

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240124048GZU-002

ISSUE DATE

18 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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TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKLS33727XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

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<u>TEST:</u>	Electrical and Photometric as required to the IES LM-79 test standard.
<u>AUTHORIZATION:</u>	The testing performed was authorized by signed quote number: QGZ240122060.
<u>STANDARDS USED:</u>	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
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model AKLS33727XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240124048-005.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Dongguan Denghuang HomeFurnishing Co., Ltd. No.5, Central Road, Yayuan IndustrialZone, Nancheng District Dongguan City, Guangdong Province, 523000
<u>DATES OF TESTS:</u>	15 July 2024
<u>ISSUED BY:</u>	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
<u>TEST LOCATION:</u>	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:	AKLS33727XX
Description:	LED luminaire
Brand Name:	NA

Test Condition: 120V, 60Hz For AKLS33727XX

Criteria	Result
Total Lumen Output	1039.5 lm
Total Power	27.1 W
Luminaire Efficacy	38.4 lm/W
S/MH(C0/180)	0.67
S/MH(C90/270)	0.44
Correlated Color Temperature (CCT)	2692 K
Color Rendering Index (CRI)	92
R9	57
Chromaticity Coordinate (x)	0.4528
Chromaticity Coordinate (y)	0.3969
Chromaticity Coordinate (u')	0.2641
Chromaticity Coordinate (v')	0.5209

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240124048GZU-002 issued on 18 July 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page 1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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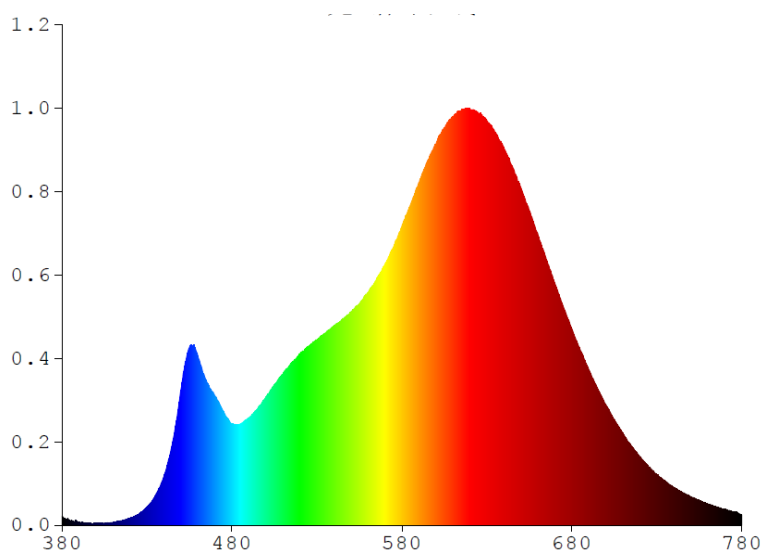
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKLS33727XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.4753	480	5.0266	580	14.8430	680	9.7098	780	0.4930
385	0.1919	485	5.0432	585	15.8960	685	8.6423		
390	0.1746	490	5.3270	590	17.0230	690	7.6819		
395	0.0984	495	5.7830	595	18.0960	695	6.7706		
400	0.1060	500	6.3639	600	18.9190	700	5.9637		
405	0.1151	505	6.9856	605	19.7240	705	5.2168		
410	0.1476	510	7.5098	610	20.2900	710	4.5311		
415	0.2183	515	8.0405	615	20.6150	715	3.9234		
420	0.3422	520	8.4950	620	20.6480	720	3.3836		
425	0.5482	525	8.8830	625	20.4360	725	2.9115		
430	0.9105	530	9.1977	630	20.0320	730	2.5251		
435	1.4764	535	9.5646	635	19.4990	735	2.1818		
440	2.4368	540	9.8911	640	18.6930	740	1.8671		
445	4.0893	545	10.2210	645	17.7820	745	1.6289		
450	6.6999	550	10.5820	650	16.7320	750	1.4092		
455	8.8330	555	10.9940	655	15.5790	755	1.2217		
460	8.3425	560	11.5280	660	14.4040	760	1.0460		
465	7.1336	565	12.1870	665	13.1580	765	0.9148		
470	6.4087	570	12.9610	670	11.9630	770	0.7910		
475	5.6332	575	13.7950	675	10.6090	775	0.6765		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS33727XX

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

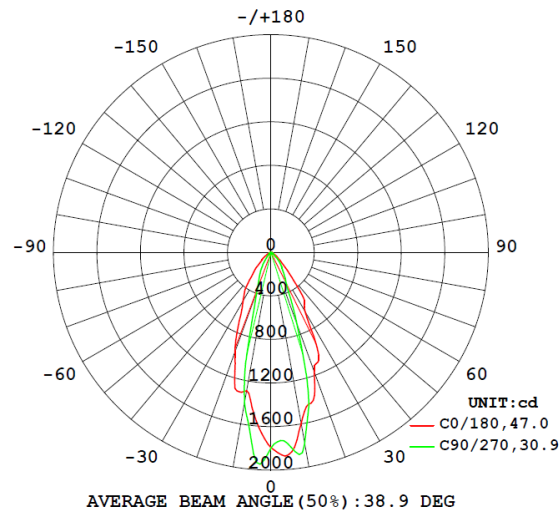
Photometric Measurements at 25°C – Distribution Method

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')
AKLS33727XX								
S2401240 48-005	base-up	2692	92	57	0.4528	0.3969	0.2641	0.5209

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)
AKLS33727XX							
S2401240 48-005	base-up	120.1	226.2	27.1	0.996	1039.5	38.4

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS33727XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	1792.4	1791.6	1791.7	1793.6	1796.3
5	1865.9	1824.3	1765.3	1755.5	1759.6
10	1596.3	1605.6	1791.7	1898.6	1789.2
15	1432.2	1431.0	1552.8	1546.1	1333.9
20	1163.2	1234.6	1164.3	953.5	706.8
25	1043.9	926.2	628.7	393.7	356.3
30	633.3	519.0	303.1	257.1	250.3
35	538.6	339.6	182.9	170.8	179.3
40	293.5	207.1	118.7	120.5	137.6
45	165.4	142.6	85.4	83.2	86.5
50	100.5	89.3	59.3	38.8	44.4
55	69.7	64.8	35.2	20.9	22.5
60	35.2	35.3	23.1	16.3	18.3
65	22.7	22.5	20.2	15.1	16.5
70	18.0	17.7	16.9	13.3	14.3
75	12.7	11.7	9.3	5.4	5.9
80	2.3	2.2	1.8	1.5	1.7
85	0.8	0.8	0.8	0.7	0.9
90	0.0	0.0	0.1	0.1	0.1
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	0.1	0.0	0.0	0.0	0.0
120	0.1	0.1	0.1	0.1	0.1
125	0.2	0.2	0.1	0.1	0.1
130	0.3	0.3	0.2	0.2	0.2
135	0.4	0.4	0.4	0.4	0.4
140	0.6	0.7	0.7	0.7	0.7
145	0.9	1.0	1.0	1.0	1.0
150	1.1	1.2	1.3	1.3	1.4
155	1.4	1.5	1.6	1.7	1.7
160	1.6	1.6	1.8	1.9	1.9
165	1.6	1.7	1.9	2.0	1.9
170	1.6	1.7	1.8	1.8	1.8
175	1.4	1.5	1.6	1.6	1.5
180	1.2	1.3	1.3	1.2	1.2

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS33727XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKLS33727XX		
0-30	740.5	71.2
0-40	890.1	85.6
0-60	1009.1	97.1
0-90	1037.6	99.8
60-90	28.5	2.7
0-180	1039.5	100.0

Beam Angle

Total Beam Angle(°)

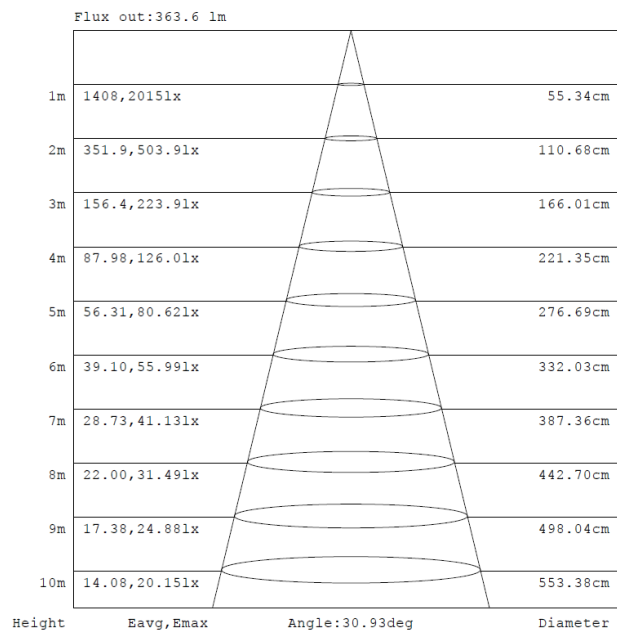
38.9

Illumination Plots

Model No.: AKLS33727XX

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

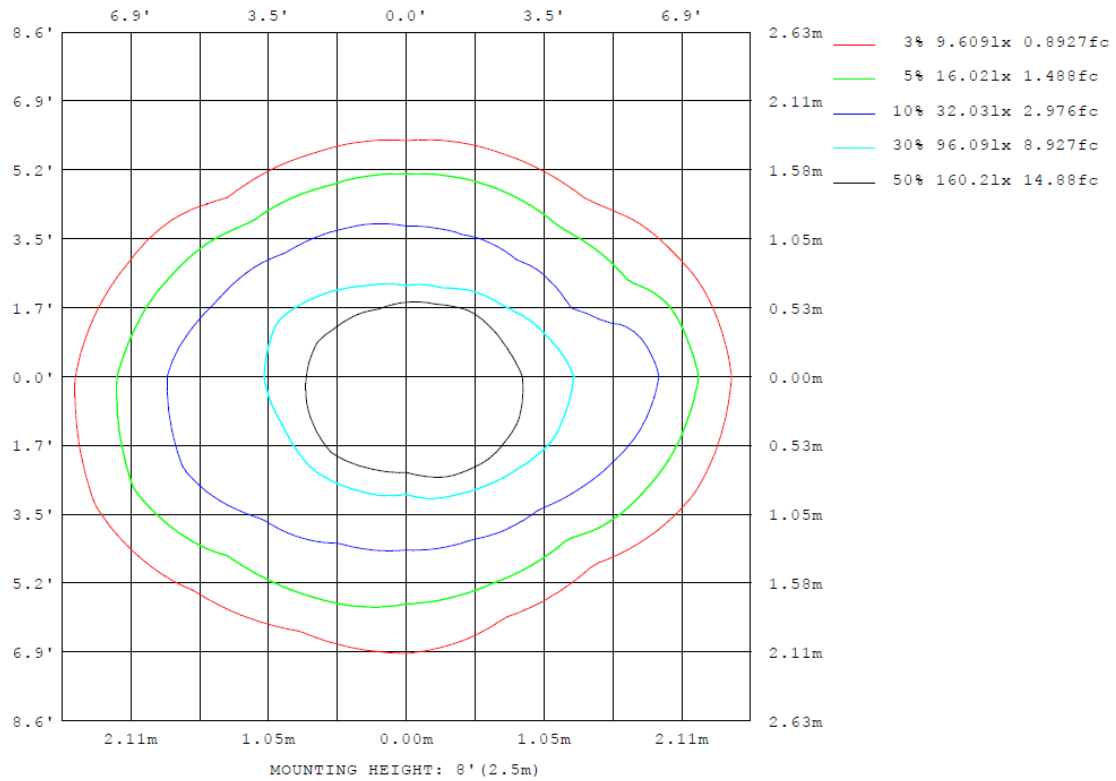
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS33727XX

Model No.: AKLS33727XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS33727XX

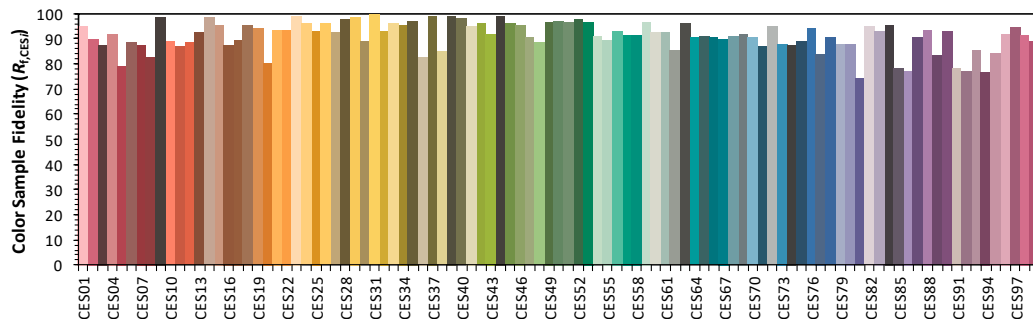
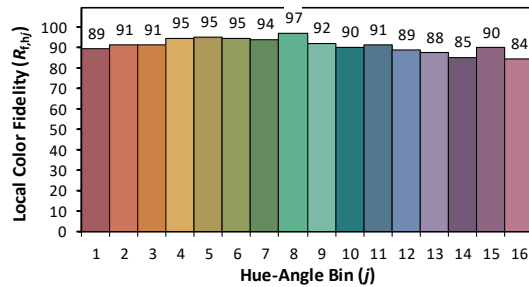
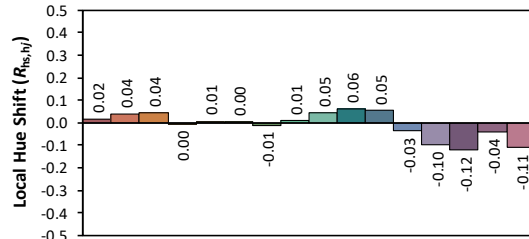
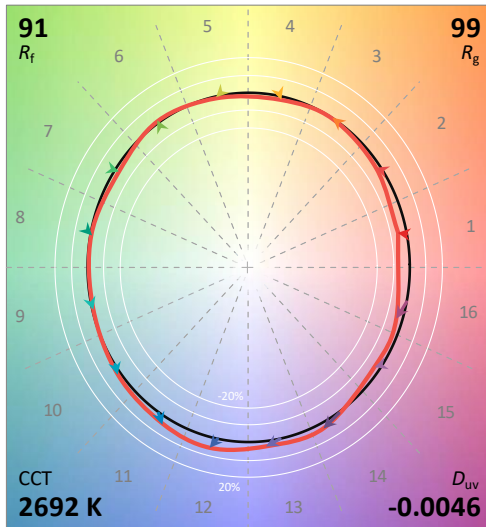
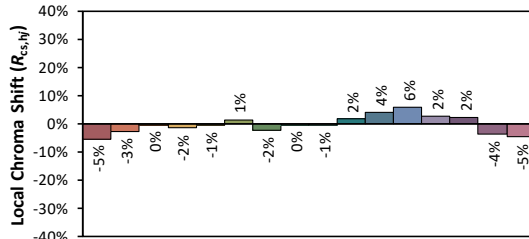
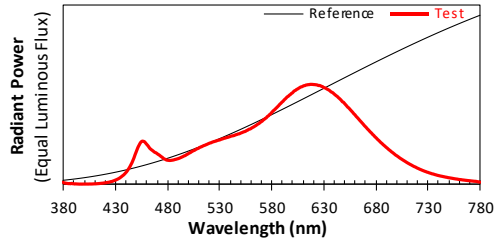
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/7/15

Model: AKLS33727XX



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

x 0.4528
 y 0.3969
 u' 0.2641
 v' 0.5209

CIE 13.3-1995
(CRI)

R_a 92
 R_g 57

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 AKLS33727XX



View of LED driver PVD27-C070V38-UNV3-HE-P

***** 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 *****