

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

231225119GZU-003

ISSUE DATE

25-January-2024

REVISION DATE

None

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13

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Report No.: 231225119GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLPD32027XX

(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 SLPD32027N. The sample was received in undamaged condition. The sample designation was S231225119-003.
<u>DATES OF TESTS:</u>	15-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:	SLPD32027N
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLPD32027N

Criteria	Result
Total Lumen Output	858.6 lm
Total Power	26.4 W
Luminaire Efficacy	32.5 lm/W
S/MH(C0/180)	0.24
S/MH(C90/270)	1.20
Correlated Color Temperature (CCT)	2641 K
Color Rendering Index (CRI)	94
R9	62
Chromaticity Coordinate (x)	0.4629
Chromaticity Coordinate (y)	0.4084
Chromaticity Coordinate (u')	0.2655
Chromaticity Coordinate (v')	0.5270

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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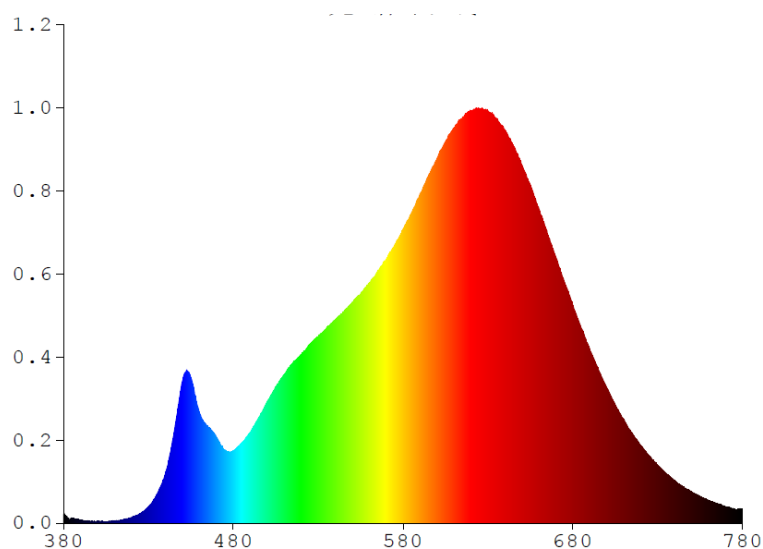
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLPD32027N

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0775	480	0.7781	580	3.1531	680	2.3327	780	0.1584
385	0.0467	485	0.8617	585	3.3290	685	2.0833		
390	0.0269	490	0.9746	590	3.5346	690	1.8586		
395	0.0203	495	1.1332	595	3.7320	695	1.6407		
400	0.0199	500	1.3028	600	3.9138	700	1.4455		
405	0.0188	505	1.4598	605	4.0952	705	1.2633		
410	0.0236	510	1.5951	610	4.2415	710	1.1067		
415	0.0368	515	1.7148	615	4.3517	715	0.9600		
420	0.0604	520	1.8028	620	4.4251	720	0.8321		
425	0.1029	525	1.9173	625	4.4464	725	0.7188		
430	0.1771	530	1.9998	630	4.4153	730	0.6206		
435	0.3069	535	2.0976	635	4.3421	735	0.5322		
440	0.5328	540	2.1803	640	4.2207	740	0.4569		
445	0.9590	545	2.2690	645	4.0450	745	0.3905		
450	1.5156	550	2.3671	650	3.8378	750	0.3347		
455	1.5538	555	2.4603	655	3.6185	755	0.2842		
460	1.1828	560	2.5694	660	3.3681	760	0.2449		
465	1.0356	565	2.6999	665	3.1000	765	0.2097		
470	0.9208	570	2.8251	670	2.8467	770	0.1779		
475	0.7841	575	2.9817	675	2.5358	775	0.1515		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32027N

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

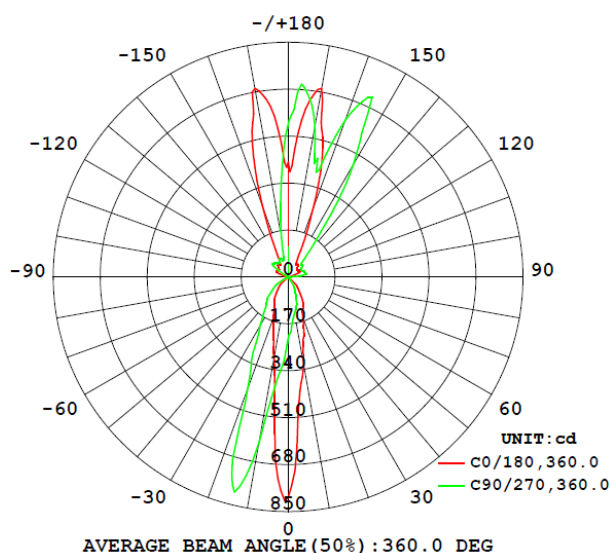
Photometric Measurements at 25°C – Distribution Method

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')
SLPD32027N								
S2312251 19-003	--	2641	94	62	0.4629	0.4084	0.2655	0.5270

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	Lumen
						Luminous Flux (Lumens)	Efficacy (Lumens Per Watt)
SLPD32027N							
S2312251 19-003	--	120.0	221.2	26.4	0.994	858.6	32.5

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32027N

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	188.5	86.9	56.8	52.9	52.5
5	107.3	56.7	41.9	39.4	39.8
10	76.1	43.0	32.0	31.8	31.8
15	52.2	31.2	27.0	26.3	26.1
20	37.3	27.1	20.9	19.9	19.9
25	30.2	20.9	15.0	14.2	14.3
30	26.2	15.1	10.8	10.3	10.3
35	18.6	10.8	1.0	1.3	1.9
40	13.5	2.8	0.1	0.1	0.1
45	8.4	0.1	0.1	0.1	0.1
50	0.1	0.1	0.1	0.1	0.1
55	0.1	0.1	0.1	0.1	0.1
60	0.1	0.1	0.1	0.1	0.1
65	0.1	0.1	0.1	0.1	0.1
70	0.2	0.1	0.1	0.1	0.1
75	0.2	0.1	0.1	0.1	0.1
80	0.2	0.1	0.1	0.1	0.1
85	0.1	0.1	0.1	0.1	0.1
90	0.1	0.1	0.1	0.1	0.1
95	0.1	0.1	4.6	6.3	6.4
100	0.1	4.7	15.0	15.5	15.5
105	0.1	15.4	15.2	14.9	14.9
110	6.4	15.6	14.7	14.2	14.9
115	11.1	14.7	13.2	12.8	12.9
120	11.0	13.4	13.1	13.1	13.4
125	10.1	13.5	14.5	14.6	14.2
130	10.2	13.3	15.1	15.1	16.2
135	10.9	13.6	14.3	15.7	15.8
140	12.8	13.7	20.4	23.7	24.8
145	13.6	18.3	46.7	55.4	55.9
150	13.9	44.5	98.4	112.8	111.6
155	25.3	93.0	145.0	165.8	170.3
160	62.9	140.6	152.6	142.3	143.1
165	114.4	152.4	92.8	91.9	92.9
170	163.8	94.0	119.3	132.3	131.6
175	134.8	117.6	159.4	162.6	162.6
180	98.1	157.4	140.2	130.7	131.7

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32027N

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLPD32027N		
0-30	208.4	24.3
0-40	260.6	30.4
0-60	318.7	37.1
0-90	322.3	37.5
60-90	3.6	0.4
0-180	858.5	100.0

Beam Angle

Total Beam Angle (°)

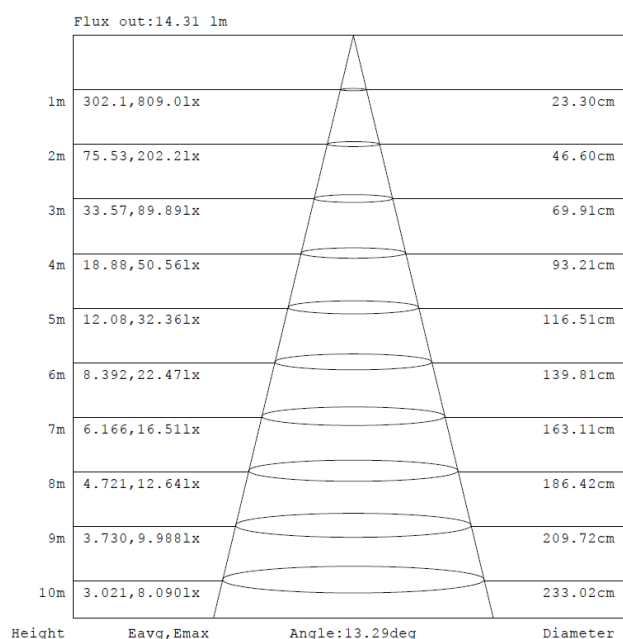
360.0

Illumination Plots

Model No.: SLPD32027N

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

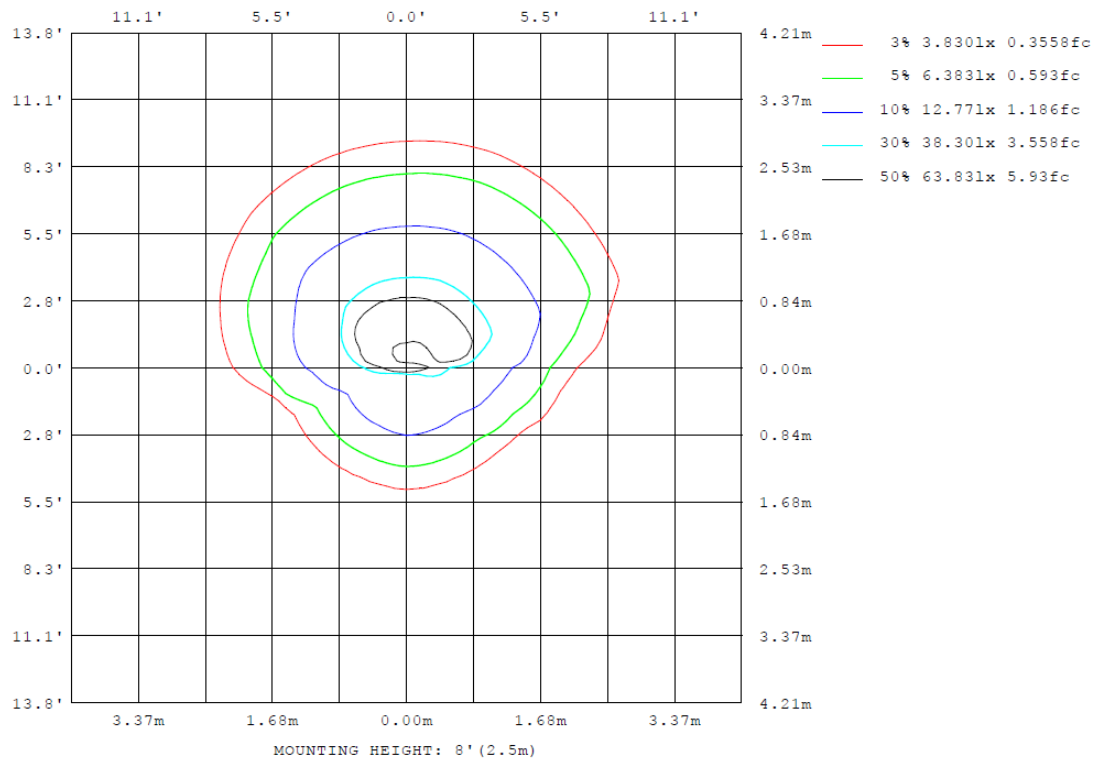
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32027N

Model No.: SLPD32027N

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD32027N

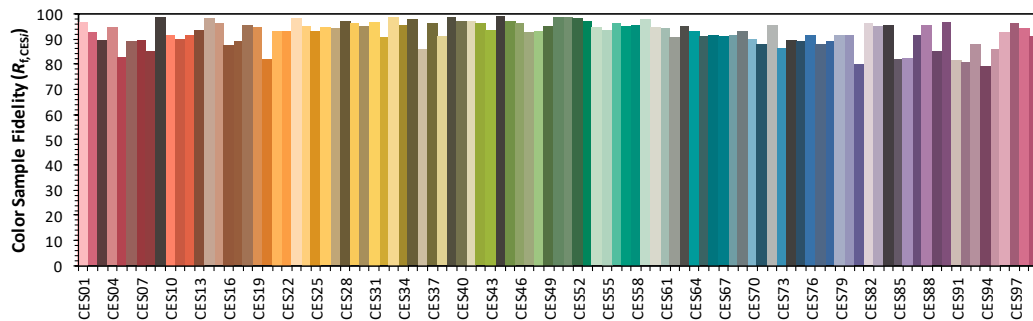
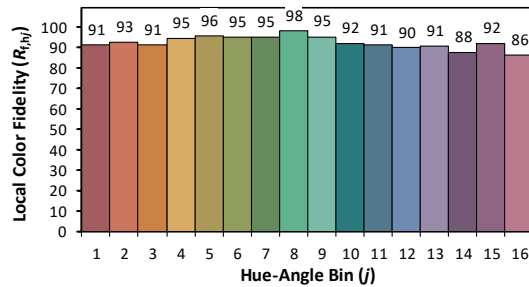
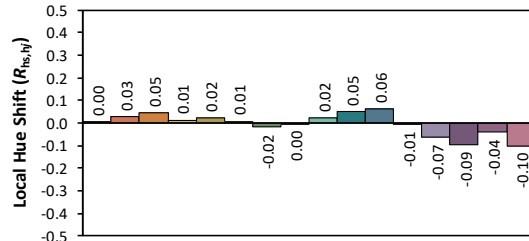
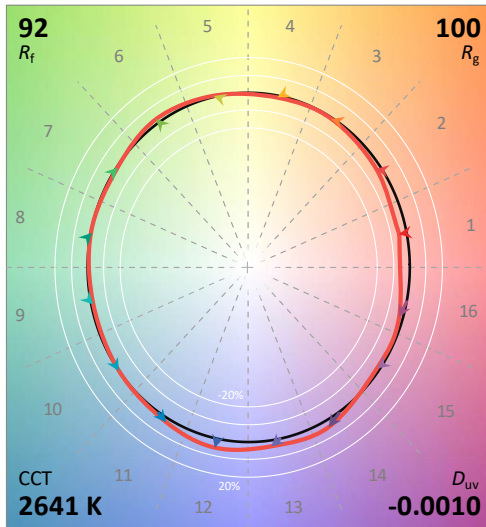
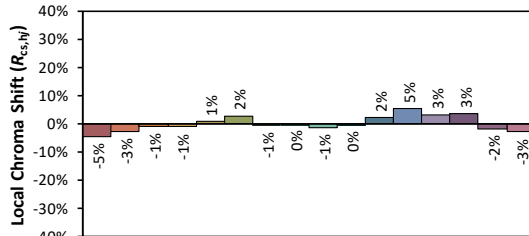
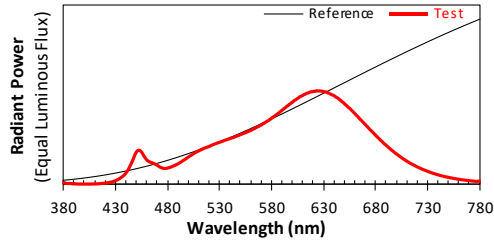
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/1/15

Model: SLPD32027N



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

x 0.4629
 y 0.4084
 u' 0.2655
 v' 0.5270

CIE 13.3-1995
(CRI)

R_a 94
 R_g 62

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 SLPD32027N



View of LED driver PVD27-C070V38-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 *****