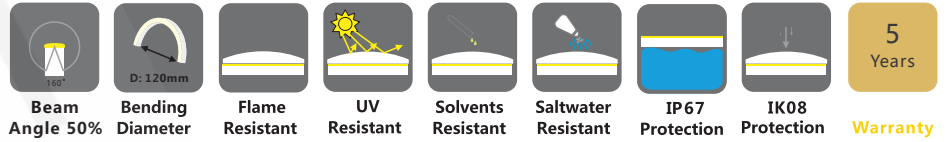


Specification

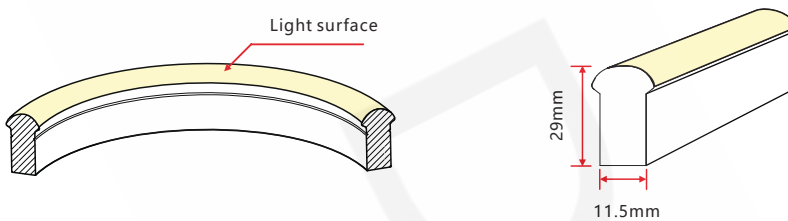
Series-3 RGBW/RGBWW



1. Specifications & Parameters



1.1 Dimensions of Light



Note: Unless otherwise specified, the tolerance of the dimensions is $\pm 0.3\text{mm}$.

1.2 Technical Parameters

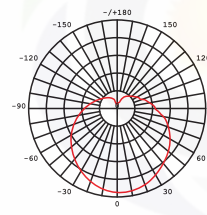
| Technical Parameters | |
|----------------------------------|------------------------------|
| Article No. | RGBW/WW-Series-3 24CV |
| Color | RGBW/WW(2700K/4000K) |
| Working Voltage | DC 24V |
| Rated Power/mtr | 15W |
| LED Qty/mtr | 60LEDs |
| LED Distance | 16.67mm |
| Min. Cutting Unit | 6LEDs |
| Min. Cutting Length | 100mm(1unit) |
| Continuous Length | 8M |
| Package Length | $\leq 20\text{m}$ |
| Weight/m | 450g |
| Storage Temperature | $-40\sim 60^{\circ}\text{C}$ |
| Ambient Working Temperature | $-40\sim 55^{\circ}\text{C}$ |
| Ambient Installation Temperature | $-40\sim 50^{\circ}\text{C}$ |
| Rating | IP67 |

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

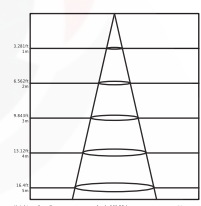
1.3 Optical Parameters

| Photometric Data | | |
|------------------|------------------------|---------|
| Article No. | RGBW/WW-Series-3 - 24V | |
| LED Type | SMD | |
| Beam Angle 50% | 160° | |
| Color | Wavelength/CCT | Lumen/m |
| Red | 618-624nm | >60lm |
| Green | 522-528nm | >140lm |
| Blue | 468-474nm | >30lm |
| White | 2725 \pm 145K | >140lm |
| White | 3985 \pm 275K | >140lm |

Candle Power Distribution



Illuminance Characteristics

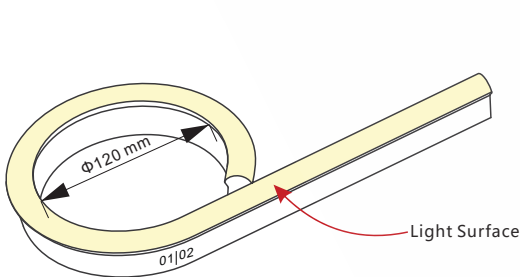


2. Functions & Features

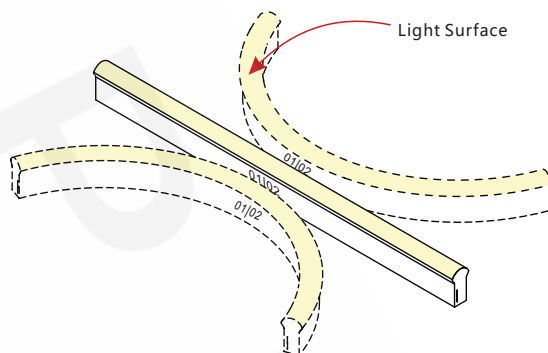
2.1 Product Features

1. High quality SMD, 4 in 1 RGBW LED.
2. Dimmable or DMX 512, DALI, 1-10V controllable, RGBW color changing.
3. UV & flame resistant construction (silicone).
4. High color consistency & smooth illumination with no light dots.
5. Domed profile for large beam angle(160°).
6. High lumen output and IP rating (IP68).
7. The product IP rate is ultimately in line with properly applied IP rated connectors.
8. Ultra flexible, bending diameter of 120mm.
9. Continuous length up to 8m by powering one end.
10. Environmentally friendly & energy efficient.
11. Automated production, high reliability & long warranty.
12. 5 years life span.

2.2 Minimum Bend Diameter



The light can only be bent laterally (opposite bend along to light surface).



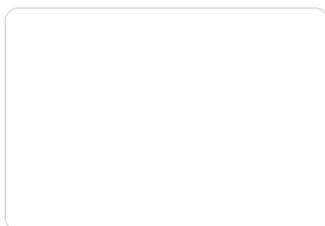
Do not bend smaller than allowed minimum bend diameter.

3. Types of Connector

3.1 Injection-moulded Connector

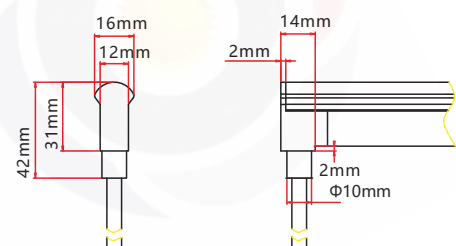
Note:

1. Unless otherwise stated, the tolerance of the connector is $\pm 0.5\text{mm}$;
2. Continuous length up to 8m by powering one end.



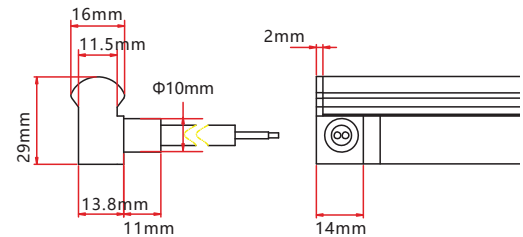
Injection-moulded Front Connector (bottom)

Connects light to power supply with pre-installed bottom feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m.



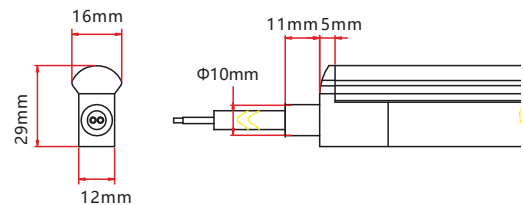
Injection-moulded Front Connector (side)

Connects light to power supply with pre-installed side feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.



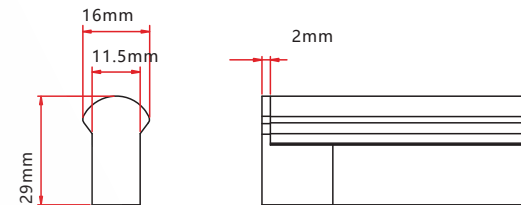
Injection-moulded Front Connector (top end)

Connects light to power supply with pre-installed end feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m.



Injection-moulded End Cap

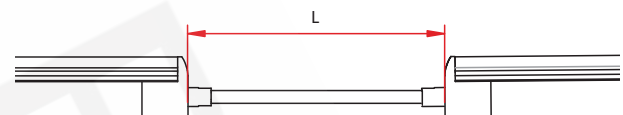
Pre-installed termination protection of the light, IP67.



Injection-moulded Jumper

Connects two pieces of lights together with a flexible cable. IP67 Injection-moulded connector. L available in 0.3~1m.

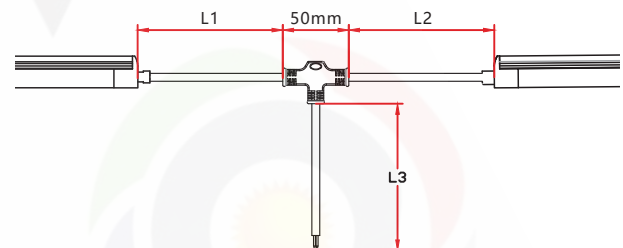
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



Injection-moulded T-feed

Connects two pieces of lights together with a T joint, energized from middle. IP67 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

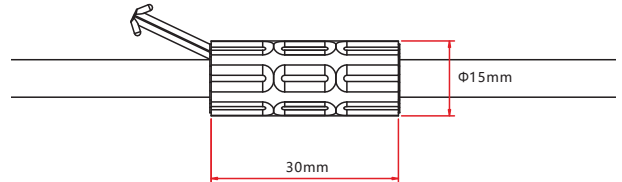
Note: Unless otherwise stated, the tolerance is $\pm 0.5\text{mm}$.



Anti-wicking Ferrule

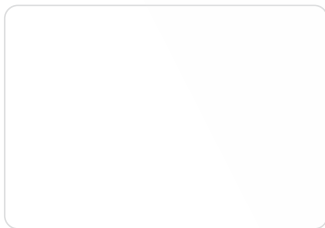
The anti-wicking ferrule is located at 115mm ($\pm 5\text{mm}$ tolerance) from the connector on the cable.

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



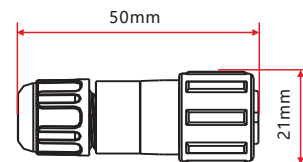
3.3 Male & Female Connector

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



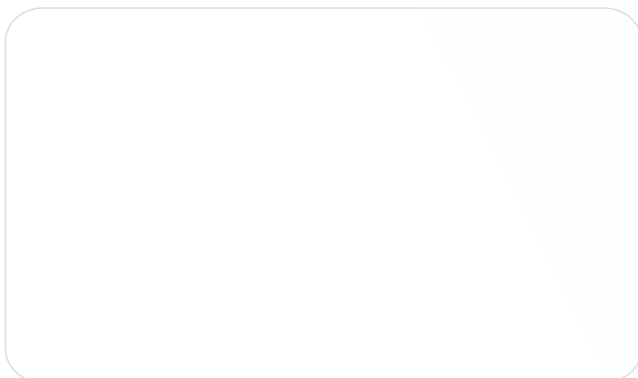
Male & female Connector

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



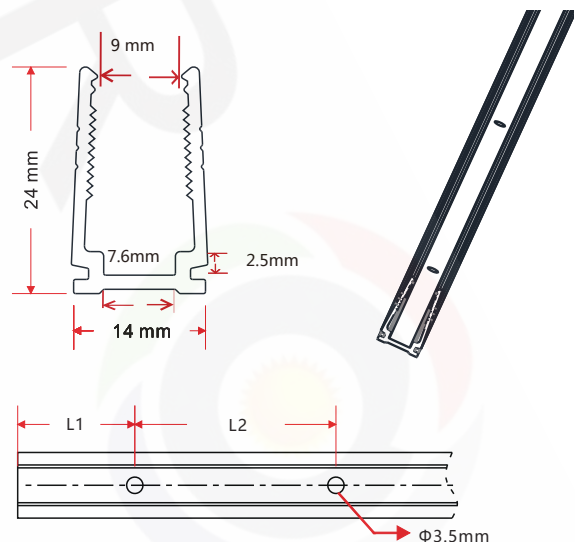
4. Mounting Profile

4.1 Plastic Profile



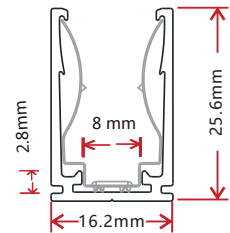
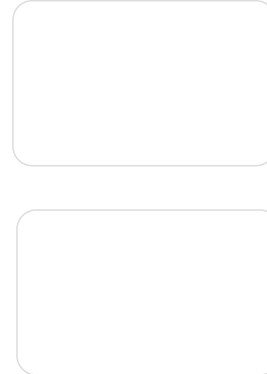
Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.

Installation Way



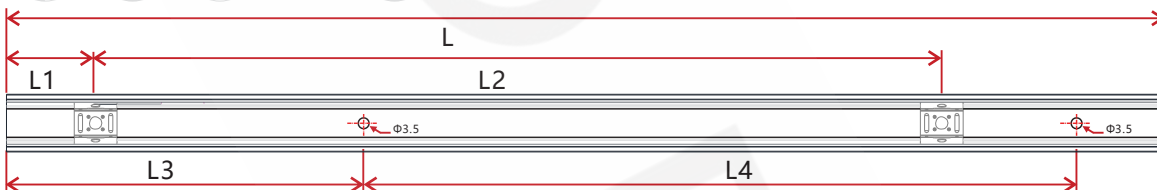
| Model | W*H(mm) | Standard Length (mm) | L1 (mm) | L2 (mm) | Screw Hole (mm) | Hole Number |
|-------|---------|----------------------|---------|---------|-----------------|-------------|
| RGBW | 14*24 | 500 | 50 | 200 | Φ3.5 | 3 |
| | | 1000 | 100 | 200 | Φ3.5 | 5 |
| | | 2000 | 100 | 200 | Φ3.5 | 10 |

4.2 Spring Clip Aluminum Profile



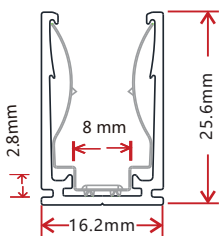
Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.

Installation Way



| Model | W*H(mm) | Standard Length(mm) | L1(mm) | L2(mm) | L3(mm) | L4(mm) | Hole Screw(mm) | Hole Number | Clip Number |
|-------|-----------|---------------------|--------|--------|--------|--------|----------------|-------------|-------------|
| RGBW | 16.2*25.6 | 35 | 17.5 | / | 5 | 25 | $\Phi 3.5$ | 2 | 1 |
| | | 500 | 25 | 225 | 50 | 200 | $\Phi 3.5$ | 3 | 3 |
| | | 1000 | 25 | 237.5 | 100 | 200 | $\Phi 3.5$ | 5 | 5 |
| | | 2000 | 25 | 243.8 | 100 | 200 | $\Phi 3.5$ | 10 | 9 |

4.3 Cable Exit Oriented Aluminum Profile (Applicable to Injection-moulded Connector Only)



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

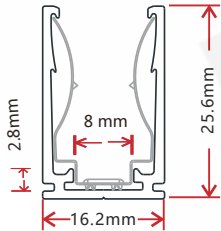
Bottom Feed

Middle Feed

Side Feed From Left

Side Feed From Right

4.4 Corner Aluminum Profile (Applicable to Injection-moulded Connector Only)



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

L Shape

T Shape

Outward L Shape

Inward L Shape

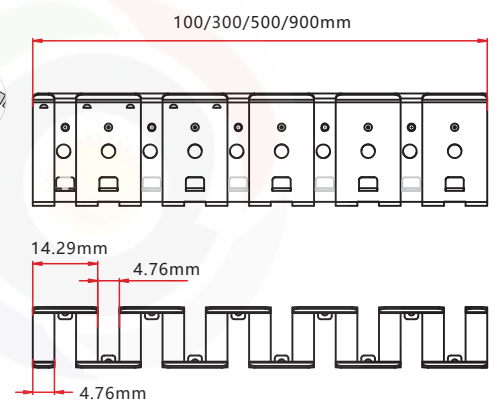
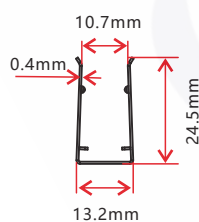
X Shape

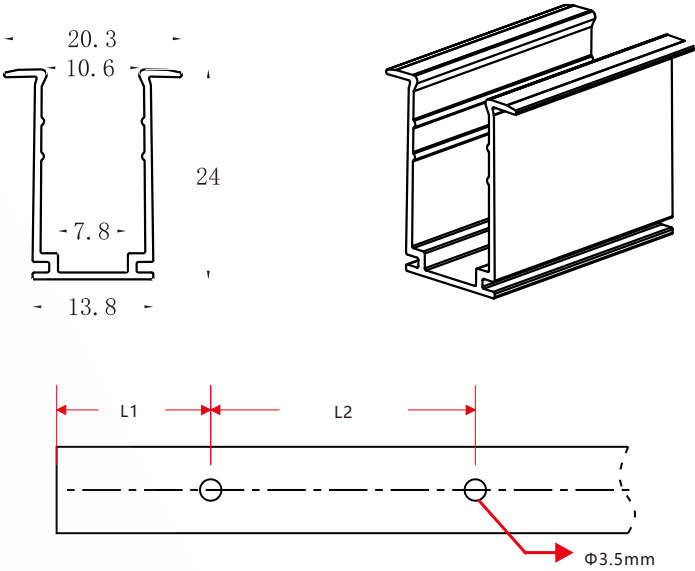
[illegible]

4.5 Bendable Stainless Steel Profile

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

Installation Way





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

Dino gg odjiR t



| Model | W*H(mm) | Standard Length (mm) | L1 (mm) | L2 (mm) | Screw Hole (mm) | Hole Number |
|-------------|---------|----------------------|---------|---------|-----------------|-------------|
| RGBW-RMA/PL | 18*13.2 | 35 | 5 | 25 | Φ3.5 | 2 |
| | | 500 | 50 | 200 | Φ3.5 | 3 |
| | | 1000 | 100 | 200 | Φ3.5 | 5 |
| | | 2000 | 100 | 200 | Φ3.5 | 10 |

5. Packaging

Packaging Method



Plastic Plate



White Box



Carton

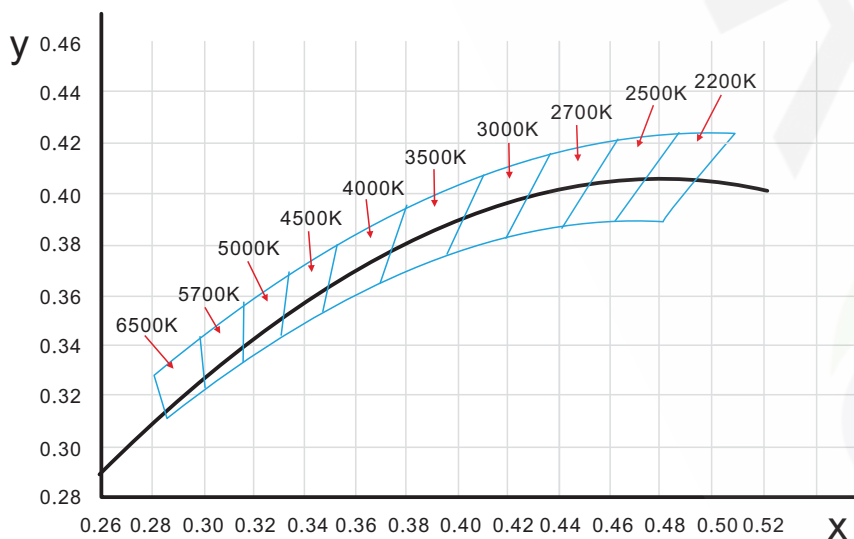
Packaging Detail

| Light Length | White Box Dimension (cm) | Carton Dimension (cm) | Numbers of White Box | Carton Weight (kg) |
|--------------|--------------------------|-----------------------|----------------------|--------------------|
| 5m | 39*5.2*50 | 52*41*28 | 5 | 14 |
| 10m | 51*5.2*62 | 64*53*28 | 5 | 26 |
| 10m | 51*5.2*62 | 64*53*17.5 | 3 | 16 |
| 20m | 68*5.2*79 | 81*70*12.5 | 2 | 22 |

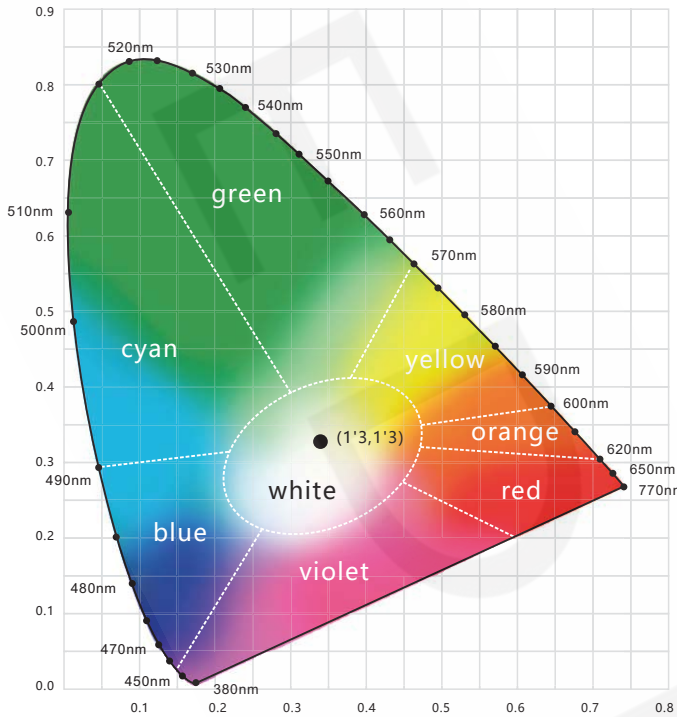
6.4 Reliability Test of Light

| 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 maximum connection length with both ends feed |
| | Twist Test | Manufacturer-defined, > 200 cycles |
| | Ball Impact | UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21 |
| | IK07 IK08 | 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) |

6.5 (X,Y) Chromaticity Diagram



6.6 Wavelength of Color Light



Light Color

| | |
|--|---------------------------|
| | Red 618-624nm |
| | Green 522-528nm |
| | Blue 468-474nm |

6.7 Loading Chart

| Type. | Rated Power /mtr | Power Supply | | | | | | | | | | | |
|----------------|------------------|-----------------|------|------|------|------|------|--------------------------|------|------|------|------|------|
| | | 35w | 60w | 75w | 80w | 100w | 120w | 150w | 120w | 150w | 185w | 240w | 320w |
| RGBW | 6.5w/7.2w/8w | 3m | 6m | 7.5m | 8m | 10m | 12m | 15m | | | 18m | 24m | 30m |
| | 10.6w/11w/12w | 2m | 3.5m | 4.5m | 5m | 6m | 7m | 10m | | | 12m | 14m | 20m |
| | 15w | 2m | 3m | 4m | 4.2m | 5m | | | 6m | 8m | 10m | | |
| Energizing Way | | DC input 01/02 | | | | | | DC input 01 02 DC input | | | | | |

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 8m light (7.2w/m) or maximum 5m light (12w/m) by energizing the light one end.

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

Flexible CCT
(2200-6500K)

$T_f^{(1)} \pm \Delta T^{(2)}$

$D_{uv} T_f^{(3)}$