

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240729032GZU-008

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-008
Modification 1: 28 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLPD31627CXX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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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 SLPD31627CXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240729032-008.
<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>	09 August 2024, 14 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

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

TEST REPORT

SUMMARY

Model Number:	SLPD31627CXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLPD31627CXX

Criteria	Result
Total Lumen Output	505.9 lm
Total Power	7.2 W
Luminaire Efficacy	70.1 lm/W
S/MH(C0/180)	0.49
S/MH(C90/270)	0.55
Correlated Color Temperature (CCT)	2610 K
Color Rendering Index (CRI)	91
R9	66
Chromaticity Coordinate (x)	0.4684
Chromaticity Coordinate (y)	0.4138
Chromaticity Coordinate (u')	0.2665
Chromaticity Coordinate (v')	0.5298

Remark:

Modification 1: Based on and superseded the previous report 240729032GZU-008 issued on 09 October 2024, correct the manufacturer information on page 2 of the report, Correct the applicant information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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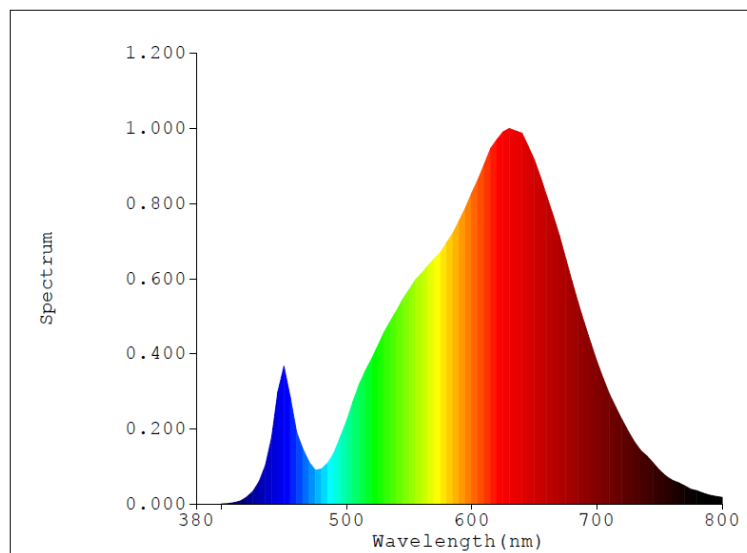
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLPD31627CXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	1.2118	580	9.0981	680	7.7583	780	0.4515
385	0.0000	485	1.4316	585	9.4299	685	6.9977		
390	0.0000	490	1.7941	590	9.8589	690	6.2890		
395	0.0013	495	2.3380	595	10.2990	695	5.5924		
400	0.0052	500	2.8980	600	10.8160	700	4.9356		
405	0.0149	505	3.5502	605	11.2960	705	4.3512		
410	0.0441	510	4.1487	610	11.8310	710	3.8146		
415	0.1028	515	4.6457	615	12.3730	715	3.3724		
420	0.2245	520	5.0639	620	12.6760	720	2.9328		
425	0.4319	525	5.5146	625	12.9490	725	2.5108		
430	0.7842	530	5.9854	630	13.0640	730	2.1497		
435	1.3336	535	6.3599	635	12.9760	735	1.8528		
440	2.2936	540	6.7322	640	12.9040	740	1.6562		
445	3.8911	545	7.1425	645	12.4530	745	1.4205		
450	4.7856	550	7.4611	650	11.9690	750	1.1648		
455	3.6887	555	7.8044	655	11.3650	755	0.9687		
460	2.4837	560	8.0238	660	10.7000	760	0.8208		
465	1.9093	565	8.2861	665	10.0250	765	0.7320		
470	1.4505	570	8.5214	670	9.3251	770	0.6265		
475	1.1717	575	8.7544	675	8.5354	775	0.5105		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31627CXX

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

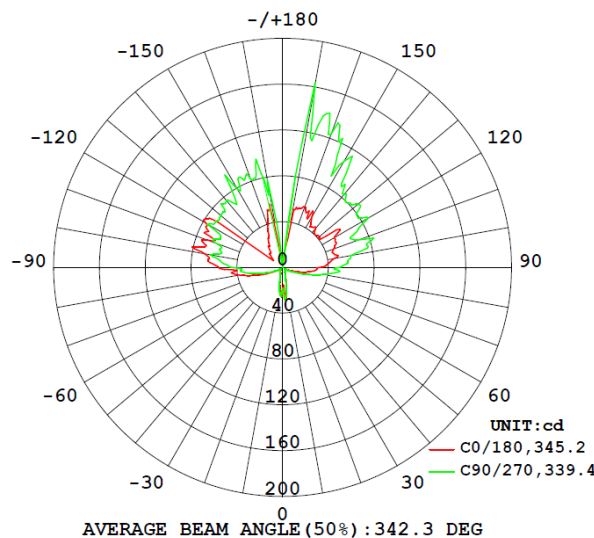
Photometric Measurements at 25°C –Integral Sphere Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit y Coordinate (x)	Chromaticit y Coordinate (y)	Chromaticit y Coordinate (u')	Chromaticit y Coordinate (v')
SLPD31627CXX								
S2407290 32-008	base-up	2610	91	66	0.4684	0.4138	0.2665	0.5298

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)
SLPD31627CXX							
S2407290 32-008	base-up	120.1	61.0	7.2	0.985	505.9	70.1

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31627CXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	18.5	18.4	18.3	18.3	18.3
5	25.0	28.0	31.2	31.3	28.2
10	20.5	20.8	20.4	19.1	17.8
15	12.4	11.9	11.5	10.4	10.2
20	7.1	6.8	6.8	5.9	6.6
25	4.7	4.4	4.4	4.1	5.2
30	4.6	4.2	4.3	3.9	5.0
35	4.2	3.9	4.0	3.5	4.5
40	3.3	3.0	3.1	2.7	3.3
45	2.7	2.4	2.6	2.2	2.8
50	2.4	2.0	2.3	1.9	2.4
55	2.3	2.1	2.6	2.3	3.0
60	3.4	3.8	5.5	5.9	6.2
65	5.7	6.0	8.2	9.1	9.2
70	9.9	10.3	13.7	15.2	15.4
75	15.7	16.3	21.7	24.2	24.2
80	22.4	23.5	31.9	35.6	35.8
85	28.8	30.3	41.9	47.5	48.7
90	31.9	33.1	41.5	49.9	49.7
95	40.0	45.2	57.1	60.8	57.0
100	45.7	49.0	61.8	67.9	60.9
105	46.7	58.0	73.5	83.0	75.8
110	47.4	53.0	69.4	70.3	70.2
115	51.7	54.2	70.2	67.3	68.5
120	51.9	56.2	75.6	76.7	86.6
125	57.5	60.7	70.7	69.5	79.2
130	42.1	64.2	83.0	84.3	85.9
135	40.2	59.5	74.9	78.6	79.8
140	45.0	62.7	78.8	86.8	83.7
145	43.6	68.5	84.5	83.6	89.2
150	51.2	98.4	159.5	118.1	106.8
155	54.8	69.3	92.3	109.6	124.4
160	56.4	77.1	101.4	135.0	124.0
165	53.3	83.1	125.9	129.3	137.0
170	26.3	92.1	150.6	185.6	163.9
175	6.9	6.7	8.2	7.5	5.5
180	0.0	0.0	0.0	0.3	0.1

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31627CXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLPD31627CXX		
0-30	7.3	1.4
0-40	9.7	1.9
0-60	14.2	2.8
0-90	86.6	17.1
60-90	72.4	14.3
0-180	505.9	100.0

Beam Angle

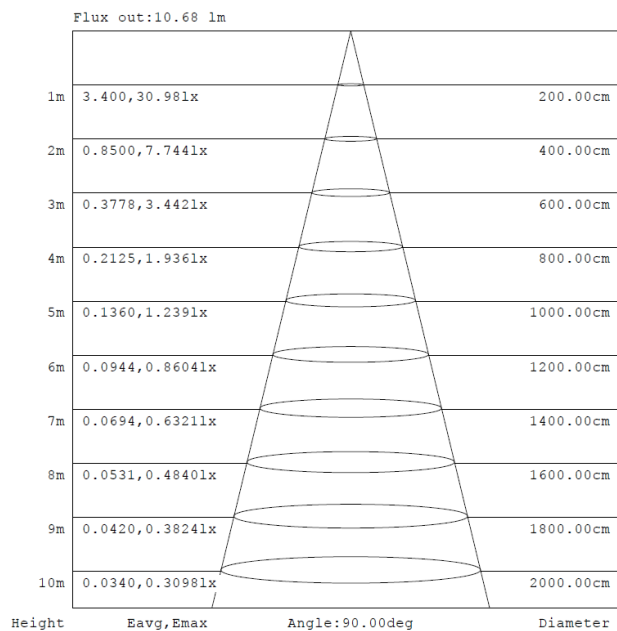
Total Beam Angle(°)
342.3

Illumination Plots

Model No.: SLPD31627CXX

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.

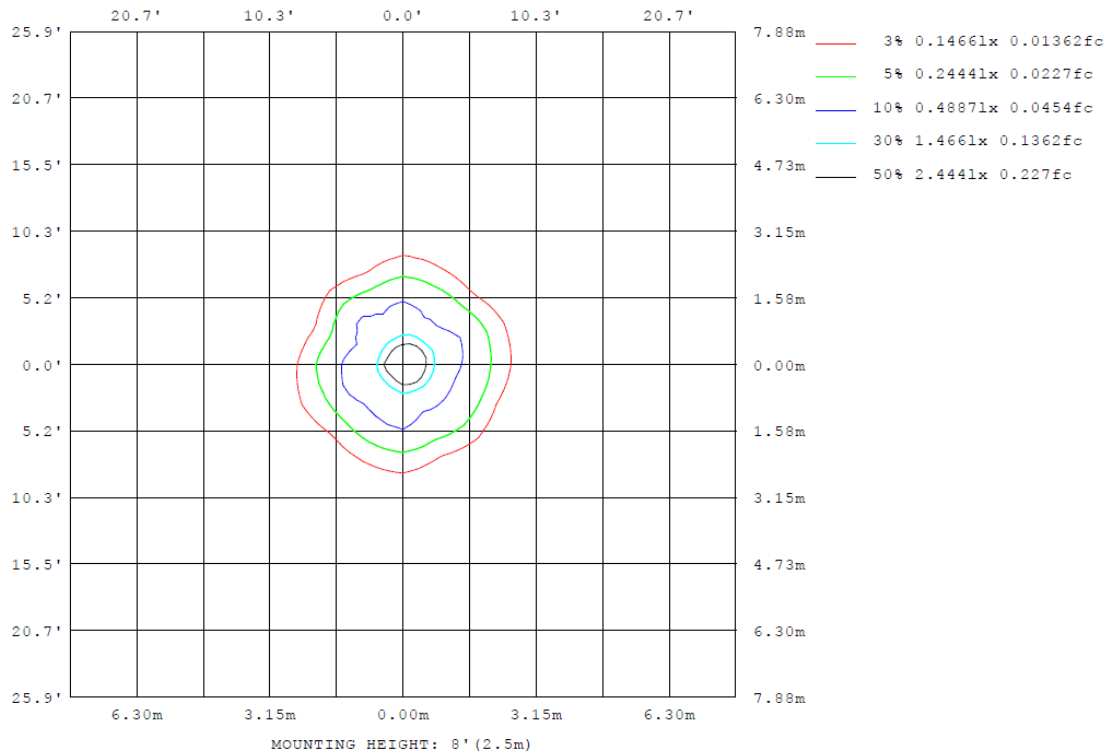
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31627CXX

Model No.: SLPD31627CXX
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD31627CXX

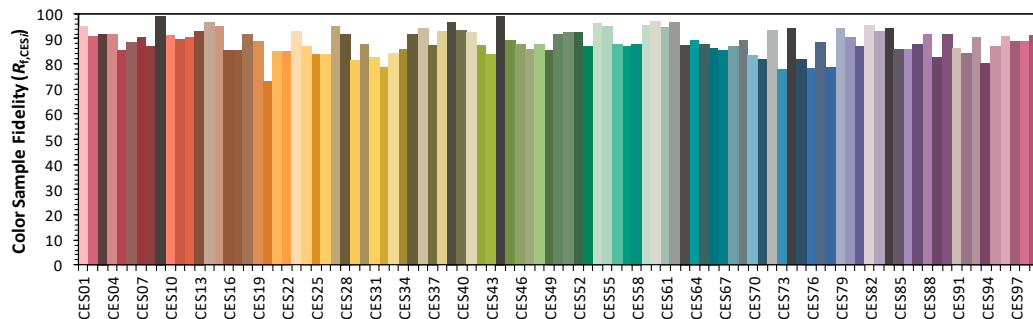
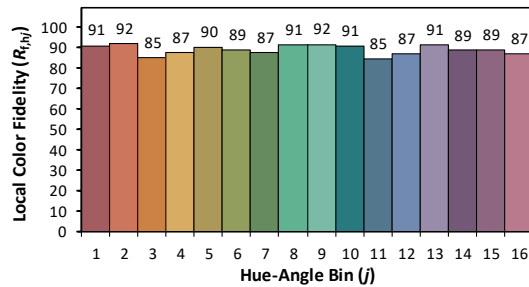
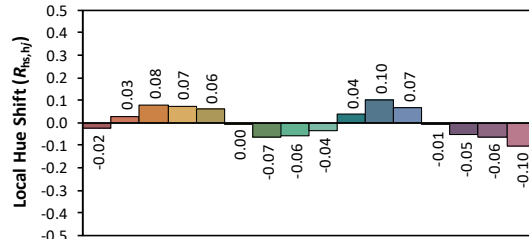
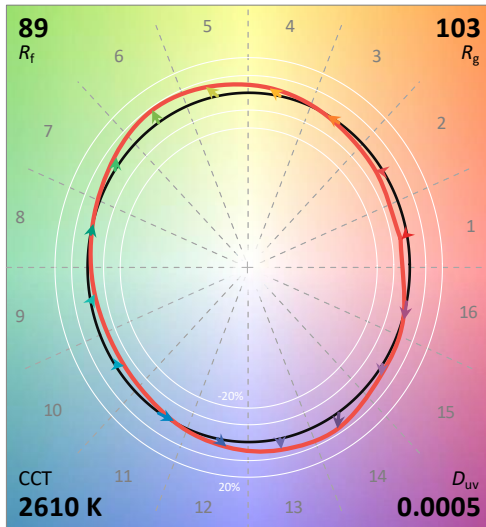
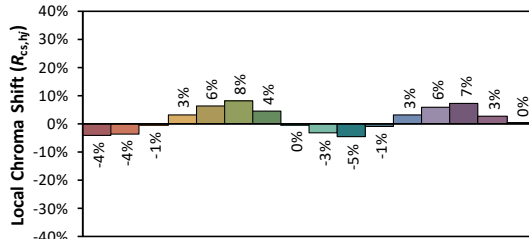
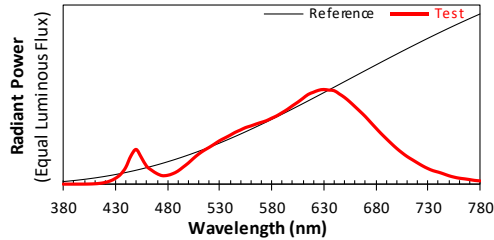
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/8/14

Model: SLPD31627CXX



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

x 0.4684
 y 0.4138
 u' 0.2665
 v' 0.5298

CIE 13.3-1995
(CRI)

R_a 91
 R_g 66

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 SLPD31627CXX

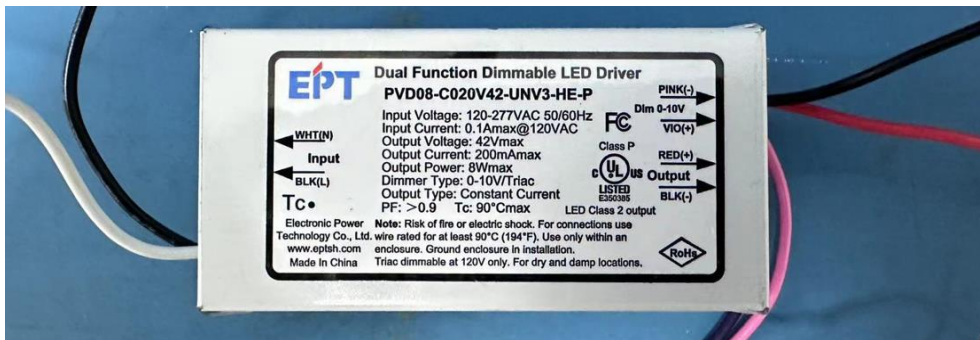
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TEST REPORT

PRODUCT PICTURE (not to scale)



Internal view of SLPD31627CXX



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 *****