

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

250530064GZU-002

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REVISION DATE

None

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Report format for LM-79_G

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Report No.: 250530064GZU-002

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWFM70227XXXALB

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: QGZ250527132.
<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-79-24	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 KWFM70227HABALB. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S250530064-007.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Shao Guan Weng Yuan Pearly Gates Furniture Manufacturing Co., Ltd. GuanYing Industrial Park, GuanDu Economic Development Experimental Zone, Weng Yuan County, Guang Dong Province, PRC. 512625.
<u>DATES OF TESTS:</u>	12 June 2025
<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:	KWFM70227HABALB
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWFM70227HABALB

Criteria	Result
Total Lumen Output	1806.1 lm
Total Power	59.8 W
Luminaire Efficacy	30.2 lm/W
S/MH(C0/180)	1.32
S/MH(C90/270)	1.29
Correlated Color Temperature (CCT)	2574 K
Color Rendering Index (CRI)	95
R9	65
Chromaticity Coordinate (x)	0.4690
Chromaticity Coordinate (y)	0.4102
Chromaticity Coordinate (u')	0.2686
Chromaticity Coordinate (v')	0.5286

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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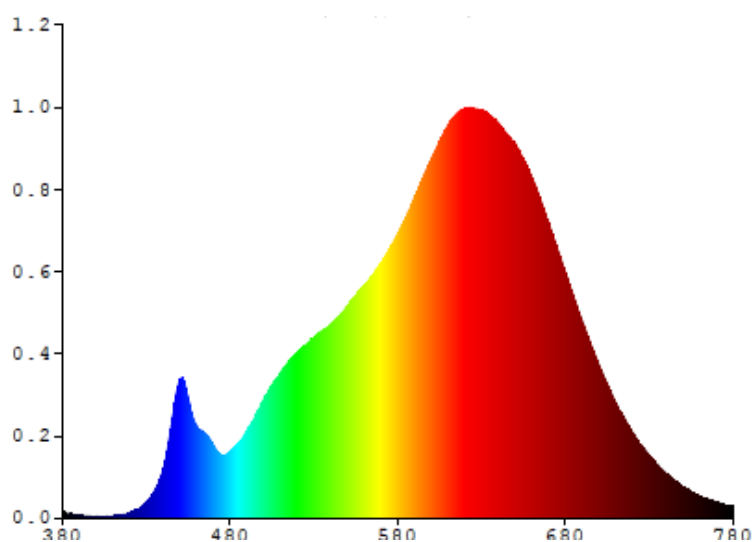
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWFM70227HABALB

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.7162	480	7.2382	580	30.9780	680	26.7030	780	1.2210
385	0.4765	485	8.1822	585	32.7580	685	24.0210		
390	0.1909	490	9.4596	590	34.9030	690	21.3730		
395	0.1225	495	11.0560	595	36.9820	695	18.8830		
400	0.2025	500	12.8370	600	39.0140	700	16.6350		
405	0.1961	505	14.3830	605	40.9930	705	14.5430		
410	0.2274	510	15.7500	610	42.7840	710	12.5090		
415	0.3437	515	17.0320	615	43.9720	715	10.8660		
420	0.5450	520	18.0360	620	44.6280	720	9.2921		
425	0.9423	525	18.8170	625	44.5300	725	7.9502		
430	1.6824	530	19.6360	630	44.3600	730	6.8116		
435	2.9251	535	20.4140	635	43.8660	735	5.7581		
440	5.2330	540	21.0990	640	43.0450	740	4.8758		
445	9.9787	545	21.9780	645	41.8160	745	4.0916		
450	14.9540	550	23.0610	650	40.8110	750	3.4115		
455	12.9490	555	24.2160	655	38.9940	755	2.8292		
460	10.0260	560	25.2750	660	37.0220	760	2.3777		
465	9.1766	565	26.4070	665	34.6390	765	2.0122		
470	7.8797	570	27.7880	670	32.0830	770	1.7160		
475	6.8477	575	29.1950	675	28.8510	775	1.4455		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM70227HABALB

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

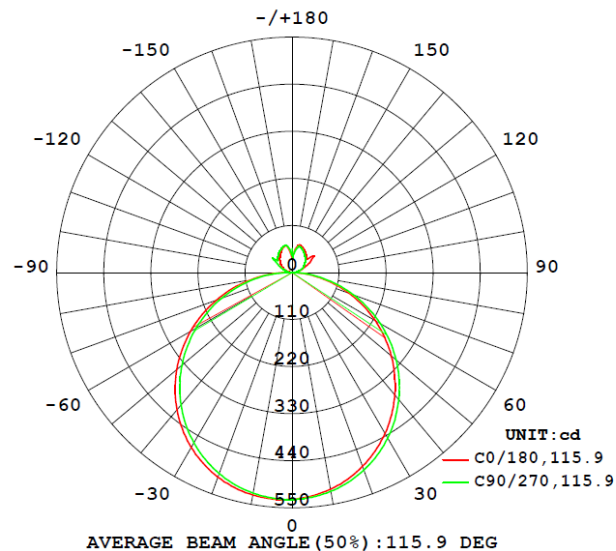
Photometric Measurements at 25°C – Distribution Method

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')
KWFM70227HABALB								
S2505300 64-007	base-up	2574	95	65	0.4690	0.4102	0.2686	0.5286

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 Efficacy
						Flux (Lumens)	(Lumens Per Watt)
KWFM70227HABALB							
S2505300 64-007	base-up	120.1	500.5	59.8	0.995	1806.1	30.2

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM70227HABALB

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	529.6	529.0	529.5	529.7	529.7
5	524.2	522.5	524.8	525.7	527.1
10	513.9	511.2	514.5	516.4	519.0
15	500.3	496.5	501.1	503.7	507.0
20	481.5	477.0	482.7	486.1	491.1
25	460.1	454.4	461.0	465.1	470.5
30	434.1	427.5	435.4	440.1	446.9
35	405.6	398.3	406.6	411.6	419.2
40	373.5	365.4	374.6	380.2	387.9
45	339.4	330.7	340.1	345.4	354.2
50	302.4	293.3	303.0	308.8	317.4
55	264.3	254.5	264.1	269.4	278.3
60	224.3	214.2	224.0	229.3	238.0
65	183.6	173.0	182.4	187.4	195.8
70	142.1	131.2	140.6	145.0	152.9
75	100.8	89.8	98.6	102.7	109.9
80	60.0	49.7	57.9	60.8	67.4
85	21.6	12.3	18.8	21.4	26.7
90	5.2	4.4	3.8	3.2	2.6
95	8.1	9.2	7.9	7.0	6.0
100	14.2	16.2	14.0	13.3	11.6
105	18.9	22.6	19.7	19.0	17.3
110	26.5	27.3	26.2	26.1	23.3
115	35.8	32.8	32.8	32.8	28.7
120	48.4	39.9	42.4	40.4	32.2
125	57.8	78.3	61.3	40.4	36.4
130	55.2	44.6	43.0	42.3	40.7
135	48.3	48.4	46.7	45.9	44.4
140	52.2	52.2	50.4	49.3	47.8
145	55.9	55.9	54.1	52.8	51.4
150	59.5	59.6	57.7	56.2	55.1
155	63.1	63.0	61.1	59.8	58.6
160	65.8	65.3	64.1	62.9	62.1
165	67.9	65.9	65.4	63.3	64.4
170	59.6	56.4	56.9	56.1	55.6
175	45.1	41.3	43.1	41.6	42.7
180	43.2	63.6	58.5	57.8	56.3

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM70227HABALB

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWFM70227HABALB		
0-30	413.7	22.9
0-40	680.4	37.7
0-60	1218.8	67.5
0-90	1596.1	88.4
60-90	377.3	20.9
0-180	1806.1	100.0

Beam Angle

Total Beam Angle(°)

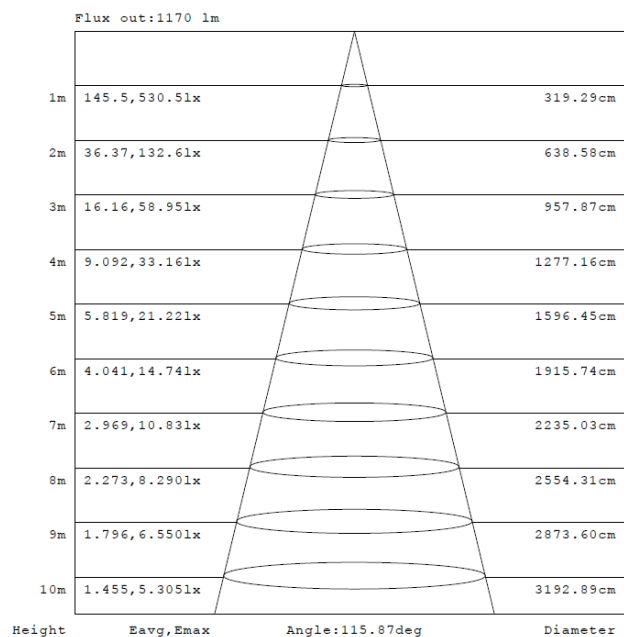
115.9

Illumination Plots

Model No.: KWFM70227HABALB

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

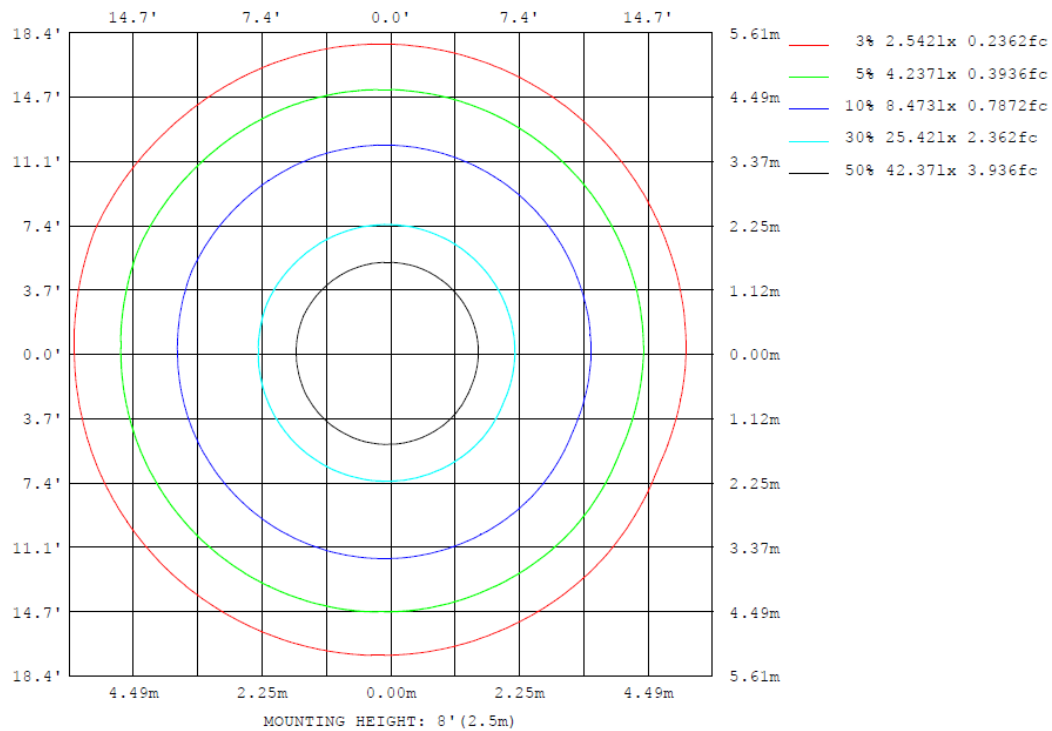
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM70227HABALB

Model No.: KWFM70227HABALB

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWFM70227HABALB

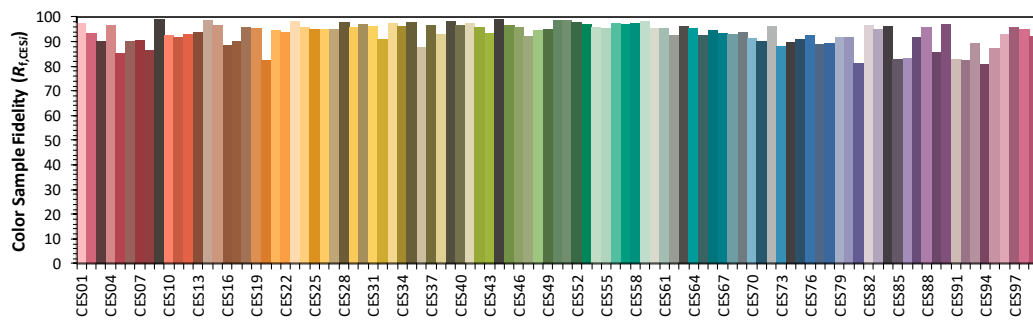
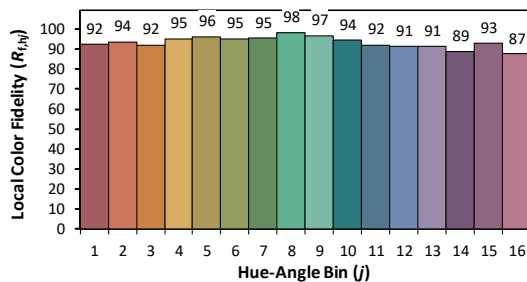
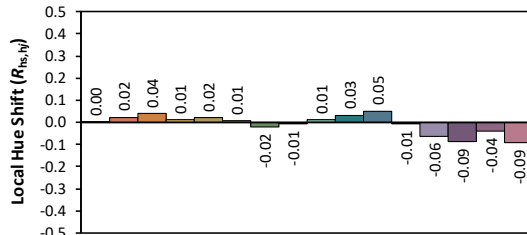
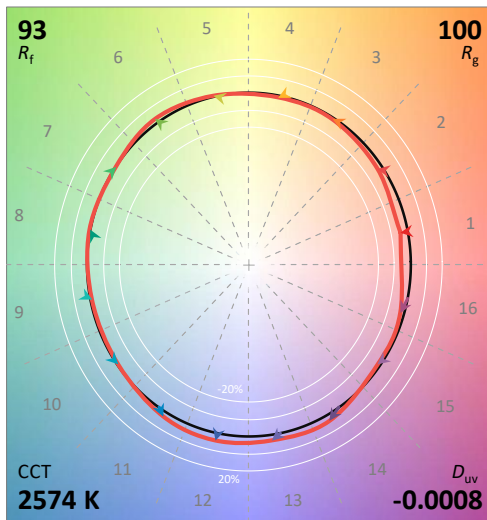
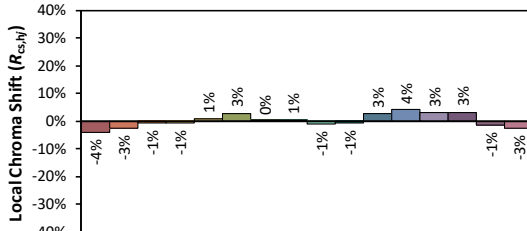
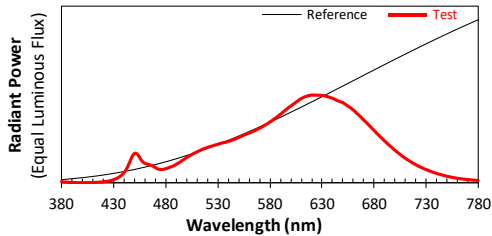
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2025/6/12

Model: KWFM70227HABALB



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

x 0.4690
 y 0.4102
 u' 0.2686
 v' 0.5286

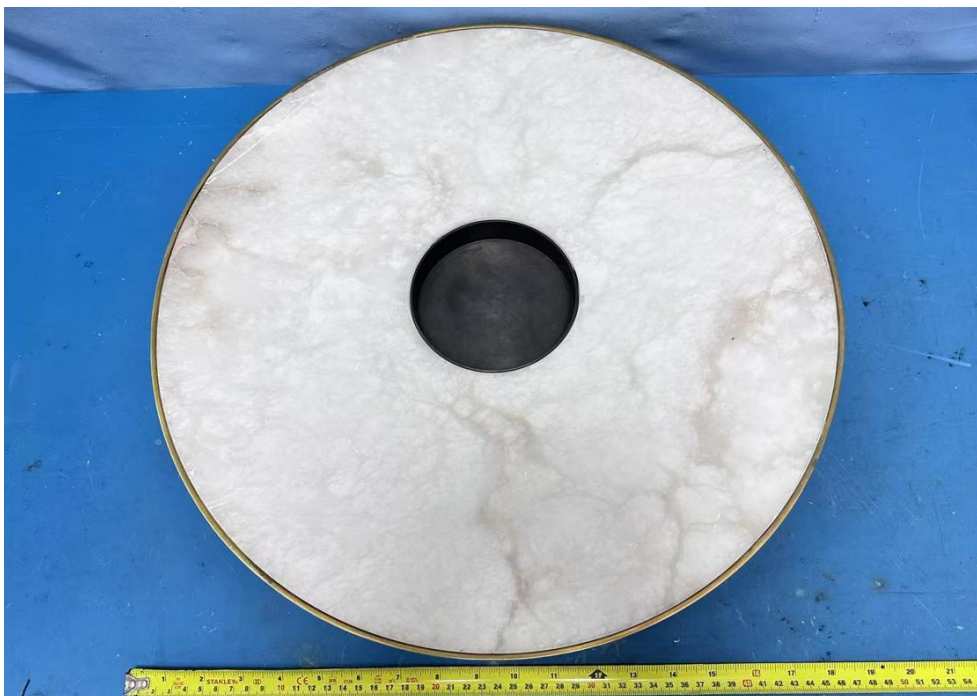
CIE 13.3-1995
(CRI)
 R_a 95
 R_g 65

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

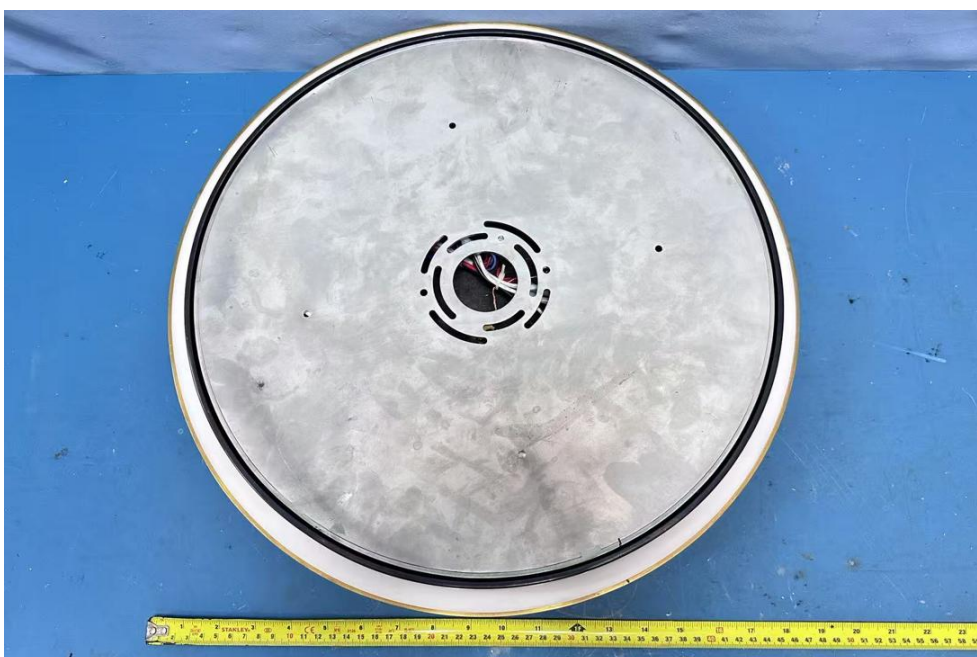
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWFM70227HABALB

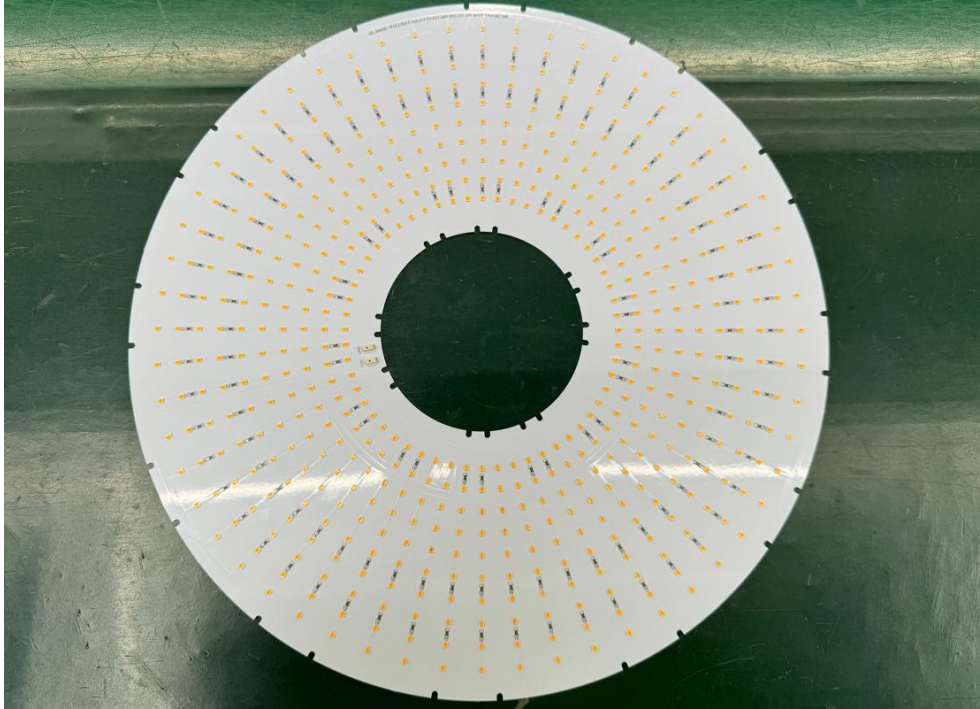


External view of KWFM70227HABALB

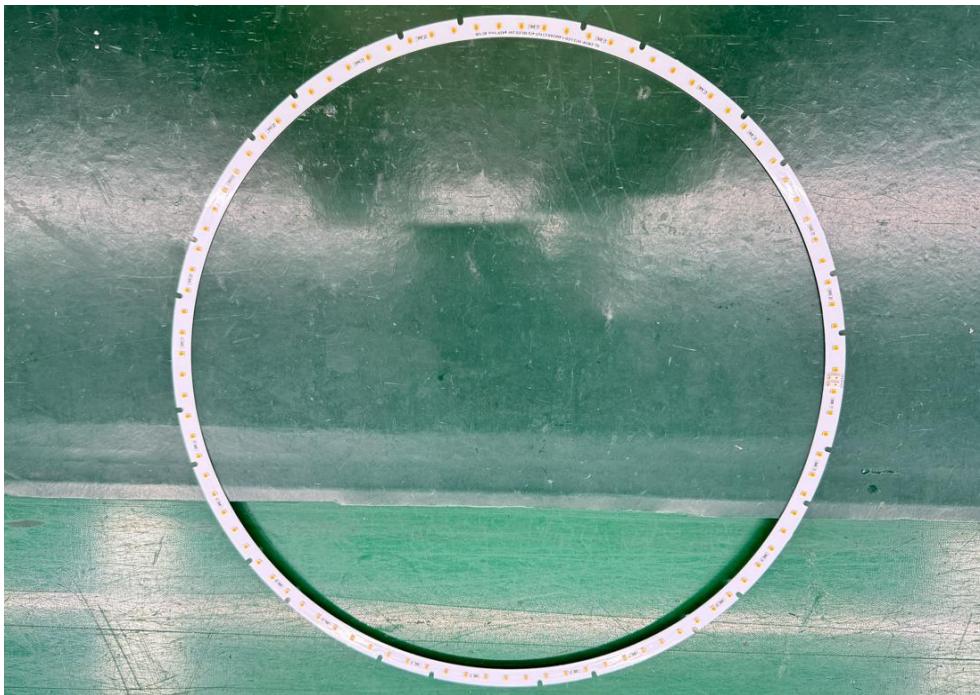
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED

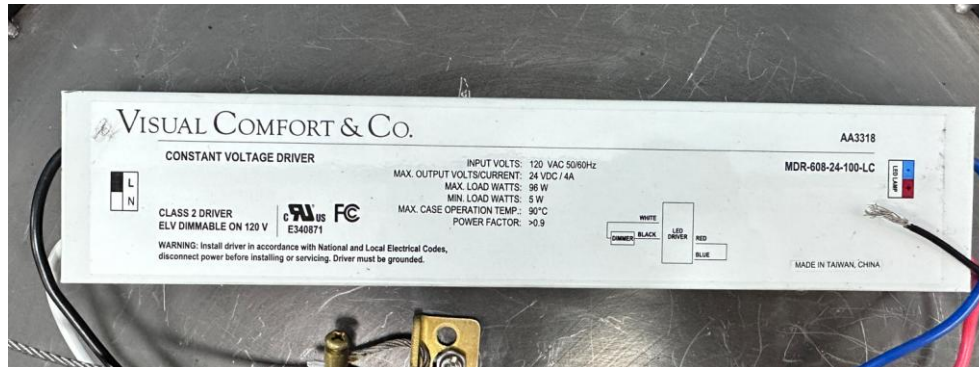


View of LED

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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver MDR-608-24-100-LC

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

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