

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240621176GZU-014

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. SLWS34427XX

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 SLWS34427XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240621176-021.
<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>	26 July 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:	SLWS34427XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLWS34427XX

Criteria	Result
Total Lumen Output	388.8 lm
Total Power	7.7 W
Luminaire Efficacy	50.3 lm/W
S/MH(C0/180)	1.86
S/MH(C90/270)	2.16
Correlated Color Temperature (CCT)	2665 K
Color Rendering Index (CRI)	93
R9	58
Chromaticity Coordinate (x)	0.4615
Chromaticity Coordinate (y)	0.4090
Chromaticity Coordinate (u')	0.2643
Chromaticity Coordinate (v')	0.5270

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240621176GZU-014 issued on 08 October 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on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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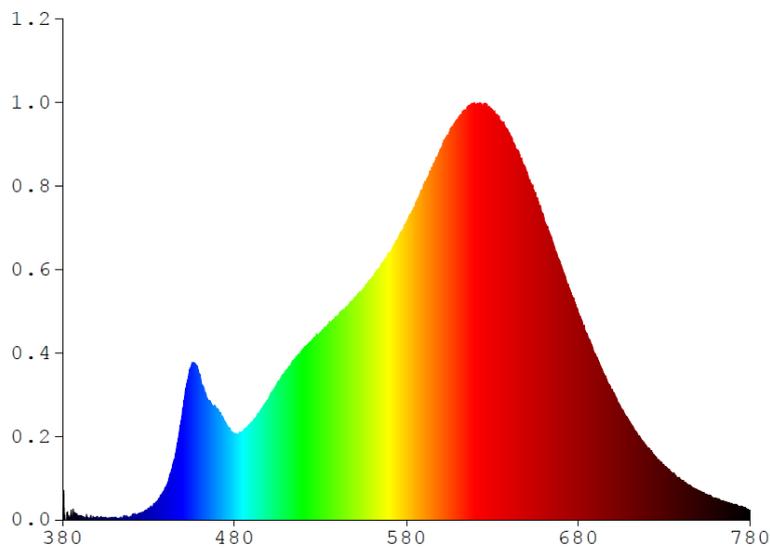
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLWS34427XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm								
380	0.0093	480	0.0878	580	0.3024	680	0.2101	780	0.0089
385	0.0094	485	0.0905	585	0.3196	685	0.1887		
390	0.0043	490	0.0985	590	0.3409	690	0.1677		
395	0.0000	495	0.1111	595	0.3572	695	0.1477		
400	0.0031	500	0.1239	600	0.3777	700	0.1301		
405	0.0009	505	0.1392	605	0.3941	705	0.1132		
410	0.0018	510	0.1511	610	0.4088	710	0.0984		
415	0.0019	515	0.1632	615	0.4183	715	0.0853		
420	0.0036	520	0.1737	620	0.4227	720	0.0735		
425	0.0072	525	0.1828	625	0.4229	725	0.0636		
430	0.0119	530	0.1904	630	0.4169	730	0.0547		
435	0.0188	535	0.2009	635	0.4053	735	0.0472		
440	0.0334	540	0.2075	640	0.3923	740	0.0401		
445	0.0616	545	0.2164	645	0.3749	745	0.0350		
450	0.1136	550	0.2262	650	0.3533	750	0.0298		
455	0.1582	555	0.2357	655	0.3314	755	0.0250		
460	0.1460	560	0.2464	660	0.3059	760	0.0221		
465	0.1212	565	0.2576	665	0.2831	765	0.0184		
470	0.1125	570	0.2714	670	0.2581	770	0.0159		
475	0.0975	575	0.2860	675	0.2283	775	0.0136		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34427XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

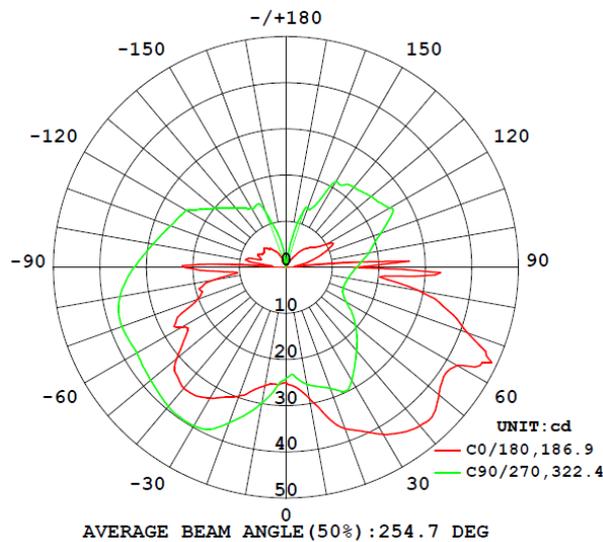
Photometric Measurements at 25°C – Distribution Method

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')
SLWS34427XX								
S240621176-021	base-up	2665	93	58	0.4615	0.4090	0.2643	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)
						c0/180, 186.9	c90/270, 322.4
SLWS34427XX							
S240621176-021	base-up	120.1	65.3	7.7	0.986	388.8	50.3

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34427XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	25.0	25.2	24.9	24.7	24.1
5	26.2	26.0	24.8	24.4	23.9
10	28.8	28.3	28.1	26.8	25.7
15	33.2	32.8	32.1	28.8	26.7
20	37.2	37.5	37.1	31.0	27.9
25	39.2	41.1	41.9	33.9	29.7
30	41.8	44.8	46.7	34.8	28.3
35	43.6	47.9	48.7	33.4	25.9
40	44.8	49.5	47.0	32.4	23.6
45	44.9	49.8	44.7	31.4	21.6
50	42.9	47.5	42.1	30.0	19.5
55	41.4	42.1	39.0	27.9	17.4
60	42.6	36.6	35.7	25.7	14.9
65	48.8	32.8	32.6	24.2	13.6
70	41.5	31.7	30.3	23.9	13.1
75	36.0	31.7	29.7	24.0	13.2
80	29.0	29.8	30.2	24.7	13.6
85	21.4	29.8	31.8	25.6	14.2
90	14.6	30.4	33.9	26.8	15.2
95	12.3	33.6	36.8	28.3	16.5
100	2.9	38.2	40.6	30.1	18.2
105	5.4	42.2	44.9	32.4	19.6
110	8.1	46.6	48.7	35.4	21.7
115	10.7	51.9	49.4	38.2	24.5
120	10.1	56.2	48.7	38.2	25.8
125	7.7	53.9	46.5	36.0	24.5
130	6.7	46.9	42.3	34.1	23.9
135	5.7	38.7	39.1	31.9	23.1
140	4.3	30.5	36.2	29.5	22.9
145	2.6	23.2	33.6	27.5	21.8
150	1.4	16.7	27.4	24.8	21.6
155	0.8	10.7	19.4	20.2	14.8
160	0.5	6.1	13.1	16.1	13.8
165	0.4	2.6	7.3	10.2	10.5
170	0.3	0.3	1.4	3.5	4.2
175	0.2	0.3	0.3	0.1	0.1
180	0.3	0.6	0.7	0.3	0.1

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

TEST REPORT
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34427XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLWS34427XX		
0-30	29.0	7.5
0-40	55.4	14.2
0-60	123.1	31.7
0-90	229.9	59.1
60-90	106.8	27.4
0-180	388.8	100.0

Beam Angle

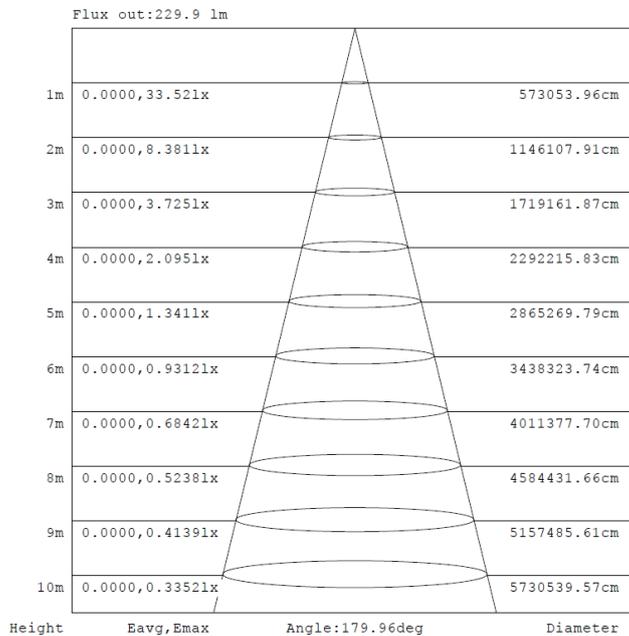
Total Beam Angle(°)
254.7

Illumination Plots

Model No.: SLWS34427XX

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

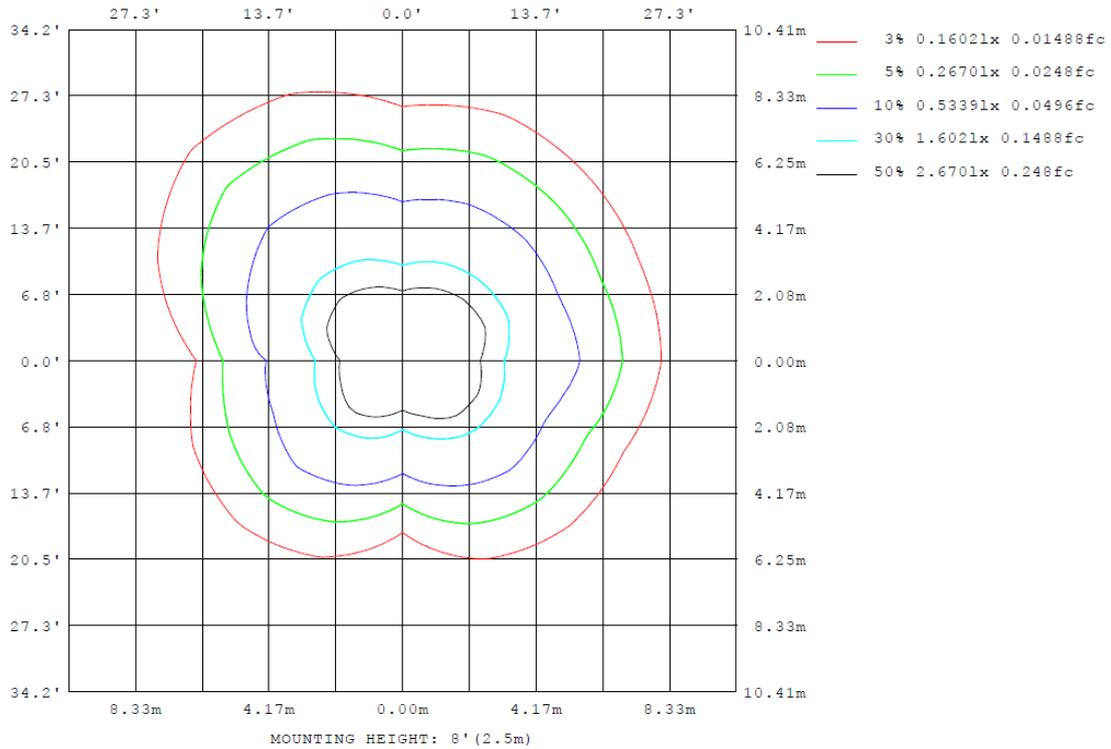
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34427XX

Model No.: SLWS34427XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

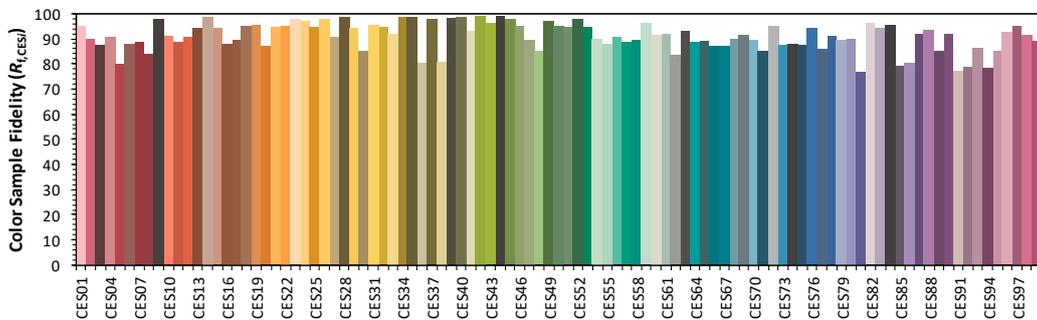
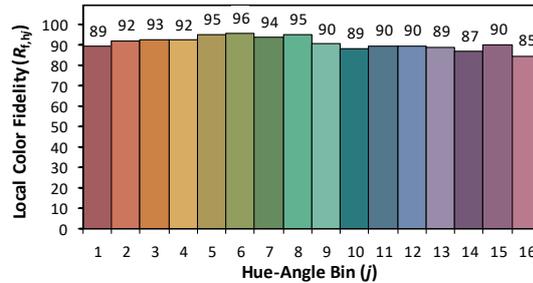
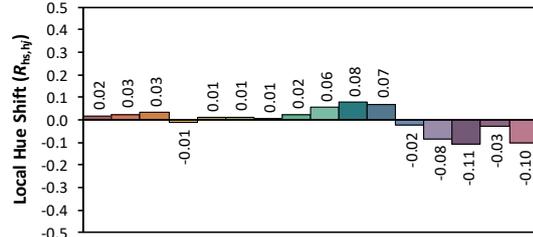
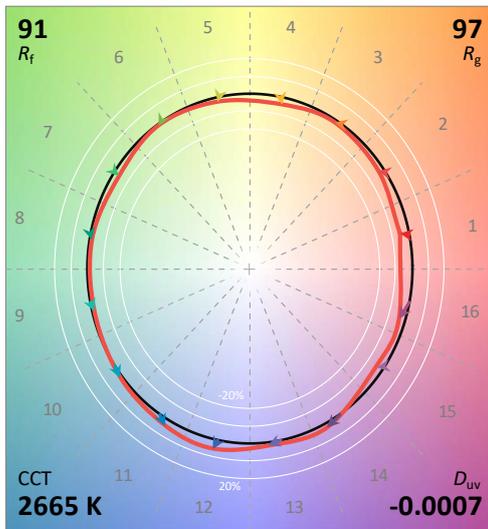
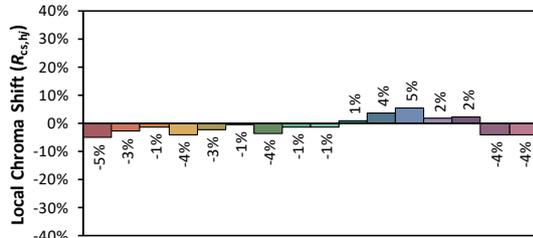
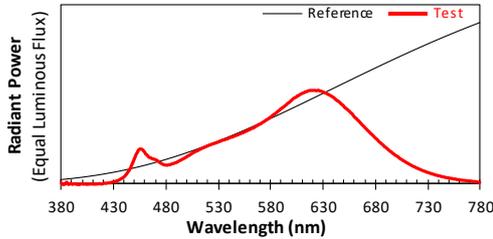
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34427XX

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
Date: 2024/7/26

Manufacturer: Visual Comfort and Company
Model: SLWS34427XX



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

x 0.4615
 y 0.4090
 u' 0.2643
 v' 0.5270

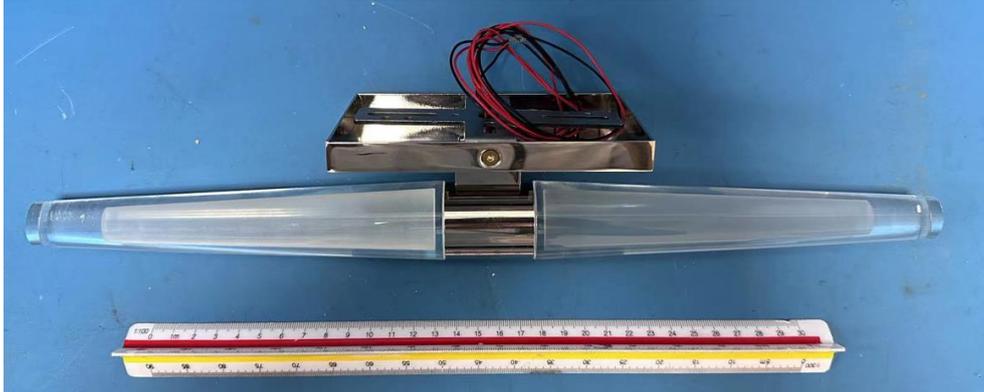
CIE 13.3-1995 (CRI)	
R_a	93
R_g	58

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 SLWS34427XX

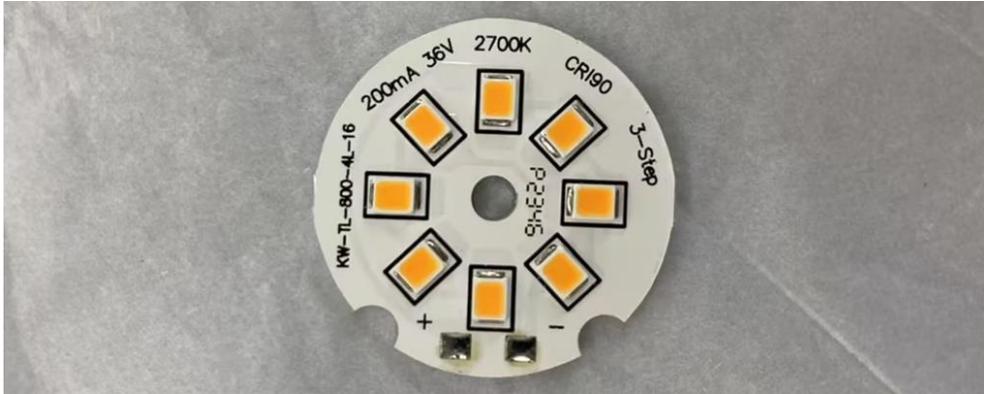


View of LED driver PVD08-C020V42-UNV3-HE-P

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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 *****