



surelight

Neon light

FP Range

Specification

NE-FP-DW-VB



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Introduction

NE-FP-DW is a new member of the Galaxy of Light series embodied the benefits of FP patent design and coupled with intelligent LEDs for dynamic white, which enables you to implement a lighting design consistently and efficiently that responds to your undefined and specific needs.

NE-FP-DW is UL/cUL, CE, TUV and RoHS compliant for European Union and North American markets. 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 harsh environments.

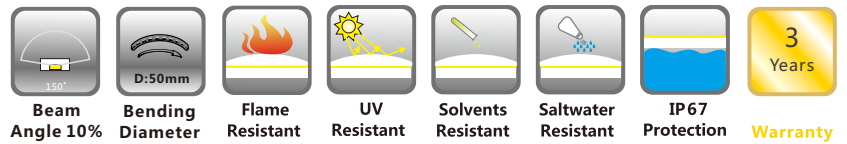
Fully encapsulated in the flexible PVC chamber by utilizing consummate extrusion technology, assembled with multiple patented connectors to achieve IP67 protection, easy for installation and applicable for various circumstances.

NE-FP-DW can vary Colour temperature from 2700K up to 6000K with smooth illumination. It features high brightness, energy efficient and unmatched dependability, also field cuttable, extremely flexible and small bend diameter in curve bending shape

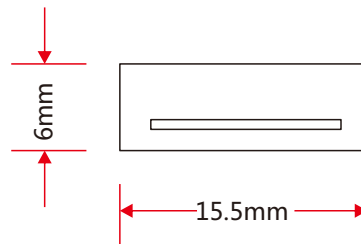
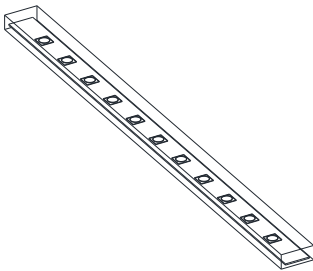
Applications:

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-DW
Colour	W/WW
Working Voltage	DC24V
Rated Power/m	12W
LED Qty/m	144LEDs
LED Distance	13.89mm
Min. Cutting Unit	12LEDs (1unit)
Min. Cutting Length	83.3mm
Continuous Length	10m
Weight/m	102g
Storage Temperature	-20~60°C
Environmental Working Temperature	-20~45°C
Environmental Installation Temperature	0~45°C
IP Rating	IP67

NE-FP-DW



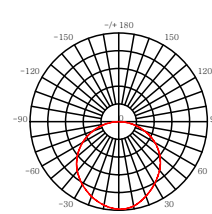
PVC-Transparent

1.3 Optical Parameters

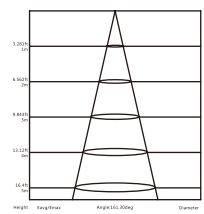
Photometric Data

Article No.	NE-FP-DW		
LED Type	SMD		
Beam Angle 10%	150°		
Color	CCT	Lumen/m	Power/m
WW	2725±145K	> 350lm	6w
W	6000±355K	> 350lm	6w
W+WW	3985±275K	> 700lm	12w

Candle Power Distribution



Illuminance Characteristics

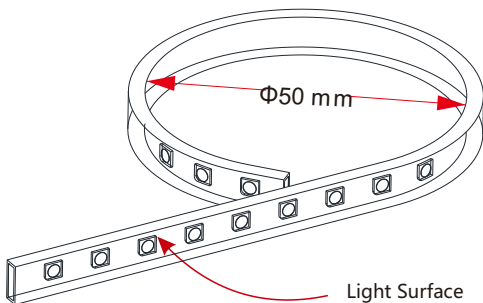


2. Functions & Features

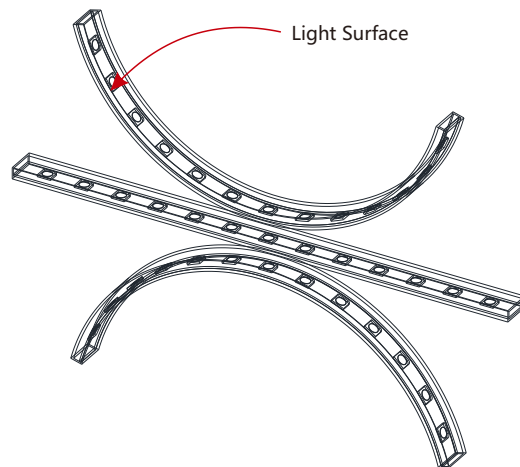
2.1 Product Features

1. Dynamic white system with adjustable colour temperature from 2,700K to 6000K.
2. High quality and high brightness SMD LED chip.
3. UV & flame resistant construction (PVC).
4. Patent optical design with custom FPC for optimum thermal management.
5. High colour consistency & uniformity.
6. Ultra flexible with 50mm minimum bending diameter.
7. Easy installation and assembly with a range of accessories for joining and terminating.
8. High IP rating (IP67).
9. The product IP rate is ultimately in line with properly applied IP rated connectors.
10. Continuous length up to 10m by powering one end.
11. Environmentally friendly & energy efficient.
12. Automated production, high reliability & long warranty.
13. 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

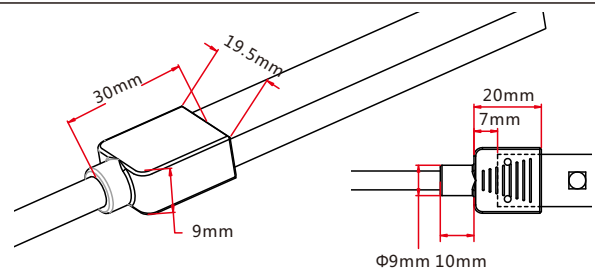
3.1 Injection-moulded Connector

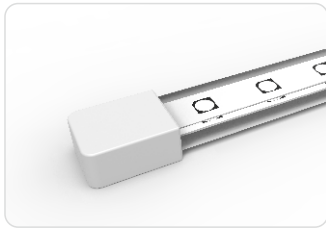
Note: Unless otherwise stated, the tolerance of the connector is $\pm 0.5\text{mm}$.



Injection-moulded Front Connector

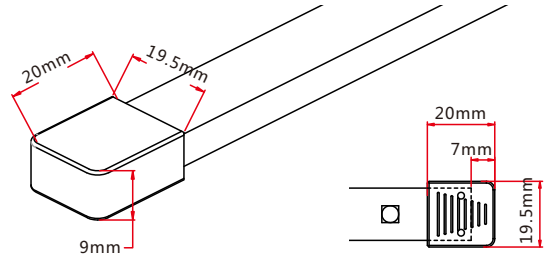
Connects light to power supply with pre-installed front feed cable, IP65. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.





Injection-moulded End Cap

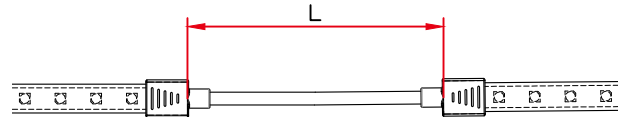
Pre-installed termination protection of the light, IP65.



Injection-moulded Jumper

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

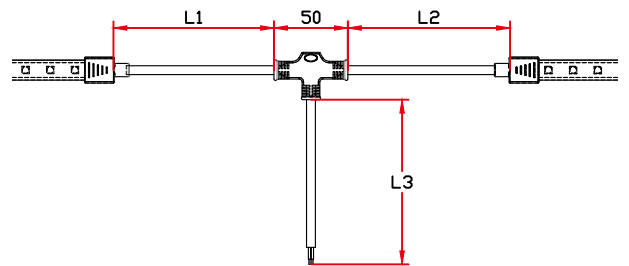
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



Injection-moulded T-feed

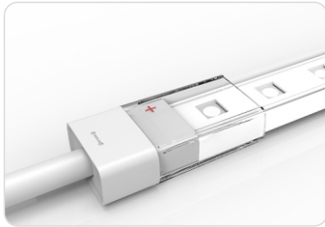
Connects two pieces of lights together with a T joint, energized from middle. IP65 Injection-moulded connector. L1 and L2 available in 0.15~0.5m. L3 available in 0.3~3m.

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



3.2 Sleeve Connector

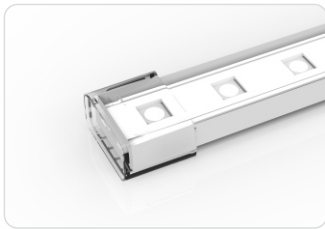
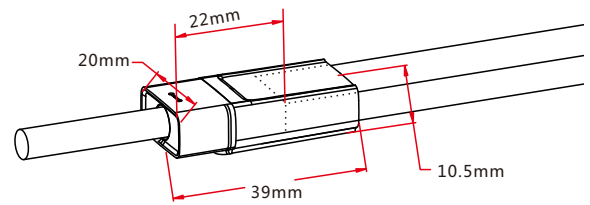
Note: Unless otherwise stated, the tolerance is $\pm 0.5\text{mm}$.



Sleeve Front Connector

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

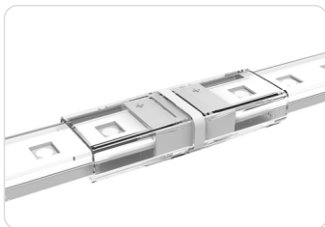
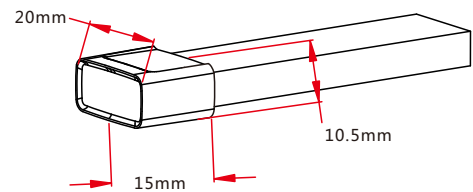
Feed connector*1(Three-pin)
PC cover*1
Anti-skidding clip*1
Heat-shrink tube*1



Sleeve End Cap

Termination protection of the light. IP40 DIY connector.

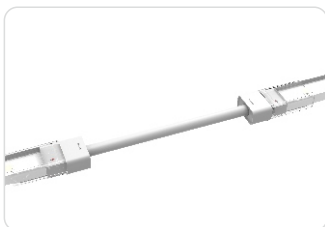
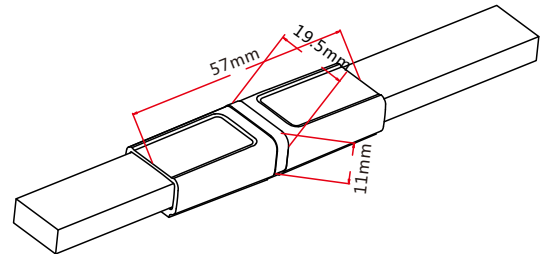
Shading sheet*1
PC Cover*1



Sleeve Middle Connector

Combine two pieces of lights together. IP40 DIY connector.

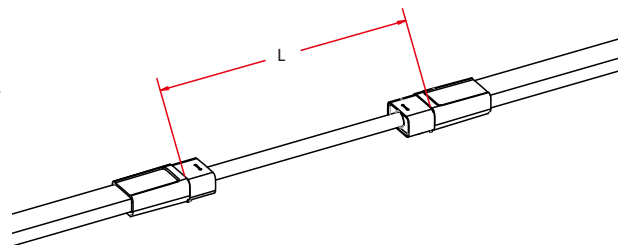
Pin connector*1 (Three-pin)
PC cover*2
Anti-skidding clip*2
Heat-shrink tube*1



Sleeve Jumper

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

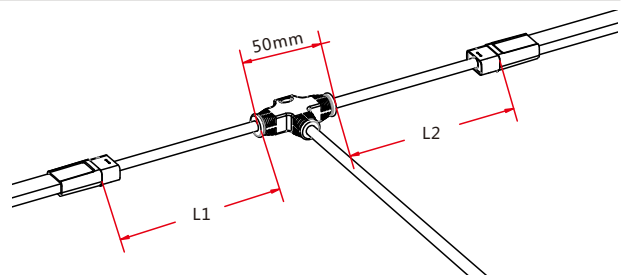
Double-end feed connector*1(Three-pin)
PC cover*2
Anti-skidding clip*2
Heat-shrink tube*2



Sleeve Power T-feed

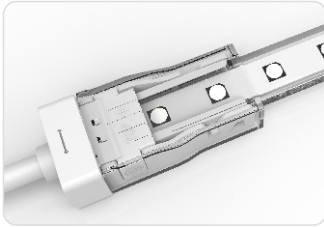
Connects two pieces of lights together with a T joint, energized from middle. IP40 DIY connector. L1 and L2 available in 0.3m.

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



3.3 Snap Connector

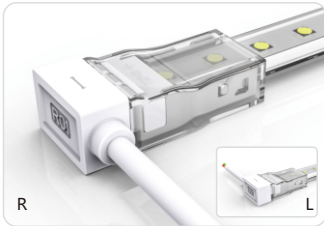
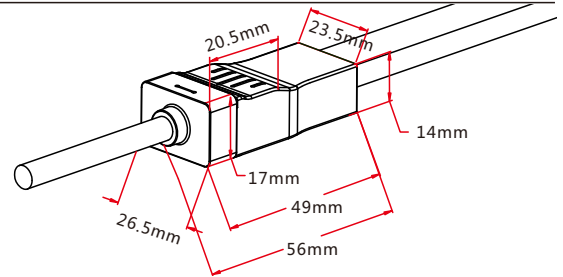
Note: Unless otherwise stated, the tolerance is $\pm 0.5\text{mm}$.



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.

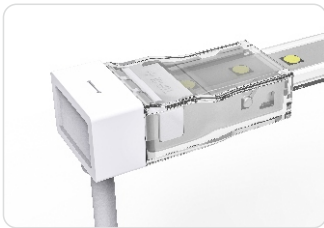
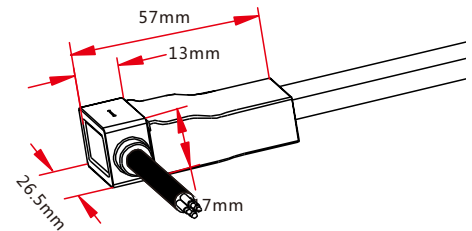
Feed connector*1(Three-pin)
Silicone gasket*1
U steel plate*1
Anti-skidding clip*1
PC cover*1



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.

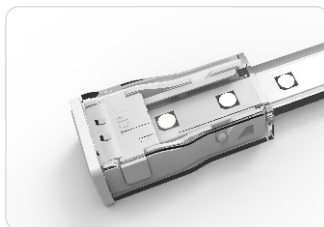
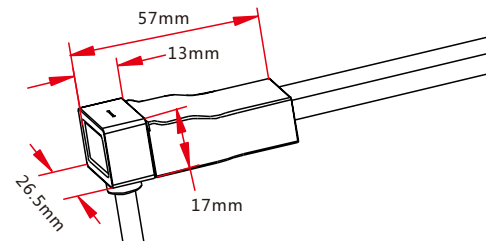
Feed connector*1(Three-pin)
Silicone gasket*1
U steel plate*1
Anti-skidding clip*1
PC cover*1



Snap Front Connector(bottom)

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

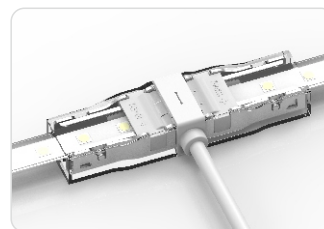
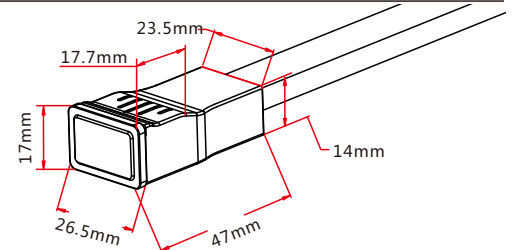
Feed connector*1(Three-pin)
Silicone gasket*1
U steel plate*1
Anti-skidding clip*1
PC cover*1



Snap End Cap

Termination protection of the light.
IP67 DIY connector.

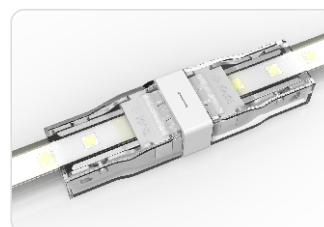
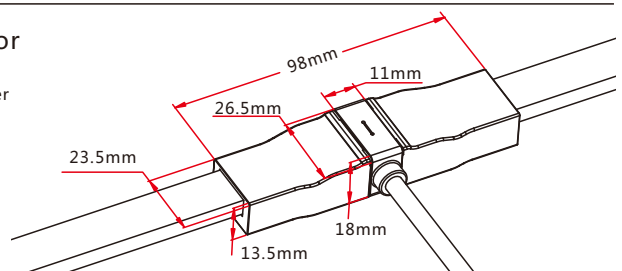
Tail plug*1
Silicone gasket*1
U steel plate*1
Anti-skidding clip*1
PC cover*1



Snap Middle Feed Connector

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

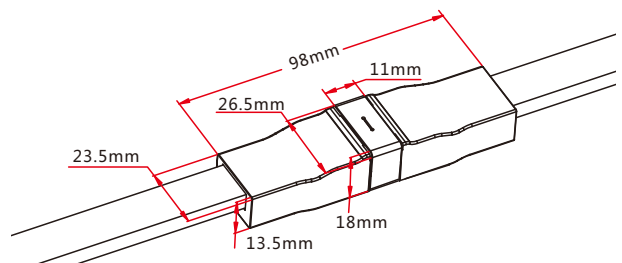
Double-end feed connector*1
Silicone gasket*2
U steel plate*2
Anti-skidding clip*2
PC cover*2

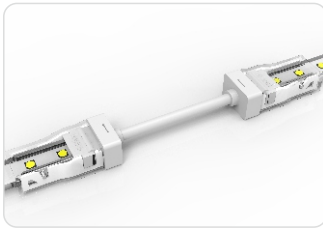


Snap Middle Connector

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

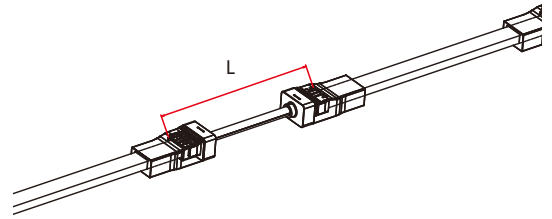




Snap Jumper

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

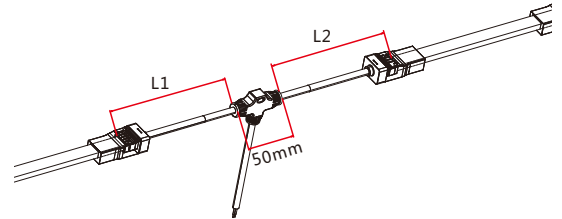
Double-end feed connector*1 (Three-pin)
Silicone gasket*2
U steel plate*2
Anti-skidding clip*2
PC cover*2



Snap Power T-feed

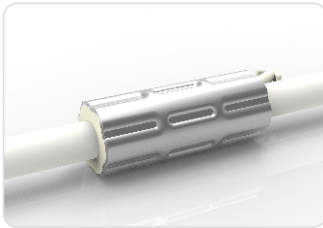
Connects two pieces of lights together with a T joint, energized from middle. IP67 DIY connector. L1 and L2 available in 0.3m.

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



3.4 Anti-wicking Ferrule

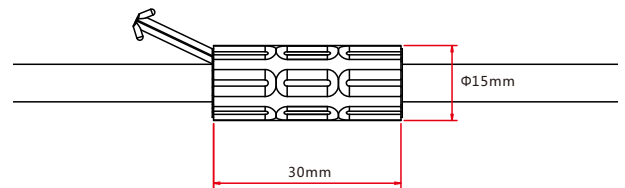
Note: Unless otherwise stated, the tolerance is $\pm 0.5\text{mm}$.



Anti-wicking Ferrule

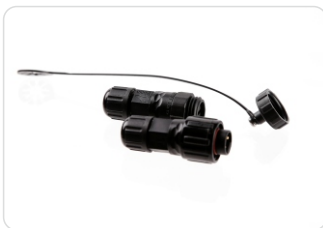
The anti-wicking ferrule is located at 115mm ($\pm 5\text{mm}$ tolerance) from the connector on the cable.

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



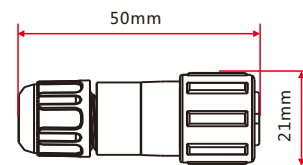
3.5 Male & Female Connector

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



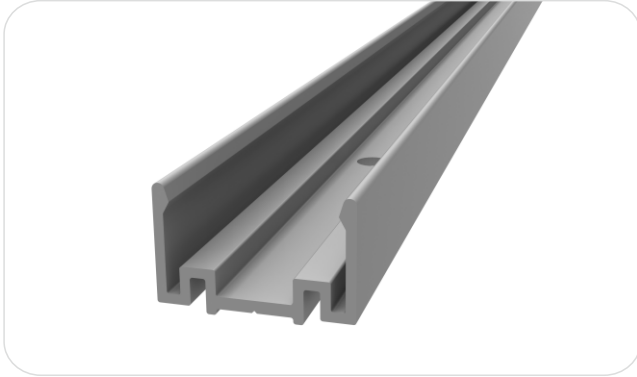
Male & female Connector

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

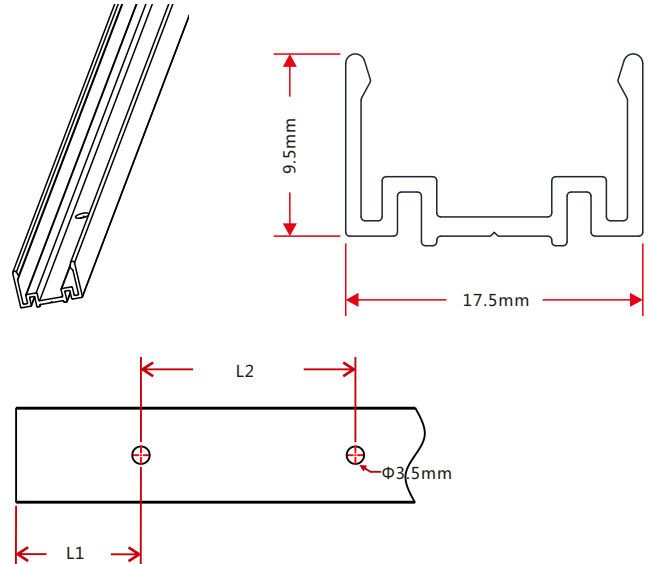


4. Mounting Profile

4.1 Standard Aluminum Profile

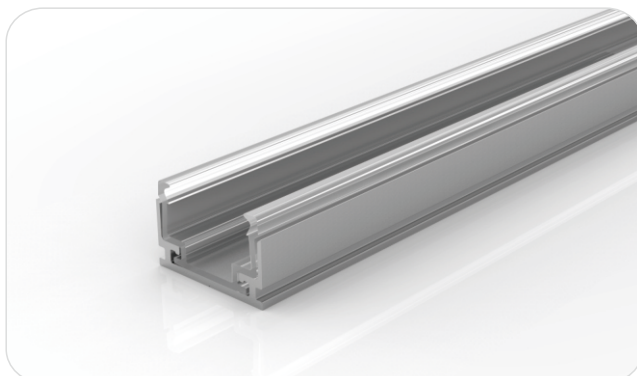


Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.

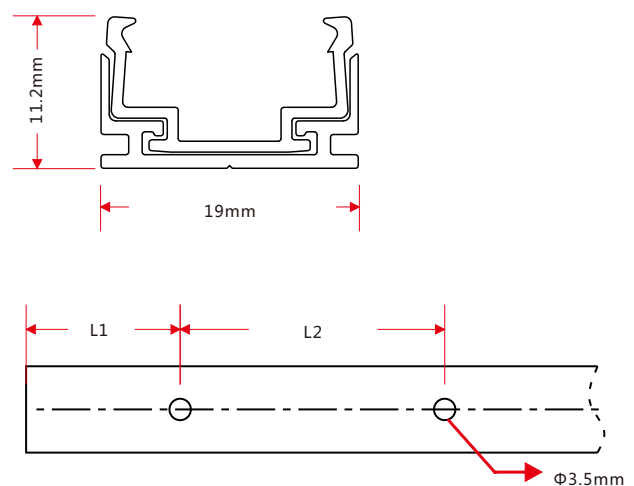


Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-FP-DW-CH	17.5*9.5	35	17.5	/	Φ3.5	1	FP
		500	50	200	Φ3.5	3	FP
		1000	100	200	Φ3.5	5	FP
		2000	100	200	Φ3.5	10	FP

4.2 Plastic & Aluminum Combination Profile



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

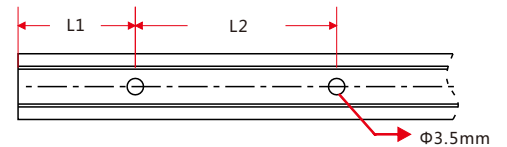
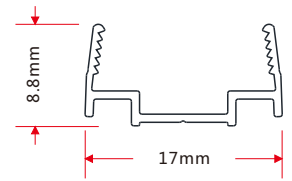


Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-FP-DW-CH	11.2*19	35	17.5	/	Φ3.5	1	FP
		500	50	200	Φ3.5	3	FP
		1000	100	200	Φ3.5	5	FP
		2000	100	200	Φ3.5	10	FP

4.3 Plastic Profile



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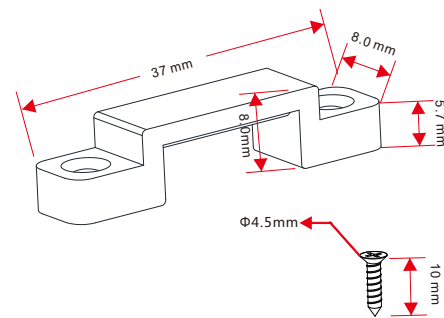
Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.

Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-FP-DW-CH	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

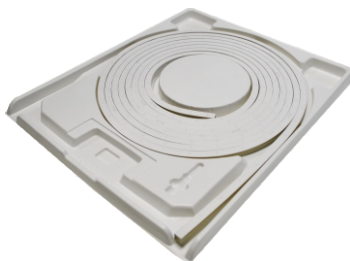


Note: Unless otherwise stated, the tolerance of the clip is $\pm 0.5\text{mm}$.



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

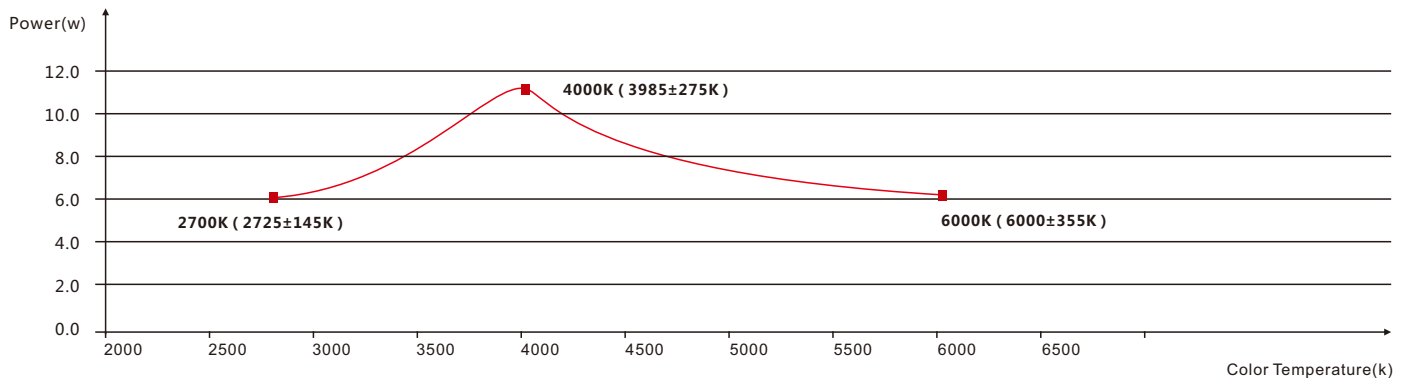
Testing Item	Testing Organization	Report Number
RoHS	SGS	CANEC1202163502 A01
IP68: Screw type	TUV SUD	68.140.12.136.02
IP68: Clasp type	SGS	GZES140200135301
		GZES140200135401
		GZES140200135501
		GZES140200135701
		GZES140200135801
IPX8: Molding type	SGS	SZES141200357301
		SZES141200357401
		SZES141200357501
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.

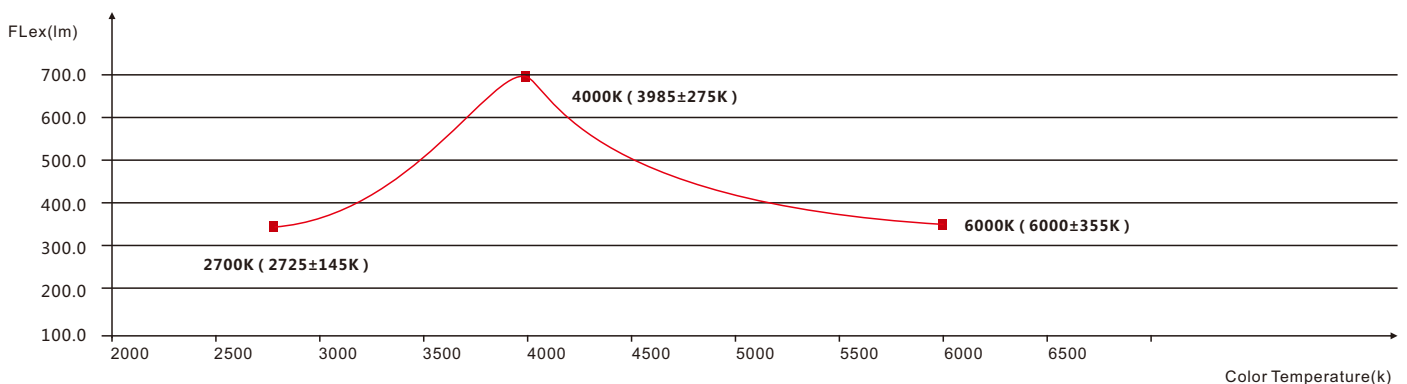
6.3 Reliability Test of Light

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
	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)

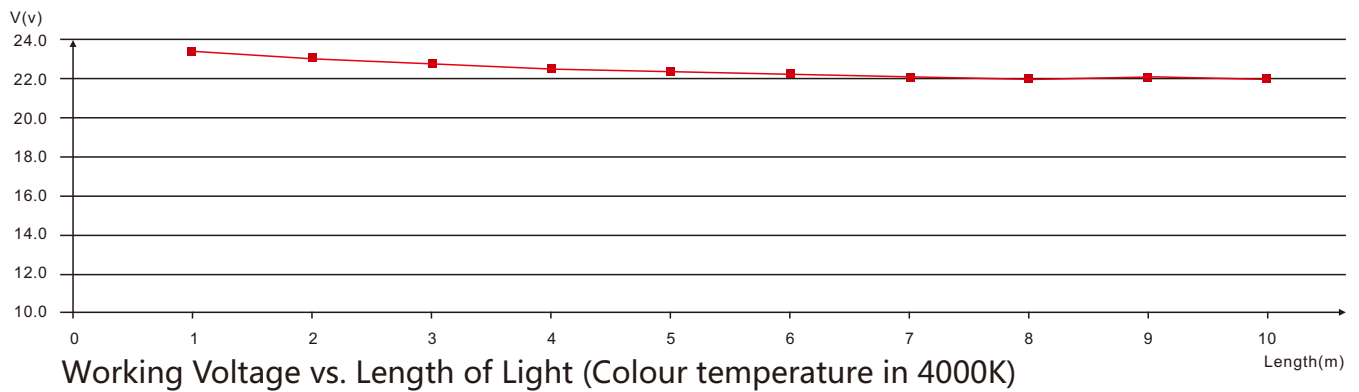
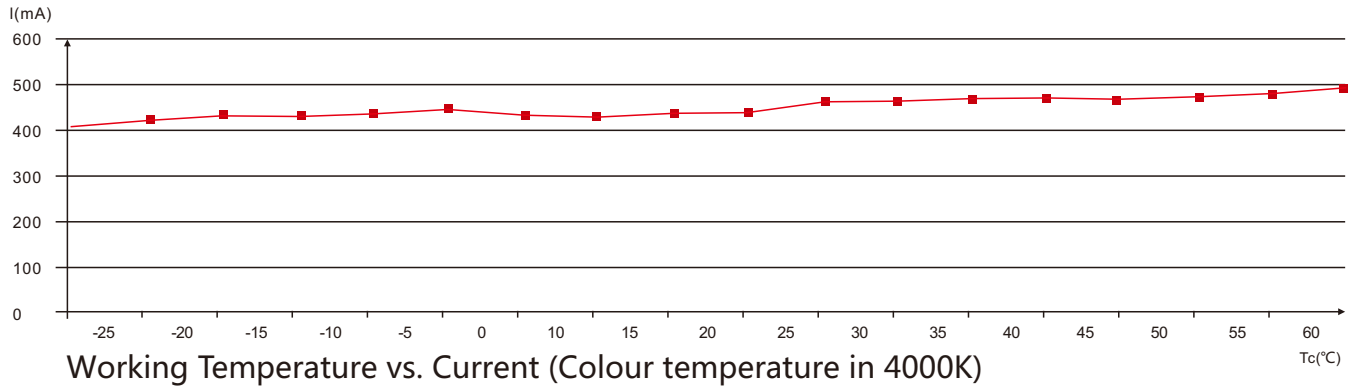
6.4 Figures of Typical Characteristics




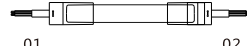
Power vs. CCT



Luminous Flux vs. CCT



6.5 Loading Chart

Type.	Rated Power /mtr	Power Supply									
		35w	60w	75w	80w	100w	120w	150w	185w	240w	320w
NE-FP-DW	6.5w/7.2w/8w	3.5m	6m	7.5m	8m	10m	12m	15m	18.5m	24m	30m
	10.6w/11w/12w	2m	4m	5m	5m	6.5m	8m	10m	12m	16m	20m
Energizing way		<div>DC input</div> <div></div> <div>01/02</div>							<div>DC input</div> <div></div> <div>0102</div> <div>DC input</div>		

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.

6.6 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	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 × (1/ T_x)
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:

- T_F is chosen to be at 100K steps (2300, 2400, ..., 6400K), excluding the ten nominal CCTs listed in Table 1.
- $\Delta T = 1.1900 \times 10^5 \times T^3 - 1.5434 \times 10^4 \times T^2 + 0.7168 \times T - 902.55$
- Same as in the D_{uv} Tolerance Range.

6.7 (X,Y) Chromaticity Diagram

