

Visual Comfort and Company TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240403056GZU-001

ISSUE DATE

11 July 2024

REVISION DATE

None

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240403056GZU-001

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLPD12527XX

(Remark: "XX" are denoted finish color)

RENDERED TO

Visual Comfort and Company

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: QGZ240328078
<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 SLPD12527XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240403056-001.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Zhongshan Royce Lighting Co., Ltd. No.6 Da Mei Road, Qian Shui Hu Industrial, Gang Kou Town, Zhongshan City, Guangdong China, 528447
<u>DATES OF TESTS:</u>	29 May 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:	SLPD12527xx
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLPD12527XX

Criteria	Result
Total Lumen Output	317.0 lm
Total Power	20.3 W
Luminaire Efficacy	15.6 lm/W
S/MH(C0/180)	1.01
S/MH(C90/270)	0.99
Correlated Color Temperature (CCT)	2596 K
Color Rendering Index (CRI)	92
R9	67
Chromaticity Coordinate (x)	0.4694
Chromaticity Coordinate (y)	0.4137
Chromaticity Coordinate (u')	0.2672
Chromaticity Coordinate (v')	0.5300

Remark:

N/A

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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	DS215S	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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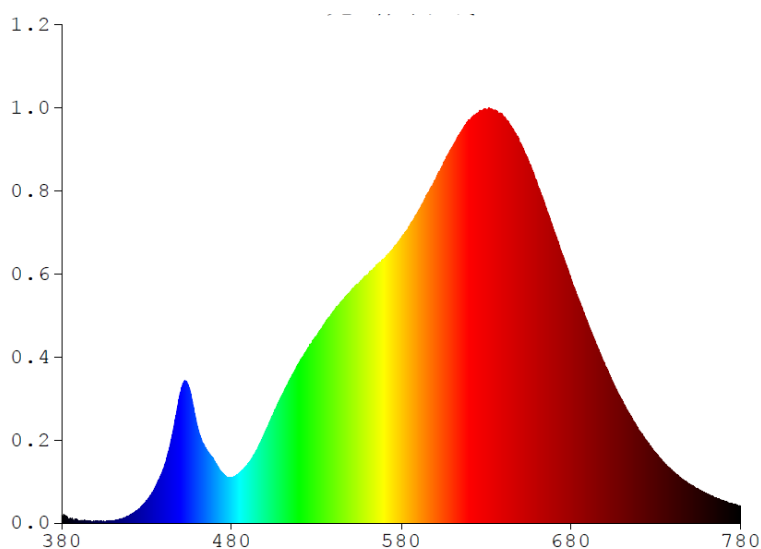
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLPD12527XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1149	480	0.5858	580	3.6457	680	3.1166	780	0.2186
385	0.0578	485	0.6497	585	3.8086	685	2.8326		
390	0.0334	490	0.7671	590	3.9911	690	2.5466		
395	0.0291	495	0.9390	595	4.2022	695	2.2777		
400	0.0218	500	1.1772	600	4.3889	700	2.0130		
405	0.0218	505	1.4179	605	4.6119	705	1.7800		
410	0.0309	510	1.6491	610	4.8136	710	1.5683		
415	0.0568	515	1.8584	615	5.0007	715	1.3699		
420	0.1006	520	2.0489	620	5.1562	720	1.1869		
425	0.1739	525	2.2405	625	5.2474	725	1.0355		
430	0.2896	530	2.3886	630	5.2943	730	0.8924		
435	0.4534	535	2.5631	635	5.2839	735	0.7666		
440	0.7003	540	2.7131	640	5.2069	740	0.6571		
445	1.1173	545	2.8433	645	5.0632	745	0.5665		
450	1.6750	550	2.9611	650	4.8629	750	0.4953		
455	1.7228	555	3.0685	655	4.6245	755	0.4307		
460	1.2199	560	3.1725	660	4.3488	760	0.3723		
465	0.9492	565	3.2850	665	4.0475	765	0.3246		
470	0.7883	570	3.3868	670	3.7251	770	0.2839		
475	0.6301	575	3.5033	675	3.3658	775	0.2462		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD12527XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

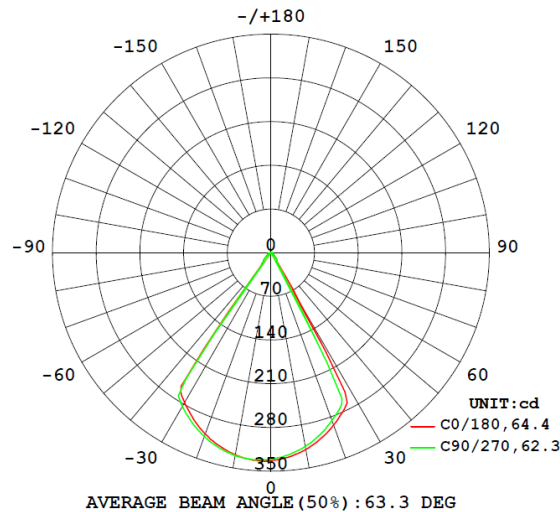
Photometric Measurements at 25°C – Integrating Sphere Method

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')
SLPD12527XX								
S2404030 56-001	base-up	2596	92	67	0.4694	0.4137	0.2672	0.5300

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)
SLPD12527XX							
S2404030 56-001	base-up	120.1	170.5	20.3	0.992	317.0	15.6

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD12527XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	79.5	79.1	79.0	78.9	78.9
5	78.4	77.4	77.3	77.4	77.5
10	76.4	75.0	74.8	74.9	75.2
15	73.6	71.8	71.5	71.7	72.1
20	70.1	67.9	67.7	67.9	68.3
25	66.2	63.6	62.4	63.3	64.0
30	22.4	8.3	5.7	8.4	8.2
35	4.3	4.0	4.1	4.2	4.3
40	3.5	3.0	3.0	3.1	3.3
45	2.5	2.0	2.1	2.2	2.3
50	1.7	1.4	1.4	1.5	1.6
55	1.2	1.0	1.0	1.0	1.1
60	0.8	0.7	0.7	0.7	0.8
65	0.5	0.4	0.5	0.5	0.5
70	0.3	0.2	0.2	0.3	0.3
75	0.1	0.0	0.0	0.0	0.1
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	0.1	0.0	0.0
140	0.1	0.1	0.1	0.1	0.1
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 SLPD12527XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLPD12527XX		
0-30	240.4	75.8
0-40	295.9	93.4
0-60	311.8	98.4
0-90	316.4	99.8
60-90	4.6	1.4
0-180	317.0	100.0

Beam Angle

Total Beam Angle(°)

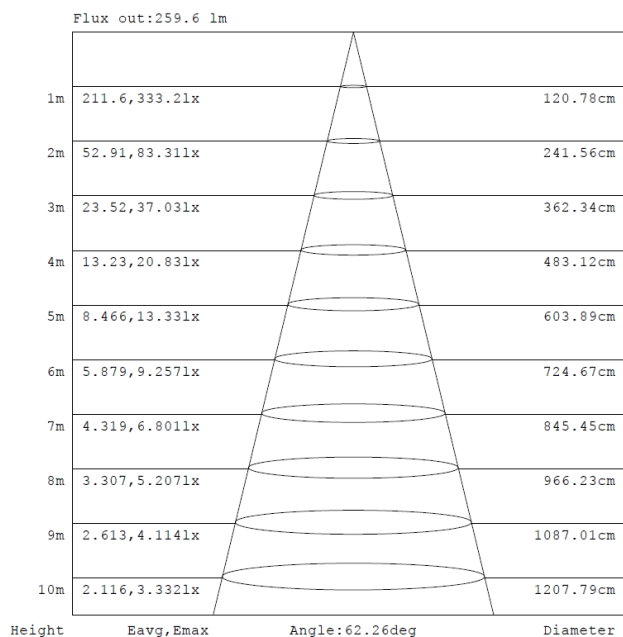
63.3

Illumination Plots

Model No.: SLPD12527XX

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

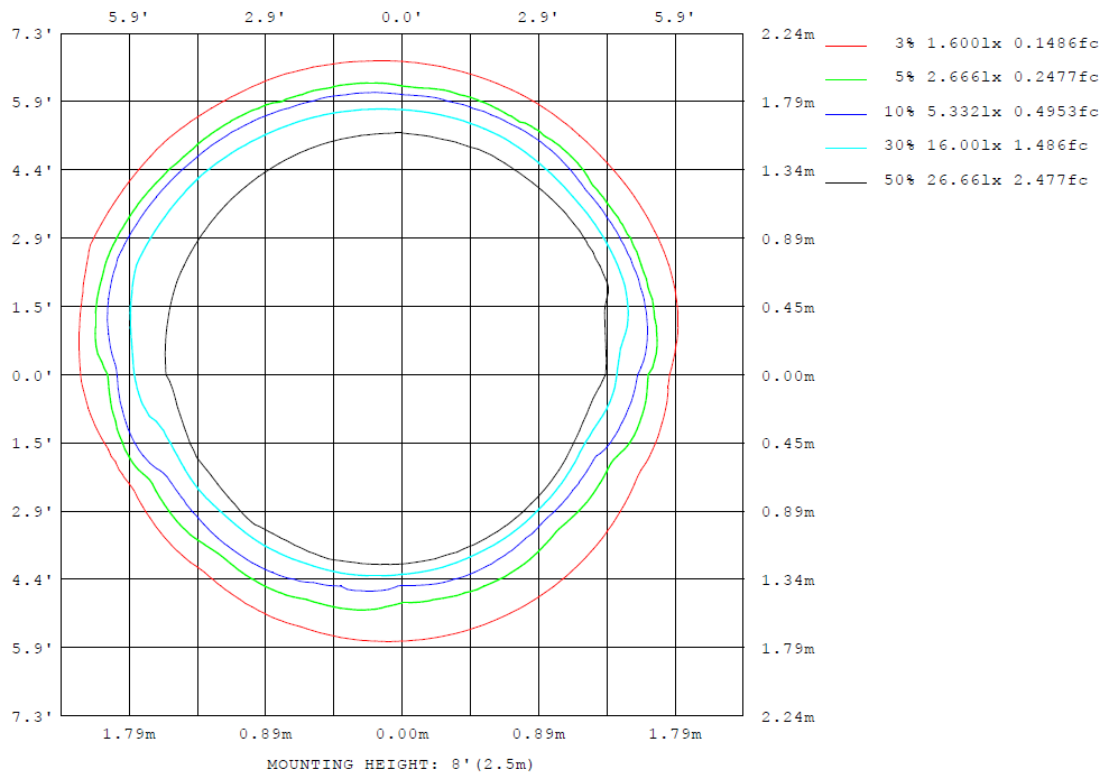
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD12527XX

Model No.: SLPD12527XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD12527xx

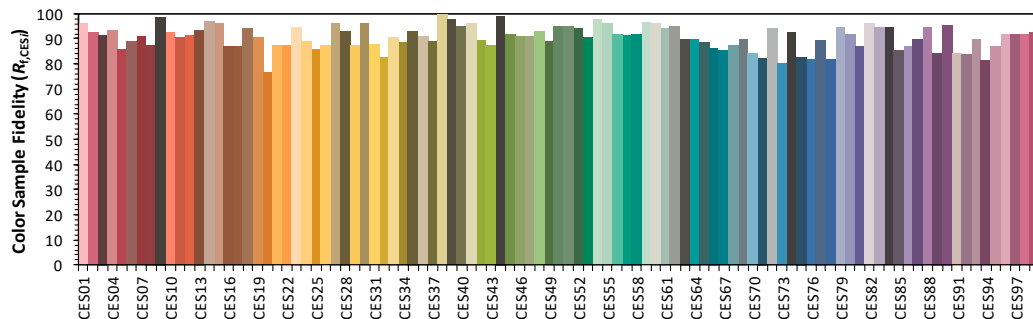
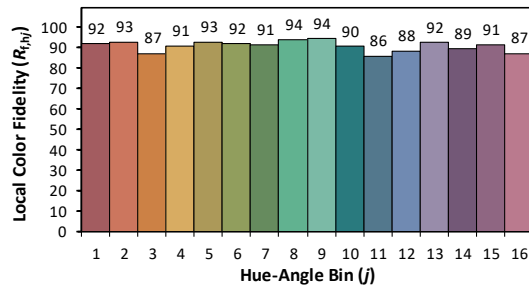
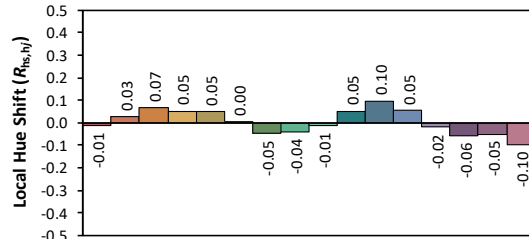
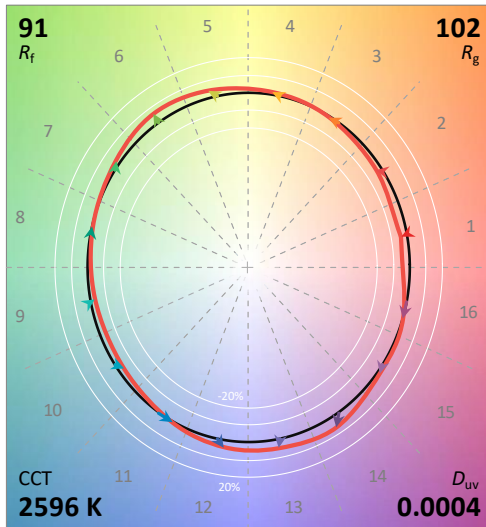
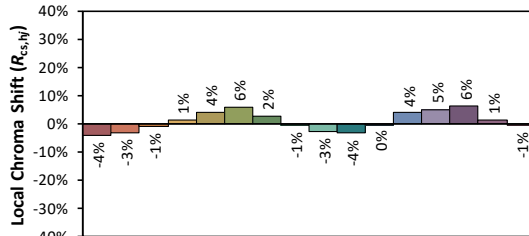
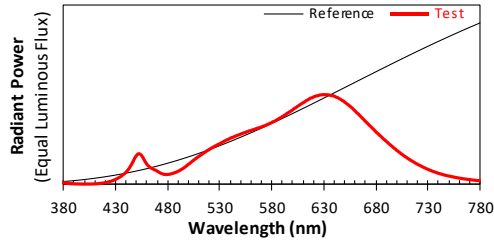
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/5/29

Model: SLPD12527xx



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

x 0.4694
 y 0.4137
 u' 0.2672
 v' 0.5300

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)

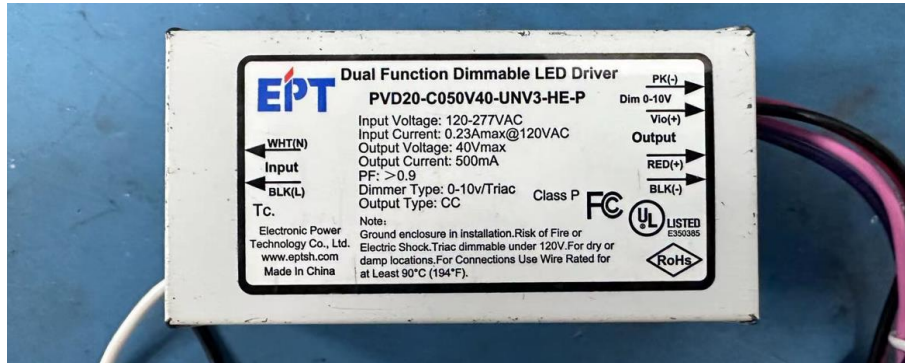


External view of SLPD12527XX

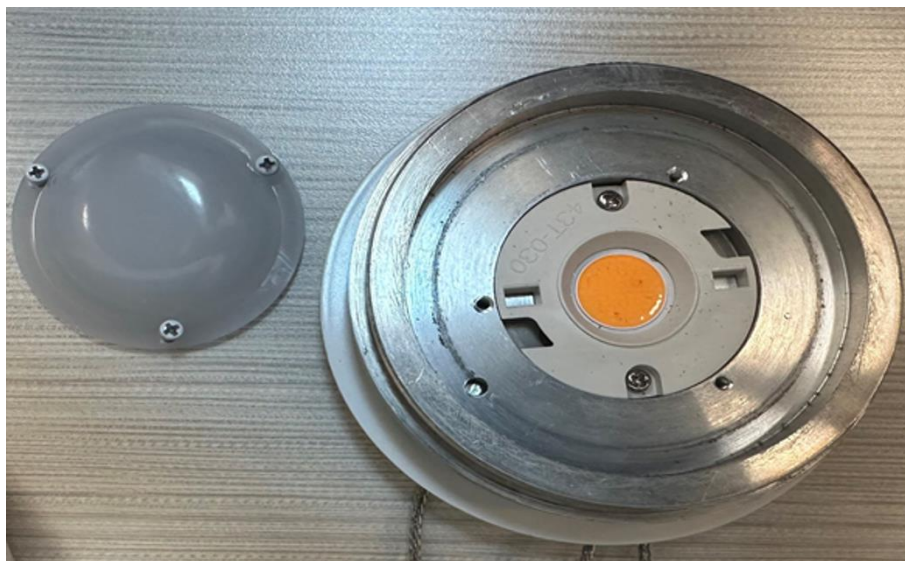
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD20-C050V40-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 *****