



ESSENTIALS LALO-FLAT (01)

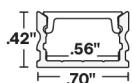
STATIC WHITE STANDARD

24VDC Linear Fixtures - Surface & Recessed



5 YEAR WARRANTY

Declare.



- Shallow, low-profile linear fixture for surface mount applications
- Choose from diffused, polar, frosted, or clear lens options for varying diode visibility and beam angles
- Three mounting options
- Features painted end caps to match extrusion finish
- Suitable for installation in the storage area of a clothes closet when specified with LEDs at 4.0 watts or less per foot per NEC regulations
- Can be suitable for exterior use when specified as wet, contact factory for more information

1 PRODUCT	2 WATTS/ FT	3 CCT	4 RATED	5 EFFICIENCY	6 LENS	7 EXTERNAL LOUVER	8 WIRE INPUT/ OUTPUT	9 CONNECTOR / WIRE IN	10 CONNECTOR / WIRE OUT	11 WIRE COLOR	12 WIRE TYPE	13 MOUNTING	14 FINISH	15 LENGTH (IN)	16 EXACT/ OPTIMAL
LL1SD				STD											

Sample Part Number: LL1SD-3.0-30-DRY-STD-DF-P1-BW-BW-BK-CL2-SST-BK-48"-E

1 PRODUCT LL1SD See following pages for compatible power supplies.	2 WATTS/FT 2.0 2.0W/ft 4.0 4.0W/ft 6.0 6.0W/ft 2.0 2.0W/ft 4.0 4.0W/ft	3 CCT 24 2400K 27 2700K 30 3000K 35 3500K 40 4000K 24 2400K 27 2700K 30 3000K 35 3500K 40 4000K	4 RATED DRY IP20 WET IP67	5 EFFICIENCY STD Standard	6 LENS DF Diffused PR Polar FR Frosted CL Clear For representation of LED visibility, see Diode Visibility section on following pages. For beam angles, see Photometric Performance section on following pages	7 EXTERNAL LOUVER L1-WH White Plastic L1-BK Black Plastic N/A No Louver Louvers are shipped separately and require field assembly
8 WIRE INPUT/OUTPUT S1 Single 1 (Input only) - End Feed S2 Single 2 (Input only) - Bottom Feed For continuous mounting, consider bottom feed.	9 CONNECTOR/WIRE IN BW Bare Wire (Standard 24") BRL Barrel CON6 Connector 6" CON24 Connector 24" Connector/Wire In not needed to specify product. Typical selection is BW. BW: Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)	10 CONNECTOR/WIRE OUT CLS Closed End (No feed)	11 WIRE COLOR WH White BK Black N/A For Barrel wet barrel only available in black			
P1 Pass Through 1 (Input/output) - End Feed P2 Pass Through 2 (Input/output) - Bottom Feed For continuous mounting, consider bottom feed.	P1 Pass Through 1 (Input/output) - End Feed P2 Pass Through 2 (Input/output) - Bottom Feed For continuous mounting, consider bottom feed.	12 WIRE TYPE CL2 Class 2 CL2P Plenum Rated N/A For Barrel CL2P only available with bare wire leads (BW)	13 MOUNTING SST Stainless Steel M4 Low Profile Magnet MG Magnet	14 FINISH ST Satin BK Black CU Custom	15 LENGTH (IN) Fixture length min 12", max 98.43" not including end caps. Tolerance +0 - 1/8". Consult factory for lengths under 12".	16 EXACT/OPTIMAL O Optimal Illumination E Exact Specified Length Exact fixtures are the exact length specified +0 - 1/8". Optimal fixtures' length is rounded down with illumination end to end. See Exact/Optimal Fixture Length charts.

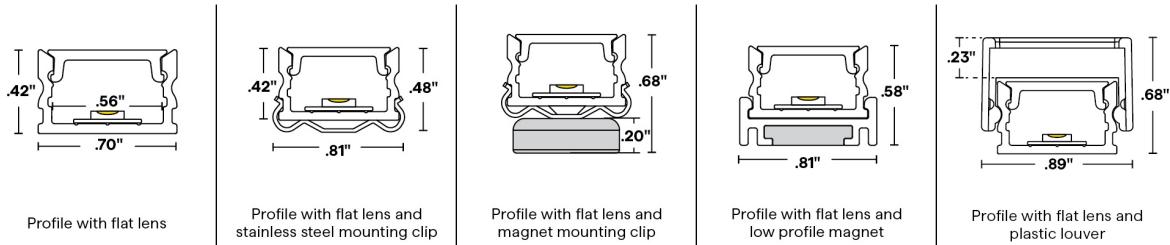
5 year warranty | Warranty only valid with QTL power supplies | Field modifications void warranty | Data subject to change, all data has +/- 5% tolerance



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1 PRODUCT - DIMENSIONS



2 DELIVERED LUMENS

[Calculated L70 = 70000 hrs, L70 = 50000 for HE+]

Tested with LL1SW-**-30-DRY-STD

	1.5HE W/FT	3.0HE W/FT	3.0HE+ W/FT	6.0HE W/FT	6.0HE+ W/FT			
	LM/FT	CRI	LM/FT	CRI	LM/FT	CRI	LM/FT	CRI
CL	175	98	321	98	463	92	608	98
FR	174	98	320	98	461	92	606	98
PR	157	98	288	98	416	92	546	98
DF	141	98	259	98	373	92	490	98

6 DIODE VISIBILITY

PHOTOMETRIC PERFORMANCE



DF - Diffused lens

PR - Polar lens

FR - Frosted lens

CL - Clear lens

Nominal beam spread shown, beam spread varies based on light engine. For more detailed information, see photometric data.



Clear 78°

TEMPERATURE RATINGS

		1.5 HE W/FT		3.0 HE W/FT		3.0 HE+ W/FT		6.0 HE W/FT		6.0 HE+ W/FT	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
DRY	Ambient Operating Temp - Surface	-4°F	145°F	-4°F	135°F	-13°F	135°F	-4°F	120°F	-13°F	120°F
DMP	Ambient Operating Temp - Surface	-4°F	140°F	-4°F	130°F	**	**	-4°F	115°F	**	**
WET	Ambient Operating Temp - Surface	**	**	**	**	-13°F	130°F	**	**	-13°F	115°F

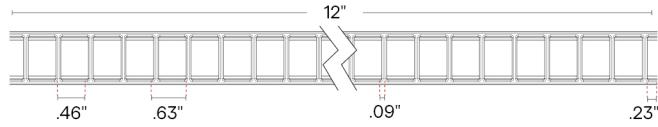


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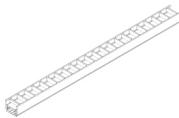
24VDC Linear Fixtures - Surface & Recessed

7 EXTERNAL LOUVER

PLASTIC



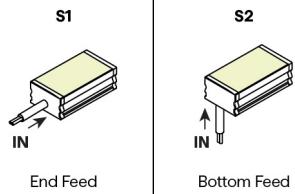
L1-XX



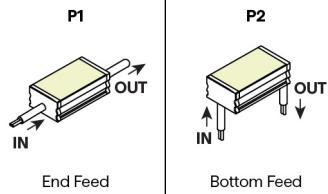
Lumen Multiplier
WH BK
0.72 0.53

8 WIRE INPUT/OUTPUT

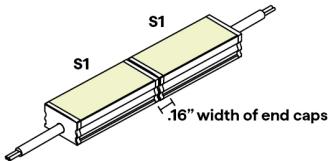
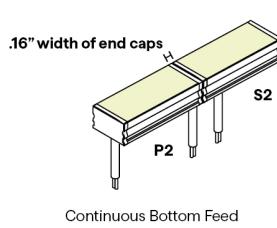
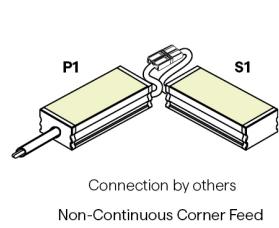
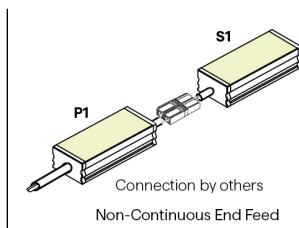
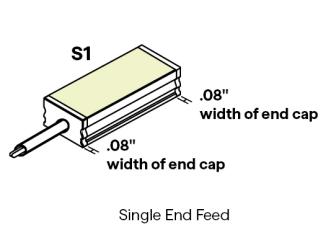
SINGLE (Input only)



PASS THROUGH (Input/Output)



CONFIGURATION OPTIONS



Continuous End to End Feed

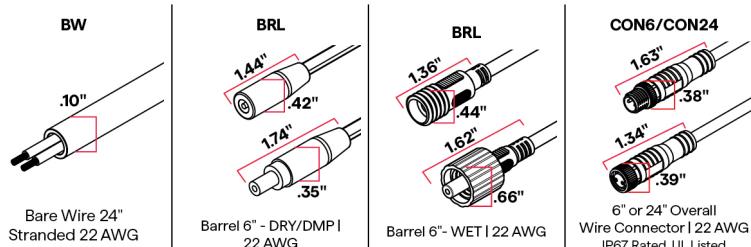


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9 / 10 CONNECTOR/WIRE – IN/OUT

Connector/Wire In or Out not needed to specify product. Standard configuration is BW for Wire In and CLS for Wire out



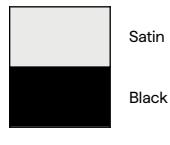
11 WIRE COLOR



13 MOUNTING

SST	M4	MMA-04	MG
1.25" x .81" x .20" (dimensions)	2.25" x .71" x .28" (dimensions)	.64" x 12" (dimensions)	1.25" x .81" x .20" (dimensions)
Stainless Steel Clip	Low Profile Magnet	Magnet Mount Accessory for M4	Magnet Clip
2 clips provided for 4' or less; 4 clips provided for greater than 4' To order separately use SST-01 Each clip comes with a #4 x 5/8" Flat Head SS	One M4 provided per foot. To order separately use MG-04	Sold separately, to order use MMA-04 Each bracket comes with 2 #6 x 5/8" Flat Head SS Required when mounting to a non-magnetic surface	One MG provided per foot To order separately use MG-01

14 FINISH



Custom color available

MMA-01

.64" x 12" (dimensions)
Magnet Mount Accessory of MG-01
Sold separately, to order use MMA-01 Each bracket comes with 2 #6 x 5/8" Flat Head SS Required when mounting to a non-magnetic surface



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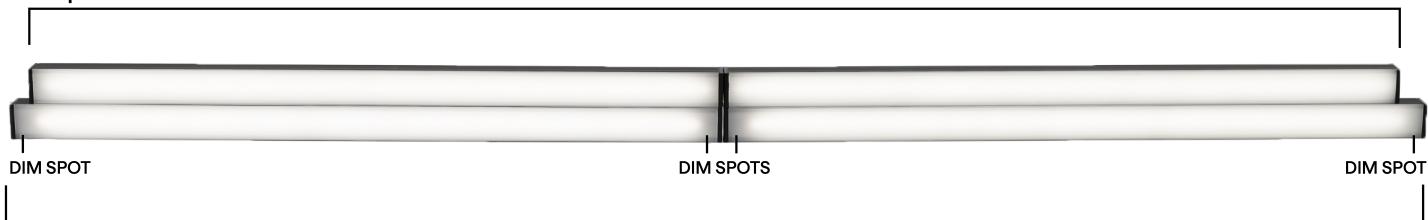
16 EXACT/OPTIMAL FIXTURE LENGTH

[E/O Length Calculator →](#)

[E/O Explained →](#)

Exact fixtures are the exact length specified. Optimal fixtures' length is rounded down based on LED cut points to allow the fixture to be illuminated end to end. For runs with multiple fixtures that need to fill a specific length, it's recommended to order all optimal fixtures with an exact fixture at the end of the run.

Optimal Fixtures



Exact Fixtures

SW-HE, SW-HE+ DRY LENGTHS BY INCH

Available in any length in between 12" and 98.43", chart below shows example lengths. Exact fixtures are the length specified. Optimal fixtures' length is rounded down with illumination end to end. All fixtures' tolerance is $+0 - 1/8"$. Consult factory for lengths under 12".

EXACT LENGTH

Requested Length	Potential dim spot on either end of fixture
12"	1"
13"	0.5"
14"	1"
15"	0.5"
16"	1"
17"	0.5"
18"	1"
19"	0.5"
20"	1"
21"	0.5"
22"	1"
23"	0.5"
24"	1"
36"	1"
48"	1"
60"	1"
72"	1"
84"	1"
96"	1"

OPTIMAL LENGTH: highlighted rows are closest to requested nominal length

Requested Nominal Length	S1 & S2		P1 & P2	
	S1 End Feed	S2 Bottom Feed	P1 End Feed	P2 Bottom Feed
12"				10.66"
13"	10.41"	12.41"	12.66"	
14"	12.41"		12.66"	
15"	14.41"		14.66"	
16"	14.41"		14.66"	
17"	16.41"		16.66"	
18"	16.41"		16.66"	
19"	18.41"		18.66"	
20"	18.41"		18.66"	
21"	20.41"		20.66"	
22"	20.41"		20.66"	
23"	22.41"		22.66"	
24"	22.41"		22.66"	
36"	34.41"		34.66"	
48"	46.41"		46.66"	
60"	58.41"		58.66"	
72"	70.41"		70.66"	
84"	82.41"		82.66"	
96"	94.41"		94.66"	



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SW-HE+ WET LENGTHS BY INCH

Available in any length in between 12" and 98.43", chart below shows example lengths. Exact fixtures are the length specified. Optimal fixtures' length is rounded down with illumination end to end. All fixtures' tolerance is $+0 - 1/8"$. Consult factory for lengths under 12".

EXACT LENGTH

Requested Length	Potential dim spot on either end of fixture
12"	1"
13"	0.5"
14"	1"
15"	0.5"
16"	1"
17"	0.5"
18"	1"
19"	0.5"
20"	1"
21"	0.5"
22"	1"
23"	0.5"
24"	1"
36"	1"
48"	1"
60"	1"
72"	1"
84"	1"
96"	1"

OPTIMAL LENGTH: highlighted rows are closest to requested nominal length

Requested Nominal Length	S1 & S2		P1 & P2	
	S1 End Feed	S2 Bottom Feed	P1 End Feed	P2 Bottom Feed
12"	10.61"	10.76"		
13"	12.61"	12.76"		
14"	12.61"	12.76"		
15"	14.61"	14.76"		
16"	14.61"	14.76"		
17"	16.61"	16.76"		
18"	16.61"	16.76"		
19"	18.61"	18.76"		
20"	18.61"	18.76"		
21"	20.61"	20.76"		
22"	20.61"	20.76"		
23"	22.61"	22.76"		
24"	22.61"	22.76"		
36"	34.61"	34.76"		
48"	46.61	46.76"		
60"	58.61"	58.76"		
72"	70.61"	70.76"		
84"	82.61"	82.76"		
96"	94.61"	94.76"		

COMPATIBLE POWER SUPPLIES

See power supplies cut sheets for more information. Data subject to change, all data has $+/- 5\%$ tolerance.

DIM TO LEVEL	INDOOR	OUTDOOR
	SW24/5.0, SW-HE, SW-HE+	SW24/5.0, SW-HE, SW-HE+
Dim to Black	Q6M-DC+CAP QTM-DC+CAP iQ-PH iQ-PH+QD1	QOM-DC+CAP QOM-PH
0.1%	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QT-CAB-eLED+0-10V-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AWN QZ-BOWTIE+DIMMER QZ-DMX QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP	Q-SET-QZ-DMX Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QZ-DMX QZ-PH/0-10V
1%	QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED(E) QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-DALI-DT6	Q-SET+QZ-DALI-DT6 QOM-eLED+DALI-DT6 QOM-eLED+PS-DALI-DT6
10%	Non-Dim Power Supply with SW App Dongle	



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DIMMING PROTOCOL	INDOOR	OUTDOOR
	SW24/5.0, SW-HE, SW-HE+	SW24/5.0, SW-HE, SW-HE+
Non-Dim	QT-CAB-eLED-ND QTM-eLED-ND QZ-ND	Q-SET-QZ-ND Q-SET-eLED-ND QOM-eLED-ND QZ-ND iQ-ND-50-65
Phase	Q6M-DC+CAP QT-CAB-QZ-PH/0-10V QTM-DC+CAP QTM-eLED(E) QZ-BOWTIE+DIMMER QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP iQ-PH iQ-PH+QD1	Q-SET-QZ-PH/0-10V QOM-DC+CAP QOM-PH QZ-PH/0-10V
0-10V	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QT-CAB-eLED+0-10V-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AWN QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP	Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QZ-PH/0-10V
Lutron Athena	QT-CAB-eLED+0-10V-AWN QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+0-10V-AWN QTM-eLED+DALI-DT6-AWN	
ECO System	QTM-eLED(E)	
DMX	QZ-DMX	Q-SET-QZ-DMX QZ-DMX
DALI-2: DT6	QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-DALI-DT6	Q-SET+QZ-DALI-DT6 QOM-eLED+DALI-DT6
SCENE App Dimmed	Non-Dim Power Supply with SW App Dongle	

COMPATIBLE MOUNTING ACCESSORIES

HINGE - HMB-M	HINGE - HMB-L	HINGE - HMB-XL	Q-PIVOT	Q-ANGLE	QUOVA-STANDARD	NJ-MEDIUM	SD-L-MEDIUM
1.41" Adjustable mounting bracket - Medium	.71" Adjustable mounting bracket - Large	1.46" 1.29" 1.46" Adjustable mounting bracket - XLarge	4" 1.46" Small mounting accessory	.75" 1.38" 1.03" Adjustable mounting accessory	2.23" 1.38" QUOVA Knife Edge	J Mounting Bracket	L Mounting Bracket

COMPATIBLE WIRING ACCESSORIES

Q-mini-J UL Listed, miniature junction box, DRY/DMP (WET rated with silicone)	Q-mini-J5 UL Listed, miniature junction box, DRY/DMP (WET rated with silicone)	BARREL-EXT	BARREL FOUR-FER	CON120-EXT	CON FOUR-FER	CON M - BARREL F
2" 1.25"	2.80" 2.27"	8ft barrel cable extender DRY ONLY	Splits lead from one to four LED Barrel connector fixtures, DRY/DMP	10ft Con cable extender DRY/DMP/WET	Splits lead from one to four LED Con connectors DRY/DMP/WET	Male con to barrel cable adaptor DRY/DMP