

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240124048GZU-001

ISSUE DATE

25 July 2024

REVISION DATE

Modification 1: 07 November 2024

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DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240124048GZU-001
Modification 1: 07 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKCH33427XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

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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 AKCH33427XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240124048-009.

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

DATES OF TESTS: 17 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:	AKCH33427XX
Description:	LED luminaire
Brand Name:	NA

Test Condition: 120V, 60Hz For AKCH33427XX

Criteria	Result
Total Lumen Output	1218.1 lm
Total Power	26.6 W
Luminaire Efficacy	45.8 lm/W
S/MH(C0/180)	0.65
S/MH(C90/270)	0.82
Correlated Color Temperature (CCT)	2689 K
Color Rendering Index (CRI)	92
R9	57
Chromaticity Coordinate (x)	0.4527
Chromaticity Coordinate (y)	0.3965
Chromaticity Coordinate (u')	0.2643
Chromaticity Coordinate (v')	0.5207

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240124048GZU-001 issued on 25 July 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page 1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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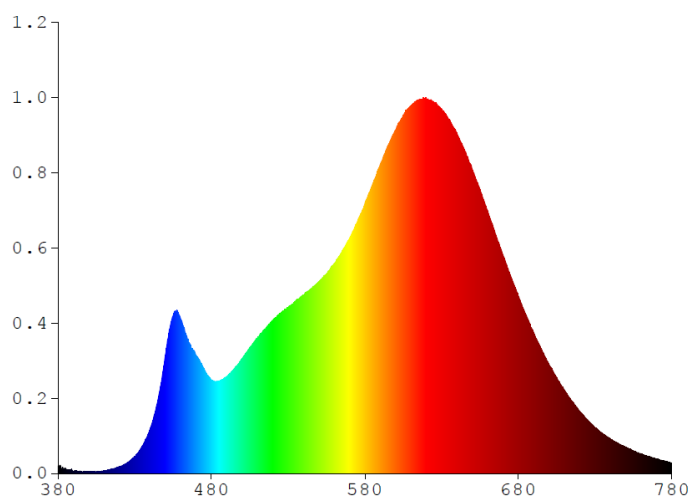
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKCH33427XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.4487	480	6.2606	580	18.1170	680	11.8760	780	0.6717
385	0.3104	485	6.1931	585	19.4030	685	10.5990		
390	0.1514	490	6.5060	590	20.7280	690	9.4172		
395	0.1440	495	7.0595	595	22.0160	695	8.2999		
400	0.1183	500	7.7018	600	23.0400	700	7.2673		
405	0.1167	505	8.4354	605	24.0330	705	6.3947		
410	0.1844	510	9.0946	610	24.6880	710	5.5612		
415	0.3041	515	9.6649	615	25.0730	715	4.8264		
420	0.4583	520	10.2390	620	25.1510	720	4.1510		
425	0.7103	525	10.7230	625	24.8620	725	3.6000		
430	1.1507	530	11.1180	630	24.4220	730	3.0787		
435	1.8384	535	11.6000	635	23.7520	735	2.6592		
440	2.9848	540	11.9890	640	22.7660	740	2.3116		
445	4.8783	545	12.4050	645	21.6440	745	2.0139		
450	7.9259	550	12.8790	650	20.3720	750	1.7524		
455	10.6030	555	13.4060	655	18.9880	755	1.5037		
460	10.3260	560	14.0750	660	17.6000	760	1.3047		
465	8.8098	565	14.8580	665	16.0640	765	1.1295		
470	7.8951	570	15.7910	670	14.6040	770	0.9772		
475	7.0353	575	16.8730	675	12.9250	775	0.8432		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKCH33427XX

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

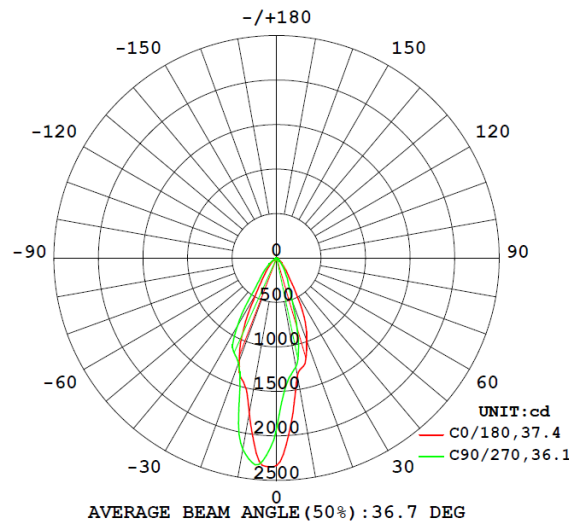
Photometric Measurements at 25°C – Distribution Method

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')
AKCH33427XX								
S2401240 48-009	base-up	2689	92	57	0.4527	0.3965	0.2643	0.5207

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
						Flux (Lumens)	Efficacy (Lumens Per Watt)
AKCH33427XX							
S2401240 48-009	base-up	120.0	222.7	26.6	0.996	1218.1	45.8

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKCH33427XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	2331.9	1845.0	1863.3	1874.6	1910.5
5	1873.1	1159.0	1155.6	1276.9	1394.9
10	1342.6	1021.6	1051.3	1168.7	1247.4
15	1230.5	1006.9	1033.3	951.2	939.5
20	985.4	742.8	748.7	577.3	529.4
25	728.8	380.2	379.5	319.9	308.0
30	386.5	200.1	202.7	197.1	205.7
35	206.6	124.5	124.1	116.7	141.0
40	128.1	84.6	83.3	67.5	82.9
45	79.7	49.9	46.0	44.4	40.4
50	48.1	27.1	25.4	25.8	25.9
55	26.4	20.0	21.7	22.9	23.4
60	20.4	17.4	20.0	20.3	21.4
65	18.6	10.7	15.5	13.4	14.1
70	11.3	4.5	5.4	4.7	4.5
75	4.8	1.8	2.0	2.1	2.0
80	1.8	0.5	0.5	0.5	0.5
85	0.6	0.0	0.0	0.0	0.0
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	0.1	0.1	0.1	0.1
115	0.1	0.1	0.1	0.1	0.1
120	0.1	0.2	0.2	0.2	0.2
125	0.2	0.4	0.4	0.4	0.4
130	0.4	0.6	0.6	0.6	0.6
135	0.6	0.9	0.9	0.9	0.9
140	0.8	1.2	1.2	1.2	1.2
145	1.1	1.4	1.5	1.5	1.5
150	1.4	1.6	1.6	1.6	1.6
155	1.5	1.6	1.7	1.7	1.7
160	1.6	1.6	1.6	1.6	1.7
165	1.6	1.5	1.4	1.5	1.5
170	1.5	1.2	1.2	1.3	1.3
175	1.3	1.0	1.1	1.1	1.1
180	1.1	0.8	0.8	0.8	0.8

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKCH33427XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKCH33427XX		
0-30	873.4	71.7
0-40	1059.5	87.0
0-60	1185.6	97.3
0-90	1215.9	99.8
60-90	30.3	2.5
0-180	1218.1	100.0

Beam Angle

Total Beam Angle(°)

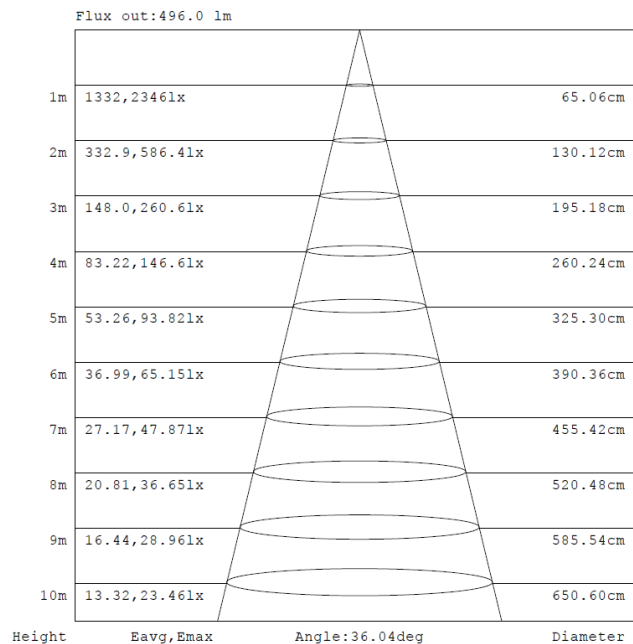
36.7

Illumination Plots

Model No.: AKCH33427XX

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.

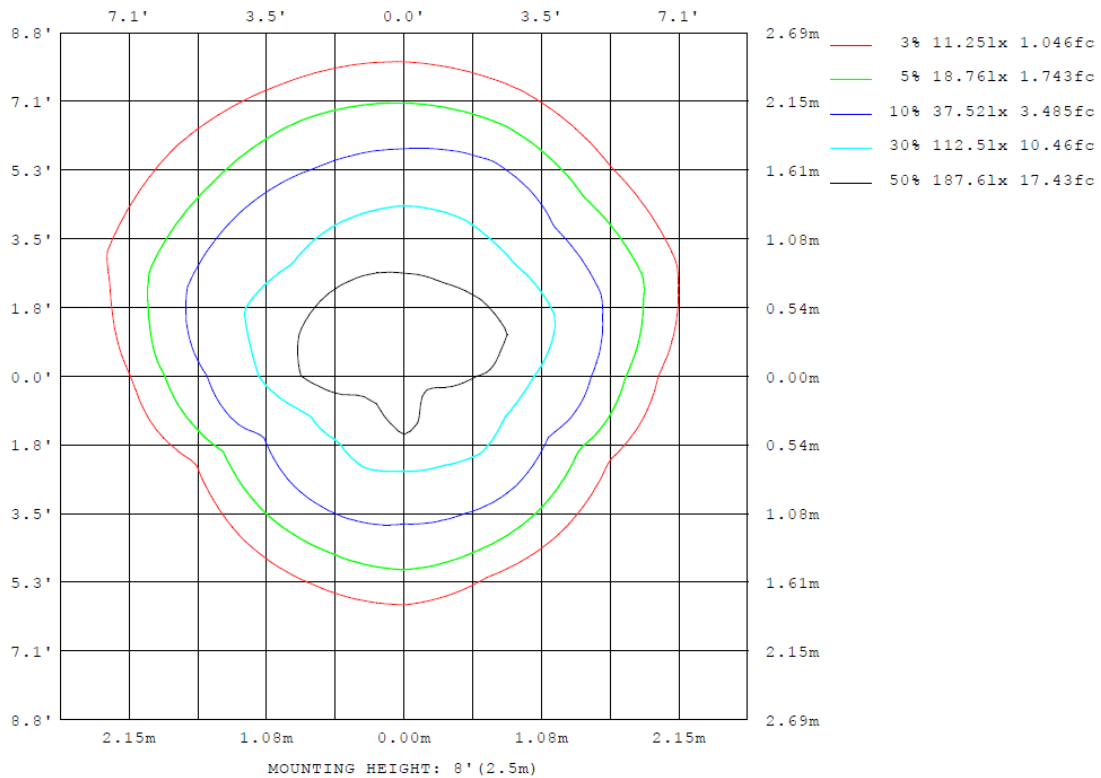
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKCH33427XX

Model No.: AKCH33427XX
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKCH33427XX

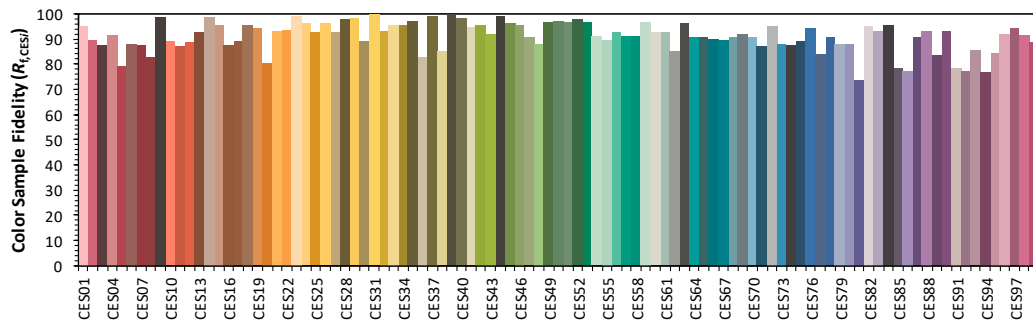
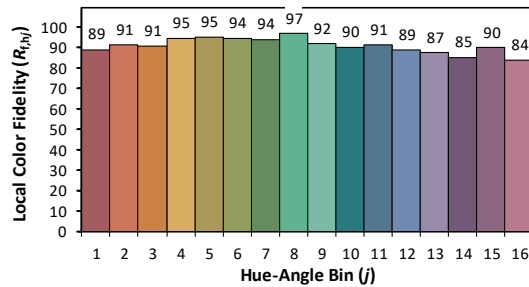
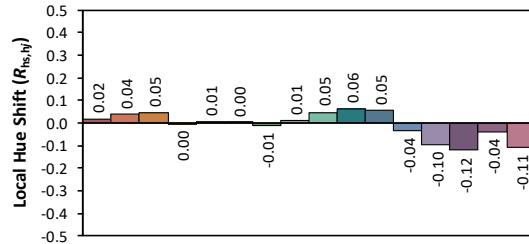
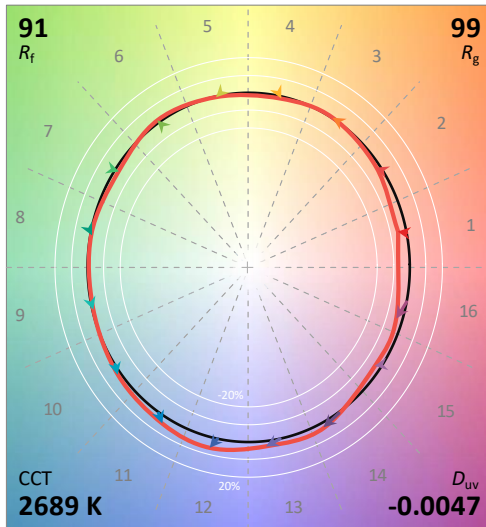
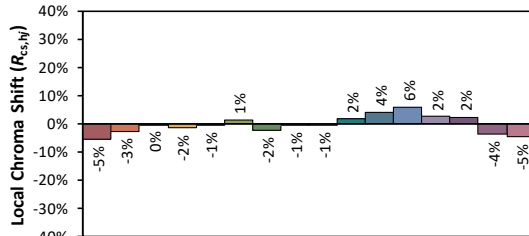
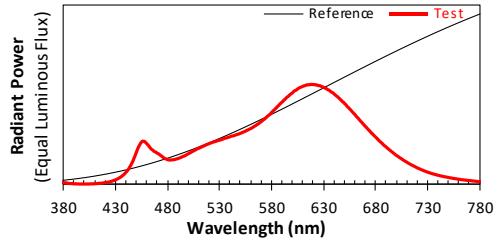
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/7/17

Model: AKCH33427XX



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

x 0.4527
 y 0.3965
 u' 0.2643
 v' 0.5207

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 AKCH33427XX



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 *****