

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

231225119GZU-001

ISSUE DATE

25-January-2024

REVISION DATE

None

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13

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Report No.: 231225119GZU-001

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLCH13727XX

(Remark: "XX" are denoted finish color)

RENDERED TO

Visual Comfort and Company

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<u>TEST:</u>	Electrical and Photometric as required to the IES LM-79 test standard.
<u>STATEMENT OF LIMITATION:</u>	The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.
<u>AUTHORIZATION:</u>	The testing performed was authorized by signed quote number: QGZ231220004.
<u>STANDARDS USED:</u>	The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen: IES LM-79: 2008; Approved Method for the Electrical and Photometric IES LM-79: 2019 Measurements of Solid-State Lighting Products ANSI C78.377:2017 Specifications of the Chromaticity of Solid State Lighting Products
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model SLCH13727N. The sample was received in undamaged condition. The sample designation was S231225119-001.
<u>DATES OF TESTS:</u>	16-January-2024
<u>ISSUED BY:</u>	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
<u>TEST LOCATION:</u>	Room101/301/401/102/202/302/402/502/602/702/802, No. 7-2, Caipin Road, Huangpu Science City, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	SLCH13727N
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLCH13727N

Criteria	Result
Total Lumen Output	1472.9 lm
Total Power	23.0 W
Luminaire Efficacy	64.0 lm/W
S/MH(C0/180)	0.91
S/MH(C90/270)	1.15
Correlated Color Temperature (CCT)	2680 K
Color Rendering Index (CRI)	93
R9	73
Chromaticity Coordinate (x)	0.4636
Chromaticity Coordinate (y)	0.4147
Chromaticity Coordinate (u')	0.2631
Chromaticity Coordinate (v')	0.5295

Remark:

Measurement uncertainty for applicable tests has been established.

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TEST REPORT

EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Goniophotometer System	Go-R5000	SA063-16
KONICA MINOLTA - Illuminance meter	CX-2B_WL	SA063-16-01
Standard Lamp	D215S	SA063-16-06
Digital Power Meter	PLM3000	SA063-16-09
AC power source for Goniophotometer	PCR-1000WH	SA063-16-10
Temperature Meter	RC-HT601A	SA047-62

GENERAL REMARK

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When determining for test conclusion, measurement uncertainty of tests has been considered.

Throughout this report a ☐ comma ☒ point is used as the decimal separator.

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TEST REPORT

TEST METHOD

Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IES LM-79

Light Distribution and Output Measurements

Light Distribution and total light output (luminous flux) were measured using a Go-R5000 Type-C Rotating Mirror Goniophotometer. Temperature 25°C and relative humidity of 60% was measured at a position in the testing laboratory.

The lamp rotates only around the fixed vertical axle in the prescribed burning position. The lamp and mirror permit the measurement of luminous intensity at the direction of any horizontal or vertical angle without tilting the lamp. The lamp was allowed to stabilize before measurements were made.

Chromaticity Measurements

Chromaticity was measured using a 2 meters integrating sphere spectral lamp measurement system, 4 π geometry, with an interior coating reflectance no less than 95 %. Temperature was measured at a position inside the sphere shielded from direct light. Relative humidity of 65% was measured at a position in the testing laboratory.

Spectral radiant flux measurements were made using spectroradiometer attached to the detector port of the integrating sphere. Each lamp was allowed to stabilise before measurements were made. The calibration of the integrating sphere spectroradiometer system is by the reference/standard lamps which are traceable to National Institute of Metrology P.R. CHINA. Lamp efficacy (lumens per watt) for each lamp model was then computed based on the luminous flux result. Electrical measurements including voltage, power and power factor were measured using EVERFINE - Digital Power Meter., model PLM3000.

Correction factor (self-absorption) has been considered when doing measurement.

Standard lamp used for Goniophotometer method:

Model: D215S

Current: 4.809A DC

Standard lamp used for integrating sphere:

Model: D204

Current: 3.9480A DC

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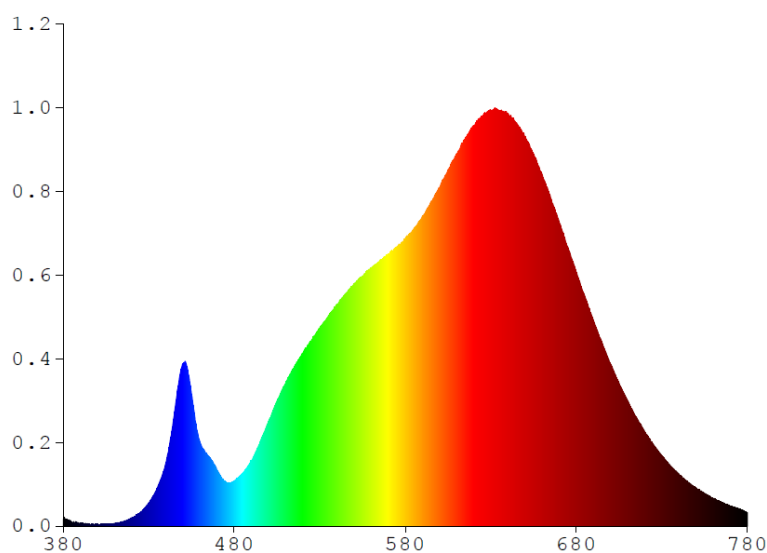
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLCH13727N

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1933	480	1.0751	580	6.8493	680	6.0303	780	0.3136
385	0.0934	485	1.2697	585	7.0780	685	5.4486		
390	0.0777	490	1.5588	590	7.3757	690	4.8769		
395	0.0513	495	1.9881	595	7.7116	695	4.3552		
400	0.0391	500	2.4872	600	8.0581	700	3.8460		
405	0.0485	505	2.9757	605	8.4821	705	3.3847		
410	0.0616	510	3.4005	610	8.8627	710	2.9767		
415	0.1072	515	3.7707	615	9.2271	715	2.5898		
420	0.1935	520	4.1101	620	9.5315	720	2.2391		
425	0.3268	525	4.4051	625	9.7490	725	1.9446		
430	0.5520	530	4.7061	630	9.8913	730	1.6708		
435	0.9058	535	5.0048	635	9.9005	735	1.4359		
440	1.4986	540	5.2845	640	9.8167	740	1.2289		
445	2.6883	545	5.5347	645	9.5945	745	1.0547		
450	3.8705	550	5.7603	650	9.2708	750	0.9087		
455	3.1201	555	5.9519	655	8.8378	755	0.7748		
460	1.9892	560	6.1330	660	8.3632	760	0.6578		
465	1.6673	565	6.3013	665	7.8092	765	0.5672		
470	1.3237	570	6.4730	670	7.2134	770	0.4847		
475	1.0495	575	6.6523	675	6.5217	775	0.4148		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH13727N

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

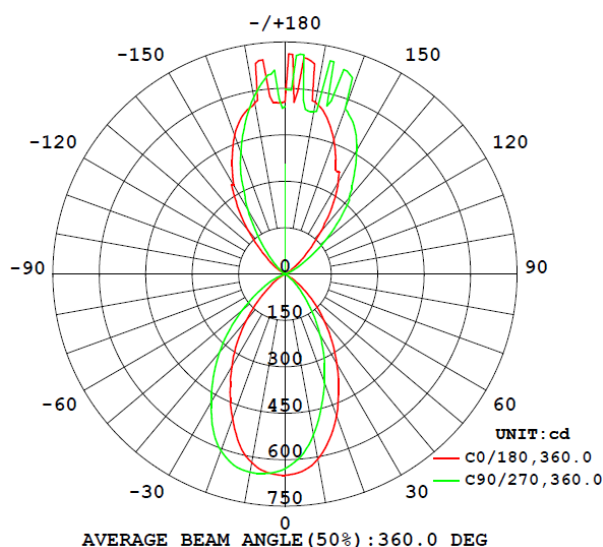
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperatur e (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit y	Chromaticit y	Chromaticit y	Chromaticit y
					Coordinate (x)	Coordinate (y)	Coordinate (u')	Coordinate (v')
SLCH13727N								
S2312251 19-001	--	2680	93	73	0.4636	0.4147	0.2631	0.5295

Photometric and Electrical Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute	Lumen
						Luminous Flux (Lumens)	Efficacy (Lumens Per Watt)
SLCH13727N							
S2312251 19-001	--	120.0	192.9	23.0	0.995	1472.9	64.0

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH13727N

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	153.4	149.8	147.3	148.8	148.3
5	151.1	141.9	136.4	138.7	139.5
10	143.6	129.1	121.1	124.4	124.7
15	130.8	111.2	104.1	107.7	106.6
20	115.1	93.1	86.0	89.4	88.3
25	96.8	75.8	68.3	71.6	70.8
30	79.4	59.2	50.9	53.7	53.6
35	62.3	43.8	34.9	37.2	37.6
40	46.7	29.7	23.3	24.7	23.7
45	32.7	18.2	14.6	15.5	14.0
50	20.3	9.5	5.6	7.3	7.0
55	11.1	2.8	0.8	1.6	2.1
60	3.4	0.2	0.1	0.1	0.2
65	0.3	0.1	0.1	0.1	0.1
70	0.1	0.1	0.1	0.1	0.1
75	0.1	0.1	0.1	0.1	0.2
80	0.1	0.1	0.1	0.1	0.1
85	0.1	0.1	0.0	0.0	0.0
90	0.1	0.1	0.1	0.1	0.2
95	0.0	0.1	0.1	0.1	0.1
100	0.2	0.1	0.1	0.1	0.1
105	0.1	0.1	0.1	0.1	0.1
110	0.1	0.1	0.1	0.1	0.2
115	0.1	0.4	0.9	1.8	4.4
120	0.3	5.4	8.2	8.1	12.5
125	4.8	15.1	18.9	18.6	23.5
130	14.2	26.4	30.4	32.1	40.1
135	25.5	42.4	46.7	48.8	59.3
140	43.1	61.7	67.1	69.5	76.3
145	62.4	81.5	90.3	88.4	91.9
150	81.3	92.0	106.8	101.5	109.4
155	91.9	109.3	112.8	117.3	125.0
160	109.2	123.1	105.9	106.8	134.1
165	123.7	125.9	164.5	164.1	136.8
170	133.5	133.7	169.5	169.4	125.7
175	166.0	168.7	169.0	168.4	167.9
180	132.0	165.5	170.3	105.4	141.3

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH13727N

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLCH13727N		
0-30	400.4	27.2
0-40	570.2	38.7
0-60	735.0	49.9
0-90	751.6	51.0
60-90	16.6	1.1
0-180	1472.9	100.0

Beam Angle

Total Beam Angle (°)

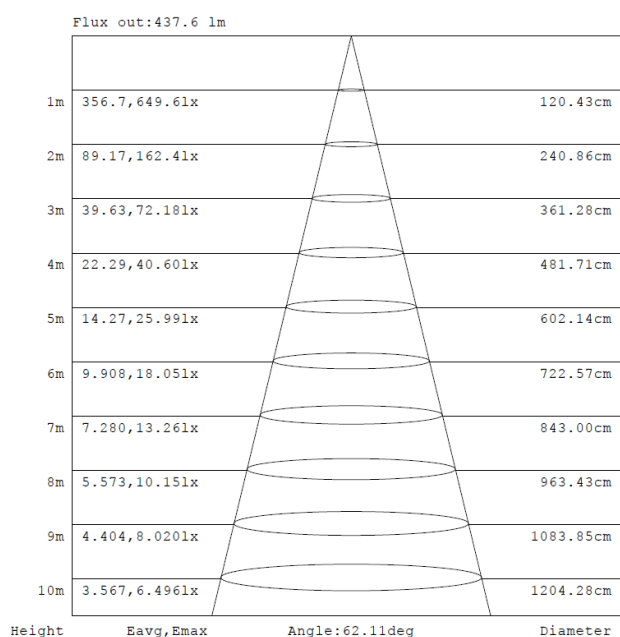
360.0

Illumination Plots

Model No.: SLCH13727N

Mount Height: 2.5 m

Illuminance - Cone of Light



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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TEST REPORT

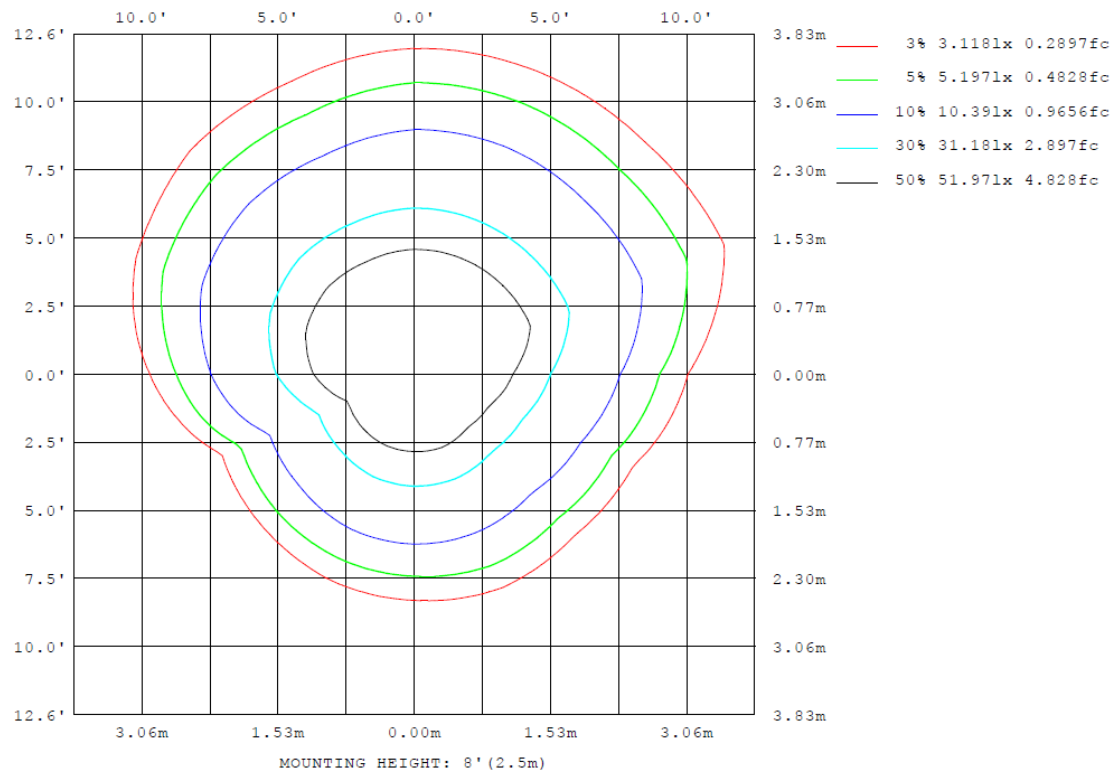
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH13727N

Model No.: SLCH13727N

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH13727N

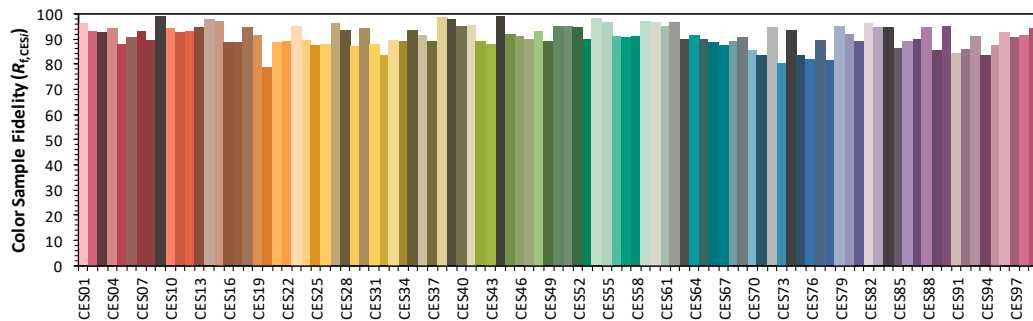
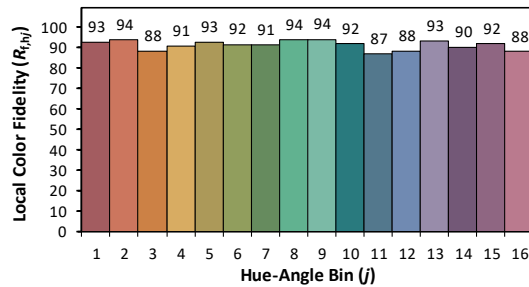
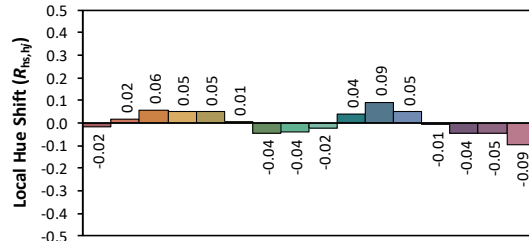
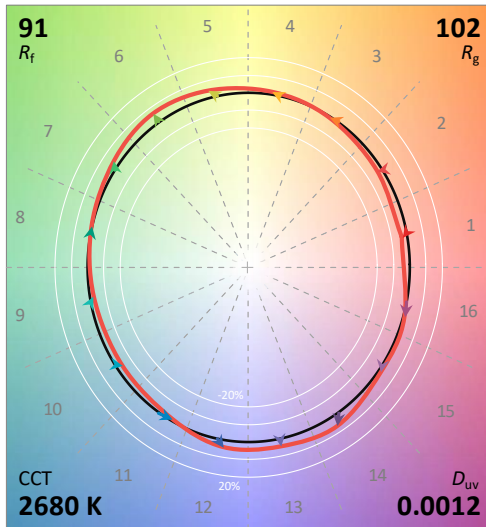
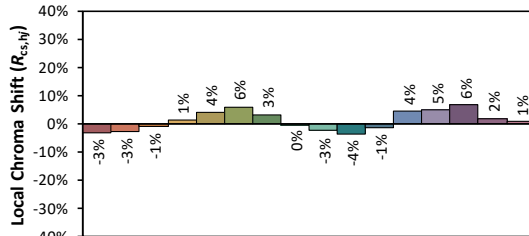
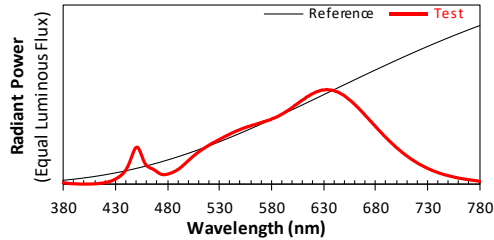
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/1/16

Model: SLCH13727N



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4636
 y 0.4147
 u' 0.2631
 v' 0.5295

CIE 13.3-1995
(CRI)
 R_a 93
 R_g 73

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

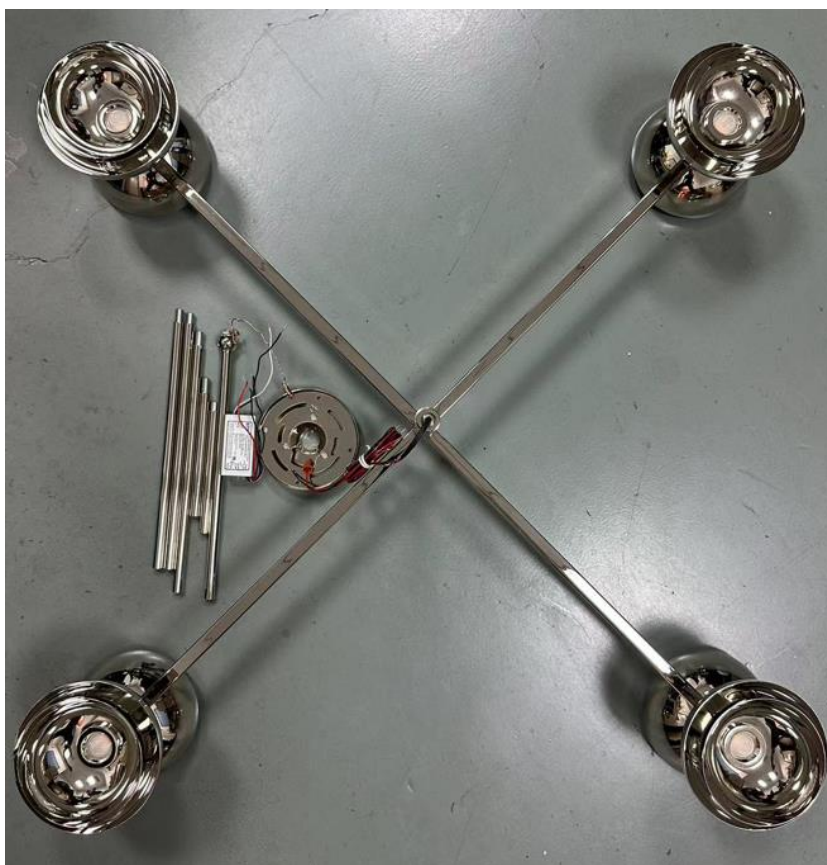
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLCH13727N



External view of SLCH13727N

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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD27-C070V38-UNV3-HE-P



View of LED board

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

***** End of Report *****