

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240403056GZU-002

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REVISION DATE

None

NUMBER OF PAGES

13

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Report format for LM-79_G

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Report No.: 240403056GZU-002

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLPD12627XX

(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 SLPD12627XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240403056-002.
<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:	SLPD12627XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLPD12627XX

Criteria	Result
Total Lumen Output	460.5 lm
Total Power	20.0 W
Luminaire Efficacy	23.0 lm/W
S/MH(C0/180)	1.03
S/MH(C90/270)	0.99
Correlated Color Temperature (CCT)	2628 K
Color Rendering Index (CRI)	92
R9	66
Chromaticity Coordinate (x)	0.4637
Chromaticity Coordinate (y)	0.4082
Chromaticity Coordinate (u')	0.2661
Chromaticity Coordinate (v')	0.5270

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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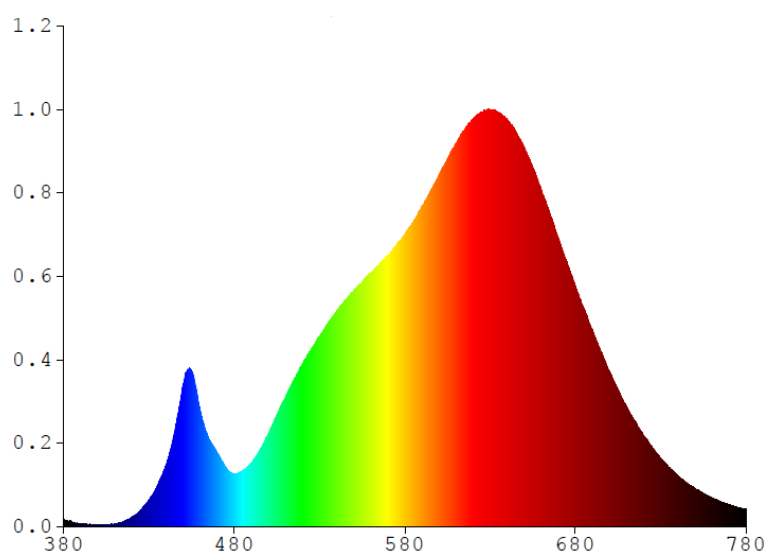
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLPD12627XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1381	480	0.9522	580	5.2516	680	4.3201	780	0.3192
385	0.0704	485	1.0046	585	5.4772	685	3.9137		
390	0.0506	490	1.1534	590	5.7537	690	3.5404		
395	0.0468	495	1.3788	595	6.0265	695	3.1480		
400	0.0346	500	1.6761	600	6.2879	700	2.7841		
405	0.0434	505	2.0055	605	6.6076	705	2.4606		
410	0.0506	510	2.3288	610	6.8816	710	2.1640		
415	0.0942	515	2.6317	615	7.1350	715	1.8922		
420	0.1761	520	2.9163	620	7.3223	720	1.6396		
425	0.3001	525	3.1760	625	7.4475	725	1.4277		
430	0.4848	530	3.4231	630	7.4770	730	1.2301		
435	0.7472	535	3.6580	635	7.4465	735	1.0680		
440	1.1152	540	3.8749	640	7.3187	740	0.9204		
445	1.7065	545	4.0750	645	7.1032	745	0.7948		
450	2.5505	550	4.2414	650	6.8151	750	0.6929		
455	2.7935	555	4.3911	655	6.4551	755	0.6026		
460	2.0935	560	4.5548	660	6.0555	760	0.5245		
465	1.5864	565	4.7089	665	5.6290	765	0.4571		
470	1.3254	570	4.8714	670	5.1866	770	0.3989		
475	1.0699	575	5.0429	675	4.6731	775	0.3472		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD12627XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

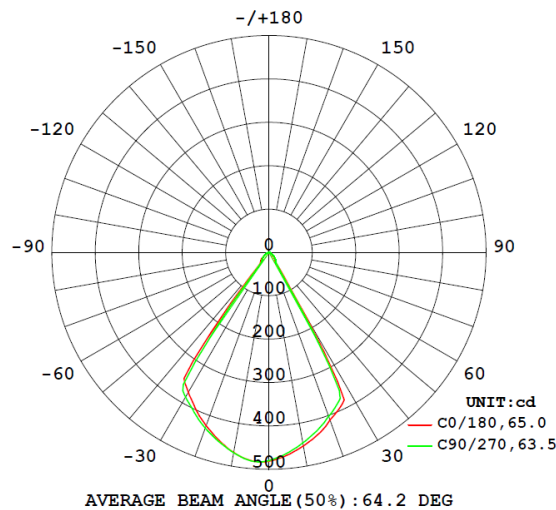
Photometric Measurements at 25°C – Integrating Sphere Method

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')
SLPD12627XX								
S2404030 56-002	base-up	2628	92	66	0.4637	0.4082	0.2661	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 Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
SLPD12627XX							
S2404030 56-002	base-up	120.1	168.2	20.0	0.991	460.5	23.0

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD12627XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	114.8	114.8	114.6	114.4	114.5
5	112.0	111.2	110.7	110.6	111.0
10	108.1	106.9	106.4	106.1	106.5
15	103.7	102.3	101.6	101.2	101.6
20	98.1	96.9	96.3	95.8	95.9
25	93.4	92.1	91.1	90.6	90.6
30	40.5	16.1	17.2	13.0	29.3
35	6.1	6.0	5.9	6.4	7.0
40	5.0	5.0	5.1	5.5	5.9
45	4.1	3.9	4.0	4.2	4.6
50	3.2	3.0	2.9	3.1	3.4
55	2.4	2.2	2.2	2.3	2.4
60	1.7	1.6	1.5	1.6	1.7
65	1.2	1.1	1.0	1.1	1.2
70	0.7	0.7	0.6	0.6	0.7
75	0.4	0.3	0.3	0.3	0.4
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	0.1	0.1	0.1	0.0
135	0.1	0.1	0.1	0.1	0.1
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	0.2	0.2	0.1
165	0.2	0.2	0.2	0.2	0.2
170	0.1	0.2	0.2	0.2	0.2
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 SLPD12627XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLPD12627XX		
0-30	340.9	74.0
0-40	421.8	91.6
0-60	450.0	97.7
0-90	459.7	99.8
60-90	9.7	2.1
0-180	460.5	100.0

Beam Angle

Total Beam Angle(°)

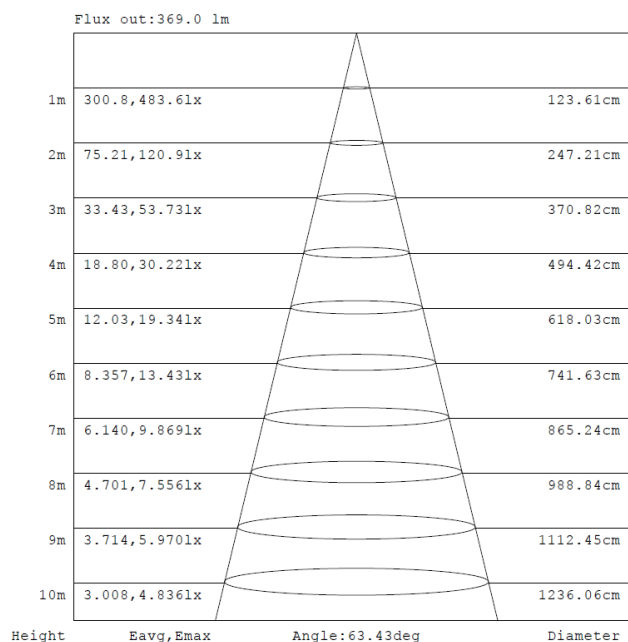
64.2

Illumination Plots

Model No.: SLPD12627XX

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

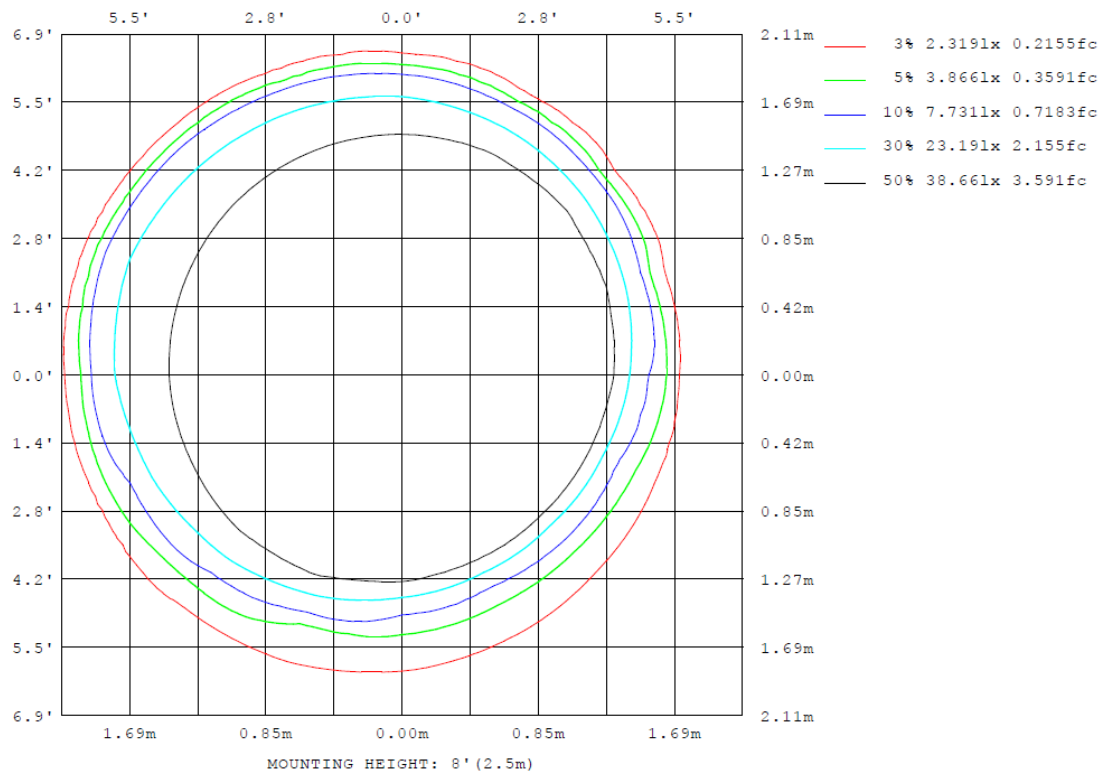
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD12627XX

Model No.: SLPD12627XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPD12627XX

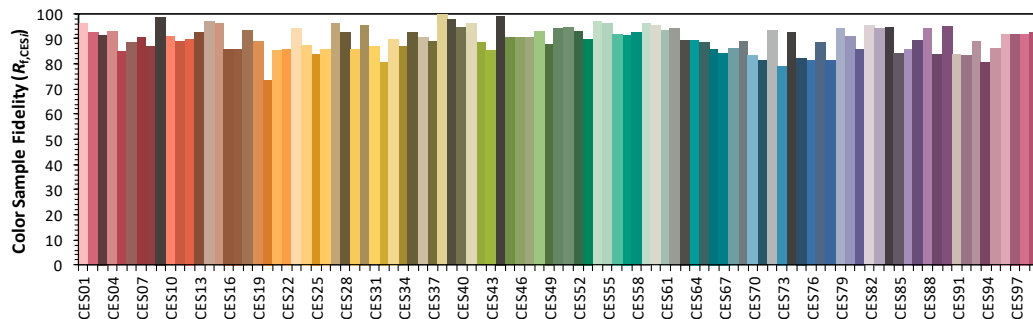
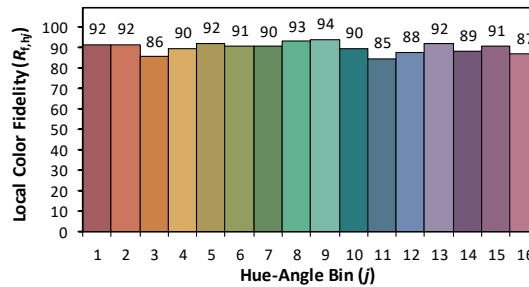
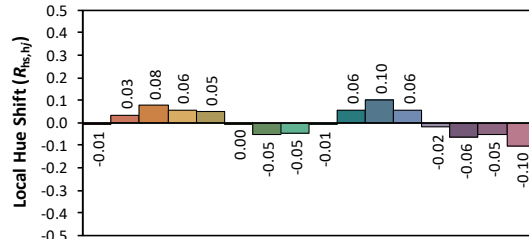
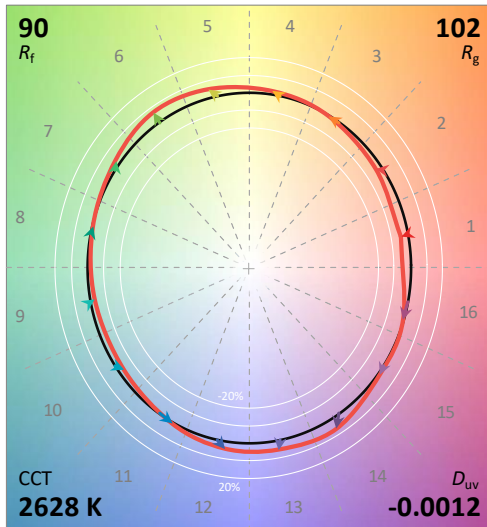
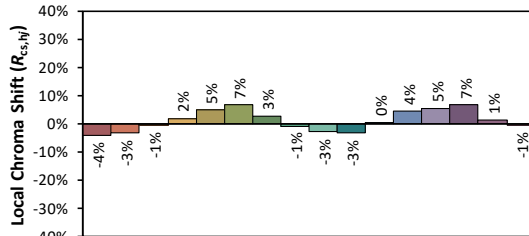
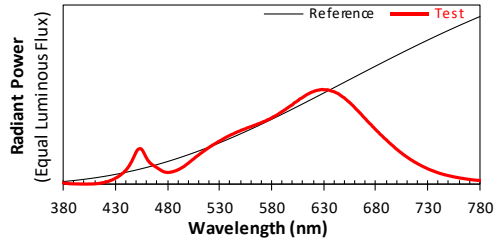
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/5/29

Model: SLPD12627xx



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

x 0.4637
 y 0.4082
 u' 0.2661
 v' 0.5270

CIE 13.3-1995
(CRI)

R_a 92

R_g 66

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

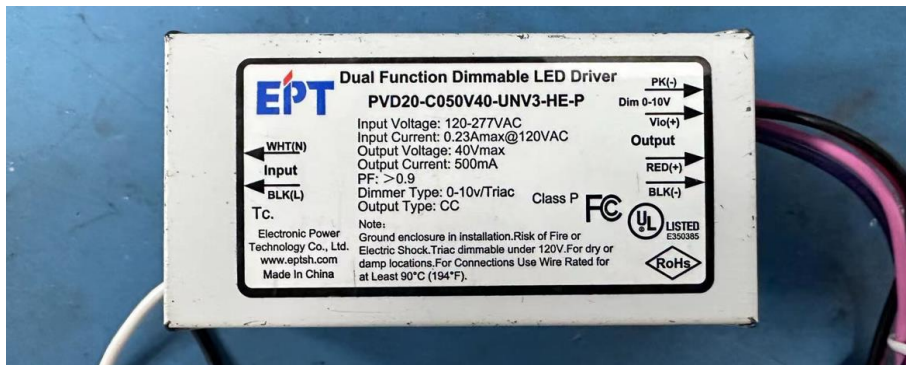
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLPD12627XX

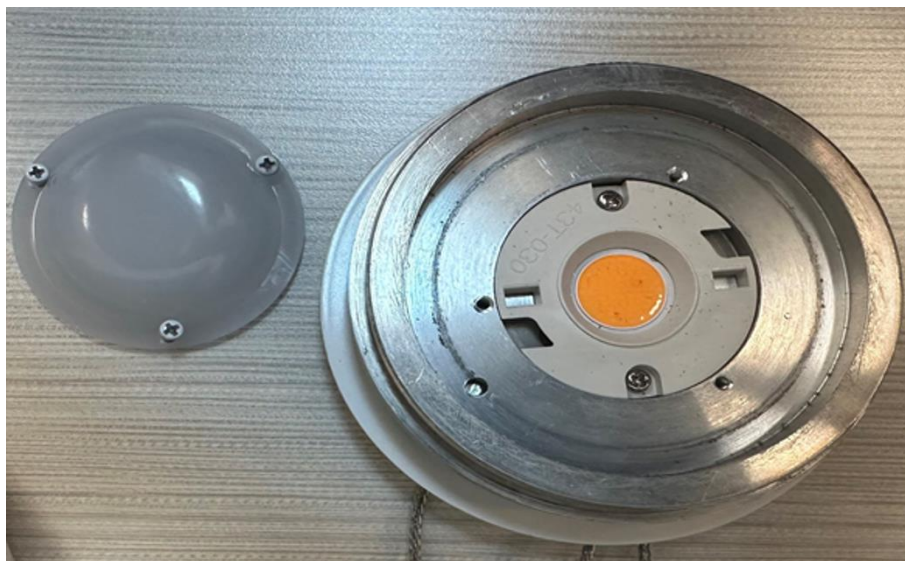


View of LED driver PVD20-C050V40-UNV3-HE-P

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TEST REPORT

PRODUCT PICTURE (not to scale)



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 *****