

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240621176GZU-016

ISSUE DATE

08 October 2024

REVISION DATE

Modification 1: 06 November 2024

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240621176GZU-016
Modification 1: 06 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLCH24627XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

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<u>TEST:</u>	Electrical and Photometric as required to the IES LM-79 test standard.
<u>AUTHORIZATION:</u>	The testing performed was authorized by signed quote number: QGZ240620045.
<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-79-19	Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI C78.377-2017 (R2022)	Specifications of the Chromaticity of Solid State Lighting Products
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model SLCH24627XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240621176-014.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Guangzhou Xiongyi Precision Metalworking Co., Ltd Hantang Industrial Zone, Langbian Village, Shiji Town, Panyu District, Guangzhou City, Guangdong Province, China 511450
<u>DATES OF TESTS:</u>	03 September 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 District, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	SLCH24627XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLCH24627XX

Criteria	Result
Total Lumen Output	5116.5 lm
Total Power	92.6 W
Luminaire Efficacy	55.2 lm/W
S/MH(C0/180)	1.41
S/MH(C90/270)	1.72
Correlated Color Temperature (CCT)	2636 K
Color Rendering Index (CRI)	96
R9	73
Chromaticity Coordinate (x)	0.4633
Chromaticity Coordinate (y)	0.4084
Chromaticity Coordinate (u')	0.2657
Chromaticity Coordinate (v')	0.5270

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240621176GZU-016 issued on 08 October 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page 1 and 2 of the report.

***** End of Page *****

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	S500-TH	SA047-182

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 YOKOGAWA - Digital Power Meter., model WT310E.

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: 3.948A DC

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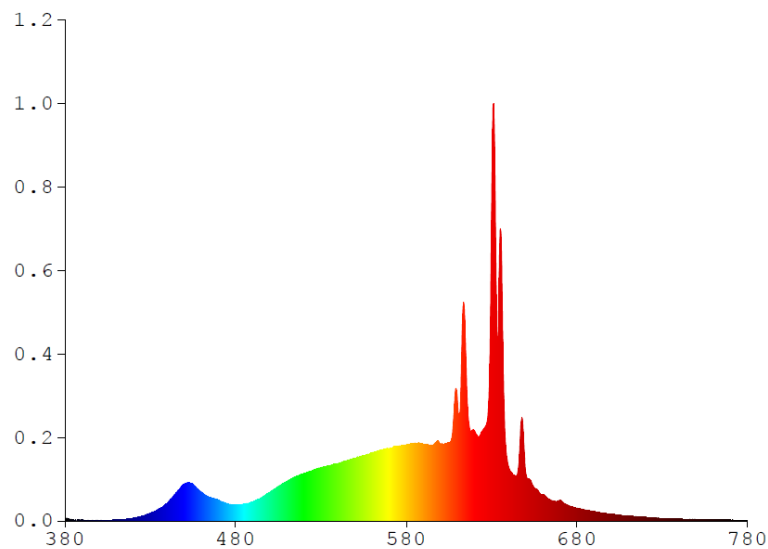
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLCH24627XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	3.311	480	20.554	580	98.916	680	16.619	780	1.003
385	1.100	485	22.026	585	101.010	685	14.080		
390	0.987	490	24.897	590	99.976	690	12.150		
395	0.933	495	30.202	595	98.398	695	10.294		
400	0.328	500	37.226	600	99.868	700	8.813		
405	0.930	505	44.766	605	101.530	705	7.576		
410	1.030	510	51.445	610	149.050	710	6.413		
415	2.210	515	57.663	615	196.730	715	5.672		
420	3.835	520	61.617	620	116.570	720	4.714		
425	6.097	525	65.256	625	118.460	725	4.123		
430	10.067	530	69.252	630	412.880	730	3.474		
435	15.394	535	71.873	635	376.770	735	3.110		
440	23.688	540	74.345	640	68.818	740	2.543		
445	36.218	545	77.950	645	60.064	745	2.277		
450	47.885	550	81.553	650	61.840	750	1.978		
455	47.021	555	85.104	655	42.899	755	1.738		
460	37.058	560	88.426	660	34.414	760	1.538		
465	30.489	565	92.211	665	26.523	765	1.434		
470	26.929	570	94.092	670	26.877	770	1.107		
475	22.661	575	97.170	675	19.059	775	1.024		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24627XX

Total operation burning time: 60 minutes
Stabilization time: 30 minutes

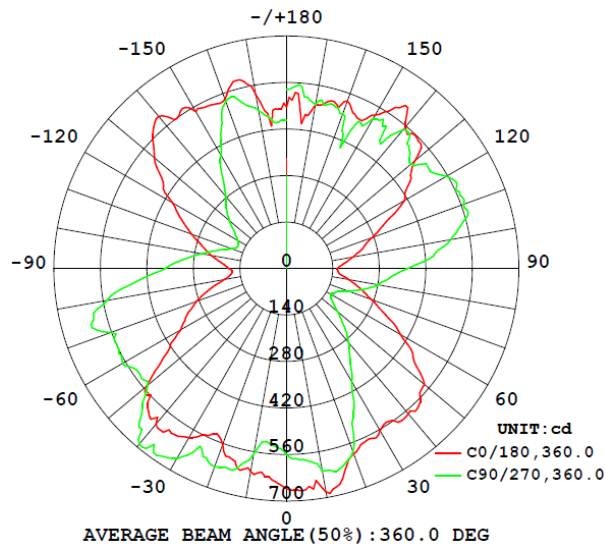
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit	Chromaticit	Chromaticit	Chromaticit
					y	y	y	y
					Coordinate	Coordinate	Coordinate	Coordinate
					(x)	(y)	(u')	(v')
SLCH24627XX								
S2406211 76-014	base-up	2636	96	73	0.4633	0.4084	0.2657	0.5270

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 Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
SLCH24627XX							
S2406211 76-014	base-up	120.1	782.1	92.6	0.986	5116.5	55.2

Intensity (Candlepower) Summary at 25°C - Candelas



***** End of Page *****

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24627XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	662.2	614.1	545.5	569.5	559.5
5	668.1	553.6	577.2	572.0	576.9
10	681.5	539.6	566.3	607.7	617.3
15	654.9	566.1	601.8	593.5	623.2
20	593.3	564.5	614.8	555.7	584.8
25	570.7	613.5	564.6	471.3	475.4
30	563.8	605.4	440.1	391.6	393.6
35	557.8	513.7	374.2	332.9	335.3
40	570.6	432.8	330.9	278.9	291.7
45	569.8	368.3	278.7	231.9	246.9
50	542.8	313.6	232.9	189.4	200.4
55	466.1	260.5	196.6	160.7	167.8
60	396.7	214.8	169.5	157.0	153.9
65	329.1	172.5	169.1	171.0	166.3
70	271.5	157.2	182.0	201.5	201.2
75	229.7	160.9	212.9	240.6	242.0
80	190.8	184.8	245.2	279.9	279.9
85	157.9	215.7	286.2	315.5	312.9
90	153.4	250.2	330.9	349.8	363.9
95	172.9	296.3	392.0	416.3	443.9
100	203.2	345.4	429.3	451.9	502.1
105	238.1	403.0	502.3	547.5	551.7
110	275.9	468.3	541.8	554.6	567.9
115	329.5	520.3	589.6	560.7	562.7
120	410.3	497.4	585.7	542.2	556.3
125	453.5	515.8	569.6	525.8	524.2
130	504.7	508.6	517.6	527.1	491.3
135	556.8	500.2	540.6	550.6	520.6
140	558.3	515.0	563.3	554.6	546.1
145	592.0	531.7	503.0	479.9	524.4
150	534.3	568.9	498.8	522.8	521.1
155	501.6	465.6	493.7	442.8	460.7
160	537.1	493.4	464.3	484.4	495.3
165	523.1	464.9	505.2	505.6	513.9
170	501.6	457.0	529.3	488.6	502.1
175	480.5	556.9	511.0	489.5	549.3
180	485.0	556.0	504.6	446.2	538.8

***** End of Page *****

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24627XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLCH24627XX		
0-30	485.0	9.5
0-40	809.8	15.8
0-60	1504.4	29.4
0-90	2643.7	51.7
60-90	1139.3	22.3
0-180	5116.5	100.0

Beam Angle

Total Beam Angle(°)

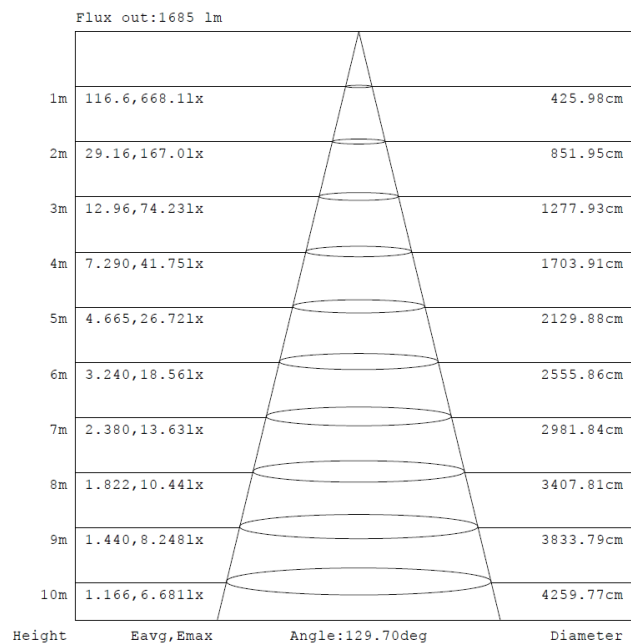
360.0

Illumination Plots

Model No.: SLCH24627XX

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

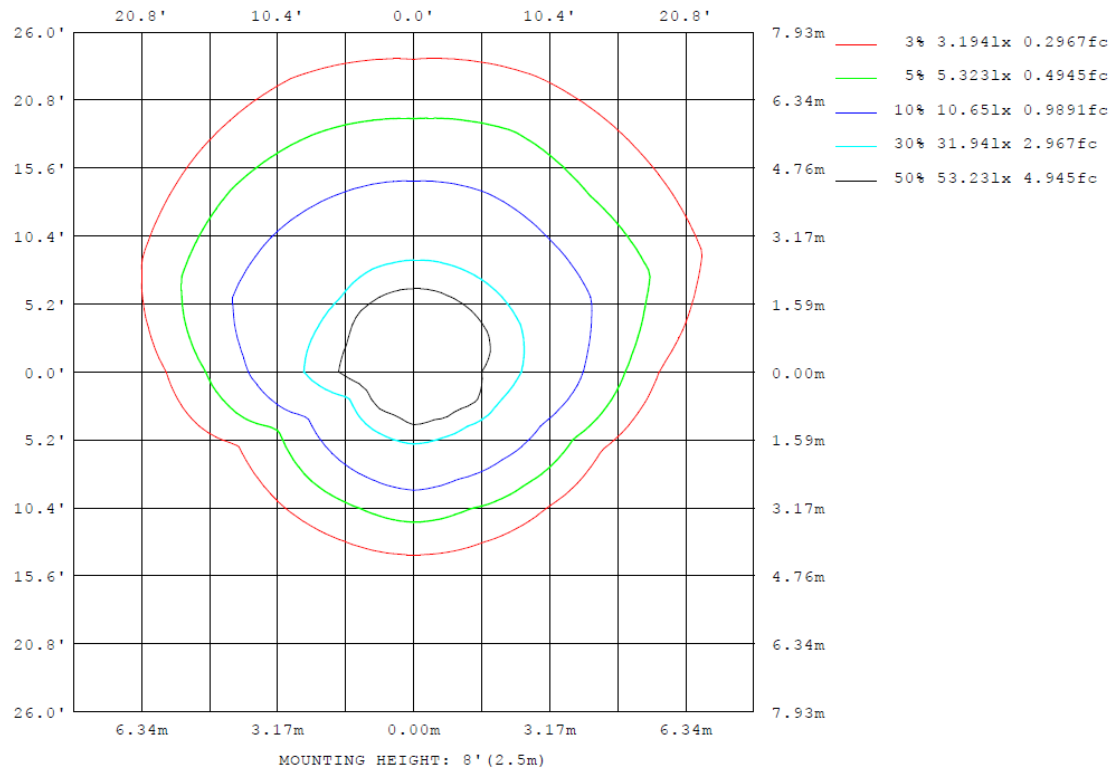
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24627XX

Model No.: SLCH24627XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24627XX

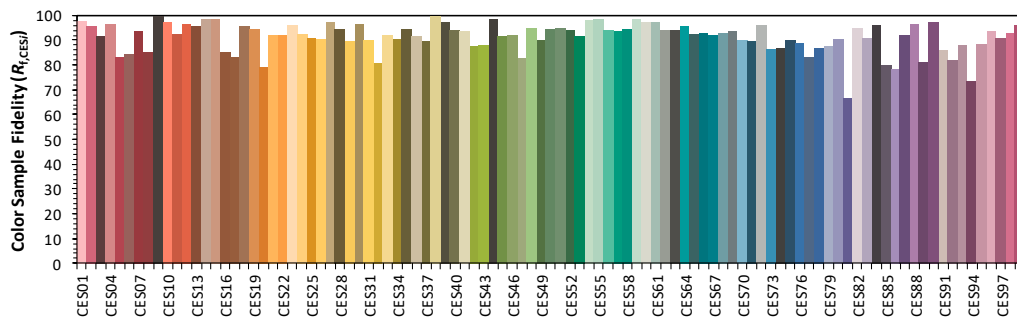
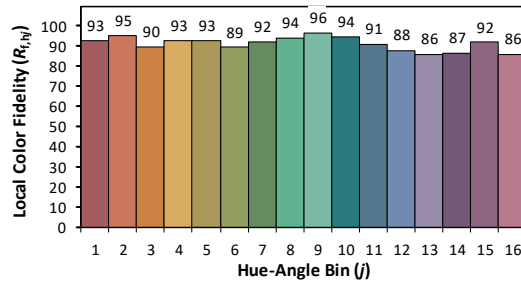
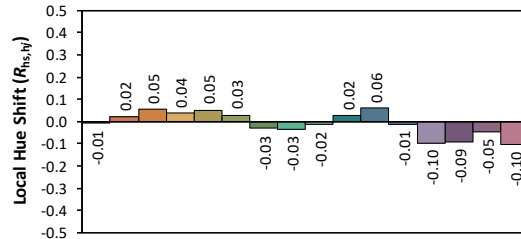
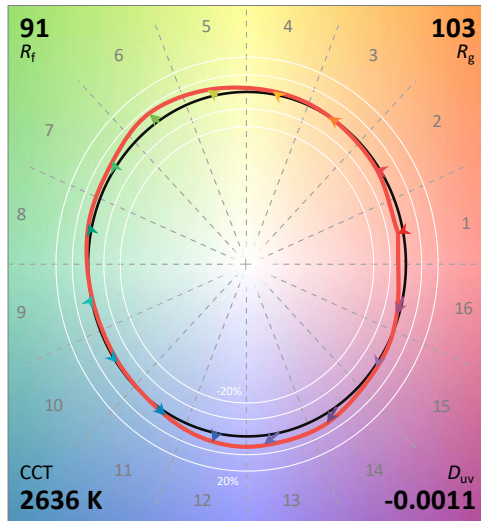
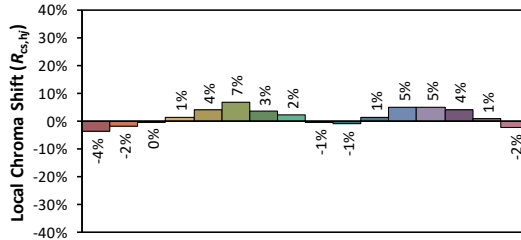
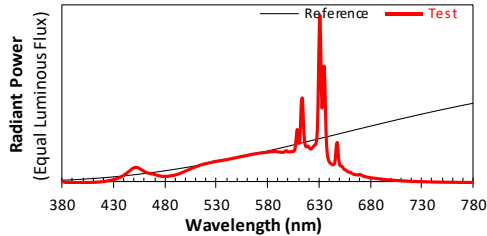
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/9/3

Model: SLCH24627XX



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

x 0.4633
 y 0.4084
 u' 0.2657
 v' 0.5270

CIE 13.3-1995
(CRI)

R_a 96

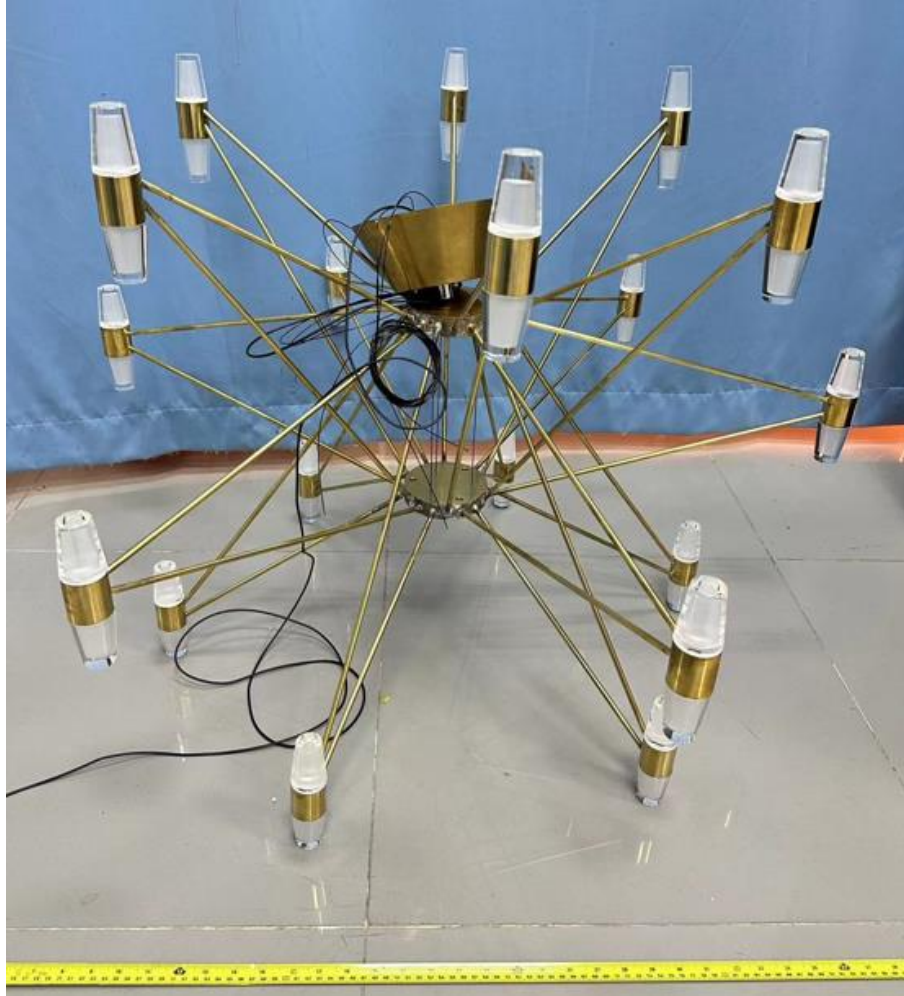
R_9 73

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

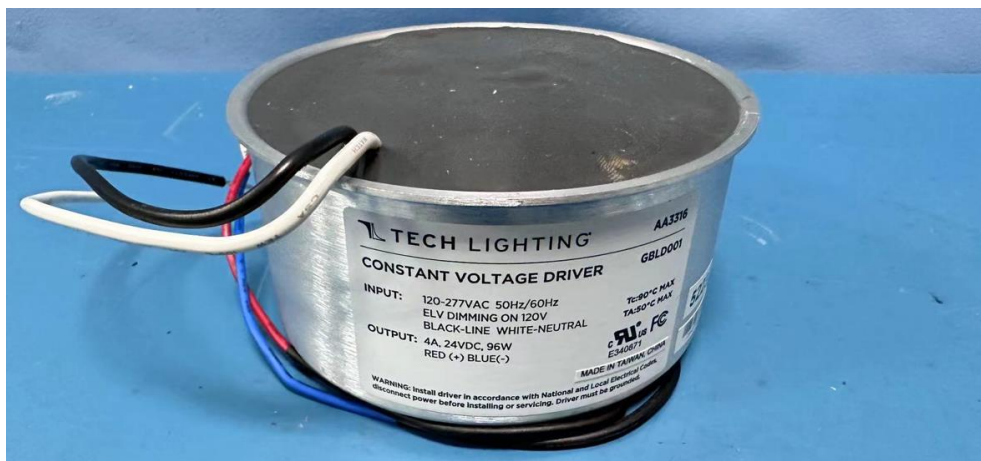
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLCH24627XX

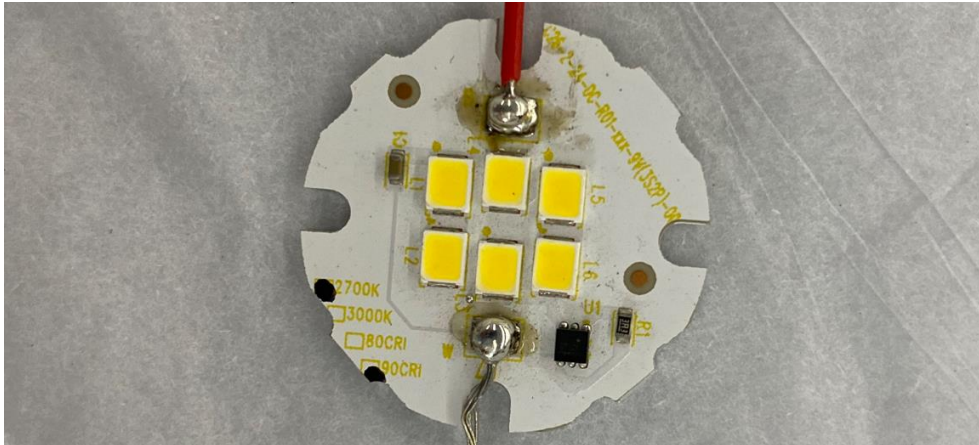


View of LED driver GBLD001

***** End of Page *****

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

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