (N)

Voltage	Shelf life ²	Typical life ²	Maintenance ³	Optimum temperature ⁴
3.6	3 years	7-9 yrs.	none	50-104°F (10-40°C)

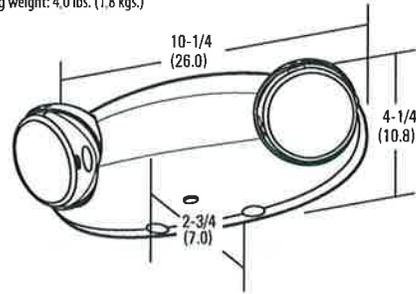
- Based on continuous operation. The typical life of the LED lamp is 10 years.
- At 77°F (25°C).
- All life safety equipment, including emergency lighting path of egress, must be maintained, serviced and tested in accordance with all National Fire Protection Association and local codes. Failure to perform the required maintenance, service or testing could jeopardize the safety of occupants and will void all warranties.
- 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.

REMOTE OUTPUT CAPACITY

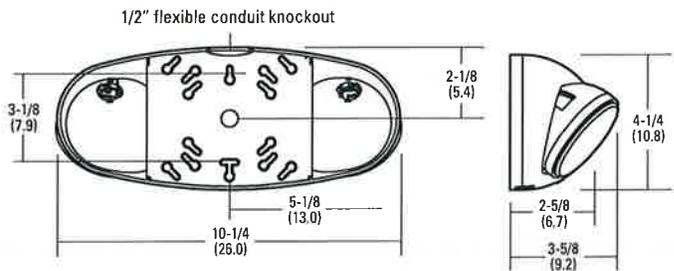
Standard unit	Unit\ high-output battery (HO)
NA	6W

MOUNTING

All dimensions are inches (centimeters).
Shipping weight: 4.0 lbs. (1.8 kgs.)



Mounting Plate

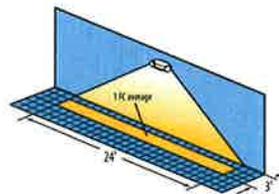


LAMP PHOTOMETRICS

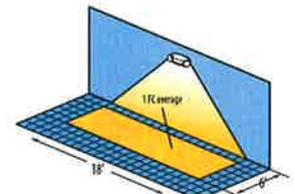
QUANTUM LED SERIES -- SINGLE COVERAGE

3W Total White LEDs

Using a single unit at a typical 7.5' mounting height delivers an average illuminance of 1.0 FC over a distance of 24' on a 3' path of egress and 18' on a 6' path of egress.



Example of single ELM2 LED unit illuminating a 3' path of egress

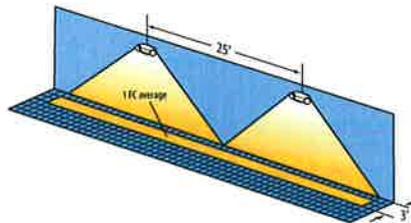


Example of single ELM2 LED unit illuminating a 6' path of egress

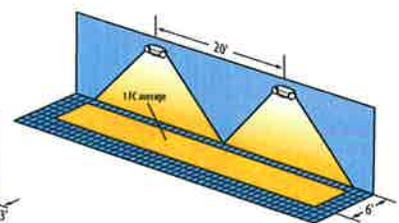
QUANTUM LED SERIES -- MULTIPLE COVERAGE

3W Total White LEDs

Using multiple units at a typical 7.5' mounting height delivers 25' center-to-center spacing on a 3' path of egress and 20' center-to-center spacing on a 6' path of egress.



Example of multiple ELM2 LED units illuminating a 3' path of egress



Example of multiple ELM2 LED units illuminating a 6' path of egress

EXTENDED RUN-TIME FOR HIGH-OUTPUT UNITS

Product	Run time
ELM2 LED HO (no remotes)	3.9 hours

* Meets Life Safety Code standard minimum illuminance of 0.1 FC and average illuminance of 1.0 FC. Assumes open space with no obstructions, mounting height: 7.5', ceiling height: 9', and reflectances: 80/50/20. Analysis based on independently tested photometrics.



ELM2_LED

2/2



FEATURES & SPECIFICATIONS

INTENDED USE — Ideal for applications requiring attractive, quick-installation exit signs and low energy consumption.

CONSTRUCTION — Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant, and corrosion-proof. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light sources.

Rugged unibody housing snaps together with no additional mechanical fasteners. Faceplate and back cover are interchangeable on housing. Positive snap-fit tabs hold faceplate securely, yet easily removable for lamp compartment access.

Universal directional Chevron inserts are easily removed and reinserted. Uniform illumination without shadows or hot spots. Reinforced, impact-resistant color panels. Letters 6" high with 3/4" stroke, with 100 ft. viewing distance rating, based upon UL924 standards.

U.S. Patent No. 5,526,251; 5,611,163; 5,739,639; 5,954,423; D495,751 and 6,502,044. Other patents pending.

OPTICS — LEDs mounted on printed circuit boards. Low energy consumption – less than one watt. LED lamp operates in normal (AC input) and emergency (DC input) modes.

The typical life of the exit LED lamp is 10 years.

ELECTRICAL — Low-voltage disconnect prevents excessively deep discharge that can permanently damage battery. Conveniently located test switch and LED provide visual and manual means of monitoring system.

Constant-current series charger minimizes energy consumption and provides low operating costs. Printed circuit boards are 100% quality tested during manufacturing. Current-limiting charger circuitry protects printed circuit boards from shorts.

AC/LV reset (line latch) allows battery connection before AC power is applied and aids in preventing battery damage from deep discharge.

Crystal oscillator timing system with watchdog protection for precision accuracy.

Brownout protection is automatically switched to emergency mode when supply voltage drops below 80% of nominal.

Battery: Sealed, maintenance-free nickel-cadmium battery delivers 90-minutes capacity to emergency lamps. Two-state constant-current charge maximizes battery life and automatically recharges after battery discharge.

Diagnostics: Single-point microcomputer control for all electronic features.

Single multi-chromatic LED indicator to display two-state charging, test activation and three-state diagnostic status.

Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection. Self-diagnostic testing for five minutes every 30 days and 30 minutes every six months.

Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition. Continuously monitors AC functionality.

INSTALLATION — Universal (top-, end-, or back-) mounting. Easily removed mounting knockouts. J-box pattern on back panel. Housing snaps to canopy with four positive-locking tabs. Cam-locking pin tightly secures housing to canopy.

LISTINGS — UL damp location listed 50°-104°F (10°-40°C) standard. Meets UL924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards. NEMA Premium certified.

WARRANTY — 5-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Actual performance may differ as a result of end-user environment and application.

Note: Specifications subject to change without notice.

ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold)**.

Example: LQM S W 3 R 120/277 EL N

LQM	Family	Face type	Housing color	Number of faces	Letter color	Input voltage ²	Emergency operation	Options
LQM	S Stencil P Panel ¹	(blank) Black W White	3 Single face with extra faceplate and color panel	R Red G Green	120/277 Dual voltage	EL N Nickel cadmium battery	(blank) None NOM NOM certified for Mexico ³ SD Self-diagnostics SDFIFA Self-diagnostics, fire alarm flashing interface and flashing emergency operation and intermittent audible alarm (one flash/one second)	

Accessories: Order as separate item.

ELA WG1	Back-mount wireguard ⁴
ELA WGEXT	Top-mount wireguard ⁴
ELA WGEXE	End-mount wireguard ⁴
ELA LQMUS12	12" stem kit ⁵

EMERGENCY

Type 'G'

Catalog Number	LQM-S-W-3-G-120/277
Notes	-EL-N
Type	



Thermoplastic Exits

LQM EL N

LED LAMPS
Emergency Operation
Nickel-Cadmium Battery



Specifications

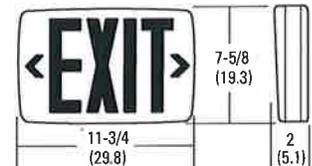
Length: 11-3/4 (29.8)

Depth: 2 (5.1)

Height: 7-5/8 (19.3)

Weight: 2.6 lbs (1.2 kgs)

All dimensions are inches (centimeters) unless otherwise specified.



Notes

- Only available in custom signage. See spec sheet, [Custom-Signage](#).
- Some special voltages available. Consult factory.
- Available with stencil or panel faces in white housing, red letters only.
- See spec sheet [ELA-WG](#).
- See spec sheet [ELA-Stemkits](#).

1/2

LQM-EL-N

LQM EL N Emergency LED, Quantum®

SPECIFICATIONS

ELECTRICAL				
Primary Circuit				
Type ¹	Typical LED life ²	Supply voltage	Input watts	Max. amps
Red LED	10 years	120	.71	.05
		277	.92	.06
Green LED	10 years	120	.66	.05
		277	.70	.06

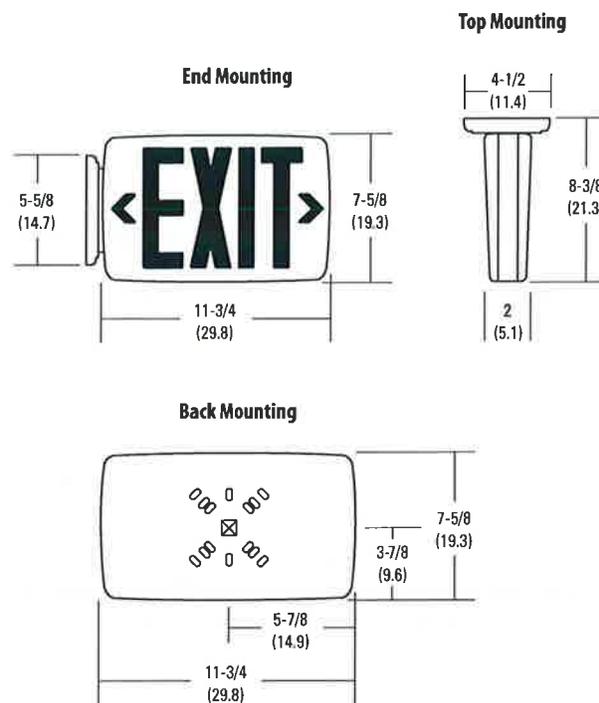
BATTERY				
Nickel Cadmium				
Voltage	Shelf life ²	Typical life ³	Maintenance ⁴	Optimum temperature ⁵
1.2	3 years	7-9 years	none	10°C - 40°C

Notes

- LED lamps operate in normal (AC input) and emergency (DC input) modes.
- Based on continuous operation. The typical life of the exit LED lamp is 10 years.
- At 77°F (25°C).
- All life safety equipment, including emergency lighting for path of egress must be maintained, serviced and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.
- 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.

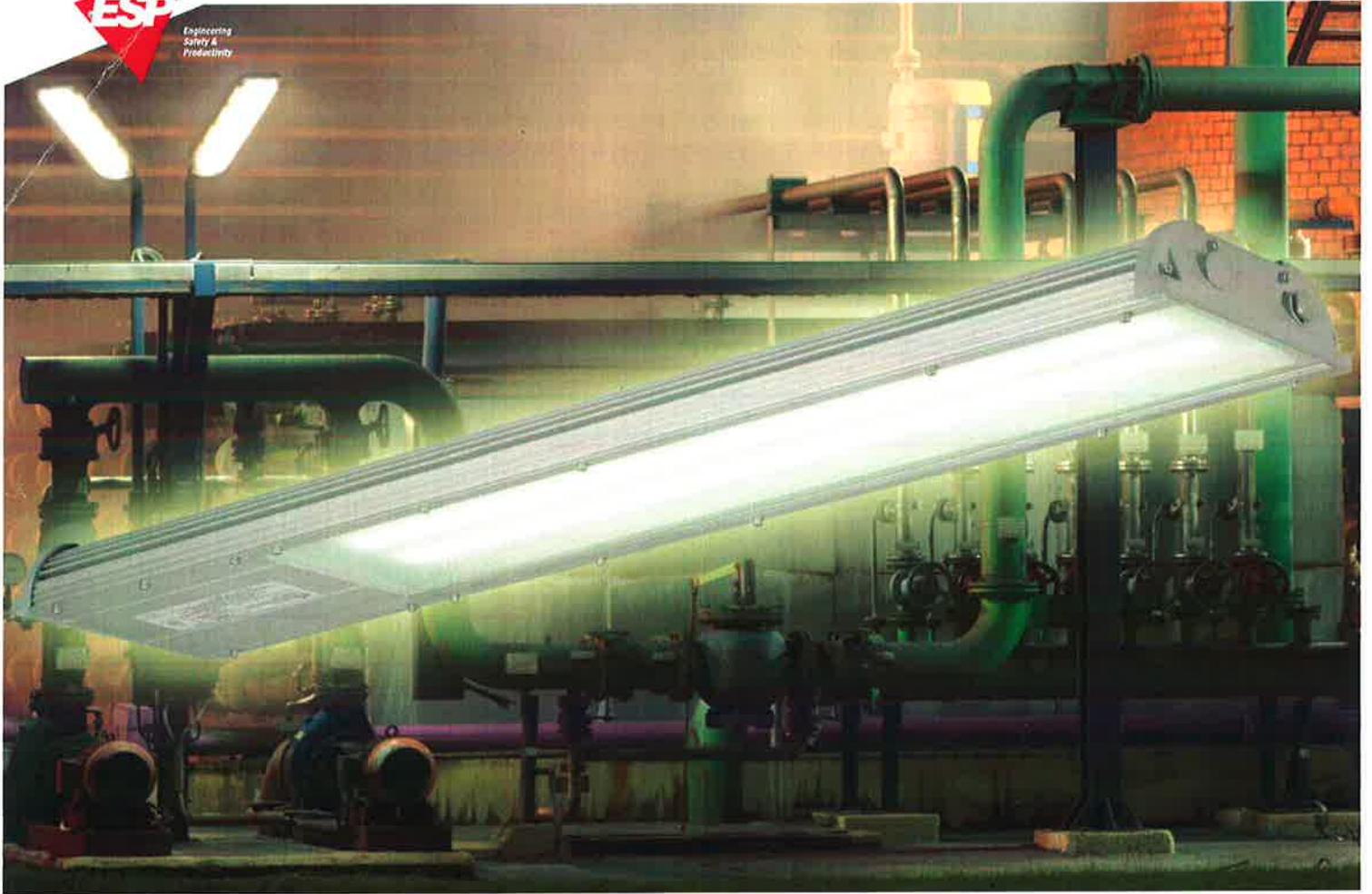
MOUNTING

All dimensions are inches (centimeters) unless otherwise specified.
Shipping weight: 2.6 lbs. (1.2 kgs.)



2/2

Type 'H'



LL48 Linear LED Luminaires For Heavy Industrial Applications

COOPER Crouse-Hinds

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Leading the way in LED technology for industrial applications.



The LL48 Linear LED Luminaire allows for the replacement of existing harsh and hazardous industrial fluorescent fixtures and provides an energy-efficient proven light source for use in applications where reliability is critical.

LUMINAIRE MODEL

Model	Equivalent Light Output	Energy Savings
LL48	2 x 58W fluorescent light	50%



APPLICATIONS

- Used for general lighting in indoor and outdoor areas with low mounting heights or confined spaces, such as aisles, tunnels and catwalks, over doorways or entries, landing areas, utility rooms, etc.

CERTIFICATIONS & COMPLIANCES

NEC Standards:

- Class I, Division 2, Groups A, B, C, D
- NEMA 4X; IP66
- Marine and Wet Locations

UL Standards:

- UL844 Electrical Fixture Hangers for Hazardous Locations
- UL1598 Luminaire
- UL1598A Luminaire for Installation on Marine Vessels

CSA Standard:

- C22.2 No. 137

DESIGN FEATURES

- Ⓐ Luminaire is designed to match the footprint of a traditional linear fluorescent fixture.
- Ⓑ Same light pattern and lumen output at a fraction of the energy cost.
- Ⓒ Diffused lens reduces glare.
- Ⓓ Shock- and vibration-resistant LEDs contain no mercury, eliminating costly lamp disposal programs.

2/7

ADDITIONAL FEATURES & BENEFITS

Best-in-class Reliability

- Linear LED solution can withstand extreme vibration that would cause traditional technologies to fail
- Can handle temperature extremes down to -35°C where comparable products cannot operate
- Redundant drivers housed next to LED arrays for slim profile and superior heat dissipation
- Redundant drivers and LED modules ensure the highest factor of safety in the industry

Versatile Mounting Options

- Ceiling mount standard (included with fixture)
- Choice of brackets for wall or pole mounting (ordered separately); can be mounted in any position to maintain ratings
- Luminaire uses the same mounts as eLLK/nLLK Series

Reliable Performance in Any Environment

- T5 at 40°C, T4A at 55°C temperature ratings
- Operating temperature range: -35°C to +55°C

STANDARD MATERIALS

- Housing - Copper-free aluminum with Corro-free™ epoxy powder coat end caps and extruded aluminum body
- Lens - Heat- and impact-resistant glass
- External Hardware - Stainless steel

ELECTRICAL RATINGS

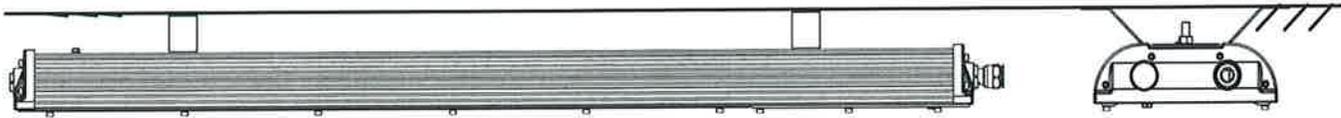
- 100VAC to 277VAC 50/60 Hz
- Power factor >0.9

ORDERING INFORMATION

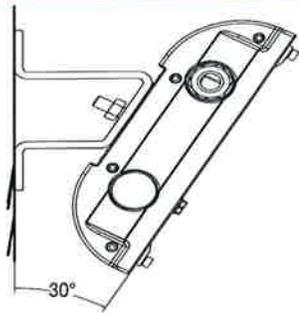
CATALOG NUMBER	SYSTEM POWER	GLASS COLOR	ENTRY	LUMEN OUTPUT	CCT
LL48-60W-765/F-1M	56W	Frosted	M20	3716	Cool White, 6500K
LL48-60W-765/C-1M	56W	Clear	M20	4380	Cool White, 6500K
LL48-60W-765/F-1N	56W	Frosted	½" NPT	3716	Cool White, 6500K
LL48-60W-765/C-1N	56W	Clear	½" NPT	4380	Cool White, 6500K



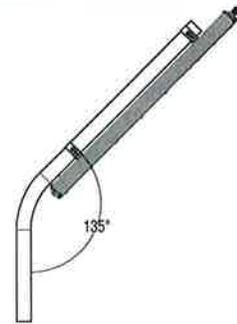
MOUNTING STYLES



Ceiling Mount
(Included with Fixture)



Wall Mount
(Order Separately)

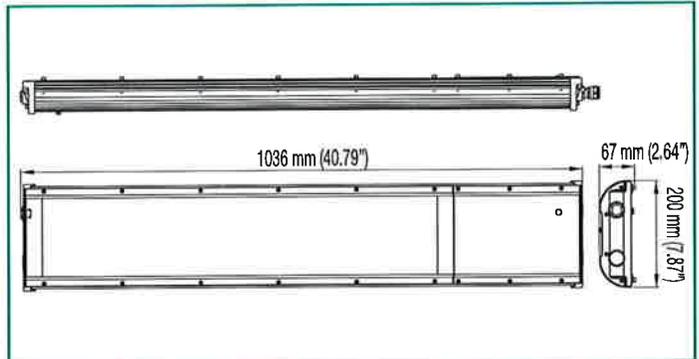


Pole Mount
(Order Separately)

MOUNTING ORDERING INFORMATION

CATALOG NUMBER	DESCRIPTION
12329778	Ceiling Mounting Bracket Kit
12329779	Clamp for Pole Mounting 1¼" Kit
12329900	Clamp for Pole Mounting 1½" Kit
12329901	Clamp for Pole Mounting 2" Kit
12329902	Luminaire Wall Suspension 27° Kit
12329903	Luminaire Wall Suspension 30° Kit

DIMENSIONS



PHOTOMETRICS

- LM79 data available upon request

For our complete portfolio of LED products, please visit www.follow-the-LEDer.com



H

2L LL48 Linear LED Luminaires

For heavy industrial applications

Cl. I, Div. 2, Groups A, B, C, D NEMA 4X; IP66
 UL Listed Marine and Wet Locations
 CSA Certified

The LL48 Linear LED Luminaire allows for the replacement of existing harsh and hazardous industrial fluorescent fixtures and provides an energy-efficient proven light source for use in applications where reliability is critical.

Luminaire Model:

Model	Equivalent Light Output	Energy Savings
LL48	2 x 58W fluorescent light	50%

Applications:

- Used for general lighting in indoor and outdoor areas with low mounting heights or confined spaces, such as aisles, tunnels and catwalks, over doorways or entries, landing areas, utility rooms, etc.

Certifications and Compliances:

NEC Standards:

- Class I, Division 2, Groups A, B, C, D
- NEMA 4X; IP66
- Marine and Wet Locations

UL Standards:

- UL844 Electrical Fixture Hangers for Hazardous Locations
- UL1598 Luminaire
- UL1598A Luminaire for Installation on Marine Vessels

CSA Standard:

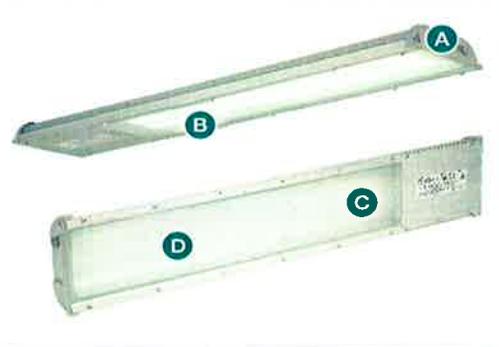
- C22.2 No. 137

Standard Materials:

- Housing – copper-free aluminum with Corro-free™ epoxy powder coat end caps and extruded aluminum body
- Lens – heat- and impact-resistant glass
- External hardware – stainless steel

Electrical Ratings:

- 100VAC to 277VAC 50 / 60 Hz
- Power factor >0.9



Design Features:

- Ⓐ Luminaire is designed to match the footprint of a traditional linear fluorescent fixture.
- Ⓑ Same light pattern and lumen output at a fraction of the energy cost.
- Ⓒ Diffused lens reduces glare.
- Ⓓ Shock- and vibration-resistant LEDs contain no mercury, eliminating costly lamp disposal programs.

Additional Features and Benefits:

Best-in-class reliability

- Linear LED solution can withstand extreme vibration that would cause traditional technologies to fail
- Can handle temperature extremes down to -35°C where comparable products cannot operate
- Redundant drivers housed next to LED arrays for slim profile and superior heat dissipation
- Redundant drivers and LED modules ensure the highest factor of safety in the industry

Versatile mounting options

- Ceiling mount standard (Included with fixture)
- Choice of brackets for wall or pole mounting (ordered separately); can be mounted in any position to maintain ratings
- Luminaire uses the same mounts as eLLK/nLLK Series

Reliable performance in any environment

- T5 at 40°C, T4 at 55°C temperature ratings
- Operating temperature range: -35°C to +55°C

Ordering Information:

Cat. #	System Power	Glass Color	Entry	Lumen Output	CCT
LL48-60W-765/-F-1M	56W	Frosted	M20	3716	Cool White, 6500K
LL48-60W-765/-C-1M	56W	Clear	M20	4380	Cool White, 6500K
LL48-60W-765/-F-1N	56W	Frosted	½" NPT	3716	Cool White, 6500K
LL48-60W-765/-C-1N	56W	Clear	½" NPT	4380	Cool White, 6500K

2L

5/7

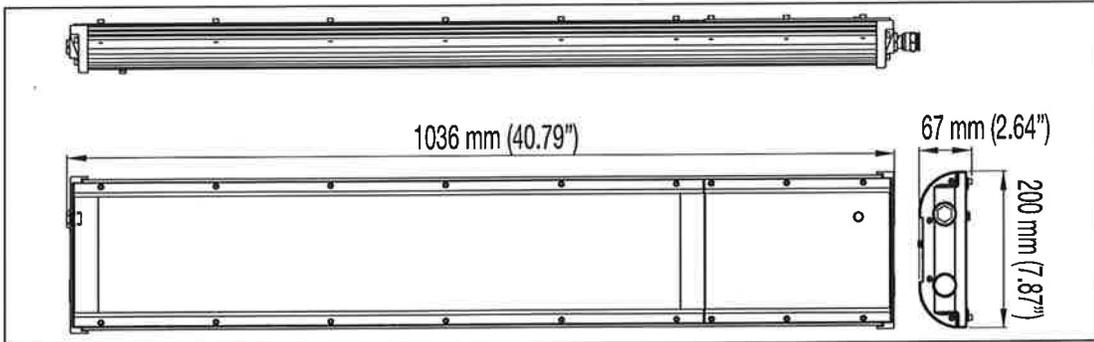
**LL48 Linear
LED Luminaires**

Cl. I, Div. 2, Groups A, B, C, D NEMA 4X; IP66
UL Listed Marine and Wet Locations
CSA Certified

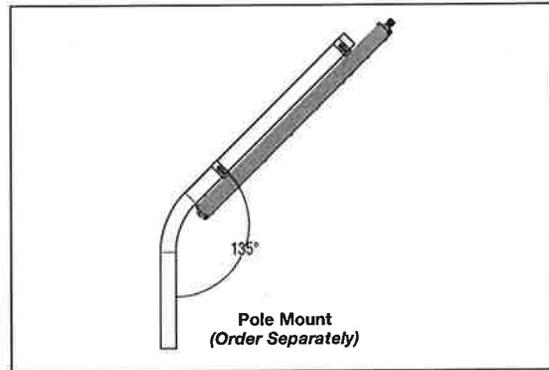
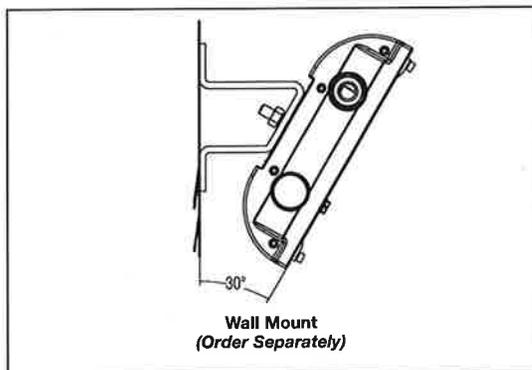
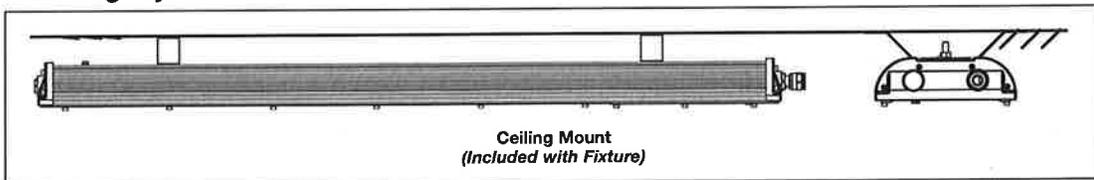
2L

For heavy industrial applications

Dimensions:



Mounting Styles:



2L

Mounting Ordering Information:

Cat. #	Description
12329778	Ceiling Mounting Bracket Kit
12329779	Clamp for Pole Mounting 1¼" Kit
12329900	Clamp for Pole Mounting 1½" Kit
12329901	Clamp for Pole Mounting 2" Kit
12329902	Luminaire Wall Suspension 27° Kit
12329903	Luminaire Wall Suspension 30° Kit

Photometrics:

- LM79 data available upon request

6/7

IESNA:LM-63-2002
 [TEST] 36827
 [TESTLAB] UL Verification Services
 [ISSUE DATE] 12/06/2012
 [MANUFAC] Cooper Crouse-Hinds LLC
 [LUMCAT] LL48-60W0765/C-1N
 [LUMINAIRE] N/A
 [LAMP] N/A
 [LAMP CAT] N/A. LUMINAIRE OUTPUT = 4235 LMS
 [OTHER] 120.0V, 0.4843A, 56.19W, PF=0.965
 TILT=NONE

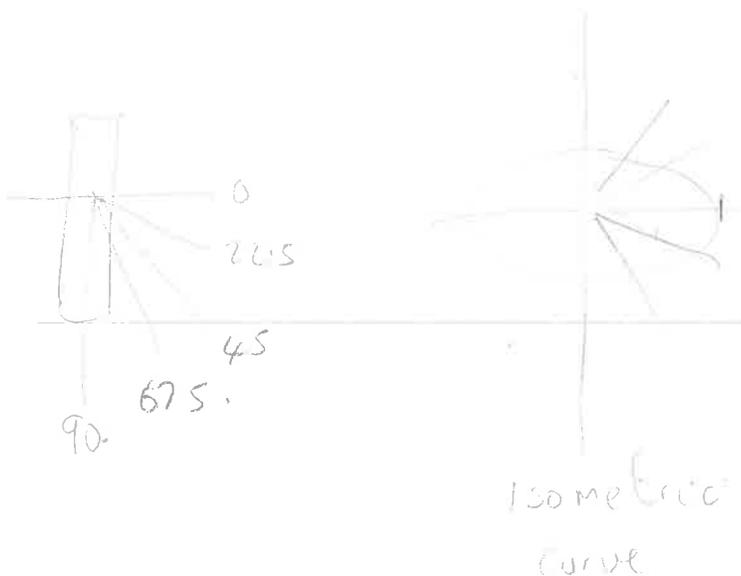
with clear lens

1
 -1
 1
 37
 5
 1
 1
 0.48
 2.38
 0.00
 1
 1
 56.2000
 0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25 27.5 30 32.5 35 37.5
 40 42.5 45 47.5 50 52.5 55 57.5 60 62.5 65 67.5 70 72.5 75
 77.5 80 82.5 85 87.5 90
 0 22.5 45 67.5 90

16
38
16
6

0	1935.6	1927.4	1941.1	1919.1	1943.1	1877.8	1863.8	1836.8	1801.9	1745.7
	1715.2	1655.3	1608.4	1543.6	1499.3	1428.1	1347.7	1267.2	1171.0	1083.2
	1003.2	918.5	827.1	744.8	663.2	565.5	485.8	408.2	320.3	219.9
	146.1	97.5	55.6	28.8	13.4	5.6	0.0			
22.5	1935.6	1939.1	1941.9	1928.9	1909.1	1928.5	1917.7	1936.6	1880.3	1807.2
	1772.5	1716.2	1622.1	1539.4	1461.1	1381.7	1307.7	1237.4	1134.1	1025.6
	941.8	848.3	764.7	680.0	597.5	508.0	424.8	352.2	279.2	208.4
	137.4	71.2	43.7	19.9	11.2	4.4	0.0			
45	1935.6	1947.8	1984.5	1988.8	2015.7	1961.7	1881.5	1818.8	1759.6	1692.4
	1631.8	1577.1	1510.9	1439.1	1373.8	1297.8	1229.2	1154.6	1071.8	988.1
	901.9	799.3	703.7	631.2	556.7	451.5	268.6	216.4	176.6	131.1
	68.6	28.0	22.5	16.5	9.9	3.4	0.0			
67.5	1935.6	1926.6	1946.6	1969.1	1938.5	1886.6	1818.6	1747.5	1706.1	1654.8
	1586.6	1534.2	1466.6	1404.2	1334.7	1259.1	1188.1	1111.6	1033.8	951.6
	869.8	794.5	622.5	393.3	331.1	300.6	253.9	200.5	127.4	43.6
	29.0	24.0	20.0	14.2	8.6	2.9	0.0			
90	1935.6	1913.6	1954.5	1942.8	1910.1	1847.7	1777.3	1738.7	1687.4	1627.7
	1579.1	1529.9	1462.8	1389.8	1313.9	1245.6	1173.9	1091.1	1015.0	935.2
	863.0	658.8	439.5	363.4	330.5	287.4	236.6	186.4	94.9	32.6
	27.9	22.9	19.0	13.2	8.2	2.8	0.0			

37pts



7/7

with frosted lens.

IESNA:LM-63-2002
 [TEST]36885
 [TESTLAB]UL Verification Services
 [ISSUEDATE]11/ 3/2011
 [MANUFAC]Cooper Crouse-Hinds LLC
 [LUMCAT]LL48-60W0765/F-1N
 [LUMINAIRE]N/A
 [LAMP]N/A
 [LAMPCAT]N/A. LUMINAIRE OUTPUT = 3690 LMS
 [OTHER]120.0V, 0.4768A, 55.45W, PF=0.969
 TILT=NONE

1
 -1
 1
 37
 5
 1
 1
 0.48
 2.58
 0.00
 1
 1
 55.5000
 0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25 27.5 30 32.5 35 37.5
 40 42.5 45 47.5 50 52.5 55 57.5 60 62.5 65 67.5 70 72.5 75
 77.5 80 82.5 85 87.5 90
 0 22.5 45 67.5 90

1624.9	1628.6	1621.7	1609.6	1593.1	1571.3	1545.0	1513.8	1477.8	1437.8
1395.3	1349.1	1299.3	1246.0	1189.9	1130.4	1068.3	1004.7	940.1	874.5
808.5	743.2	678.0	613.3	549.0	486.0	425.2	366.7	309.4	253.1
198.9	148.2	101.1	59.5	26.3	5.1	0.0			
1624.9	1626.0	1617.6	1603.8	1584.8	1560.8	1531.9	1497.6	1459.0	1417.0
1371.6	1322.9	1271.4	1216.4	1158.6	1097.8	1035.2	971.3	906.8	842.3
779.2	715.6	651.3	587.5	525.0	464.5	406.2	349.5	294.5	240.6
189.2	140.4	96.1	56.3	24.5	4.4	0.0			
1624.9	1625.8	1615.7	1599.2	1576.9	1549.2	1515.6	1476.6	1433.0	1385.8
1335.7	1283.1	1228.1	1170.6	1110.7	1048.9	985.6	921.1	857.8	794.2
731.0	668.5	607.2	546.3	486.8	429.0	373.3	319.8	268.4	218.6
170.0	123.9	82.9	46.9	19.2	3.7	0.0			
1624.9	1616.4	1604.2	1585.1	1560.5	1529.1	1491.9	1450.5	1405.6	1357.4
1306.0	1251.7	1195.2	1137.1	1077.5	1016.0	952.3	886.7	822.8	759.6
697.3	635.7	574.6	514.9	456.3	399.7	345.1	293.2	243.9	196.1
150.2	107.8	69.7	38.0	16.1	3.9	0.1			
1624.9	1607.8	1594.8	1575.1	1549.4	1517.2	1479.7	1437.8	1392.8	1344.2
1292.2	1238.2	1182.6	1124.8	1064.9	1002.7	938.8	873.2	808.6	744.8
681.7	619.8	559.1	499.5	440.8	384.0	330.8	280.5	232.2	185.2
140.7	100.4	64.4	35.4	15.1	4.0	0.1			

Type I



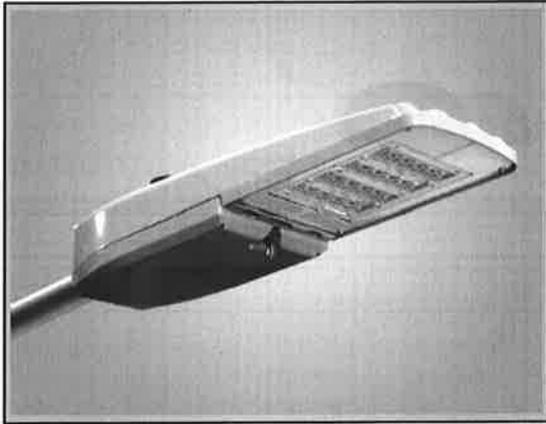
Consistent with LEED® goals & Green Globes™ criteria for light pollution reduction



DESIGNLIGHTS CONSORTIUM

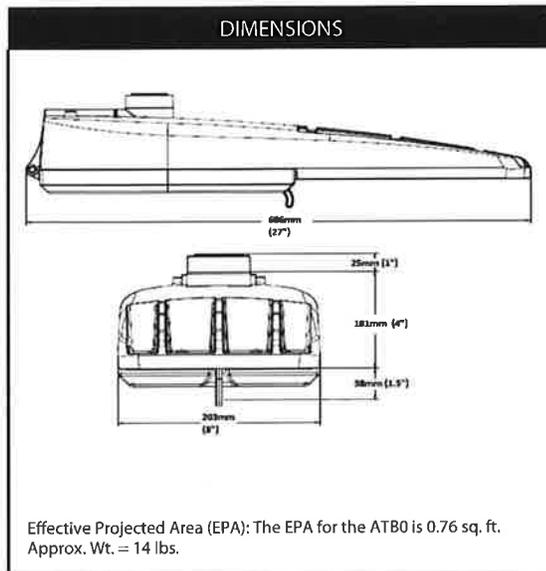
Autobahn Series ATB0 Roadway Lighting

PRODUCT OVERVIEW



Applications:

- Roadways
- Off ramps
- Residential streets
- Parking lots



Features:

OPTICAL

Same Light: Performance is comparable to 70-150W HPS roadway luminaires.

White Light: Correlated color temperature - standard 4000K, 70 CRI minimum or optional 5000K, 65 CRI minimum.

Unique IP66 rated LED light engines provided 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing. Available in Type II, III, IV, and V roadway distributions.

ELECTRICAL

Expected Life: LED light engines are rated >100,000 hours at 25°C, L70. Electronic driver has an expected life of 100,000 hours at a 25°C ambient.

Lower Energy: Saves an expected of 40-50% over comparable HPS platforms.

Robust Surge Protection: Acuity's proprietary SPD provides IEEE/ANSI C62.41 Category C (10kV/5kA) level of protection.

MECHANICAL

Includes standard AEL lineman-friendly features such as tool-less entry, tool-less NEMA photocontrol receptacle, terminal block and quick disconnects. Bubble level located inside the electrical compartment for easy leveling at installation.

Rugged die-cast aluminum housing is polyester powder-coated for durability and corrosion resistance. Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 1000 hours exposure to salt fog chamber (operated per ASTM B117). Optional Enhanced Corrosion Resistant finish (CR) increases the salt spray exposure to 5000 hours.

Mast arm mount adjustable for arms from 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter. Provides a 3G vibration rating per ANSI C136 Wildlife shield is cast into the housing (not a separate piece).

Die-cast trigger latch on doorframe allows for tool-less entry.

CONTROLS

NEMA photocontrol receptacle is standard with tool-less "lift and turn" receptacle.

Dimming version (available with DE and VE option) uses proprietary Acuity Brands components to enable continuous 0-10V dimming down to 10% output via the ROAM® smart controls system (sold separately).

Photocontrol for solid-state lighting (available with PCSS option) meets ANSI C136.10 criteria.

WARRANTY & STANDARDS

5 year limited warranty. Full warranty terms located at http://www.acuitybrands.com/Libraries/Terms_and_Conds/ABL_LED_Commercial_Outdoor.sflb.ashx

Rated for -40°C to 40°C ambient

CSA Certified to U.S. and Canadian standards

Complies with ANSI: C136.2, C136.10, C136.14, C136.31, C136.15, C136.37

1/5

Note: Specifications subject to change without notice. Acutal performance may differ as a result of end-user environment and application.

Autobahn Series ATB0

Roadway Lighting

ORDERING INFORMATION

Example: ATB0 20ALEDE70 MVOLT R2

ATB0	30 BLEDE10	M VOLT	R3
Series	Performance Packages	Voltage	Optics
ATB0 Autobahn LED Roadway, Small	20ALEDE35 20A Chips, 350 mA Driver 20ALEDE53 20A Chips, 525 mA Driver 20ALEDE70 20A Chips, 700 mA Driver 20BLEDE53 20B Chips, 525 mA Driver 20BLEDE70 20B Chips, 700 mA Driver 20BLEDE10 20B Chips, 1000 mA Driver 30BLEDE53 30B Chips, 525 mA Driver 30BLEDE70 30B Chips, 700 mA Driver → 30BLEDE10 30B Chips, 1000 mA Driver X	120 120V MVOLT Multi-volt, 120-277V X 347 347V 480 480V	R2 Roadway Type II X R3 Roadway Type III X R4 Roadway Type IIII R5 Roadway Type V

4000K
Options

Color Temperature (CCT)
 (blank) 4000K (standard)
 5K 5000K

Mounting
 (blank) 2-bolt Internal (standard)

Paint
 (blank) Gray (standard)
 GI Graphite
 BK Black
 BZ Bronze
 DDB Dark Bronze
 WH White
 UP Unpainted

Terminal Block
 (blank) Terminal Block (standard)
 T2 Wired to L1 and L2 Position

Misc.
 HS House-Side Shield
 BL External Bubble Level
 CR Enhanced Corrosion Resistant Finish
 NL Nema Label
 XL Not CSA Listed

Controls
 (blank) NEMA Photocontrol Receptacle (standard)
 NR¹ No Photocontrol Receptacle
 PCSS Solid State Lighting Photocontrol (120-277V)
 SH Shorting Cap
 DE² ROAM CONCIERGE Dimming Control (Not CSA certified at 347 and 480 volts)
 VE² ROAMVIEW Dimming Control (Not CSA certified at 347 and 480 volts)
 DM DM 0V - 10V dimmable driver

Notes:

1. Not available with PCSS, SH, DE, or VE
2. Specifies a ROAM dimming enabled fixture with a dimming control module factory installed. NEMA photocontrol receptacle required. Additional hardware and services required ROAM deployment must be purchased separately

2/5

Note: Specifications subject to change without notice. Actual performance may differ as a result of end-user environment and application.

Autobahn Series ATB0

Roadway Lighting

DESIGN DATA

DESIGN DATA

Performance Package	Drive Current (mA)	Input Watts	Optic	4000K CCT	
				Delivered Lumens	Efficacy (LPW)
20A	350	22	R2	2305	105
	525	35		3319	95
	700	48		4167	87
	350	22	R3	2331	106
	525	35		3356	96
	700	48		4213	88
	350	22	R4	2331	106
	525	35		3356	96
	700	48		4213	88
	350	22	R5	2433	111
	525	35		3503	100
	700	48		4125	86
20B	525	35	R2	3509	100
	700	47		4471	95
	1000	72		6193	86
	525	35	R3	3548	101
	700	47		4521	96
	1000	72		6261	87
	525	35	R4	3548	101
	700	47		4521	96
	1000	72		6261	87
	525	35	R5	3704	106
	700	47		4720	100
	1000	72		6537	91
30B	525	52	R2	5247	101
	700	70		6673	95
	1000	108		9233	85
	525	52	R3	5305	102
	700	70		6747	96
	1000	108		9336	86
	525	52	R4	5305	102
	700	70		6747	96
	1000	108		9336	83
	525	52	R5	5539	107
	700	70		7043	101
	1000	108		9746	83

3/5

Note: Information shown above is based on nominal system data. Individual fixture performance may vary. Specifications subject to change without notice.

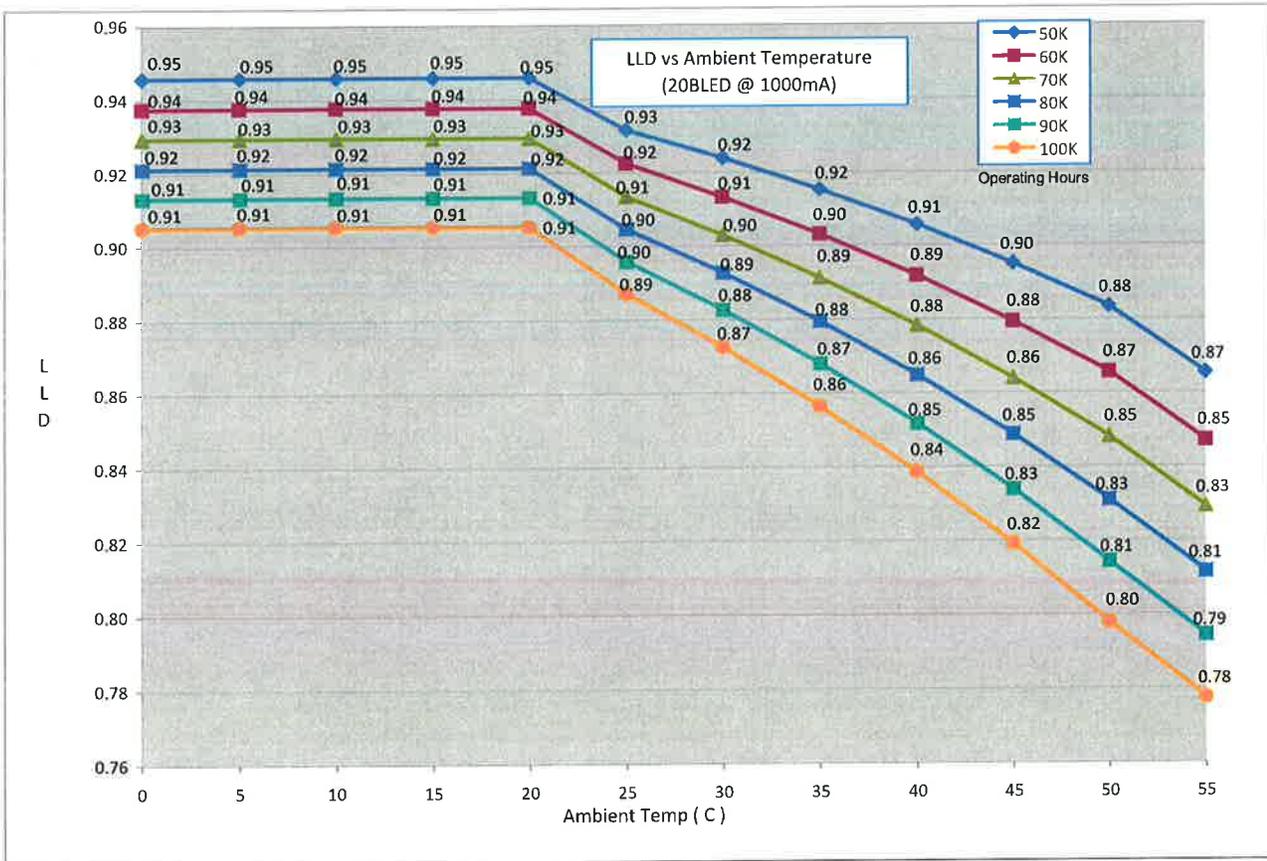


American Electric Lighting
Acuity Brands Lighting, Inc.
3825 Columbus Rd. S.W., Granville, OH 43023
Phone: 800-537-5710 Fax: 740-587-6114
www.americanelectriclighting.com

Autobahn Series ATB0

Roadway Lighting

DESIGN DATA



* LLD vs. temperature charts are based on LM-80 chip data and in-situ thermal test testing per IES TM-21

4/5

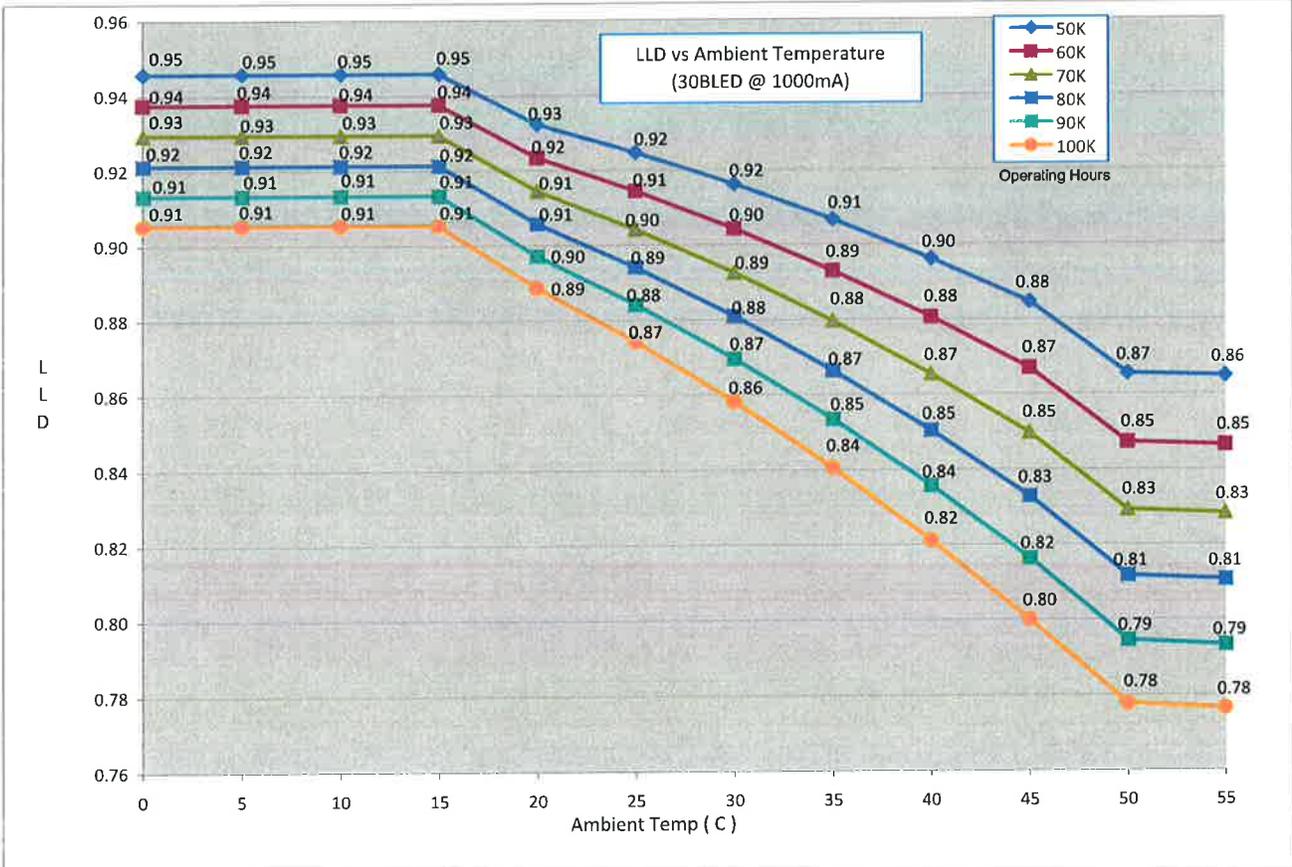
Note: Specifications subject to change without notice. Actual performance may differ as a result of end-user environment and application.



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www.americanelectriclighting.com

Autobahn Series ATB0 Roadway Lighting

DESIGN DATA



* LLD vs. temperature charts are based on LM-80 chip data and in-situ thermal test testing per IES TM-21

5/5

Note: Specifications subject to change without notice. Actual performance may differ as a result of end-user environment and application.



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Phone: 800-537-5710 Fax: 740-587-6114
www.americanelectricleighting.com



FEATURES & SPECIFICATIONS

INTENDED USE — Square straight steel pole for up to 39-foot mounting height.

CONSTRUCTION — Weldable-grade, hot-rolled, commercial-quality carbon steel tubing with a minimum yield of 55,000 psi (11-gauge), or 50,000 psi (7-gauge). Uniform wall thickness of .1196" or .1793". Shaft is one-piece with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4, 5 and 6 inches.

Anchor base is fabricated from hot-rolled carbon steel plate conforming to ASTM A36, that meets or exceeds a minimum-yield strength of 36,000 psi. Base plate and shaft are circumferentially welded top and bottom. Base cover is finished to match pole.

A handhole having nominal dimensions of 3" x 5" for all shafts. Included is a cover with attachment screws.

Top cap provided with all drill-mount and open top "PT" poles.

Fasteners are high-strength galvanized, zinc-plated or stainless steel.

Finish: Must specify finish.

Grounding: Provision located immediately inside handhole rim. Grounding hardware is not included (provided by others).

Anchor bolts: Top portion of anchor bolt is galvanized per ASTM A-153. Made of steel rod having a minimum yield strength of 55,000 psi.

Note: Specifications subject to change without notice.

Actual performance may differ as a result of end-user environment and application.

Type I 1

Catalog Number	SSS 20-4C
Notes	
Type	



Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: SSS 20 5C DM19 DDB

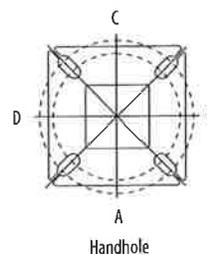
Series	Nominal fixture mounting height	Nominal shaft base size/wall thickness	Mounting ¹	Options	Finish ¹⁰	
SSS	10 – 39 feet (See back page.)	(See back page.)	<p><u>Tenon mounting</u></p> <p>PT Open top (includes top cap)</p> <p>T20 2-3/8" O.D. (2" NPS)</p> <p>T25 2-7/8" O.D. (2-1/2" NPS)</p> <p>T30 3-1/2" O.D. (3" NPS)</p> <p>T35 4" O.D. (3-1/2" NPS)</p> <p><u>Drill mounting²</u></p> <p>DM19 1 at 90°</p> <p>DM28 2 at 180°</p> <p>DM28 PL 2 at 180° with one side plugged</p> <p>DM29 2 at 90°</p> <p>DM39 3 at 90°</p> <p>DM49 4 at 90°</p> <p><u>CSX/DSX/AERIS™/OMERO™ Drill mounting²</u></p> <p>DM19AS 1 at 90°</p> <p>DM28AS 2 at 180°</p> <p>DM29AS 2 at 90°</p> <p>DM39AS 3 at 90°</p> <p>DM49AS 4 at 90°</p>	<p><u>AERIS™ Suspend drill mounting^{2,3}</u></p> <p>DM19AST_ 1 at 90°</p> <p>DM28AST_ 2 at 180°</p> <p>DM29AST_ 2 at 90°</p> <p>DM39AST_ 3 at 90°</p> <p>DM49AST_ 4 at 90°</p> <p><u>OMERO™ Suspend drill mounting^{2,3}</u></p> <p>DM19MRT_ 1 at 90°</p> <p>DM28MRT_ 2 at 180°</p> <p>DM29MRT_ 2 at 90°</p> <p>DM39MRT_ 3 at 90°</p> <p>DM49MRT_ 4 at 90°</p>	<p><u>Shipped installed</u></p> <p>L/AB Less anchor bolts</p> <p>VD Vibration damper</p> <p>TP Tamper proof</p> <p>H1-18Sxx Horizontal arm bracket (1 fixture)^{4,5}</p> <p>FDLxx Festoon outlet less electrical⁴</p> <p>CPL12xx 1/2" coupling⁴</p> <p>CPL34xx 3/4" coupling⁴</p> <p>CPL1xx 1" coupling⁴</p> <p>NPL12xx 1/2" threaded nipple⁴</p> <p>NPL34xx 3/4" threaded nipple⁴</p> <p>NPL1xx 1" threaded nipple⁴</p> <p>EHHxx Extra handhole^{4,6}</p> <p>MAEX Match existing⁷</p> <p>USPOM United States point of manufacture⁸</p> <p>IC Interior coating⁹</p>	<p><u>Standard colors</u></p> <p>DDB Dark bronze</p> <p>DWH White</p> <p>DBL Black</p> <p>DMB Medium bronze</p> <p>DNA Natural aluminum</p> <p><u>Classic colors</u></p> <p>DSS Sandstone</p> <p>DGC Charcoal gray</p> <p>DTG Tennis green</p> <p>DBR Bright red</p> <p>DSB Steel blue</p> <p><u>Architectural colors (powder finish)¹⁰</u></p>

NOTES:

- PT open top poles include top cap. When ordering tenon mounting and drill mounting for the same pole, follow this example: DM28/T20. The combination includes a required extra handhole.
- The drilling template to be used for a particular luminaire depends on the luminaire that is used. Refer to the Technical Data Section of the Outdoor Binder for Drilling Templates.
- Insert "1" or "2" to designate fixture size; e.g. DM19AST2.
- Specify location and orientation when ordering option.
For 1st "x": Specify the height in feet above base of pole.
Example: 5ft = 5 and 20ft = 20
For 2nd "x": Specify orientation from handhole (A,B,C,D)
Refer to the Handhole Orientation diagram above.

- Horizontal arm is 18" x 2-3/8" O.D. tenon standard.
- Combination of tenon-top and drill mount includes extra handhole.
- Must add original order number
- Use when mill certifications are required.
- Provides enhanced corrosion resistance.
- Additional colors available; see www.lithonia.com/archcolors or Architectural Colors brochure (Form No. 794.3). Powder finish standard.

HANDHOLE ORIENTATION



IMPORTANT INSTALLATION NOTES:

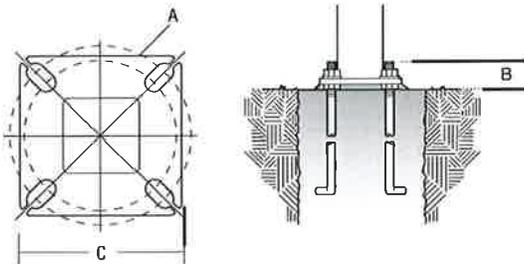
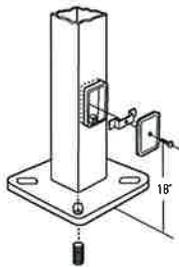
- Do not erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Lithonia Lighting is not responsible for the foundation design.

1/2

SSS Square Straight Steel Poles

TECHNICAL INFORMATION													
Catalog Number	Nominal mount ht. (ft)	Pole Shaft Size (in x ft)	Wall Thickness (in)	Gauge	EPA (ft ²) with 1.3 gust						Bolt Circle (in)	Bolt Size (in x in x in)	Approximate ship (lbs)
					80 mph	Max. weight	90 mph	Max. weight	100 mph	Max. weight			
SSS 10 4C	10	4.0 x 10.0	0.1196	11	30.6	765	23.8	595	18.9	473	8-9	3/4 x 18 x 3	75
SSS 12 4C	12	4.0 x 12.0	0.1196	11	24.4	610	18.8	470	14.8	370	8-9	3/4 x 18 x 3	90
SSS 14 4C	14	4.0 x 14.0	0.1196	11	19.9	498	15.1	378	11.7	293	8-9	3/4 x 18 x 3	100
SSS 16 4C	16	4.0 x 16.0	0.1196	11	15.9	398	11.8	295	8.9	223	8-9	3/4 x 18 x 3	115
SSS 18 4C	18	4.0 x 18.0	0.1196	11	12.6	315	9.2	230	6.7	168	8-9	3/4 x 18 x 3	125
SSS 20 4C	20	4.0 x 20.0	0.1196	11	9.6	240	6.7	167	4.5	150	8-9	3/4 x 18 x 3	140
SSS 20 4G	20	4.0 x 20.0	0.1793	7	14	350	11	275	8	200	8-9	3/4 x 30 x 3	198
SSS 20 5C	20	5.0 x 20.0	0.1196	11	17.7	443	12.7	343	9.4	235	10-12	1 x 36 x 4	185
SSS 20 5G	20	5.0 x 20.0	0.1793	7	28.1	703	21.4	535	16.2	405	10-12	1 x 36 x 4	265
SSS 25 4C	25	4.0 x 25.0	0.1196	11	4.8	150	2.6	100	1	50	8-9	3/4 x 18 x 3	170
SSS 25 4G	25	4.0 x 25.0	0.1793	7	10.8	270	7.7	188	5.4	135	8-9	3/4 x 30 x 3	245
SSS 25 5C	25	5.0 x 25.0	0.1196	11	9.8	245	6.3	157	3.7	150	10-12	1 x 36 x 4	225
SSS 25 5G	25	5.0 x 25.0	0.1793	7	18.5	463	13.3	333	9.5	238	10-12	1 x 36 x 4	360
SSS 30 4G	30	4.0 x 30.0	0.1793	7	6.7	168	4.4	110	2.6	65	8-9	3/4 x 30 x 3	295
SSS 30 5C	30	5.0 x 30.0	0.1196	11	4.7	150	2	50	--	--	10-12	1 x 36 x 4	265
SSS 30 5G	30	5.0 x 30.0	0.1793	7	10.7	267	6.7	167	3.9	100	10-12	1 x 36 x 4	380
SSS 30 6G	30	6.0 x 30.0	0.1793	7	19	475	13.2	330	9	225	11-13	1 x 36 x 4	520
SSS 35 5G	35	5.0 x 35.0	0.1793	7	5.9	150	2.5	100	--	--	10-12	1 x 36 x 4	440
SSS 35 6G	35	6.0 x 35.0	0.1793	7	12.4	310	7.6	190	4.2	105	11-13	1 x 36 x 4	540
SSS 39 6G	39	6.0 x 39.0	0.1793	7	7.2	180	3	75	--	--	11-13	1 x 36 x 4	605

BASE DETAIL



POLE DATA						
Shaft base size	Bolt circle A	Bolt projection B	Base square C	Template description	Anchor bolt description	Anchor bolt and template number
4"C	8-1/2"	2-3/4"-4"	8"	ABTEMPLATE PJ50004	AB18-0	ABSSS-4C
4"G	8-1/2"	2-3/4"-4"	8"	ABTEMPLATE PJ50004	AB30-0	ABSSS-4G
5"	10"-12"	3-3/8"-4"	11"	ABTEMPLATE PJ50010	AB36-0	ABSSS-5
6"	11"-13"	3-3/8"-4"	12-1/2"	ABTEMPLATE PJ50011	AB36-0	N/A

IMPORTANT:

• These specifications are intended for general purposes only. Lithonia reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.



Type 'I2'

Catalog Number	SMACST
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — For metal, fiberglass or concrete poles. Not for use with existing concrete poles.
CONSTRUCTION — Steel. Body is steel tube (per ASTM A-123) constructed from A500 Grade B steel. Welding follows industry standards best practices. Arms are painted or galvanized after fabrication. Must specify finish. Optional red primer paint finish available.
INSTALLATION — Mounting hardware and back-up plate for use with existing Lithonia Lighting standard drilling pattern are included. Installer to provide hardware for thru-bolting based on pole size and type. Drilling pattern in flat plate or channel plate matches Lithonia Lighting standard drill pattern, template #5.
WARRANTY — 1-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx
 Actual performance may differ as a result of end-user environment and application.
 Note: Specifications subject to change without notice.

Side Tenon

SMACST

STEEL (SMACST) SIDE TENON



(See next page for dimensions and drawings.)

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: SMACST T20-8 DDB

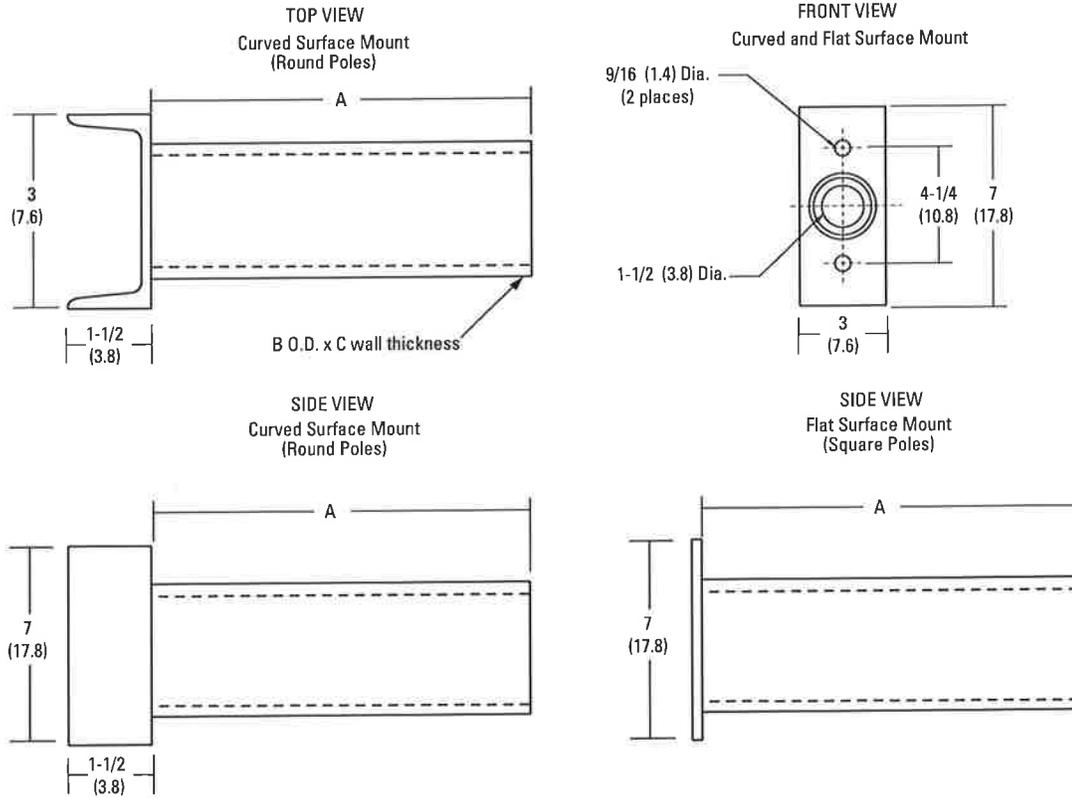
Series	Tenon size/Length ^{1,2}		Options		Finish ⁵
SMACST	T14	1-2/3" O.D. (1-1/4" NPS)	6	6" tenon length	<u>Standard colors</u> DDB Dark bronze DWH White DBL Black DNA Natural aluminum GALV Galvanized steel <u>Primer finish</u> DPRM Red primer <u>Architectural colors (powder finish)⁵</u>
	T20	2-3/8" O.D. (2" NPS)	8	8" tenon length)	

Notes

- Other tenon sizes available, consult factory.
- Other tenon lengths available, consult factory.
- Must add original order number.
- Use when mill certifications are required.
- Finish must be specified. Additional colors available; see www.lithonia.com/archcolors or the Architectural Colors brochure (Form No. 794.3).

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SMACST Side Tenon; Metal, Fiberglass or Concrete Poles



SMACST (Side Tenon)								
Lithonia Lighting Catalog Number	Nominal arm length (ft.)	Dimensions (in.)			Bracket weight (lbs)	Max. fixture EPA ft. @ 80 mph w/1.3 gusts	Max. fixture ft. weight (lbs.)	ANSI C136.3 (1995) class rating @80 mph
		A	B	C				
SMACST T14-6	1/2	6-1/2	1-2/3	.140	4	2.4	80	-
SMACST T14-8	2/3	8	1-2/3	.140	5	2.4	80	-
SMACST T20-6	1/2	6-1/2	2-3/8	.154	4	2.4	80	-
SMACST T20-8	2/3	8	2-3/8	.154	6	2.4	80	-

IMPORTANT:

- These specifications are intended for general purposes only. Lithonia Lighting reserves the right to change material or design, without prior notice, in a **continuing effort to upgrade its products.**

CAUTION:

- The arms described herein are designed for applications in areas of normal winds. Consult the factory prior to the design of systems to be mounted on structures such as bridges or buildings, or areas known to have abnormal winds such as airports or coastal areas. Failure to consider these factors in the system design could result in the failure of the pole or mast arm, and consequently personal injury or property damage.

2/2



POLE-SMACST

Type J, K, & L



Champ® VMV LED Series Luminaires

Leading the way in LED technology
for industrial and hazardous applications

Champ® VMV LED Series Luminaires

High-performance, high-brightness Champ® VMV LED luminaire – brilliantly combining safety, reliability and energy efficiency.

The world's most demanding environments need smart new lighting ideas and innovative approaches to enhancing safety. You need lighting that cuts the overall cost of ownership. Lighting that improves energy efficiency and lives up to ever-escalating environmental standards.

You need all of this innovation from a single source. It could only be: Cooper Crouse-Hinds®.

Introducing ESP solutions.



For more than 100 years, Cooper Crouse-Hinds has exceeded customer expectations when it comes to new ideas and technological advancements.

Today, as the electrical industry's global leader for hazardous environments, we continue to reach beyond the expected – especially with our commitment to **ESP (Engineering Safety & Productivity)**.

The problem that never happens. That's the goal behind ESP – smarter, more powerful solutions enhancing safety and productivity in your world.

Time to look at LEDs in a whole new light.

Dramatic advances in LED technology have broadened the applicability of this type of illumination, creating an exciting new option for hazardous, industrial and other highly demanding locations. Compared to traditional HID (high intensity discharge) technologies, LED light sources can deliver longer life, enhanced energy efficiency, greater eco-friendliness, lowered maintenance demands, and equal or better quality of light.

Innovative applications for this exciting technology are a natural fit for us, and LED lighting solutions have rapidly become an integral part of our vision.



Application 1

You're faced with high maintenance and operating costs within your petrochemical facility. In addition, frequent lamp failures pose a safety concern where continuous lighting is required. You're tasked with identifying a lighting solution that reduces ownership costs while maintaining similar or improved light levels.

Old Way:

Conventional 175 Watt metal halide luminaires are installed throughout the facility and operate continuously. Regular maintenance is required to replace burned-out lamps. Additionally, the high cost of energy is having an unfavorable impact on your operational budget.

New Way:

Install 78 Watt Champ® VMV LED Luminaires. Benefit immediately from the long life and energy-efficient LED light source. The Champ LED Luminaire is designed to easily adapt to existing mounting modules for ease of installation.

Benefit:

Realize a potential \$325K in energy and maintenance cost savings per year by making the change to Champ VMV LED. Receive positive PR from utilizing an eco-friendly light source that supports your corporate initiatives.

The Champ® VMV LED Series is a perfect example of Cooper Crouse-Hinds innovation.

Enhance safety and productivity
Reduce energy consumption

Cut overall cost of ownership
Meet rising environmental standards

Installation and replacement made simple

Modular design - This contractor-friendly design is ideal for both retrofit and new construction applications. These luminaires are installed in the same manner and use the same mounting modules as existing Champ® Series luminaires. The compact modular design of the VMVL allows for easy component replacement and future upgrade.



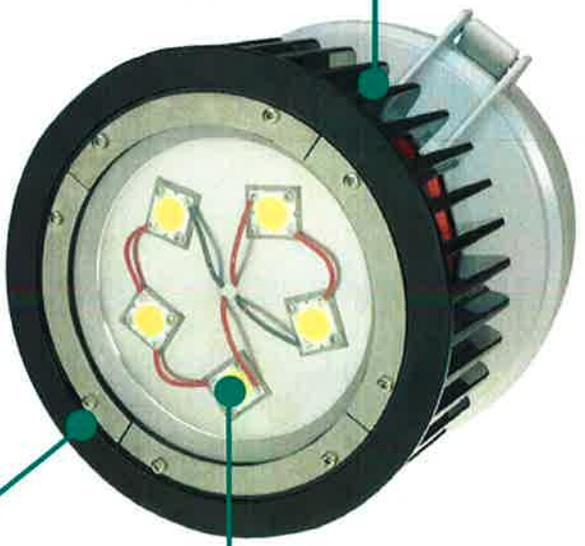
High efficiency and lumen output

Driver module assembly - High efficiency LED drivers are designed to provide reliable operation in even the harshest environments. Various AC and DC input voltage options are available to suit virtually any drive requirement.



Safe, reliable heat transfer

Heat sink - Die cast aluminum housing provides safe and effective heat transfer from the LED assembly to the outside environment, ensuring low LED junction temperature, reliability and sustained lumen performance. The vertical fin design facilitates air flow and dust shedding.

Type 4X rated

LED housing assembly - The LED housing is constructed of durable die cast aluminum, providing an efficient thermal path to the heat sink assembly. The impact-resistant lens is sealed from the outside environment and provides ingress protection against water and dust. Multi-die LED arrays are used to provide energy-efficient, long-life white light.

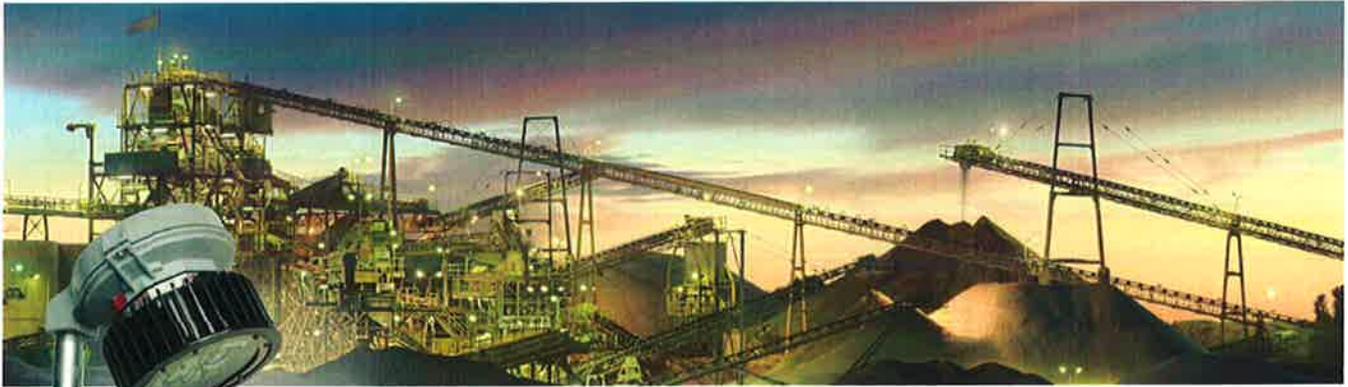


Options available

- Warm (W) and cool (C) white color temperatures available
- Wire guard (P3001)
- Diffuse lens (suffix S891)
- Teflon coating (suffix S896)
- Polycarbonate lens (suffix S903)

Champ® VMV LED Series Luminaires

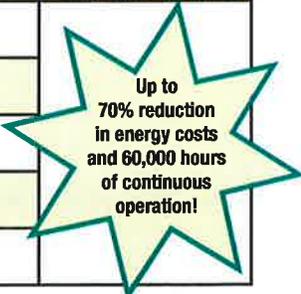
Champ® VMV LED offers new solutions for old challenges.



It is a new era for Champ® luminaires. This luminaire provides the same durability and reliability of a traditional Champ luminaire, coupled with the low cost of ownership and energy efficiency of Cooper Crouse-Hinds LED technology. High-performance LEDs and a solid-state electronic driver provide light where you need it, at a fraction of the operating cost of HID technologies.

THE CHAMP VMV LED FAMILY

VMV LED Series Luminaires are designed to provide full-spectrum, crisp, white light with a true IES type V distribution. Five versions of the Champ VMV LED are available, providing ideal solutions for a wide range of applications.

Champ Model	Equivalent HID Luminaire	Typical Energy Savings / Lifetime
VMV3L	70W-100W	 <p>Up to 70% reduction in energy costs and 60,000 hours of continuous operation!</p>
VMV5L	100W-150W	
VMV7L	150W-175W	
VMV9L	175W-200W	
VMV11L	200W-400W	



LED SYSTEM

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) where a warmer color is preferred and 5600K (CRI 65) where a cooler color is required
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions
- Array complies with requirements of IEC LM-80

APPLICATIONS

- Five lumen outputs allow for installation in numerous mounting heights
- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Areas requiring frequent on-and-off of lights
- Where flammable vapors, gases, ignitable dusts, fibers or flyings are present; indoors or outdoors
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Type 4X, marine, wet locations, and hose-down environments
- Manufacturing plants; heavy industrial, chemical, petrochemical, or pharmaceutical facilities; food and beverage facilities; mining; platforms; loading docks; tunnels; outdoor wall and stanchion mounted general area lighting

DRIVERS

Model	3L - 9L	11L
Standard	90-305 VAC, 50/60 Hz; 108-250 VDC	100-240, 277 VAC
Option 1	347 VAC Model	347 VAC Kit Available
Option 2	480 VAC Model	480 VAC Kit Available

CHAMP VMV LED BENEFITS

Enhance safety and productivity

- Instant illumination and restrike
- Better visibility with crisp, white light
- T5 temperature rating – safely operate in the most hazardous environments
- Cold temperature operation / no warm-up required
- “No lights-out” feature – if a single LED fails, circuit provides enough useable light to remaining LEDs

Reduce operation and maintenance costs

- Easy installation – compact modular fixture attaches onto existing Champ mounting module
- Energy-efficient technology – use up to 30% the power of standard HID luminaires
- Provides up to 60,000 hours rated life – eliminates need for frequent lamp replacement
- Contains no mercury or other hazardous substances

Reliable performance in any environment

- Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break – greatly reduces the risk of premature failure
- Operating ambient -40°C to 55°C* (3L-9L)
- Dark sky compliant

STANDARD MATERIALS

- Lamp housing and adapter – die cast aluminum with Corro-free™ epoxy powder coat
- Lens – heat- and impact-resistant glass
- Gaskets – silicone
- External hardware – stainless steel
- Factory-sealed, no external seals required

*11L operating ambient -40°C to 40°C.

CERTIFICATIONS & COMPLIANCES

NEC and CEC

- Class I, Division 2, Groups A, B, C, D ✕
- Class I, Zone 2
- Class II, Groups E, F, G
- Class III
- Simultaneous Presence
- Wet Locations, Type 4X, IP66

UL Standards

- UL844
- UL1598 Luminaires, UL1598A Marine

CSA Standard

- CSA C22.2 No. 137



IECEx/ATEX

- Ex II 3 G Ex nA II (T4 at 55°C)
- Ex II 3 G Ex nA II (T5 at 40°C)
- EN60079-0:2006, EN60079-15:2006

OPTIONS

Suffix to add to Catalog No.

- Wire guard** with captive mounting hardware (NEC version only) **P3001**
- Trunnion mount** with redundant pin locking mechanism (NEC version only) **S812 K1**
- Quick Clip** for quick installation **S890**
- Diffuse lens** reduces glare in applications where the user may have direct visual contact with the light source . . **S891**
- Teflon coating** on lens for additional shatter protection (NEC version only) **S896**
- Polycarbonate lens** available in applications where glass is prohibited (NEC version only) **S903**

ACCESSORIES (ORDER SEPARATELY)

Catalog No. Sold Separately

- Photocell, 120V, 50/60 Hz (NEC version only) **D2S20**
- Photocell, 208V-277V (NEC version only) **D2S208 277**

ELECTRICAL RATINGS

	VMV3L	VMV5L	VMV7L	VMV9L	VMV11L
Voltage Range, VAC	100-277V	100-277V	100-277V	100-277V	100-240, 277V
Frequency	50/60 Hz				
Input Power	46 Watts	60 Watts	78 Watts	94 Watts	134 Watts
Input Amps (Max.)	0.5	0.7	0.8	0.98	1.7
Voltage Range, VDC	108-250	108-250	108-250	108-250	Not Available
Power Factor	>0.90	>0.90	>0.90	>0.90	>0.90

Champ® VMV LED Series Luminaires

ORDERING INFORMATION - NEC AND CEC

MOUNTING STYLE	3L SERIES	5L SERIES	7L SERIES	9L SERIES	11L SERIES
Luminaire Less Mounting Module	VMV3LDM2/UNV1	VMV5LDM2/UNV1	VMV7LDM2/UNV1	VMV9LDM2/UNV1	VMV11LDM1/UNV
¾" Pendant	VMV3L2ADM2/UNV1	VMV5L2ADM2/UNV1	VMV7L2ADM2/UNV1	VMV9L2ADM2/UNV1	VMV11L2ADM1/UNV
1" Pendant	VMV3L3ADM2/UNV1	VMV5L3ADM2/UNV1	VMV7L3ADM2/UNV1	VMV9L3ADM2/UNV1	VMV11L3ADM1/UNV
¾" Cone Pendant	VMV3L2BDM2/UNV1	VMV5L2BDM2/UNV1	VMV7L2BDM2/UNV1	VMV9L2BDM2/UNV1	VMV11L2BDM1/UNV
1" Cone Pendant	VMV3L3BDM2/UNV1	VMV5L3BDM2/UNV1	VMV7L3BDM2/UNV1	VMV9L3BDM2/UNV1	VMV11L3BDM1/UNV
¾" Flexible Pendant	VMV3L2HADM2/UNV1	VMV5L2HADM2/UNV1	VMV7L2HADM2/UNV1	VMV9L2HADM2/UNV1	VMV11L2HADM1/UNV
¾" Ceiling Mount Thru Feed	VMV3L2CDM2/UNV1	VMV5L2CDM2/UNV1	VMV7L2CDM2/UNV1	VMV9L2CDM2/UNV1	VMV11L2CDM1/UNV
1" Ceiling Mount Thru Feed	VMV3L3CDM2/UNV1	VMV5L3CDM2/UNV1	VMV7L3CDM2/UNV1	VMV9L3CDM2/UNV1	VMV11L3CDM1/UNV
¾" Wall Mount Thru Feed	VMV3L2TWDM2/UNV1	VMV5L2TWDM2/UNV1	VMV7L2TWDM2/UNV1	VMV9L2TWDM2/UNV1	VMV11L2TWDM1/UNV
1" Wall Mount Thru Feed	VMV3L3TWDM2/UNV1	VMV5L3TWDM2/UNV1	VMV7L3TWDM2/UNV1	VMV9L3TWDM2/UNV1	VMV11L3TWDM1/UNV
1 ½" Stanchion 25°	VMV3LJDM2/UNV1	VMV5LJDM2/UNV1	VMV7LJDM2/UNV1	VMV9LJDM2/UNV1	VMV11LJDM1/UNV
1 ½" Stanchion	VMV3LPDM2/UNV1	VMV5LPDM2/UNV1	VMV7LPDM2/UNV1	VMV9LPDM2/UNV1	VMV11LPDM1/UNV

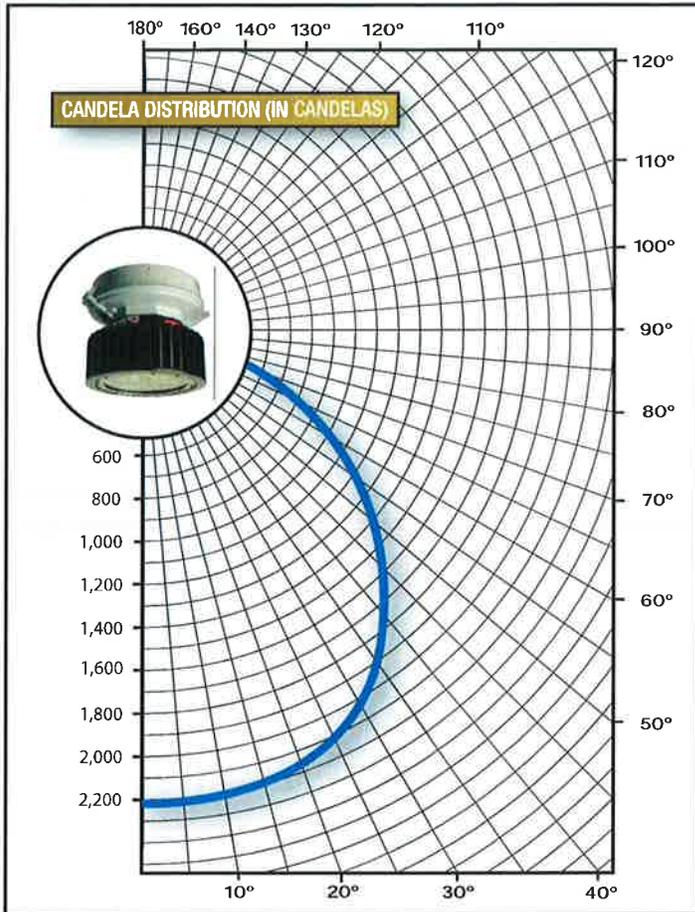
For 347 VAC option, replace DM2/UNV1 with DM3/347. For 480 VAC option, replace DM2/UNV1 with DM4/480. **NOTE: Requires additional enclosure for use with 11L series.** For warm white color temperature, use W designation after luminaire style (Example: VMV3LWDM2/UNV1). **NOTE: Not available for 9L series.**

ORDERING INFORMATION - IECEx/ATEX

MOUNTING STYLE	3L SERIES	5L SERIES	7L SERIES	9L SERIES	11L SERIES
Luminaire Less Mounting Module	NVMV3LDM1/UNV	NVMV5LDM1/UNV	NVMV7LDM1/UNV	NVMV9LDM1/UNV	NVMV11LDM1/UNV
¾" Pendant	NVMV3L2ADM1/UNV	NVMV5L2ADM1/UNV	NVMV7L2ADM1/UNV	NVMV9L2ADM1/UNV	NVMV11L2ADM1/UNV
1" Pendant	NVMV3L3ADM1/UNV	NVMV5L3ADM1/UNV	NVMV7L3ADM1/UNV	NVMV9L3ADM1/UNV	NVMV11L3ADM1/UNV
¾" Flexible Pendant	NVMV3L2HADM1/UNV	NVMV5L2HADM1/UNV	NVMV7L2HADM1/UNV	NVMV9L2HADM1/UNV	NVMV11L2HADM1/UNV
¾" Ceiling Mount Thru Feed	NVMV3L2CDM1/UNV	NVMV5L2CDM1/UNV	NVMV7L2CDM1/UNV	NVMV9L2CDM1/UNV	NVMV11L2CDM1/UNV
1" Ceiling Mount Thru Feed	NVMV3L3CDM1/UNV	NVMV5L3CDM1/UNV	NVMV7L3CDM1/UNV	NVMV9L3CDM1/UNV	NVMV11L3CDM1/UNV
¾" Wall Mount Thru Feed	NVMV3L2TWDM1/UNV	NVMV5L2TWDM1/UNV	NVMV7L2TWDM1/UNV	NVMV9L2TWDM1/UNV	NVMV11L2TWDM1/UNV
1" Wall Mount Thru Feed	NVMV3L3TWDM1/UNV	NVMV5L3TWDM1/UNV	NVMV7L3TWDM1/UNV	NVMV9L3TWDM1/UNV	NVMV11L3TWDM1/UNV
1 ½" Stanchion 25°	NVMV3LJDM1/UNV	NVMV5LJDM1/UNV	NVMV7LJDM1/UNV	NVMV9LJDM1/UNV	NVMV11LJDM1/UNV
1 ½" Stanchion	NVMV3LPDM1/UNV	NVMV5LPDM1/UNV	NVMV7LPDM1/UNV	NVMV9LPDM1/UNV	NVMV11LPDM1/UNV

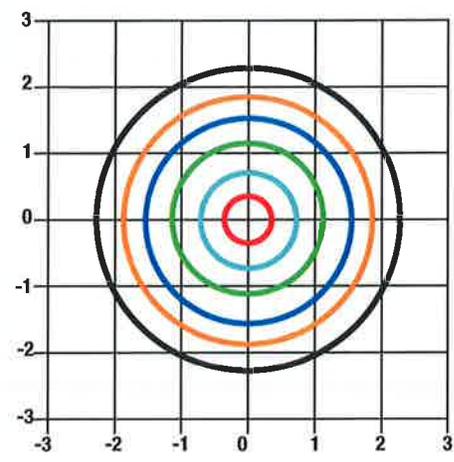
6/13

Champ® LED 78 Watt* - VMV7L

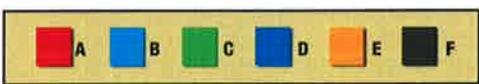


CANDELAS		ZONAL LUMENS		
VERTICAL ANGLE	FRONT SIDE	ZONE	WITH LUMENS	% LUMEN
0	2245	0-10	212	4%
5	2234	10-20	612	10%
15	2167	20-30	941	15%
25	2041	30-40	1155	18%
35	1846	40-50	1207	19%
45	1566	50-60	1077	17%
55	1207	60-70	764	12%
65	775	70-80	286	5%
75	251	80-90	13	0%
85	0	90-100	0	0%
90	0	100-120	0	0%
		Total	6267	100%

DISTANCE TO MOUNTING HEIGHT
Isofootcandle chart shows illuminance in footcandles at ground level



ISOFOOTCANDLE CHART
Footcandle Values for Isofootcandle Lines



Mtg. Hgt.	A	B	C	D	E	F
8'	31.25	15.63	7.81	3.13	1.56	0.78
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

LUMEN OUTPUT FOR CHAMP® LED LUMINAIRES

Luminaire Series	System Watts	Lumens
VMV3L	46	3748
VMV5L	60	4654
VMV7L	78	6267
VMV9L	94	7082
VMV11L	134	8880

*Testing performed in accordance with IES LM-79-08.

Champ® VMV LED Series Luminaires

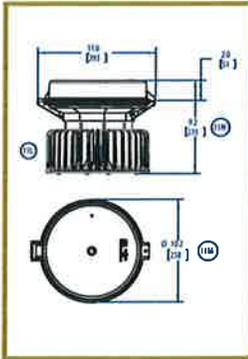
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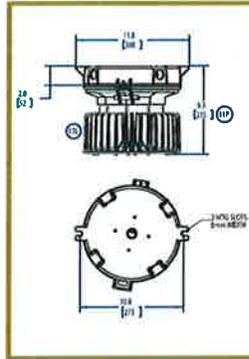
Engineering
Safety &
Productivity

DIMENSIONS

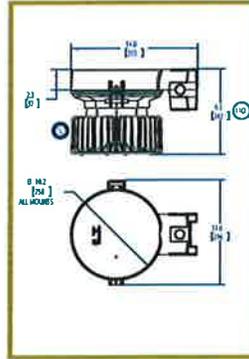
PENDANT



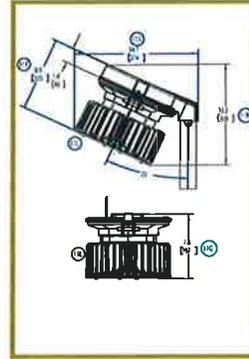
CEILING



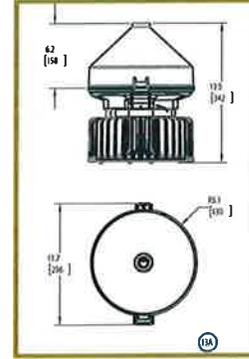
WALL



STANCHION



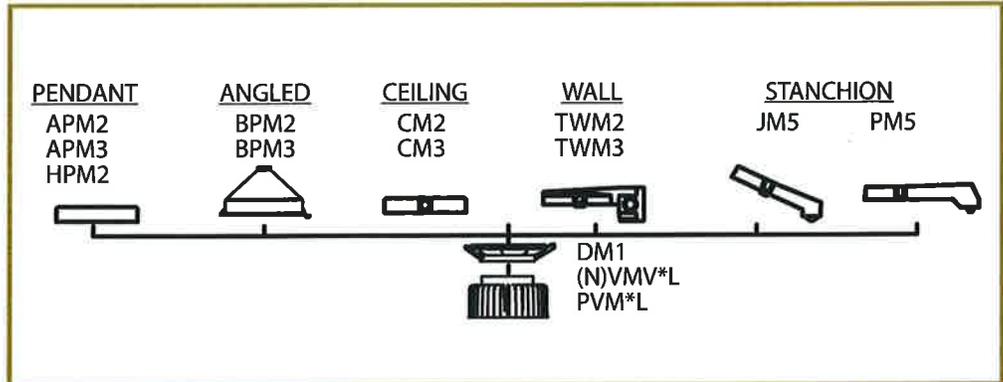
CONE PENDANT



WEIGHTS

NET LUMINAIRE WEIGHT	17.8 lb.	8.07 kg.
Mounting Module (lb.)		
Pendant	1.25	0.57
Cone Pendant	4.00	1.81
Flexible Pendant	1.50	0.68
Ceiling	2.75	1.25
Wall	4.50	2.04
Angle Stanchion	3.50	1.59
Straight Stanchion	4.50	2.04

FAMILY TREE



AMBIENT TEMPERATURE

	MAX. TEMP. °C	CL. I, DIV. 2	CL. II, DIV. 1 & 2 / CL. III / SIM. PRES.	CL. I, ZONE 2
VMV3L	40	T5	T4A	T5
	55	T4A	T4	T4
VMV5L	40	T5	T4A	T5
	55	T4A	T4	T4
VMV7L	40	T5	T4A	T5
	55	T4A	T4	T4
VMV9L	40	T5	T4A	T5
	55	T4A	T4	T4
VMV11L	40	T4	T4	T4

For our complete portfolio of LED products, please visit www.follow-the-LEDer.com



Cooper US, Inc.
600 Travis Street, Suite 5600
Houston, TX 77002-1001
P: 713-209-8400
www.cooperindustries.com

Champ® VMV LED Series Luminaires

Improve safety, reliability and energy efficiency

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

UL Listed & CSA Certified
IECEX / ATEX
Simultaneous Presence
Wet Location, Type 4X, IP66

2L

It is a new era for Champ® luminaires. This luminaire provides the same durability and reliability of a traditional Champ luminaire, coupled with the low cost of ownership and energy efficiency of Cooper Crouse-Hinds LED technology. High-performance LEDs and a solid-state electronic driver provide light where you need it, at a fraction of the operating cost of HID technologies.

The Champ VMV LED Family

VMV LED Series Luminaires are designed to provide full-spectrum, crisp, white light with a true IES type V distribution. Five versions of the Champ VMV LED are available, providing ideal solutions for a wide range of applications.

Champ Model	Equivalent HID Luminaire	Typical Energy Savings / Lifetime
VMV3L	70W-100W	Up to 70% reduction in energy costs and 60,000 hours of continuous operation!
VMV5L	100W-150W	
VMV7L	150W-175W	
VMV9L	175W-200W	
VMV11L	200W-400W	

Applications:

- Five lumen outputs allow for installation in numerous mounting heights
- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Areas requiring frequent on-and-off of lights
- Where flammable vapors, gases, ignitable dusts, fibers or flyings are present; indoors or outdoors
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Type 4X, marine, wet locations, and hose-down environments
- Manufacturing plants; heavy industrial, chemical, petrochemical or pharmaceutical facilities; food and beverage facilities; mining; platforms; loading docks; tunnels; indoor/outdoor spot lighting; outdoor wall and stanchion mounted general area lighting

Drivers:

Model	3L - 9L	11L
Standard	90-305 VAC, 50 / 60 Hz; 108-250 VDC	100-240, 277 VAC
Option 1	347 VAC Model	347 VAC Kit Available
Option 2	480 VAC Model	480 VAC Kit Available

Electrical Ratings:

	VMV3L	VMV5L	VMV7L	VMV9L	VMV11L
Voltage Range, VAC	100-277V	100-277V	100-277V	100-277V	100-240, 277V
Frequency	50 / 60 Hz				
Input Power	46 Watts	60 Watts	78 Watts	94 Watts	134 Watts
Input Amps (Max.)	0.5	0.7	0.8	0.98	1.7
Voltage Range, VDC	108-250	108-250	108-250	108-250	Not Available
Power Factor	>0.90	>0.90	>0.90	>0.90	>0.90

Champ VMV LED Benefits:

Enhance safety and productivity

- Instant illumination and restrike
- Better visibility with crisp, white light
- T5 temperature rating – safely operate in the most hazardous environments
- Cold temperature operation / no warm-up required
- "No lights-out" feature – if a single LED fails, circuit provides enough useable light to remaining LEDs

Reduce operation and maintenance costs

- Easy installation - compact modular fixture attaches onto existing Champ mounting module
- Energy-efficient technology – use up to 30% the power of standard HID luminaires
- Provides up to 60,000 hours rated life – eliminates need for frequent lamp replacement
- Contains no mercury or other hazardous substances

Reliable performance in any environment

- Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break – greatly reduces the risk of premature failure
- Operating ambient -40°C to 55°C* (3L-9L)
- Dark sky compliant

*11L operating ambient -40°C to 40°C.

Certifications and Compliances:

- DesignLights Consortium® approved for select models (refer to Ordering Information for details)

NEC

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2
- Class II, Groups E, F, G
- Class III
- Simultaneous Presence
- Wet Locations, Type 4X, IP66



UL Standards

- UL844
- UL1598 Luminaires, UL1598A Marine

CSA Standard

- CSA C22.2 No. 137

IECEX/ATEX

- Ex II 3 G Ex nA II (T4 at 55°C)
- Ex II 3 G Ex nA II (T5 at 40°C)
- EN60079-0:2006, EN60079-15:2006

Standard Materials:

- Lamp housing and adapter – die cast aluminum with Corro-free™ epoxy powder coat
- Lens – heat- and impact-resistant glass
- Gaskets – silicone
- External hardware – stainless steel
- Factory-sealed, no external seals required

LED System:

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) where a warmer color is preferred and 5600K (CRI 65) where a cooler color is required
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions
- Array complies with requirements of IEC LM-80

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2L Champ® VMV LED Series Luminaires

Improve safety, reliability and energy efficiency

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

UL Listed & CSA Certified
IECEx / ATEX
Simultaneous Presence
Wet Location, Type 4X, IP66

Installation and replacement made simple

Modular design - This contractor-friendly design is ideal for both retrofit and new construction applications. These luminaires are installed in the same manner and use the same mounting modules as existing Champ® Series luminaires. The compact modular design of the VMVL allows for easy component replacement and future upgrade.



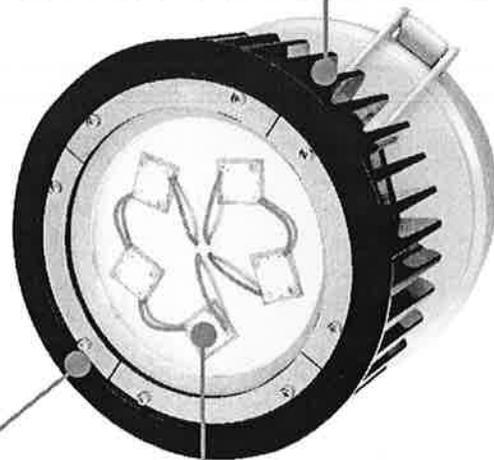
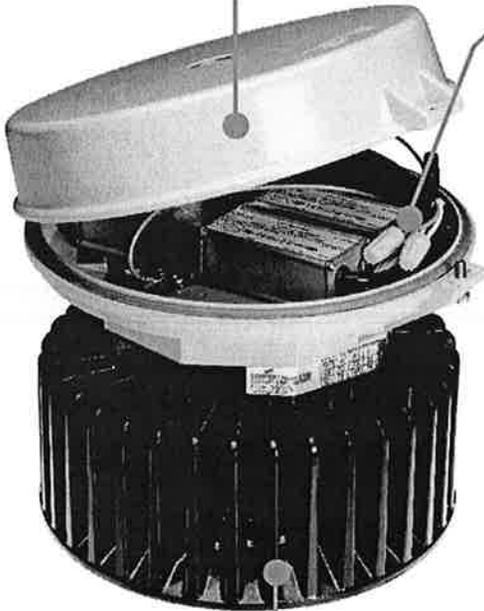
High efficiency and lumen output

Driver module assembly - High efficiency LED drivers are designed to provide reliable operation in even the harshest environments. Various AC and DC input voltage options are available to suit virtually any drive requirement.



Safe, reliable heat transfer

Heat sink - Die cast aluminum housing provides safe and effective heat transfer from the LED assembly to the outside environment, ensuring low LED junction temperature, reliability and sustained lumen performance. The vertical fin design facilitates air flow and dust shedding.



Type 4X rated

LED housing assembly - The LED housing is constructed of durable die cast aluminum, providing an efficient thermal path to the heat sink assembly. The impact-resistant lens is sealed from the outside environment and provides ingress protection against water and dust. Multi-die LED arrays are used to provide energy-efficient, long-life white light.



Options available

Warm (W) and cool (C) white color temperatures available
Wire guard (P3001)
Diffuse lens (suffix S891)
Teflon coating (suffix S896)
Polycarbonate lens (suffix S903)

2L

Champ® VMV LED Series Luminaires

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

UL Listed & CSA Certified
IECEX / ATEX
Simultaneous Presence
Wet Location, Type 4X, IP66

2L

**Improve safety, reliability
and energy efficiency**

Ordering Information - NEC and CEC:

Mounting Style	3L Series†	5L Series†	7L Series†	9L Series†	11L Series†
Luminaire Less Mounting Module	VMV3LDM2/UNV1	VMV5LDM2/UNV1	VMV7LDM2/UNV1	VMV9LDM2/UNV1	VMV11LDM1/UNV
¾" Pendant	VMV3L2ADM2/UNV1	VMV5L2ADM2/UNV1	VMV7L2ADM2/UNV1	VMV9L2ADM2/UNV1	VMV11L2ADM1/UNV
1" Pendant	VMV3L3ADM2/UNV1	VMV5L3ADM2/UNV1	VMV7L3ADM2/UNV1	VMV9L3ADM2/UNV1	VMV11L3ADM1/UNV
¾" Cone Pendant	VMV3L2BDM2/UNV1	VMV5L2BDM2/UNV1	VMV7L2BDM2/UNV1	VMV9L2BDM2/UNV1	VMV11L2BDM1/UNV
1" Cone Pendant	VMV3L3BDM2/UNV1	VMV5L3BDM2/UNV1	VMV7L3BDM2/UNV1	VMV9L3BDM2/UNV1	VMV11L3BDM1/UNV
¾" Flexible Pendant	VMV3L2HADM2/UNV1	VMV5L2HADM2/UNV1	VMV7L2HADM2/UNV1	VMV9L2HADM2/UNV1	VMV11L2HADM1/UNV
¾" Ceiling Mount Thru Feed	VMV3L2CDM2/UNV1	VMV5L2CDM2/UNV1	VMV7L2CDM2/UNV1	VMV9L2CDM2/UNV1	VMV11L2CDM1/UNV
1" Ceiling Mount Thru Feed	VMV3L3CDM2/UNV1	VMV5L3CDM2/UNV1	VMV7L3CDM2/UNV1	VMV9L3CDM2/UNV1	VMV11L3CDM1/UNV
¾" Wall Mount Thru Feed	VMV3L2TWDM2/UNV1	VMV5L2TWDM2/UNV1	VMV7L2TWDM2/UNV1	VMV9L2TWDM2/UNV1	VMV11L2TWDM1/UNV
1" Wall Mount Thru Feed	VMV3L3TWDM2/UNV1	VMV5L3TWDM2/UNV1	VMV7L3TWDM2/UNV1	VMV9L3TWDM2/UNV1	VMV11L3TWDM1/UNV
1½" Stanchion 25°	VMV3LJDM2/UNV1	VMV5LJDM2/UNV1	VMV7LJDM2/UNV1	VMV9LJDM2/UNV1	VMV11LJDM1/UNV
1½" Stanchion	VMV3LPDM2/UNV1	VMV5LPDM2/UNV1	VMV7LPDM2/UNV1	VMV9LPDM2/UNV1	VMV11LPDM1/UNV

†DesignLights Consortium® approved models. Cool white only, 3L through 9L models approved at 120V only. For 120 VAC option, replace DM2/UNV1 with DM2/120°. 11L model approved at 120-277V.
For 347 VAC option, replace DM2/UNV1 with DM3/347. For 480 VAC option, replace DM2/UNV1 with DM4/480. **NOTE: Requires additional enclosure for use with 11L series.**

For warm white color temperature, use W designation after luminaire style (Example: VMV3LWDM2/UNV1). **NOTE: Not available for 9L series.**

*5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Cooper Crouse-Hinds standard Terms and Conditions.

Ordering Information - IECEx and ATEX:

Mounting Style	3L Series	5L Series	7L Series	9L Series	11L Series
Luminaire Less Mounting Module	NVMV3LDM1/UNV	NVMV5LDM1/UNV	NVMV7LDM1/UNV	NVMV9LDM1/UNV	NVMV11LDM1/UNV
¾" Pendant	NVMV3L2ADM1/UNV	NVMV5L2ADM1/UNV	NVMV7L2ADM1/UNV	NVMV9L2ADM1/UNV	NVMV11L2ADM1/UNV
1" Pendant	NVMV3L3ADM1/UNV	NVMV5L3ADM1/UNV	NVMV7L3ADM1/UNV	NVMV9L3ADM1/UNV	NVMV11L3ADM1/UNV
¾" Flexible Pendant	NVMV3L2HADM1/UNV	NVMV5L2HADM1/UNV	NVMV7L2HADM1/UNV	NVMV9L2HADM1/UNV	NVMV11L2HADM1/UNV
¾" Ceiling Mount Thru Feed	NVMV3L2CDM1/UNV	NVMV5L2CDM1/UNV	NVMV7L2CDM1/UNV	NVMV9L2CDM1/UNV	NVMV11L2CDM1/UNV
1" Ceiling Mount Thru Feed	NVMV3L3CDM1/UNV	NVMV5L3CDM1/UNV	NVMV7L3CDM1/UNV	NVMV9L3CDM1/UNV	NVMV11L3CDM1/UNV
¾" Wall Mount Thru Feed	NVMV3L2TWDM1/UNV	NVMV5L2TWDM1/UNV	NVMV7L2TWDM1/UNV	NVMV9L2TWDM1/UNV	NVMV11L2TWDM1/UNV
1" Wall Mount Thru Feed	NVMV3L3TWDM1/UNV	NVMV5L3TWDM1/UNV	NVMV7L3TWDM1/UNV	NVMV9L3TWDM1/UNV	NVMV11L3TWDM1/UNV
1½" Stanchion 25°	NVMV3LJDM1/UNV	NVMV5LJDM1/UNV	NVMV7LJDM1/UNV	NVMV9LJDM1/UNV	NVMV11LJDM1/UNV
1½" Stanchion	NVMV3LPDM1/UNV	NVMV5LPDM1/UNV	NVMV7LPDM1/UNV	NVMV9LPDM1/UNV	NVMV11LPDM1/UNV

Options:

Description	Suffix
Wire guard with captive mounting hardware (NEC version only)	P3001
Trunnion mount with redundant pin locking mechanism (NEC version only, ceiling mount required)	S812 K1
Quick Clip for quick installation	S890
Diffused lens reduces glare in applications where the user may have direct visual contact with the light source	S891
Teflon coating on lens for additional shatter protection (NEC version only)	S896
Polycarbonate lens available in applications where glass is prohibited (NEC version only)	S903

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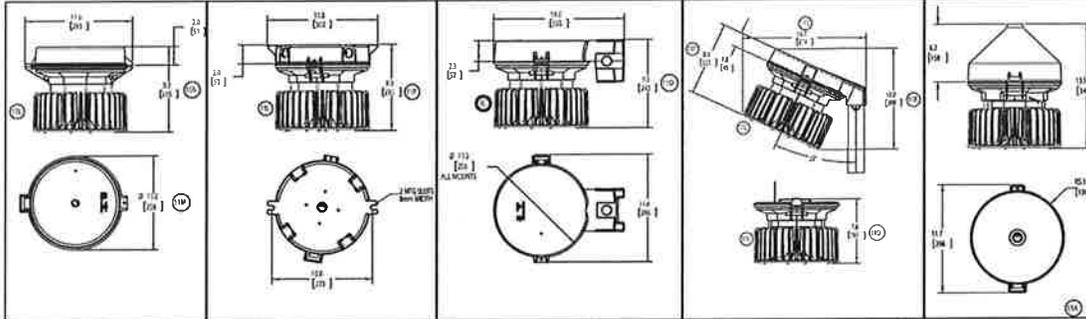
2L Champ® VMV LED Series Luminaires

Improve safety, reliability and energy efficiency

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

UL Listed & CSA Certified
IECEX / ATEX
Simultaneous Presence
Wet Location, Type 4X, IP66

Dimensions: Pendant



Weights:

Net Luminaire Weight:	17.8 lb.	8.07 kg.
Mounting Module add (lb.)		
Pendant	1.25	0.57
Cone Pendant	4.00	1.81
Flexible Pendant	1.50	0.68
Ceiling	2.75	1.25
Wall	4.50	2.04
Angle Stanchion	3.50	1.59
Straight Stanchion	4.50	2.04

Ambient Temperature:

	Max. Temp. °C	Cl. I, Div. 2	Cl. II, Div. 1 & 2 / Cl. III / Simu. Presence	Cl. I, Zone 2
VMV3L	40	T5	T4A	T5
	55	T4A	T4	T4
VMV5L	40	T5	T4A	T5
	55	T4A	T4	T4
VMV7L	40	T5	T4A	T5
	55	T4A	T4	T4
VMV9L	40	T5	T4A	T5
	55	T4A	T4	T4
VMV11L	40	T4	T4	T4

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Champ® VMV LED Series Luminaires

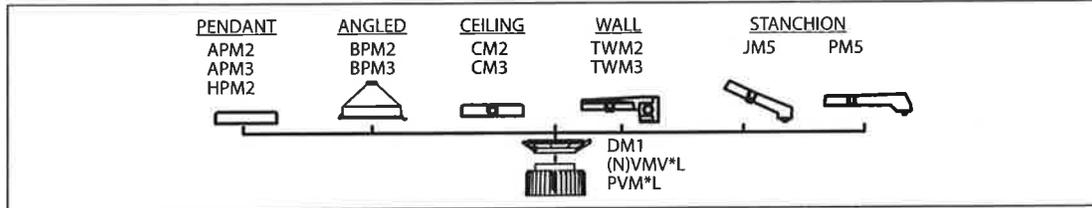
Improve safety, reliability and energy efficiency

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

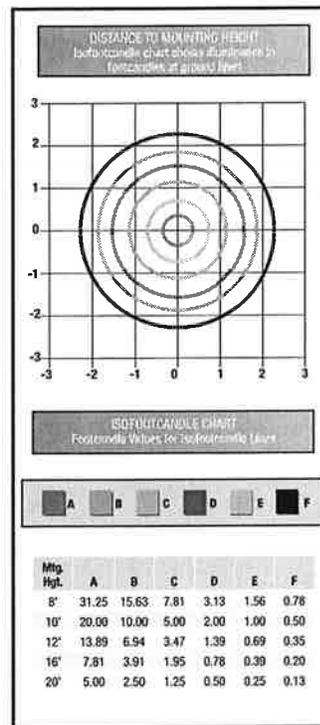
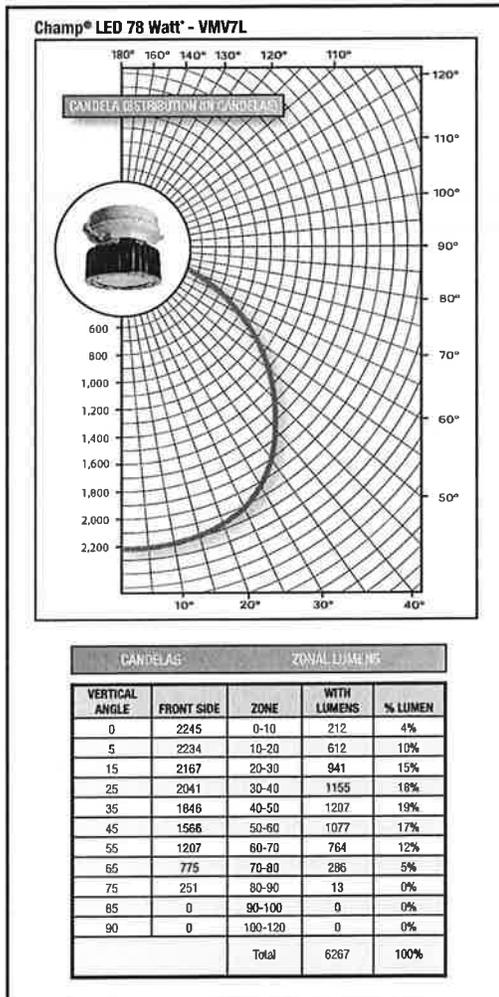
UL Listed & CSA Certified
IECEX / ATEX
Simultaneous Presence
Wet Location, Type 4X, IP66

2L

Family Tree:



Photometric Data:



LUMEN OUTPUT FOR CHAMP® LED LUMINAIRES

Luminaire Series	System Watts	Lumens
VMV3L	46	3748
VMV5L	60	4654
VMV7L	78	6267
VMV9L	94	7685
VMV11L	134	8880

*Testing performed in accordance with IES LM-79-08.

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Type M.

Haz

HazMax Intrepid/nm



FEATURES

- Fluorescent system provides energy savings up to 50% when compared to HID.
- Third party certified for operation in high ambient temperatures, up to 65°C (149°F).
- Multi voltage electronic ballast resistant to brownouts or voltage and frequency fluctuations.
- Stainless steel latches, mounting feet and lens retainers.
- Impact resistant UV stabilized polycarbonate lens.
- Shoc♦Loc™ Bi-Pin spring loaded lamp holders for T5, T8 and T12 lamp types, provide superior resistance to shock and vibration.
- USDA compliant materials.
- Meets Canadian Processed Products Regulations C.R.C. c291.
- Neoprene gasket resists petroleum.
- Three lamp models are provided with (1) single-lamp ballast and (1) two-lamp ballast for independent switching.
- Optional self contained emergency battery backup ballasts.
- Optional certified test switch on emergency models.
- Optional long life T5 lamps available upon request (consult factory).

APPLICATIONS

- Hazardous locations
- Marine and watertight requirements
- Dusttight requirements
- Oil and gas exploration and production
- Petrochemical facilities
- Waste water treatment plants
- Food & beverage processing facilities

APPROVALS

- Class I Division 2 - Groups A, B, C, & D
- Class I Zone 2 - Groups IIA, IIB & IIC
- Class II Division 2 - Groups F & G
- Class III, Type 4 Enclosure
- Type 4X
- IP66
- Marine Outside Type Saltwater
- ABS
- NSF

STANDARDS

- UL 844 - Hazardous Locations
- UL 924 - Emergency Lighting Equipment
- UL 1598A - Luminaires for Marine Vessels
- EN 60529 - Ingress Protection
- Canadian Processed Products Regulations C.R.C. c291
- CSA - Class 3428 03
- CSA - Class 3428 83
- NSF/ANSI 2-2007 Splash Zone

TECHNICAL SPECIFICATIONS

HOUSING

.080 inch thick minimum, fiberglass reinforced polyester.

LENS

0.090 inch thick, matte polycarbonate. Optional clear polycarbonate.

REFLECTOR

Type 5052H32 aluminum with an electrostatically applied white polyester powder coat finish. Minimum 90% reflectance.

GASKET

One piece neoprene.

MOUNTING

Stainless steel vibration dampening feet for ceiling, wall or chain mount. Optional pendant mount version. Kits available for uni-strut/rod and pole mount.

LATCHES

Stainless steel over the center cam.

LAMP HOLDERS

Spring loaded on one end for linear lamp types.

ENTRIES

Two ¼" NPT hubs, one end plugged.

LAMP TYPES

See ORDERING REFERENCES. Lamps not provided.

BALLAST

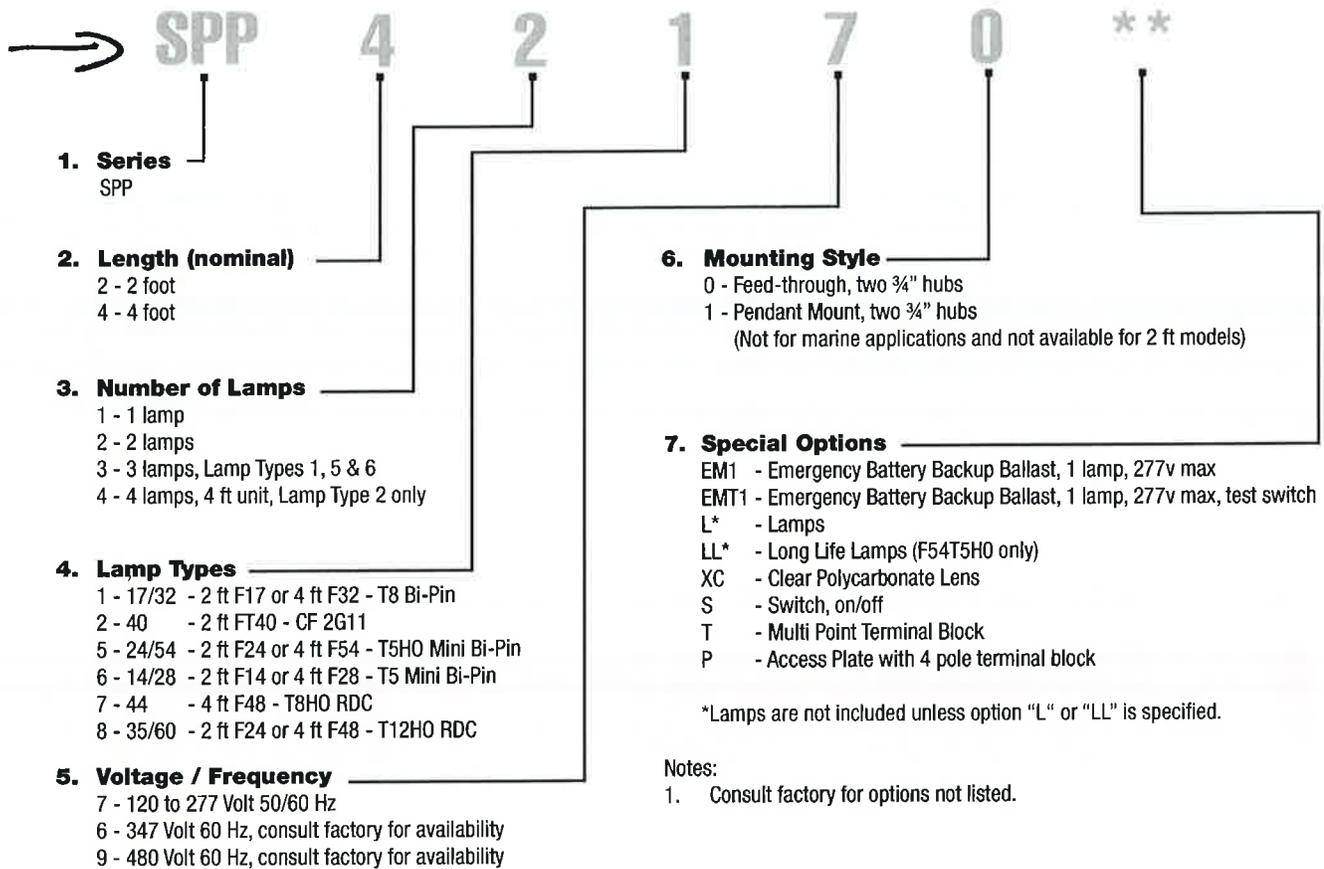
120 to 277 volt 50/60Hz electronic, optional 347v and 480v.

EMERGENCY BATTERY BACKUP BALLAST

Optional, self contained 90 minute minimum for all lamp types. 120 minutes minimum for F32T8 one lamp. Starting temperature 32°F/0°C.

1/4

ORDERING REFERENCES



COMMONLY ORDERED LUMINAIRES & CROSS REFERENCE

Part No.	Description	Legacy P/N	Weight	
			Lbs	Kg
SPP22170	Fiberglass Reinforced Polyester 2 ft fixture 2 x F17 120-277v 50/60 Hz	FPS217D2	9.0	4.0
SPP42170	Fiberglass Reinforced Polyester 4 ft fixture 2 x F32 120-277v 50/60 Hz	FPS232D2	17.0	7.7
SPP42870	Fiberglass Reinforced Polyester 4 ft fixture 2 x F48 120-277v 50/60 Hz	FPS260D2	18.5	8.4
SPP43170	Fiberglass Reinforced Polyester 4 ft fixture 3 x F32 120-277v 50/60 Hz	FPS332D2	19.8	9.0
FX2175	Matte Polycarbonate Lens with Gasket 2 ft	FX2175	1.5	.68
FX2177	Matte Polycarbonate Lens with Gasket 4 ft	FX2177	2.7	1.22
FX2163	Clear Polycarbonate Lens with Gasket 2 ft	FX2163	1.5	.68
FX2165	Clear Polycarbonate Lens with Gasket 4 ft	FX2165	2.7	1.22
FX8014A	Latches	FX8014A	.1	.05

2/4

HazMax Intrepid/nm

SPARE PARTS

Part No.	Description	Part No.	Description
FX5350	BALLAST 120-277V AC 50/60HZ, 1 x 14, F14T5	FX3568	LAMP, 24w, F24T5HO
FX5350	BALLAST 120-277V AC 50/60HZ, 1 x 28, F28T5	FX3567	LAMP, 54w, F54T5HO
FX5307	BALLAST 120-277V AC 50/60HZ, 1 x 24, F24T5HO	FX3577	LAMP, 54w, Long Life F54T5HO
FX5305	BALLAST 120-277V AC 50/60HZ, 1 x 54, F54T5HO	FX3528	LAMP, 17w, F17T8
FX5174	BALLAST 120-277V AC 50/60HZ, 1 x 17, F17T8	FX3527	LAMP, 32w, F32T8
FX5221	BALLAST 120-277V AC 50/60HZ, 1 x 32, F32T8	FX3565	LAMP, 44w, F48T8HO
FX5349	BALLAST 120-277V AC 50/60HZ, 1 x 44, F48T8HO	FX3507	LAMP, 35w, F24T12HO
FX5334	BALLAST 120-277V AC 50/60HZ, 1 x 35, F24T12HO	FX3505	LAMP, 60w, F48T12HO
FX5334	BALLAST 120-277V AC 50/60HZ, 1 x 60, F48T12HO	FX3533	LAMP, 40w, CF, FT40 2G11
FX5272	BALLAST 120-277V AC 50/60HZ, 1 x 40 CF, FT40 2G11	FX8014A	LATCH
FX5350	BALLAST 120-277V AC 50/60HZ, 2 x 14, F14T5	GKT6106-69	LENS GASKET, 2 ft. models
FX5350	BALLAST 120-277V AC 50/60HZ, 2 x 28, F28T5	GKT6106-117	LENS GASKET, 4 ft. models
FX5307	BALLAST 120-277V AC 50/60HZ, 2 x 24, F24T5HO	FX4008	LAMP HOLDER, 17w, 20w, 24w, 32w, 40w & 54w Stationary
FX5305	BALLAST 120-277V AC 50/60HZ, 2 x 54, F54T5HO	FX4009	LAMP HOLDER, 17w, 20w, 24w, 32w, 40w & 54w Spring
FX5340	BALLAST 120-277V AC 50/60HZ, 2 x 17, F17T8	FX4008SET	LAMP HOLDER, (1 ea. FX4008, 4009)
FX5340	BALLAST 120-277V AC 50/60HZ, 2 x 32, F32T8	FX4004	LAMP HOLDER, 35w & 60w Stationary
FX5349	BALLAST 120-277V AC 50/60HZ, 2 x 44, F48T8HO	FX4005	LAMP HOLDER, 35w & 60w Spring
FX5334	BALLAST 120-277V AC 50/60HZ, 2 x 35, F24T12HO	FX4004SET	LAMP HOLDER, (1ea. FX4004, 4005)
FX5334	BALLAST 120-277V AC 50/60HZ, 2 x 60, F48T12HO	FX4043	LAMP HOLDER, 40w CF
FX5272	BALLAST 120-277V AC 50/60HZ, 2 x 40 CF, FT40 2G11	FX2175	MATTE POLYCARBONATE LENS (with Gasket), 2ft. models
FX5128HDU	EMERGENCY BATTERY BACKUP BALLAST, EM1/EMT1, 120-277V for CF, T8, T8HO & T12HO	FX2177	MATTE POLYCARBONATE LENS (with Gasket), 4ft. models
FX5346HDU	EMERGENCY BATTERY BACKUP BALLAST, EM1/EMT1, 120-277V for T5, T5HO	FX2163	CLEAR POLYCARBONATE LENS (with Gasket), 2ft. models
FX3573	LAMP, 14w, F14T5	FX2165	CLEAR POLYCARBONATE LENS (with Gasket), 4ft. models
FX3574	LAMP, 28w, F28T5	CX1517	CABLE GLAND, 3/4" NPT non metallic

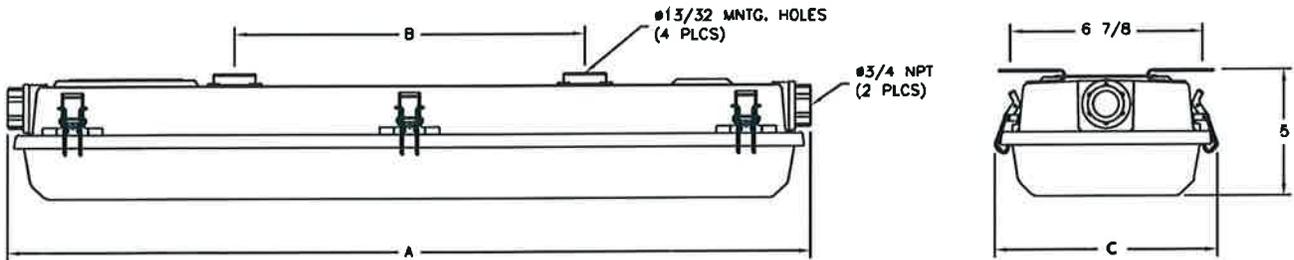
TEMPERATURE CODES & APPROVALS

Lamp Wattage	Ballast/Socket Type	ANSI Lamp Code	Class I T-Code	Class I Division 2	Class II Division 2	Class III	Class II & III T-Code	Starting Temp	Maximum Ambient*	Supply Wire
17	T8 Bi-Pin G13	F17-T8	T5	A,B,C & D	F & G	Yes	T3C	0°F/-18°C	55°C	90°C
32	T8 Bi-Pin G13	F32-T8	T5	A,B,C & D	F & G	Yes	T3C	-20°F/-29°C	55°C	90°C
40	4 Pin 2G11	FT40-CF	T4	A,B,C & D	F & G	Yes	T3C	0°F/-18°C	40°C	90°C
24/54	T5HO Mini Bi-Pin G5	F24/F54-T5HO	T4	A,B,C & D	F & G	Yes	T3C	-20°F/-29°C	55°C	90°C
14/28	T5 Mini Bi-Pin G5	F14/F28-T5	T4	A,B,C & D	F & G	Yes	T3C	0°F/-18°C	55°C	90°C
44	T8HO RDC R17d	F48-T8HO	T4	A,B,C & D	F & G	Yes	T3C	-20°F/-29°C	40°C	90°C
35/60	T12HO RDC R17d	F24/F48-T12HO	T4	A,B,C & D	F & G	Yes	T3C	-20°F/-29°C	40°C	90°C

*Consult factory for optional higher ambient models.

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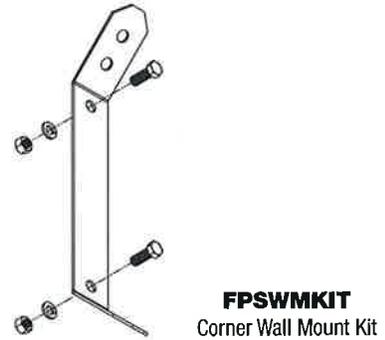
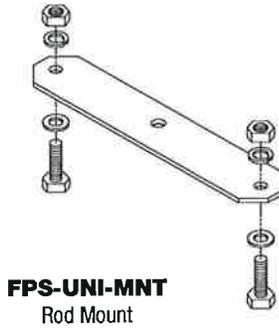
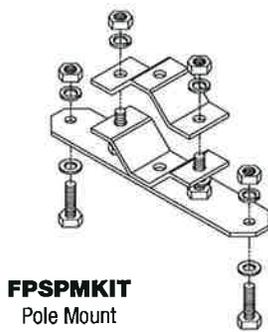
DIMENSIONS



Nominal Length	Dimensions in Inches / Centimeters			Carton W x D x L Inches	Nominal Weight	
	A	B	C		Lbs	Kg
2 Foot	29.0 / 73.7	12.44 / 31.59	7.625 / 19.4	8 3/4 x 6 1/4 x 3 1/8	9.0	4.0
4 Foot	53.0 / 134.6	36.56 / 92.87	7.625 / 19.4	8 1/2 x 6 x 5 5/8	17.0	7.7

MOUNTING OPTIONS

MOUNTING KITS



4/4



Type N

Catalog Number CB-2-32-120-GER-10TS	
Notes	Type

FEATURES & SPECIFICATIONS

ATTRIBUTES

Acrylic prismatic diffuser with sonic-welded, injection-molded, luminous ends. Matches LB series in appearance. **Certain airborne contaminants can diminish integrity of acrylic.** [Click here for Acrylic Environmental Compatibility table for suitable uses.](#)

Linear side prisms control brightness, pyramidal bottom prisms minimize lamp image.

Continuous, interlocking diffuser support prevents accidental opening and simplifies maintenance.

For surface or stem mounting, individual or row installation. Snap-in couplers permit row mounting without tools.

Available in tandem-wired lengths.

Guaranteed for one year against mechanical defects in manufacture.

CONSTRUCTION

Housing formed from cold-rolled steel. No asbestos is used in this product.

Thermally protected, resetting, Class P, HPF, non-PCB, UL listed, CSA-certified ballast is standard. Ballasts are sound rated A. Standard combinations are CBM approved and conform to UL 935.

FINISH

High-gloss, baked white enamel finish. Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Painted parts finished with high-gloss, baked white enamel.

ELECTRICAL SYSTEM

Fixture conforms to UL 1570 and is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

ENERGY

Luminaire Efficacy Rating (LER) and Annual Energy Cost:

Two-lamp LER.FW = 66. Annual Energy Cost = \$3.64.

Based on 32W T8 lamp, 2850 lumens, and energy-saving electronic ballast. Ballast factor = .88, input watts = 61.

Calculated in accordance with NEMA standard LE-5.

LISTING

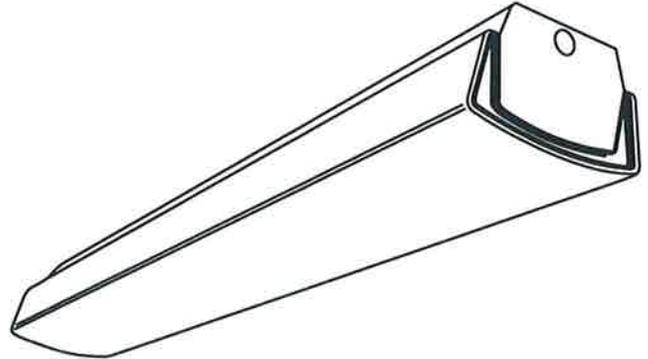
UL listed to US and Canadian safety standards (see Options). NOM Certified (see Options).

Specifications subject to change without notice.

Corridor Wraparound

CB

4' or 8' length
1 or 2 lamps



ORDERING INFORMATION

Example: **CB 2 32 MVOLT GEB10IS**



Series	Number of lamps	Lamp type	Voltage	Options
CB Corridor wraparound	1 Not included	17 17W T8 (24") 28T5 28W T5 (48") 32 32W T8 (48")	347 MVOLT? Others available	GEB10IS Electronic ballast, <10% THD, instant start GEB10PS Electronic ballast, <10% THD, program start EL Emergency battery pack (nominal 300 lumens See Life Safety Section) GLR Internal fast-blow fuse GMF Internal slow-blow fuse RIF1 Radio interference filter (one per fixture) CSA Listed and labeled to comply with Canadian Standards NOM NOM Certified

For tandem double-length unit, add prefix T. Example: **TCB**

Accessories

Order as separate item

- SQ** Swivel-stem hanger (specify in 2" increments).
- 1B** Ceiling spacer (adjusts from 1-1/2" to 2-1/2" from ceiling).
- DSH24** Double stem hanger for 4' fixtures, 24" stems.
- HRC** Hooker® T-bar hanger (flush to ceiling).
- HRC1** Hooker® T-bar hanger (1-1/2" from ceiling).

Notes

- 1 T5 wattage requires GEB10PS ballast.
- 2 Specify voltage.

CB Corridor Wraparound

MOUNTING DATA

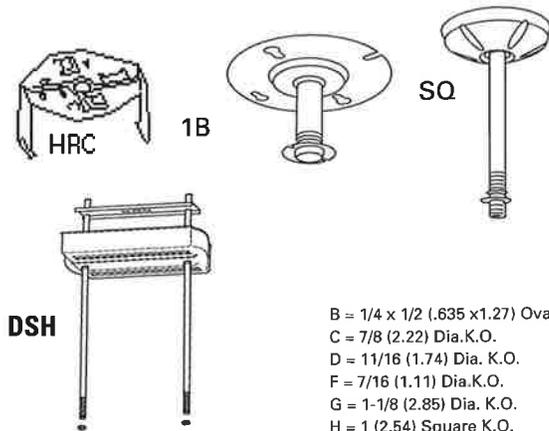
For unit or row installation, surface or stem mounting. Stem mounting not available on TCB units.

Unit installation — One double-stem (4' only) or two single-stem hangers required.

Row installation — One hanger per fixture plus one per row required.

Hooker® (HRC) Hangers — Minimum two per channel (unit and row).

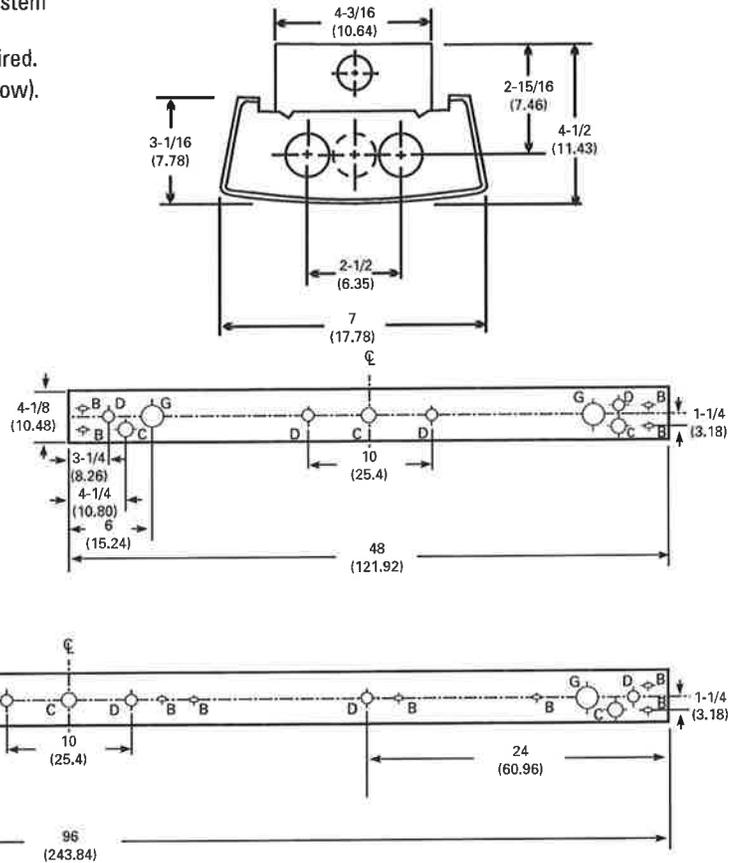
See ACCESSORIES below for hanging devices.



B = 1/4 x 1/2 (.635 x 1.27) Oval K.O.
 C = 7/8 (2.22) Dia. K.O.
 D = 11/16 (1.74) Dia. K.O.
 F = 7/16 (1.11) Dia. K.O.
 G = 1-1/8 (2.85) Dia. K.O.
 H = 1 (2.54) Square K.O.

DIMENSIONS

Inches (centimeters). Subject to change without notice.



PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. Full photometric data on these and other configurations available upon request.

CB 1 32

Report LTL 5652 – Lumens per lamp = 2900

S/MH (along) 1.3 (across) 1.4

Coefficient of Utilization

Ceiling	80%		70%		50%		0%			
	70%	50%	30%	70%	50%	30%	50%	10%	0%	
0	98	98	98	93	93	93	85	85	85	68
1	88	83	79	84	80	76	73	70	67	54
2	80	73	67	76	69	64	64	59	55	45
3	73	64	57	69	61	55	56	51	47	38
4	67	57	50	64	55	48	50	45	40	33
5	61	51	43	58	49	42	45	39	34	28
6	57	45	38	54	44	37	40	34	30	25
7	52	41	33	50	39	32	36	30	26	21
8	48	37	29	46	35	29	33	27	23	19
9	44	33	26	42	32	25	29	24	20	16
10	41	30	23	39	29	23	27	21	17	14

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	504	17.4	20.3
0-40	839	28.9	33.8
0-60	1413	48.7	57.0
0-90	1960	67.6	79.0
90-180	521	18.0	21.0
0-180	2481	85.6	100.0

CB 2 32

Report LTL 5649 – Lumens per lamp = 2900

S/MH (along) 1.3 (across) 1.4

Coefficient of Utilization

Ceiling	80%		70%		50%		0%			
	70%	50%	30%	70%	50%	30%	50%	10%	0%	
0	92	92	92	88	88	88	80	80	80	64
1	83	79	75	79	75	72	69	66	64	51
2	75	69	63	72	66	61	60	56	53	43
3	69	61	54	66	58	52	53	49	45	37
4	63	54	47	60	52	46	48	43	38	32
5	58	48	41	55	46	40	43	37	33	27
6	54	43	36	51	41	35	38	33	29	24
7	49	39	32	47	37	31	35	29	25	21
8	46	35	28	43	34	27	31	26	22	18
9	42	31	25	40	30	24	28	23	19	15
10	39	28	22	37	27	22	26	20	17	14

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	975	16.8	20.9
0-40	1625	28.0	34.9
0-60	2722	46.9	58.4
0-90	3691	63.6	79.2
90-180	972	16.8	20.9
0-180	4663	80.4	100.0



An Acuity Brands Company

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FEATURES & SPECIFICATIONS

INTENDED USE — An attractive and energy-efficient surface-mounted or suspended linear fluorescent luminaire, suitable for wet, damp locations. Ideal for challenging situations where relatively low fixture mounting heights and wide fixture spacings are common — such as parking garages, industrial facilities, retail malls, multi-purpose centers and airports. **Certain airborne contaminants can diminish integrity of plastics.** [Click here for Acrylic/Polycarbonate Environmental Compatibility table, for suitable uses.](#)

CONSTRUCTION — Shallow one-piece SVA fiberglass housing with integral perimeter channel utilizing continuous poured-in-place closed cell gasket. UL approved as a wireway and through wiring. Tool-less ballast and wiring access. Power connection is easily accommodated through pre-drilled holes at each end. Wet location plugs provided for maximum flexibility. Captive Steel latches are standard. Polycarbonate latches are optional.

OPTICS — Blow-molded UV stabilized polycarbonate diffuser with lineal ribs is standard for 4' fixtures. Injection-molded impact-resistant acrylic lens with lineal ribs is standard for 8' fixtures. Optically clear deep acrylic lens (3.5" deep available for 4' and 8') also available. Additional lens options available. Deep lens is standard with lens tether for ease of maintenance. White ballast cover has polyester powder coat finish.

Factory-installed lamps are available in various temperature colors and rated life. Lamps are secured with rotary locking lamp holders for ease of relamping and to provide a more secure lamp seating. Wall mounting; horizontal orientation only for use in damp locations.

ELECTRICAL — All standard ballasts are electronic, energy saving, thermally protected, Class-P, HPF, non-PCB, Sound Rated A, UL/CSA certified where applicable. Lamp and ballast configurations shown in "Configurations" chart.

INSTALLATION — May be ceiling mounted or suspended by chain, cable or threaded rod. Stainless steel mounting brackets included (two per luminaire), pre-punched for easy field-attachment of bolts, screws and other mounting hardware. Covered ceiling not required to maintain wet location listing or IP rating. Not recommended for use in above 40°C when suspended; 35°C when surface mounted. When dimming ballast is used ambient temperature is 25°C.

Type 'O'

Catalog Number	EMS4-2-32-BMPCL-120V
Notes	- GEB10ISH-LPB3
Type	

Low-Profile Enclosed and Gasketed Industrial



EMS

T5, T5HO or T8 Lamps



LISTINGS — UL Listed for wet locations. NSF splash zone certified. Meets FDA/USDA Guidelines for shielding around exposed food. IP65, IP66 and IP67 rated.

WARRANTY — 1-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/terms_and_conditions.aspx

Actual performance may differ as a result of end-user environment and application.

Note: Specifications subject to change without notice.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** EMS4 2 54T5HO T1X20 BMPCL MVOLT GEB10PS90 LP841

Series	Number of lamps ¹	Lamp type ¹	Shielding	Distribution/Reflector ⁶	Voltage
EMS4 7" x 4'	1	17 17W T8 (24")	BMPCL Polycarbonate, lineal ribbed lens	(blank) Flat ballast cover	120 120V
EMS8 7" x 8'	2	14T5 14W T5 (22")	BMPFL Frosted, Polycarbonate, lineal ribbed lens (Not available in 8') ³	X32 Specular aluminum ballast cover with spread distribution	208 208V
		24T5HO 24W T5HO (22")		T1X20 Specular aluminum reflector, Task beam, (0.9 ≤ SC < 1.2)	240 240V
	3 ²	32 32W T8 (48")	IMACL Acrylic, lineal ribbed lens(not available in 2')		277 277V
		28T5 28W T5 (46") ³	IMAFL Frosted lineal ribbed lens(not available in 2')		347 347V
	3 ²	54T5HO 54W T5HO (46") ⁴	IMACD Acrylic, clear deep lens (not available in 2')		480 480V
				IMAFD Acrylic, frosted, deep lens (not available in 2') ⁵	S2X20 Specular aluminum reflector enhanced spread beam, (1.4 ≤ SC < 1.8) ⁷

Ballast configuration	Ballast	Options	Lamp color ¹⁴
(blank) All 1-lamp or 2-lamp ballasts ⁸	GEB10ISH T8 electronic ballast, ≤10% THD, instant start, 1.15-1.2 BF	EL14DW Wet location battery pack (1400 nominal lumens) ^{10, 11}	(blank) No lamps
1/3 One 3-lamp ballast	GEB10IS T8 electronic ballast, ≤10% THD, instant start, .88 BF	EL6DW Wet location battery pack (600 nominal lumens) ^{10, 11}	LP830 85 CRI, 3000°K, standard life
1/4 One 4-lamp ballast	GEB10PS T5 electronic ballast, ≤10% THD, programmed rapid start	GRL Internal fast-blow fuse ¹¹	LP835 85 CRI, 3500°K, standard life
1/41/2 One 4-lamp, one 2-lamp ballast (EMS8 only)	GEB10PS90 T5HO 90° electronic ballast, ≤10% THD, program start, 1.0 BF (54T5HO only)	PLCL Polycarbonate latches	LP841 85 CRI, 4100°K, standard life
2/3 Two 3-lamp ballast (EMS8 3 lamp only)	ADZT Advance Mark VII dimming ballast ⁹	TRS Tamper-resistant Torx® T10 screws	LP850 85 CRI, 5000°K, standard life
2/1 Two 1-lamp ballast	ADEZ Advance Mark X dimming ballast ⁹	MSI_ Wet location sensor ^{11, 12, 13}	49 watt lamps¹⁵
	ACRP Advance Cool Running Plus ¹⁰	CS89 6' white cord 16/3, no plug, wet location	P835E49 85 CRI, 3500°K
		CS89L12 12' white cord 16/3 no plug, wet location	P841E49 85 CRI, 4100°K
		CS88 6' yellow cord 16/3, Brad Harrison 3P special configuration straight plug, wet location	P850E49 85 CRI, 5000°K
		CS88L12 12' yellow cord 16/3, Brad Harrison 3P special configuration straight plug, wet location	
		WFL Wet location fitting (one pair installed top, 44" off center)	
		DPMB Dual pendant monopoint bracket for use with 3/8" threaded rod	

Accessories: Order as separate catalog number.	
HC36	Hook and 36" chain (ships as pair)
MHHK120	10' single leg air craft cable
MHHK120SS	10' single leg aircraft cable, stainless steel
WLF	Wet location fitting, one pair not installed
FEMDPMB	Dual pendant monopoint bracket (ships as a pair) for use with 3/8" threaded rod
RK1 T10DRV U	Torx T10 screwdriver for use with tamper resistant screws

Notes

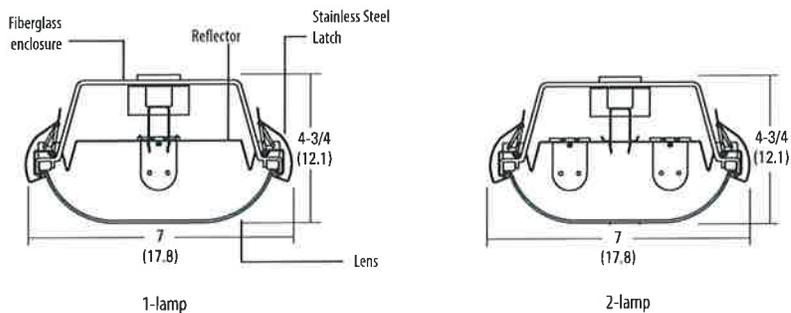
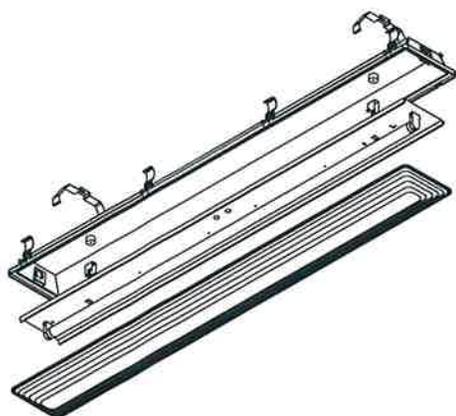
- See Configurations table above for lamp compatibility.
- T8 lamps only.
- Must specify GEB10PS.
- Must specify GEB10PS90.
- Frosted lenses may alter photometric performance.
- See Distribution/Reflector configurations table for available combinations.
- Available with IMACD and IMAFD only.
- Not all ballasts are available in all configurations.
- Fixture ambient temperature 25°C when dimming ballasts are used.
- Available in 4' and 8' fixtures.
- Must specify voltage.
- Must specify GEB10PS, GEB10PS90, or ACRP. Not available with instant start ballasts.
- For mounting up to 8' specify MS18, for mounting up to 20', specify MS120; for mounting up to 40', specify MS140.
- Other lamp types available. Consult factory.
- 54T5HO only.

1/2 EMS

EMS Low-Profile Enclosed and Gasketed Specular

DIMENSIONS

All dimensions are shown in inches (centimeters) unless otherwise noted.
Specifications subject to change without notice.



PHOTOMETRICS

See www.holophane.com.

CONFIGURATIONS					
All dimensions are shown in inches (centimeters) unless otherwise noted.					
SERIES	# OF LAMPS	LAMP TYPE	WIDTH	DEPTH	LENGTH
EMS4	1, 2	28T5, 32, 54T5HO	7 (17.8)	4-3/4 (12.1)	52 (132.1)
EMS4	3	32	7 (17.8)	4-3/4 (12.1)	52 (132.1)
EMS4 (w/IMACD or IMAFD lens)	1, 2	28T5, 32, 54T5HO	7 (17.8)	6-1/8 (15.5)	52 (132.1)
EMS4 (w/IMACD or IMAFD lens)	3	32	7 (17.8)	4-3/4 (12.1)	52 (132.1)
EMS8	1, 2	28T5, 32, 54T5HO	7 (17.8)	4-3/4 (12.1)	100-1/4 (254.6)
EMS8	3	32	7 (17.8)	4-3/4 (12.1)	100-1/4 (254.6)
EMS8 (w/IMACD or IMAFD lens)	1, 2	28T5, 32, 54T5HO	7 (17.8)	6-1/8 (15.5)	100-1/4 (254.6)
EMS8 (w/IMACD or IMAFD lens)	3	32	7 (17.8)	6-1/8 (15.5)	100-1/4 (254.6)

DISTRIBUTION/REFLECTOR CONFIGURATIONS								
SERIES	DISTRIBUTION	REFLECTOR	BMPCL	BMPFL	IMACL	IMAFI	IMACD	IMAFD
EMS4			YES	YES	YES	YES	YES	YES
EMS4		X32	YES	NO	YES	NO	YES	NO
EMS4	T1	X20	YES	NO	YES	NO	YES	NO
EMS4	S2	X20	NO	NO	NO	NO	YES	YES
EMS8			NO	NO	YES	YES	YES	YES
EMS8		X32	NO	NO	YES	NO	YES	NO
EMS8	T1	X20	NO	NO	YES	NO	YES	NO
EMS8	S2	X20	NO	NO	NO	NO	YES	YES

Note: Adding a cord set or wet location fitting to the end of the fixture will add 1" to the overall length.