Simply **brighter.**

SPECIFICATION

LedNEON_LF15B-HB-COLORS RA80

Table of Contents

Introduction

LF15B-HB-COLORS RA80 is a member of the LedNEON series with smooth flat exterior that allows various monochromatic lighting solutions 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.

LF15B-HB-COLORS RA80 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 thrid party inspection authority.
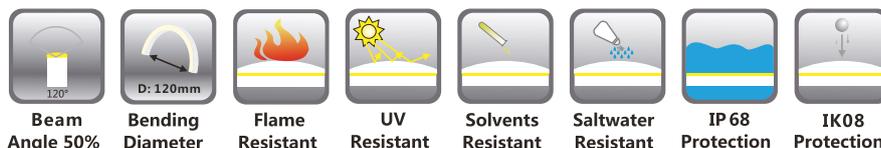
Fully encapsulated in the flexible PCV chamber by utilizing consumate extrusion technology, assembled with multiple patented connectors to achieve IP68 protection, easy for installation and applicable for various circumstances.

LF15B-HB-COLORS RA80 features gright, solid illumination, and ultra flexibly with small bend diameter in curve bending shape.
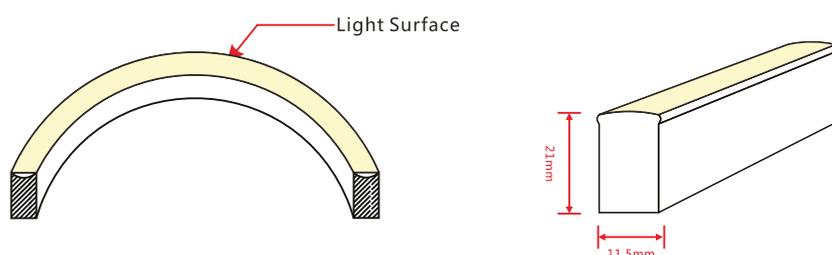
Application:
1. Outdoor or Indoor Contour/Border Lighting
2. Architectural Outline/Decorative Lighting
3. Cove/Accent Lighting
4. Facade/Floor Lighting
5. Signage/Guide Lighting

1. Specifications & Parameters

Beam Angle 50%	**Bending Diameter**	**Flame Resistant**	**UV Resistant**	**Solvents Resistant**	**Saltwater Resistant**	**IP 68 Protection**	**IK08 Protection**

1.1 Dimensions of Light

Light Surface

21mm

11.5mm

Note: Unless otherwise stated, the tolerance of the light is ±0.3mm.

1.2 Technical Parameters

| Technical Parameters		
Article No.	C-FR-F15B-24CC	C-FR-F15B-24CC
Color	Red/Amber	Green/Blue/White
Working Voltage	DC24V	DC24V
Rated Power/m	8W	12W
LED Qty/m	72	72
LED Distance	13.89mm	13.89mm
Min. Cutting Unit	9LEDs(1unit)	6LEDs(1unit)
Min. Cutting Length	125mm(1unit)	83.3mm(1unit)
Continuous Length	15m	10m
Weight/m	325g	
Storage Temperature	-20 ~ 60℃	
Ambient Working Temperature	-20 ~ 45℃	
Ambient Installation Temperature	0 ~ 45℃	
IP Rating	IP68/IP40	

1.3 Optical Parameters

Photometric Data						
Article No.	C-FR-F15B-24CC			C-FR-F15B-24CC-R80		
LED Type	SMD			SMD		
Beam Angle 50%	120°			120°		
Color	Wavelength	Lumen/m	Color	CCT	Lumen/m	
Red	618-624nm	>110lm	2200K	2238±102K	>280lm	
Green	522-528nm	>220lm	2700K	2725±145K	>280lm	
Blue	468-474nm	>35lm	3000K	3045±175K	>280lm	
Amber	588-594nm	>110lm	3500K	3465±245K	>320lm	
			4000K	3985±275K	>320lm	
			5700K	5669±355K	>320lm	

Candle power distribution

UL US LISTED   CE   TÜV   RoHS COMPLIANT
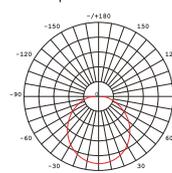
2. Functions & Features

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(2200K to 5700K).
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. Flexible with 120mm 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 15m (R, A)/ 10m (G, B, W) by powering one end.
12. Environmentally friendly & energy efficient.

2.2 Minimum Bend Diameter
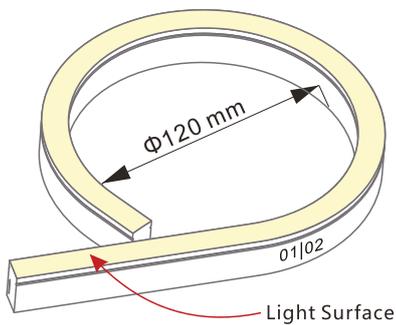
The light can only be bent laterally
(opposite bend along to light surface).
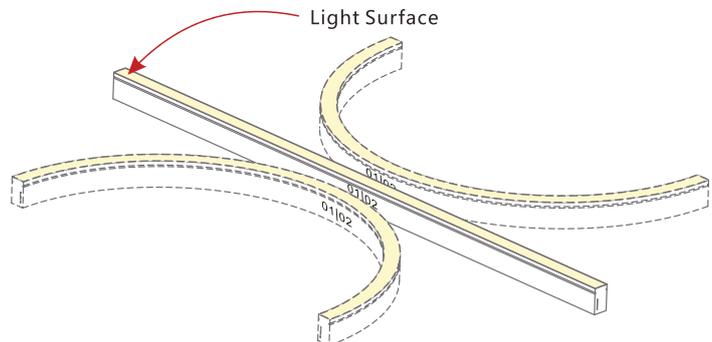
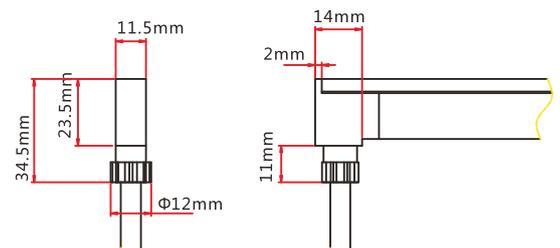Do not bend smaller than allowed minimum bend diameter.
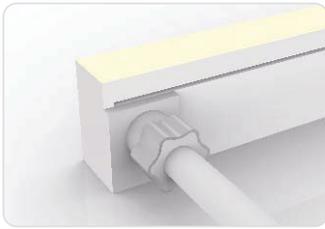
3. Types of Connector

3.1 Injection-moulded Connector

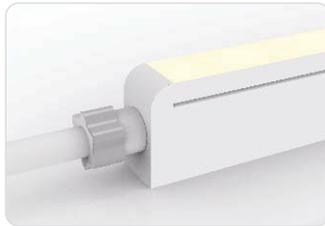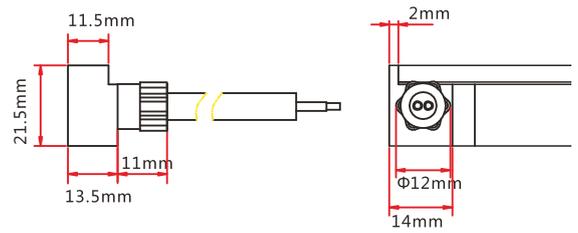### Injection-moulded Front Connector (bottom)

Connects light to power supply with pre-installed bottom feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.
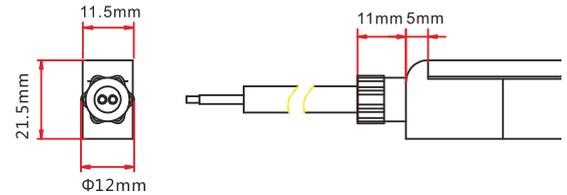
Injection-moulded Front Connector (side)

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

11.5mm
21.5mm
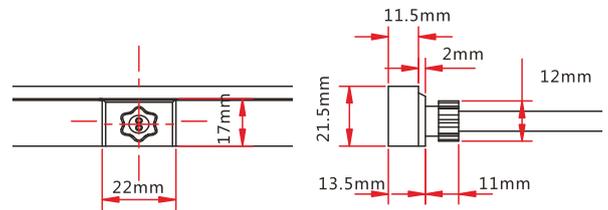11mm
13.5mm
2mm
Φ12mm
14mm

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.
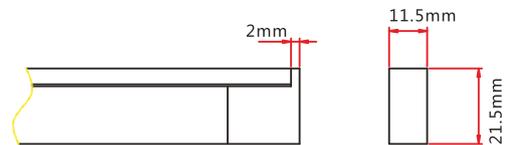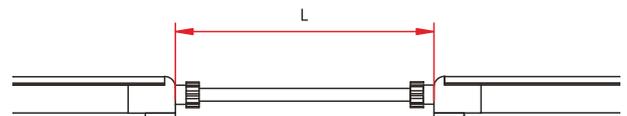
11.5mm
21.5mm
Φ12mm
11mm 5mm

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.

17mm
22mm
11.5mm
2mm
21.5mm
13.5mm
11mm
12mm

Injection-moulded End Cap

Pre-installed termination protection of the light, IP67.

2mm
11.5mm
21.5mm

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

L

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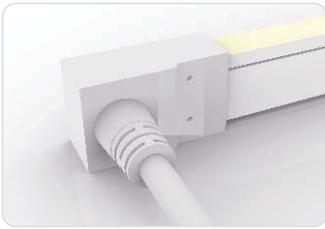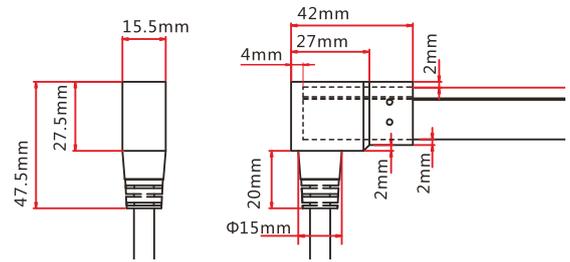
Maximum 8 T-feeds in 20m
Maximum 4 T-feeds in 10m

L1
50mm
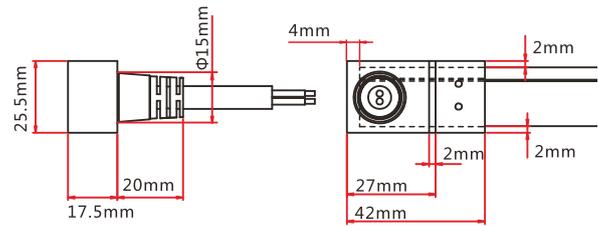L2
L3
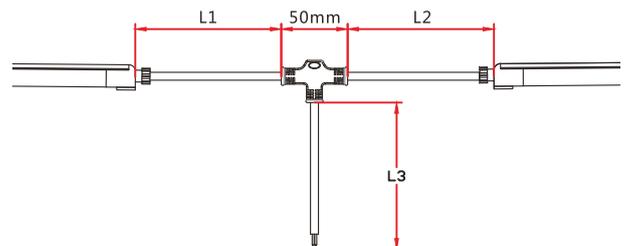
3.2 Dual Injection-moulded Connector

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.

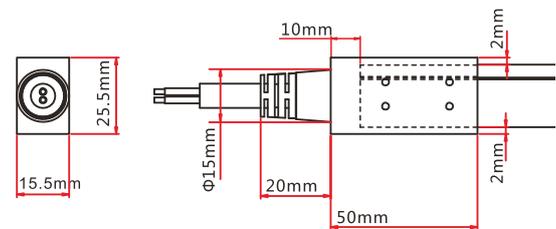15.5mm | 47.5mm | 27.5mm | 42mm | 27mm | 4mm | 2mm | 20mm | 2mm | 2mm | Φ15mm

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.

Φ15mm | 25.5mm | 20mm | 17.5mm | 4mm | 2mm | 2mm | 2mm | 27mm | 42mm
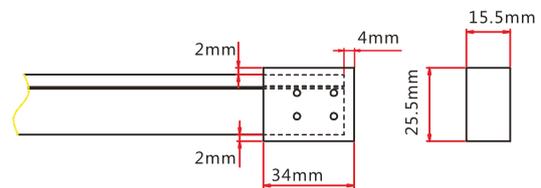
Dual Injection-moulded Front Connector (top end)

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

25.5mm | 15.5mm | 10mm | 2mm | Φ15mm | 20mm | 50mm | 2mm
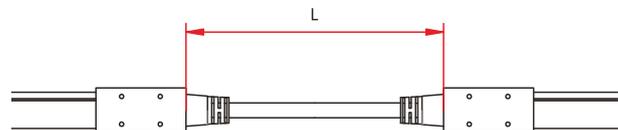
Dual Injection-moulded End Cap

Pre-installed termination protection of the light, IP68.

2mm | 4mm | 15.5mm | 25.5mm | 2mm | 34mm

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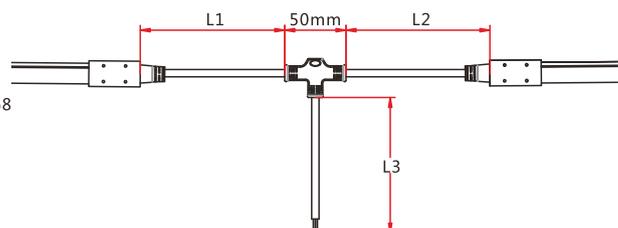
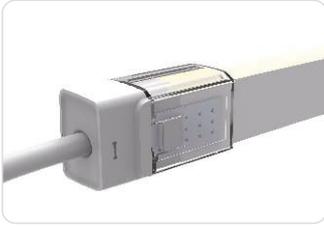Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m

L

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.

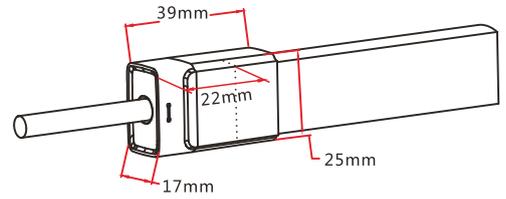Maximum 8 T-feeds in 20m
Maximum 4 T-feeds in 10m

L1 | 50mm | L2 | L3

3.3 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.
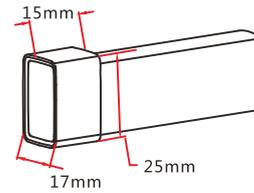
Feed connector*1 (Two-pin)
PC cover*1
Anti-skidding clips*2

39mm
22mm
17mm
25mm

Sleeve End Cap

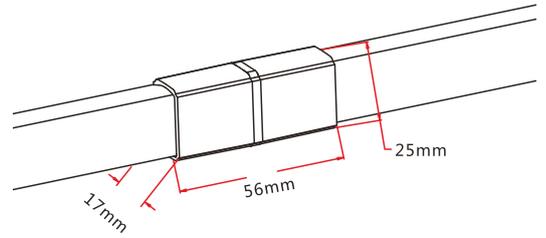Termination protection of the light. IP40 DIY connector.

Shading Sheat*1
PC cover*1

15mm
17mm
25mm

Sleeve Middle Connector

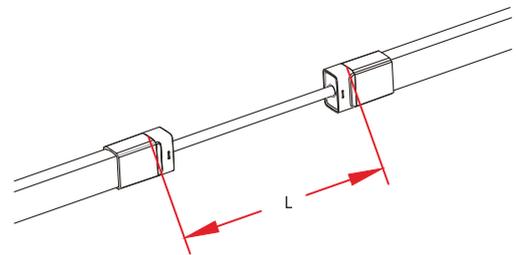Combine two pieces of lights together. DIY connector.

Pin connector*1 (Two-pin)
PC cover*2
Anti-skidding clips*4

25mm
56mm
17mm

Sleeve Jumper

Connects two pieces of lights together with a flexible cable. IP40 DIY connector. L available in 0.3m, 1m and 3m.
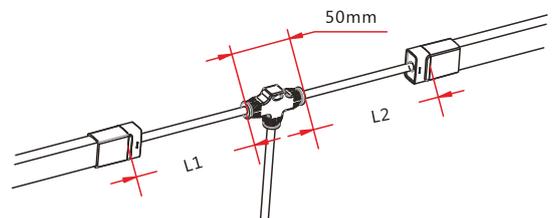
Double-end feed connector*1 (Two-pin)
PC cover*2
Anti-skidding clips*4

L

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.
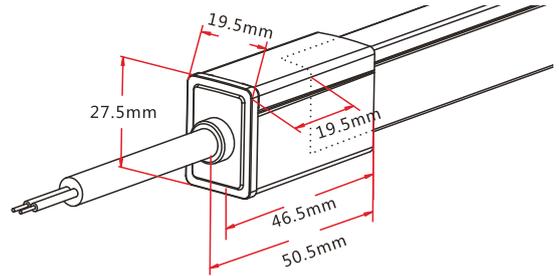
T joint*1 (Two-pin)
PC cover*2
Anti-skidding clips*4

50mm
L2
L1

3.4 Snap Connector

Snap Front Connector(top end)

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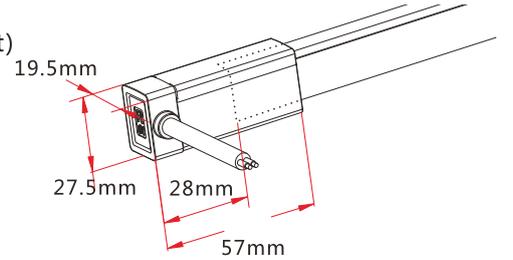DIY connector. Cable length available
in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

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

19.5mm
27.5mm
19.5mm
46.5mm
50.5mm

Snap Front Connector(side right/left)

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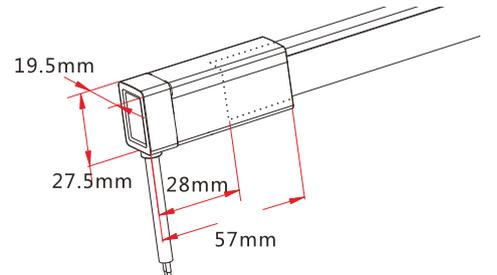DIY connector. Cable length available
in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

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

R   L

19.5mm
27.5mm   28mm
57mm

Snap Front Connector(bottom)

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

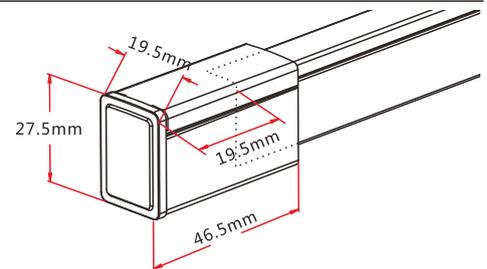Feed connector*1 (Two-pin)
Silicone gaskett*1
U steel plate*1
Anti-skidding clip*1
PC Cover*1

19.5mm
27.5mm   28mm
57mm

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

19.5mm
27.5mm
19.5mm
46.5mm

Snap Jumper

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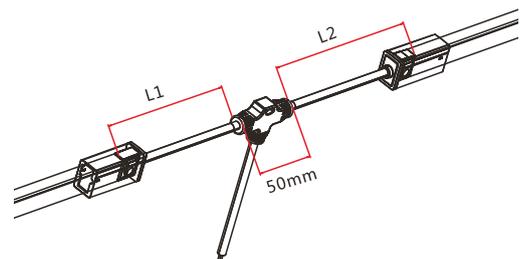L available in 0.3m, 1m and 3m.

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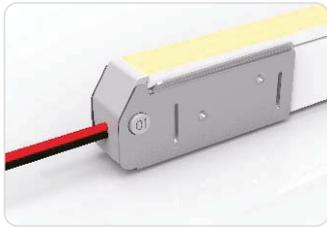U steel plate*2
Anti-skidding clip*2
PC Cover*2

L
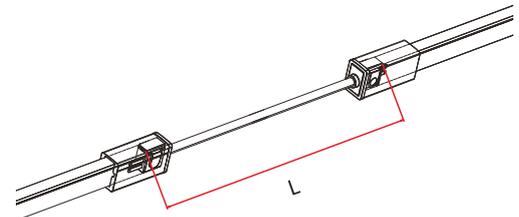
Snap Power T-feed

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)
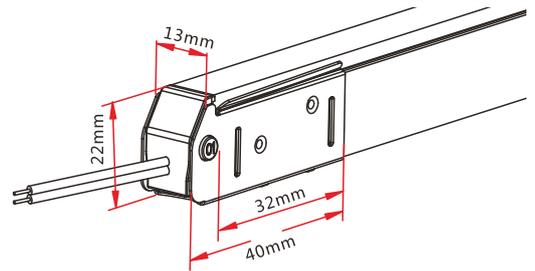Silicone gasket*2
U steel plate*2
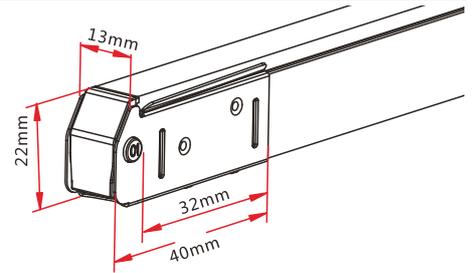Anti-skidding clip*2
PC Cover*2

L2
L1
50mm

3.5 Swivel Connector

Swivel Front Connector (top end)

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

13mm

22mm

32mm

40mm

Swivel End Cap

Termination protection of the light, IP20 DIY connector.
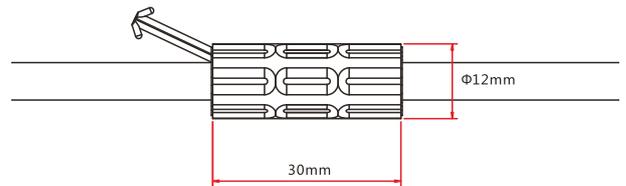
13mm

22mm

32mm

40mm

3.6 Anti-wicking Ferrule

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

Anti-wicking Ferrule

The anti-wicking ferrule is located at 115mm (±5mm tolerance) from the connector on the cable.

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

Φ12mm

30mm
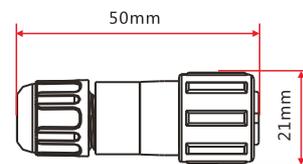
3.7 Male & Female Connector
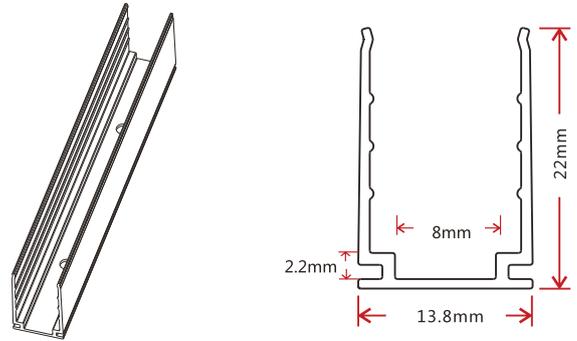
Note: Unless otherwise stated, the tolerance is ±2mm.

Male & female Connector

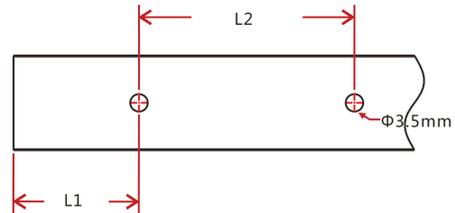For plug and play cable junction, DIY or Pre-installed connector, IP68

50mm

21mm

C US LISTED   CE   TÜV SÜD   RoHS COMPLIANT

4. Mounting Profile

4.1 Standard Aluminum Profile

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

Installation Way

Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number
F15-A/PL	13.8*22	35	17.5	/	Φ3.5	1
		500	50	200	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 ±0.5mm.

Installation Way

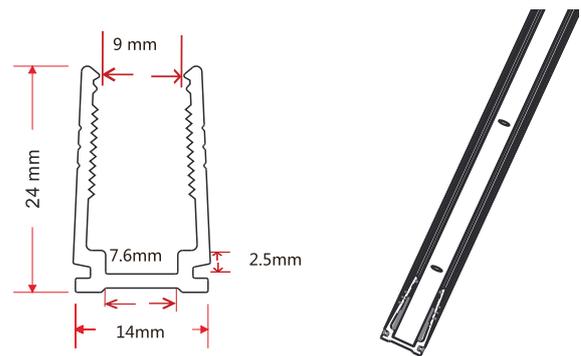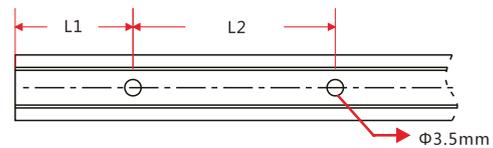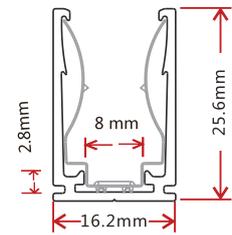| Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number
F15-P/PL	14*24	500	50	200	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

4.3 Spring Clip Aluminum Profile

Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.
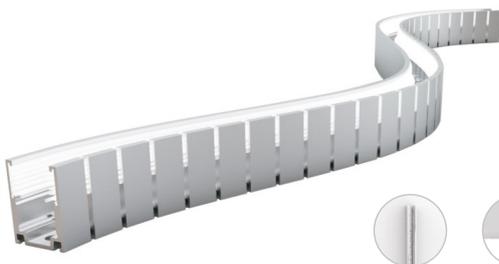
Installation Way
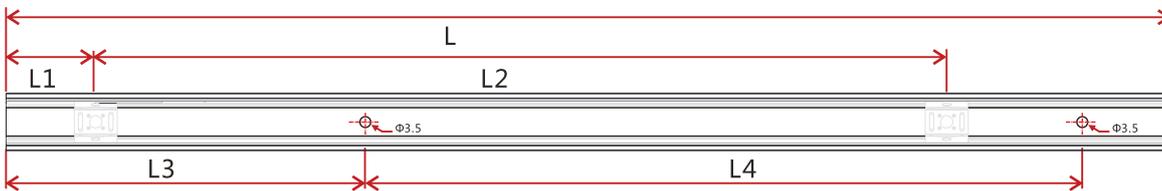
Model	W*H(mm)	Standard Length(mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(mm)	Hole Number	Clip Number
F15-SCA/PL	16.2*25.6	35	17.5	/	5	25	Φ3.5	2	1
		500	25	225	50	200	Φ3.5	3	3
		1000	25	237.5	100	200	Φ3.5	5	5
		2000	25	243.8	100	200	Φ3.5	10	9

4.4 Bendable Stainless Steel Profile

Installation Way
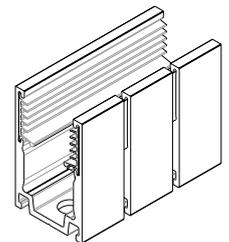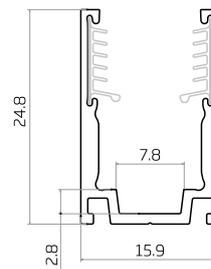
Note: Unless otherwise stated,the tolerance of the profile is ±0,2 mm.

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

2.8mm
8 mm
25.6mm
16.2mm
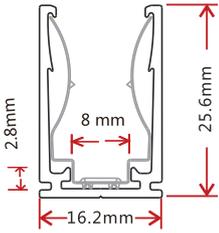
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

Bottom Feed

Middle Feed

Side Feed From Left

Side Feed From Right

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

2.8mm
8 mm
25.6mm
16.2mm

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

L Shape
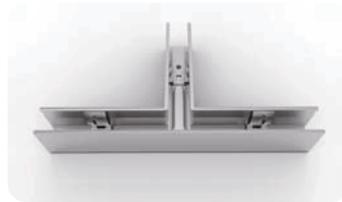
T Shape

Outward L Shape

Inward L Shape

X Shape

4.7 Recessed Mounting Profile
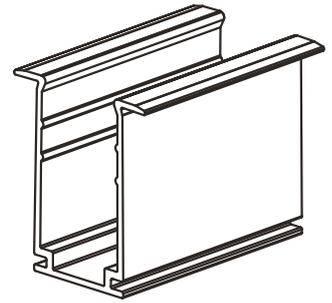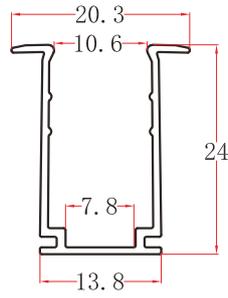
20.3
10.6
24
7.8
13.8

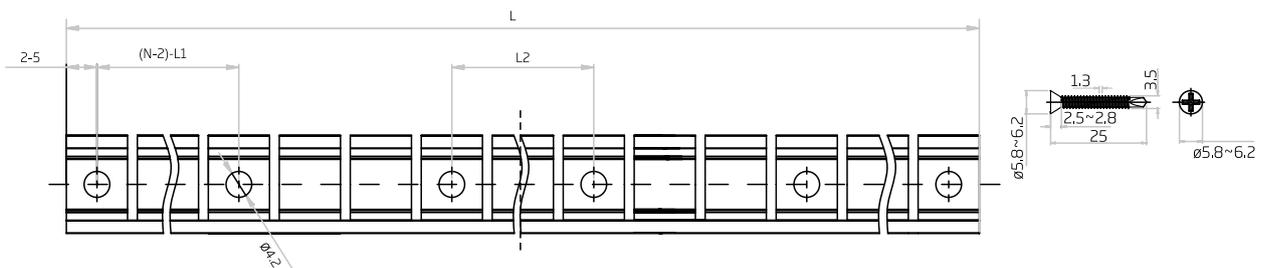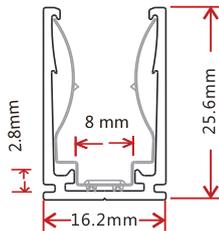Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

Installation Way

L1   L2

Φ3.5mm
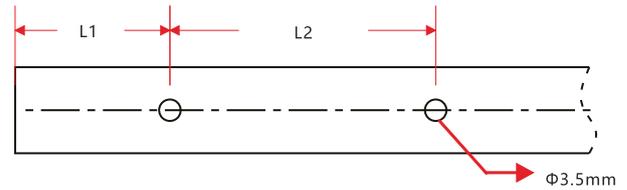
Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number
F15-RMA/PL	20.3*24	35	5	25	Φ3.5	2
		500	50	200	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

5. 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 Mouding	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℃-60℃ (typical temperature range)
	Constant Temperature Test	Manufacturer-defined , 70℃ (typical temperature)

5.4 Figures of Typical Characteristics

Working Temperature vs. Current

Luminous Flux vs. Working Temperature

Lumen(lm)
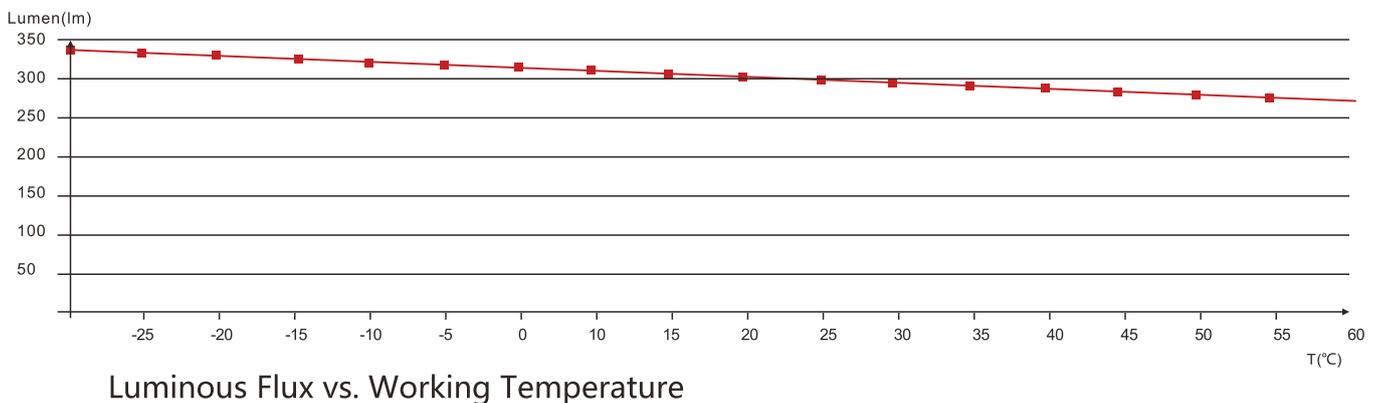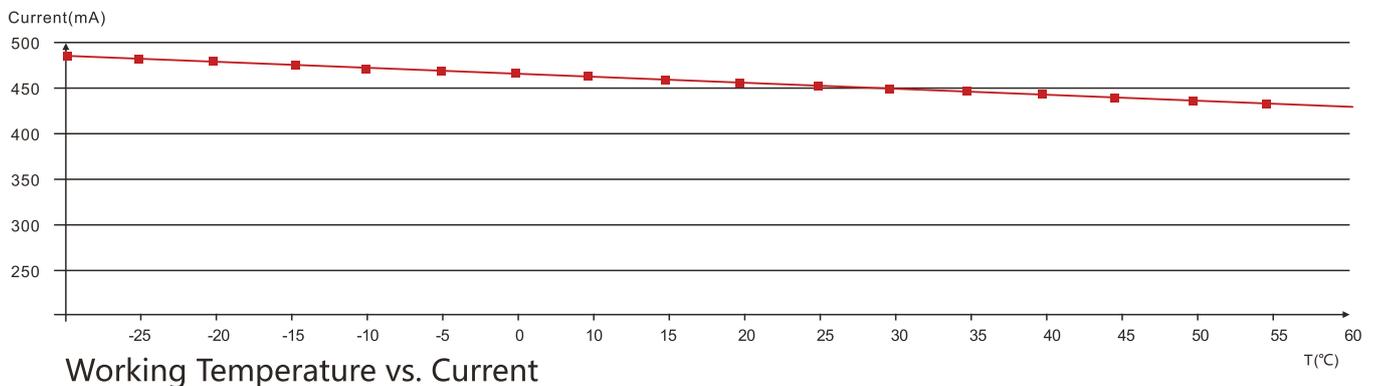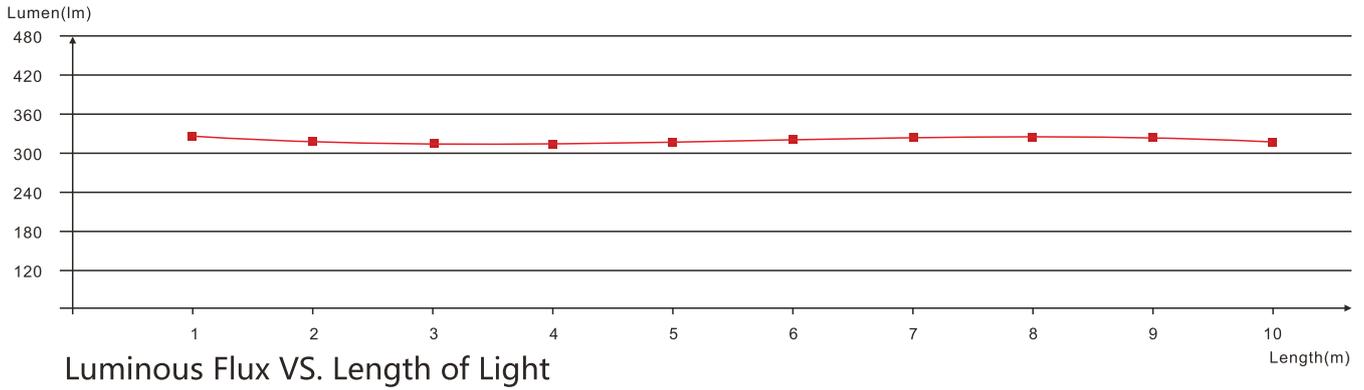
Luminous Flux VS. Length of Light
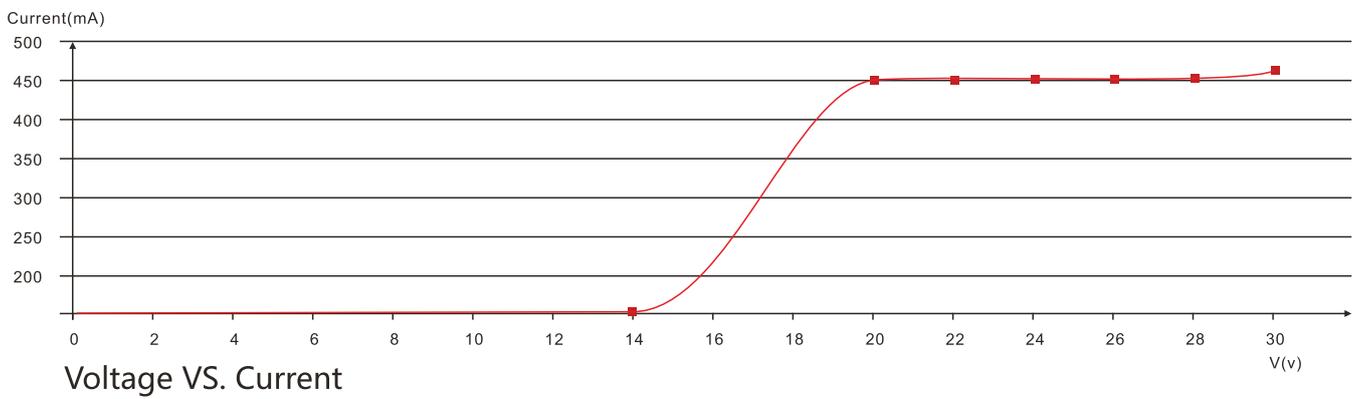
Current(mA)

Voltage VS. Current

5.5 (X,Y) Chromaticity Diagram