



LED Neon
FLEX



Version 6.2

VMD

Wave Mini

STATIC

PVC 24V



For More Information

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UNITED STATES

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E1C 4X7

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

www.gills.com

www.ledneonflex.com

Light Dimension 0.39 x 0.39in (10x10mm)

Output	Red/Amber/Green/Blue/White/CRI90
LED Light	Epistar SMD LED Chip
Max Run Length*	
Single Feed	32.81ft (10m)
Double Feed	65.62ft (20m)
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	1.37W/ft (4.5W/m)

Physical

LED Count	44 LEDs/ft (144 LEDs/m)
LED Spacing	0.27in (6.9mm)
Cutting Unit Length	3.28in (83.3mm) (12 LEDs)
Thermal Management	Free air convection
Fixture Connections	End, side & Bottom lead wires
Minimum Bend Diameter	3.94in (100mm) (Side Bending OR Top Bending)

Temperature Ranges

Installation	32°F to 113°F (0°C to 45°C)
Operating	-4°F to 113°F (-20°C to 45°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	IP65 (Double Injection Connectors) / IP65 (Seamless Connectors) / IP20 (Swivel Connectors)

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

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

VB & HB

Color	Per Foot	Per Meter	Power
2200K	43lm	140lm	1.37W/ft (4.5W/m)
2500K	43lm	140lm	1.37W/ft (4.5W/m)
2700K (WW)	43lm	140lm	1.37W/ft (4.5W/m)
3000K	43lm	140lm	1.37W/ft (4.5W/m)
3500K (W)	43lm	140lm	1.37W/ft (4.5W/m)
4000K	43lm	140lm	1.37W/ft (4.5W/m)
4500K (CW)	43lm	140lm	1.37W/ft (4.5W/m)
5000K	43lm	140lm	1.37W/ft (4.5W/m)

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

Available Colors

Color	Wavelength/CCT
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

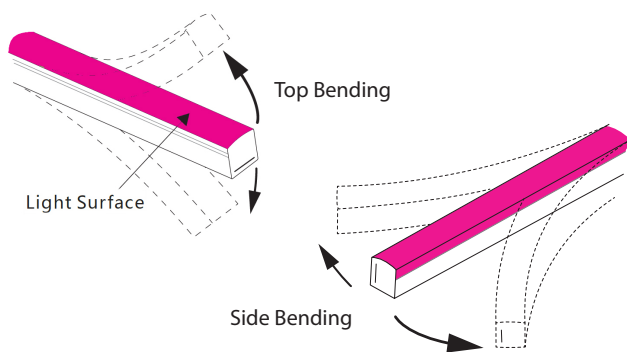
Lumen Count

Color	Per Foot	Per Meter
Red	>15.24lm	>50lm
Green	>60.98lm	>200lm
Blue	>9.15lm	>30lm
Amber	>15.24lm	>50lm
2200K	>42.68lm	>140lm
2500K	>42.68lm	>140lm
2700K	>42.68lm	>140lm
3000K	>42.68lm	>140lm
3500K	>42.68lm	>140lm
4000K	>42.68lm	>140lm
4500K	>42.68lm	>140lm
5000K	>42.68lm	>140lm
5700K	>42.68lm	>140lm

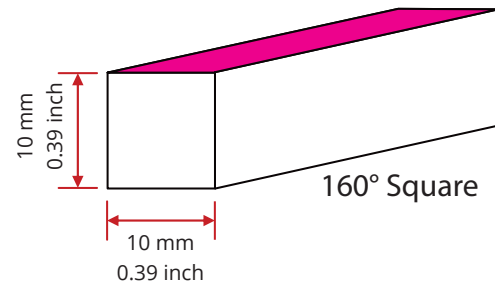
For color temperature 2500K, 4500K, 5000K: Minimum order quantity of 200 meters.



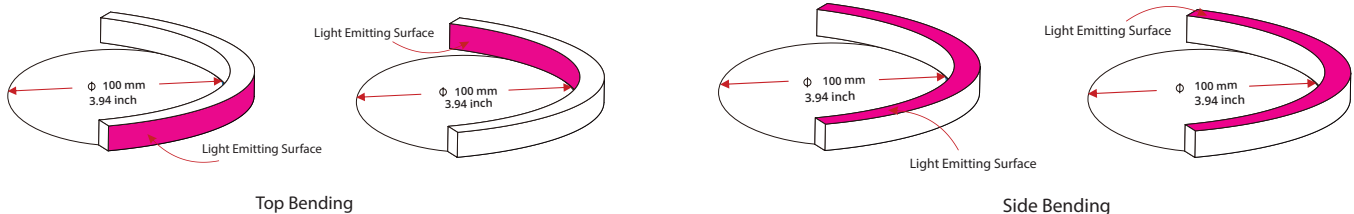
Bending Direction



Light Profile

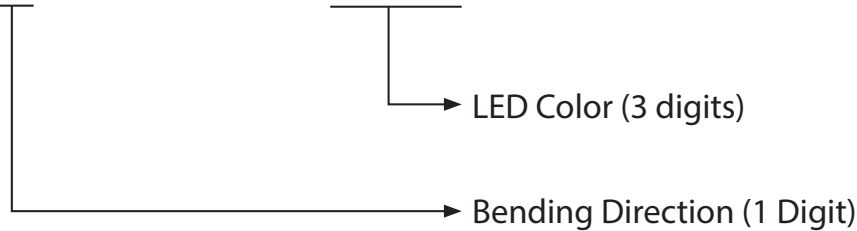


Minimum Bending Diameter



Fixtures

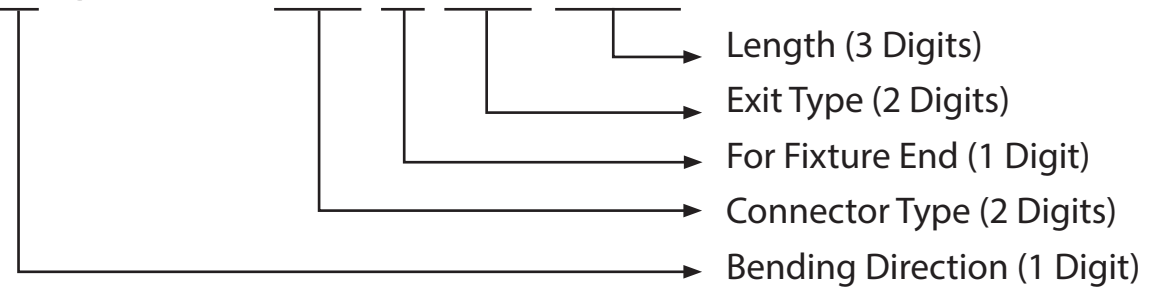
NF-10F-**X**-01-2W-E-**XXX**-24DV



Bending Direction (1 digit)	LED Color (3 digits)	
0 - Top Bending (VB)	RED	AMB - Amber
1 - Side Bending (HB)	GRE - Green	BLU - Blue
	22K...57K - Color Temp.	27R...50R - CRI 90 Color Temp.

Lead Connector

NA-10F-**X**-01-2W-**XX**-**X**-**XX**-**XXX**-P

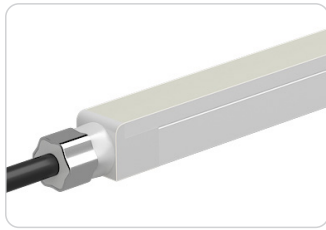


Bending Direction (1 Digit)	Connector Type (2 Digits)	For Fixture End (1 digit)	Exit Type (2 digits)	Length (3 digits)
0 - Top Bending (VB)	SE - Seamless	1 - Input side	EN - End	0M3 - 0.98ft (30cm)
1 - Side Bending (HB)	SV - Swivel	2 - Output side	BO - Bottom	01M - 3.28ft (1m)
	SU - Double Injection	0 - Jumpers/T-Feeds/ Seamless (or Submersible) Bottom/Seamless (or Submersible) End	SL - Side left	03M - 9.84ft (3m)
			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/



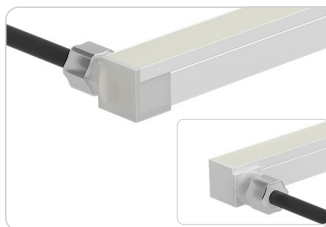
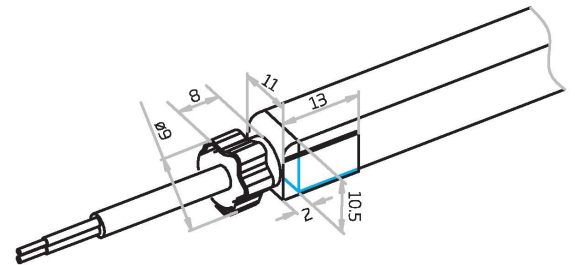
Seamless



Seamless End Exit

NA-10F-0-01-2W-SE-0-EN-XXX-P

NA-10F-1-01-2W-SE-0-EN-XXX-P



Seamless Side Exit

NA-10F-0-01-2W-SE-1-SL-XXX-P

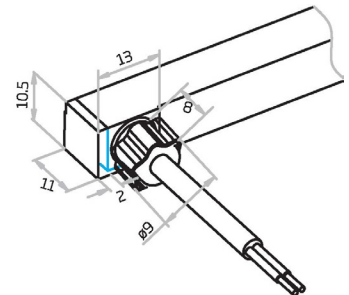
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NA-10F-0-01-2W-SE-1-SR-XXX-P

NA-10F-0-01-2W-SE-2-SR-XXX-P

NA-10F-1-01-2W-SE-2-SL-XXX-P

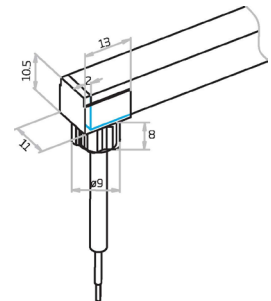
NA-10F-1-01-2W-SE-1-SR-XXX-P



Seamless Bottom Exit

NA-10F-0-01-2W-SE-0-BO-XXX-P

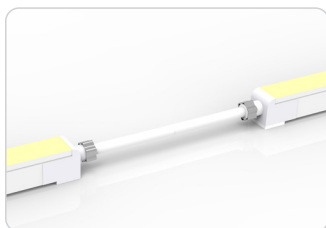
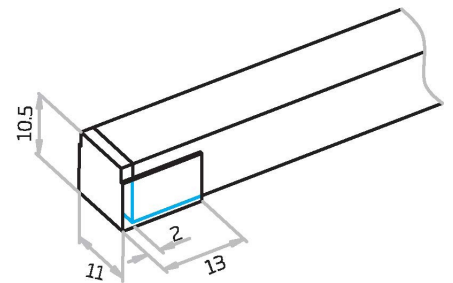
NA-10F-1-01-2W-SE-0-BO-XXX-P



Seamless End Cap

NA-10F-1-01-0W-SE-1-EC-000-P

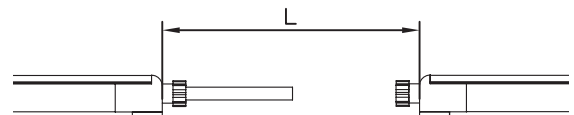
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Seamless Jumper

NA-10F-0-01-2W-SE-0-EJ-XXX-P

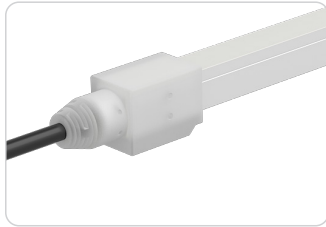
NA-10F-1-01-2W-SE-0-EJ-XXX-P



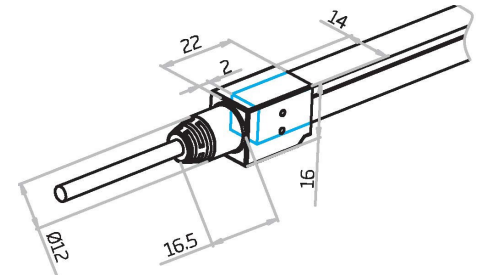
IP65: Dust and low pressure water jets protection. Recommended for outdoor applications. Factory assembly.



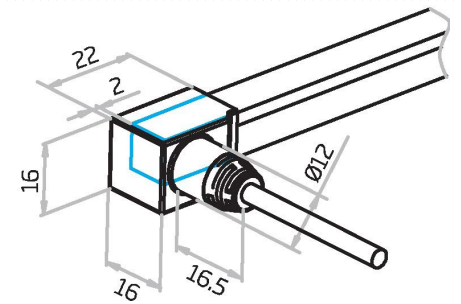
Double Injection Connectors



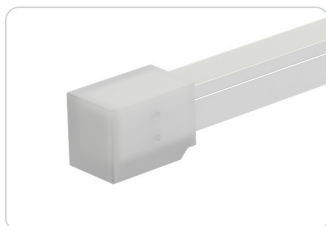
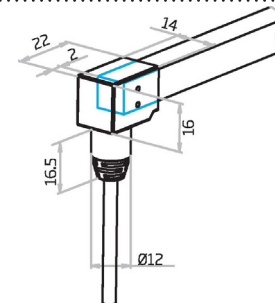
Double Injection End Exit
 NA-10F-0-01-2W-SU-0-EN-XXX-P
 NA-10F-1-01-2W-SU-0-EN-XXX-P



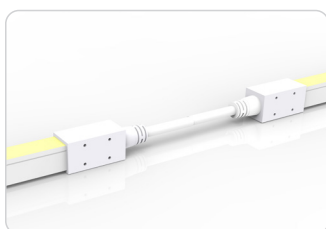
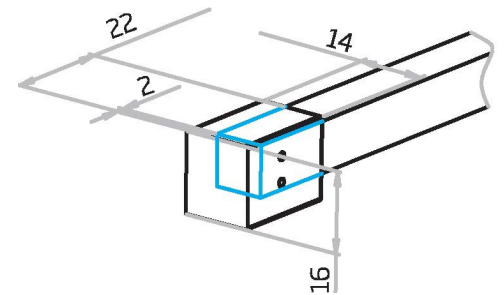
Double Injection Side Exit
 NA-10F-0-01-2W-SU-1-SL-XXX-P
 NA-10F-0-01-2W-SU-2-SL-XXX-P
 NA-10F-0-01-2W-SU-1-SR-XXX-P
 NA-10F-0-01-2W-SU-2-SR-XXX-P
 NA-10F-1-01-2W-SU-2-SL-XXX-P
 NA-10F-1-01-2W-SU-1-SR-XXX-P



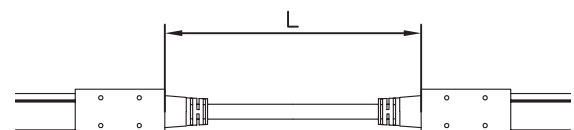
Double Injection Bottom Exit
 NA-10F-0-01-2W-SU-0-BO-XXX-P
 NA-10F-1-01-2W-SU-0-BO-XXX-P



Double Injection End Cap
 NA-10F-1-01-0W-SU-1-EC-000-P
 NA-10F-1-01-0W-SU-2-EC-000-P

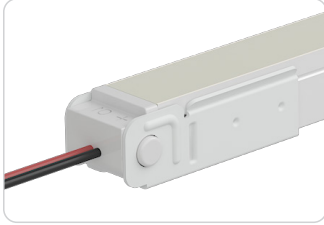


Double Injection Jumper
 NA-10F-0-01-2W-SU-0-EJ-XXX-P
 NA-10F-1-01-2W-SU-0-EJ-XXX-P



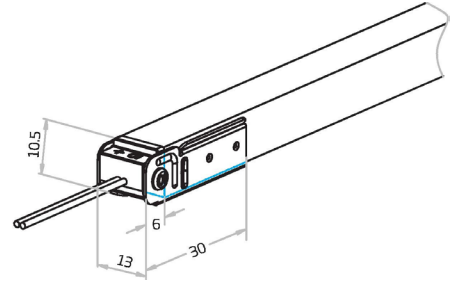


Swivel



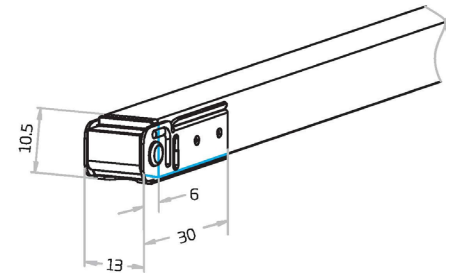
Swivel End Exit

- NA-10F-0-01-2W-SV-1-EN-XXX-P
- NA-10F-0-01-2W-SV-2-EN-XXX-P
- NA-10F-1-01-2W-SV-1-EN-XXX-P
- NA-10F-1-01-2W-SV-2-EN-XXX-P



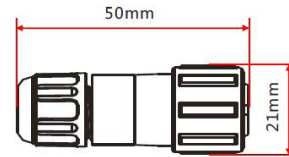
Swivel End Cap

- NA-10F-0-01-0W-SV-1-EC-000-P
- NA-10F-0-01-0W-SV-2-EC-000-P
- NA-10F-1-01-0W-SV-1-EC-000-P
- NA-10F-1-01-0W-SV-2-EC-000-P

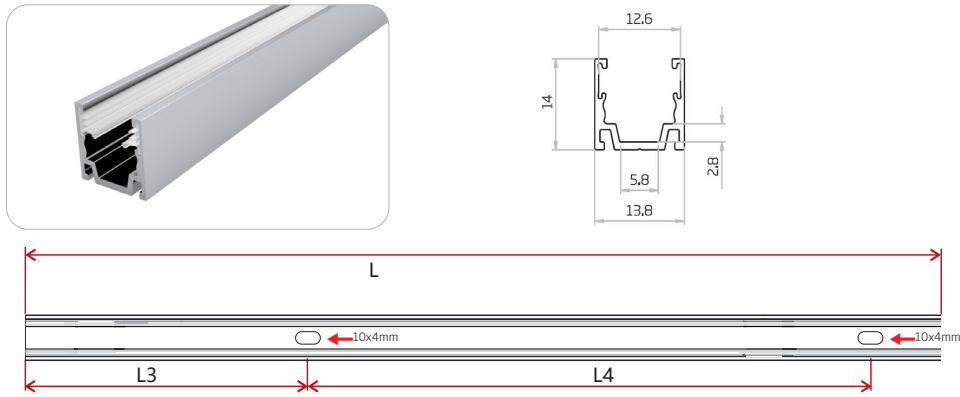


Male & Female Connectors

- 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

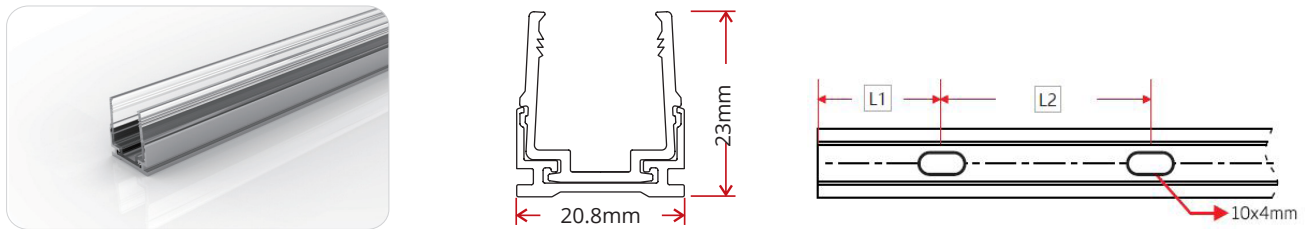


Standard Aluminum Channel with Silicone Grip



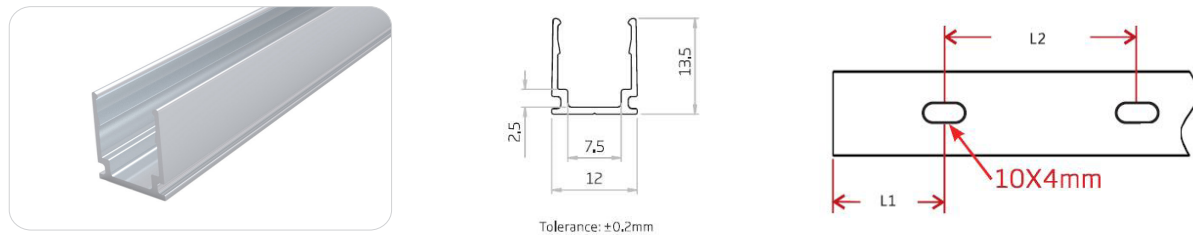
W x H	Standard Length	Part Number	L3	L4	Screw Hole Φ	Hole #
0.82 x 0.88in (20.7 x 22.3mm)	0.79in (20mm)	CL-10-R-AL-02C-SE	0.2in (5mm)	0.98in (25mm)	0.39in x 0.16in (10 x 4mm)	1
	19.69in (500mm)	CH-10-R-AL-0M5-SE	1.97in (50mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	3
	39.37in (1000mm)	CH-10-R-AL-01M-SE	3.94in (100mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	5
	78.74in (2000mm)	CH-10-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 Φ	Hole #
0.82 x 0.91in (20.8 x 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

Standard Aluminum Channel



W x H	Standard Length	Part Number	L1	L2	Screw Hole Φ	Hole #
0.82 x 0.88in (20.8 x 22.3mm)	1.79in (20mm)	CL-10-R-AP-3C5-SD	0.2in (5mm)	0.98in(25mm)	0.39in x 0.16in (10 x 4mm)	1
	19.69in (500mm)	CH-10-R-AP-0M5-SD	1.97in (50mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	3
	39.37in (1000mm)	CH-10-R-AP-01M-SD	3.94in (100mm)	7.87in (200mm)	0.39in x 0.16in (10 x 4mm)	5
	78.74in (2000mm)	CH-10-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

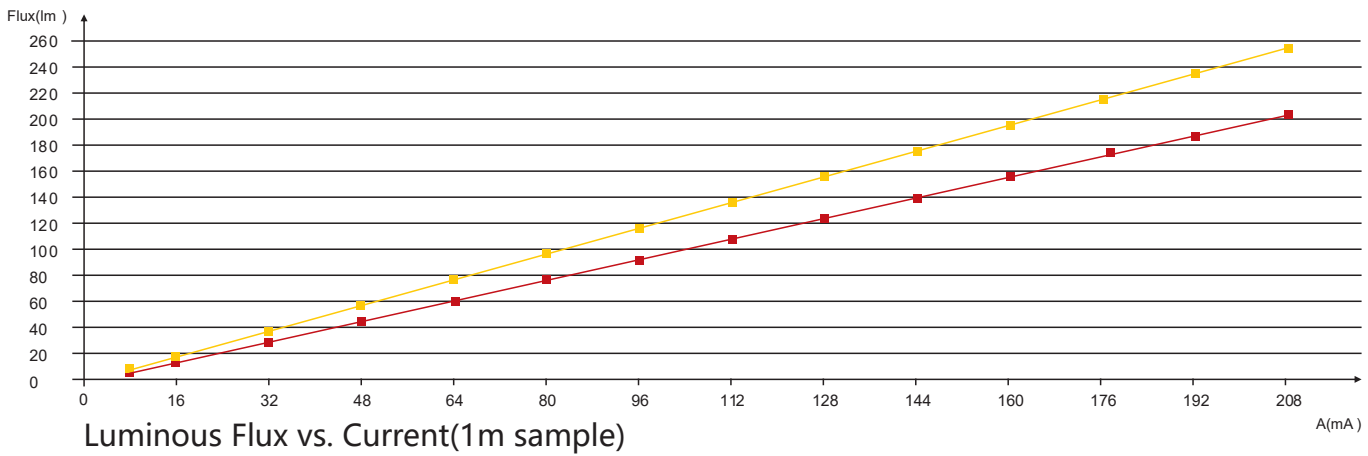
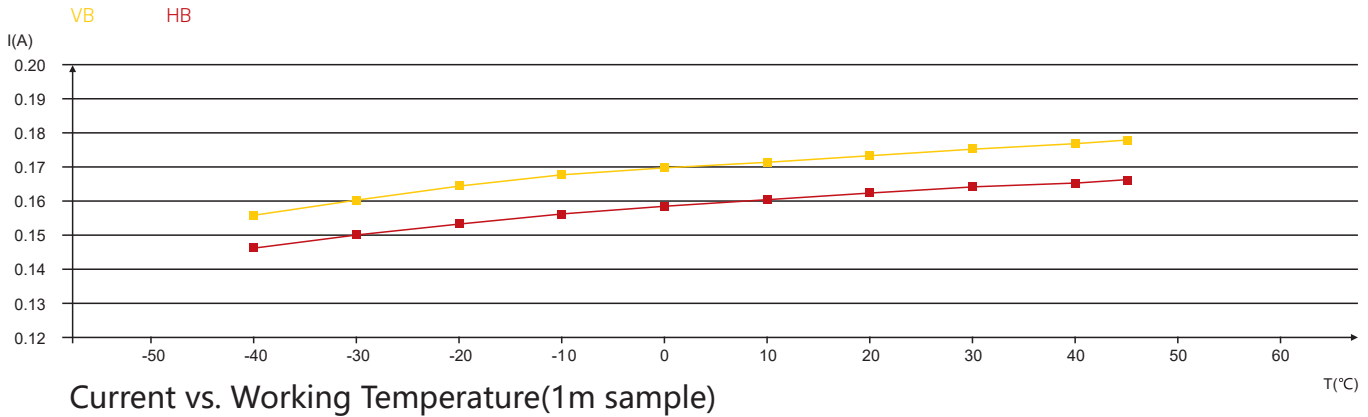
Durability Testing

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



55

ANSI STANDARD

Nominal CCT Categories

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

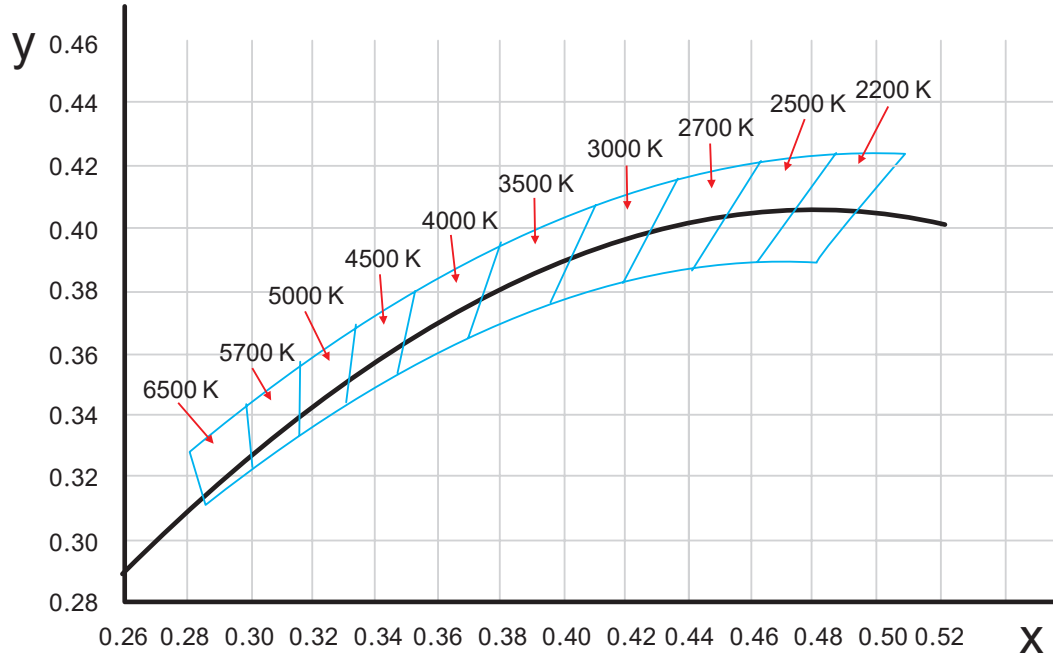
Remark:

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

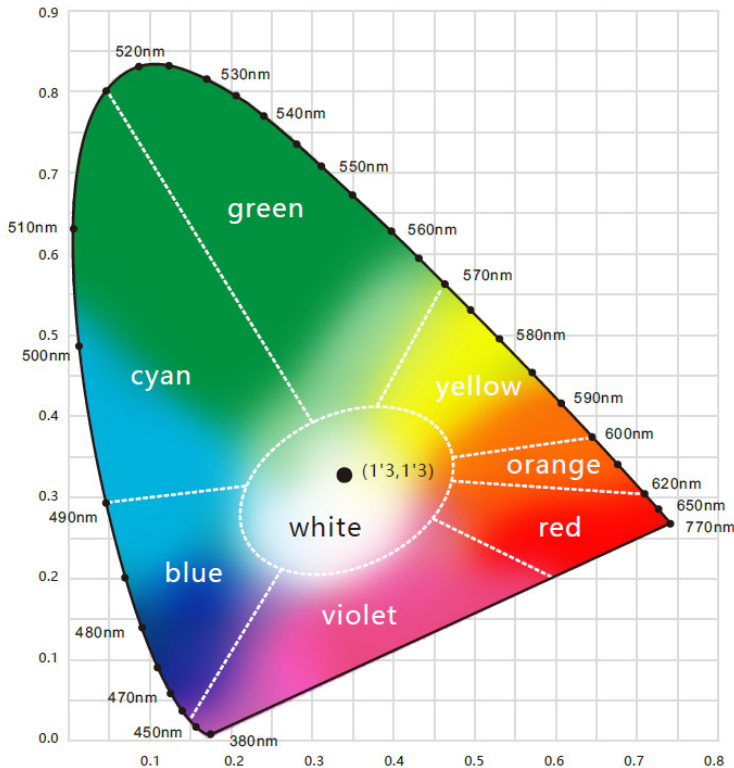
Flexible CCT (2200-6500K)	$T_F^{(1)} \pm \Delta T^{(2)}$	$D_{uv} T_F^{(3)}$
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Charts

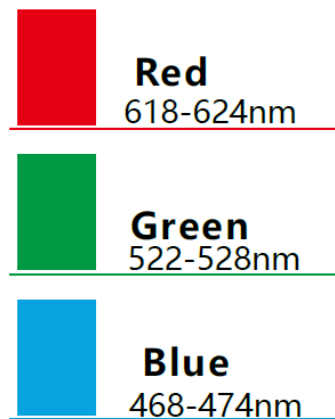
(X,Y) Chromaticity Diagram

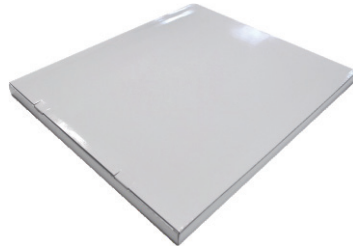
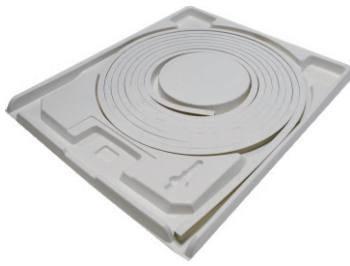


Wavelength of Color Light



Light Color





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)