



surelight

Neon light FP Range Specification

NE-FP-36-VB



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Introduction

NE-FP-36 is a member of Galaxy of Light series with creative patent optical design and meticulously selected LEDs that provides aesthetically superior, consistent lighting effects with no fluctuations in luminescence as seen with conventional lighting.

Built-in protection circuit design which means single LED failure has no effect on other LEDs working in the same unit and the whole light can keep constant lighting.

NE-FP-36 is UL/cUL, CE, TUV and RoHS compliant. Moreover, it 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 harshest environments. Also it has passed relevant tests of third party inspection authority.

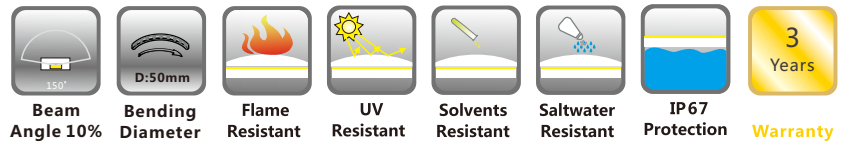
Fully encapsulated in the flexible PVC chamber by utilizing consummate extrusion technology, assembled with multiple patented connectors to achieve high IP protection, easy for installation and applicable for various circumstances.

NE-FP-36 features ultra high brightness, solid and radiant linear light, energy efficient and unmatched dependability. It is also field cuttable, extremely flexible and developed exquisite appearance with three kinds of cover to match the applications.

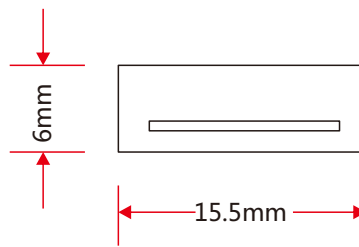
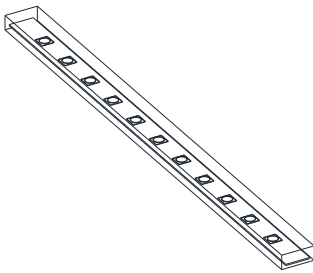
Applications:

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

1. Specifications & Parameters



1.1 Dimensions of Light



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

1.2 Technical Parameters

Technical Parameters

| | |
|--|----------------|
| Article No. | NE-FP-36 |
| Colour | White |
| Working Voltage | DC 24V |
| Rated Power/m | 6W |
| LED Qty/m | 36LEDs |
| LED Distance | 27.8mm |
| Min. Cutting Unit | 6LEDs(1unit) |
| Min. Cutting Length | 167mm(1unit) |
| Continuous Length | 15M |
| Weight/m | 102g |
| Storing Temp. | -20~60°C |
| Environmental Working Temperature | -20~45°C |
| Environmental Installation Temperature | 0~45°C |
| IP Rating | IP67/IP65/IP40 |

NE-FP-36



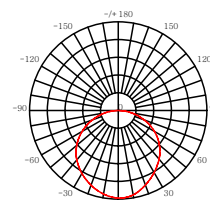
PVC-Transparent

1.3 Optical Parameters

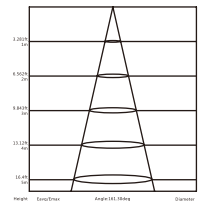
Photometric Data

| | | |
|----------------|-----------|---------|
| Article No. | NE-FP-36 | |
| LED Type | SMD | |
| Beam angle 10% | 150° | |
| Colour | CCT | Lumen/m |
| 2700K | 2725±145K | >450lm |
| 3000K | 3045±175K | >450lm |
| 3500K | 3465±245K | >450lm |
| 4000K | 3985±275K | >450lm |
| 4500K | 4503±243K | >450lm |
| 5000K | 5029±283K | >450lm |
| 5700K | 5669±355K | >450lm |

Candle power distribution



Illuminance Characteristics

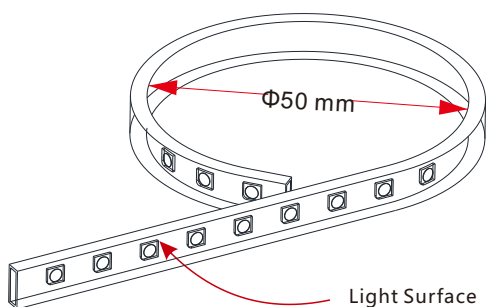


2. Functions & Features

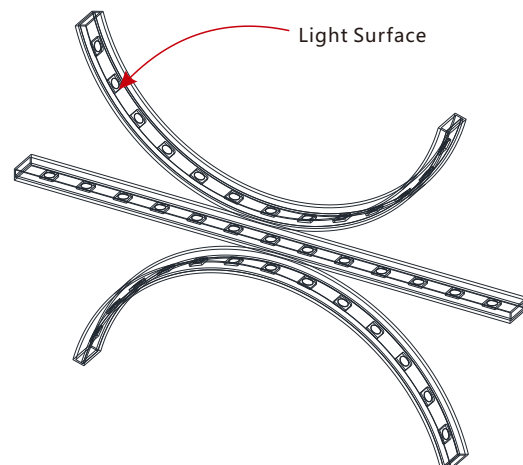
2.1 Product Features

1. High quality and high brightness SMD LED chip.
2. Protection Circuit: Each LED Protected.
3. Variety of monochromatic lights for option including White light(2700K to 5700K).
4. UV & flame resistant construction(PVC).
5. Flat profile, good choice for recessed mounting.
6. High colour consistency& uniformity.
7. Ultra flexible with 50mm minimum bending diameter.
8. Easy installation and assembly with DIY accessories for joining and terminating.
9. High IP rating(IP67).
10. The product IP rate is ultimately in line with properly applied IP rated connectors.
11. Continuous length up to 15m (/W) by powering one end.
12. Environmentally friendly & energy efficient.
13. Automated production, high reliability & long warranty.
14. 5 years 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

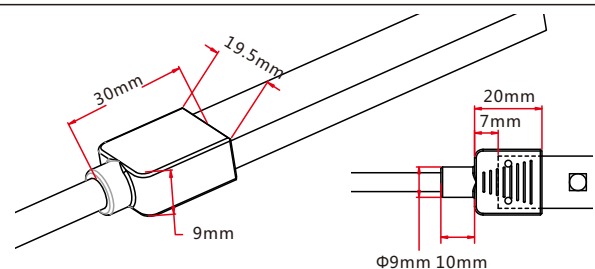
3.1 Injection-moulded Connector

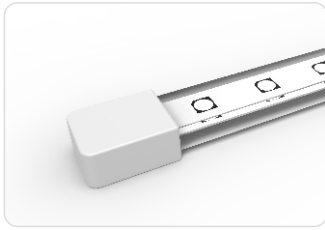
Note: Unless otherwise stated, the tolerance of the connector is $\pm 0.5\text{mm}$.



Injection-moulded Front Connector

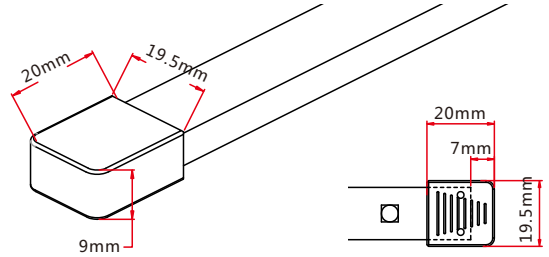
Connects light to power supply with pre-installed front feed cable, IP65. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.





Injection-moulded End Cap

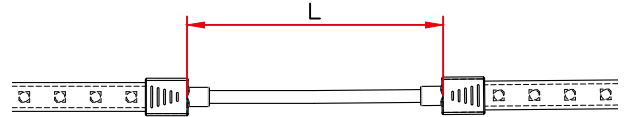
Pre-installed termination protection of the light, IP65.



Injection-moulded Jumper

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

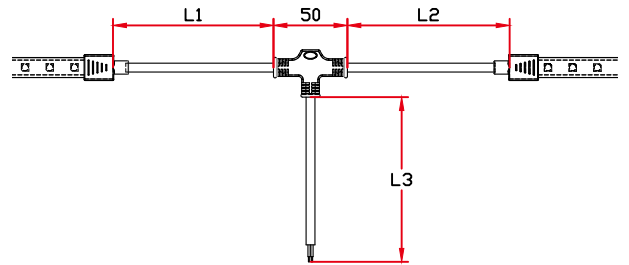
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



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



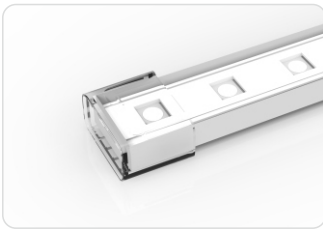
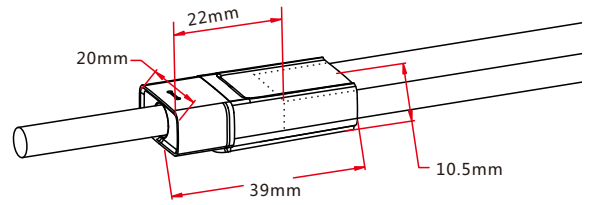
3.2 Sleeve Connector



Sleeve Front Connector

Connects light to power supply. IP40 DIY connector. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

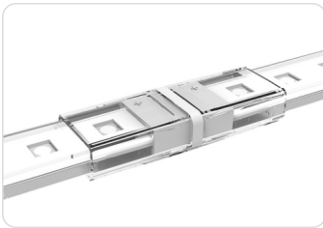
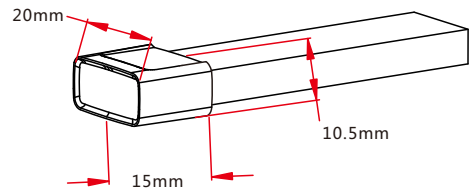
- Feed connector*1(Two-pin)
- PC cover*1
- Anti-skidding clip*1
- Heat-shrink tube*1



Sleeve End Cap

Termination protection of the light. IP40 DIY connector.

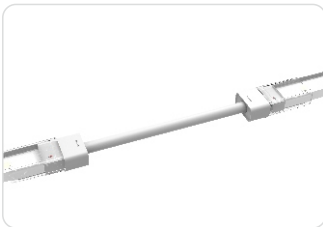
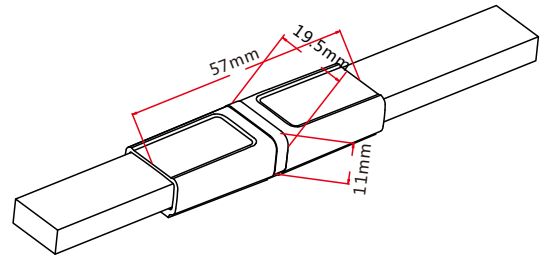
- Shading sheet*1
- PC Cover*1



Sleeve Middle Connector

Combine two pieces of lights together. IP40 DIY connector.

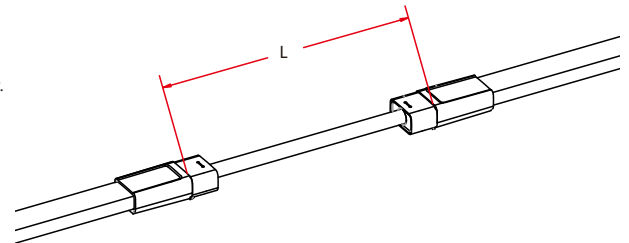
- Pin connector*1 (Two-pin)
- PC cover*2
- Anti-skidding clip*2
- Heat-shrink tube*1



Sleeve Jumper

Connects two pieces of lights together with a flexible cable. IP40 DIY connector. L available in 0.3m, 1m and 3m.

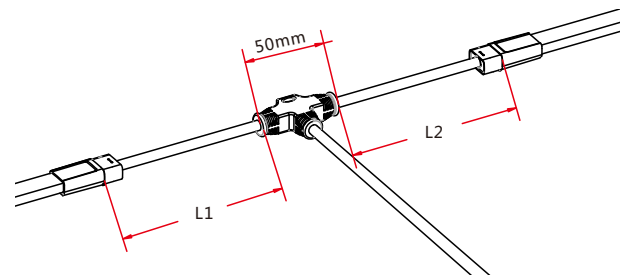
- Double-end feed connector*1(Two-pin)
- PC cover*2
- Anti-skidding clip*2
- Heat-shrink tube*2



Sleeve Power T-feed

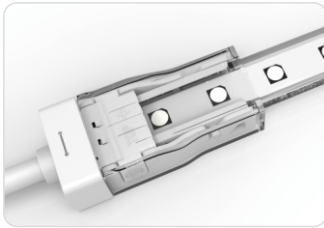
Connects two pieces of lights together with a T joint, energized from middle. IP40 DIY connector. L1 and L2 available in 0.3m.

- T joint*1(Two-pin)
- PC cover*2
- Anti-skidding clip*2
- Heat-shrink tube*2



3.3 Snap Connector

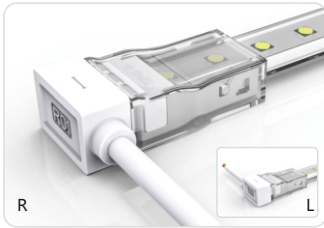
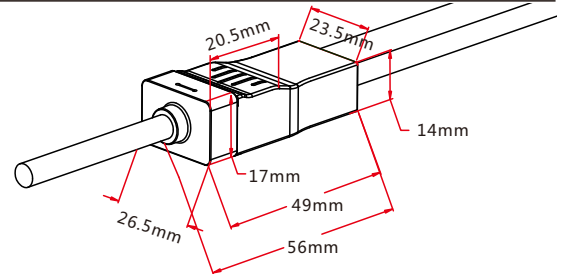
Note: Unless otherwise stated, the tolerance is $\pm 0.5\text{mm}$.



Snap Front Connector(top end)

Connects light to power supply. IP67 DIY connector. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

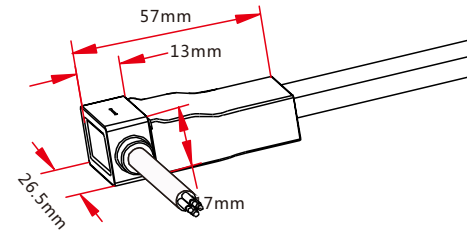
- Feed connector*1(Two-pin)
- Silicone gasket*1
- U steel plate*1
- Anti-skidding clip*1
- PC cover*1



Snap Front Connector(side right/left)

Connects light to power supply. IP67 DIY connector. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

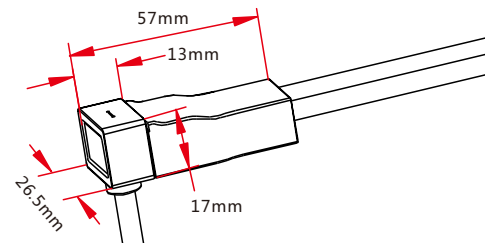
- Feed connector*1(Two-pin)
- Silicone gasket*1
- U steel plate*1
- Anti-skidding clip*1
- PC cover*1



Snap Front Connector(bottom)

Connects light to power supply. IP67 DIY connector. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

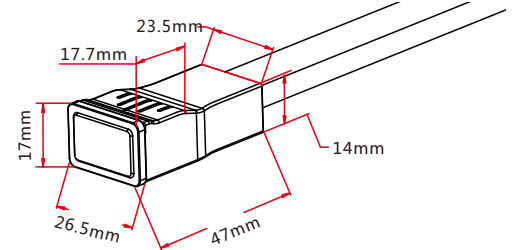
- Feed connector*1(Two-pin)
- Silicone gasket*1
- U steel plate*1
- Anti-skidding clip*1
- PC cover*1



Snap End Cap

Termination protection of the light. IP67 DIY connector.

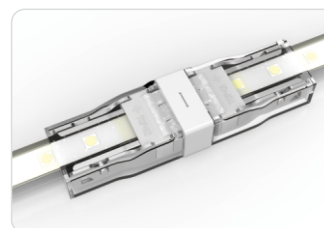
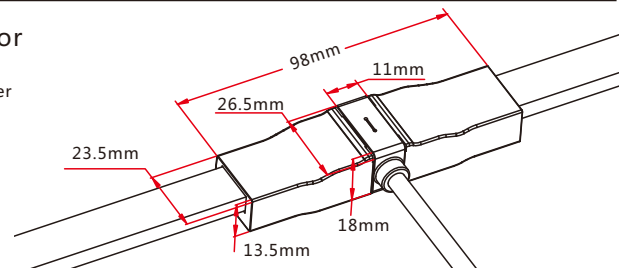
- Tail plug*1
- Silicone gasket*1
- U steel plate*1
- Anti-skidding clip*1
- PC cover*1



Snap Middle Feed Connector

Interconnect two pieces of lights together with power cable. IP67 DIY connector.

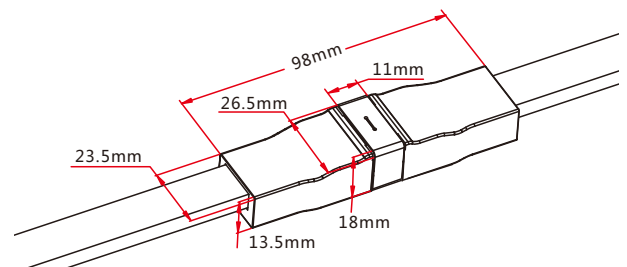
- Double-end feed connector*1
- Silicone gasket*2
- U steel plate*2
- Anti-skidding clip*2
- PC cover*2

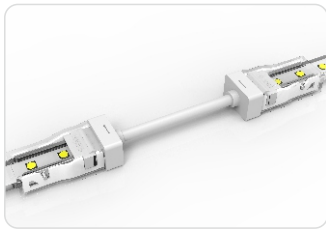


Snap Middle Connector

Interconnect two pieces of lights together. IP67 DIY connector.

- Bidirectional feed connector*1
- Silicone gasket*2
- U steel plate*2
- Anti-skidding clip*2
- PC cover*2

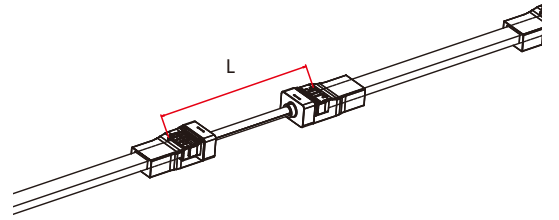




Snap Jumper

Connects two pieces of lights together with a flexible cable. IP67 DIY connector. L available in 0.3m, 1m and 3m.

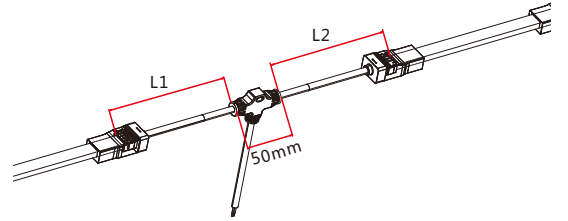
- Double-end feed connector*1 (Two-pin)
- Silicone gasket*2
- U steel plate*2
- Anti-skidding clip*2
- PC cover*2



Snap Power T-feed

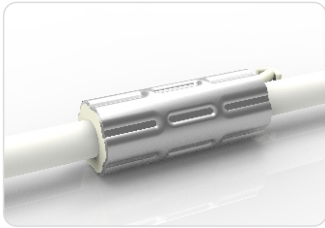
Connects two pieces of lights together with a T joint, energized from middle. IP67 DIY connector. L1 and L2 available in 0.3m.

- T joint*1 (Two-pin)
- Silicone gasket*2
- U steel plate*2
- Anti-skidding clip*2
- PC cover*2



3.4 Anti-wicking Ferrule

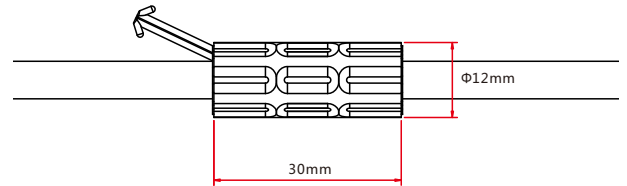
Note: Unless otherwise stated, the tolerance is $\pm 0.5\text{mm}$.



Anti-wicking Ferrule

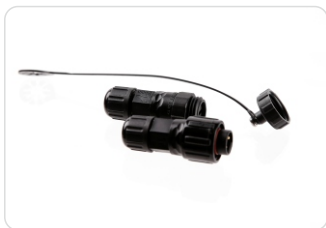
The anti-wicking ferrule is located at 115mm ($\pm 5\text{mm}$ tolerance) from the connector on the cable.

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



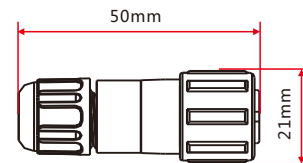
3.5 Male & Female Connector

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



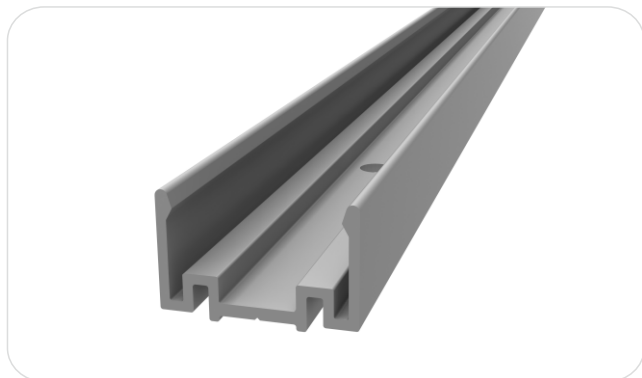
Male & female Connector

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

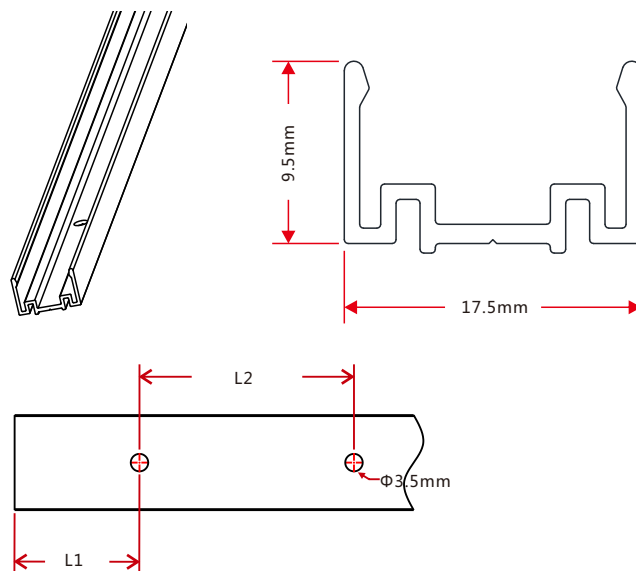


4. Mounting Profile & Clip

4.1 Standard Aluminum Profile

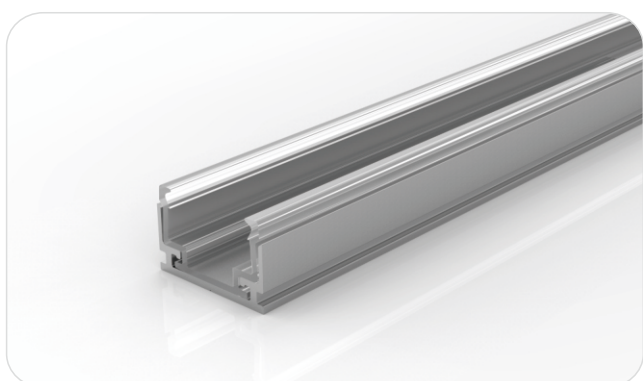


Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

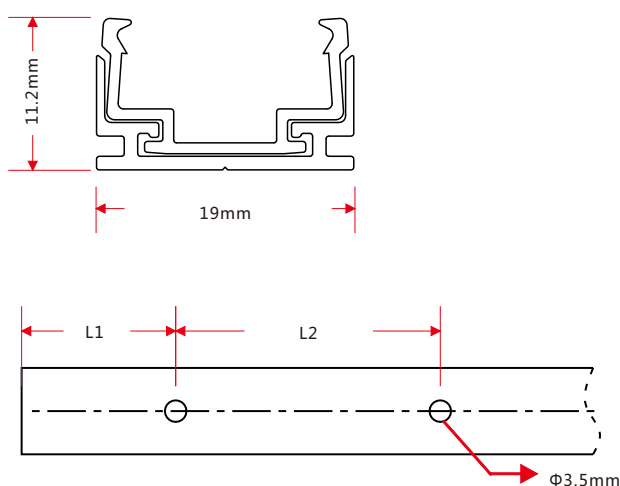


| Model | W*H(mm) | Standard Length (mm) | L1 (mm) | L2 (mm) | Screw Hole (mm) | Hole Number | For Product |
|-------------|----------|----------------------|---------|---------|-----------------|-------------|-------------|
| NE-FP-36-CH | 17.5*9.5 | 35 | 17.5 | / | Φ3.5 | 1 | FP |
| | | 500 | 50 | 200 | Φ3.5 | 3 | FP |
| | | 1000 | 100 | 200 | Φ3.5 | 5 | FP |
| | | 2000 | 100 | 200 | Φ3.5 | 10 | FP |

4.2 Plastic & Aluminum Combination Profile

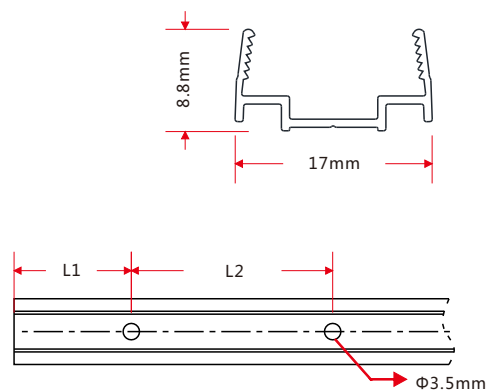
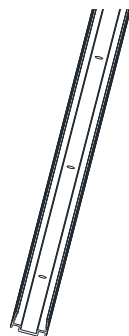


Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.



| Model | W*H(mm) | Standard Length (mm) | L1 (mm) | L2 (mm) | Screw Hole (mm) | Hole Number | For Product |
|-------------|---------|----------------------|---------|---------|-----------------|-------------|-------------|
| NE-FP-36-CH | 11.2*19 | 35 | 17.5 | / | Φ3.5 | 1 | FP |
| | | 500 | 50 | 200 | Φ3.5 | 3 | FP |
| | | 1000 | 100 | 200 | Φ3.5 | 5 | FP |
| | | 2000 | 100 | 200 | Φ3.5 | 10 | FP |

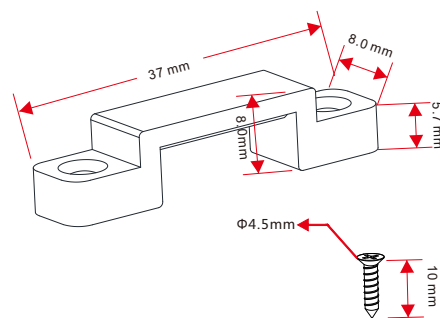
4.3 Plastic Profile



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-36-CH | 17*8.8 | 500 | 50 | 200 | $\Phi 3.5$ | 3 | FP |
| | | 1000 | 100 | 200 | $\Phi 3.5$ | 5 | FP |
| | | 2000 | 100 | 200 | $\Phi 3.5$ | 10 | FP |

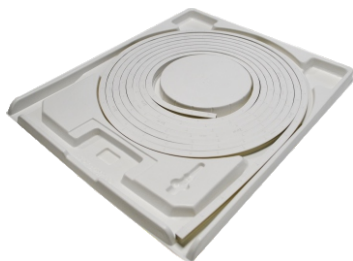
4.4 PC Clip



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

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

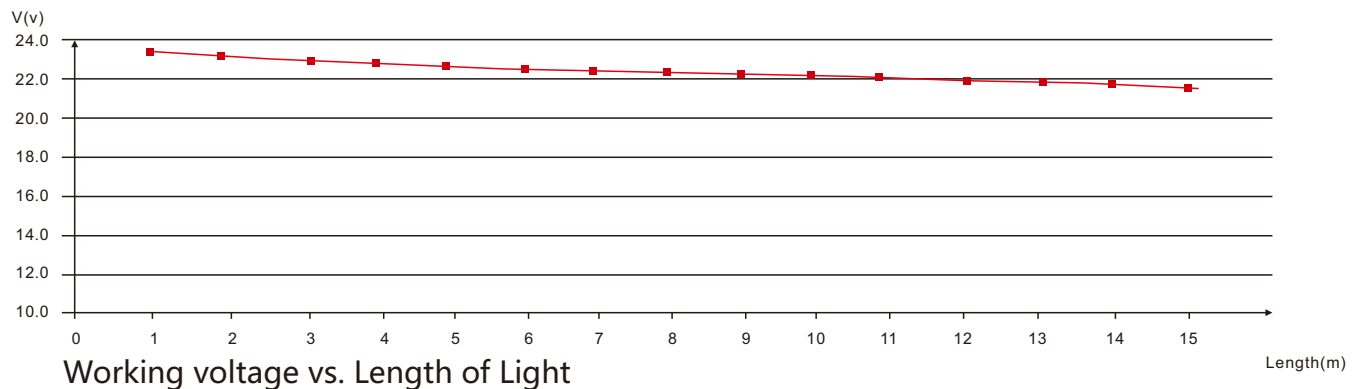
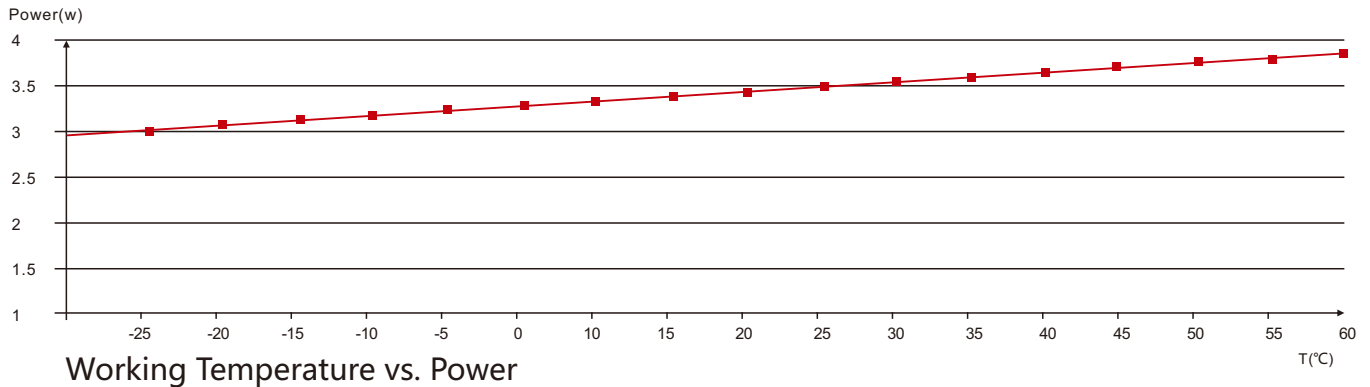
| Testing Item | Testing Organization | Report Number |
|--------------------|----------------------|--|
| RoHS | SGS | CANEC1202163502 A01 |
| IP68: Screw type | TUV SUD | 68.140.12.136.02 |
| IP68: Clasp type | SGS | GZES140200135301 GZES140200135401 GZES140200135501 GZES140200135701 GZES140200135801 |
| 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 |

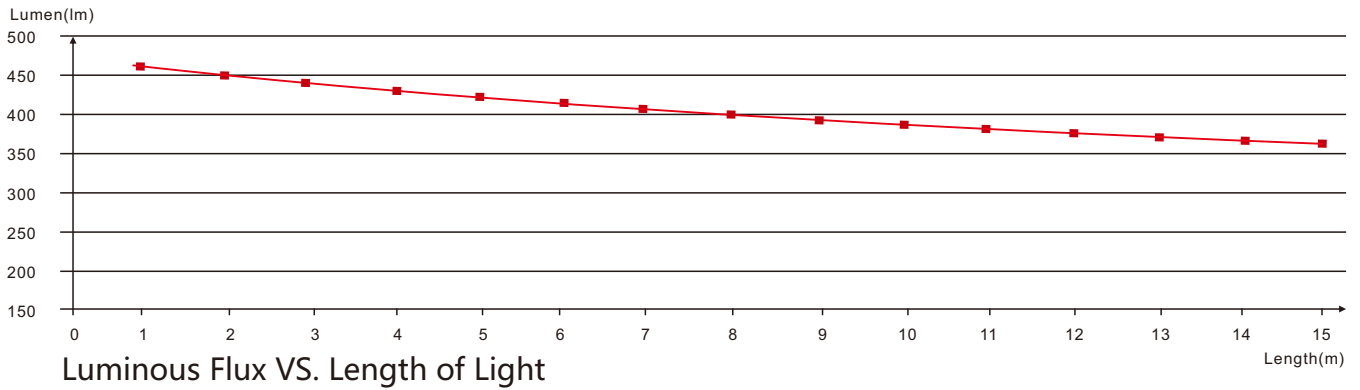
>>Note: The testing reports and certificates are available from the related official website.

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 |
| | | Manufacturer-defined, >200 cycles |
| | Ball impact | UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21 |
| WEATHERING TESTING | IK07 IK08 | IEC62262 |
| | 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 |
| ENVIROMENT TESTING | Outdoor Exposure | Manufacturer-defined |
| | 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 Figures of Typical Characteristics





6.5 Loading Chart

| Type. | Rated Power /mtr | Power Supply | | | | | | | | | |
|----------------|------------------|--------------|-----|-----|-------|------|--------------------|------|------|-------|------|
| | | 35w | 60w | 75w | 80w | 100w | 100w | 120w | 150w | 185w | 240w |
| NE-FP | 4w | 7m | 12m | 15m | 16m | 18m | 20m | 24m | 30m | 36m | |
| | 6w | 4.5m | 8m | 10m | 10.5m | 13m | | 16m | 20m | 24.5m | 30m |
| Energizing way | | DC input | | | | | DC input 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 16m light (4w/m) or maximum 10.5m light (6w/m) by energizing the light one end.

6.6 Correlated Colour Temperature

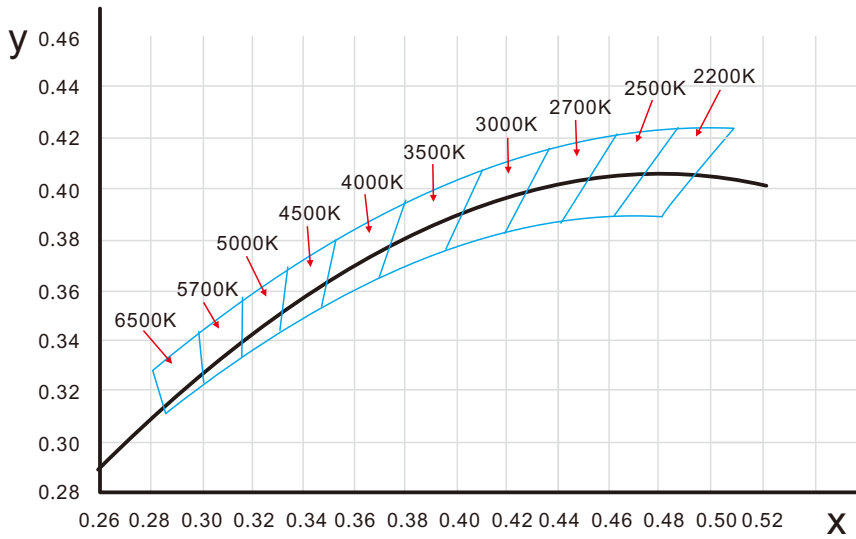
ANSI STANDARD

| Nominal CCT Categories | 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 | |
| Flexible CCT (2200-6500K) | T _F ¹⁾ ± ΔT ²⁾ | D _{uv} T _F ³⁾ | |

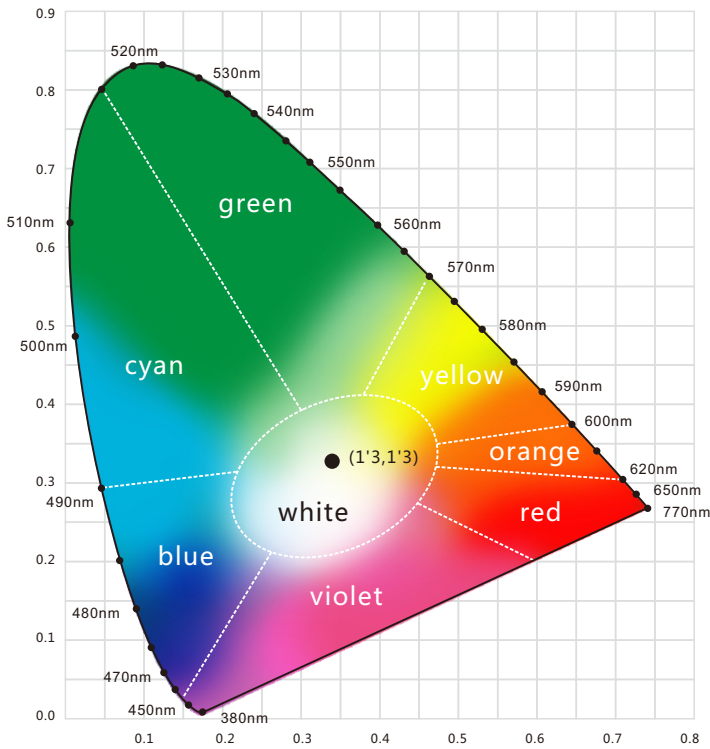
Remark:

- 1) T_F is chosen to be at 100K steps (2300,2400,.....,6400K), excluding the ten nominal CCTs listed in Table 1.
- 2) ΔT = 1.1900x10⁸xT⁻³ - 1.5434x10⁴xT² + 0.7168xT - 902.55
- 3) Same as in the D_{uv} Tolerance Range.

6.7 (X,Y) Chromaticity Diagram



6.8 Wavelength of Colour Light



Light Color

- Red**
620-630nm
- Green**
520-530nm
- Blue**
465-475nm