

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

231010029GZU-005

ISSUE DATE

21-November-2023

REVISION DATE

None

NUMBER OF PAGES

13

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Report No.: 231010029GZU-005

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWFM19327XX

(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 KWFM19327XX. The sample was received in undamaged condition. The sample designation was S231010029-005.

DATES OF TESTS: 27-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:	KWFM19327XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWFM19327XX

Criteria	Result
Total Lumen Output	893.0 lm
Total Power	24.2 W
Luminaire Efficacy	37.0 lm/W
S/MH(C0/180)	1.41
S/MH(C90/270)	1.46
Correlated Color Temperature (CCT)	2613 K
Color Rendering Index (CRI)	94
R9	69
Chromaticity Coordinate (x)	0.4638
Chromaticity Coordinate (y)	0.4062
Chromaticity Coordinate (u')	0.2670
Chromaticity Coordinate (v')	0.5263

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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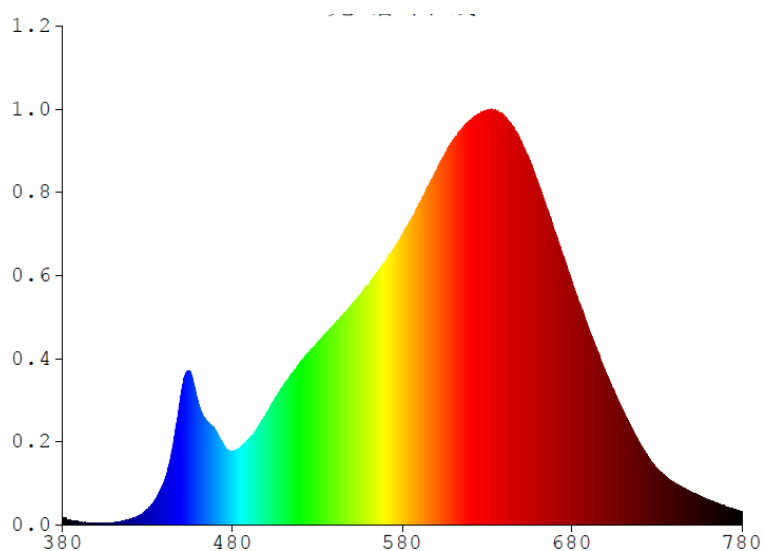
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWFM19327XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0831	480	0.7023	580	2.7578	680	2.3096	780	0.1260
385	0.0418	485	0.7458	585	2.8957	685	2.0830		
390	0.0237	490	0.8219	590	3.0559	690	1.8602		
395	0.0235	495	0.9304	595	3.2128	695	1.6478		
400	0.0168	500	1.0644	600	3.3602	700	1.4417		
405	0.0181	505	1.2023	605	3.5209	705	1.2647		
410	0.0207	510	1.3219	610	3.6533	710	1.0873		
415	0.0348	515	1.4369	615	3.7609	715	0.9272		
420	0.0552	520	1.5446	620	3.8361	720	0.7739		
425	0.0920	525	1.6402	625	3.9007	725	0.6419		
430	0.1518	530	1.7208	630	3.9369	730	0.5392		
435	0.2506	535	1.8209	635	3.9399	735	0.4628		
440	0.4204	540	1.9069	640	3.8870	740	0.4027		
445	0.7562	545	1.9940	645	3.7885	745	0.3583		
450	1.2638	550	2.0858	650	3.6493	750	0.3169		
455	1.4534	555	2.1797	655	3.4633	755	0.2804		
460	1.1552	560	2.2769	660	3.2507	760	0.2443		
465	0.9875	565	2.3926	665	3.0132	765	0.2090		
470	0.9008	570	2.5088	670	2.7841	770	0.1803		
475	0.7579	575	2.6243	675	2.5019	775	0.1539		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19327XX

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

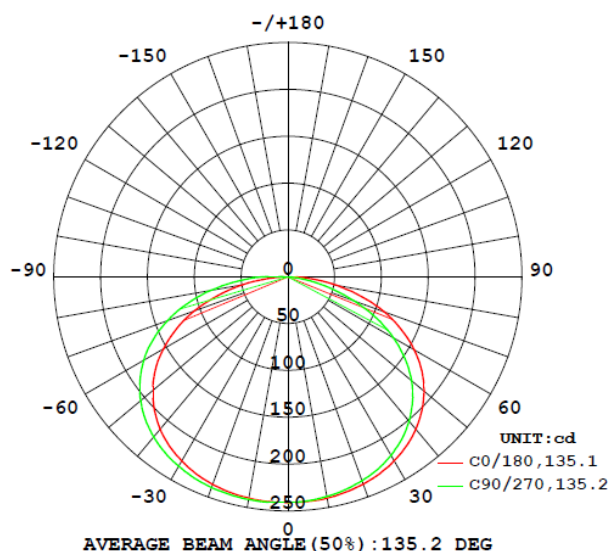
Photometric Measurements at 25°C – Distribution Method

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')
KWFM19327XX								
S2310100 29-005	--	2613	94	69	0.4638	0.4062	0.2670	0.5263

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)
KWFM19327XX							
S2310100 29-005	--	120.0	203.8	24.2	0.987	893.0	37.0

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19327XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	241.1	240.8	240.9	240.9	241.0
5	240.7	239.8	239.9	240.0	240.0
10	239.9	237.8	238.1	238.1	238.1
15	238.0	235.0	235.4	235.2	235.4
20	235.4	231.2	231.7	231.6	231.6
25	231.8	226.1	226.8	226.6	226.6
30	226.8	219.6	220.6	220.1	220.0
35	220.5	211.3	212.3	211.8	211.7
40	212.4	200.8	202.1	201.5	201.2
45	202.2	187.9	189.3	188.4	188.1
50	189.8	172.0	173.9	172.7	172.2
55	174.4	153.2	154.9	153.5	152.7
60	155.8	130.6	133.2	131.3	130.1
65	134.0	105.1	107.1	105.7	104.1
70	109.3	77.5	79.3	76.6	75.3
75	81.5	48.7	50.9	47.8	46.5
80	52.8	21.9	23.6	21.1	20.2
85	26.2	0.1	2.5	0.1	0.1
90	3.2	0.1	0.1	0.1	0.1
95	0.1	0.1	0.1	0.1	0.1
100	0.1	0.1	0.1	0.1	0.1
105	0.1	0.1	0.1	0.1	0.1
110	0.1	0.1	0.1	0.1	0.1
115	0.1	0.2	0.2	0.2	0.2
120	0.2	0.2	0.2	0.2	0.2
125	0.2	0.2	0.2	0.2	0.2
130	0.2	0.3	0.3	0.3	0.3
135	0.3	0.3	0.3	0.3	0.3
140	0.3	0.3	0.3	0.3	0.3
145	0.3	0.4	0.4	0.4	0.4
150	0.4	0.4	0.4	0.4	0.4
155	0.4	0.4	0.4	0.4	0.4
160	0.4	0.4	0.4	0.4	0.4
165	0.4	0.4	0.4	0.4	0.4
170	0.4	0.4	0.4	0.4	0.4
175	0.4	0.4	0.4	0.4	0.4
180	0.4	0.4	0.4	0.4	0.4

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19327XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWFM19327XX		
0-30	197.3	22.1
0-40	335.2	37.5
0-60	644.8	72.2
0-90	889.1	99.6
60-90	244.3	27.4
0-180	893.0	100.0

Beam Angle

Total Beam Angle (°)

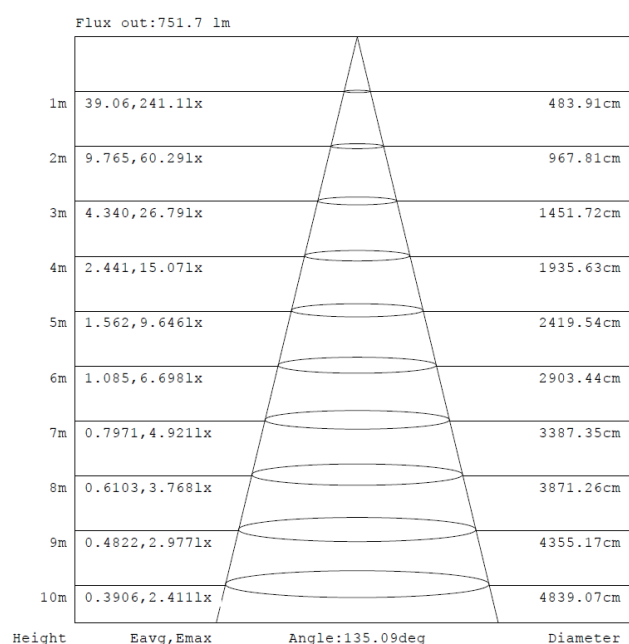
135.2

Illumination Plots

Model No.: KWFM19327XX

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

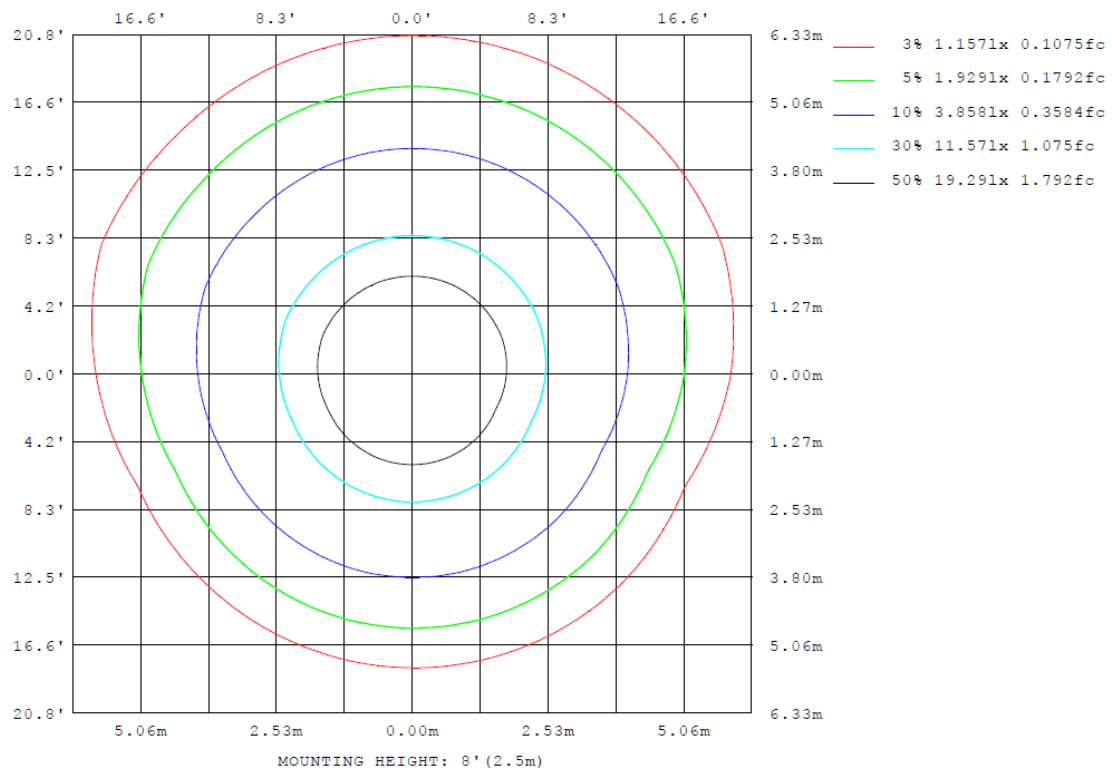
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19327XX

Model No.: KWFM19327XX

Mount Height: 2.5 m

Isoillumination Plot



TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM19327XX

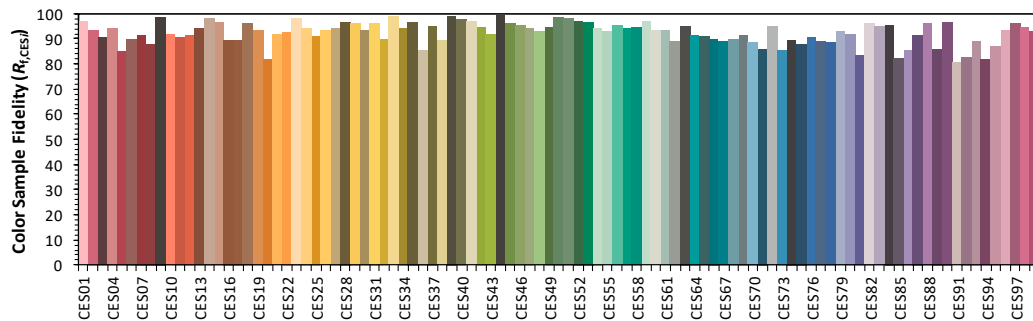
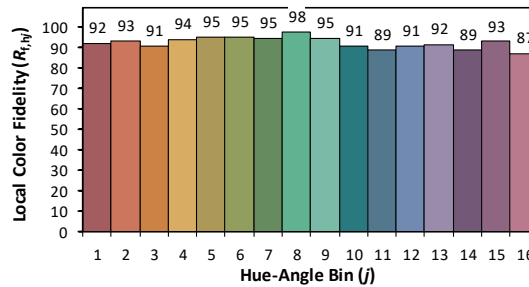
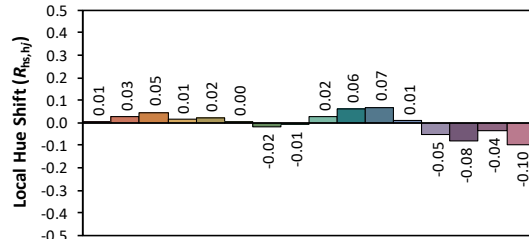
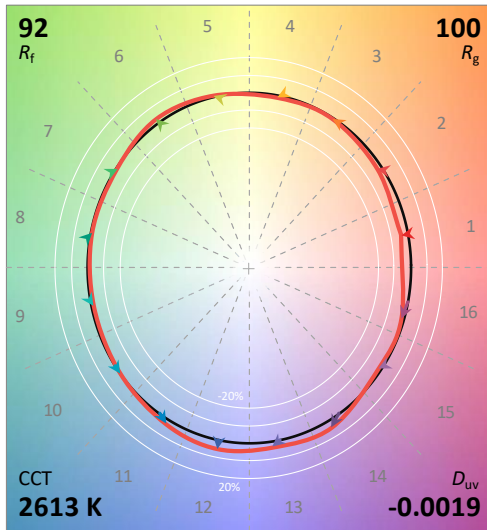
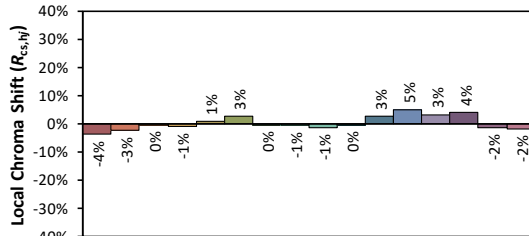
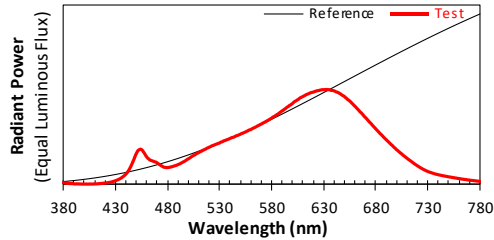
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/10/27

Model: KWFM19327xx



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

x 0.4638
 y 0.4062
 u' 0.2670
 v' 0.5263

CIE 13.3-1995
(CRI)

R_a 94

R_g 69

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

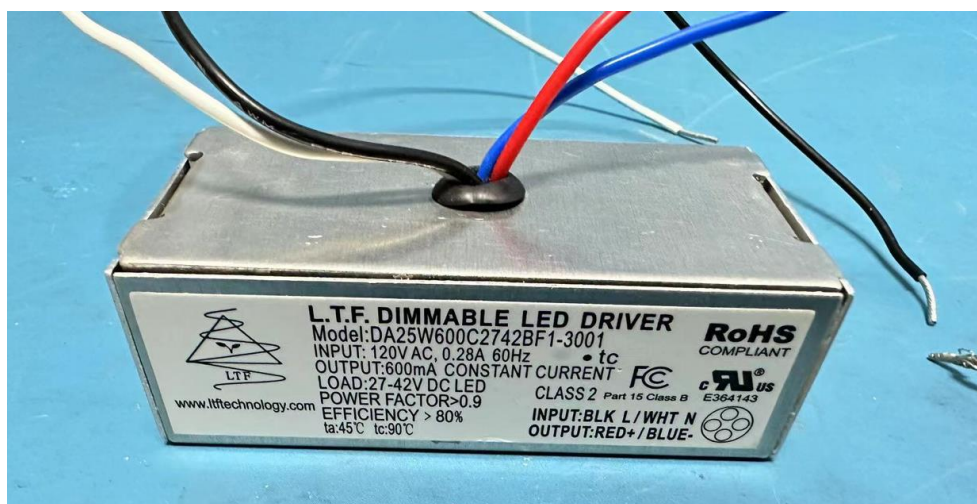
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWFM19327XX



View of LED driver DA25W600C2742BF1-3001

***** 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 *****