

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240621176GZU-015

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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TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLCH24927XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

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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 SLCH24927XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240621176-017.
<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>	01 August 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:	SLCH24927XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLCH24927XX

Criteria	Result
Total Lumen Output	3286.8 lm
Total Power	62.3 W
Luminaire Efficacy	52.8 lm/W
S/MH(C0/180)	1.71
S/MH(C90/270)	1.56
Correlated Color Temperature (CCT)	2676 K
Color Rendering Index (CRI)	94
R9	71
Chromaticity Coordinate (x)	0.4613
Chromaticity Coordinate (y)	0.4101
Chromaticity Coordinate (u')	0.2636
Chromaticity Coordinate (v')	0.5274

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240621176GZU-015 issued on 08 October 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on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.

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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	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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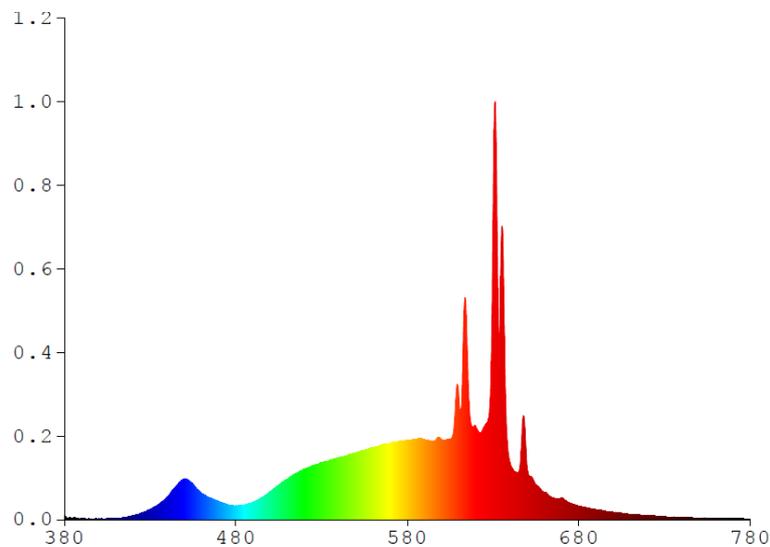
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLCH24927XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.2741	480	0.8177	580	4.6161	680	0.7917	780	0.0305
385	0.0878	485	0.8639	585	4.6985	685	0.6818		
390	0.0798	490	1.0102	590	4.6440	690	0.5792		
395	0.0178	495	1.2796	595	4.5739	695	0.5096		
400	0.0526	500	1.6247	600	4.6263	700	0.4329		
405	0.0344	505	2.0124	605	4.6877	705	0.3701		
410	0.0692	510	2.3630	610	6.8668	710	0.3273		
415	0.1329	515	2.6825	615	9.0919	715	0.2793		
420	0.2323	520	2.9228	620	5.3649	720	0.2357		
425	0.3795	525	3.1479	625	5.4392	725	0.2069		
430	0.6004	530	3.2974	630	18.3790	730	0.1776		
435	0.8937	535	3.4713	635	16.9130	735	0.1536		
440	1.3275	540	3.6092	640	3.2093	740	0.1331		
445	1.9255	545	3.7426	645	2.7933	745	0.1144		
450	2.3599	550	3.8934	650	2.8630	750	0.0970		
455	2.0526	555	4.0402	655	2.0189	755	0.0857		
460	1.5260	560	4.1886	660	1.6181	760	0.0767		
465	1.2632	565	4.3371	665	1.2573	765	0.0669		
470	1.0553	570	4.4586	670	1.2744	770	0.0552		
475	0.8829	575	4.5561	675	0.9071	775	0.0508		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24927XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

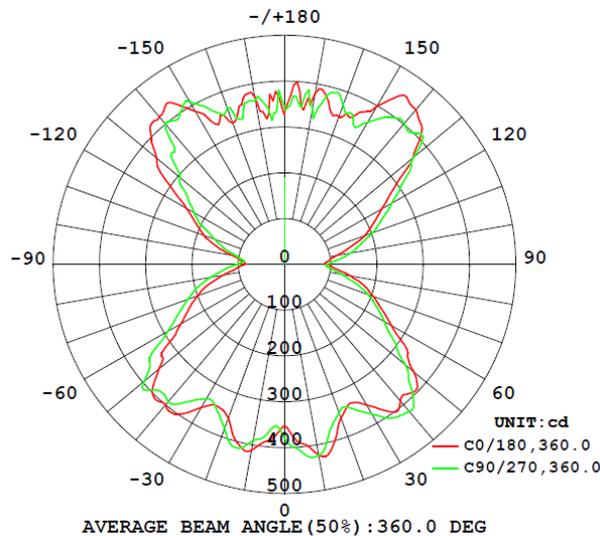
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticity Coordinate (x)	Chromaticity Coordinate (y)	Chromaticity Coordinate (u')	Chromaticity Coordinate (v')
SLCH24927XX								
S240621176-017	base-up	2676	94	71	0.4613	0.4101	0.2636	0.5274

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)
SLCH24927XX							
S240621176-017	base-up	120.1	527.2	62.3	0.984	3286.8	52.8

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24927XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	352.1	378.8	377.8	379.1	379.9
5	390.9	407.1	401.2	406.4	409.1
10	421.5	416.2	419.2	422.5	423.3
15	408.3	365.1	372.3	374.0	376.8
20	357.1	337.3	334.6	339.4	344.4
25	334.5	332.0	333.7	343.4	347.6
30	354.1	370.7	376.5	378.7	377.4
35	392.2	402.8	410.9	407.7	408.7
40	389.5	386.9	404.3	406.8	419.1
45	394.8	380.1	376.3	389.2	388.9
50	364.4	333.8	338.5	342.1	340.8
55	323.4	280.2	283.6	280.4	287.9
60	267.1	243.8	248.1	249.3	248.7
65	232.0	214.3	214.5	218.3	219.9
70	203.6	187.7	188.9	191.1	191.6
75	178.1	156.9	158.9	160.6	158.7
80	145.2	124.2	126.9	128.9	126.5
85	110.9	94.2	99.8	104.2	99.9
90	93.1	84.3	92.9	97.1	91.8
95	95.6	102.8	110.8	117.6	113.1
100	113.9	125.8	132.0	141.5	143.3
105	146.6	158.6	169.9	168.4	170.8
110	184.7	191.5	198.8	200.4	202.6
115	211.6	225.5	221.3	231.8	231.3
120	242.3	267.9	259.3	264.4	266.8
125	287.0	330.9	314.5	316.5	312.3
130	362.5	392.4	377.1	375.7	363.2
135	420.8	440.4	446.6	414.2	406.2
140	441.8	434.8	419.2	416.7	402.6
145	451.4	410.8	414.3	411.5	392.1
150	399.4	363.9	378.4	369.9	358.8
155	359.4	362.2	358.1	356.5	350.7
160	342.7	366.8	362.2	368.0	370.7
165	367.8	401.7	395.1	395.2	388.8
170	378.3	358.4	342.9	332.4	349.4
175	379.5	388.3	384.1	342.5	352.4
180	332.7	359.1	358.9	364.4	336.8

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TEST REPORT
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24927XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLCH24927XX		
0-30	310.1	9.4
0-40	554.2	16.9
0-60	1136.5	34.6
0-90	1680.0	51.1
60-90	543.5	16.5
0-180	3286.8	100.0

Beam Angle

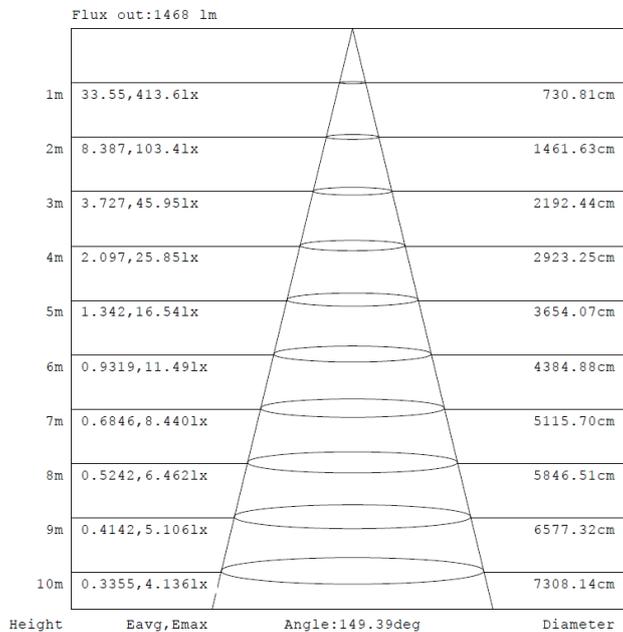
Total Beam Angle(°)
360.0

Illumination Plots

Model No.: SLCH24927XX

Mount Height: 2.5 m

Illuminance - Cone of Light



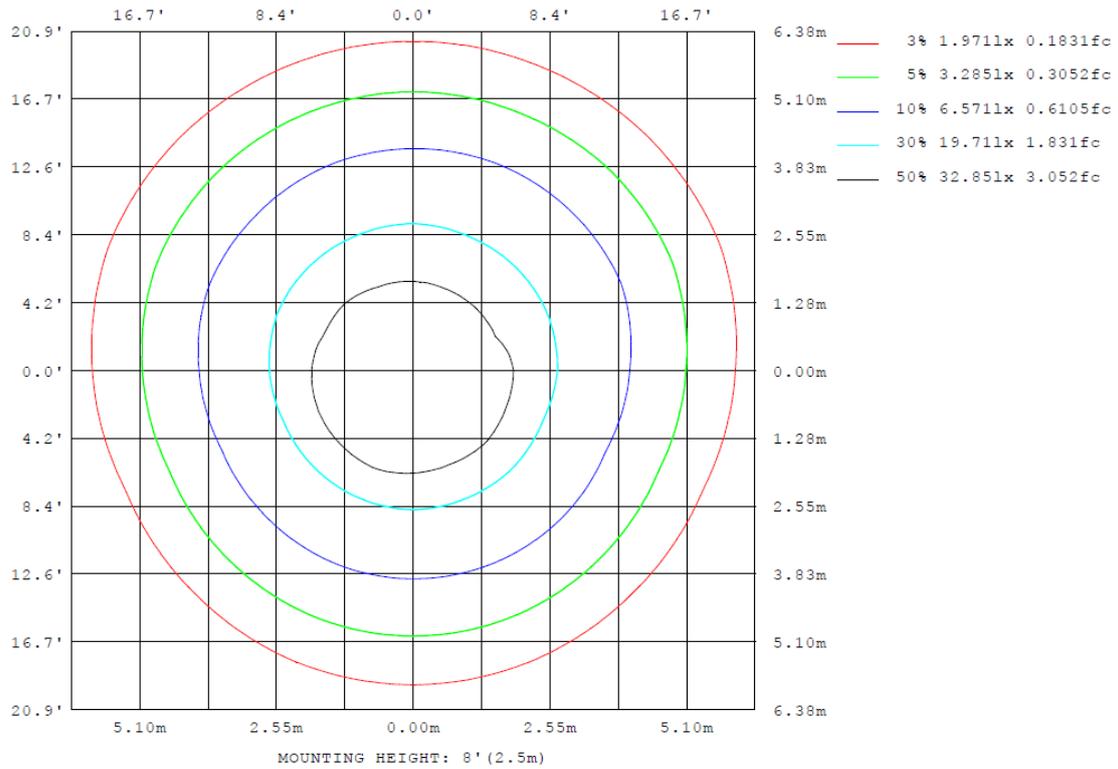
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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TEST REPORT
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24927XX

Model No.: SLCH24927XX
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

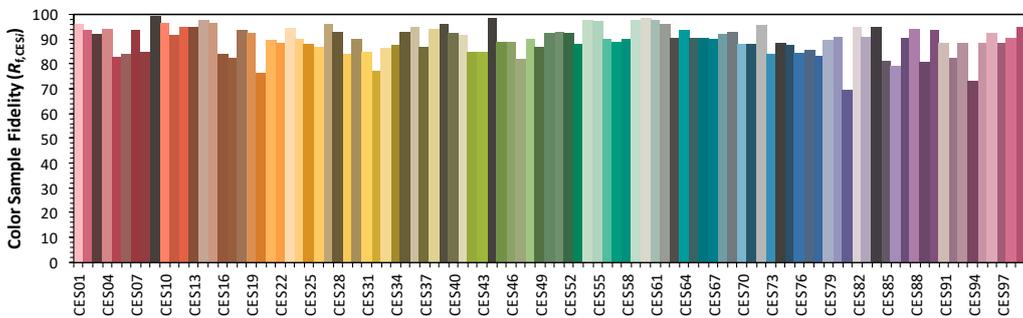
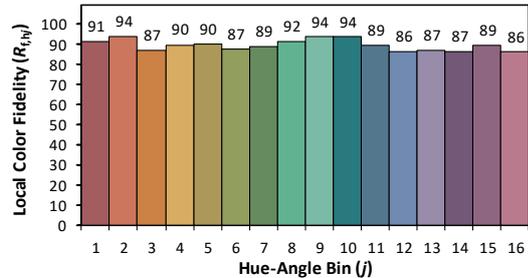
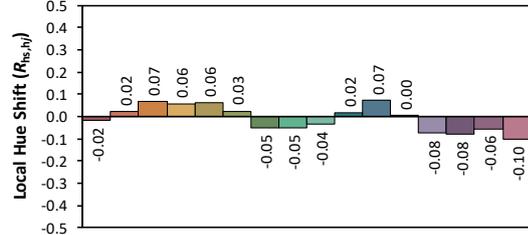
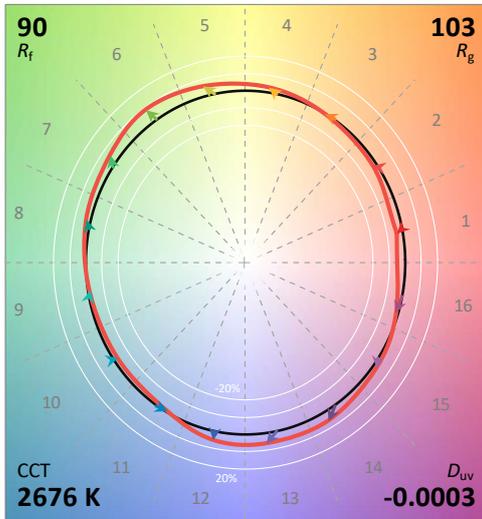
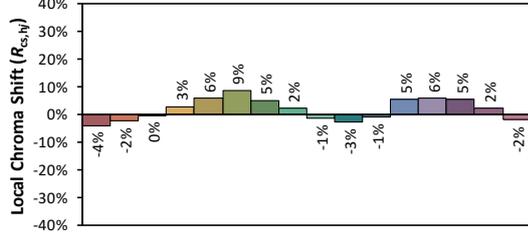
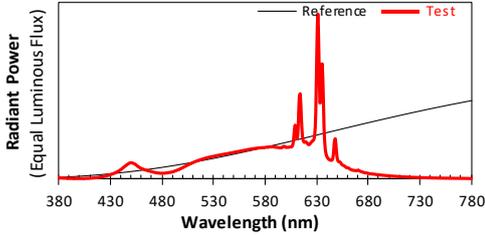
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24927XX

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
Date: 2024/8/1

Manufacturer: Visual Comfort and Company
Model: SLCH24927XX



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

x 0.4613
 y 0.4101
 u' 0.2636
 v' 0.5274

CIE 13.3-1995 (CRI)	
R_a	94
R_g	71

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

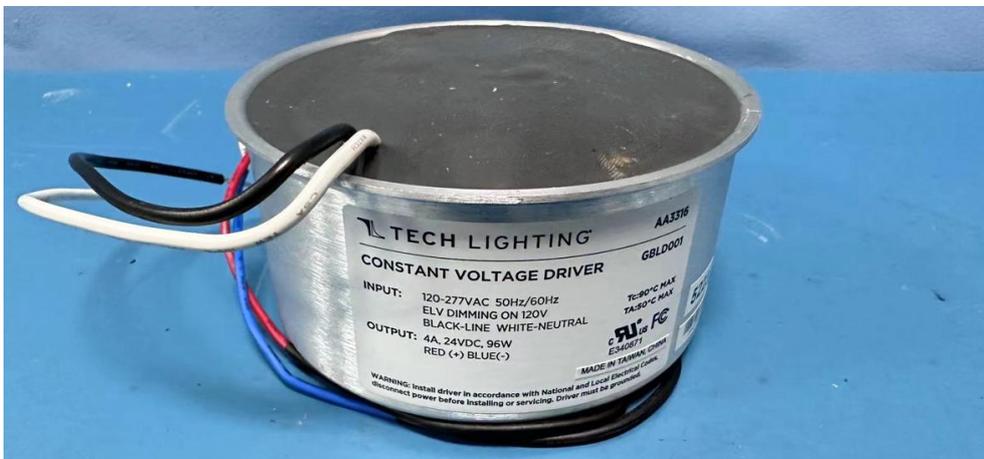
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLCH24927XX

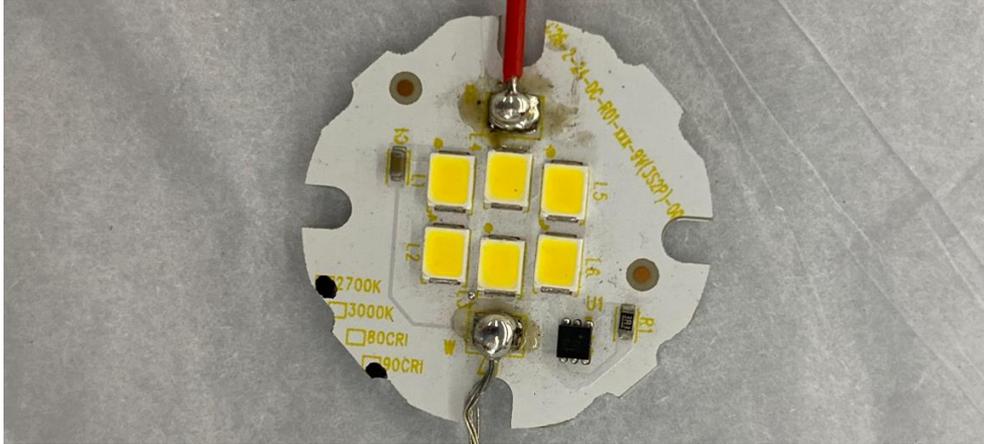


View of LED driver GBLD001

***** 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 *****