

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241128212GZU-002

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None

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Report No.: 241128212GZU-002

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKBA688WDXX

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 AKBA688WDXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241128212-002.

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:	AKBA688WDXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKBA688WDXX

Criteria	Result
Total Lumen Output	320.5 lm
Total Power	27.2 W
Luminaire Efficacy	11.8 lm/W
S/MH(C0/180)	1.32
S/MH(C90/270)	1.18
Correlated Color Temperature (CCT)	2571 K
Color Rendering Index (CRI)	94
R9	74
Chromaticity Coordinate (x)	0.4728
Chromaticity Coordinate (y)	0.4162
Chromaticity Coordinate (u')	0.2683
Chromaticity Coordinate (v')	0.5314

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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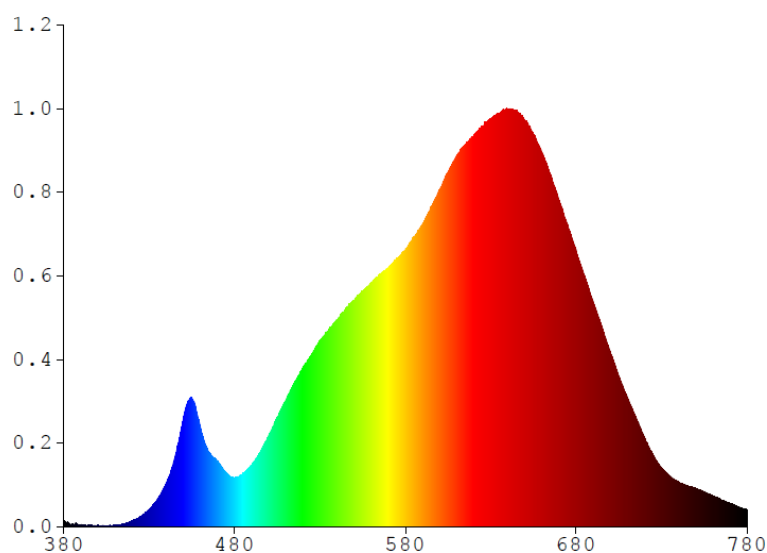
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKBA688WDXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.3751	480	3.6047	580	20.3480	680	20.2250	780	1.2564
385	0.2127	485	3.9420	585	21.2750	685	18.3530		
390	0.1530	490	4.5561	590	22.1670	690	16.4790		
395	0.0913	495	5.4807	595	23.4560	695	14.7170		
400	0.1273	500	6.7279	600	24.7000	700	12.7870		
405	0.1060	505	8.0639	605	26.0270	705	11.0440		
410	0.1414	510	9.3184	610	27.2220	710	9.4523		
415	0.2388	515	10.5560	615	28.0020	715	8.0277		
420	0.4440	520	11.6900	620	28.6670	720	6.5611		
425	0.7903	525	12.6650	625	29.3610	725	5.2689		
430	1.2810	530	13.6450	630	29.9470	730	4.3207		
435	2.0656	535	14.4170	635	30.3020	735	3.7148		
440	3.2346	540	15.1990	640	30.6410	740	3.2877		
445	5.0720	545	15.9800	645	30.5290	745	3.0147		
450	7.9668	550	16.6460	650	29.8450	750	2.8298		
455	9.4016	555	17.2830	655	28.7960	755	2.5912		
460	7.2866	560	17.9110	660	27.4420	760	2.2695		
465	5.4580	565	18.4920	665	25.8080	765	1.9971		
470	4.8282	570	18.9880	670	23.9430	770	1.7201		
475	3.9808	575	19.6850	675	21.7230	775	1.4576		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA688WDXX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

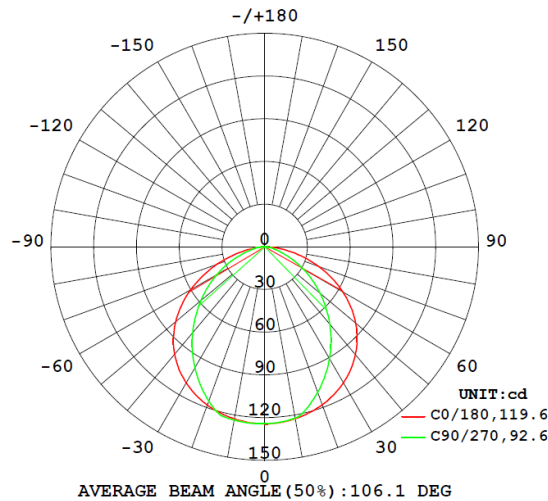
Photometric Measurements at 25°C – Distribution Method

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')
AKBA688WDXX								
S2411282 12-002	base-up	2571	94	74	0.4728	0.4162	0.2683	0.5314

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)
AKBA688WDXX							
S2411282 12-002	base-up	120.1	229.3	27.2	0.986	320.5	11.8

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA688WDXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	124.3	124.1	124.2	124.2	124.2
5	123.9	123.2	123.4	123.5	123.6
10	122.7	121.5	121.7	122.0	122.1
15	120.7	119.1	119.4	117.7	116.7
20	118.1	115.9	114.3	110.1	108.7
25	114.6	111.9	106.9	101.7	100.0
30	110.3	107.1	98.7	92.7	90.8
35	105.1	99.8	89.9	83.3	81.2
40	99.0	91.1	80.5	73.4	71.1
45	91.7	81.4	70.4	63.1	60.9
50	83.3	70.9	59.8	52.9	50.8
55	73.7	59.5	48.9	42.7	40.8
60	63.2	47.7	38.1	32.9	31.1
65	51.9	35.6	27.8	23.6	22.0
70	40.2	24.1	18.2	15.0	13.8
75	28.5	13.8	9.9	8.7	8.4
80	17.3	5.6	4.9	4.9	4.6
85	7.5	1.3	1.6	1.4	1.1
90	0.9	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	0.1	0.1	0.1	0.0	0.0
125	0.1	0.1	0.1	0.1	0.1
130	0.1	0.1	0.1	0.1	0.1
135	0.1	0.1	0.1	0.1	0.1
140	0.1	0.1	0.1	0.1	0.1
145	0.1	0.1	0.1	0.1	0.1
150	0.1	0.2	0.2	0.2	0.2
155	0.2	0.2	0.2	0.2	0.2
160	0.2	0.2	0.2	0.2	0.2
165	0.2	0.2	0.2	0.2	0.2
170	0.2	0.2	0.2	0.2	0.2
175	0.2	0.2	0.2	0.2	0.2
180	0.2	0.1	0.1	0.1	0.1

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA688WDXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKBA688WDXX		
0-30	96.3	30.0
0-40	155.7	48.6
0-60	265.2	82.7
0-90	320.1	99.9
60-90	54.9	17.2
0-180	320.5	100.0

Beam Angle

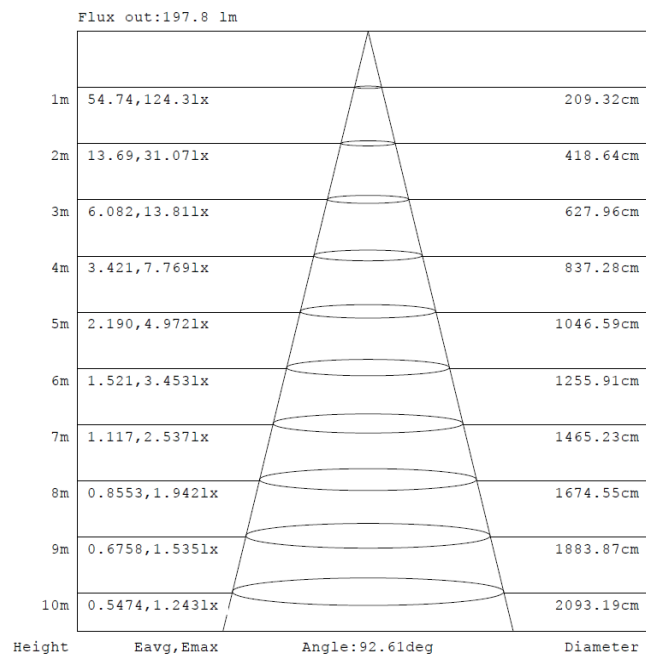
Total Beam Angle(°)
106.1

Illumination Plots

Model No.: AKBA688WDXX

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

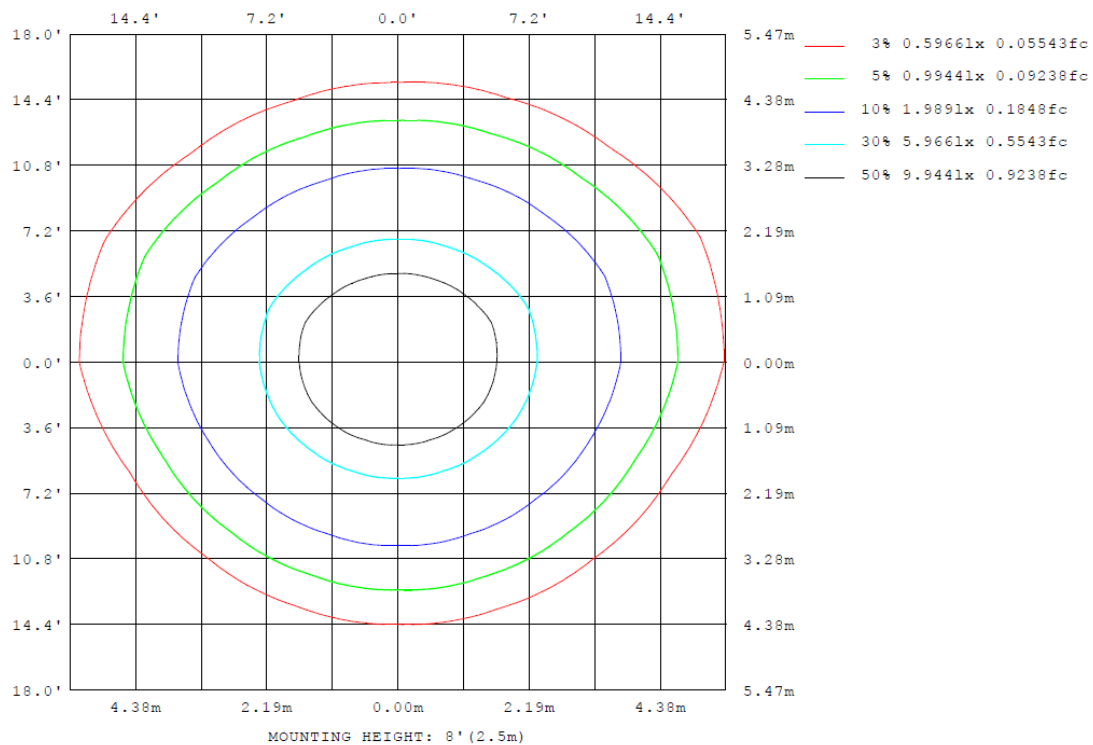
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA688WDXX

Model No.: AKBA688WDXX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA688WDXX

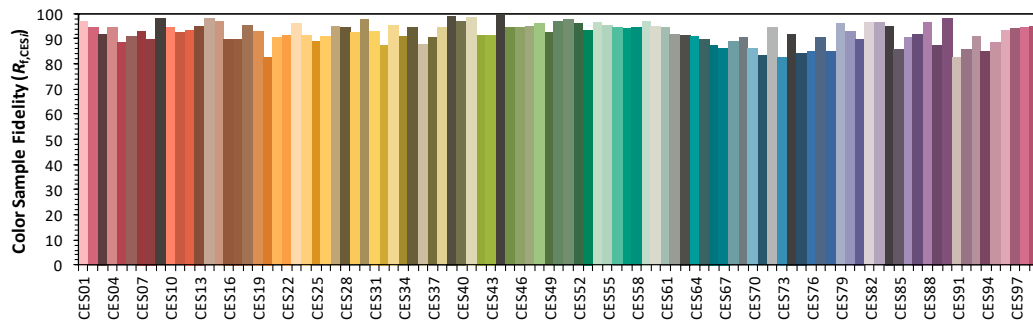
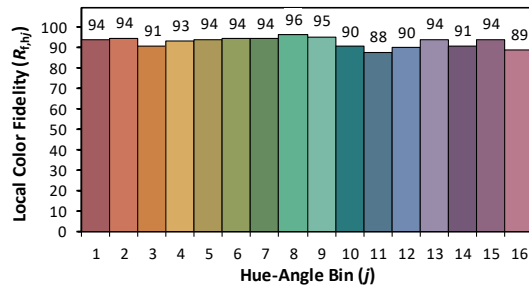
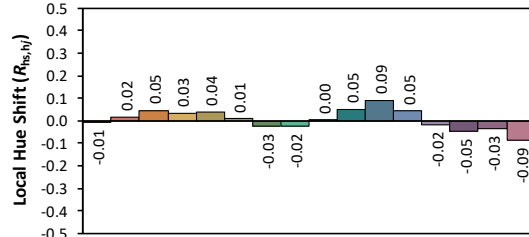
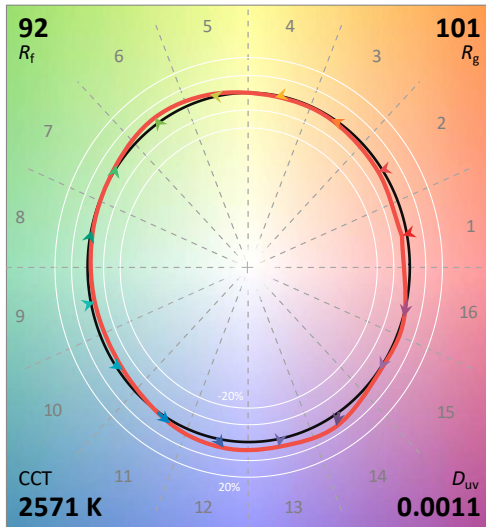
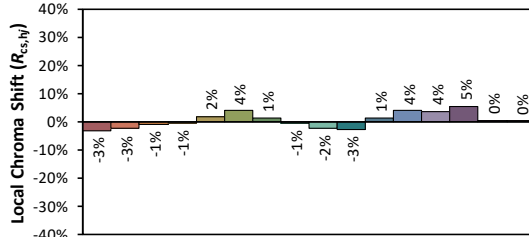
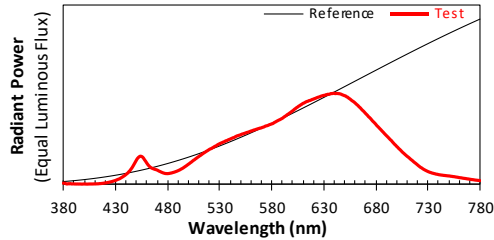
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/16

Model: AKBA688WDXX



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

x 0.4728
 y 0.4162
 u' 0.2683
 v' 0.5314

CIE 13.3-1995
(CRI)

R_a 94

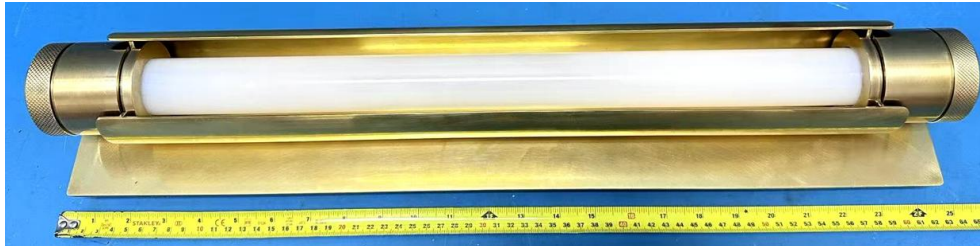
R_g 74

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 AKBA688WDXX



View of LED driver PSS30W-0700-38-VCC1 (AB2613)



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 *****