

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241115147GZU-010

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REVISION DATE

None

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DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 241115147GZU-010

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWPD496XX

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 KWPD496XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241115147-003.
<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>	17 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:	KWPD496XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWPD496XX

Criteria	Result
Total Lumen Output	578.6 lm
Total Power	10.4 W
Luminaire Efficacy	55.5 lm/W
S/MH(C0/180)	0.50
S/MH(C90/270)	0.43
Correlated Color Temperature (CCT)	2628 K
Color Rendering Index (CRI)	91
R9	60
Chromaticity Coordinate (x)	0.4659
Chromaticity Coordinate (y)	0.4120
Chromaticity Coordinate (u')	0.2658
Chromaticity Coordinate (v')	0.5288

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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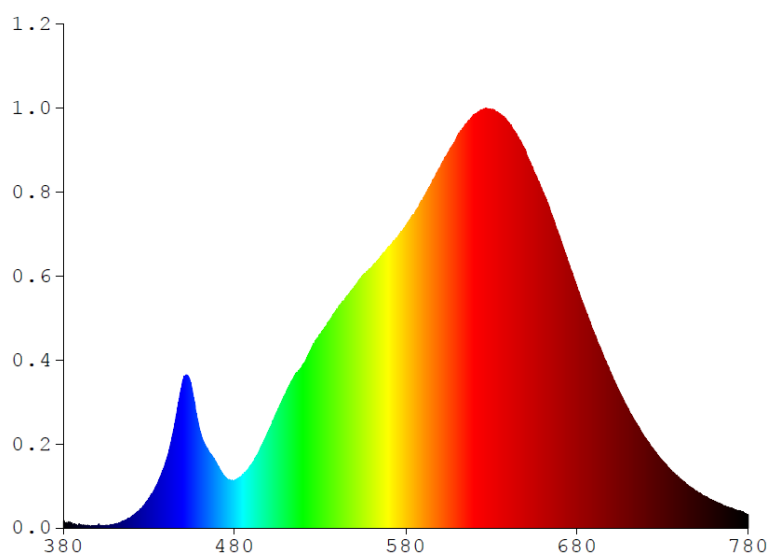
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWPD496XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.5120	480	4.5287	580	28.7820	680	22.8670	780	1.2329
385	0.4491	485	5.1014	585	29.9170	685	20.6440		
390	0.2621	490	6.0791	590	31.2990	690	18.5050		
395	0.2454	495	7.5926	595	32.8330	695	16.5260		
400	0.2125	500	9.2884	600	34.3250	700	14.6160		
405	0.2736	505	11.1250	605	35.7490	705	12.8700		
410	0.3937	510	12.8770	610	37.3100	710	11.2690		
415	0.6410	515	14.5040	615	38.4440	715	9.8607		
420	1.1159	520	15.5600	620	39.3210	720	8.5102		
425	1.8063	525	17.2090	625	39.8240	725	7.3660		
430	2.8182	530	18.4640	630	39.7140	730	6.3597		
435	4.2172	535	19.6760	635	39.4510	735	5.4828		
440	6.3765	540	20.8680	640	38.6110	740	4.6833		
445	9.8230	545	21.9490	645	37.3220	745	4.0216		
450	14.1080	550	22.9470	650	35.9150	750	3.4946		
455	13.2350	555	24.0840	655	33.8230	755	2.9814		
460	9.0853	560	24.8080	660	32.0340	760	2.5495		
465	7.2622	565	25.7330	665	29.9590	765	2.1853		
470	5.9576	570	26.8240	670	27.6500	770	1.8895		
475	4.7787	575	27.6240	675	24.7320	775	1.6139		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD496XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

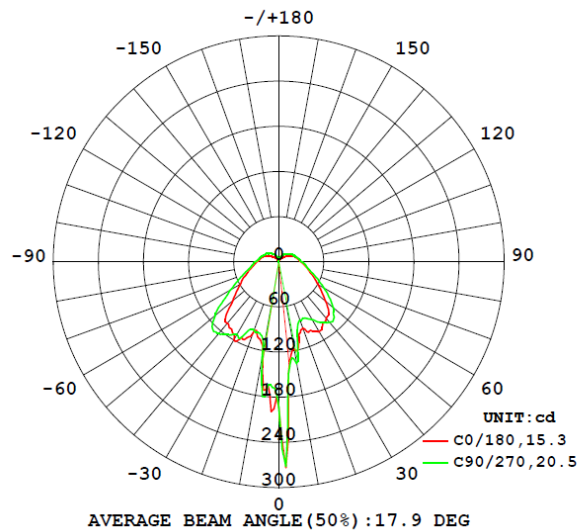
Photometric Measurements at 25°C – Distribution Method

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')
KWPD496XX								
S2411151 47-003	base-up	2628	91	60	0.4659	0.4120	0.2658	0.5288

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)
KWPD496XX							
S2411151 47-003	base-up	120.1	87.8	10.4	0.989	578.6	55.5

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD496XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	193.7	175.2	172.0	258.3	193.2
5	148.5	178.7	177.2	136.4	148.9
10	118.2	117.5	125.1	142.1	137.4
15	103.0	100.5	104.9	96.3	94.6
20	93.8	81.1	88.1	91.6	82.6
25	100.5	83.9	90.4	92.4	82.6
30	107.5	94.1	97.7	99.3	88.6
35	101.7	101.3	101.8	101.3	98.6
40	98.3	104.6	104.2	106.5	104.9
45	94.1	107.7	107.9	103.1	104.3
50	81.5	98.8	98.1	92.5	94.8
55	70.0	84.9	85.8	80.8	81.4
60	60.4	72.0	73.5	68.6	69.2
65	52.6	59.7	61.1	57.7	58.2
70	46.0	50.8	52.1	49.1	49.6
75	40.7	43.7	44.8	42.3	42.4
80	36.7	39.0	39.4	38.0	37.7
85	33.0	34.9	35.7	34.8	34.7
90	29.7	31.0	31.3	30.3	30.5
95	27.4	28.7	29.2	28.6	28.4
100	25.4	26.8	27.4	26.4	26.9
105	23.5	24.5	24.8	24.3	24.6
110	21.9	23.1	23.3	23.0	23.1
115	19.5	21.7	22.1	21.5	21.8
120	16.4	20.3	21.0	20.7	20.8
125	13.5	18.6	19.0	18.1	18.6
130	11.1	16.7	17.0	16.6	16.9
135	9.2	15.2	15.6	15.3	15.6
140	7.5	13.4	14.3	13.9	14.1
145	6.2	11.9	12.8	12.3	12.6
150	5.5	10.6	11.2	10.6	10.9
155	4.8	9.1	9.6	9.0	9.2
160	4.2	7.2	7.9	7.3	7.5
165	3.4	5.5	6.1	5.6	5.9
170	2.3	3.6	4.2	3.7	4.2
175	1.2	1.7	1.5	1.4	1.8
180	0.0	0.0	0.2	0.1	0.2

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD496XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWPD496XX		
0-30	93.5	16.2
0-40	163.4	28.3
0-60	322.4	55.7
0-90	461.0	79.7
60-90	138.6	24.0
0-180	578.6	100.0

Beam Angle

Total Beam Angle(°)

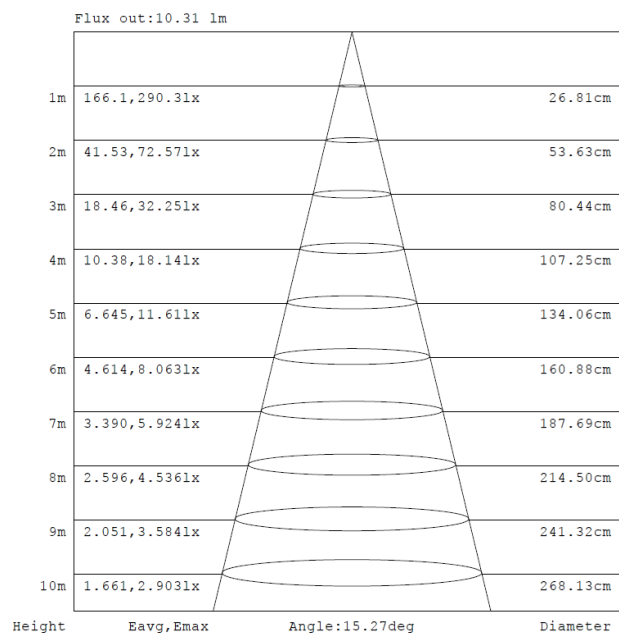
17.9

Illumination Plots

Model No.: KWPD496XX

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

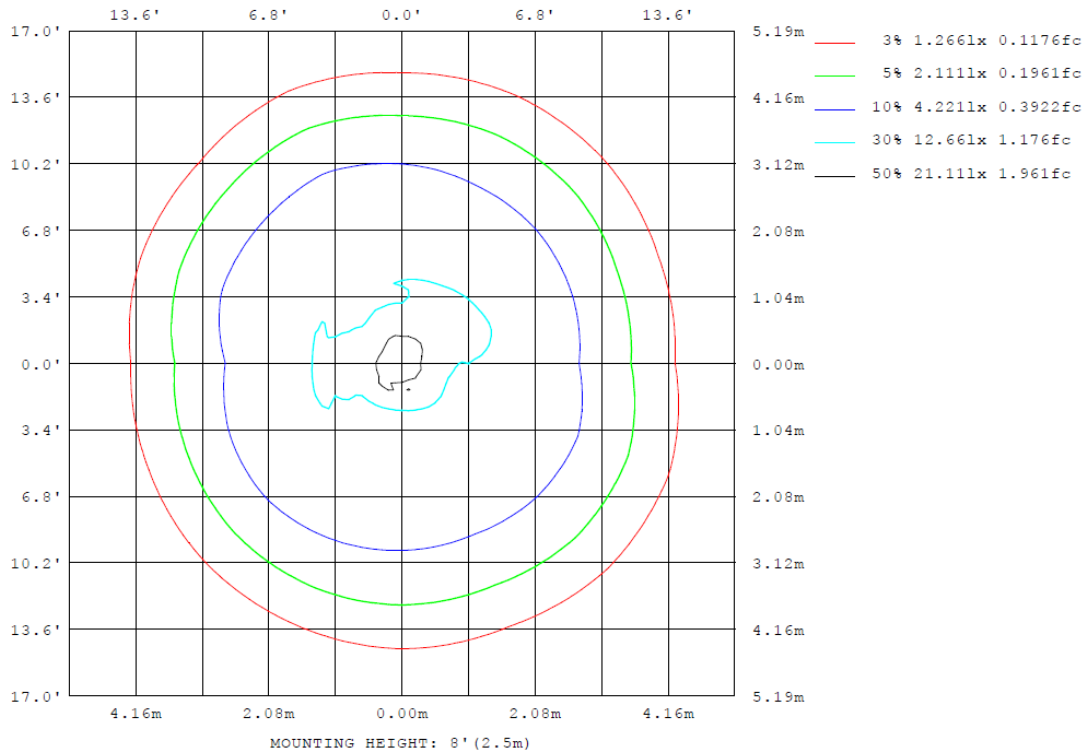
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD496XX

Model No.: KWPD496XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWPD496XX

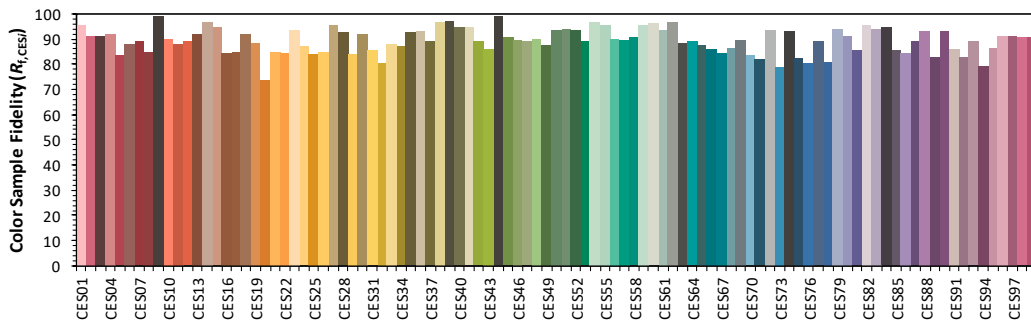
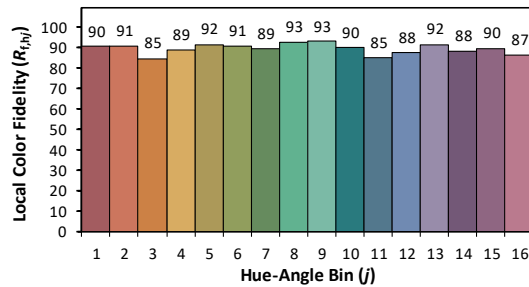
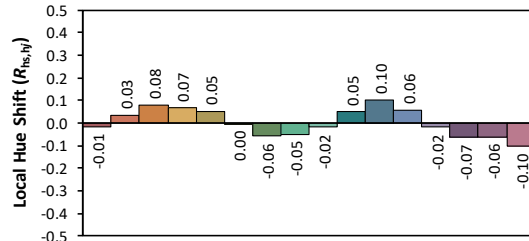
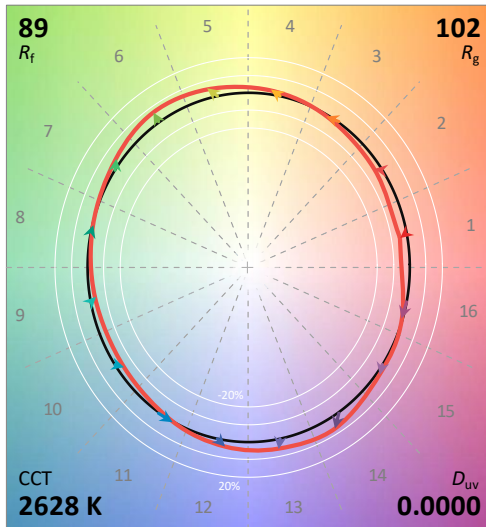
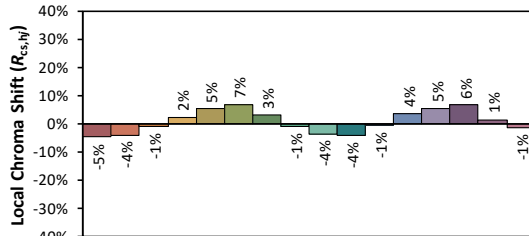
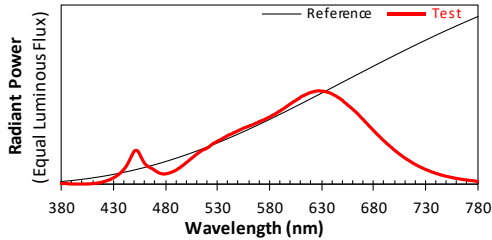
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2025/1/17

Model: KWPD496XX



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

x 0.4659
 y 0.4120
 u' 0.2658
 v' 0.5288

CIE 13.3-1995
(CRI)

R_a 91
 R_g 60

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 KWPD496XX



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

***** 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 *****