

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241128212GZU-003

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None

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Report No.: 241128212GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKBA689WDXX

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 AKBA689WDXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241128212-003.

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: 17 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:	AKBA689WDXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKBA689WDXX

Criteria	Result
Total Lumen Output	402.2 lm
Total Power	27.1 W
Luminaire Efficacy	14.9 lm/W
S/MH(C0/180)	1.28
S/MH(C90/270)	1.21
Correlated Color Temperature (CCT)	2686 K
Color Rendering Index (CRI)	95
R9	83
Chromaticity Coordinate (x)	0.4633
Chromaticity Coordinate (y)	0.4148
Chromaticity Coordinate (u')	0.2628
Chromaticity Coordinate (v')	0.5295

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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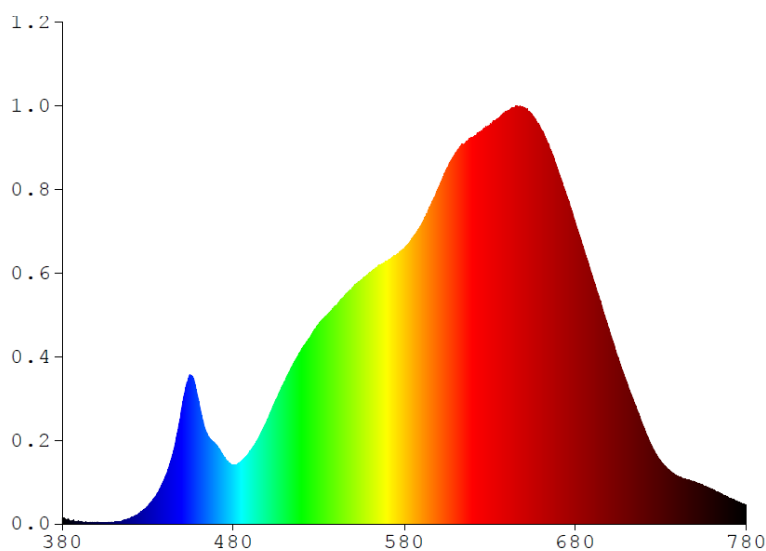
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKBA689WDXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.5926	480	5.2983	580	24.7570	680	26.9720	780	1.6691
385	0.2307	485	5.6832	585	25.7640	685	24.5790		
390	0.2005	490	6.5658	590	26.8960	690	22.2150		
395	0.1279	495	7.7673	595	28.5100	695	19.6950		
400	0.1419	500	9.4050	600	30.2080	700	17.2280		
405	0.1169	505	11.1470	605	31.9510	705	14.9020		
410	0.1603	510	12.7980	610	33.3730	710	12.6650		
415	0.2667	515	14.3640	615	34.1230	715	10.6640		
420	0.5163	520	15.6920	620	34.7170	720	8.6396		
425	0.9524	525	16.7960	625	35.3210	725	6.8340		
430	1.5939	530	17.9600	630	35.7900	730	5.5964		
435	2.5651	535	18.8200	635	36.4830	735	4.7961		
440	4.1282	540	19.5970	640	37.0860	740	4.2760		
445	6.4850	545	20.4980	645	37.5280	745	3.9846		
450	10.4400	550	21.2580	650	37.4180	750	3.7405		
455	13.2940	555	21.9340	655	36.6490	755	3.4361		
460	10.7800	560	22.5750	660	35.4350	760	3.1005		
465	7.9040	565	23.2610	665	33.7150	765	2.7091		
470	7.0908	570	23.5740	670	31.6230	770	2.3352		
475	5.9456	575	24.1400	675	29.0250	775	1.9729		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA689WDXX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

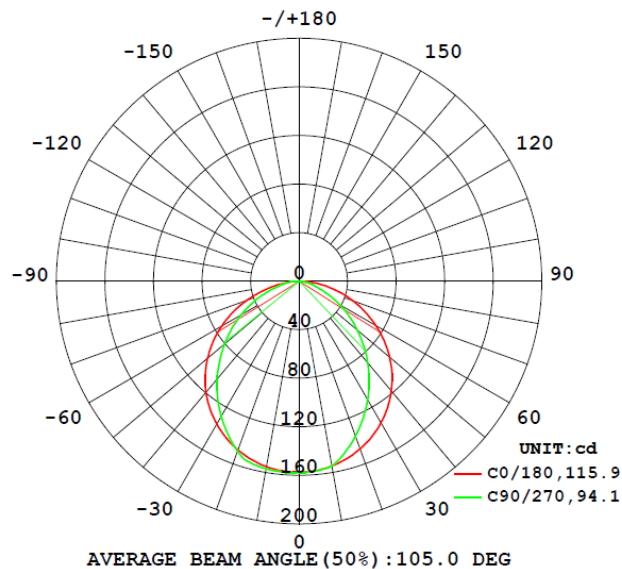
Photometric Measurements at 25°C – Distribution Method

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')
AKBA689WDXX								
S2411282 12-003	base-up	2686	95	83	0.4633	0.4148	0.2628	0.5295

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)
AKBA689WDXX							
S2411282 12-003	base-up	120.0	228.0	27.1	0.988	402.2	14.9

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA689WDXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	157.4	155.5	156.6	157.4	157.7
5	156.6	152.9	154.7	156.1	156.9
10	154.6	149.2	151.8	153.3	154.4
15	151.3	144.4	147.1	144.6	146.0
20	146.9	138.6	137.5	134.1	135.7
25	141.4	131.7	126.7	123.0	124.7
30	134.7	122.4	115.0	111.2	113.0
35	127.0	110.4	102.6	98.6	100.6
40	118.2	97.3	89.6	85.8	88.0
45	108.3	83.5	76.2	73.0	75.2
50	97.4	69.4	62.9	60.2	62.5
55	85.5	55.2	50.1	48.1	50.4
60	72.9	41.1	37.4	36.1	38.4
65	59.8	27.7	25.4	24.6	26.8
70	46.8	15.7	14.6	15.2	17.0
75	33.7	6.2	7.8	9.3	10.9
80	21.3	1.4	2.9	4.0	5.4
85	8.7	0.0	0.0	0.0	0.3
90	0.2	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	0.1	0.0	0.0	0.0
115	0.1	0.1	0.1	0.1	0.1
120	0.1	0.1	0.1	0.1	0.1
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	0.2	0.2	0.2	0.2
140	0.1	0.2	0.2	0.2	0.2
145	0.2	0.2	0.2	0.2	0.2
150	0.2	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	0.2	0.2	0.1	0.1

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA689WDXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKBA689WDXX		
0-30	120.7	30.0
0-40	194.2	48.3
0-60	328.8	81.7
0-90	401.2	99.8
60-90	72.4	18.1
0-180	402.2	100.0

Beam Angle

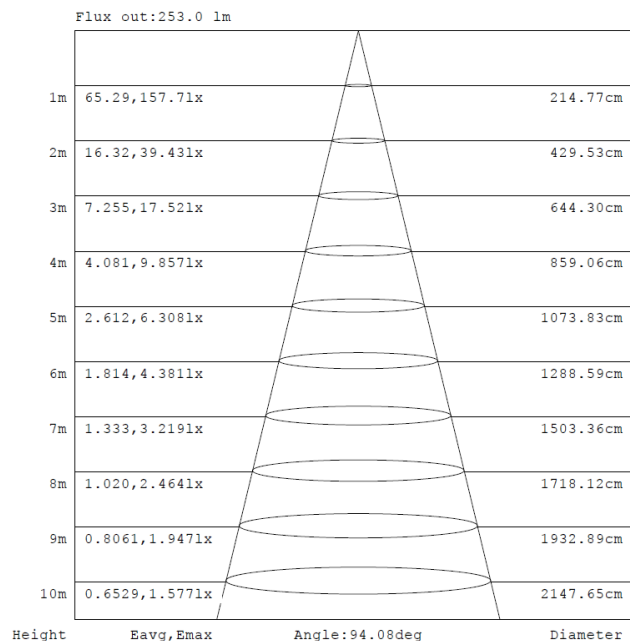
Total Beam Angle(°)
105.0

Illumination Plots

Model No.: AKBA689WDXX

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

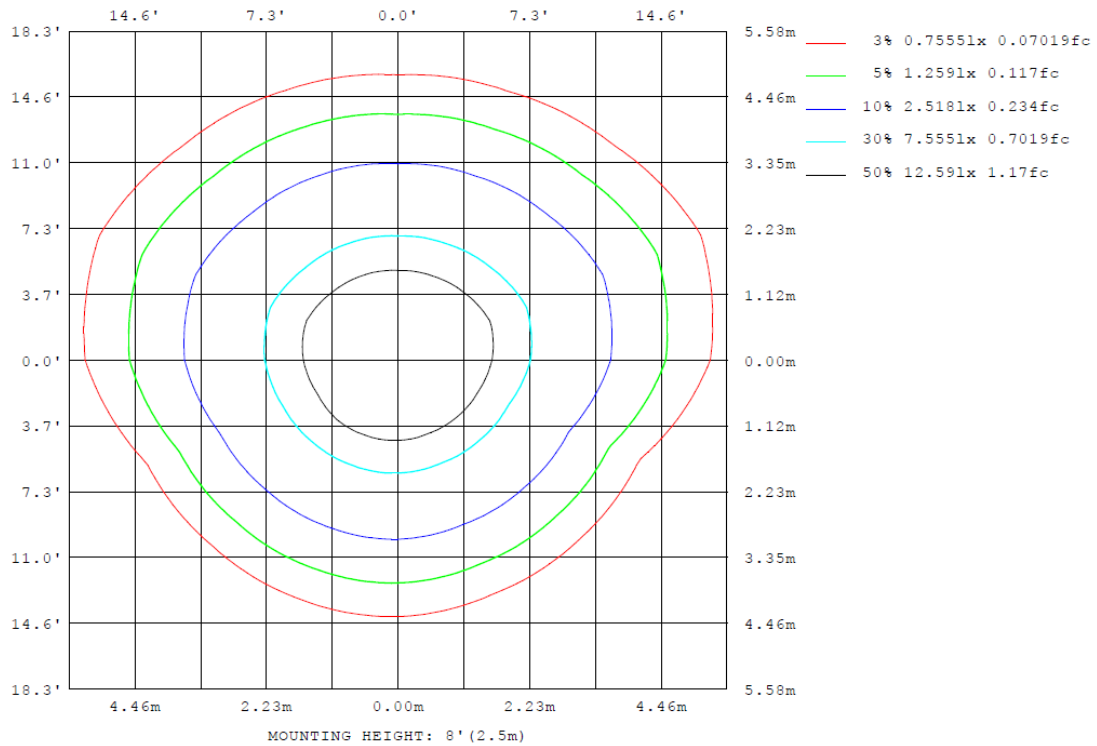
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA689WDXX

Model No.: AKBA689WDXX

Mount Height: 2.5 m

Isoillumination Plot



TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKBA689WDXX

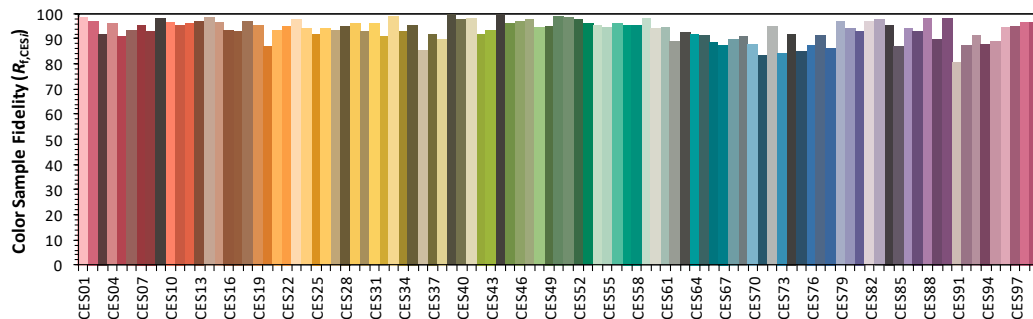
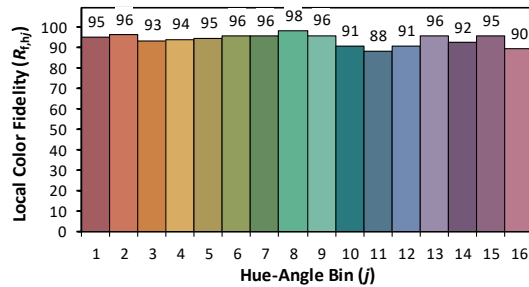
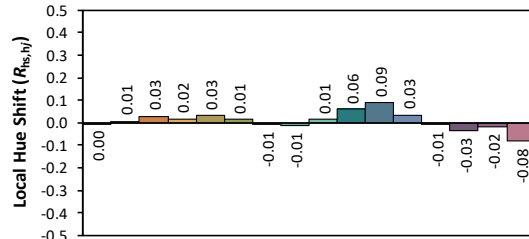
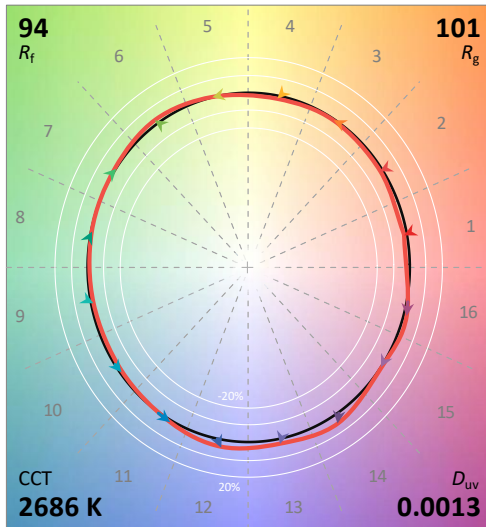
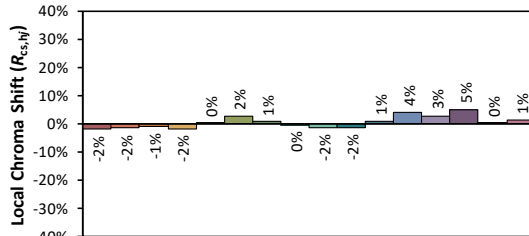
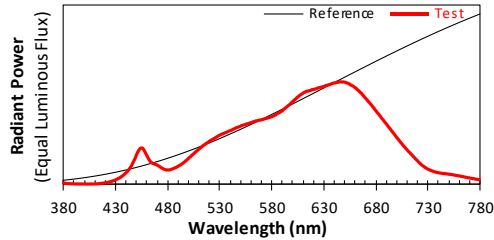
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/17

Model: AKBA689WDXX



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

x 0.4633
 y 0.4148
 u' 0.2628
 v' 0.5295

CIE 13.3-1995
(CRI)

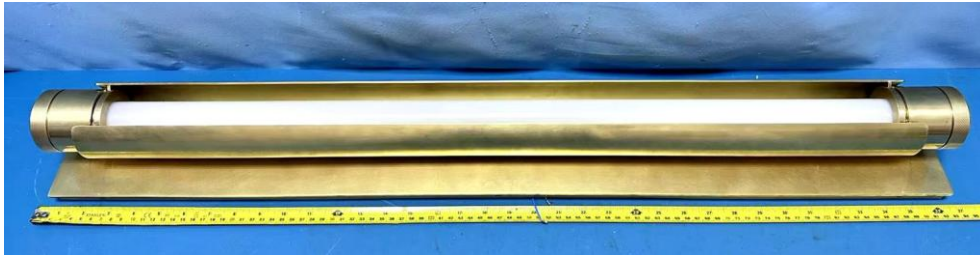
R_a 95
 R_g 83

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 AKBA689WDXX



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 *****