

# artist of light

## Specification

For LED Neon Flex Ribbon

C-SFR-F10B



**CLEAR**  
LIGHTING

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# Introduction

C-SFR-F10B is a new member of the Artist of Light series. It is made of silicone, with smooth flat exterior that allows the most flexible and adaptable manipulations and produces superior even illumination along its full length.

C-SFR-F10B is UL/cUL, CE and RoHS compliant. Moreover, it has been passed environmental resistance, optical, mechanical and electrical tests in our lab under the support of advanced experimental equipment and technology to ensure it meets the requirements of harsh environments. Also, it has been passed relevant tests of third party inspection authority.

Fully encapsulated in the silicone chamber by utilizing consummate extrusion technology, assembled with injection-moulded connectors to achieve IP67 protection, easy for installation and applicable for various circumstances.

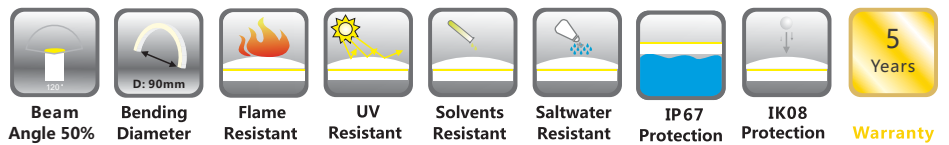
C-SFR-F10B is available in wide range of white color temperatures with only one bin and high CRI LEDs, Red, Blue, Green and Amber colors are also optional, which enables endless possibilities of application.

Due to its refined internal structure, the maximum continuous length of C-SFR-F10B is 100% longer than its PVC version.

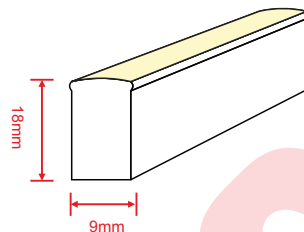
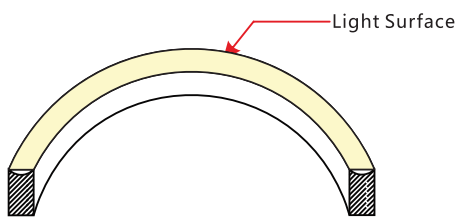
## Applications:

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



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

## 1.2 Technical Parameters

### Technical Parameters

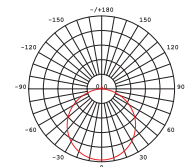
Article No.	C-SFR-F10B-24CV	C-SFR-F10B-24CV
Color	Red/Amber	White/Green/Blue
Working Voltage	DC24V	DC24V
Rated Power/m	3.5W	4.5W
LED Qty/m	72	72
LED Distance	13.89mm	13.89mm
Min. Cutting Unit	9LEDs(1unit)	6LEDs(1unit)
Min. Cutting Length	125mm(1unit)	83.3mm(1unit)
Continuous Length	30m	
Package Length	$\leq 30\text{m}$	
Weight/m	210g	
Storage Temperature	-40 ~ 60°C	
Ambient Working Temperature	-40 ~ 55°C	
Ambient Installation Temperature	-40 ~ 50°C	
IP Rating	IP67	

## 1.3 Optical Parameters

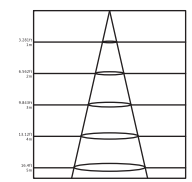
### Photometric Data

Article No.	C-SFR-F10B				
LED Type	SMD				
Beam Angle 50%	120°				
Color	Wavelength	Lumen/m	Color	CCT	Lumen/m
Red	618-624nm	>45lm	2200K	2238±102K	>90lm
Green	522-528nm	>100lm	2700K	2725±145K	>110lm
Blue	468-474nm	>20lm	3000K	3045±175K	>120lm
Amber	588-594nm	>45lm	4000K	3985±275K	>120lm
			5700K	5669±355K	>110lm

Candle power distribution



Illuminance Characteristics

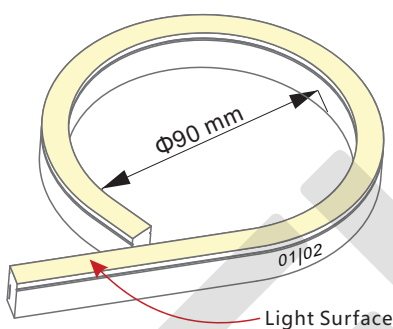


## 2. Functions & Features

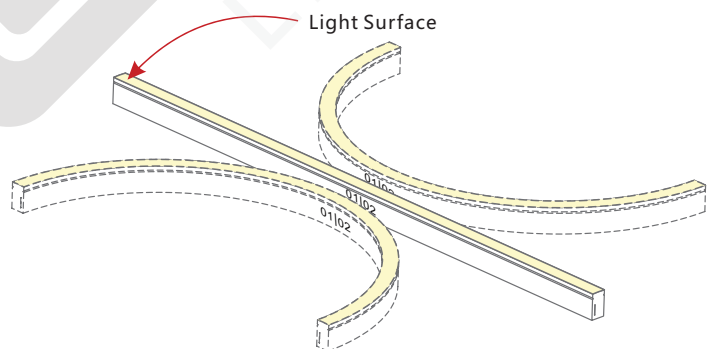
### 2.1 Product Features

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.
4. UV & flame resistant construction(silicone).
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(IP67).
10. The product IP rate is ultimately in line with properly applied IP rated connectors.
11. Continuous length up to 30m 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 laterally (opposite bend along to light surface).



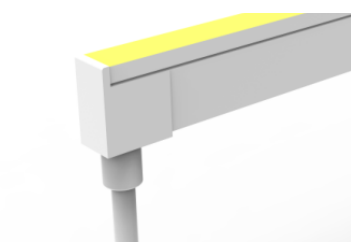
Do not bend smaller than allowed minimum bend diameter.

## 3. Types of Connector

### 3.1 Injection-moulded Connector

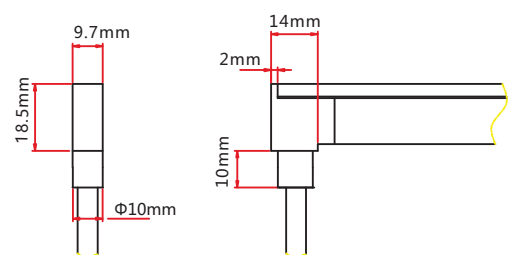
Note:

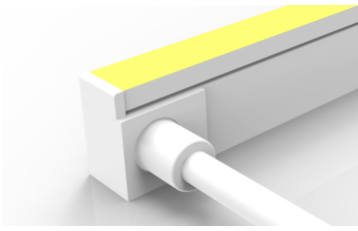
1. Unless otherwise stated, the tolerance of the connector is  $\pm 0.5\text{mm}$ ;
2. Continuous length up to 30m by powering one end.



Injection-moulded Front Connector (bottom)

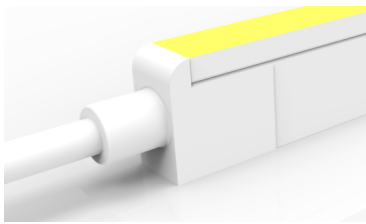
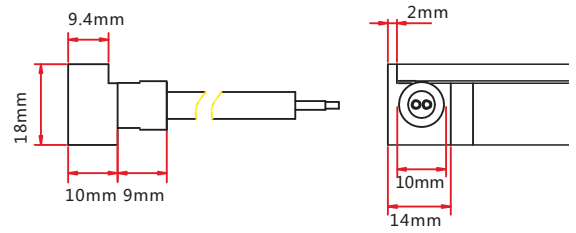
Connects light to power supply with pre-installed bottom feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m.





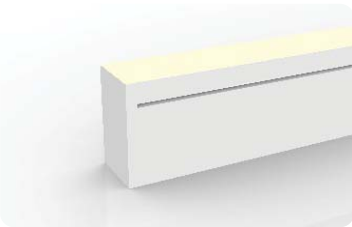
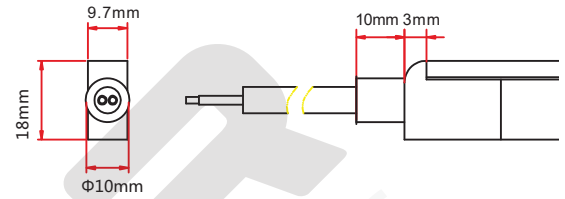
### Injection-moulded Front Connector (side)

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



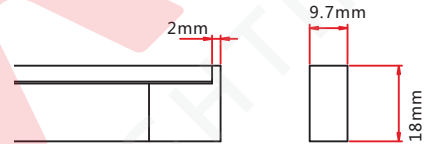
### Injection-moulded Front Connector (top end)

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



### Injection-moulded End Cap

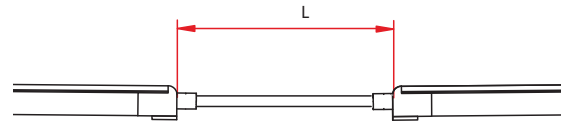
Pre-installed termination protection of the light, IP67.



### Injection-moulded Jumper

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

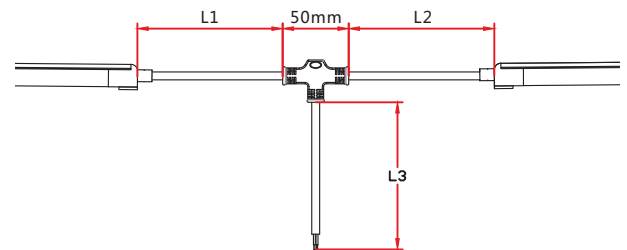
Maximum 8 Jumpers in 20m  
Maximum 4 Jumpers in 10m



### Injection-moulded T-feed

Connects two pieces of lights together with a T joint, energized from middle. IP67 Injection-moulded connector. L1 and L2 available in 0.15~0.5m. L3 available in 0.3-3m.

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



### 3.3 Snap Connector

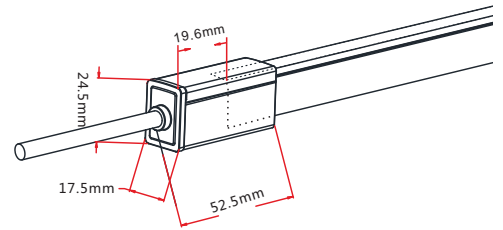
Note:  
 1.Unless otherwise stated, the tolerance of the connector is  $\pm 0.5\text{mm}$ ;  
 2.Continuous length up to 30m by powering one end.



#### 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.

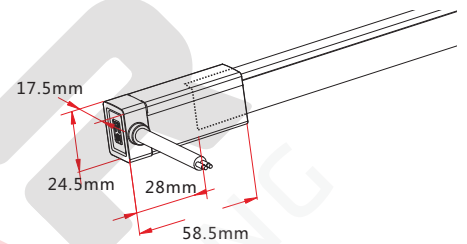
- Feed connector\*1 (Two-pin)
- Silicone gasket\*1
- U steel plate\*1
- Anti-skidding clip\*1
- PC cover\*1



#### 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.

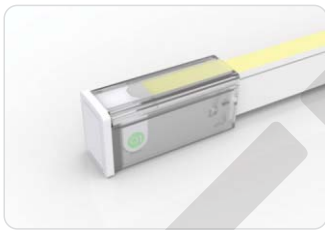
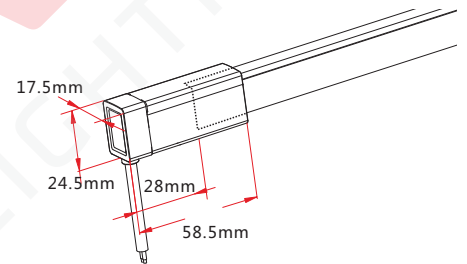
- Feed connector\*1 (Two-pin)
- Silicone gasket\*1
- U steel plate\*1
- Anti-skidding clip\*1
- PC cover\*1



#### Snap Front Connector(bottom)

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

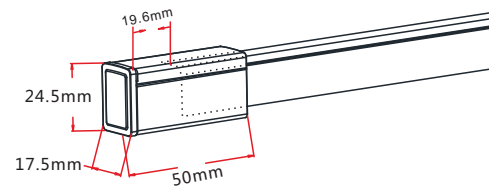
- Feed connector\*1 (Two-pin)
- Silicone gasket\*1
- U steel plate\*1
- Anti-skidding clip\*1
- PC cover\*1



#### Snap End Cap

Termination protection of the light. IP67 DIY connector.

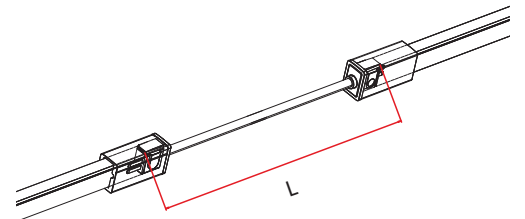
- Tail plug\*1
- Silicone gasket\*1
- U steel plate\*1
- Anti-skidding clip\*1
- PC cover\*1



#### Snap Jumper

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

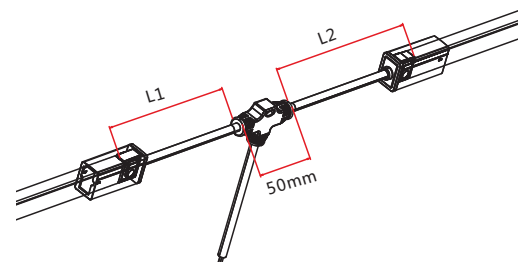
- Double-end feed connector\*1 (Two-pin)
- Silicone gasket\*2
- U steel plate\*2
- Anti-skidding clip\*2
- PC cover\*2



#### Snap Power T-feed

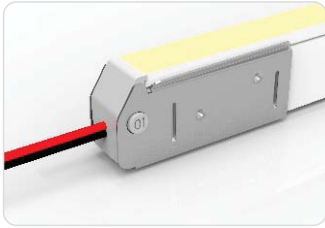
Connects two pieces of lights together with a T joint, energized from middle. IP67 DIY connector. L1 and L2 available in 0.3m.

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



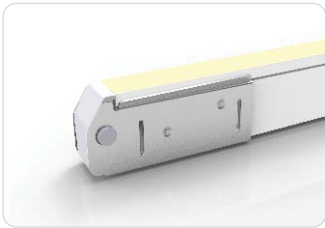
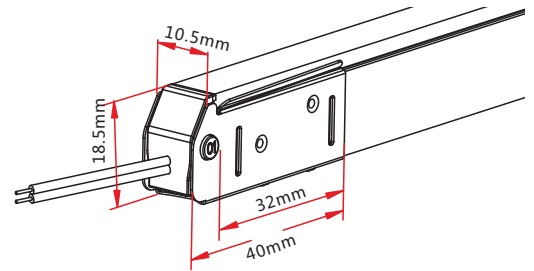
### 3.4 Swivel Connector

Note:  
 1. Unless otherwise stated, the tolerance of the connector is  $\pm 0.5\text{mm}$ ;  
 2. Continuous length up to 15m by powering one end.



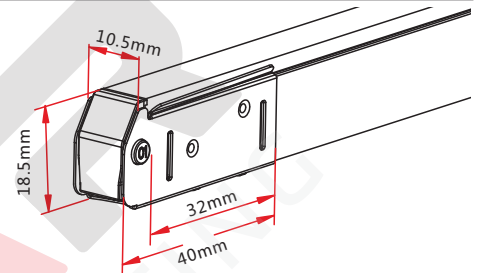
#### Swivel Front Connector (top end)

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



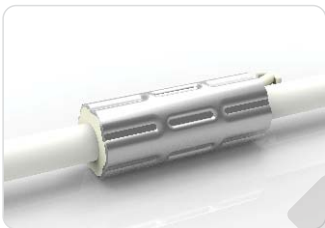
#### Swivel End Cap

Termination protection of the light, IP20 DIY connector.



### 3.5 Anti-wicking Ferrule

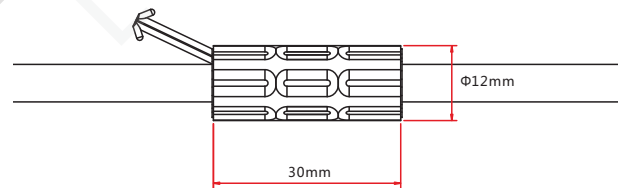
Note: Unless otherwise stated, the tolerance is  $\pm 0.5\text{mm}$ .



#### Anti-wicking Ferrule

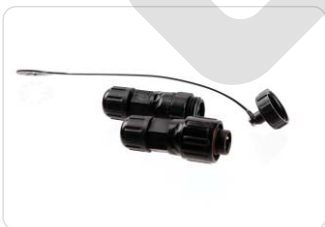
The anti-wicking ferrule is located at 115mm ( $\pm 5\text{mm}$  tolerance) from the connector on the cable.

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



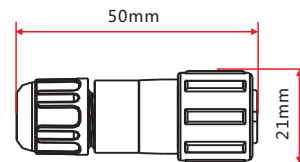
### 3.6 Male & Female Connector

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



#### Male & female Connector

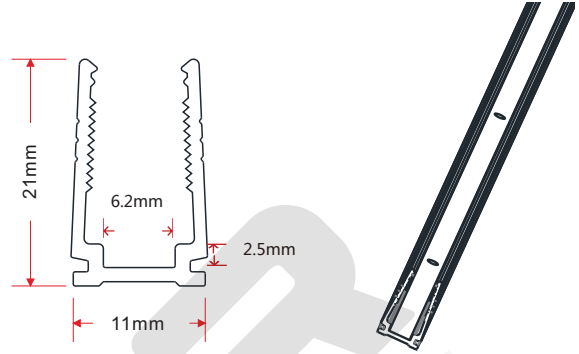
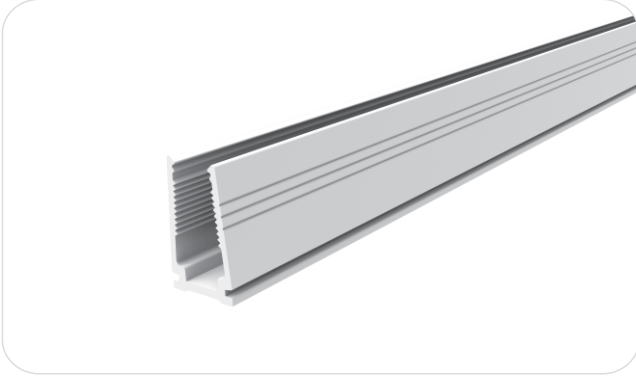
For plug and play cable junction, DIY or Pre-installed connector, IP68





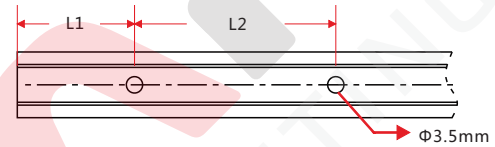
# 4. Mounting Profile

## 4.1 Plastic Profile



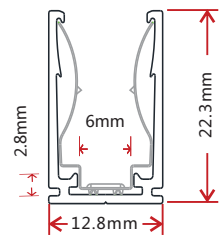
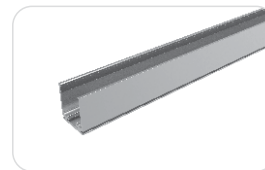
Note: Unless otherwise stated, the tolerance of the profile is  $\pm 0.5\text{mm}$ .

### Installation Way



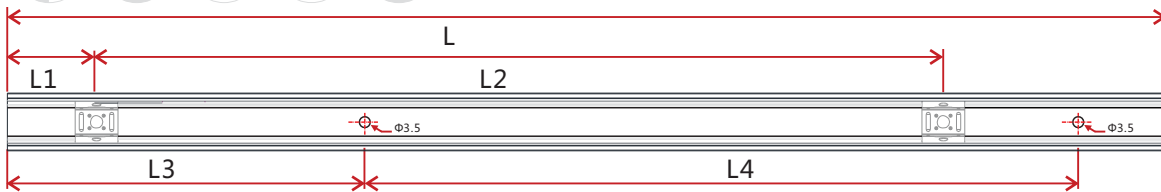
Model	W*H(mm)	Standard Length ( L:mm)	L1 (mm)	L2 (mm)	Screw Hole ( $\Phi$ :mm)	Hole Number	For Product
F10-PC/PL	11*21	500	50	200	$\Phi 3.5$	3	F10
		1000	100	200	$\Phi 3.5$	5	F10
		2000	100	200	$\Phi 3.5$	10	F10

## 4.2 Spring Clip Aluminum Profile )



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

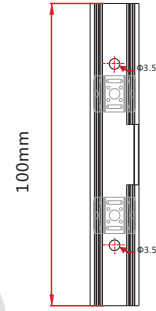
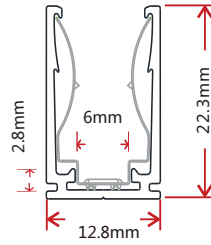
### Installation Way



Model	W*H(mm)	Standard Length(mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(mm)	Hole Number	Clip Number
F10-SCA/PL	12.8*22.3	35	17.5	/	5	25	$\Phi 3.5$	2	1
		500	25	225	50	200	$\Phi 3.5$	3	3
		1000	25	237.5	100	200	$\Phi 3.5$	5	5
		2000	25	243.8	100	200	$\Phi 3.5$	10	9

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

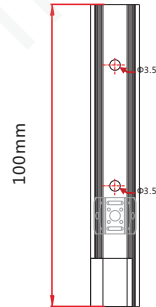
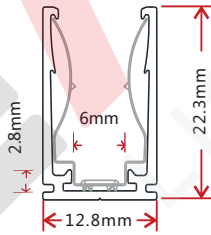
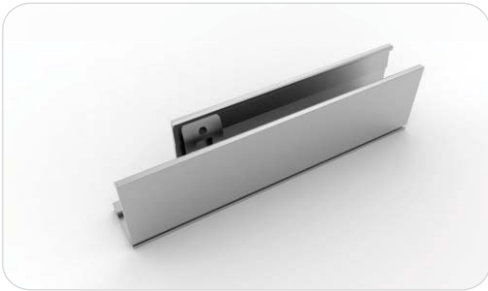
### 4.3.1 Spring Clip Aluminum Profile, Middle Feed



Model: F10-SCA/PL-M

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

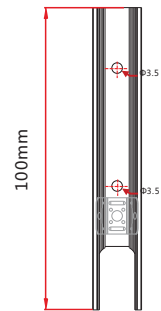
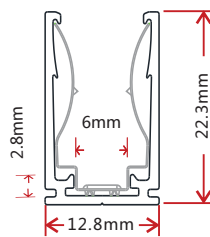
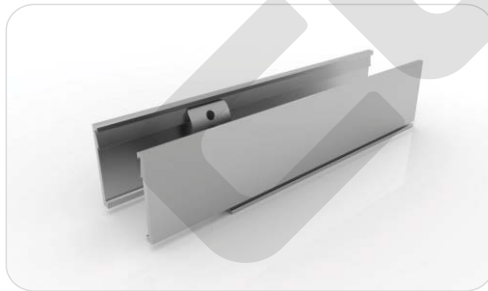
### 4.3.2 Spring Clip Aluminum Profile, Side Feed From Left



Model: F10-SCA/PL-SL

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

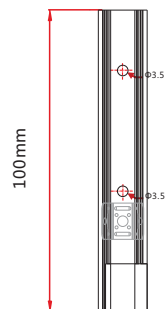
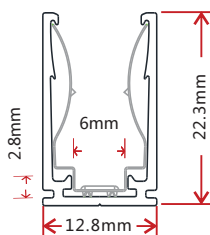
### 4.3.3 Spring Clip Aluminum Profile, Bottom Feed



Model: F10-SCA/PL-B

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

### 4.3.4 Spring Clip Aluminum Profile, Side Feed From Right



Model: F10-SCA/PL-SR

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

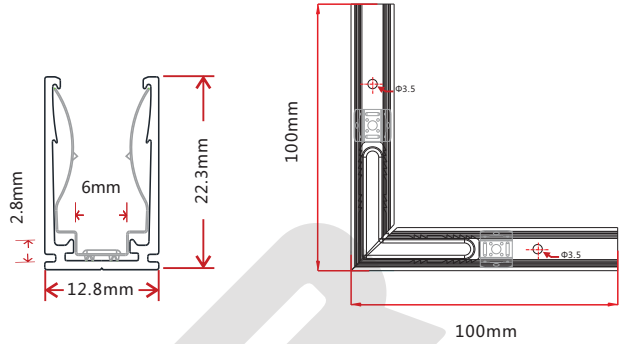
## 4.4 Corner Aluminum Profile (Applicable to Injection-moulded Connector Only)

### 4.4.1 L Spring Clip Aluminum Profile



Model: F10-SCA/PL-L

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

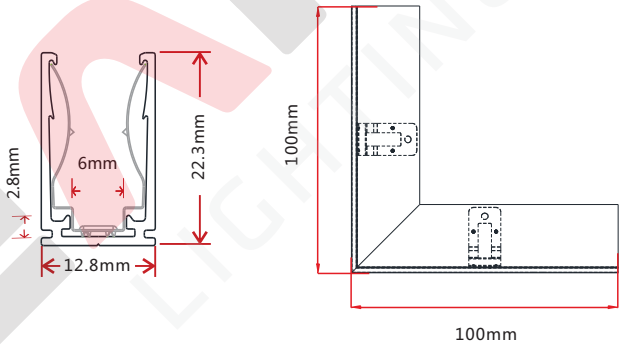


### 4.4.2 Inward L Shape Spring Clip Aluminum Profile



Model: F10-SCA/PL-IL

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

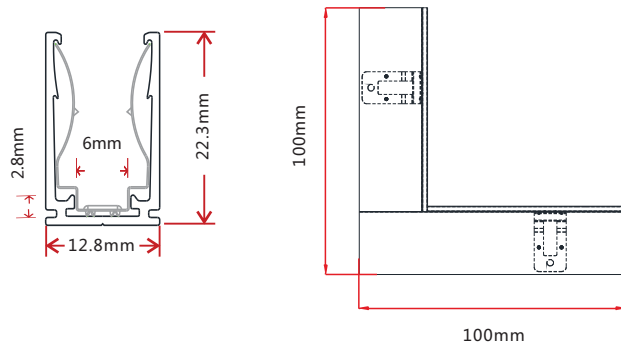


### 4.4.3 Outward L Shape Spring Clip Aluminum Profile



Model: F10-SCA/PL-OL

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

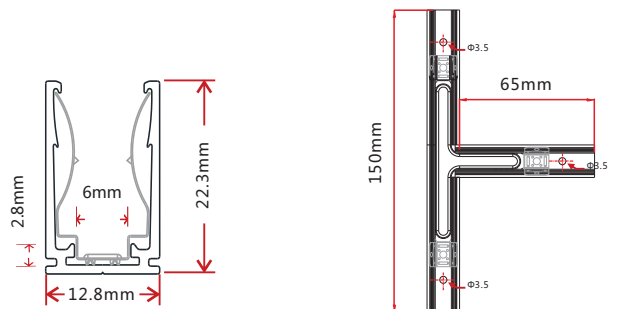


### 4.4.4 T Shape Spring Clip Aluminum Profile



Model: F10-SCA/PL-T

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

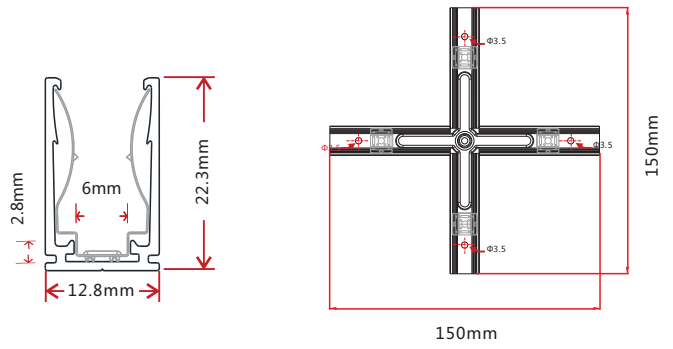


### 4.4.5 X Shape Spring Clip Aluminum Profile

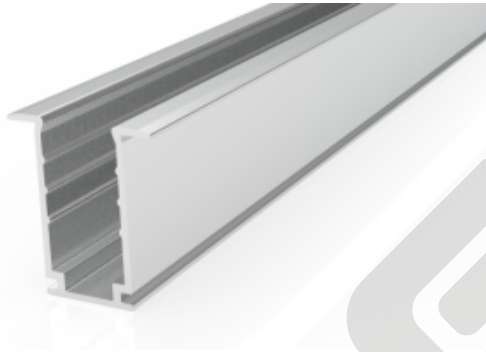


Model: F10-SCA/PL-X

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

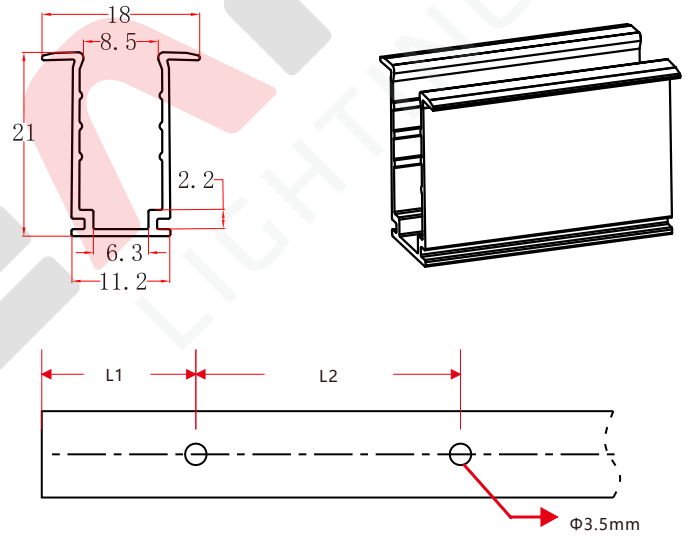


### 4.5 Recessed Mounting Profile



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	For Product
F10-RMA/PL	18*13.2	35	5	25	$\Phi 3.5$	2	F10
		500	50	200	$\Phi 3.5$	3	F10
		1000	100	200	$\Phi 3.5$	5	F10
		2000	100	200	$\Phi 3.5$	10	F10

## 5. Packaging

### Packaging Method



Plastic Plate



White Box



Carton



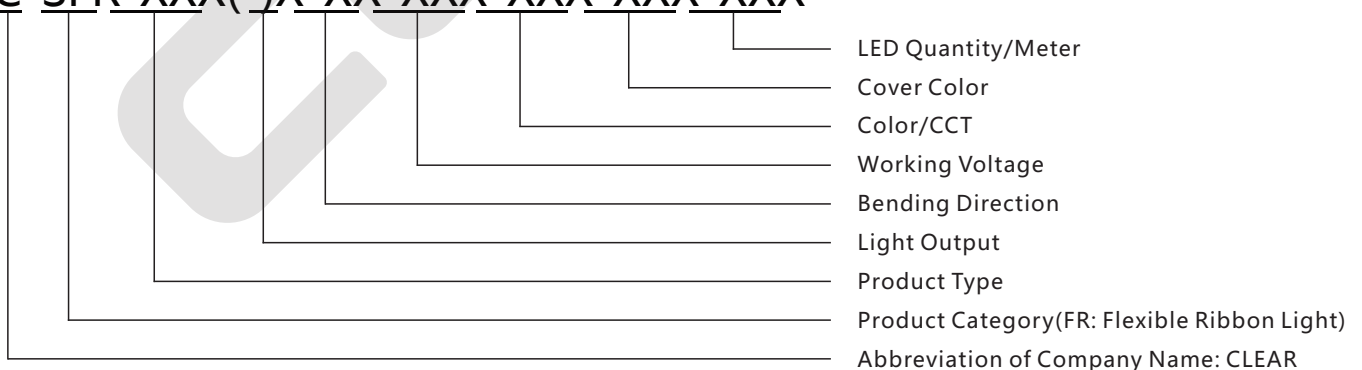
### Packaging Detail

Light Length	White Box Dimension(cm)	Carton Dimension(cm)	Numbers of White Box	Carton Weight(KG)
5m	35*4.2*46	48*37*24	5	6.5
10m	45*4.2*56	58*47*24	5	12
15m	51*5.2*62	64*53*28	5	17
15m	51*5.2*62	64*53*17.5	3	12
20m	61.5*4.2*72	74*63.5*10.5	2	10
30m	68*5.2*79	81*70*12.5	2	14

## 6. Appendix

### 6.1 Product Naming Convention

**C-SFR-XXX(-)X-XX-XXX-XXX-XXX-XXX**



For Example: C-SFR-F10B-HB-24CV-27K-WM-72

## 6.2 Certificate

Certificating Type	Testing Organization	Certificate Serial Number	Report Reference
UL 2108	UL	20160726-E360029	E360029-20130322
CE-EMC	SGS	SZEM1712012372LMV	SZEM171201237201

## 6.3 Third-Party Test Report

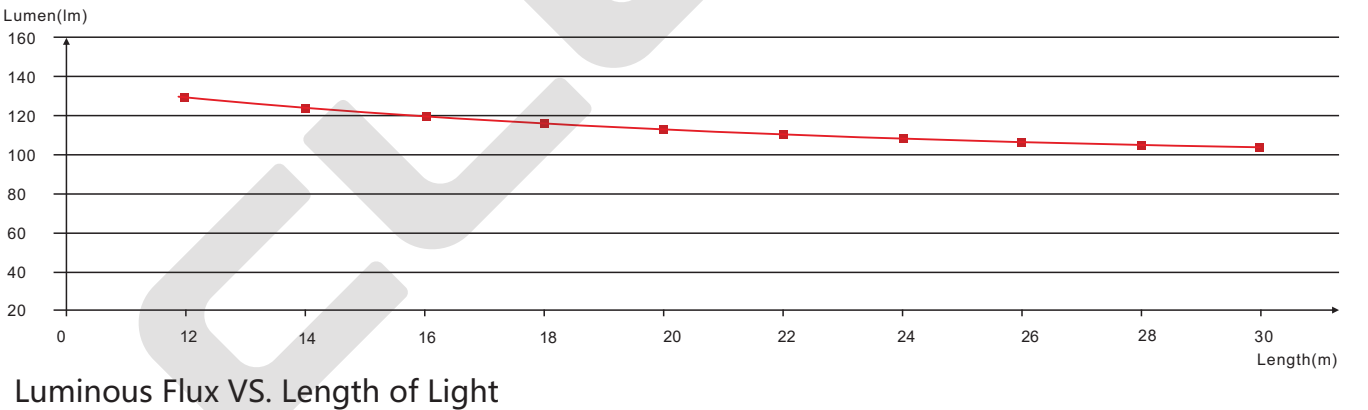
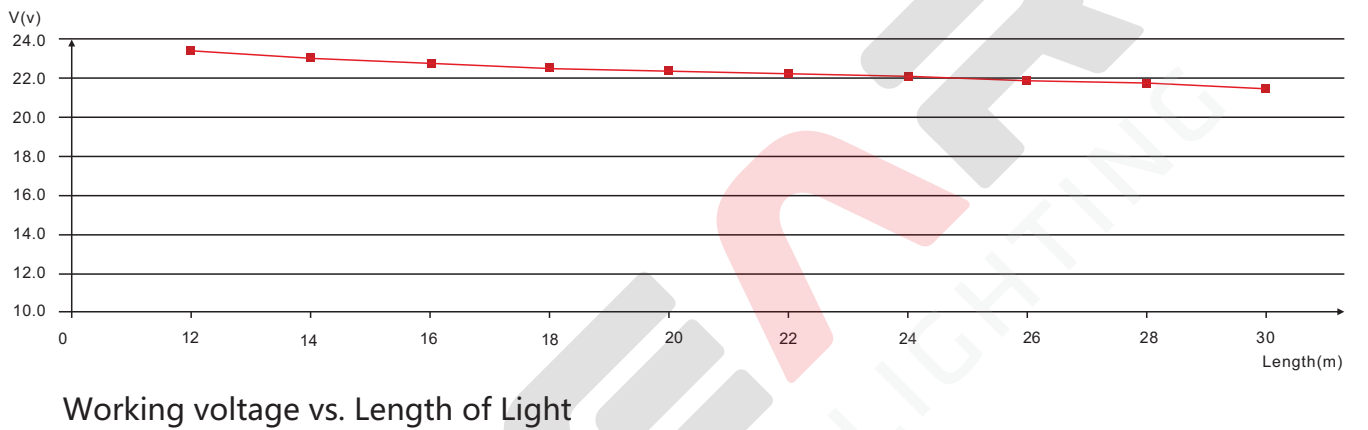
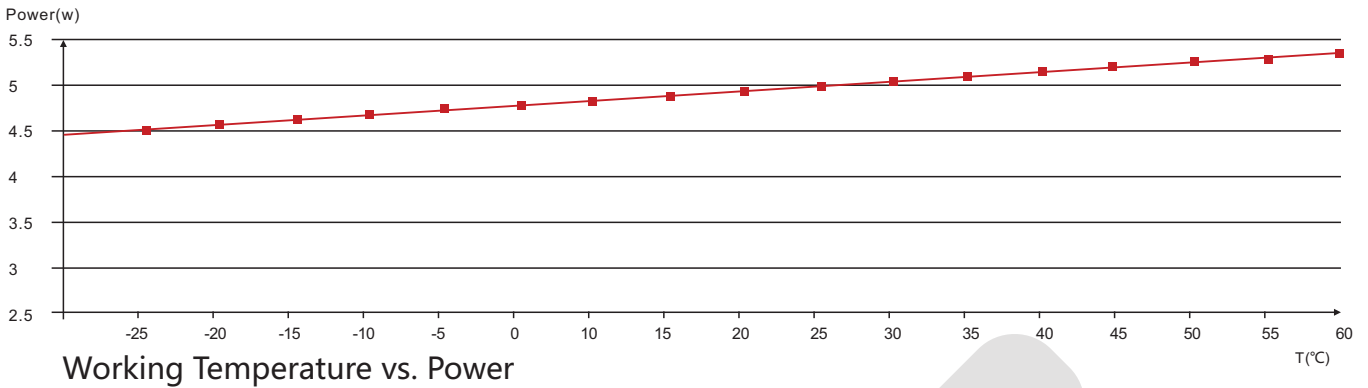
Testing Item	Testing Organization	Report Number
RoHS	SGS	CANEC1202163502 A01
IP68: Screw type	TUV SUD	68.140.12.136.02
IP68: Clasp type	SGS	GZES140200135301 GZES140200135401 GZES140200135501 GZES140200135701 GZES140200135801
IPX8: Molding type	SGS	SZES141200357301 SZES141200357401 SZES141200357501
IPX8: Snap type	SGS	GZES160600792031

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

## 6.4 Reliability Test of Light

TESTING ITEM	PERFORMANCE	STANDARD/REFERENCE VALUE/DESCRIPTION
PHOTOMETRIC TESTING	Spectrum Analysis	IES LM 79 (lumen, CCT, CRI, XY, SDCM, wave length)
	Photometric Distribution	IES LM 79 (lumen intensity distribution & Lux diagram)
	Lumen Maintenance & Life Time	IES LM84 & IES TM28
TEMPERATURE RISE TESTING	Normal Temperature Test	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
	Abnormal Operation Test	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
MECHANICS & PHYSICS TESTING	Bending Test	Manufacturer-defined, 500 cycles
	Swing Test	UL2388, >750 cycles
	Tensile Test	Manufacturer-defined, > the weight of light in maximum connection length with both ends feed
	Twist Test	Manufacturer-defined, >200 cycles
	Ball Impact	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
	IK07 IK08	IEC62262
WEATHERING TESTING	Swimming Pool Water Immersion Test	GB9667, PH6.8-7.6, free chlorine 0.3-0.6mg/L
	Sea Water Immersion Test	IEC60598-1, Salinity 4%
	Salt Spray Test	IEC68-2-11
	Outdoor Exposure	Manufacturer-defined
ENVIROMENT TESTING	Flame Resistant Test	UL94
	UV Exposure Test	ASTMG 154 , ISO 4892-3 , UVA@340nm
	IPX5 IPX6 IPX7 IPX8	IEC60529
ENDURANCE & THERMAL TEST LAB	Temperature Shock Test	Manufacturer-defined , -40°C-60°C (typical temperature range)
	Constant Temperature Test	Manufacturer-defined , 70°C (typical temperature)

## 6.5 Figures of Typical Characteristics



## 6.6 Correlated Color Temperature

### ANSI STANDARD

#### Nominal CCT Categories

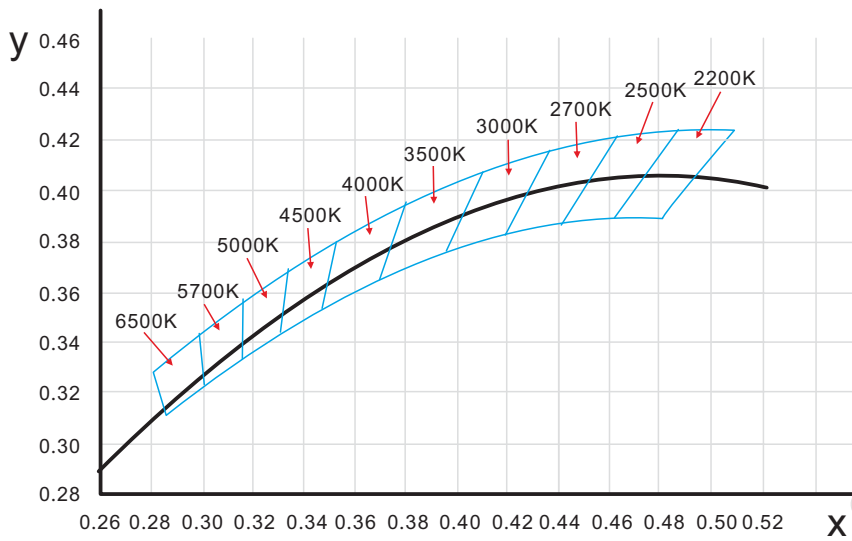
Nominal CCT	Target CCT and tolerance(K)	Target $D_{uv}$	$D_{uv}$ Tolerance Range
2200K	2238 ±102	0.0000	
2500K	2460 ±120	0.0000	
2700K	2725 ±145	0.0000	$T_x$ : CCT of the source
3000K	3045 ±175	0.0001	For $T_x < 2870K$
3500K	3465 ±245	0.0005	For $T_x \geq 2870K$
4000K	3985 ±275	0.0010	$D_{uv}(T_x) \pm 0.0060$
4500K	4503 ±243	0.0015	where
5000K	5029 ±283	0.0020	$D_{uv}(T_x) = 57700 \times (1/T_x)^2$
5700K	5667 ±355	0.0025	-44.6 × (1/ $T_x$ )
6500K	6532 ±510	0.0031	+0.00854

#### Remark:

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

Flexible CCT (2200-6500K)	$T_F^{1)} \pm \Delta T^{2)}$	$D_{uv} T_F^{3)}$
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### 6.7 (X,Y) Chromaticity Diagram

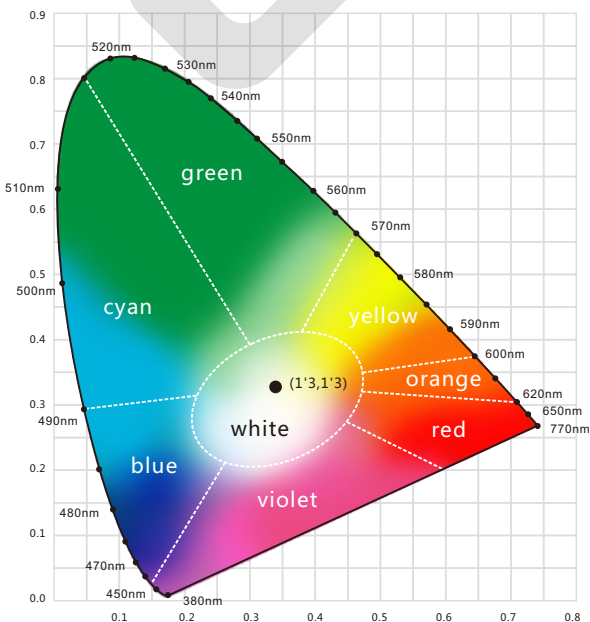


### 6.8 Loading Chart

Type.	Rated Power /m	Power Supply									
		35w	60w	75w	80w	75w	80w	100w	120w	150w	185w
F10	3.5w(DC24V)	8m	14m	17m	18m			22m	27m	34m	40m
	4.5w(DC24V)	6m	11m	13m	14m			18m	21m	27m	30m
	4.5w(DC12V)	6m	7.5m					13m	14m	15m	
Energizing way		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 18m light (3.5w/m) or maximum 14m light (4.5w/m) by energizing the light.

### 6.9 Wavelength of Color Light



#### Light Color

- Red**  
618-624nm

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- Green**  
522-628nm

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- Blue**  
468-474nm