

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241115147GZU-004

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None

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Report format for LM-79_G

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Report No.: 241115147GZU-004

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWTB32727XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

7400 LINDER AVE. SKOKIE, IL, 60077

Email: jrivero@visualcomfort.com

Phone No.: 847-410-4552

<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 KWTB32727XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241115147-007.
<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:	KWTB32727XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWTB32727XX

Criteria	Result
Total Lumen Output	280.1 lm
Total Power	21.2 W
Luminaire Efficacy	13.2 lm/W
S/MH(C0/180)	1.19
S/MH(C90/270)	1.26
Correlated Color Temperature (CCT)	2605 K
Color Rendering Index (CRI)	93
R9	57
Chromaticity Coordinate (x)	0.4661
Chromaticity Coordinate (y)	0.4092
Chromaticity Coordinate (u')	0.2672
Chromaticity Coordinate (v')	0.5278

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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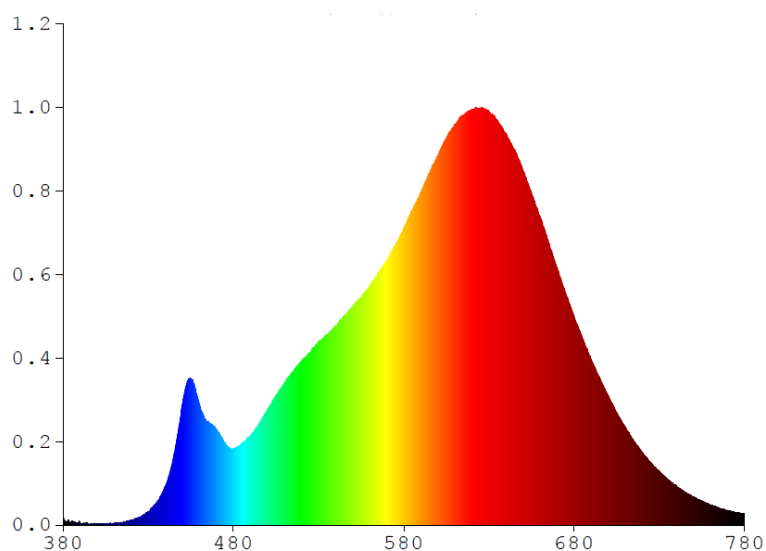
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWTB32727XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.4020	480	4.2341	580	16.3390	680	11.4290	780	0.6336
385	0.1990	485	4.4968	585	17.3570	685	10.2410		
390	0.1117	490	4.9436	590	18.3410	690	9.1175		
395	0.0658	495	5.5659	595	19.3720	695	8.0850		
400	0.0636	500	6.3687	600	20.3530	700	7.0850		
405	0.0739	505	7.1414	605	21.3130	705	6.1661		
410	0.0984	510	7.8295	610	22.0820	710	5.3719		
415	0.1345	515	8.4548	615	22.5510	715	4.6219		
420	0.2712	520	9.0322	620	22.8680	720	3.9767		
425	0.4456	525	9.5271	625	22.9500	725	3.4376		
430	0.7293	530	10.0860	630	22.7790	730	2.9474		
435	1.2482	535	10.5000	635	22.2680	735	2.5042		
440	2.1409	540	10.9680	640	21.5690	740	2.1318		
445	3.8351	545	11.5310	645	20.6650	745	1.8136		
450	6.6240	550	12.0350	650	19.5060	750	1.5555		
455	8.0487	555	12.5560	655	18.2190	755	1.3237		
460	6.6325	560	13.1280	660	16.9560	760	1.1009		
465	5.6537	565	13.8990	665	15.5390	765	0.9460		
470	5.2746	570	14.5520	670	14.1110	770	0.8081		
475	4.5139	575	15.4130	675	12.4960	775	0.6922		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32727XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

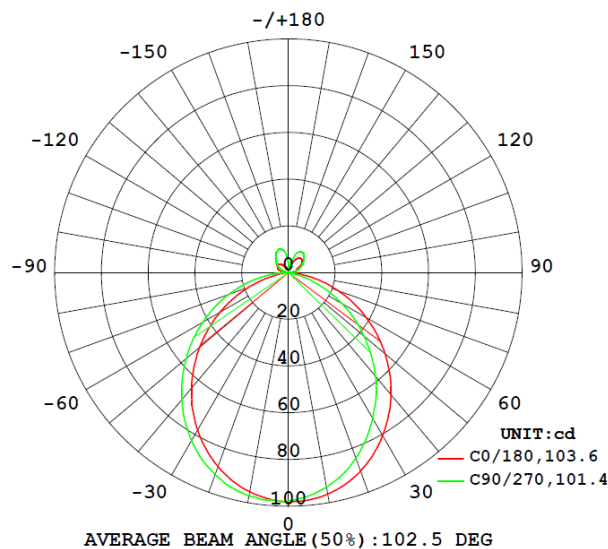
Photometric Measurements at 25°C – Distribution Method

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')
KWTB32727XX								
S2411151 47-007	base-up	2605	93	57	0.4661	0.4092	0.2672	0.5278

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)
KWTB32727XX							
S2411151 47-007	base-up	120.0	182.9	21.2	0.967	280.1	13.2

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32727XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	98.0	98.2	98.2	97.9	97.6
5	97.7	96.9	96.9	96.4	96.0
10	96.3	94.6	94.4	93.6	93.3
15	93.8	91.1	90.7	89.8	89.4
20	90.3	86.6	86.1	85.0	84.5
25	85.9	81.3	80.5	79.2	78.6
30	80.6	75.2	74.3	72.9	72.0
35	74.7	68.5	67.5	66.2	65.3
40	68.4	61.4	60.3	59.0	58.0
45	61.3	53.8	52.7	51.3	50.2
50	53.9	46.0	44.9	43.4	42.1
55	46.3	38.0	37.0	35.5	34.5
60	38.4	30.0	29.0	27.5	26.5
65	30.5	22.1	21.1	19.8	18.8
70	22.7	14.5	13.5	12.3	11.4
75	15.1	7.4	6.6	5.7	4.9
80	7.9	1.7	1.2	0.6	0.3
85	2.1	0.1	0.1	0.1	0.2
90	0.1	0.7	0.8	0.9	1.0
95	0.6	1.8	1.8	1.9	2.0
100	2.0	3.0	2.8	2.9	3.0
105	3.5	4.3	3.9	3.9	4.0
110	3.7	5.5	5.0	5.0	4.9
115	4.2	6.8	6.1	6.0	5.9
120	5.7	8.0	7.1	7.0	6.9
125	7.1	9.2	8.1	7.9	7.8
130	7.8	10.3	9.1	8.9	8.7
135	8.1	11.0	10.0	9.7	9.5
140	8.1	10.9	10.8	10.5	10.3
145	7.7	9.4	11.0	11.0	10.6
150	6.8	7.4	10.5	10.6	10.3
155	5.5	5.8	9.1	9.6	9.6
160	4.2	3.8	6.1	7.5	7.8
165	3.1	1.9	3.1	3.9	4.1
170	1.7	0.5	0.8	1.0	1.1
175	0.6	0.1	0.1	0.1	0.1
180	0.1	0.7	1.4	2.5	2.7

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32727XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWTB32727XX		
0-30	74.1	26.5
0-40	119.2	42.6
0-60	202.5	72.3
0-90	246.6	88.0
60-90	44.1	15.7
0-180	280.1	100.0

Beam Angle

Total Beam Angle(°)

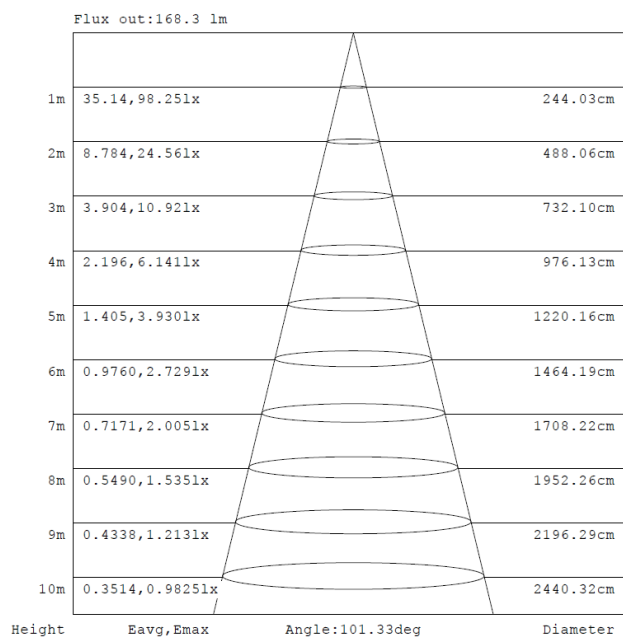
102.5

Illumination Plots

Model No.: KWTB32727XX

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

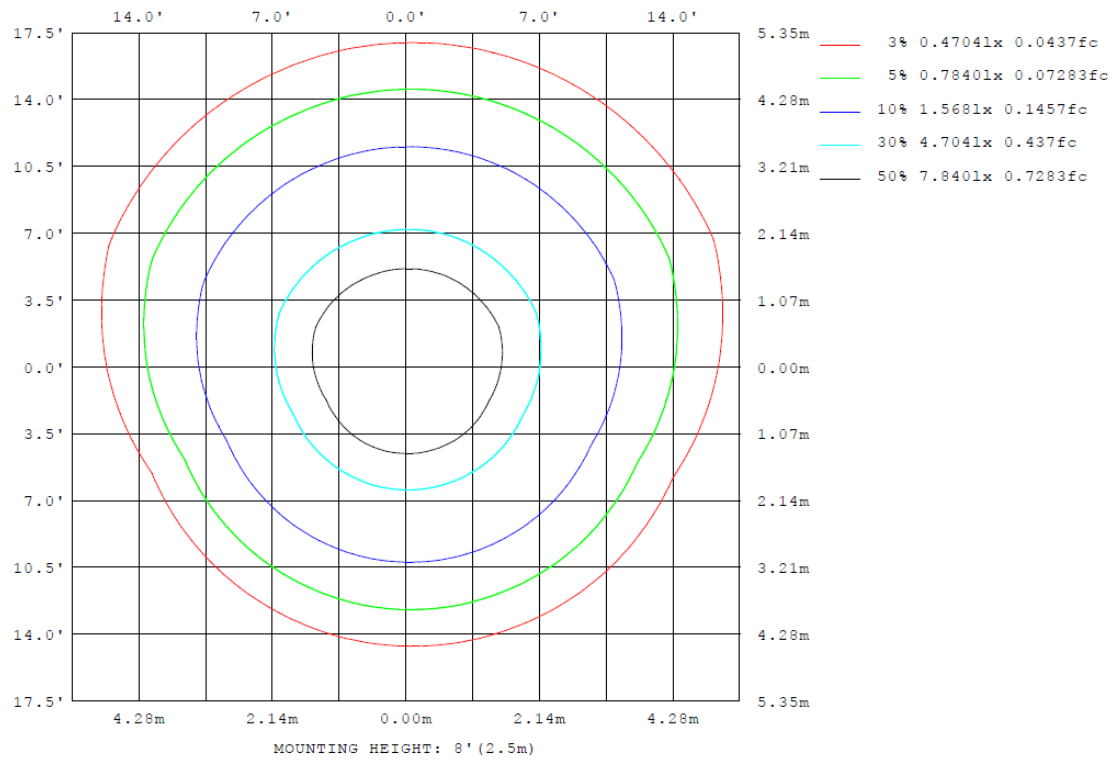
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32727XX

Model No.: KWTB32727XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB32727XX

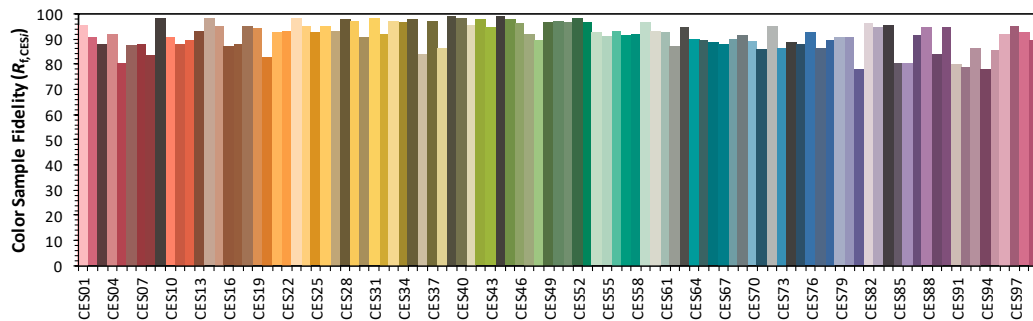
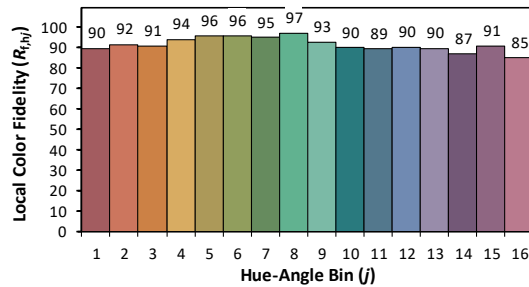
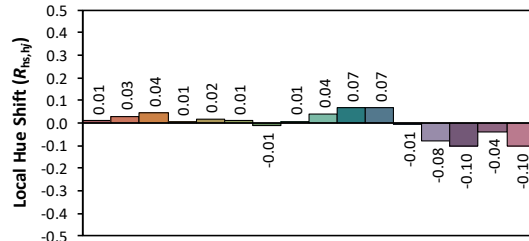
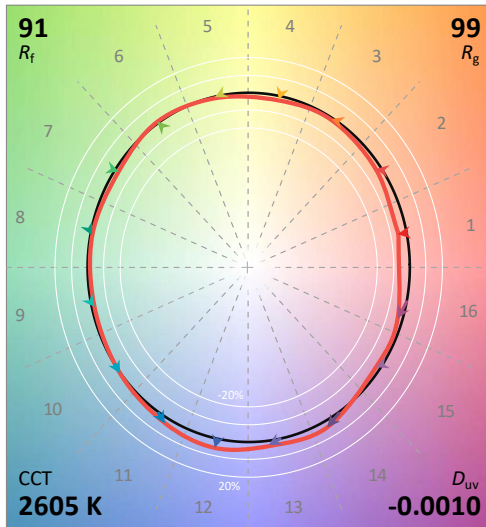
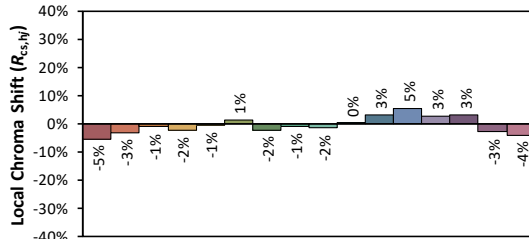
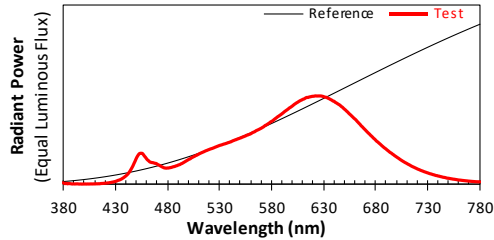
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/12

Model: KWTB32727XX



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

x 0.4661
 y 0.4092
 u' 0.2672
 v' 0.5278

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.

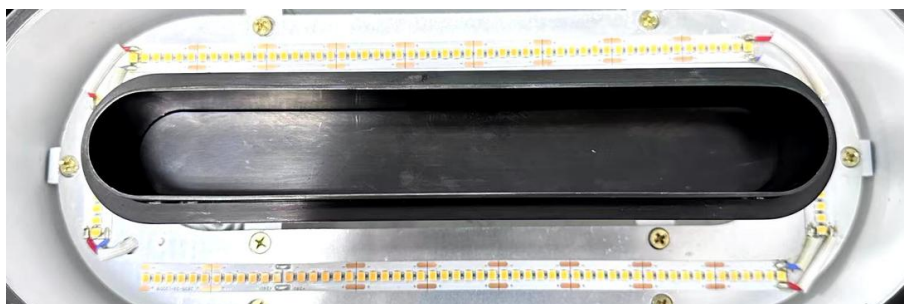
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWTB32727XX



Internal view of KWTB32727XX

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

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