

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241128208GZU-004

ISSUE DATE

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REVISION DATE

None

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13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 241128208GZU-004

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKPD595WDXX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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Phone No.: 847-410-4552

TEST: Electrical and Photometric as required to the IES LM-79 test standard.

AUTHORIZATION: The testing performed was authorized by signed quote number: QGZ241127042.

STANDARDS USED: 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

DESCRIPTION OF SAMPLE: The client submitted one sample of model AKPD595WDXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241128208-004.

MANUFACTURER /FACTORY & ADDRESS: Union Star Collection-Dongguan Denghuang HomeFurnishing Co., Ltd.
No.5, Central Road, Yayuan Industrial Zone, Nancheng District,Dongguan City, Guangdong Province, 523000

DATES OF TESTS: 30 December 2024, 31 December 2024

ISSUED BY: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

TEST LOCATION: 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:	AKPD595WDXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKPD595WDXX

Criteria	Result
Total Lumen Output	1203.1 lm
Total Power	15.8 W
Luminaire Efficacy	76.3 lm/W
S/MH(C0/180)	0.31
S/MH(C90/270)	0.75
Correlated Color Temperature (CCT)	2900 K
Color Rendering Index (CRI)	93
R9	71
Chromaticity Coordinate (x)	0.4458
Chromaticity Coordinate (y)	0.4094
Chromaticity Coordinate (u')	0.2539
Chromaticity Coordinate (v')	0.5248

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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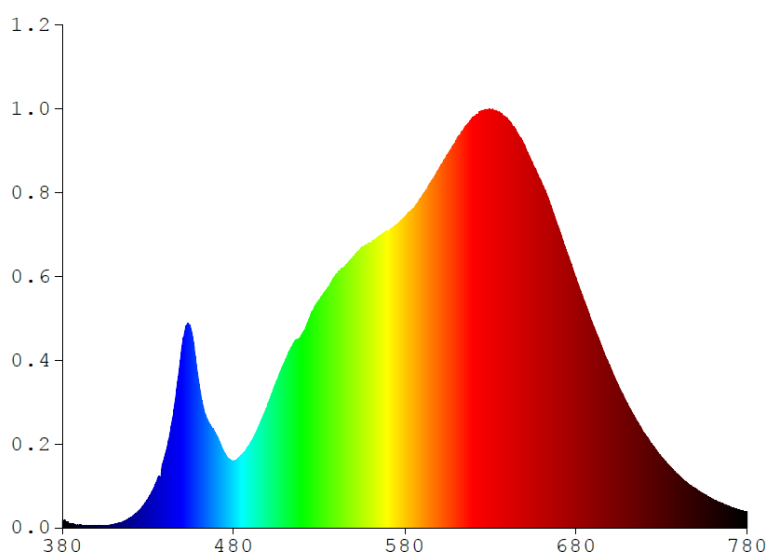
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKPD595WDXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	3.0762	480	27.6510	580	128.570	680	103.0400	780	6.4728
385	1.5864	485	30.3230	585	131.990	685	93.3780		
390	1.2977	490	35.3010	590	137.130	690	83.4560		
395	0.9299	495	42.4380	595	142.630	695	74.5970		
400	0.8081	500	51.2770	600	148.570	700	66.2500		
405	0.9683	505	60.4530	605	154.200	705	58.2200		
410	1.2934	510	68.9140	610	160.190	710	51.0330		
415	2.3954	515	76.4660	615	165.610	715	44.6930		
420	4.2965	520	80.0270	620	169.570	720	38.8060		
425	7.3528	525	88.1510	625	172.130	725	33.7690		
430	11.9800	530	94.2310	630	172.530	730	29.1570		
435	18.9570	535	99.4090	635	171.860	735	25.2360		
440	30.0800	540	104.8500	640	168.660	740	21.4830		
445	48.1110	545	108.2700	645	164.040	745	18.4270		
450	75.2400	550	112.0600	650	158.130	750	15.9760		
455	82.0310	555	116.1000	655	149.670	755	13.6440		
460	58.3740	560	117.8800	660	142.420	760	11.8730		
465	44.1260	565	120.2100	665	133.460	765	10.1730		
470	38.2150	570	122.9600	670	123.630	770	8.7326		
475	30.5320	575	125.2500	675	111.140	775	7.4502		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD595WDXX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

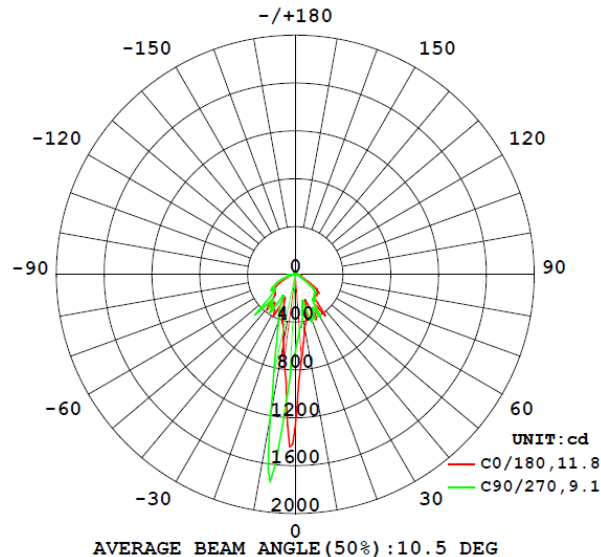
Photometric Measurements at 25°C – Distribution Method

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')
AKPD595WDXX								
S2411282 08-004	base-up	2900	93	71	0.4458	0.4094	0.2539	0.5248

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)
AKPD595WDXX							
S2411282 08-004	base-up	120.1	133.1	15.8	0.987	1203.1	76.3

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD595WDXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	1258.5	704.1	633.6	631.9	648.6
5	675.7	472.5	426.6	428.5	444.4
10	452.3	348.3	323.9	331.7	347.2
15	343.6	242.1	233.4	234.9	229.0
20	233.2	427.7	370.5	382.9	402.7
25	419.0	384.5	341.8	335.6	354.9
30	369.2	379.0	385.4	424.6	413.3
35	395.6	237.4	246.6	257.2	250.7
40	244.8	241.1	252.2	258.5	256.8
45	252.3	217.8	219.9	223.3	236.3
50	234.1	231.4	200.0	205.3	203.1
55	222.7	135.3	106.6	115.9	131.4
60	132.6	66.7	59.3	57.9	63.4
65	73.6	45.7	44.8	37.3	38.3
70	41.6	43.1	46.8	51.6	36.2
75	45.2	37.6	32.6	39.4	35.8
80	36.1	20.3	12.3	13.0	19.8
85	15.4	7.5	7.2	7.3	7.9
90	7.4	8.0	7.9	7.9	7.9
95	8.1	8.9	9.1	9.1	9.0
100	9.2	10.3	10.5	10.5	10.3
105	10.4	11.7	11.7	11.7	11.6
110	11.1	12.9	12.9	12.9	12.9
115	11.5	13.8	13.9	13.8	13.8
120	12.4	14.6	14.7	14.9	14.8
125	13.0	17.3	18.8	20.0	18.5
130	15.9	18.1	16.5	16.4	17.0
135	16.5	16.9	17.4	17.9	17.3
140	13.8	14.5	14.3	14.6	14.6
145	12.7	15.0	15.6	15.1	14.4
150	15.7	18.8	18.8	20.5	19.9
155	12.2	14.3	14.7	15.7	14.8
160	12.7	12.8	14.4	14.7	13.1
165	11.6	13.7	12.5	12.2	13.9
170	11.8	14.6	11.8	11.8	11.4
175	12.1	10.9	9.4	11.5	3.4
180	7.6	6.4	9.8	11.7	0.0

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD595WDXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKPD595WDXX		
0-30	354.3	29.5
0-40	551.1	45.8
0-60	929.1	77.2
0-90	1122.2	93.3
60-90	193.1	16.1
0-180	1203.1	100.0

Beam Angle

Total Beam Angle(°)

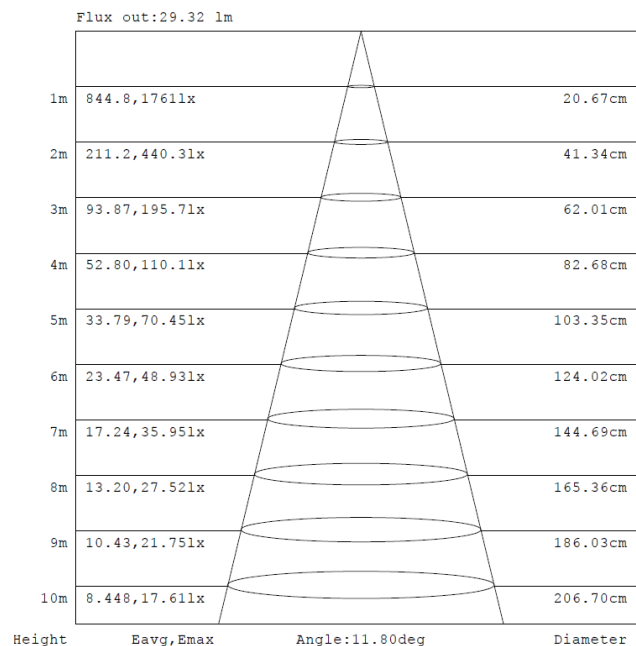
10.5

Illumination Plots

Model No.: AKPD595WDXX

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

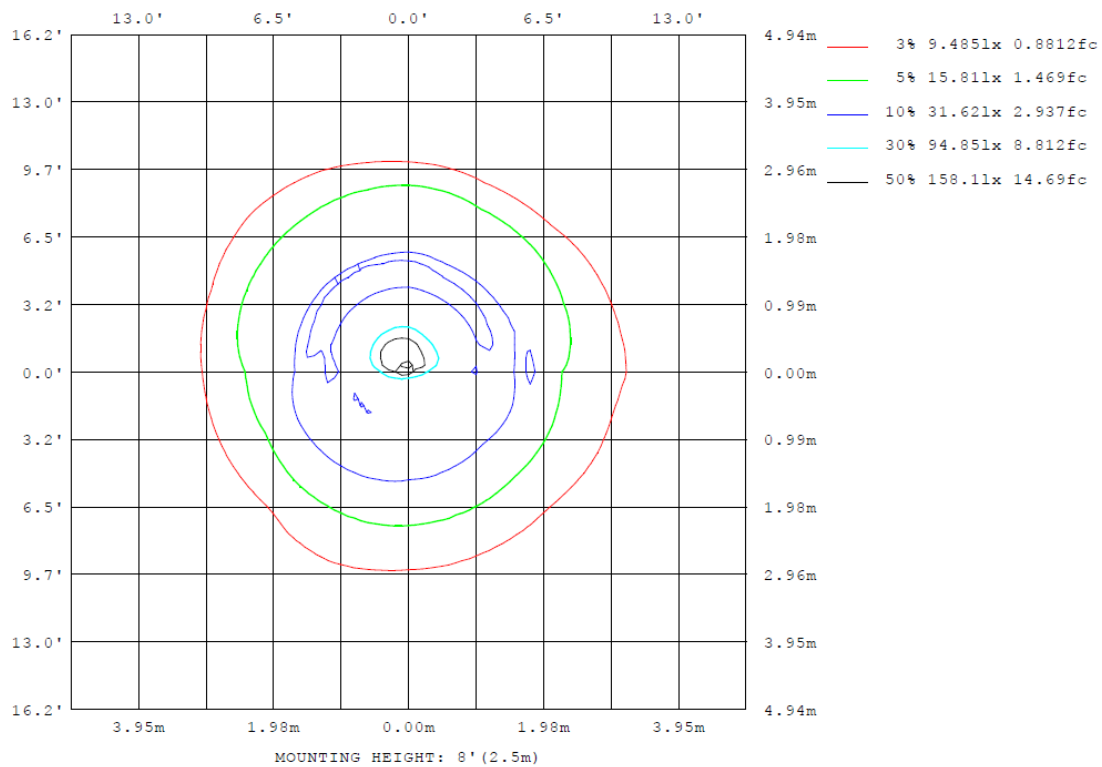
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD595WDXX

Model No.: AKPD595WDXX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD595WDXX

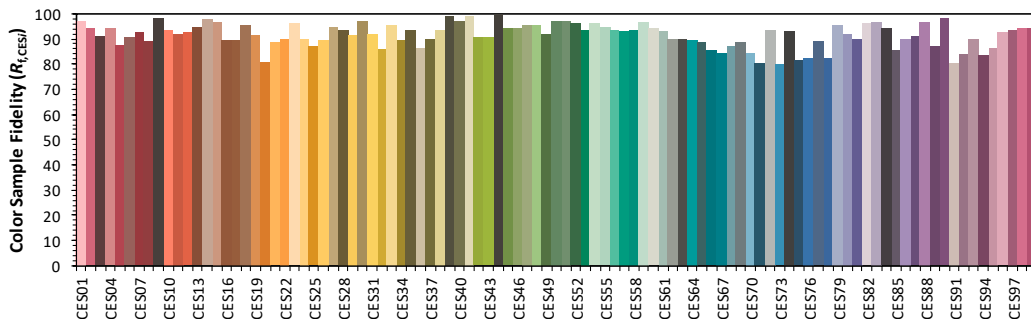
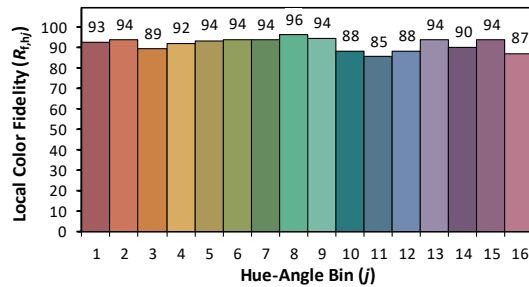
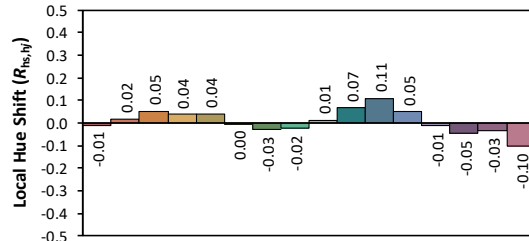
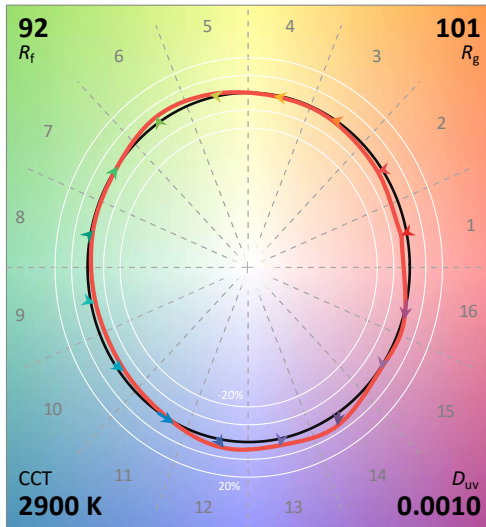
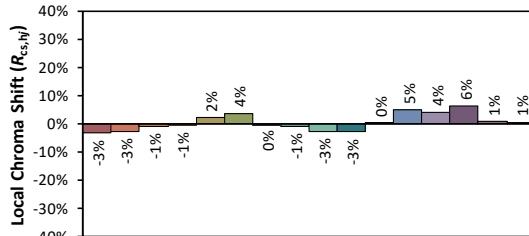
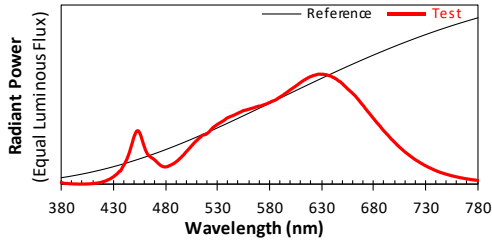
ANSI/IES T+B3:X17M-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/31

Model: AKPD595WDXX



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

x 0.4458
 y 0.4094
 u' 0.2539
 v' 0.5248

CIE 13.3-1995
(CRI)

R_a 93

R_g 71

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 AKPD595WDXX



View of LED driver PTB20W-0400-38-VCC1 (AB0258)

***** 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 *****