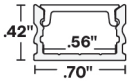
ESSENTIALS LALO-FLAT (01)
WARM DIM APPLICATIONS

24VDC Linear Fixtures - Surface & Recessed

410.2 & 410.16 Closet Rated in 1.5HE

DW-HE ONLY





- Shallow, low-profile fixture for surface or recessed installations
- Choose from diffused, polar, or frosted 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
- Used in applications to provide warmer CCTs as the light is dimmed
- When using DALI and DMX power supplies, LED wattage must be doubled
- Optional plastic louver accessory available in white or black for added glare control

INFORMATION REQUIRED FOR LIGHTING SCHEDULE

1	2	3	4	5	6
PRODUCT	WATTS/ FT	CCT	RATED	EFFICIENCY	LENS
				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: **LL1WD-6.0-19/30-DRY-STD-DF-P1-BW-BW-BK-CL2-SST-BK-48"-E**

1 PRODUCT

LL1DW
LL1DW-USA

Select USA option for BAA and BABA projects. Only DRY or WET ratings apply.

LED engine is built with 3 wires requiring 0-10V, DMX or DALI control. Using DALI, DMX, or non QTL power supplies may double watts/ft. See following pages for compatible power supplies.

LL1WD

LED engine is built with 2 wires suitable for phase dimming control. See following pages for compatible power supplies.

2 WATTS/FT

1.5HE	1.5W/ft HE
2.5HE	2.5W/ft HE
4.0HE	4.0W/ft HE

1.5HE	1.5W/ft HE
2.5HE	2.5W/ft HE

6.0	6.0W/ft

3 CCT

18/30	1800K/3000K
18/35	1800K/3500K
20/27	2000K/2700K
20/30	2000K/3000K
24/40	2400K/4000K
27/40	2700K/4000K
27/55	2700K/5500K

18/30	1800K/3000K
18/35	1800K/3500K
20/27	2000K/2700K
20/30	2000K/3000K
24/40	2400K/4000K
27/40	2700K/4000K
27/55	2700K/5500K

19/27	1900K/2700K
19/30	1900K/3000K

4 RATED

DRY	IP20

DMP	IP54
WET	IP67

Can be suitable for exterior use, contact factory for more information

DRY	IP20
DMP	IP54
WET	IP67

Can be suitable for exterior use, contact factory for more information

5 EFFICIENCY

STD	Standard

6 LENS

DF	Diffused
PR	Polar
FR	Frosted

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

SINGLE (Input only)

S1	End Feed
S2	Bottom Feed

PASS THROUGH (Input/output)

P1	End Feed
P2	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"

BRL only available with LL1WD
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)

BW	Bare Wire (Standard 24")
BRL	Barrel
CON6	Connector 6"
CON24	Connector 24"

BRL only available with LL1WD
BW: Standard length is 24", Max length is 120".
Request custom length by writing in part number next to BW (example: BW48)

10 WIRE COLOR

WH	White
BK	Black
N/A	For Barrel

wet barrel only available in black

11 WIRE TYPE

CL2	Class 2
CL2P	Plenum Rated
N/A	For Barrel

CL2P only available with bare wire leads (BW)

12 MOUNTING

SST	Stainless Steel
M4	Low Profile Magnet
MG	Magnet

13 FINISH

ST	Satin
BK	Black
CU	Custom

Custom finishes require a longer lead time, consult factory

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.

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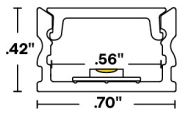
Specification subject to change. Rev-09-17-26

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

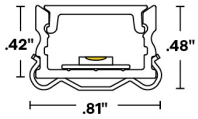
ESSENTIALS LALO-FLAT (01) WARM DIM APPLICATIONS

24VDC Linear Fixtures - Surface & Recessed

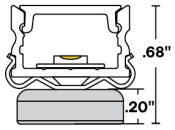
1 PRODUCT - DIMENSIONS



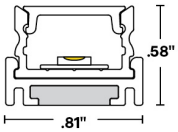
Profile with flat lens



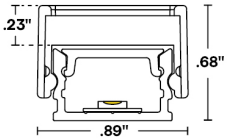
Profile with flat lens and stainless steel mounting clip



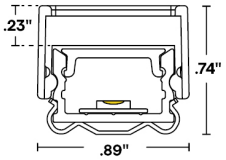
Profile with flat lens and magnet mounting clip



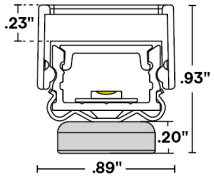
Profile with flat lens and low profile magnet



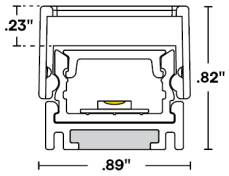
Profile with flat lens and plastic louver



Profile with flat lens, stainless steel mounting clip, and plastic louver



Profile with flat lens, magnet mounting clip, and plastic louver



Profile with flat lens, low profile magnet, and plastic louver

2 DELIVERED LUMENS

[Calculated L70 = 70000 hrs]
Tested with LL1DW-**-30-DRY-STD

	1.5HE W/FT		2.5HE W/FT		4.0HEW/FT	
	LM/FT	CRI	LM/FT	CRI	LM/FT	CRI
FR	140	98	221	98	343	98
PR	126	98	199	98	309	98
DF	113	98	179	98	277	98

[Calculated L70 = 70000 hrs]
Tested with LL1WD-6.0-30-DRY-STD

	3000K	
	LM/FT	CRI
FR	441	97
PR	412	97
DF	362	97

6 DIODE VISIBILITY



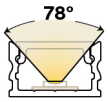
DF - Diffused lens

PR - Polar lens

FR - Frosted lens

PHOTOMETRIC PERFORMANCE

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



78°

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ESSENTIALS LALO-FLAT (01) WARM DIM APPLICATIONS

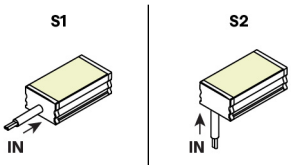
24VDC Linear Fixtures - Surface & Recessed

TEMPERATURE RATINGS

		DW 1.5 HE W/FT		DW 3.0 HE W/FT		DW 2.5 HE W/FT		DW 5.0 HE W/FT		DW 4.0 HE W/FT		DW 8.0 HE W/FT			
		QTL power supply other than DALI, DMX		DALI, DMX, or non-QTL power supply		QTL power supply other than DALI, DMX		DALI, DMX, or non-QTL power supply		QTL power supply other than DALI, DMX		DALI, DMX, or non-QTL power supply		WD 6.0 W/FT	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
DRY	Ambient Operating Temp - Surface	-13°F	145°F	-4°F	135°F	-4°F	135°F	-4°F	120°F	-4°F	125°F	-4°F	105°F	-4°F	115°F
DMP	Ambient Operating Temp - Surface	-13°F	145°F	-4°F	135°F	-4°F	135°F	-4°F	120°F	—	—	—	—	-4°F	115°F
WET	Ambient Operating Temp - Surface	-4°F	140°F	-4°F	130°F	-4°F	130°F	-4°F	115°F	—	—	—	—	-4°F	110°F

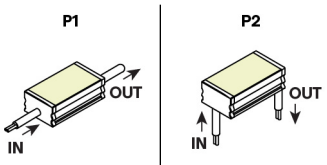
7 WIRE INPUT/OUTPUT

SINGLE (Input only)



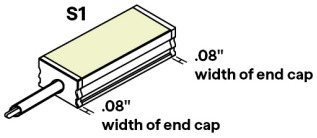
End Feed | Bottom Feed

PASS THROUGH (Input/Output)

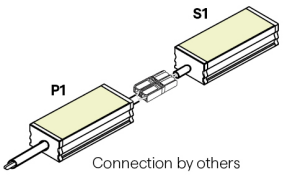


End Feed | Bottom Feed

CONFIGURATION OPTIONS

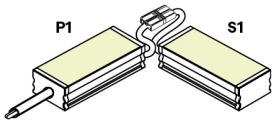


Single End Feed



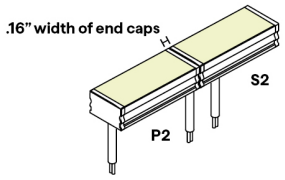
Connection by others

Non-Continuous End Feed

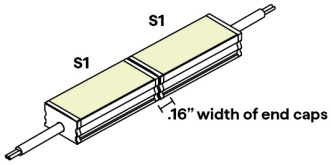


Connection by others

Non-Continuous Corner Feed



Continuous Bottom Feed

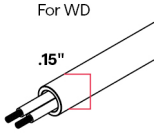


Continuous End to End Feed

8/9 CONNECTOR/WIRE – IN/OUT

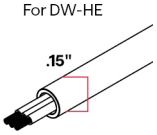
Connector/Wire In or Out not needed to specify product. Standard configuration is BW for Wire In and CLS for Wire out

BW
For WD



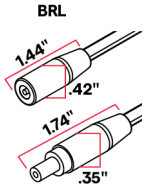
Bare Wire 24"
22 AWG

BW
For DW-HE



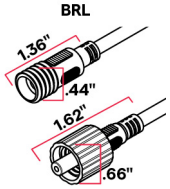
Bare Wire 24"
22 AWG

BRL



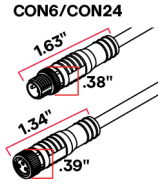
Barrel 6" - DRY/DMP | 22 AWG

BRL



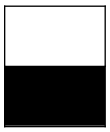
Barrel 6"- WET | 22 AWG

CON6/CON24



6" or 24" Overall
Wire Connector | 22 AWG
IP67 Rated, UL Listed

10 WIRE COLOR



White

Black

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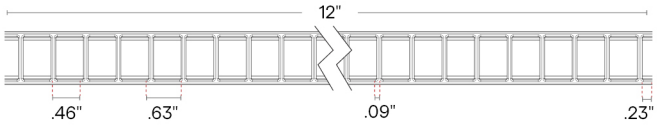
Specification subject to change. Rev-09-17-26

ESSENTIALS LALO-FLAT (01) WARM DIM APPLICATIONS

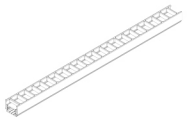
24VDC Linear Fixtures - Surface & Recessed

EXTERNAL LOUVER ACCESSORY

PLASTIC

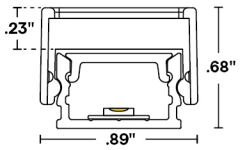


L1-XX



Lumen Multiplier

WH	BK
0.72	0.51

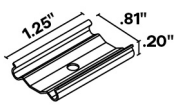


Profile with plastic louver

To order separately use LALO-L1-FLAT-KIT-WH or LALO-L1-FLAT-KIT-BK

12 MOUNTING

SST



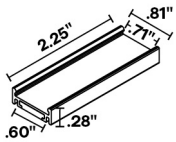
Stainless Steel Clip

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

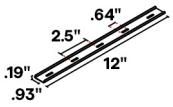


Low Profile Magnet

One M4 provided per foot.

To order separately use MG-04

MMA-04



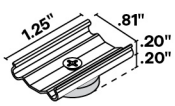
Magnet Mount Accessory for M4

Sold separately, to order use MMA-04

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

Required when mounting to a non-magnetic surface

MG

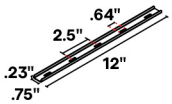


Magnet Clip

One MG provided per foot

To order separately use MG-01

MMA-01



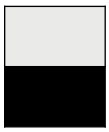
Magnet Mount Accessory of MG-01

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 finishes require a longer lead time, consult factory

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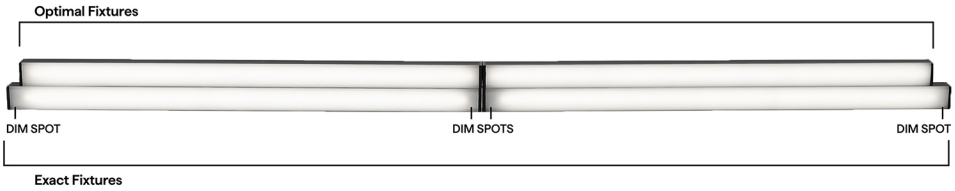
ESSENTIALS LALO-FLAT (01) WARM DIM APPLICATIONS

24VDC Linear Fixtures - Surface & Recessed

14 EXACT/OPTIMAL FIXTURE LENGTH

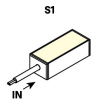
E/O Length Calculator → E/O Explained →

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.

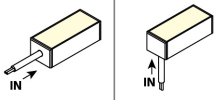
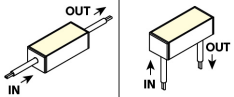


DW-HE DRY DMP LENGTHS BY INCH

EXACT LENGTH

Requested Length	Potential dim spot on either end of a S1 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

Requested Nominal Length	S1 & S2		P1 & P2	
				
	End Feed	Bottom Feed	End Feed	Bottom Feed
12"	10.51"		10.86"	
13"	12.51"		12.86"	
14"	12.51"		12.86"	
15"	14.51"		14.86"	
16"	14.51"		14.86"	
17"	16.51"		16.86"	
18"	16.51"		16.86"	
19"	18.51"		18.86"	
20"	18.51"		18.86"	
21"	20.51"		20.86"	
22"	20.51"		20.86"	
23"	22.51"		22.86"	
24"	22.51"		22.86"	
36"	34.51"		34.86"	
48"	46.51"		46.86"	
60"	58.51"		58.86"	
72"	70.51"		70.86"	
84"	82.51"		82.86"	
96"	94.51"		94.86"	

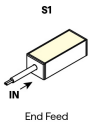
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ESSENTIALS LALO-FLAT (01) WARM DIM APPLICATIONS

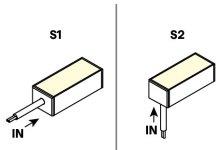
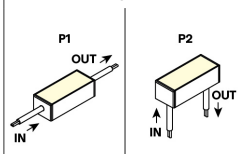
24VDC Linear Fixtures - Surface & Recessed

DW-HE WET LENGTHS BY INCH

EXACT LENGTH

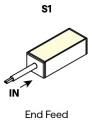
Requested Length	Potential dim spot on either end of a S1 fixture 
12"	1"
13"	0.5"
14"	1"
15"	0.5"
16"	1"
17"	0.5"
18"	1"
19"	0.5"
20"	1"
21"	0.5"
22"	1"
23"	0.5"
24"	1"
36"	1"
48"	1"
60"	1"
72"	1"
84"	1"
96"	1"

OPTIMAL LENGTH

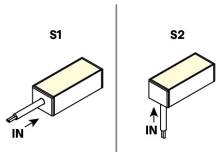
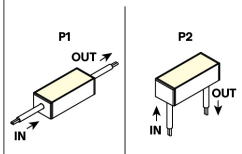
Requested Nominal Length	S1 & S2 	P1 & P2 
12"	10.66"	11.06"
13"	12.66"	11.06"
14"	12.66"	13.06"
15"	14.66"	13.06"
16"	14.66"	15.06"
17"	16.66"	15.06"
18"	16.66"	17.06"
19"	18.66"	17.06"
20"	18.66"	19.06"
21"	20.66"	19.06"
22"	20.66"	21.06"
23"	22.66"	21.06"
24"	22.66"	23.06"
36"	34.66"	35.06"
48"	46.66"	47.06"
60"	58.66"	59.06"
72"	70.66"	71.06"
84"	82.66"	83.06"
96"	94.66"	95.06"

WD DRY DMP LENGTHS BY INCH

EXACT LENGTH

Requested Length	Potential dim spot on either end of a S1 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

Requested Nominal Length	S1 & S2 	P1 & P2 
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"

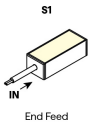
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ESSENTIALS LALO-FLAT (01) WARM DIM APPLICATIONS

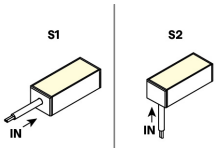
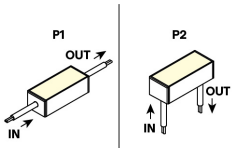
24VDC Linear Fixtures - Surface & Recessed

WD WET LENGTHS BY INCH

EXACT LENGTH

Requested Length	Potential dim spot on either end of a S1 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

Requested Nominal Length	S1 & S2 		P1 & P2 	
	End Feed	Bottom Feed	End Feed	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	
	DW-HE Warm Dim Applications	WD	DW-HE Warm Dim Applications	WD
0.1%	QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT8 QT-CAB-eLED+DALI-DT8-AWN QT-CAB-eLED+WD QT-CAB-eLED+WD-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT8 QTM-eLED+DALI-DT8-AWN QTM-eLED+WD QTM-eLED+WD-AWN QZ-DW	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+0-10V QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-BOWTIE+DIMMER QZ-DMX QZ-PRO-PH/0-10V QZ-STICK-PH/0-10V QZLP	Q-SET-QZ-DW QOM-eLED+DALI-DT6 QOM-eLED+DALI-DT6-PS QOM-eLED+DALI-DT8 QOM-eLED+DALI-DT8-PS QOM-eLED+WD QZ-DW	Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QOM-eLED+DALI-DT6 QOM-eLED+DALI-DT6-PS QZ-DMX QZ-PRO-PH/0-10V
1%	QZ-DALI-DT8	QTM-eLED(E) QZ-DALI-DT6	Q-SET+QZ-DALI-DT8 QZ-DALI-DT8	Q-SET+QZ-DALI-DT6 QZ-DALI-DT6
10%	Non-Dim Power Supply with WD App Dongle	Non-Dim Power Supply with SW App Dongle		

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ESSENTIALS LALO-FLAT (01) WARM DIM APPLICATIONS

24VDC Linear Fixtures - Surface & Recessed

DIMMING PROTOCOL	INDOOR		OUTDOOR	
	DW-HE Warm Dim Applications	WD	DW-HE Warm Dim Applications	WD
Phase	QZ-DW	QT-CAB-QZ-PH/0-10V QTM-eLED(E) QZ-BOWTIE+DIMMER QZ-PRO-PH/0-10V QZ-STICK-PH/0-10V QZLP	Q-SET-QZ-DW QZ-DW	Q-SET-QZ-PH/0-10V QZ-PRO-PH/0-10V
0-10V	QT-CAB-eLED+WD QT-CAB-eLED+WD-AWN QTM-eLED+WD QTM-eLED+WD-AWN QZ-DW	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QTM-eLED+0-10V QZ-PRO-PH/0-10V QZ-STICK-PH/0-10V QZLP	Q-SET-QZ-DW QOM-eLED+WD QZ-DW	Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QZ-PRO-PH/0-10V
Lutron Athena	QT-CAB-eLED+DALI-DT8-AWN QT-CAB-eLED+WD-AWN QTM-eLED+DALI-DT8-AWN QTM-eLED+WD-AWN	QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+DALI-DT6-AWN		
ECO System		QTM-eLED(E)		
DMX If using DW LED, wattage must be doubled		QZ-DMX		QZ-DMX
DALI-2: DT6 If using DW LED, wattage must be doubled except for AWN	QT-CAB-eLED+DALI-DT6 QTM-eLED+DALI-DT6	QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-DALI-DT6	QOM-eLED+DALI-DT6	Q-SET+QZ-DALI-DT6 QOM-eLED+DALI-DT6 QZ-DALI-DT6
DALI-2: DT8 If using DW LED, wattage must be doubled except for AWN	QT-CAB-eLED+DALI-DT8 QT-CAB-eLED+DALI-DT8-AWN QTM-eLED+DALI-DT8 QTM-eLED+DALI-DT8-AWN QZ-DALI-DT8		Q-SET+QZ-DALI-DT8 QOM-eLED+DALI-DT8 QZ-DALI-DT8	
SCENE App Dimmed	Non-Dim Power Supply with WD App Dongle	Non-Dim Power Supply with SW App Dongle		

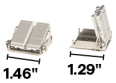
COMPATIBLE MOUNTING ACCESSORIES

HINGE - HMB-M



Adjustable mounting bracket - Medium

HINGE - HMB-L



Adjustable mounting bracket - Large

HINGE - HMB-XL



Adjustable mounting bracket - XLarge

Q-PIVOT



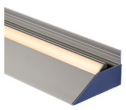
Small mounting accessory

Q-ANGLE



Adjustable mounting accessory

QUOVA-STANDARD



QUOVA Knife Edge

VHB



Double sided mounting tape

NJ-MEDIUM



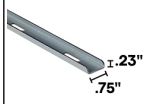
J Mounting Bracket

SD-L-MEDIUM



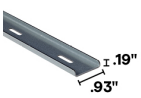
L Mounting Bracket

MMA-01



Magnet Mount Accessory of MG-01

MMA-04



Magnet Mount Accessory of MG-04

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Specification subject to change. Rev-09-17-26

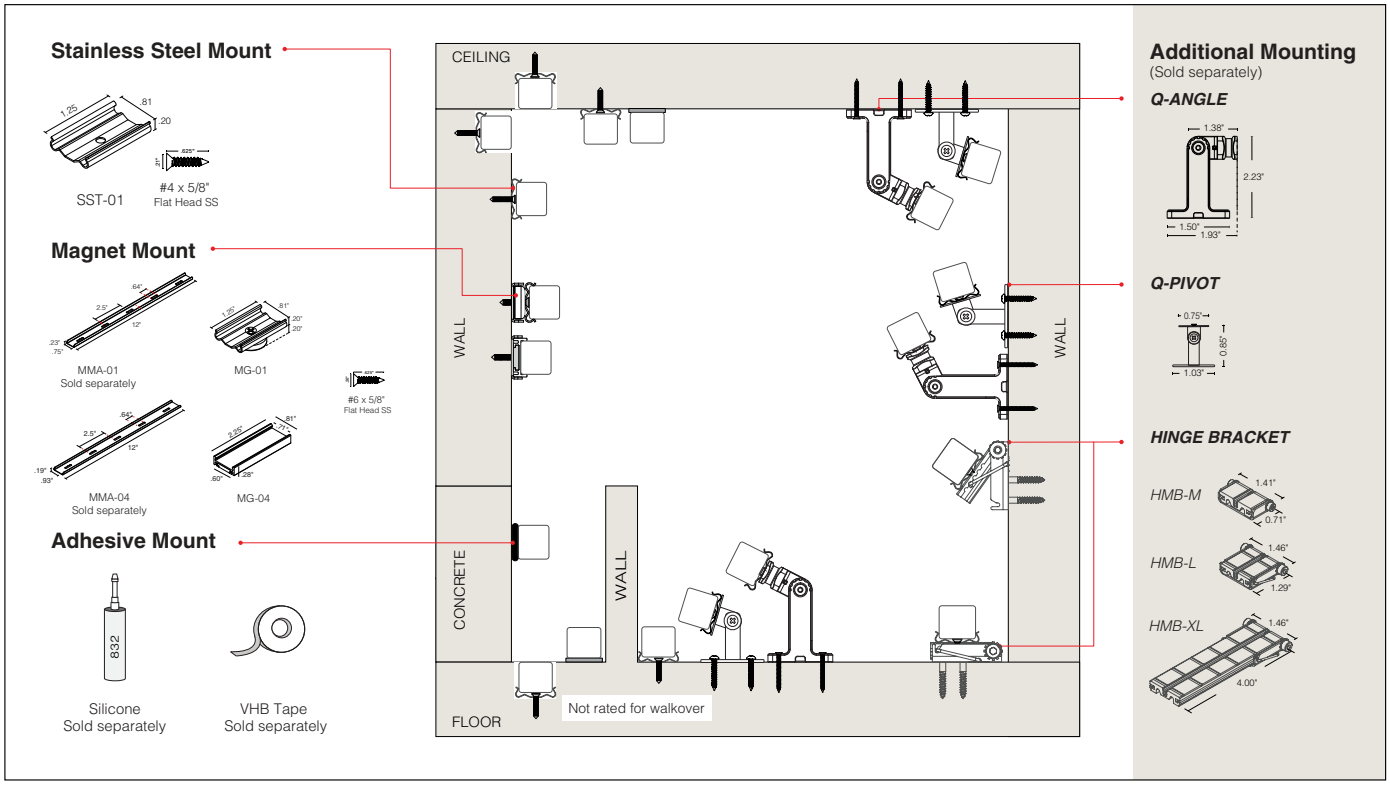
ESSENTIALS LALO

Linear Fixture Installation Instructions

ATTENTION: Please read all instructions BEFORE installation

- Product to be installed by a licensed electrician - Field modifications void warranty
- Use only with Class 2 power supply unit — Warranty only valid with QTL power supplies
- Surface mount or recessed in millwork
- Suitable for installation in storage area of a clothes closet when assembled as a finished fixture up to 4W/ft at QTL facility
- Not rated for walkover
- Input Voltage: 24VDC
- Diagrams for representation only and not to scale.

METHODS OF INSTALLATION:



Surface Mounting Method

- VHB Mount (page 5-6)
- Silicone Mount (page 7)
- Screw Mount (page 8)
- Magnet Mount (page 9)
- Low Profile Magnet Mount (page 10)

Recessed Mounting Method

- Magnet Mount : Millwork (page 11)

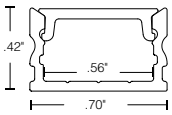
Louver Install Method

- Install Louver (page 12)
- Install Gasket For Vertical Louver (page 13)

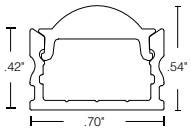
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ESSENTIALS LALO

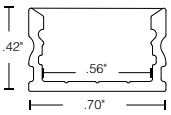
Linear Fixture Installation Instructions



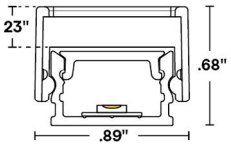
LALO-FLAT (01)



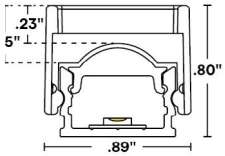
LALO-OPTICS (02)



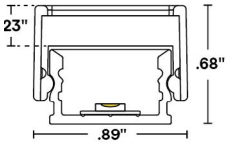
LALO-ENCAPSULATED (03)



LALO-FLAT (01)
With Louver



LALO-OPTICS (02)
With Louver

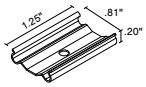


LALO-ENCAPSULATED (03)
With Louver

COMPONENTS & HARDWARE

Alternate screw lengths can be used in installation as long as the screw diameter size is consistent with the included screw diameter size

STAINLESS STEEL CLIP

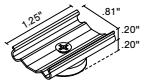


SST-01

Included	
	Flat Head Screw #4x5/8"

- 2 clips provided for 4' or less; 4 clips provided for greater than 4'

MAGNET CLIP

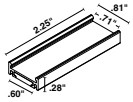


MG-01

Included	
	Flat Head Screw #6x5/8"

- One magnet clip per foot

LOW PROFILE MAGNET CLIP



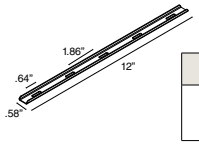
MG-04

Included	
	Flat Head Screw #6x5/8"

- One magnet clip per foot

ACCESSORIES SOLD SEPARATELY

MAGNET MOUNT ACCESSORY; sold individually



MMA-01

Included
Flat Head Screw #6x5/8"

- MMA-01 comes in 12" pieces; use at least one clip per MMA-01 accessory
- MMA-01 can be cut into smaller pieces, if desired

HINGE BRACKET; sold individually

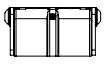
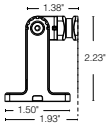


Image shows HMB-M

HMB-M
HMB-L
HMB-XL

Included
• 3/4" long mount screw • 1/4" #4 clip mount screw

Q-ANGLE; sold in pairs



Q-ANGLE

Included
• 3/4" long mount screw • 1/4" #4 clip mount screw

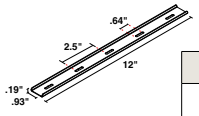
Q-PIVOT; sold in pairs



Q-PIVOT

Included
• SS #4-40x3/16 Flat head screw • 2 #4x3/4 Pan head screws

LOW PROFILE MAGNET MOUNT ACCESSORY; sold Individually

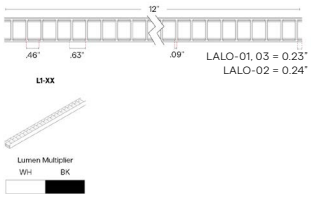


MMA-04

Included
2 #6x5/8" Flat Head screws

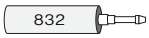
- MMA-04 comes in 12" pieces; use at least one clip per MMA-04 accessory
- MMA-04 can be cut into smaller pieces, if desired

EXTERNAL LOUVER



- L1-WH - White Plastic
- L1-BK - Black plastic

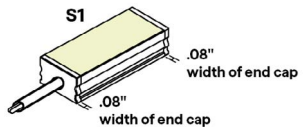
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ADHESIVE SOLD SEPARATELY	
SILICONE	VHB TAPE; sold in 15' increments
 DOWSIL 832	 TAPE-VHB-IP20

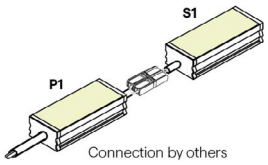
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CONFIGURATION OPTIONS

LALO-FLAT & LALO-ENC

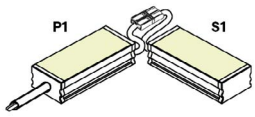


Single End Feed



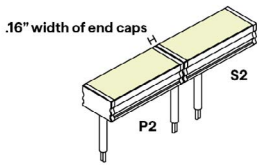
Connection by others

Non-Continuous End Feed

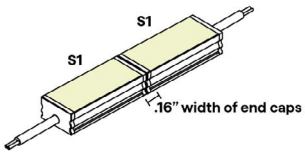


Connection by others

Non-Continuous Corner Feed

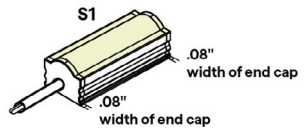


Continuous Bottom Feed

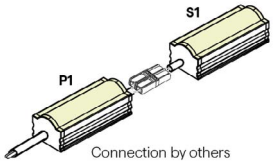


Continuous End to End Feed

LALO-OPTICS

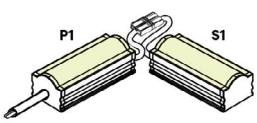


Single End Feed



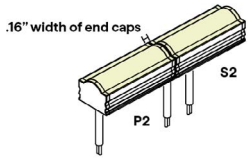
Connection by others

Non-Continuous End Feed

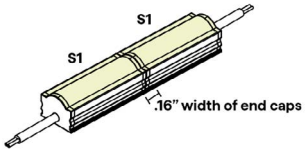


Connection by others

Non-Continuous Corner Feed



Continuous Bottom Feed



Continuous End to End Feed

Review wire method to ensure clean installation prior to mounting finished Fixture.

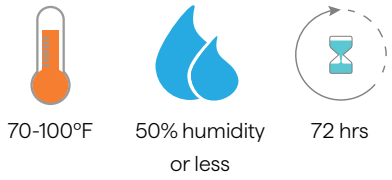
NOTE: Additional wire methods include:
S1 & S2: Connector/Wire Input only
P1 & P2: Connector/Wire Input and Output

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SURFACE MOUNTING METHOD

SURFACE PREPARATION

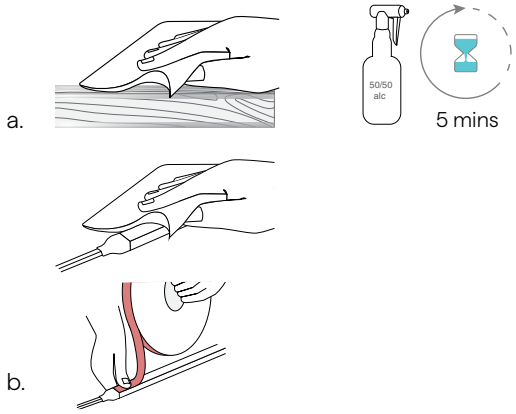
1



Temperature and environmental concerns:

- Ideal application environment is 70-100°F in 50% humidity or less.
- Minimum application temperature: 50°F
- This temperature and humidity should be maintained for 72 hours after application for maximum bond strength.

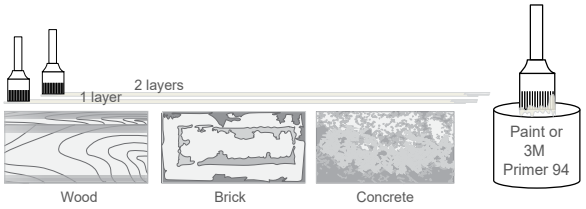
2



a. Using a 50/50 alcohol mix, thoroughly clean the backside of the Fixture and the surface area where Fixture will be installed. Allow 5 minutes to dry.

b. Peel back 0.5" of the VHB tape's protective film on one end and use firm pressure to adhere it to the desired surface, avoiding air bubbles. Continue peeling the film and adhering the tape in small sections until the entire length is installed.

3



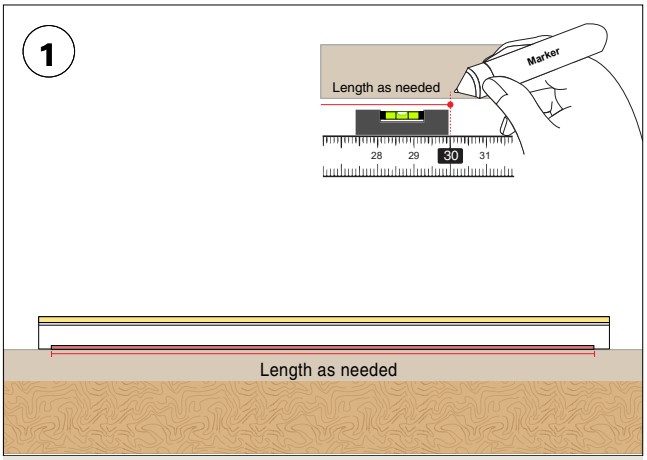
For porous materials (Wood, Brick, Concrete etc.) apply two layers of paint or primer to the surface. This will help create a better bonding surface for these materials. These can be purchased from a local hardware store.

MATERIALS	SUGGESTED EPOXIES
Concrete, Stone, Cinderblock, Metal, and Brick	Loctite Metal and Concrete Two-Part Epoxy
ABS, Fiberglass, Plastic, and PVC	Loctite Plastic Two-Part Epoxy
Tile, Wood, Ceramic, Glass, or Metal	Loctite Clear Two-Part Epoxy
All Purpose	Strong Stik

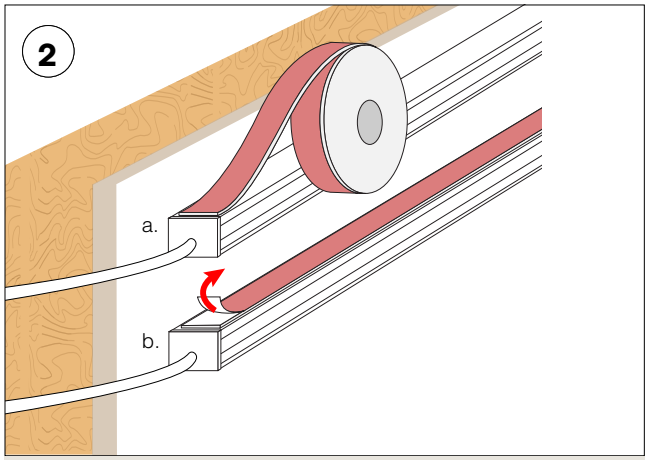
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SURFACE MOUNTING METHOD: **VHB ADHESIVE MOUNT**

BEFORE installation, the surface must be thoroughly cleaned and dried for maximum bond strength.

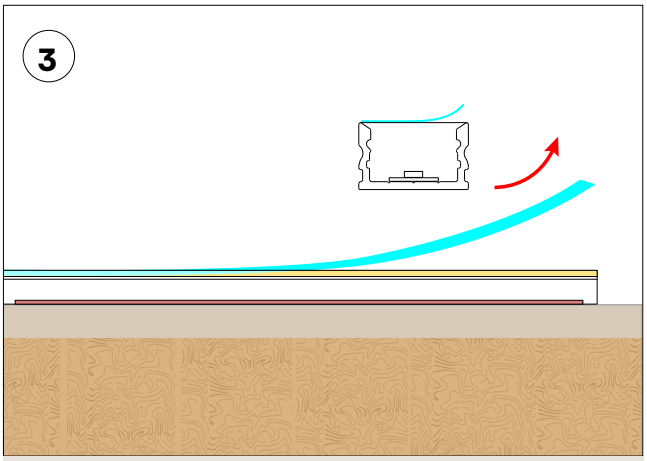


Determine the LALO fixture(s) location and positioning on desired surface before adhering Fixture to surface. Make any necessary reference markings to indicate fixture placement.



a. To adhere the VHB adhesive, peel the white film back while evenly applying the tape to the mounting side of the fixture. The red side should be visible.

b. Remove the red film and position fixture in place according to your previous reference marking(s).



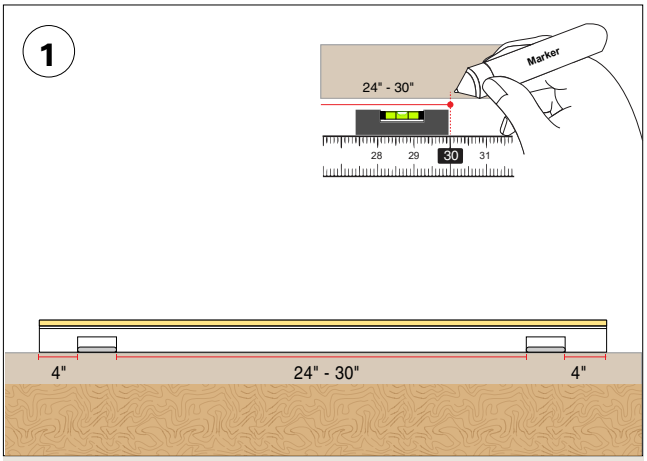
Remove protective film from the surface of the fixture's lens.

NOTES: *EPOXY ALTERNATIVE: For improved bonding strength, apply a small amount of epoxy at each end. Refer to table on* page 5 *for suggested epoxies. These can be purchased at a local hardware store. Please follow all manufacturer instructions for suggested epoxy.*

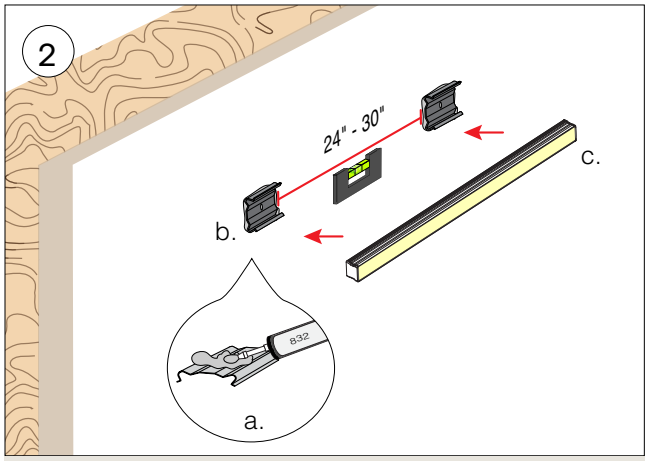
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SURFACE MOUNTING METHOD: **SILICONE**

- 2 clips provided for 4’ or less; 4 clips provided for greater than 4’



Determine the LALO fixture(s) location and positioning on desired surface; evenly distribute clips. Make any necessary reference markings to indicate where each clip is to be secured in place. Recommended every 24” - 30”.

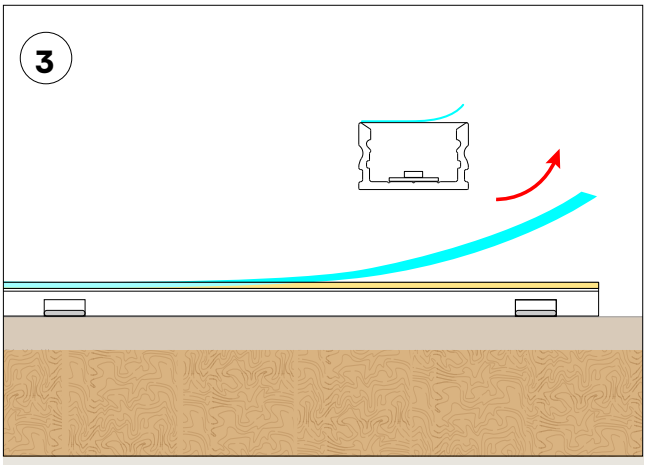


a. Firmly press the silicone-coated clips on the marked reference points.

b. Wait for silicone adhesive to cure completely before snapping fixture into place.

c. Snap fixture onto clips.

NOTE: Cure time is dependent on the type of silicone adhesive used. Refer to silicone product manufacturer for accurate drying time.

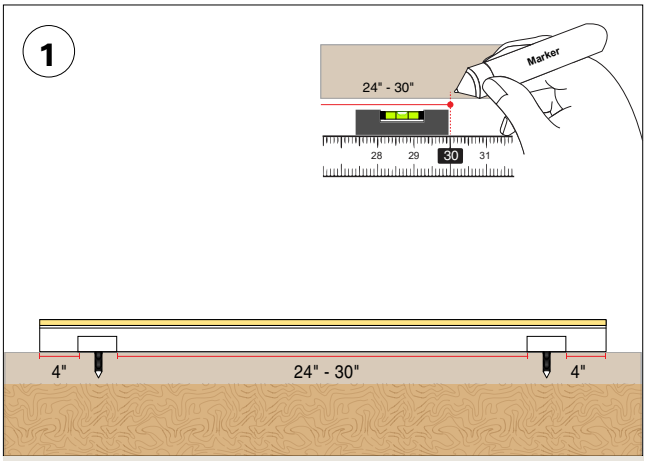


Remove protective film from the surface of the fixture’s lens.

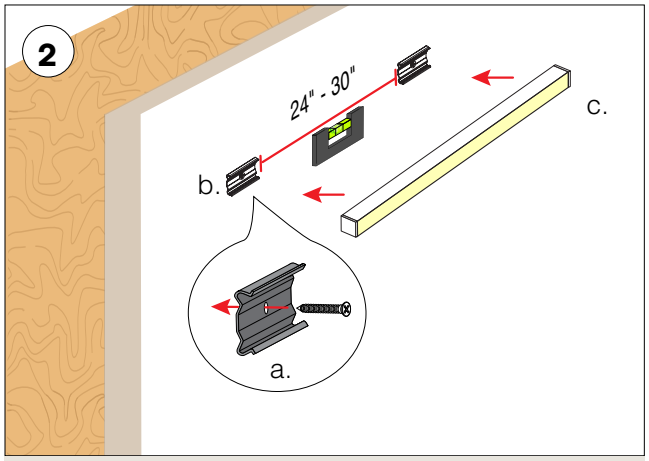
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SURFACE MOUNTING METHOD: **SCREW MOUNT**

- 2 clips provided for 4’ or less; 4 clips provided for greater than 4’



Determine the LALO fixture(s) location and positioning on desired surface; evenly distribute clips. Make any necessary reference markings to indicate where each clip is to be secured in place. Recommended every 24” - 30”.

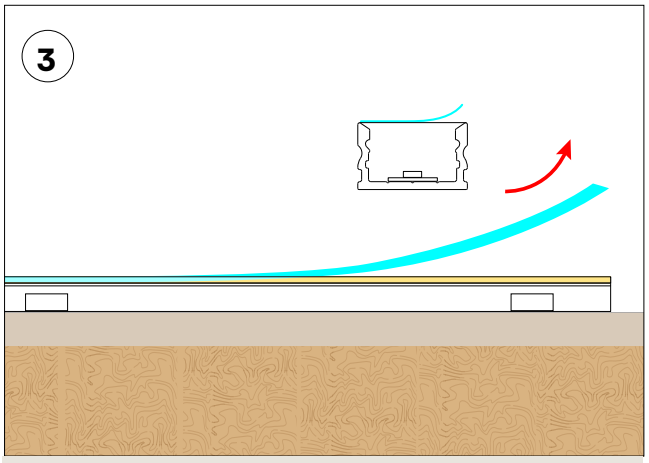


a. Secure clips using the #4 flat head hardware provided.

b. Ensure the screw head is flush with the clip’s base.

c. Snap fixture onto clips.

NOTE: Flat head screw type is dependent on surface/application material. Alternative flat head screws may be required. Refer to the surface material manufacturer for suggested screw type.

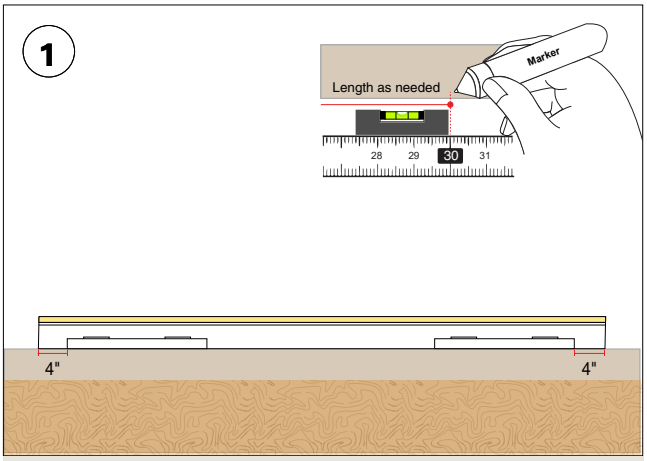


Remove protective film from the surface of the fixture’s lens.

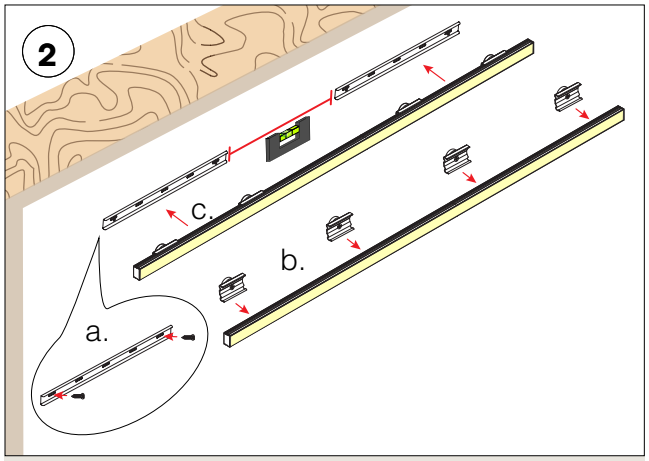
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SURFACE MOUNTING METHOD: **MAGNET MOUNT**

- One magnet clip per foot
- MMA-01 comes in 12" pieces; use at least one clip per MMA-01 accessory
- MMA-01 can be cut into smaller pieces, if desired



Determine the LALO fixture(s) location and positioning on desired surface. Make any necessary reference markings to indicate where the magnet mount accessory bracket is to be secured in place.

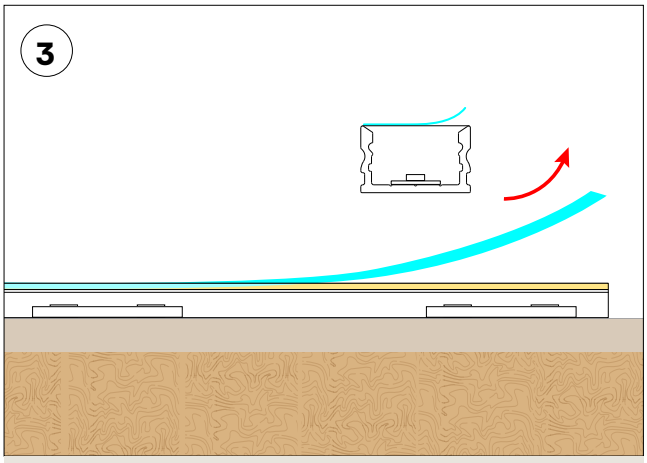


a. Mount the two #6 flat head screws into the 12" magnet mount accessory bracket through the slotted holes at each end. Ensure the screw head is flush with the magnet mount bracket.

b. Snap the magnet clips onto the backside of the fixture. They should be offset to the accessory bracket screws to maximize magnetic connection.

c. Place the assembled fixture into the magnet mount bracket.

NOTE: If surface application requires a longer screw, the screw size must be a #6 Flat Head.

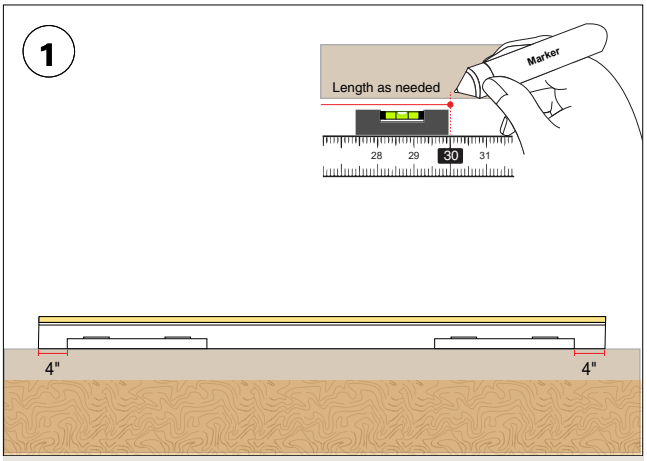


Remove protective film from the surface of the fixture's lens.

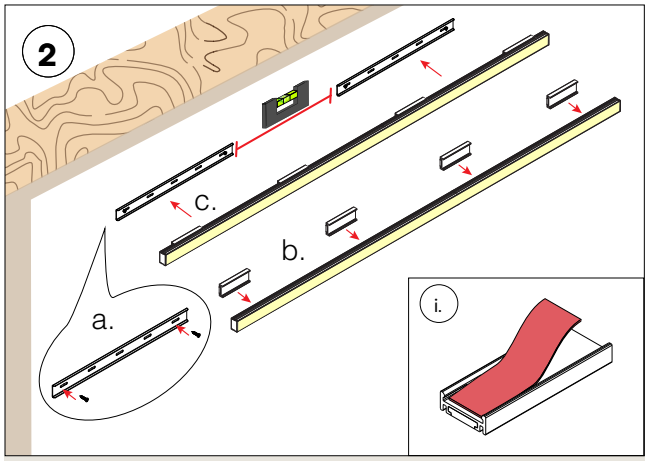
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SURFACE MOUNTING METHOD: **LOW PROFILE MAGNET MOUNT**

- One magnet clip per foot
- MMA-04 comes in 12" pieces; use at least one clip per MMA-04 accessory
- MMA-04 can be cut into smaller pieces, if desired



Determine the LALO fixture(s) location and positioning on desired surface. Make any necessary reference markings to indicate where the magnet mount accessory bracket is to be secured in place.

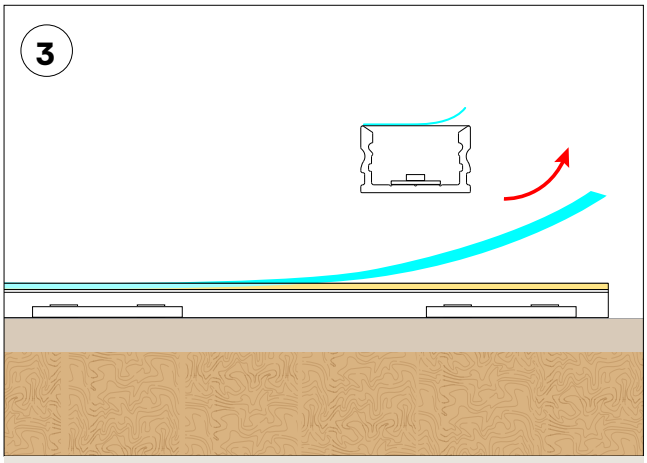


a. Mount the two #6 flat head screws into the magnet mount accessory bracket through the slotted holes at each end. Ensure the screw head is flush with the magnet mount bracket.

b. Snap the magnet clips onto the backside of the fixture. They should be offset to the accessory bracket screws to maximize magnetic connection.
i. If the clip does not fit securely onto the extrusion, apply the provided foam onto the inner face of the magnet clip.

c. Place the assembled fixture into the magnet mount bracket.

NOTE: If surface application requires a longer screw, the screw size must be a #6 Flat Head.

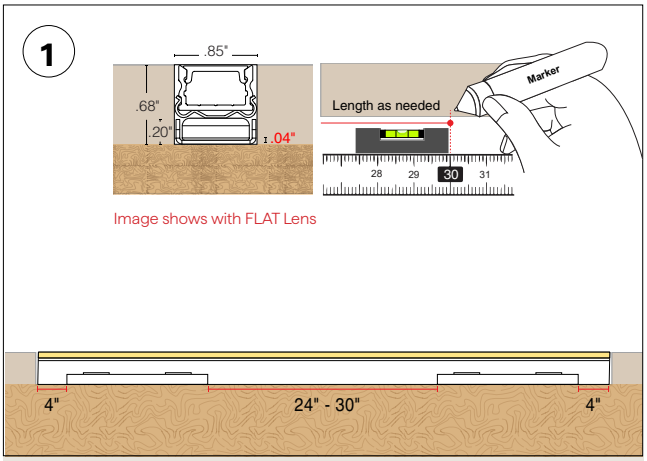


Remove protective film from the surface of the fixture's lens.

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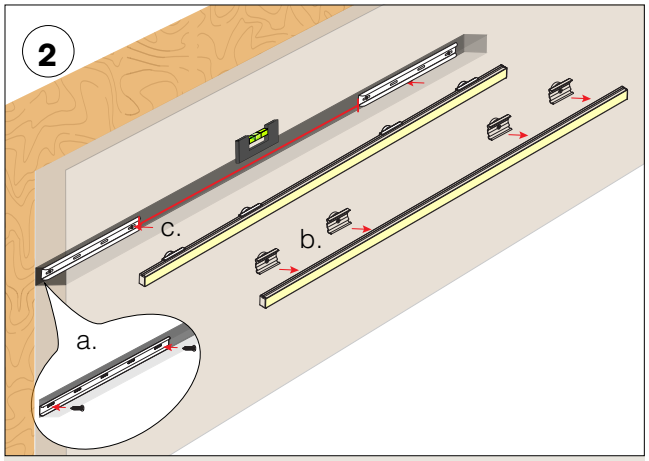
RECESSED MOUNTING METHOD: **MILLWORK**

- One magnet clip per foot
- MMA-01 comes in 12" pieces; use at least one clip per MMA-01 accessory
- MMA-01 can be cut into smaller pieces, if desired



Determine the LALO fixture(s) location and positioning on desired surface. Make any necessary reference markings to indicate where the magnet mount accessory bracket is to be secured in place.

NOTE: Depth of the channel in the millwork is dependent on overall height with the magnet clip and Magnet Mount Accessory.

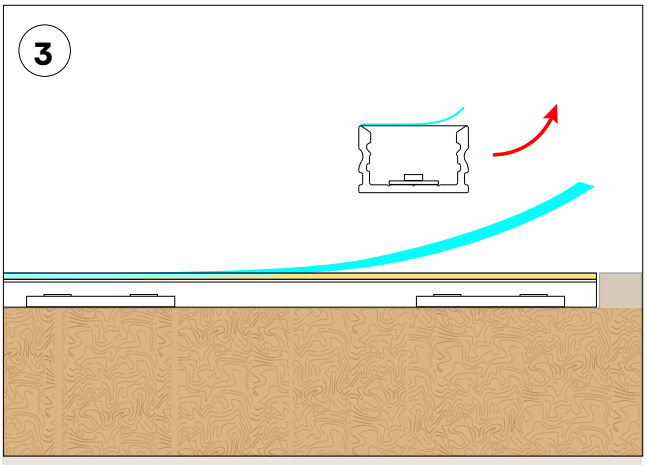


a. Mount the two #6 flat head screws into the 12" magnet mount accessory bracket through the slotted holes at each end. Ensure the screw head is flush with the magnet mount bracket.

b. Snap the magnet clips onto the backside of the fixture. They should be offset to the accessory bracket screws to maximize magnetic connection.

c. Place the assembled fixture into the magnet mount bracket.

NOTE: If surface application requires a longer screw, the screw size must be a #6 Flat Head.

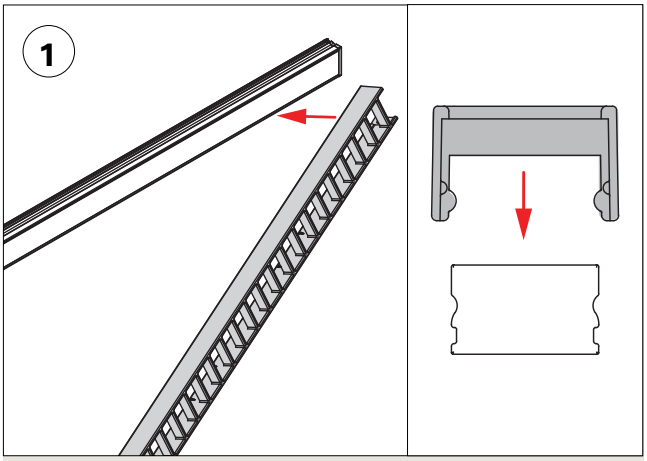


Remove protective film from the surface of the fixture's lens.

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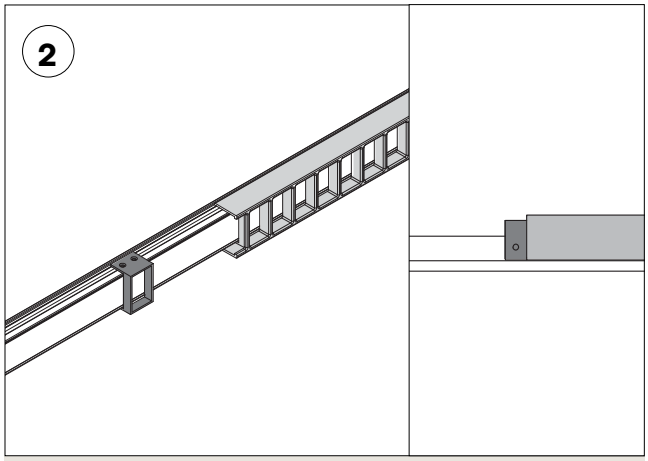
INSTALL METHOD: **LOUVER**

Louvers can be snapped onto the fixture either before or after it is mounted to the surface using the provided mounting clip.

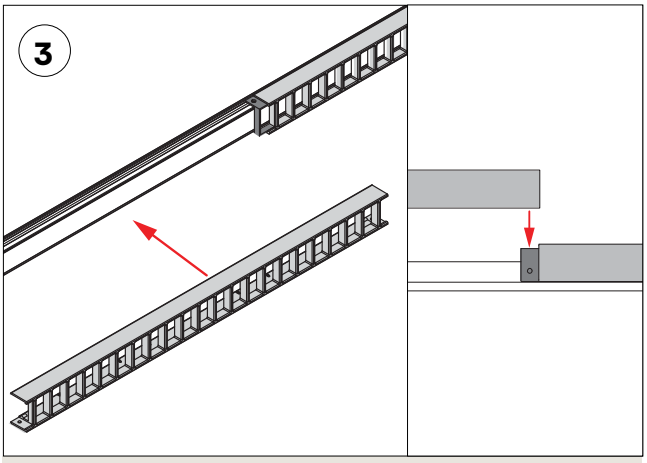


Snap the louver onto the fixture.

NOTE: Tilting the louver and snapping on one end first, then pressing down on the remaining length makes for an easier install.



Snap the louver connector onto the fixture, then slide it into the end of the mounted louver.



Snap the next louver onto the fixture and over the connector, the louver can also be slid into the connector.

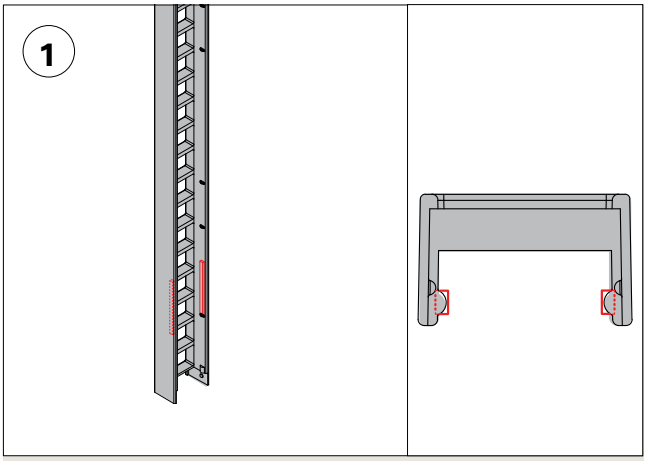
NOTE: These plastic louvers are field-cuttable. We recommend trimming the last segment as needed and positioning the cut end at the fixture's edge for a clean finish.

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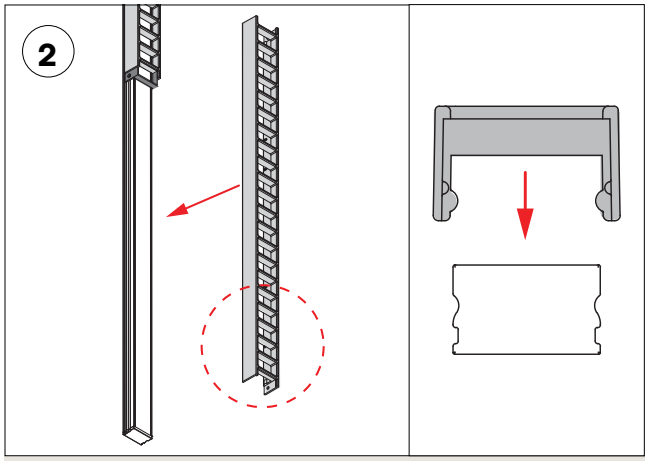
INSTALL METHOD: **LOUVER-GASKET**

Louvers can be snapped onto the fixture either before or after it is mounted to the surface using the provided mounting clip.

- When the fixture is mounted vertically, install a pair of gaskets on the inner side of the lowest louver to act as a stopper.



Remove the adhesive backing on the gasket, then place one on each side of the louver's inner walls, towards the bottom edge.



Snap last louver onto the fixture (should be lowest louver on fixture, when mounted vertically).

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ESSENTIALS LALO-FLAT-WD(01)

Linear Fixtures Color Data

LL1WD-6.0-27-DRY-STD-FR

2834 K

CRI: 97.3

CRI R9: 97.5

TM30 Rf: 93.7

TM30 Rg: 99.0

CQS: 94.3

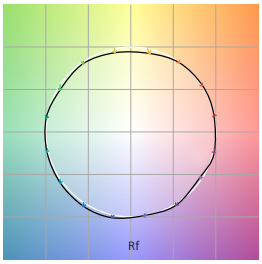
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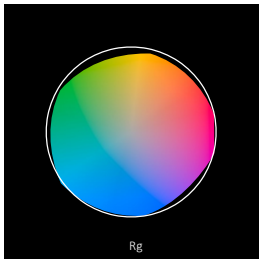
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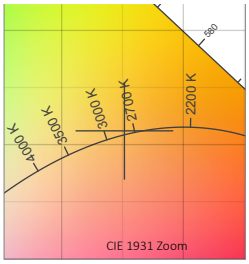
U: 0.257

V: 0.351

Δuv: 0.0013







R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
96.8	98.6	97.1	96.1	97.0	96.5	97.9	98.0	97.5	98.6	93.5	87.9	96.9	97.2	98.2
Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Q14**	**Q15**
91.1	94.8	96.4	96.6	96.6	96.2	96.1	95.4	93.3	92.0	93.4	93.6	94.8	96.5	94.3
C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**	**C11**	**C12**	**C13**	**C14**	**C15**	**C16**
95.7	96.7	95.2	90.9	94.1	95.2	90.1	94.8	93.0	92.5	93.5	93.1	94.0	94.1	92.9	91.9

TM30			
Hue Bin	R_f	Chroma	Hue
1	96	0%	1%
2	97	0%	-1%
3	95	-1%	-2%
4	91	-5%	-4%
5	94	-5%	0%
6	95	-2%	3%
7	90	-3%	5%
8	95	1%	3%
9	93	1%	4%
10	93	2%	4%
11	94	4%	3%
12	93	3%	-2%
13	94	0%	-5%
14	94	1%	-4%
15	93	-3%	2%
16	92	1%	-6%

LL1WD-6.0-27-DRY-STD-PR

2827 K

CRI: 97.2

CRI R9: 97.5

TM30 Rf: 93.3

TM30 Rg: 98.7

CQS: 93.8

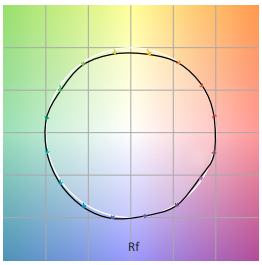
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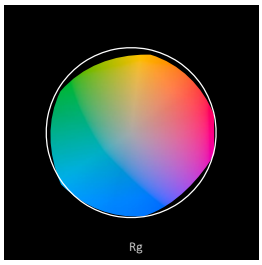
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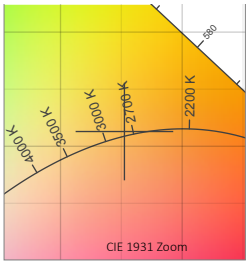
U: 0.257

V: 0.351

Δuv: 0.0016







R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
96.8	98.6	97.1	96.1	97.0	96.5	97.6	97.8	97.5	98.5	93.6	87.2	96.9	97.2	98.1
Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Q14**	**Q15**
90.4	94.4	96.5	96.5	96.2	95.5	95.5	94.8	92.5	91.0	92.8	93.2	94.6	96.6	93.9
C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**	**C11**	**C12**	**C13**	**C14**	**C15**	**C16**
95.4	96.5	94.7	90.1	93.5	94.6	89.0	94.2	92.3	91.9	93.2	92.9	93.8	93.9	92.5	91.7

TM30			
Hue Bin	R_f	Chroma	Hue
1	95	0%	1%
2	97	0%	-1%
3	95	-1%	-3%
4	90	-6%	-4%
5	94	-5%	0%
6	95	-2%	3%
7	89	-4%	6%
8	94	1%	4%
9	92	1%	5%
10	92	2%	5%
11	93	4%	3%
12	93	3%	-3%
13	94	-1%	-5%
14	94	1%	-4%
15	92	-3%	2%
16	92	1%	-6%

NOTES:
- CRI R values, only R1-R8 are used to calculate RA CRI values
- TM30 C values, 16 binned values out of total of 99 C values
- CQS Q values
- Data subject to change, all data has +/- 5% tolerance

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ESSENTIALS LALO-FLAT-WD(01)

Linear Fixtures Color Data

LL1WD-6.0-27-DRY-STD-DF

2820 K

CRI: 97.1

CRI R9: 98.6

TM30 Rf: 93.9

TM30 Rg: 99.1

CQS: 94.2

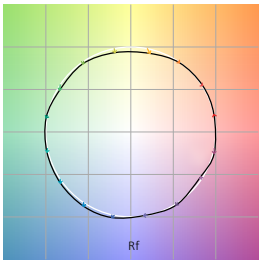
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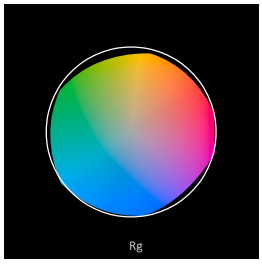
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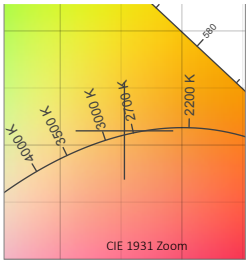
U: 0.257

V: 0.351

Δuv: 0.0014







R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
96.4	98.5	96.7	95.8	96.8	96.5	98.0	98.0	98.6	98.5	93.0	88.3	96.6	97.0	97.9
Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Q14**	**Q15**
91.2	94.8	96.6	96.8	96.8	96.3	95.9	95.1	93.1	91.8	93.1	93.2	94.4	96.6	94.3
C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**	**C11**	**C12**	**C13**	**C14**	**C15**	**C16**
95.9	96.5	95.0	91.1	94.3	95.2	90.3	94.9	93.3	92.9	93.9	93.3	94.3	94.4	93.1	92.3

TM30			
Hue Bin	R_f	Chroma	Hue
1	96	0%	1%
2	97	1%	-1%
3	95	0%	-2%
4	91	-5%	-4%
5	94	-5%	0%
6	95	-2%	3%
7	90	-3%	5%
8	95	1%	3%
9	93	1%	4%
10	93	2%	4%
11	94	4%	3%
12	93	3%	-2%
13	94	0%	-4%
14	94	1%	-4%
15	93	-2%	2%
16	92	1%	-6%

NOTES:
- CRI R values, only R1-R8 are used to calculate RA CRI values
- TM30 C values, 16 binned values out of total of 99 C values
- CQS Q values
- Data subject to change, all data has +/- 5% tolerance

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Specification subject to change. Rev-02-02-26

ESSENTIALS LALO-FLAT-WD(01)

Linear Fixtures Color Data

LL1WD-6.0-30-DRY-STD-FR

3106 K

CRI: 96.9

CRI R9: 98.6

TM30 Rf: 92.1

TM30 Rg: 98.2

CQS: 93.6

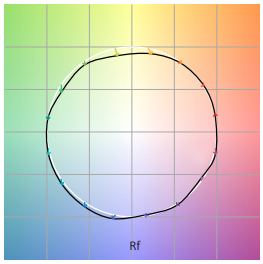
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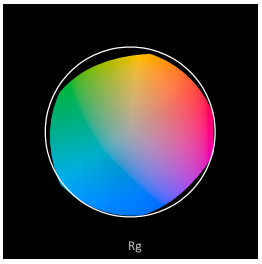
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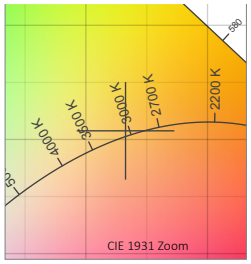
U: 0.246

V: 0.348

Δuv: 0.0020







R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
96.7	98.3	97.6	96.1	96.9	96.7	96.5	96.8	98.6	97.8	94.8	84.1	96.7	97.6	97.1
Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Q14**	**Q15**
89.2	93.8	96.9	95.9	95.1	94.1	95.2	94.7	92.3	90.8	93.3	93.5	94.8	96.8	93.5
C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**	**C11**	**C12**	**C13**	**C14**	**C15**	**C16**
94.6	95.9	93.7	89.2	90.4	93.6	86.7	93.1	90.4	89.5	92.3	92.0	93.6	93.6	91.0	91.4

TM30			
Hue Bin	R_f	Chroma	Hue
1	95	0%	2%
2	96	1%	-2%
3	94	-1%	-3%
4	89	-5%	-5%
5	90	-9%	-1%
6	94	-4%	3%
7	87	-5%	7%
8	93	0%	5%
9	90	1%	7%
10	89	3%	6%
11	92	4%	3%
12	92	4%	-3%
13	94	-1%	-5%
14	94	1%	-4%
15	91	-2%	0%
16	91	2%	-6%

LL1WD-6.0-30-DRY-STD-PR

3096 K

CRI: 96.9

CRI R9: 98.7

TM30 Rf: 91.9

TM30 Rg: 98.1

CQS: 93.3

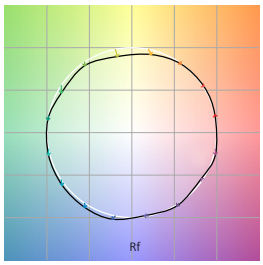
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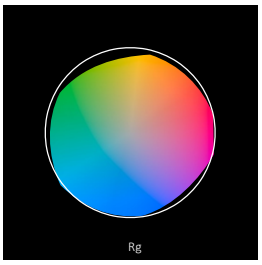
Y: 0.409

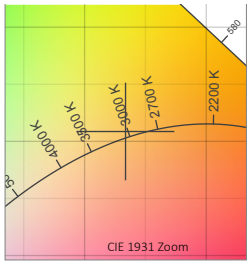
U: 0.247

V: 0.348

Δuv: 0.0023







R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
96.7	98.3	97.4	96.0	96.9	96.8	96.5	96.8	98.7	97.9	94.8	84.0	96.8	97.5	97.1
Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Q14**	**Q15**
89.0	93.6	97.0	96.0	95.1	93.9	94.9	94.2	91.8	90.1	92.8	93.1	94.5	96.9	93.5
C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**	**C11**	**C12**	**C13**	**C14**	**C15**	**C16**
94.5	95.8	93.4	89.0	90.2	93.4	86.4	92.9	90.3	89.5	92.3	92.0	93.6	93.6	90.9	91.4

TM30			
Hue Bin	R_f	Chroma	Hue
1	95	0%	2%
2	96	1%	-2%
3	93	-1%	-3%
4	89	-5%	-5%
5	90	-9%	-1%
6	93	-4%	3%
7	86	-5%	7%
8	93	0%	5%
9	90	1%	7%
10	89	3%	6%
11	92	4%	3%
12	92	4%	-3%
13	94	-1%	-5%
14	94	1%	-4%
15	91	-2%	0%
16	91	2%	-6%

NOTES:
- CRI R values, only R1-R8 are used to calculate RA CRI values
- TM30 C values, 16 binned values out of total of 99 C values
- CQS Q values
- Data subject to change, all data has +/- 5% tolerance

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Specification subject to change. Rev-02-02-26

ESSENTIALS LALO-FLAT-WD(01)

Linear Fixtures Color Data

LL1WD-6.0-30-DRY-STD-DF

3090 K

CRI: 96.8

CRI R9: 98.0

TM30 Rf: 92.1

TM30 Rg: 98.4

CQS: 93.6

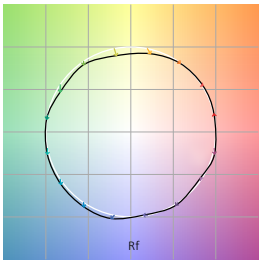
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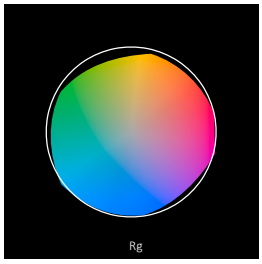
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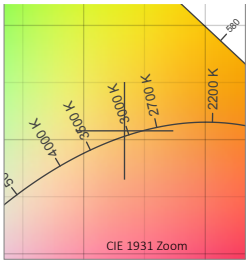
U: 0.247

V: 0.348

Δuv: 0.0019







R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
96.3	98.1	97.5	95.8	96.6	96.5	96.6	96.7	98.0	97.5	94.2	84.3	96.4	97.6	96.9
Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Q14**	**Q15**
89.3	93.9	96.9	96.2	95.4	94.4	95.2	94.7	92.4	90.8	93.1	93.3	94.6	96.8	93.5
C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**	**C11**	**C12**	**C13**	**C14**	**C15**	**C16**
94.6	95.8	93.6	89.2	90.5	93.7	86.8	93.2	90.6	89.8	92.4	92.0	93.7	93.7	91.1	91.5

TM30			
Hue Bin	R_f	Chroma	Hue
1	95	0%	2%
2	96	1%	-2%
3	94	-1%	-3%
4	89	-5%	-5%
5	90	-9%	-1%
6	94	-3%	3%
7	87	-5%	7%
8	93	0%	4%
9	91	1%	6%
10	90	3%	6%
11	92	4%	3%
12	92	4%	-3%
13	94	-1%	-5%
14	94	1%	-4%
15	91	-2%	0%
16	91	2%	-6%

NOTES:
- CRI R values, only R1-R8 are used to calculate RA CRI values
- TM30 C values, 16 binned values out of total of 99 C values
- CQS Q values
- Data subject to change, all data has +/- 5% tolerance

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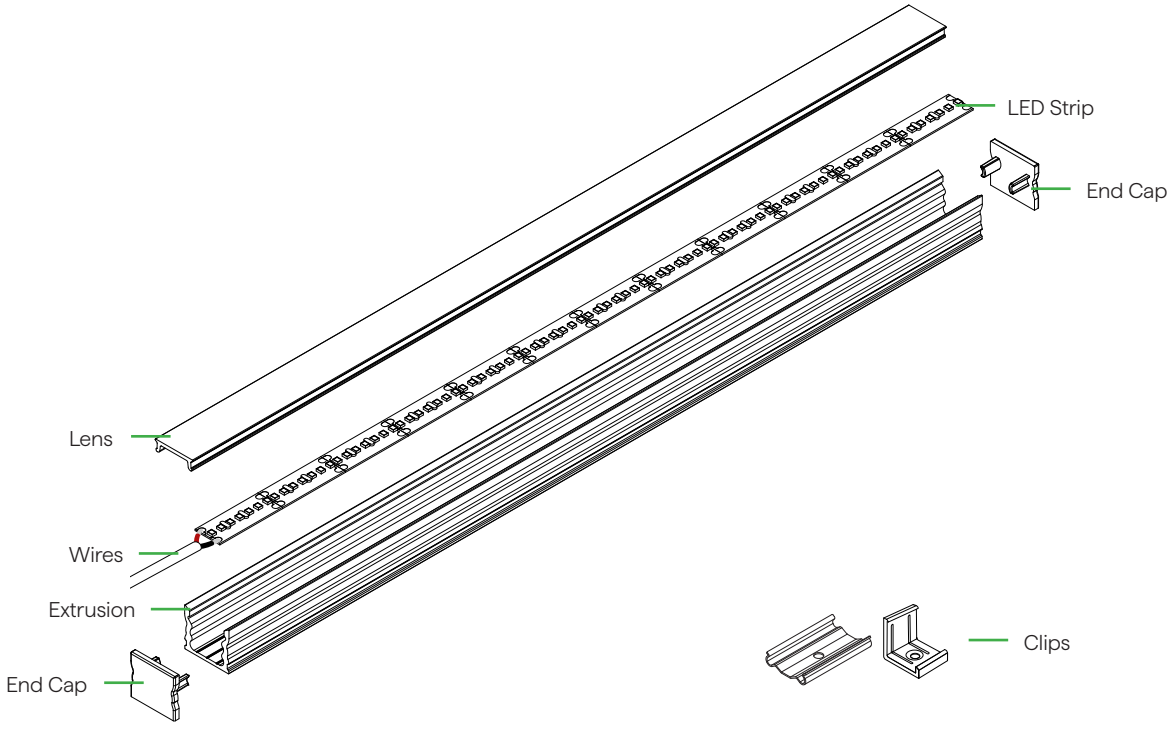
Specification subject to change. Rev-02-02-26

MATERIAL RECYCLING

LINEAR FIXTURES/EXTRUSIONS

You may be done with your products, but chances are they still have more to give. Follow these instructions to break down and sort recyclable components. Check with local recycling collection to ensure they accept the materials listed below.

Additionally, Q-Tran offers a Takeback Program. Contact factory for information.



7	E	41	40
Lens Plastic End Caps Plastic Clips	LED Strip Wires	Extrusion Metal End Caps	Stainless Steel Clips

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