



VIVID WAVE PIXEL

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Technical Specifications

Light Dimension	0.63 x 0.67in (16x17mm)		
Output	RGB	RGBW	White(HB&VB)
LED Light	Epistar SMD LED Chip		Epistar
Max Run Length *1			
Single Feed (Dynamic)	32.81ft (10m)	32.81ft (10m)	49.21ft (15m)
Single Feed (Full Load)	16.4ft (5m)	16.4ft (5m)	32.81ft (10m)
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		
Electrical			
Input Voltage	24V DC		
Power Consumption	5.03W/ft (16.5W/m)	6.71W/ft (22W/m)	5.03W/ft (16.5W/m)
Physical			
LED Count	25 LED/ft (84LEDs/m)	25 LED/ft (84LEDs/m)	25 LED/ft (84LEDs/m)
LED Spacing	0.47in (11.9mm)		0.47in (11.9mm)
Cutting Unit Length	3.28in (83.3mm) (7 LEDs)	3.28in (83.3mm) (7 LEDs)	3.28in (83.3mm) (7 LEDs)
IC Type	UCS2903	UCS2904	UCS2903
Thermal Management	Free air convection		
Fixture Connections	End, side & bottom lead wires		
Minimum Bend Diameter	11.81in (300mm) (Top Bending & Side Bending)		11.81in (300mm) (Top Bending & Side Bending)
Temperature Ranges			
Installation	32°F to 140°F (0°C to 60°C)		
Operating	-13°F to 140°F (-25°C to 60°C)		
Humidity	0-95% non condensing		
Dependability			
Warranty	5 Year Warranty		
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		

*1 Max Run Length: Dynamic = when the R, G, B channels are not operating at 100%
 Full Load = when the R, G, B channels are operating at 100%

Color Information

Color	Wavelength/CCT
Red	620-630nm
Green	520-530nm
Blue	465-475nm
2700K (WW)	2725 ± 145K
3000K	3045 ± 175K
4000K	3985 ± 275K

Lumen Count

Color	Per Foot	Per Meter	Power
Red	>24.38lm	>80lm	/
Green	>57.91lm	>190lm	/
Blue	>9.14lm	>30lm	/
2700K	>57.91lm	>190lm	/
3000K	>57.91lm	>190lm	/
4000K	>57.91lm	>190lm	/

Technical Specifications

Color Information

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

Lumen Count

Color	Per Foot	Per Meter	Power
2200K	>121.92lm	>400lm	/
2700K	>121.92lm	>400lm	/
3000K	>137.16lm	>450lm	/
3500K	>137.16lm	>450lm	/
4000K	>137.16lm	>450lm	/
5700K	>137.16lm	>450lm	/

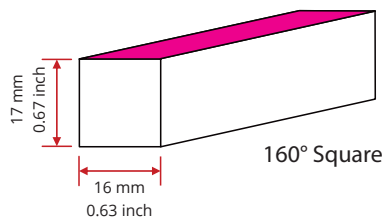
*Color Jackets:

For standard or custom color jacket options, contact your Account Manager. Min. order quantity of 656ft (200m).

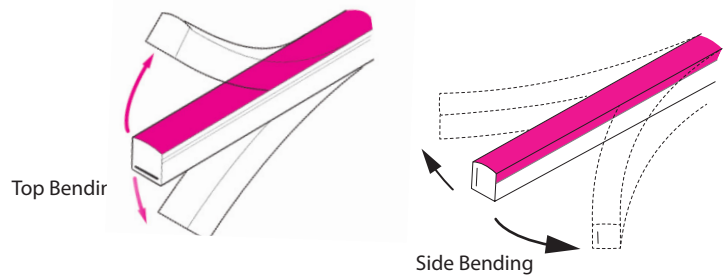
Physical Specifications



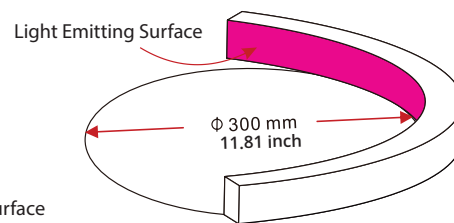
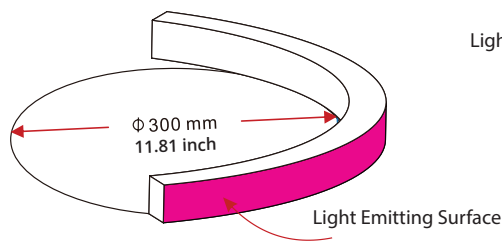
Light Profile



Bending Direction



Minimum Bending Diameter



Part Number Naming Convention

NF-16E-0-01-3W-X-XXX-24DC

LED Color (3 digits)

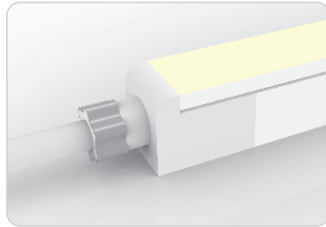
LED Type (1 digit)

For full part number naming rules, please refer to the document on www.glls.com/support/documentation/

Connectors

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

Seamless Connectors

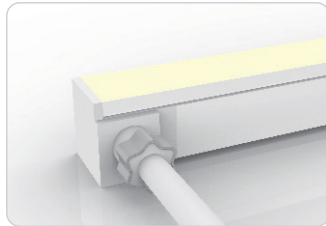
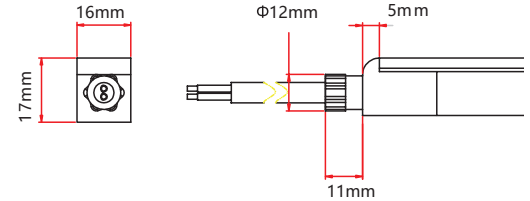


Seamless End Exit

NA-16E-0-00-3W-SE-0-EN-XXX-S

2 Wire

NA-16E-0-00-3W-SE-0-EN-XXX-P



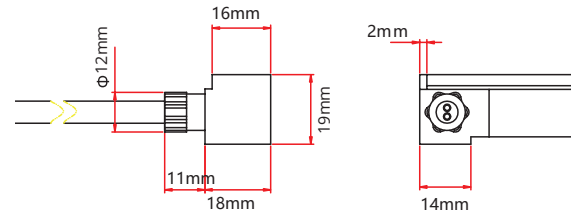
Seamless Side Exit

NA-16E-0-00-3W-SE-2-SL-XXX-S

NA-16E-0-00-3W-SE-1-SR-XXX-S

2 Wire

NA-16E-0-00-3W-SE-2-SL-XXX-P

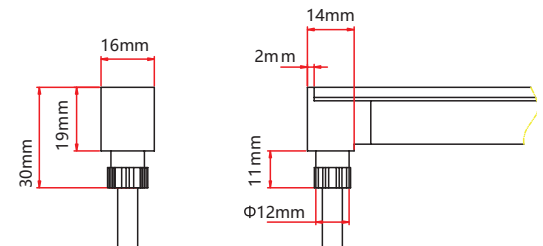


Seamless Bottom Exit

NA-16E-0-00-3W-SE-0-BO-XXX-S

2 Wire

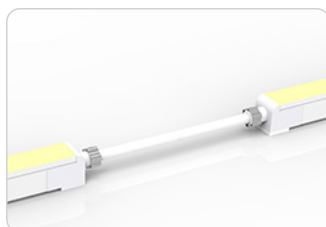
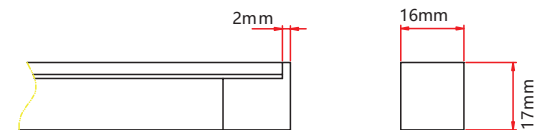
NA-16E-0-00-3W-SE-0-BO-XXX-P



Seamless End Cap

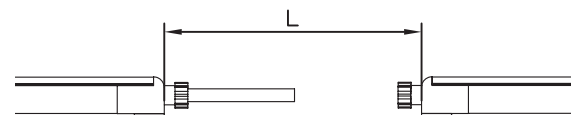
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NA-16E-1-00-0W-SE-2-EC-000-P



Seamless Jumper

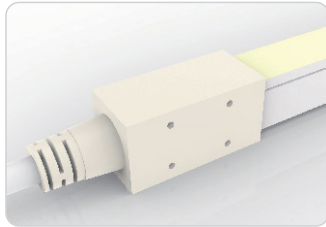
NA-16E-0-00-3W-SE-0-EJ-XXX-S



Connectors

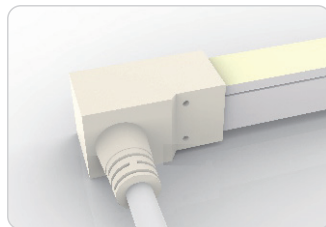
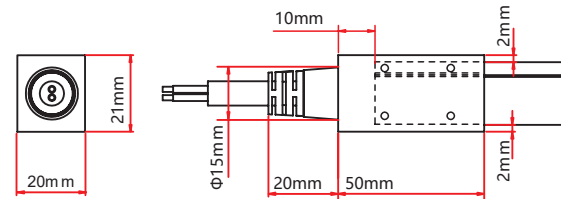
IP68: Submersible. Waiting on 3rd party certification from UL as of 18/04/12. Factory Assembly only.

Submersible Seamless Connectors



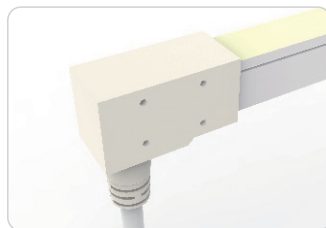
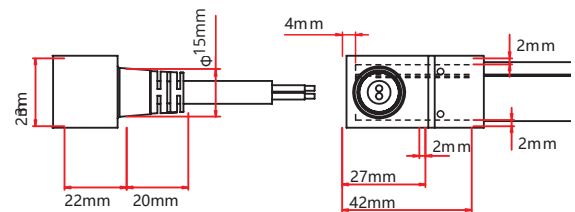
Submersible End Exit

NA-16E-0-00-3W-SU-0-EN-XXX-S



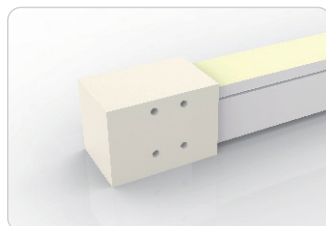
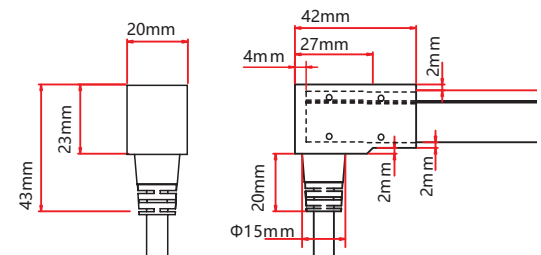
Submersible Side Exit

NA-16E-0-00-3W-SU-1-SL-XXX-S
 NA-16E-0-00-3W-SU-2-SL-XXX-S
 NA-16E-0-00-3W-SU-1-SR-XXX-S
 NA-16E-0-00-3W-SU-2-SR-XXX-S



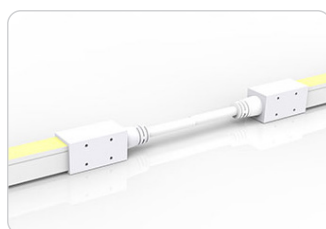
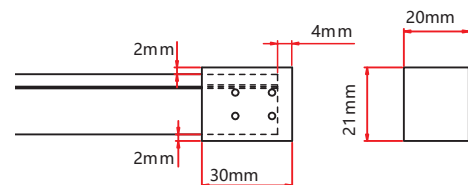
Submersible Bottom Exit

NA-16E-0-00-3W-SU-0-BO-0M3-S



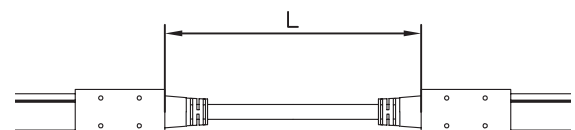
Submersible End Cap

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



Submersible Jumper

NA-16E-0-00-3W-SU-0-EJ-XXX-S



Connectors

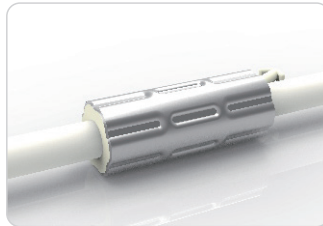
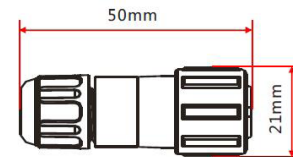
IP20: Rated for indoor use only.
Factory Assembly only.

Barrel Connectors

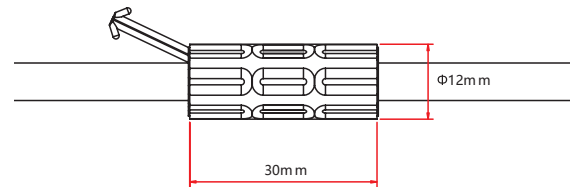


Barrel Connectors

- 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



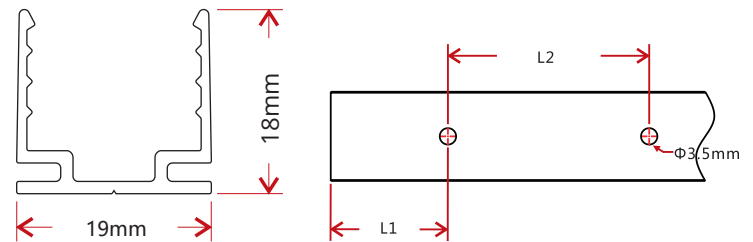
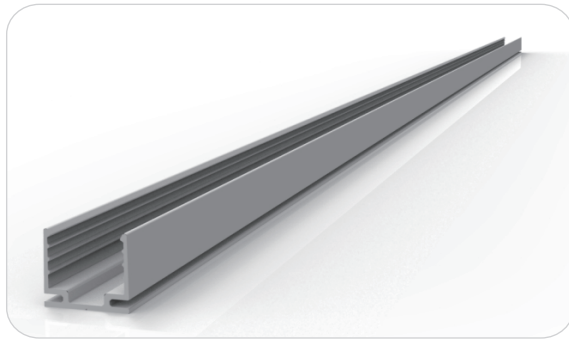
Anvil Cutter

Optional accessory for on-site cutting.

Factory order only

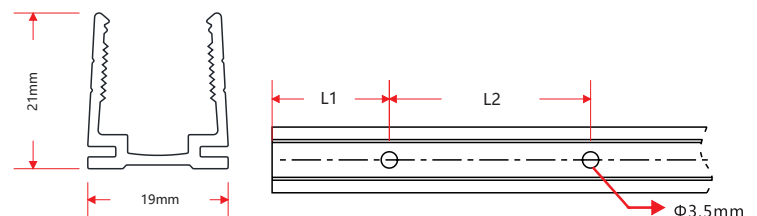
Mounting Hardware

Locking 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)	/	Φ 0.14in (3.5mm)	1
	19.69in (500mm)	CH-16-R-AL-0M5-SD	1.97in (50mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	3
	39.37in (1000mm)	CH-16-R-AL-01M-SD	3.94in (100mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	5
	78.74in (2000mm)	CH-16-R-AL-02M-SD	3.94in (100mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	10

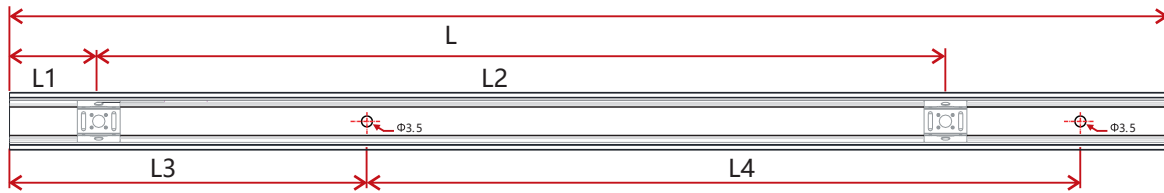
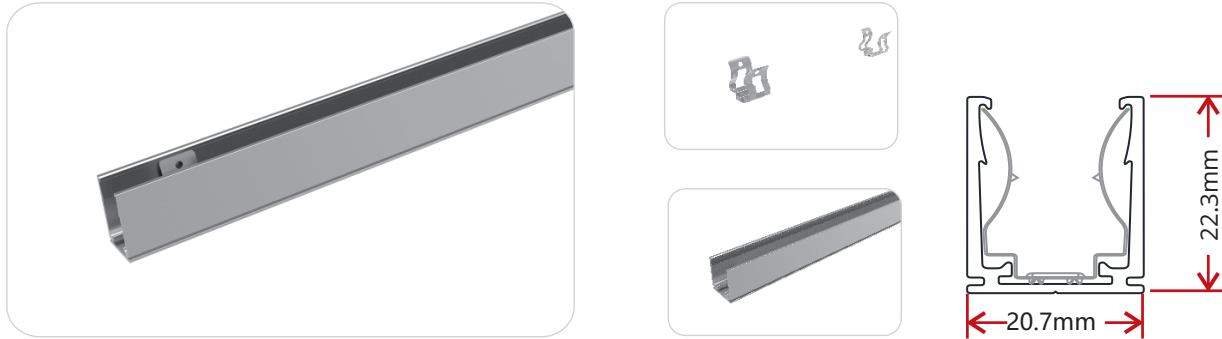
Plastic Channel



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)	Φ 0.14in (3.5mm)	3
	39.37in (1000mm)	CH-16-R-PL-01M-SD	3.94in (100mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	5
	78.74in (2000mm)	CH-16-R-PL-02M-SD	3.94in (100mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	10

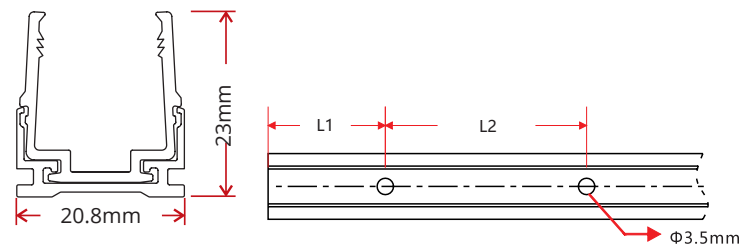
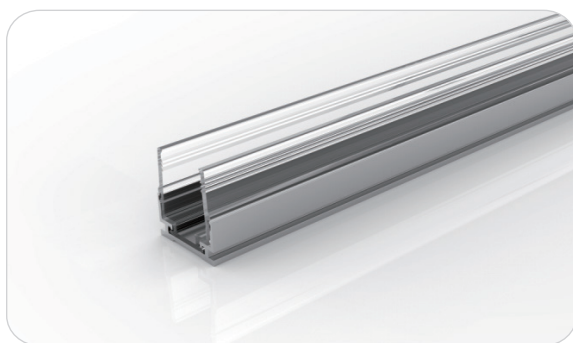
Mounting Hardware

Spring Clip Anodized Aluminum Channel



W x H	Standard Length	Part Number	L1	L2	L3	L4	Screw Hole Φ	Hole #	Clip #
0.82 x 0.88in (20.7 x 22.3mm)	1.38in (35mm)	CL-16-R-AL-3C5-SP	0.69in (17.5mm)	/	0.2in (5mm)	0.98in (25mm)	Φ 0.14in (3.5mm)	2	1
	19.69in (500mm)	CH-16-R-AL-0M5-SP	0.98in (25mm)	8.86in (225mm)	1.97in (50mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	3	3
	39.37in (1000mm)	CH-16-R-AL-01M-SP	0.98in (25mm)	9.35in (237.5mm)	3.94in (100mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	5	5
	78.74in (2000mm)	CH-16-R-AL-02M-SP	0.98in (25mm)	9.6in (243.8mm)	3.94in (100mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	10	9

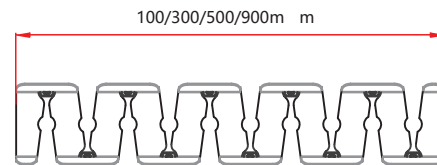
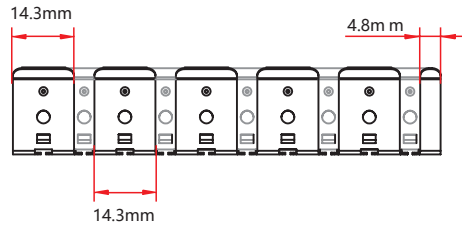
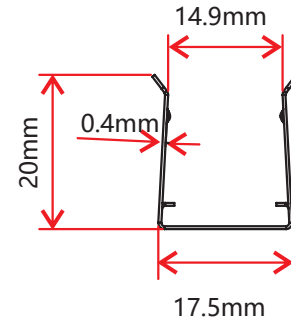
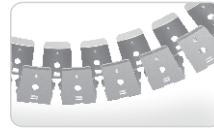
Plastic & Aluminum Channel



W x H	Standard Length	Part Number	L1	L2	Screw Hole Φ	Hole #
0.82 x 0.91in (20.8x 23mm)	1.38in (35mm)	CL-16-R-AP-3C5-SD	0.69in (17.5mm)	/	Φ 0.14in (3.5mm)	1
	19.69in (500mm)	CH-16-R-AP-0M5-SD	1.97in (50mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	3
	39.37in (1000mm)	CH-16-R-AP-01M-SD	3.94in (100mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	5
	78.74in (2000mm)	CH-16-R-AP-02M-SD	3.94in (100mm)	7.87in (200mm)	Φ 0.14in (3.5mm)	10

Mounting Hardware

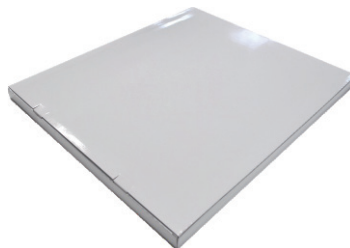
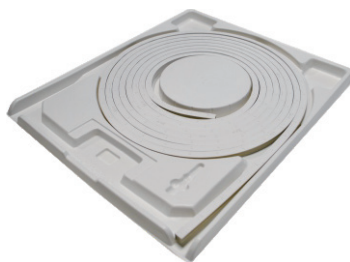
Stainless Steel Flexible Channel



W x H	Standard Length	Part Number
0.69 x 0.79in	3.94in (100mm)	CH-16-F-SS-0M1-SD
(17.5 x 20mm)	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.

Packaging



White Box



Packing Box



Fixture Length	White Box Dimensions	Packing Box Dimensions	# Of White Boxes	Package Weight
<14.76ft (<4.5m)	15.35x2.05x19.67in (39x5.2x50cm)	20.47x16.14x11.02in (52x41x28cm)	5	<17.64lbs (<8kg)
16.4 - 26.24ft (5-8m)	20.08x2.05x24.41in (51x5.2x62cm)	25.2x20.87x6.9in (64x53x17.5cm)	3	13.23-19.84lbs (6-9kg)
16.4 - 26.24ft (5-8m)	20.08x2.05x24.41in (51x5.2x62cm)	25.2x20.87x11.02in (64x53x28cm)	5	19.84-30.86lbs (9-14kg)
32.81ft (10m)	23.62x1.46x27.95in (60x3.7x71cm)	28.74x24.41x7.87in (73x62x20cm)	5	37.48lbs (17kg)
65.62ft (20m)	26.77x2.05x31.1in (68x5.2x79cm)	31.9x27.56x4.92in (81x70x12.5cm)	2	24.25lbs (11kg)

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

ANSI STANDARD

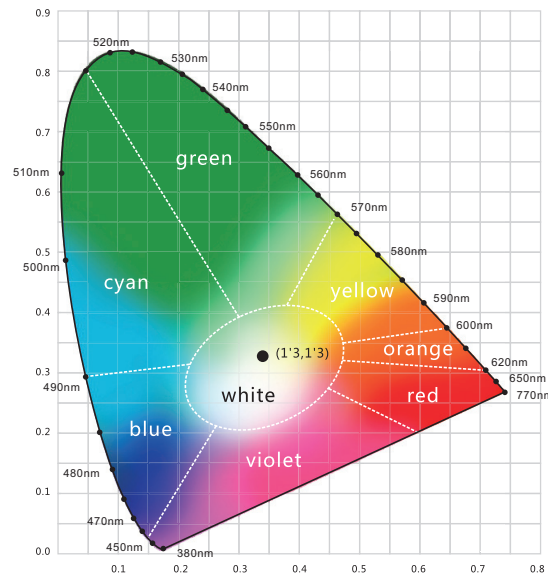
Nominal CCT Categories

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

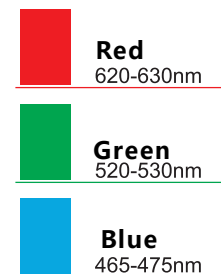
Remark:

- 1) T_f is chosen to be at 100K steps (2300,2400,.....,6400K),excluding the ten nominal CCTs listed in Table 1.
- 2) $\Delta T = 1.1900 \times 10^8 \times T^3 - 1.5434 \times 10^6 \times T^2 + 0.7168 \times T - 902.55$
- 3) Same as in the D_{uv} Tolerance Range.

Flexible CCT (2200-6500K)	$T_f^{1)} \pm \Delta T^{2)}$	$D_{uv} T_f^{3)}$
---------------------------	------------------------------	-------------------



Light Color



(X,Y) Chromaticity Diagram

