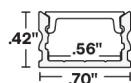




# ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed



Declare.



## INFORMATION REQUIRED FOR LIGHTING SCHEDULE

1	2	3	4	5	6
PRODUCT	WATTS/ FT	CCT	RATED	EFFICIENCY	LENS
LL1SW				STD	

## ADDITIONAL INFORMATION REQUIRED TO ORDER

7	8	9	10	11	12	13	14	15
WIRE INPUT/OUTPUT	CONNECTOR/WIRE IN	CONNECTOR/WIRE OUT	WIRE COLOR	WIRE TYPE	MOUNTING	FINISH	LENGTH (IN)	EXACT/OPTIMAL

Sample Part Number: LL1SW-3.0HE-30-DRY-STD-DF-P1-BW-BW-BK-CL2-SST-BK-48"-E

<b>1</b> <b>PRODUCT</b>  LL1SW  See following pages for compatible power supplies.	<b>2</b> <b>WATTS/FT</b>  1.5HE 1.5W/ft HE 3.0HE 3.0W/ft HE 6.0HE 6.0W/ft HE	<b>3</b> <b>CCT</b>  20 2000K 22 2200K 24 2400K 27 2700K 30 3000K 35 3500K 40 4000K	<b>4</b> <b>RATED</b>  DRY IP20	<b>5</b> <b>EFFICIENCY</b>  STD Standard	<b>6</b> <b>LENS</b>  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. For optional snap-on louver ordering, see External Louver Accessory section on following pages
	3.0HE+ 3.0W/ft HE+ 6.0HE+ 6.0W/ft HE+	27 2700K 30 3000K 35 3500K 40 4000K			
	1.5HE 1.5W/ft HE 3.0HE 3.0W/ft HE 6.0HE 6.0W/ft HE	24 2400K 27 2700K 30 3000K 35 3500K 40 4000K	DMP IP54		
	3.0HE+ 3.0W/ft HE+ 6.0HE+ 6.0W/ft HE+	27 2700K 30 3000K 35 3500K 40 4000K	WET IP67  Can be suitable for exterior use, contact factory for more information		
<b>7</b> <b>WIRE INPUT/OUTPUT</b>  SINGLE (Input only) S1 End Feed S2 Bottom Feed  For continuous mounting, consider bottom feed.	<b>8</b> <b>CONNECTOR/WIRE IN</b>  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)	<b>9</b> <b>CONNECTOR/WIRE OUT</b>  CLS Closed End (No feed)	<b>10</b> <b>WIRE COLOR</b>  WH White BK Black N/A For Barrel  wet barrel only available in black		
PASS THROUGH (Input/output) P1 End Feed P2 Bottom Feed  For continuous mounting, consider bottom feed.	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)			
<b>11</b> <b>WIRE TYPE</b>  CL2 Class 2 CL2P Plenum Rated N/A For Barrel  CL2P only available with bare wire leads (BW)	<b>12</b> <b>MOUNTING</b>  SST Stainless Steel M4 Low Profile Magnet MG Magnet	<b>13</b> <b>FINISH</b>  ST Satin BK Black CU Custom	<b>14</b> <b>LENGTH (IN)</b>  Minimum length is 12", maximum length is 98" not including end caps. Contact us for lengths under 12".	<b>15</b> <b>EXACT/OPTIMAL</b>  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.	

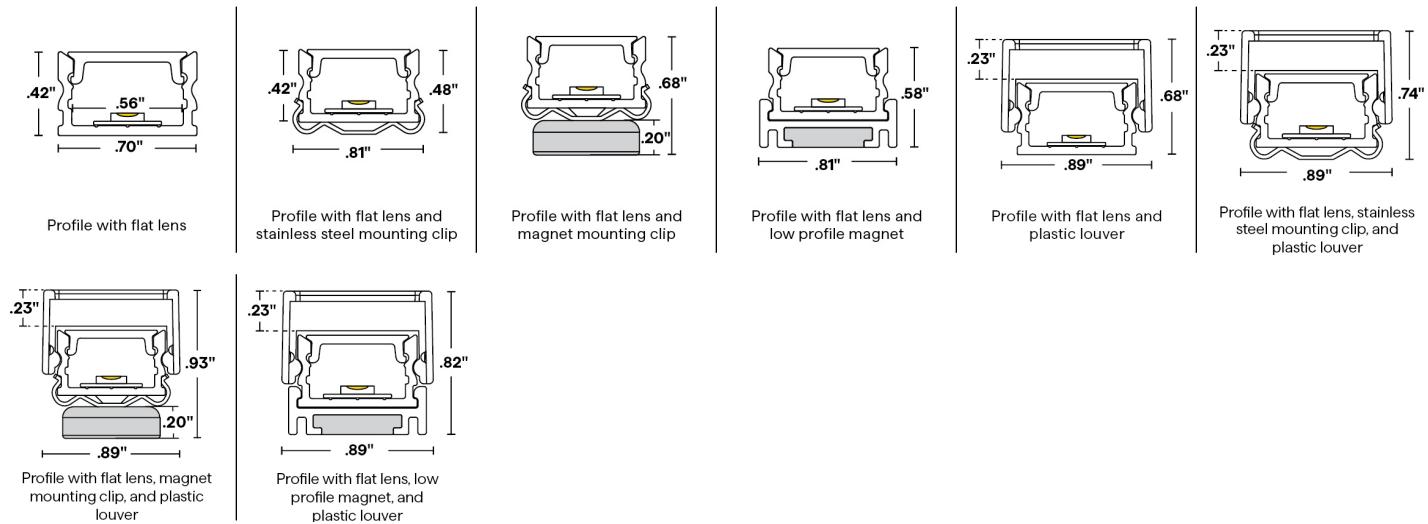
5 year warranty | Warranty only valid with QTL power supplies | Field modifications void warranty | Data subject to change, all data has +/- 5% tolerance



# ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed

## 1 PRODUCT - DIMENSIONS



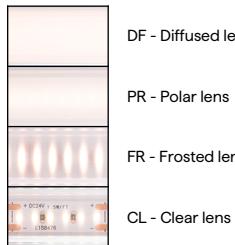
## 2 DELIVERED LUMENS

[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
CL	175	98	321	98	463	92	608
FR	174	98	320	98	461	92	606
PR	157	98	288	98	416	92	546
DF	141	98	259	98	373	92	490
							98
							690
							92

## 6 DIODE VISIBILITY



## PHOTOMETRIC PERFORMANCE

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



Clear 78°



# ESSENTIALS LALO-FLAT (01) SW-HE

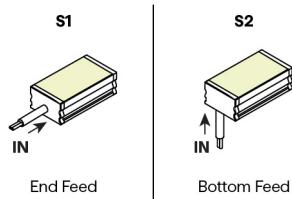
24VDC Linear Fixtures - Surface & Recessed

## TEMPERATURE RATINGS

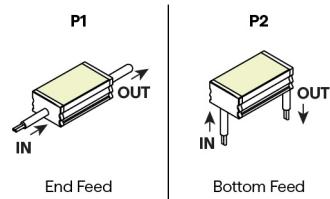
		1.5 HE W/FT		3.0 HE W/FT		3.0 HE+ W/FT		6.0 HE W/FT		6.0 HE+ W/FT	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
DRY	Ambient Operating Temp - Surface	-4°F	145°F	-4°F	135°F	-13°F	135°F	-4°F	120°F	-13°F	120°F
DMP	Ambient Operating Temp - Surface	-4°F	140°F	-4°F	130°F	**	**	-4°F	115°F	**	**
WET	Ambient Operating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

## 7 WIRE INPUT/OUTPUT

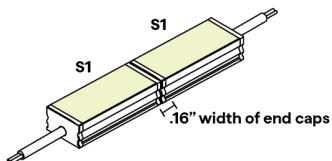
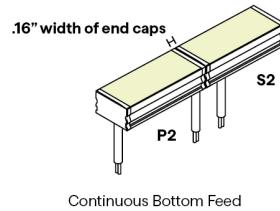
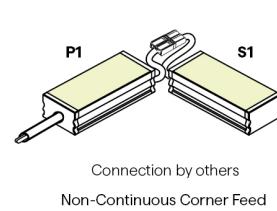
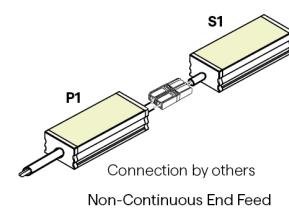
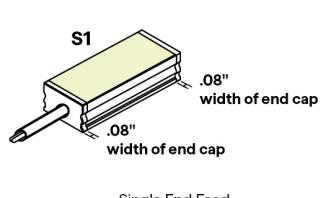
SINGLE (Input only)



PASS THROUGH (Input/Output)



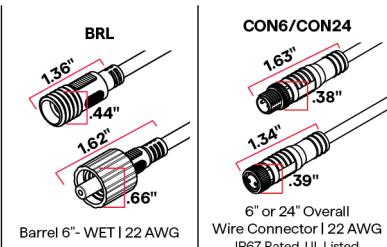
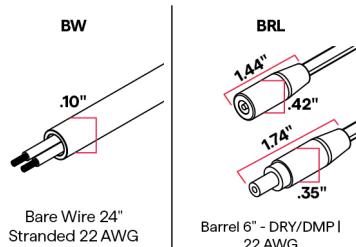
## CONFIGURATION OPTIONS



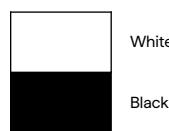
Continuous End to End Feed

## 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



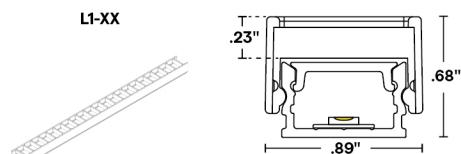
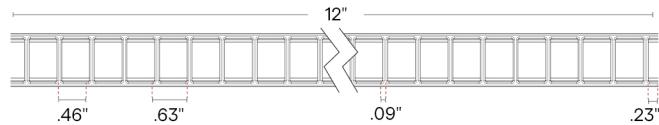


# ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed

## EXTERNAL LOUVER ACCESSORY

### PLASTIC



Lumen Multiplier  
WH BK

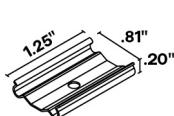


0.72 0.51

Profile with plastic louver  
To order separately use  
LALO-L1-FLAT-KIT-WH or  
LALO-L1-FLAT-KIT-BK

## 12 MOUNTING

### SST



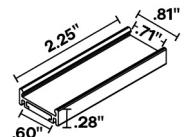
Stainless Steel Clip

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

### M4

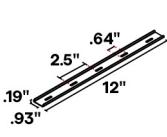


Low Profile Magnet

One M4 provided per foot.

To order separately use  
MG-04

### MMA-04

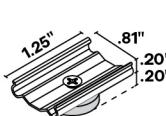


Magnet Mount  
Accessory for M4

Sold separately, to order use  
MMA-04

Each bracket comes with 2 #6  
x 5/8" Flat Head SS

### MG

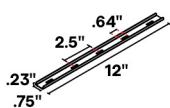


Magnet Clip

One MG provided per foot

To order separately use MG-01

### MMA-01



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

## 13 FINISH



Satin

Black

Custom color available



## ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed

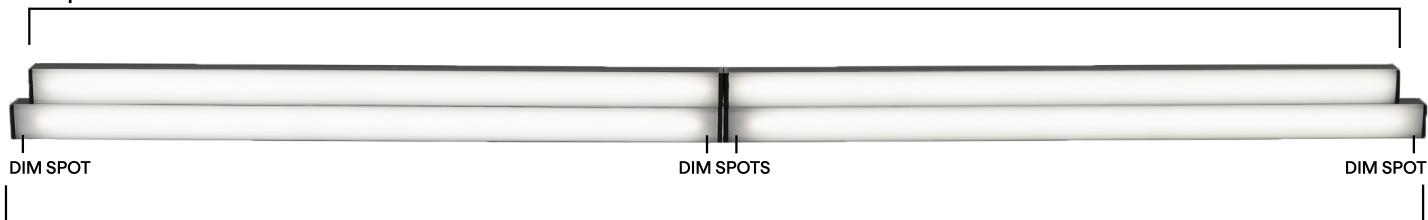
### 15 EXACT/OPTIMAL FIXTURE LENGTH

[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

### 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"	



# ESSENTIALS LALO-FLAT (01) SW-HE

24VDC Linear Fixtures - Surface & Recessed

## SW-HE+ WET LENGTHS BY INCH

Available in any length in between 12" and 98.43", chart below shows example lengths. Exact 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 QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-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 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	



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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

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

## COMPATIBLE WIRING ACCESSORIES

<b>Q-mini-J</b>	<b>Q-mini-J5</b>	<b>BARREL-EXT</b>	<b>BARREL FOUR-FER</b>	<b>CON120-EXT</b>	<b>CON FOUR-FER</b>	<b>CON M - BARREL F</b>	
1.29"  2.27"  2.80"	UL Listed, miniature junction box, DRY/DMP (WET rated with silicone)	UL Listed, miniature junction box, DRY/DMP (WET rated with silicone)	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