surelight

Neon light Square Range

Specification

NE-SQ-DW-HB & NE-SQ-DW-VB

NE-SQ-DW-VB

NE-SQ-DW-HB

Table of Contents

Introduction

NE-SQ-DW is a new member of the Artist of Light series coupled with intelligent LEDs for dynamic white, which enable you to replace a variety of lighting sources and implement a lighting design consistently and efficiently that responds to your undefined and specific needs.

NE-SQ-DW is UL/cUL, CE, TUV and RoHS compliant. Moreover, it has passed rigorous environmental resistance, optical, mechanical and electrical tests in our lab under the support of advanced experimental equipments and technology to ensure it meets the requirements of harsh environments. Also it has passed relevant tests of third party inspection authority.

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

NE-SQ-DW can vary colour temperature from 2500K to 5000K with smooth illumination and small bend diameter in both horizontal and vertical bending direction.

Applications:

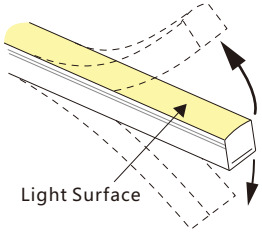
1. Outdoor or Indoor Contour/Border Lighting
2. Architectural Outline/Decorative Lighting
3. Cove/Accent Lighting
4. Facade/Terrace Floor Lighting
5. Display Lighting

1. Specifications & Parameters

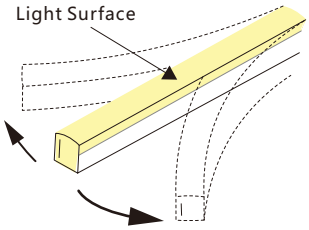
Beam Angle 10% | Bending Diameter | Flame Resistant | UV Resistant | Solvents Resistant | Saltwater Resistant | IP 68 Protection | IK08 Protection | Warranty

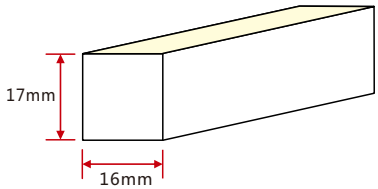
1.1 Dimensions of Light

NE-SQ-DW-VB



NE-SQ-DW-HB





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

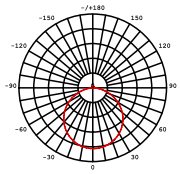
1.2 Technical Parameters

Technical Parameters	
Article No.	NE-SQ-DW
Colour	W/WW
Working Voltage	DC24V
Rated Power/m	12W
LED Qty/m	144LEDs
LED Distance	13.89mm
Min. Cutting Unit	12LEDs (1 unit)
Min. Cutting Length	83.3mm(1 unit)
Continuous Length	10m
Weight/m	325g
Storage Temperature	-20~60℃
Environmental Working Temperature	-20~45℃
Environmental Installation Temperature	0~45℃
IP Rating	IP68

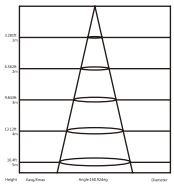
1.3 Optical Parameters

Photometric Data			
Article No.	NE-SQ-DW		
LED Type	SMD		
Beam Angle 10%	160°		
Color	CCT	Lumen/m	Power/m
WW	2460±120K	>180lm	6w
W	5029±283K	>180lm	6w
W+WW	3465±245K	>360lm	12w

Candle power distribution



Illuminance Characteristics



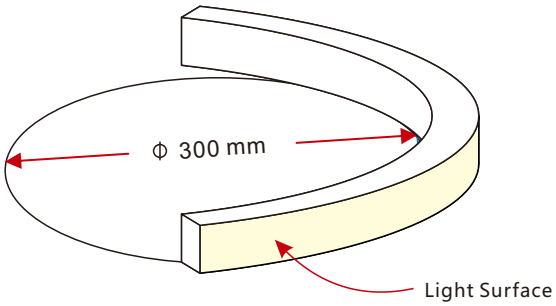
2. Functions & Features

2.1 Product Features

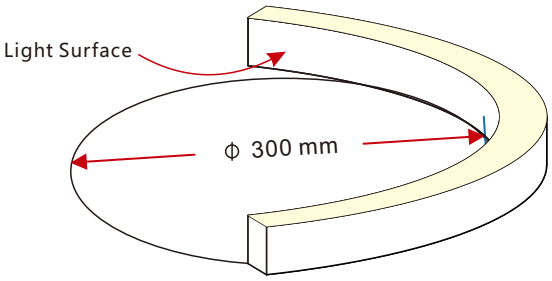
1. Dynamic white system with adjustable colour temperature from 2,500K to 5,000K.
2. High quality SMD LED chip.
3. UV & flame resistant construction (PVC).
4. Perfect uniform & smooth illumination with invisible light dots.
5. Extremely flat profile and flush light surface.
6. High lumen output and IP rating (IP68).
7. Ultra flexible with 300mm minimum bending diameter.
8. Easy installation and assembly with injection-molded connectors.
9. Continuous length up to 10m by energized from one end.
10. Environmentally friendly & energy efficient.
11. Automated production, high reliability & long warranty.
12. 5 years life span.

2.2 Minimum Bend Diameter

NE-SQ-DW-VB



NE-SQ-DW-HB



The light can only be bent along the light surface. Do not bend smaller than allowed minimum bend diameter.

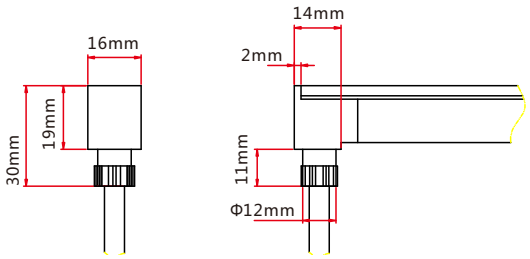
3. Types of Connector

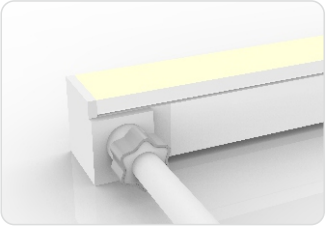
3.1 Injection-moulded Connector

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

Injection-moulded Front Connector (bottom)

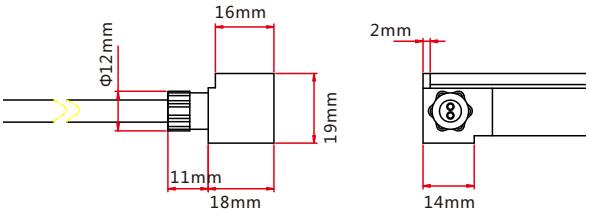
Connects light to power supply with pre-installed bottom feed cable IP67. Available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m lengths.

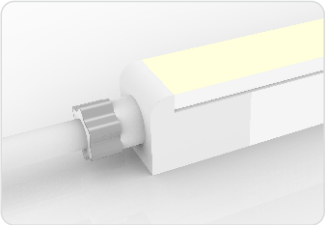




Injection-moulded Front Connector (side)

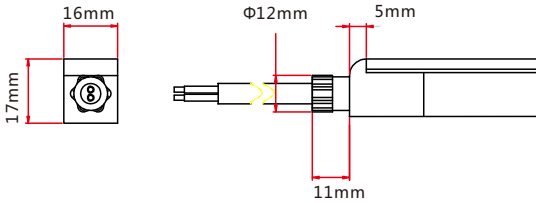
Connects light to power supply with pre-installed side feed cable, IP67. Available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m lengths.

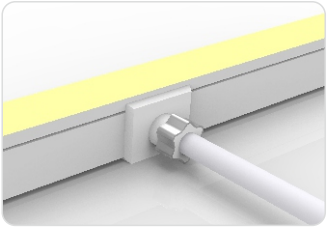




Injection-moulded Front Connector (end)

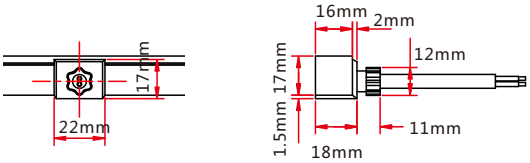
Connects light to power supply with pre-installed end feed cable, IP67. Available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m lengths.

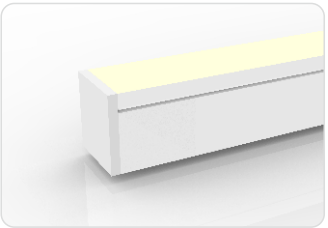




Injection-moulded Middle Feed Connector

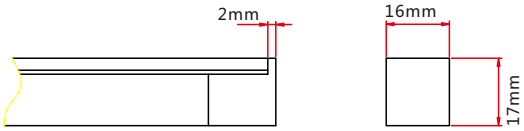
Connects light to power supply with pre-installed end feed cable, IP67. Available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m lengths.

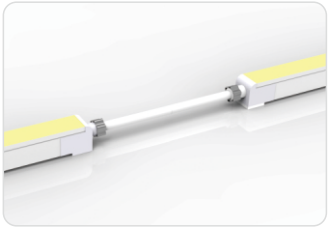




Injection-moulded End Cap

Pre-installed termination protection of the light, IP67.

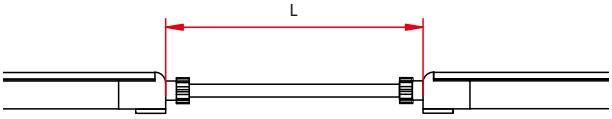




Injection-moulded Jumper

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

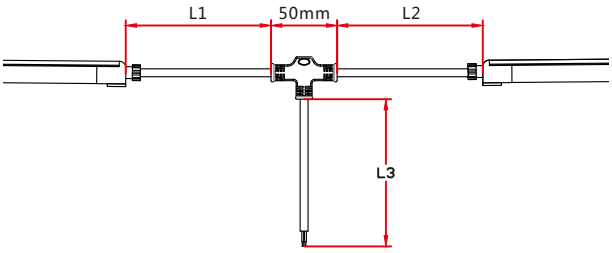
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



Injection-moulded T-feed

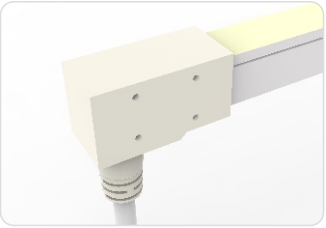
Connects two pieces of lights together with a T joint, energized from middle. IP67 Injection-moulded connector. L1 and L2 available in 0.15~0.5m. L3 available in 0.3-3m.

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



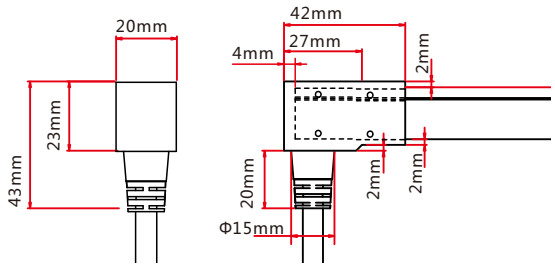
3.2 Dual Injection-moulded Connector

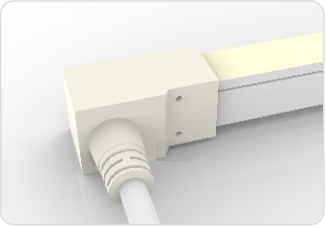
Note: Unless otherwise stated, the tolerance of the connector is ±0.5mm.



Dual Injection-moulded Front Connector (bottom)

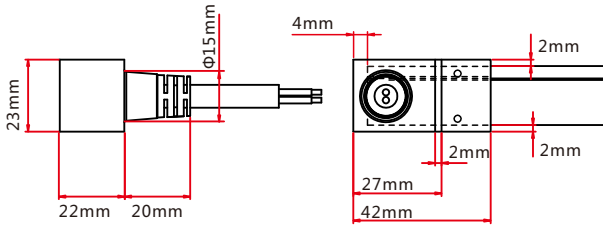
Connects light to power supply with pre-installed bottom feed cable, IP68. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

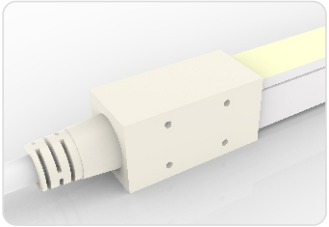




Dual Injection-moulded Front Connector (side)

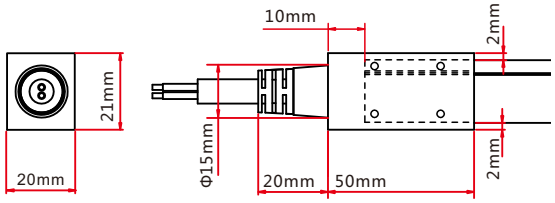
Connects light to power supply with pre-installed side feed cable, IP68. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

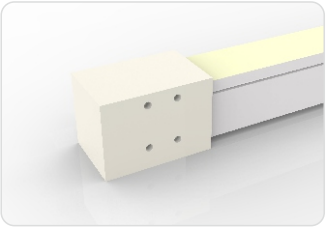




Dual Injection-moulded Front Connector (top end)

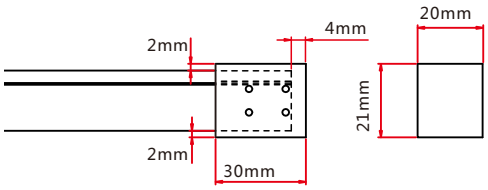
Connects light to power supply with pre-installed end feed cable, IP68. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

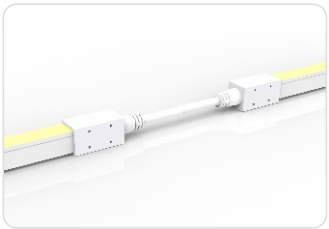




Dual Injection-moulded End Cap

Pre-installed termination protection of the light, IP68.

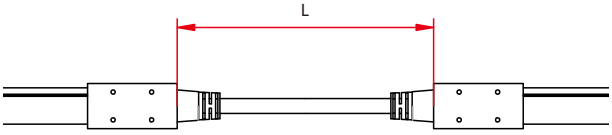




Dual Injection-moulded Jumper

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

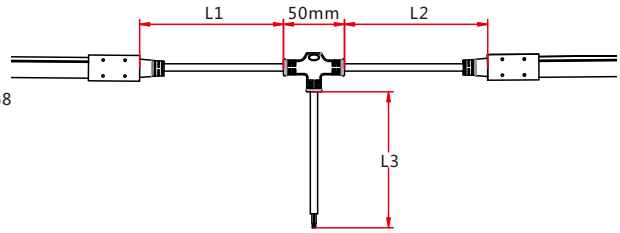
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m



Dual Injection-moulded T-feed

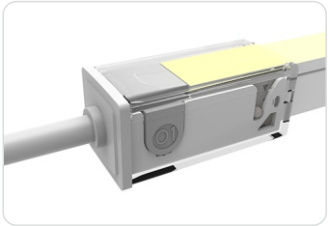
Connects two pieces of lights together with a T joint, energized from middle. IP68 Dual Injection-moulded connector. L1 and L2 available in 0.15~0.5m. L3 available in 0.3-3m.

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



3.3 Snap Connector

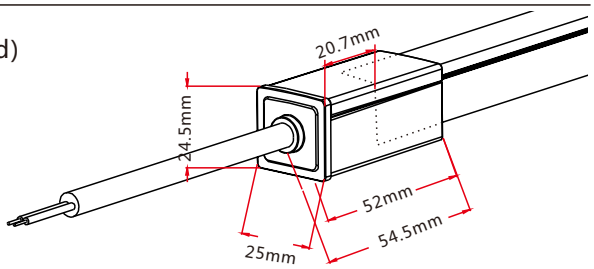
Note: Unless otherwise stated, the tolerance of the connector is ±0.5mm.

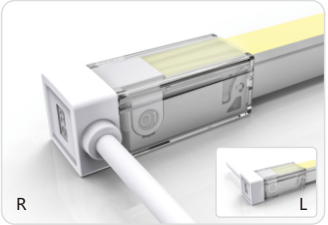


Snap Front Connector(top end)

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

Feed connector with silicone gasket *1 (Three-pin)
Anti-skidding clip *1
U steel plate *1
PC Cover * 1

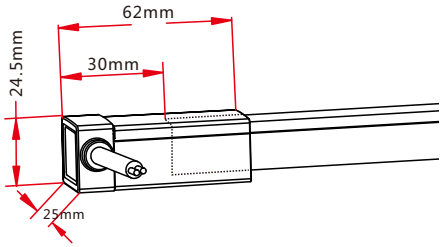


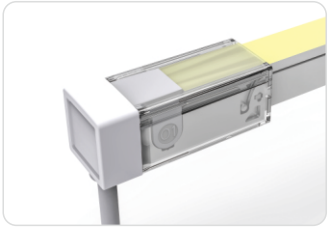


Snap Front Connector(side right/left)

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

Feed connector with silicone gasket *1 (Three-pin)
Anti-skidding clip *1
U steel plate *1
PC Cover * 1

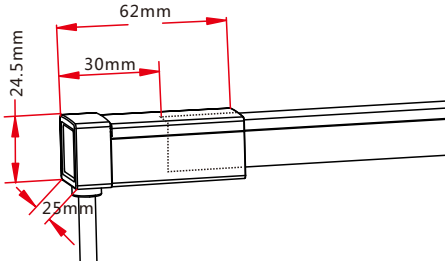




Snap Front Connector(bottom)

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

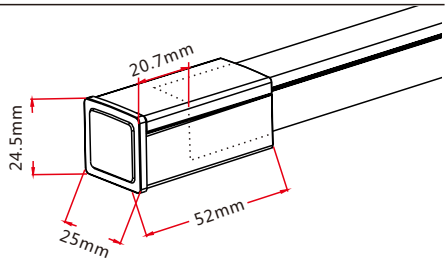
Feed connector with silicone gasket *1 (Three-pin)
Anti-skidding clip *1
U steel plate *1
PC Cover * 1

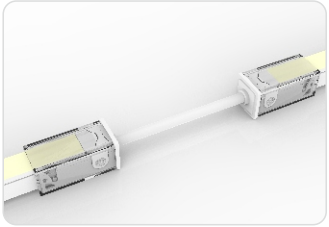


Snap End Cap

Termination protection of the light, IP67 DIY connector.

Tail plug wite silicone gasket *1
Anti-skidding clip *1
U steel plate *1
PC Cover * 1

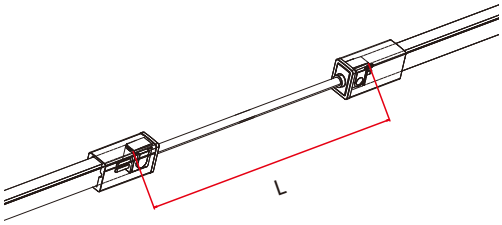




Snap Jumper

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

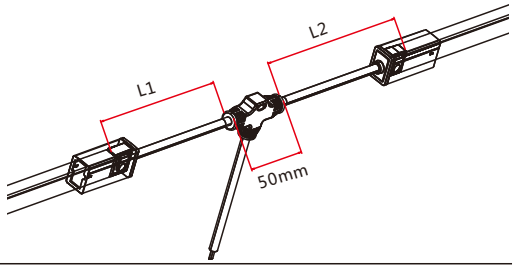
Double-end feed connector*1 (Three-pin)
Silicone gasket*2
U steel plate*2
Anti-skidding clip*2
PC cover*2



Snap Power T-feed

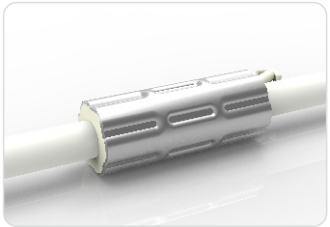
Connects two pieces of lights together with a T joint, energized from middle. IP67 DIY connector. L1 and L2 available in 0.3m.

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



3.4 Anti-wicking Ferrule

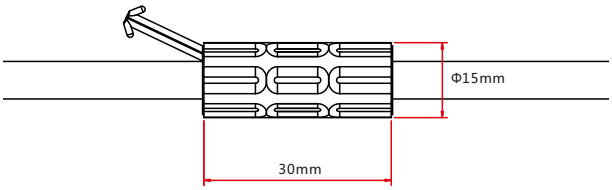
Note: Unless otherwise stated, the tolerance is ±0.5mm.



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.

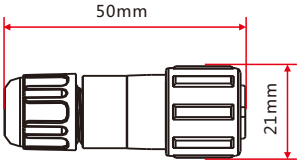


3.5 Male & Female Connector

Note: Unless otherwise stated, the tolerance is ±2mm.

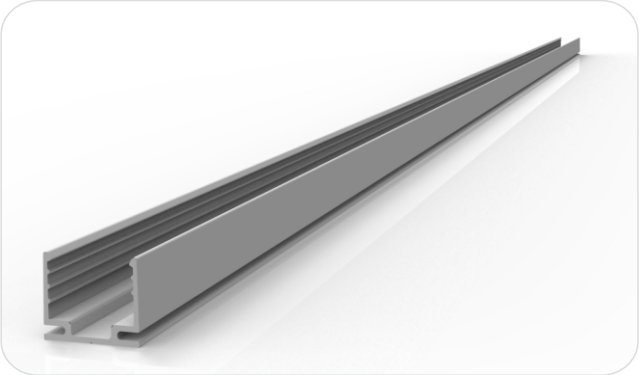
Male & female Connector

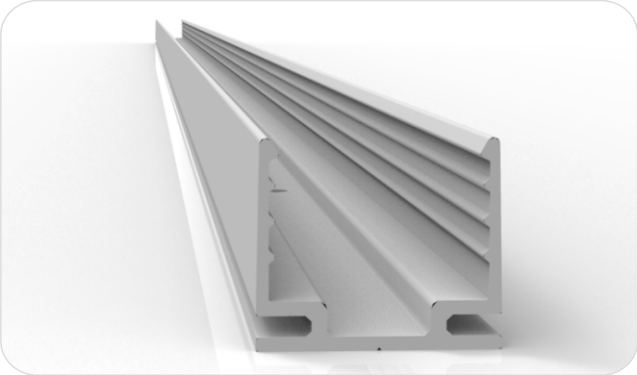
For plug and play cable junction, DIY or Pre-installed connector, IP68



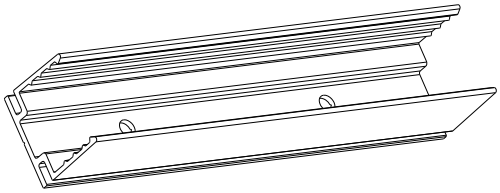
4. Mounting Profile

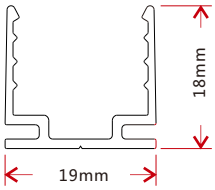
4.1 Standard Aluminum Profile

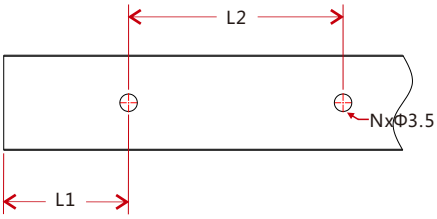




Dimensions Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.



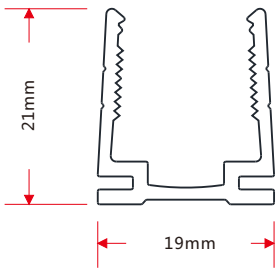


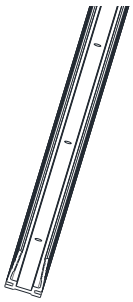


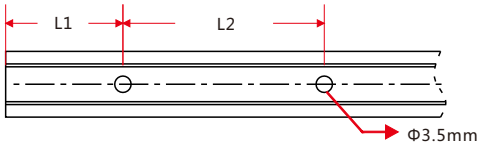
Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-SQ-DW-CH	19*18	35	17.5	/	Φ3.5	1	SQ
		500	50	200	Φ3.5	3	SQ
		1000	100	200	Φ3.5	5	SQ
		2000	100	200	Φ3.5	10	SQ

4.2 Plastic Profile

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

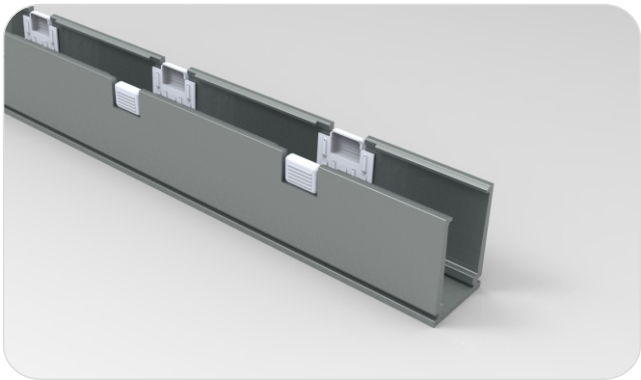


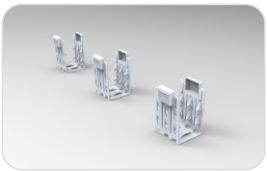


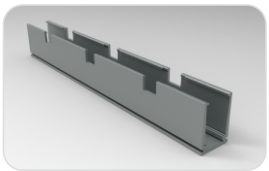


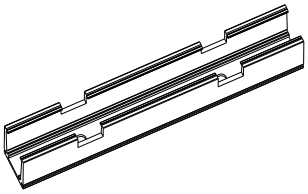
Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-SQ-DW-CH	19*21	500	50	200	Φ3.5	3	SQ
		1000	100	200	Φ3.5	5	SQ
		2000	100	200	Φ3.5	10	SQ

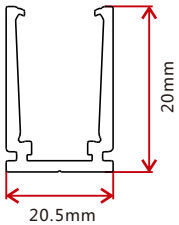
4.3 Self-locking Aluminum Profile (Using with the Clip)



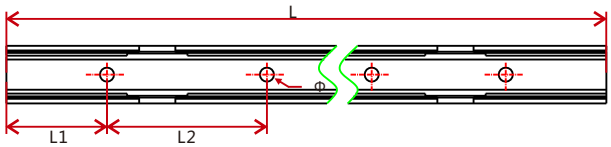


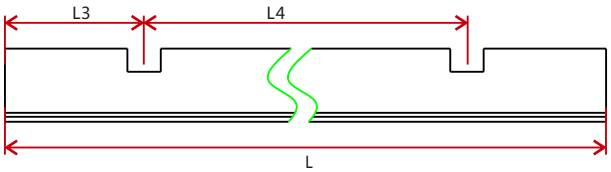






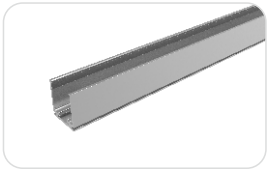
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

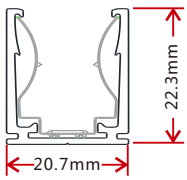




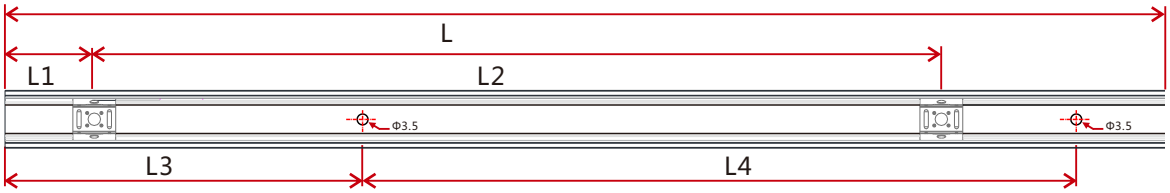
Model	W*H(mm)	Standard Length(mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(mm)	Hole Number	Clip Number
NE-SQ-DW-CH	20.5*20	35	17.5	25	5	/	Φ3.5	2	1
		500	50	200	75	350	Φ3.5	3	2
		1000	100	200	150	350	Φ3.5	5	3
		2000	100	200	125	350	Φ3.5	10	6

4.4 Self-locking Aluminum Profile Ver. 2 (Using with the Clip)



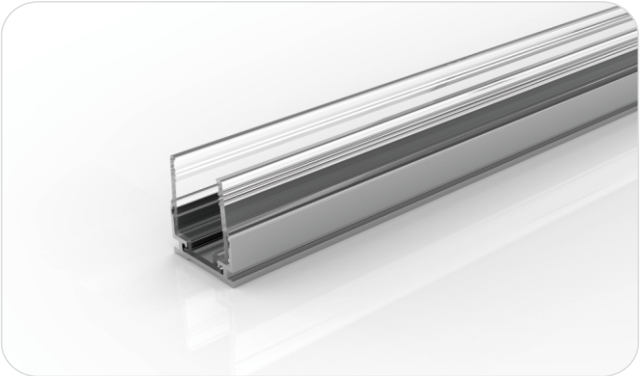


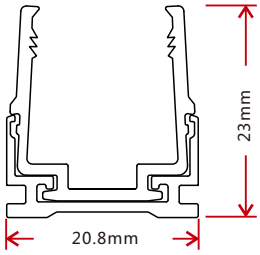
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

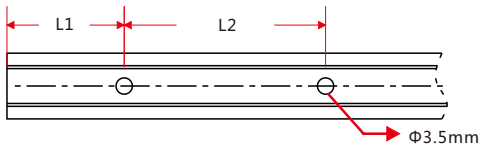


Model	W*H(mm)	Standard Length(mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(mm)	Hole Number	Clip Number
NE-SQ-DW-CH	20.7*22.3	35	17.5	/	5	25	Φ3.5	2	1
		500	25	150	50	200	Φ3.5	3	4
		1000	25	190	100	200	Φ3.5	5	6
		2000	25	195	100	200	Φ3.5	10	11

4.5 Plastic & Aluminum Combination Profile





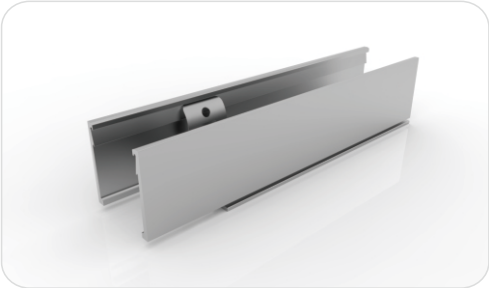


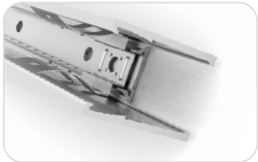
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

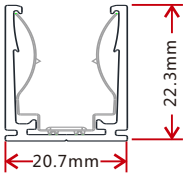
Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number	For Product
NE-SQ-DW-CH	20.8*23	35	17.5	/	Φ3.5	1	SQ
		500	50	200	Φ3.5	3	SQ
		1000	100	200	Φ3.5	5	SQ
		2000	100	200	Φ3.5	10	SQ

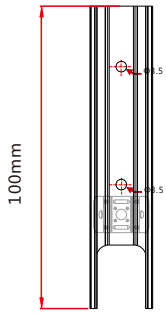
4.6 Cable Exit Oriented Aluminum Profile (Applicable to Injection-moulded Connector Only)

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





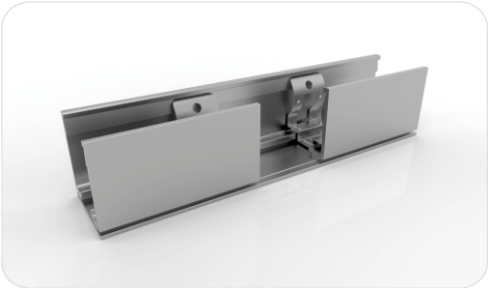


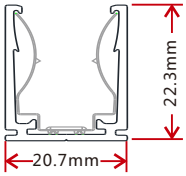


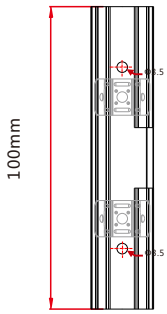
Model: NE-SQ-DW-CH

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

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



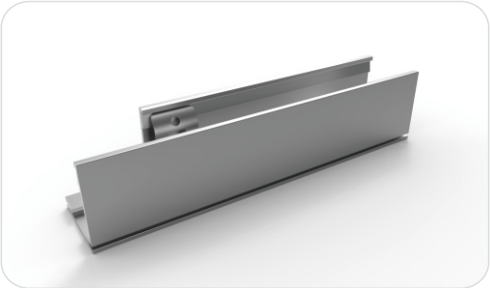


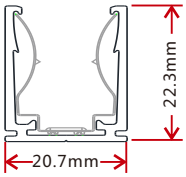


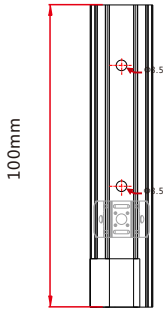
Model: NE-SQ-DW-CH

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

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



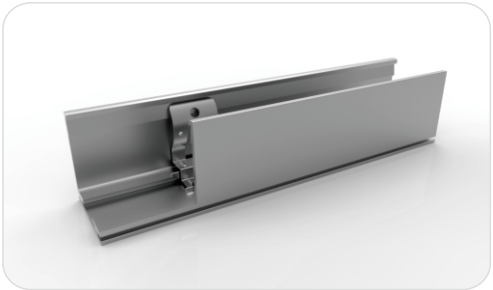


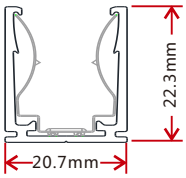


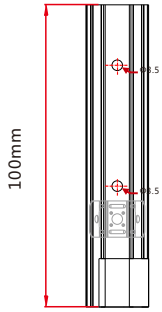
Model: NE-SQ-DW-CH

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

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





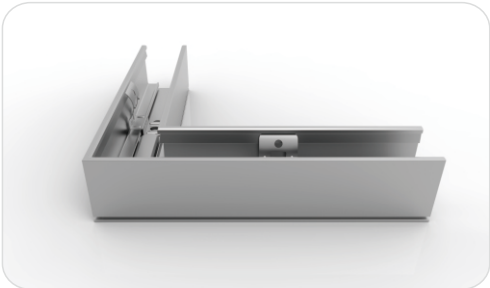


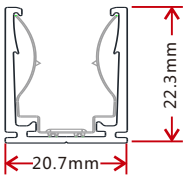
Model: NE-SQ-DW-CH

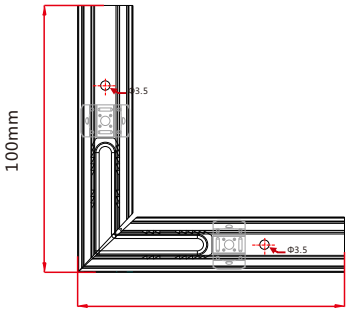
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

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)



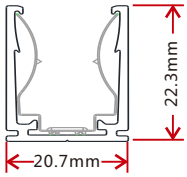


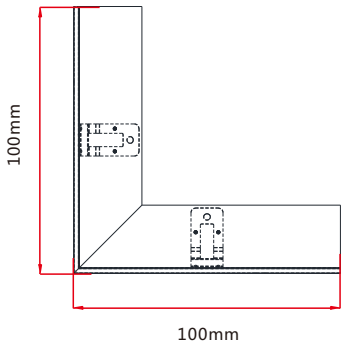


Model: NE-SQ-DW-CH

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

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

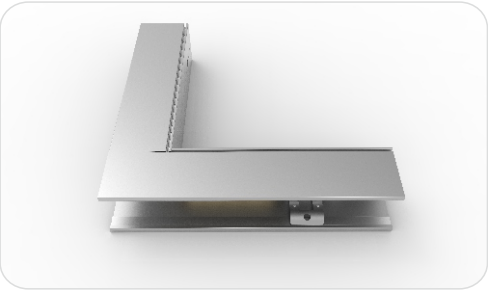


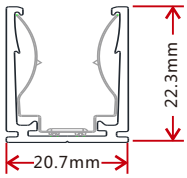


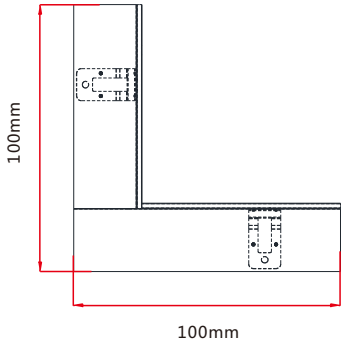
Model: NE-SQ-DW-CH

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

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



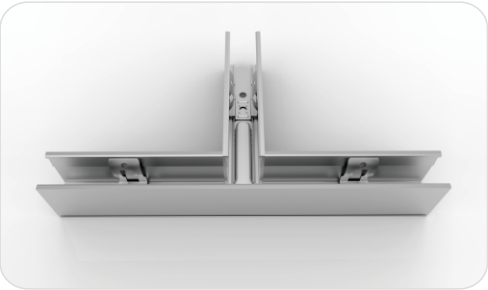


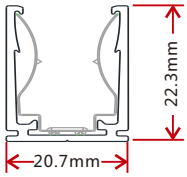


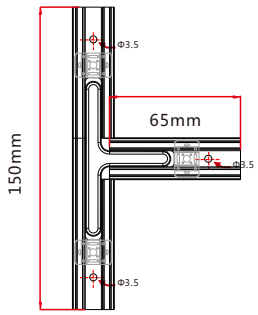
Model: NE-SQ-DW-CH

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

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



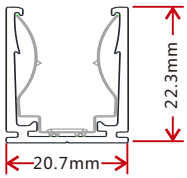


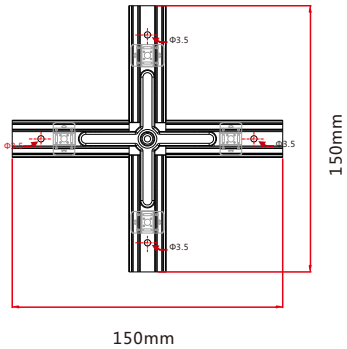


Model: NE-SQ-DW-CH

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

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

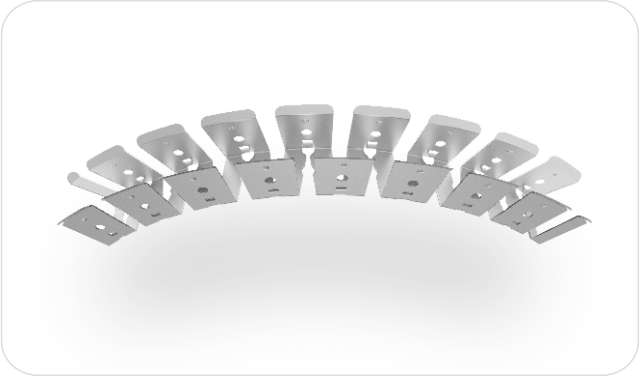


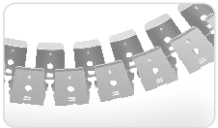


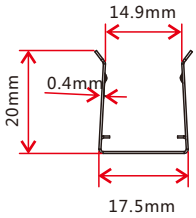
Model: NE-SQ-DW-CH

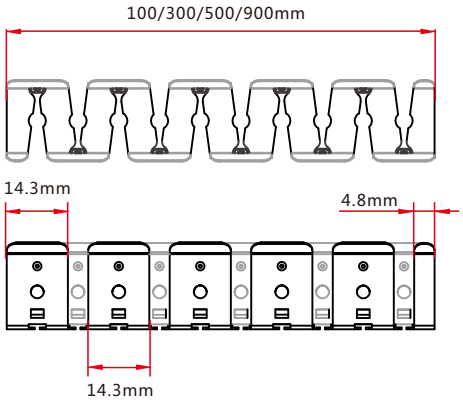
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

4.8 Curve Stainless Steel Profile







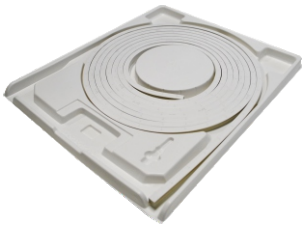


Model: NE-SQ-DW-CH

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

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)
<4.5m	39*5.2*50	52*41*28	5	<8
5-8m	51*5.2*62	64*53*17.5	3	6-9
5-8m	51*5.2*62	64*53*28	5	9-14
10m	60*3.7*71	73*62*20	5	17
15m	68*5.2*79	81*70*12.5	2	11

6. Appendix

6.1 Certificate

Certificating Type	Testing Organization	Certificate Serial Number	Report Reference
UL 2108	UL	20160726-E360029	E360029-20130322
CE-EMC	SGS	SZEM1702001259LMV	SZEM160600421302

6.2 Third-Party Test Report

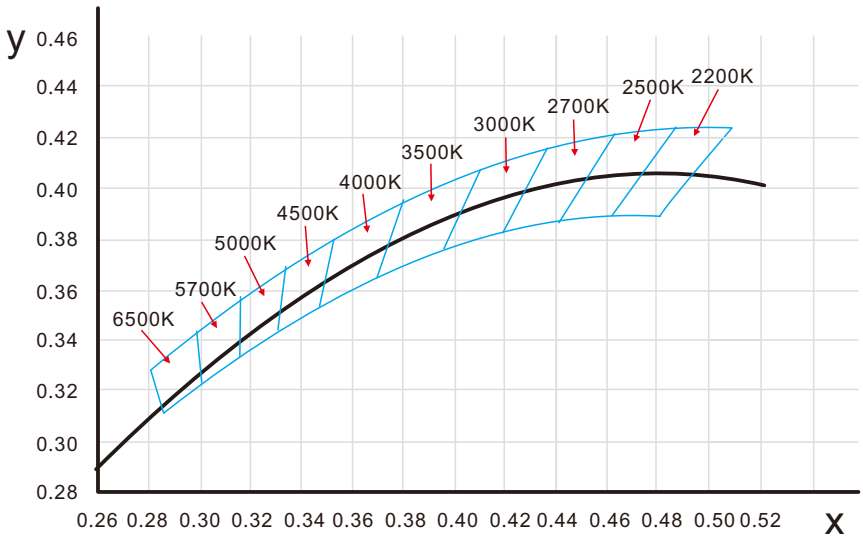
Testing Item	Testing Organization	Report Number
RoHS	SGS	CANEC1202163502 A01
IP68: Screw type	TUV SUD	68.140.12.136.02
IP68: Clasp type	SGS	GZES140200135301 GZES140200135401 GZES140200135501 GZES140200135701 GZES140200135801
IPX8: Molding type	SGS	SZES141200357301 SZES141200357401 SZES141200357501
IPX8: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

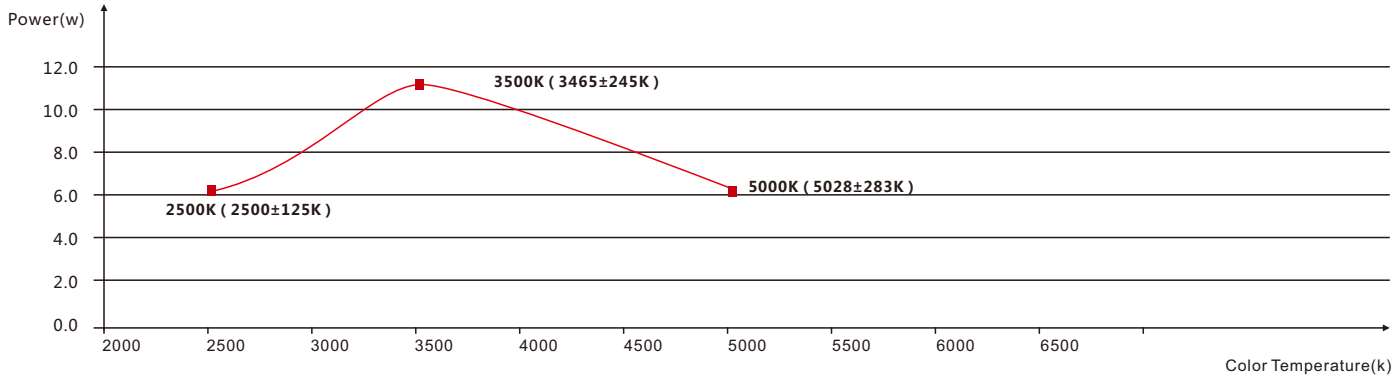
6.3 Reliability Test of Light

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
	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)

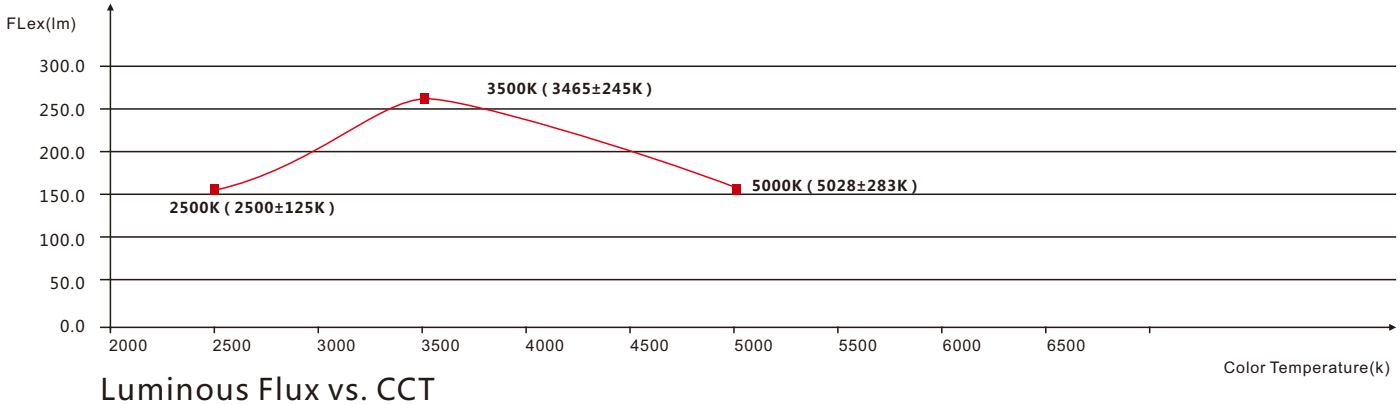
6.4 (X,Y) Chromaticity Diagram



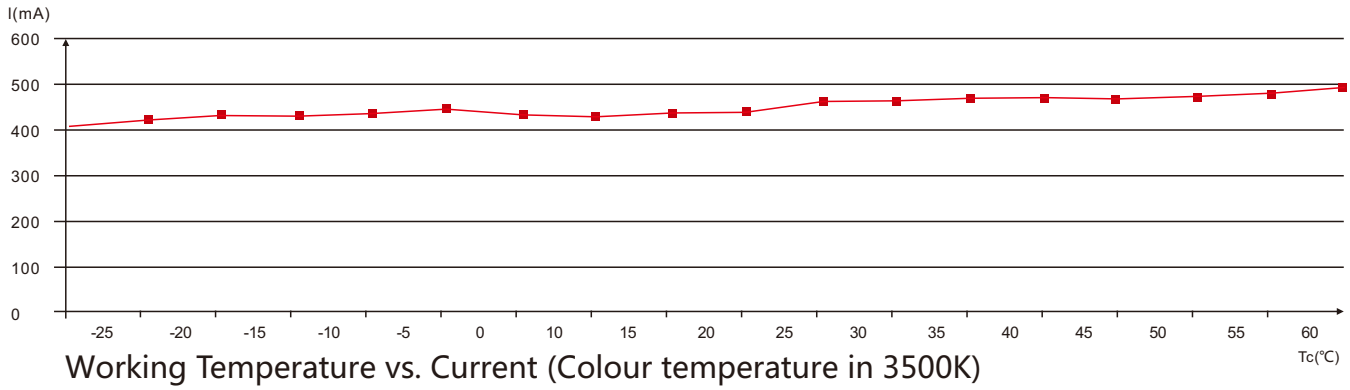
6.5 Figures of Typical Characteristics



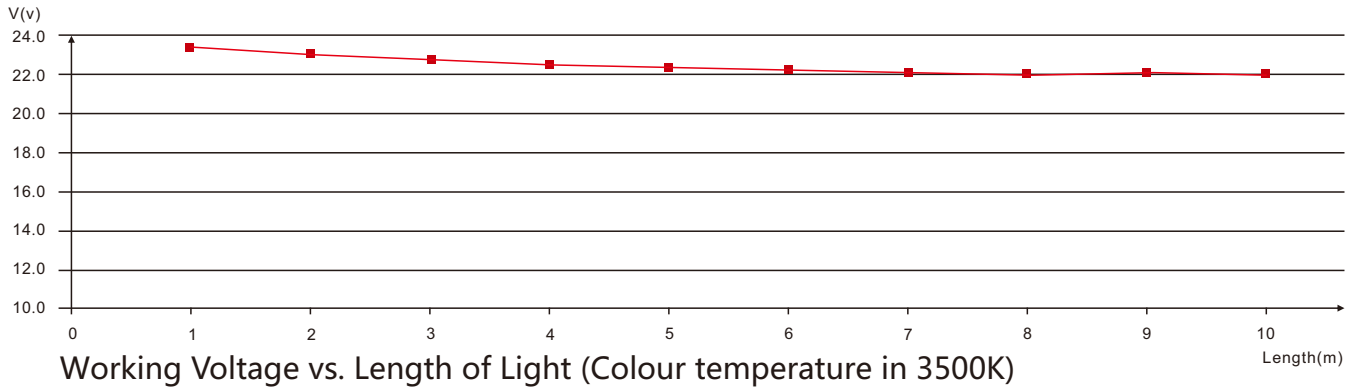
Power vs. CCT



Luminous Flux vs. CCT

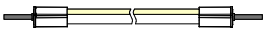


Working Temperature vs. Current (Colour temperature in 3500K)



Working Voltage vs. Length of Light (Colour temperature in 3500K)

6.6 Loading Chart

Type.	Rated Power /m	Power Supply											
		35w	60w	75w	80w	100w	120w	150w	120w	150w	185w	240w	320w
NE-SQ-DW	8w	3.5m	6m	7.5m	8m	10m	12m	15m			18.5m	24m	30m
	12w	2m	4m	5m	5m	6.5m	8m	10m			12m	16m	20m
	15w/16.5w	1.5m	3m	3.5m	4m	4.5m			5.5m	7m	9m	10m	
	22w	1m	2m	2m	3m	3.5m	4m	5m			6.5m	8.5m	10m
Energizing way		DC input  01/02							DC input  DC input 01 02				

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 (8w/m) or maximum 5m light (12w/m) by energizing the light one end.

6.7 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	Duv(Tx)±0.0060
4000K	3985±275	0.0010	where
4500K	4503±243	0.0015	Duv(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_F 1) ±ΔT 2)	$D_{uv}T_F$ 3)	

Remark:

1) T_F is chosen to be at 100K steps (2300,2400,.....,6400K),excluding the ten nominal CCTs listed in Table 1.
2) $\Delta T=1.1900x10^8xT^3-1.5434x10^4xT^2+0.7168xT-902.55$
3) Same as in the D_{uv} Tolerance Range.