

Artist of light

Specification

LINEO CUBE - Single Colour



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Introduction

LINEO CUBE Single Colour is UL/cUL, CE, TUV and RoHS compliant. Moreover, it is passed environmental resistance, optical, mechanical and electrical tests in our lab under the support of advanced experimental equipment and technology to ensure it meets the requirements of harsh environments.

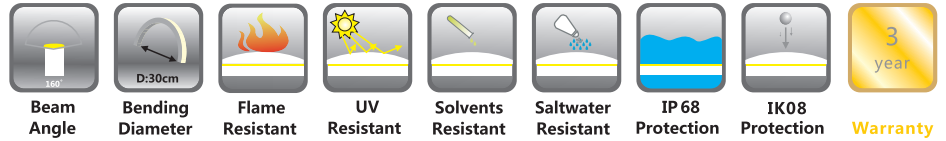
Fully encapsulated in the flexible PVC chamber by utilizing consummate extrusion technology, assembled with multiple patent connectors to achieve IP68 protection. Easy for installation and applicable for various circumstances.

LINEO CUBE Single Colour features particularly high luminous flux with homogeneous illumination and small bend diameter in wave bending shape.

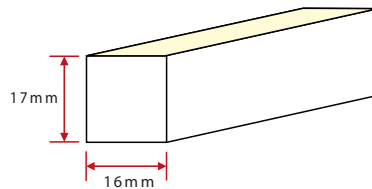
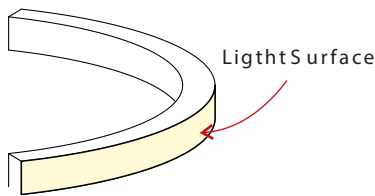
Applications:

1. Outdoor or Indoor Contour/Border Lighting
2. Architectural Outline/Decorative Lighting
3. Cove/Accent Lighting
4. Facade/Terrace Floor Lighting
5. Display Lighting

1. Specifications & Parameters



1.1 Dimensions of Light



Note: Unless otherwise stated, the tolerance of the light is ± 0.2 mm.

1.2 Technical Parameters

Technical Parameters

Article No.	LINEO CUBE Single Colour	
Colour	Red/Amber	Green/Blue/White
Working Voltage	DC2.4V	DC2.4V
Rated Power / mtr	7.2W	12 W
LED Qty/mtr	108 LEDs	108 LEDs
LED Distance	92.6cm	92.6cm
Min. Cutting Unit	9LEDs (1 unit)	6LEDs (1 unit)
Min. Cutting Length	8.33cm(1unit)	5.56cm(1unit)
Continuous Length	15 m	10 m
Weight/m	325g	
Storing Temp.	-20 ~60°C	
Working Temp.	-20 ~45°C	
Operating Temp.	0 ~45°C	
IP Rating	IP68/IP67	

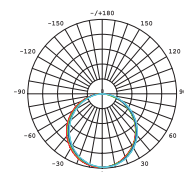


1.3 Optical Parameters

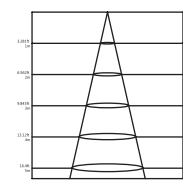
Photometric Data

Article No.	LINEO CUBE Single Colour				
LED Type	SMD				
Beam angle	160°				
Colour	Wavelength	Lumen/m	Color	CCT	Lumen/m
Red	620-630nm	>180lm	2400K	2400±125K	>400lm
Green	520-530nm	>360lm	2700K	2725±145K	>400lm
Blue	465-475nm	>50lm	3000K	3045±175K	>450lm
Amber	585-595nm	>160lm	3500K	3465±245K	>450lm
			4000K	3985±275K	>450lm
			4500K	4503±243K	>450lm
			5000K	5028±283K	>450lm
			5700K	5660±355K	>450lm
			6500K	6530±510K	>450lm

Candle power distribution



Illuminance Characteristics

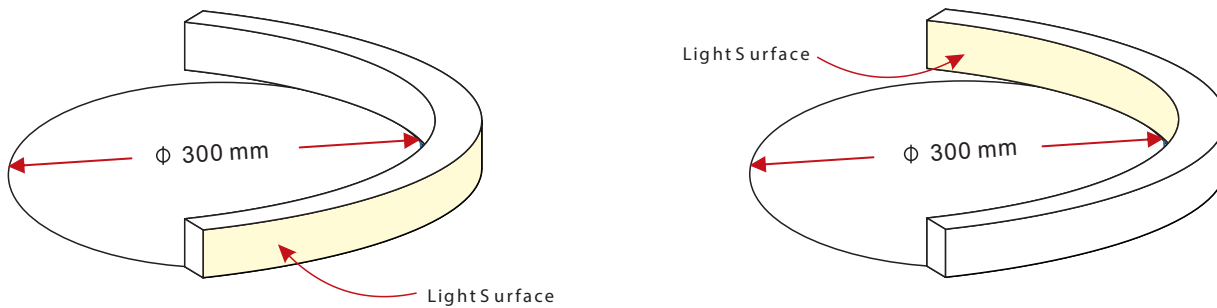


2. Functions & Features

2.1 Product Features

1. High quality SMD LED chip.
2. UV & flame resistant construction(PVC).
3. Extremely flat profile for slimline projects.
4. Perfect uniform & even light source with invisible light dots.
5. High illumination.
6. Easily to be installed.
7. High IP rating (IP68)
8. Continuous length up to 15m (R, A)/10m (G, B, W) by powering one end.
9. Environmentally friendly & energy efficient.
10. Automated production, high reliability & long warranty

2.2 Minimum Bend Diameter



The light can only be bent along the light surface. Do not bend smaller than allowed minimum bend diameter.

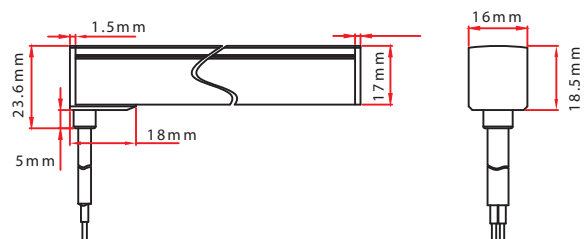
3. Types of Connector

3.1 Injection-moulded Connector



Injection-Moulded Front Connector (bottom)

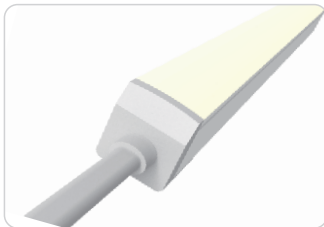
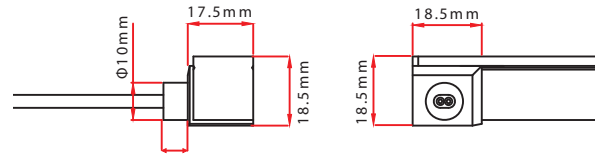
Connects light to power supply with pre-installed bottom feed cable, IP68. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m & 20m.





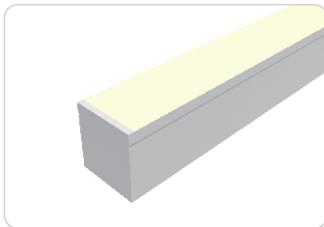
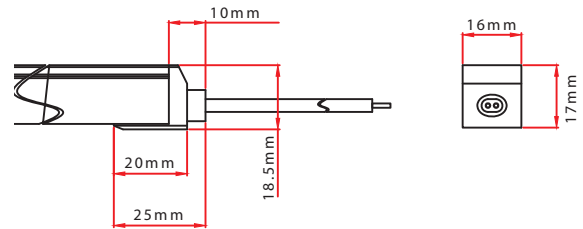
Injection-moulded Front Connector (side)

Connects light to power supply with pre-installed side end feed cable, IP68. Cable lengths available in 0.3m, 1m, 3m, 5m, 10m, 15m and 20m.



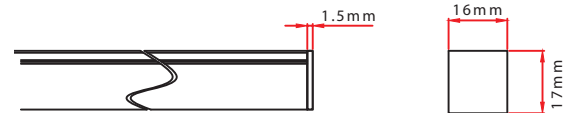
Injection-moulded Front Connector (top end)

Connects light to power supply with pre-installed side end feed cable, IP68. Cable lengths available in 0.3m, 1m, 3m, 5m, 10m, 15m and 20m.

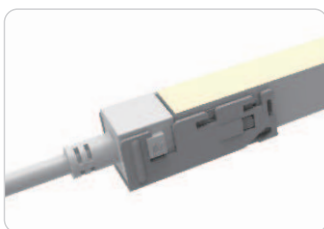


Injection-moulded End Cap

Pre-installed termination protection of the light, IP68.



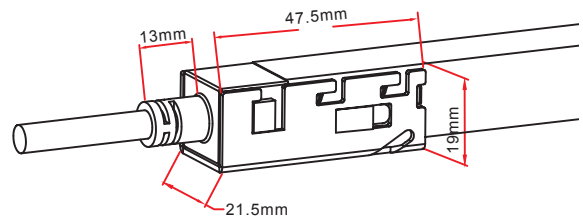
3.2 Clasp Connector



Clasp Front Connector

Connects light to power supply, IP68 DIY connector. Cable lengths available in 0.3m, 1m, 3m, 5m, 10m, 15m and 20m.

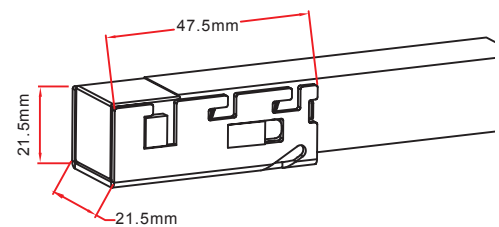
Feed connector with silicone gasket*1 (Two-pin)
Anti-skidding clips* 2
Heat-shrink tube* 1



Clasp End Cap

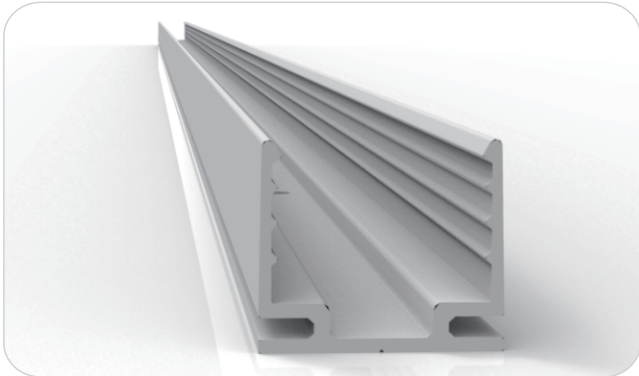
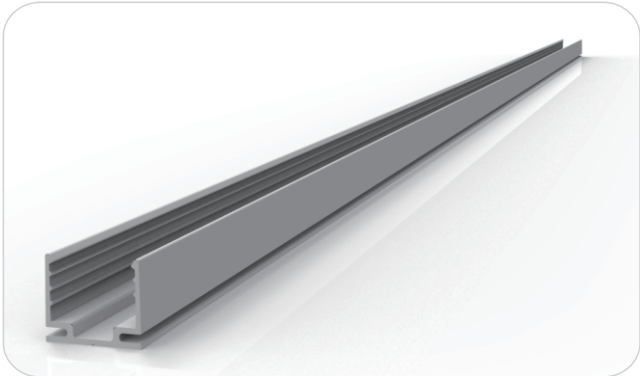
Termination protection of the light. IP68. DIY connector

Tail plug* 1
Silicone gasket* 1
Anti-skidding clip*1
U stel plate*1

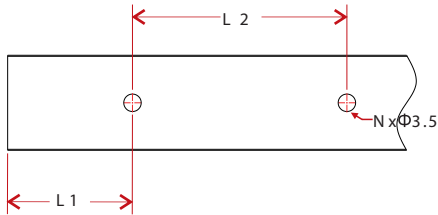
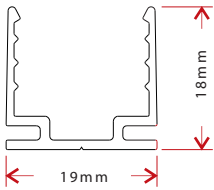
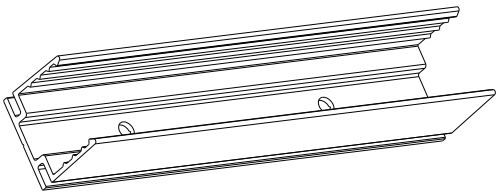


4. Mounting Profile

4.1 Standard Aluminum Profile

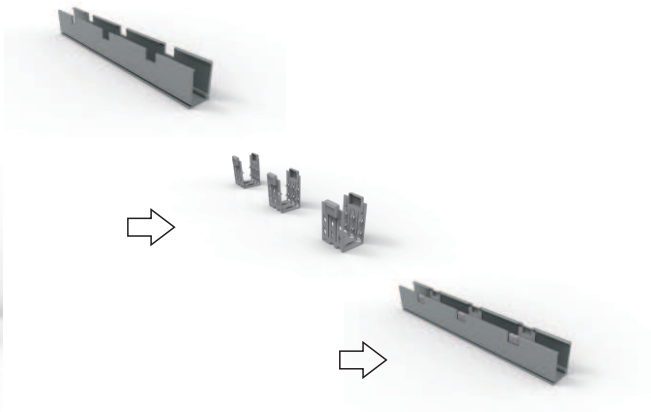
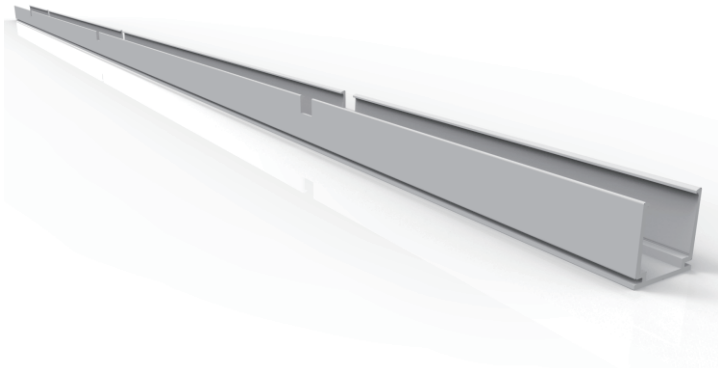


Dimensions

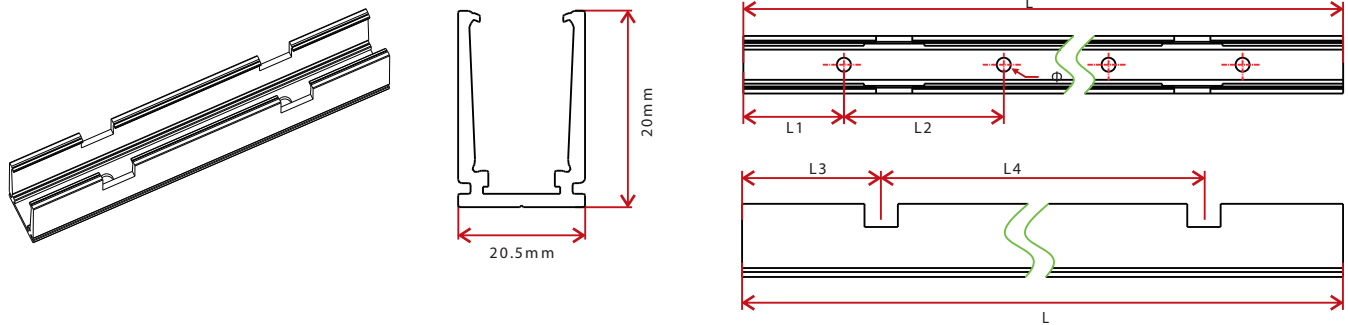


Model	W*H(mm)	Standard Length (L:mm)	L1 (mm)	L2 (mm)	Screw Hole (Φ:mm)	Hole Number	For Product
FR007	19*18	35	17.5	/	Φ3.5	1	F22
		50	25	/	Φ3.5	1	F22
		500	50	200	Φ3.5	3	F22
		1000	100	200	Φ3.5	5	F22
		2000	100	200	Φ3.5	10	F22

4.2 Self-locking Aluminum Profile (Using with the Clip)



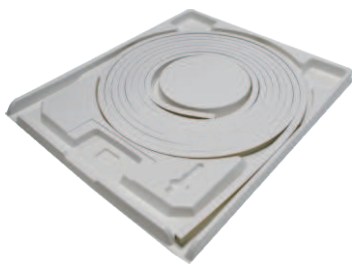
Dimensions



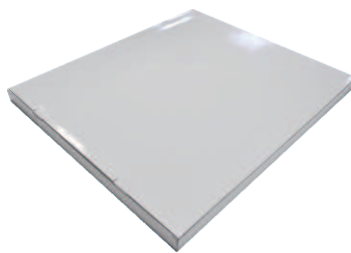
Model	W*H(mm)	Standard Length(L: mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(Φmm)	Hole Number	Clip Number
FR009	20.5*20	35	17.5	/	17.5	/	Φ3.5	1	1
		50	25	/	25	/	Φ3.5	1	1
		500	100	/	150	200	Φ3.5	2	2
		1000	100	250	150	350	Φ3.5	4	3
		2000	100	250	125	350	Φ3.5	8	6

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)
<4.5m	39*5.2*50	52*41*28	5	<8
5-8m	51*5.2*62	64*53*17.5	3	6-9
5-8m	51*5.2*62	64*53*28	5	9-14
10m	60*3.7*71	73*62*20	5	17
15m	68*5.2*79	81*70*12.5	2	11

6. Appendix

6.1 Third-Party Test Report

Testing Item	Testing Organisation	Report Number
RoHS	SGS	CANECI202163502A 01
IP68: Screw type	TUVS UD	68.140.12.136.02
IP68: Clasp type	SGS	GZESI40200135301 GZESI40200135401 GZESI40200135501 GZESI40200135701 GZESI40200135801
IPX8: Molding type	SGS	SZESI41200357301 SZESI41200357401 SZESI41200357501
Frame resistente	TUVS UD	68.140.13.068.01
IK08	TUVS UD	68.140.12.171.01
Temperature risen	UL	UL file E 360029- Test Record- 1 Datasheet
UV: Light	AOV	A002R130308065—1R01
UV: PVC	AOV	A002R130308065—2R01

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

6.2 Certificate

Certificating Type	Testing Organisation	Certificate Serial Number	Report Reference
CE-EMC	SGS	SZEMI41000576803V	SZEMI41000576803
CE-EMC	TUVR heinland	AE5 02744070 001	17037105 0 01
CE-LVD	TUVR heinland	AE5 02753680 001	17036967 0 01
UL&c UL	UL	20130417-E360029	E360029-20130322

6.3 Reliability Test of Light

Testing Item	Classification	Reference Criterion	Testing Condition/Method	Result
IP Rating Test	IP65/IP68 1 m	IEC60529	/	Pass
	High Temperature Storing	IEC 6 8—2—2	60°C	Pass
	High Temperature and Humidity Impact	IEC 6 8—2—3	70°C.9 5%Rh	Pass
Environmental Test	Corrosion Resistance Test in Swimming Pool Water	/	/	Refer to test report
	Corrosion Resistance Test in Artificial Sea Water	/	/	Refer to test report
	Corrosion Resistance Test in Volatile Oil	/	/	Refer to test report
	Salt Spray Test	IEC 6 8—2—11	Spray continuously for 96 hours and the concentration of NaCl solution is 5%	Pass
	UV Test	ISO 4 892—2	0.76W/m ² , UVA—3 40nm, 6 5°C	Refer to test report
Optical Test	Light Spectrum	ANSI C 78. 377	/	Refer to test report
	Candela Distribution	LM 7 9	/	Refer to test report
Mechanical Test	Bending Test	/	Bending Diameter 30cm	> 500 times
	Torsion Test	/	Twisting Angle: - 180°~ 180°, - 360°~ 360°; Rotating Speed: 7200°/min	> 200 cycles
	Swing Test	/	Swinging Angle: - 90°~ 90°, 7 50 times/cycle; Lift weight: 300g	> 2250 times
	Tensile Test	/	Increasing the strength gradually till PCB break.	> 60kg.f
Electrical Test	Insulation Resistance	IEC60598—1	/	> 2MΩ
	Electrical Continuity	IEC60598—1	Weights were added on the connector for 1 min	> 14kg.f

>> Note: Please contact us for related test report.

6.4 Correlated Colour Temperature

ANSI STANDARD

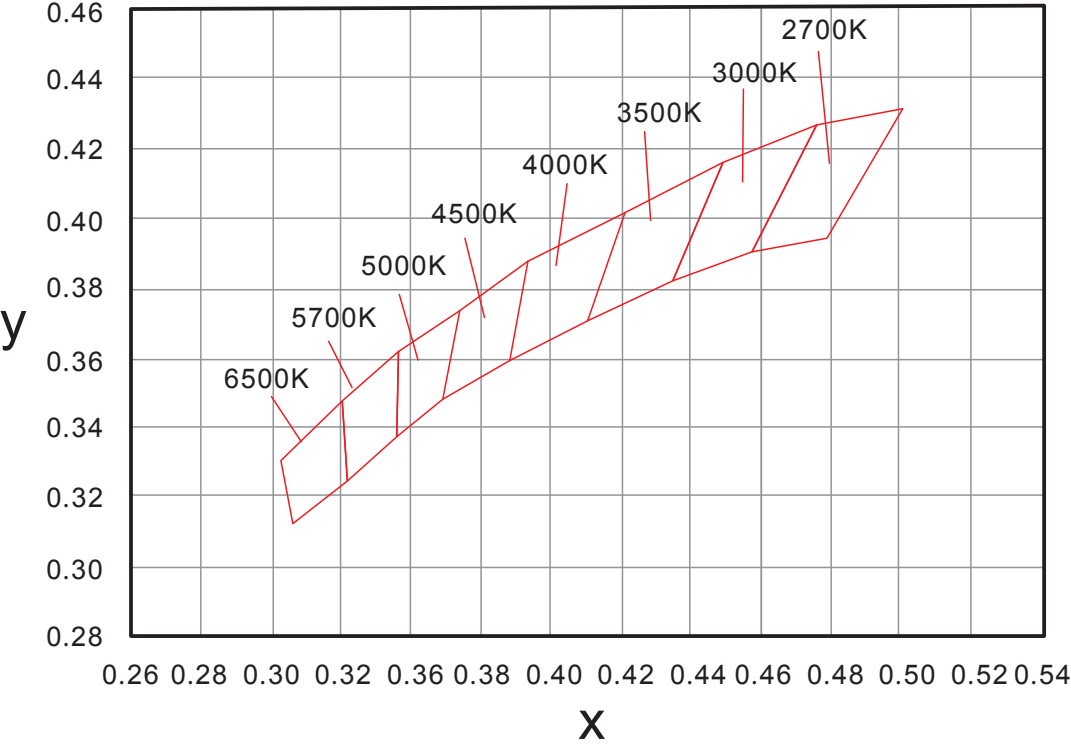
Nominal CCT Categories

Nominal CCT	Target CCT and tolerance(K)	Target Duv and tolerance
2700K	2725 ± 145	0.000 ± 0.006
3000K	3045 ± 175	0.000 ± 0.006
3500K	3465 ± 245	0.000 ± 0.006
4000K	3985 ± 275	0.001 ± 0.006
4500K	4503 ± 243	0.001 ± 0.006
5000K	5028 ± 283	0.002 ± 0.006
5700K	5665 ± 355	0.002 ± 0.006
6500K	6530 ± 510	0.003 ± 0.006
Flexible CCT (2700-6500K)	T ² +ΔT ³	D _{uv} T ² ±0.006

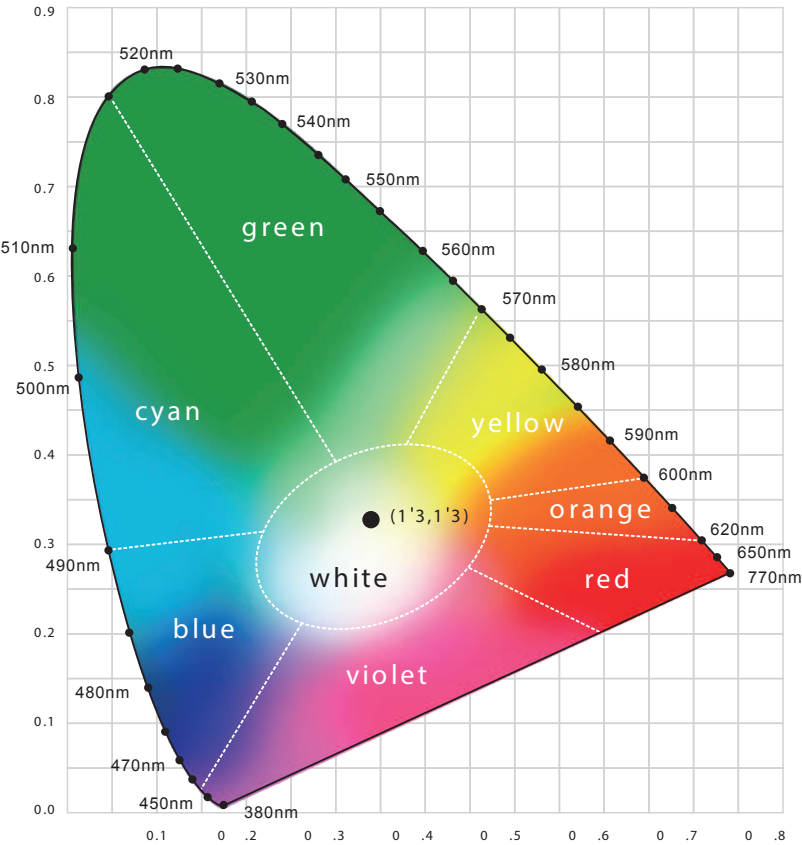
Remark:

- Six of the nominal CCTs correspond to those in the fluorescent lamp specification [2]: 2700K, 3000K (Warm White), 3500K (White), 4100K (Cool White), 5000K and 6500K (Daylight), respectively.
- T is chosen to be at 100K steps (2800, 2900, ..., 6400K), excluding those eight nominal CCTs listed in Table 1.
- ΔT is given by $\Delta T = 0.0000108 \times T^2 + 0.0262 \times T + 8$.
- D_{uv} is given by $D_{uv} = 57700 \times (1/T)^2 - 44.6 \times (1/T) + 0.0085$

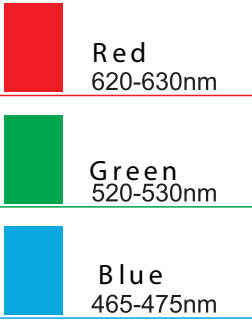
6.5 (X, Y) Chromaticity Diagram



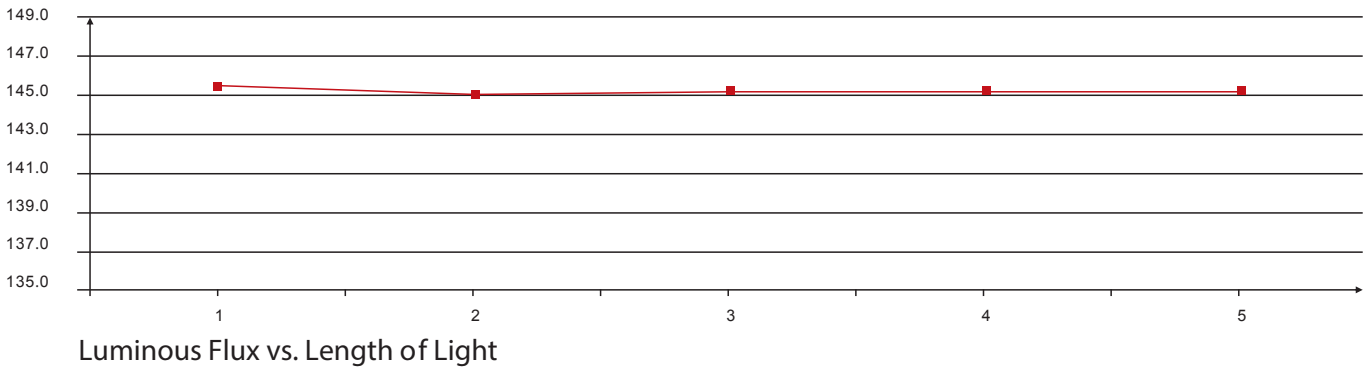
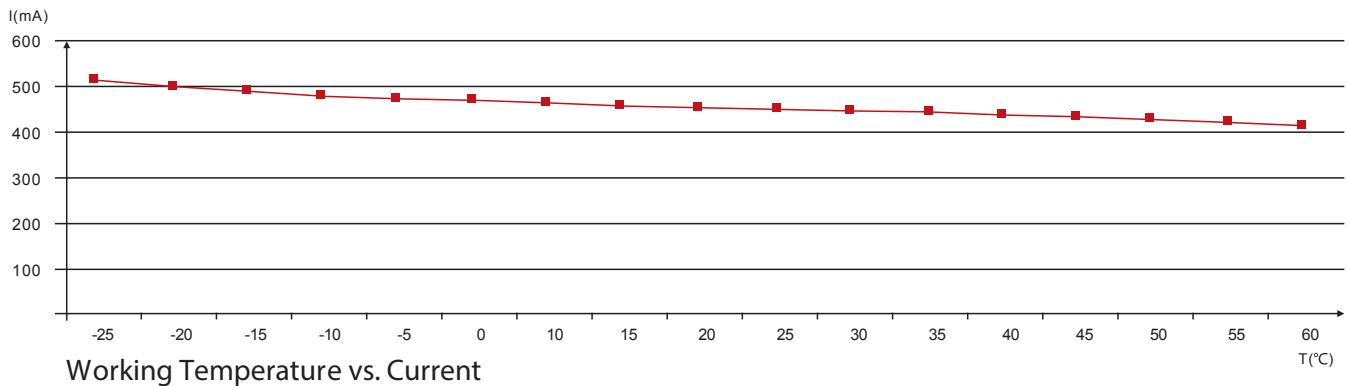
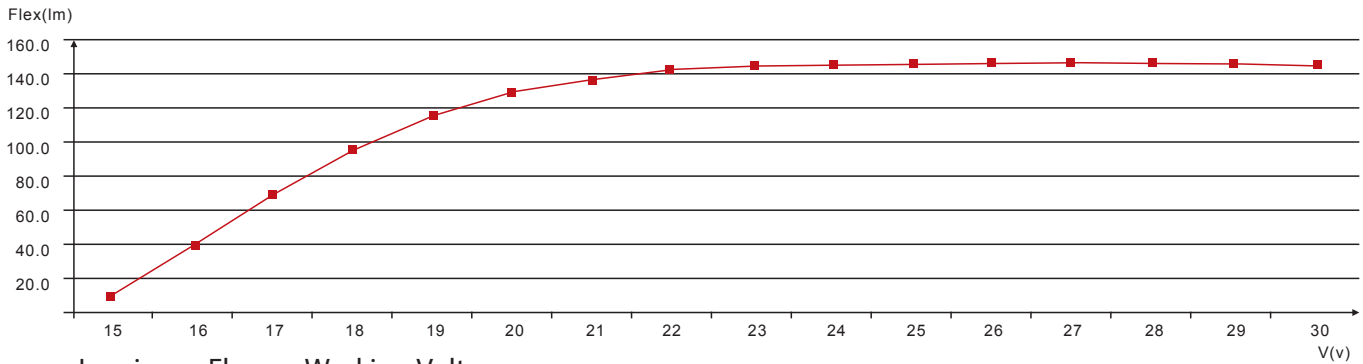
6.6 Wavelength of Colour Light



Light Colour



6.7 Figures of Typical Characteristics



6.8 Power Using Criterion

Take the percentage of its rated power (power efficiency) as the maximum used power for the product, that is the using standard of the maximum load power for the standard power supply.

Power Supply Configuration Table

Product Standard Length (m)	The maximum number of standard length light for different rated power (pcs)										
	18W/83%	35W/85%	40W/88%	60W/89%	75W/89%	80W/90.5%	100W/93%	120W/93%	150W/93%	185W/93.5%	240W/93%
1	1	2	2	4	5	6	8	9	12	15	19
2	*	1	1	2	3	3	4	5	6	8	10
3	*	*	1	1	2	2	3	3	4	5	7
4	*	*	*	1	1	1	2	2	3	4	5
5	*	*	*	1	1	1	1	2	2	3	4
10	*	*	*	*	*	*	*	1	1	1	2
15	*	*	*	*	*	*	*	*	*	1	1

Note: 1. "*" indicates that this option won't be considered. More than 10m/15m lights should consider double end feed.
2. For example: 18W/83% stands for that the rated power is 18W and the power efficiency is 83%.