

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

220706027GZU-001

ISSUE DATE

08 July 2022

REVISION DATE

None

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13

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Report No.: 220706027GZU-001

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700PLUD8x-LED927

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: QGZ220704064.

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 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 700PLUD8x-LED927. The sample was received, in undamaged condition. The sample designation was S220706027-003.

DATES OF TESTS: 08 July 2022

ISSUED BY: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

TEST LOCATION: Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2. Caipin Road, Science City, GETDD, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	700PLUD8x-LED927 (Remark: "X" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700PLUD8x-LED927

Criteria	Result
Total Lumen Output	317.97 lm
Total Power	5.40 W
Luminaire Efficacy	58.94 lm/W
S/MH(C0/180)	1.31
S/MH(C90/270)	11.69
Correlated Color Temperature (CCT)	2542 K
Color Rendering Index (CRI)	96
R9	98
Chromaticity Coordinate (x)	0.4699
Chromaticity Coordinate (y)	0.4076
Chromaticity Coordinate (u')	0.2704
Chromaticity Coordinate (v')	0.5277

Remark:

Measurement uncertainty for applicable tests has been established.

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

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	DS215S	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

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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 WT210.

Correction factor (self-absorption) has been considered when doing measurement.

Standard lamp used for Goniophotometer method:

Model: D908S

Current: 7.255A

Standard lamp used for integrating sphere:

Model: S82134

Current: 1.830

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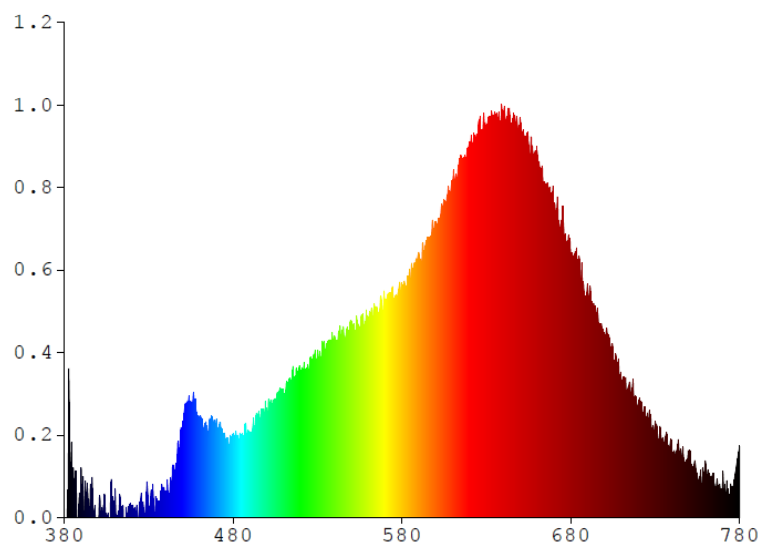
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700PLUD8x-LED927

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	0.0021	580	0.0063	680	0.0073	780	0.0020
385	0.0000	485	0.0023	585	0.0066	685	0.0072		
390	0.0013	490	0.0022	590	0.0073	690	0.0064		
395	0.0003	495	0.0029	595	0.0078	695	0.0052		
400	0.0000	500	0.0030	600	0.0082	700	0.0048		
405	0.0001	505	0.0032	605	0.0088	705	0.0044		
410	0.0008	510	0.0033	610	0.0093	710	0.0038		
415	0.0000	515	0.0039	615	0.0100	715	0.0037		
420	0.0000	520	0.0041	620	0.0104	720	0.0031		
425	0.0004	525	0.0040	625	0.0106	725	0.0028		
430	0.0003	530	0.0046	630	0.0109	730	0.0027		
435	0.0003	535	0.0047	635	0.0112	735	0.0020		
440	0.0006	540	0.0050	640	0.0109	740	0.0017		
445	0.0013	545	0.0052	645	0.0108	745	0.0017		
450	0.0025	550	0.0053	650	0.0110	750	0.0018		
455	0.0031	555	0.0053	655	0.0103	755	0.0011		
460	0.0027	560	0.0055	660	0.0103	760	0.0014		
465	0.0019	565	0.0058	665	0.0092	765	0.0009		
470	0.0027	570	0.0060	670	0.0087	770	0.0011		
475	0.0023	575	0.0061	675	0.0078	775	0.0008		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700PLUD8x-LED927

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

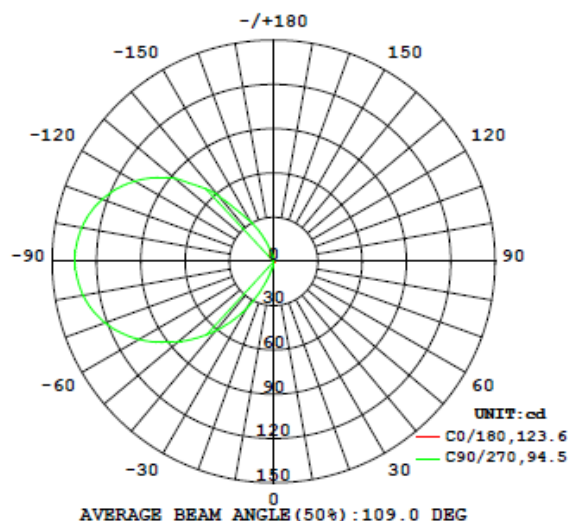
Photometric Measurements at 25°C – Integrating Sphere Method

Intertek Sample No.	Base Orientation	Correlated Color Temperatur e (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')
700PLUD8x-LED927								
S2207060 27-003	--	2542	96	98	0.4699	0.4076	0.2704	0.5277

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)
700PLUD8x-LED927							
S2207060 27-003	--	120.0	45.2	5.40	0.993	317.97	58.94

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700PLUD8x-LED927

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	1.0	1.0	1.0	1.0	1.0
5	1.0	0.9	0.9	0.9	0.9
10	0.9	0.9	0.8	0.8	0.8
15	0.9	0.9	0.7	0.6	0.6
20	0.9	0.8	0.6	0.5	0.4
25	0.9	0.7	0.5	0.3	0.2
30	0.8	0.6	0.3	0.2	0.1
35	0.8	0.5	0.2	0.1	0.1
40	0.8	0.4	0.1	0.1	0.1
45	0.7	0.3	0.1	0.1	0.1
50	0.6	0.2	0.1	0.1	0.1
55	0.6	0.2	0.1	0.2	0.2
60	0.5	0.1	0.1	0.2	0.2
65	0.4	0.1	0.1	0.2	0.2
70	0.4	0.1	0.1	0.2	0.2
75	0.3	0.1	0.1	0.2	0.2
80	0.2	0.1	0.1	0.2	0.2
85	0.2	0.1	0.1	0.2	0.2
90	0.2	0.1	0.1	0.2	0.2
95	0.1	0.1	0.1	0.2	0.2
100	0.1	0.1	0.1	0.2	0.2
105	0.1	0.1	0.1	0.1	0.2
110	0.1	0.1	0.1	0.1	0.1
115	0.1	0.1	0.1	0.1	0.1
120	0.1	0.1	0.1	0.1	0.1
125	0.1	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	0.0
165	0.1	0.1	0.1	0.0	0.0
170	0.1	0.1	0.0	0.0	0.0
175	0.1	0.0	0.0	0.0	0.0
180	0.0	0.0	0.0	0.0	0.0

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700PLUD8x-LED927

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700PLUD8x-LED927		
0-30	3.24	1.02
0-40	10.81	3.40
0-60	48.83	15.36
0-90	159.88	50.28
60-90	111.05	34.92
0-180	317.97	100

Beam Angle

Total Beam Angle (°)

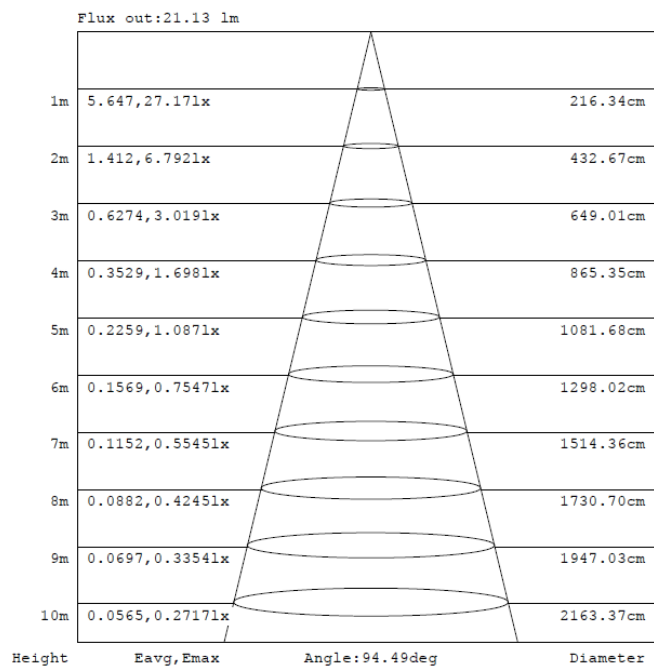
109.0

Illumination Plots

Model No.: 700PLUD8x-LED927

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

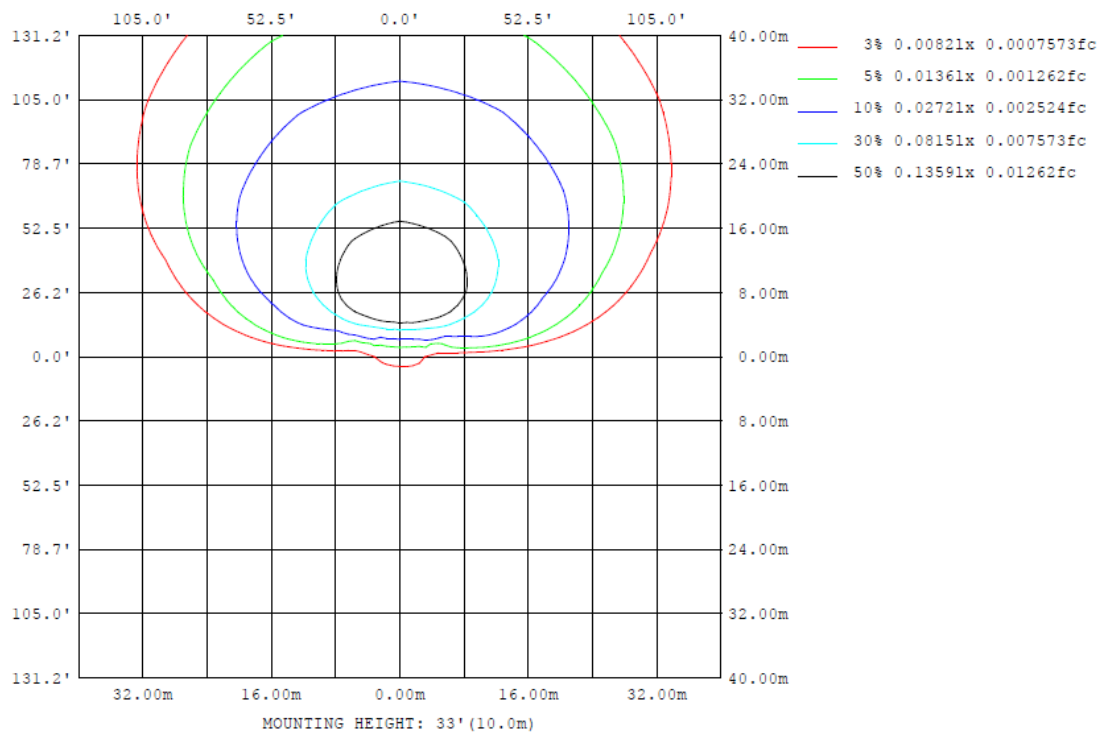
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700PLUD8x-LED927

Model No.: 700PLUD8x-LED927

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700PLUD8x-LED927

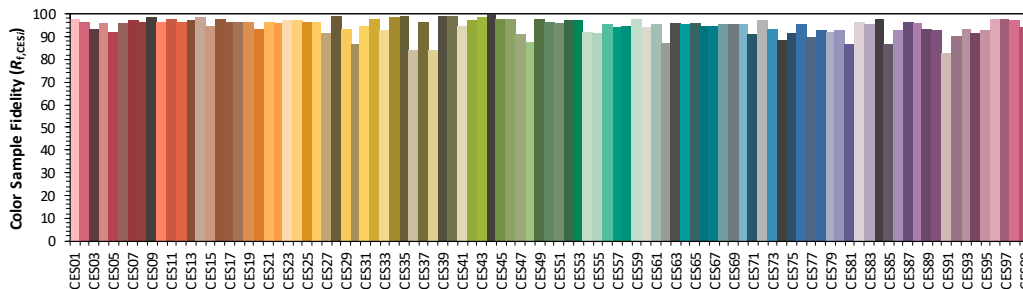
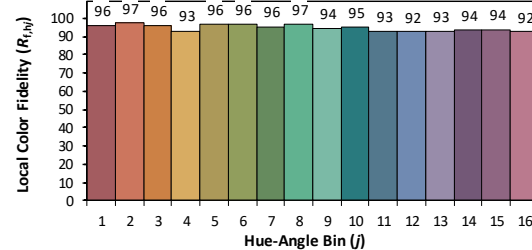
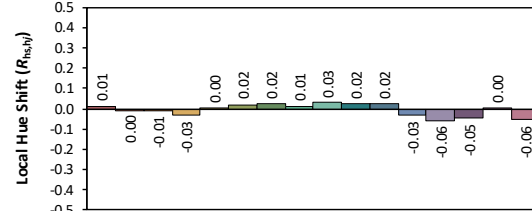
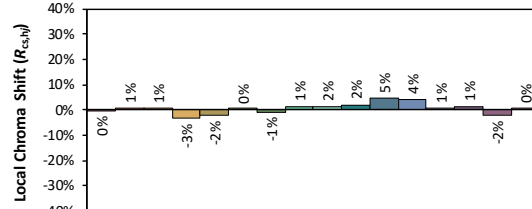
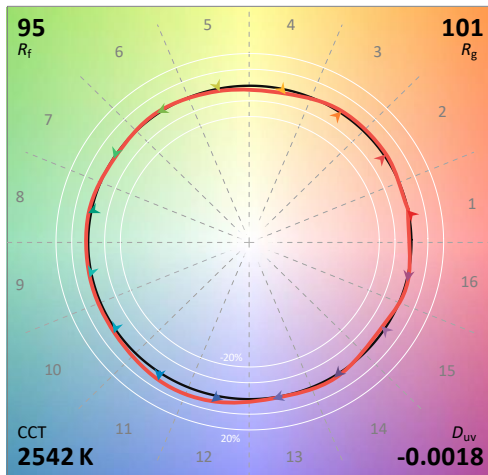
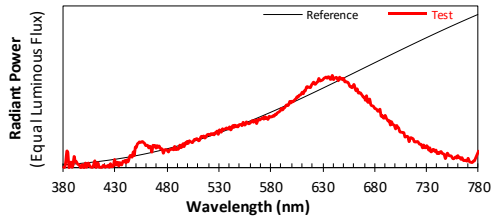
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2022/7/8

Model: 700PLUD8x-LED927



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

x 0.4699
 y 0.4076
 u' 0.2704
 v' 0.5277

CIE 13.3-1995
(CRI)

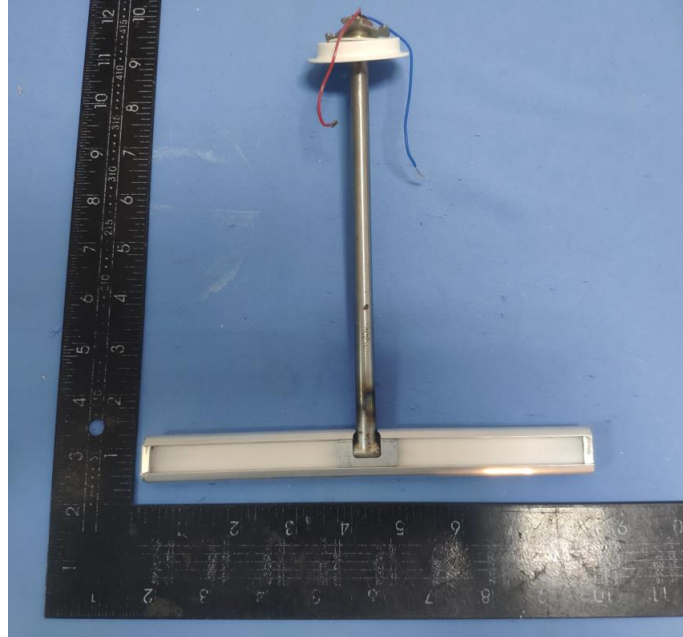
R_a 96
 R_g 98

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 700PLUD8x-LED927



External view of 700PLUD8x-LED927

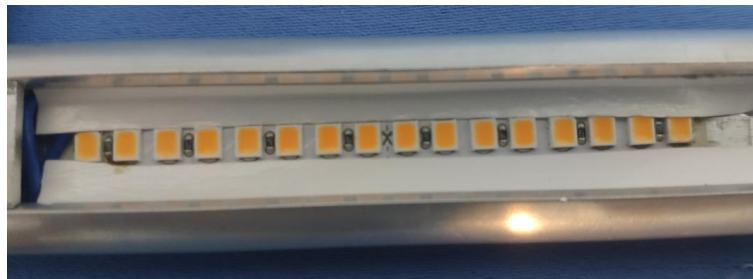
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED Driver DS6W24VMB1UD-0000



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 *****