



surelight

Neon light SD Range Specification

NE-SD-RGBW-HB



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Introduction

NE-SD-RGBW is a new member of the Artist of Light series adopting 4 in 1 RGBW LEDs with flat light surface. This revolutionary light combines the benefits of the variety of colours RGB LEDs and the purity of the White LEDs, meaning that it can personalize your lighting with a colour palette of millions colours and different tones for stunning and creative effects when paried with compatiable controller.

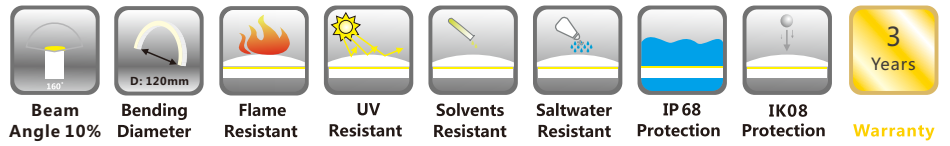
NE-SD-RGBW has passed environmental resistance, optical, mechanical and electrical tests in our lab under the support of advanced experimental equipments and technology to ensure it meets the requirements of harsh environments.

Fully encapsulated in the flexible PVC chamber by utilizing consummate extrusion technology, and pre-installed with injection-moulded connector to achieve IP68 protection, easy for installation and applicable for indoor and outdoor various circumstances.

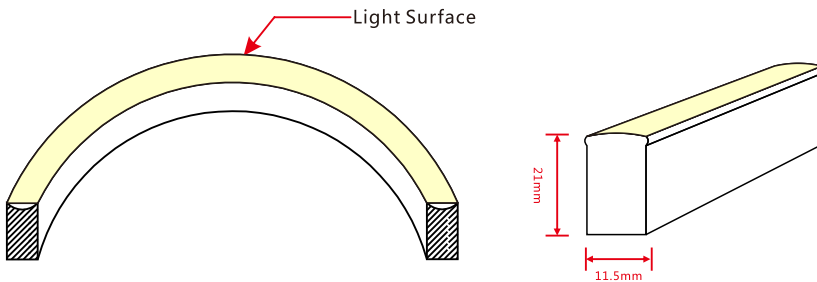
Applications:

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.	NE-SD-RGBW
Colour	RGBW
Working Voltage	DC24V
Rated Power/m	15W
LED Qty/m	60
LED Distance	16.67mm
Min. Cutting Unit	6LEDs(1unit)
Min. Cutting Length	100mm(1unit)
Continuous Length	5m
Weight/m	325g
Storage Temperature	-20 ~ 60°C
Environmental Working Temperature	-20 ~ 45°C
Environmental Installation Temperature	0 ~ 45°C
IP Rating	IP68
Bend Direction	HB

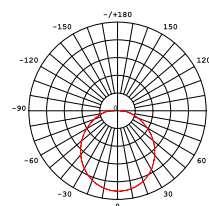


Note: For this product that over 12W per meter, full loading operating is not recommended.

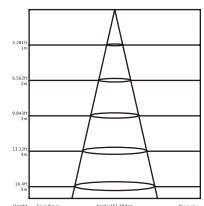
1.3 Optical Parameters

Photometric Data		
Article No.	NE-SD-RGBW	
LED Type	SMD	
Beam Angle 10%	160°	
Colour	Wavelength	Lumen/m
Red	620-630nm	>40lm
Green	520-530nm	>120lm
Blue	465-475nm	>25lm
2700K	/	>120lm
4000K	/	>120lm

Candle power distribution



Illuminance Characteristics

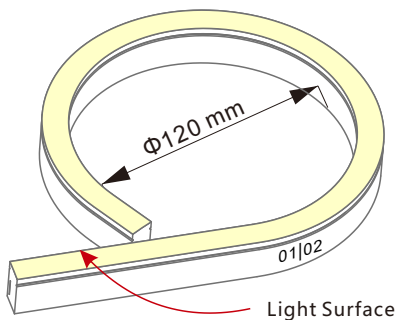


2. Functions & Features

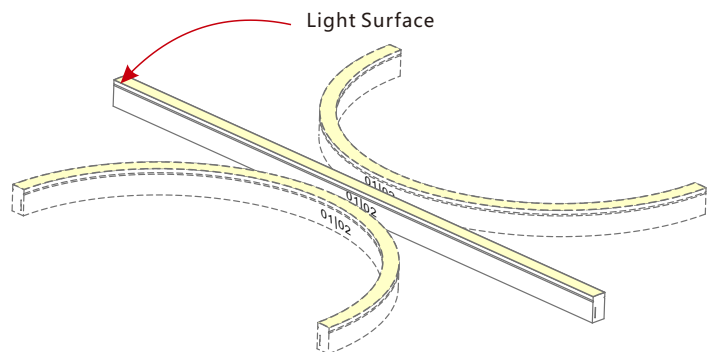
2.1 Product Features

1. High quality EPISTAR SMD LED chip.
2. UV & flame resistant construction(PVC).
3. Extremely flat profile for slimline projects.
4. Perfect uniform & even light source with invisible light dots.
5. More colour options when combined Red, Green, Blue with White;
6. Pre-installed injection moulded connector available, no need to do connector assembly.
7. High IP rating (IP68).
8. Continuous length up to 5m by powering one end.
9. Environmentally friendly & energy efficient.
10. Automated production, high reliability & long warranty.
11. 5 year 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

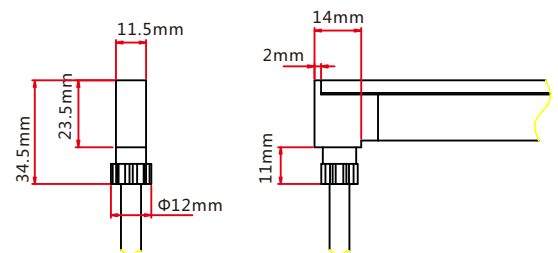
3.1 Injection-moulded Connector

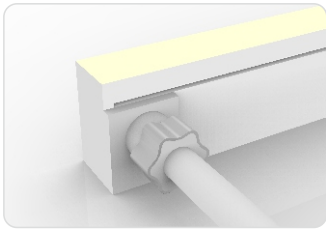
Note: Unless otherwise stated, the tolerance of the connector is $\pm 0.5\text{mm}$.



Injection-moulded Front Connector (bottom)

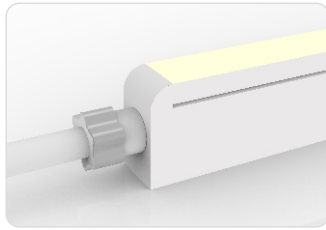
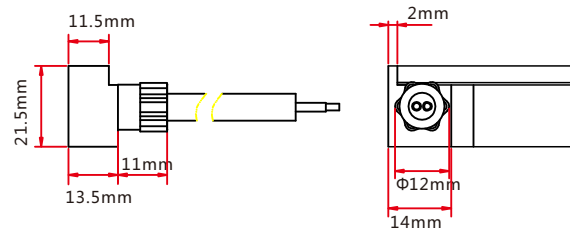
Connects light to power supply with pre-installed bottom feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.





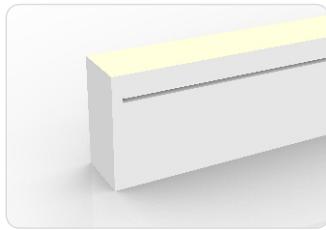
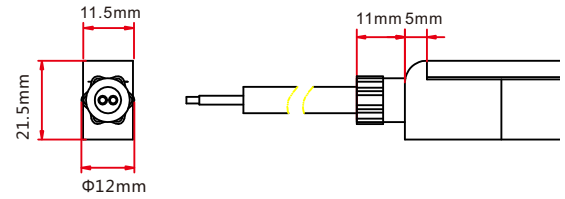
Injection-moulded Front Connector (side)

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



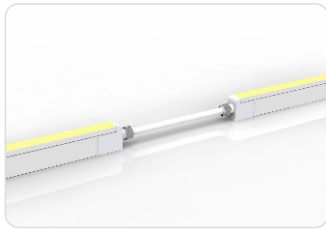
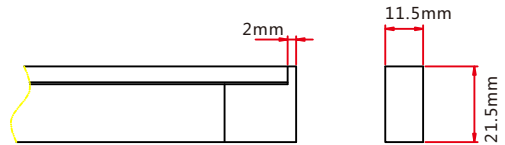
Injection-moulded Front Connector (top end)

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 End Cap

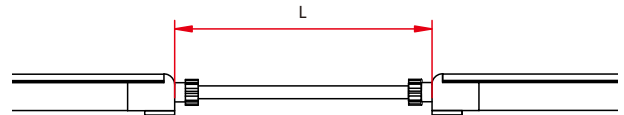
Pre-installed termination protection of the light, IP67.



Injection-moulded Jumper

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

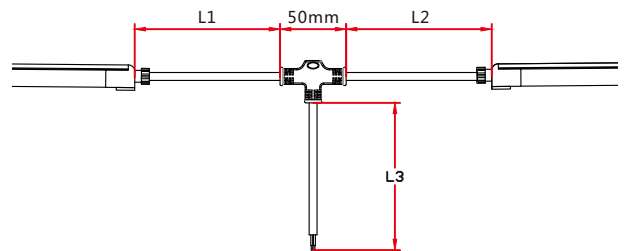
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



Injection-moulded T-feed

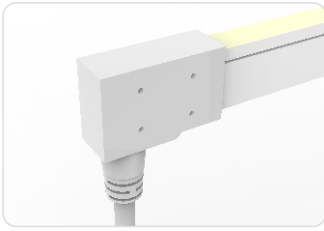
Connects two pieces of lights together with a T joint, energized from middle. IP67 Injection-moulded connector. L1 and L2 available in 0.15~0.5m. L3 available in 0.3~3m.

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



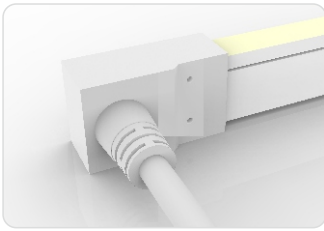
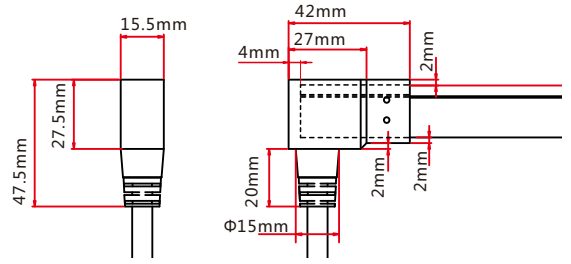
3.2 Dual Injection-moulded Connector

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



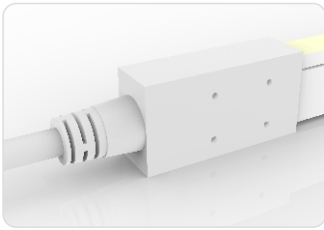
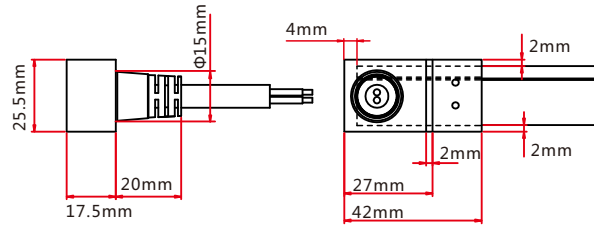
Dual Injection-moulded Front Connector (bottom)

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



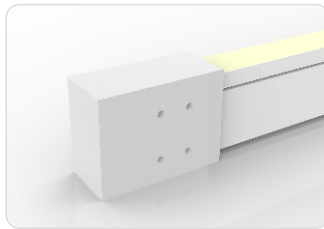
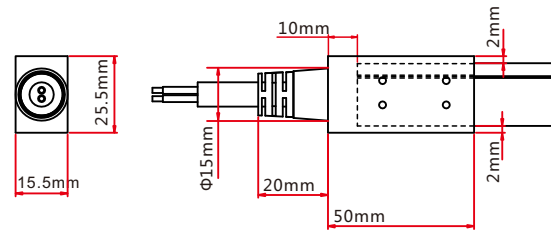
Dual Injection-moulded Front Connector (side)

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



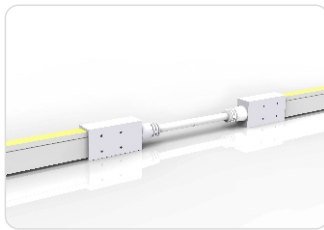
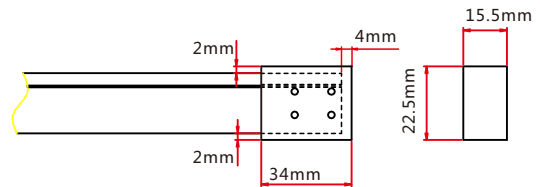
Dual Injection-moulded Front Connector (top end)

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

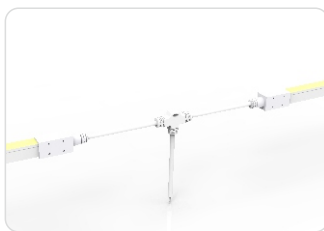
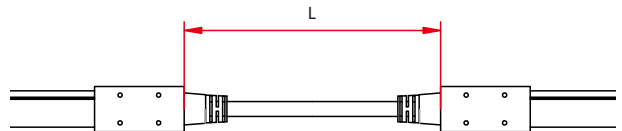
Pre-installed termination protection of the light, IP68.



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.

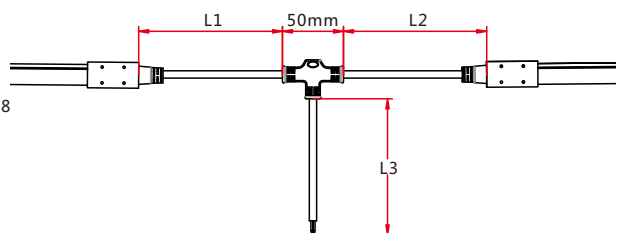
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



Dual Injection-moulded T-feed

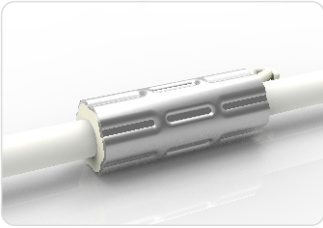
Connects two pieces of lights together with a T-joint, energized from middle. IP68 Dual Injection-moulded connector. L1 and L2 available in 0.15~0.5m. L3 available in 0.3~3m.

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



3.3 Anti-wicking Ferrule

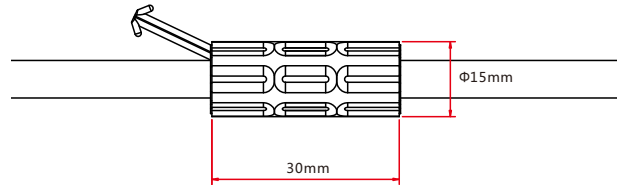
Note: Unless otherwise stated, the tolerance is $\pm 0.5\text{mm}$.



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.



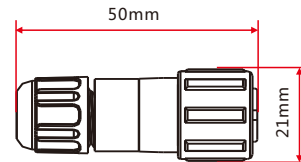
3.4 Male & Female Connector

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



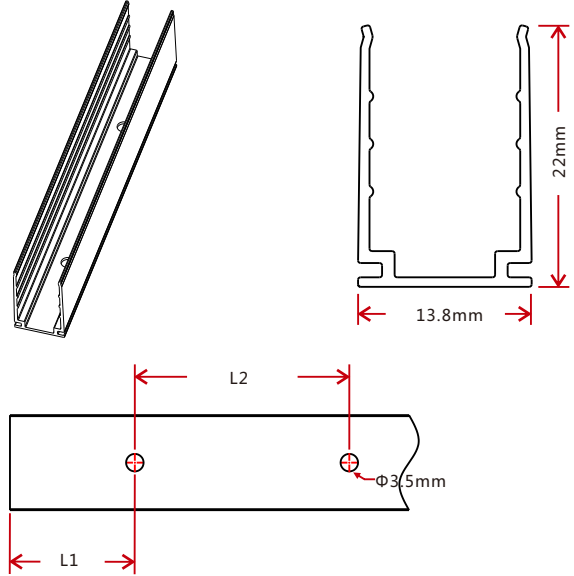
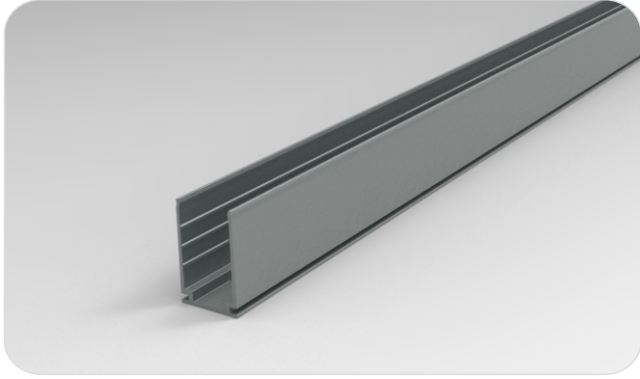
Male & female Connector

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



4. Mounting Profile

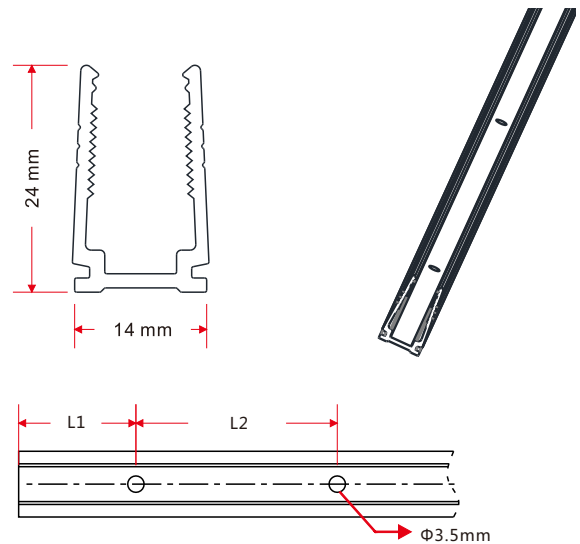
4.1 Standard Aluminum Profile



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

Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-SD-RGBW	13.8*22	35	17.5	/	$\Phi 3.5$	1	SD, XL
		500	50	200	$\Phi 3.5$	3	SD, XL
		1000	100	200	$\Phi 3.5$	5	SD, XL
		2000	100	200	$\Phi 3.5$	10	SD, XL

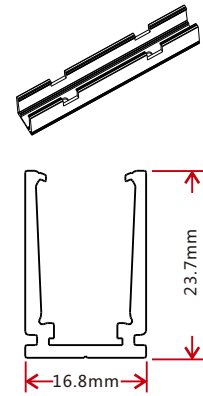
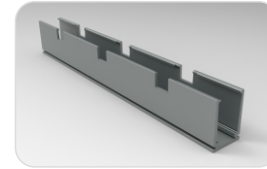
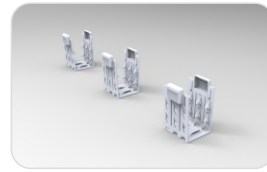
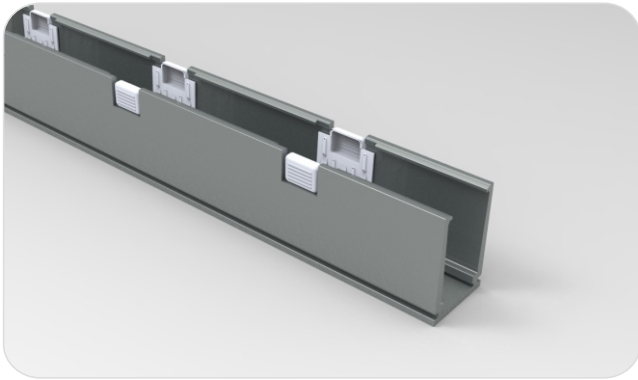
4.2 Plastic Profile



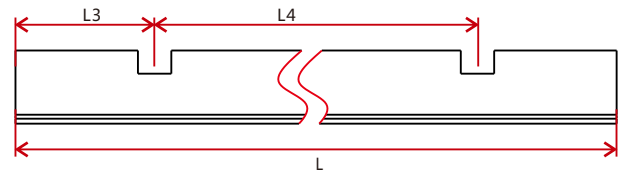
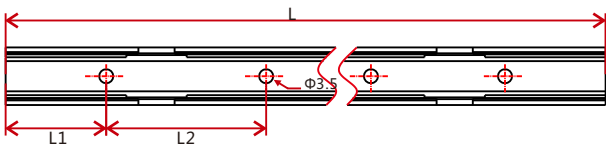
Note: Unless otherwise stated, the tolerance of the profile is ± 0.5 mm.

Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-SD-RGBW	14*24	500	50	200	$\Phi 3.5$	3	SD, XL
		1000	100	200	$\Phi 3.5$	5	SD, XL
		2000	100	200	$\Phi 3.5$	10	SD, XL

4.3 Self-locking Aluminum Profile (Using with the Clip)

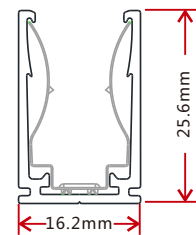
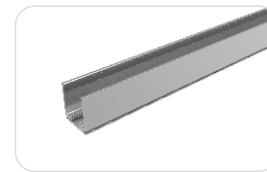


Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.

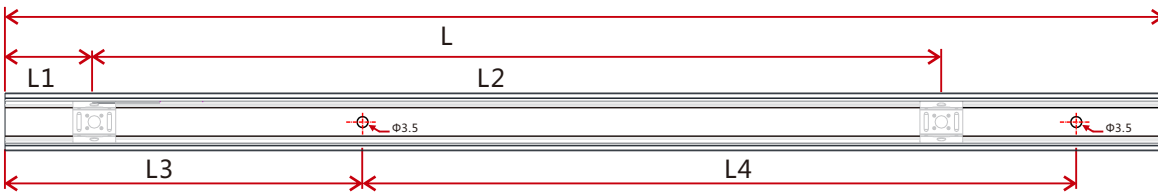


Model	W*H(mm)	Standard Length(mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(mm)	Hole Number	Clip Number
NE-SD-RGBW	16.8*23.7	35	17.5	25	5	/	$\Phi 3.5$	2	1
		500	50	200	75	350	$\Phi 3.5$	3	2
		1000	100	200	150	350	$\Phi 3.5$	5	3
		2000	100	200	125	350	$\Phi 3.5$	10	6

4.4 Self-locking Aluminum Profile Ver 2.0 (Using with the Clip)

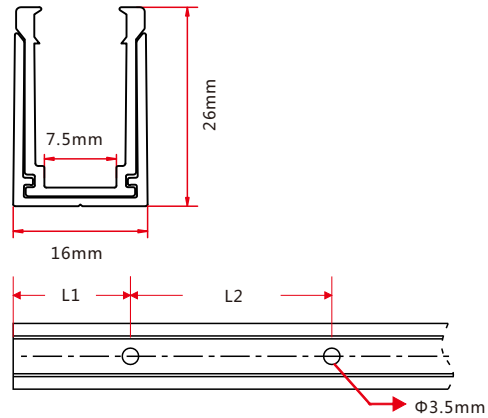
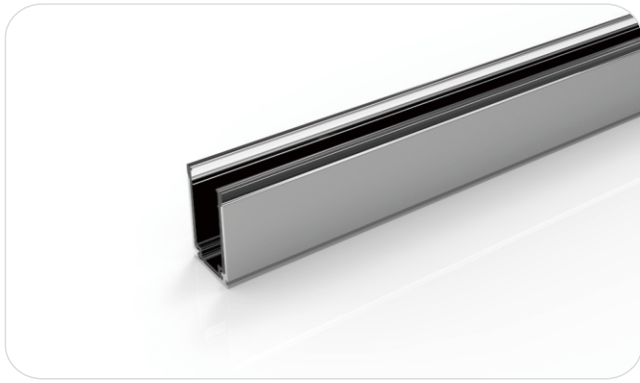


Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.



Model	W*H(mm)	Standard Length(mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(mm)	Hole Number	Clip Number
NE-SD-RGBW	16.2*25.6	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

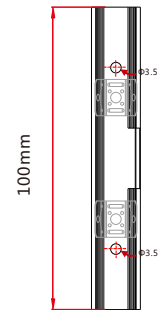
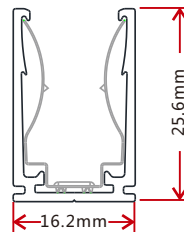
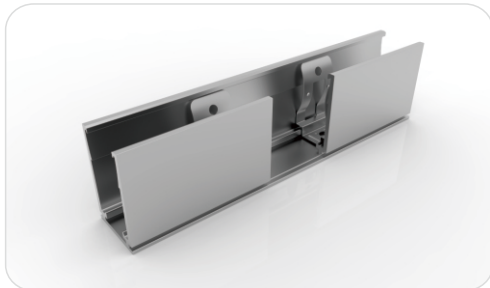
4.5 Plastic & Aluminum Combination Profile



Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-SD-RGBW	16*26	35	17.5	/	Φ3.5	1	SD, XL
		500	50	200	Φ3.5	3	SD, XL
		1000	100	200	Φ3.5	5	SD, XL
		2000	100	200	Φ3.5	10	SD, XL

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

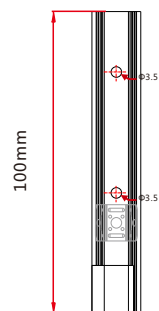
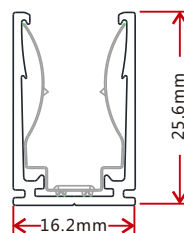
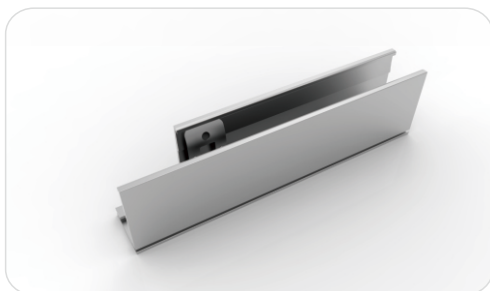
4.6.1 Self-locking Aluminum Profile Ver. 2, Middle Feed (Using with the Clip)



Model: NE-SD-RGBW

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

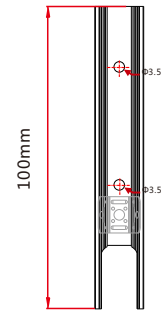
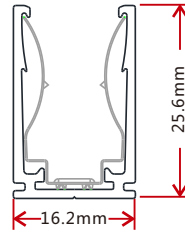
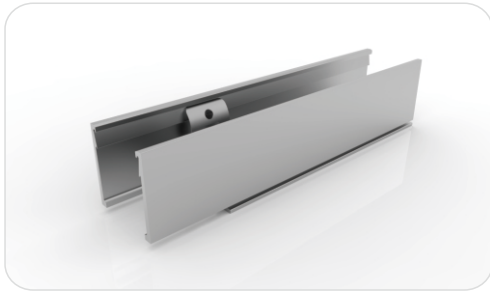
4.6.2 Self-locking Aluminum Profile Ver. 2, Side Feed From Left (Using with the Clip)



Model: NE-SD-RGBW

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

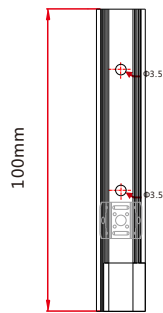
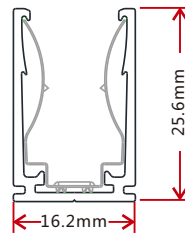
4.6.3 Self-locking Aluminum Profile Ver. 2, Bottom Feed (Using with the Clip)



Model: NE-SD-RGBW

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

4.6.4 Self-locking Aluminum Profile Ver. 2, Side Feed From Right (Using with the Clip)

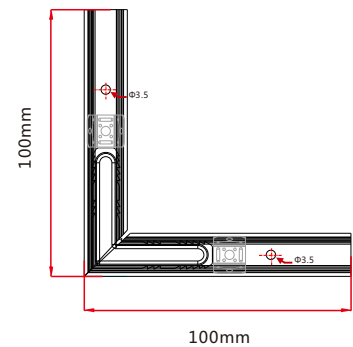
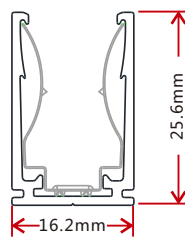


Model: NE-SD-RGBW

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

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

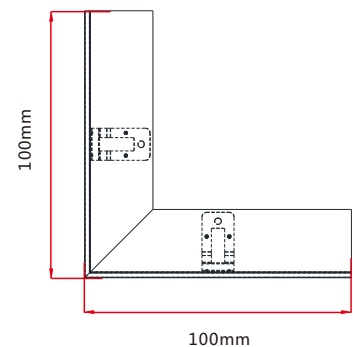
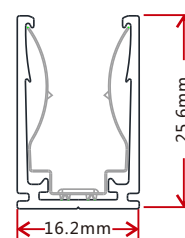
4.7.1 L Shape Self-locking Aluminum Profile Ver. 2 (Using with the Clip)



Model: NE-SD-RGBW

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

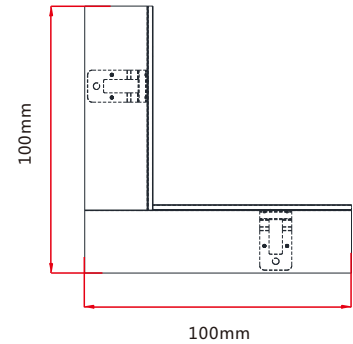
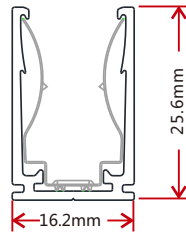
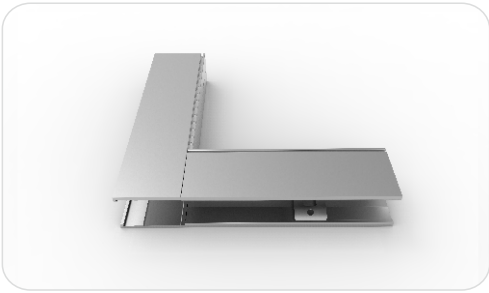
4.7.2 Inward L Shape Self-locking Aluminum Profile Ver.2 (Using with the Clip)



Model: NE-SD-RGBW

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

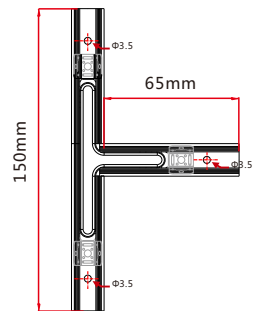
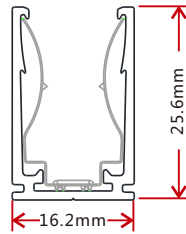
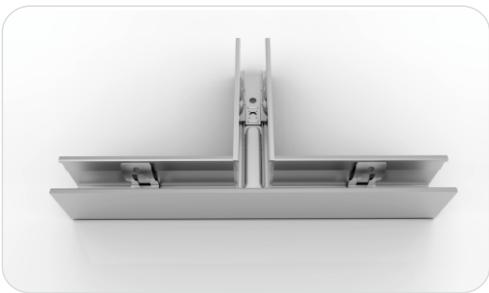
4.7.3 Outward L Shape Self-locking Aluminum Profile Ver.2 (Using with the Clip)



Model: NE-SD-RGBW

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

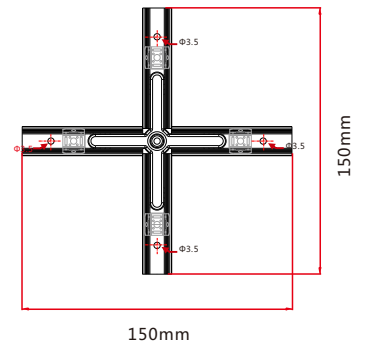
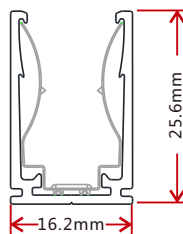
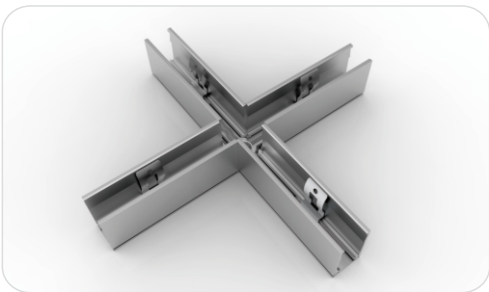
4.7.4 T Shape Self-locking Aluminum Profile Ver. 2 (Using with the Clip)



Model: NE-SD-RGBW

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

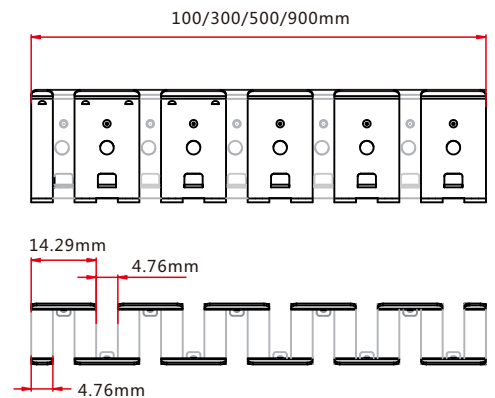
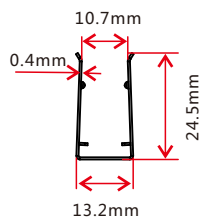
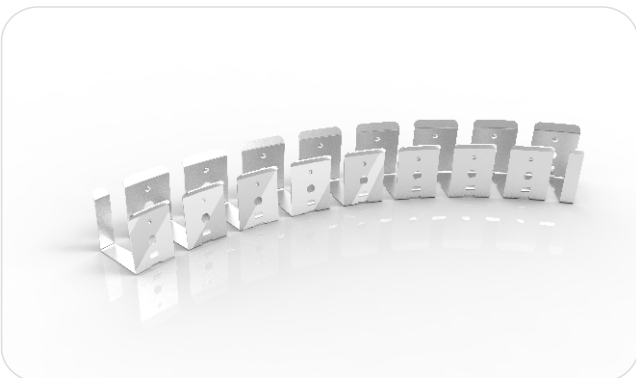
4.7.5 X Shape Self-locking Aluminum Profile Ver. 2 (Using with the Clip)



Model: NE-SD-RGBW

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

4.8 Curve Stainless Steel Profile

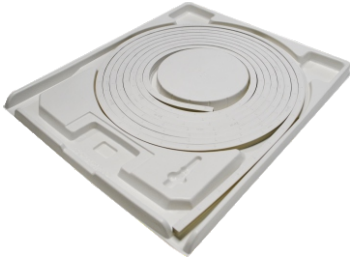


Model: NE-SD-RGBW

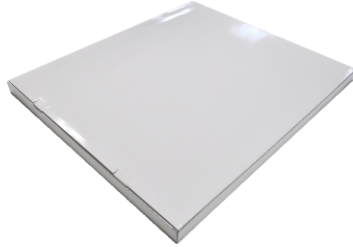
Note: Unless otherwise stated, the tolerance of the profile is $\pm 0.5\text{mm}$.

5.Packaging

Packaging Method



Plastic Plate



White Box



Carton



www.surelight.com

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	10
10m	45*4.2*56	58*47*24	5	18
20m	61*4.2*72	74*63.5*10.5	2	15

6. Appendix

6.1 Certificate

Certificating Type	Testing Organization	Certificate Serial Number	Report Reference
CE-EMC	SGS	SZEM1702001259LMV	SZEM160600421302

6.2 Third-Party Test Report

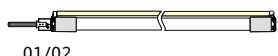

Testing Item	Testing Organization	Report Number
RoHS	SGS	CANEC1202163502 A01
IP68: Screw type	TUV SUD	68.140.12.136.02
IP68: Clasp type	SGS	GZES140200135301
		GZES140200135401
		GZES140200135501
		GZES140200135701
		GZES140200135801
IPX8: Molding type	SGS	SZES141200357301
		SZES141200357401
		SZES141200357501
IPX8: Snap type	SGS	GZES160600792031
Flame retardant	TUV SUD	68.140.13.068.01
UV@340nm: Light	AOV	A002R130308065—1R01
UV@340nm: PVC	AOV	A002R130308065—2R01

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

6.3 Reliability Test of Light

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

6.4 Loading Chart

Type.	Rated Power /mtr	Power Supply											
		35w	60w	75w	80w	100w	120w	150w	120w	150w	185w	240w	320w
NE-SD	6.5w/7.2w/8w	3m	6m	7.5m	8m	10m	12m	15m			18m	24m	30m
	10.6w/11w/12w	2m	3.5m	4.5m	5m	6m	7m	10m			12m	14m	20m
	15w	2m	3m	4m	4.2m	5m			6m	8m	10m		
Energizing Way		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 8m light (7.2w/m) or maximum 5m light (12w/m) by energizing the light one end.

6.5 Correlated Colour Temperature

ANSI STANDARD

Nominal CCT Categories

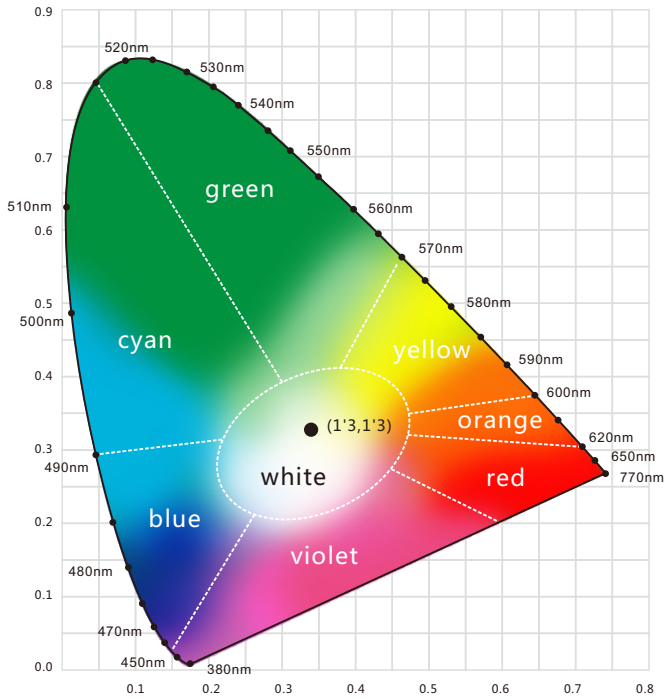
Nominal CCT	Target CCT and tolerance(K)	Target D _{uv}	D _{uv} Tolerance Range
2200K	2238 ±102	0.0000	Tx:CCT of the source
2500K	2460±120	0.0000	For Tx<2870K
2700K	2725 ±145	0.0000	0.000±0.0060
3000K	3045±175	0.0001	For Tx≥2870K
3500K	3465±245	0.0005	D _{uv} (Tx)±0.0060
4000K	3985±275	0.0010	where
4500K	4503±243	0.0015	D _{uv} (Tx)=57700 x (1/Tx)2
5000K	5029±283	0.0020	-44.6 x (1/Tx)
5700K	5667±355	0.0025	+0.00854
6500K	6532±510	0.0031	

Flexible CCT (2200-6500K) T_F¹⁾ ± ΔT²⁾ D_{uv}T_F³⁾

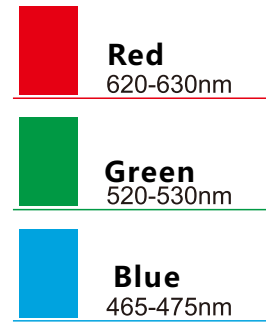
Remark:

- 1) T_F is chosen to be at 100K steps (2300,2400,.....,6400K),excluding the ten nominal CCTs listed in Table 1.
- 2) ΔT=1.1900x10⁸xT³-1.5434x10⁴xT²+0.7168xT-902.55
- 3) Same as in the D_{uv} Tolerance Range.

6.6 Wavelength of Colour Light



Light Color



6.7 (X,Y) Chromaticity Diagram

