

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

230223104GZU-002

ISSUE DATE

21-March-2023

REVISION DATE

None

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13

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Report No.: 230223104GZU-002

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLPC11730X

(Remark: "X" denote other appearance colors for the characters that change)

RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

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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: QGZ230214004.
<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 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 SLPC11730X. The sample was received, in undamaged condition. The sample designation was S230223104-002.
<u>DATES OF TESTS:</u>	25 February 2023
<u>ISSUED BY:</u>	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
<u>TEST LOCATION:</u>	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:	SLPC11730X
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLPC11730X

Criteria	Result
Total Lumen Output	386.8 lm
Total Power	11.2 W
Luminaire Efficacy	34.7 lm/W
S/MH(C0/180)	1.25
S/MH(C90/270)	1.15
Correlated Color Temperature (CCT)	2817 K
Color Rendering Index (CRI)	93
R9	64
Chromaticity Coordinate (x)	0.4470
Chromaticity Coordinate (y)	0.4015
Chromaticity Coordinate (u')	0.2582
Chromaticity Coordinate (v')	0.5219

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: 110V/100W

Current: 0.8851A

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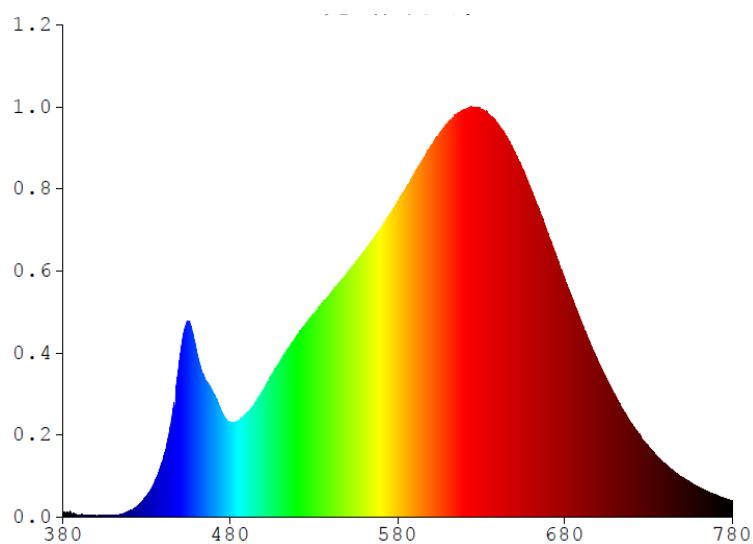
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLPC11730X

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0168	480	0.0046	580	0.0221	680	0.2056	780	0.5625
385	0.0164	485	0.0055	585	0.0244	685	0.2242		
390	0.0140	490	0.0052	590	0.0286	690	0.2486		
395	0.0162	495	0.0060	595	0.0326	695	0.2755		
400	0.0179	500	0.0053	600	0.0374	700	0.3092		
405	0.0065	505	0.0059	605	0.0414	705	0.3397		
410	0.0138	510	0.0053	610	0.0466	710	0.3774		
415	0.0107	515	0.0060	615	0.0528	715	0.3768		
420	0.0073	520	0.0061	620	0.0588	720	0.4659		
425	0.0076	525	0.0055	625	0.0662	725	0.5099		
430	0.0070	530	0.0075	630	0.0728	730	0.5520		
435	0.0096	535	0.0073	635	0.0820	735	0.5925		
440	0.0080	540	0.0077	640	0.0905	740	0.6281		
445	0.0063	545	0.0083	645	0.1007	745	0.6510		
450	0.0072	550	0.0088	650	0.1110	750	0.6708		
455	0.0065	555	0.0109	655	0.1255	755	0.6701		
460	0.0059	560	0.0123	660	0.1367	760	0.6591		
465	0.0062	565	0.0140	665	0.1513	765	0.6419		
470	0.0060	570	0.0161	670	0.1680	770	0.6197		
475	0.0053	575	0.0187	675	0.1853	775	0.5943		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11730X

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

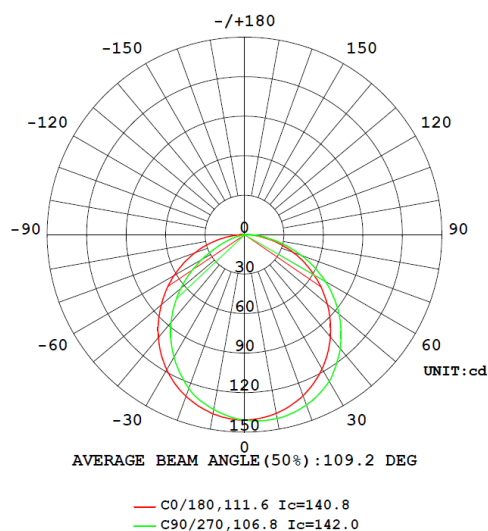
Photometric Measurements at 25°C – Integrating Sphere Method

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')
SLPC11730X								
S2302231 04-002	--	2817	93	64	0.4470	0.4015	0.2582	0.5219

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)
SLPC11730X							
S2302231 04-002	--	120.2	93.8	11.2	0.990	386.8	34.7

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11730X

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	140.8	140.8	140.8	140.8	140.8
5	139.9	140.5	141.2	141.6	141.9
10	137.8	139.2	140.3	141.2	141.7
15	134.5	136.4	138.3	139.6	140.3
20	130.1	132.6	134.9	136.6	137.5
25	124.4	127.6	130.4	132.5	133.6
30	117.7	121.4	124.7	127.2	128.6
35	110.1	114.2	118.0	120.2	121.1
40	101.4	106.1	110.4	111.9	113.1
45	92.1	97.0	100.7	102.6	103.9
50	82.2	87.4	90.8	92.4	93.7
55	71.8	77.2	79.8	81.5	82.7
60	60.8	66.0	68.4	69.8	70.8
65	50.1	55.1	56.6	57.6	58.5
70	39.0	43.3	44.5	45.0	45.8
75	28.1	31.7	32.0	32.3	33.0
80	17.4	20.1	19.8	20.5	21.4
85	7.2	9.0	9.9	11.3	11.9
90	0.1	0.9	1.3	1.9	2.4
95	0.1	0.1	0.1	0.1	0.2
100	0.1	0.1	0.0	0.0	0.0
105	0.1	0.1	0.1	0.0	0.0
110	0.1	0.1	0.1	0.0	0.0
115	0.1	0.1	0.1	0.0	0.0
120	0.1	0.1	0.1	0.1	0.1
125	0.1	0.1	0.1	0.1	0.1
130	0.1	0.2	0.1	0.1	0.1
135	0.2	0.2	0.1	0.1	0.1
140	0.2	0.2	0.2	0.1	0.1
145	0.2	0.2	0.2	0.2	0.2
150	0.2	0.2	0.2	0.2	0.2
155	0.2	0.2	0.2	0.2	0.2
160	0.2	0.2	0.2	0.2	0.2
165	0.2	0.2	0.2	0.2	0.2
170	0.2	0.2	0.2	0.2	0.2
175	0.2	0.2	0.2	0.2	0.2
180	0.2	0.2	0.2	0.2	0.2

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11730X

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLPC11730X		
0-30	108.9	28.2
0-40	177.7	45.9
0-60	309.7	80.1
0-90	386.0	99.8
60-90	76.3	19.7
0-180	386.8	100.0

Beam Angle

Total Beam Angle (°)

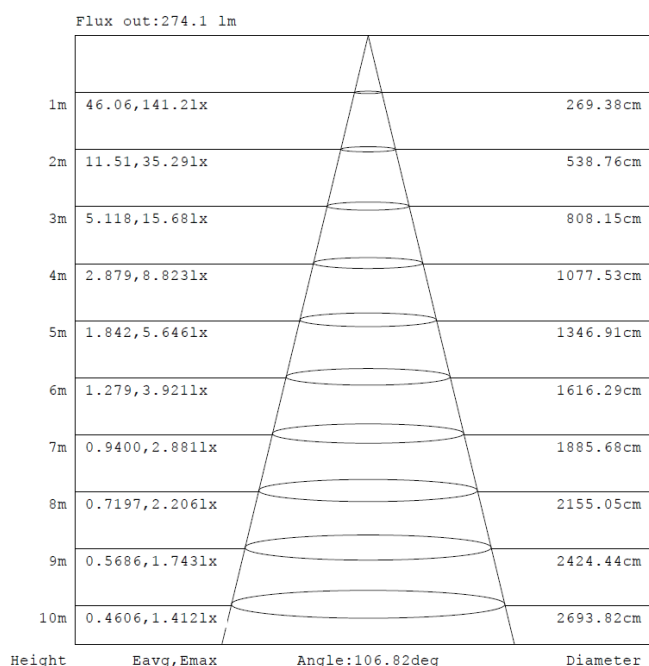
109.2

Illumination Plots

Model No.: SLPC11730X

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

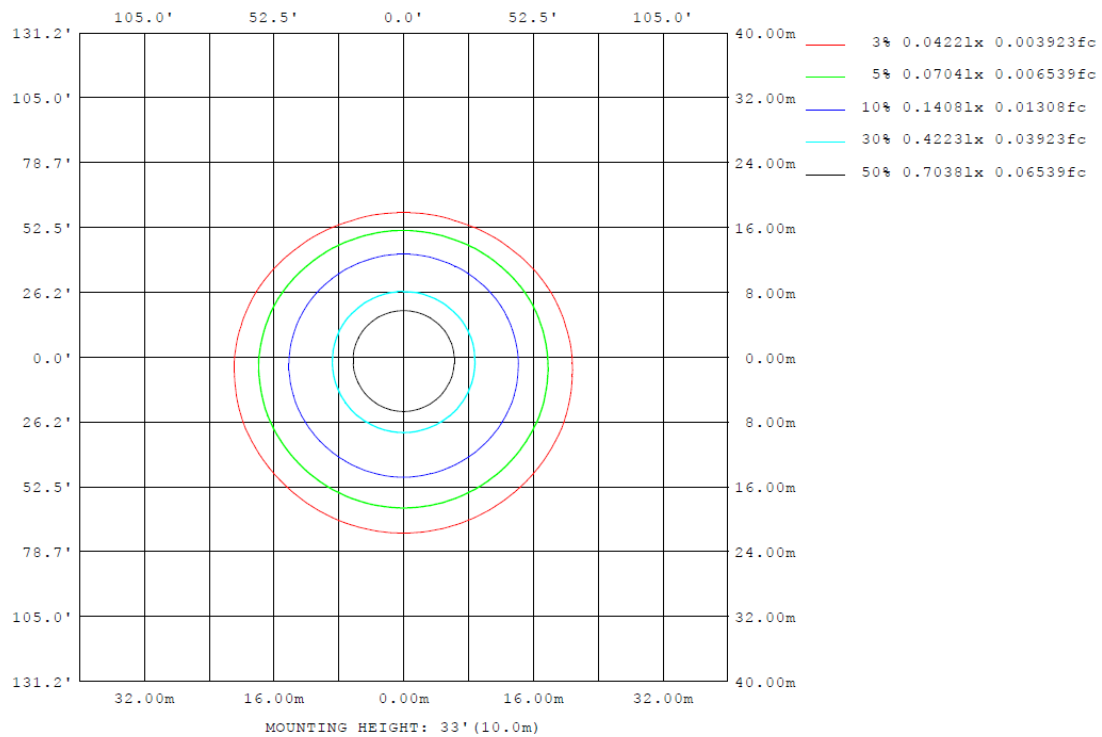
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11730X

Model No.: SLPC11730X

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11730X

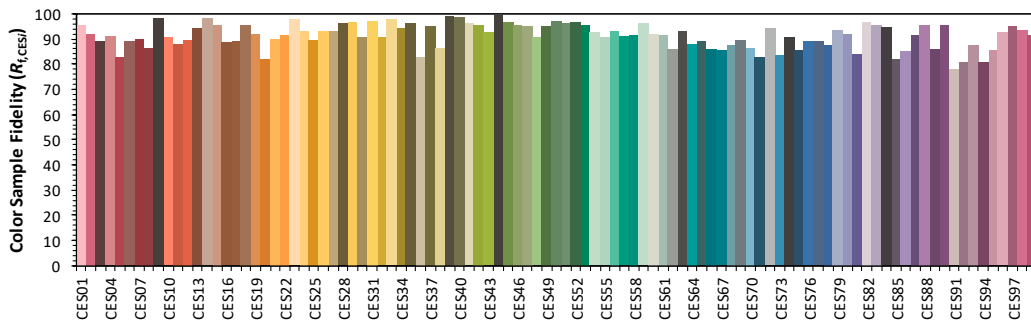
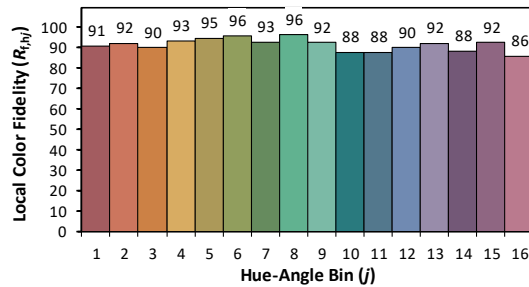
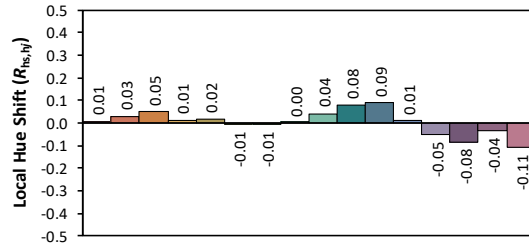
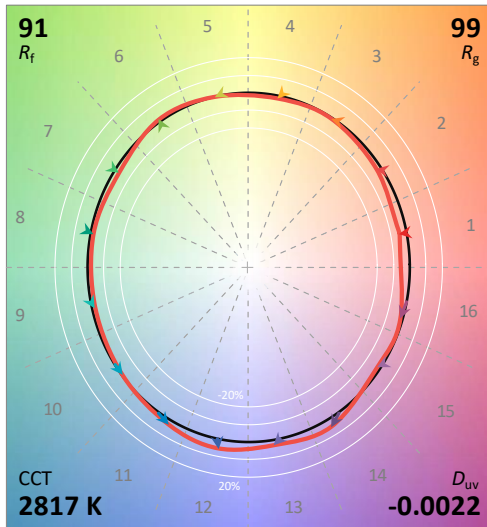
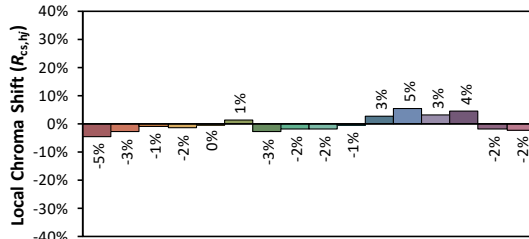
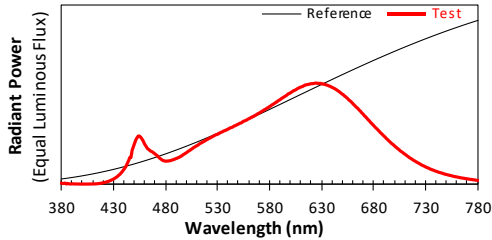
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/2/25

Model: SLPC11730X



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

x 0.4470
 y 0.4015
 u' 0.2582
 v' 0.5219

CIE 13.3-1995
(CRI)

R_a 93

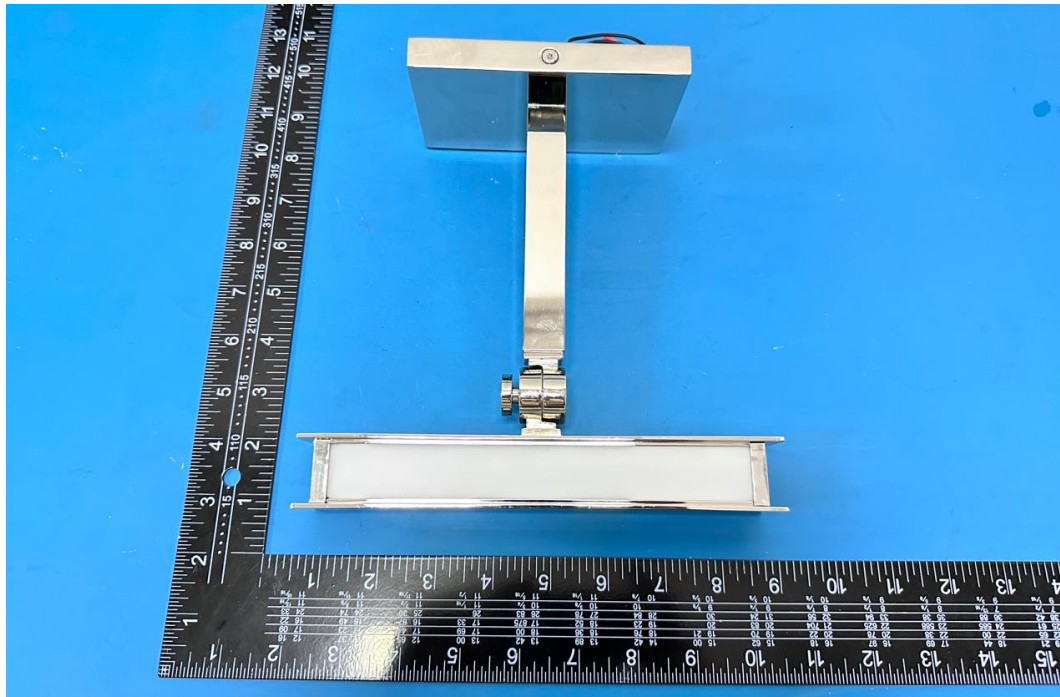
R_g 64

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 SLPC11730X



View of LED Driver PVD11-C030V33-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 *****