

# VIVID CONTOUR 24V

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# Technical Specifications

Light Dimension 0.35 x 0.71in (9x18mm)

Output	Red/Amber	Green/Blue/White	White (CRI90)
LED Light	Epistar SMD LED Chip		
Max Run Length*			
Single Feed	65.62ft (20m)	49.21ft (15m)	49.21ft (15m)
Double Feed	131.23ft (40m)	98.43ft (30m)	98.43ft (30m)
Light Surface	Square profile 160°		
Lumen Maintenance	70,000 Hours L70 @ 25°C : 90,000 L50 @ 25°C 50,000 Hours L70 @ 50°C : 70,000 Hours L50 @ 50°C		
<b>Electrical</b>			
Input Voltage	24V DC		
Power Consumption	1.07W/ft (3.5W/m)	1.37W/ft (4.5W/m)	1.37W/ft (4.5W/m)
<b>Physical</b>			
LED Count	22 LEDs / ft (72 LEDs/m)		
LED Spacing	0.55in (13.89mm)		
Cutting Unit Length	4.92in (125mm) (9 LEDs)	3.28in (83.3mm) (6 LEDs)	3.28in (83.3mm) (6 LEDs)
Thermal Management	Free air convection		
Fixture Connections	End, side & bottom lead wires		
Minimum Bend Diameter	3.54in (90mm) (Side Bending Only)		
<b>Temperature Ranges</b>			
Installation	32°F to 140°F (0°C to 45°C)		
Operating	-13°F to 140°F (-20°C to 60°C)		
Humidity	0-95% non condensing		
<b>Dependability</b>			
Warranty	5 Year Warranty		
<b>Safety</b>			
Certification	Tested to UL & CSA by Underwriters Laboratory for use in USA and Canada, complies with California Title 24 Requirements, Lighting Facts. Exceeds ANSI C78.377A, CE & RoHS Compliant.		
IP Rating	IP68 with appropriately rated accessories		

\*Max Run Length: Unless otherwise stated, snap and seamless run lengths are the same.

# Technical Specifications

## Available Colors

Color	CCT Wavelength
Red	620-630nm
Green	520-530nm
Blue	465-475nm
Amber	585-595nm
2200K	2238 ± 102K
2500K	2460 ± 120K
2700K (WW)	2725 ± 145K
3000K	3045 ± 175K
3500K (W)	3465 ± 245K
4000K	3985 ± 275K
4500K (CW)	4503 ± 243K
5000K	5029 ± 283K
5700K (DW)	5669 ± 355K

## Lumen Count

Color	Per Foot	Per Meter	Power
Red	>13.72lm	>45lm	1.37W/ft (4.5W/m)
Green	>24.38lm	>80lm	1.37W/ft (4.5W/m)
Blue	>4.57lm	>15lm	1.37W/ft (4.5W/m)
Amber	>15.24lm	>50lm	1.37W/ft (4.5W/m)
2200K	>33.53lm	>110lm	1.37W/ft (4.5W/m)
2500K	>33.53lm	>110lm	1.37W/ft (4.5W/m)
2700K (WW)	>33.53lm	>110lm	1.37W/ft (4.5W/m)
3000K	>36.58lm	>120lm	1.37W/ft (4.5W/m)
3500K (W)	>36.58lm	>120lm	1.37W/ft (4.5W/m)
4000K	>36.58lm	>120lm	1.37W/ft (4.5W/m)
4500K (CW)	>36.58lm	>120lm	1.37W/ft (4.5W/m)
5000K	>36.58lm	>120lm	1.37W/ft (4.5W/m)
5700K (DW)	>33.53lm	>110lm	1.37W/ft (4.5W/m)

### \*Color Jackets:

For standard or custom color jacket options, contact your Account Manager. Minimum order quantity of 656ft (200m).  
CCT: 2500K, 4500K, 5000K. Please contact your Account Manager. Minimum order quantity of 656ft (200m)

## CRI90

### Available Colors

Color	CCT
2200K	2238 ± 102K
2500K	2460 ± 120K
2700K (WW)	2725 ± 145K
3000K	3045 ± 175K
3500K (W)	3465 ± 245K
4000K	3985 ± 275K
4500K (CW)	4503 ± 243K
5000K	5029 ± 283K

### Lumen Count

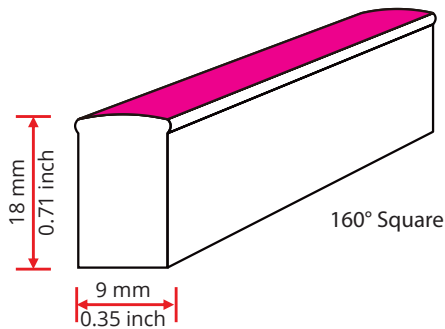
Color	Per Foot	Per Meter	Power
2200K	>27.43lm	>90lm	1.37W/ft (4.5W/m)
2500K	>27.43lm	>90lm	1.37W/ft (4.5W/m)
2700K (WW)	>27.43lm	>90lm	1.37W/ft (4.5W/m)
3000K	>27.43lm	>90lm	1.37W/ft (4.5W/m)
3500K (W)	>30.48lm	>100lm	1.37W/ft (4.5W/m)
4000K	>30.48lm	>100lm	1.37W/ft (4.5W/m)
4500K (CW)	>30.48lm	>100lm	1.37W/ft (4.5W/m)
5000K	>30.48lm	>100lm	1.37W/ft (4.5W/m)

For 2200K, 2500K, 4500K, 5000K: Minimum order quantity of 100 meters.

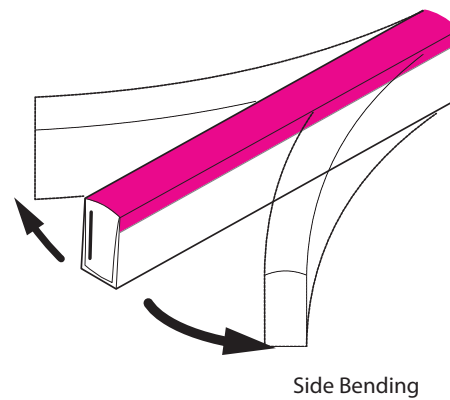
# Physical Specifications



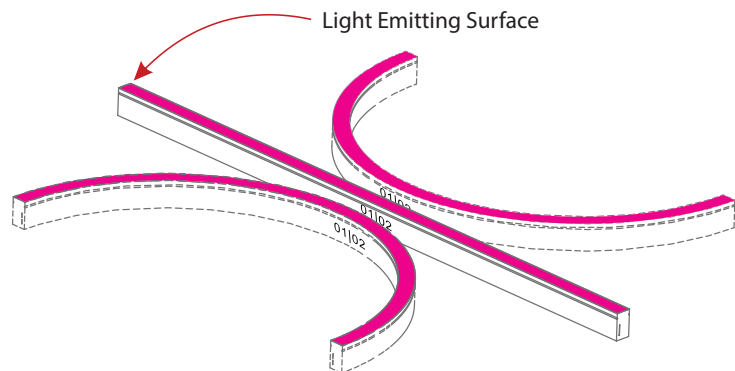
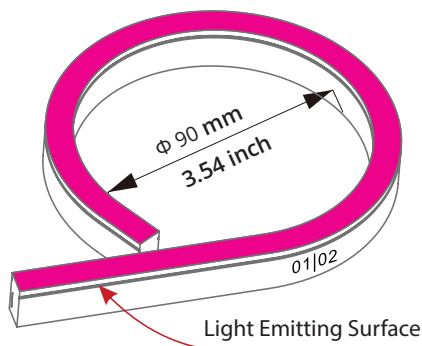
Light Profile



Bending Direction



Minimum Bending Diameter



## Part Number Naming Convention

NF-09A-1-01-2W-X-XXX-24DC

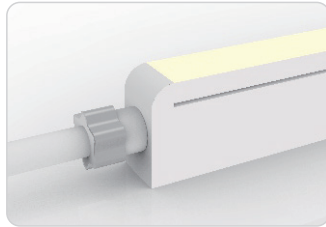


For full part number naming rules, please refer to the document on [www.glls.com/support/documentation/](http://www.glls.com/support/documentation/)

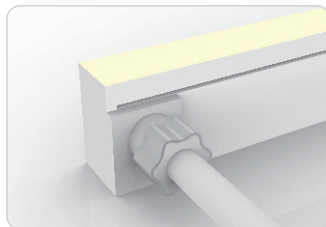
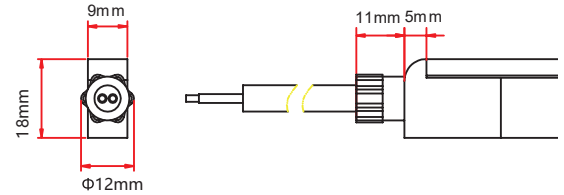
# Connectors

## Seamless Connectors

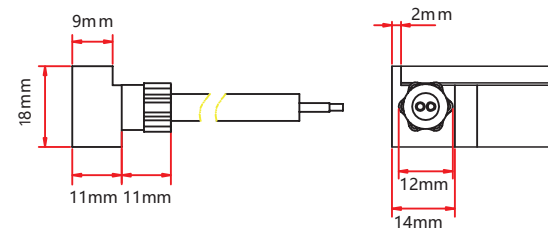
IP67: Rated for wet locations, not submersion.  
Factory Assembly only.



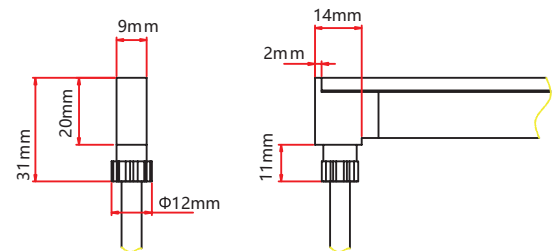
**Seamless End Exit**  
NA-09A-1-01-2W-SE-0-EN-XXX-P



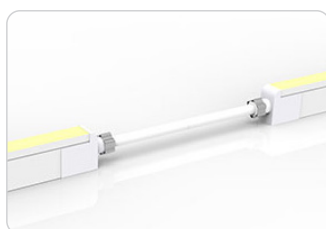
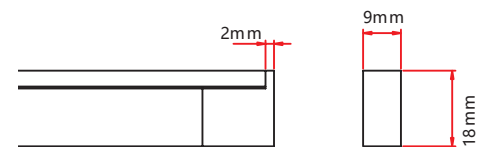
**Seamless Side Exit**  
NA-09A-1-01-2W-SE-1-SR-XXX-P  
NA-09A-1-01-2W-SE-2-SL-XXX-P



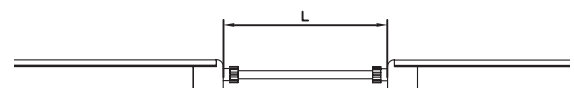
**Seamless Bottom Exit**  
NA-09A-1-01-2W-SE-0-BO-XXX-P



**Seamless End Cap**  
NA-09A-1-01-0W-SE-1-EC-000-P  
NA-09A-1-01-0W-SE-2-EC-000-P



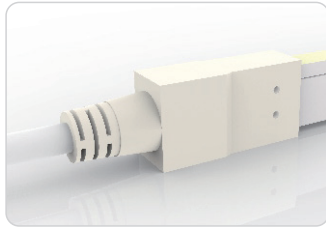
**Seamless Jumper**  
NA-09A-1-01-2W-SE-0-EJ-XXX-P



IP68: Submersible. Factory Assembly only.

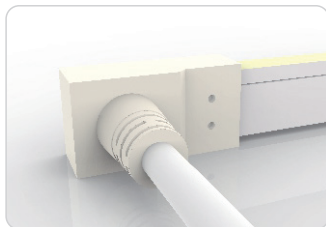
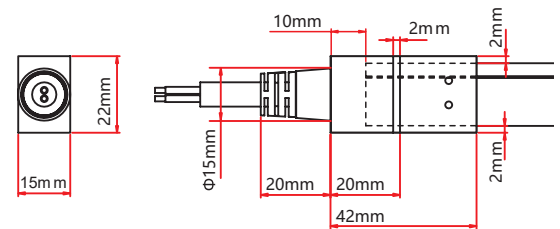
# Connectors

## Submersible Seamless Connectors



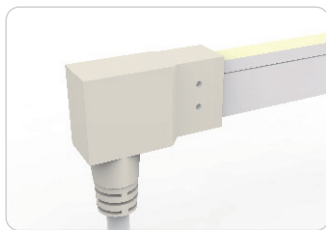
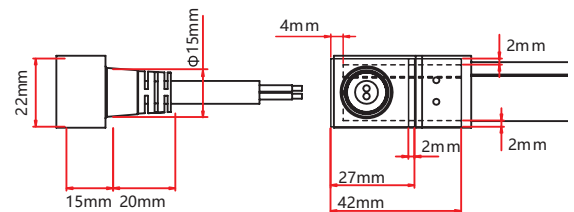
### Submersible End Exit

NA-09A-1-01-2W-SU-0-EN-XXX-P



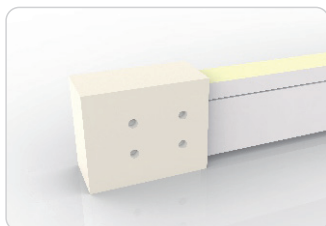
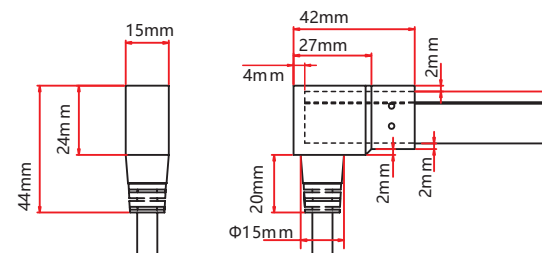
### Submersible Side Exit

NA-09A-1-01-2W-SU-1-SR-XXX-P  
NA-09A-1-01-2W-SU-2-SL-XXX-P



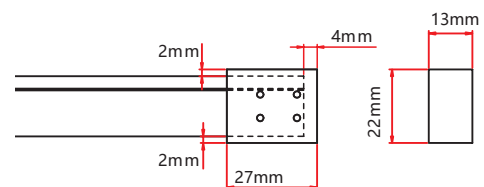
### Submersible Bottom Exit

NA-09A-1-01-2W-SU-0-BO-XXX-P



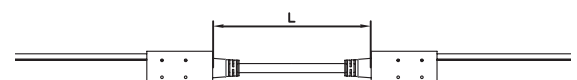
### Submersible End Cap

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NA-09A-1-01-0W-SU-2-EC-000-P



### Submersible Jumper

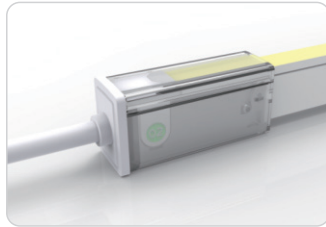
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# Connectors

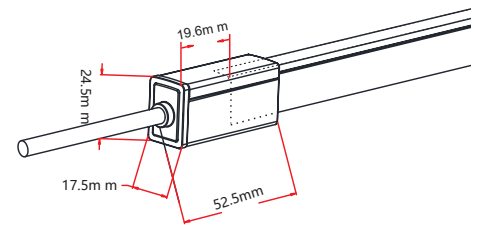
## Snap Connectors

IP67: Rated for outdoor use.  
Factory Assembly or DIY.



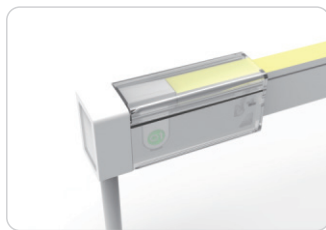
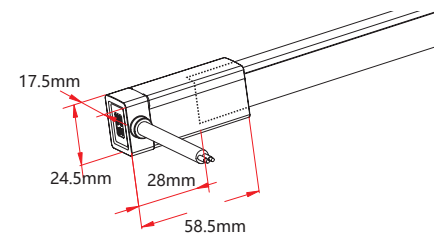
### Snap End Exit

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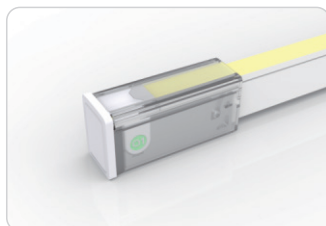
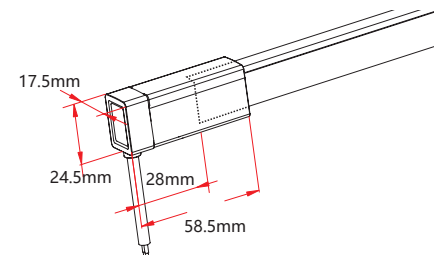
### Snap Side Exit

NA-09A-1-01-2W-SC-1-SL-XXX-P  
NA-09A-1-01-2W-SC-2-SL-XXX-P  
NA-09A-1-01-2W-SC-1-SR-XXX-P  
NA-09A-1-01-2W-SC-2-SR-XXX-P



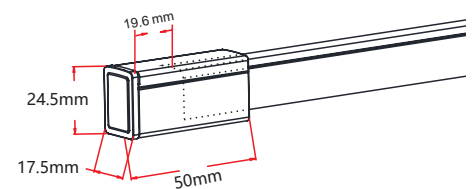
### Snap Bottom Exit

NA-09A-1-01-2W-SC-1-BO-XXX-P  
NA-09A-1-01-2W-SC-2-BO-XXX-P



### Snap End Cap

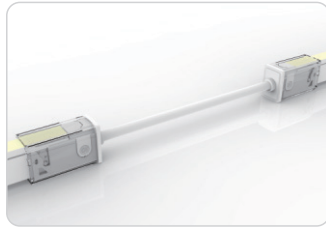
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# Connectors

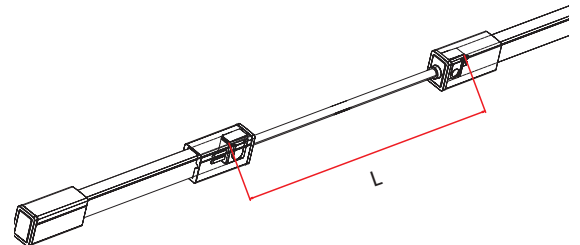
IP67: Rated for outdoor use.  
Factory Assembly or DIY.

## Snap Connectors



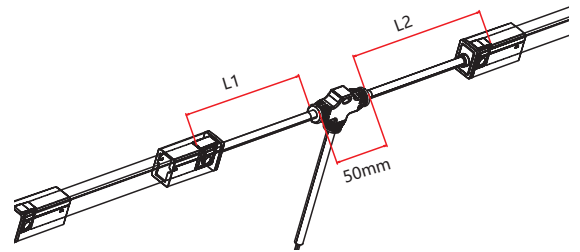
### Snap Jumper

NA-09A-1-01-2W-SC-0-EJ-XXX-P



### Snap Power T Feed

NA-09A-1-01-2W-SC-0-TF-XXX-P

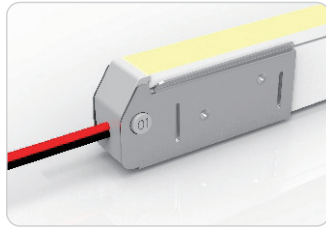




# Connectors

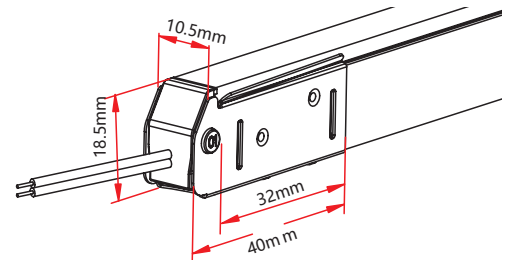
IP20: Rated for indoor use only.  
Factory Assembly or DIY.

## Swivel Connectors



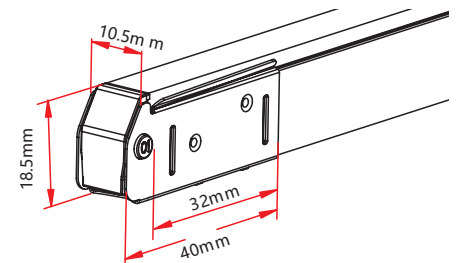
### Swivel End Exit

NA-09A-1-01-2W-SV-1-EN-XXX-P  
NA-09A-1-01-2W-SV-2-EN-XXX-P



### Swivel End Cap

NA-09A-1-01-0W-SV-0-EC



# Connectors

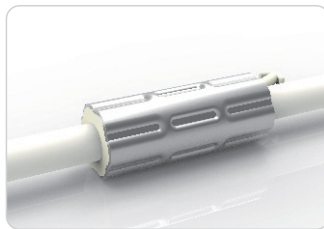
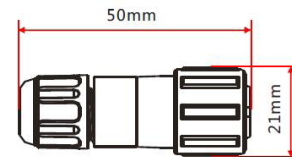
## Barrel Connectors

IP20: Rated for indoor use only.  
Factory Assembly only.

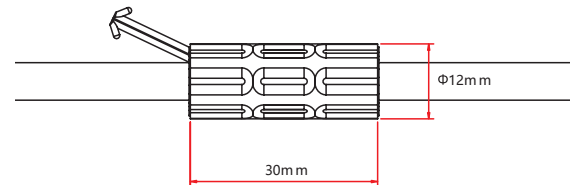


### Barrel Connectors

NA-XX-BC-DC-CXX-F  
NA-XX-BC-DC-CXX-M  
NA-XX-BN-XXA-CXX-F  
NA-XX-BN-XXA-CXX-M  
NA-XX-PL-XXA-CXX-F  
NA-XX-PL-XXA-CXX-M



### Anti-Wicking Ferrule



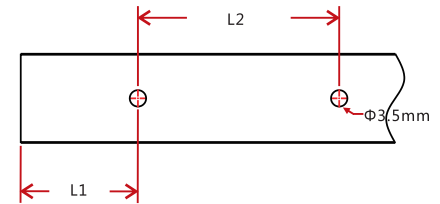
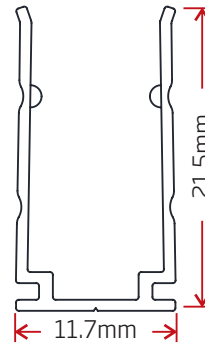
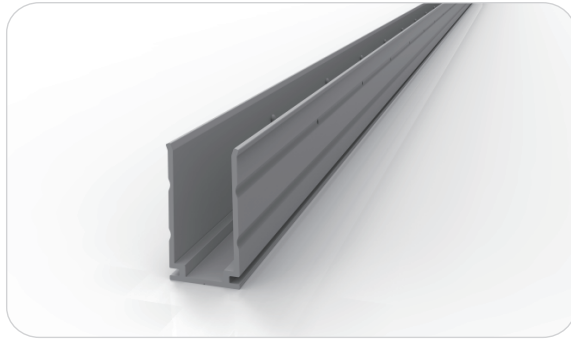
### Anvil Cutter

Optional accessory for on-site cutting.

\*Factory order only\*

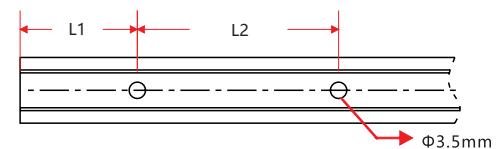
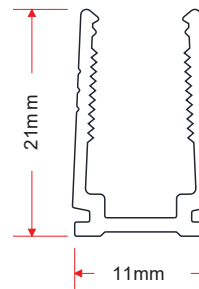
# Mounting Hardware

## Standard Anodized Aluminum Channel



W x H	Standard Length	Part Number	L1	L2	Screw Hole $\Phi$	Hole #
0.43 x 0.87in (11x22mm)	1.38in (35mm)	CL-09-R-AL-3C5-SD	0.69in (17.5mm)	/	$\Phi$ 0.14in (3.5mm)	1
	19.69in (500mm)	CH-09-R-AL-0M5-SD	0.98in (25mm)	/	$\Phi$ 0.14in (3.5mm)	3
	39.37in (1000mm)	CH-09-R-AL-01M-SD	3.94in (100mm)	7.87in (200mm)	$\Phi$ 0.14in (3.5mm)	5
	78.74in (2000mm)	CH-09-R-AL-02M-SD	3.94in (100mm)	7.87in (200mm)	$\Phi$ 0.14in (3.5mm)	10

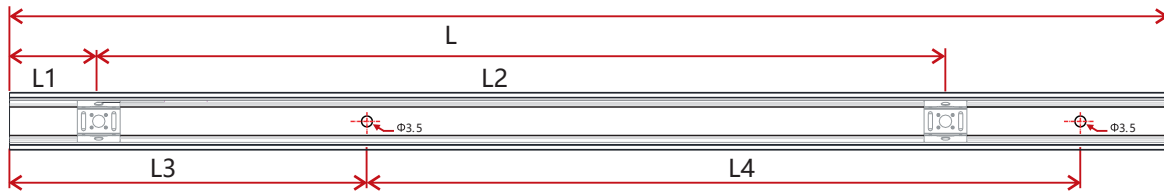
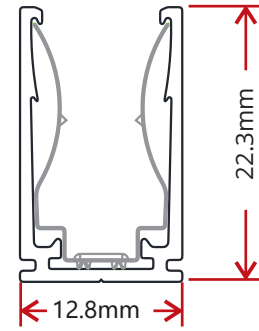
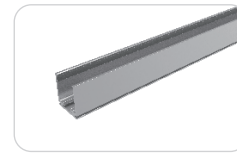
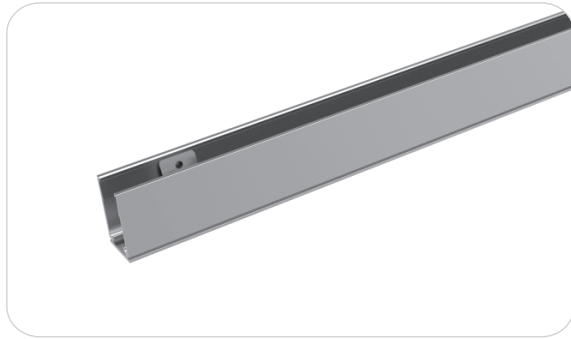
## Plastic Channel



W x H	Standard Length	Part Number	L1	L2	Screw Hole $\Phi$	Hole #
0.43 x 0.83in (11x21mm)	19.69in (500mm)	CH-09-R-PL-0M5-SD	1.97in (50mm)	7.87in (200mm)	$\Phi$ 0.14in (3.5mm)	3
	39.37in (1000mm)	CH-09-R-PL-01M-SD	3.94in (100mm)	7.87in (200mm)	$\Phi$ 0.14in (3.5mm)	5
	78.74in (2000mm)	CH-09-R-PL-02M-SD	3.94in (100mm)	7.87in (200mm)	$\Phi$ 0.14in (3.5mm)	10

# Mounting Hardware

## Spring Clip Anodized Aluminum Channel



W x H	Standard Length	Part Number	L1	L2	L3	L4	Screw Hole $\Phi$	Hole #	Clip #
0.49 x 0.88in (12.8x22.3mm)	1.38in (35mm)	CL-09-R-AL-3C5-SP	0.69in (17.5mm)	/	0.2in (5mm)	0.98in (25mm)	$\Phi$ 0.14in (3.5mm)	2	1
	19.69in (500mm)	CH-09-R-AL-0M5-SP	0.98in (25mm)	8.86in (225mm)	1.97in (50mm)	7.87in (200mm)	$\Phi$ 0.14in (3.5mm)	3	3
	39.37in (1000mm)	CH-09-R-AL-01M-SP	0.98in (25mm)	9.35in (237.5mm)	3.94in (100mm)	7.87in (200mm)	$\Phi$ 0.14in (3.5mm)	5	5
	78.74in (2000mm)	CH-09-R-AL-02M-SP	0.98in (25mm)	9.6in (243.8mm)	3.94in (100mm)	7.87in (200mm)	$\Phi$ 0.14in (3.5mm)	10	9

# Packaging



White Box

Packing Box

Fixture Length	White Box Dimensions	Packing Box Dimensions	# Of White Boxes	Package Weight
196.85in (5m)	13.78x1.65x18.11in (35x4.2x46cm)	18.9x14.57x9.45in (48x37x24cm)	5	14.33lbs (6.5kg)
393.7in (10m)	17.72x1.65x22.05in (45x4.2x56cm)	22.83x18.5x9.45in (58x47x24cm)	5	26.46lbs (12kg)
590.55in (15m)	20.08x2.05x24.41in (51x5.2x62cm)	25.2x20.87x11.02in (64x53x28cm)	5	37.48lbs (17kg)
590.55in (15m)	20.08x2.05x24.41in (51x5.2x62cm)	25.2x20.87x6.89in (64x53x17.5cm)	3	26.46lbs (12kg)
787.4in (20m)	24.21x1.65x28.35in (61.5x4.2x72cm)	29.13x25x4.13in (74x63.5x10.5cm)	2	22.05lbs (10kg)
1181.1in (30m)	26.77x2.05x31.10in (68x5.2x79cm)	31.89x29.56x4.92in (81x70x12.5)	2	30.86lbs (14kg)

# Testing

## Photometric Data

	Red/Amber		Green/Blue/White			White (CRI90)	
LED Type	SMD		SMD			SMD	
Beam Angle	160°		160°			160°	
Color	Wavelength	Lumen/m	Color	CCT	Lumen/m	CCT	Lumen/m
Red	620-630nm	>45lm	2500K	2460±120K	>110lm	2460±120K	>90lm
Green	520-530nm	>80lm	2700K	2725±145K	>110lm	2725±145K	>90lm
Blue	465-475nm	>15lm	3000K	3045±175K	>120lm	3045±175K	>90lm
Amber	585-595nm	>50lm	3500K	3465±245K	>120lm	3465±245K	>100lm
			4000K	3985±275K	>120lm	3985±275K	>100lm
			4500K	4503±243K	>120lm	4503±243K	>100lm
			5000K	5029±283K	>120lm	5028±283K	>100lm
			5700K	5669±355K	>110lm		
			6500K	6532±510K	>110lm		

# Testing

## Certifications

	Testing Organization	Certificate Serial N°	Report Reference
UL 2108	UL	20160726-E360029	E360029-2013
CE-EMC	SGS	SZEM1702001259LMV	SZEM160600421302

## Fixture Testing

### Optical Testing

Spectrum Analysis	IES LM 79 (Lumen, CCT, CRI, XY, SDCM, wavelength)
Photometric Distribution	IES LM 73 (Lumen intensity distribution & Lux diagram)
Lumen Maintenance & Lifetime	IES LM 84 & IES TM28

### Temperature Testing

Normal Temperature Test	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
Abnormal Operation Test	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21

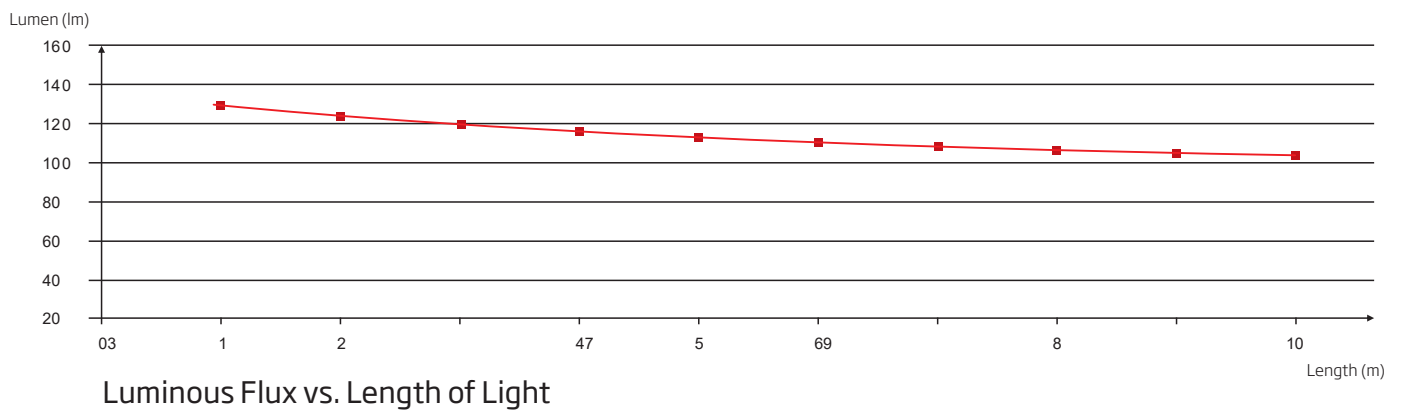
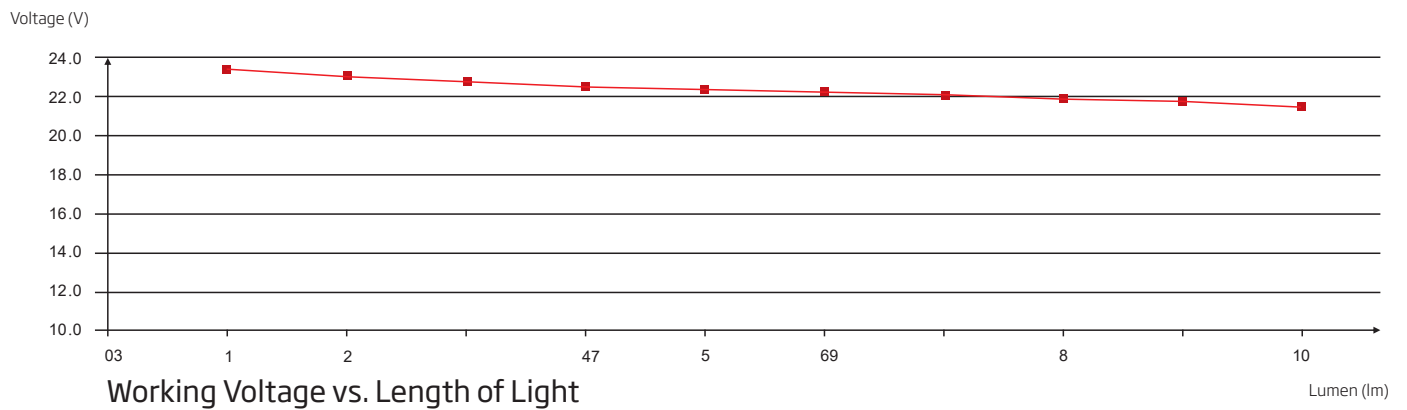
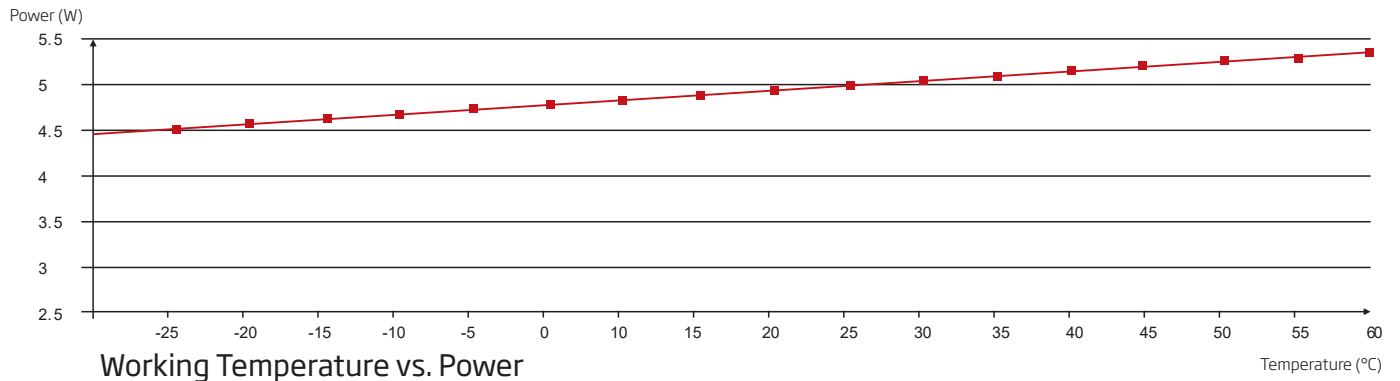
### Durability Testing

Bending Test	Manufacturer-defined, 500 cycles
Swing Test	UL2388, >750 cycles
Tensile Test	Manufacturer-defined, > the weight of light in max. connection length double feed
Twist Test	Max connection length double feed Manufacturer-defined, >200 cycles
Ball Impact	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
IK07 IK08	IEC62262

### Environmental Testing

Chlorinated Water Immersion	BG9667, PH6.8-7.6, free chlorine 0.3-0.6mg/L
Salt Water Immersion	IEC60598-1, Salinity 4%
Salt Spray Test	IEC68-2-11
Outdoor Exposure	Manufacturer-defined
Flame Resistance	UL94
UV Exposure	ASTMG 154, ISO 4892-3, UVA @ 340nm
IPX5, IPX6, IPX7, IPX8	IEC60529
Temperature Shock	Manufacturer-defined, -40°C - 60°C (typical temperature range)
Constant Temperature	Manufacturer-defined

# Testing Charts



# Testing

## Charts

### ANSI STANDARD

#### Nominal CCT Categories

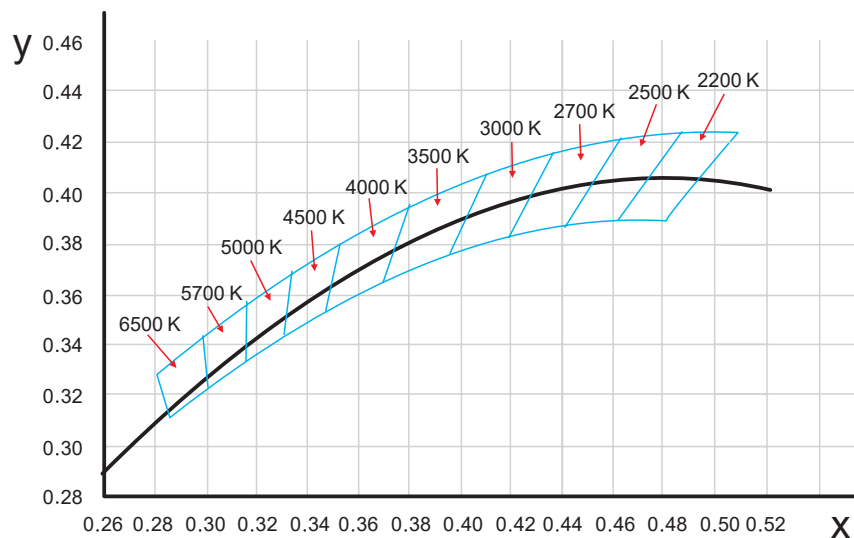
Nominal CCT	Target CCT and tolerance(K)	Target $D_{uv}$	$D_{uv}$ Tolerance Range
2200K	2238 ±102	0.0000	Tx:CCT of the source
2500K	2460±120	0.0000	For Tx<2870K
2700K	2725 ±145	0.0000	0.000±0.0060
3000K	3045±175	0.0001	For Tx≥2870K
3500K	3465±245	0.0005	$D_{uv}(Tx)±0.0060$
4000K	3985±275	0.0010	where
4500K	4503±243	0.0015	$D_{uv}(Tx)=57700 \times (1/Tx)^2$
5000K	5029±283	0.0020	-44.6 × (1/Tx)
5700K	5667±355	0.0025	+0.00854
6500K	6532±510	0.0031	

Flexible CCT  $T_F^{3)} ± \Delta T^{2)}$   $D_{uv} T_F^{3)}$

#### Remark:

- 1)  $T_F$  is chosen to be at 100K steps (2300,2400,.....,6400K),excluding the ten nominal CCTs listed in Table 1.
- 2)  $\Delta T = 1.1900 \times 10^8 \times T^{-3} - 1.5434 \times 10^4 \times T^2 + 0.7168 \times T - 902.55$
- 3) Same as in the  $D_{uv}$  Tolerance Range.

### (X,Y) Chromaticity Diagram

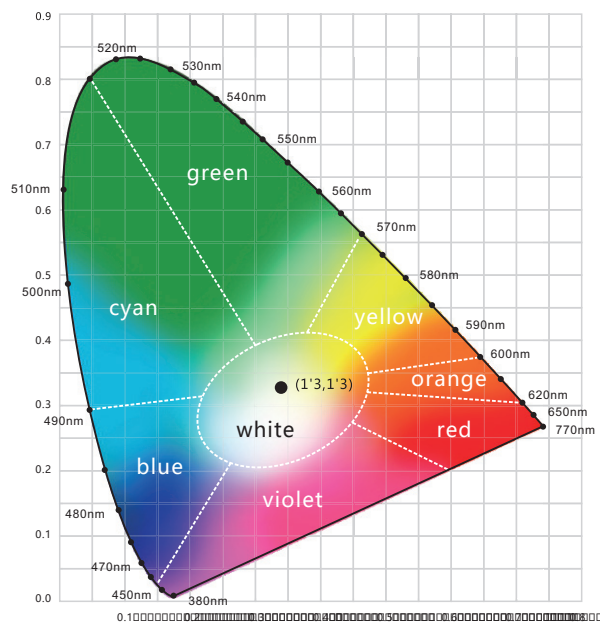




# Testing

## Charts

### Wavelength of Color Light



### Light Color



### Loading Chart

Rated Power	Power Supply				Power Supply					
	35W	60W	75W	80W	75W	80W	100W	120W	150W	185W
1.07W/ft (3.5W/m)	26.25ft (8m)	45.93ft (14m)	55.77ft (17m)	59.06ft (18m)	/	/	72.18ft (22m)	88.58ft (27m)	111.55ft (34m)	131.23ft (40m)
1.37W/ft (4.5W/m)	19.69ft (6m)	36.09ft (11m)	42.65ft (13m)	45.93 (14m)	/	/	59.06ft (18m)	68.9ft (21m)	88.58 (27m)	98.43ft (30m)
Lead Type	Single Feed				Double Feed					
	DC input  01/02				DC input  01 02 DC input					

Note: These are the max recommended run lengths based on power supply

**For example:** It is recommended to use one 80W power supply for a single-fed run of 59.06ft (18m) at 1.07W/ft (3.5W/m), or for a single-fed run of 45.93ft (14m) at 1.37W/ft (4.5W/m).