

VC BRANDS LLC

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

211208061GZU-015

ISSUE DATE

7 January 2022

REVISION DATE

None

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79:2008_F

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Report No.: 211208061GZU-015

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700LSIBM47XX-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 700LSIBM47XX-LED927. The sample was received, in undamaged condition. The sample designation was S211208061-018.

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:	700LSIBM47XX-LED927 (Remark: "XX" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700LSIBM47XX-LED927

Criteria	Result
Total Lumen Output	1423.9 lm
Total Power	43.5 W
Luminaire Efficacy	32.71 lm/W
S/MH(C0/180)	1.29
S/MH(C90/270)	1.04
Correlated Color Temperature (CCT)	2644 K
Color Rendering Index (CRI)	94.0
R9	72
Chromaticity Coordinate (x)	0.4628
Chromaticity Coordinate (y)	0.4086
Chromaticity Coordinate (u')	0.2653
Chromaticity Coordinate (v')	0.5270

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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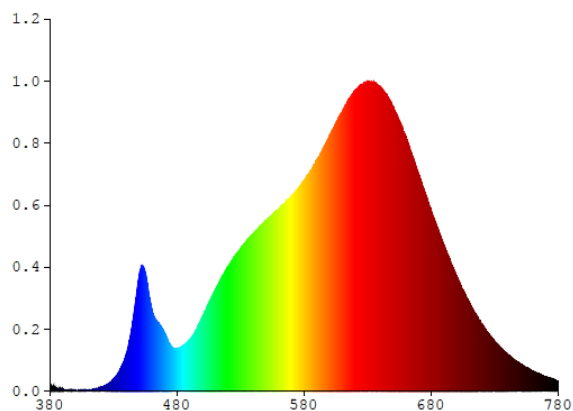
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700LSIBM47XX-LED927

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0284	480	0.2178	580	1.0765	680	0.9174	780	0.0498
385	0.0142	485	0.2323	585	1.1240	685	0.8292		
390	0.0138	490	0.2650	590	1.1800	690	0.7453		
395	0.0045	495	0.0000	595	1.2421	695	0.6638		
400	0.0059	500	0.3834	600	1.3056	700	0.5863		
405	0.0070	505	0.4517	605	1.3681	705	0.5155		
410	0.0076	510	0.5172	610	1.4271	710	0.4510		
415	0.0120	515	0.5803	615	1.4873	715	0.3937		
420	0.0201	520	0.6358	620	1.5317	720	0.3415		
425	0.0345	525	0.6867	625	1.5607	725	0.2951		
430	0.0625	530	0.7277	630	1.5755	730	0.2536		
435	0.1097	535	0.7694	635	1.5735	735	0.2198		
440	0.1923	540	0.8048	640	1.5510	740	0.1899		
445	0.3494	545	0.8400	645	1.5113	745	0.1627		
450	0.5821	550	0.8694	650	1.4498	750	0.1392		
455	0.6035	555	0.8998	655	1.3768	755	0.1204		
460	0.4211	560	0.9295	660	1.2973	760	0.1015		
465	0.3492	565	0.9614	665	1.2038	765	0.0894		
470	0.2987	570	0.9928	670	1.1098	770	0.0760		
475	0.2337	575	1.0328	675	1.0121	775	0.0650		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSIBM47XX-LED927

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

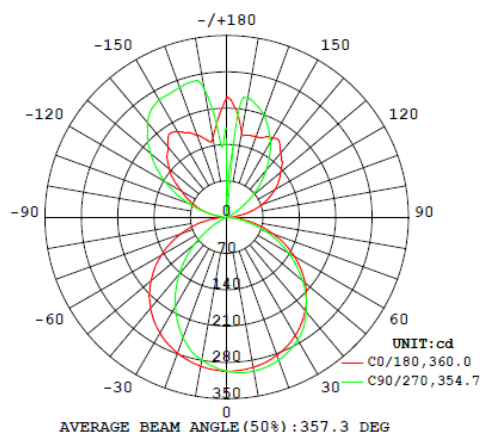
Photometric Measurements at 25°C – Integrating Sphere Method

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')
700LSIBM47XX-LED927								
S2112080 61-018	--	2644	94.0	72	0.4628	0.4086	0.2653	0.5270

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)
700LSIBM47XX-LED927							
S2112080 61-018	--	120.0	369.5	43.5	0.981	1423.9	32.71

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSIBM47XX-LED927

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	296.5	296.5	296.5	296.5	296.4
5	296.1	298.0	299.5	300.4	300.5
10	293.7	297.5	300.0	301.1	301.1
15	289.3	294.7	297.7	298.7	298.4
20	282.9	289.7	292.7	293.3	292.8
25	274.3	282.2	285.1	285.1	284.2
30	263.4	272.5	275.0	274.2	272.9
35	250.4	260.2	262.3	260.9	258.3
40	235.0	245.6	247.3	241.8	237.9
45	217.2	228.6	228.7	219.5	215.2
50	197.1	209.3	205.4	195.0	190.5
55	174.6	187.7	179.8	168.7	164.3
60	150.1	163.6	152.3	141.1	137.0
65	123.7	135.0	123.3	112.5	108.7
70	96.2	104.9	93.2	83.4	80.0
75	68.3	73.5	62.3	53.7	50.9
80	40.5	41.7	31.6	25.4	23.9
85	13.8	10.9	6.7	3.6	4.0
90	0.6	0.9	0.9	0.9	1.0
95	11.2	0.6	0.4	0.5	0.6
100	31.6	1.0	0.5	0.3	0.3
105	52.3	12.0	0.8	0.6	0.5
110	71.9	33.1	2.5	0.9	0.8
115	90.2	53.9	19.9	2.7	1.1
120	107.3	75.7	42.9	21.2	14.2
125	122.6	97.3	67.3	45.9	37.9
130	135.9	118.8	91.3	71.8	64.9
135	150.4	140.1	114.8	97.6	91.7
140	162.1	160.6	137.4	122.9	117.9
145	177.1	177.9	159.0	147.4	143.2
150	177.3	194.3	179.3	170.2	167.1
155	170.0	208.6	198.1	191.4	189.6
160	165.2	195.0	213.5	210.3	209.5
165	163.2	156.5	221.5	222.9	223.3
170	166.2	158.5	204.7	226.0	234.0
175	208.6	200.7	203.4	192.8	132.6
180	232.4	229.1	216.4	172.1	0.0

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSIBM47XX-LED927

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700LSIBM47XX-LED927		
0-30	229.8	16.1
0-40	374.2	26.3
0-60	642.7	45.1
0-90	776.2	54.5
60-90	133.5	9.4
0-180	1423.9	100

Beam Angle

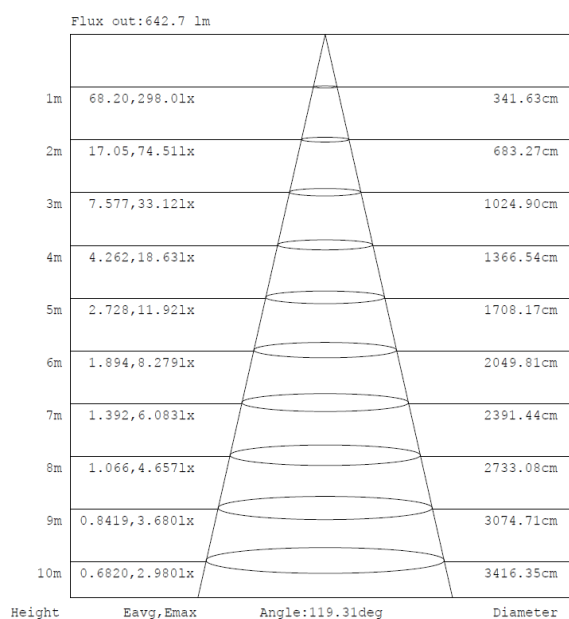
Total Beam Angle(°)
357.3

Illumination Plots

Model No.: 700LSIBM47XX-LED927

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

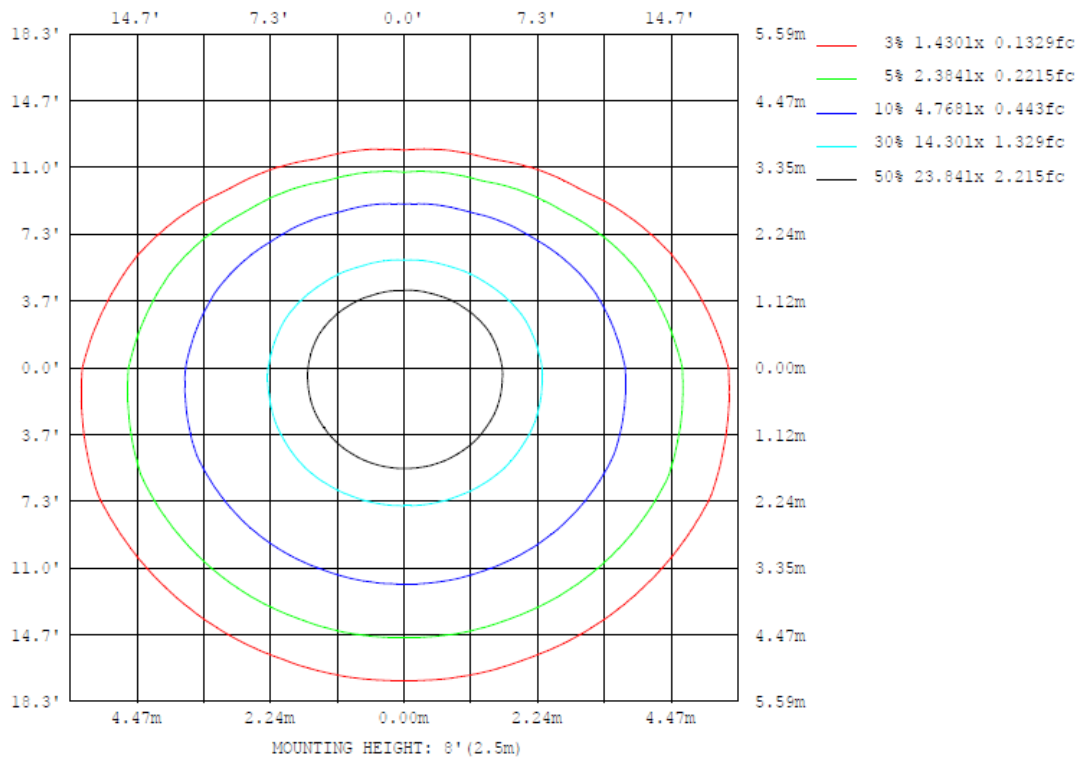
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSIBM47XX-LED927

Model No.: 700LSIBM47XX-LED927

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700LSIBM47XX-LED927

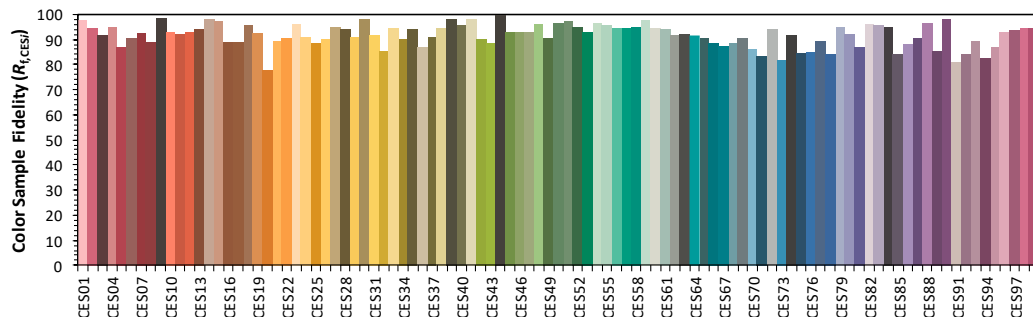
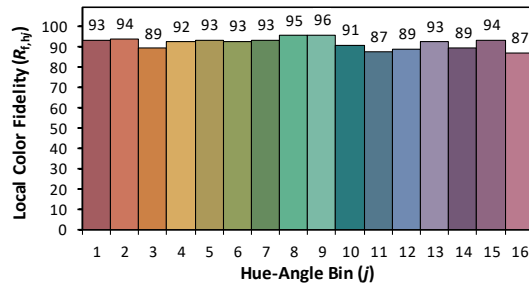
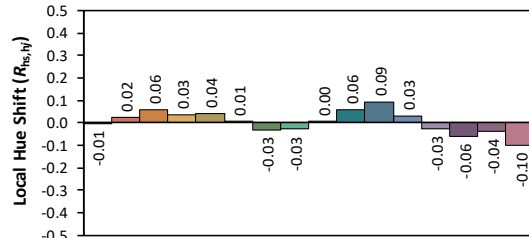
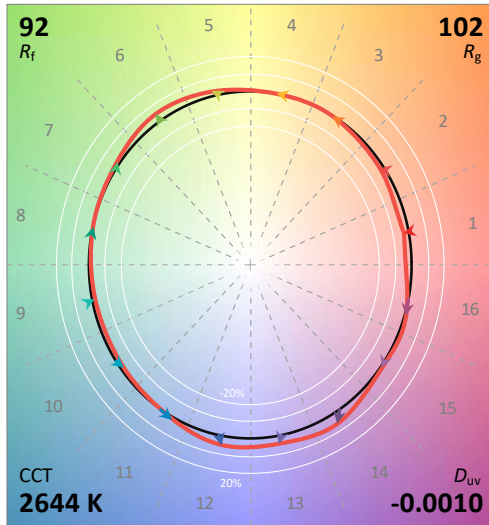
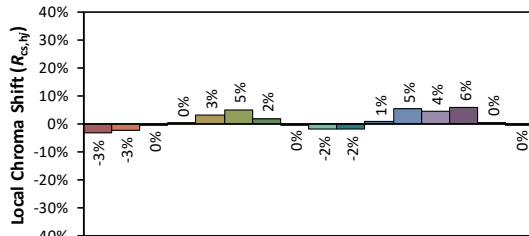
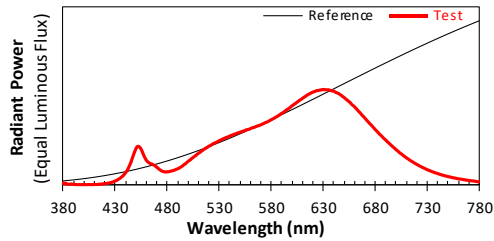
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: VC BRANDS LLC

Date: 2021/12/29

Model: 700LSIBM47XX-LED927



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

x 0.4628
 y 0.4086
 u' 0.2653
 v' 0.5270

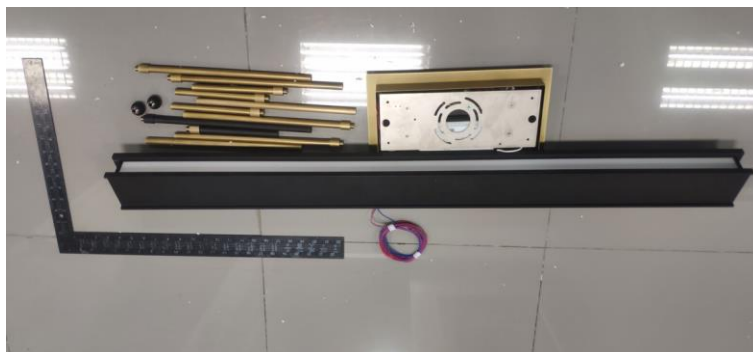
CIE 13.3-1995
(CRI)

R_a 94
 R_g 72

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TEST REPORT

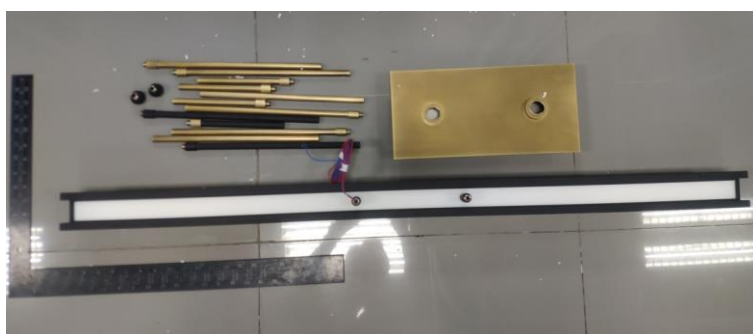
PRODUCT PICTURE (not to scale)



External view of 700LSIBM47XX-LED927



External view of 700LSIBM47XX-LED927



External view of 700LSIBM47XX-LED927

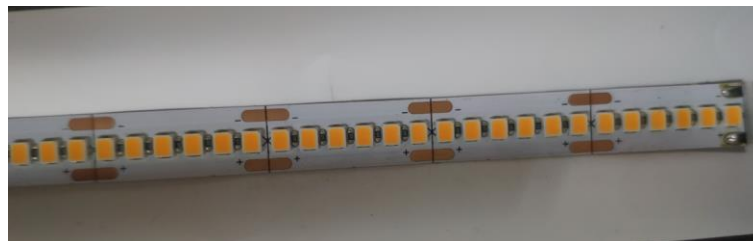
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED Driver MDR-503-24-60-1-D



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 *****