

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241101145GZU-002

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REVISION DATE

None

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DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 241101145GZU-002

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. PBFL50427XXX

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: QGZ241031016.
<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 PBFL50427XXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241101145-003.
<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>	20 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:	PBFL50427XXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For PBFL50427XXX

Criteria	Result
Total Lumen Output	196.0 lm
Total Power	24.4 W
Luminaire Efficacy	8.0 lm/W
S/MH(C0/180)	1.62
S/MH(C90/270)	1.39
Correlated Color Temperature (CCT)	2016 K
Color Rendering Index (CRI)	86
R9	36
Chromaticity Coordinate (x)	0.5302
Chromaticity Coordinate (y)	0.4207
Chromaticity Coordinate (u')	0.3035
Chromaticity Coordinate (v')	0.5418

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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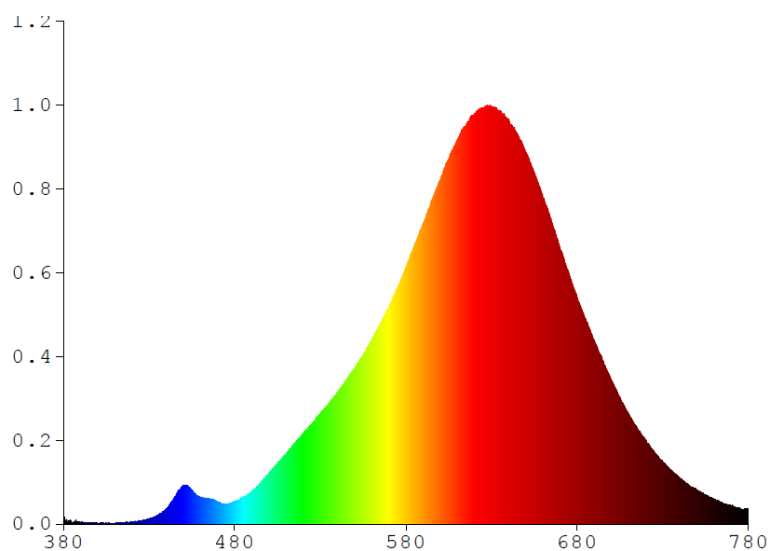
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For PBFL50427XXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0811	480	0.6974	580	7.9252	680	6.9766	780	0.4804
385	0.0407	485	0.8219	585	8.6214	685	6.3057		
390	0.0378	490	1.0114	590	9.2912	690	5.6570		
395	0.0413	495	1.2598	595	10.0030	695	5.0393		
400	0.0019	500	1.5766	600	10.6350	700	4.4295		
405	0.0417	505	1.8714	605	11.2740	705	3.9004		
410	0.0155	510	2.1625	610	11.8820	710	3.3910		
415	0.0237	515	2.4983	615	12.3090	715	2.9627		
420	0.0731	520	2.7988	620	12.6580	720	2.6019		
425	0.0921	525	3.0925	625	12.8440	725	2.2258		
430	0.1643	530	3.4103	630	12.9050	730	1.9168		
435	0.2750	535	3.7191	635	12.7260	735	1.6648		
440	0.4715	540	4.0794	640	12.4970	740	1.4112		
445	0.8415	545	4.4475	645	12.0610	745	1.2172		
450	1.1946	550	4.8069	650	11.4740	750	1.0502		
455	1.0548	555	5.2180	655	10.8290	755	0.8972		
460	0.8300	560	5.6822	660	10.0870	760	0.7685		
465	0.7832	565	6.1981	665	9.3398	765	0.6588		
470	0.6772	570	6.7016	670	8.4967	770	0.5646		
475	0.6326	575	7.2960	675	7.5763	775	0.4817		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBFL50427XXX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

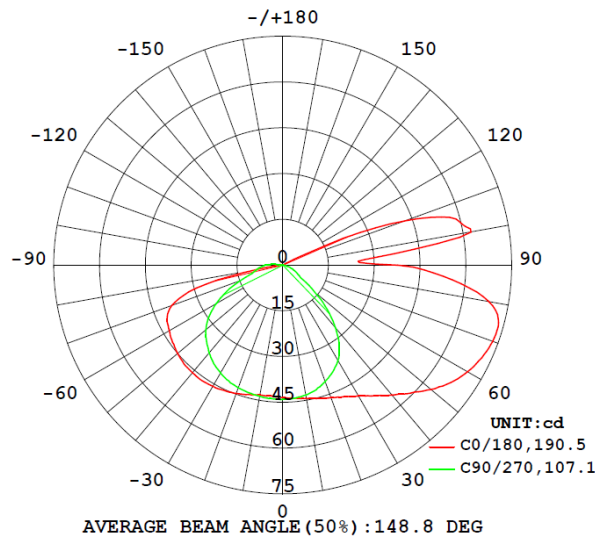
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit	Chromaticit	Chromaticit	Chromaticit
					y	y	y	y
					Coordinate	Coordinate	Coordinate	Coordinate
					(x)	(y)	(u')	(v')
PBFL50427XXX								
S2411011 45-003	base-up	2016	86	36	0.5302	0.4207	0.3035	0.5418

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)
PBFL50427XXX							
S2411011 45-003	base-up	120.1	244.1	24.4	0.831	196.0	8.0

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBFL50427XXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	43.4	45.3	45.2	44.6	44.0
5	43.9	46.2	45.7	44.6	43.8
10	44.4	47.3	46.2	44.5	43.2
15	45.2	48.6	46.4	43.9	42.3
20	46.3	50.3	46.4	42.8	40.7
25	47.6	52.4	46.1	41.3	38.7
30	49.5	54.5	45.2	39.3	36.2
35	52.2	56.4	43.8	36.2	32.3
40	55.5	57.9	41.5	31.0	27.0
45	59.3	58.1	36.8	24.6	20.6
50	63.4	56.6	29.6	17.1	13.7
55	67.2	53.0	20.6	9.4	7.3
60	69.9	46.1	10.9	6.2	5.5
65	71.9	36.0	6.5	4.7	4.1
70	73.1	25.0	4.3	3.3	2.8
75	73.1	16.8	1.5	0.8	0.6
80	68.4	10.5	0.6	0.0	0.0
85	55.7	6.6	0.4	0.0	0.0
90	37.5	3.6	0.2	0.0	0.0
95	31.2	1.9	0.1	0.0	0.0
100	62.6	0.7	0.1	0.0	0.0
105	58.7	0.3	0.0	0.0	0.0
110	42.4	0.1	0.0	0.0	0.0
115	15.1	0.1	0.0	0.0	0.0
120	1.6	0.1	0.0	0.0	0.0
125	0.2	0.1	0.1	0.1	0.1
130	0.1	0.1	0.1	0.1	0.1
135	0.1	0.1	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	0.1	0.1	0.1	0.1	0.1
155	0.1	0.1	0.1	0.1	0.1
160	0.1	0.1	0.1	0.1	0.1
165	0.1	0.1	0.1	0.1	0.1
170	0.1	0.1	0.1	0.1	0.1
175	0.1	0.1	0.1	0.1	0.0
180	0.1	0.1	0.1	0.1	0.0

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBFL50427XXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
PBFL50427XXX		
0-30	36.9	18.8
0-40	63.3	32.3
0-60	122.1	62.3
0-90	179.5	91.6
60-90	57.4	29.3
0-180	196.0	100.0

Beam Angle

Total Beam Angle(°)

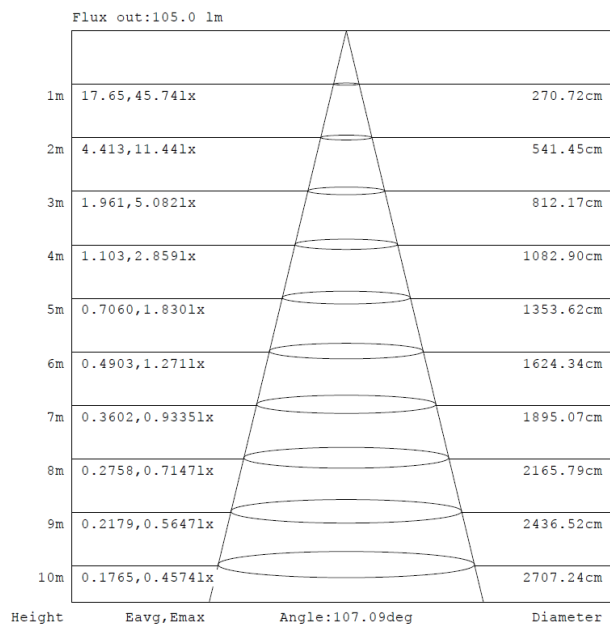
148.8

Illumination Plots

Model No.: PBFL50427XXX

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

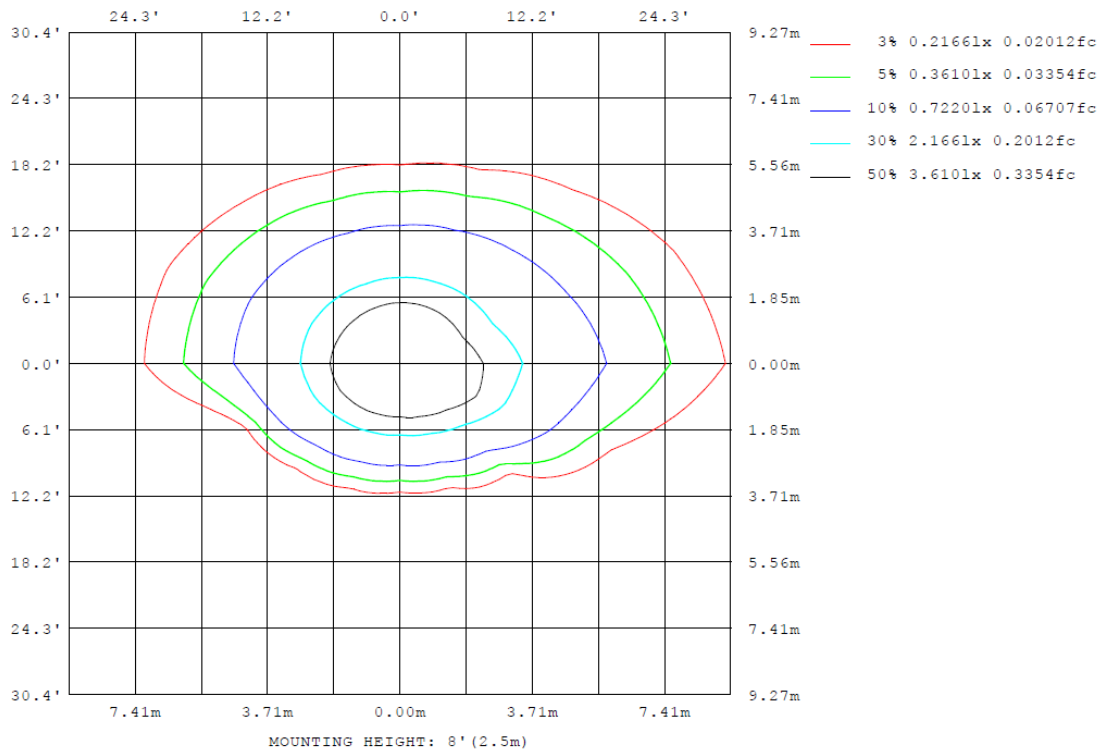
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBFL50427XXX

Model No.: PBFL50427XXX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBFL50427XXX

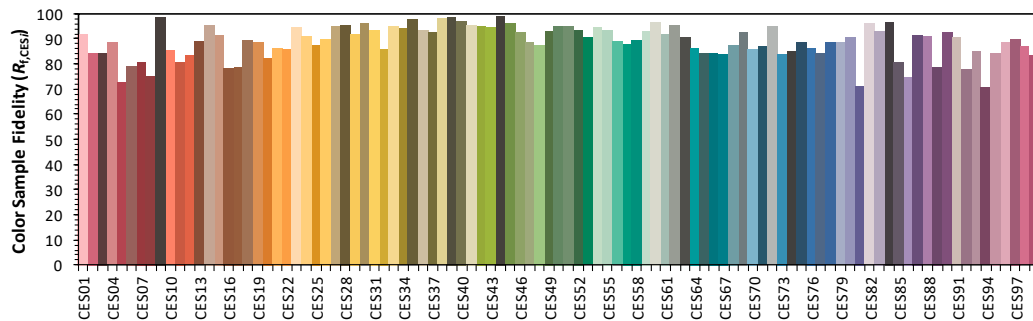
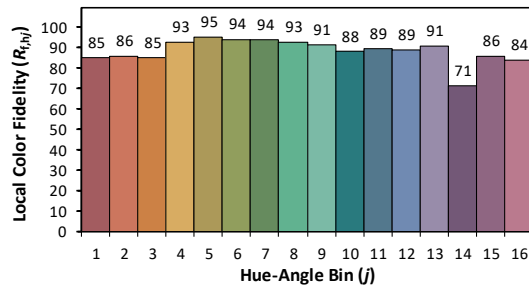
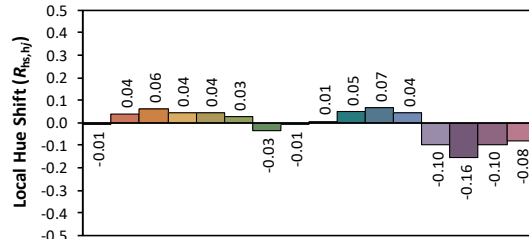
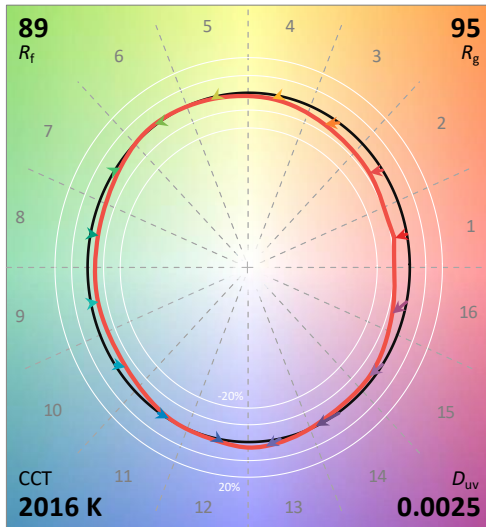
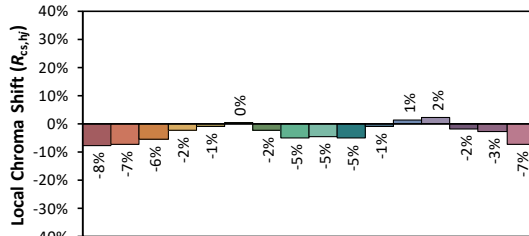
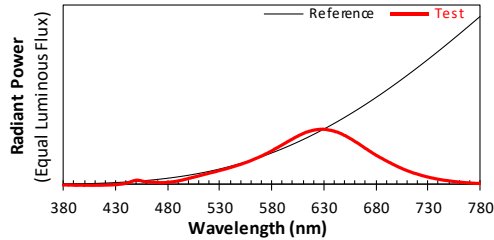
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/11/20

Model: PBFL50427XXX



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

x 0.5302
 y 0.4207
 u' 0.3035
 v' 0.5418

CIE 13.3-1995
(CRI)

R_a 86

R_g 36

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 PBFL50427XXX

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TEST REPORT

PRODUCT PICTURE (not to scale)

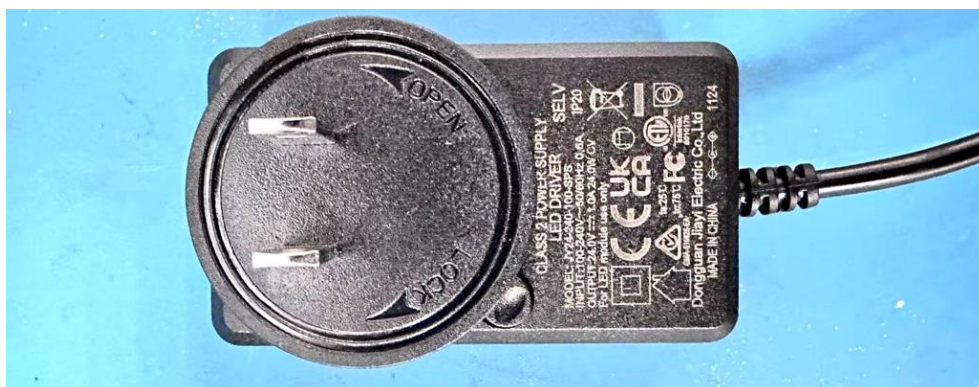


External view of PBFL50427XXX

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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver JY24-240-100-SPS



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 *****