

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241115147GZU-008

ISSUE DATE

22 January 2025

REVISION DATE

None

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 241115147GZU-008

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWPD495XX

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 KWPD495XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241115147-011.
<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>	13 January 2025, 14 January 2025
<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:	KWPD495XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWPD495XX

Criteria	Result
Total Lumen Output	557.6 lm
Total Power	10.4 W
Luminaire Efficacy	53.8 lm/W
S/MH(C0/180)	0.49
S/MH(C90/270)	0.43
Correlated Color Temperature (CCT)	2644 K
Color Rendering Index (CRI)	90
R9	59
Chromaticity Coordinate (x)	0.4644
Chromaticity Coordinate (y)	0.4114
Chromaticity Coordinate (u')	0.2650
Chromaticity Coordinate (v')	0.5283

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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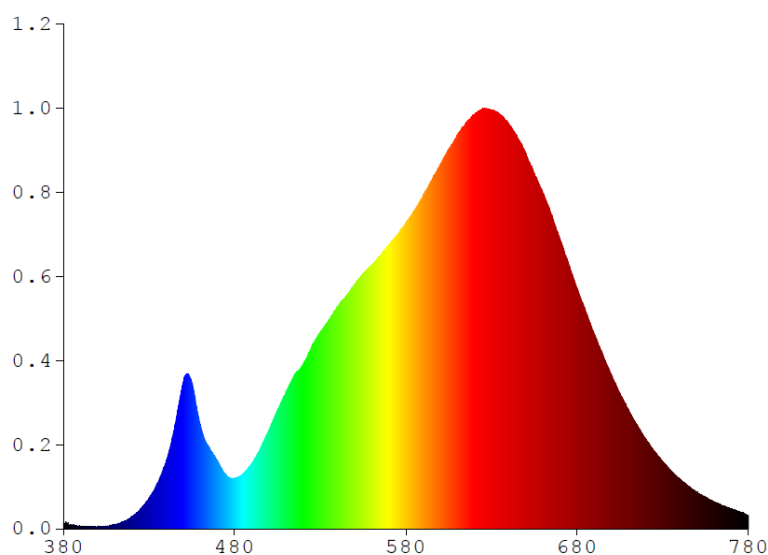
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWPD495XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.8598	480	6.0658	580	36.8000	680	28.8760	780	1.5149
385	0.3562	485	6.6577	585	38.3210	685	26.0700		
390	0.2833	490	7.8566	590	40.0320	690	23.3520		
395	0.2575	495	9.6597	595	41.8440	695	20.8320		
400	0.3245	500	11.8440	600	43.8610	700	18.5020		
405	0.3130	505	14.2550	605	45.5890	705	16.2410		
410	0.5639	510	16.5190	610	47.3730	710	14.2280		
415	0.8820	515	18.5070	615	48.8300	715	12.4600		
420	1.4588	520	19.7690	620	49.8180	720	10.7650		
425	2.4039	525	21.9220	625	50.4490	725	9.3622		
430	3.6951	530	23.6680	630	50.4260	730	8.0260		
435	5.4480	535	25.1560	635	49.8420	735	6.9447		
440	8.0854	540	26.7550	640	48.6850	740	5.9504		
445	12.3020	545	28.0040	645	47.0900	745	5.1060		
450	17.5840	550	29.4040	650	45.2050	750	4.4334		
455	17.5050	555	30.6910	655	42.6360	755	3.7737		
460	12.4000	560	31.7390	660	40.3600	760	3.2184		
465	9.7263	565	32.9020	665	37.8100	765	2.7804		
470	8.1063	570	34.1600	670	34.8060	770	2.3946		
475	6.4671	575	35.3190	675	31.1520	775	2.0403		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD495XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

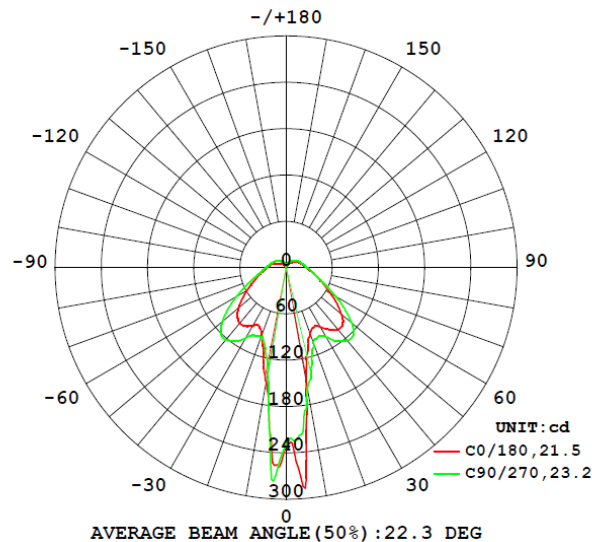
Photometric Measurements at 25°C – Distribution Method

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')
KWPD495XX								
S2411151 47-011	base-up	2644	90	59	0.4644	0.4114	0.2650	0.5283

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)
KWPD495XX							
S2411151 47-011	base-up	120.1	87.2	10.4	0.989	557.6	53.8

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD495XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	228.9	228.5	228.6	228.0	227.9
5	286.9	259.7	229.0	213.2	217.2
10	150.0	160.8	163.4	161.5	159.9
15	111.0	110.5	114.4	125.6	129.4
20	90.3	91.8	97.3	104.4	104.8
25	85.4	85.0	90.9	100.8	98.7
30	89.0	90.2	96.3	106.4	103.6
35	97.9	101.2	109.4	119.8	116.4
40	104.7	111.6	119.8	128.0	123.4
45	103.7	113.8	121.0	129.0	123.1
50	93.8	105.6	111.8	115.8	111.6
55	80.3	91.8	95.4	95.1	92.9
60	66.7	75.9	77.7	75.6	74.8
65	55.7	60.7	61.4	59.9	59.4
70	47.1	49.5	50.1	48.8	48.4
75	40.3	41.2	41.7	40.7	40.2
80	34.7	35.5	36.1	35.2	34.6
85	30.2	31.0	31.4	31.7	30.7
90	26.9	27.5	27.8	27.6	27.2
95	24.1	24.7	25.0	25.0	25.0
100	22.5	23.1	23.5	23.5	23.5
105	20.5	21.1	21.4	21.4	21.5
110	19.0	19.8	20.1	20.1	20.1
115	17.4	18.4	18.8	18.9	18.9
120	15.5	17.3	17.7	17.6	17.7
125	13.5	16.1	16.1	15.8	15.7
130	11.6	13.9	14.0	14.1	14.1
135	10.1	12.7	12.8	12.9	12.9
140	8.7	11.6	11.6	11.7	11.6
145	7.5	10.3	10.3	10.4	10.4
150	6.3	9.0	9.0	9.1	9.1
155	5.3	7.6	7.7	7.8	7.7
160	4.3	6.2	6.4	6.5	6.4
165	3.3	4.7	5.1	5.1	5.0
170	2.4	3.3	3.7	3.8	3.7
175	1.2	1.3	1.3	1.9	1.9
180	0.2	0.2	0.2	0.2	0.2

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD495XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWPD495XX		
0-30	94.2	16.9
0-40	160.7	28.8
0-60	324.8	58.3
0-90	457.8	82.1
60-90	133.0	23.8
0-180	557.6	100.0

Beam Angle

Total Beam Angle(°)

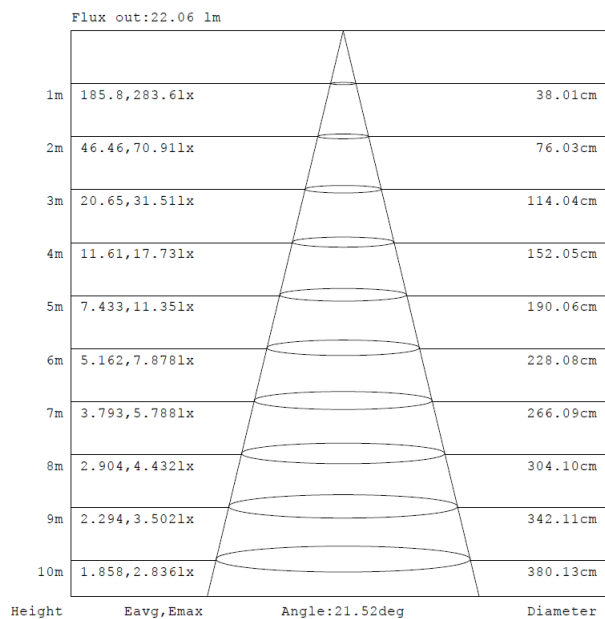
22.3

Illumination Plots

Model No.: KWPD495XX

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

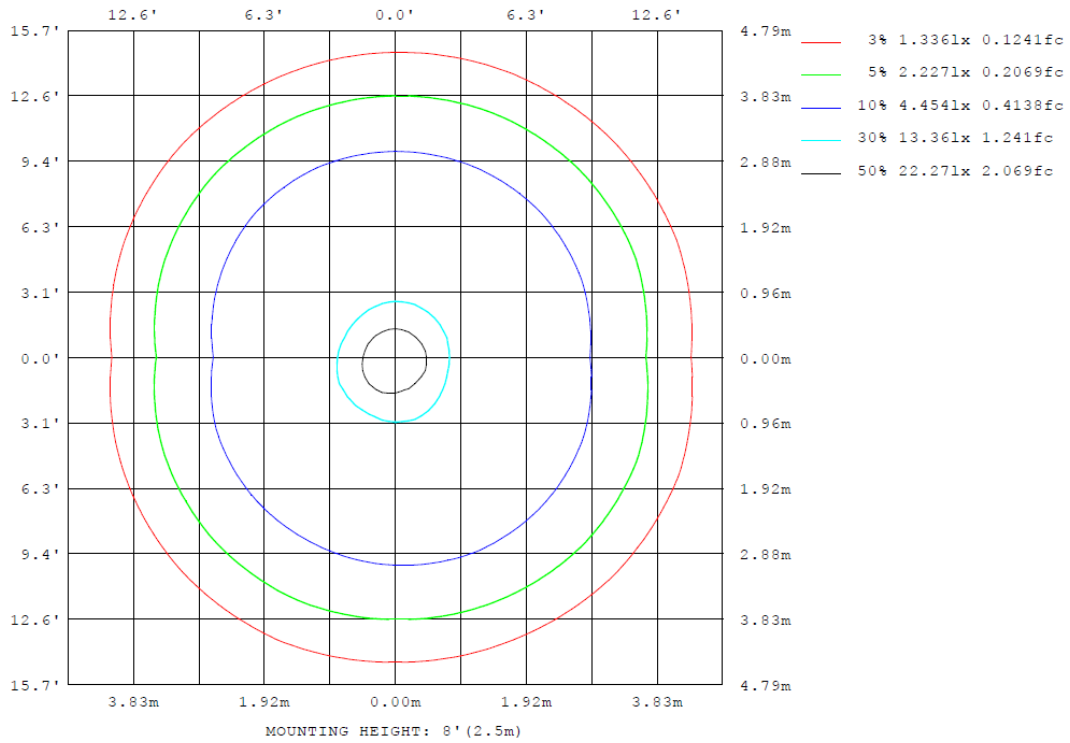
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD495XX

Model No.: KWPD495XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD495XX

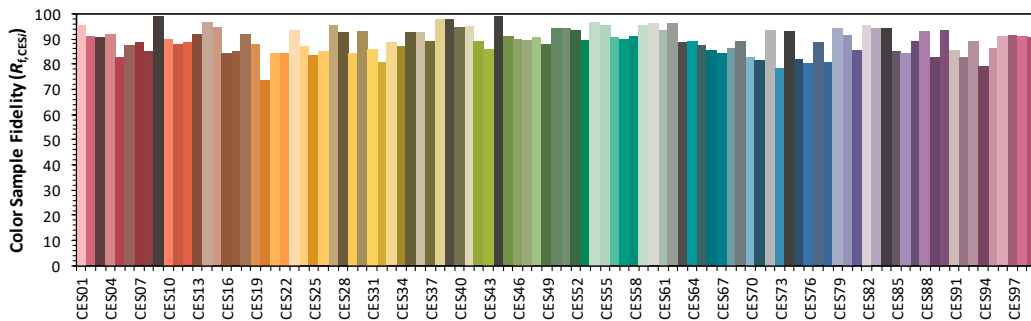
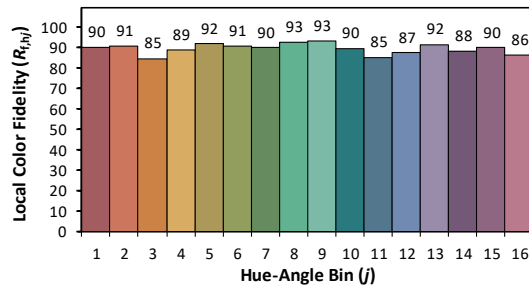
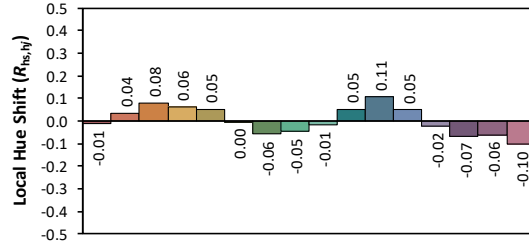
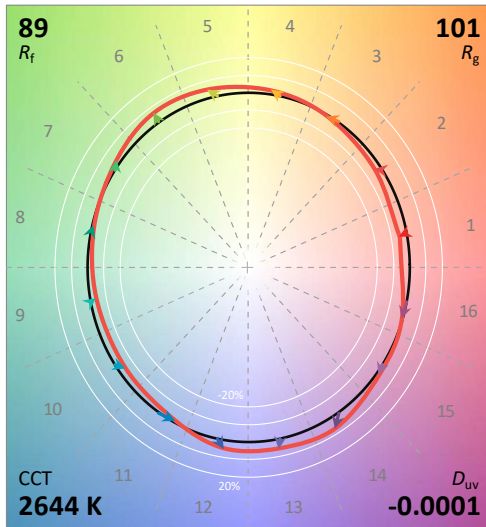
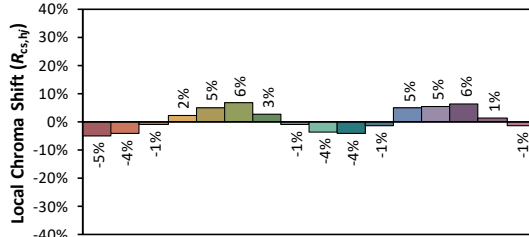
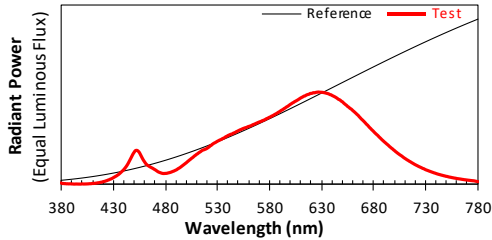
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2025/1/14

Model: KWPD495XX



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

x 0.4644

y 0.4114

u' 0.2650

v' 0.5283

CIE 13.3-1995
(CRI)

R_a 90

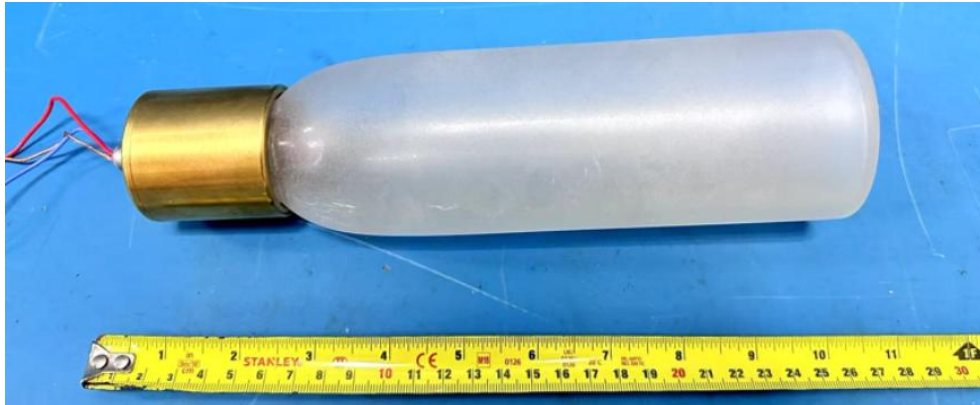
R_g 59

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 KWPD495XX



View of LED driver PVD14-C030V45-UNV3-HE-P

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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 *****