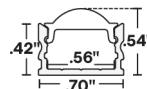




LALO-OPTICS (02) STATIC WHITE HIGH EFFICACY

24VDC Linear Fixtures - Surface & Recessed



5 YEAR
WARRANTY

Declare

Red List
Approved

- Shallow, low-profile fixture for surface or recessed installations
- Produces a 17° beam angle
- Mounting options include stainless steel clips, magnets, and low-profile magnet mounts
- 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 WIRE INPUT/ OUTPUT	8 CONNECTOR/ WIRE IN	9 CONNECTOR/ WIRE OUT	10 WIRE COLOR	11 WIRE TYPE	12 MOUNTING	13 FINISH	14 LENGTH (IN)	15 EXACT/ OPTIMAL
LL2SW				STD	17DEG									

Sample Part Number: LL2SW-3.0HE-30-DRY-STD-17-P1-BW-BW-BK-CL2-SST-BK-48"-E

1 PRODUCT LL2SW See following pages for compatible power supplies.	2 WATTS/FT 1.5HE 1.5W/ft HE 3.0HE 3.0W/ft HE 6.0HE 6.0W/ft HE 3.0HE+ 3.0W/ft HE+ 6.0HE+ 6.0W/ft HE+ 1.5HE 1.5W/ft HE 3.0HE 3.0W/ft HE 6.0HE 6.0W/ft HE 3.0HE+ 3.0W/ft HE+ 6.0HE+ 6.0W/ft HE+	3 CCT 20 2000K 22 2200K 24 2400K 27 2700K 30 3000K 35 3500K 40 4000K 27 2700K 30 3000K 35 3500K 40 4000K 24 2400K 27 2700K 30 3000K 35 3500K 40 4000K 27 2700K 30 3000K 35 3500K 40 4000K	4 RATED DRY IP20 DMP IP54 WET IP67	5 EFFICIENCY STD Standard	6 LENS 17DEG Optical 17° For representation of LED visibility, see Diode Visibility section on following pages. For beam angles, see Photometric Performance section on following pages For optional snap-on louver ordering, see External Louver Accessory section on following pages
7 WIRE INPUT/OUTPUT S1 Single 1 (Input only) - End Feed S2 Single 2 (Input only) - Bottom Feed For continuous mounting, consider bottom feed.	8 CONNECTOR/WIRE IN BW Bare Wire (Standard 24") BRL Barrel CON6 Connector 6" CON24 Connector 24" BW Bare Wire (Standard 24") BRL Barrel CON6 Connector 6" CON24 Connector 24" BW Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)	9 CONNECTOR/WIRE OUT CLS Closed End (No feed)	10 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.	 BW Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)	 BW Bare Wire (Standard 24") BRL Barrel CON6 Connector 6" CON24 Connector 24" BW Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)	 BW Bare Wire (Standard 24") BRL Barrel CON6 Connector 6" CON24 Connector 24" BW Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)		
11 WIRE TYPE CL2 Class 2 CL2P Plenum Rated N/A For Barrel CL2P only available with bare wire leads (BWL)	12 MOUNTING SST Stainless Steel M4 Low Profile Magnet MG Magnet	13 FINISH ST Satin BK Black	14 LENGTH (IN) Minimum length is 12", maximum length is 98" not including end caps. Contact us for lengths under 12".	15 EXACT/OPTIMAL O Optimal Illumination E Exact Specified Length Exact fixtures match the exact length you specify, but they may have dim spots at the ends. Optimal fixtures are slightly shorter than the length specified, but provide full illumination from end to end. See Exact/Optimal Fixture Length charts.	

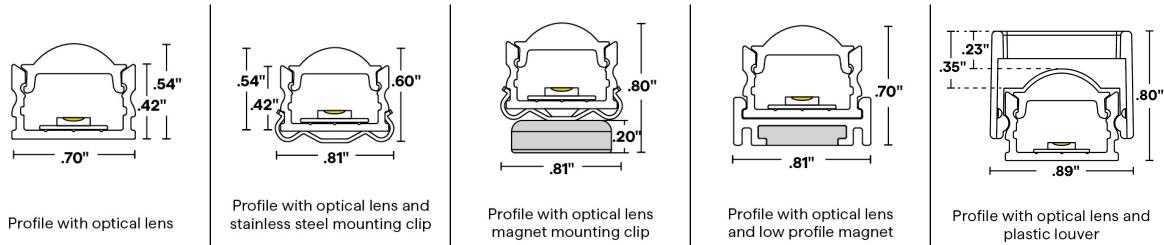
5 year warranty | Warranty only valid with QTL power supplies | Field modifications void warranty | Data subject to change, all data has +/- 5% tolerance



LALO-OPTICS (02) STATIC WHITE HIGH EFFICACY

24VDC Linear Fixtures - Surface & Recessed

1 PRODUCT - DIMENSIONS



2 DELIVERED LUMENS

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

Tested with LL2SV-**-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									
17	193	98	355	98	506	92	672	98	935	92						

6 DIODE VISIBILITY

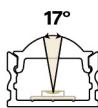


Optical lens

PHOTOMETRIC PERFORMANCE

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

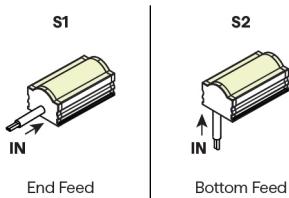
17DEG



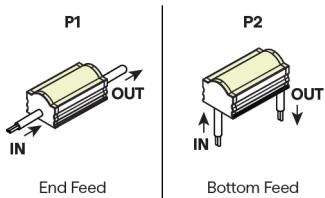
Optical 17°

7 WIRE INPUT/OUTPUT

SINGLE (Input only)



PASS THROUGH (Input/Output)

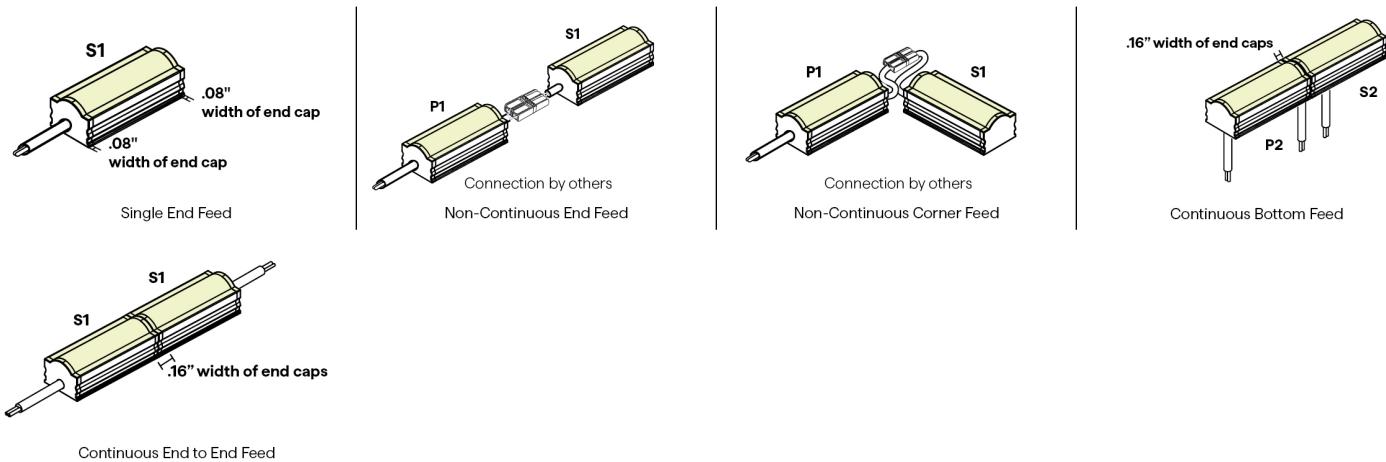




LALO-OPTICS (02) STATIC WHITE HIGH EFFICACY

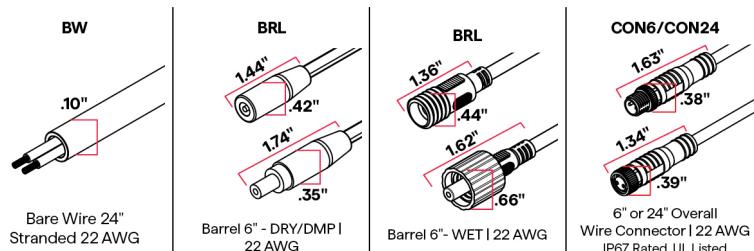
24VDC Linear Fixtures - Surface & Recessed

CONFIGURATION OPTIONS



8 / 9 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

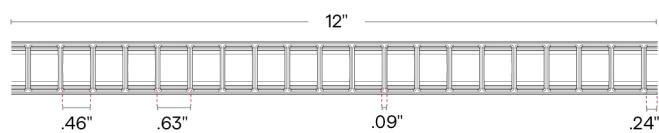


10 WIRE COLOR

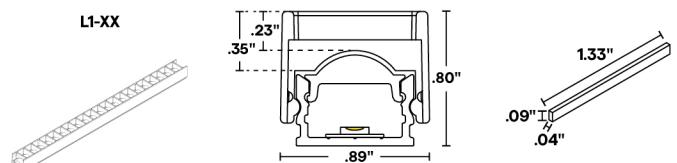


EXTERNAL LOUVER ACCESSORY

PLASTIC



L1-XX



Lumen Multiplier

WH BK



0.73 0.53

Profile with plastic louver

To order separately use
LALO-L1-GZR-WH or
LALO-L1-GZR-BK

Louver gasket
(2 per louver)

To order separately use
ESS-L1-GASKET



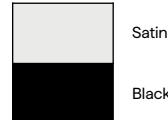
LALO-OPTICS (02) STATIC WHITE HIGH EFFICACY

24VDC Linear Fixtures - Surface & Recessed

12 MOUNTING

SST	M4	MMA-04	MG
Satin Black	Satin Black	Satin Black	Satin Black
Stainless Steel 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	Low Profile Magnet One M4 provided per foot. To order separately use MG-04	Magnet Mount Accessory for M4 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	Magnet Clip One MG provided per foot To order separately use MG-01

13 FINISH



MMA-01

	MMA-01
Satin Black	Satin Black
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	Satin Black

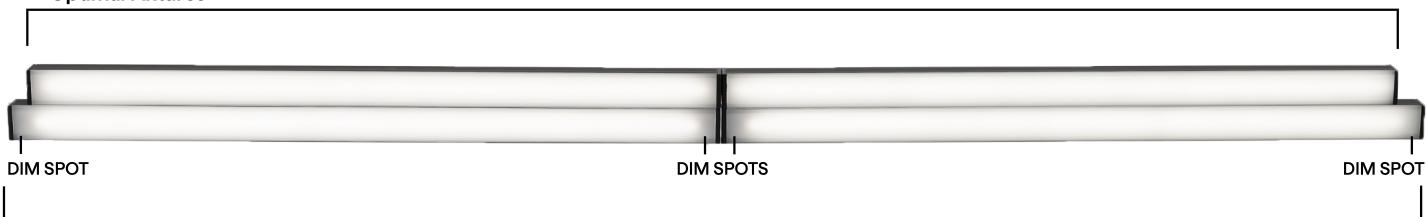
15 EXACT/OPTIMAL FIXTURE LENGTH

[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



LALO-OPTICS (02) STATIC WHITE HIGH EFFICACY

24VDC Linear Fixtures - Surface & Recessed

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"	10.41"		10.66"	
13"	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"	

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"	



LALO-OPTICS (02) STATIC WHITE HIGH EFFICACY

24VDC Linear Fixtures - Surface & Recessed

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-AVN QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AVN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN Q2-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 QOM-eLED+DALI-DT6 QOM-eLED+PS-DALI-DT6 QZ-DMX QZ-PH/0-10V
1%	QTM-eLED(E) QZ-DALI-DT6	Q-SET+QZ-DALI-DT6
10%	Non-Dim Power Supply with SW App Dongle	

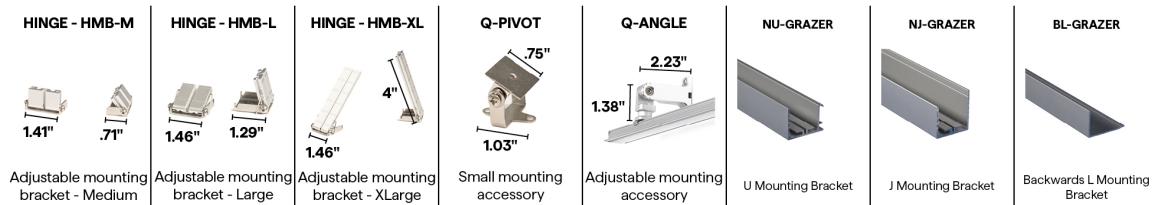


LALO-OPTICS (02) STATIC WHITE HIGH EFFICACY

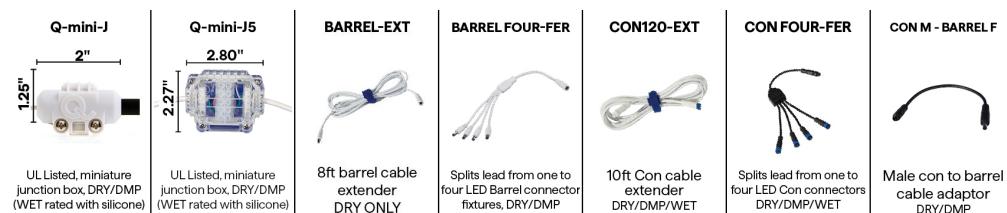
24VDC Linear Fixtures - Surface & Recessed

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



COMPATIBLE WIRING ACCESSORIES





LALO-OPTICS (02) STATIC WHITE HIGH EFFICACY

24VDC Linear Fixtures - Surface & Recessed

COMPATIBLE CONTROL ACCESSORIES

SCENE APP DONGLE



Wi-Fi or Bluetooth
Connectivity