

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241115147GZU-002

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None

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Report format for LM-79_G

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Report No.: 241115147GZU-002

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWTB501XX

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 KWTB501XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241115147-005.
<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>	11 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:	KWTB501XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWTB501XX

Criteria	Result
Total Lumen Output	396.1 lm
Total Power	11.0 W
Luminaire Efficacy	36.1 lm/W
S/MH(C0/180)	0.48
S/MH(C90/270)	0.67
Correlated Color Temperature (CCT)	2546 K
Color Rendering Index (CRI)	91
R9	66
Chromaticity Coordinate (x)	0.4726
Chromaticity Coordinate (y)	0.4125
Chromaticity Coordinate (u')	0.2699
Chromaticity Coordinate (v')	0.5300

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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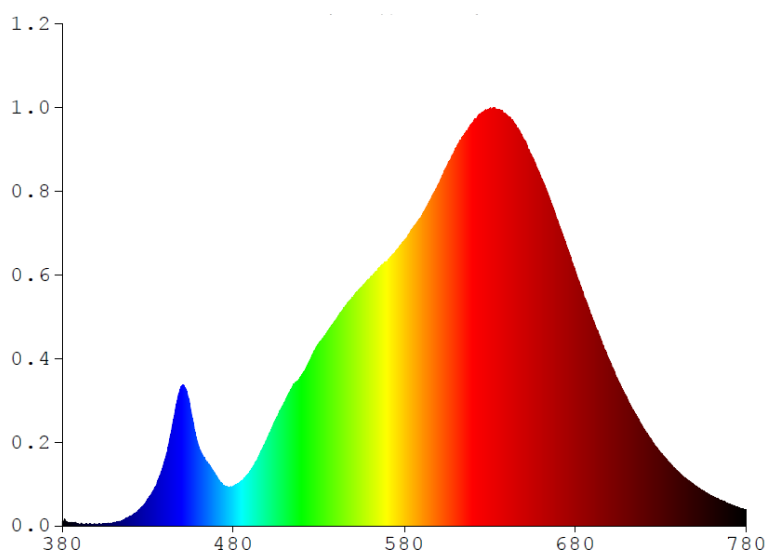
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWTB501XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1621	480	1.6618	580	11.9310	680	10.6130	780	0.6524
385	0.1493	485	1.8979	585	12.4500	685	9.5697		
390	0.0318	490	2.3131	590	12.9350	690	8.6417		
395	0.0504	495	2.9180	595	13.6200	695	7.7338		
400	0.0447	500	3.6862	600	14.2910	700	6.8805		
405	0.0882	505	4.4622	605	15.0490	705	6.0614		
410	0.1355	510	5.1785	610	15.7890	710	5.3409		
415	0.2145	515	5.8763	615	16.3440	715	4.6687		
420	0.4011	520	6.2946	620	16.8280	720	4.0461		
425	0.6789	525	6.9342	625	17.2530	725	3.5064		
430	1.1218	530	7.6256	630	17.4180	730	3.0392		
435	1.6780	535	8.1176	635	17.3880	735	2.6406		
440	2.7591	540	8.6091	640	17.1710	740	2.2674		
445	4.4148	545	9.1324	645	16.7700	745	1.9460		
450	5.8371	550	9.5485	650	16.1420	750	1.6745		
455	4.8213	555	9.9793	655	15.3880	755	1.4508		
460	3.2585	560	10.3360	660	14.5100	760	1.2260		
465	2.6114	565	10.7550	665	13.6750	765	1.0568		
470	2.0993	570	11.0430	670	12.6480	770	0.9128		
475	1.6570	575	11.4790	675	11.4580	775	0.7741		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB501XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

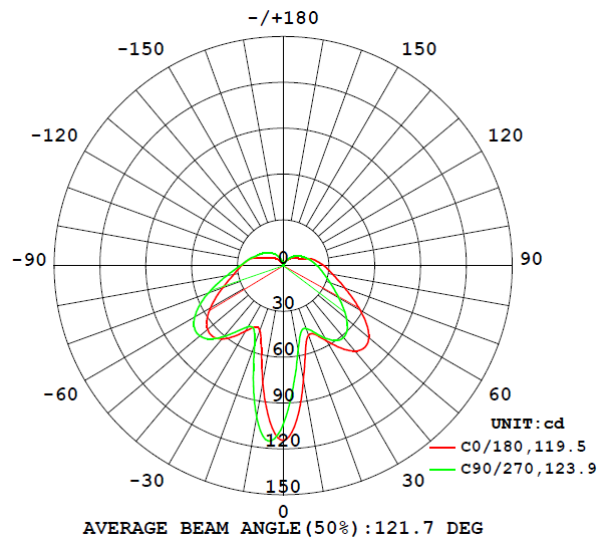
Photometric Measurements at 25°C – Distribution Method

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')
KWTB501XX								
S2411151 47-005	base-up	2546	91	66	0.4726	0.4125	0.2699	0.5300

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
						Flux (Lumens)	Efficacy (Lumens Per Watt)
KWTB501XX							
S2411151 47-005	base-up	120.0	202.8	11.0	0.450	396.1	36.1

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB501XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	114.4	98.5	100.5	102.3	103.6
5	101.3	73.1	74.7	76.6	78.5
10	76.4	54.3	54.7	55.4	56.5
15	56.7	47.2	46.2	45.4	45.2
20	48.5	49.1	47.0	45.1	43.8
25	49.9	56.0	52.9	50.3	48.3
30	56.9	64.0	60.0	57.3	54.7
35	65.9	69.8	65.1	62.6	59.8
40	73.0	71.2	66.2	64.1	61.5
45	75.6	68.0	63.3	61.5	59.2
50	73.1	61.5	57.6	56.0	54.1
55	66.6	53.8	50.8	49.4	47.9
60	58.3	46.5	44.4	43.1	42.0
65	50.0	40.3	38.7	37.7	37.0
70	43.0	35.4	34.0	33.2	32.7
75	37.4	31.4	30.2	29.6	29.3
80	33.0	28.1	27.1	26.7	26.5
85	29.6	25.3	24.6	24.4	24.3
90	26.7	22.8	22.4	22.3	22.2
95	23.9	20.6	20.5	20.5	20.4
100	21.3	18.7	18.8	18.8	18.8
105	18.0	17.0	17.2	17.3	17.3
110	14.1	15.5	15.6	15.6	15.6
115	11.6	14.1	14.2	14.2	14.1
120	10.0	12.7	12.8	12.8	12.7
125	8.9	11.3	11.5	11.4	11.3
130	7.9	9.8	10.1	10.0	9.9
135	6.9	8.4	8.6	8.5	8.5
140	5.9	6.8	7.1	7.0	7.0
145	4.8	5.3	5.5	5.4	5.4
150	3.7	3.7	3.9	3.6	3.7
155	2.6	2.3	2.4	1.9	2.1
160	1.6	1.1	1.1	0.8	1.0
165	0.8	0.3	0.3	0.2	0.3
170	0.3	0.1	0.1	0.1	0.1
175	0.1	0.1	0.1	0.1	0.1
180	0.1	0.1	0.1	0.1	0.1

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB501XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWTB501XX		
0-30	48.8	12.3
0-40	85.3	21.5
0-60	189.6	47.9
0-90	308.9	78.0
60-90	119.3	30.1
0-180	396.1	100.0

Beam Angle

Total Beam Angle(°)

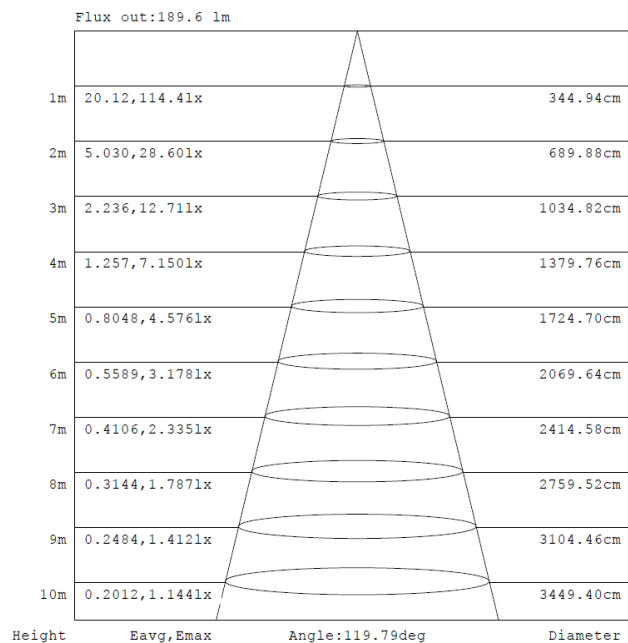
121.7

Illumination Plots

Model No.: KWTB501XX

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

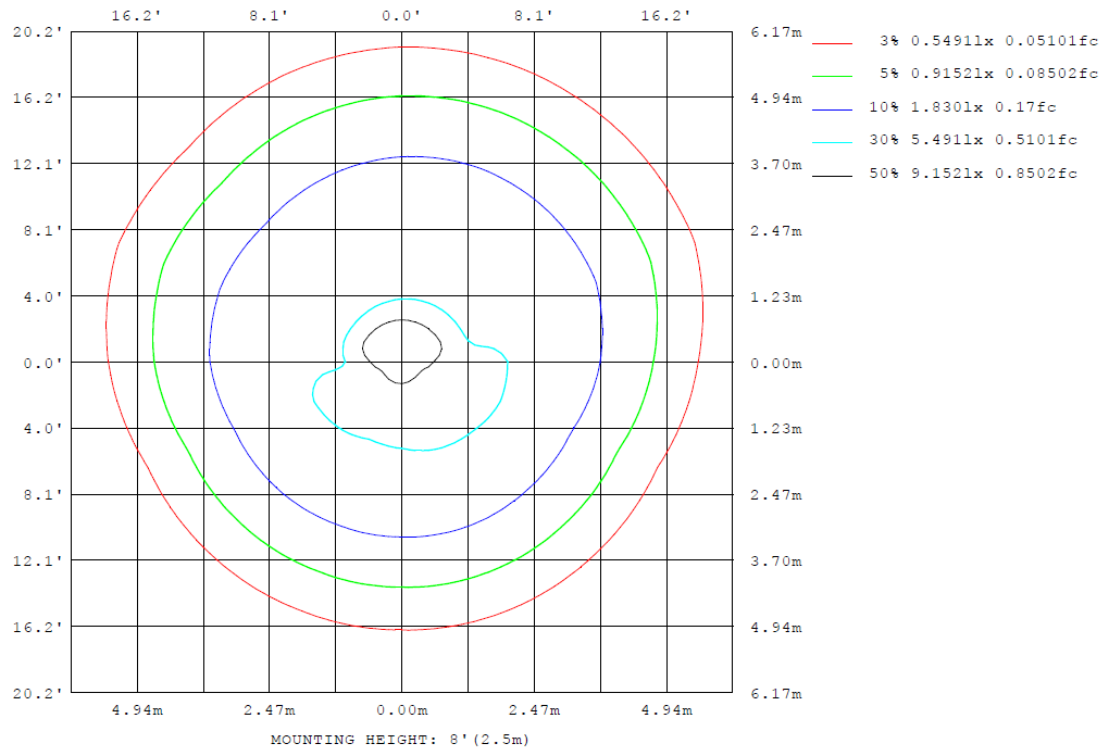
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB501XX

Model No.: KWTB501XX

Mount Height: 2.5 m

Isoillumination Plot



TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB501XX

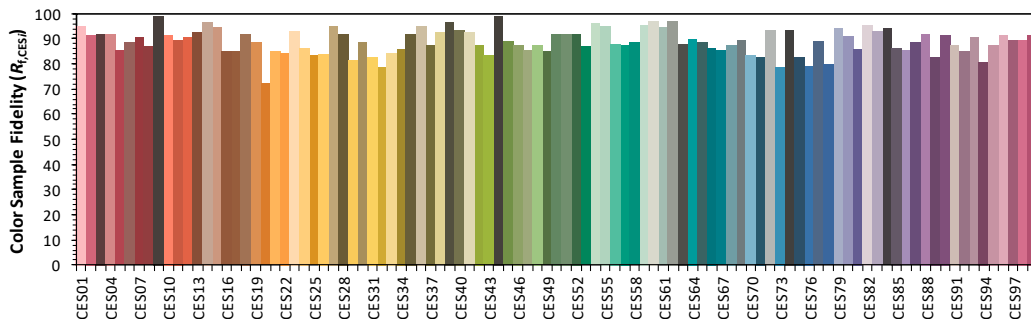
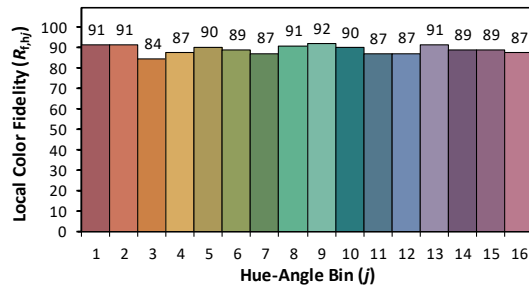
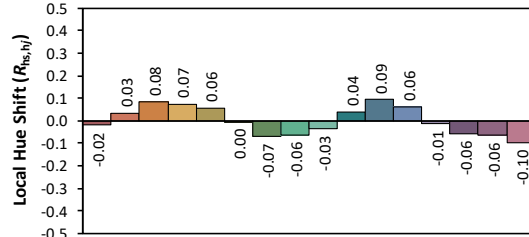
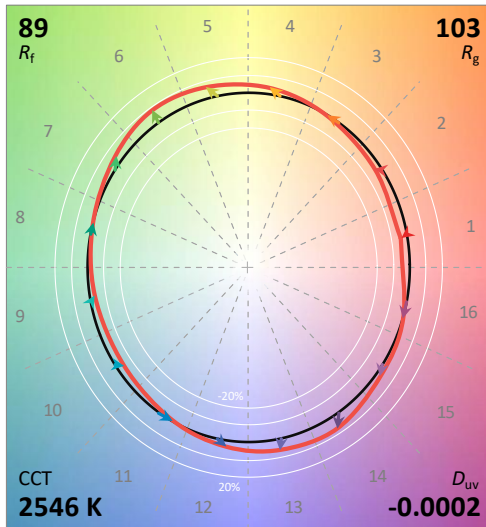
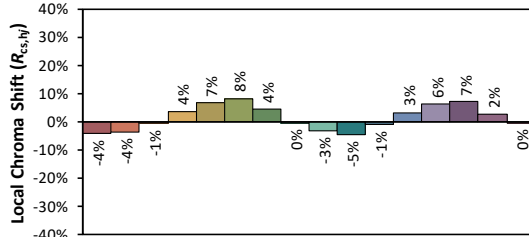
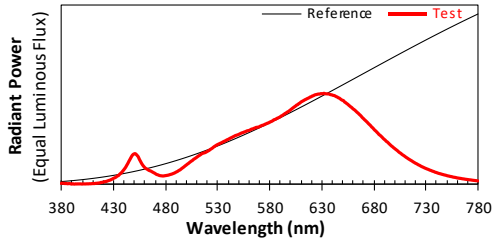
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/11

Model: KWTB501xx



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

x 0.4726
 y 0.4125
 u' 0.2699
 v' 0.5300

CIE 13.3-1995
(CRI)

R_a 91
 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 KWTB501XX



Internal view of KWTB501XX

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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver NLE100360W1A1S58



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 *****