

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

231010029GZU-006

ISSUE DATE

21-November-2023

REVISION DATE

None

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13

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Report No.: 231010029GZU-006

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWFM19427XX

(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 KWFM19427XX. The sample was received in undamaged condition. The sample designation was S231010029-006.

DATES OF TESTS: 11-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:	KWFM19427XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWFM19427XX

Criteria	Result
Total Lumen Output	1595.5 lm
Total Power	26.8 W
Luminaire Efficacy	59.6 lm/W
S/MH(C0/180)	1.36
S/MH(C90/270)	1.47
Correlated Color Temperature (CCT)	2617 K
Color Rendering Index (CRI)	95
R9	71
Chromaticity Coordinate (x)	0.4637
Chromaticity Coordinate (y)	0.4067
Chromaticity Coordinate (u')	0.2668
Chromaticity Coordinate (v')	0.5264

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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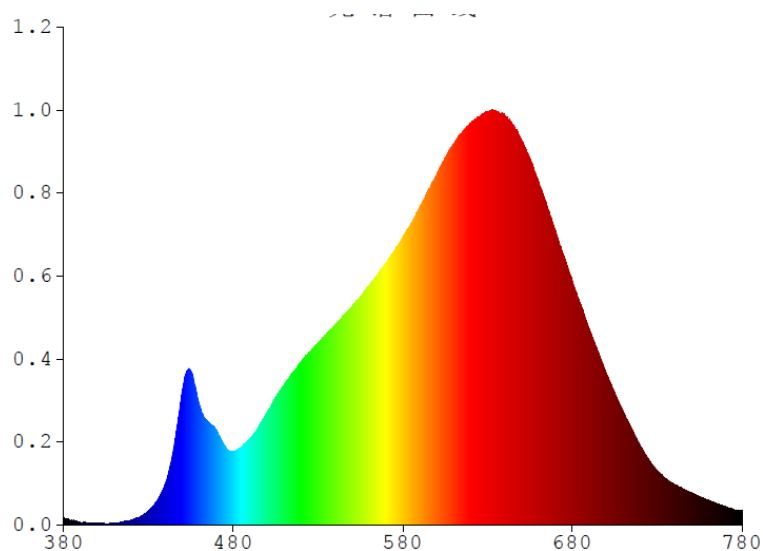
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWFM19427XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1620	480	1.3441	580	5.2577	680	4.4533	780	0.2649
385	0.0744	485	1.4324	585	5.5125	685	4.0090		
390	0.0453	490	1.5843	590	5.8041	690	3.5791		
395	0.0320	495	1.7926	595	6.1196	695	3.1690		
400	0.0271	500	2.0610	600	6.3900	700	2.7664		
405	0.0243	505	2.3300	605	6.7124	705	2.4105		
410	0.0375	510	2.5633	610	6.9656	710	2.0717		
415	0.0636	515	2.7747	615	7.1785	715	1.7526		
420	0.0960	520	2.9669	620	7.3428	720	1.4460		
425	0.1551	525	3.1475	625	7.4485	725	1.1953		
430	0.2590	530	3.3132	630	7.5476	730	0.9944		
435	0.4414	535	3.4974	635	7.5620	735	0.8524		
440	0.7656	540	3.6603	640	7.4981	740	0.7452		
445	1.4155	545	3.8321	645	7.3134	745	0.6651		
450	2.4503	550	3.9840	650	7.0357	750	0.5922		
455	2.8098	555	4.1778	655	6.6834	755	0.5213		
460	2.1966	560	4.3652	660	6.2854	760	0.4604		
465	1.8824	565	4.5681	665	5.8333	765	0.3915		
470	1.7370	570	4.7817	670	5.3790	770	0.3380		
475	1.4446	575	5.0039	675	4.8153	775	0.2883		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19427XX

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

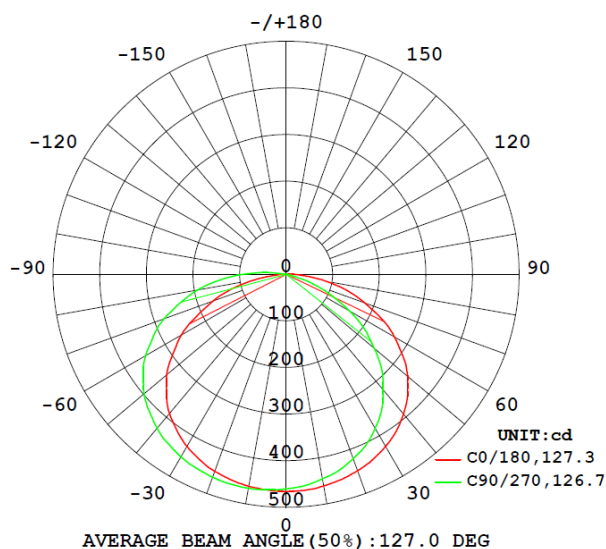
Photometric Measurements at 25°C – Distribution Method

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')
KWFM19427XX								
S2310100 29-006	--	2617	95	71	0.4637	0.4067	0.2668	0.5264

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)
KWFM19427XX							
S2310100 29-006	--	120.2	223.5	26.8	0.997	1595.5	59.6

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19427XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	465.8	464.0	462.3	460.5	460.2
5	465.2	459.7	458.2	454.8	454.9
10	461.2	454.5	451.0	446.3	445.6
15	455.7	446.2	442.1	435.9	435.6
20	448.4	435.5	429.7	421.7	420.5
25	438.9	422.5	415.0	405.2	404.4
30	426.3	405.2	396.7	384.3	381.6
35	411.4	384.6	373.4	358.2	357.0
40	391.5	359.9	346.5	328.9	324.0
45	367.9	329.8	313.7	291.6	290.3
50	339.8	294.3	277.7	252.9	246.8
55	306.0	256.5	233.2	208.2	205.5
60	267.9	211.8	192.4	160.3	157.3
65	226.5	165.9	143.6	117.2	107.7
70	179.1	120.5	94.5	69.3	63.1
75	136.1	73.0	51.7	25.9	20.0
80	87.0	30.5	8.7	0.2	0.2
85	42.5	0.2	0.2	0.2	0.2
90	5.6	0.2	0.2	0.2	0.2
95	0.2	0.2	0.2	0.2	0.2
100	0.2	0.2	0.2	0.2	0.2
105	0.2	0.2	0.2	0.2	0.2
110	0.2	0.2	0.2	0.3	0.3
115	0.2	0.3	0.3	0.3	0.3
120	0.3	0.3	0.4	0.4	0.4
125	0.3	0.4	0.4	0.5	0.5
130	0.4	0.5	0.5	0.5	0.5
135	0.5	0.6	0.6	0.6	0.6
140	0.5	0.6	0.6	0.7	0.7
145	0.6	0.7	0.7	0.7	0.7
150	0.7	0.7	0.7	0.7	0.7
155	0.7	0.7	0.7	0.7	0.7
160	0.7	0.7	0.7	0.7	0.7
165	0.7	0.7	0.7	0.7	0.7
170	0.7	0.7	0.7	0.7	0.7
175	0.7	0.7	0.7	0.7	0.7
180	0.7	0.6	0.6	0.6	0.6

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19427XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWFM19427XX		
0-30	372.1	23.3
0-40	624.5	39.1
0-60	1162.1	72.8
0-90	1575.4	98.7
60-90	413.3	25.9
0-180	1595.5	100.0

Beam Angle

Total Beam Angle (°)

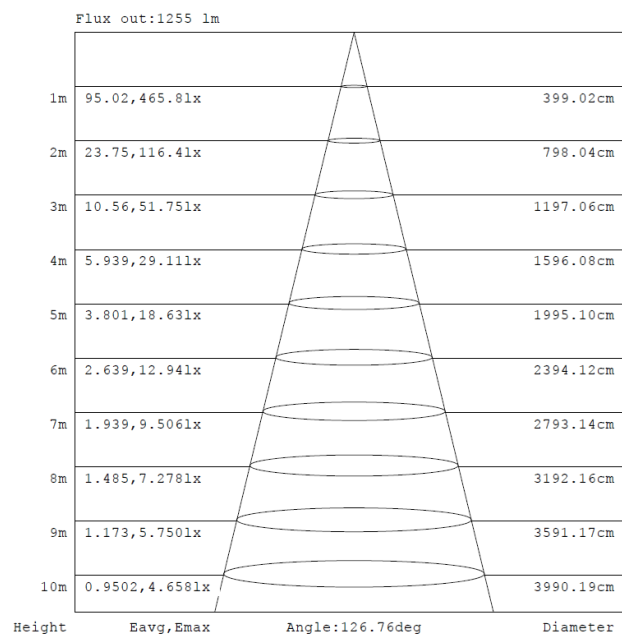
127.0

Illumination Plots

Model No.: KWFM19427XX

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

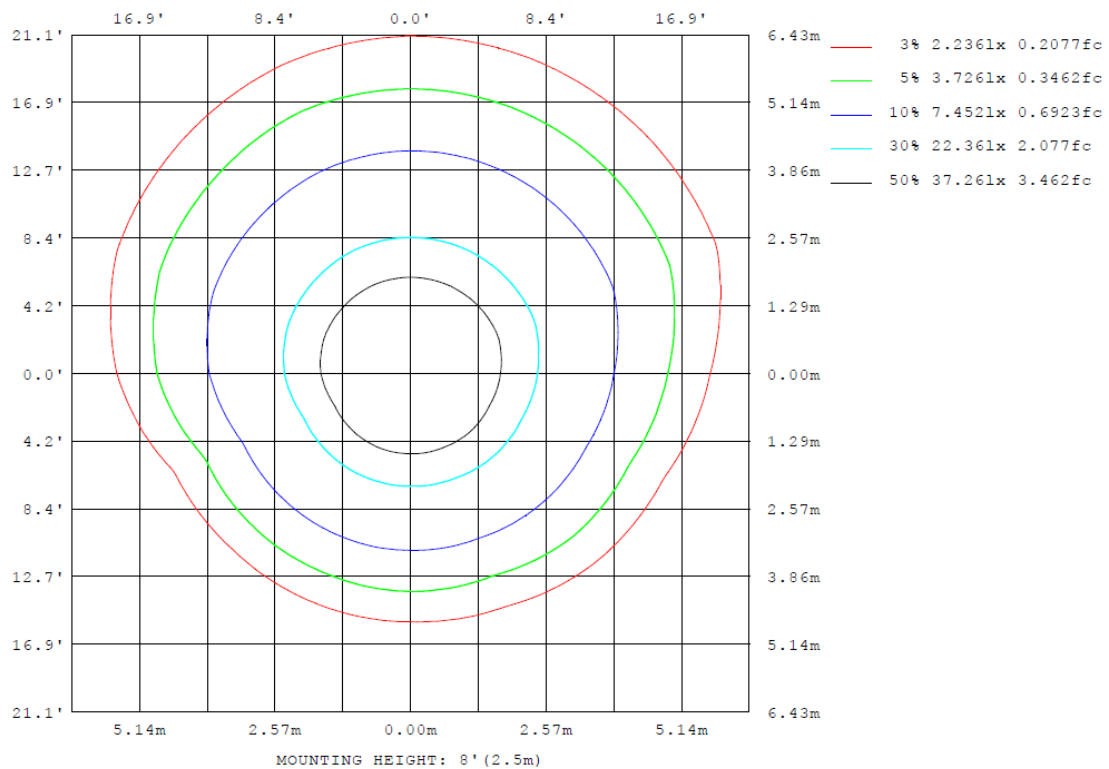
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19427XX

Model No.: KWFM19427XX

Mount Height: 2.5 m

Isoillumination Plot



TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19427XX

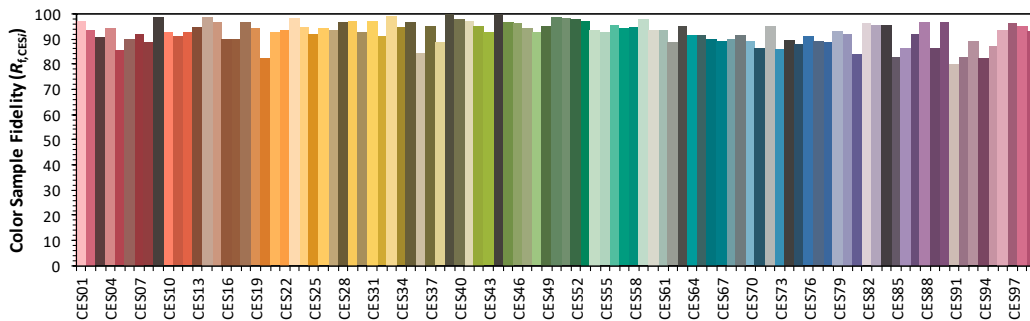
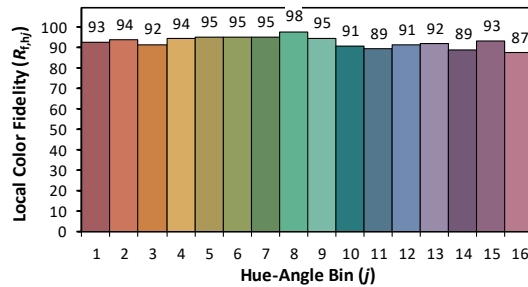
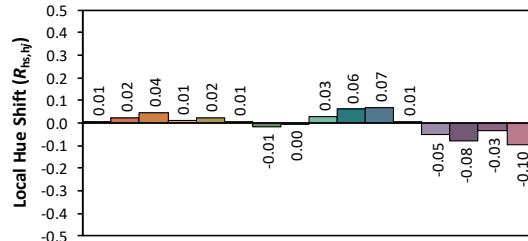
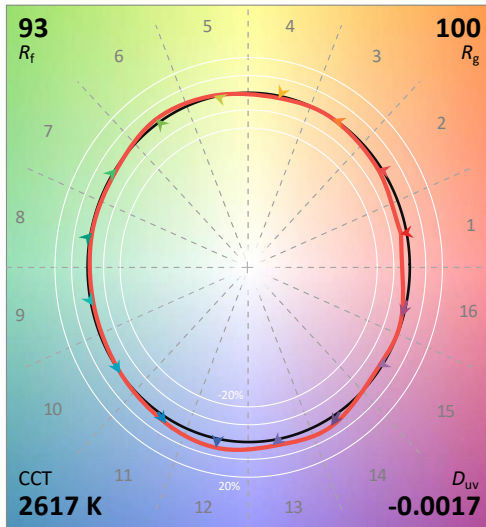
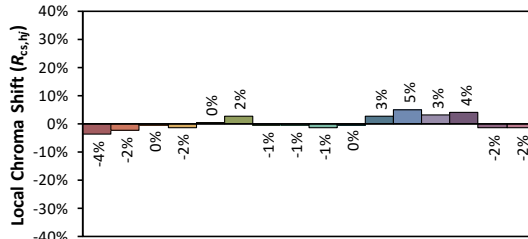
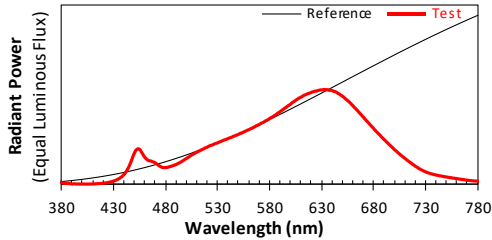
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/10/11

Model: KWFM19427xx



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

x 0.4637
 y 0.4067
 u' 0.2668
 v' 0.5264

CIE 13.3-1995
(CRI)
 R_a 95
 R_g 71

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

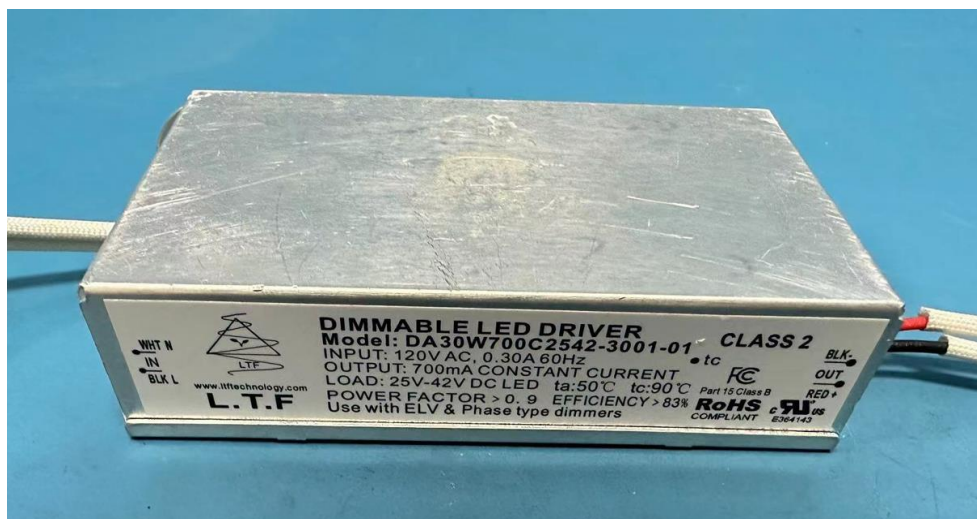
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWFM19427XX



View of LED driver DA30W700C2542-3001-01

***** 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 *****