

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240124048GZU-006

ISSUE DATE

19 July 2024

REVISION DATE

Modification 1: 07 November 2024

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240124048GZU-006
Modification 1: 07 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKWS34027XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

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Email: asame@visualcomfort.com
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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: QGZ240122060.

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 AKWS34027XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240124048-008.

MANUFACTURER /FACTORY & ADDRESS: Dongguan Denghuang HomeFurnishing Co., Ltd.
No.5, Central Road, Yayuan IndustrialZone, Nancheng District
Dongguan City, Guangdong Province, 523000

DATES OF TESTS: 19 July 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:	AKWS34027XX
Description:	LED luminaire
Brand Name:	NA

Test Condition: 120V, 60Hz For AKWS34027XX

Criteria	Result
Total Lumen Output	232.1 lm
Total Power	7.0 W
Luminaire Efficacy	33.0 lm/W
S/MH(C0/180)	0.55
S/MH(C90/270)	0.72
Correlated Color Temperature (CCT)	2682 K
Color Rendering Index (CRI)	91
R9	55
Chromaticity Coordinate (x)	0.4548
Chromaticity Coordinate (y)	0.3994
Chromaticity Coordinate (u')	0.2643
Chromaticity Coordinate (v')	0.5222

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240124048GZU-006 issued on 19 July 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page 1 and 2 of the report.

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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	DS215S	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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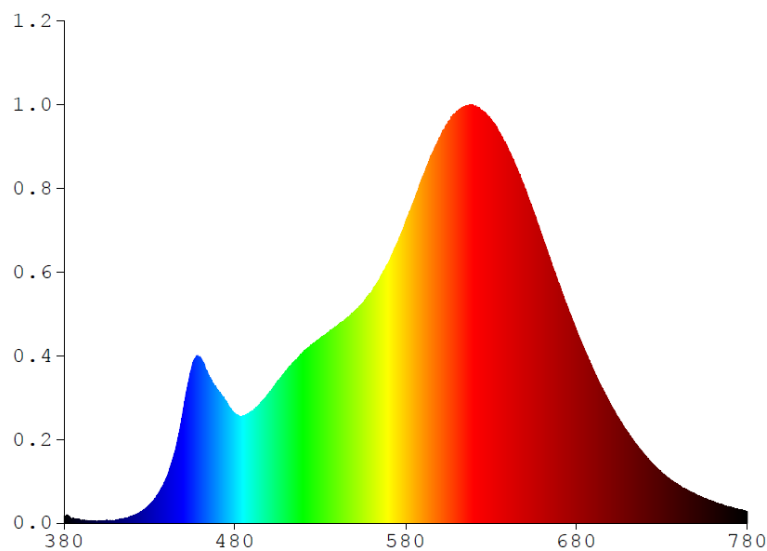
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKWS34027XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1012	480	1.4355	580	3.9439	680	2.5179	780	0.1465
385	0.0687	485	1.3990	585	4.2275	685	2.2445		
390	0.0292	490	1.4688	590	4.5372	690	1.9945		
395	0.0273	495	1.5700	595	4.8098	695	1.7645		
400	0.0232	500	1.7025	600	5.0472	700	1.5431		
405	0.0455	505	1.8531	605	5.2495	705	1.3558		
410	0.0380	510	1.9897	610	5.3837	710	1.1841		
415	0.0601	515	2.1154	615	5.4524	715	1.0287		
420	0.0926	520	2.2308	620	5.4536	720	0.8848		
425	0.1503	525	2.3311	625	5.3872	725	0.7650		
430	0.2374	530	2.4127	630	5.2652	730	0.6571		
435	0.3797	535	2.5008	635	5.1069	735	0.5673		
440	0.5960	540	2.5817	640	4.8872	740	0.4941		
445	0.9424	545	2.6711	645	4.6405	745	0.4299		
450	1.5019	550	2.7626	650	4.3677	750	0.3734		
455	2.0661	555	2.8787	655	4.0595	755	0.3210		
460	2.1580	560	3.0176	660	3.7391	760	0.2787		
465	1.9143	565	3.2023	665	3.4194	765	0.2423		
470	1.7365	570	3.4127	670	3.1108	770	0.2086		
475	1.5835	575	3.6591	675	2.7452	775	0.1809		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKWS34027XX

Total operation burning time: 60 minutes
Stabilization time: 30 minutes

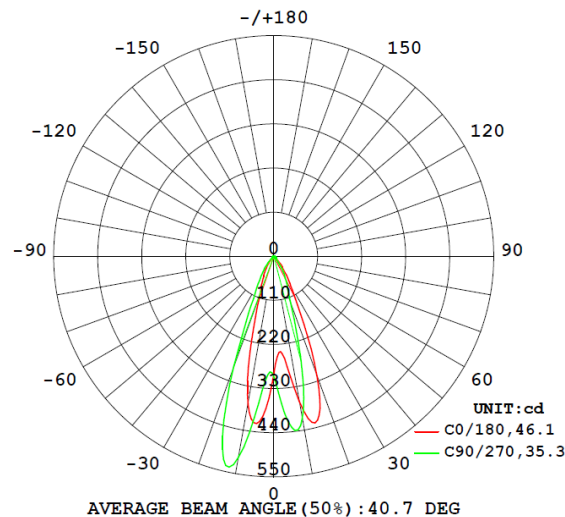
Photometric Measurements at 25°C – Distribution Method

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')
AKWS34027XX								
S2401240 48-008	base-up	2682	91	55	0.4548	0.3994	0.2643	0.5222

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)
AKWS34027XX							
S2401240 48-008	base-up	120.1	59.7	7.0	0.983	232.1	33.0

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKWS34027XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	293.3	249.2	252.7	273.7	300.3
5	243.3	298.4	381.0	407.5	413.0
10	366.1	475.2	537.8	512.3	411.6
15	422.8	468.3	440.5	353.5	259.2
20	316.9	283.6	224.8	166.0	122.8
25	158.8	136.0	112.1	87.8	82.0
30	86.4	76.9	64.1	56.4	54.0
35	49.2	42.0	41.8	34.9	28.0
40	30.7	26.2	14.7	11.4	11.2
45	12.0	6.2	6.0	6.0	6.4
50	4.8	5.2	5.2	5.0	5.1
55	5.6	6.6	6.9	5.1	6.1
60	3.8	4.4	5.2	5.3	8.3
65	3.0	3.7	4.2	3.8	4.4
70	2.8	3.3	3.7	3.4	3.8
75	2.2	2.1	1.9	1.7	1.9
80	0.3	0.3	0.3	0.3	0.3
85	0.2	0.1	0.1	0.1	0.1
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	0.1
130	0.0	0.1	0.1	0.1	0.1
135	0.1	0.1	0.1	0.2	0.2
140	0.1	0.2	0.2	0.2	0.2
145	0.2	0.2	0.3	0.3	0.3
150	0.3	0.3	0.3	0.3	0.4
155	0.3	0.4	0.4	0.4	0.4
160	0.4	0.4	0.4	0.4	0.4
165	0.4	0.4	0.4	0.4	0.4
170	0.4	0.4	0.4	0.3	0.3
175	0.3	0.3	0.3	0.3	0.2
180	0.3	0.2	0.2	0.2	0.2

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKWS34027XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKWS34027XX		
0-30	185.3	79.8
0-40	211.1	90.9
0-60	224.4	96.7
0-90	231.6	99.8
60-90	7.2	3.1
0-180	232.1	100.0

Beam Angle

Total Beam Angle(°)

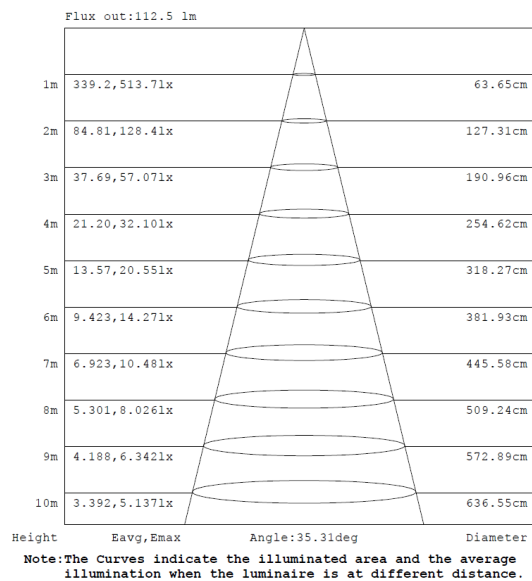
40.7

Illumination Plots

Model No.: AKWS34027XX

Mount Height: 2.5 m

Illuminance - Cone of Light



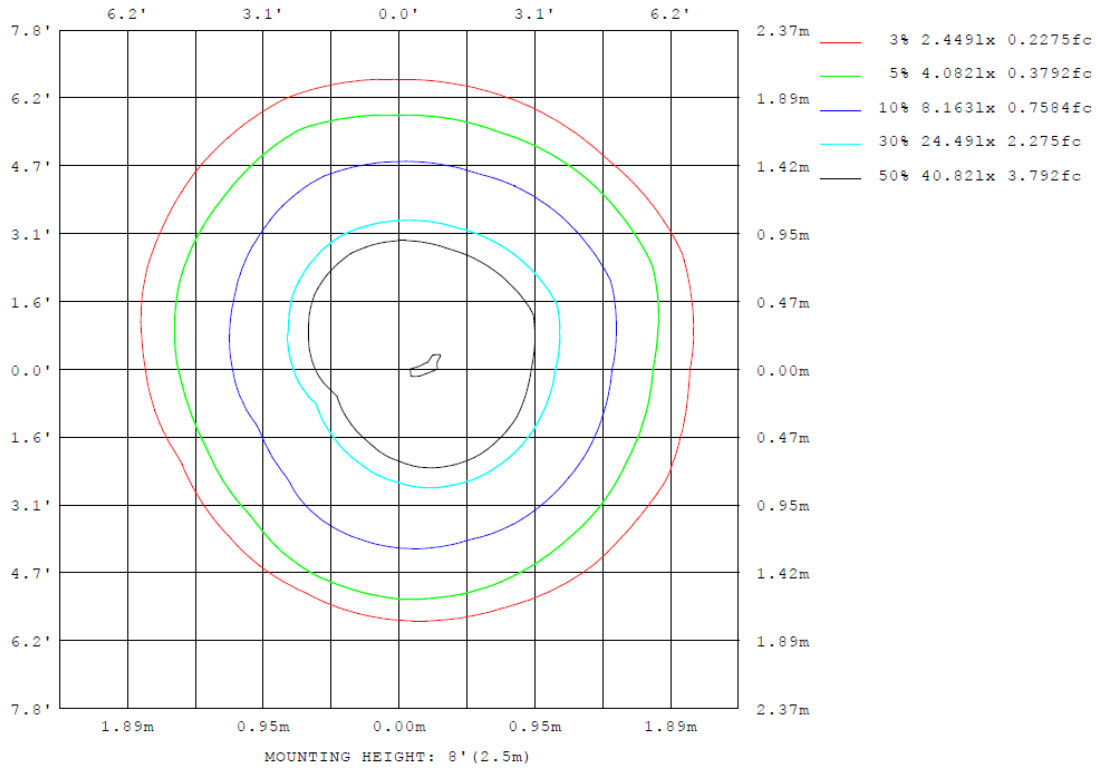
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKWS34027XX

Model No.: AKWS34027XX
Mount Height: 2.5 m
Isoillumination Plot



TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKWS34027XX

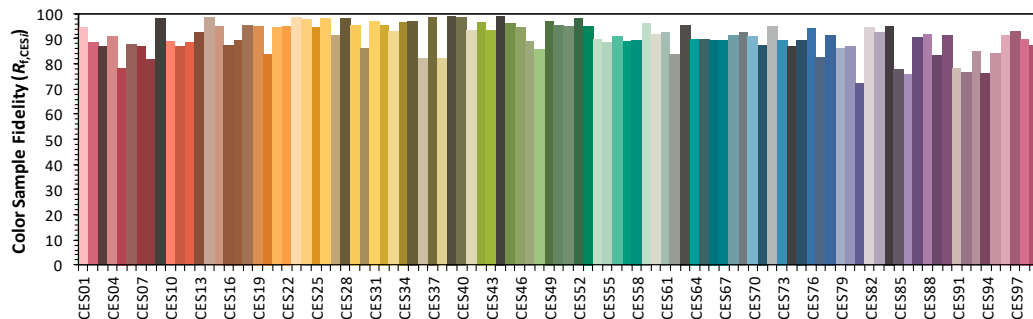
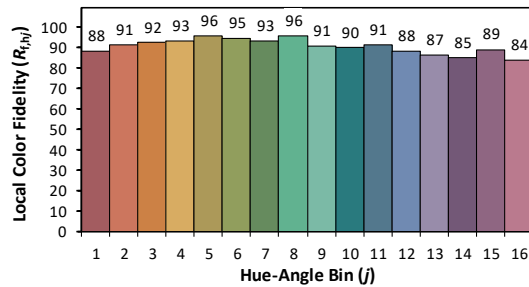
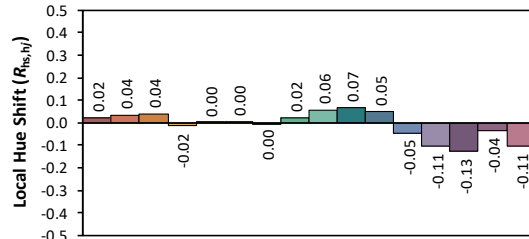
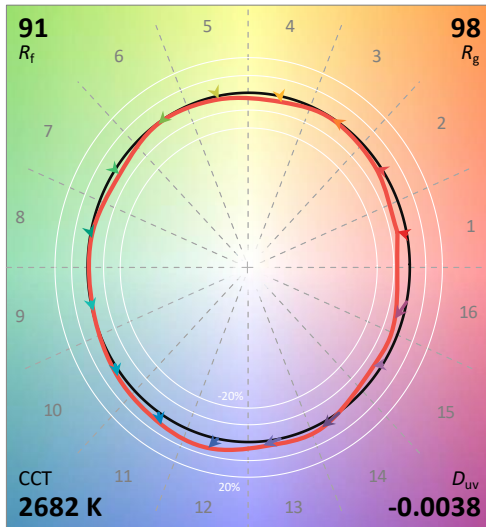
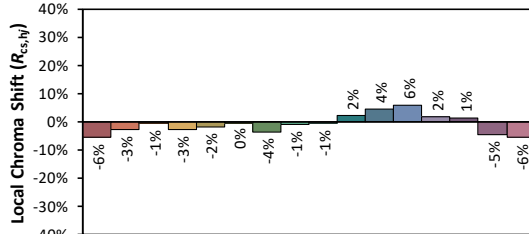
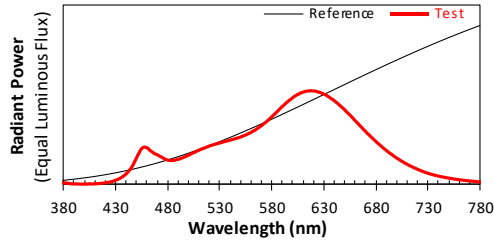
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/7/19

Model: AKWS34027XX



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

x 0.4548
 y 0.3994
 u' 0.2643
 v' 0.5222

CIE 13.3-1995
(CRI)

R_a 91
 R_g 55

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

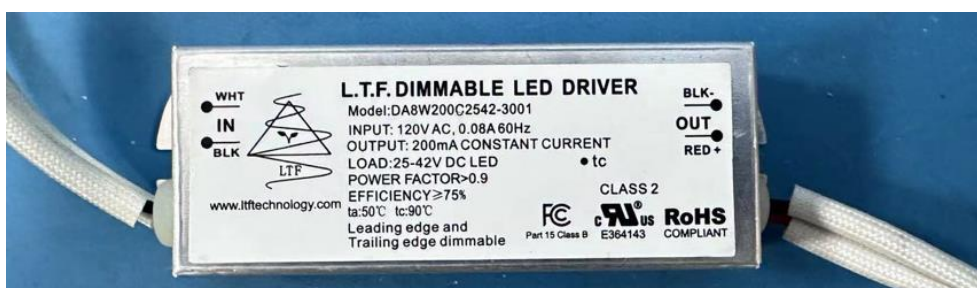
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of AKWS34027XX



View of LED driver DA8W200C2542-3001

***** 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 *****