surelight

Neon light
Square Range

NES-SQ-SC-HB&VB-HP

NES-SQ-SC-VB

NES-SQ-SC-HB

c UL us LISTED   CE   RoHS COMPLIANT

Rev2 .0

Table of Contents

Introduction

NES-SQ-SC is a new member of the Artist of Light series. Made of silicone, it has smooth square profile and superior even illumination, both horizontal bending and vertical bending options are available.

NES-SQ-SC has been passed environmental resistance, optical, mechanical and electrical tests in our lab under the support of advanced experimental equipment and technology to ensure it meets the requirements of harsh environments. Also, it has been passed relevant tests of third party inspection authority.

Fully encapsulated in the silicone chamber by utilizing consummate extrusion technology, assembled with injection-moulded connectors to achieve IP67 protection, easy for installation and applicable for various circumstances.
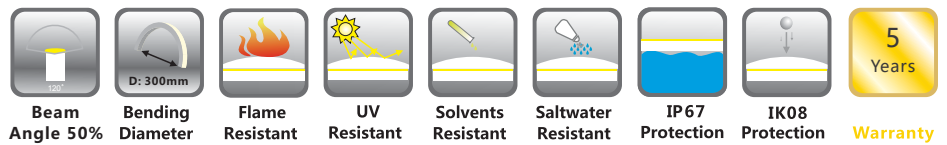
NES-SQ-SC is available in wide range of white color temperatures with only one bin and high CRI LEDs, Red, Blue, Green and Amber colors are also optional, which enables endless possibilities of application.

Due to its refined internal structure, the maximum continuous length of NES-SQ-SC is 50% longer than its PVC version.
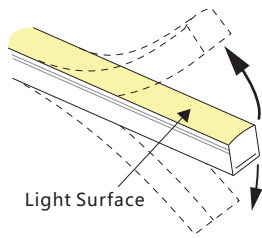
Applications:
1. Outdoor or Indoor Contour/Border Lighting
2. Architectural Outline/Decorative Lighting
3. Cove/Accent Lighting
4. Facade/Terrace Floor Lighting
5. Display Lighting
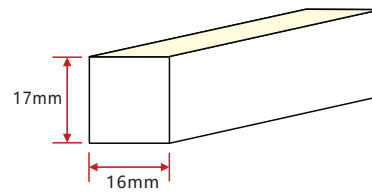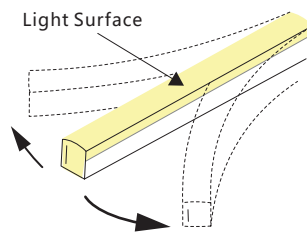
1. Specifications & Parameters

Beam Angle 50%	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP 67 Protection	IK08 Protection	5 Years Warranty

1.1 Dimensions of Light

NES-SQ-SC-VB

NES-SQ-SC-HB

Light Surface

Light Surface

17mm

16mm

Note: Unless otherwise specified, the tolerance of the dimensions is ±0.3mm.

1.2 Technical Parameters

Technical Parameters	
Article No.	NES-SQ-SC-HB&VB-HP
Color	White
Working Voltage	DC24V
Rated Power/m	15W
LED Qty/m	108LEDs
LED Distance	9.26mm
Min. Cutting Unit	6LEDs (1unit)
Min. Cutting Length	55.6mm(1unit)
Continuous Length	10m
Package Length	≤36m
Weight/m	365g
Storage Temperature	-40~60℃
Ambient Working Temperature	-40~55℃
Ambient Installation Temperature IP	-40~45℃
Rating	IP67

1.3 Optical Parameters

Photometric Data			
Article No.	NES-SQ-SC-HB&VB-HP		
LED Type	SMD		
Beam Angle 50%	120°	VB	HB
Color	CCT	Lumen/m	Lumen/m
2200K	2238±102K	>750lm	>700lm
2700K	2725±145K	>800lm	>750lm
3000K	3045±175K	>850lm	>750lm
4000K	3985±275K	>850lm	>750lm
5700K	5669±355K	>800lm	>750lm

Candle power distribution   Illuminance Characteristics
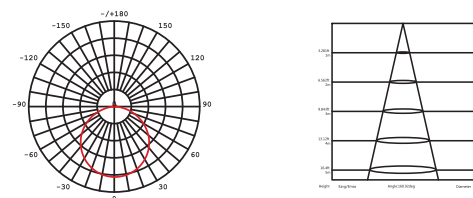
2. Functions & Features

2.1 Product Features

1. High quality SMD LED chip.
2. Protection Circuit: Each LED Protected.
3. UV & flame resistant construction(silicone).
4. Extremely flat profile for slimline projects.
5. Perfect uniform & even light source with invisible light dots.
6. High illumination.
7. Easily to be installed.
8. High IP rating (IP67)
9. The product IP rate is ultimately in line with properly applied IP rated connectors.
10. Continuous length up to 10 by powering one end.
11. Environmentally friendly & energy efficient.
12. Automated production, high reliability & long warranty.
13. 5 years life span.

2.2 Minimum Bend Diameter

NES-SQ-SC-VB

NES-SQ-SC-HB

Light Surface

φ 300 mm

φ 300 mm
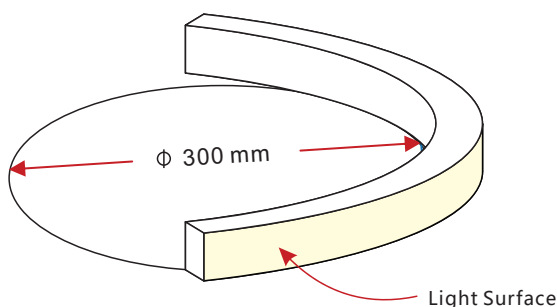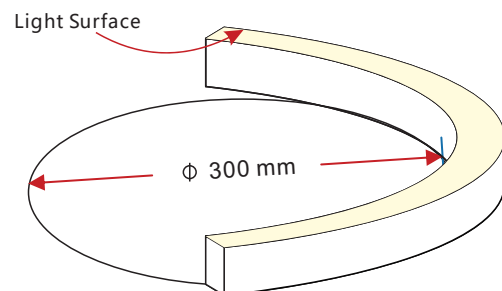
Light Surface

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

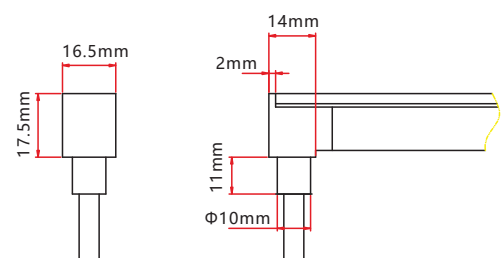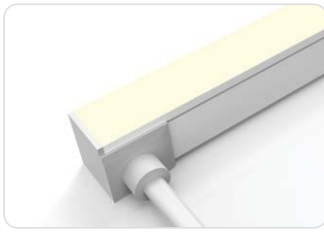# 3. Types of Connector

3.1 Injection-moulded Connector

Note:
1.Unless otherwise stated, the tolerance of the connector is ±0.5mm;
2.Continuous length up to 10m by powering one end.

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 lengths.

16.5mm

17.5mm

14mm

2mm

11mm

Φ10mm

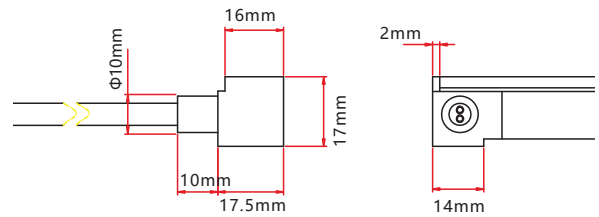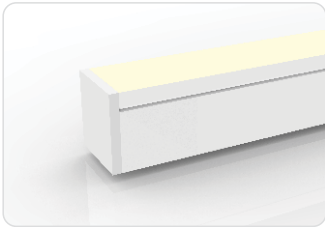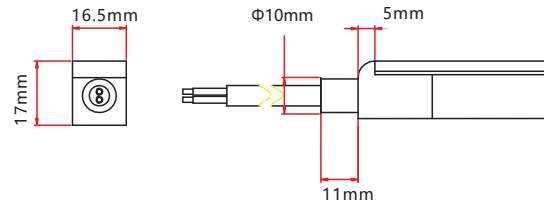## Injection-moulded Front Connector (side)

Connects light to power supply with pre-installed side feed cable, IP67. Available in 0.3m, 1m, 3m, 5m, 10m lengths.
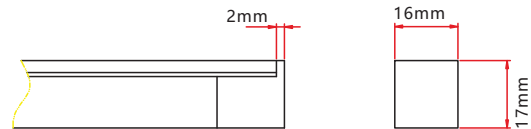
Injection-moulded Front Connector (end)

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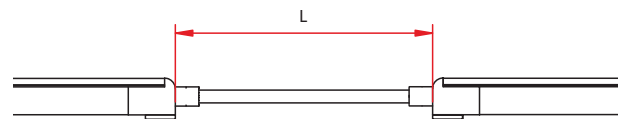
Injection-moulded End Cap

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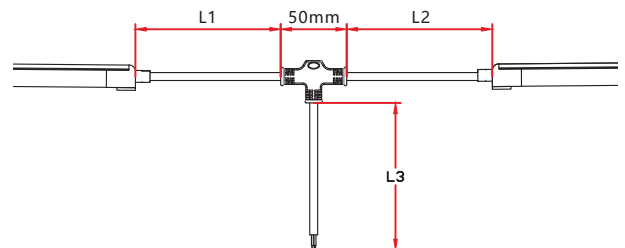
Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m

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.
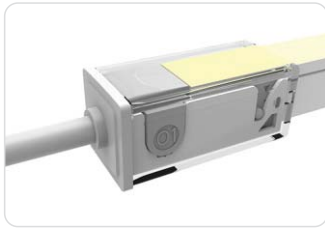
Maximum 8 T-feeds in 20m
Maximum 4 T-feeds in 10m
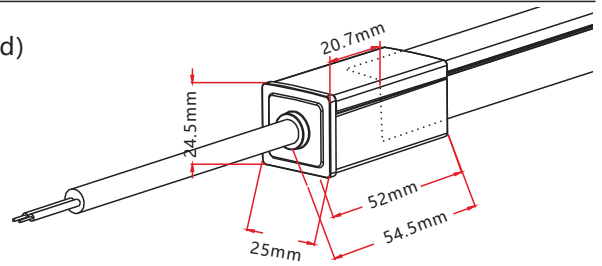
3.2 Snap Connector

Note:
1.Unless otherwise stated, the tolerance of the connector is ±0.5mm;
2.Continuous length up to 10m by powering one end.

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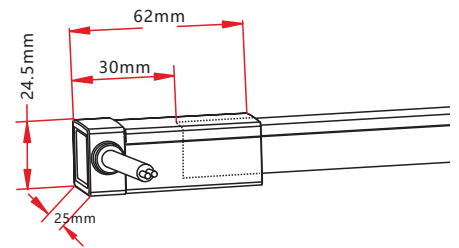
Feed connector with silicone gasket *1 (Two-pin)
Anti-skidding clip *1
U steel plate *1
PC Cover * 1

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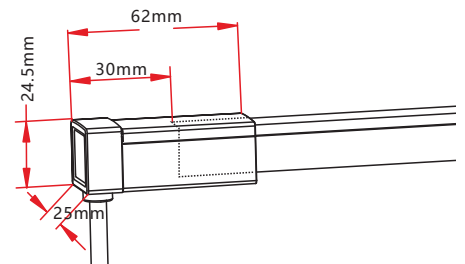
Feed connector with silicone gasket *1 (Two-pin)
Anti-skidding clip *1
U steel plate *1
PC Cover * 1

Snap Front Connector(bottom)

Connects light to power supply, IP67 DIY connector. Cable available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m lengths.
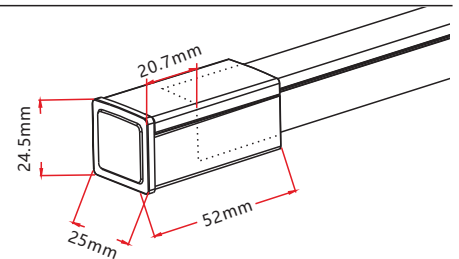
Feed connector with silicone gasket *1 (Two-pin)
Anti-skidding clip *1
U steel plate *1
PC Cover * 1

Snap End Cap

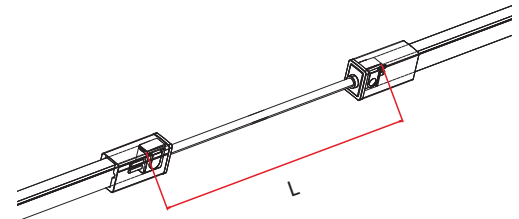Termination protection of the light, IP67 DIY connector.

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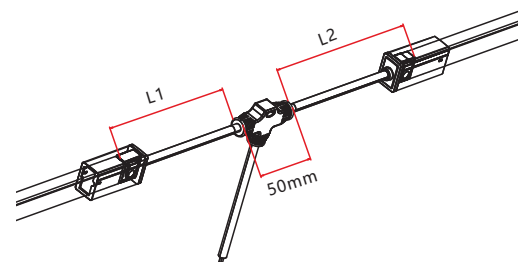
Double-end feed connector*1 (Two-pin)
Silicone gasket*2
U steel plate*2
Anti-skidding clip*2
PC cover*2

Snap Power T-feed

Connects two pieces of lights together with a T joint, energized from middle. IP67 DIY connector. L1 and L2 available in 0.3m.
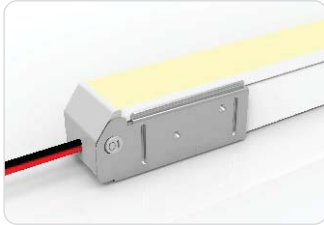
T joint*1 (Two-pin)
Silicone gasket*2
U steel plate*2
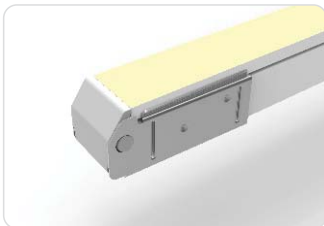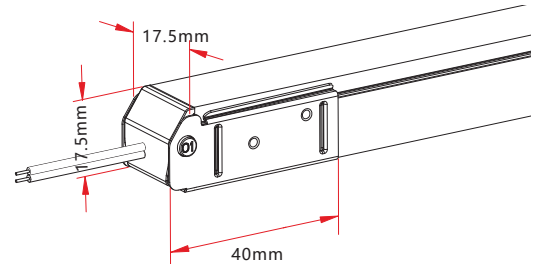Anti-skidding clip*2
PC cover*2

3.3 Swivel Connector

Swivel Front Connector (top end)

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

17.5mm
7.5mm
40mm

Swivel End Cap

Termination protection of the light,IP20 DIY connector.

17.5mm
17.5mm
40mm
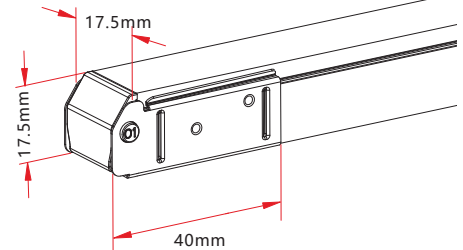
3.4 Anti-wicking Ferrule

Note: Unless otherwise stated, the tolerance is ±0.5mm.
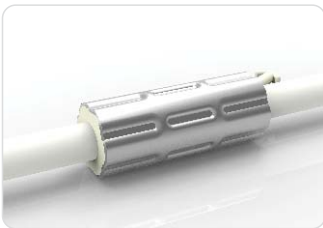
Anti-wicking Ferrule

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.

Φ12mm
30mm
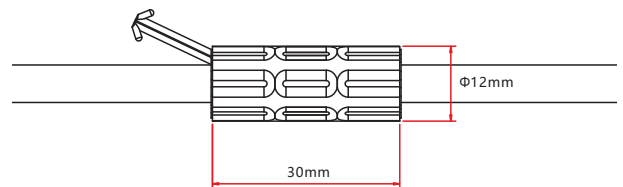
3.5 Male & Female Connector

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

Male & female Connector

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

50mm
21mm

4. Mounting Profile

4.1 Plastic Profile

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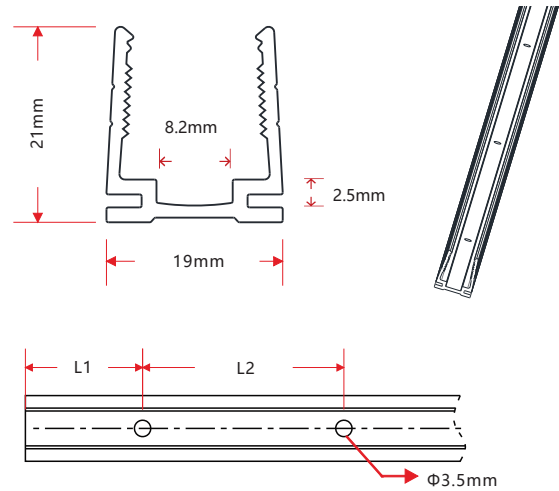
Installation Way

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

4.2 Spring Clip Aluminum Profile

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

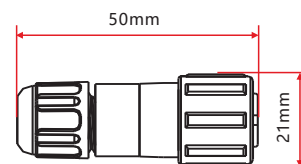Installation Way
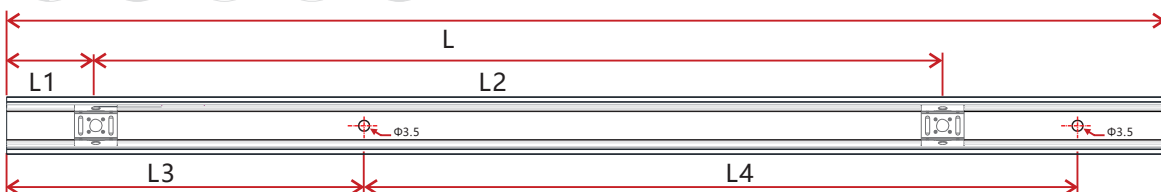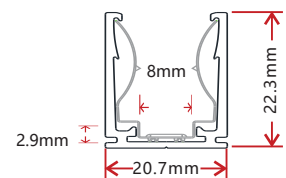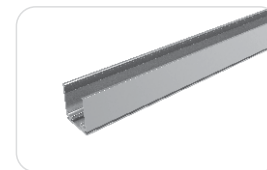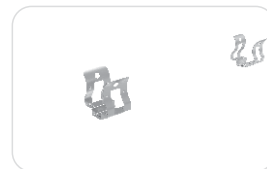
Model	W*H(mm)	Standard Length(mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(mm)	Hole Number	Clip Number
NES-SQ-CH	20.7*22.3	35	17.5	/	5	25	Φ3.5	2	1
		500	25	150	50	200	Φ3.5	3	4
		1000	25	190	100	200	Φ3.5	5	6
		2000	25	195	100	200	Φ3.5	10	11

4.3 Hybrid Profile

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

7.5mm
23mm
2.7mm
20.8mm

L1 L2
Φ3.5mm

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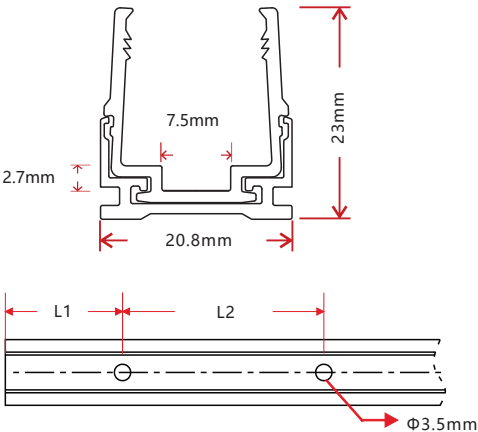
Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number
NES-SQ-CH	20.8*23	35	17.5	/	Φ3.5	1
		500	50	200	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

4.4 Bendable Stainless Steel Profile

Installation Way

100/300/500/900mm

14.9mm
20mm
0.4mm
17.5mm

14.3mm
4.8mm
14.3mm

Model: NES-SQ-CH

Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.
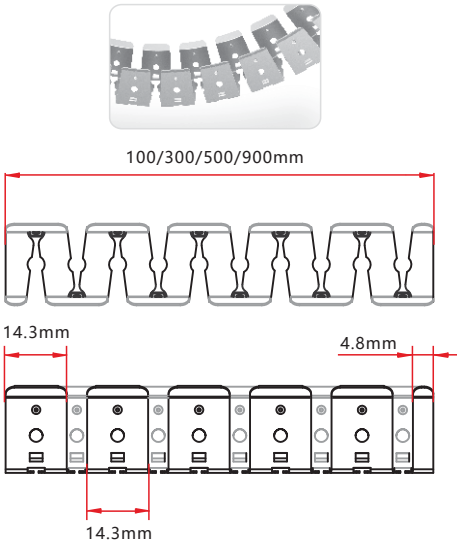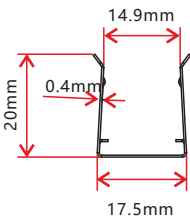
4.5 Cable Exit Oriented Aluminum Profile
(Applicable to Injection-moulded Connector Only)

8mm

22.3mm

2.9mm

20.7mm
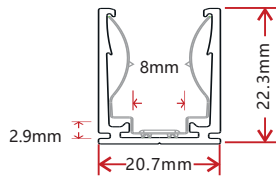
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.
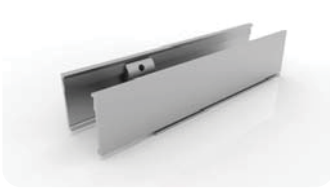
Bottom Feed

Middle Feed
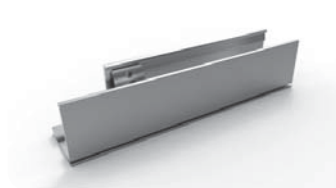
Side Feed From Left

Side Feed From Right

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

8mm

22.3mm

2.9mm

20.7mm
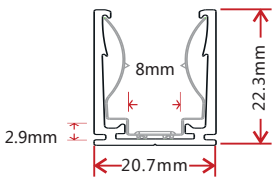
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.
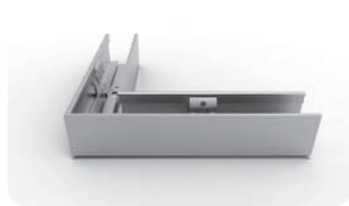
L Shape
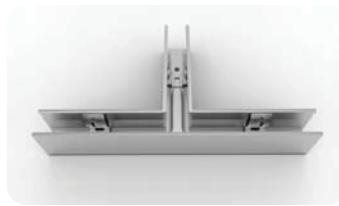
T Shape

Outward L Shape

Inward L Shape

X Shape

NOTE: Please contact our sales team for more detailed information
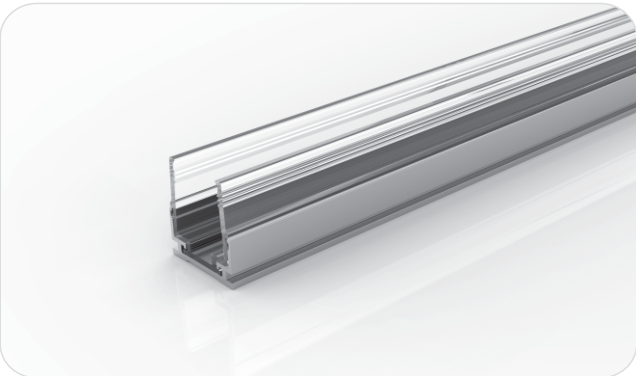
4.7 Recessed Mounting Profile

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

Installation Way
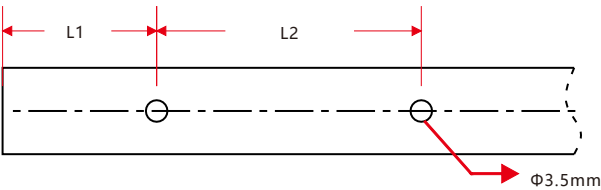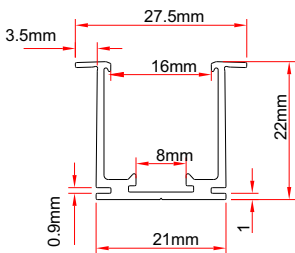
Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number
NES-SQ-CH	18*13.2	35	5	25	Φ3.5	2
		500	50	200	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

5.Packaging

Packaging Method
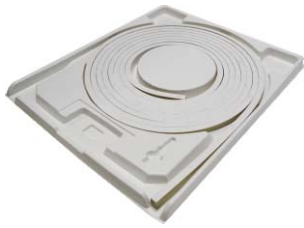
Plastic Plate	White Box	Carton	

Packaging Detail

Light Length	White Box Dimension (cm)	Carton Dimension (cm)	Numbers of White Box	Carton Weight (kg) <8
<4.5m	39*5.2*50	52*41*28	5	6-9
5-8m	51*5.2*62	64*53*17.5	3	9-14
5-8m	51*5.2*62	64*53*28	5	1
10m	60*3.7*71	73*62*20	5	7
15m	68*5.2*79	81*70*12.5	2	11

6.2 Certificate

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

6.3 Third-Party Test Report

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

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

6.4 Reliability Test of Light

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

6.5 Figures of Typical Characteristics

Flex(lm)

Luminous Flux vs. Working Voltage

I(mA)

Working Temperature vs. Current
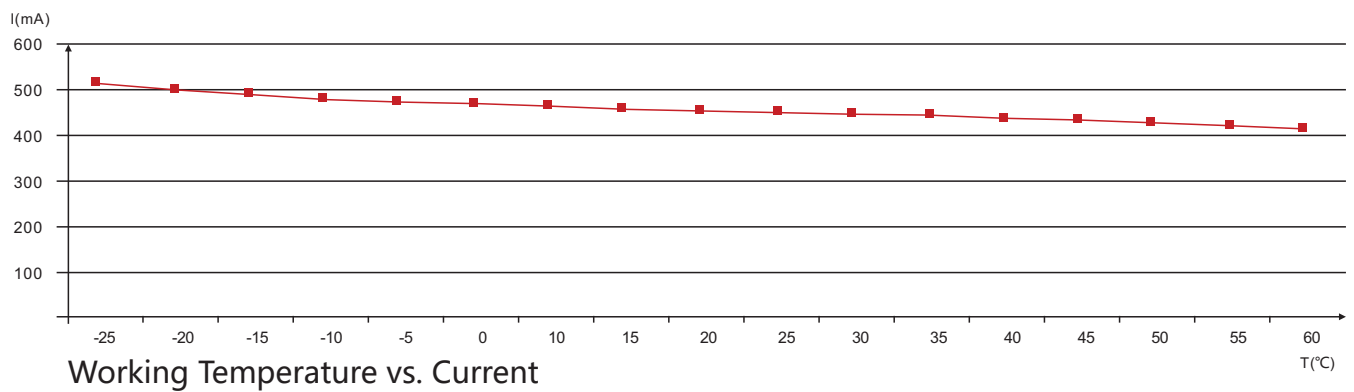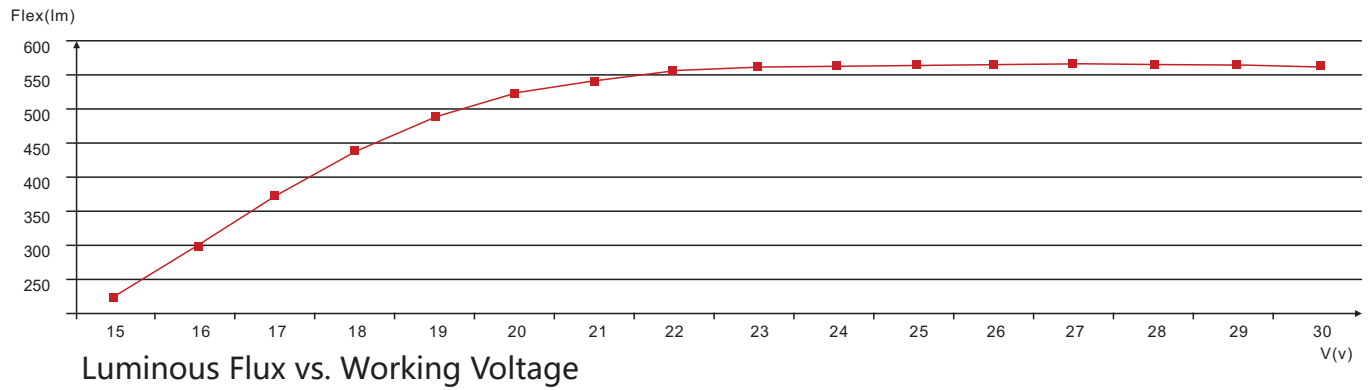
6.6 (X,Y) Chromaticity Diagram
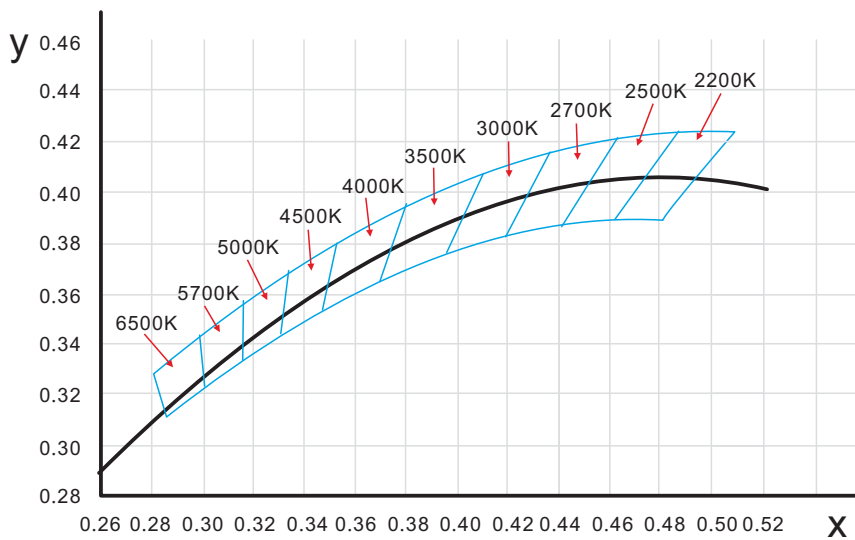
6.7 Correlated Color Temperature

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Nominal CCT Categories
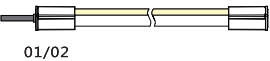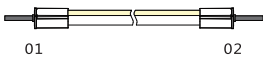
Nominal CCT	Target CCT and tolerance(K)	Target D_{uv}	D_{uv} Tolerance Range
2200K	2238 ±102	0.0000	Tx:CCT of the source
2500K	2460±120	0.0000	For Tx<2870K
2700K	2725 ±145	0.0000	0.000±0.0060
3000K	3045±175	0.0001	For Tx≥2870K
3500K	3465±245	0.0005	Duv(Tx)±0.0060
4000K	3985±275	0.0010	where
4500K	4503±243	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)	$T_F^{1)} \pm \Delta T^{2)}$	$D_{uv}T_F^{3)}$	

Remark:

1) T_F is chosen to be at 100K steps (2300,2400,......,6400K),excluding the ten nominal CCTs listed in Table 1.

2) $\Delta T = 1.1900 \times 10^8 \times T^3 - 1.5434 \times 10^4 \times T^2 + 0.7168 \times T - 902.55$

3) Same as in the D_{uv} Tolerance Range.

6.8 Loading Chart

Type.	Rated Power /m	Power Supply									
		35w	60w	75w	80w	100w	120w	150w	185w	240w	320w
NES-SQ	8w	3.5m	6m	7.5m	8m	10m	12m	15m	18.5m	24m	30m
	12w	2m	4m	5m	5m	6.5m	8m	10m	12m	15m	20m
Energizing way		DC input 01/02					DC input 01 02 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 (8w/m) or maximum 5m light (12w/m) by energizing the light one end.