

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240729032GZU-007

ISSUE DATE

09 October 2024

REVISION DATE

Modification 1: 28 November 2024

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240729032GZU-007
Modification 1: 28 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLPD31527CXX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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Email: jrivero@visualcomfort.com
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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: QGZ240726006.
<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 SLPD31527CXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240729032-007.
<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>	07 August 2024, 13 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:	SLPD31527CXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLPD31527CXX

Criteria	Result
Total Lumen Output	549.1 lm
Total Power	7.2 W
Luminaire Efficacy	76.3 lm/W
S/MH(C0/180)	0.59
S/MH(C90/270)	0.68
Correlated Color Temperature (CCT)	2544 K
Color Rendering Index (CRI)	92
R9	67
Chromaticity Coordinate (x)	0.4736
Chromaticity Coordinate (y)	0.4140
Chromaticity Coordinate (u')	0.2698
Chromaticity Coordinate (v')	0.5307

Remark:

Modification 1: Based on and superseded the previous report 240729032GZU-007 issued on 09 October 2024, correct the manufacturer information on page 2 of the report, Correct the applicant information 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
Two Meter Integrating Sphere System	Sensing – 2M	SA063-12
Integration Sphere	Φ2m	SA063-12-01
Frequency power supply	APW-105N	SA063-12-05
High Accuracy Plant Spectroradiometer	PMS-2000P	SA063-12-25
Standard Lamp	D204	SA063-12-27
Power Meter	WT-310E	SA011-234
Temperature Meter	S500-TH	SA047-230

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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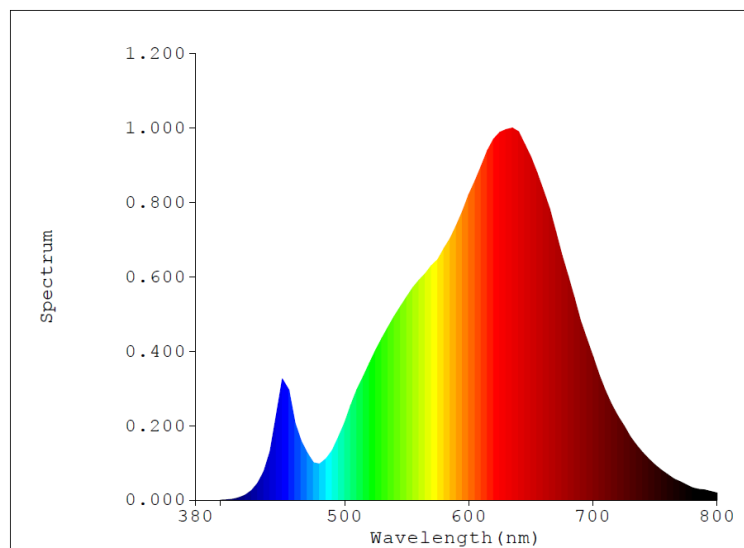
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLPD31527CXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	1.4540	580	10.1370	680	9.0259	780	0.5013
385	0.0000	485	1.6666	585	10.5420	685	8.1466		
390	0.0000	490	2.0022	590	11.0540	690	7.2260		
395	0.0007	495	2.5362	595	11.6260	695	6.4767		
400	0.0039	500	3.1108	600	12.2920	700	5.7690		
405	0.0137	505	3.8092	605	12.8570	705	5.0323		
410	0.0412	510	4.4511	610	13.4610	710	4.4046		
415	0.0990	515	4.9800	615	14.0840	715	3.8542		
420	0.2038	520	5.5155	620	14.5320	720	3.3982		
425	0.3846	525	6.0340	625	14.8140	725	2.9877		
430	0.6860	530	6.5114	630	14.9240	730	2.5483		
435	1.1571	535	6.9605	635	14.9830	735	2.2099		
440	1.9546	540	7.3906	640	14.8420	740	1.9122		
445	3.3951	545	7.8081	645	14.3270	745	1.6521		
450	4.8662	550	8.1881	650	13.8230	750	1.4201		
455	4.4407	555	8.5639	655	13.1830	755	1.2058		
460	3.1064	560	8.8558	660	12.4890	760	1.0290		
465	2.3785	565	9.1172	665	11.7330	765	0.8533		
470	1.8930	570	9.4447	670	10.7950	770	0.7486		
475	1.5020	575	9.6963	675	9.8575	775	0.6240		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31527CXX

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

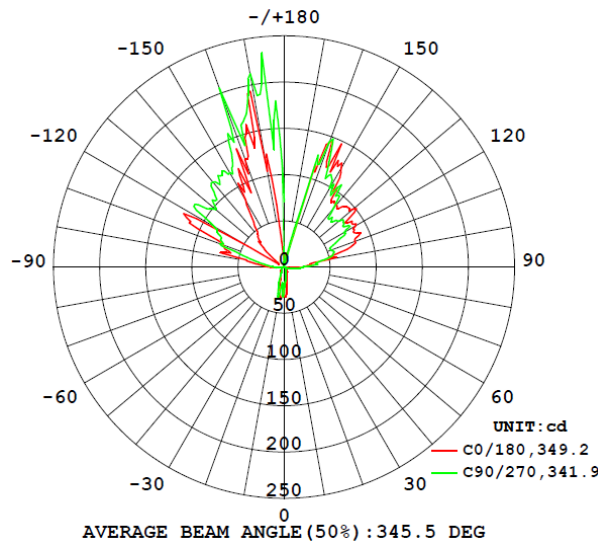
Photometric Measurements at 25°C – Integral Sphere Method

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')
SLPD31527CXX								
S2407290 32-007	base-up	2544	92	67	0.4736	0.4140	0.2698	0.5307

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)
SLPD31527CXX							
S2407290 32-007	base-up	120.0	60.9	7.2	0.985	549.1	76.3

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31527CXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	25.2	31.7	26.5	26.7	26.5
5	29.1	18.7	15.7	15.9	15.8
10	17.7	13.4	10.3	12.0	11.8
15	12.9	9.0	7.1	8.4	8.1
20	8.7	6.4	5.6	6.5	6.4
25	7.1	5.7	5.0	5.8	5.5
30	6.5	5.4	4.2	4.9	4.5
35	6.3	4.5	3.7	4.5	3.7
40	5.1	3.7	3.1	3.9	3.1
45	4.3	3.3	2.9	3.7	2.8
50	3.9	3.0	2.6	3.1	2.5
55	3.4	2.8	2.5	2.9	2.4
60	3.2	2.7	2.5	2.9	2.4
65	2.9	2.5	2.8	2.7	2.4
70	2.8	3.8	4.5	4.4	3.4
75	4.0	6.2	7.8	7.0	5.9
80	6.2	10.5	12.9	11.2	9.7
85	10.3	17.1	21.2	18.6	15.6
90	17.4	28.2	33.9	28.3	21.1
95	27.5	35.6	77.0	57.4	36.6
100	48.9	61.3	75.5	57.9	41.3
105	63.9	93.6	88.0	76.8	55.0
110	82.0	92.9	92.8	76.0	54.3
115	87.7	100.3	99.4	77.1	61.4
120	89.1	133.8	125.7	118.3	75.0
125	83.7	113.2	114.0	97.1	77.8
130	98.2	116.8	136.0	112.7	77.4
135	92.0	120.8	108.4	96.7	72.9
140	87.7	108.3	113.8	106.9	83.5
145	88.8	147.7	193.0	165.0	108.6
150	124.2	145.9	141.6	118.9	98.4
155	147.2	226.3	170.1	174.8	105.9
160	143.7	201.0	204.7	194.7	144.1
165	23.3	207.8	89.3	63.1	43.5
170	15.1	5.8	3.8	2.4	2.0
175	7.7	0.8	0.0	0.0	0.0
180	0.0	6.9	20.5	23.1	21.9

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31527CXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLPD31527CXX		
0-30	9.8	1.8
0-40	12.9	2.4
0-60	18.7	3.4
0-90	38.7	7.1
60-90	20.0	3.7
0-180	549.1	100.0

Beam Angle

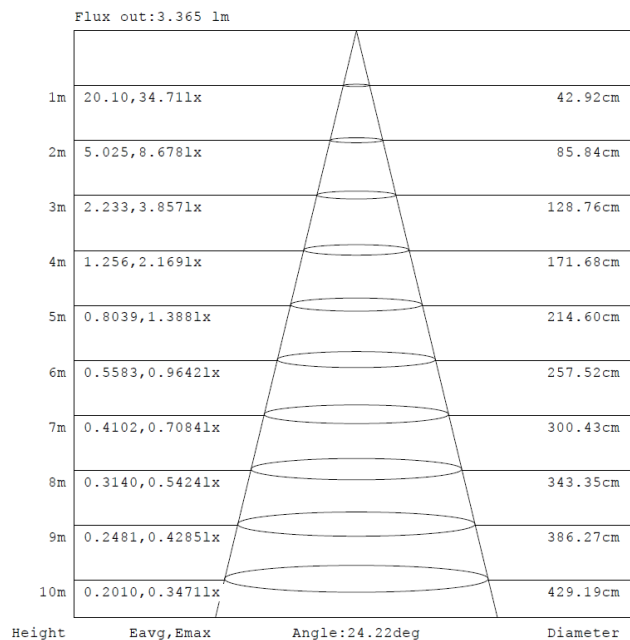
Total Beam Angle(°)
345.5

Illumination Plots

Model No.: SLPD31527CXX

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

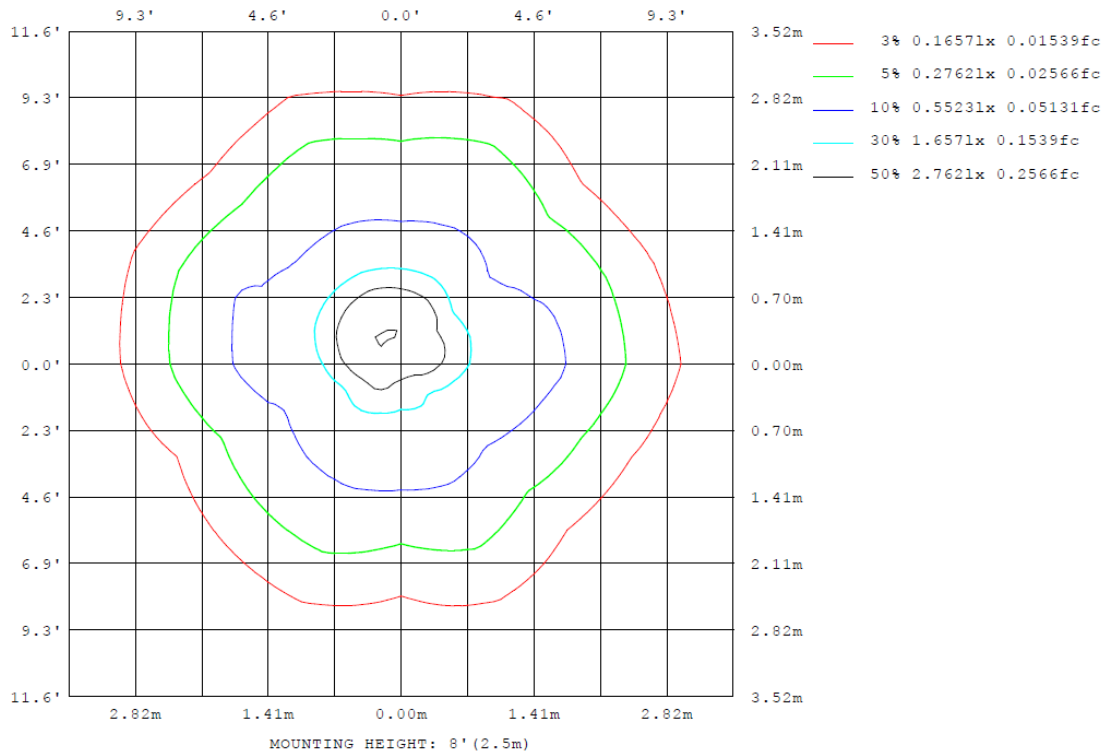
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31527CXX

Model No.: SLPD31527CXX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31527CXX

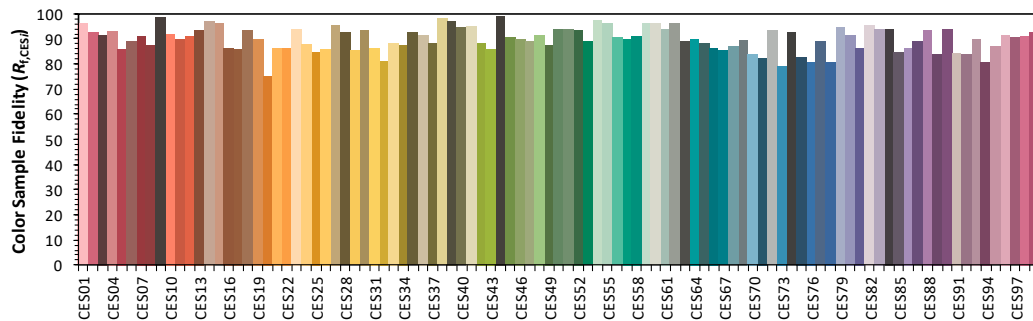
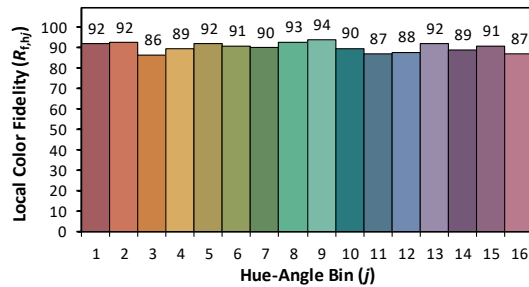
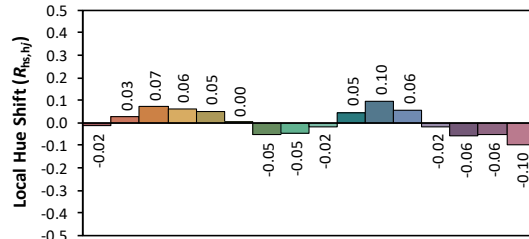
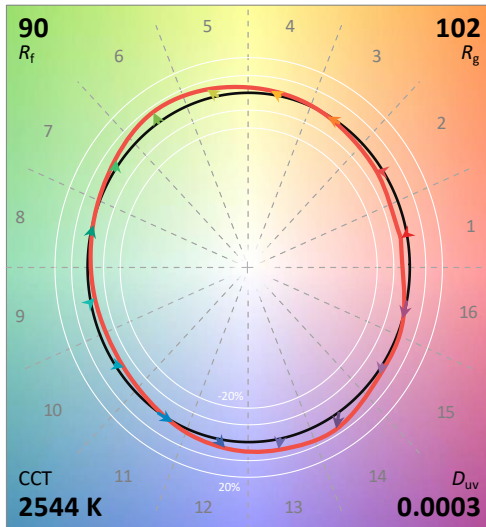
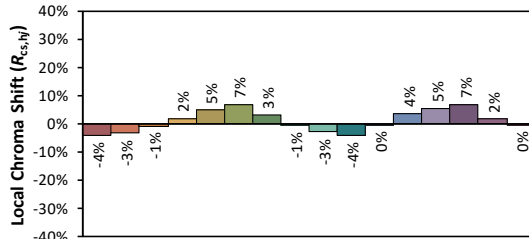
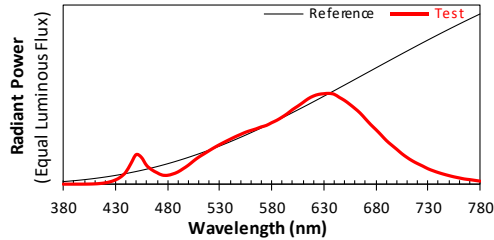
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/8/13

Model: SLPD31527CXX



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

x 0.4736
 y 0.4140
 u' 0.2698
 v' 0.5307

CIE 13.3-1995
(CRI)
 R_a 92
 R_g 67

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)

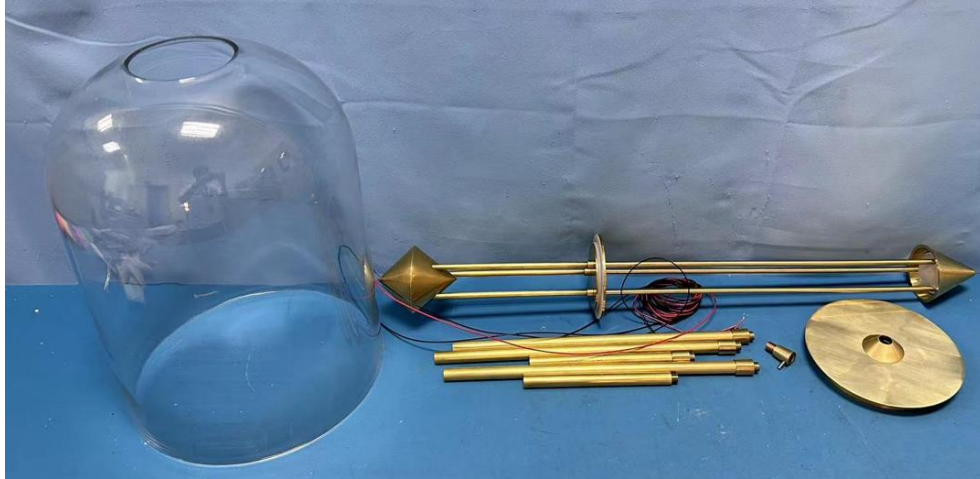


External view of SLPD31527CXX

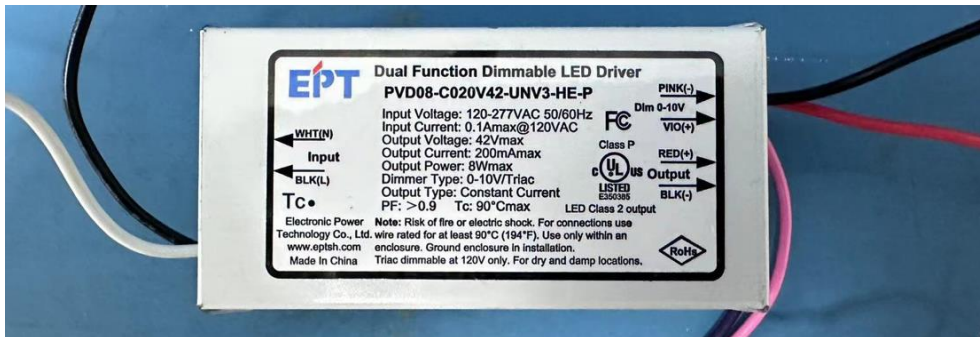
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TEST REPORT

PRODUCT PICTURE (not to scale)



Internal view of SLPD31527CXX



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



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 *****