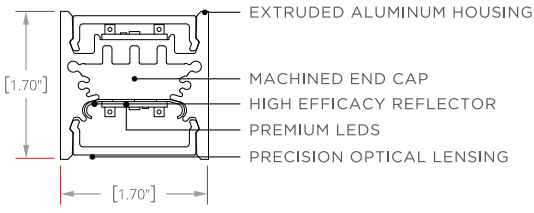


Linear Series - Diamond 1

CABLE SUSPENDED



FEATURES:

- POWERED SUSPENSION SYSTEM - NO SEPARATE POWER CORD DROP
- PRECISION OPTICAL LENSING OPTIONS OR HIGH TRANSMISSION FROSTED LENSING
- 1% DIMMING DRIVERS STANDARD
- EXTRUDED ALUMINUM HOUSING WITH NO VISIBLE FASTENERS
- MACHINED ALUMINUM END CAPS WITH EASY ACCESS REMOVAL
- 360 DEGREE ROTATION OPTION - WITH MECHANICAL LOCKING
- UGR<19 IN SELECT OUTPUTS AND CONFIGURATIONS

NOTE: REQUIRES REMOTE DRIVERS

NOTE: ALL ITALICIZED OPTIONS MAY INCREASE LEAD TIME. PLEASE CONSULT FACTORY WITH QUESTIONS.

PERFORMANCE

STATIC WHITE | FLOOD DIRECT & FLOOD INDIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	LIGHT INDIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VLO	1983	2234	4217	32	132	4000/80
LO	2780	3132	5912	48	123	4000/80
SO	3680	4147	7827	64	122	4000/80
HO	4428	4989	9418	80	118	4000/80
VHO	5342	6018	11360	96	118	4000/80



CCT MULTIPLIERS STATIC WHITE

CCT	2700K		3000K		3500K		4000K		5000K	
CRI	80	90	80	90	80	90	80	90	80	90
MULTIPLIER	0.93	0.79	0.96	0.82	0.97	0.85	1	0.89	1.01	0.89



FIXTURE MODEL	MOUNTING	NOMINAL LENGTH (FT)	CCT/CRI	DIRECT POWER LEVEL ¹	DIRECT BEAM DISTRIBUTION	INDIRECT POWER LEVEL ¹	INDIRECT BEAM DISTRIBUTION ¹	DRIVER
LS-DMD-1	CS Cable Suspended CSR Cable Suspended Rotational	2 3 4 5 6 7 8 <i>CP^{3,4} Custom Pattern</i> <i>CR^{1,2,3} Continuous Run (Specify Length in Nominal Feet)</i>	827 830 835 840 850 927 930 935 940 950 TW2765 WD1827 RGBW¹	VL Very low L Low S Standard H High VH ² Very High	G Graze N Narrow F Flood F Flood W Wall Wash A Aisle	VL Very low L Low S Standard H High VH ² Very High	F Flood B Batwing	1D 0-10V EldoLED 1% 01D 0-10V EldoLED 0.1% LDE1 Lutron Ecosystem 1% LDES Lutron Ecosystem 5% 1DT (TW) ² 1DW (WD) ² DMX8 Standard 8 bit (RGBW) [*] DMX16 Optional 16 bit (RGBW) [*] DALI (INTL)
		1. Power Feed is always at the first section in a continuous run 2. CR avail only with rotational mounting 3. See final page for CP specifications guide 4. Finish must be powdercoated	1. Pair only w/ power level(s) = S, beams = F	1. 2ft & 3ft - must have same power output for up and down 2. VH not available for 8ft	1. 2ft & 3ft - must have same power output for up and down 2. VH not available for 8ft	1. Driver must reside in remote housing 2. 0-10V input - CHOOSE DALI instead for INTL versions		

HOUSING FINISH	END CAPS FINISH ¹	DRIVER HOUSING FINISH	CANOPY SIZE	CANOPY FINISH	POWER CORD	CABLE LENGTH	OPTIONS ⁵
SC Satin Clear Anodize SW Satin White Powder Coat MB Matte Black Powder Coat CF Custom Finish (Consult Factory)	MF Machined Finish SW Satin White MB Matte Black CF Custom Finish (Consult Factory)	SC Satin Clear SW Satin White MB Matte Black	44 4" Power feed canopy 44E 4" Power feed canopy - International	MF Machine Finish SW Satin White MB Matte Black CF Custom Finish (Consult Factory)	PSS	4' 4" 8' 8"	EMB7^{1,5,6} 7 Watt battery back-up (Approximately 600 lumens) EMB12^{1,5,6} 12 Watt battery back-up (Approximately 1000 lumens) EMW^{1,2} Emergency Circuit Wiring Dual Circuit Dual Circuit
	1. CSR rotational hardware finish matches end cap finish selection						1. EMB/E-MW only linked to first section of continuous run 2. EMB not available for 2ft/3ft lengths 3. EMB not available for combined 8ft length & VH power 4. Factory EMB and Sensor (WS) options not avail for INTL

GENERAL NOTES:

All fixtures are UL listed for dry and damp locations. Fixtures with International (E) option designation are CE and ROHS compliant. REMOTE DRIVER for all options. Please contact the factory with any specification questions.

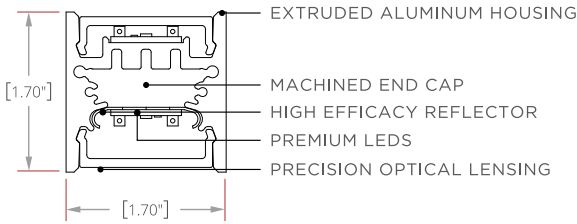


FIXTURE ORIENTATION

Direct (CSD) for downlight applications
 Indirect (CSI) for up light applications
 Rotational (CSR) for adjustable applications: 360 degree rotational capacity with locking mechanism.

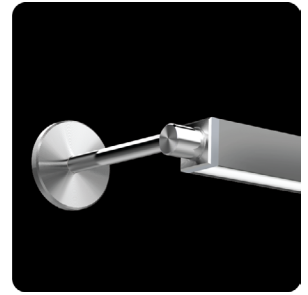
Linear Series - Diamond 1

ROTATIONAL ARM MOUNT



FEATURES:

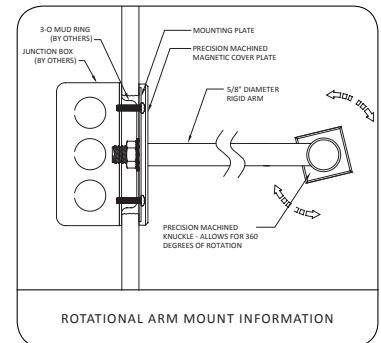
- 5/8" DIAMETER RIGID TUBE MOUNTING SYSTEM
- PRECISION OPTICAL LENSING OPTIONS OR HIGH TRANSMISSION FROSTED LENSING
- 1% DIMMING DRIVERS STANDARD
- EXTRUDED ALUMINUM HOUSING WITH NO VISIBLE FASTENERS
- MACHINED ALUMINUM END CAPS WITH EASY ACCESS REMOVAL
- 360 DEGREE ROTATION OPTION WITH MECHANICAL LOCKING



NOTE: ALL ITALICIZED OPTIONS MAY INCREASE LEAD TIME. PLEASE CONSULT FACTORY WITH QUESTIONS.

FIXTURE MODEL	MOUNTING	NOMINAL LENGTH (FT)	CCT/CRI	DIRECT POWER LEVEL ¹	DIRECT BEAM DISTRIBUTION	INDIRECT POWER LEVEL ¹	INDIRECT BEAM DISTRIBUTION ¹	DRIVER
LS-DMD-1	RAM <i>Rotational Arm Mount</i>	2	827	VL Very low	G Graze	VL Very low	F Flood	1D 0-10V EidoLED 1%
		3	830	L Low	N Narrow	L Low	B Batwing	01D 0-10V EidoLED 0.1%
	RAME <i>Rotational Arm Mount - International</i>	4	835	S Standard	Flood	S Standard		LDE1 Lutron Ecosystem 1%
		5	840	H High	F Flood	H High		LDE5 Lutron Ecosystem 5%
		6	850	VH Very High	W Wall Wash	VH Very High		
		7	927		A Aisle			
		8	930					1DT (TW) ²
		CR ^{1,3} Continuous Run (Specify Length in Nominal Feet)	935					1DW (WD) ²
			940					DMX8 Standard 8 bit (RGBW)*
			950					DMX16 Optional 16 bit (RGBW)*
			TW2765 WD1827 RGBW ¹					DALI (INTL)
				¹ 2ft & 3ft - must have same power output for up and down ² VH not available for 8ft		¹ 2ft & 3ft - must have same power output for up and down ² VH not available for 8ft		¹ Driver must reside in remote housing ² 0-10V input - CHOOSE DALI instead for INTL versions

HOUSING FINISH	ENG CAPS & RAM HARDWARE FINISH	DRIVER HOUSING FINISH	ARM LENGTH NOM (IN)	MOUNTING PLATE	OPTIONS ⁶
SC <i>Satin Clear Anodize</i>	MF <i>Machined Finish</i>	SC <i>Satin Clear</i>	3	4CPF	EMB7 ^{1,5,6} 7 Watt battery back-up (Approximately 600 lumens) EMB12 ^{1,5,6} 12 Watt battery back-up (Approximately 1000 lumens) EMW ^{1,2} Emergency Circuit Wiring <i>Dual Dual Circuit</i>
SW <i>Satin White Powder Coat</i>	SW <i>Satin White</i>	SW <i>Satin White</i>	6		
MB <i>Matte Black Powder Coat</i>	MB <i>Matte Black</i>	MB <i>Matte Black</i>	9 ¹		
CF <i>Custom Finish (Consult Factory)</i>	CF <i>Custom Finish (Consult Factory)</i>		12 ¹		
			¹ Includes Mounting Tieback		¹ EMB/EMW only linked to first section of continuous run ² EMW not available for 2ft/3ft lengths ⁵ EMB not available for combined 8ft length & VH power ⁶ Factory EMB and Sensor (WS*) options not avail for INTL



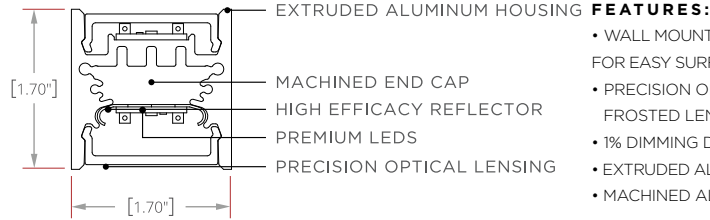
GENERAL NOTES:

All fixtures are UL listed for dry and damp locations. Fixtures with International (E) option designation are CE and ROHS compliant. REMOTE DRIVER for all options. Please contact the factory with any specification questions.



Linear Series - Diamond 1

SURFACE MOUNT



NOTE: ALL ITALICIZED OPTIONS MAY INCREASE LEAD TIME. PLEASE CONSULT FACTORY WITH QUESTIONS.

FIXTURE MODEL	MOUNTING	NOMINAL LENGTH (FT)	CCT/CRI	DIRECT POWER LEVEL ¹	DIRECT BEAM DISTRIBUTION	INDIRECT POWER LEVEL ¹	INDIRECT BEAM DISTRIBUTION
LS-DMD-1	SMS <i>Surface Mount Side</i> SMSE <i>Surface Mount Side - International</i>	2 3 4 5 6 7 8	827 830 835 840 850 927 930 935 940 950 TW2765 WD1827 RGBW ¹	VL Very low L Low S Standard H High VH ² Very High	G Graze N Narrow F Flood W Wall Wash A Aisle	VL Very low L Low S Standard H High VH Very High	F Flood B Batwing

¹ Pair only w/ power level(s)
= S beams = F

¹ 2ft & 3ft - must have same power output for up and down
² VH not available for 8ft

¹ 2ft & 3ft - must have same power output for up and down
² VH not available for 8ft

DRIVER	HOUSING FINISH	END CAPS FINISH	DRIVER HOUSING FINISH	OPTIONS ⁶
1D 0-10V EldoLED 1% 01D 0-10V EldoLED 0.1% LDE1 Lutron Ecosystem 1% LDES Lutron Ecosystem 5% 1DT (TW) ² 1DW (WD) ² DMX8 Standard 8 bit (RGBW) [*] DMX16 Optional 16 bit (RGBW) [*] DALI (INTL)	SC <i>Satin Clear Anodize</i> SW <i>Satin White Powder Coat</i> MB <i>Matte Black Powder Coat</i> CF <i>Custom Finish (Consult Factory)</i>	MF <i>Machined Finish</i> SW <i>Satin White</i> MB <i>Matte Black</i> CF <i>Custom Finish (Consult Factory)</i>	SC <i>Satin Clear</i> SW <i>Satin White</i> MB <i>Matte Black</i>	Dual Circuit <i>Dual Circuit</i> ⁶ Factory EMB and Sensor (WS) [*] options not avail for INTL

SURFACE MOUNT SIDE (SMS)

GENERAL NOTES:

All fixtures are UL listed for dry and damp locations. Fixtures with International (E) option designation are CE and ROHS compliant. REMOTE DRIVER for all options. Please contact the factory with any specification questions.



Linear Series - Diamond 1

BIDIRECTIONAL

STATIC WHITE | FLOOD DIRECT & FLOOD INDIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	LIGHT INDIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VLO	1983	2234	4217	32	132	4000/80
LO	2780	3132	5912	48	123	4000/80
SO	3680	4147	7827	64	122	4000/80
HO	4428	4989	9418	80	118	4000/80
VHO	5342	6018	11360	96	118	4000/80

CCT MULTIPLIERS, STATIC WH

CCT	80CRI	90CRI
2700K	0.93	0.79
3000K	0.96	0.82
3500K	0.97	0.85
4000K	1.00	0.89
5000K	1.01	0.89

DYNAMIC WHITE | FLOOD DIRECT & FLOOD INDIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	LIGHT INDIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT
VLO	1392	1568	2960	48	62	4000/90
LO	1951	2198	4149	64	65	4000/90
SO	2583	2910	5493	72	76	4000/90
HO	3108	3502	6610	88	75	4000/90
VHO	3749	4224	7973	96	83	4000/90

CCT MULTIPLIERS, DYNAMIC WH

CCT	90CRI
2700K	1.09
3000K	1.08
3500K	1.03
4000K	1.00
5000K	0.99
6500K	0.98

WARM DIM | FLOOD DIRECT & FLOOD INDIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	LIGHT INDIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT
VLO	1461	1646	3108	48	65	2700/90
LO	2048	2308	4356	64	68	2700/90
SO	2712	3055	5767	72	80	2700/90
HO	3263	3676	6940	88	79	2700/90
VHO	3936	4435	8371	96	87	2700/90

CCT MULTIPLIERS, WARM DIM

CCT	90CRI
1800K	0.02
2250K	0.17
2700K	1.00

RGBW | FLOOD DIRECT & FLOOD INDIRECT

POWER LEVELS	CHANNEL (S)	LIGHT DIRECT LM/4FT	LIGHT INDIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT
SO	White	358	404	762	20	38	4000
SO	All	828	933	1762	40	44	N/A

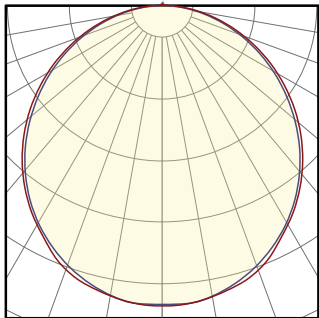
Linear Series - Diamond 1

DIRECT

DIRECT OPTICS: LUMEN OUTPUT (PER 4FT)

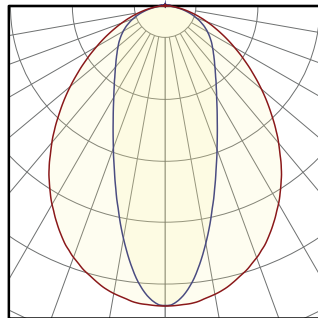
TYPE	CCT/CRI	ENERGY WATTS/4FT	FLOOD LM/4FT	FLOOD LPW	NARROW FLOOD LM/4FT	NARROW FLOOD LPW	AISLE LIGHTER LM/4FT	AISLE LIGHTER LPW	GRAZE LM/4FT	GRAZE LPW	WALL WASH LM/4FT	WALL WASH LPW
STATIC WHITE	4000K/80	SO (32W)	3680	115	4108	128	4235	132	4193	131	3876	121
DYNAMIC WHITE	4000K/90	SO (36W)	2583	72	2889	80	2991	83	2957	82	2719	76
WARM DIM	2700K/90	SO (36W)	2712	75	3033	84	3140	87	3104	86	2855	79
RGBW	ALL CHANNELS UP	SO (40W)	828	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

FLOOD*



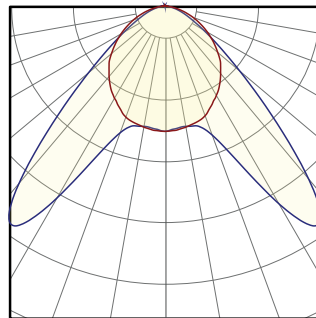
MAX CANDELA: 1283
DELIVERED LUMENS: 3680
WATTS: 32
LPW: 115

NARROW FLOOD*



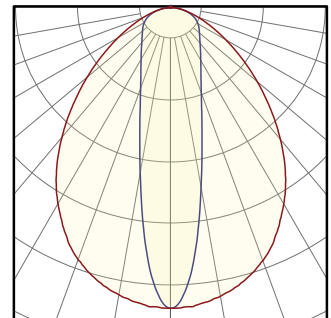
MAX CANDELA: 2701
DELIVERED LUMENS: 4108
WATTS: 32
LPW: 128

AISLE LIGHTER*



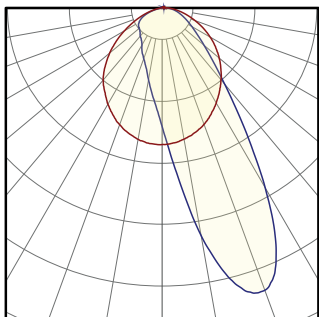
MAX CANDELA: 2378
DELIVERED LUMENS: 4235
WATTS: 32
LPW: 132

WALL GRAZE*



MAX CANDELA: 3714
DELIVERED LUMENS: 4193
WATTS: 32
LPW: 131

WALL WASH*



MAX CANDELA: 3491
DELIVERED LUMENS: 3876
WATTS: 32
LPW: 121

CCT MULTIPLIERS STATIC WHITE

CCT	2700K		3000K		3500K		4000K		5000K	
CRI	80	90	80	90	80	90	80	90	80	90
MULTIPLIER	0.93	0.79	0.96	0.82	0.97	0.85	1	0.89	1.01	0.89

CCT MULTIPLIERS DYNAMIC WHITE

CCT	2700K	3000K	3500K	4000K	5000K	6000K
CRI	90	90	90	90	90	90
MULTIPLIER	1.09	1.08	1.03	1	0.99	0.98

CCT MULTIPLIERS WARM DIM

CCT	1800K	2250K	2700K
CRI	90	90	90
MULTIPLIER	0.02	0.17	1

POWER LEVEL MULTIPLIERS

POWER	VLO	LO	SO	HO	VHO
STATIC WHITE	0.53	0.75	1	1.2	1.45
DYNAMIC WHITE	0.53	0.75	1	1.2	1.45
WARM DIM	0.53	0.75	1	1.2	1.45

*Fixture Properties: 4ft Nominal Length, Standard Output, Static White 4000K/80CRI

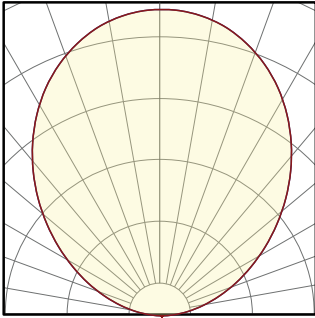
Linear Series - Diamond 1

INDIRECT

INDIRECT OPTICS: LUMEN OUTPUT (PER 4FT)

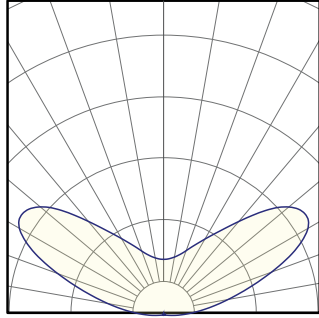
TYPE	CCT/CRI	ENERGY WATTS/4FT	FLOOD LM/4FT	FLOOD LPW	BATWING LM/4FT	BATWING LPW
STATIC WHITE	4000K/80	SO (32W)	4147	130	4105	128
DYNAMIC WHITE	4000K/90	SO (36W)	2910	81	2874	80
WARM DIM	2700K/90	SO (36W)	3055	85	3018	84
RGBW	ALL CHANNELS UP	SO (40W)	933	47	N/A	N/A

FLOOD*



MAX CANDELA: 1639
DELIVERED LUMENS: 4147
WATTS: 32
LPW: 130

BATWING*



MAX CANDELA: 1681
DELIVERED LUMENS: 4105
WATTS: 32
LPW: 128

LUMINAIRE TOTAL LUMENS PER WATT

$$\frac{(\text{DIRECT LUMENS/FT} + \text{INDIRECT LUMENS/FT}) \times \text{FIXTURE TOTAL LINEAR FT}}{(\text{DIRECT WATTS/FT} + \text{INDIRECT WATTS/FT}) \times \text{FIXTURE TOTAL LINEAR FT}} = \text{TOTAL LUMINAIRE LUMENS PER WATT}$$

*Fixture Properties: 4ft Nominal Length, Standard Output, Static White 4000K/80CRI

CCT MULTIPLIERS STATIC WHITE

CCT	2700K		3000K		3500K		4000K		5000K	
CRI	80	90	80	90	80	90	80	90	80	90
MULTIPLIER	0.93	0.79	0.96	0.82	0.97	0.85	1	0.89	1.01	0.89

CCT MULTIPLIERS DYNAMIC WHITE

CCT	2700K	3000K	3500K	4000K	5000K	6000K
CRI	90	90	90	90	90	90
MULTIPLIER	1.09	1.08	1.03	1	0.99	0.98

CCT MULTIPLIERS WARM DIM

CCT	1800K	2250K	2700K
CRI	90	90	90
MULTIPLIER	0.02	0.17	1

POWER LEVEL MULTIPLIERS

POWER	VLO	LO	SO	HO	VHO
STATIC WHITE	0.53	0.75	1	1.2	1.45
DYNAMIC WHITE	0.53	0.75	1	1.2	1.45
WARM DIM	0.53	0.75	1	1.2	1.45

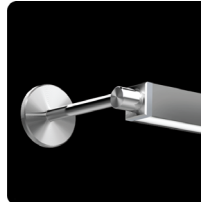
Linear Series - Diamond 1

MOUNTING



CABLE SUSPENDED (CS)

This fixture can be a cable suspended down-light and up-light: Bi-Directional (CS), or can be special ordered as a cable suspended static down-light only: Direct Only (CSD). Aircraft cables come in 4ft and 8ft lengths and are field adjustable.



ROTATIONAL ARM MOUNT (RAM)

This system uses 5/8" diameter aluminum arms and subtle details in combination with a 360 degree rotational capacity to create some of the most versatile linear fixtures in the architectural market. Standard mounting uses 3/0 mud rings (supplied by others). Engineered with no visible fasteners, smooth rotation, and mechanical locking, the RAM system reveals an impressive aesthetic with exceptional versatility.



CABLE SUSPENDED - ROTATIONAL (CSR)

Using a similar setup to the Cable Suspended system above, the Cable Suspended - Rotational system has 360 degree rotational capacity with mechanical fasteners to lock fixtures in place if desired. This system offers incredible flexibility, light direction control, and a dynamic aesthetic.



SURFACE MOUNT SIDE (SMS)

Surface Mount Side (SMS). The fixture is mounted on the wall using mounting brackets, giving a static bi-directional up-light and down-light.

CONTINUOUS RUN (CR)

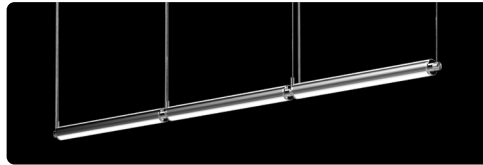
Our 360 degree rotational continuous run option enables individual sections to rotate independently of each other, which offers adjustable asymmetric light distribution capacity along with striking appearances such as alternating up/down fixtures or spiral transitions. The flexibility within the rotational option makes for infinite design and functional possibilities.



CONTINUOUS RUN ROTATIONAL



CONTINUOUS RUN ROTATIONAL (SPIRAL EFFECT)



FIXTURE WITH CONTINUOUS RUN ROTATIONAL

CANOPIES

SATIN WHITE (SW)

MATTE BLACK

MACHINE FINISH (MF)



44



4" diameter power feed and 4" diameter non-power feed canopy.

44E (**E) International Canopy



INTL POWERFEED CANOPY FOR REMOTE DRIVER FIXTURES (PSS CABLE)

This powerfeed canopy replaces the flat style canopy from the North American mounting style (44, 41, & 40) versions pictured)

PROJECT _____

TYPE _____

Linear Series - Diamond 1

COLOR AND FINISH

Standard luminaire housing finishes are Satin Clear anodized, Matte Black powder coat, and Satin White powder coat. Standard hardware (end caps, knuckles, cover plates, etc.) finishes are Machined Finish, Matte Black powder coat, & Satin White powder coat. Custom anodizing and powder coated finishes are available as well. If you have a particular color/finish treatment in mind, please contact the factory and we will do our best to accommodate your project needs.

LUMINAIRE



SATIN CLEAR
ANODIZING

STANDARD



RAL
9005

MATTE
BLACK



RAL
9003

SATIN
WHITE

CUSTOM



BRONZE



COLOR ANODIZE

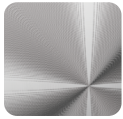


SPECULAR



RAL COLORS

HARDWARE



MACHINED
COMPONENTS



RAL
9005

MATTE
BLACK



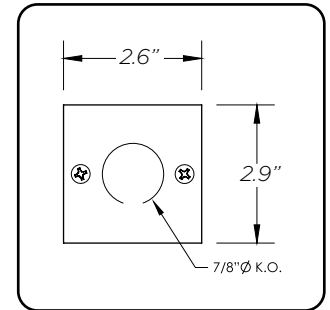
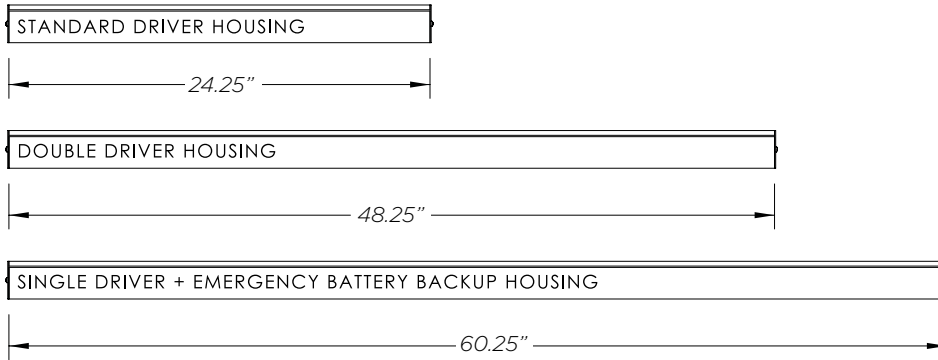
RAL
9003

SATIN
WHITE

Linear Series - Diamond 1

REMOTE DRIVERS HOUSING SIZE

The driver housing length is typically dictated by the options selected. Standard driver housing lengths are as shown. Non standard driver requests may increase or decrease the driver housing length. Specifications are subject to change without notice. Consult factory with questions, requests, or size limitations and we will do our best to accommodate your needs.

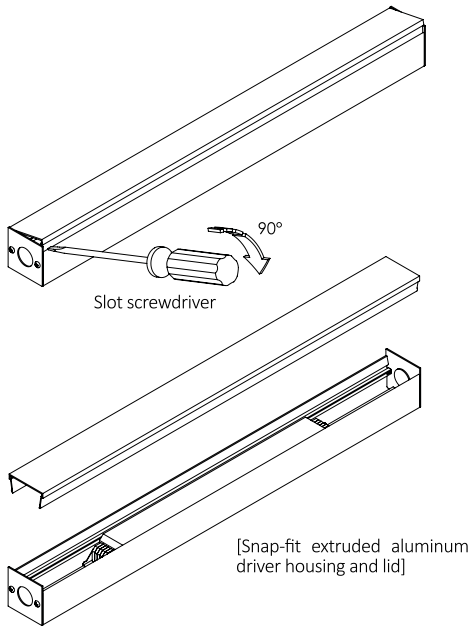


DRIVER HOUSING PROFILE

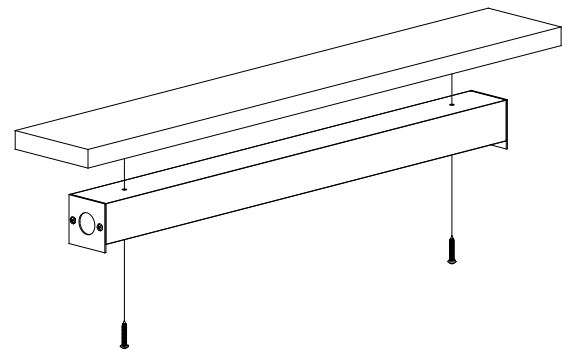
INSTRUCTIONS

See below for lid removal and installation instructions.

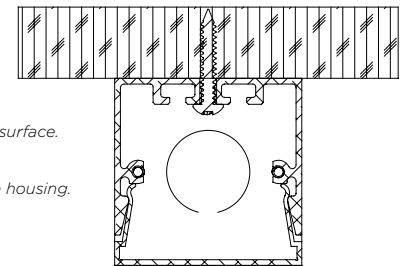
To remove the driver housing lid, use a broad slot screwdriver in the channel as shown here and twist the screwdriver ninety degrees. This may need to be done at both ends of the housing or multiple locations depending on the driver housing length.



- 1) Drill mounting holes in the driver housing as needed to secure to a suitable surface. (If needed, a power feed hole can be drilled into the bottom of the housing for certain mounting/power feed applications).



- 2) Secure the housing to the surface. (Fasteners by others)
- 3) Complete wire make-up.
- 4) Snap extruded lid onto the housing.



Linear Series - Diamond 1

WELDED CORNERS

- Luminaire housing is custom mitered & welded for a clean corner appearance
- Lens is also mitered for lens-to-lens interfaces that mirror the mitered housing
- Lens is illuminated to the corner (AKA: lit corners)
- Adjustable aircraft cable suspension system
- High quality powder coated finish (anodized finishes not available with welded custom patterns).

CUSTOMER INSTRUCTIONS

A. Select "CP" option in the ordering block (found in the NOMINAL LENGTH column)

B. Submit simple drawing(s) with the following info:

- Provide number of legs of pattern
- Length of each leg (A, B, C, D, etc)
- Angles of corners (a1, b1, c1, d1, etc)

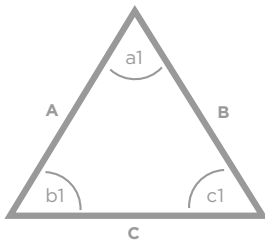
1. For '3 dimensional' patterns, please provide side view(s) with desired angles, in addition to a top view.

2. Minimum corner angle is 30 degrees.



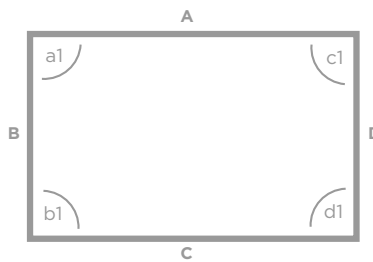
CUSTOM PATTERN PICTURED

EXAMPLES:



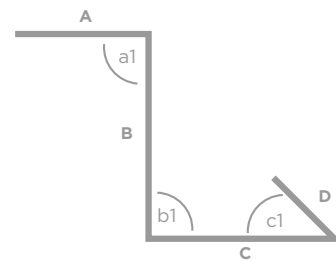
Customer Specification

1. Qty Legs = 3
2. A, B, C = 3ft
3. a1, b1, c1 = 60 deg



Customer Specification

1. Qty Legs = 4
2. A & C = 8ft, B & D = 4ft
3. a1, b1, c1, d1 = 90 deg



Customer Specification

1. Qty Legs = 4
2. A = 8ft, B = 6ft, C = 6ft, D = 4ft-3in
3. a1 & b1 = 90 deg, c1 = 45 deg