



surelight

Neon light FP Range Specification

NE-FP-RGBW-VB



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Introduction

NE-FP-RGBW is a member of Galaxy of Light series adopting creative patent optical design that creates vibrant illumination with lighting dots and a wide variety of color choices via controller.

NE-FP-RGBW adopting 4 in 1 RGBW LEDs. This revolutionary light combines the benefits of the variety of colours RGB LEDs and the purity of the monochromatic LEDs, meaning that it can personalize your lighting with a colour palette of millions of colour and different tones for stunning and creative effects with controller.

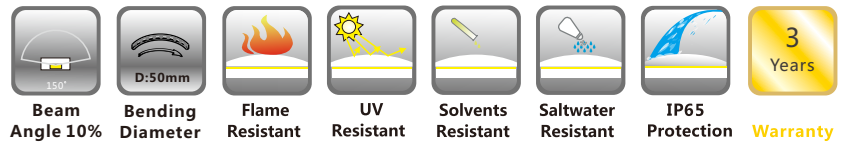
NE-FP-RGBW has passed environmental resistance, optical, mechanical and electrical tests in our lab under the support of advanced experimental equipments and technology to ensure it meets the requirements of harsh environments.

Fully encapsulated in the flexible PVC chamber by utilizing consummate extrusion technology to ensure the liability.

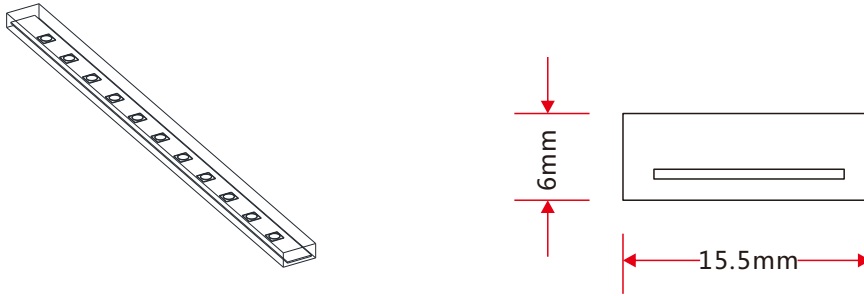
Applications:

1. Outdoor or Indoor Contour Lighting
2. Architectural Decorative Lighting
3. Cove/Accent Lighting
4. Background Lighting
5. Signage /Advertisement Lighting

1. Specifications & Parameters



1.1 Dimensions of Light

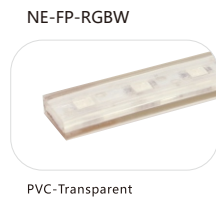


Note: Unless otherwise stated, the tolerance of the light is $\pm 0.2\text{mm}$.

1.2 Technical Parameters

Technical Parameters	
Article No.	NE-FP-RGBW
Colour	RGBW
Working Voltage	DC 24V
Rated Power/m	15W
LED Qty/m	60LEDs
LED Distance	16.67mm
Min. Cutting Unit	6LEDs(1unit)
Min. Cutting Length	100mm(1unit)
Continuous Length	5m
Weight/m	129g
Storage Temperature	-20~60°C
Environmental Working Temperature	-20~45°C
Environmental Installation Temperature	0~45°C
IP Rating	IP65

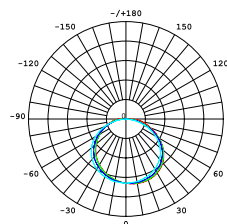
Note: For this product that over 12W per meter, full loading operating is not recommended.



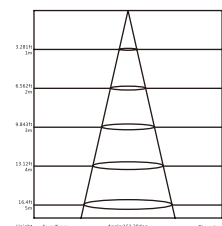
1.3 Optical Parameters

Photometric Data		
Article No.	NE-FP-RGBW	
LED Type	SMD	
Beam angle 10%	150°	
Colour	Wavelength	Lumen/m
Red	620-630nm	> 85lm
Green	520-530nm	> 320lm
Blue	465-475nm	> 55lm
White	2725±145K	> 270lm
	4503±243K	> 270lm
	6532±510K	> 270lm

Candle power distribution



Illuminance Characteristics

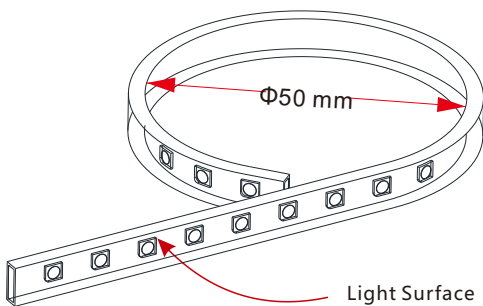


2. Functions & Features

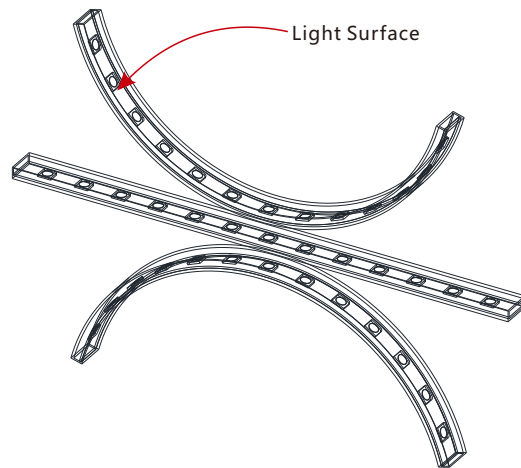
2.1 Product Features

1. High quality EPISTAR SMD LED chip.
2. UV & flame resistant construction(PVC).
3. Extremely flat profile for slimline projects.
4. Perfect uniform & even light source.
5. More colour options when combined Red, Green, Blue with White;
6. Pre-installed injection moulded connector available, no need to do connector assembly.
7. High IP rating (IP65).
8. Continuous length up to 5m by powering one end.
9. Environmentally friendly & energy efficient.
10. Automated production, high reliability & long warranty.
11. 5 year life span.

2.2 Minimum Bend Diameter



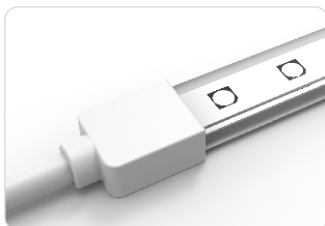
The light can only be bent along the light surface.



Do not bend smaller than allowed minimum bend diameter.

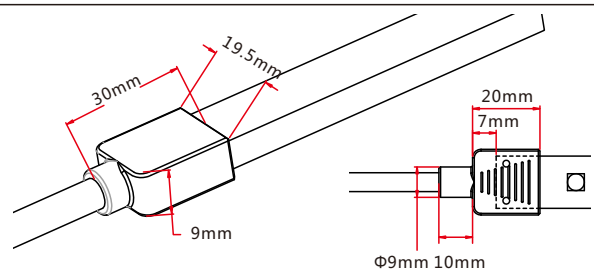
3. Types of Connector

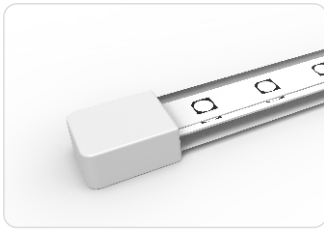
3.1 Injection-moulded Connector



Injection-moulded Front Connector

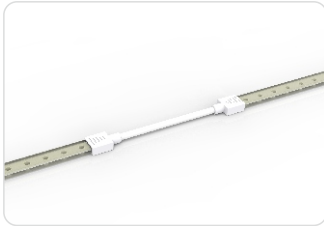
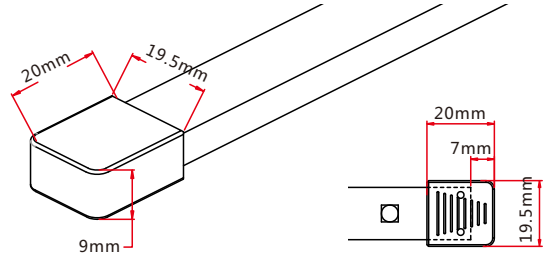
Connects light to power supply with pre-installed front feed cable, IP65. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.





Injection-moulded End Cap

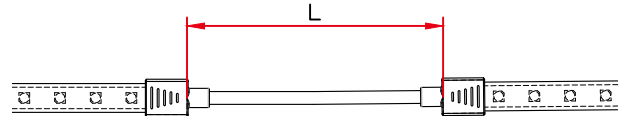
Pre-installed termination protection of the light, IP65.



Injection-moulded Jumper

Connects two pieces of lights together with a flexible cable. IP65 Injection-moulded connector. L available in 0.3~1m.

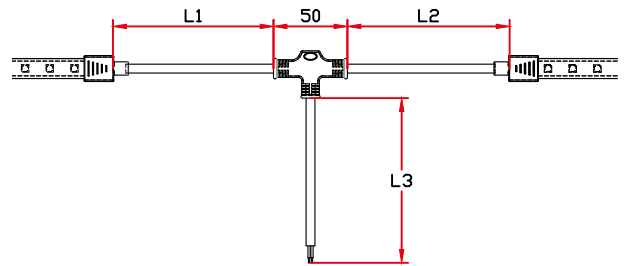
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



Injection-moulded T-feed

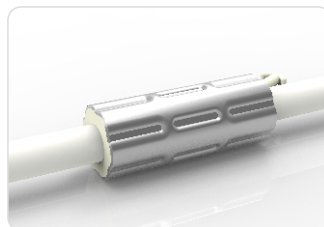
Connects two pieces of lights together with a T joint, energized from middle. IP65 Injection-moulded connector. L1 and L2 available in 0.15~0.5m. L3 available in 0.3-3m.

Maximum 8 T-feeds in 20m
Maximum 4 T-feeds in 10m



3.2 Anti-wicking Ferrule

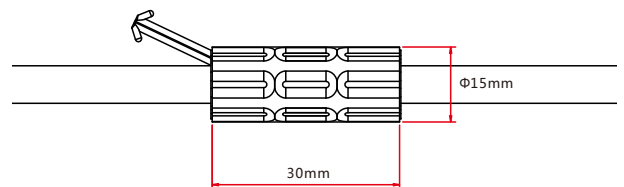
Note: Unless otherwise stated, the tolerance is $\pm 0.5\text{mm}$.



Anti-wicking Ferrule

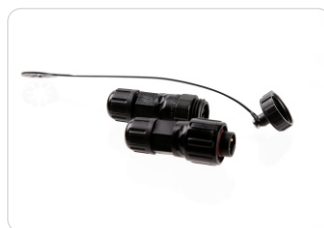
The anti-wicking ferrule is located at 115mm ($\pm 5\text{mm}$ tolerance) from the connector on the cable.

For protection against water ingress from inside of cable wire and hence damage the light.



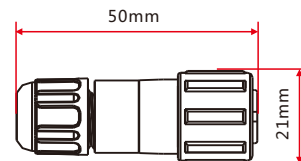
3.3 Male & Female Connector

Note: Unless otherwise stated, the tolerance is $\pm 2\text{mm}$.



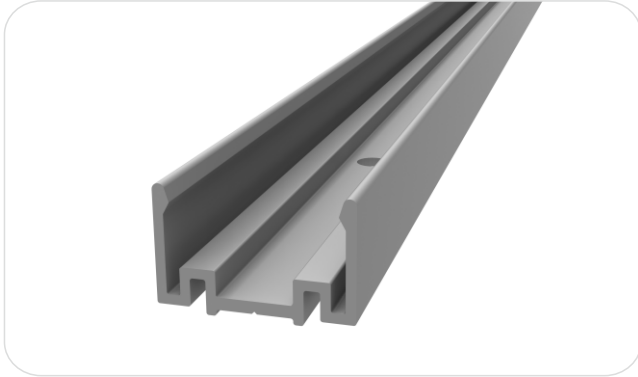
Male & female Connector

For plug and play cable junction, DIY or Pre-installed connector, IP68

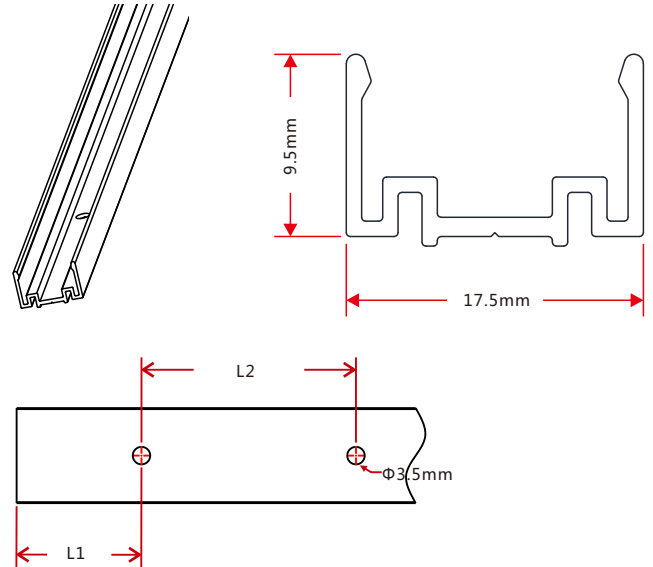


4. Mounting Profile & Clip

4.1 Standard Aluminum Profile

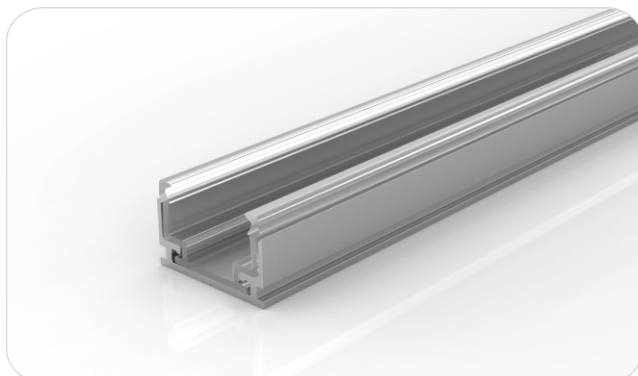


Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.

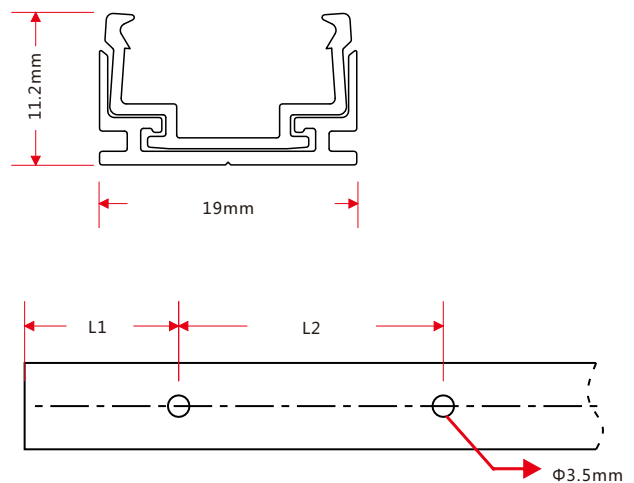


Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-FP-RGBW	17.5*9.5	35	17.5	/	$\Phi 3.5$	1	FP
		500	50	200	$\Phi 3.5$	3	FP
		1000	100	200	$\Phi 3.5$	5	FP
		2000	100	200	$\Phi 3.5$	10	FP

4.2 Plastic & Aluminum Combination Profile

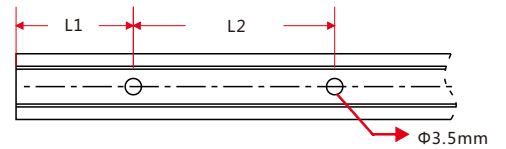
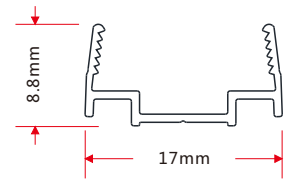
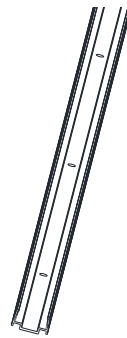


Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.



Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-FP-RGBW	11.2*19	35	17.5	/	$\Phi 3.5$	1	FP
		500	50	200	$\Phi 3.5$	3	FP
		1000	100	200	$\Phi 3.5$	5	FP
		2000	100	200	$\Phi 3.5$	10	FP

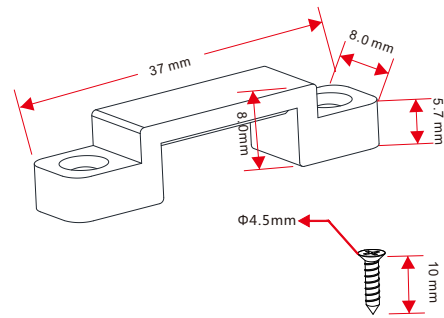
4.3 Plastic Profile



Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-FP-RGBW	17*8.8	500	50	200	Φ3.5	3	FP
		1000	100	200	Φ3.5	5	FP
		2000	100	200	Φ3.5	10	FP

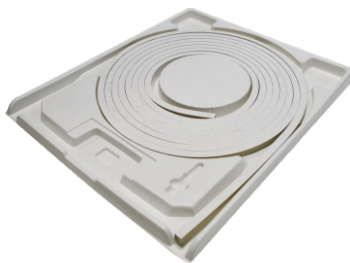
4.4 PC Clip



Note: Unless otherwise stated, the tolerance of the clip is ±0.5mm.

5. Packaging

Packaging Method



Plastic Plate



White Box



Carton



Packaging Detail

Light Length	White Box Dimension (cm)	Carton Dimension (cm)	Numbers of White Box	Carton Weight (kg)
10m	35*4.2*46	48*37*24	5	7
20m	45*4.2*56	58*47*24	5	12
30m	61.5*4.2*72	74*63.5*10.5	2	8

6. Appendix

6.1 Certificate

Certificating Type	Testing Organization	Certificate Serial Number	Report Reference
UL 2108	UL	20160726-E360029	E360029-20130322
CE-EMC	SGS	SZEM1702001259LMV	SZEM160600421302

6.2 Third-Party Test Report

Testing Item	Testing Organization	Report Number
RoHS	SGS	CANEC1202163502 A01
IP68: Screw type	TUV SUD	68.140.12.136.02
IP68: Clasp type	SGS	GZES140200135301 GZES140200135401 GZES140200135501 GZES140200135701 GZES140200135801
IPX8: Molding type	SGS	SZES141200357301 SZES141200357401 SZES141200357501
IPX8: Snap type	SGS	GZES160600792031
Flame retardant	TUV SUD	68.140.13.068.01
UV@340nm: Light	AOV	A002R130308065—1R01
UV@340nm: PVC	AOV	A002R130308065—2R01

>>Note: The testing reports and certificates are available from the related official website.

6.3 Reliability Test of Light

TESTING ITEM	PERFORMANCE	STANDARD/REFERENCE VALUE/DESCRIPTION
PHOTOMETRIC TESTING	Spectrum Analysis	IES LM 79 (lumen, CCT, CRI, XY, SDCM, wave length)
	Photometric Distribution	IES LM 79(lumen intensity distribution & Lux diagram)
	Lumen Maintenance & Life Time	IES LM84 & IES TM28
TEMPERATURE RISE TESTING	Normal Temperature Test	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
	Abnormal Operation Test	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
MECHANICS & PHYSICS TESTING	Bending Test	Manufacturer-defined, 500 cycles
	Swing Test	UL2388, >750 cycles
	Tensile Test	Manufacturer-defined, > the weight of light in
	Twist Test	maximum connection length with both ends feed
	Ball Impact	Manufacturer-defined, >200 cycles
	IK07 IK08	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21 IEC62262
WEATHERING TESTING	Swimming Pool Water Immersion Test	GB9667, PH6.8-7.6, free chlorine 0.3-0.6mg/L
	Sea Water Immersion Test	IEC60598-1, Salinity 4%
	Salt Spray Test	IEC68-2-11
	Outdoor Exposure	Manufacturer-defined
ENVIROMENT TESTING	Flame Resistant Test	UL94
	UV Exposure Test	ASTMG 154 , ISO 4892-3 , UVA@340nm
	IPX5 IPX6 IPX7 IPX8	IEC60529
ENDURANCE & THERMAL TEST LAB	Temperature Shock Test	Manufacturer-defined , -40°C-60°C (typical temperature range)
	Constant Temperature Test	Manufacturer-defined , 70°C (typical temperature)

6.4 Loading Chart

Type.	Rated Power /mtr	Power Supply								
		35w	60w	75w	80w	100w	120w	150w	185w	
NE-FP-RGBW	15w	1.5m	3.5m	4m	4m	5m	6m	7m	10m	
Energizing way										

Note : 1. These are the light maximum recommended running length subject to selected power supply.
 2. For example: It is recommended to use one 80W power supply loading maximum 4m light (15w/m) by energizing the light one end.

6.5 Correlated Colour Temperature

ANSI STANDARD

Nominal CCT Categories

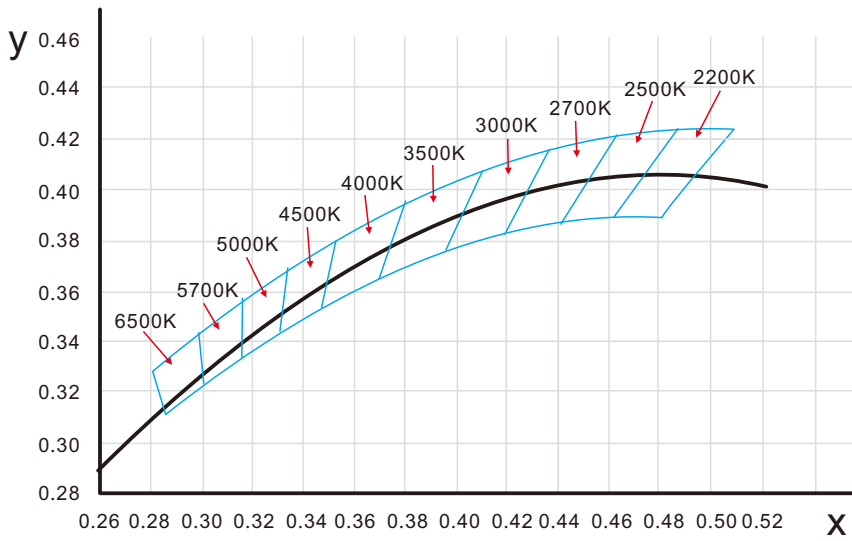
Nominal CCT	Target CCT and tolerance(K)	Target D _{uv}	D _{uv} Tolerance Range
2200K	2238 ±102	0.0000	Tx:CCT of the source
2500K	2460±120	0.0000	For Tx<2870K
2700K	2725 ±145	0.0000	0.000±0.0060
3000K	3045±175	0.0001	For Tx≥2870K
3500K	3465±245	0.0005	D _{uv} (Tx)±0.0060
4000K	3985±275	0.0010	where
4500K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

Remark:

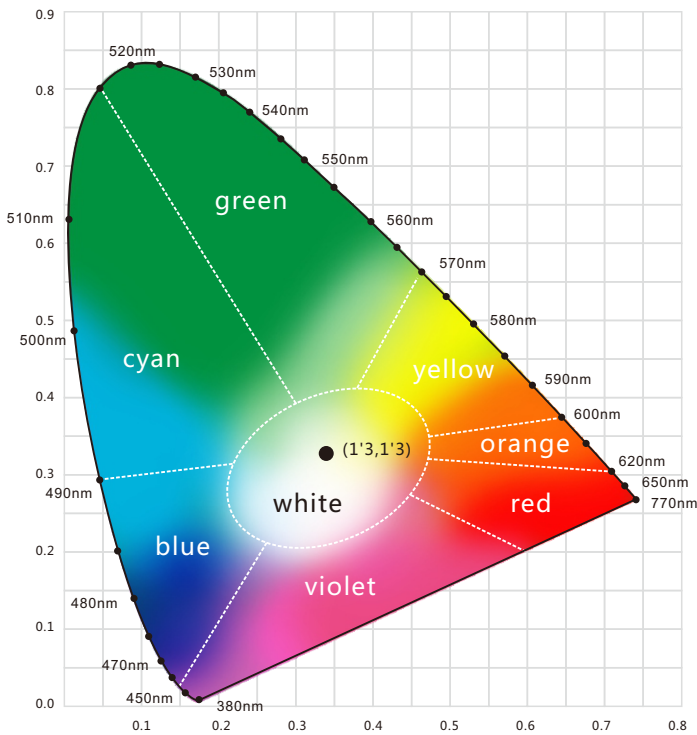
- T_F is chosen to be at 100K steps (2300,2400,.....,6400K),excluding the ten nominal CCTs listed in Table 1.
- $\Delta T = 1.1900 \times 10^6 \times T^{-3} - 1.5434 \times 10^4 \times T^2 + 0.7168 \times T - 902.55$
- Same as in the D_{uv} Tolerance Range.

Flexible CCT (2200-6500K)	T _F ¹⁾ ± ΔT ²⁾	D _{uv} T _F ³⁾
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6.6 (X,Y) Chromaticity Diagram



6.7 Wavelength of Colour Light



Light Color

