

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240621176GZU-017

ISSUE DATE

08 October 2024

REVISION DATE

Modification 1: 06 November 2024

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLCH24727XX

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: QGZ240620045.
<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 SLCH24727XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240621176-015.
<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>	04 September 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:	SLCH24727XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLCH24727XX

Criteria	Result
Total Lumen Output	3866.1 lm
Total Power	70.4 W
Luminaire Efficacy	54.9 lm/W
S/MH(C0/180)	1.59
S/MH(C90/270)	1.60
Correlated Color Temperature (CCT)	2614 K
Color Rendering Index (CRI)	95
R9	73
Chromaticity Coordinate (x)	0.4652
Chromaticity Coordinate (y)	0.4089
Chromaticity Coordinate (u')	0.2667
Chromaticity Coordinate (v')	0.5275

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240621176GZU-017 issued on 08 October 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page 1 and 2 of the report.

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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	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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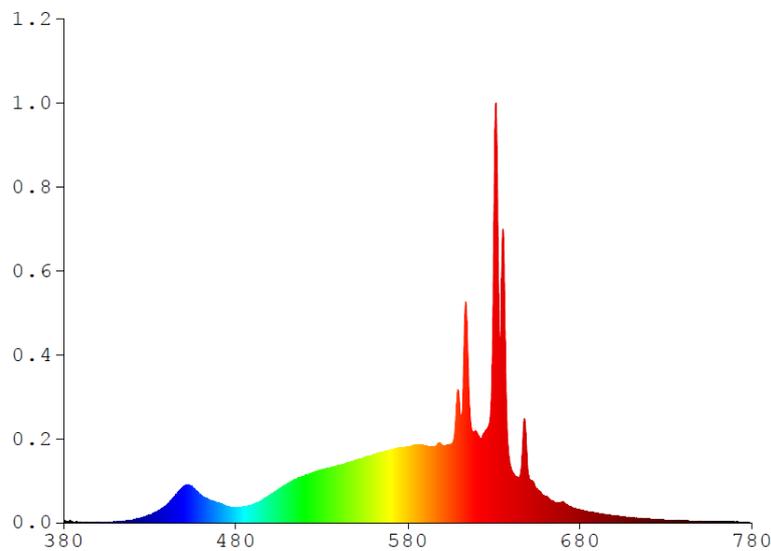
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLCH24727XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	2.0192	480	14.3980	580	72.769	680	12.4470	780	0.0000
385	1.1788	485	15.3220	585	74.448	685	10.5450		
390	0.5432	490	17.6560	590	73.690	690	9.0521		
395	0.1524	495	21.3600	595	72.292	695	7.7505		
400	0.3686	500	26.6510	600	73.843	700	6.6171		
405	0.5504	505	32.0880	605	74.867	705	5.7164		
410	0.7080	510	37.0560	610	110.190	710	4.9660		
415	1.6033	515	41.7310	615	145.800	715	4.1670		
420	2.6923	520	44.9710	620	86.206	720	3.5721		
425	4.7473	525	47.9950	625	87.693	725	3.0448		
430	7.6723	530	50.7270	630	304.200	730	2.6365		
435	11.3320	535	52.5090	635	278.100	735	2.2547		
440	17.3490	540	54.9220	640	51.213	740	1.9694		
445	26.4950	545	57.3160	645	44.548	745	1.7342		
450	35.1270	550	59.8060	650	45.741	750	1.4298		
455	33.4550	555	62.4470	655	31.936	755	1.3151		
460	26.1210	560	65.0160	660	25.468	760	1.1957		
465	21.4520	565	67.6750	665	19.843	765	0.9873		
470	18.8040	570	69.5250	670	19.923	770	0.7753		
475	15.7950	575	71.2650	675	14.163	775	0.7458		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24727XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

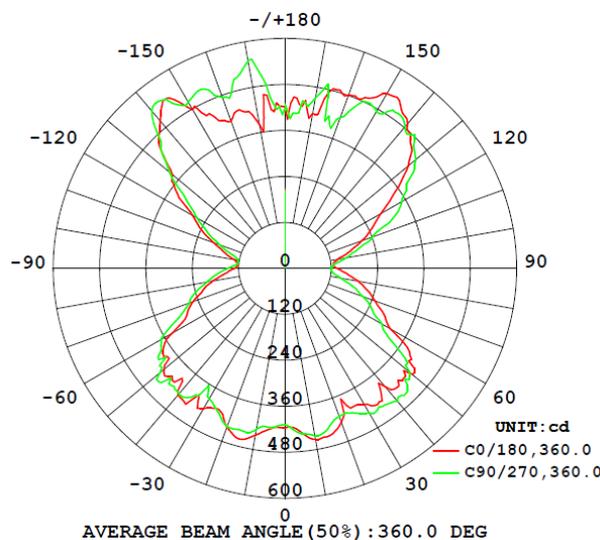
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31' Chromaticity Coordinate		CIE 76' Chromaticity Coordinate	
					(x)	(y)	(u')	(v')
SLCH24727XX								
S240621176-015	base-up	2614	95	73	0.4652	0.4089	0.2667	0.5275

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)
SLCH24727XX							
S240621176-015	base-up	120.0	594.1	70.4	0.987	3866.1	54.9

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24727XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	416.2	415.5	414.0	417.0	407.7
5	425.6	436.7	445.7	442.3	431.2
10	453.4	442.7	460.7	443.1	443.2
15	451.6	438.5	441.5	427.5	432.7
20	426.7	409.0	407.4	398.6	411.1
25	402.2	384.6	394.2	400.5	415.2
30	409.9	419.4	377.1	432.9	435.1
35	424.9	412.2	429.7	441.4	440.0
40	402.3	436.7	424.2	374.9	452.4
45	413.9	406.0	409.2	374.1	450.1
50	430.4	381.6	397.4	381.5	422.0
55	395.5	342.9	362.2	342.0	345.1
60	314.3	298.8	284.4	282.5	289.6
65	282.5	263.4	257.7	237.7	247.1
70	248.7	236.5	223.5	210.7	214.7
75	220.2	202.1	188.4	178.1	180.7
80	193.3	169.4	155.1	148.0	146.2
85	160.9	136.7	120.5	124.6	123.7
90	135.5	120.0	115.3	120.3	120.2
95	125.5	129.9	125.2	128.4	128.9
100	138.7	144.3	149.8	156.1	160.7
105	174.3	184.3	178.3	186.7	194.9
110	211.3	222.8	221.7	233.3	241.2
115	248.2	273.7	275.3	295.6	307.1
120	286.7	320.5	340.8	341.8	348.6
125	348.2	387.6	380.9	401.8	384.2
130	416.7	434.7	427.3	438.5	442.9
135	459.9	477.2	457.9	445.2	475.4
140	493.9	510.0	511.6	455.7	483.3
145	521.2	485.6	488.5	456.3	497.8
150	527.2	441.2	434.3	473.6	473.3
155	491.9	425.5	410.6	438.2	481.6
160	482.1	417.9	389.8	428.3	419.1
165	485.7	400.1	359.5	434.7	397.6
170	410.1	456.7	453.2	436.3	451.1
175	430.4	416.6	419.6	420.9	407.7
180	422.0	423.8	383.1	413.7	428.7

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24727XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLCH24727XX		
0-30	354.5	9.2
0-40	619.0	16.0
0-60	1267.1	32.8
0-90	1935.2	50.1
60-90	668.1	17.3
0-180	3866.1	100.0

Beam Angle

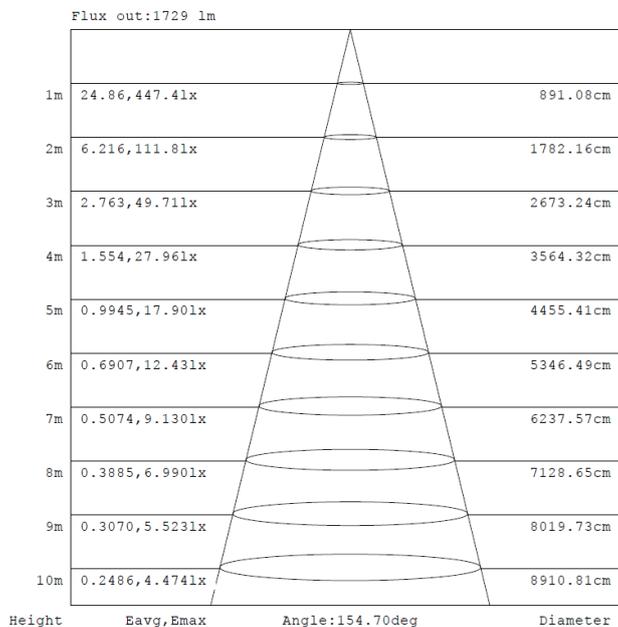
Total Beam Angle(°)
360.0

Illumination Plots

Model No.: SLCH24727XX

Mount Height: 2.5 m

Illuminance - Cone of Light



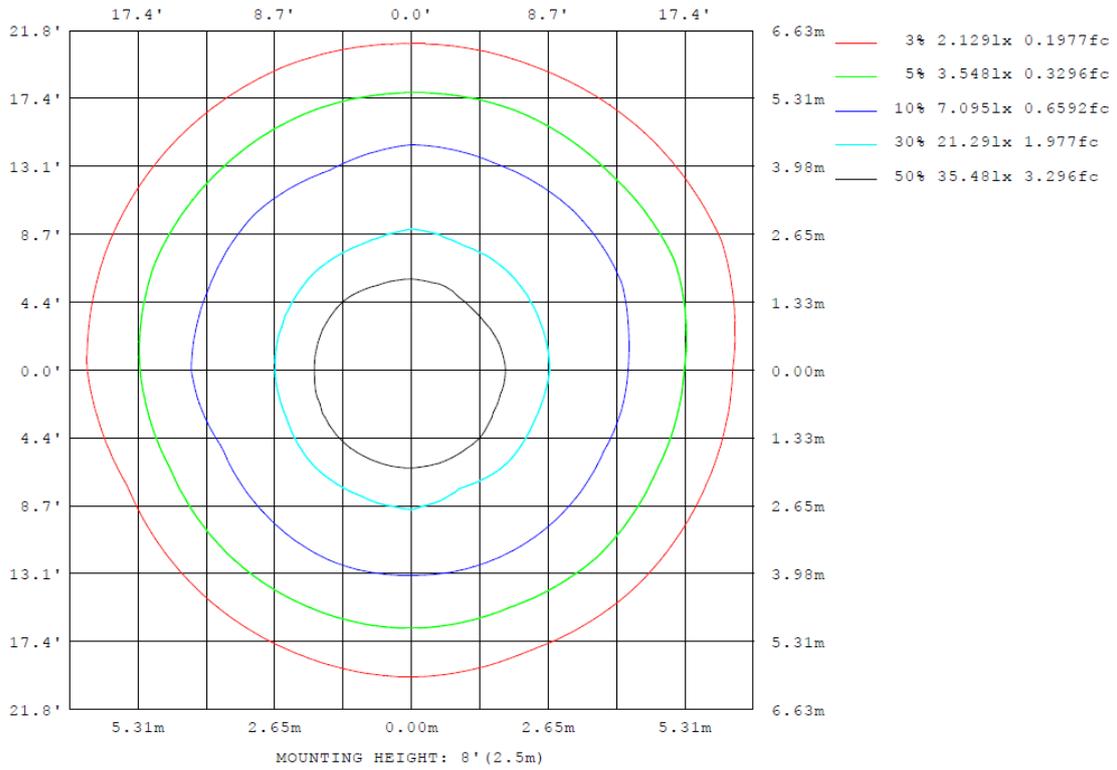
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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TEST REPORT
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24727XX

Model No.: SLCH24727XX
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

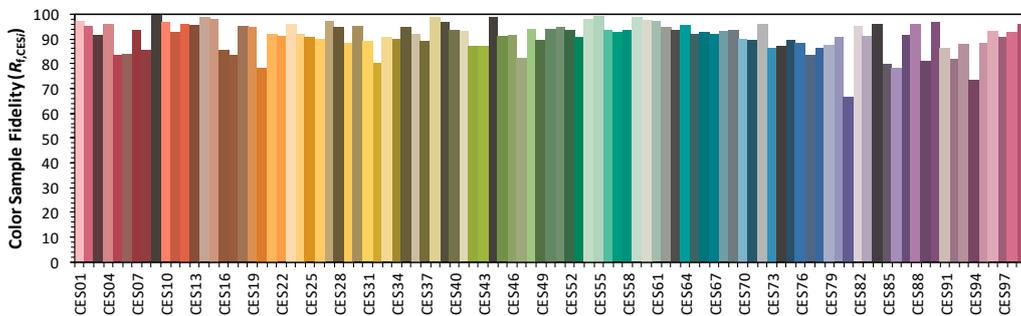
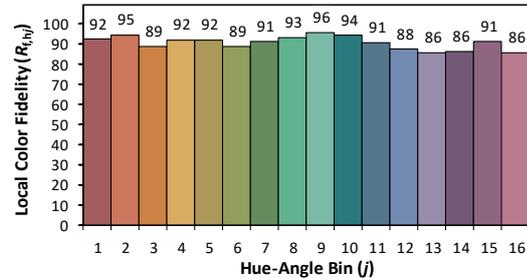
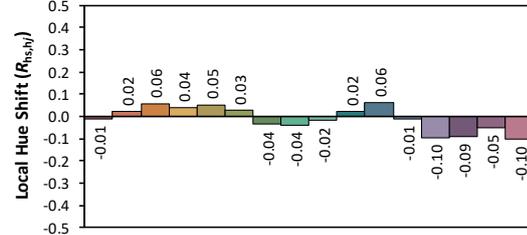
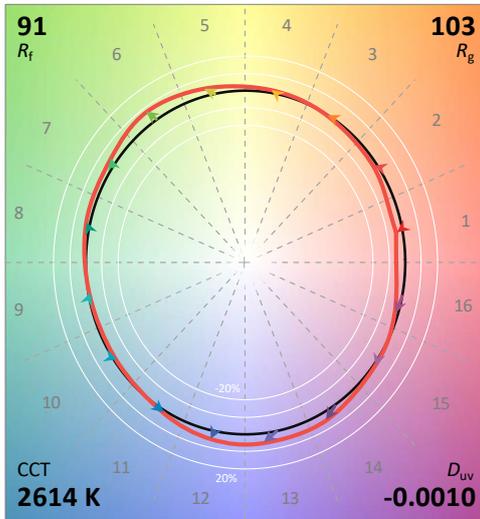
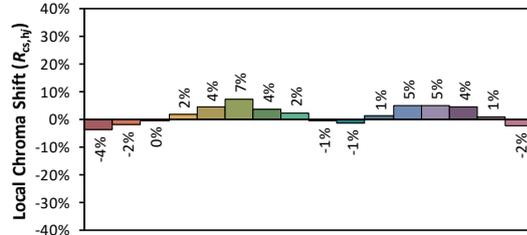
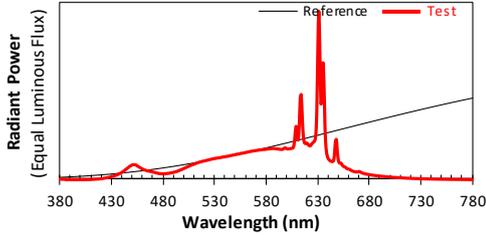
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH24727XX

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
Date: 2024/9/4

Manufacturer: Visual Comfort and Company
Model: SLCH24727XX



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.	x	0.4652	CIE 13.3-1995 (CRI) R_a 95 R_g 73
	y	0.4089	
	u'	0.2667	
	v'	0.5275	

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

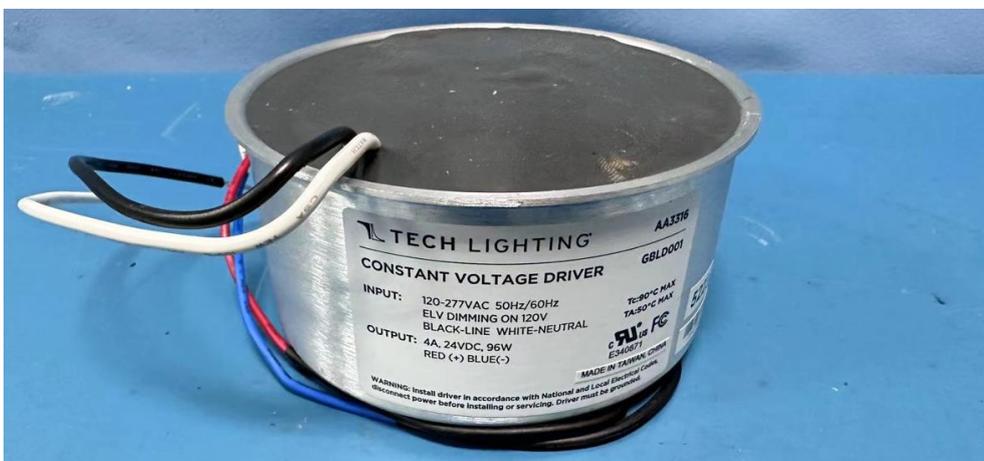
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLCH24727XX



View of LED driver GBLD001

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