

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

250227200GZU-012

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None

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Report format for LM-79_G

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Report No.: 250227200GZU-012

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWTB49027SCXXX

Remark: "XXX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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TEST: Electrical and Photometric as required to the IES LM-79 test standard.

AUTHORIZATION: The testing performed was authorized by signed quote number: QGZ250224121.

STANDARDS USED: 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-79-24 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

DESCRIPTION OF SAMPLE: The client submitted one sample of model KWTB49027SCXXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S250227200-003.

MANUFACTURER /FACTORY & ADDRESS: Guangzhou Xiongyi Precision Metalworking Co., Ltd
Hantang Industrial Zone, Langbian Village, Shiji Town, Panyu District, Guangzhou City, Guangdong Province, China 511450

DATES OF TESTS: 19 March 2025

ISSUED BY: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

TEST LOCATION: 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:	KWTB49027SCXXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWTB49027SCXXX

Criteria	Result
Total Lumen Output	933.3 lm
Total Power	9.1 W
Luminaire Efficacy	103.0 lm/W
S/MH(C0/180)	0.90
S/MH(C90/270)	0.90
Correlated Color Temperature (CCT)	2741 K
Color Rendering Index (CRI)	94
R9	74
Chromaticity Coordinate (x)	0.4553
Chromaticity Coordinate (y)	0.4076
Chromaticity Coordinate (u')	0.2609
Chromaticity Coordinate (v')	0.5255

Remark:

N/A

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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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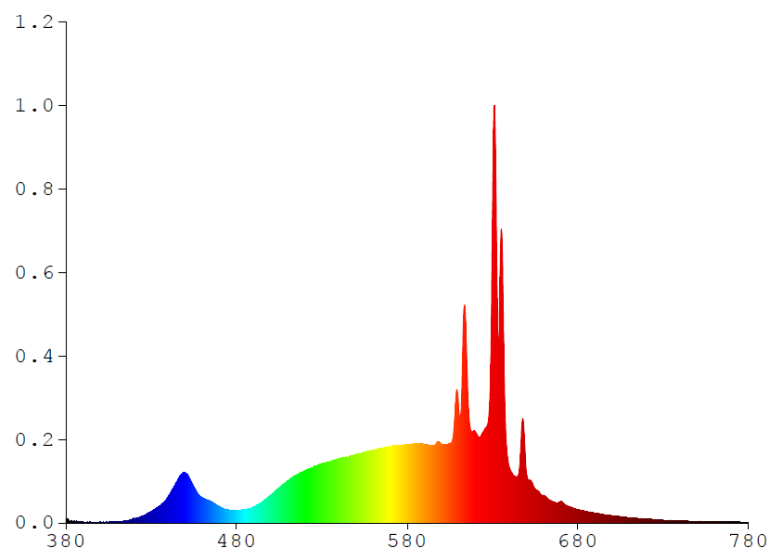
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWTB49027SCXXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	4.6114	480	12.1020	580	75.5250	680	12.8860	780	0.2281
385	1.8130	485	13.0010	585	76.1700	685	10.9710		
390	0.8247	490	15.4470	590	75.8530	690	9.4579		
395	0.4047	495	20.3230	595	74.5700	695	8.1801		
400	0.9928	500	26.7240	600	75.3190	700	6.9583		
405	0.6306	505	33.9780	605	76.3650	705	6.0286		
410	1.3329	510	40.5940	610	110.900	710	5.2455		
415	2.1932	515	46.2210	615	145.190	715	4.4671		
420	3.9158	520	50.3460	620	87.4470	720	3.8166		
425	6.7031	525	53.7370	625	89.1450	725	3.1760		
430	11.0170	530	56.8940	630	308.450	730	2.8025		
435	16.5760	535	59.3360	635	280.680	735	2.3847		
440	25.7710	540	61.8170	640	52.2800	740	2.0738		
445	39.6760	545	63.2680	645	45.2980	745	1.7725		
450	48.1450	550	65.7120	650	46.2670	750	1.5681		
455	34.3170	555	68.1780	655	32.5530	755	1.2626		
460	24.1070	560	69.7720	660	26.4950	760	1.2111		
465	20.6820	565	71.9490	665	20.6290	765	1.0596		
470	15.6920	570	73.7340	670	20.5690	770	0.9135		
475	12.5380	575	74.5180	675	14.7990	775	0.8354		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49027SCXXX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

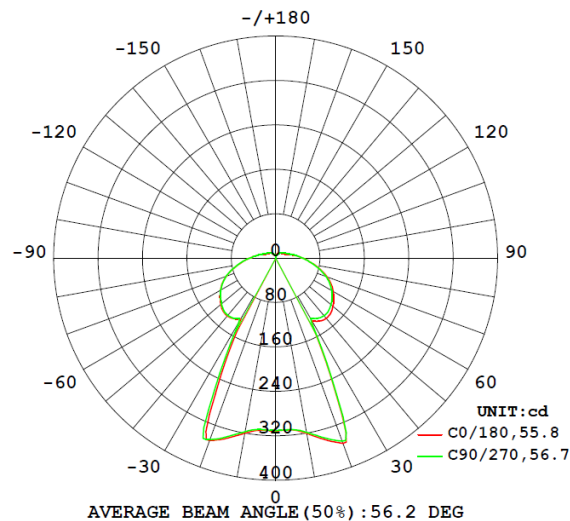
Photometric Measurements at 25°C – Distribution Method

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')
KWTB49027SCXXX								
S2502272 00-003	base-up	2741	94	74	0.4553	0.4076	0.2609	0.5255

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	Lumen Efficacy
						Flux (Lumens)	(Lumens Per Watt)
KWTB49027SCXXX							
S2502272 00-003	base-up	120.1	102.9	9.1	0.733	933.3	103.0

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49027SCXXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	310.6	310.6	310.6	310.5	310.4
5	310.3	310.3	310.2	309.9	309.7
10	320.1	320.5	319.9	318.7	318.1
15	337.6	338.3	337.3	335.6	334.6
20	354.5	355.0	354.1	351.8	350.4
25	236.1	234.8	235.7	237.8	240.0
30	130.7	130.8	129.5	126.6	126.0
35	138.4	139.2	137.6	133.9	132.1
40	141.6	142.8	141.3	137.5	135.5
45	140.1	141.8	140.3	136.6	134.5
50	134.8	137.2	135.5	132.2	130.1
55	127.6	130.4	128.4	125.5	123.7
60	119.7	122.1	120.3	117.7	116.2
65	110.1	111.9	110.6	108.5	107.3
70	98.4	99.5	98.9	97.2	96.3
75	85.0	85.6	85.5	84.2	83.5
80	71.5	71.8	71.9	71.0	70.5
85	59.4	59.6	59.9	59.2	58.7
90	49.4	49.7	50.0	49.6	49.2
95	40.9	41.3	41.7	41.5	41.2
100	33.5	34.5	34.8	34.8	34.5
105	26.8	29.0	29.3	29.4	29.2
110	22.1	24.5	25.0	25.1	24.9
115	18.9	20.9	21.6	21.7	21.5
120	16.8	18.2	18.8	19.0	18.9
125	15.3	16.2	16.7	16.8	16.8
130	14.1	14.6	15.0	15.1	15.0
135	13.1	13.4	13.6	13.6	13.6
140	12.2	12.3	12.4	12.3	12.3
145	11.1	11.1	11.0	10.9	10.9
150	10.0	9.9	9.6	9.6	9.5
155	8.7	8.6	8.3	8.2	8.1
160	7.4	7.2	7.1	7.0	6.8
165	6.2	6.2	6.2	6.1	5.9
170	5.2	5.3	5.4	5.3	5.3
175	3.5	3.6	3.6	3.5	3.5
180	0.7	0.9	1.0	1.0	1.0

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49027SCXXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWTB49027SCXXX		
0-30	237.2	25.4
0-40	321.7	34.5
0-60	538.8	57.7
0-90	799.2	85.6
60-90	260.4	27.9
0-180	933.3	100.0

Beam Angle

Total Beam Angle(°)

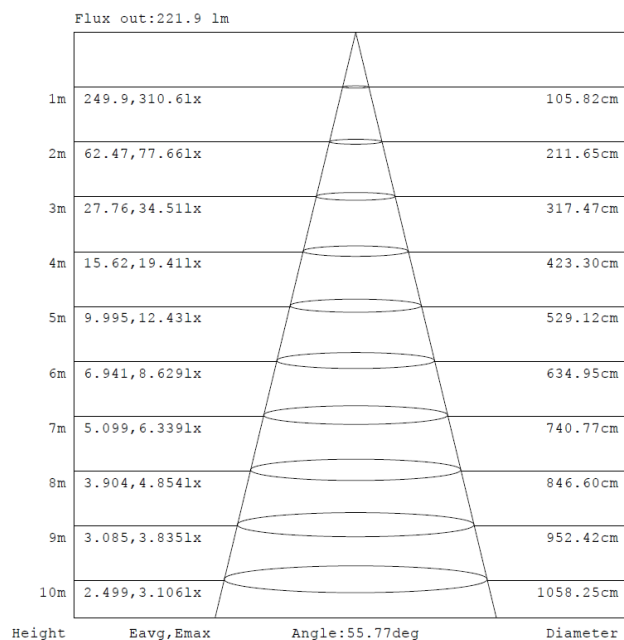
56.2

Illumination Plots

Model No.: KWTB49027SCXXX

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

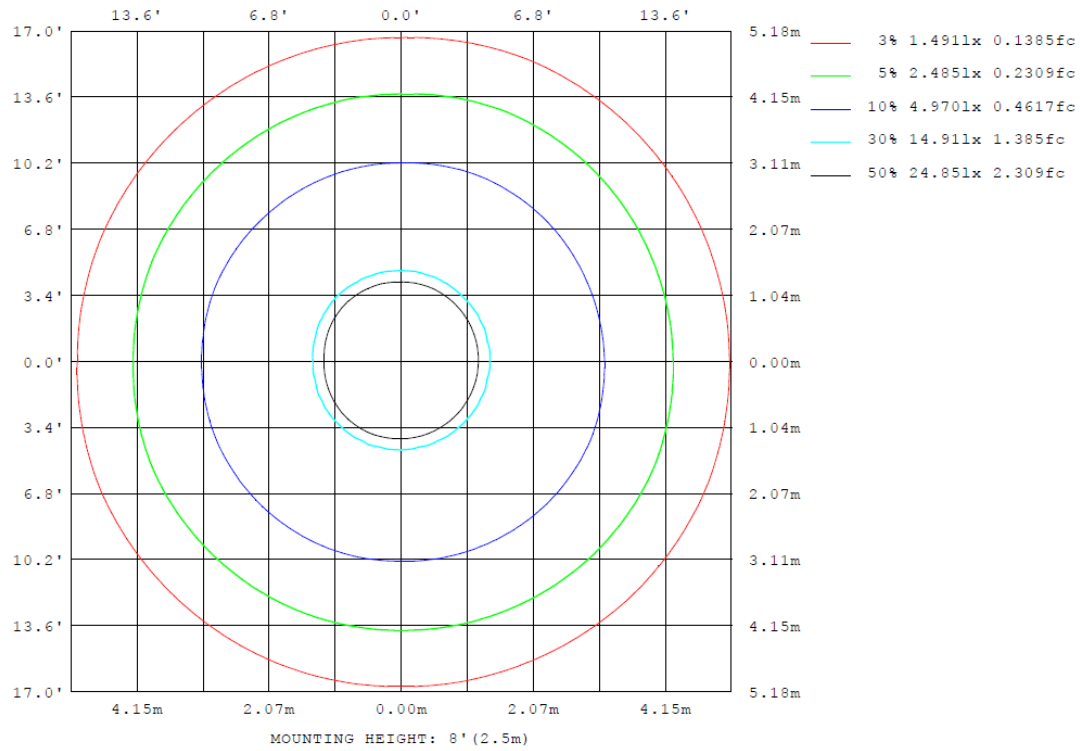
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49027SCXXX

Model No.: KWTB49027SCXXX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49027SCXXX

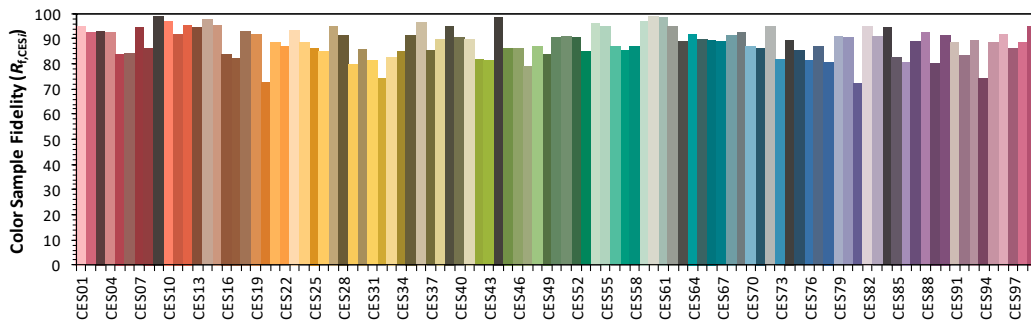
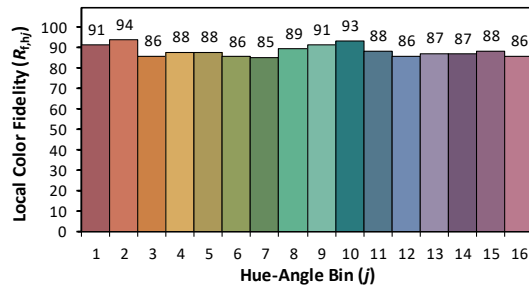
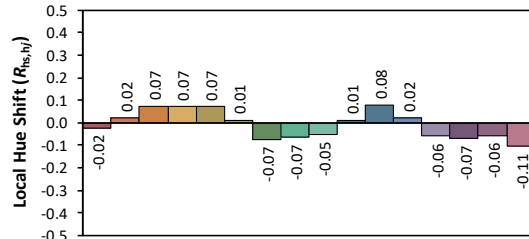
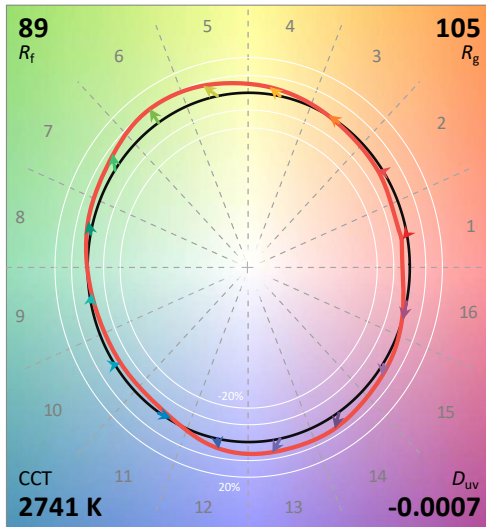
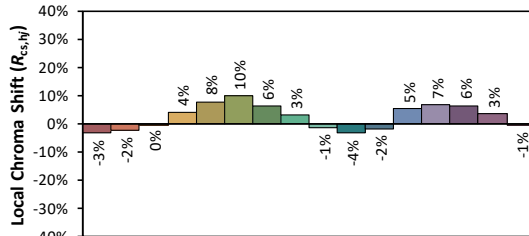
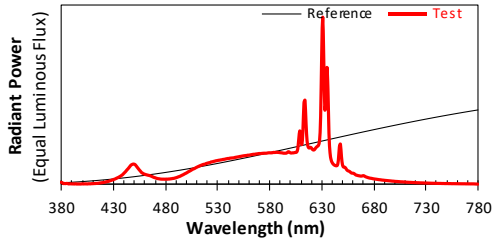
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2025/3/19

Model: KWTB49027SCXXX



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

x 0.4553
 y 0.4076
 u' 0.2609
 v' 0.5255

CIE 13.3-1995
(CRI)

R_a 94

R_g 74

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

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

TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWTB49027SCXXX

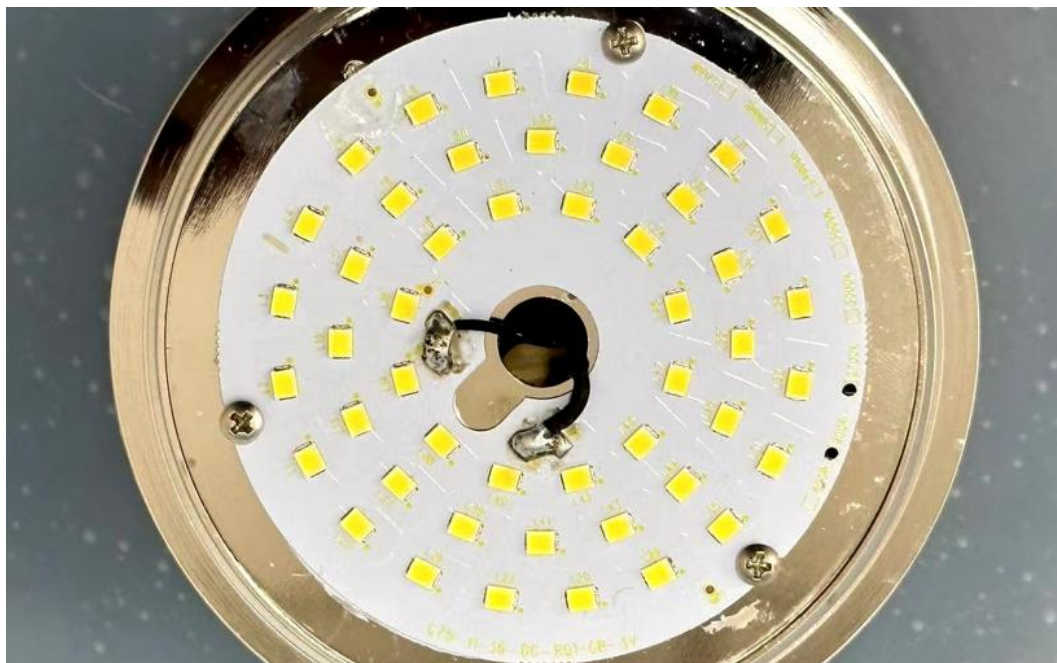


View of LED driver A122-1201000ID

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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 *****