



Simply **brighter.**

SPECIFICATION

LedNEON_LF10 B-HB-MONOCOLOR&COLORS-RA90



Ver. 3.0

Table of Contents

Introduction		03
1. Specifications & Parameters		04
1.1 Dimensions of Light	4	
1.2 Technical Parameters	4	
1.3 Optical Parameters	4	
2. Functions & Features		05
2.1 Product Features	5	
2.2 Minimum Bend Diameter	5	
3. Types of Connector		05
3.1 Injection-Moulded Connector	5	
3.2 Dual Injection-Moulded Connector	7	
3.3 Snap Connector	8	
3.4 Swivel Connector	9	
3.5 Anti-wicking Ferrule	9	
3.6 Male & Female Connector	9	
4. Mounting Profile		10
4.1 Standard Aluminum Profile	10	
4.2 Plastic Profile	10	
4.3 Spring Clip Aluminum Profile	11	
4.4 Recessed Mounting Profile	11	
4.5 Cable Exit Oriented Aluminum Profile (Applicable to Injection-moulded Connector Only)	12	
4.6 Corner Aluminum Profile (Applicable to Injection-moulded Connector Only)	12	
5. Appendix		13
5.1 Certificate	13	
5.2 Third-Party Test Report	13	
5.3 Reliability Test of Light	13	
5.4 Figures of Typical Characteristics	14	
5.5 (X,Y) Chromaticity Diagram	15	

Introduction

LF10 B-HB-MONOCOLOR&COLORS-RA90 is a member of the LedNEON series with smooth flat exterior that allows the most flexible and adaptable manipulations for visually appealing shapes and produces superior homogenized illumination along its full length.

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.

LF10 B-HB-MONOCOLOR&COLORS-RA90 is UL/cUL, CE i 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 harsh environments. Also it has passed relevant tests of third party inspection authority.

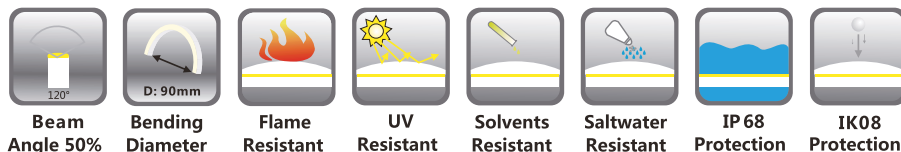
Fully encapsulated in the flexible PCV chamber by utilizing consumate extrusion technology, assembled with multiple patented connectors to achieve IP68 protection, easy for installation and applicable for various circumstances.

LF10 B-HB-MONOCOLOR&COLORS-RA90 features bright, solid illumination, and ultra flexibly with small bend diameter in curve bending shape.

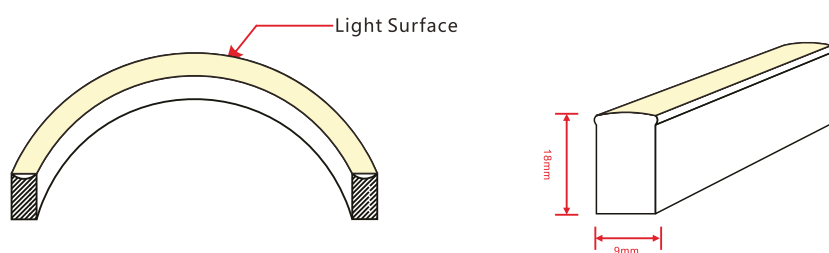
Application:

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

1. Specifications & Parameters



1.1 Dimensions of Light



1.2 Technical Parameters

Technical Parameters

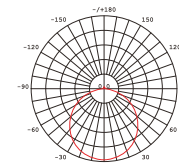
Article No.	C-FR-F10B-24CV
Color	White
Working Voltage	DC24V
Rated Power/m	4.5W
LED Qty/m	72
LED Distance	13.89mm
Min. Cutting Unit	6LEDs(1unit)
Min. Cutting Length	83.3mm(1unit)
Continuous Length	15m
Weight/m	210g
Storage Temperature	-20 ~ 60°C
Ambient Working Temperature	-20 ~ 45°C
Ambient Installation Temperature	0 ~ 45°C
IP Rating	IP68

1.3 Optical Parameters

Photometric Data

Article No.	C-FR-F10B-24CV-R90	
LED Type	SMD	
Beam Angle 50%	120°	
Color	CCT	Lumen/m
2500K	2460±120K	>90lm
2700K	2725±145K	>90lm
3000K	3045±175K	>90lm
3500K	3465±245K	>100lm
4000K	3985±275K	>100lm
4500K	4503±243K	>100lm
5000K	5029±283K	>100lm

Candle power distribution

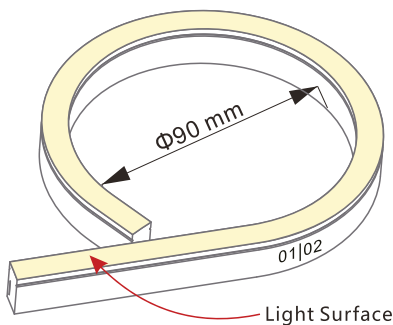


2. Functions & Features

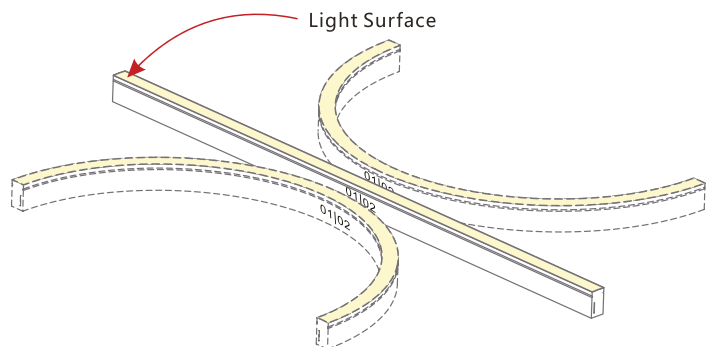
2.1 Product Features

1. High quality and high brightness SMD LED chip.
2. Protection Circuit: Each LED Protected.
3. Variety of monochromatic lights for option including Red, Green, Blue, Amber and White light.
4. UV & flame resistant construction(PVC).
5. Flat profile, good choice for recessed mounting.
6. High color consistency & smooth illumination with invisible light dots.
7. Ultra flexible with 90mm minimum bending diameter.
8. Easy installation and assembly with DIY accessories for joining and terminating.
9. High IP rating(IP68).
- 10.The product IP rate is ultimately in line with properly applied IP rated connectors.
11. Continuous length up to 20m (R, A-DC24V)/ 15m (G, B, W-DC24V) /7.5m(R/G/B/A/W-DC12V)by powering one end.
12. Environmentally friendly & energy efficient.

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.

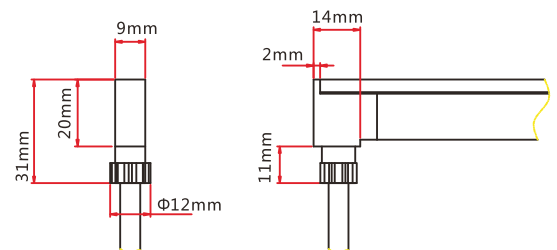
3. Types of Connector

3.1 Injection-moulded Connector



Injection-moulded Front Connector (bottom)

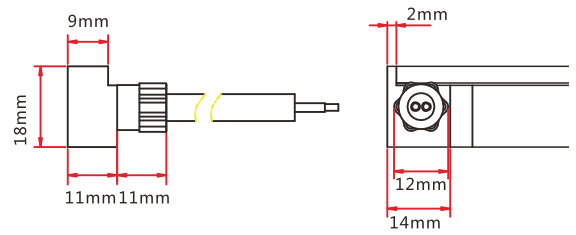
Connects light to power supply with pre-installed bottom feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.





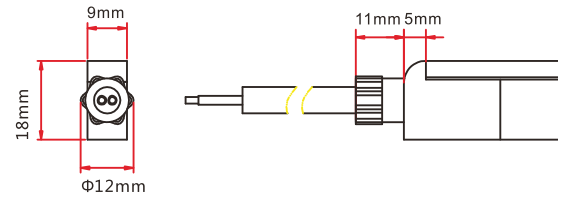
Injection-moulded Front Connector (side)

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



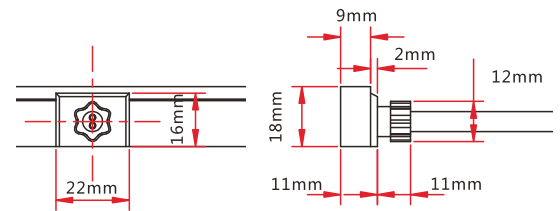
Injection-moulded Front Connector (top end)

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



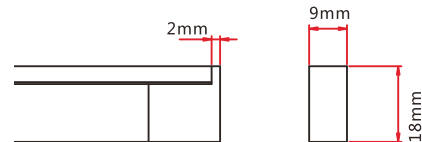
Injection-moulded Middle Feed Connector

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



Injection-moulded End Cap

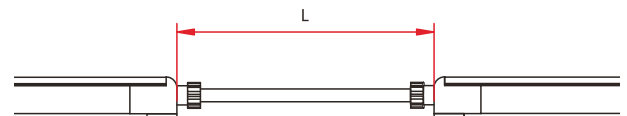
Pre-installed termination protection of the light, IP67.



Injection-moulded Jumper

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

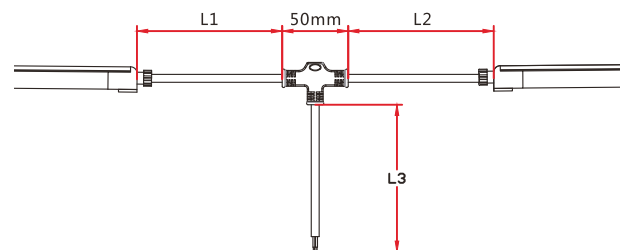
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



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

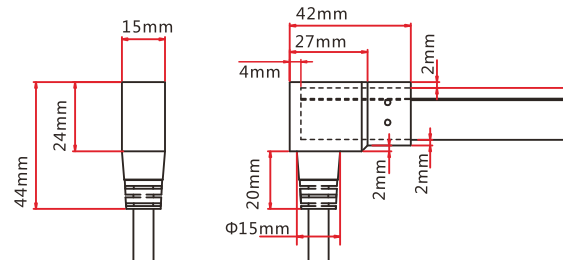


3.2 Dual Injection-moulded Connector



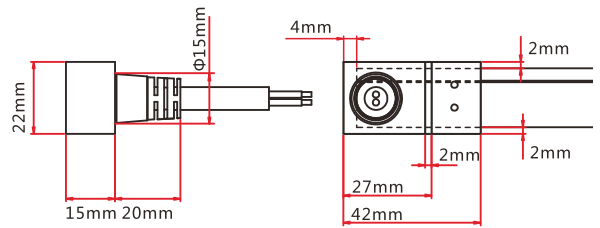
Dual Injection-moulded Front Connector (bottom)

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



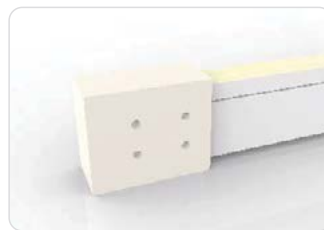
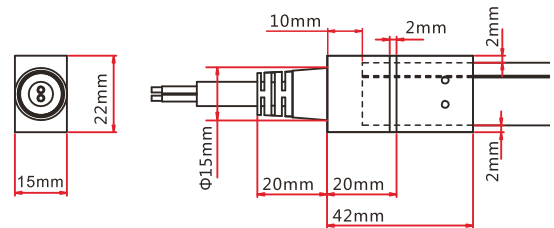
Dual Injection-moulded Front Connector (side)

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



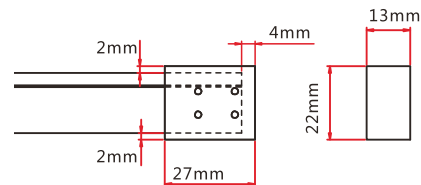
Dual Injection-moulded Front Connector (top end)

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



Dual Injection-moulded End Cap

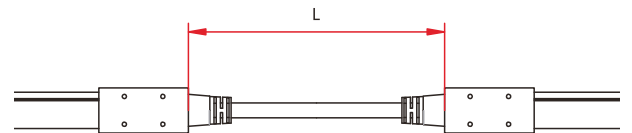
Pre-installed termination protection of the light, IP68.



Dual Injection-moulded Jumper

Connects two pieces of lights together with a flexible cable. IP68 Dual Injection-moulded connector. L available in 0.3~1m.

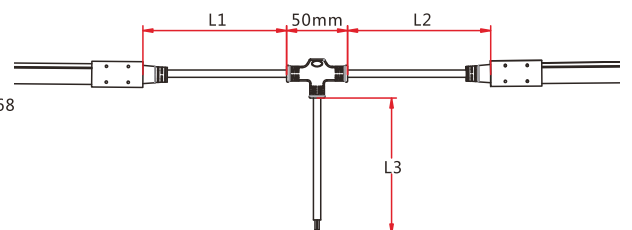
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



Dual Injection-moulded T-feed

Connects two pieces of lights together with a T joint, energized from middle. IP68 Dual 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



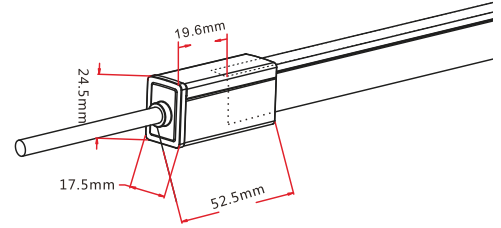
3.3 Snap Connector



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.

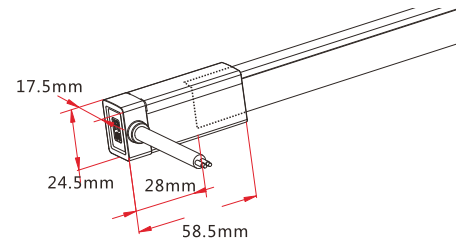
- Feed connector*1 (Two-pin)
- Silicone gasket*1
- U steel plate*1
- Anti-skidding clip*1
- PC cover*1



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.

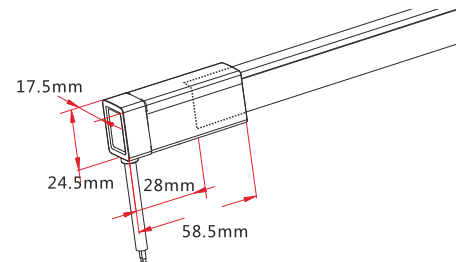
- Feed connector*1 (Two-pin)
- Silicone gasket*1
- U steel plate*1
- Anti-skidding clip*1
- PC cover*1



Snap Front Connector(bottom)

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

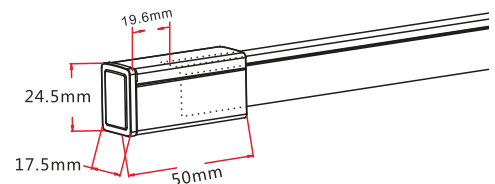
- Feed connector*1 (Two-pin)
- Silicone gasket*1
- U steel plate*1
- Anti-skidding clip*1
- PC cover*1



Snap End Cap

Termination protection of the light.
IP67 DIY connector.

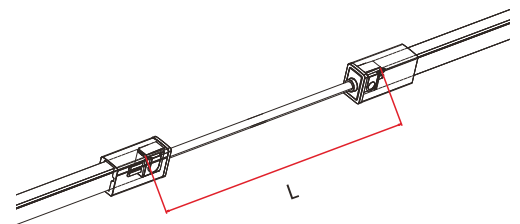
- Tail plug*1
- Silicone gasket*1
- U steel plate*1
- Anti-skidding clip*1
- PC cover*1



Snap Jumper

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

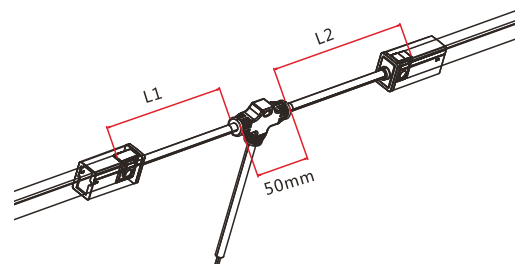
- Double-end feed connector*1 (Two-pin)
- Silicone gasket*2
- U steel plate*2
- Anti-skidding clip*2
- PC cover*2



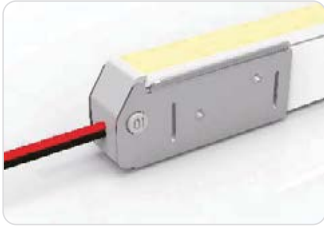
Snap Power T-feed

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

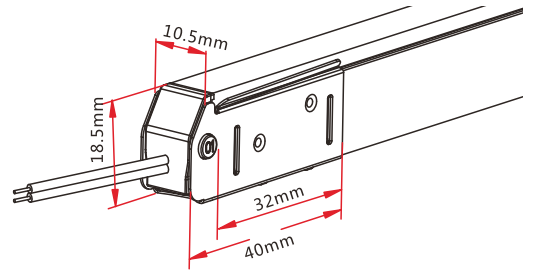


3.4 Swivel Connector



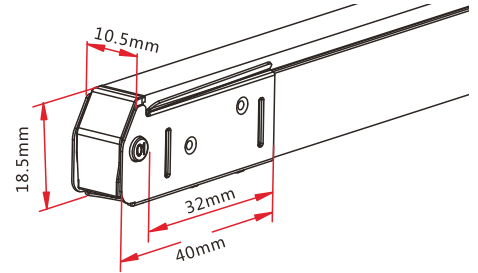
Swivel Front Connector (top end)

Connects light to power supply. IP20 DIY connector. Cable length available in 0.3m, 1m.



Swivel End Cap

Termination protection of the light, IP20 DIY connector.



3.5 Anti-wicking Ferrule

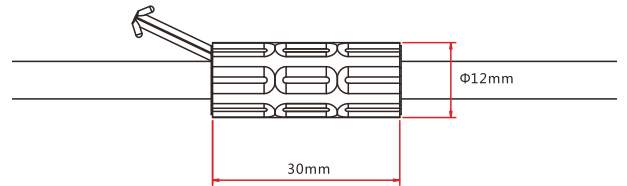
Note: Unless otherwise stated, the tolerance is $\pm 0.5\text{mm}$.



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.



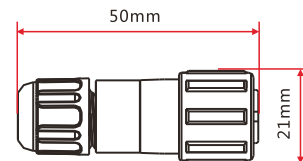
3.6 Male & Female Connector

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



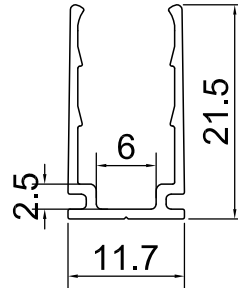
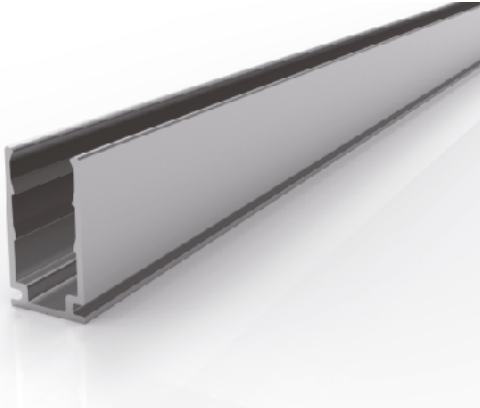
Male & female Connector

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



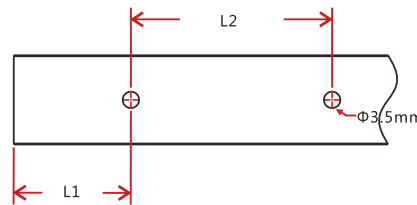
4. Mounting Profile

4.1 Standard Aluminum Profile



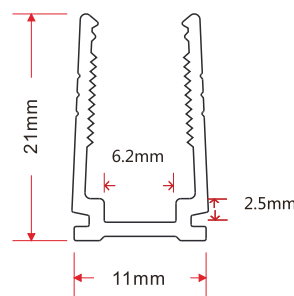
Note: Unless otherwise stated, the tolerance of the profile is ± 0.5 mm.

Installation Way



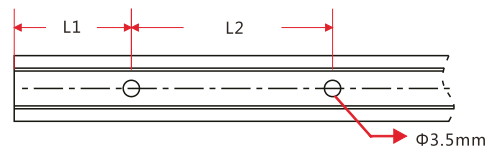
Model	W*H(mm)	Standard Length (L:mm)	L1 (mm)	L2 (mm)	Screw Hole (Φ:mm)	Hole Number
F10- A/PL	11.7*21.5	35	17.5	/	Φ3.5	1
		500	25	/	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

4.2 Plastic Profile



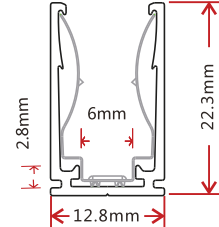
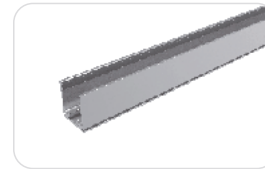
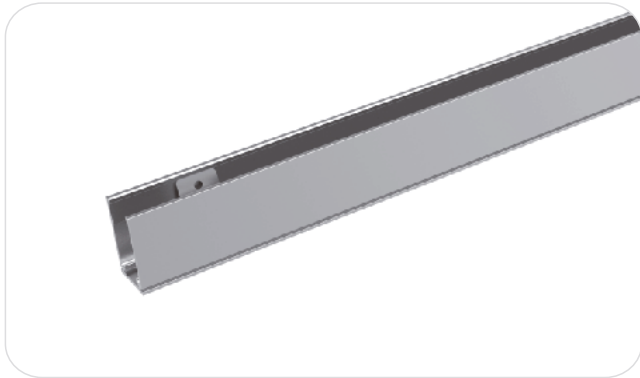
Note: Unless otherwise stated, the tolerance of the profile is ± 0.5 mm.

Installation Way



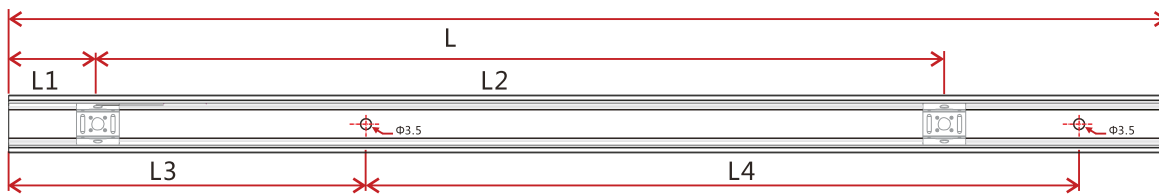
Model	W*H(mm)	Standard Length (L:mm)	L1 (mm)	L2 (mm)	Screw Hole (Φ:mm)	Hole Number
F10-P/PL	11*21	500	50	200	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

4.3 Spring Clip Aluminum Profile



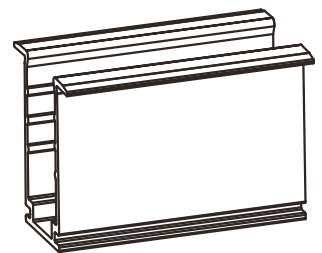
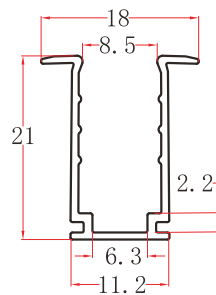
Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.

Installation Way



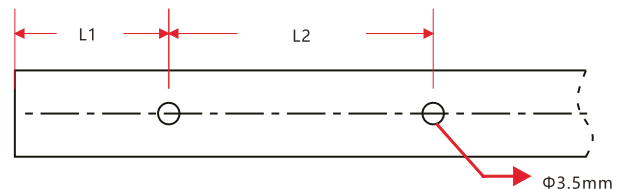
Model	W*H(mm)	Standard Length(mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(mm)	Hole Number	Clip Number
F10-SCA/PL	12.8*22.3	35	17.5	/	5	25	Φ3.5	2	1
		500	25	225	50	200	Φ3.5	3	3
		1000	25	237.5	100	200	Φ3.5	5	5
		2000	25	243.8	100	200	Φ3.5	10	9

4.4 Recessed Mounting Profile



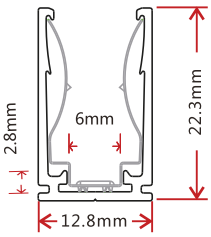
Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.

Installation Way

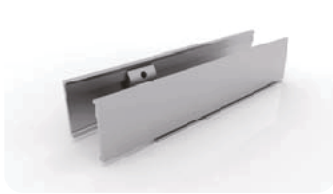


Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number
F10-RMA/PL	18*21	35	5	25	Φ3.5	2
		500	50	200	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

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



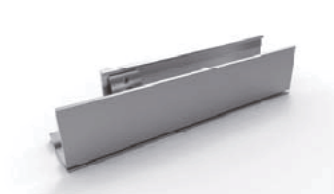
Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.



Bottom Feed



Middle Feed

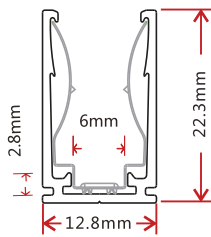


Side Feed From Left

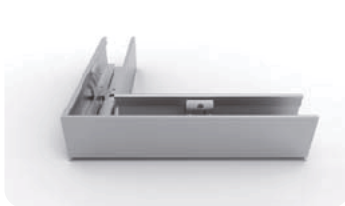


Side Feed From Right

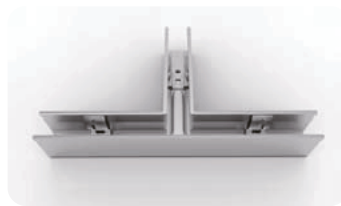
4.6 Corner Aluminum Profile (Applicable to Injection-moulded Connector Only)



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



L Shape



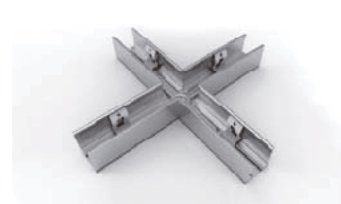
T Shape



Outward L Shape



Inward L Shape



X Shape

5. Appendix

5.1 Certificate

Certificating Type	Testing Organization	Certificate Serial Number	Report Reference
UL 2108	UL	201800801-E360029	E360029-20130322
CE-EMC	SGS	SZEM1712012372LMV	SZEM171201237201

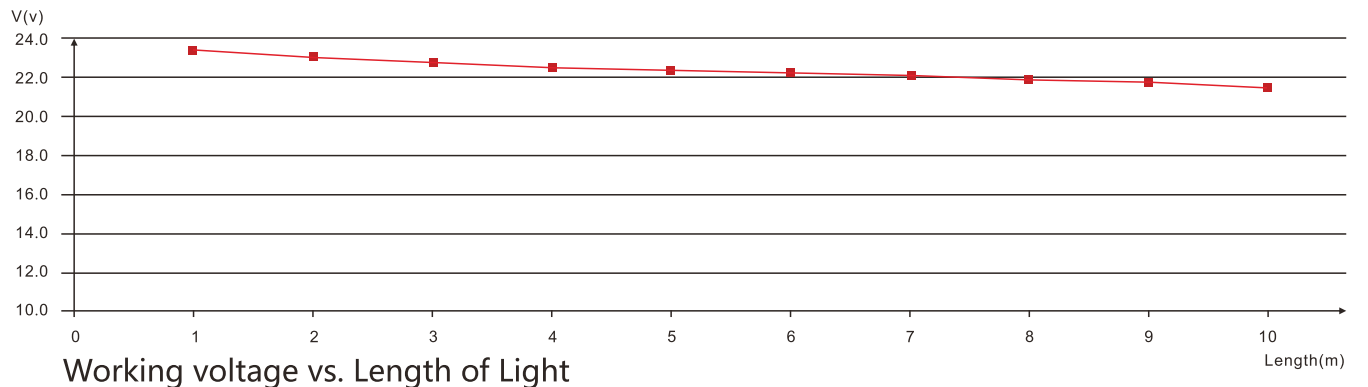
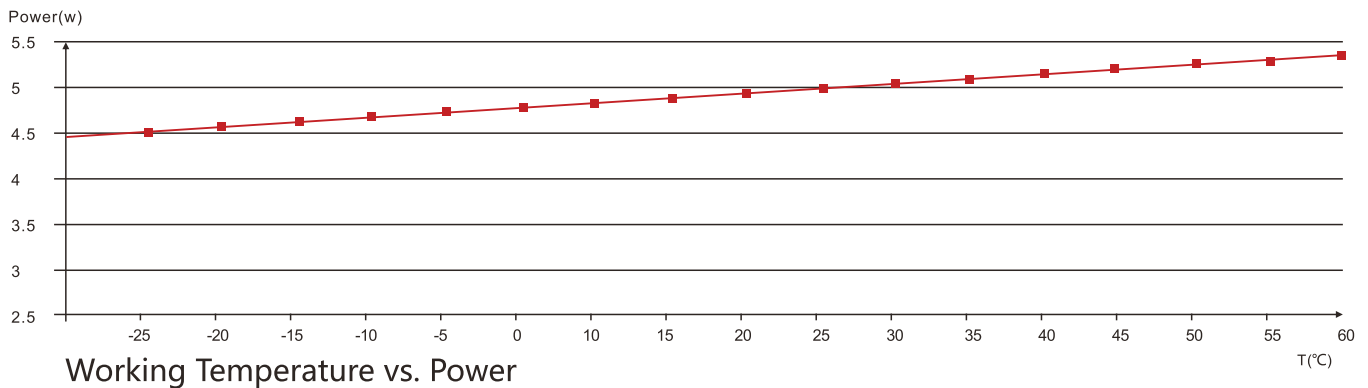
5.2 Third-Party Test Report

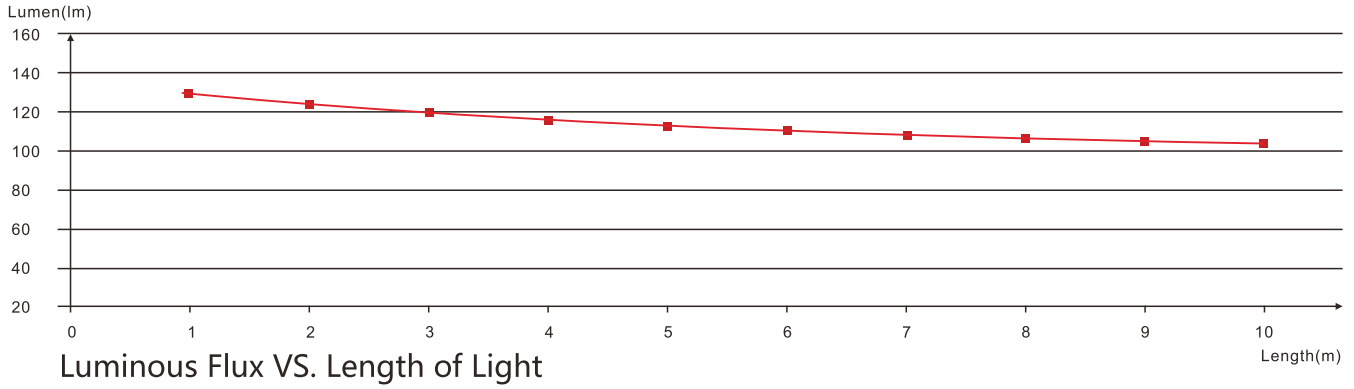
Testing Item	Testing Organization	Report Number
RoHS	SGS	CANEC1815144401
		CANEC1815146401
IP68: Screw type	TUV SUD	68.140.12.136.02
IP68: Clasp type	SGS	GZES140200135301
		GZES140200135401
		GZES140200135501
		GZES140200135701
		GZES140200135801
IPX8: Molding type	SGS	SZES141200357301
		SZES141200357401
		SZES141200357501
IPX8: Snap type	SGS	GZES160600792031
Flame retardant	TUV SUD	68.140.13.068.01
IPX8: Dual Injection Moulding	SGS	SZES171001697401
		SZES171202089731
Safely: IEC60598-1& IEC60598-2-21	LCS	LCS180307033BS
		LCS180307034BS
		LCS180307035BS
		LCS180307036BS
		LCS180307037BS

5.3 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 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)

5.4 Figures of Typical Characteristics





5.5 (X,Y) Chromaticity Diagram

