

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241128212GZU-005

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None

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Report format for LM-79_G

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Report No.: 241128212GZU-005

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKPC685WDXX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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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 AKPC685WDXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241128212-005.

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: 16 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:	AKPC685WDXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKPC685WDXX

Criteria	Result
Total Lumen Output	123.8 lm
Total Power	15.2 W
Luminaire Efficacy	8.1 lm/W
S/MH(C0/180)	1.35
S/MH(C90/270)	1.19
Correlated Color Temperature (CCT)	2641 K
Color Rendering Index (CRI)	92
R9	70
Chromaticity Coordinate (x)	0.4703
Chromaticity Coordinate (y)	0.4214
Chromaticity Coordinate (u')	0.2644
Chromaticity Coordinate (v')	0.5330

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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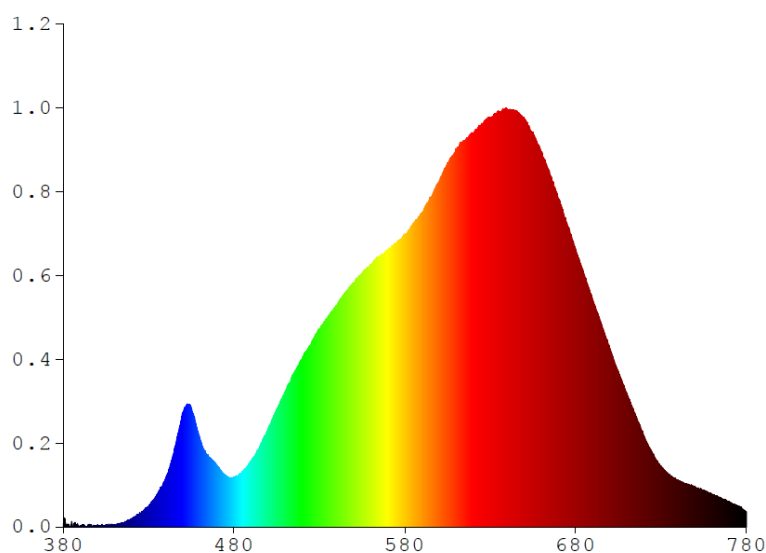
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKPC685WDXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0811	480	1.2504	580	7.3650	680	6.9677	780	0.3672
385	0.1223	485	1.3969	585	7.6285	685	6.3305		
390	0.0392	490	1.6621	590	7.8889	690	5.6938		
395	0.0269	495	2.0117	595	8.2768	695	5.1015		
400	0.0506	500	2.4754	600	8.6670	700	4.4799		
405	0.0554	505	2.9606	605	9.1382	705	3.8948		
410	0.0463	510	3.4056	610	9.5007	710	3.3358		
415	0.1138	515	3.8595	615	9.6941	715	2.8115		
420	0.2107	520	4.2189	620	9.8971	720	2.2824		
425	0.3397	525	4.5863	625	10.1330	725	1.8437		
430	0.5180	530	4.9876	630	10.2990	730	1.5242		
435	0.8135	535	5.2829	635	10.4310	735	1.3135		
440	1.2249	540	5.5707	640	10.4830	740	1.1713		
445	1.9337	545	5.8850	645	10.4600	745	1.0797		
450	2.8711	550	6.1299	650	10.2600	750	1.0090		
455	2.9742	555	6.3734	655	9.8925	755	0.9186		
460	2.2201	560	6.5888	660	9.4330	760	0.8161		
465	1.7781	565	6.8128	665	8.8431	765	0.7136		
470	1.5448	570	6.9577	670	8.2268	770	0.6248		
475	1.2910	575	7.1387	675	7.5203	775	0.5235		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPC685WDXX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

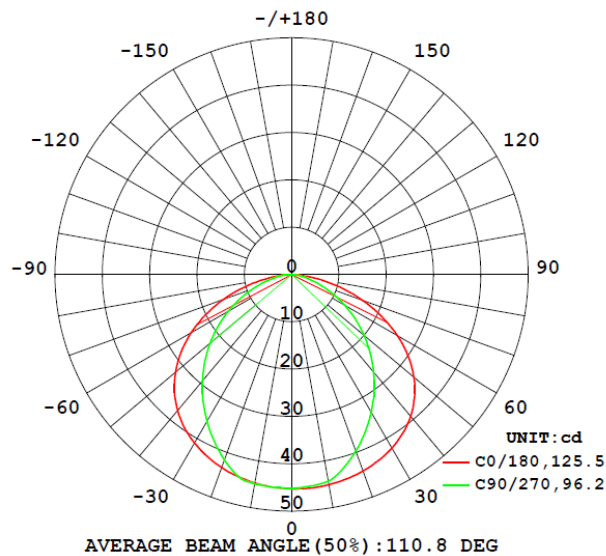
Photometric Measurements at 25°C – Distribution Method

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')
AKPC685WDXX								
S2411282 12-005	base-up	2641	92	70	0.4703	0.4214	0.2644	0.5330

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)
AKPC685WDXX							
S2411282 12-005	base-up	120.1	127.9	15.2	0.991	123.8	8.1

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPC685WDXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	45.3	45.3	45.2	45.2	45.1
5	45.3	45.1	45.1	45.0	44.9
10	45.1	44.8	44.7	44.5	44.3
15	44.7	44.3	44.0	42.8	42.3
20	44.2	43.6	42.1	40.3	39.7
25	43.4	42.6	39.7	37.5	36.7
30	42.3	40.8	37.1	34.4	33.6
35	40.9	38.5	34.2	31.2	30.4
40	39.1	35.8	30.9	27.8	26.9
45	36.7	32.5	27.4	24.3	23.5
50	33.7	28.7	23.6	20.7	20.0
55	30.1	24.4	19.6	17.0	16.4
60	25.8	19.7	15.5	13.4	12.9
65	21.0	14.7	11.4	9.8	9.5
70	15.9	9.9	7.6	6.6	6.4
75	10.7	5.6	4.4	4.0	3.9
80	5.7	2.3	2.1	2.0	2.0
85	1.6	0.3	0.2	0.2	0.2
90	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.0
130	0.0	0.0	0.0	0.0	0.0
135	0.0	0.0	0.0	0.0	0.0
140	0.0	0.0	0.0	0.0	0.0
145	0.1	0.1	0.1	0.1	0.1
150	0.1	0.1	0.1	0.1	0.1
155	0.1	0.1	0.1	0.1	0.1
160	0.1	0.1	0.1	0.1	0.1
165	0.1	0.1	0.1	0.1	0.1
170	0.1	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 AKPC685WDXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKPC685WDXX		
0-30	35.3	28.6
0-40	57.7	46.6
0-60	100.6	81.3
0-90	123.6	99.9
60-90	23.0	18.6
0-180	123.8	100.0

Beam Angle

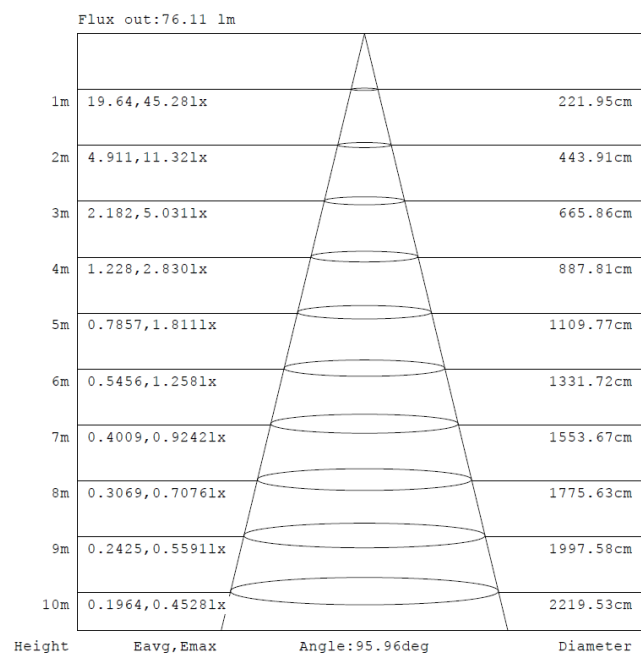
Total Beam Angle(°)
110.8

Illumination Plots

Model No.: AKPC685WDXX

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

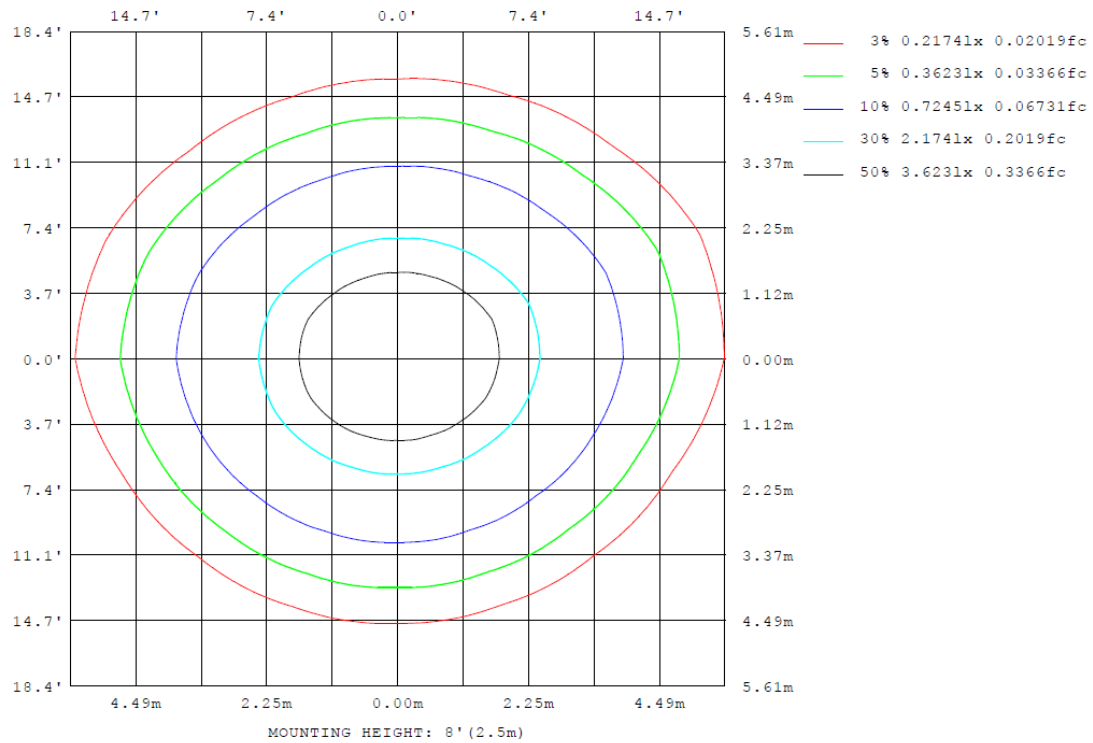
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPC685WDXX

Model No.: AKPC685WDXX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPC685WDXX

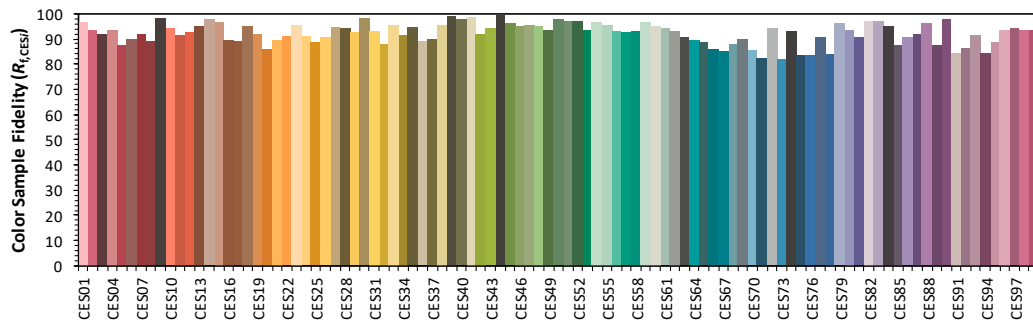
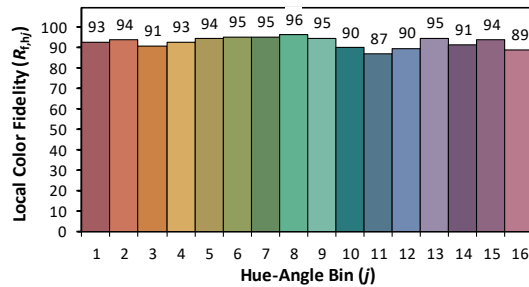
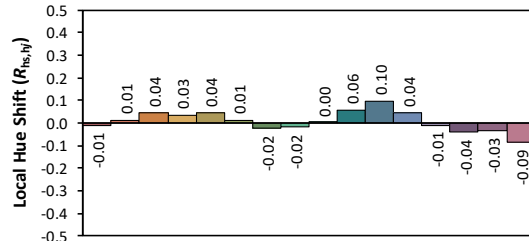
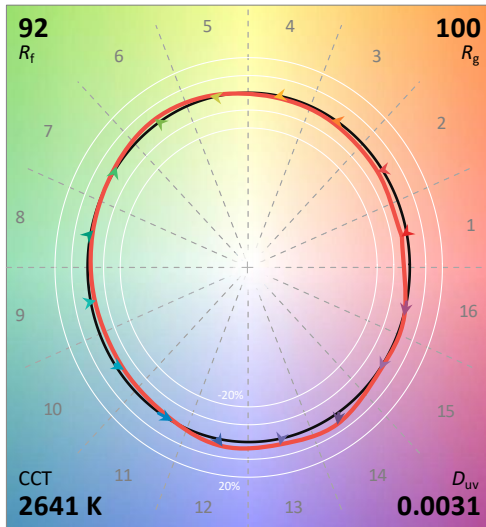
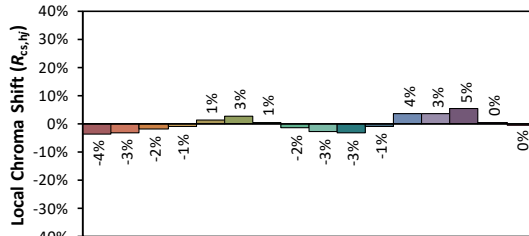
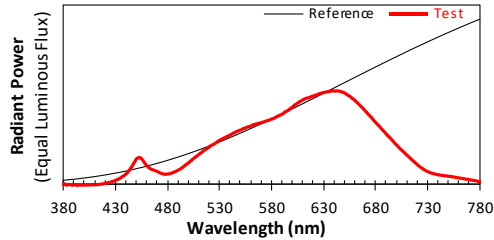
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/16

Model: AKPC685WDXX



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

x 0.4703
 y 0.4214
 u' 0.2644
 v' 0.5330

CIE 13.3-1995
(CRI)
 R_a 92
 R_g 70

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 AKPC685WDXX



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 *****