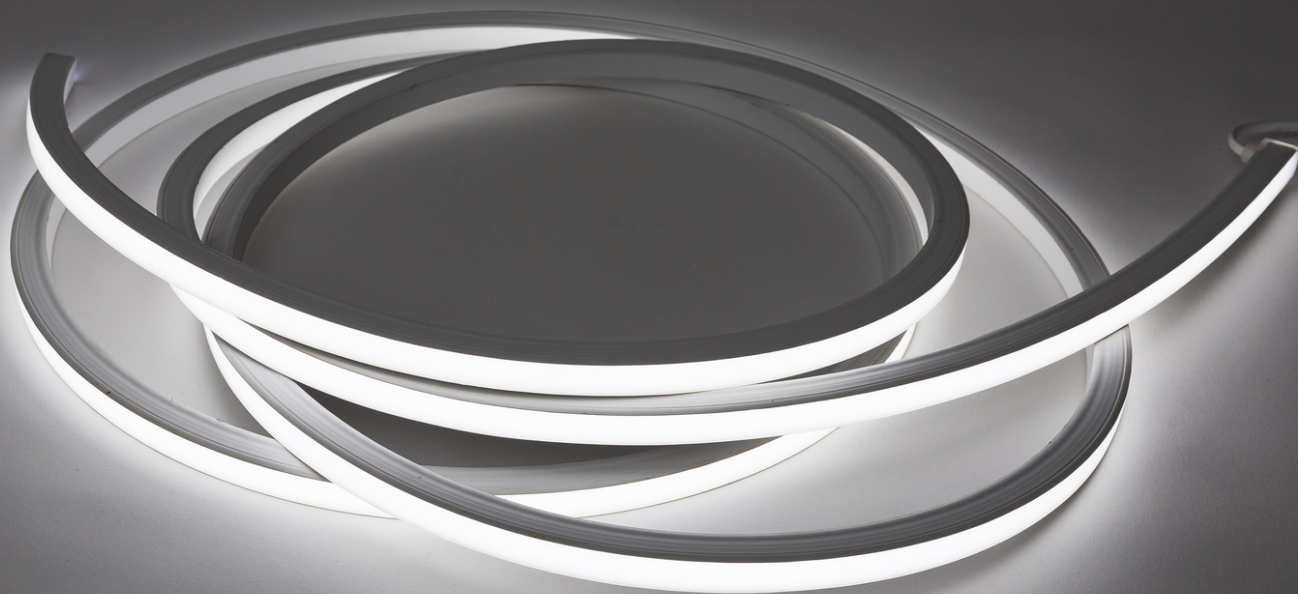




Product Sheet



# Applelec FlexLogic



Create continuous lines of flexible light with the Applelec FlexLogic range. Suitable for internal and external use, and with an IP68 protection rating, this encapsulated linear system ensures each LED is fully protected.

Applelec FlexLogic feature a bend diameter of 90mm with light bent laterally along the length of the profile (as opposed to bending along the light surface). A flat profile ensures this product is ideal for recessed installations, where an ultra-thin line of light is achieved.

FlexLogic is available in several whites 2700K - 6500K CCT and several colours including red, green, blue and amber. A continuous length of up to 20m (R, A) or 15m (G, B, W) achieved when powering FlexLogic Slim LEDs from a single end.



Ends can be finished with an injection-moulded connector, creating an IP68 seal with a rear, side or top-end exit wire.

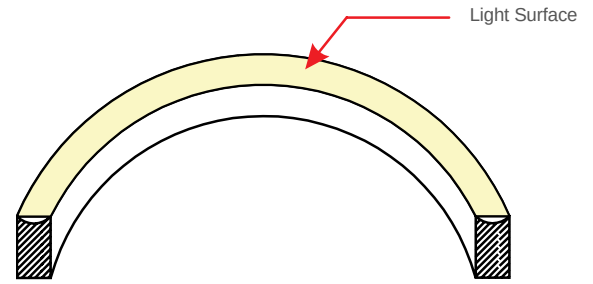
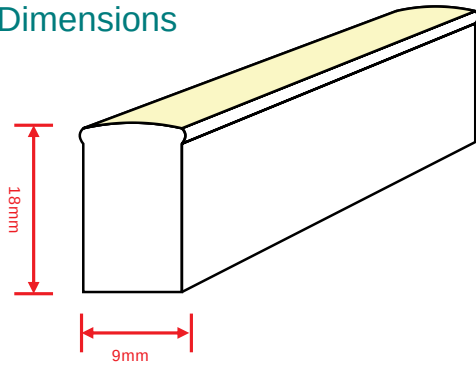
Alternatively, clasp end caps can be fitted on site to meet the IP68 protection rating. Featuring easy installation and assembly with DIY accessories for joining and terminating. FlexLogic LEDs have UV and flame resistant PVC construction.

## Key Features

- High quality and brightness SMD LED chip
- Protected circuit: Each LED is protected
- Variety of monochromatic colours
- UV & flame resistant PVC construction
- Flat profile, ideal for recessed mounting
- High colour consistency & no spotting
- Ultra flexible with 90mm bending diameter
- Easy installation & assembly
- High IP68 rating
- IP in line with properly applied IP rated connectors
- Continuous length up to 20m (R, A)/ 15m (G,B,W) by powering one end
- Environmentally friendly & energy efficient
- Automated production & long warranty
- 5 years life span (Do not continuously operate over 8 hours per day)

## Specification & Parameters

### Dimensions

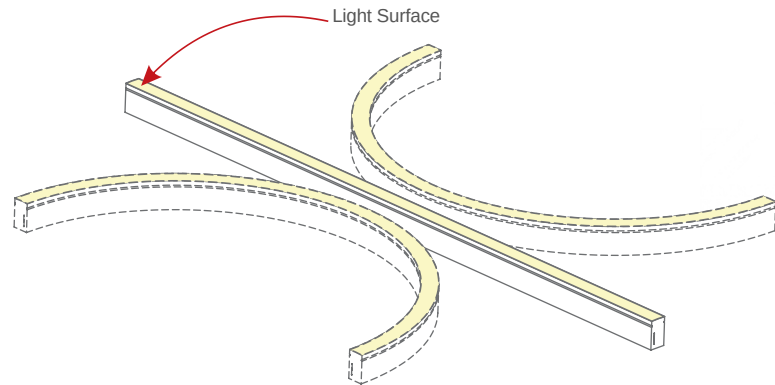
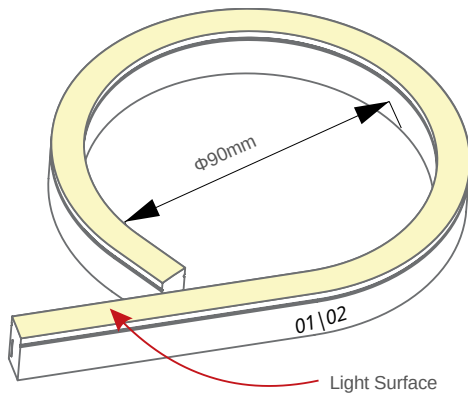


Note: Unless otherwise stated, the tolerance of the light is  $\pm 0.3\text{mm}$

## Functions & Features

### Minimum Bend Diameter

The light can only be bent laterally (not along the light surface.)



Do not bend smaller than allowed minimum bend diameter.

## Types of Connector

### Injection-moulded Connector

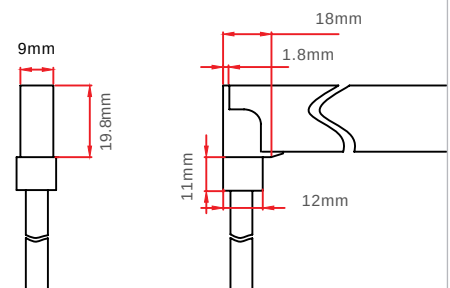
Note: Unless otherwise stated, the tolerance of the light is  $\pm 0.5\text{mm}$



#### Injection-moulded Front Connector (bottom)

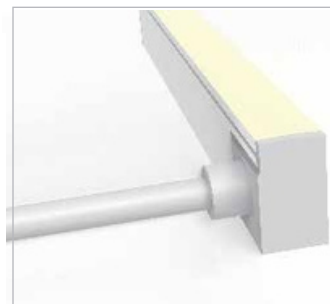
Connects light to power supply with pre-installed bottom feed cable, IP68.

Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.



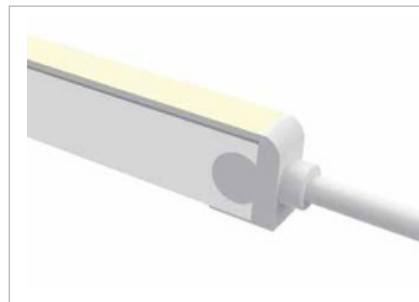
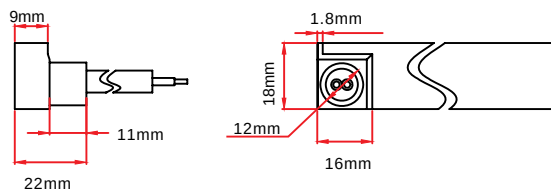
## Types of Connector

### Injection-moulded Connector Continued



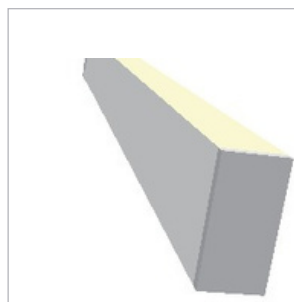
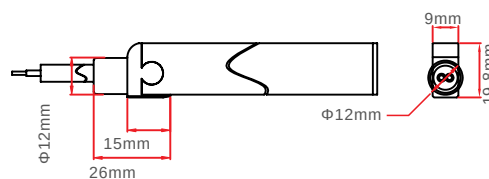
#### Injection-moulded Front Connector (side)

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



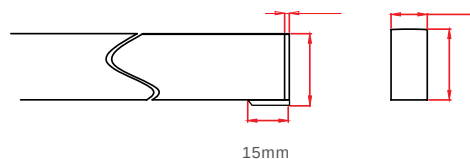
#### Injection-moulded Front Connector (top end)

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



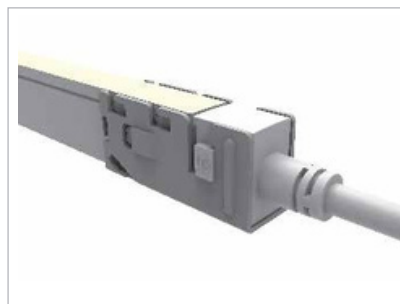
#### Injection-moulded End Cap

Pre-installed termination protection of the light, IP68.



## Clasp Connector

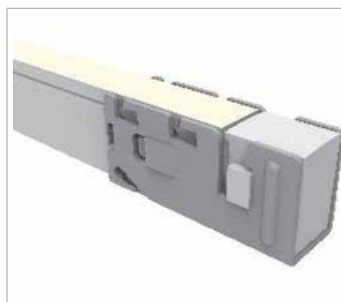
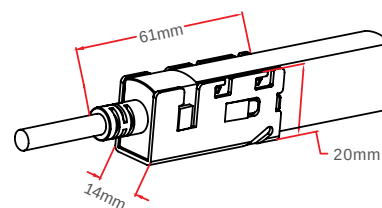
Note: Unless otherwise stated, the tolerance of the light is  $\pm 0.5\text{mm}$



#### Clasp Front Connector

Connects light to power supply. IP68 DIY connector. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

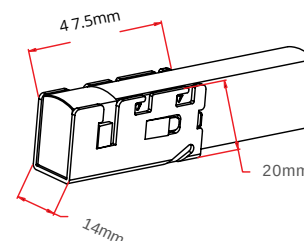
- Feed connector\*1 (Two-pin)
- Silicone gasket\*1
- U steel plate\*1
- Anti-skidding clip\*1



#### Clasp End Cap

Termination protection of the light. IP68 DIY connector.

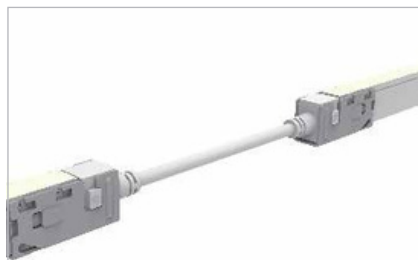
- Tail plug\*1
- Silicone gasket\*1
- U steel plate\*1
- Anti-skidding clip\*1



## Types of Connector

### Clasp Connectors Continued

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

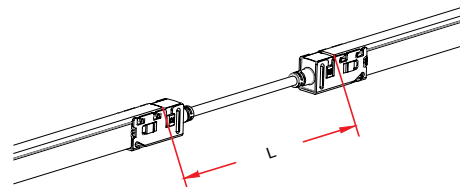


#### Clasp Jumper

Connects two pieces of lights together with a flexible cable. IP68 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

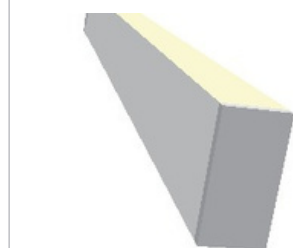
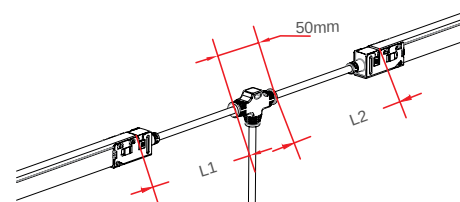


#### Clasp Power T-feed

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

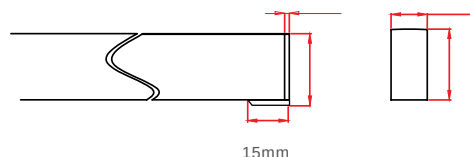
IP68 DIY connector. L1 and L2 available in 0.3m.

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



#### Injection-moulded End Cap

Pre-installed termination protection of the light, IP68.



## Snap Connectors

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

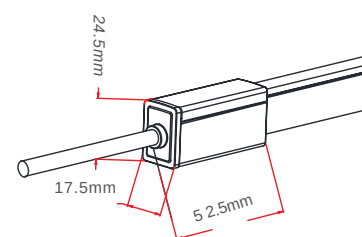


#### Snap Front Connector

Connects light to power supply. IP68 DIY connector.

Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

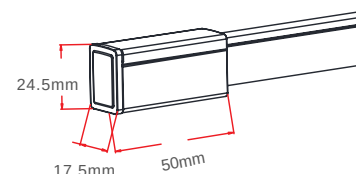
- Feed connector\*1 (Two-pin)
- Silicone gasket\*1
- U steel plate\*1
- Anti-skidding clip\*1
- PC cover\*1



#### Snap End Cap

Termination protection of the light. IP68 DIY connector.

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

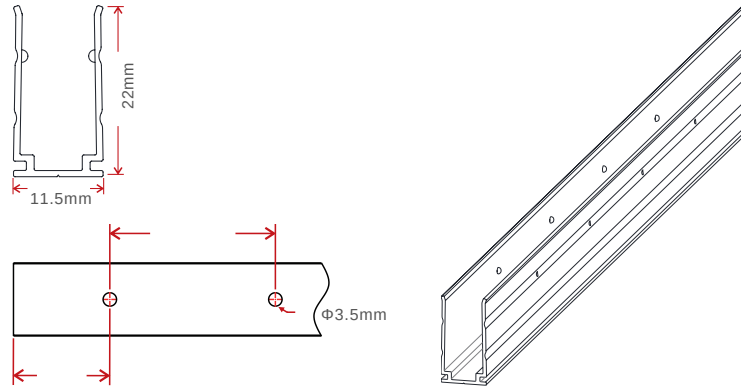
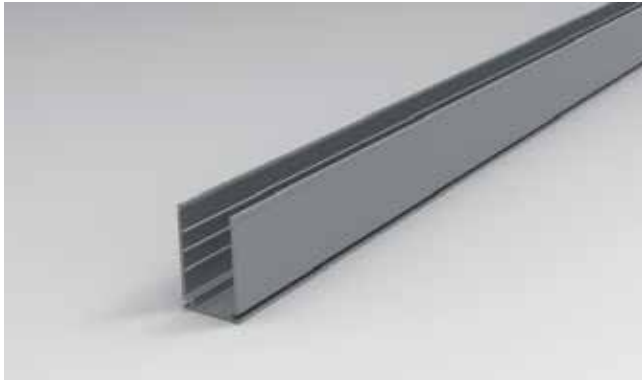




## Mounting Profile

### Locking Aluminium Profile

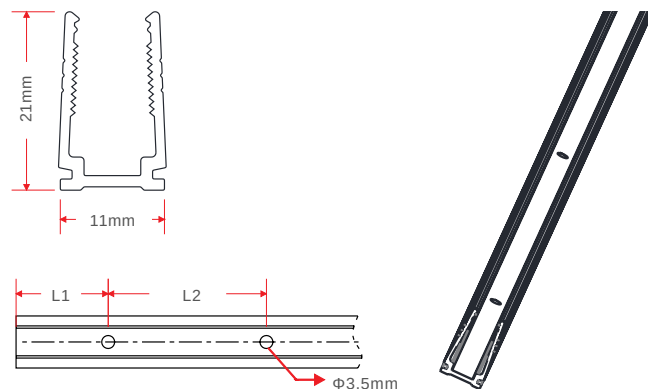
Note: Unless otherwise stated, the tolerance of the light is  $\pm 0.5\text{mm}$



Model	Width x Height	Standard Length	L1	L2	Screw Hole	Hole Number	For Product
FR010	11.5 x 22mm	30mm	15mm	/	$\Phi 3.5\text{mm}$	2	F10
		50mm	25mm	/	$\Phi 3.5\text{mm}$	3	F10
		1000mm	100mm	200	$\Phi 3.5\text{mm}$	5	F10
		2000mm	100mm	200	$\Phi 3.5\text{mm}$	10	F10

### Plastic Profile

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



Model	Width x Height	Standard Length	L1	L2	Screw Hole	Hole Number	For Product
FR013	11 x 21mm	300mm	50mm	200	$\Phi 3.5\text{mm}$	2	F10
		500mm	50mm	200	$\Phi 3.5\text{mm}$	3	F10
		1000mm	100mm	200	$\Phi 3.5\text{mm}$	5	F10
		2000mm	100mm	200	$\Phi 3.5\text{mm}$	10	F10

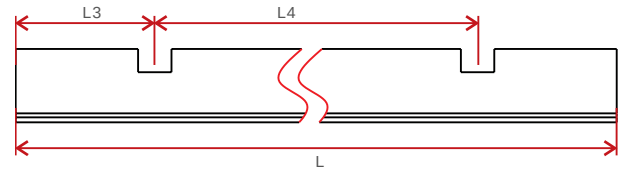
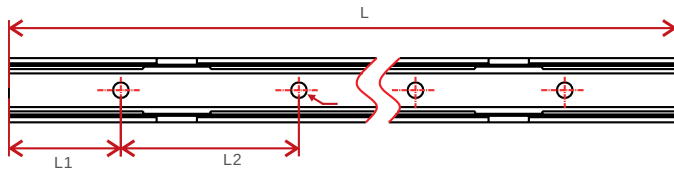
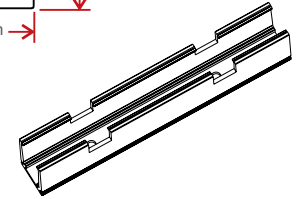
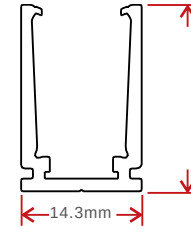
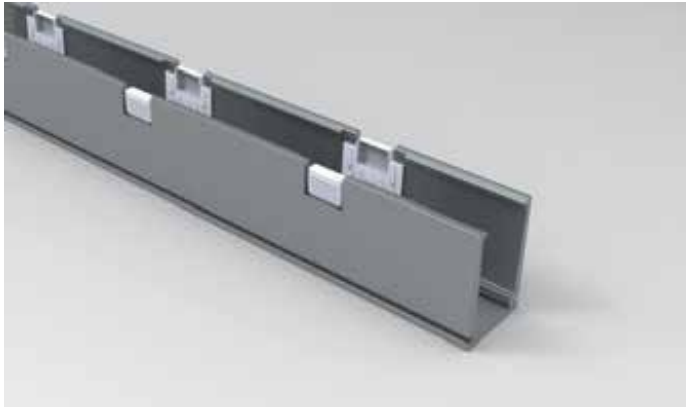


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## Mounting Profile Continued

### Self-locking Aluminium Profile (used with the clip)

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



Model	Width x Height	Standard Length	L1	L2	L3	L4	Screw Hole	Hole Number	Clip No.
FR005	14.3 x 22.1mm	35mm	17.5mm	/	17.5mm	/	$\Phi 3.5\text{mm}$	1	1
		50mm	25mm	/	25mm	/	$\Phi 3.5\text{mm}$	1	1
		500mm	100mm	300	150mm	200mm	$\Phi 3.5\text{mm}$	2	2
		1000mm	100mm	200	150mm	350mm	$\Phi 3.5\text{mm}$	5	3
		2000mm	100mm	200	125mm	350mm	$\Phi 3.5\text{mm}$	10	6



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## Appendix

### Third-Party Test Report

Testing Item	Testing Organisation	Report Number
RoHS	SGS	CANECI202163502 A01
IP68: Screw Type	TUV SUD	68.140.12.136.02
IP68: Clasp Type	SGS	GZESI40200135301 GZESI40200135401 GZESI40200135501 GZESI40200135701 GZESI40200135801
IPX8: Moulded Type	SGS	SZESI41200357301 SZESI41200357401 SZESI41200357501
Flame Retardant	TUV SUD	68.140.13.068.01
IK08	TUV SUD	68.140.12.171.01
Temperature Risen	UL	UL file E360029-Test Record-1 Datasheet
UV: Light	AOV	A002R130308065 – 1R01
UV: PVC	AOV	A002R130308065 – 2R01

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



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## Appendix

### Reliability Test of Light

Testing Item	Classification	Reference Criterion	Testing Condition/Method	Result
IP Rating Test	IP65/IP68 1m	IEC 60529	/	Pass
IK Rating Test	IK08	IEC 62262	Impact energy: 5J	Pass
Environmental Test	Hi-Lo temperature impact	/	-20-70°C, 7 cycles	Pass
	Low temperature storing test	IEC 68-2-1	-20°C	Pass
	High temperature storing test	IEC 68-2-2	60°C	Pass
	High temperature & humidity impact	IEC 68-2-3	/	Pass
	Corrosion resistant test in swimming pool water	/	Free available chlorine: 0.4mg/L	Refer to test report
	Corrosion resistant test in artificial sea water	/	Salt content: 4%	Refer to test report
	Salt spray test	IEC 68-2-11	NaCl solution concentration: 5%	Pass
Ultraviolet (UV) test	ISO 4892-2	0.76W/m <sup>2</sup> , UVA-340nm, 65°C	Refer to test report	
Optical Test	Photometric test-ingrading sphere system	ANSI C78.377IES LM79	/	Refer to test report
	Photometric testgoniophotometer system	IES LM 79	/	Refer to test report
Mechanical Test	Bending Test	/	Bending diameter: 9cm, 500 times	Pass
	Swing Test	/	Swinging angle:-90°-90°, 750 times, lift weight: 300g	Pass
Electrical Test	Electrical insulation test	IEC60598-1	DC500V,2MΩ	Pass

Note: Please contact us for related test report.

### Certificates

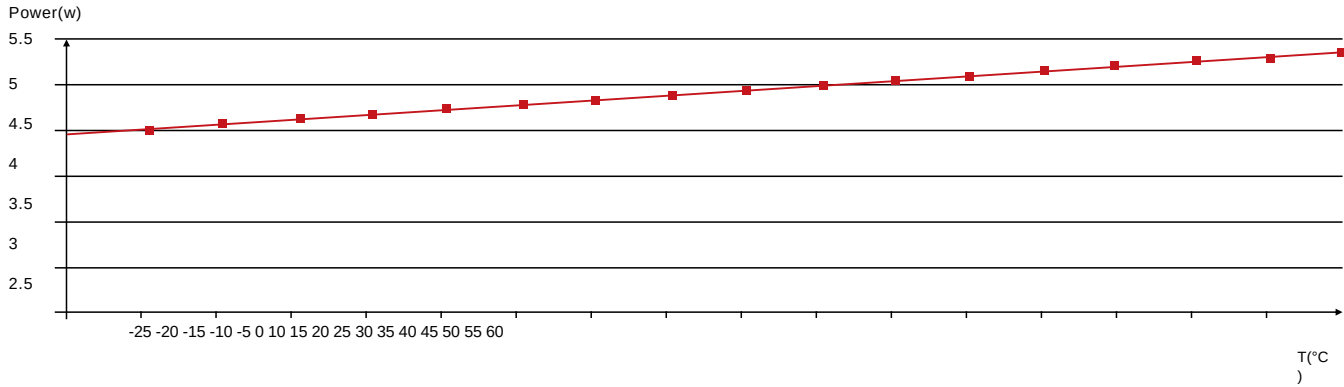
Certificating	Testing	Certificate Serial Number	Report Reference
Type CE-EMC	Organisation SGS	SZEMI41000576803V	SZEMI41000576803
CE-EMC	TUV Rheinland	AE 50274407 0001	17037105 001
CE-LVD	TUV Rheinland	AE 50275368 0001	17036967 001
UL & cUL	UL	20130417-E360029	E360029-20130322



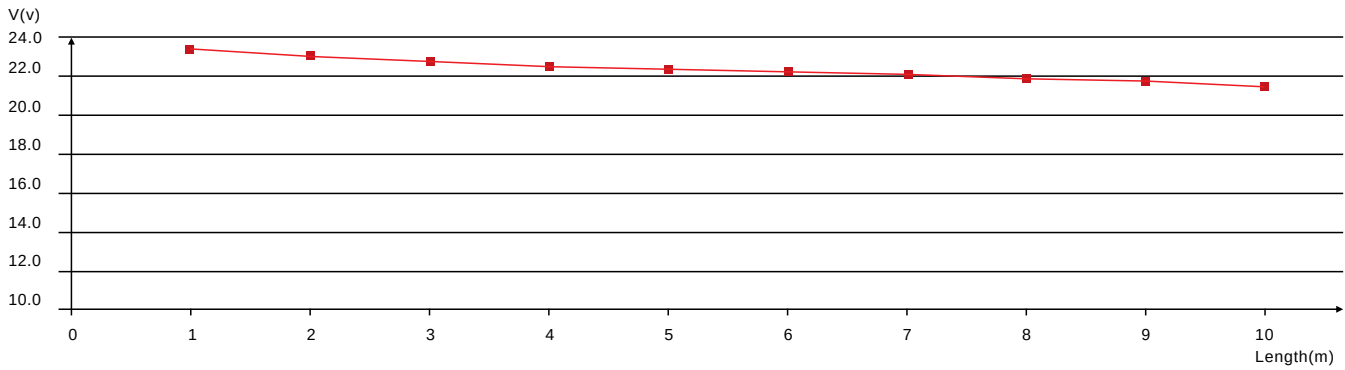
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## Appendix

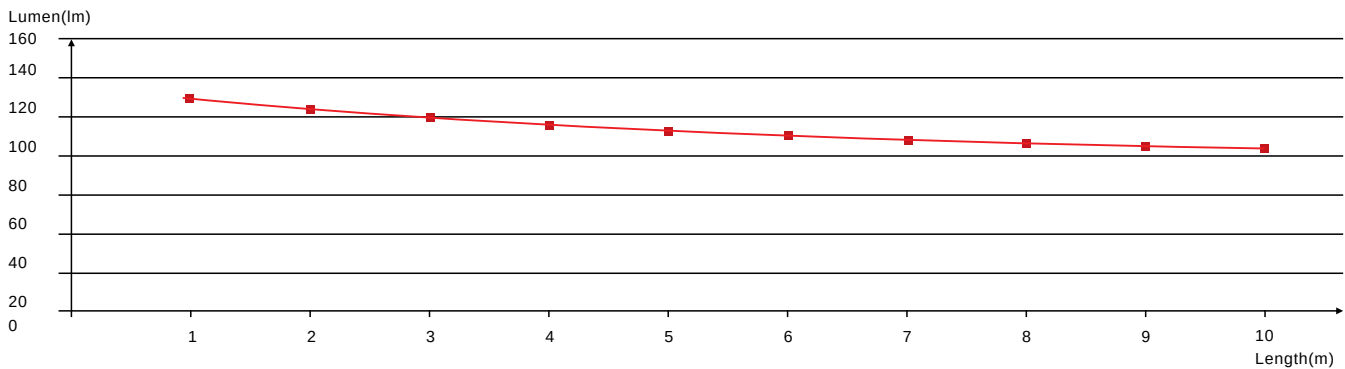
### Figures of Typical Characteristics Working Temperature vs. Power



### Working voltage vs. Length of Light



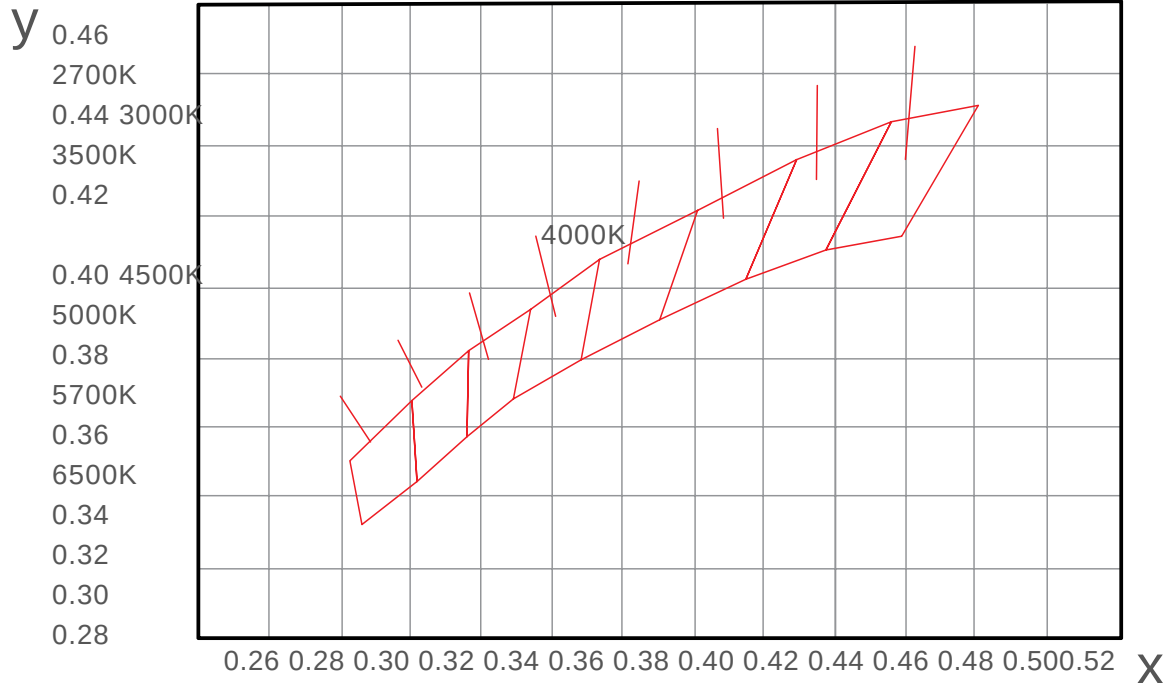
### Luminous Flux VS. Length of Light



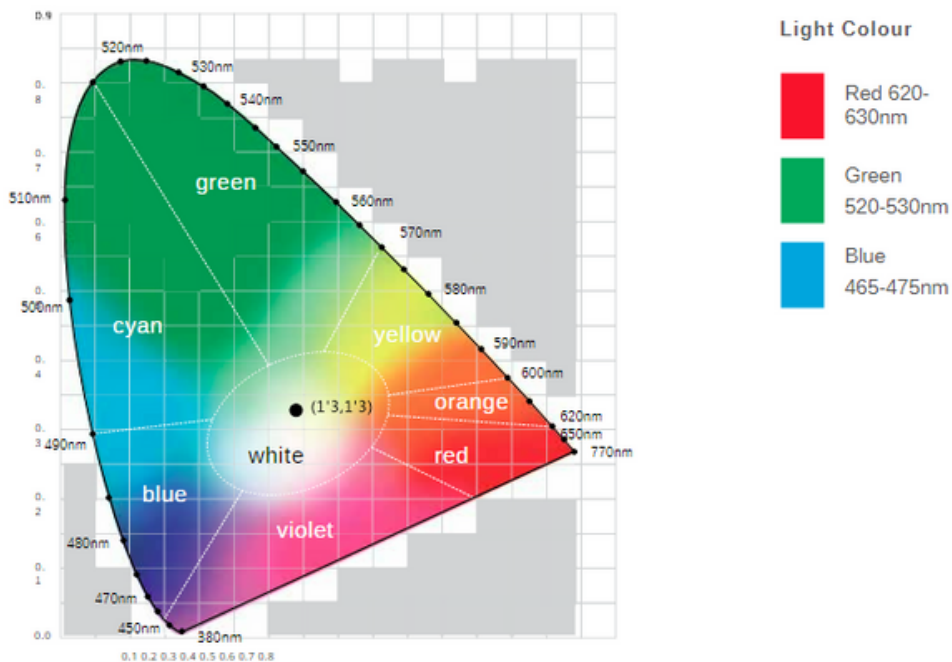
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## Appendix

### (X,Y) Chromaticity Diagram




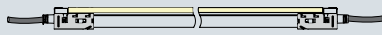
### Wavelength of Light Colour



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## Appendix

### Loading Chart

Type	Rated Power /mtr	Power Supply				
		35W	60	75W	80W	100W120W150W185W
F10	3.5W	8m	W	17m	18m	23m27m34m42m
	5W	6m	14m	12m	13m	16m19m24m30m
Energising way		DC input	 01/02		 01 02 DC input DC input	

Note: 1. These are the light maximum recommended running length subject to selected power supply.  
 2. For example: It is recommended to use one 80W power supply loading maximum 18m light (3.5w/m) or maximum 13m light (5w/m) by energising the light one end.

## Correlated Colour Temperature

### ANSI Standard

#### Nominal CCT Categories

Nominal CCT	Target CCT and Tolerance(K)	Target Duv and Tolerance
2700K	2725 ± 1450.000 ± 0.006	
3000K	3045 ± 1750.000 ± 0.006	
3500K	3465 ± 2450.000 ± 0.006	
4000K	3985 ± 2750.001 ± 0.006	
4500K	4503 ± 2430.001 ± 0.006	
5000K	5028 ± 2830.002 ± 0.006	
5700K	5665 ± 3550.002 ± 0.006	
6500K	6530 ± 5100.003 ± 0.006	

Remark:  
 1). Six of the nominal CCTs correspond to those in the fluorescent lamp specification 2700K, 3000K (Warm White) , 3500K (White), 4100K (Cool White), 5000K and 6500K (Daylight), respectively.



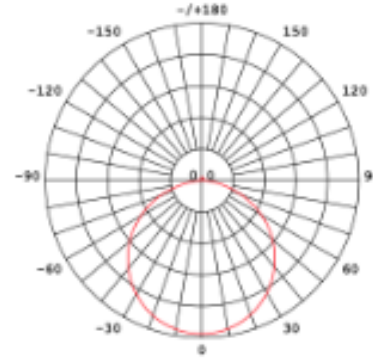
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## Specifications & Parameters

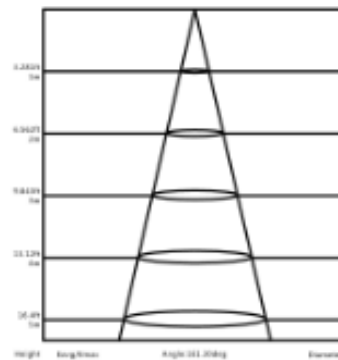
### Technical Parameters

Article No.	C-FR-F10B-D24CV	C-FR-F10B-D24CV
Colour	Red/Amber	Green/Blue/White
Working Voltage	DC24V	
Rated Power per m	3.5W	5W
LED Qty per metre	72	
LED Distance	13.89mm	
Min. Cutting Unit	9 LEDs (1 unit)	6 LEDs (1 unit)
Min. Cutting Length	12.5cm (1 unit)	8.3cm (1 unit)
Continuous Length	20m	15m
Weight per metre	210g	
Storing Temp.	-20 – 60°C	
Working Temp.	-20 – 45°C	
Operating Temp.	0 – 45°C	
IP Rating	IP68	

### Optical Parameters Candle power distribution



### Illuminance characteristics



### Optical Parameters Photometric Data

Article No.	C-FR-F10B-D24CV						
LED Type	SMD						
Beam Angle	160°C						
Colour	Wavelength	Lumens per m	Power per m	Colour	CCT	Lumens per m	Power per m
Red	620-630nm	>45lm	3.5W	2700K	2725 ± 145K	>110lm	5W
Green	520-530nm	>80lm	5W	3000K	3045 ± 175K	>120lm	5W
Blue	465-475nm	>15lm	5W	3500K	3465 ± 245K	>120lm	5W
Amber	585-595nm	>50lm	3.5W	4000K	3985 ± 275K	>120lm	5W
				4500K	4503 ± 243K	>120lm	5W
				5000K	5028 ± 283K	>120lm	5W
				5700K	5665 ± 355K	>110lm	5W
				6500K	6530 ± 510K	>110lm	5W

