

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

220722013GZU-004

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REVISION DATE

None

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Report No.: 220722013GZU-004

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700TDSOTxx-LED927

RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

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TEST: Electrical and Photometric as required to the IES LM-79 test standard.

STATEMENT OF LIMITATION: 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.

AUTHORIZATION: The testing performed was authorized by signed quote number: QGZ220719001.

STANDARDS USED: 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 Measurements of Solid-State Lighting Products

ANSI C78.377:2017 Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE: The client submitted one sample of model 700TDSOTxx-LED927. The sample was received, in undamaged condition. The sample designation was S220722013-001.

DATES OF TESTS: 12 August 2022

ISSUED BY: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

TEST LOCATION: Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2. Caipin Road, Science City, GETDD, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	700TDSOTxx-LED927 (Remark: "X" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700TDSOTxx-LED927

Criteria	Result
Total Lumen Output	921.10 lm
Total Power	10.89 W
Luminaire Efficacy	84.58 lm/W
S/MH(C0/180)	0.60
S/MH(C90/270)	0.64
Correlated Color Temperature (CCT)	2609 K
Color Rendering Index (CRI)	92
R9	72
Chromaticity Coordinate (x)	0.4665
Chromaticity Coordinate (y)	0.4106
Chromaticity Coordinate (u')	0.2668
Chromaticity Coordinate (v')	0.5284

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	DS215S	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

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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 WT210.

Correction factor (self-absorption) has been considered when doing measurement.

Standard lamp used for Goniophotometer method:

Model: D908S

Current: 7.255A

Standard lamp used for integrating sphere:

Model: S82134

Current: 1.830

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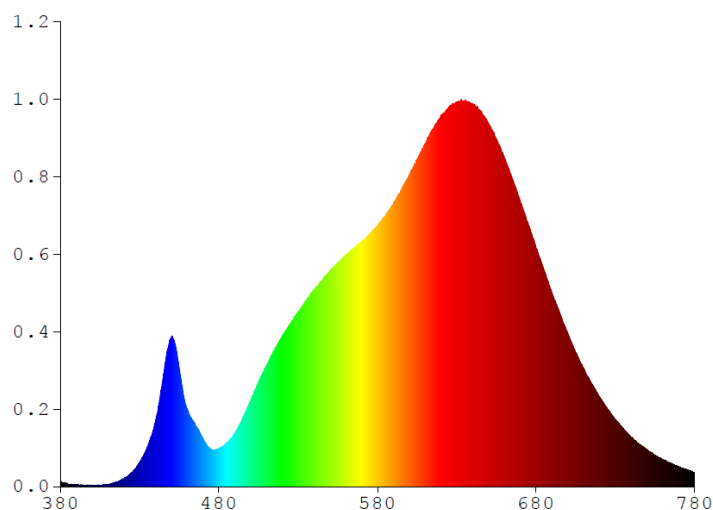
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700TDSOTxx-LED927

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.2572	480	1.6501	580	11.3060	680	10.3320	780	0.5892
385	0.1118	485	1.8930	585	11.7420	685	9.3569		
390	0.0948	490	2.3109	590	12.2360	690	8.3736		
395	0.0505	495	2.9712	595	12.8330	695	7.4803		
400	0.0446	500	3.7273	600	13.5030	700	6.6306		
405	0.0618	505	4.5254	605	14.1620	705	5.8119		
410	0.0996	510	5.2604	610	14.8600	710	5.0971		
415	0.1887	515	5.9272	615	15.4950	715	4.4585		
420	0.3364	520	6.5412	620	16.0790	720	3.8726		
425	0.6103	525	7.0521	625	16.4550	725	3.3591		
430	1.0519	530	7.5864	630	16.6450	730	2.9101		
435	1.7378	535	8.0634	635	16.7010	735	2.5059		
440	2.8435	540	8.5346	640	16.5720	740	2.1444		
445	4.8153	545	8.9262	645	16.2640	745	1.8357		
450	6.4515	550	9.3336	650	15.7140	750	1.5931		
455	5.0511	555	9.7071	655	15.0450	755	1.3642		
460	3.3357	560	9.9963	660	14.2500	760	1.1811		
465	2.6768	565	10.3240	665	13.3530	765	1.0085		
470	2.0610	570	10.6260	670	12.3440	770	0.8581		
475	1.6219	575	10.9410	675	11.1700	775	0.7359		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDSOTxx-LED927

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

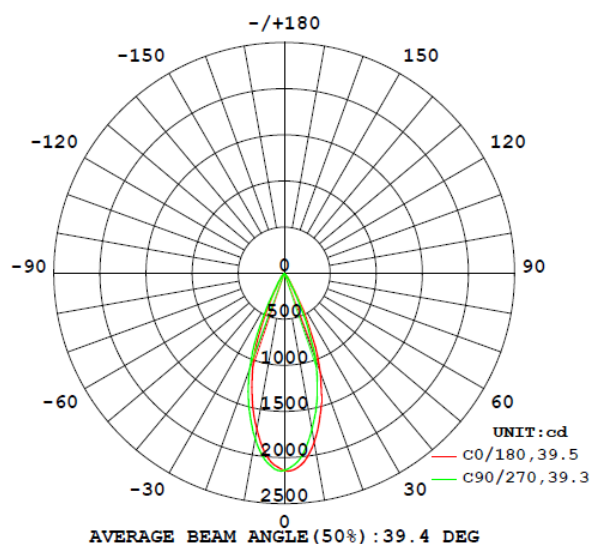
Photometric Measurements at 25°C – Integrating Sphere Method

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')
700TDSOTxx-LED927								
S2207220 13-001	--	2609	92	72	0.4665	0.4106	0.2668	0.5284

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)
700TDSOTxx-LED927							
S2207220 13-001	--	120.0	91.7	10.89	0.989	920.10	84.58

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDSOTxx-LED927

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	2138.7	2138.7	2138.7	2138.7	2138.7
5	2086.8	2070.9	2055.9	2025.9	2014.0
10	1864.6	1834.8	1806.7	1760.9	1727.1
15	1535.0	1508.3	1475.4	1424.5	1384.1
20	1144.6	1109.3	1069.7	1026.1	984.0
25	639.1	598.3	574.6	534.7	501.8
30	223.5	201.1	185.5	172.5	162.5
35	81.7	76.4	70.1	67.4	65.9
40	37.7	35.4	31.1	29.1	27.5
45	19.3	18.6	17.7	16.8	16.6
50	13.1	12.2	11.3	10.6	10.6
55	8.3	7.7	7.1	6.7	6.7
60	5.4	5.0	4.6	4.3	4.4
65	3.5	3.3	3.1	2.9	2.8
70	2.2	2.1	2.0	1.8	1.8
75	1.4	1.3	1.3	1.1	1.1
80	0.8	0.7	0.7	0.6	0.6
85	0.3	0.3	0.3	0.3	0.2
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	0.1	0.1	0.1	0.1	0.1
130	0.2	0.2	0.2	0.2	0.2
135	0.4	0.4	0.4	0.4	0.4
140	0.6	0.6	0.7	0.7	0.7
145	0.9	0.9	0.9	1.0	1.0
150	1.1	1.2	1.2	1.2	1.2
155	1.4	1.4	1.4	1.4	1.4
160	1.5	1.5	1.5	1.5	1.5
165	1.5	1.5	1.5	1.5	1.5
170	1.4	1.4	1.4	1.4	1.3
175	1.2	1.1	1.1	1.1	1.1
180	0.9	0.9	0.8	0.8	0.8

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDSOTxx-LED927

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700TDSOTxx-LED927		
0-30	839.15	91.10
0-40	892.60	96.91
0-60	914.42	99.28
0-90	919.52	99.83
60-90	5.1	0.55
0-180	921.10	100

Beam Angle

Total Beam Angle (°)

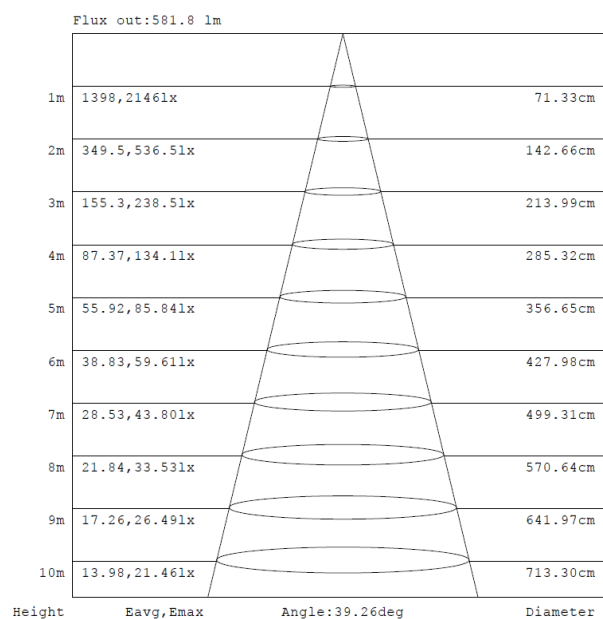
39.4

Illumination Plots

Model No.: 700TDSOTxx-LED927

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

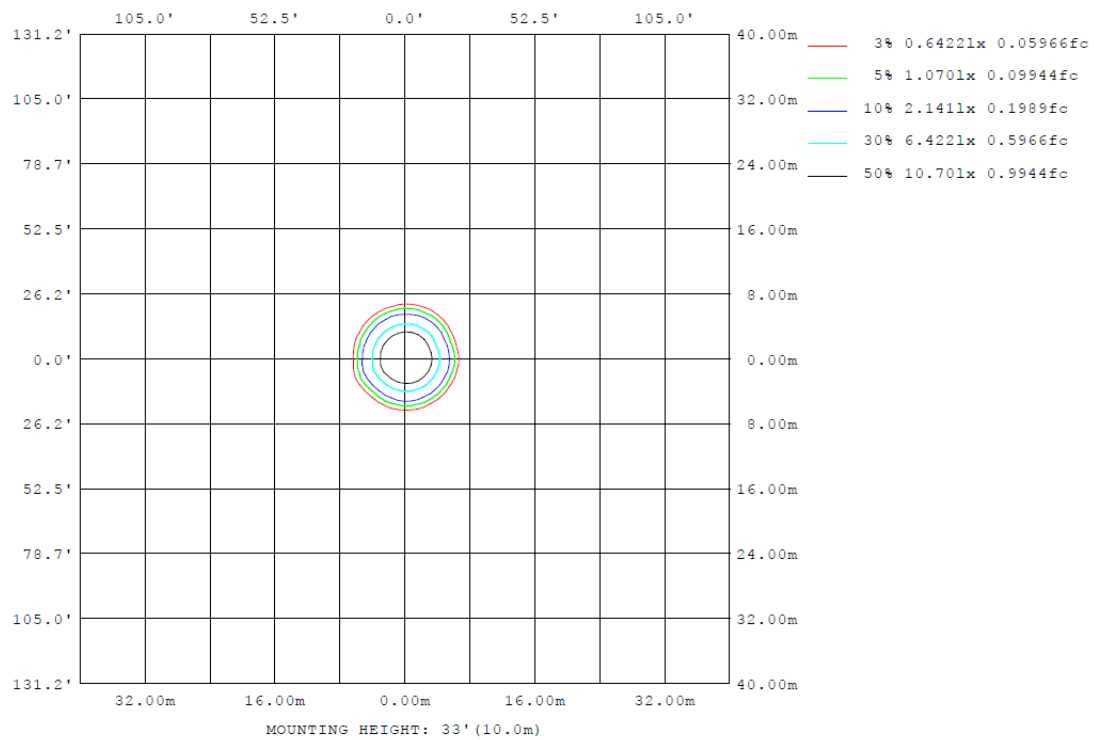
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDSOTxx-LED927

Model No.: 700TDSOTxx-LED927

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700TDSOTxx-LED927

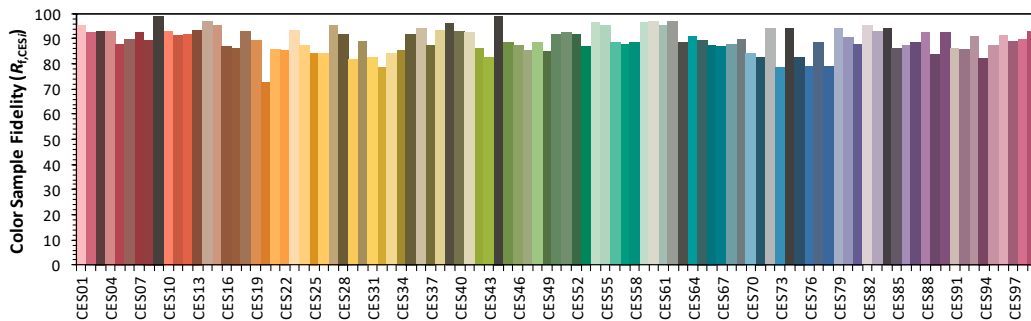
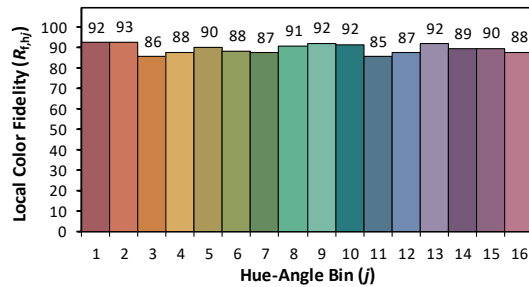
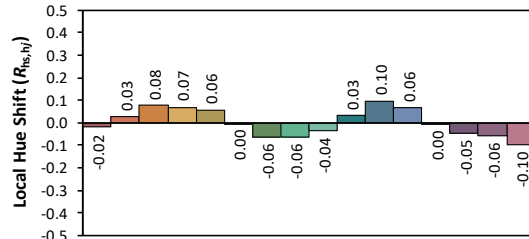
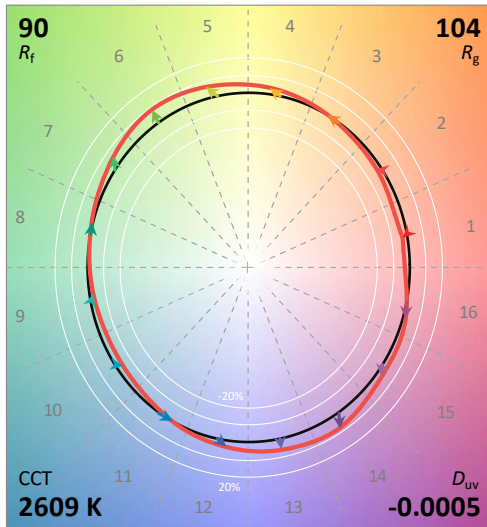
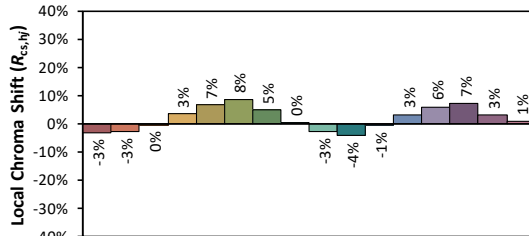
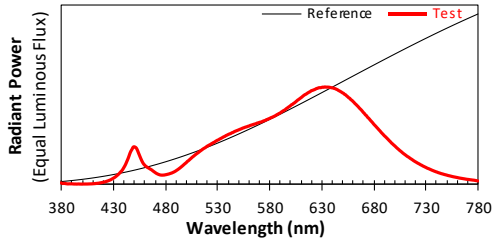
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2022/8/12

Model: 700TDSOTxx-LED927



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

x 0.4665
 y 0.4106
 u' 0.2668
 v' 0.5284

CIE 13.3-1995
(CRI)

R_a 92

R_g 72

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 700TDSOTxx-LED927

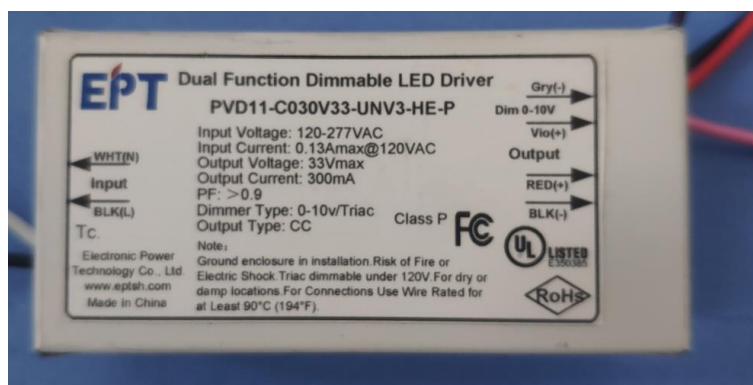


External view of 700TDSOTxx-LED927

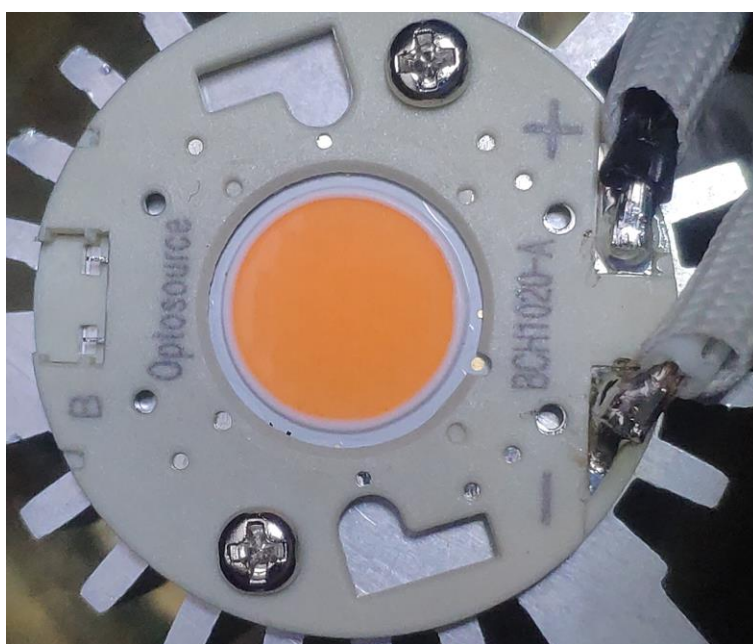
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED Driver DS6W24VMB1UD-0000



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 *****