

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240124027GZU-007

ISSUE DATE

29 August 2024

REVISION DATE

Modification 1: 01 November 2024

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240124027GZU-007
Modification 1: 01 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLCH14930XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

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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: QGZ240119029.
<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 SLCH14930XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240124027-007.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Guangzhou Xiongyi Precision Metalworking Co., Ltd Hantang Industrial Zone, Langbian Village, Shiji Town, Panyu District, Guangzhou City, Guangdong Province, China 511450
<u>DATES OF TESTS:</u>	12 March 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:	SLCH14930XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLCH14930XX

Criteria	Result
Total Lumen Output	5519.3 lm
Total Power	97.5 W
Luminaire Efficacy	56.6 lm/W
S/MH(C0/180)	1.21
S/MH(C90/270)	1.31
Correlated Color Temperature (CCT)	3021 K
Color Rendering Index (CRI)	93
R9	61
Chromaticity Coordinate (x)	0.4350
Chromaticity Coordinate (y)	0.4027
Chromaticity Coordinate (u')	0.2500
Chromaticity Coordinate (v')	0.5205

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240124027GZU-007 issued on 29 August 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page 1 and 2 of the report.

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

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	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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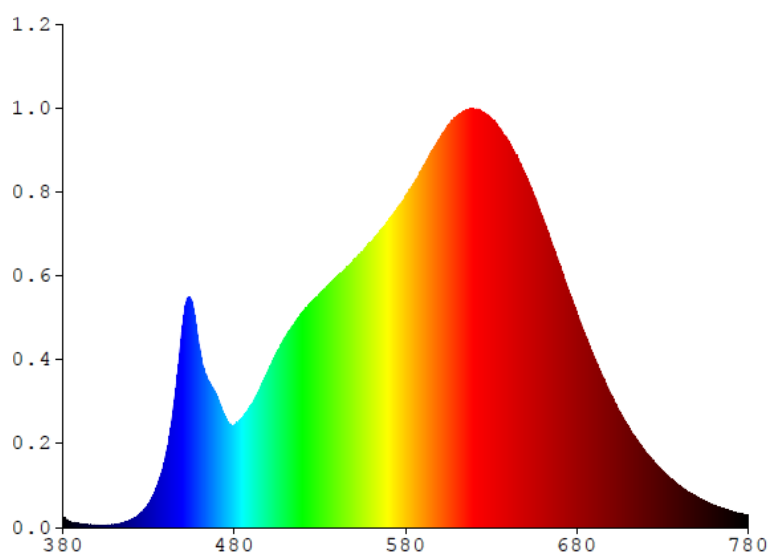
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLCH14930XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.3358	480	3.4128	580	11.0170	680	7.0935	780	0.4304
385	0.1358	485	3.6620	585	11.4640	685	6.3681		
390	0.0829	490	4.0827	590	11.9780	690	5.6609		
395	0.0833	495	4.6296	595	12.5060	695	5.0125		
400	0.0689	500	5.2356	600	12.9320	700	4.3873		
405	0.0702	505	5.8480	605	13.3850	705	3.8380		
410	0.0939	510	6.3498	610	13.6970	710	3.3622		
415	0.1541	515	6.7690	615	13.8750	715	2.9123		
420	0.2590	520	7.1539	620	13.9120	720	2.5106		
425	0.4592	525	7.4999	625	13.8090	725	2.1672		
430	0.7819	530	7.7694	630	13.6000	730	1.8744		
435	1.3865	535	8.0641	635	13.2720	735	1.6147		
440	2.3872	540	8.3532	640	12.8540	740	1.3860		
445	4.1885	545	8.6138	645	12.3330	745	1.1823		
450	6.7730	550	8.9064	650	11.6980	750	1.0173		
455	7.5306	555	9.1740	655	11.0330	755	0.8762		
460	5.8542	560	9.4884	660	10.3080	760	0.7398		
465	4.8680	565	9.8491	665	9.4984	765	0.6333		
470	4.3246	570	10.1990	670	8.7140	770	0.5466		
475	3.6454	575	10.5970	675	7.7488	775	0.4682		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH14930XX

Total operation burning time: 60 minutes
Stabilization time: 30 minutes

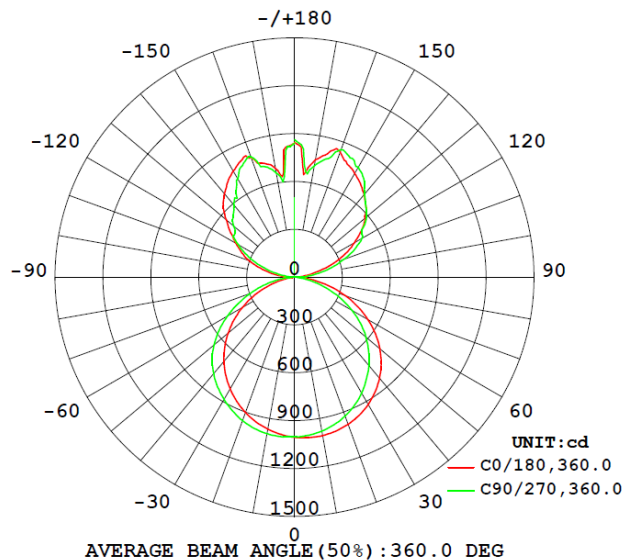
Photometric Measurements at 25°C – Distribution Method

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')
SLCH14930XX								
S2401240 27-007	base-up	3021	93	61	0.4350	0.4027	0.2500	0.5205

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)
SLCH14930XX							
S2401240 27-007	base-up	120.1	820.4	97.5	0.989	5519.3	56.6

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH14930XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	1003.2	1003.0	1002.7	1002.4	1002.0
5	1009.7	1007.1	1003.4	998.8	994.4
10	1008.1	1003.8	996.7	988.1	979.6
15	998.4	992.4	982.3	969.7	957.3
20	981.1	972.3	958.9	942.6	926.4
25	955.7	944.0	926.7	906.5	887.2
30	921.7	906.3	885.8	862.0	839.2
35	879.0	859.9	836.9	809.9	784.2
40	827.4	807.7	782.3	752.4	724.1
45	767.2	747.3	720.1	687.6	656.9
50	697.5	677.1	649.1	615.3	583.7
55	618.9	599.2	569.6	535.3	502.5
60	531.9	511.0	480.5	445.9	414.3
65	437.0	414.2	384.3	351.6	322.1
70	336.4	314.3	286.6	255.6	228.3
75	236.3	214.6	189.7	162.0	138.0
80	138.8	120.5	100.3	77.8	59.4
85	55.4	43.3	28.8	15.3	7.7
90	7.4	3.4	2.5	7.5	19.0
95	21.7	28.3	42.5	59.8	73.2
100	84.1	99.5	119.9	140.5	154.6
105	168.6	189.5	208.7	230.2	241.8
110	260.5	268.7	300.4	321.2	327.7
115	351.7	359.6	389.2	407.1	415.5
120	431.0	445.2	451.7	475.7	485.5
125	510.2	523.3	527.6	521.1	512.7
130	577.7	590.5	588.3	591.2	588.4
135	631.4	637.6	643.2	640.1	633.2
140	678.0	687.0	687.7	686.8	682.2
145	718.3	724.2	723.5	725.2	755.1
150	753.8	762.8	771.2	787.1	798.0
155	781.6	790.7	816.2	829.0	826.4
160	835.1	848.5	852.5	857.4	851.0
165	802.2	800.4	784.8	773.1	768.5
170	747.3	743.7	726.5	713.9	708.7
175	645.8	664.8	682.1	693.5	710.5
180	846.2	845.4	854.2	844.9	861.8

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH14930XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLCH14930XX		
0-30	786.6	14.3
0-40	1295.8	23.5
0-60	2312.9	41.9
0-90	2890.0	52.4
60-90	577.1	10.5
0-180	5519.3	100.0

Beam Angle

Total Beam Angle(°)

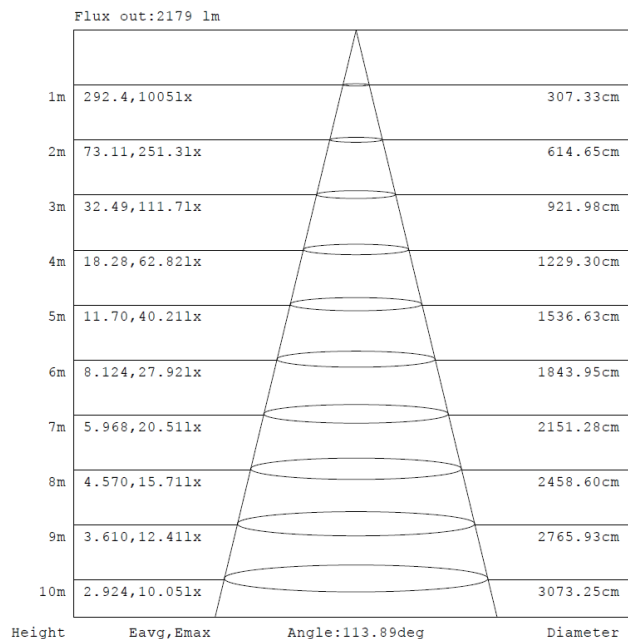
360.0

Illumination Plots

Model No.: SLCH14930XX

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.

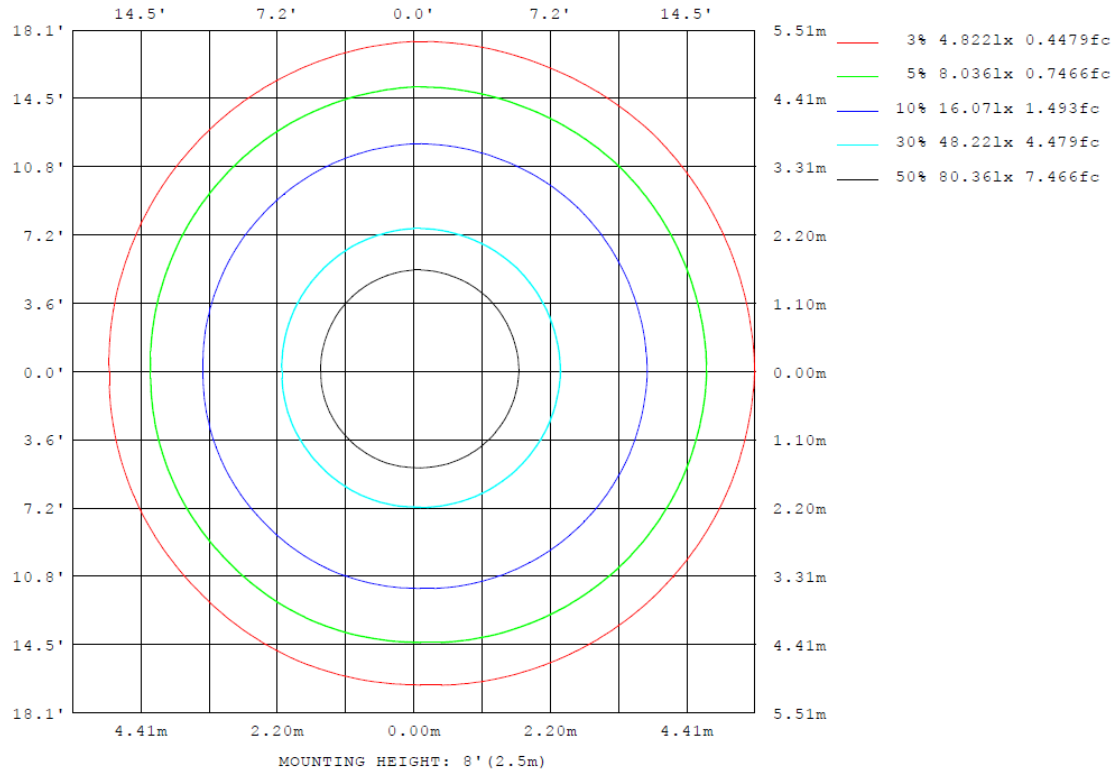
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH14930XX

Model No.: SLCH14930XX
Mount Height: 2.5 m
Isoillumination Plot



TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH14930XX

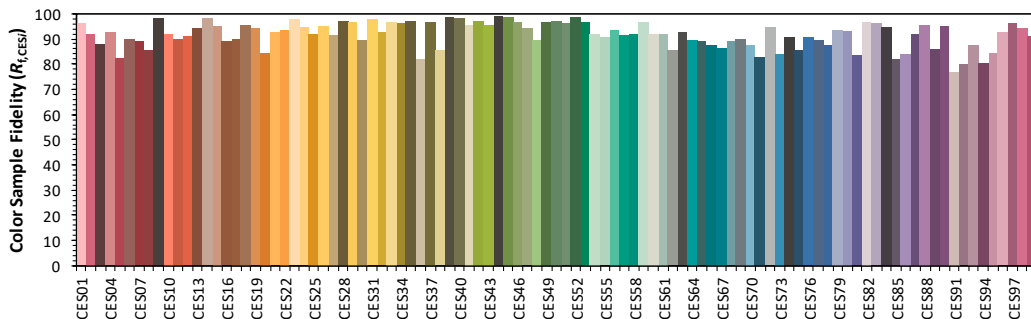
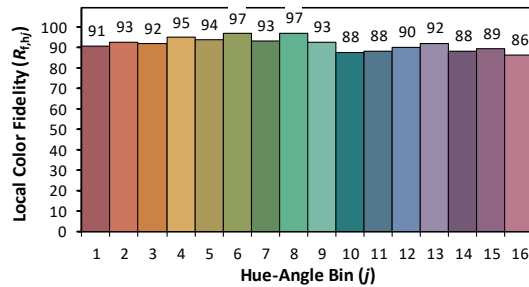
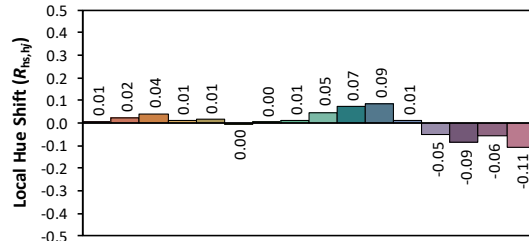
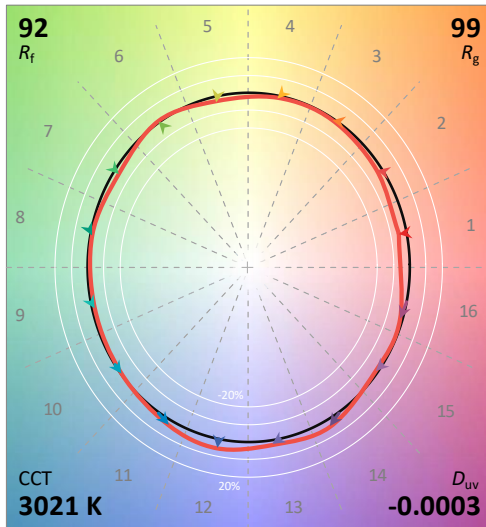
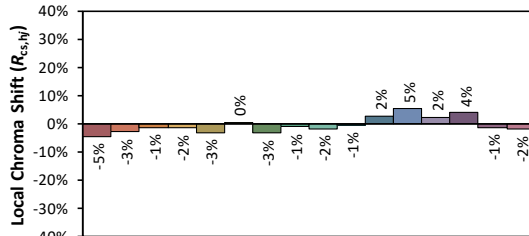
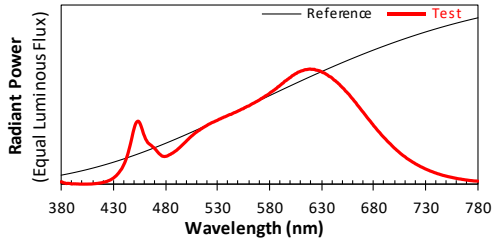
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/3/12

Model: SLCH14930xx



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

x 0.4350
 y 0.4027
 u' 0.2500
 v' 0.5205

CIE 13.3-1995
(CRI)
 R_a 93
 R_g 61

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

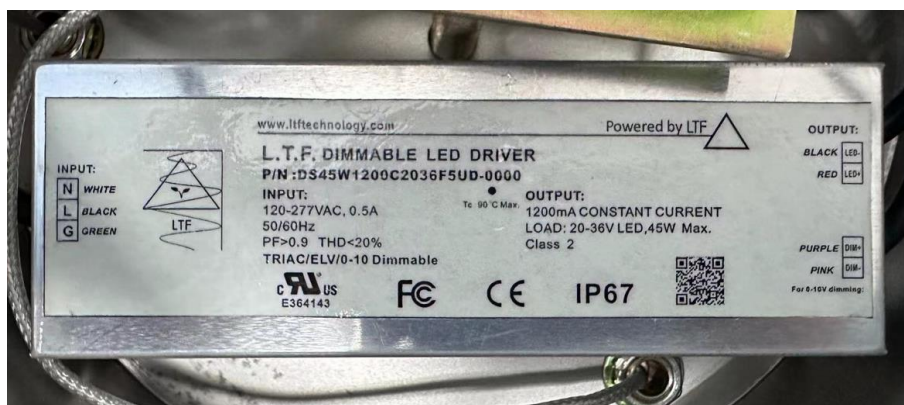
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLCH14930XX



View of LED driver DS45W-1200C2036F5UD-0000

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED board

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

***** End of Report *****