

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

231225119GZU-005

ISSUE DATE

25-January-2024

REVISION DATE

None

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13

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Report No.: 231225119GZU-005

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLPD32127XX

(Remark: "XX" are denoted finish color)

RENDERED TO

Visual Comfort and Company

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<u>TEST:</u>	Electrical and Photometric as required to the IES LM-79 test standard.
<u>STATEMENT OF LIMITATION:</u>	The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.
<u>AUTHORIZATION:</u>	The testing performed was authorized by signed quote number: QGZ231220004.
<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: 2008; Approved Method for the Electrical and Photometric IES LM-79: 2019 Measurements of Solid-State Lighting Products ANSI C78.377:2017 Specifications of the Chromaticity of Solid State Lighting Products
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model SLPD32127N. The sample was received in undamaged condition. The sample designation was S231225119-005.
<u>DATES OF TESTS:</u>	19-January-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 Science City, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	SLPD32127N
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLPD32127N

Criteria	Result
Total Lumen Output	384.5 lm
Total Power	19.4 W
Luminaire Efficacy	19.8 lm/W
S/MH(C0/180)	0.30
S/MH(C90/270)	0.31
Correlated Color Temperature (CCT)	2637 K
Color Rendering Index (CRI)	93
R9	58
Chromaticity Coordinate (x)	0.4623
Chromaticity Coordinate (y)	0.4067
Chromaticity Coordinate (u')	0.2658
Chromaticity Coordinate (v')	0.5262

Remark:

Measurement uncertainty for applicable tests has been established.

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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	RC-HT601A	SA047-62

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 EVERFINE - Digital Power Meter., model PLM3000.

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: 3.9480A DC

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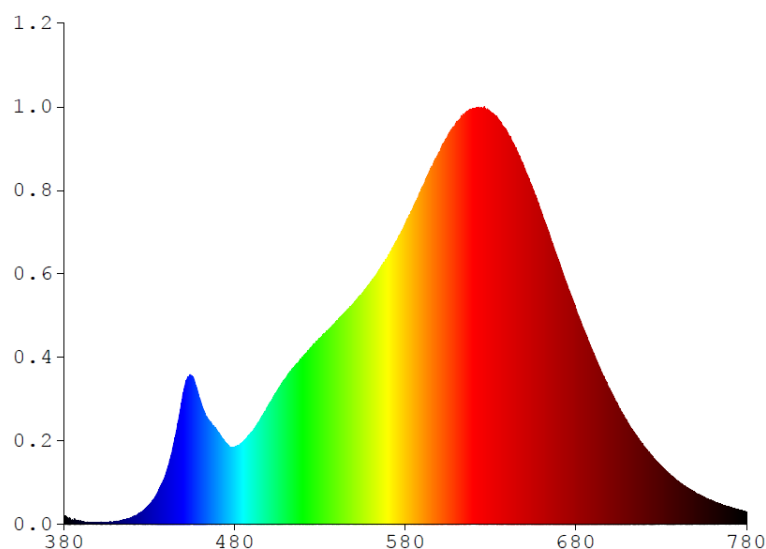
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLPD32127N

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1304	480	1.2297	580	4.7634	680	3.4084	780	0.2002
385	0.0664	485	1.3075	585	5.0450	685	3.0563		
390	0.0329	490	1.4650	590	5.3476	690	2.7261		
395	0.0313	495	1.6666	595	5.6448	695	2.4141		
400	0.0334	500	1.8978	600	5.8978	700	2.1251		
405	0.0291	505	2.1213	605	6.1622	705	1.8624		
410	0.0415	510	2.3207	610	6.3760	710	1.6274		
415	0.0736	515	2.5010	615	6.5056	715	1.4193		
420	0.1159	520	2.6372	620	6.5926	720	1.2307		
425	0.1899	525	2.8067	625	6.5868	725	1.0709		
430	0.3188	530	2.9470	630	6.5307	730	0.9235		
435	0.5145	535	3.0898	635	6.4064	735	0.7966		
440	0.8364	540	3.2304	640	6.1971	740	0.6793		
445	1.3743	545	3.3685	645	5.9445	745	0.5846		
450	2.0976	550	3.5123	650	5.6323	750	0.5040		
455	2.3381	555	3.6672	655	5.2816	755	0.4339		
460	1.9365	560	3.8375	660	4.9240	760	0.3685		
465	1.6391	565	4.0376	665	4.5442	765	0.3166		
470	1.4603	570	4.2601	670	4.1591	770	0.2736		
475	1.2819	575	4.4954	675	3.7041	775	0.2351		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32127N

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

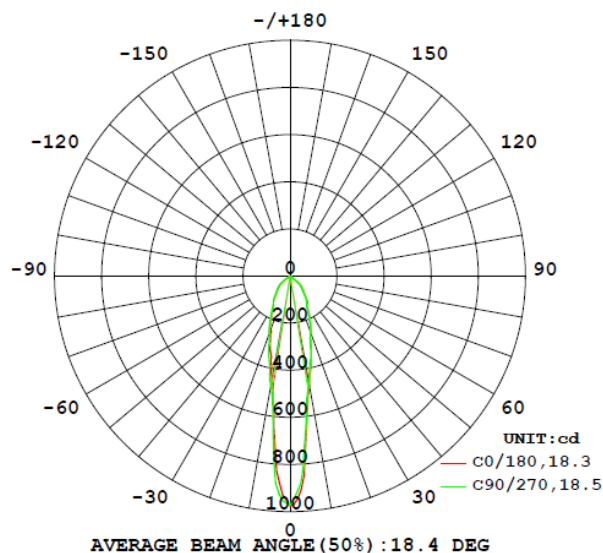
Photometric Measurements at 25°C – Distribution Method

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')
SLPD32127N								
S2312251 19-005	--	2637	93	58	0.4623	0.4067	0.2658	0.5262

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)
SLPD32127N							
S2312251 19-005	--	120.2	163.6	19.4	0.989	384.5	19.8

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32127N

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	230.2	230.3	230.2	229.9	229.6
5	175.4	171.3	171.4	168.8	168.4
10	111.6	110.6	110.5	109.8	109.2
15	81.6	80.6	80.5	79.8	81.4
20	61.6	61.0	61.7	60.8	60.4
25	47.0	47.5	44.3	45.5	45.8
30	34.2	34.5	34.2	34.1	33.8
35	29.1	29.1	28.9	28.6	28.3
40	21.7	21.5	21.3	21.1	20.9
45	17.1	17.0	16.9	16.7	16.6
50	12.3	11.7	11.6	11.3	11.3
55	0.7	0.6	0.6	0.6	0.0
60	0.0	0.0	0.0	0.0	0.0
65	0.0	0.0	0.0	0.0	0.0
70	0.0	0.0	0.0	0.0	0.0
75	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0
85	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.0
130	0.0	0.0	0.0	0.0	0.0
135	0.0	0.0	0.0	0.0	0.0
140	0.0	0.0	0.0	0.0	0.0
145	0.1	0.1	0.1	0.1	0.1
150	0.1	0.1	0.1	0.1	0.1
155	0.1	0.1	0.1	0.1	0.1
160	0.1	0.1	0.1	0.1	0.1
165	0.1	0.1	0.1	0.1	0.1
170	0.1	0.1	0.1	0.1	0.1
175	0.1	0.1	0.1	0.1	0.1
180	0.1	0.1	0.1	0.1	0.1

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32127N

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLPD32127N		
0-30	244.8	63.7
0-40	318.7	82.9
0-60	384.1	99.9
0-90	384.1	99.9
60-90	0	0
0-180	384.5	100.0

Beam Angle

Total Beam Angle (°)

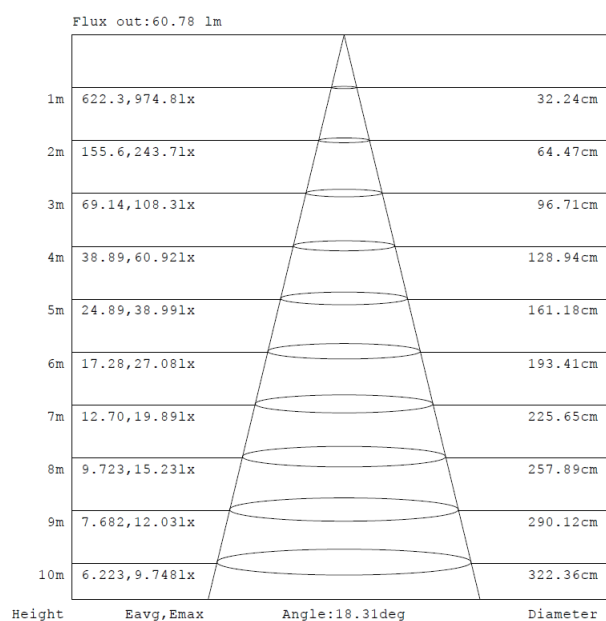
18.4

Illumination Plots

Model No.: SLPD32127N

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

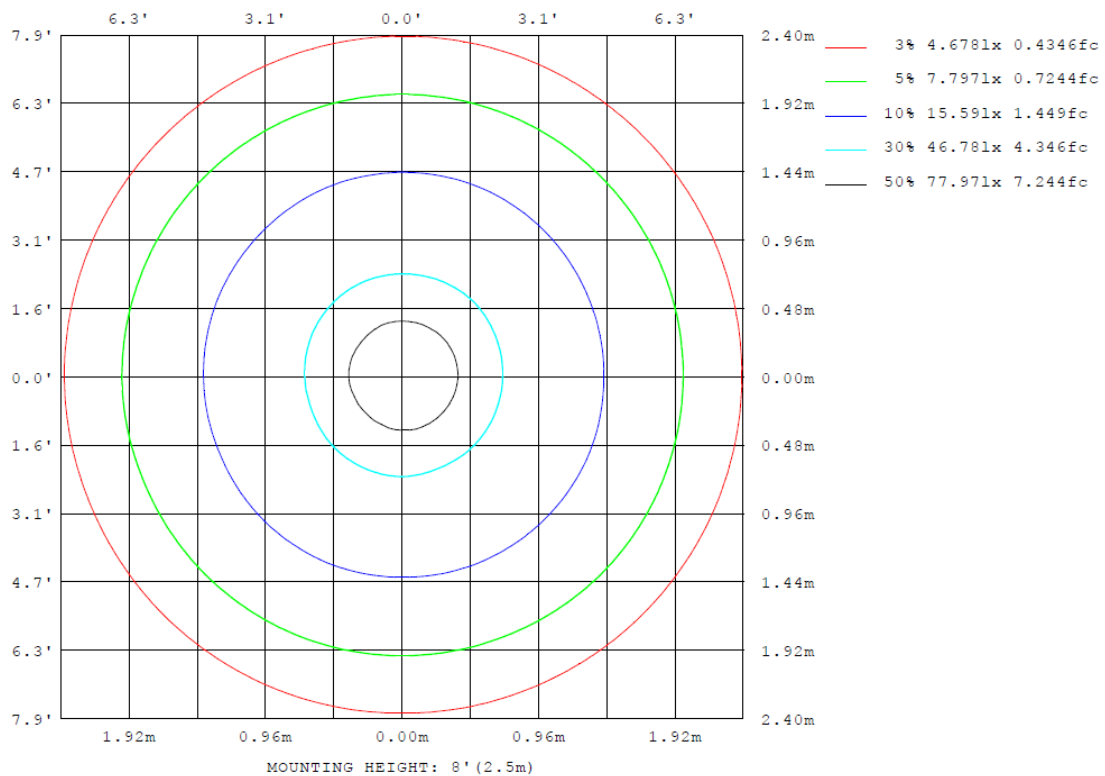
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32127N

Model No.: SLPD32127N

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32127N

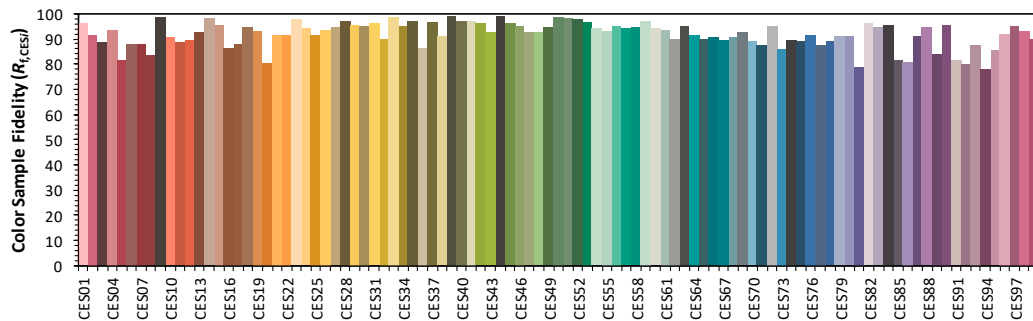
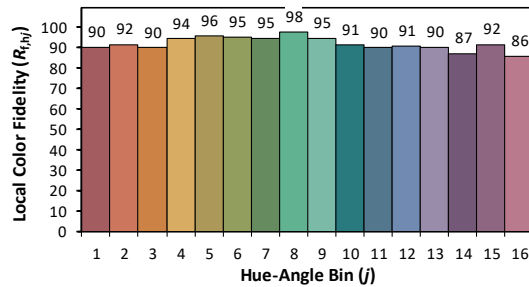
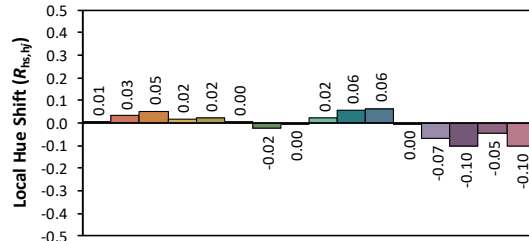
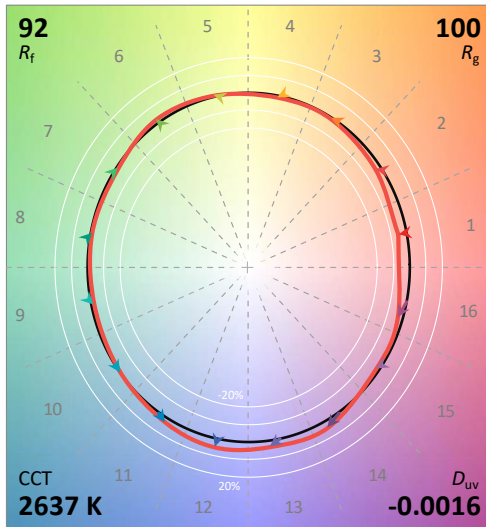
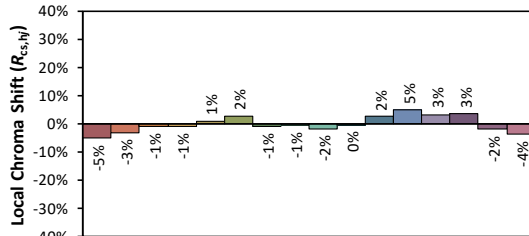
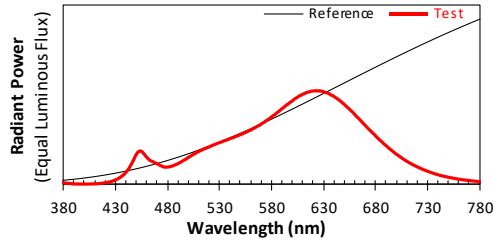
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/1/19

Model: SLPD32127N



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

x 0.4623
 y 0.4067
 u' 0.2658
 v' 0.5262

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.

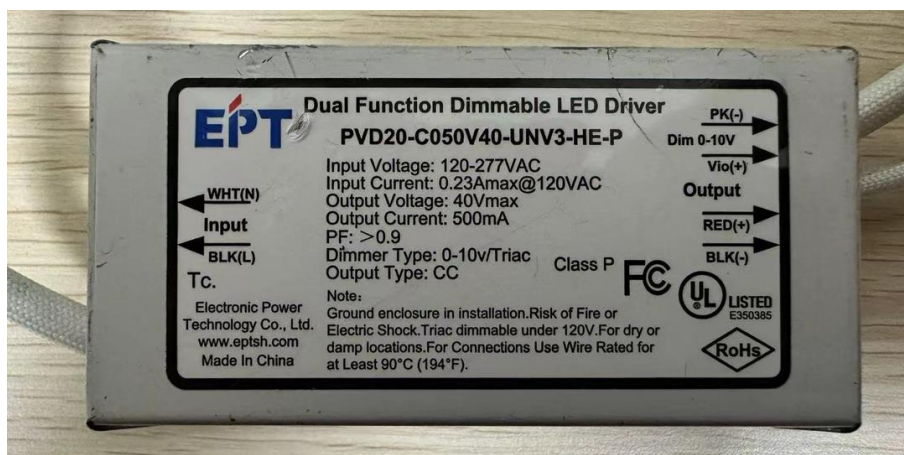
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLPD32127N



View of LED driver PVD20-C050V40-UNV3-HE-P

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED board

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

***** End of Report *****