

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241115139GZU-001

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REVISION DATE

None

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Report format for LM-79_G

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Report No.: 241115139GZU-001

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWOWS69127XXXCG

Remark: "XXX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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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: QGZ241114023.
<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 KWOWS69127XXXCG. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241115139-007.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Union Star Collection-Dongguan Denghuang HomeFurnishing Co., Ltd. No.5, Central Road, Yayuan Industrial Zone, Nancheng District, Dongguan City, Guangdong Province, 523000
<u>DATES OF TESTS:</u>	29 November 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:	KWOWS69127XXXCG
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWOWS69127XXXCG

Criteria	Result
Total Lumen Output	412.2 lm
Total Power	27.5 W
Luminaire Efficacy	15.0 lm/W
S/MH(C0/180)	0.66
S/MH(C90/270)	3.16
Correlated Color Temperature (CCT)	2018 K
Color Rendering Index (CRI)	86
R9	38
Chromaticity Coordinate (x)	0.5314
Chromaticity Coordinate (y)	0.4224
Chromaticity Coordinate (u')	0.3033
Chromaticity Coordinate (v')	0.5426

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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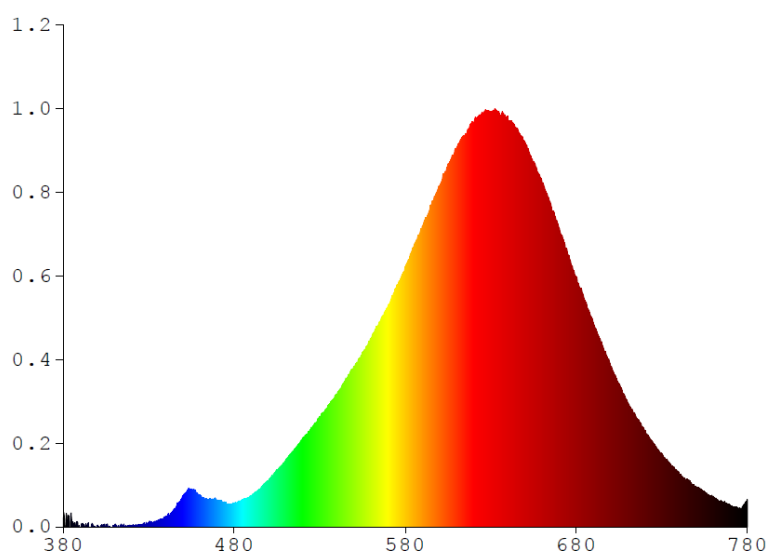
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWOWS69127XXXCG

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0287	480	0.2375	580	2.6334	680	2.5279	780	0.2758
385	0.0294	485	0.2763	585	2.8418	685	2.2864		
390	0.0000	490	0.3122	590	3.0447	690	2.0533		
395	0.0000	495	0.3831	595	3.2597	695	1.8398		
400	0.0164	500	0.4688	600	3.4441	700	1.6212		
405	0.0241	505	0.5797	605	3.6749	705	1.4449		
410	0.0123	510	0.6754	610	3.8393	710	1.2534		
415	0.0086	515	0.7774	615	3.9703	715	1.1056		
420	0.0132	520	0.9016	620	4.0957	720	0.9754		
425	0.0115	525	1.0068	625	4.1958	725	0.8402		
430	0.0411	530	1.1138	630	4.2056	730	0.7394		
435	0.0559	535	1.2335	635	4.1785	735	0.6320		
440	0.1039	540	1.3430	640	4.1257	740	0.5389		
445	0.1804	545	1.4901	645	4.0327	745	0.4709		
450	0.3150	550	1.6208	650	3.8926	750	0.4051		
455	0.3744	555	1.7715	655	3.6934	755	0.3526		
460	0.3209	560	1.9126	660	3.4837	760	0.3106		
465	0.2707	565	2.0781	665	3.2721	765	0.2609		
470	0.2700	570	2.2395	670	3.0200	770	0.2157		
475	0.2445	575	2.4434	675	2.7099	775	0.1867		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS69127XXXCG

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

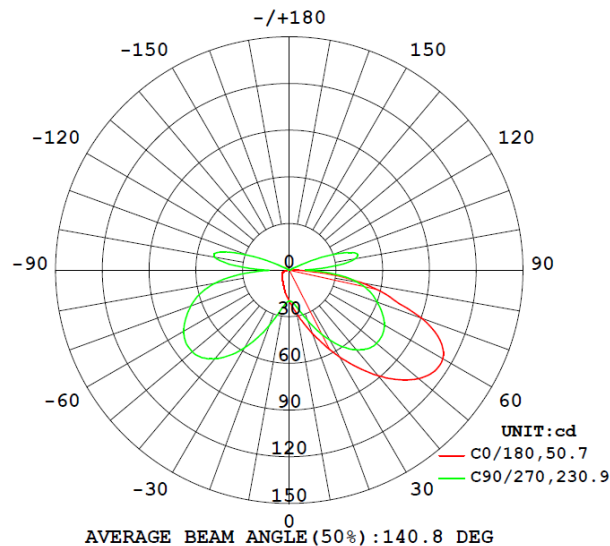
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit y	Chromaticit y	Chromaticit y	Chromaticit y
					Coordinate (x)	Coordinate (y)	Coordinate (u')	Coordinate (v')
KWOWS69127XXXCG								
S2411151 39-007	base-up	2018	86	38	0.5314	0.4224	0.3033	0.5426

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)
KWOWS69127XXXCG							
S2411151 39-007	base-up	120.1	231.9	27.5	0.987	412.2	15.0

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS69127XXXCG

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	20.0	20.5	20.3	20.1	19.8
5	23.7	24.2	23.4	22.1	20.6
10	28.7	29.5	28.7	26.5	23.1
15	35.1	37.3	37.6	34.2	27.8
20	43.1	48.0	50.2	45.3	34.6
25	52.9	61.6	65.9	58.7	43.0
30	64.2	77.4	82.9	72.7	51.9
35	76.4	93.7	99.0	85.4	60.3
40	88.5	108.9	112.8	95.8	66.8
45	99.6	121.8	123.4	103.1	71.3
50	108.4	131.0	130.0	106.8	73.1
55	113.6	136.9	132.6	107.1	72.9
60	113.6	137.9	131.3	105.0	70.4
65	106.6	134.2	127.1	100.7	65.9
70	90.2	123.2	117.8	93.3	60.1
75	66.9	105.2	100.9	82.6	53.5
80	46.8	108.4	85.9	65.9	44.1
85	21.6	114.6	92.4	44.9	29.5
90	1.2	115.2	102.4	52.4	11.2
95	0.0	80.5	111.1	76.6	27.2
100	0.0	22.2	83.0	78.3	42.8
105	0.0	1.2	44.7	62.4	43.6
110	0.1	0.0	12.0	34.9	29.7
115	0.1	0.0	1.2	10.4	11.7
120	0.1	0.0	0.1	1.2	1.7
125	0.1	0.0	0.1	0.3	0.4
130	0.1	0.0	0.1	0.1	0.1
135	0.1	0.0	0.1	0.1	0.1
140	0.1	0.1	0.1	0.1	0.1
145	0.1	0.1	0.1	0.1	0.1
150	0.2	0.1	0.1	0.1	0.1
155	0.2	0.1	0.1	0.1	0.1
160	0.2	0.1	0.1	0.1	0.1
165	0.2	0.1	0.1	0.1	0.1
170	0.2	0.2	0.1	0.2	0.1
175	0.2	0.2	0.3	0.3	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 KWOWS69127XXXCG

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWOWS69127XXXCG		
0-30	28.3	6.9
0-40	63.2	15.3
0-60	180.2	43.7
0-90	347.6	84.3
60-90	167.4	40.6
0-180	412.2	100.0

Beam Angle

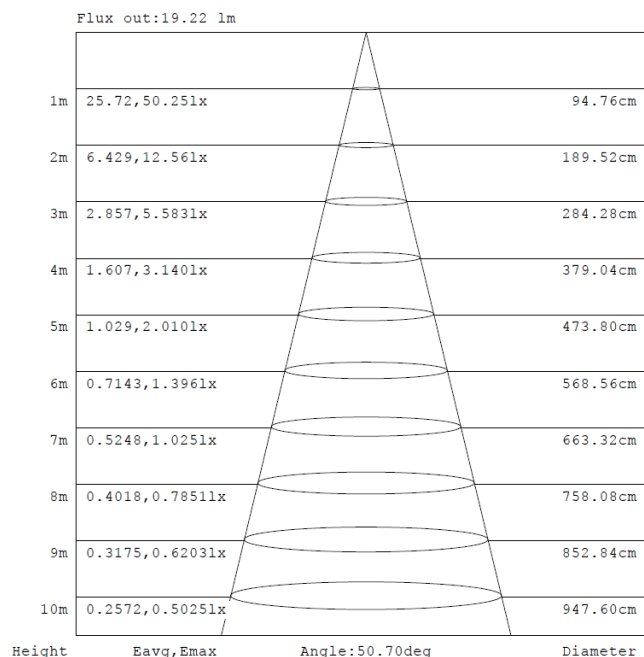
Total Beam Angle(°)
140.8

Illumination Plots

Model No.: KWOWS69127XXXCG

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

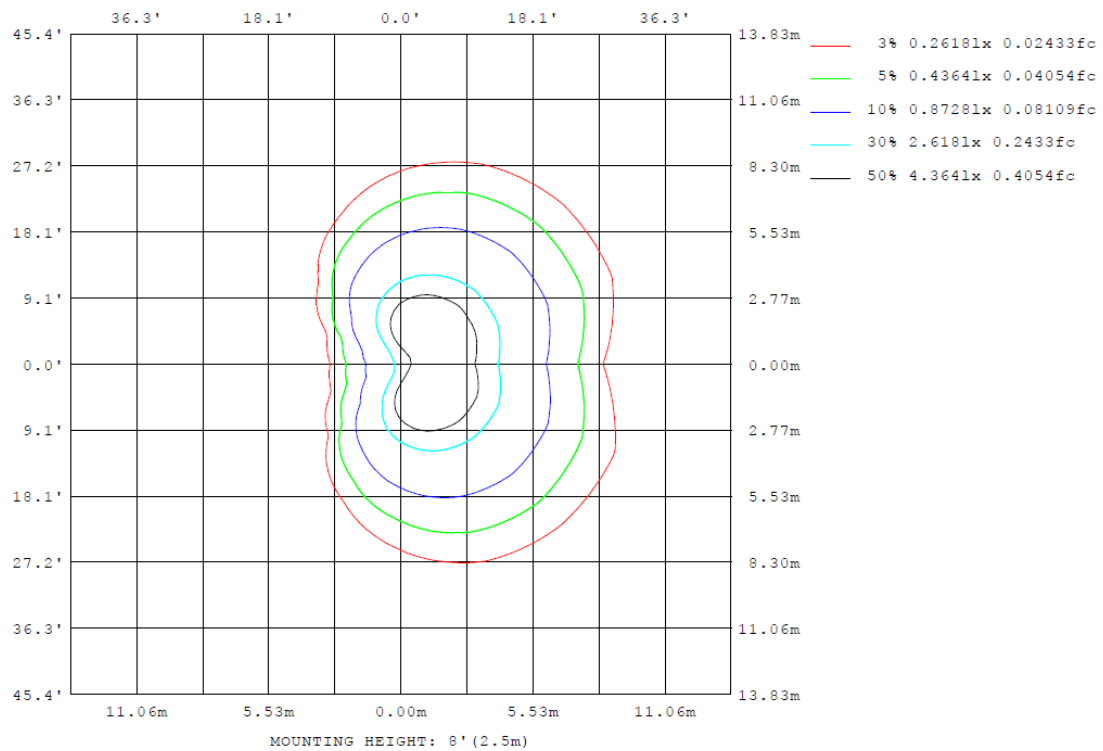
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS69127XXXCG

Model No.: KWOWS69127XXXCG

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS69127XXXCG

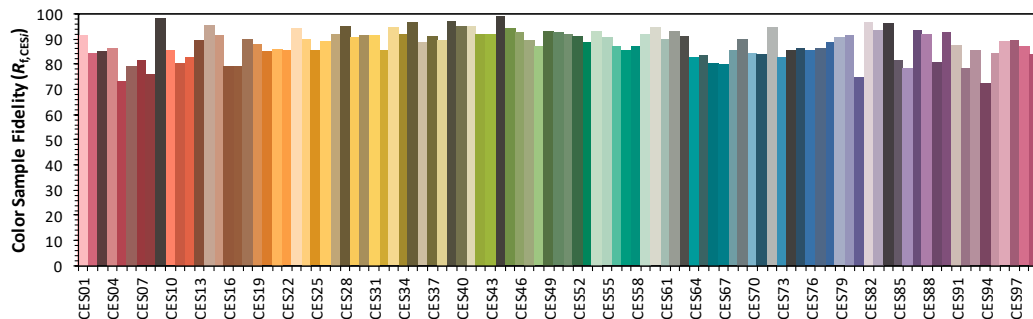
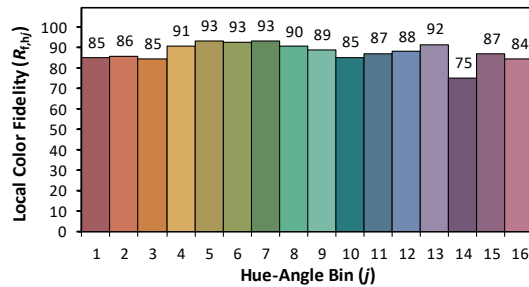
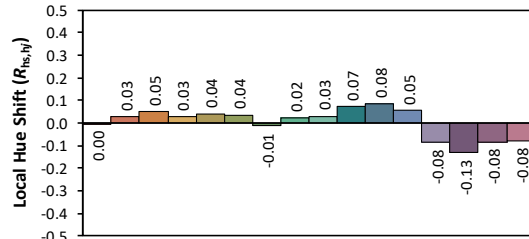
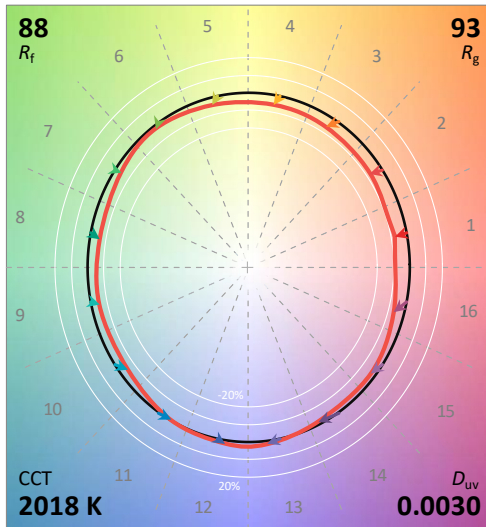
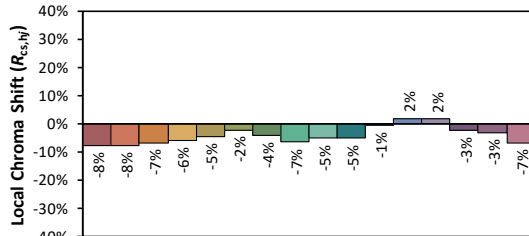
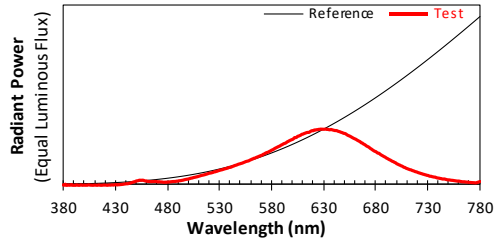
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/11/29

Model: KWOWS69127XXXCG



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

x 0.5314
 y 0.4224
 u' 0.3033
 v' 0.5426

CIE 13.3-1995
(CRI)

R_a 86
 R_g 38

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

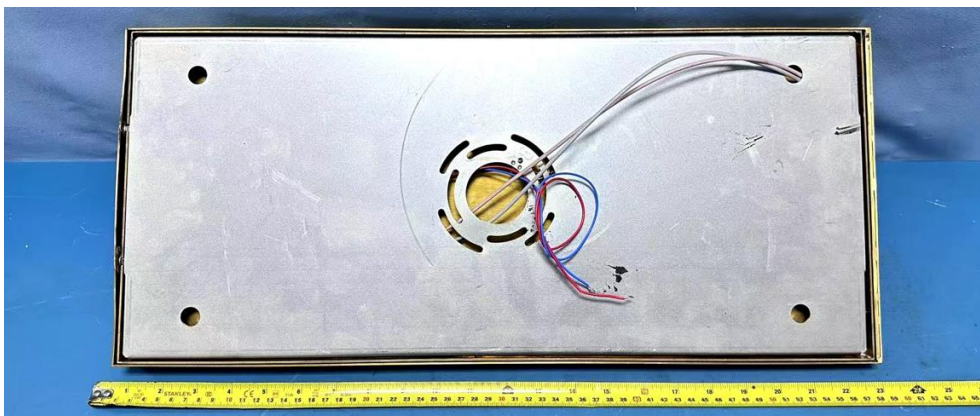
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWOWS69127XXXCG



External view of KWOWS69127XXXCG



View of LED driver PSS30W-0700-38-VCC1 (AB2613)

***** 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 *****