

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240124048GZU-007

ISSUE DATE

22 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-007
Modification 1: 07 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKFL34127XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

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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 AKFL34127XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240124048-003.
<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>	22 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:	AKFL34127XX
Description:	LED luminaire
Brand Name:	NA

Test Condition: 120V, 60Hz For AKFL34127XX

Criteria	Result
Total Lumen Output	296.5 lm
Total Power	8.5 W
Luminaire Efficacy	34.8 lm/W
S/MH(C0/180)	3.24
S/MH(C90/270)	0.00
Correlated Color Temperature (CCT)	2708 K
Color Rendering Index (CRI)	92
R9	59
Chromaticity Coordinate (x)	0.4505
Chromaticity Coordinate (y)	0.3949
Chromaticity Coordinate (u')	0.2636
Chromaticity Coordinate (v')	0.5198

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240124048GZU-007 issued on 22 July 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page 1 and 2 of the report.

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

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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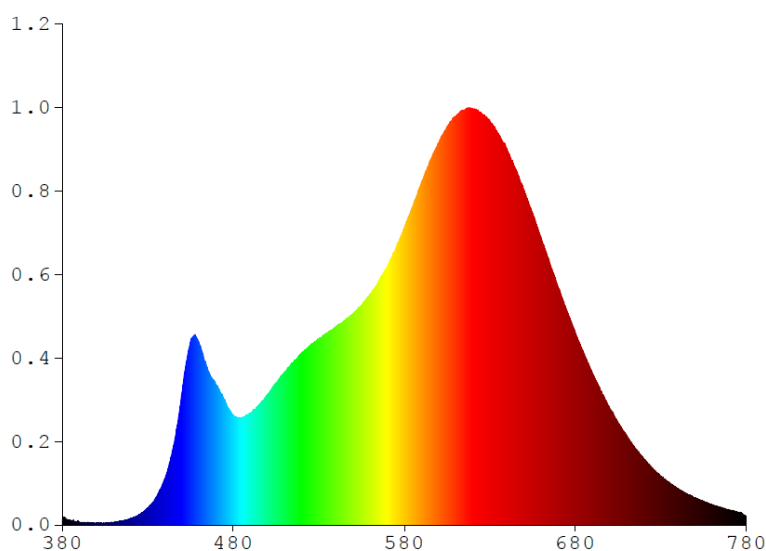
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKFL34127XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1064	480	2.0217	580	5.4626	680	3.5188	780	0.1570
385	0.0781	485	1.9647	585	5.8585	685	3.1419		
390	0.0578	490	2.0599	590	6.2920	690	2.7826		
395	0.0504	495	2.2037	595	6.6973	695	2.4541		
400	0.0387	500	2.4029	600	7.0130	700	2.1388		
405	0.0353	505	2.6110	605	7.3172	705	1.8712		
410	0.0499	510	2.8093	610	7.5160	710	1.6310		
415	0.0742	515	2.9858	615	7.6247	715	1.4085		
420	0.1180	520	3.1550	620	7.6488	720	1.2131		
425	0.1905	525	3.2954	625	7.5598	725	1.0446		
430	0.3109	530	3.4097	630	7.4168	730	0.8966		
435	0.5157	535	3.5294	635	7.1869	735	0.7724		
440	0.8486	540	3.6482	640	6.9016	740	0.6656		
445	1.4432	545	3.7567	645	6.5445	745	0.5746		
450	2.4217	550	3.8835	650	6.1484	750	0.4999		
455	3.3745	555	4.0369	655	5.7075	755	0.4331		
460	3.3329	560	4.2359	660	5.2725	760	0.3705		
465	2.8517	565	4.4660	665	4.8033	765	0.3201		
470	2.5662	570	4.7503	670	4.3510	770	0.2753		
475	2.2904	575	5.0807	675	3.8474	775	0.2348		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKFL34127XX

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

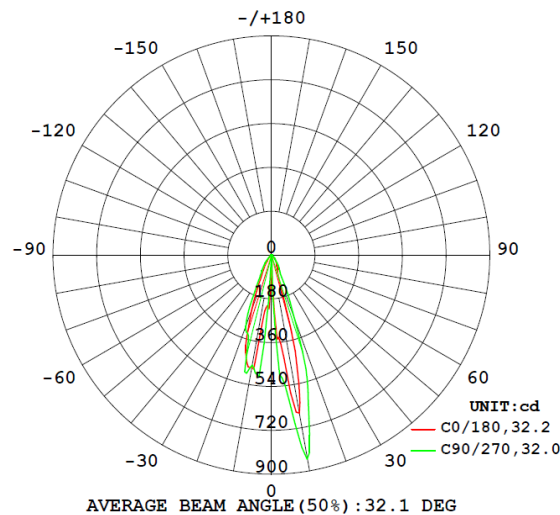
Photometric Measurements at 25°C – Distribution Method

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')
AKFL34127XX								
S2401240 48-003	base-up	2708	92	59	0.4505	0.3949	0.2636	0.5198

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)
AKFL34127XX							
S2401240 48-003	base-up	120.1	154.9	8.5	0.459	296.5	34.8

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKFL34127XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	1.0	6.5	1.5	0.4	0.2
5	338.3	406.7	576.9	736.0	506.2
10	659.2	783.0	863.4	956.8	850.9
15	300.9	411.9	460.9	613.3	583.9
20	78.8	121.1	189.0	234.4	284.6
25	57.2	83.9	90.1	87.6	103.0
30	45.5	63.9	65.9	63.0	65.1
35	32.2	40.8	42.2	45.1	44.0
40	21.8	32.3	29.2	29.9	24.9
45	7.6	11.3	17.0	19.1	22.4
50	4.9	5.6	7.4	9.0	11.1
55	3.4	4.1	5.6	6.2	6.4
60	3.0	4.2	4.7	5.4	6.4
65	2.6	4.0	4.1	4.1	4.1
70	2.1	3.4	3.7	3.7	3.5
75	1.0	1.1	1.0	1.0	1.0
80	0.7	0.7	0.7	0.6	0.6
85	0.2	0.2	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	0.1	0.1	0.1	0.1	0.1
120	0.1	0.1	0.1	0.1	0.1
125	0.2	0.2	0.2	0.2	0.1
130	0.2	0.2	0.2	0.2	0.2
135	0.3	0.3	0.3	0.3	0.3
140	0.4	0.5	0.4	0.4	0.4
145	0.5	0.6	0.5	0.5	0.5
150	0.7	0.7	0.7	0.7	0.6
155	0.8	1.0	0.9	0.8	0.8
160	1.0	1.2	1.1	1.0	1.0
165	0.9	1.2	1.3	1.2	1.1
170	0.5	0.8	1.3	1.4	1.3
175	0.5	0.8	1.1	1.2	1.3
180	0.3	0.3	0.3	0.3	0.3

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKFL34127XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKFL34127XX		
0-30	238.8	80.5
0-40	269.1	90.8
0-60	288.9	97.4
0-90	295.1	99.5
60-90	6.2	2.1
0-180	296.5	100.0

Beam Angle

Total Beam Angle(°)

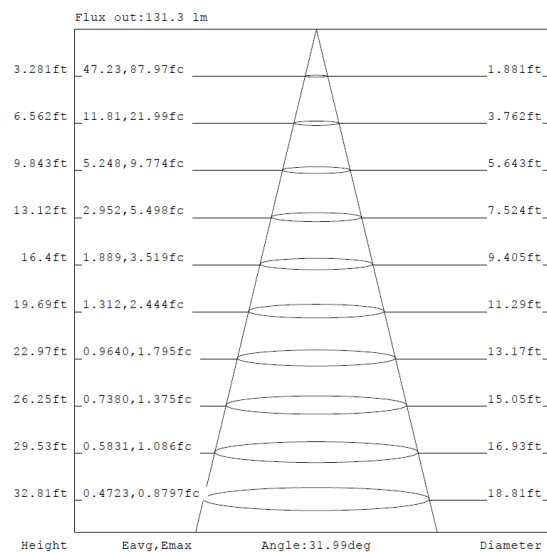
32.1

Illumination Plots

Model No.: AKFL34127XX

Mount Height: 2.5 m

Illuminance - Cone of Light



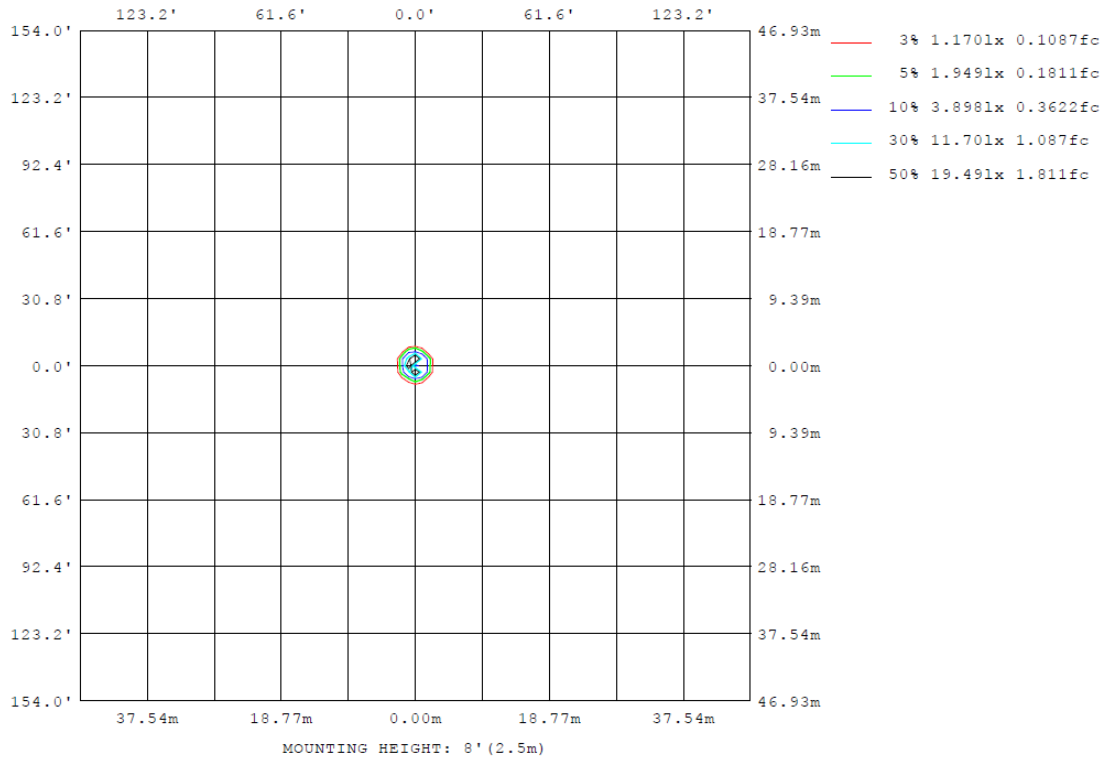
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKFL34127XX

Model No.: AKFL34127XX
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKFL34127XX

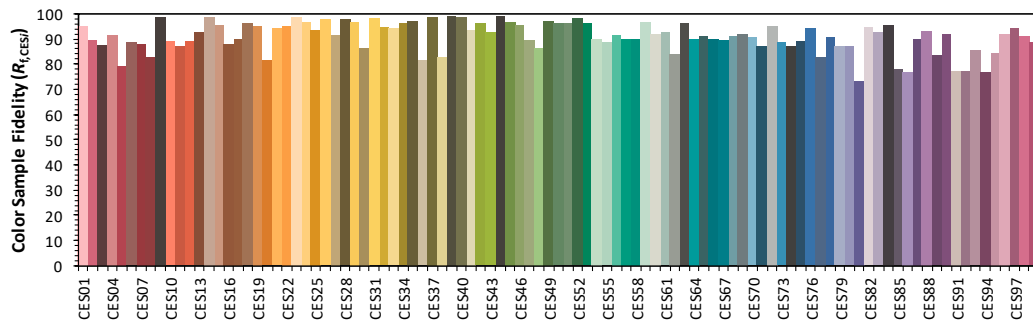
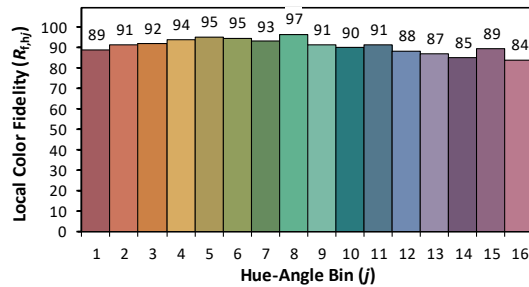
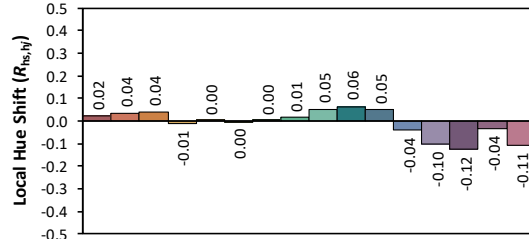
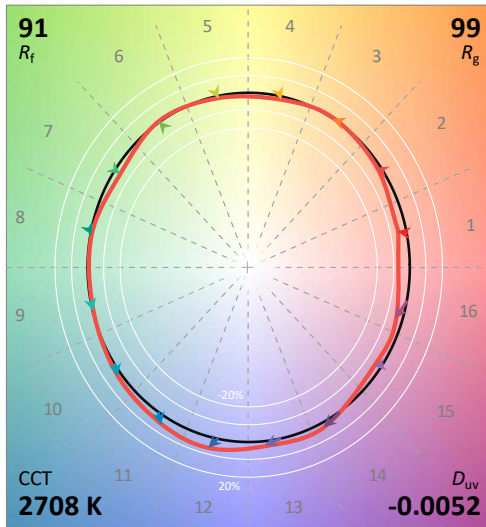
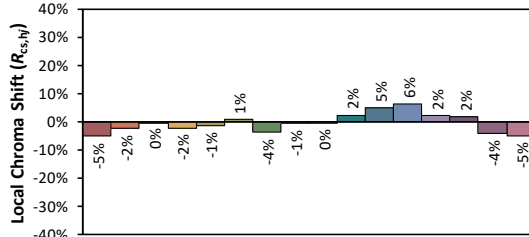
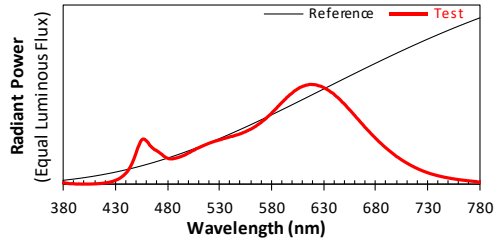
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/7/22

Model: AKFL34127XX



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

x 0.4505
 y 0.3949
 u' 0.2636
 v' 0.5198

CIE 13.3-1995
(CRI)

R_a 92
 R_g 59

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 AKFL34127XX

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver APV-25-36



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 *****