

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240621176GZU-004

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-004
Modification 1: 06 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLWS31327XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

7400 LINDER AVE. SKOKIE, IL, 60077

Email: asame@visualcomfort.com
Phone No.: 8474104402

<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 SLWS31327XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240621176-019.
<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>	22 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:	SLWS31327XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLWS31327XX

Criteria	Result
Total Lumen Output	374.8 lm
Total Power	7.7 W
Luminaire Efficacy	48.5 lm/W
S/MH(C0/180)	2.72
S/MH(C90/270)	1.78
Correlated Color Temperature (CCT)	2606 K
Color Rendering Index (CRI)	93
R9	58
Chromaticity Coordinate (x)	0.4658
Chromaticity Coordinate (y)	0.4089
Chromaticity Coordinate (u')	0.2671
Chromaticity Coordinate (v')	0.5276

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240621176GZU-004 issued on 08 October 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on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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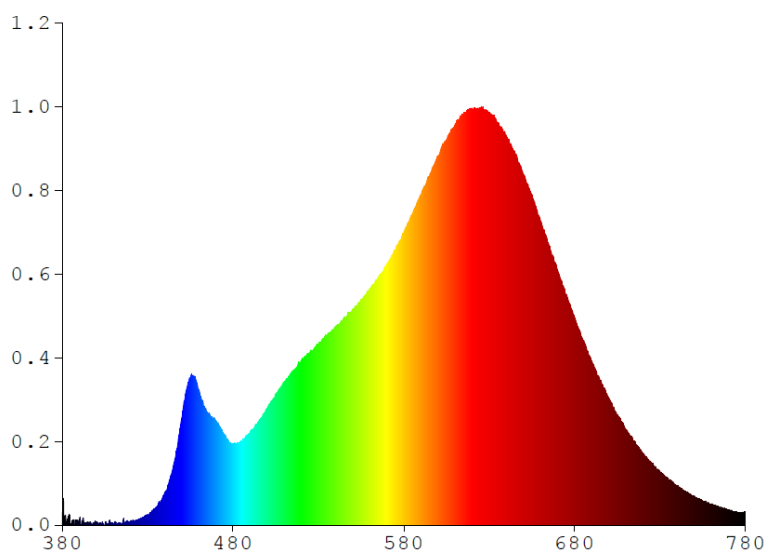
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLWS31327XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0114	480	0.0696	580	0.2517	680	0.1778	780	0.0114
385	0.0012	485	0.0715	585	0.2674	685	0.1587		
390	0.0023	490	0.0800	590	0.2831	690	0.1405		
395	0.0028	495	0.0893	595	0.3002	695	0.1246		
400	0.0027	500	0.1007	600	0.3171	700	0.1088		
405	0.0000	505	0.1129	605	0.3312	705	0.0945		
410	0.0011	510	0.1233	610	0.3448	710	0.0822		
415	0.0013	515	0.1328	615	0.3542	715	0.0719		
420	0.0037	520	0.1418	620	0.3579	720	0.0613		
425	0.0050	525	0.1486	625	0.3577	725	0.0532		
430	0.0085	530	0.1552	630	0.3538	730	0.0454		
435	0.0155	535	0.1632	635	0.3457	735	0.0386		
440	0.0278	540	0.1708	640	0.3341	740	0.0334		
445	0.0503	545	0.1784	645	0.3197	745	0.0287		
450	0.0916	550	0.1853	650	0.3013	750	0.0249		
455	0.1270	555	0.1938	655	0.2833	755	0.0203		
460	0.1157	560	0.2032	660	0.2611	760	0.0177		
465	0.0970	565	0.2136	665	0.2401	765	0.0149		
470	0.0896	570	0.2241	670	0.2186	770	0.0130		
475	0.0777	575	0.2363	675	0.1939	775	0.0111		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS31327XX

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

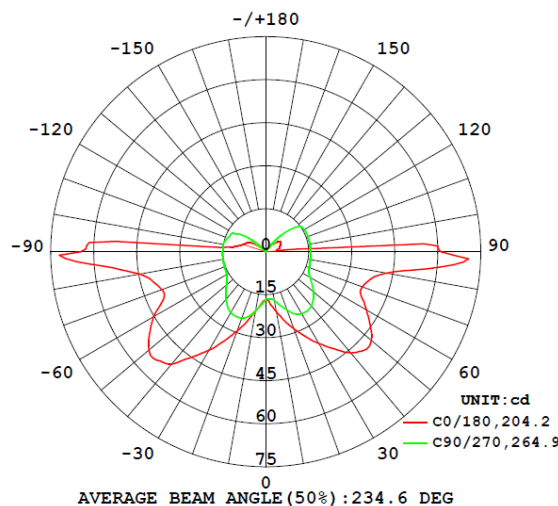
Photometric Measurements at 25°C – Distribution Method

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')
SLWS31327XX								
S2406211 76-019	base-up	2606	93	58	0.4658	0.4089	0.2671	0.5276

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)
SLWS31327XX							
S2406211 76-019	base-up	120.0	65.4	7.7	0.986	374.8	48.5

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS31327XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	16.7	16.7	16.7	16.8	16.7
5	18.3	18.0	17.2	16.8	16.7
10	21.3	20.7	19.5	17.5	17.2
15	24.9	23.8	22.9	20.6	19.3
20	28.5	28.0	27.5	24.0	21.6
25	32.5	32.8	32.8	27.7	24.0
30	36.9	38.1	37.8	30.6	24.9
35	41.3	42.3	41.8	32.2	25.2
40	46.0	46.5	44.2	33.4	24.7
45	48.6	49.9	45.0	33.6	23.4
50	48.0	51.0	45.3	32.8	21.7
55	44.5	50.2	45.1	31.5	19.7
60	40.5	47.9	44.7	29.8	17.8
65	36.7	44.8	44.4	28.6	16.7
70	35.8	41.9	44.1	28.2	16.1
75	37.6	39.3	44.3	28.4	15.9
80	42.9	36.7	44.7	28.7	15.8
85	61.4	35.6	45.0	29.0	15.7
90	61.2	35.0	45.2	29.1	15.7
95	11.3	35.9	45.5	29.0	15.7
100	4.0	37.4	45.9	28.9	15.6
105	4.9	40.0	45.9	28.6	15.7
110	5.2	41.7	45.2	28.2	15.6
115	5.7	43.6	42.8	27.7	15.6
120	6.1	43.8	38.7	26.9	15.6
125	6.1	41.3	33.3	24.8	15.3
130	5.4	36.0	26.7	20.3	13.2
135	3.9	28.2	20.2	15.0	9.8
140	3.8	19.7	14.2	9.8	6.3
145	2.3	12.1	10.1	5.5	2.8
150	1.2	7.5	7.4	3.0	0.6
155	0.8	4.3	4.9	2.0	0.3
160	0.5	2.2	2.7	1.3	0.2
165	0.3	0.9	1.2	0.8	0.2
170	0.2	0.3	0.5	0.3	0.2
175	0.2	0.2	0.1	0.1	0.1
180	0.0	0.0	0.1	0.0	0.1

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS31327XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLWS31327XX		
0-30	23.5	6.3
0-40	47.6	12.7
0-60	115.9	30.9
0-90	231.5	61.8
60-90	115.6	30.9
0-180	374.8	100.0

Beam Angle

Total Beam Angle(°)

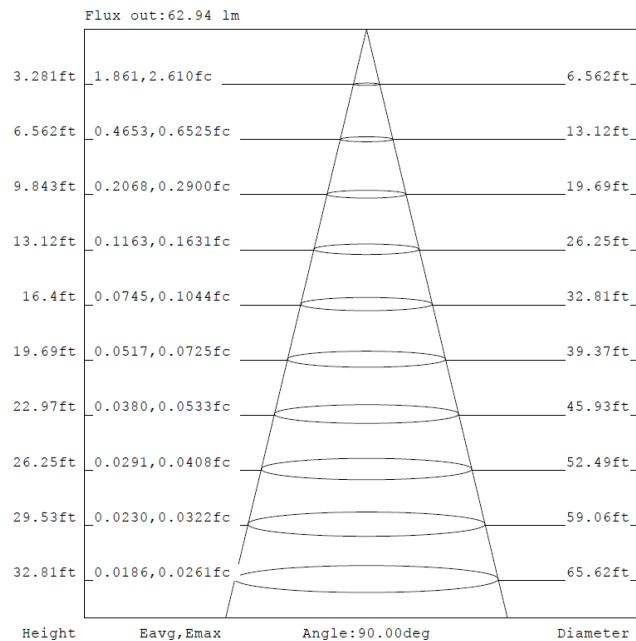
234.6

Illumination Plots

Model No.: SLWS31327XX

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

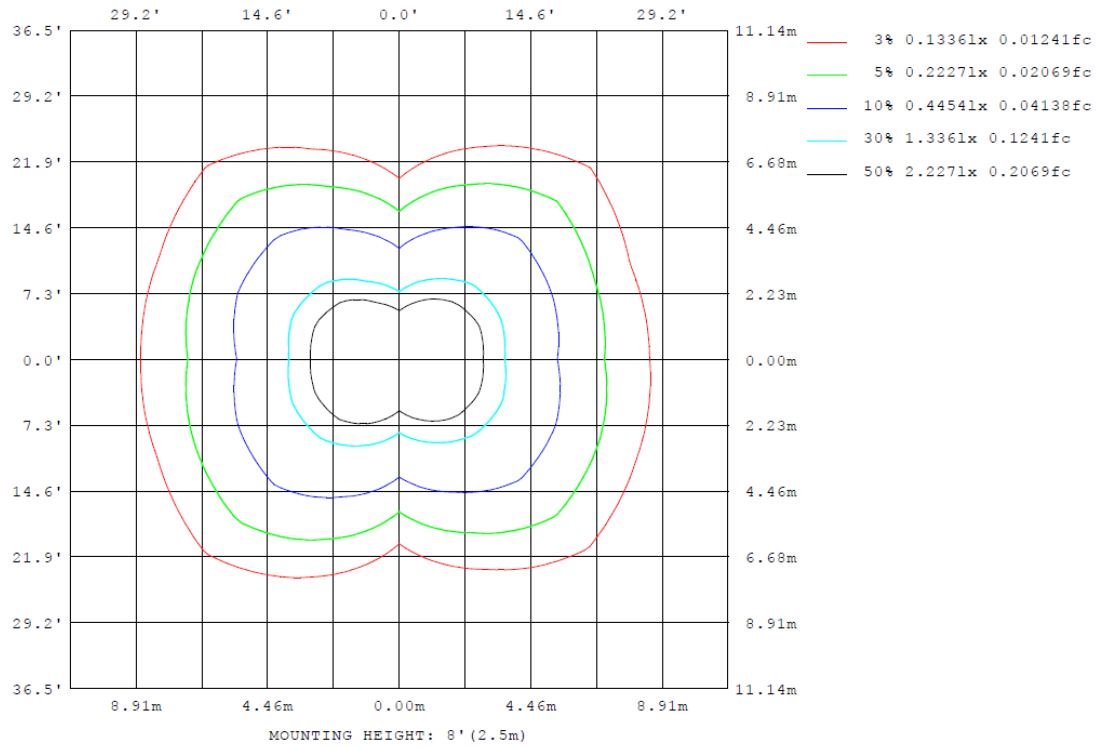
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS31327XX

Model No.: SLWS31327XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS31327XX

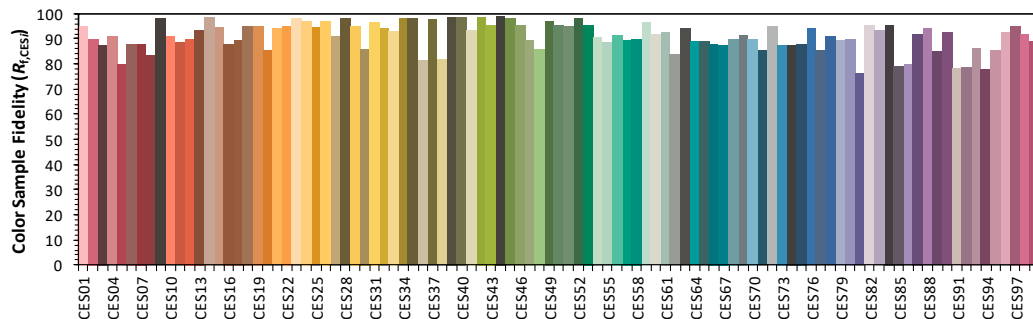
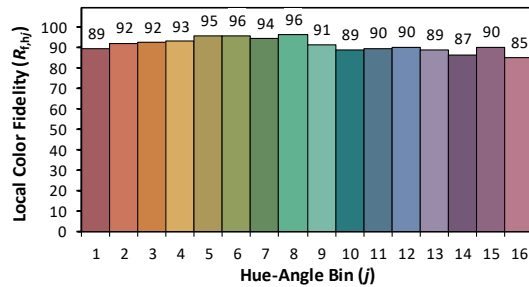
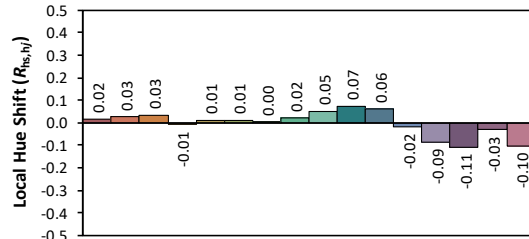
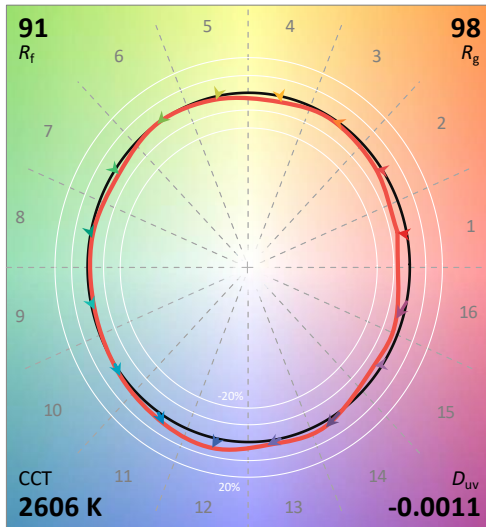
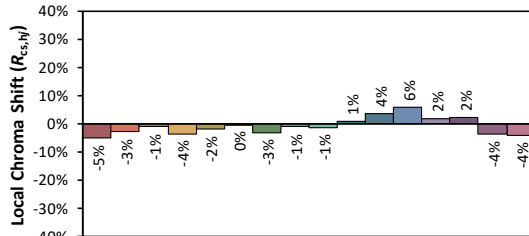
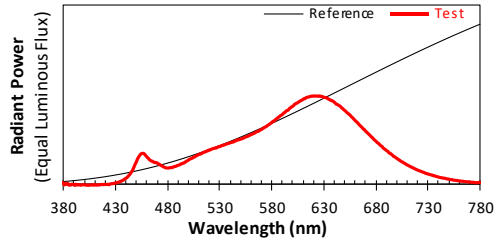
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/7/22

Model: SLWS31327XX



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

x 0.4658
 y 0.4089
 u' 0.2671
 v' 0.5276

CIE 13.3-1995
(CRI)

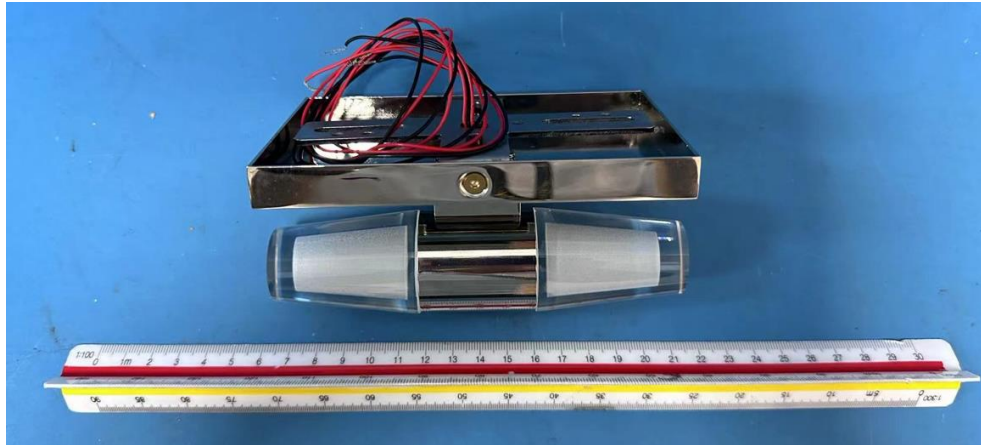
R_a 93
 R_g 58

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

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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLWS31327XX

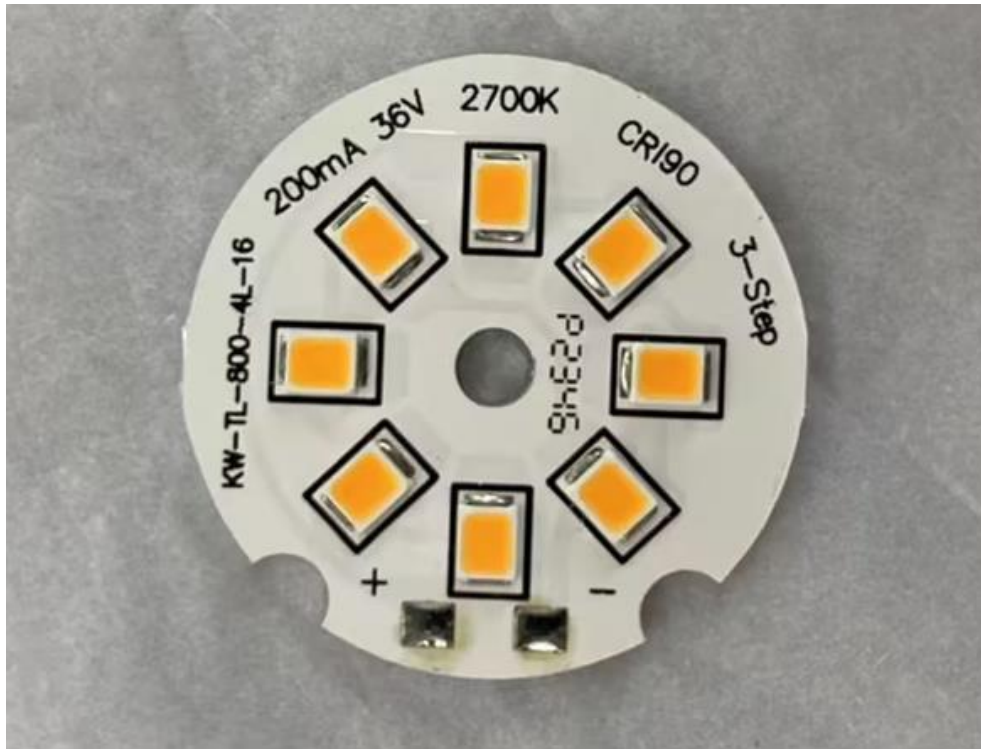


View of LED driver PVD08-C020V42-UNV3-HE-P

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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 *****