



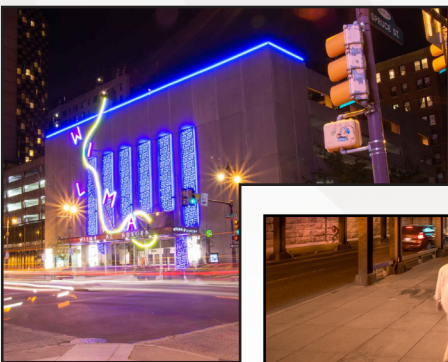
Version 1.4

# VIVID Wave HIGH OUTPUT PVC 24V



**For More Information**

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UNITED STATES

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GILLS reserves the right to make any design changes for continuous improvement which will not affect the overall appearance or performance.

[www.gills.com](http://www.gills.com)  
[www.ledneonflex.com](http://www.ledneonflex.com)

Light Dimension 0.63 x 0.67in (16x17mm)

Output	White	White
LED Light	SMD LED Chip	SMD LED Chip
Max Run Length*		
Single Feed	32.81ft (10m)	26.24ft (8m)
Double Feed	65.62ft (20m)	52.48ft (16m)
Light Surface	Square profile 160°	Square profile 160°
Lumen Maintenance	70,000 Hours L70 @ 25°C : 90,000 Hours L50 @ 25°C 50,000 Hours L70 @ 50°C : 70,000 Hours L50 @ 50°C	

## Electrical

Input Voltage	24V DC	24V DC
Power Consumption	3.66W/ft (12W/m)	4.57W/ft (15W/m)

## Physical

LED Count	33 LEDs / ft (108 LEDs/m)	33 LEDs / ft (108 LEDs/m)
LED Spacing	0.37in (9.26mm)	0.37in (9.26mm)
Cutting Unit Length	2.19in (55.6mm) (6 LEDs)	2.19in (55.6mm) (6 LEDs)
Thermal Management	Free air convection	
Fixture Connections	End, side & bottom lead wires	
Minimum Bend Diameter	11.81in (300mm) (Top Bending)	

## Temperature Ranges

Installation	32°F to 95°F (0°C to 35°C)
Operating	-4°F to 95°F (-20°C to 35°C)
Humidity	0-95% non condensing

## Dependability

Warranty	5 Year Limited Warranty
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## Safety

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.

## White 15W/m

### Available Colors

Color	CCT Wavelength
2200K	2238 ± 102K
2700K	2725 ± 145K
3000K	3045 ± 175K
3500K (W)	3465 ± 245K
4000K	3985 ± 275K
5700K	5669 ± 355K

### Lumen Count (15W)

Color	Per Foot	Per Meter	Power
2200K	>213.41lm	>700lm	4.57W/ft (15W/m)
2700K	>243.90lm	>800lm	4.57W/ft (15W/m)
3000K	>243.90lm	>800lm	4.57W/ft (15W/m)
3500K	>274.32lm	>900lm	4.57W/ft (15W/m)
4000K	>274.32lm	>900lm	4.57W/ft (15W/m)
5700K	>259.14lm	>850lm	4.57W/ft (15W/m)

## White 12W/m

### Available Colors

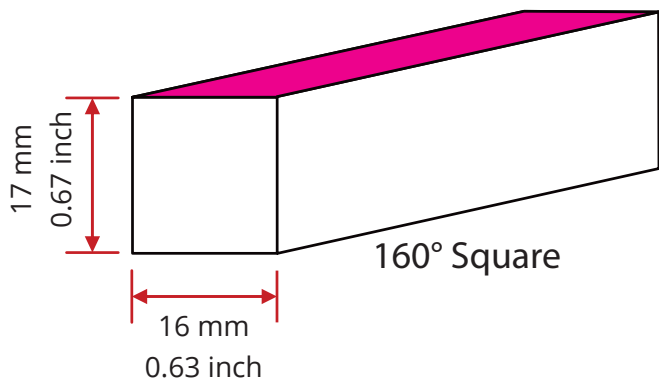
Color	CCT Wavelength
2200K	2238 ± 102K
2700K	2725 ± 145K
3000K	3045 ± 175K
3500K (W)	3465 ± 245K
4000K	3985 ± 275K
5700K	5669 ± 355K

### Lumen Count (12W)

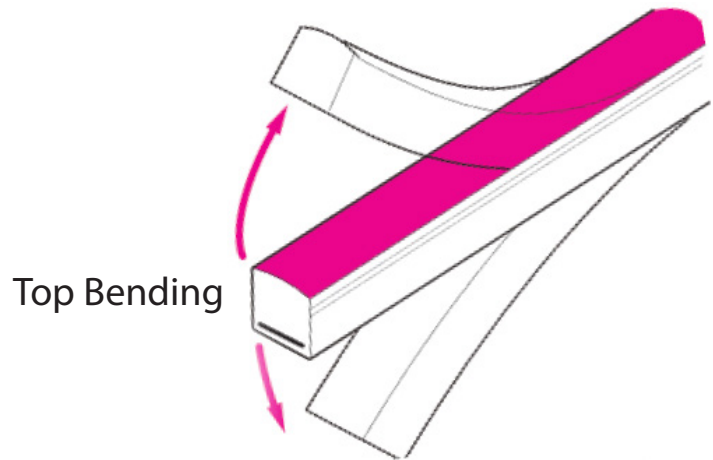
Color	Per Foot	Per Meter	Power
2200K	>167.68lm	>550lm	3.66W/ft (12W/m)
2700K	>198.17lm	>650lm	3.66W/ft (12W/m)
3000K	>198.17lm	>650lm	3.66W/ft (12W/m)
3500K	>228.66lm	>750lm	3.66W/ft (12W/m)
4000K	>228.66lm	>750lm	3.66W/ft (12W/m)
5700K	>213.41lm	>700lm	3.66W/ft (12W/m)



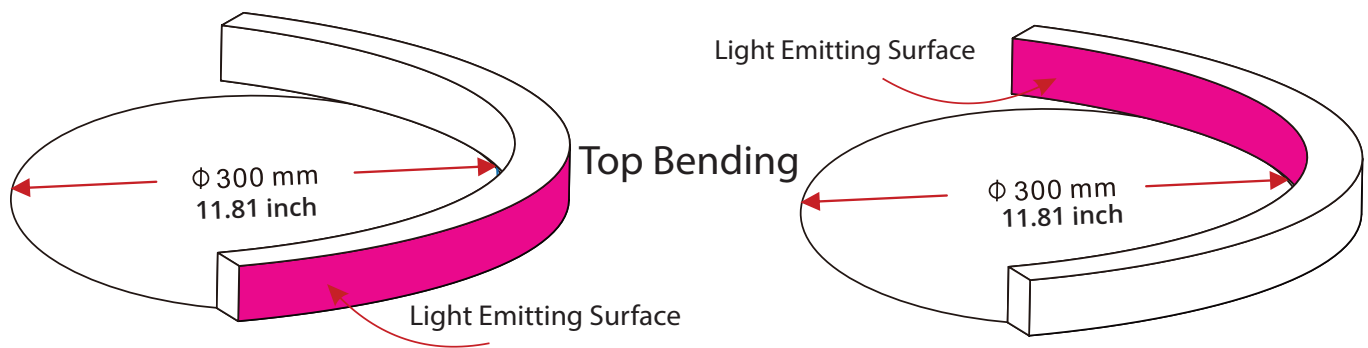
## Light Profile



## Bending Direction



## Minimum Bending Diameter



## Fixtures

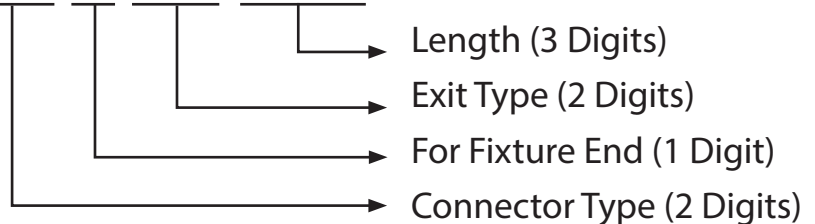
NF-16E-0-01-2W-E-**XXX**-24DC



LED Color (3 digits)	
22K - 2200K	35K - 3500K
27K - 2700K	40K - 4000K
30K - 3000K	57K - 5700K

## Lead Connector

NA-16E-0-01-2W-**XX-X-XX-XXX**-P

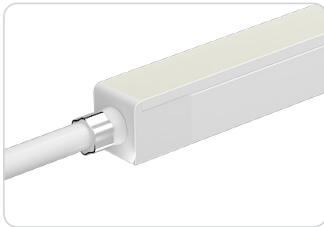


Connector Type (2 Digits)	For Fixture End (1 digit)	Exit Type (2 digits)	Length (3 digits)
SC - Snap Conenctor	1 - Input side	EN - End	0M3 - 0.98ft (30cm)
SE - Seamless	2 - Output side	BO - Bottom	01M - 3.28ft (1m)
SV - Swivel	0 - Jumpers/T-Feeds/ Seamless (or Submersible) Bottom/Seamless (or Sub- mersible) End	SL - Side left	03M - 9.84ft (3m)
SU - Submersible		SR - Side right	05M - 16ft (5m)
		EJ - End jumper	10M - 32.81ft (10m)
		BJ - Bottom jumper	000 - For End Cap
		TF - Power T feed	
		EC - End Cap	

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

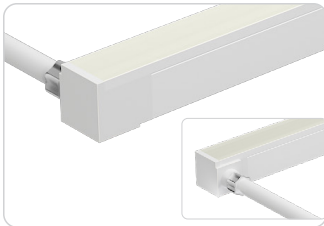
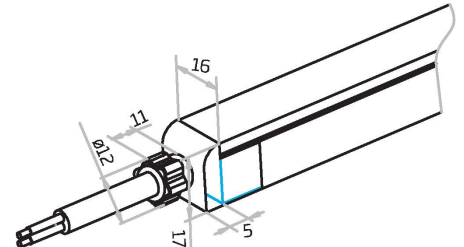


## Seamless



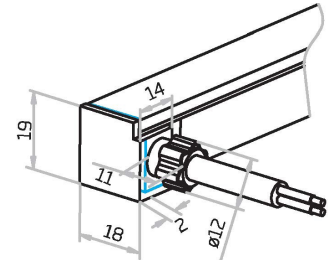
### Seamless End Exit

NA-16E-0-00-2W-SE-0-EN-XXX-P



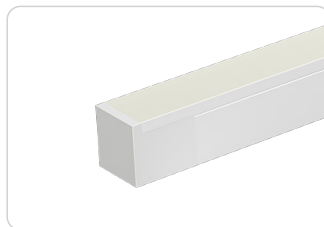
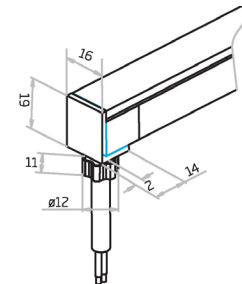
### Seamless Side Exit

NA-16E-0-00-XW-SE-1-SL-XXX-P  
NA-16E-0-00-XW-SE-2-SL-XXX-P  
NA-16E-0-00-XW-SE-1-SR-XXX-P  
NA-16E-0-00-XW-SE-2-SR-XXX-P



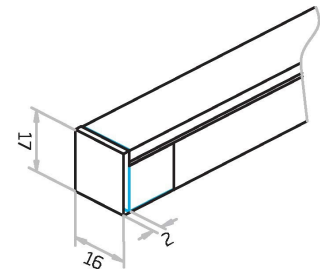
### Seamless Bottom Exit

NA-16E-0-00-2W-SE-0-BO-XXX-P



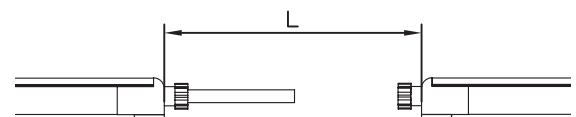
### Seamless End Cap

NA-16E-1-00-0W-SE-1-EC-000-P  
NA-16E-1-00-0W-SE-2-EC-000-P



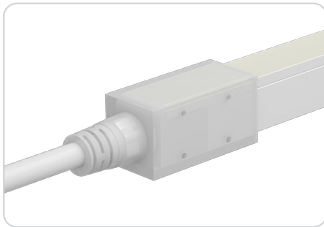
### Seamless Jumper

NA-16E-0-00-2W-SE-0-EJ-XXX-P



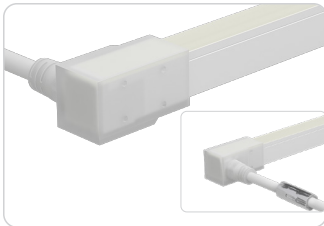
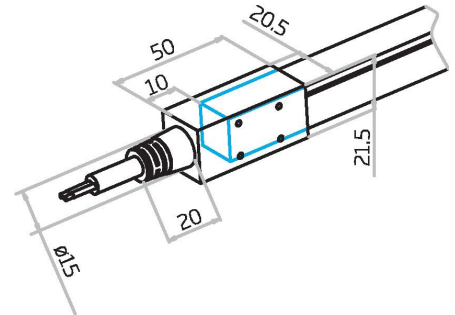


## Submersible Seamless



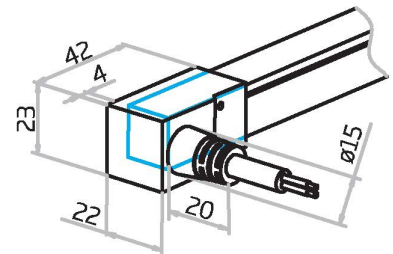
### Submersible End Exit

NA-16E-0-00-2W-SU-0-EN-XXX-P



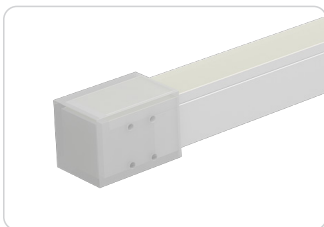
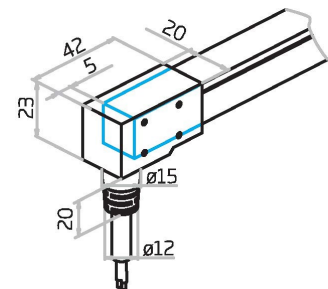
### Submersible Side Exit

NA-16E-0-00-2W-SU-1-SL-XXX-P  
NA-16E-0-00-2W-SU-2-SL-XXX-P  
NA-16E-0-00-2W-SU-1-SR-XXX-P  
NA-16E-0-00-2W-SU-2-SR-XXX-P



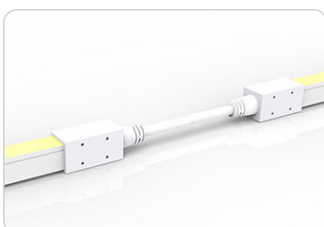
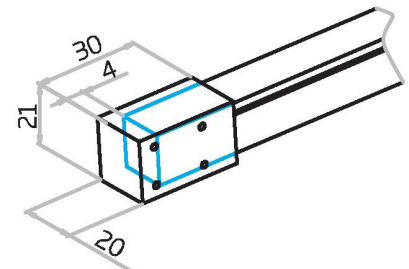
### Submersible Bottom Exit

NA-16E-0-00-2W-SU-0-BO-XXX-P



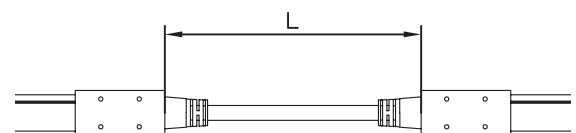
### Submersible End Cap

NA-16E-1-00-0W-SU-1-EC-000-P  
NA-16E-1-00-0W-SU-2-EC-000-P



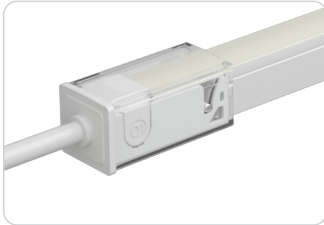
### Submersible Jumper

NA-16E-0-00-2W-SU-0-EJ-XXX-P



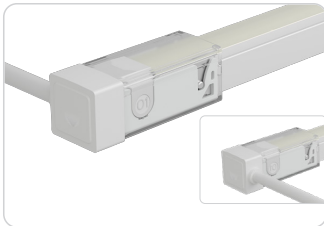
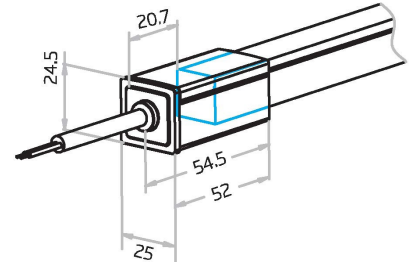


## Snap



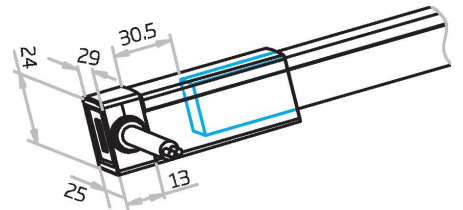
### Snap End Exit

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NA-16E-0-00-2W-SC-2-EN-XXX-P



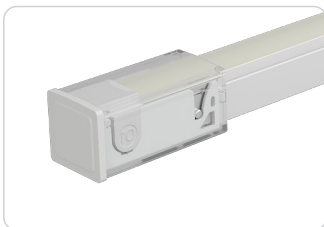
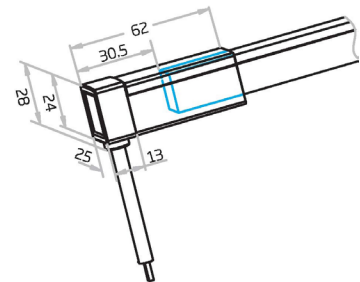
### Snap Side Exit

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NA-16E-0-00-XW-SC-2-SL-XXX-P  
NA-16E-0-00-XW-SC-1-SR-XXX-P  
NA-16E-0-00-XW-SC-2-SR-XXX-P



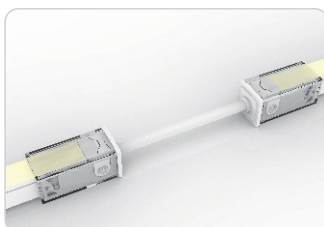
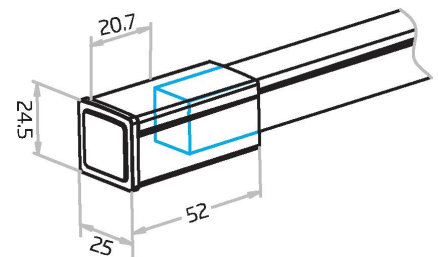
### Snap Bottom Exit

NA-16E-0-00-2W-SC-1-BO-XXX-P  
NA-16E-0-00-2W-SC-2-BO-XXX-P



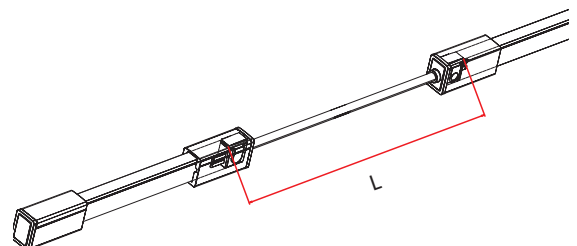
### Snap End Cap

NA-16E-0-00-0W-SC-1-EC-000-P  
NA-16E-0-00-0W-SC-2-EC-000-P



### Snap Jumper

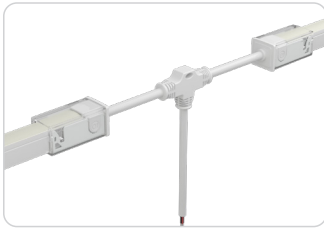
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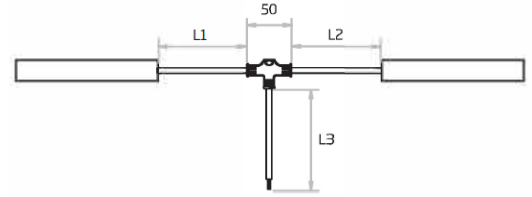
IP67: Rated for outdoor use.  
Factory Assembly or DIY.

## Snap



### Snap Power T Feed

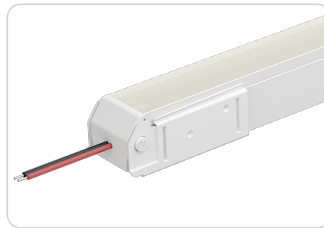
NA-16E-0-00-2W-SC-0-TF-XXX-P



## Swivel

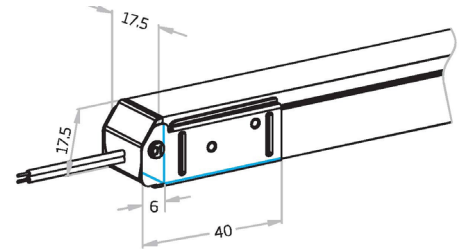
IP20: Rated for indoor use only.  
Factory Assembly or DIY.

■ 22AWG  
■ 22AWG



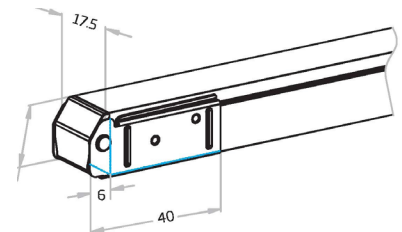
### Swivel End Exit

NA-16E-0-00-2W-SV-1-EN-XXX-P  
NA-16E-0-00-2W-SV-2-EN-XXX-P



### Swivel End Cap

NA-16E-1-00-0W-SV-1-EC-000-P  
NA-16E-1-00-0W-SV-2-EC-000-P

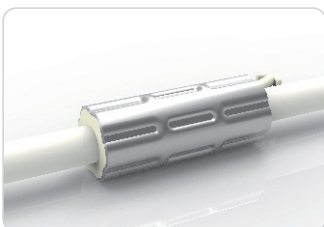
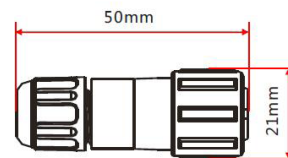


## Barrel

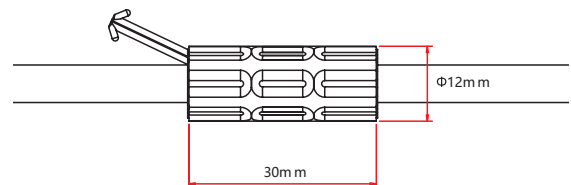


### Barrel Connectors

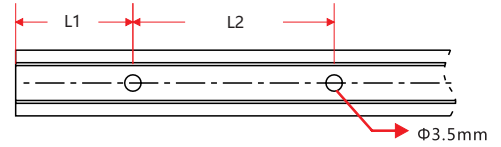
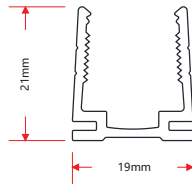
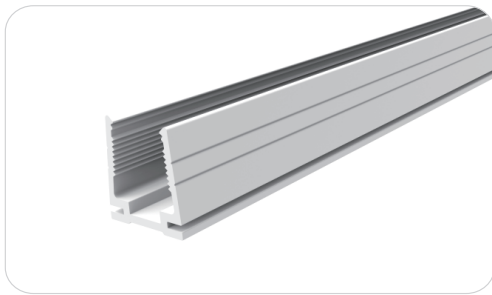
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NA-XX-BC-DC-CXX-M  
NA-XX-BN-XXA-CXX-F  
NA-XX-BN-XXA-CXX-M  
NA-XX-PL-XXA-CXX-F  
NA-XX-PL-XXA-CXX-M



### Anti-Wicking Ferrule

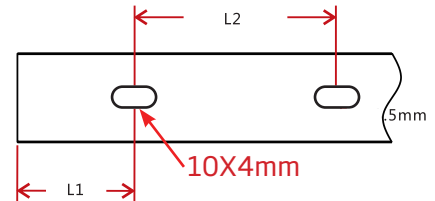
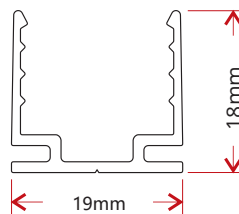
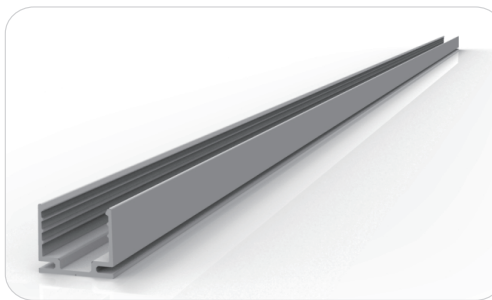


## Plastic Channel



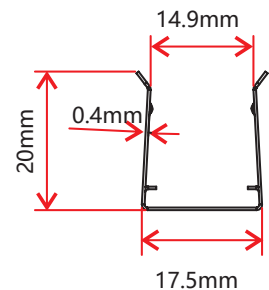
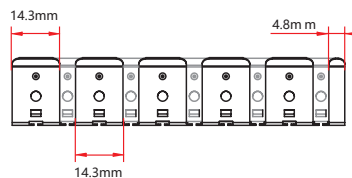
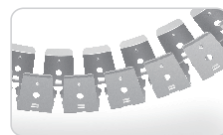
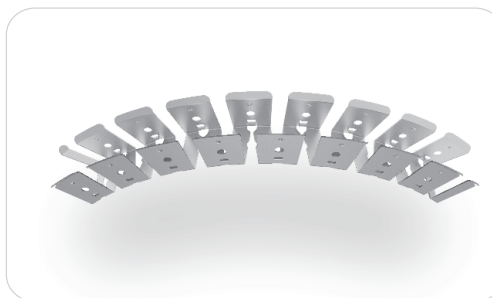
W x H	Standard Length	Part Number	L1	L2	Screw Hole Φ	Hole #
0.75 x 0.83in (19 x 21mm)	19.69in (500mm)	CH-16-R-PL-0M5-SD	1.97in (50mm)	7.87in (200mm)	Φ0.14in (3.5mm)	3
	39.37in (1000mm)	CH-16-R-PL-01M-SD	3.94in (100mm)	7.87in (200mm)	Φ0.14in (3.5mm)	5
	78.74in (2000mm)	CH-16-R-PL-02M-SD	3.94in (100mm)	7.87in (200mm)	Φ0.14in (3.5mm)	10

## Standard Anodized Aluminum Channel

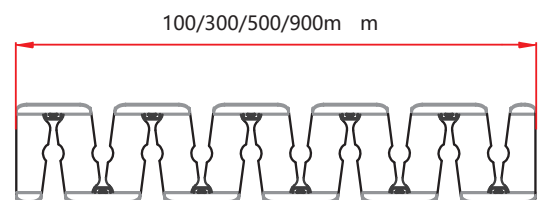


W x H	Standard Length	Part Number	L1	L2	Screw Hole Φ	Hole #
0.75 x 0.71in (19 x 18mm)	1.38in (35mm)	CL-16-R-AL-3C5-SD	0.69in (17.5mm)	/	0.39in x 0.16in (10 x 4mm)	1
	19.69in (500mm)	CH-16-R-AL-0M5-SD	1.97in (50mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	3
	39.37in (1000mm)	CH-16-R-AL-01M-SD	3.94in (100mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	5
	78.74in (2000mm)	CH-16-R-AL-02M-SD	3.94in (100mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	10

## Stainless Steel Flexible Channel

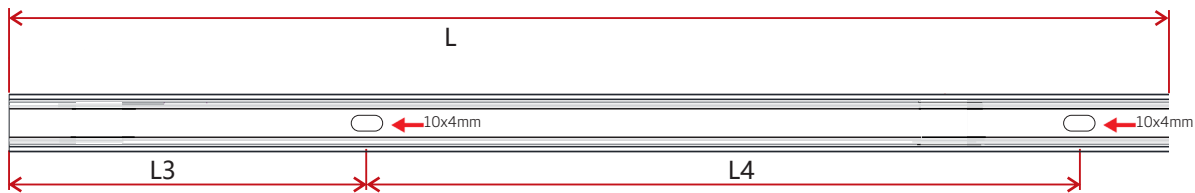
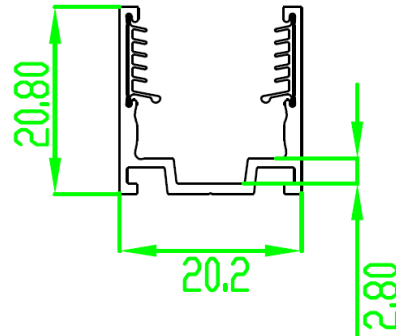
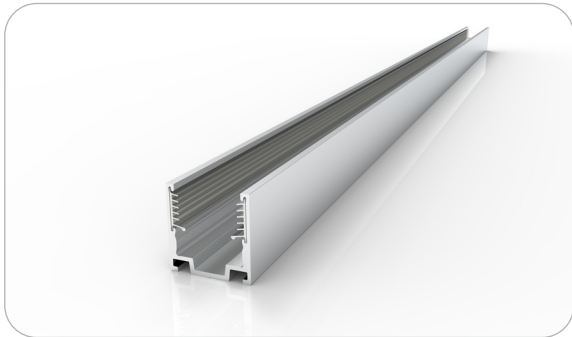


W x H	Standard Length	Part Number
0.69 x 0.79in (17.5 x 20mm)	3.94in (100mm)	CH-16-F-SS-0M1-SD
	11.81in (300mm)	CH-16-F-SS-0M3-SD
	19.69in (500mm)	CH-16-F-SS-0M5-SD
	35.43in (900mm)	CH-16-F-SS-0M9-SD



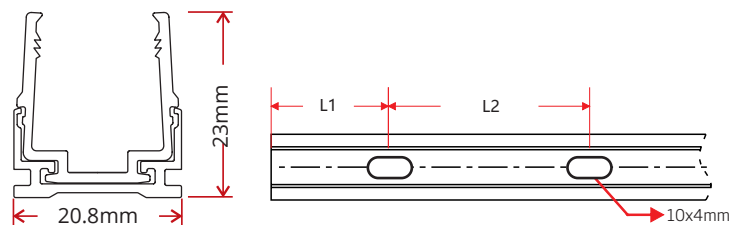
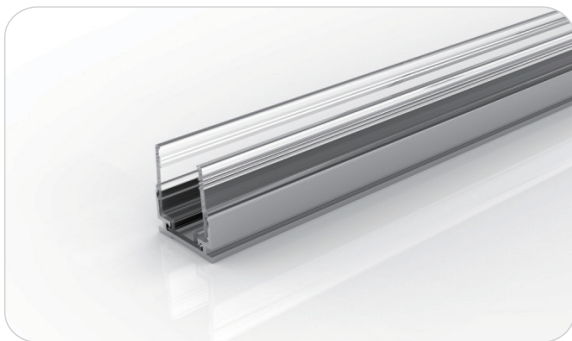
This profile can be mounted using screws in any gaps where the channel bends.

## Standard Aluminum Channel with Silicone Grip



W x H	Standard Length	Part Number	L3	L4	Screw Hole $\Phi$	Hole #
0.82 x 0.88in (20.7 x 22.3mm)	0.79in (20mm)	CL-16-R-AL-02C-SE	0.2in (5mm)	0.98in (25mm)	0.39in x 0.16in (10 x 4mm)	1
	19.69in (500mm)	CH-16-R-AL-0M5-SE	1.97in (50mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	3
	39.37in (1000mm)	CH-16-R-AL-01M-SE	3.94in (100mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	5
	78.74in (2000mm)	CH-16-R-AL-02M-SE	3.94in (100mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	10

## Plastic & Aluminum Channel



W x H	Standard Length	Part Number	L1	L2	Screw Hole $\Phi$	Hole #
0.82 x 0.91in (20.8x 23mm)	1.38in (35mm)	CL-16-R-AP-3C5-SD	0.69in (17.5mm)	/	0.39in x 0.16in (10 x 4mm)	1
	19.69in (500mm)	CH-16-R-AP-0M5-SD	1.97in (50mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	3
	39.37in (1000mm)	CH-16-R-AP-01M-SD	3.94in (100mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	5
	78.74in (2000mm)	CH-16-R-AP-02M-SD	3.94in (100mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	10

### 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

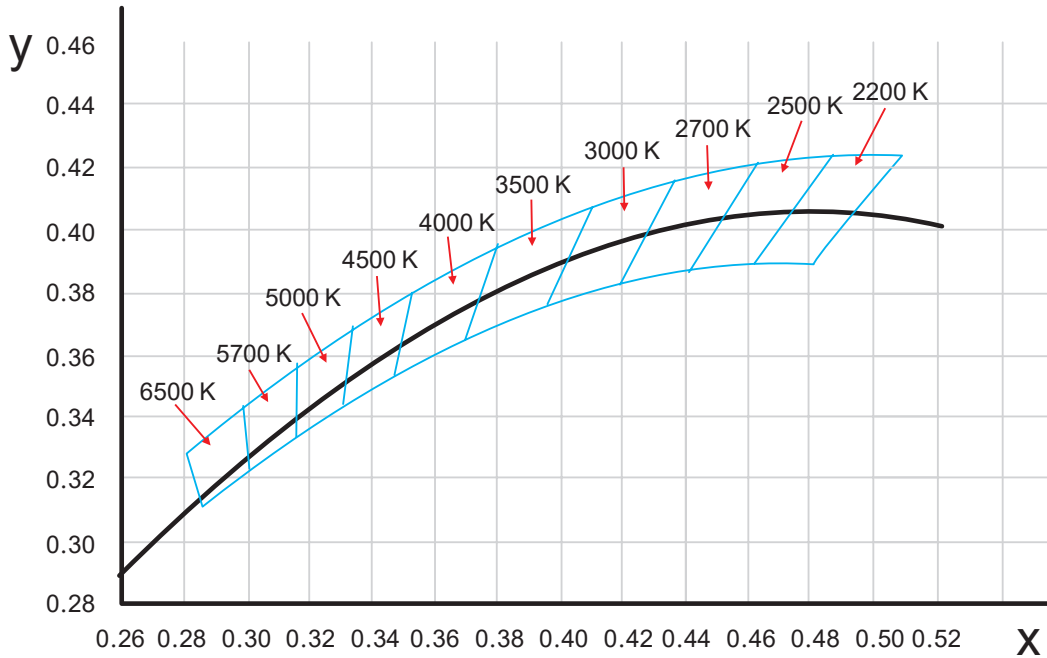
Bending Test	Manufacturer-defined, 500 cycles
Swing Test	UL2388, >750 cycles
Tensile Test	Manufacturer-defined, > the weight of light in max. connection length double feed
Twist Test	Max connection length double feed Manufacturer-defined, >200 cycles
Ball Impact	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21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

### Environmental Testing

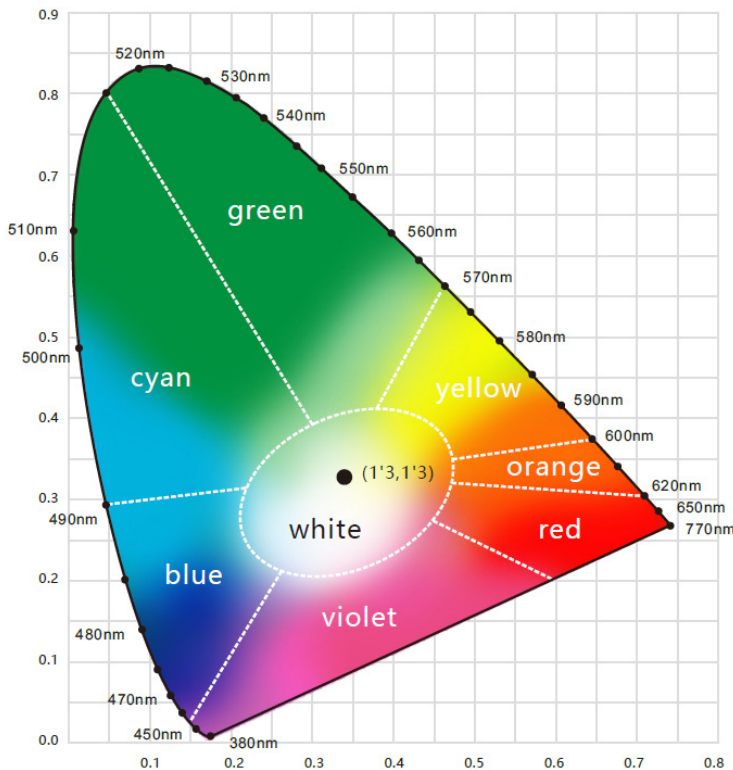
Chlorinated Water Immersion	BG9667, PH6.8-7.6, free chlorine 0.3-0.6mg/L
Salt Water Immersion	IEC60598-1, Salinity 4%
Salt Spray Test	IEC68-2-11
Outdoor Exposure	Manufacturer-defined
Flame Resistance	UL94
UV Exposure	ASTMG 154, ISO 4892-3, UVA @ 340nm
IPX5, IPX6, IPX7, IPX8	IEC60529
Temperature Shock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

Charts

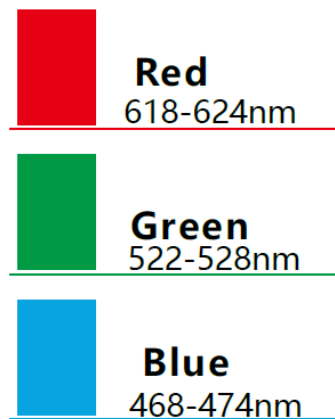
(X,Y) Chromaticity Diagram



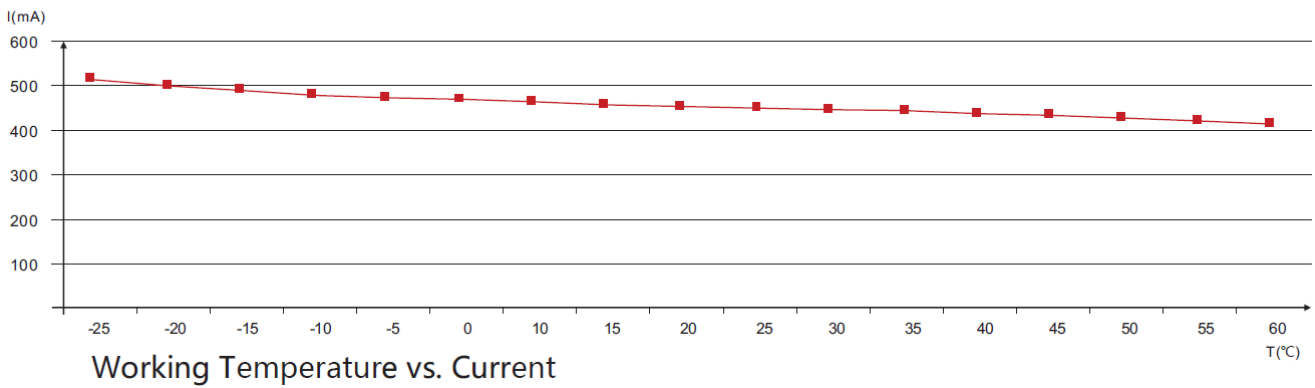
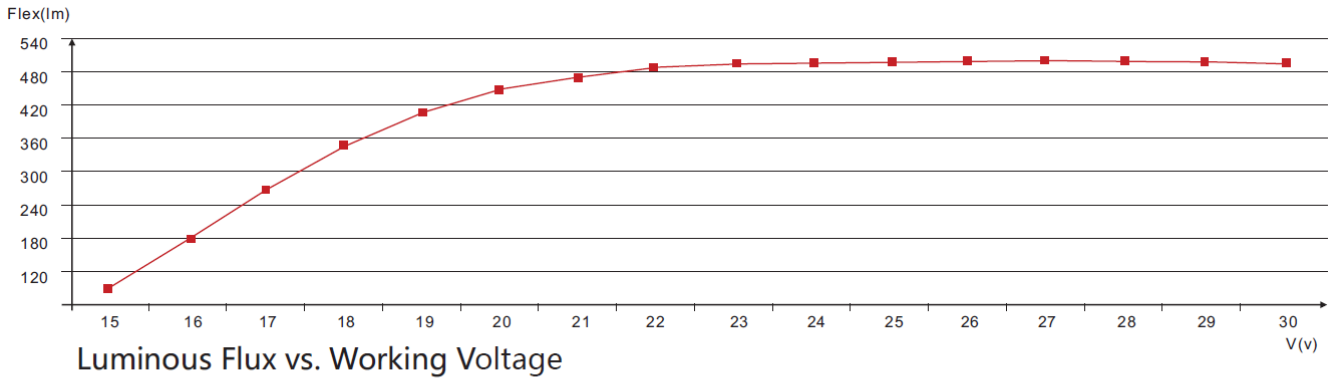
Wavelength of Color Light



Light Color



Charts



ANSI STANDARD

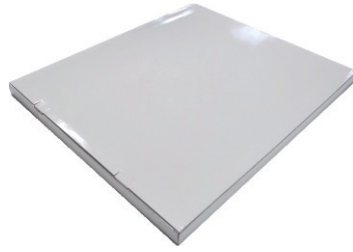
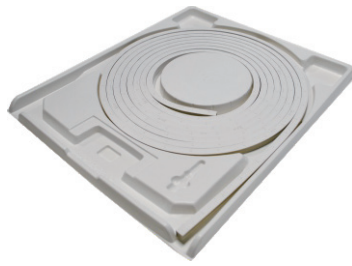
Nominal CCT Categories

Nominal CCT	Target CCT and tolerance(K)	Target D <sub>uv</sub>	D <sub>uv</sub> 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 <sub>uv</sub> (Tx)±0.0060
4000K	3985±275	0.0010	where
4500K	4503±243	0.0015	D <sub>uv</sub> (Tx)=57700 x (1/Tx) <sup>2</sup>
5000K	5029±283	0.0020	-44.6 x (1/Tx)
5700K	5667±355	0.0025	+0.00854
6500K	6532±510	0.0031	

Remark:

- 1) T<sub>F</sub> 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<sub>uv</sub> Tolerance Range.

Flexible CCT (2200-6500K)	T <sub>F</sub> <sup>1)</sup> ± ΔT <sup>2)</sup>	D <sub>uv</sub> T <sub>F</sub> <sup>3)</sup>
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White Box

Packing Box

Fixture Length	White Box Dimensions	Packing Box Dimensions	# Of White Boxes	Package Weight
196.85in (5m)	15.35x2.05x19.67in (39x5.2x50cm)	20.47x15.34x11.02in (52x41x28cm)	5	30.86lbs (14kg)
393.7in (10m)	20.08x2.05x24.41in (51x5.2x62cm)	25.2x20.87x11.02in (64x53x28cm)	5	57.32lbs (26kg)
393.7in (10m)	20.08x2.05x24.41in (51x5.2x62cm)	25.2x20.87x6.9in (64x53x17.5cm)	3	35.27lbs (16kg)
787.4in (20m)	26.77x2.05x31.1in (68x5.2x79cm)	31.9x27.56x4.92in (81x70x12.5cm)	2	48.5lbs (22kg)