

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240621176GZU-008

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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Report No.: 240621176GZU-008
Modification 1: 06 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWLS34827XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

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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 KWLS34827XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240621176-006.
<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>	26 July 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:	KWLS34827XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWLS34827XX

Criteria	Result
Total Lumen Output	398.4 lm
Total Power	46.9 W
Luminaire Efficacy	8.5 lm/W
S/MH(C0/180)	1.49
S/MH(C90/270)	0.39
Correlated Color Temperature (CCT)	2669 K
Color Rendering Index (CRI)	94
R9	66
Chromaticity Coordinate (x)	0.4600
Chromaticity Coordinate (y)	0.4068
Chromaticity Coordinate (u')	0.2643
Chromaticity Coordinate (v')	0.5259

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240621176GZU-008 issued on 08 October 2024, correct the manufacturer information on page 2 of the report.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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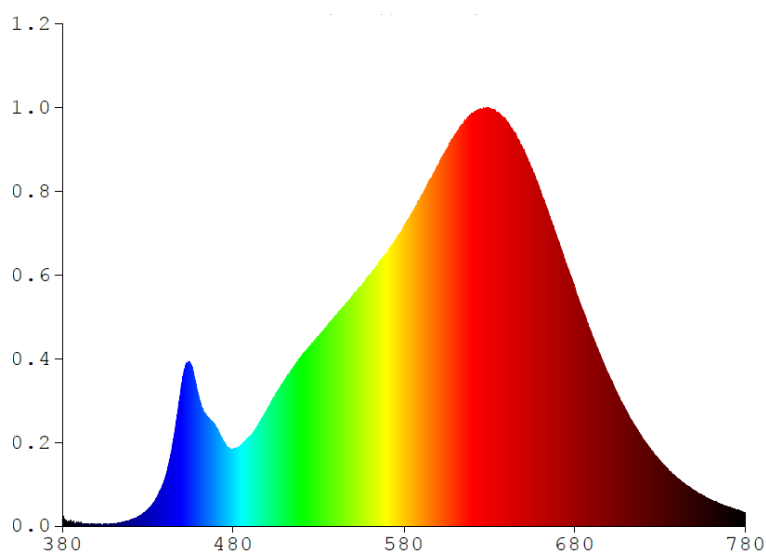
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWLS34827XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0235	480	0.3058	580	1.1940	680	0.9460	780	0.0516
385	0.0213	485	0.3241	585	1.2487	685	0.8524		
390	0.0109	490	0.3592	590	1.3126	690	0.7588		
395	0.0036	495	0.4077	595	1.3773	695	0.6750		
400	0.0071	500	0.4672	600	1.4379	700	0.5985		
405	0.0089	505	0.5269	605	1.4996	705	0.5236		
410	0.0102	510	0.5800	610	1.5590	710	0.4584		
415	0.0139	515	0.6286	615	1.6046	715	0.3999		
420	0.0249	520	0.6743	620	1.6426	720	0.3456		
425	0.0395	525	0.7174	625	1.6571	725	0.2998		
430	0.0665	530	0.7527	630	1.6589	730	0.2597		
435	0.1095	535	0.7962	635	1.6452	735	0.2219		
440	0.1874	540	0.8380	640	1.6103	740	0.1906		
445	0.3430	545	0.8758	645	1.5649	745	0.1629		
450	0.5670	550	0.9163	650	1.4973	750	0.1412		
455	0.6444	555	0.9542	655	1.4170	755	0.1217		
460	0.5091	560	0.9965	660	1.3328	760	0.1033		
465	0.4329	565	1.0403	665	1.2355	765	0.0884		
470	0.3924	570	1.0860	670	1.1394	770	0.0749		
475	0.3307	575	1.1372	675	1.0214	775	0.0643		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34827XX

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

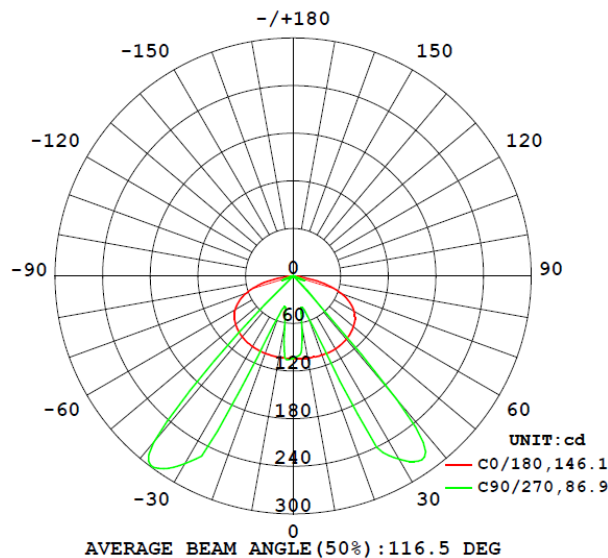
Photometric Measurements at 25°C – Distribution Method

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')
KWLS34827XX								
S2406211 76-006	base-up	2669	94	66	0.4600	0.4068	0.2643	0.5259

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)
KWLS34827XX							
S2406211 76-006	base-up	120.1	395.1	46.9	0.988	398.4	8.5

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34827XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	104.5	104.3	104.1	103.9	103.8
5	104.8	103.4	101.6	100.2	99.5
10	105.2	102.0	93.8	71.1	62.7
15	105.6	100.3	60.5	42.4	41.1
20	106.1	92.7	42.5	46.5	53.9
25	106.5	72.6	45.4	103.3	192.7
30	106.2	52.9	74.4	253.5	266.7
35	105.5	43.6	227.3	273.7	282.7
40	104.2	43.8	247.9	263.3	202.3
45	102.2	54.8	246.3	43.3	14.4
50	99.3	101.9	173.3	2.5	2.7
55	95.3	176.7	18.0	3.1	3.4
60	88.5	161.3	3.2	4.2	5.1
65	78.7	115.6	4.0	8.1	11.2
70	64.5	4.3	7.6	15.5	11.7
75	44.9	4.0	17.1	4.5	2.8
80	20.0	9.6	2.6	1.1	0.9
85	3.1	1.6	0.5	0.3	0.2
90	0.0	0.1	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0
105	0.0	0.1	0.0	0.0	0.0
110	0.0	0.1	0.1	0.0	0.0
115	0.1	0.1	0.1	0.1	0.1
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	0.1	0.1	0.1	0.2
135	0.1	0.1	0.2	0.2	0.2
140	0.1	0.1	0.2	0.2	0.2
145	0.2	0.1	0.3	0.3	0.3
150	0.2	0.2	0.3	0.4	0.4
155	0.2	0.2	0.2	0.5	0.6
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

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34827XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWLS34827XX		
0-30	74.6	18.7
0-40	185.5	46.6
0-60	341.9	85.8
0-90	397.7	99.8
60-90	55.8	14.0
0-180	398.4	100.0

Beam Angle

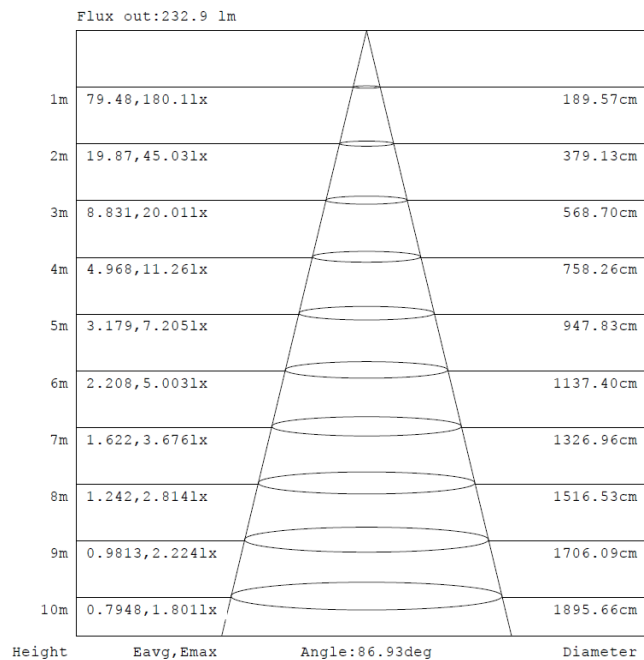
Total Beam Angle(°)
116.5

Illumination Plots

Model No.: KWLS34827XX

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.

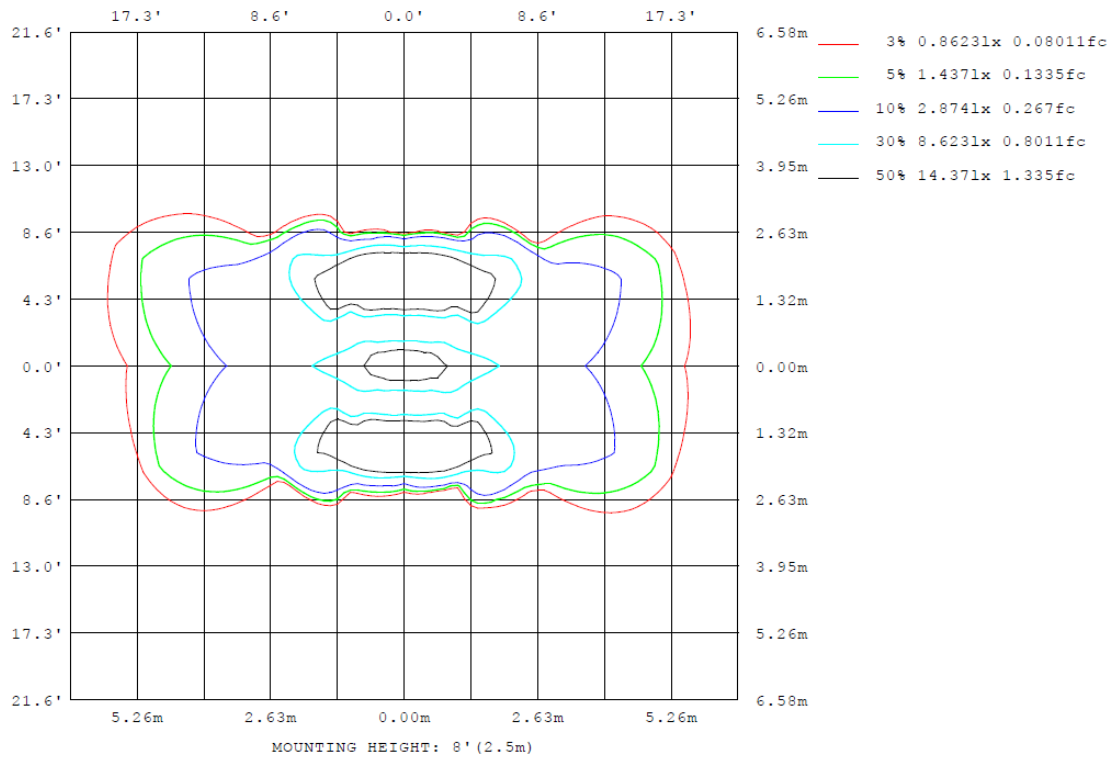
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34827XX

Model No.: KWLS34827XX
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34827XX

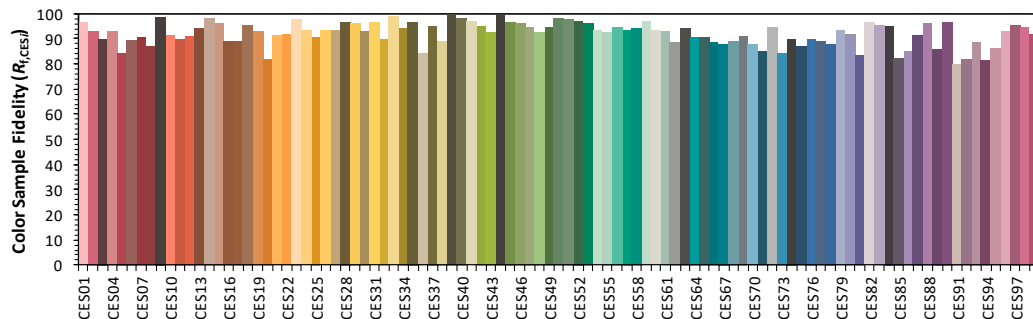
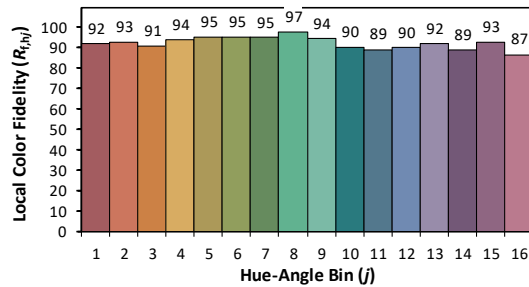
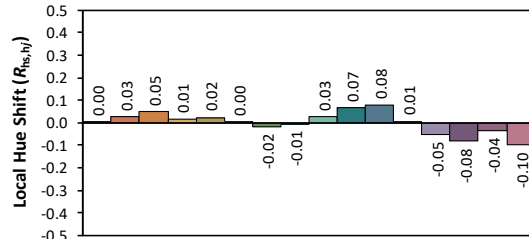
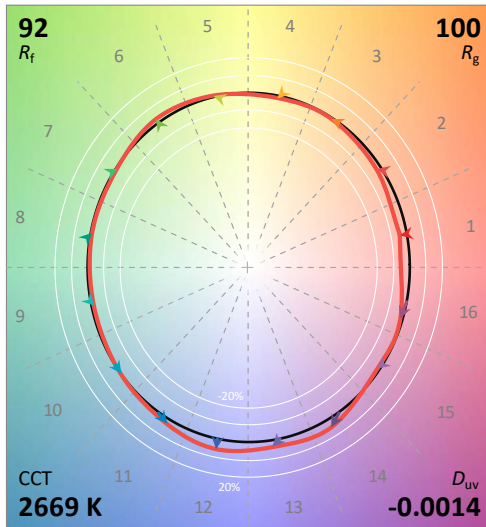
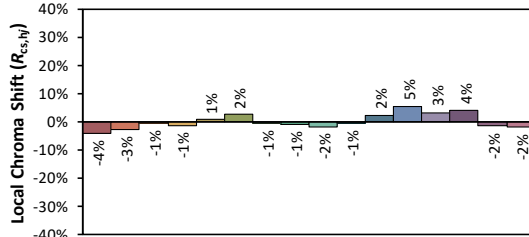
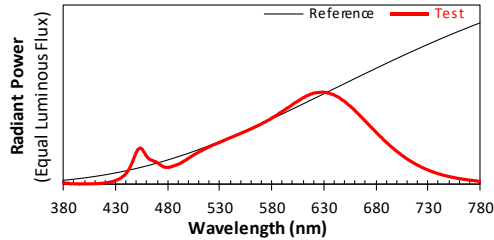
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/7/26

Model: KWLS34827XX



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

x 0.4600
 y 0.4068
 u' 0.2643
 v' 0.5259

CIE 13.3-1995
(CRI)

R_a 94
 R_g 66

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

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

TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWLS34827XX



External view of KWLS34827XX



View of LED driver DS50W1200C2042UD-0000

***** 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 *****