

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

221205125GZU-017

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None

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13

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Report No.: 221205125GZU-017

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLPC11630B*

(Remark: "*" 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: QGZ221129088.
<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 SLPC11630B*. The sample was received, in undamaged condition. The sample designation was.
<u>DATES OF TESTS:</u>	13 January 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:	SLPC11630B*
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLPC11630B*

Criteria	Result
Total Lumen Output	1260.6 lm
Total Power	19.5 W
Luminaire Efficacy	64.7 lm/W
S/MH(C0/180)	1.27
S/MH(C90/270)	1.26
Correlated Color Temperature (CCT)	2615 K
Color Rendering Index (CRI)	93
R9	63
Chromaticity Coordinate (x)	0.4640
Chromaticity Coordinate (y)	0.4070
Chromaticity Coordinate (u')	0.2668
Chromaticity Coordinate (v')	0.5266

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

Standard lamp used for integrating sphere:

Model: S82134

Current: 1.830

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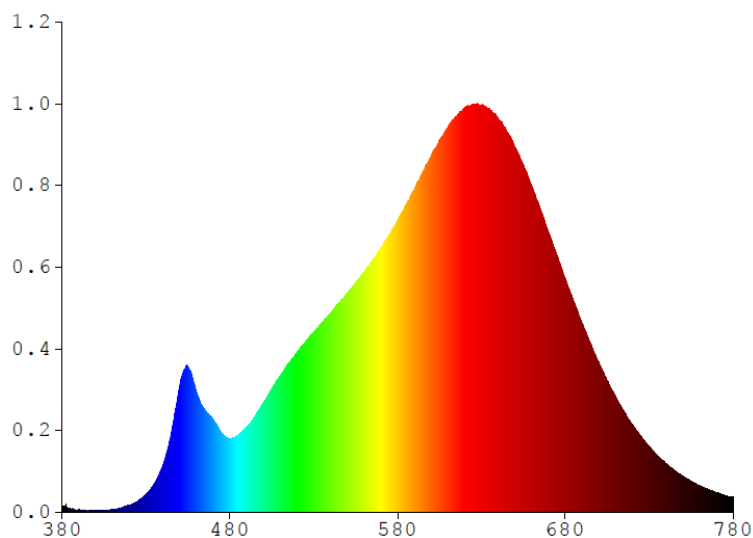
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLPC11630B*

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0176	480	0.2069	580	0.8204	680	0.6552	780	0.0436
385	0.0087	485	0.2176	585	0.8633	685	0.5915		
390	0.0072	490	0.2406	590	0.9074	690	0.5304		
395	0.0041	495	0.2697	595	0.9546	695	0.4761		
400	0.0047	500	0.3075	600	0.9996	700	0.4215		
405	0.0058	505	0.3471	605	1.0481	705	0.3691		
410	0.0075	510	0.3841	610	1.0806	710	0.3242		
415	0.0127	515	0.4194	615	1.1118	715	0.2828		
420	0.0196	520	0.4486	620	1.1365	720	0.2458		
425	0.0321	525	0.4770	625	1.1462	725	0.2143		
430	0.0502	530	0.5062	630	1.1448	730	0.1848		
435	0.0805	535	0.5336	635	1.1315	735	0.1596		
440	0.1320	540	0.5593	640	1.1051	740	0.1374		
445	0.2209	545	0.5873	645	1.0704	745	0.1183		
450	0.3525	550	0.6158	650	1.0264	750	0.1021		
455	0.4095	555	0.6461	655	0.9744	755	0.0875		
460	0.3396	560	0.6746	660	0.9161	760	0.0753		
465	0.2879	565	0.7091	665	0.8541	765	0.0640		
470	0.2623	570	0.7430	670	0.7859	770	0.0555		
475	0.2224	575	0.7798	675	0.7093	775	0.0477		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11630B*

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

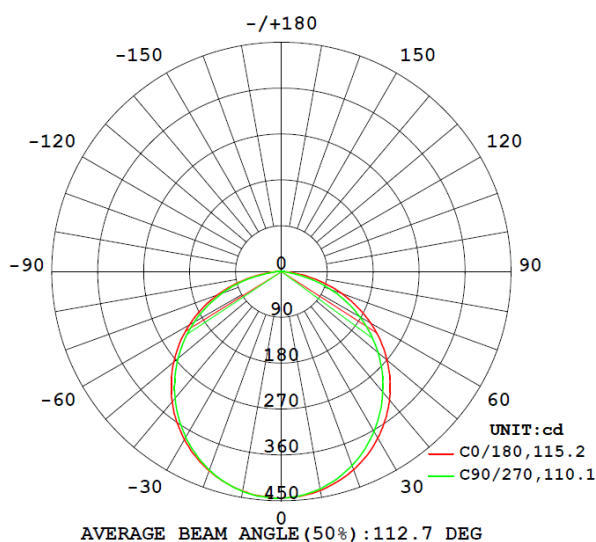
Photometric Measurements at 25°C – Integrating Sphere Method

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')
SLPC11630B*								
S2212051 25-017	--	2615	93	63	0.4640	0.4070	0.2668	0.5266

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)
SLPC11630B*							
S2212051 25-017	--	120.2	163.4	19.5	0.992	1260.6	64.7

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11630B*

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	444.3	444.4	444.4	444.1	444.3
5	442.2	441.8	440.9	440.7	440.9
10	436.2	435.0	434.0	432.6	433.3
15	426.5	424.5	422.7	420.5	420.9
20	413.6	410.8	407.7	404.9	404.9
25	397.4	393.6	389.3	385.6	385.3
30	377.4	372.8	367.7	363.2	362.8
35	354.7	349.4	343.2	337.6	336.6
40	329.2	323.4	316.2	310.0	308.9
45	300.9	294.6	286.8	280.6	279.2
50	270.2	263.4	255.2	248.5	246.9
55	237.3	230.2	221.6	214.5	212.9
60	201.8	194.6	185.9	178.9	177.3
65	164.4	157.3	148.7	142.2	140.3
70	125.5	118.7	110.5	103.7	102.0
75	85.7	79.2	71.8	65.1	63.4
80	47.7	42.3	35.1	28.4	26.9
85	15.5	11.6	6.8	6.5	6.8
90	0.2	1.5	0.1	0.1	0.1
95	0.1	0.1	0.1	0.1	0.1
100	0.1	0.1	0.1	0.1	0.1
105	0.1	0.1	0.1	0.1	0.1
110	0.2	0.2	0.2	0.1	0.1
115	0.2	0.2	0.2	0.2	0.2
120	0.2	0.2	0.2	0.2	0.2
125	0.3	0.3	0.3	0.3	0.3
130	0.4	0.4	0.4	0.4	0.4
135	0.4	0.4	0.4	0.4	0.4
140	0.5	0.5	0.5	0.5	0.5
145	0.6	0.6	0.6	0.6	0.6
150	0.6	0.6	0.6	0.6	0.6
155	0.7	0.7	0.7	0.7	0.7
160	0.7	0.7	0.7	0.7	0.7
165	0.7	0.7	0.7	0.7	0.7
170	0.7	0.7	0.7	0.7	0.7
175	0.7	0.7	0.7	0.7	0.7
180	0.6	0.6	0.6	0.6	0.6

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11630B*

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLPC11630B*		
0-30	344.1	27.3
0-40	563.2	44.7
0-60	997.3	79.1
0-90	1259.0	99.9
60-90	261.7	20.8
0-180	1260.6	100.0

Beam Angle

Total Beam Angle (°)

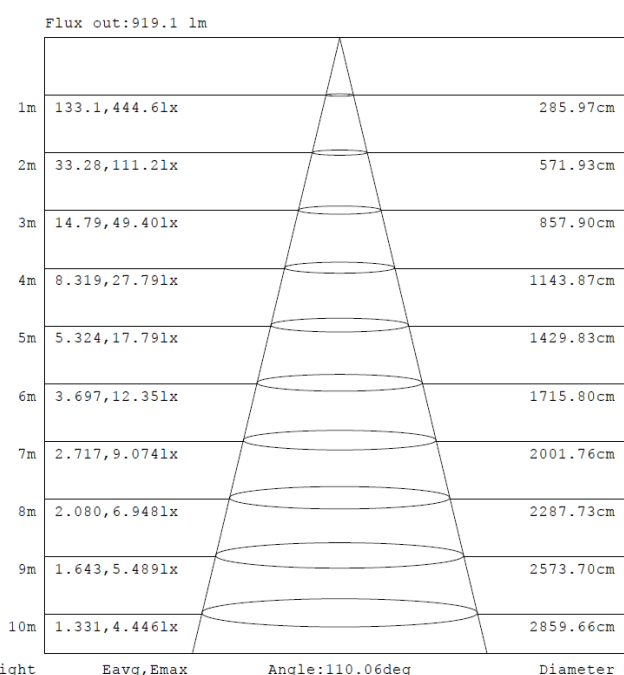
112.7

Illumination Plots

Model No.: SLPC11630B*

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

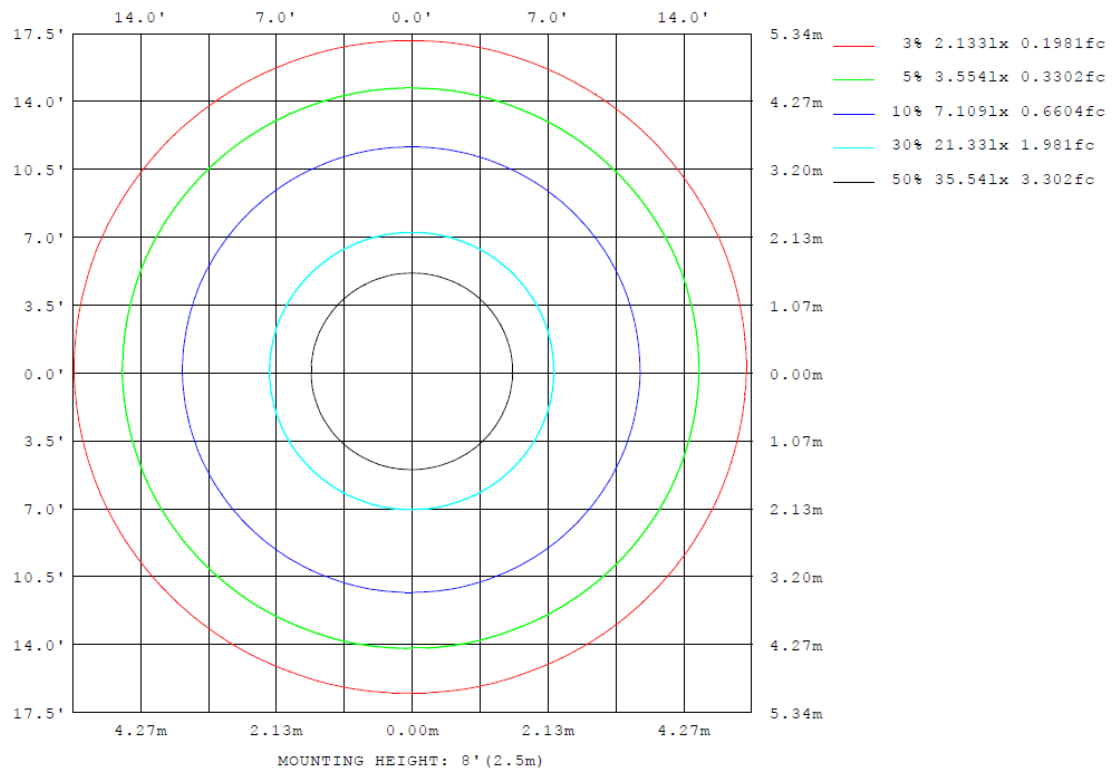
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11630B*

Model No.: SLPC11630B*

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLPC11630B*

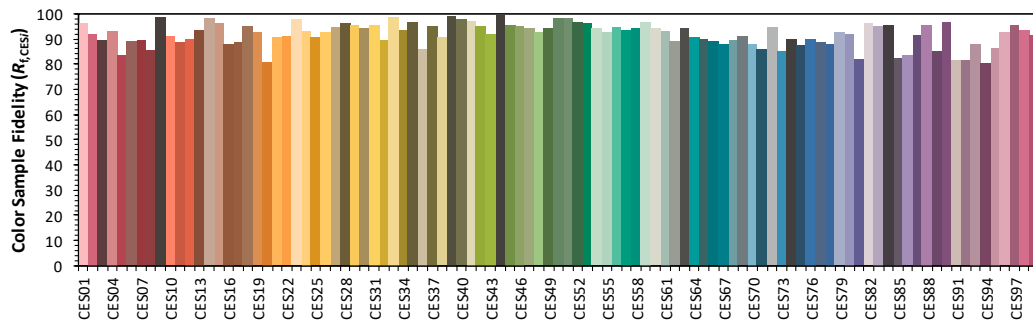
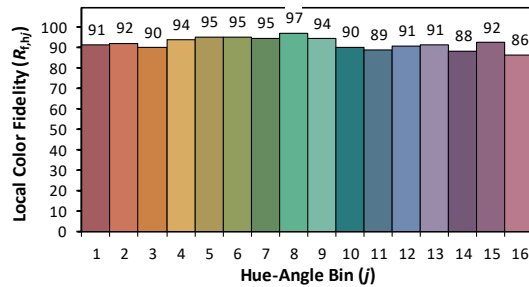
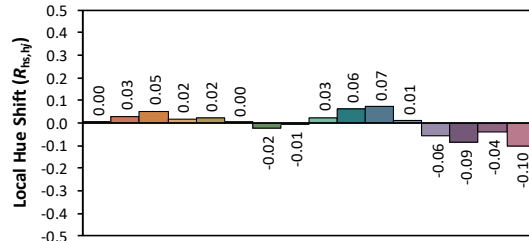
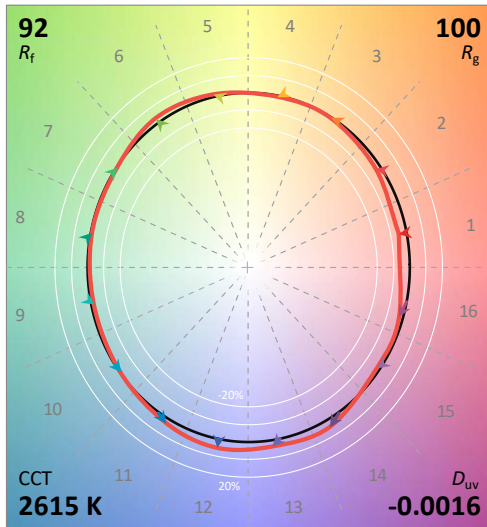
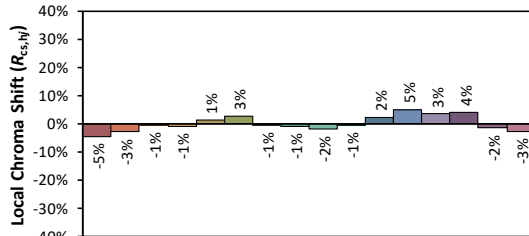
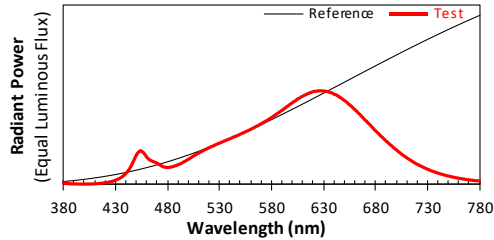
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/1/13

Model: SLPC11630B*



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

x 0.4640
 y 0.4070
 u' 0.2668
 v' 0.5266

CIE 13.3-1995
(CRI)

R_a 93

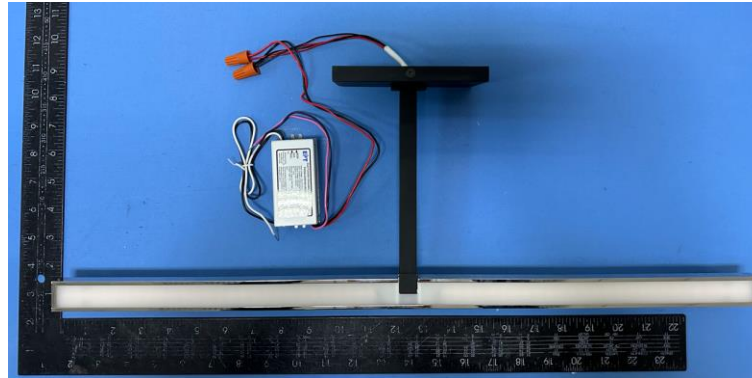
R_g 63

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 SLPC11630B*



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

***** End of Page *****

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 *****