



LED Neon
FLEX



Version 2.2

VIVID

Wave 320

DYNAMIC WHITE

PVC 24V



For More Information

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UNITED STATES

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CANADA

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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
www.ledneonflex.com

Light Dimension 0.63 x 0.67in (16x17mm)

Output	W/WW
LED Light	Epistar SMD LED Chip
Max Run Length*	
Single Feed	32.81ft (10m)
Double Feed	65.62ft (20m)
Light Surface	Square profile 320°
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	3.66W/ft (12W/m)
Physical	
LED Count	44 LEDs / ft (144 LEDs/m)
LED Spacing	0.55in (13.89mm)
Cutting Unit Length	3.28in (83.3mm) (12 LEDs)
Thermal Management	Free air convection
Fixture Connections	End, side & bottom lead wires
Minimum Bend Diameter	11.81in (300mm) (Top bending only)
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

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

Available Colors

Color	CCT Wavelength
WW	2460 ± 120K
W	5029 ± 283K
W+WW	3465 ± 245K

Lumen Count

Color	Per Foot	Per Meter	Power
WW	>97.54lm	>320lm	1.83W/ft (6W/m)
W	>97.54lm	>320lm	1.83W/ft (6W/m)
W+WW	>195.07lm	>640lm	3.66W/ft (12W/m)

Light Dimension 0.63 x 0.67in (16x17mm)

Output	W/WW
LED Light	Nichia SMD LED Chip
Max Run Length*	
Single Feed	32.81ft (10m)
Double Feed	65.62ft (20m)
Light Surface	Square profile 320°
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	3.66W/ft (12W/m)
Physical	
LED Count	44 LEDs / ft (144 LEDs/m)
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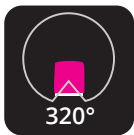
*Max Run Length: Unless otherwise stated, snap and seamless run lengths are the same.

Available Colors

Color	CCT Wavelength
WW	2460 ± 120K
W	5029 ± 283K
W+WW	3465 ± 245K

Lumen Count

Color	Per Foot	Per Meter	Power
WW	>85.34lm	>280lm	/
W	>85.34lm	>280lm	/
W+WW	>170.69lm	>560lm	3.66W/ft (12W/m)



Beam Angle
320°



Bending Diameter
D:300mm



Flame Resistant



UV Resistant



Solvents Resistant



Saltwater Resistant



IP 68 Protection

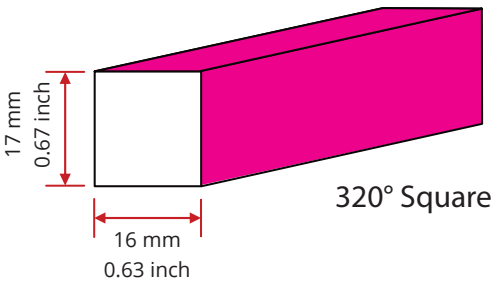


IK08 Protection

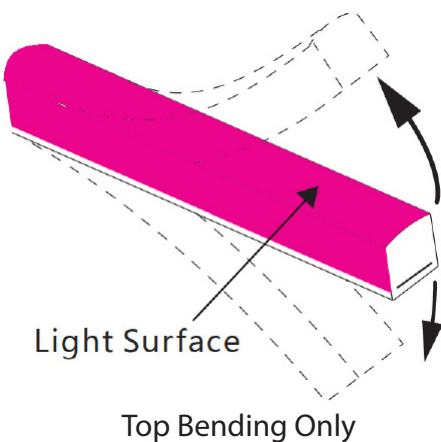


5 Year Warranty

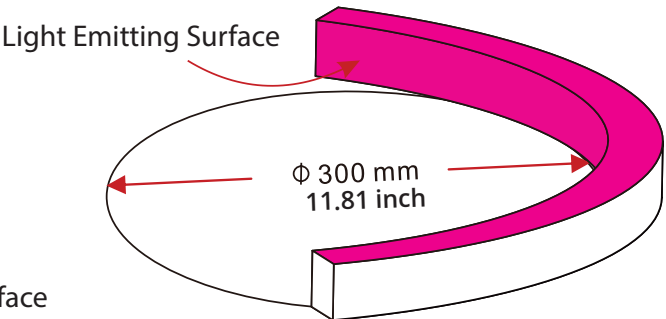
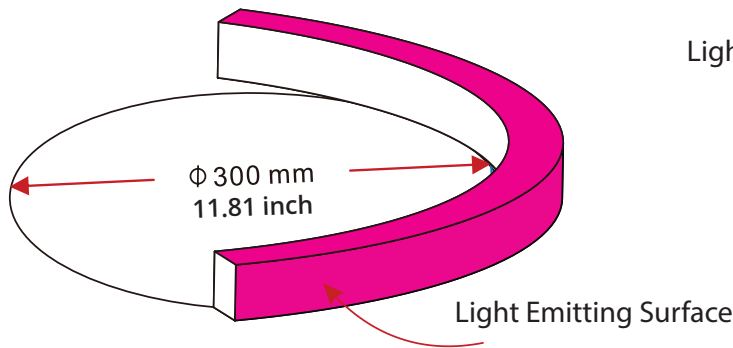
Light Profile



Bending Direction

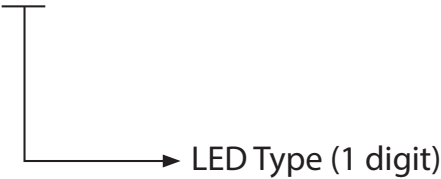


Minimum Bending Diameter



Fixtures

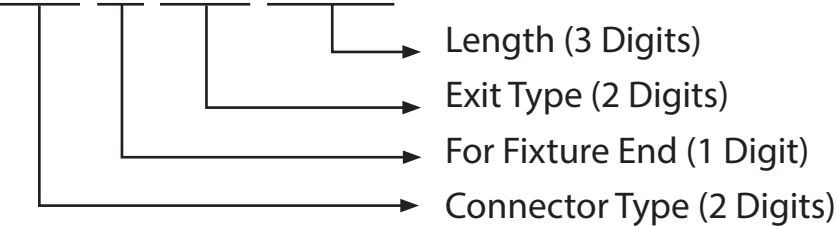
NF-16E-0-03-3W-X-DWH-24DV



LED Type (1 digit)
E - Epistar
N - Nichia

Lead Connector

NA-16E-0-00-3W-XX-X-XX-XXX-S

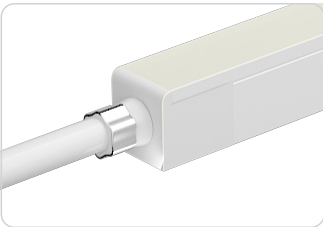


Connector Type (2 Digits)	For Fixture End (1 digit)	Exit Type (2 digits)	Length (3 digits)
SU - Submersible	1 - Input side	EN - End	0M3 - 0.98ft (30cm)
SE - Seamless	2 - Output side	BO - Bottom	01M - 3.28ft (1m)
	0 - Jumpers/T-Feeds/ Seamless (or Submersible) Bottom/Seamless (or Sub- mersible) End	SL - 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	

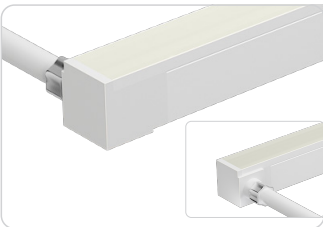
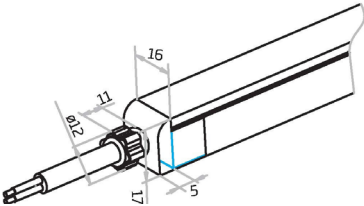
For full part number naming rules, please refer to the document on www.glls.com/support/documentation/

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

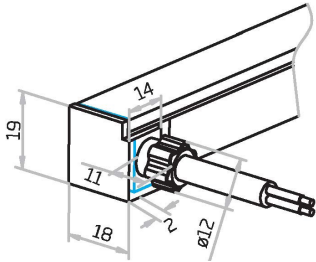
Seamless



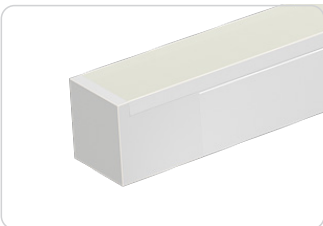
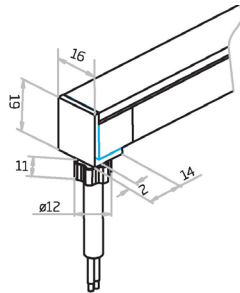
Seamless End Exit
NA-16E-0-00-3W-SE-0-EN-XXX-S



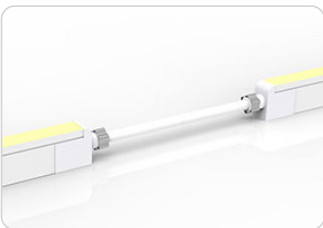
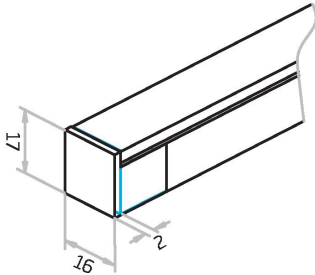
Seamless Side Exit
NA-16E-0-00-3W-SE-1-SL-XXX-S
NA-16E-0-00-3W-SE-1-SR-XXX-S
NA-16E-0-00-3W-SE-2-SL-XXX-S
NA-16E-0-00-3W-SE-2-SR-XXX-S



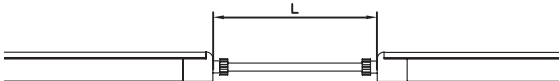
Seamless Bottom Exit
NA-16E-0-00-3W-SE-0-BO-XXX-S



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

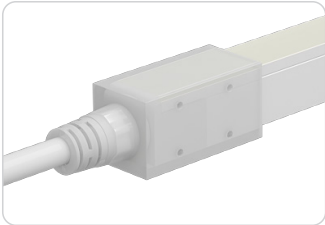


Seamless Jumper
NA-16E-0-00-3W-SE-0-EJ-XXX-S

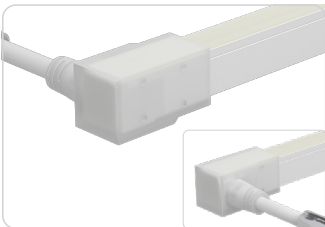
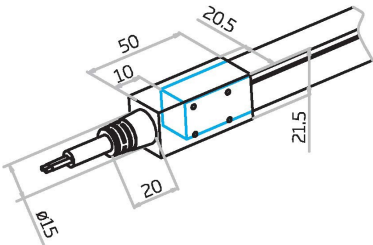


IP68: Submersible. Factory Assembly only.

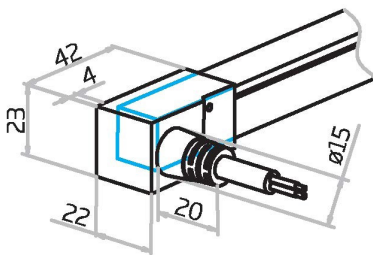
Submersible Seamless



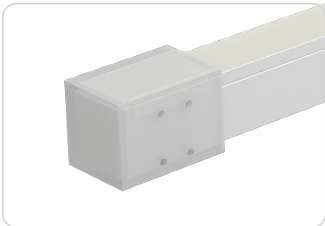
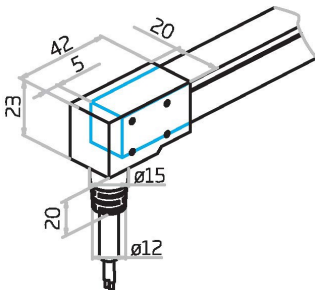
Submersible End Exit
NA-16E-0-00-3W-SU-0-EN-XXX-S



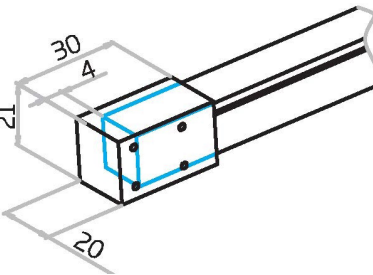
Submersible Side Exit
NA-16E-0-00-3W-SU-1-SL-XXX-S
NA-16E-0-00-3W-SU-2-SL-XXX-S
NA-16E-0-00-3W-SU-1-SR-XXX-S
NA-16E-0-00-3W-SU-2-SR-XXX-S



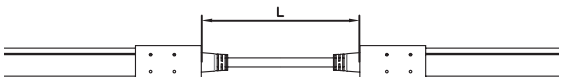
Submersible Bottom Exit
NA-16E-0-00-3W-SU-0-BO-XXX-S



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

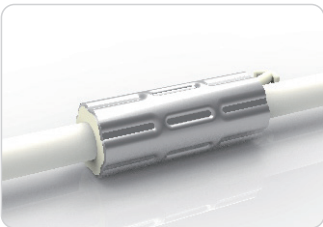
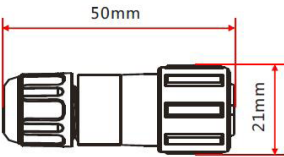


Barrel Connectors

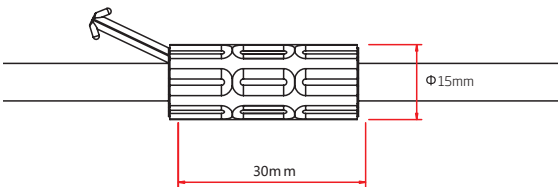


Barrel Connectors

- 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



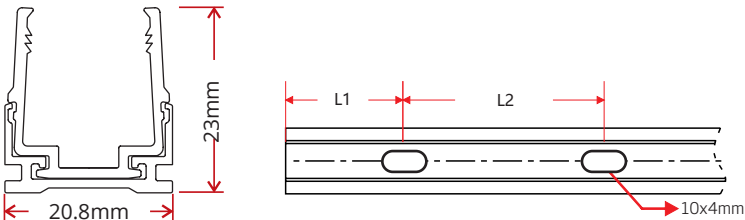
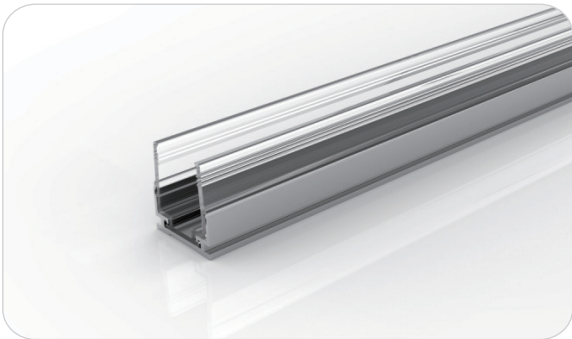
Anvil Cutter

Optional accessory for on-site cutting.

Factory order only

MOUNTING CHANNEL | PVC

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)	/	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, Wave 320length)
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

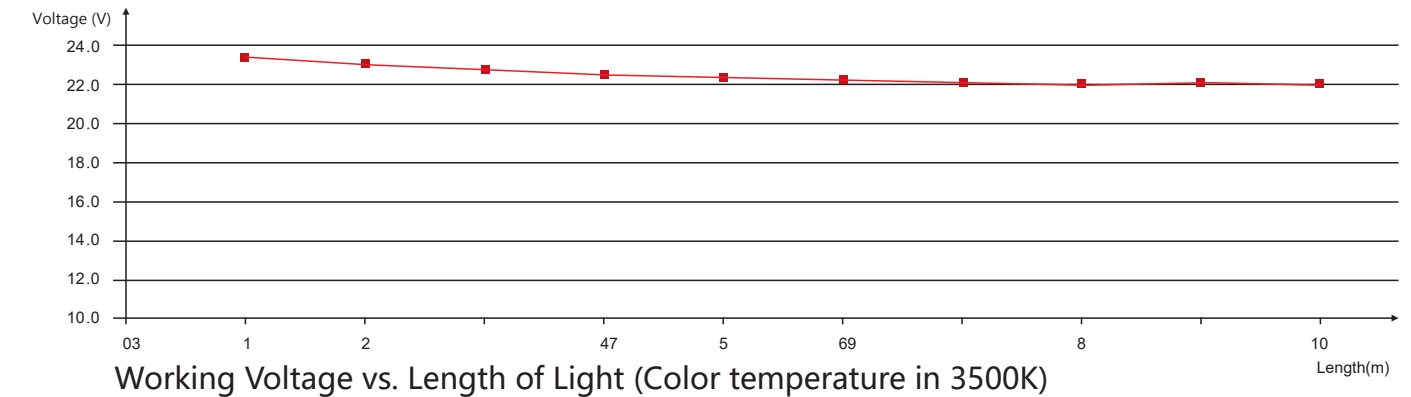
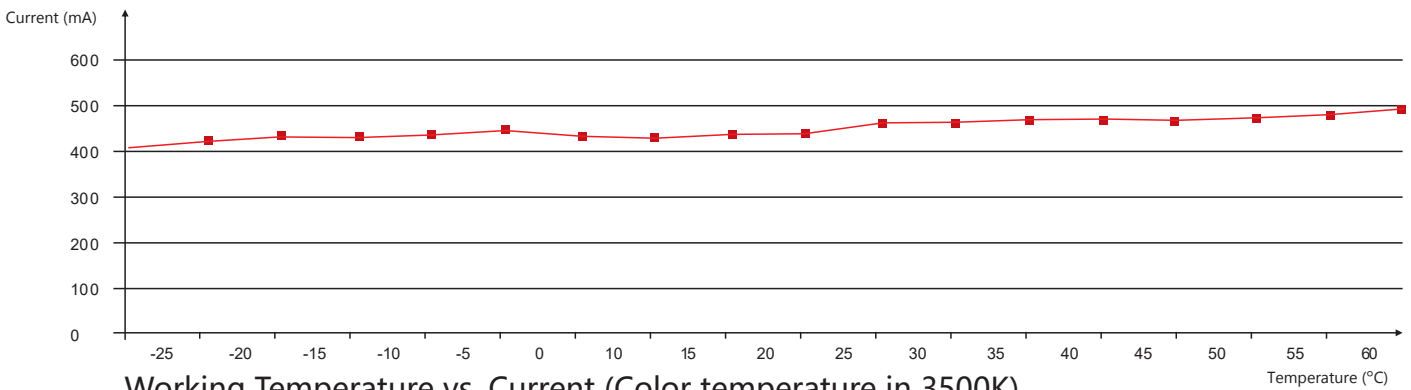
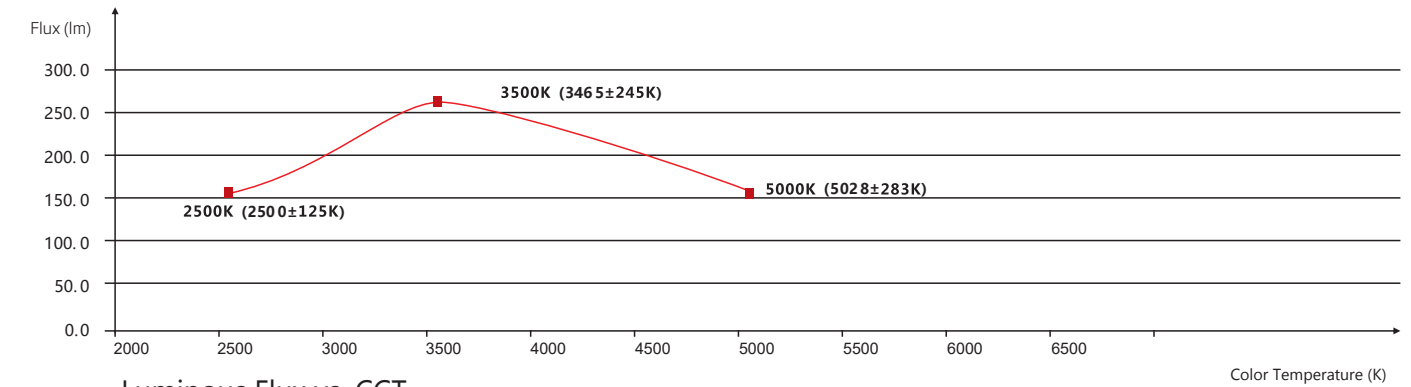
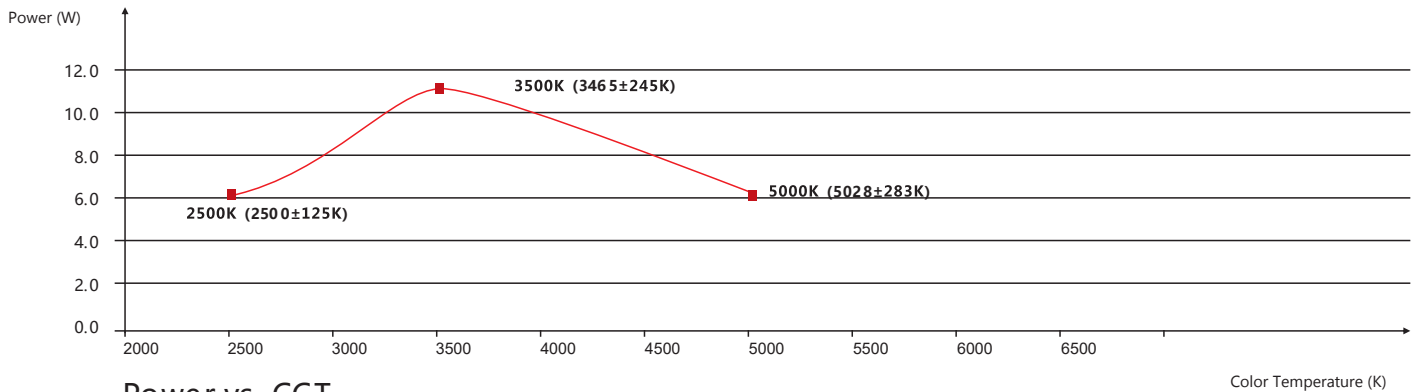
Durability Testing

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



Charts

ANSI STANDARD

Nominal CCT Categories

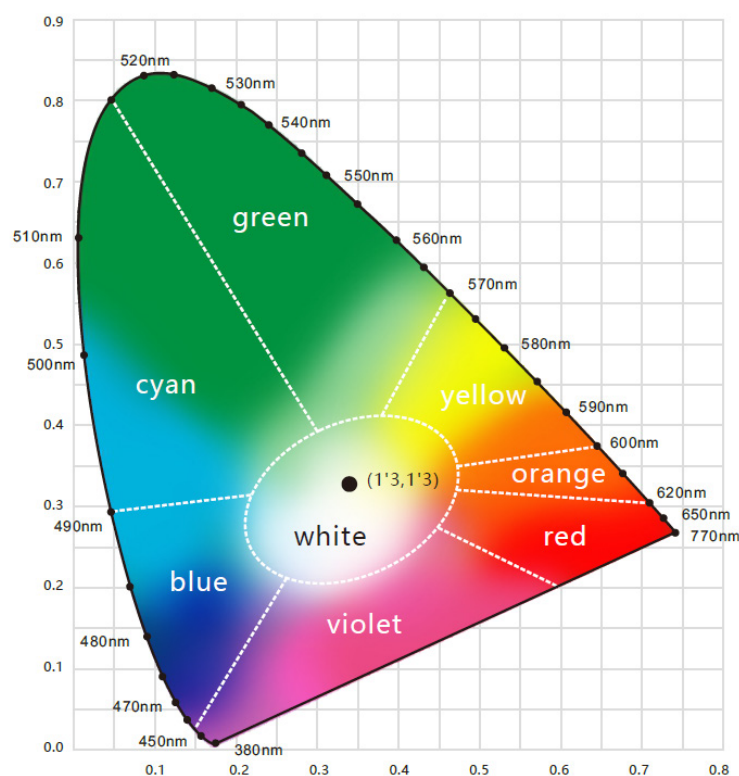
Nominal CCT	Target CCT and tolerance(K)	Target D_{uv}	D_{uv} Tolerance Range
2200K	2238 ±102	0.0000	Tx:CCT of the source
2500K	2460±120	0.0000	For Tx<2870K
2700K	2725 ±145	0.0000	0.000±0.0060
3000K	3045±175	0.0001	For Tx≥2870K
3500K	3465±245	0.0005	$D_{uv}(Tx) \pm 0.0060$
4000K	3985±275	0.0010	where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

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

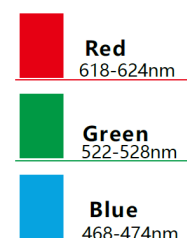
Remark:

- 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.

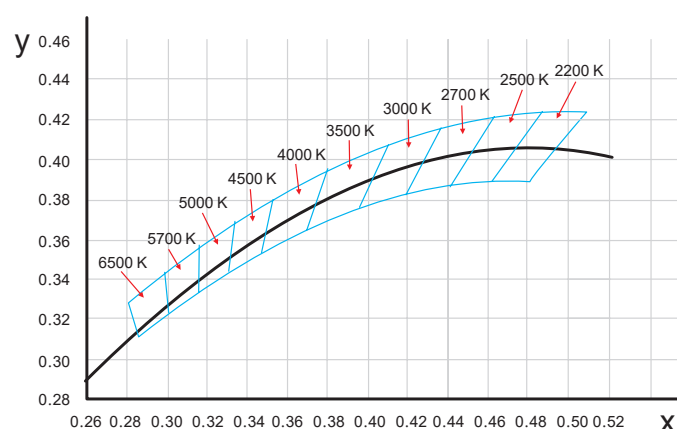
Wavelength of Color Light

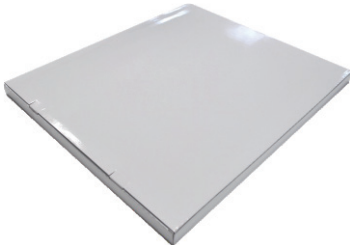
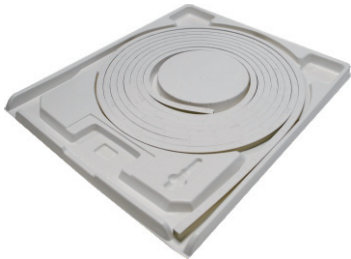


Light Color



(X,Y) Chromaticity Diagram





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)