

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241115147GZU-005

ISSUE DATE

22 January 2025

REVISION DATE

None

NUMBER OF PAGES

12

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 241115147GZU-005

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWTB32827XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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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: QGZ241112051.
<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 KWTB32827XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241115147-008.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Shao Guan Weng Yuan Pearly Gates Furniture Manufacturing Co., Ltd. GuanYing Industrial Park, GuanDu Economic Development Experimental Zone, Weng Yuan County, Guang Dong Province, PRC. 512625.
<u>DATES OF TESTS:</u>	12 December 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:	KWTB32827XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWTB32827XX

Criteria	Result
Total Lumen Output	516.8 lm
Total Power	32.0 W
Luminaire Efficacy	16.2 lm/W
S/MH(C0/180)	1.24
S/MH(C90/270)	1.20
Correlated Color Temperature (CCT)	2595 K
Color Rendering Index (CRI)	93
R9	57
Chromaticity Coordinate (x)	0.4668
Chromaticity Coordinate (y)	0.4092
Chromaticity Coordinate (u')	0.2676
Chromaticity Coordinate (v')	0.5279

Remark:

N/A

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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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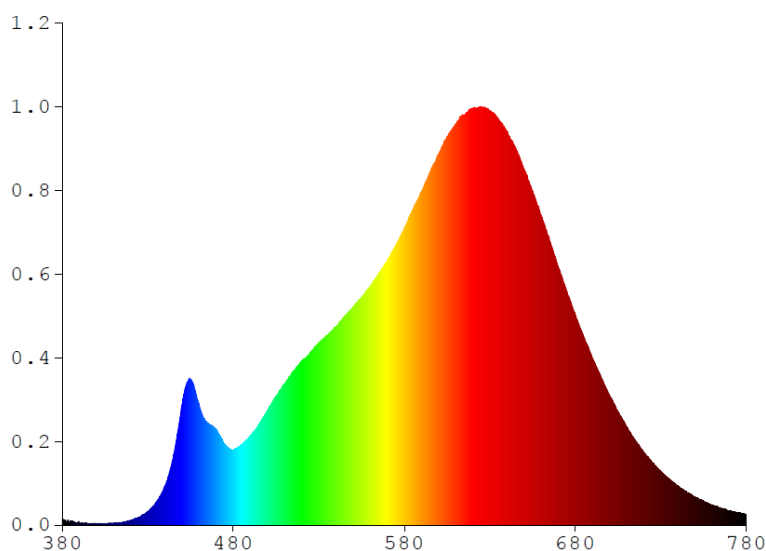
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWTB32827XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.4529	480	5.2591	580	20.7250	680	14.6230	780	0.7557
385	0.2555	485	5.6391	585	22.0110	685	13.0800		
390	0.1615	490	6.2343	590	23.2390	690	11.6250		
395	0.0935	495	6.9982	595	24.6260	695	10.2920		
400	0.0854	500	8.0134	600	25.9020	700	9.0062		
405	0.1057	505	9.0149	605	27.1040	705	7.8885		
410	0.1445	510	9.8752	610	28.0080	710	6.8294		
415	0.2016	515	10.7200	615	28.6120	715	5.9259		
420	0.3510	520	11.4370	620	29.0390	720	5.0872		
425	0.5531	525	12.0490	625	29.1550	725	4.3748		
430	0.9570	530	12.6910	630	28.9170	730	3.7497		
435	1.5839	535	13.2560	635	28.3610	735	3.1907		
440	2.7195	540	13.8430	640	27.4720	740	2.7155		
445	4.8295	545	14.5550	645	26.3040	745	2.3105		
450	8.3527	550	15.1990	650	24.8160	750	1.9692		
455	10.1630	555	15.8820	655	23.2190	755	1.6753		
460	8.3462	560	16.6300	660	21.5960	760	1.3998		
465	7.0479	565	17.5590	665	19.7860	765	1.1957		
470	6.6428	570	18.4000	670	17.9660	770	1.0076		
475	5.6263	575	19.5260	675	15.9610	775	0.8746		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32827XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

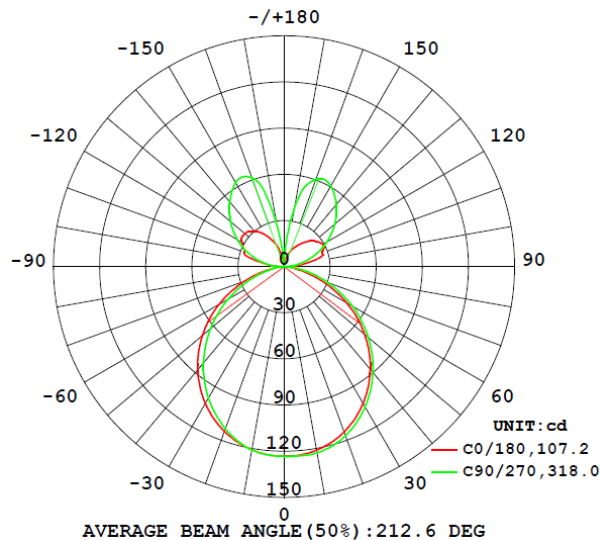
Photometric Measurements at 25°C – Distribution Method

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')
KWTB32827XX								
S2411151 47-008	base-up	2605	93	57	0.4668	0.4092	0.2676	0.5279

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	Lumen Efficacy
						Flux (Lumens)	(Lumens Per Watt)
KWTB32827XX							
S2411151 47-008	base-up	120.1	270.8	32.0	0.982	516.8	16.2

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32827XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	123.4	123.4	123.4	123.4	123.4
5	122.9	123.0	123.3	123.4	123.5
10	121.1	121.5	122.2	122.9	122.9
15	118.3	119.1	120.2	120.6	120.7
20	114.3	115.6	116.5	116.9	116.9
25	109.0	110.7	111.5	111.6	111.7
30	102.7	104.4	105.0	105.2	105.3
35	95.3	97.2	97.6	97.8	98.0
40	87.1	88.8	89.3	89.6	89.9
45	78.2	79.5	80.2	80.5	81.0
50	68.4	69.6	70.4	70.9	71.5
55	58.0	59.0	60.1	60.7	61.5
60	47.0	48.1	49.5	50.1	51.2
65	35.6	37.0	38.7	39.5	40.7
70	24.6	26.3	28.2	29.2	30.3
75	14.6	16.3	18.3	19.5	20.6
80	6.6	8.0	9.8	11.0	11.9
85	1.4	2.2	3.6	4.8	5.3
90	0.7	0.8	1.0	1.2	1.4
95	7.6	5.1	4.3	3.9	3.6
100	16.2	11.1	9.8	9.3	9.1
105	24.9	17.3	15.6	14.9	14.7
110	26.4	23.6	21.4	20.7	20.5
115	28.5	29.9	27.2	26.4	26.3
120	29.0	36.0	33.0	32.2	32.0
125	27.8	41.7	38.6	37.7	37.6
130	26.2	47.1	44.1	43.1	43.0
135	24.1	51.3	48.5	48.0	48.1
140	20.9	53.9	53.0	52.1	52.9
145	18.0	54.1	57.3	55.9	57.1
150	15.2	51.1	60.1	59.8	60.8
155	12.6	43.7	59.0	61.6	62.5
160	9.7	34.1	55.3	59.4	60.5
165	6.1	23.4	43.4	53.2	54.5
170	2.7	12.8	25.7	34.7	38.2
175	0.6	3.0	8.9	14.4	15.7
180	0.2	0.0	0.0	0.0	0.0

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32827XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWTB32827XX		
0-30	95.4	18.5
0-40	154.8	30.0
0-60	265.7	51.4
0-90	322.8	62.5
60-90	57.1	11.1
0-180	516.8	100.0

Beam Angle

Total Beam Angle(°)

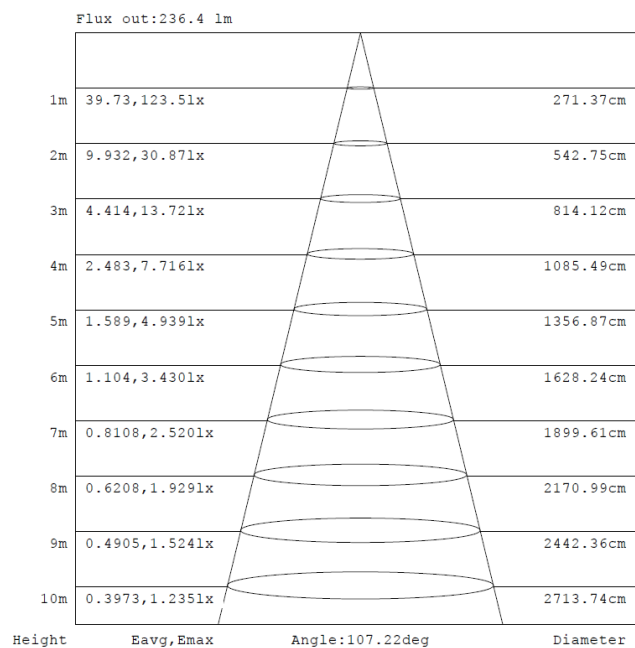
212.6

Illumination Plots

Model No.: KWTB32827XX

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

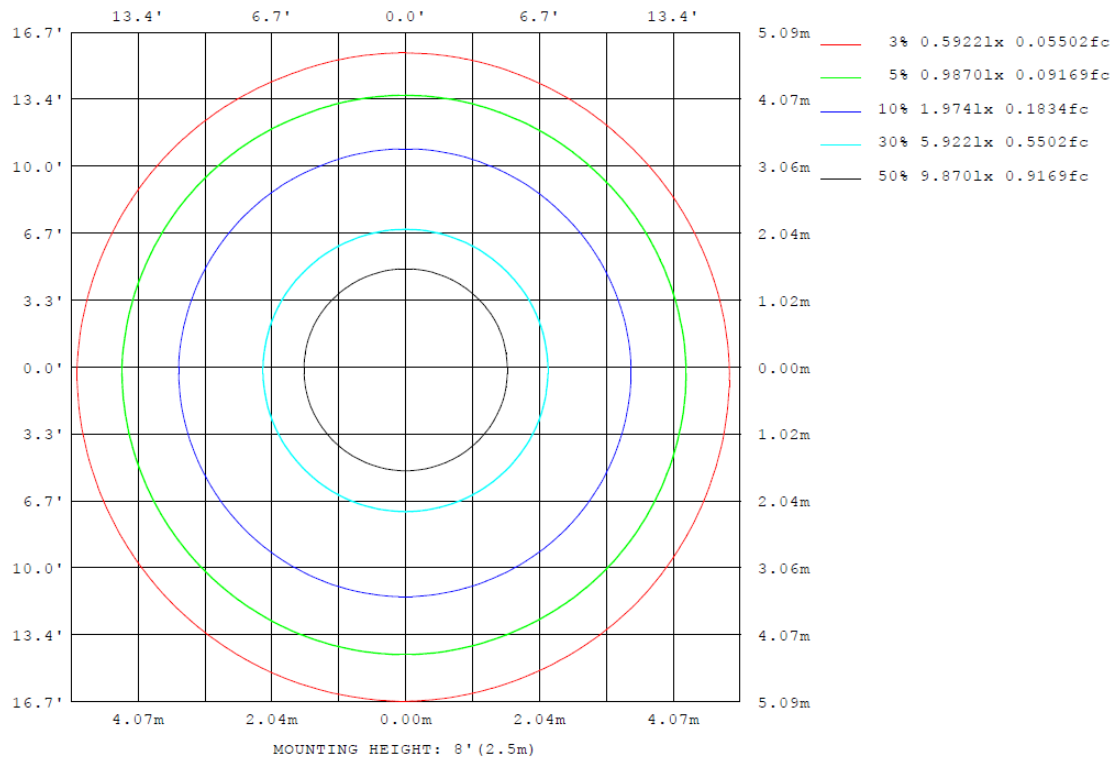
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32827XX

Model No.: KWTB32827XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32827XX

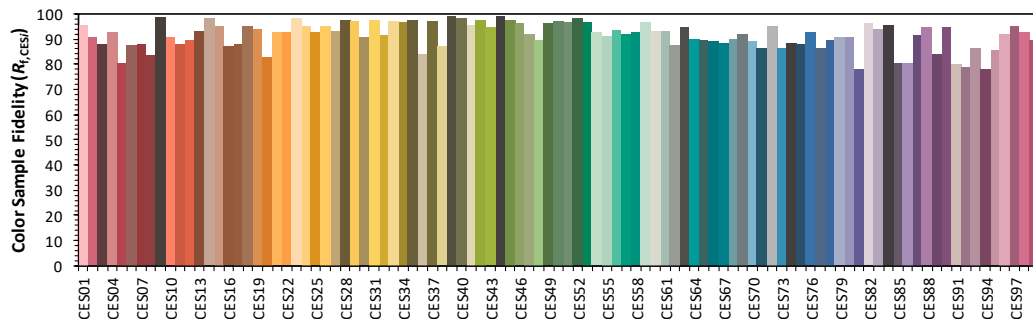
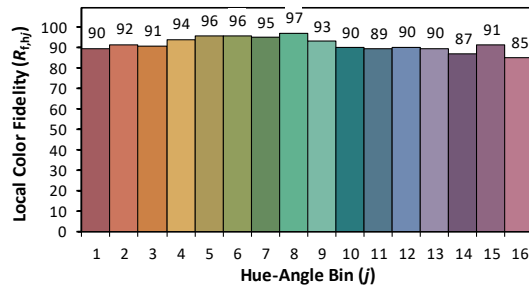
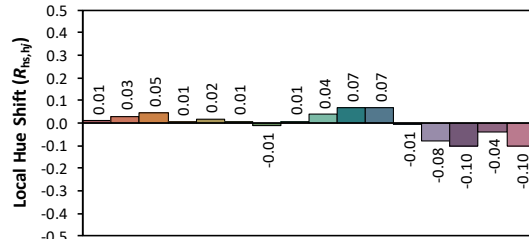
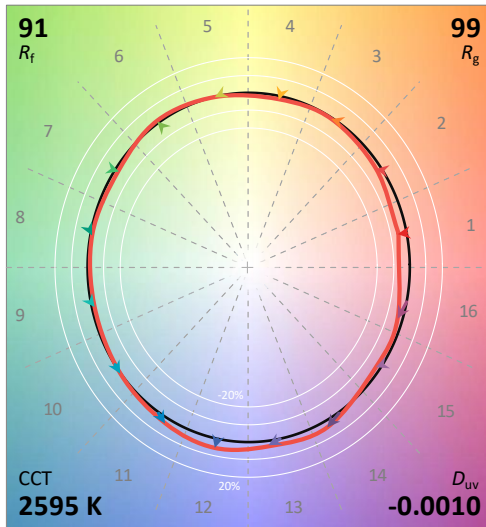
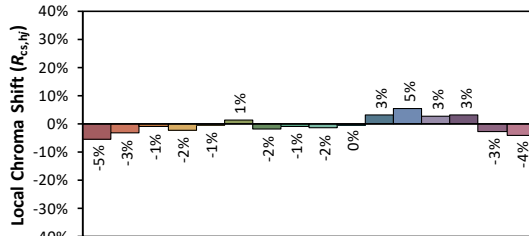
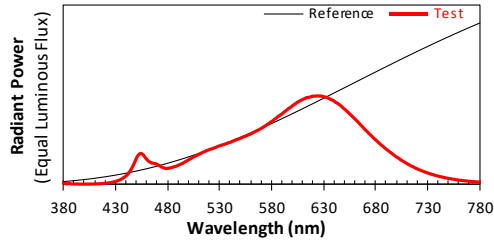
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/12

Model: KWTB32827XX



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

x 0.4668
 y 0.4092
 u' 0.2676
 v' 0.5279

CIE 13.3-1995
(CRI)

R_a 93

R_g 57

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

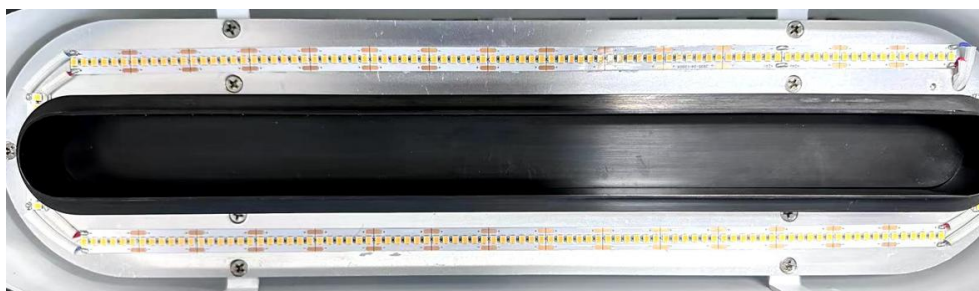
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWTB32827XX



Internal view of KWTB32827XX

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

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