



Harsh & Hazardous

KILLARK®

LALFP Series

LINEAR LED TECHNOLOGY

for Harsh and Hazardous Environments





LALFP SERIES

KILLARK

LALFP

Linear LED Food Processing Fixture

- Maintenance free long-lasting LEDs

- NSF Certified with Impact Resistant polycarbonate lens

- All exterior stainless steel hardware

- Large wiring access for ease of installation

- Extremely durable copper-free aluminum mounting feet & access plate with anodized aluminum housing

- 90 or 180 minute emergency with Self-diagnostics in accordance with NFPA 101® Life Safety Code



LINEAR LED TECHNOLOGY



Approved

LINEAR^{ITE}® *

* marca registrada MEXICO

FEATURES-SPECIFICATIONS

Applications

Linear LED Luminaires are designed for food processing installations where moisture, corrosion and vibration may be present, and Type 3, 4X, IP66/IP67. They can be used in locations made hazardous by the presence of flammable vapors or gases or combustible dusts as defined by the NEC/CEC.

Typical applications include non-food zones, splash zones, hazardous food processing areas, high and low ambient areas, and hose-down zones.

NSF (National Sanitation Foundation) approved for "Food Handling" areas, typically requiring non-glass lighting.

ABS (American Bureau of Shipping) type approval for use on decks, vessels, platforms, barges, ships and boats. Also suitable for docks and marinas.

Compliances

- UL-8750 for LED lighting
- ANSI/UL 1598(A)
- UL-844 Standard for lighting fixtures for hazardous locations, Class I, Division 2; Class II, Divisions 1 and 2; Class III
- CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations
- Enclosed and gasketed
- Type 3, 4X
- IP66/IP67

Supplemental **20KA/10KV Surge Protection** is **standard** (for 120-277 VAC models)
10KA/10KV Surge Protection (for 347-480 VAC)

Materials

- Housing – one piece clear anodized $\leq .1\%$ copper-free aluminum extrusion
- Endcaps & wiring – Access covers are copper-free ($\leq .4\%$) aluminum with natural finish.
- External screws are 316 stainless steel
- Lens – Impact resistant polycarbonate lens available in diffuse or clear

LALFP & LALFPxiE Product Features

- LALFPxiE models have "built-in" battery backup for 90 or 180 minute battery backup
- Shallow design minimizes profile in work areas with low ceiling heights
- Diffuse Lens Standard to minimize glare; Clear Lens available
- Polycarbonate Single Lens L1 & L3; Double Lens model L5
- Variety of mounting options including swivel brackets, wall, ceiling brackets, or beam clamps
- End Caps each have 2 mounting feet built-in plus a safety strap attachment point
- Standard unit End Caps each have single a 3/4" NPT hub, and fixture is furnished with one 3/4" close-up plug and two 3/4" to 1/2" reducers – provides out of the box 1/2" dead-end to 3/4" feed-through flexibility. Metric openings are available.
- Standard LALFPs have one wiring Access Plate for easy access to terminal block.

Class I, Div. 2, Groups A, B, C, D
 Class I, Zone 2, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E, F, G
 AEx nAll, Ex nAll

Wet Locations
 Type 4X
 IP66/IP67
 Marine Rated (US only)
ABS Type Approval
NSF Food Handling

Certified - File LR11713

IECEx Rated
 Zone 2 and Zone 21 areas
 Ex nA IIC T6 to T3, Gc
 Ex tb IIC T95°C Db
 Tamb -50°C < Tz < +65°C, IP66

IECEx Certificate
 QPS 15.0010

ATEX Certificate
 CML 15ATEX4081X (nA)
 &
 CML15ATEX3082X (tb)

Electronics Includes:

- Self-diagnostics monitors LED status, LED driver circuit, battery capacity and charger function and displays any fault detection by means of a flashing code
- Self-Test feature automatically runs a 1 minute test once a month and an alternating 30-60 minute test once every 6 months. LED indicator provides visible fault detection and charging status
- User initiated 1, or 90-minute system test feature
- 15 minute re-transfer delay
- Automatic unit transfer in brown-out conditions (below 80% of nominal AC input voltage)

LED Features and Standards

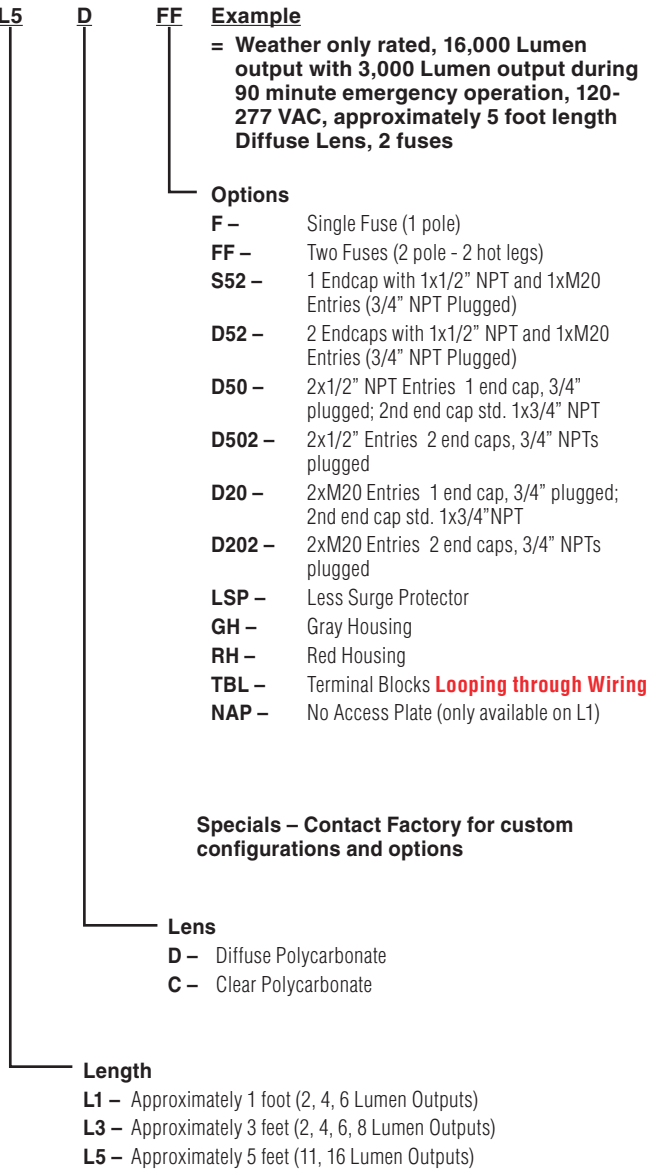
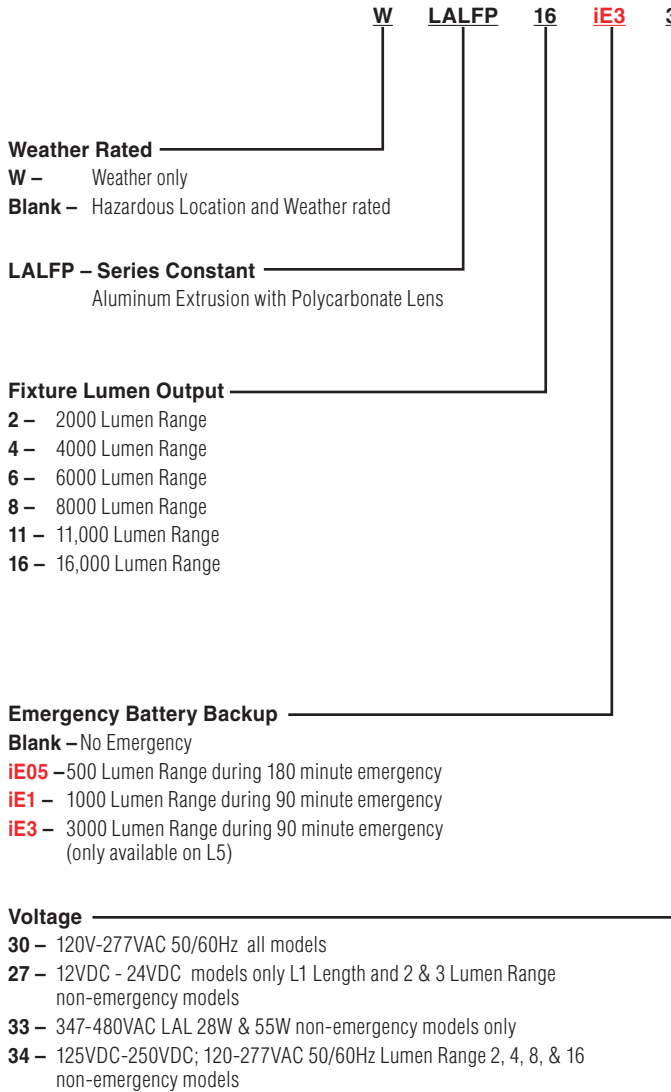
- Many Midpower LEDs blend light to simulate fluorescent tubes
- Chromaticity outputs: standard – 5000K 70 CRI
3590 option – 3550K 90 CRI
- LED Array Life – 100,000+ hours with 70% initial lumens
- Long Fixture Life – 50,000 - 55,000 maintenance free hours
- Ambient suitability -40°C to 65°C (see tables). -20°C to 50°C Ambient suitability for Emergency models.
- Instant On – Including after power interruption
- World Voltage 120 - 277VAC 50/60Hz
- Solder-LESS LED Board Connections – Vibration Resistant

INTELLIGENT EMERGENCY SERVICE CODES

INDICATOR STATUS SIGNAL	DESCRIPTION OF STATUS SIGNAL
0.5s ON and 0.5s OFF	Battery disconnected.
2.5s ON and 2.5s OFF	LED load disconnected.
4.5s ON and 0.5s OFF	Driver in self-diagnostic mode.
1.5s ON and 3.5s OFF	Battery needs to be replaced.
0.5s ON and 4.5s OFF	Damaged driver. Replace
ON	Normal/Charging.
OFF (LED Load ON)	Discharging / Emergency Operation



CATALOG LOGIC



Energy Savings

LED VS FLUORESCENT WATTAGE & DELIVERED LUMENS						
CATALOG NUMBER	LUMENS	L/W	FLUORESCENT		LUMENS	L/W
LALFP230L3C	2479	138	40W	1x40W BX	2471	63
LALFP430L3C	3624	129	55W	1x55W BX	3766	65
LALFP630L1C	5515	122	64W	2x32T8	4772	80
LALFP830L3C	7709	128	120W	2x60T12HO	6965	56
LALFP1130L5C	11032	138	162W	3x54T5HO	11619	65

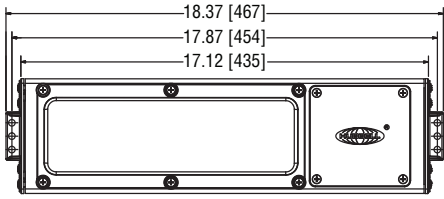


ORDERING INFORMATION

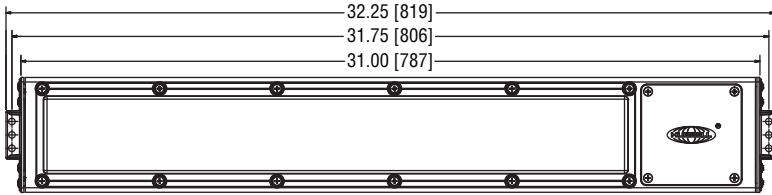
ORDERING INFORMATION AND AMBIENT SUITABILITY							C1D2 A, B, C, D/ ZONE 2 IIC, IIB, IIA			C1D2 E, F, G SIMULTANEOUS			C2D1 E, F, G			IEC ZONE 2			IEC ZONE 21			
CATALOG NUMBER	WEIGHT LBS./KG	WATTS	LENGTH IN / MM	VOLTAGE	AMPS	LUMENS DIFFUSE/ CLEAR	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C	40°C	65°C		
LALFP230L1D	12.03 / 4.49	15	18.73 / 476	120/277 VAC 50/60 Hz	0.15-0.06	1503 / 1640	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	-		
LALFP230L3D	17.90 / 8.1	18	32.6 / 828		0.15 - 0.06	2272 / 2479	T6	T6	T6	T4A	T4A	T4A	T4A	T4A	T4A	T6	T6	T5	T4	T4		
LALFP230L4D	12.90 / 9.9		51 / 1295		0.30-0.13	3261 / 3558	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	-		
LALFP430L1D	12.03 / 4.49	35	18.73 / 476		0.23 - 0.10	3321 / 3624	T6	T6	T5	T4A	T4A	T4A	T4A	T4A	T4A	T6	T6	T5	T4	T4		
LALFP430L3D	17.90 / 8.1	28	32.6 / 828		0.38-0.17	5136 / 5604	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T5	-	T4	-		
LALFP430L4D	12.90 / 9.9		51 / 1295		0.38 - 0.16	5054 / 5515	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	T5	T4	T4		
LALFP630L1D	12.03 / 4.49	45	18.73 / 476		0.50 - 0.22	7064 / 7709	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	-	T4	-		
LALFP630L3D	17.90 / 8.1	45	32.6 / 828		0.67 - 0.29	10110 / 11032	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	-	T4	-		
LALFP630L4D	12.90 / 9.9		51 / 1295		1.00 - 0.43	15090 / 16467	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	-	T4	-		
LALFP830L3D	17.90 / 8.1	60	32.6 / 828																			
LALFP830L4D	12.90 / 9.9		51 / 1295																			
LALFP1130L5D	36.50 / 16.6	80	57.9 / 1471																			
LALFP1630L5D	36.50 / 16.6	120	57.9 / 1471																			
WLALFP230L1D	12.03 / 4.49	15	18.73 / 476		120/277 VAC 50/60 Hz	0.15 - 0.06	2272 / 2479															
WLALFP230L3D	17.90 / 8.1	18	32.6 / 828			0.30-0.13	3261 / 3558															
WLALFP230L4D	12.90 / 9.9		51 / 1295			0.23 - 0.10	3321 / 3624															
WLALFP430L1D	12.03 / 4.49	35	18.73 / 476	0.38-0.17		5136 / 5604																
WLALFP430L3D	17.90 / 8.1	28	32.6 / 828	0.38 - 0.16		5054 / 5515																
WLALFP430L4D	12.90 / 9.9		51 / 1295	0.50 - 0.22		7064 / 7709																
WLALFP630L1D	12.03 / 4.49	45	18.73 / 476	0.67 - 0.29		10110 / 11032																
WLALFP630L3D	17.90 / 8.1	45	32.6 / 828	1.00 - 0.43		15090 / 16467																
WLALFP630L4D	12.90 / 9.9		51 / 1295																			
WLALFP830L3D	17.90 / 8.1	60	32.6 / 828																			
WLALFP830L4D	12.90 / 9.9		51 / 1295																			
WLALFP1130L5D	36.50 / 16.6	80	57.9 / 1471																			
WLALFP1630L5D	36.50 / 16.6	120	57.9 / 1471																			



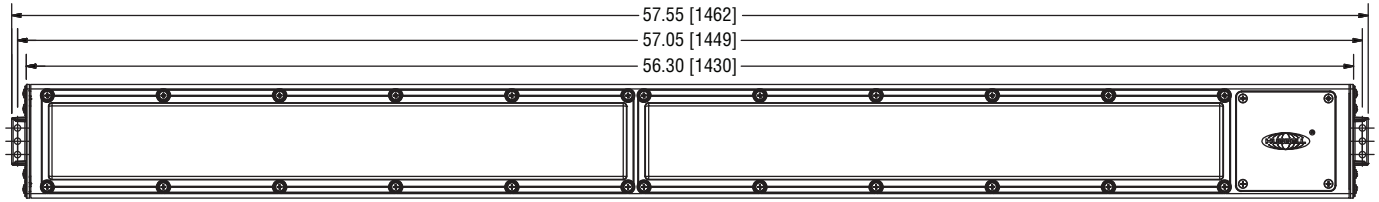
DIMENSIONS



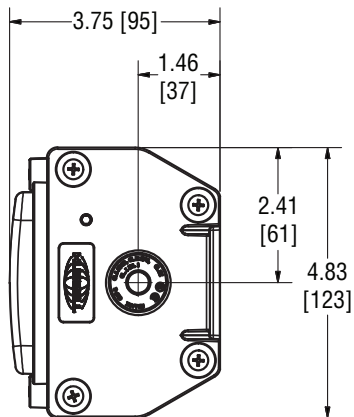
LALFP-L1 Single Access Panel



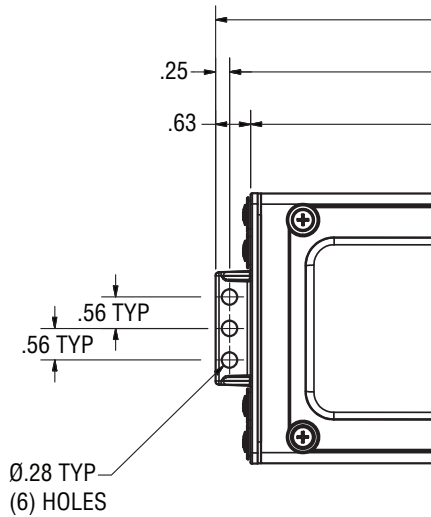
LALFP-L3 Single Access Panel



LALFP-L5 Single Access Panel



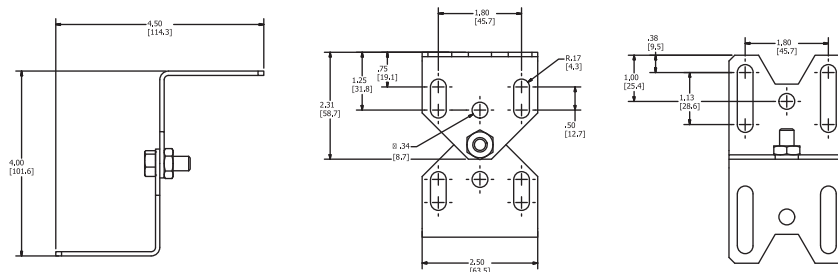
End View





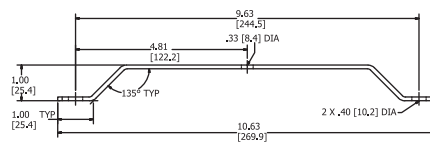
ACCESSORIES AND REPLACEMENT PARTS

ACCESSORIES AND REPLACEMENT PARTS	
LAL-SB	Swivel Bracket Set w/ Adjustable Height; includes 5/16" bolts/nuts/lock-washers for attachment to LAL(C) "slots"; can also be attached to end cap mounting feet with FBO bolts.
LZCB	Ceiling Bracket Set with Stainless Steel Bolts
LZWB	Wall Bracket Set with Stainless Steel Bol
LAL-BC	Steel/malleable Iron with Zinc electroplate for corrosion resistance; includes Stainless Steel Bolts to attach to LAL(C) "slots"
LAL-EB	Eyebolt Set with Stainless Steel Bolts
VMSC10	10' Stainless Steel Safety Cable with loop grip
LALG	Stainless Guard for 1 LAL Lens, order two for 2 lens models
LALCG	LALC Stainless Guard
LAL-LENSCLR	Single Clear Lens with Gasket for L3 & L5 Lengths
LAL-LENSDIF	Single Diffuse Lens with Gasket for L3 & L5 Lengths
LALC-LENSCLR	Single Clear Lens with Gasket for L1 Length
LALC-LENSDIF	Single Diffuse Lens with Gasket for L1 Length

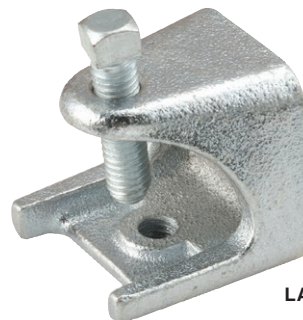


LAL-SB Dimensions – extended shown

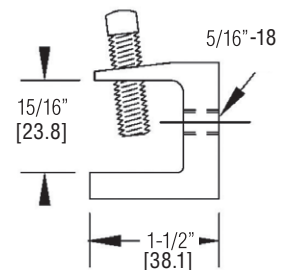
Ceiling Bracket Set Part Number LZCB Stainless Steel (natural finish)



VMSC10 Safety Cable



LAL-BC Beam Clamp





CERTILITE[®] DESIGN

LIGHTING DESIGN SOFTWARE

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- **Modern “Ribbon” Windows Interface with “Real Time” Calculations**
- **Easily import/export of CAD files (DWG/DXF/PDF)**
- **Enhanced photometric database with luminaire images and wireframes**
- **Ability to draw round or complex rooms and grids**
- **False Colors to indicate “Relative Brightness”**

See “Lighting Software link” at www.hubbell-killark.com to download

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