

VC BRANDS LLC

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

211208061GZU-004

ISSUE DATE

7 January 2022

REVISION DATE

None

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79:2008_F

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Report No.: 211208061GZU-004

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700ESF32XX-LED927

RENDERED TO

VC BRANDS LLC

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: QGZ211208009.

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 700ESF32XX-LED927. The sample was received, in undamaged condition. The sample designation was S211208061-004.

DATES OF TESTS: 8 December 2021 to 7 January 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:	700ESF32XX-LED927 (Remark: "XX" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700ESF32XX-LED927

Criteria	Result
Total Lumen Output	6128.3 lm
Total Power	51.1 W
Luminaire Efficacy	119.90 lm/W
S/MH(C0/180)	1.07
S/MH(C90/270)	1.14
Correlated Color Temperature (CCT)	2651 K
Color Rendering Index (CRI)	92.0
R9	70
Chromaticity Coordinate (x)	0.4653
Chromaticity Coordinate (y)	0.4138
Chromaticity Coordinate (u')	0.2645
Chromaticity Coordinate (v')	0.5294

Remark:

Measurement uncertainty for applicable tests has been established.

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TEST REPORT

EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Temperature Meter	RS210	SA047-126
Sensing - DC Power Supply	IT6122	SA063-12-09
Sensing- AC power source for Integrating Sphere System	APW-105N	SA063-12-05
Everfine - AC power source for Goniophotometer System	DPS1060	SA063-16-03
Two meter integrating sphere unit	Sensing – 2M	SA063-12-01
YOKOGAWA – Digital Power Meter	WT-210	SA011-122
Everfine – Goniophotometer	Go-R5000	SA063-16
KONICA MINOLTA - Illuminance meter	CX-2B_WL	SA063-16-01
Standard lamp	S82134	SA063-12-13
Standard lamp	S1320039	SA063-12-24
Standard lamp	D908S	SA063-16-05
Standard lamp	D215S	SA063-16-06

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 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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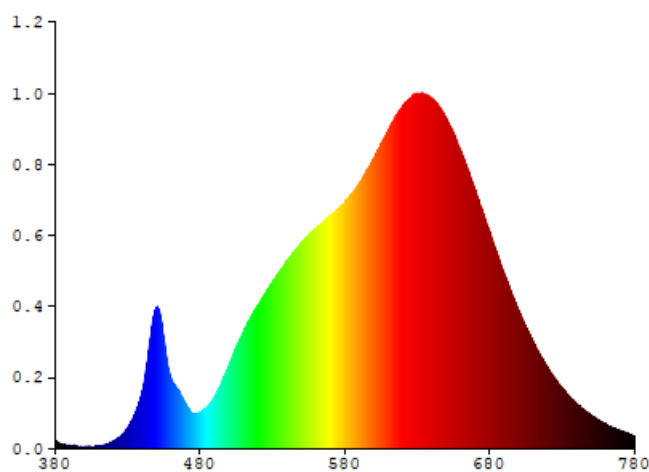
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700ESF32XX-LED927

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.5646	480	2.9583	580	20.2970	680	17.8590	780	0.9663
385	0.2363	485	3.4267	585	21.0390	685	16.1530		
390	0.2148	490	4.2002	590	21.8960	690	14.4510		
395	0.1411	495	0.0000	595	22.9830	695	12.8810		
400	0.0927	500	6.8594	600	24.0090	700	11.4070		
405	0.1204	505	8.2900	605	25.1840	705	10.0290		
410	0.1895	510	9.6228	610	26.2820	710	8.8024		
415	0.3189	515	10.8530	615	27.4060	715	7.6824		
420	0.5475	520	11.8250	620	28.3070	720	6.6680		
425	0.9503	525	12.7740	625	28.9020	725	5.7863		
430	1.6704	530	13.7020	630	29.2000	730	4.9861		
435	2.7896	535	14.5960	635	29.2310	735	4.3064		
440	4.6304	540	15.4460	640	28.9780	740	3.6814		
445	8.3582	545	16.2470	645	28.2840	745	3.1730		
450	11.6230	550	16.9910	650	27.2990	750	2.7254		
455	9.0077	555	17.6490	655	26.0710	755	2.3271		
460	5.7639	560	18.1800	660	24.6360	760	1.9986		
465	4.8087	565	18.7120	665	23.0760	765	1.6966		
470	3.6746	570	19.2100	670	21.3420	770	1.4571		
475	2.8856	575	19.7440	675	19.6170	775	1.2586		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700ESF32XX-LED927

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

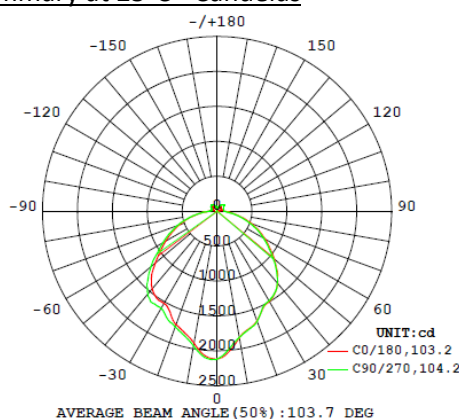
Photometric Measurements at 25°C – Integrating Sphere Method

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')
700ESF32XX-LED927								
S2112080 61-004	--	2651	92	70	0.4653	0.4138	0.2645	0.5294

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)
700ESF32XX-LED927							
S2112080 61-004	--	120.0	426.6	51.1	0.998	6128.3	119.90

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700ESF32XX-LED927

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	2113.4	2113.8	2114.9	2116.2	2117.2
5	2014.7	1994.9	1985.3	1981.4	1979.1
10	1840.2	1830.9	1813.0	1816.8	1834.4
15	1746.2	1745.4	1729.3	1734.9	1754.5
20	1671.8	1652.3	1654.8	1651.3	1677.6
25	1545.5	1534.7	1543.9	1523.5	1538.5
30	1493.3	1520.7	1511.5	1472.9	1484.3
35	1438.2	1481.9	1497.8	1453.1	1434.4
40	1349.7	1395.0	1408.0	1359.5	1343.2
45	1217.8	1238.5	1256.3	1225.4	1204.7
50	1065.9	1058.2	1060.2	1038.3	1047.8
55	922.2	901.3	901.5	883.3	897.5
60	791.5	769.2	765.1	752.1	765.1
65	655.9	626.3	621.9	620.5	631.5
70	523.7	494.8	486.9	488.9	495.9
75	390.2	364.0	353.9	354.4	361.1
80	263.8	234.8	229.8	228.5	237.8
85	154.4	127.9	128.1	127.1	140.5
90	124.4	106.0	106.5	108.2	119.4
95	89.0	80.4	75.5	88.0	95.9
100	44.0	58.1	72.6	80.2	90.7
105	51.2	76.4	78.1	85.4	92.7
110	76.8	83.1	83.5	91.5	96.2
115	71.5	74.6	86.0	93.4	99.6
120	62.8	71.6	96.7	100.9	109.4
125	72.0	87.1	109.0	112.6	123.0
130	77.8	82.3	103.8	123.0	132.9
135	79.7	96.4	107.6	120.3	136.8
140	88.9	107.6	121.9	108.0	122.8
145	72.9	94.8	88.8	115.6	105.6
150	69.3	84.0	110.2	104.0	106.8
155	62.7	63.6	91.7	84.9	83.9
160	61.2	61.5	68.1	65.1	78.9
165	31.7	40.1	42.9	61.8	62.1
170	14.0	18.0	19.4	29.7	28.0
175	9.4	13.9	23.8	25.9	29.9
180	37.4	36.3	31.2	28.6	28.1

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700ESF32XX-LED927

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700ESF32XX-LED927		
0-30	1436.2	23.4
0-40	2374.3	38.7
0-60	4233.7	69.1
0-90	5545.2	90.5
60-90	1311.5	21.4
0-180	6128.3	100.0

Beam Angle

Total Beam Angle(°)

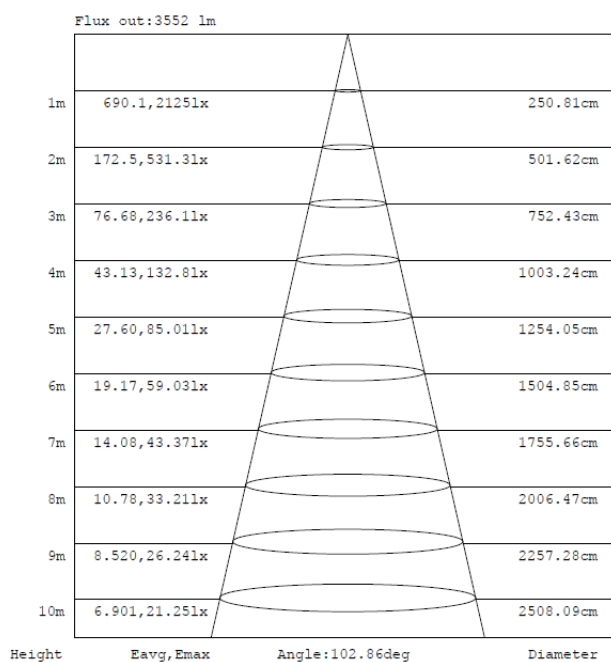
103.7

Illumination Plots

Model No.: 700ESF32XX-LED927

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

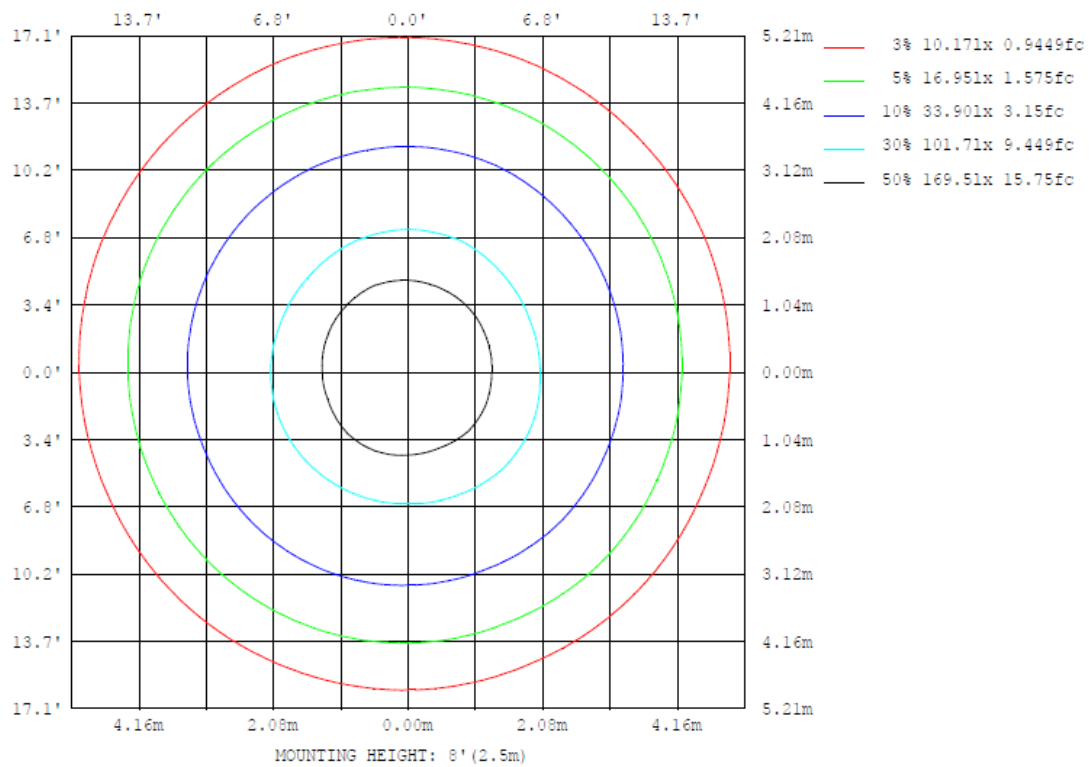
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700ESF32XX-LED927

Model No.: 700ESF32XX-LED927

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700ESF32XX-LED927

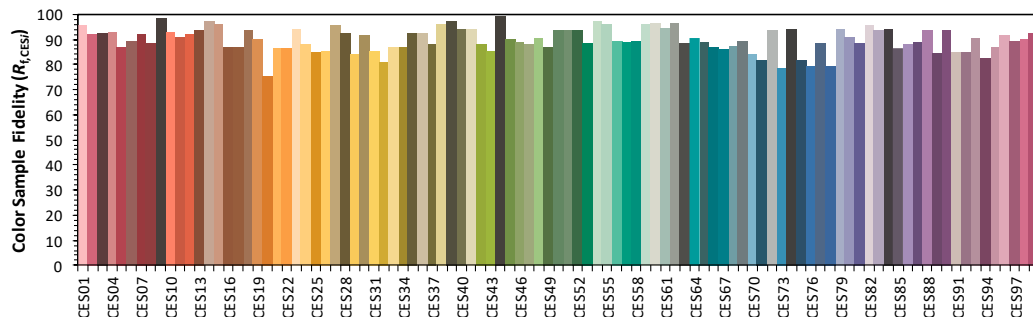
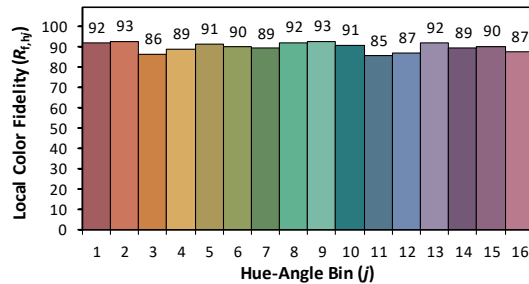
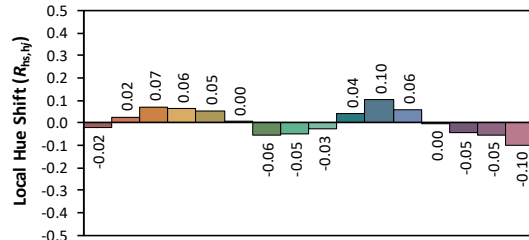
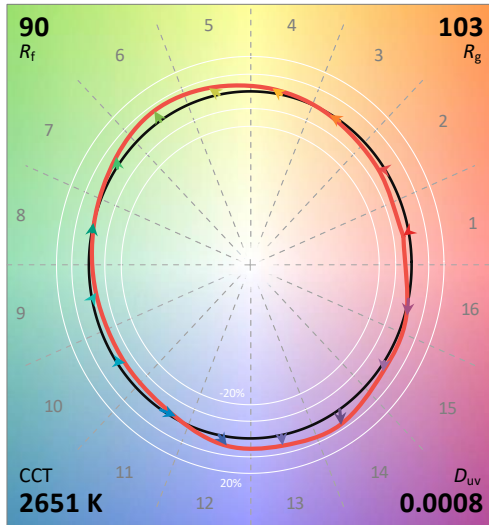
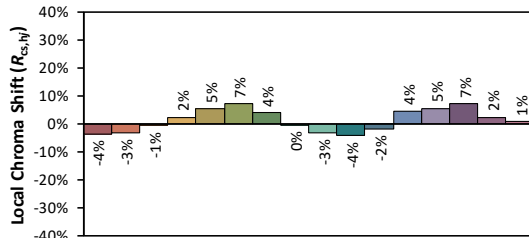
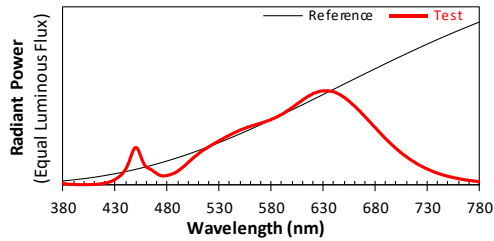
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: VC BRANDS LLC

Date: 2022/1/6

Model: 700ESF32XX-LED927



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

x 0.4653
 y 0.4138
 u' 0.2645
 v' 0.5294

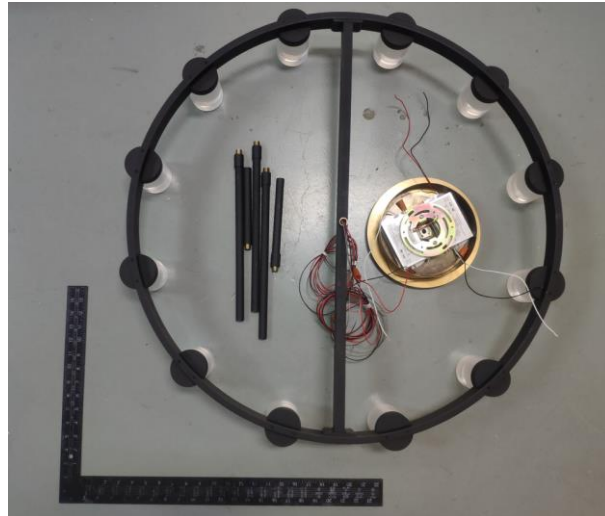
CIE 13.3-1995
(CRI)

R_a 92
 R_g 70

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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of 700ESF32XX-LED927



External view of 700ESF32XX-LED927

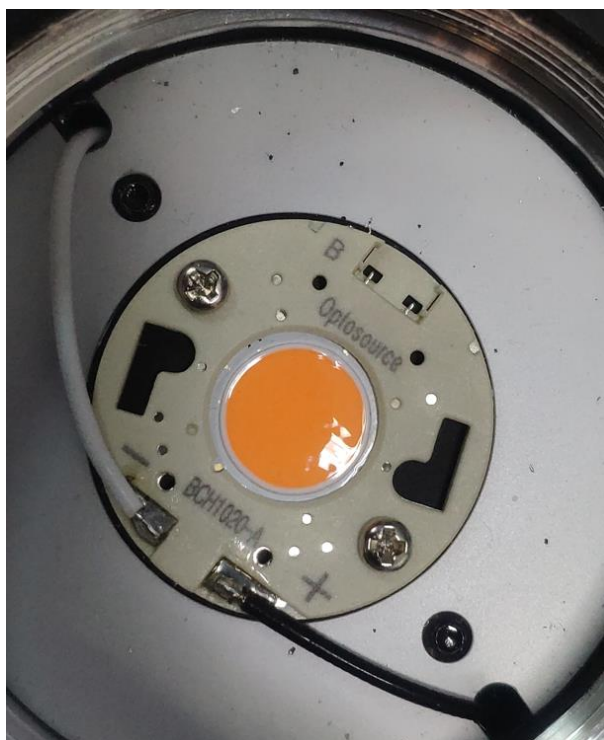
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED Driver DA30W700C2542-3001 (x2)



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 *****