

VC BRANDS LLC

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

211208061GZU-003

ISSUE DATE

7 January 2022

REVISION DATE

None

NUMBER OF PAGES

13

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Report No.: 211208061GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700LSESF60XX-LED927

RENDERED TO

VC BRANDS LLC

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: QGZ211208009.

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 700LSESF60XX-LED927. The sample was received, in undamaged condition. The sample designation was S211208061-003.

DATES OF TESTS: 8 December 2021 to 7 January 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:	700LSESF60XX-LED927 (Remark: "XX" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700LSESF60XX-LED927

Criteria	Result
Total Lumen Output	2416.5 lm
Total Power	25.1 W
Luminaire Efficacy	96.12 lm/W
S/MH(C0/180)	1.26
S/MH(C90/270)	1.05
Correlated Color Temperature (CCT)	2670 K
Color Rendering Index (CRI)	92
R9	71
Chromaticity Coordinate (x)	0.4633
Chromaticity Coordinate (y)	0.4130
Chromaticity Coordinate (u')	0.2637
Chromaticity Coordinate (v')	0.5288

Remark:

Measurement uncertainty for applicable tests has been established.

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TEST REPORT

EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Temperature Meter	RS210	SA047-126
Sensing - DC Power Supply	IT6122	SA063-12-09
Sensing- AC power source for Integrating Sphere System	APW-105N	SA063-12-05
Everfine - AC power source for Goniophotometer System	DPS1060	SA063-16-03
Two meter integrating sphere unit	Sensing – 2M	SA063-12-01
YOKOGAWA – Digital Power Meter	WT-210	SA011-122
Everfine – Goniophotometer	Go-R5000	SA063-16
KONICA MINOLTA - Illuminance meter	CX-2B_WL	SA063-16-01
Standard lamp	S82134	SA063-12-13
Standard lamp	S1320039	SA063-12-24
Standard lamp	D908S	SA063-16-05
Standard lamp	D215S	SA063-16-06

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 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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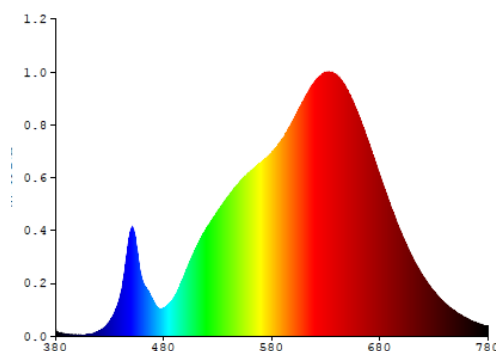
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700LSESF60XX-LED927

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0826	480	0.5462	580	3.6059	680	3.1546	780	0.2049
385	0.0603	485	0.6290	585	3.7251	685	2.8530		
390	0.0281	490	0.7698	590	3.8834	690	2.5481		
395	0.0242	495	0.0000	595	4.0687	695	2.2804		
400	0.0227	500	1.2458	600	4.2556	700	2.0172		
405	0.0230	505	1.4971	605	4.4566	705	1.7723		
410	0.0293	510	1.7341	610	4.6600	710	1.5542		
415	0.0551	515	1.9474	615	4.8466	715	1.3546		
420	0.0939	520	2.1280	620	5.0100	720	1.1726		
425	0.1635	525	2.2958	625	5.1174	725	1.0157		
430	0.2886	530	2.4557	630	5.1758	730	0.8761		
435	0.4831	535	2.6051	635	5.1812	735	0.7545		
440	0.8064	540	2.7535	640	5.1304	740	0.6462		
445	1.4567	545	2.9027	645	5.0101	745	0.5525		
450	2.1059	550	3.0235	650	4.8325	750	0.4768		
455	1.7157	555	3.1371	655	4.6168	755	0.4104		
460	1.0972	560	3.2341	660	4.3562	760	0.3507		
465	0.8983	565	3.3245	665	4.0822	765	0.2984		
470	0.6935	570	3.4117	670	3.7743	770	0.2532		
475	0.5455	575	3.4997	675	3.4583	775	0.2152		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSESF60XX-LED927

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

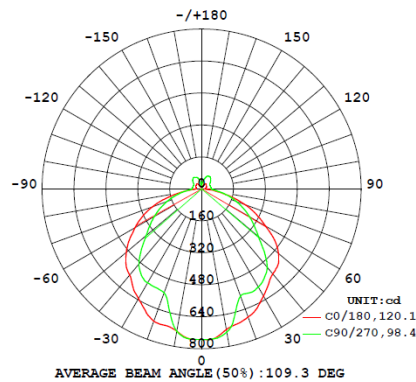
Photometric Measurements at 25°C – Integrating Sphere Method

Intertek Sample No.	Base Orientation	Correlated Color 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')
700LSESF60XX-LED927								
S2112080 61-003	--	2670	92	71	0.4633	0.4130	0.2637	0.5288

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
						Flux (Lumens)	Efficacy (Lumens Per Watt)
700LSESF60XX-LED927							
S2112080 61-003	--	120.0	210.1	25.1	0.997	2416.5	96.12

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSESF60XX-LED927

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	753.5	753.9	754.0	754.1	754.3
5	750.3	751.2	751.9	752.4	752.1
10	714.4	714.1	727.6	732.4	727.4
15	698.7	684.0	686.1	664.7	648.4
20	682.3	661.5	625.8	584.3	570.7
25	657.9	632.3	579.0	572.2	572.7
30	620.1	578.0	542.9	566.8	568.1
35	583.1	533.8	524.0	543.0	546.7
40	555.1	524.4	502.6	505.9	512.0
45	539.8	503.8	458.3	442.4	445.2
50	502.7	474.7	407.9	377.9	373.0
55	447.4	414.3	353.0	327.7	323.0
60	368.2	347.2	301.7	281.2	277.2
65	303.0	289.6	253.3	234.9	231.5
70	233.8	234.9	204.9	189.4	186.8
75	152.6	178.6	156.6	143.9	142.0
80	83.9	121.0	107.7	98.8	97.4
85	28.4	71.8	67.0	63.1	62.0
90	15.4	56.1	54.1	50.6	49.2
95	14.8	54.1	52.6	49.3	48.1
100	19.8	52.6	51.0	48.6	47.9
105	22.2	50.3	48.7	46.7	46.1
110	25.8	48.5	47.1	45.9	45.2
115	27.3	48.6	47.1	45.9	45.3
120	27.1	51.3	50.6	48.2	46.6
125	30.0	54.1	56.5	53.7	51.9
130	32.2	56.8	63.0	60.8	58.6
135	33.1	58.2	68.4	67.3	65.4
140	32.6	57.4	71.6	72.0	70.5
145	32.9	52.8	71.4	74.3	73.5
150	23.5	46.2	68.5	73.5	73.7
155	16.8	38.3	62.2	69.3	70.4
160	8.8	30.3	52.6	61.4	62.9
165	4.6	22.7	39.2	49.9	51.2
170	12.0	14.1	29.1	32.7	37.0
175	14.0	15.4	17.6	20.6	22.1
180	15.2	15.0	14.7	14.3	0.0

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSESF60XX-LED927

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700LSESF60XX-LED927		
0-30	540.4	22.4
0-40	885.3	36.6
0-60	1583.6	65.5
0-90	2099.1	86.9
60-90	515.5	21.4
0-180	2416.5	100.0

Beam Angle

Total Beam Angle(°)

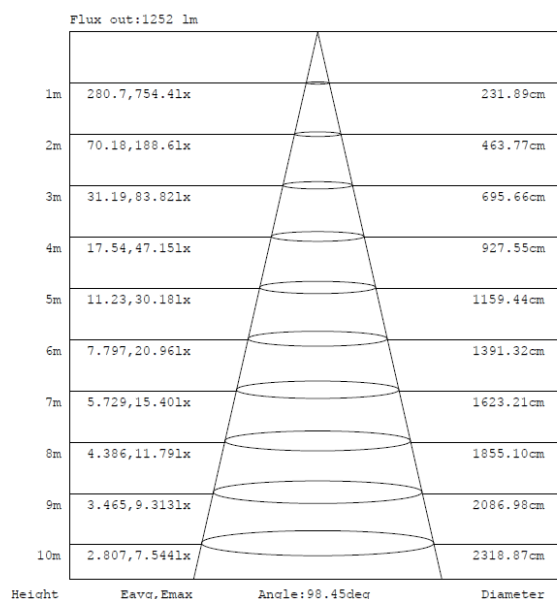
109.3

Illumination Plots

Model No.: 700LSESF60XX-LED927

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

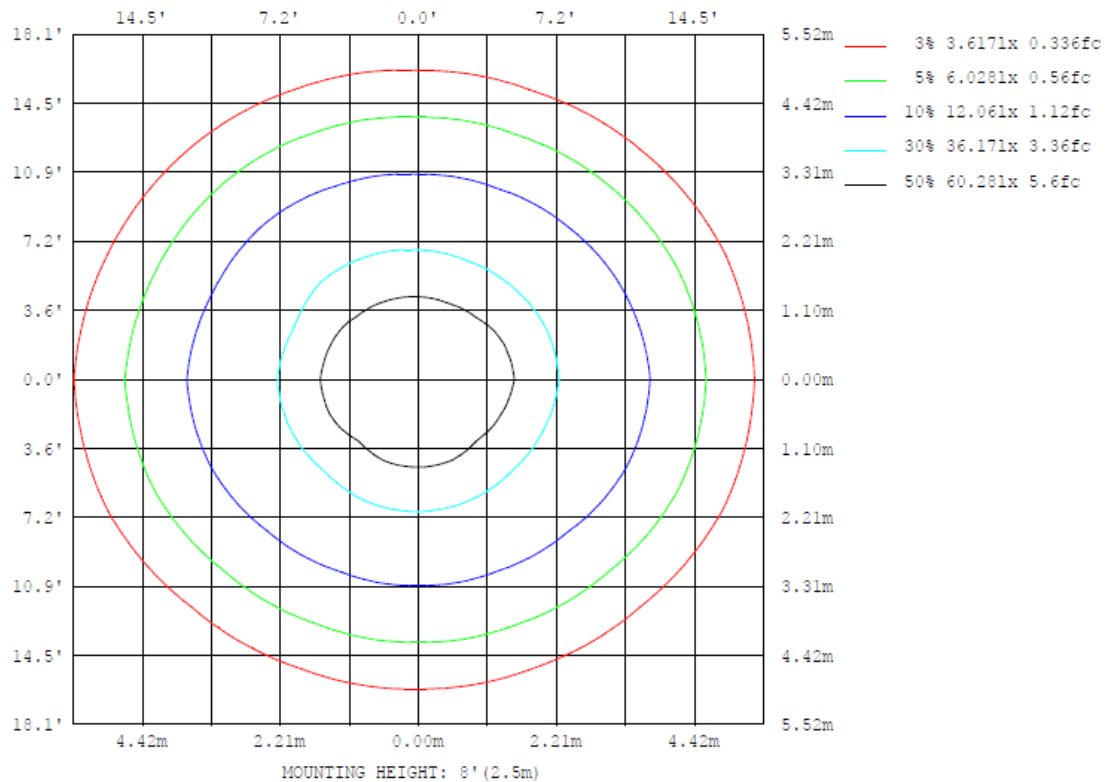
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSESF60XX-LED927

Model No.: 700LSESF60XX-LED927

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSESF60XX-LED927

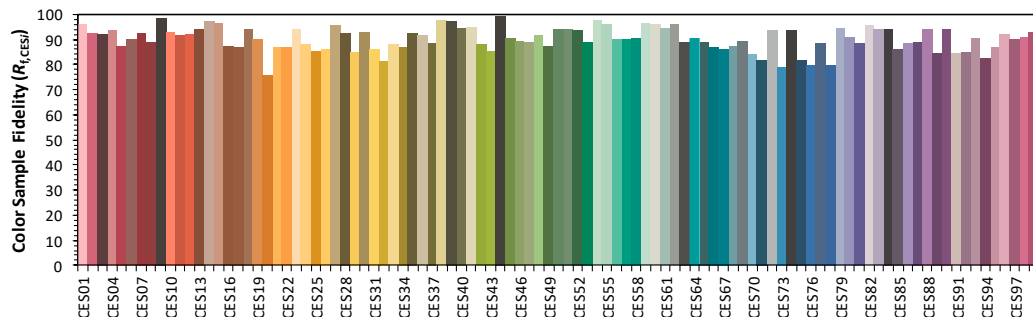
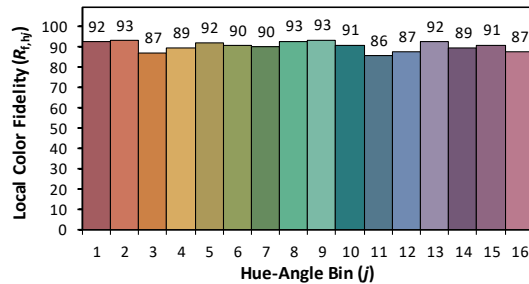
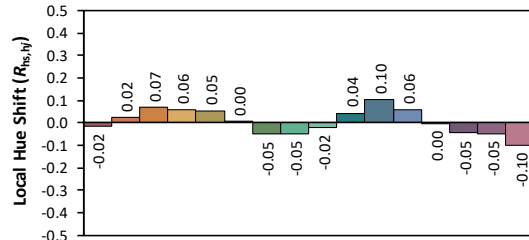
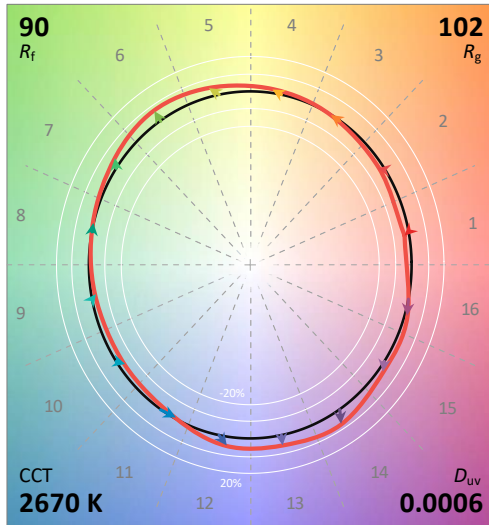
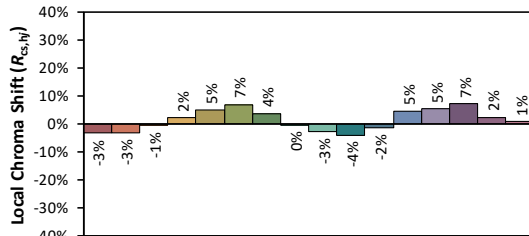
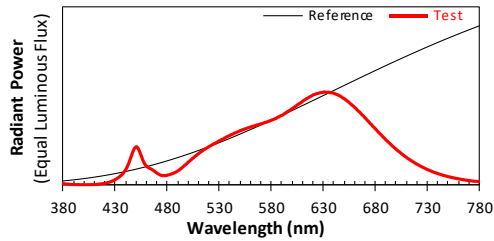
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: VC BRANDS LLC

Date: 2021/12/30

Model: 700LSESF60XX-LED927



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

x 0.4633
 y 0.4130
 u' 0.2637
 v' 0.5288

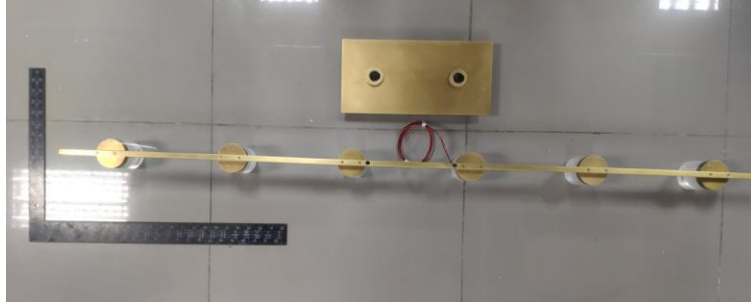
CIE 13.3-1995
(CRI)

R_a 92
 R_g 71

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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of 700LSESF60XX-LED927



External view of 700LSESF60XX-LED927

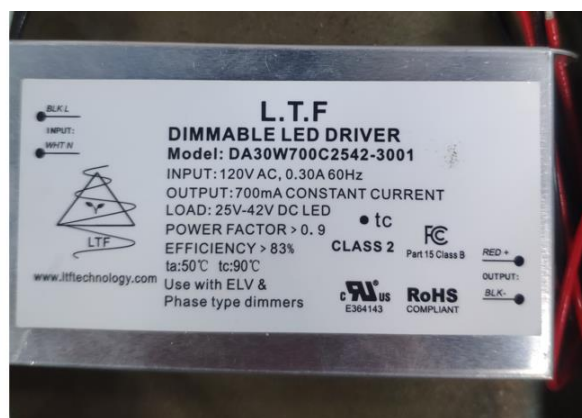


External view of 700LSESF60XX-LED927

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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED Driver DA30W700C2542-3001



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 *****