

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

231010029GZU-003

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None

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Report No.: 231010029GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWFM19127XX

(Remark: "XX" are denoted finish color)

RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

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TEST: Electrical and Photometric as required to the IES LM-79 test standard.

STATEMENT OF LIMITATION: The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

AUTHORIZATION: The testing performed was authorized by signed quote number: QGZ231007116.

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: 2008; Approved Method for the Electrical and Photometric
IES LM-79: 2019 Measurements of Solid-State Lighting Products
ANSI C78.377:2017 Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE: The client submitted one sample of model KWFM19127XX. The sample was received in undamaged condition. The sample designation was S231010029-003.

DATES OF TESTS: 26-October-2023

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 Science City, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	KWFM19127XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWFM19127XX

Criteria	Result
Total Lumen Output	664.9 lm
Total Power	24.6 W
Luminaire Efficacy	27.0 lm/W
S/MH(C0/180)	1.49
S/MH(C90/270)	1.49
Correlated Color Temperature (CCT)	2623 K
Color Rendering Index (CRI)	96
R9	78
Chromaticity Coordinate (x)	0.4638
Chromaticity Coordinate (y)	0.4077
Chromaticity Coordinate (u')	0.2664
Chromaticity Coordinate (v')	0.5268

Remark:

Measurement uncertainty for applicable tests has been established.

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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	RC-HT601A	SA047-62

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 EVERFINE - Digital Power Meter., model PLM3000.

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: 3.9480A DC

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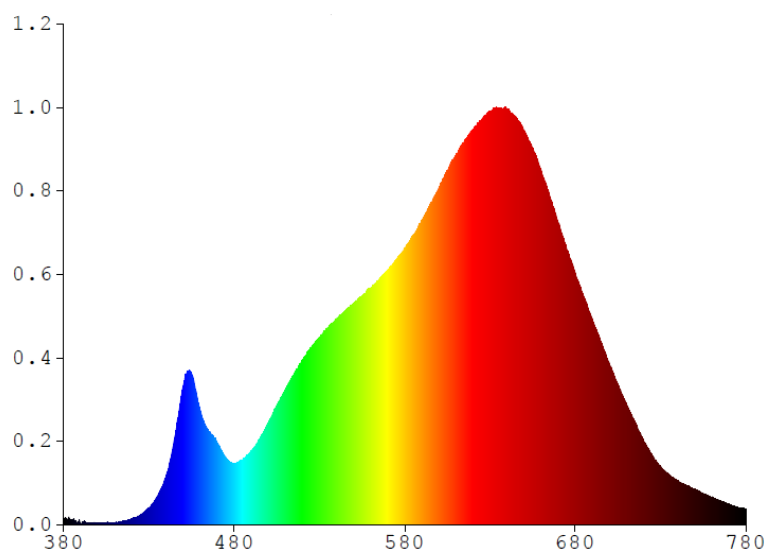
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWFM19127XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0300	480	0.2221	580	0.9917	680	0.9007	780	0.0583
385	0.0082	485	0.2336	585	1.0378	685	0.8149		
390	0.0056	490	0.2649	590	1.0913	690	0.7359		
395	0.0050	495	0.3084	595	1.1506	695	0.6558		
400	0.0061	500	0.3656	600	1.2053	700	0.5745		
405	0.0056	505	0.4277	605	1.2689	705	0.5024		
410	0.0077	510	0.4853	610	1.3225	710	0.4327		
415	0.0138	515	0.5385	615	1.3748	715	0.3680		
420	0.0212	520	0.5908	620	1.4155	720	0.3034		
425	0.0356	525	0.6344	625	1.4507	725	0.2495		
430	0.0610	530	0.6704	630	1.4815	730	0.2095		
435	0.1024	535	0.7067	635	1.4923	735	0.1791		
440	0.1734	540	0.7388	640	1.4870	740	0.1582		
445	0.3085	545	0.7667	645	1.4621	745	0.1412		
450	0.4941	550	0.7932	650	1.4132	750	0.1280		
455	0.5408	555	0.8200	655	1.3480	755	0.1130		
460	0.4100	560	0.8484	660	1.2695	760	0.0995		
465	0.3373	565	0.8784	665	1.1772	765	0.0869		
470	0.2933	570	0.9135	670	1.0820	770	0.0739		
475	0.2430	575	0.9496	675	0.9718	775	0.0634		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19127XX

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

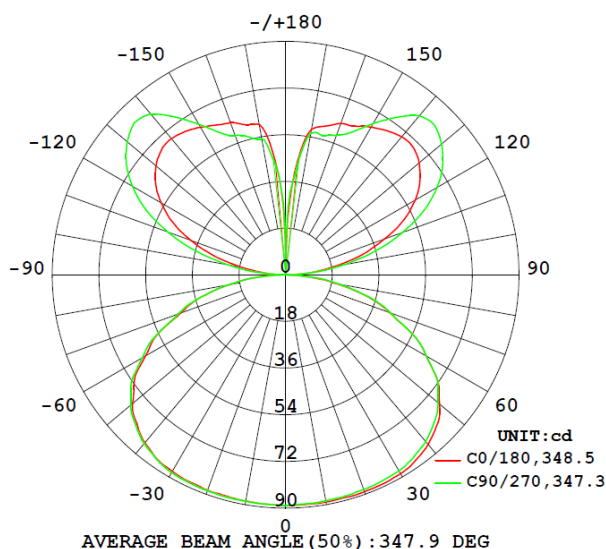
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperatur e (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')
KWFM19127XX								
S2310100 29-003	--	2623	96	78	0.4638	0.4077	0.2664	0.5268

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	Lumen
						Luminous Flux (Lumens)	Efficacy (Lumens Per Watt)
KWFM19127XX							
S2310100 29-003	--	120.0	209.5	24.6	0.980	664.9	27.0

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19127XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	89.0	89.0	89.0	89.0	88.9
5	88.8	88.9	88.8	88.8	88.6
10	89.0	88.9	88.7	88.6	88.5
15	88.9	88.8	88.7	88.4	88.4
20	89.0	88.9	88.5	88.3	88.0
25	88.9	88.6	88.4	88.1	87.7
30	88.5	88.2	87.9	87.6	87.3
35	87.4	87.2	86.7	86.2	85.9
40	85.4	85.0	84.7	84.3	84.0
45	82.4	82.2	81.8	81.5	80.9
50	77.5	77.6	77.3	76.9	76.8
55	71.7	70.9	71.0	70.7	71.4
60	62.4	63.2	62.6	62.7	62.6
65	53.8	53.2	53.2	54.0	53.9
70	42.6	44.1	44.2	43.0	43.1
75	32.7	33.2	32.6	32.7	33.4
80	20.2	21.9	22.6	21.7	21.3
85	7.5	10.0	9.9	9.4	9.3
90	0.4	3.0	2.3	1.1	0.5
95	8.5	11.2	11.8	11.3	10.3
100	19.5	22.2	23.6	23.7	22.7
105	30.7	33.7	35.6	36.7	35.9
110	40.6	44.1	46.9	49.0	47.9
115	50.3	52.7	56.2	59.5	58.8
120	57.6	59.5	63.5	68.0	67.3
125	63.2	61.0	68.4	74.1	73.9
130	67.2	61.7	71.3	78.0	78.5
135	69.5	63.6	72.2	79.3	81.4
140	69.6	64.5	68.4	75.1	80.1
145	67.9	64.3	64.5	70.5	74.1
150	65.8	63.4	62.5	65.0	67.4
155	63.3	62.5	60.3	60.0	60.8
160	62.2	61.6	58.8	57.3	57.4
165	59.4	59.0	57.8	56.2	55.5
170	56.8	56.7	56.2	54.4	55.4
175	39.5	39.1	39.3	38.6	37.4
180	0.0	0.0	0.5	1.8	2.2

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19127XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWFM19127XX		
0-30	74.4	11.2
0-40	128.7	19.4
0-60	255.3	38.4
0-90	356.2	53.6
60-90	100.9	15.2
0-180	664.9	100.0

Beam Angle

Total Beam Angle (°)

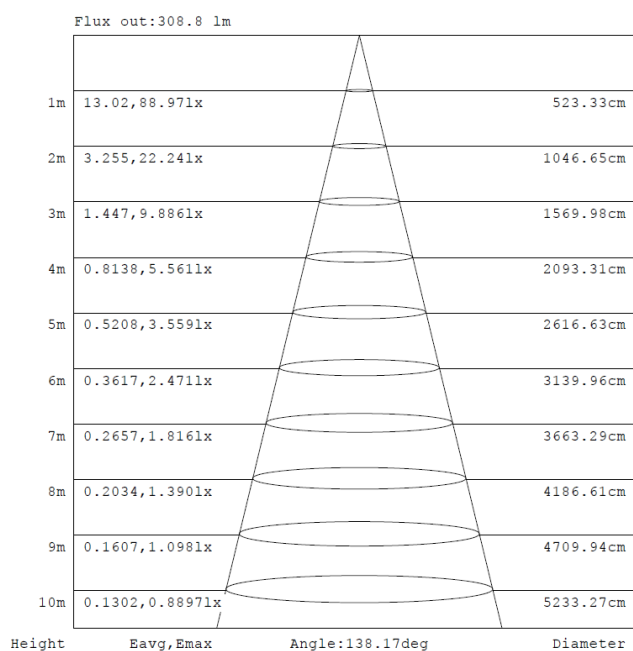
347.9

Illumination Plots

Model No.: KWFM19127XX

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

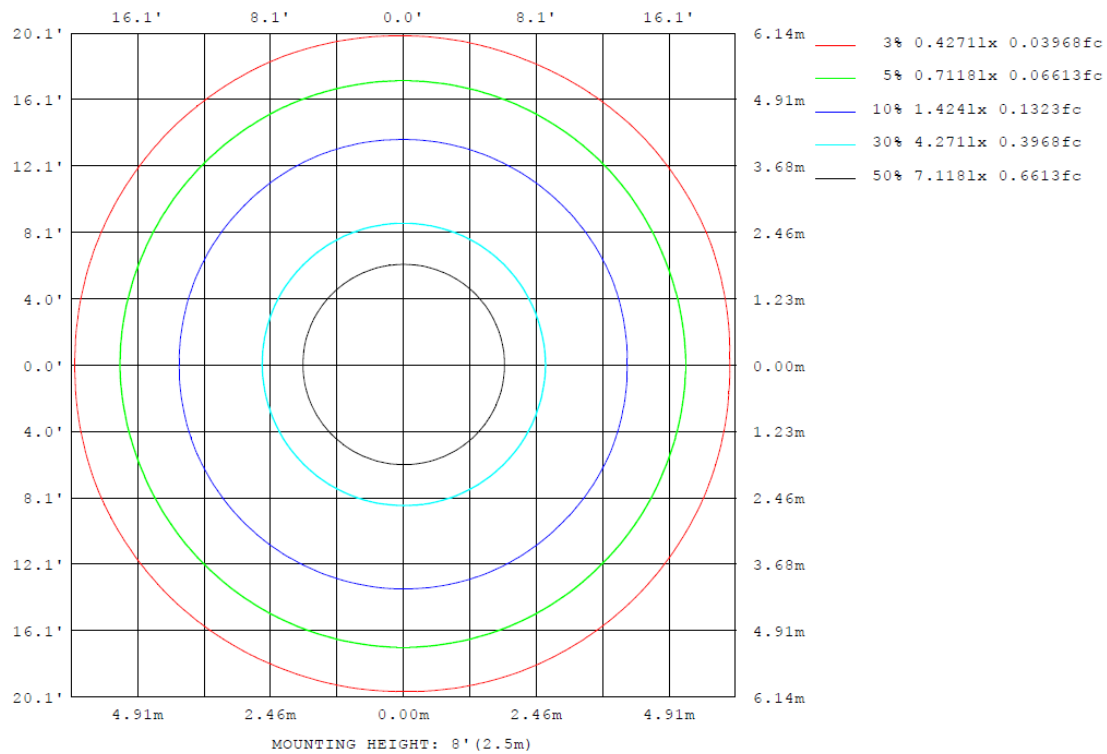
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19127XX

Model No.: KWFM19127XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19127XX

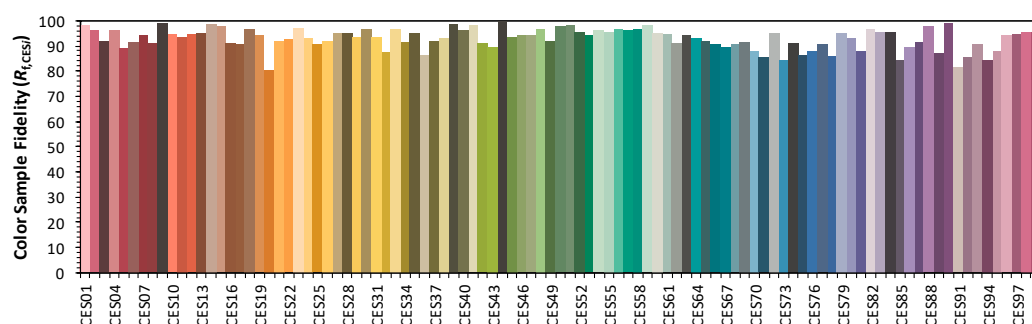
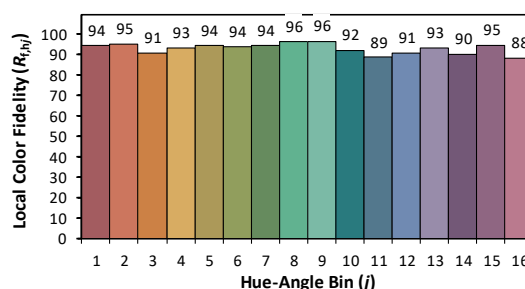
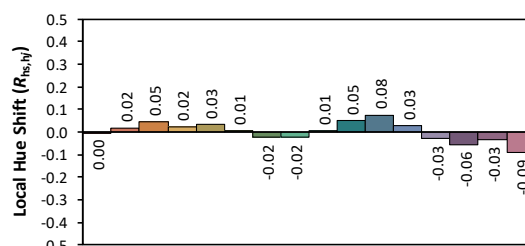
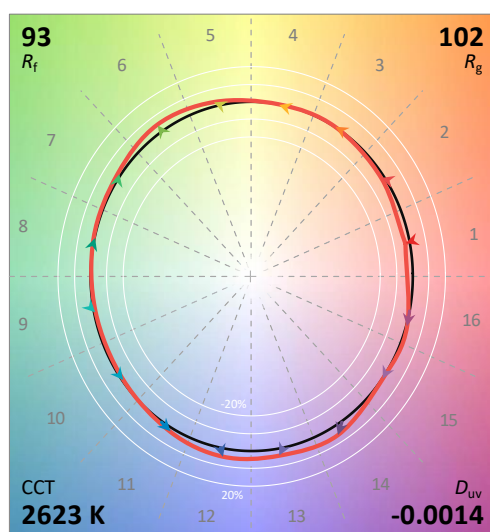
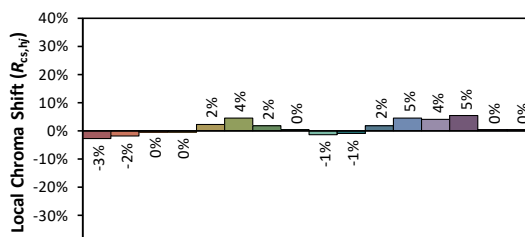
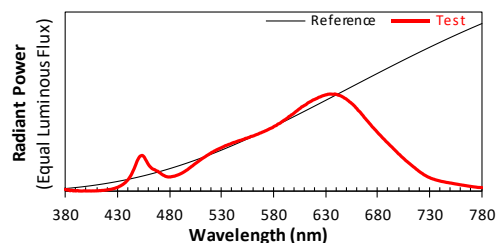
ANSI/IES TM-30-18 Color Rendition Report

Source:	User SPD
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Manufacturer: Visual Comfort and Company

Date: 2023/10/26

Model: KWFM19127xx



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

 x 0.4638 y 0.4077 u' 0.2664
$$V' \quad 0.5268$$

CIE 13.3-1995
(CRI)

 R_a 96

R_9 78

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 KWFM19127XX



View of LED driver DS25W24VBF1UD-0000

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED board

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

***** End of Report *****