

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240621176GZU-020

ISSUE DATE

15 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-020
Modification 1: 06 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLWS34627XX

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 SLWS34627XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240621176-024.
<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>	27 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:	SLWS34627XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLWS34627XX

Criteria	Result
Total Lumen Output	756.9 lm
Total Power	15.2 W
Luminaire Efficacy	49.9 lm/W
S/MH(C0/180)	1.55
S/MH(C90/270)	1.08
Correlated Color Temperature (CCT)	2626 K
Color Rendering Index (CRI)	92
R9	52
Chromaticity Coordinate (x)	0.4666
Chromaticity Coordinate (y)	0.4128
Chromaticity Coordinate (u')	0.2658
Chromaticity Coordinate (v')	0.5292

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240621176GZU-020 issued on 15 October 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on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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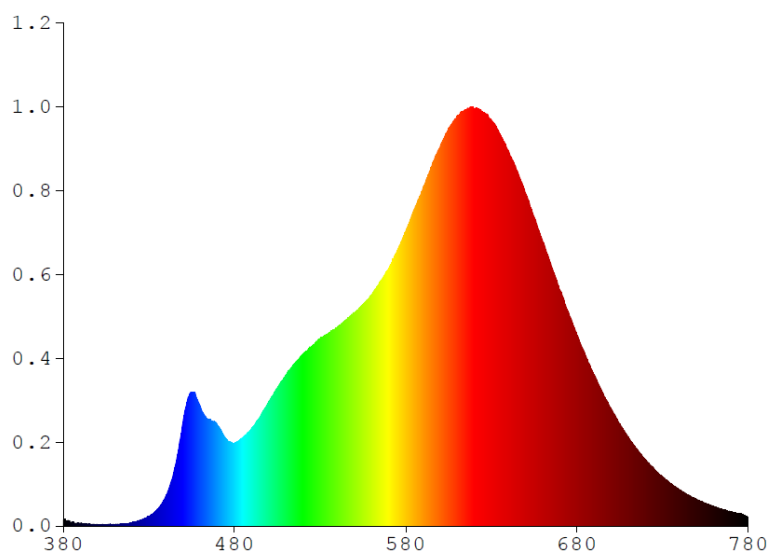
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLWS34627XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.3258	480	4.5645	580	16.2330	680	10.4890	780	0.4748
385	0.2308	485	4.8787	585	17.4510	685	9.3506		
390	0.1112	490	5.3810	590	18.5870	690	8.3146		
395	0.1014	495	6.0261	595	19.7850	695	7.3156		
400	0.0537	500	6.8463	600	20.8700	700	6.4348		
405	0.0565	505	7.5959	605	21.8940	705	5.6027		
410	0.0920	510	8.3136	610	22.5900	710	4.8530		
415	0.1054	515	8.9424	615	22.8900	715	4.2299		
420	0.1738	520	9.4745	620	22.9860	720	3.6373		
425	0.3171	525	9.8862	625	22.8010	725	3.1143		
430	0.5288	530	10.3160	630	22.3460	730	2.6878		
435	0.9278	535	10.6300	635	21.5590	735	2.3083		
440	1.6643	540	10.9560	640	20.6110	740	1.9965		
445	3.1606	545	11.3470	645	19.5400	745	1.6990		
450	5.7449	550	11.7300	650	18.2930	750	1.4587		
455	7.3605	555	12.2110	655	16.9780	755	1.2476		
460	6.5664	560	12.7300	660	15.6240	760	1.0706		
465	5.7977	565	13.4350	665	14.3020	765	0.9210		
470	5.5355	570	14.1700	670	12.9800	770	0.7885		
475	4.7968	575	15.1720	675	11.4920	775	0.6757		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34627XX

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

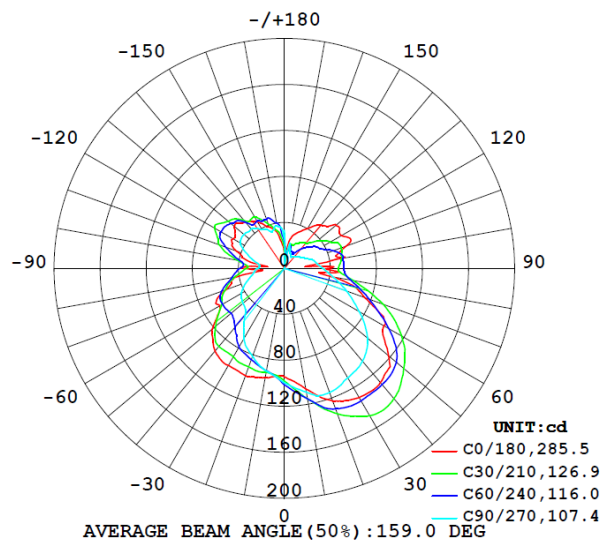
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperatur e (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit y	Chromaticit y	Chromaticit y	Chromaticit y
					Coordinate (x)	Coordinate (y)	Coordinate (u')	Coordinate (v')
SLWS34627XX								
S2406211 76-024	base-up	2626	92	52	0.4666	0.4128	0.2658	0.5292

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)
SLWS34627XX							
S2406211 76-024	base-up	120.1	127.9	15.2	0.988	756.9	49.9

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34627XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	94.4	98.0	101.2	99.5	94.4
5	98.9	105.7	107.6	104.3	98.9
10	106.3	115.1	115.1	109.3	106.3
15	115.1	125.2	124.1	114.6	115.1
20	122.7	134.7	130.1	114.8	122.7
25	126.7	141.8	132.5	113.1	126.7
30	129.7	147.9	133.0	110.0	129.7
35	130.8	150.2	132.4	108.2	130.8
40	129.7	147.9	132.0	105.5	129.7
45	126.2	142.7	130.7	101.0	126.2
50	118.0	135.4	126.9	94.4	118.0
55	105.4	127.7	118.0	85.2	105.4
60	99.9	117.6	104.8	75.0	99.9
65	91.0	105.5	90.6	65.6	91.0
70	74.5	91.0	78.4	57.4	74.5
75	63.7	74.8	67.7	49.9	63.7
80	41.4	60.5	58.4	42.9	41.4
85	44.3	49.9	52.8	37.6	44.3
90	37.5	46.9	51.7	33.6	37.5
95	20.7	48.5	51.5	30.5	20.7
100	44.5	50.5	51.9	28.2	44.5
105	47.8	51.7	50.4	26.7	47.8
110	56.7	52.4	45.3	23.9	56.7
115	62.7	52.0	39.5	21.1	62.7
120	57.5	46.3	35.3	18.5	57.5
125	58.0	42.6	33.3	16.8	58.0
130	58.3	37.5	29.1	15.9	58.3
135	52.1	31.8	25.7	14.5	52.1
140	49.3	28.9	22.3	13.7	49.3
145	45.5	27.5	17.4	12.8	45.5
150	40.2	25.8	14.7	11.5	40.2
155	36.3	24.0	16.2	13.1	36.3
160	33.2	21.8	17.1	14.6	33.2
165	30.1	21.8	20.1	18.8	30.1
170	24.3	15.7	14.3	12.0	24.3
175	14.8	10.5	0.6	0.6	14.8
180	6.7	19.2	25.3	33.4	6.7

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34627XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLWS34627XX		
0-30	89.8	11.9
0-40	157.3	20.8
0-60	316.2	41.8
0-90	499.4	66.0
60-90	183.2	24.2
0-180	756.9	100.0

Beam Angle

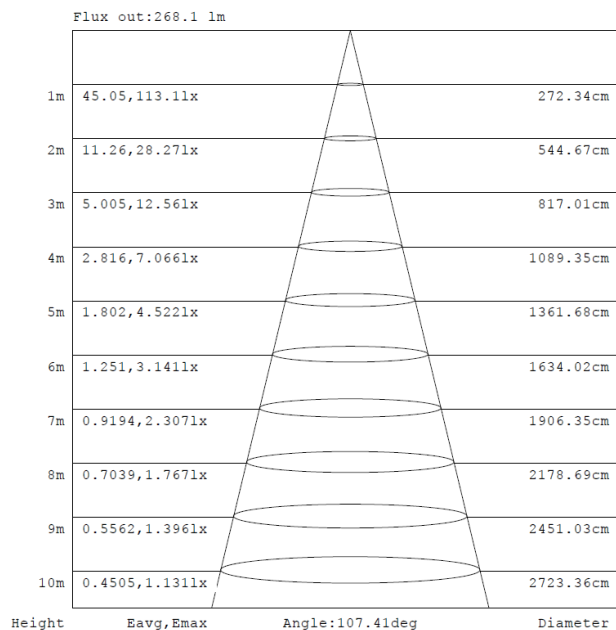
Total Beam Angle(°)
159.0

Illumination Plots

Model No.: SLWS34627XX

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.

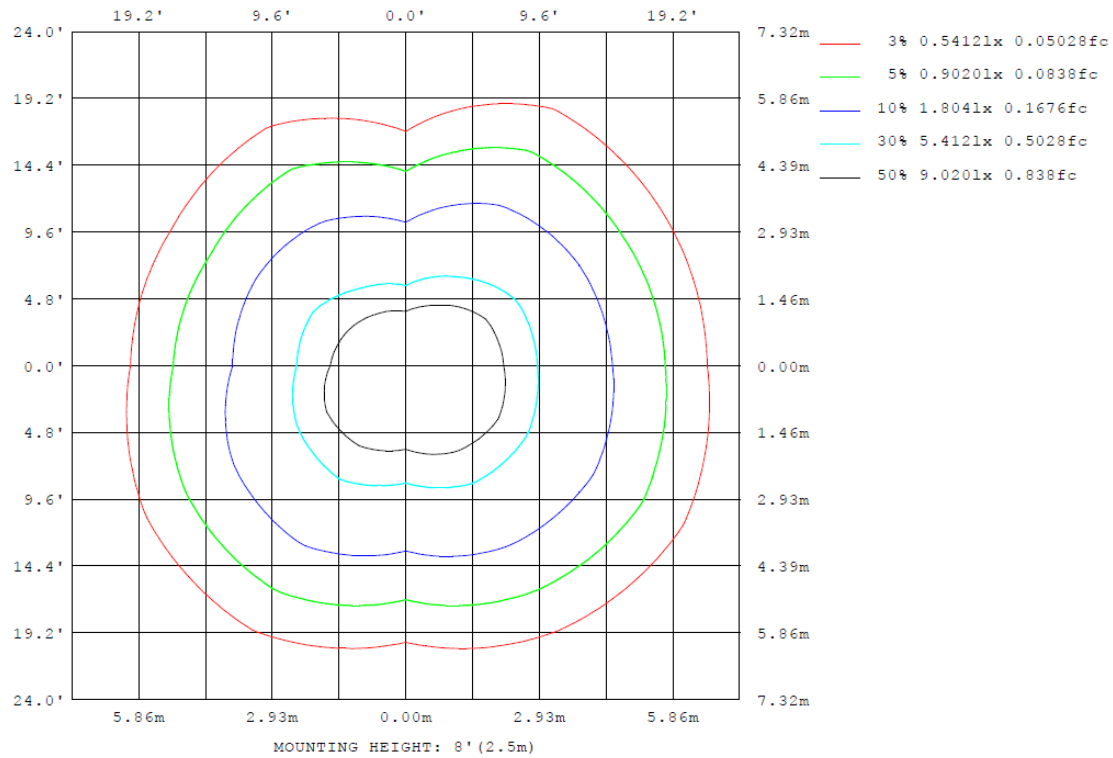
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34627XX

Model No.: SLWS34627XX
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLWS34627XX

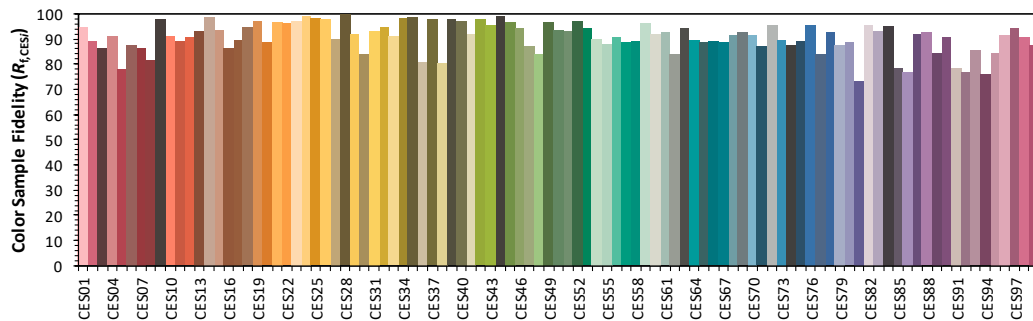
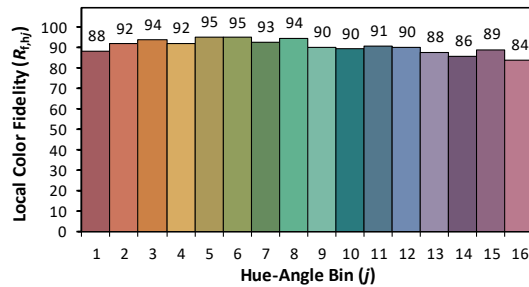
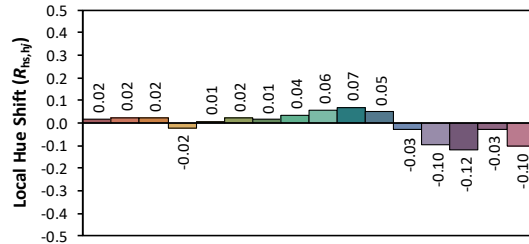
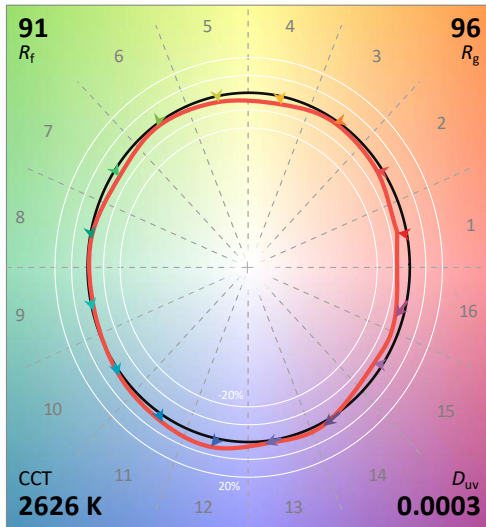
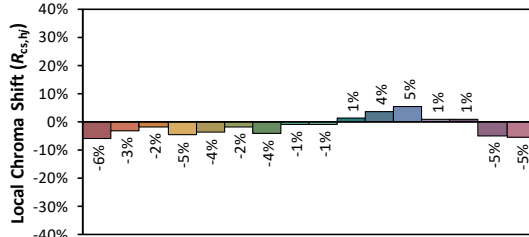
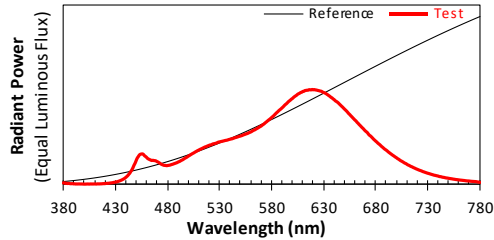
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/9/27

Model: SLWS34627XX



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

x 0.4666
 y 0.4128
 u' 0.2658
 v' 0.5292

CIE 13.3-1995
(CRI)

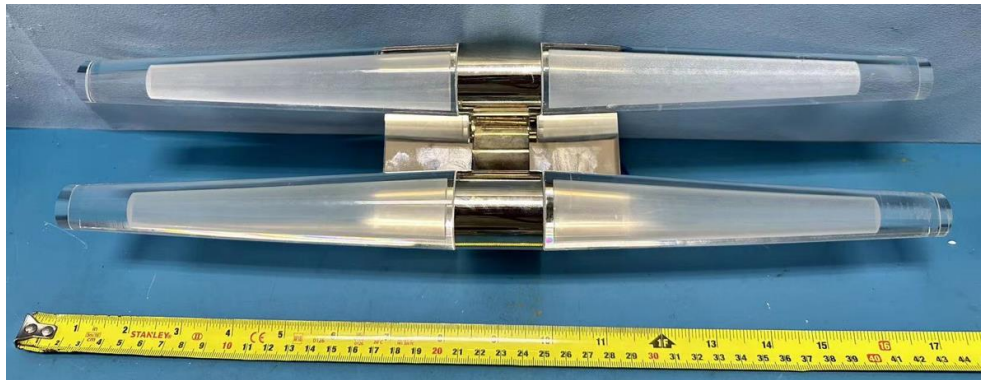
R_a 92
 R_g 52

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

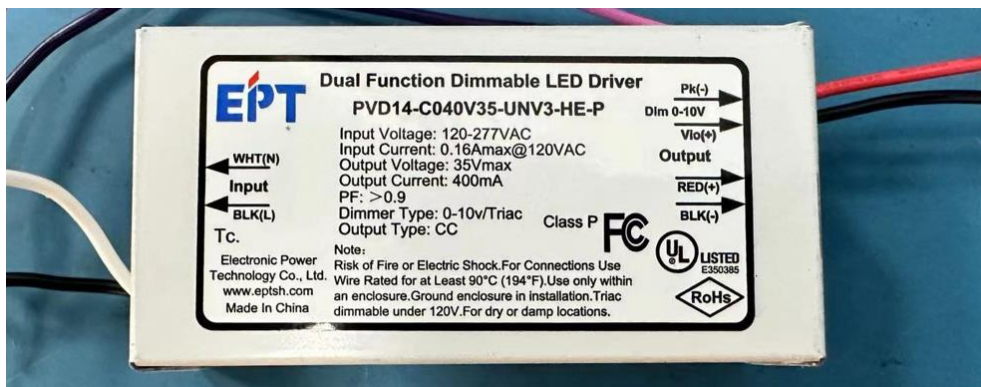
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLWS34627XX

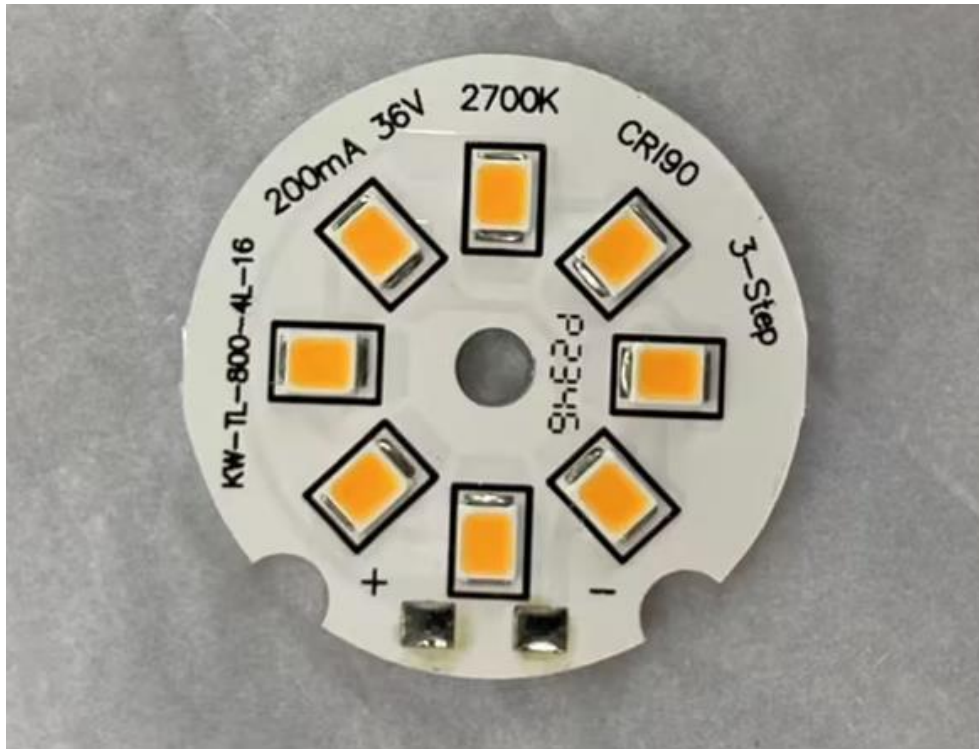


View of LED driver PVD14-C040V35-UNV3-HE-P

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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 *****