

VISUAL COMFORT AND COMPANY TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

700LSIBM72BR-LED927

PROJECT NUMBER

G105265097

REPORT NUMBER

105265097CHI-020

ISSUE DATE

1/9/2022

REVISED DATE

None

TEST DATES

01/06/2023 through 01/09/2023.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

105265097CHI-020

MODEL NUMBER(s)

700LSIBM72BR-LED927

REPORT RENDERED TO:

VISUAL COMFORT AND COMPANY
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SKOKIE, IL 60077
USA

STATEMENT OF LIMITATION

NVLAP Lab Code 600186-0. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION

The testing performed was authorized by signed quote number Qu-01297671-0.

TEST STANDARDS

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

ANSI/IES LM-79-19 Optical and Electrical Measurements of Solid-State Lighting Products

In Charge of Testing:



Tim Quigley
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Reviewer:



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SAMPLE INFORMATION

REPORT NO. 105265097CHI-020

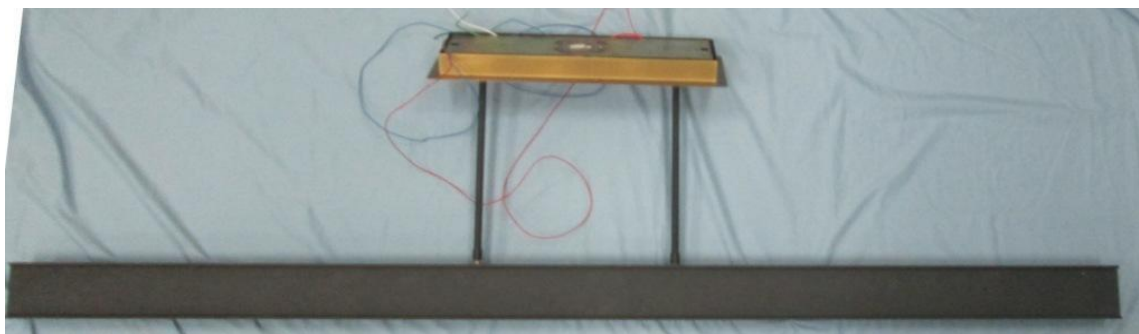
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH11302022113824-020	700LSIBM72BR-LED927	I-Beam 72 Linear Suspension	Production	11/30/2022

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	700LSIBM72BR-LED927	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

REPORT NO. 105265097CHI-020

PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	700LSIBM72BR-LED927
Product Description:	I-Beam 72 Linear Suspension
LED Model No.:	WW-FLS102T23WW240B-24(WCP)-UR-3S (2700K)
Driver Model No.:	MDR-608-24-100-LC
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	3304.9	3445.2
Input Power (W) @ 120VAC (Vac)	65.77	65.74
Lumen Efficacy (lm/W)	50.2	52.4
Input Power Factor () @ 120VAC (Vac)	0.996	0.997

Criteria	Results
Input ATHD (%) @ 120VAC (Vac)	4.37
Correlated Color Temperature (K)	2711
Color Rendering Index - Ra ()	93.7
Color Rendering Index - R9 ()	70.6
Duv ()	-0.0010
Chromaticity Coordinate (x)	0.457
Chromaticity Coordinate (y)	0.407
Chromaticity Coordinate (u')	0.262
Chromaticity Coordinate (v')	0.526

TEST METHODS

SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS

No seasoning was performed in accordance with IESNA LM-79.

INTEGRATING SPHERE TESTING

A spectroradiometer and integrating sphere were used to measure the spectral distribution for each EUT resulting in photometric and colorimetric data. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature was measured at a position inside the sphere and stabilization procedures to LM-79 were followed.

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

A Type C Mirror Goniophotometer system was used to measure the luminous intensity (candela) at each angle of distribution for the EUT. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature was measured at a position near the EUT at equal height and stabilization procedures to LM-79 were followed.

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

REPORT NO. 105265097CHI-020

Test Configuration	Tested Model No.	Pass/Fail/NA
1	700LSIBM72BR-LED927	NA

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS (25°C +/- 1°C)

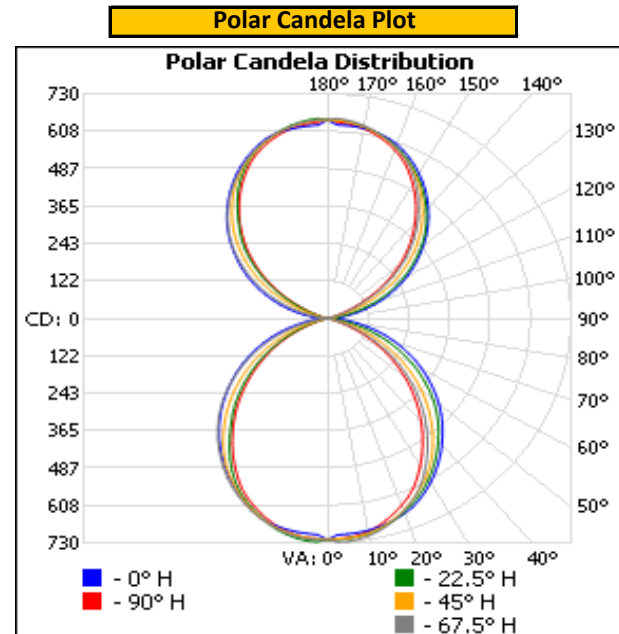
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up	120.04	549.9	65.77	0.996

Light Output (lm)	Lumen Efficacy (lm/W)
3304.9	50.2

INTENSITY SUMMARY - CANDELA

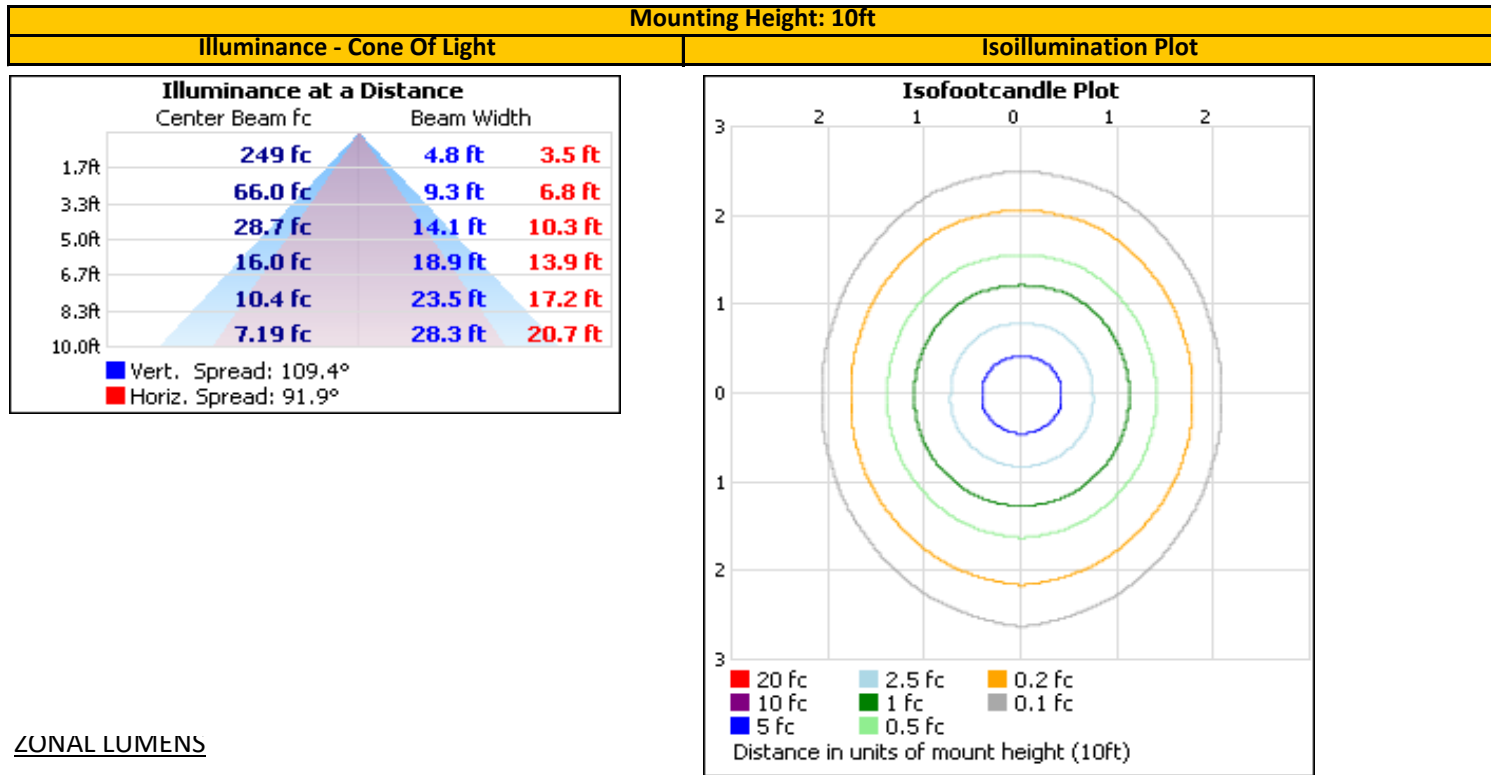
Angle	0	22.5	45	67.5	90
0	719	719	719	719	719
5	704	719	718	728	716
10	700	711	709	718	704
15	690	694	691	697	679
20	675	671	664	667	647
25	651	641	631	630	609
30	617	605	593	580	555
35	578	563	546	523	497
40	534	517	490	461	436
45	487	468	432	398	373
50	437	414	370	331	308
55	382	355	305	264	241
60	326	293	237	196	174
65	268	229	171	129	110
70	210	165	106	67	52
75	150	102	47	16	8
80	93	44	6	2	2
85	44	4	2	1	1
90	3	1	1	1	1
95	25	3	2	2	2
100	68	34	3	3	4
105	119	91	33	10	8
110	172	149	89	49	41
115	225	206	153	107	94
120	277	261	218	175	160
125	328	316	280	242	227
130	377	369	339	305	292
135	426	417	393	366	352
140	469	461	444	422	409
145	510	501	491	475	461
150	546	537	531	522	509
155	578	569	564	563	553
160	604	596	592	593	584
165	620	618	615	617	609
170	628	634	632	636	627
175	630	644	643	648	636
180	645	645	645	645	645

Entire luminous intensity matrix found in .IES file



REPORT NO. 105265097CHI-020

ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary					
Zone	Lumens	Luminaire	Zone	Lumens	Total
0-30	551.9	16.7%	0-10	0.0	0.0%
0-40	887.8	26.9%	10-20	0.0	0.0%
0-60	1,488.2	45.0%	20-30	0.0	0.0%
60-90	247.0	7.5%	30-40	0.0	0.0%
70-100	81.7	2.5%	40-50	0.0	0.0%
90-120	219.9	6.7%	50-60	0.0	0.0%
0-90	1,735.2	52.5%	60-70	0.0	0.0%
90-180	1,569.7	47.5%	70-80	0.0	0.0%
0-180	3,304.9	100.0%	80-90	0.0	0.0%
			90-100	0.0	0.0%
			100-110	0.0	0.0%
			110-120	0.0	0.0%
			120-130	0.0	0.0%
			130-140	0.0	0.0%
			140-150	0.0	0.0%
			150-160	0.0	0.0%
			160-170	0.0	0.0%
			170-180	0.0	0.0%

INTEGRATING SPHERE TESTING

REPORT NO. 105265097CHI-020

Test Configuration	Tested Model No.	Pass/Fail/NA
1	700LSIBM72BR-LED927	NA

PHOTOMETRIC, COLORIMETRIC, AND ELECTRICAL MEASUREMENTS (25°C +/- 1°C)

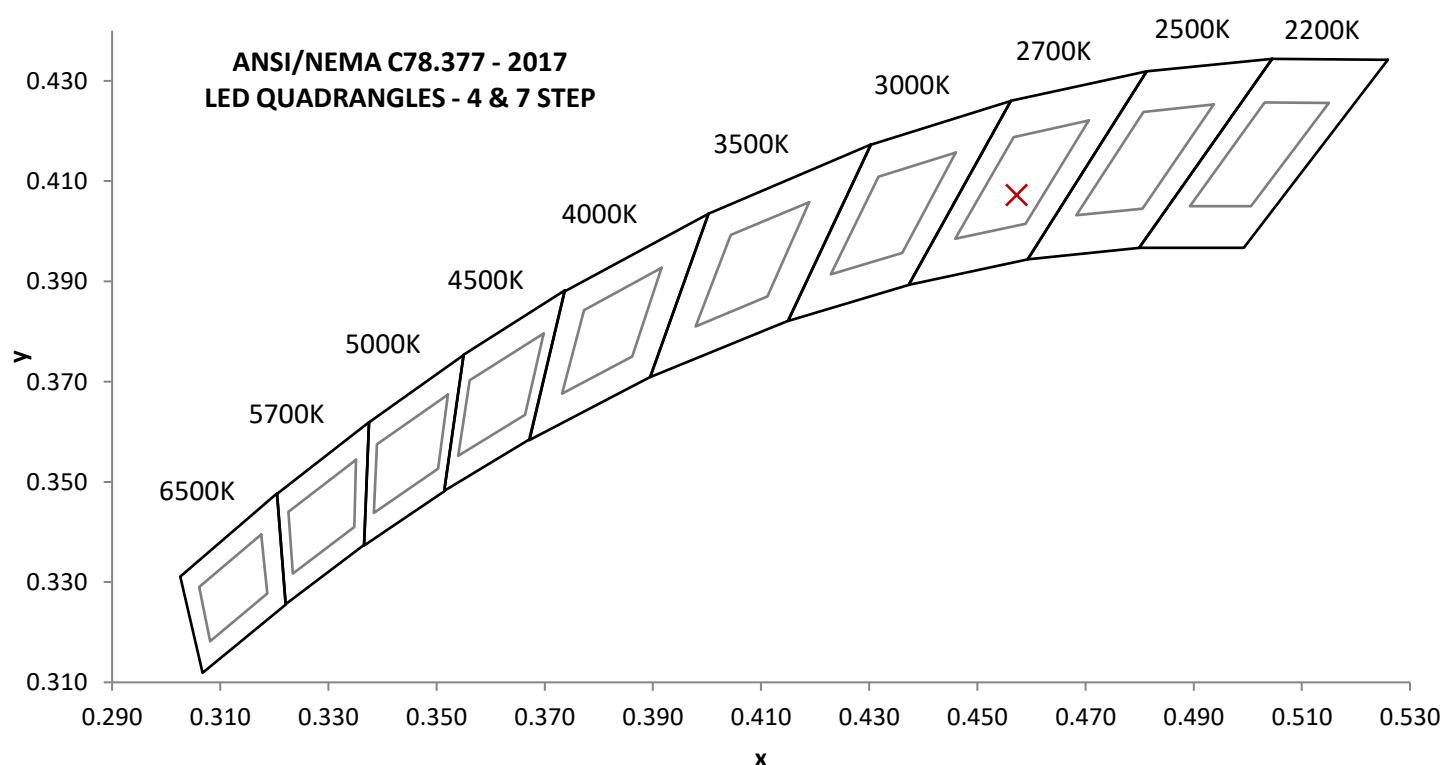
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)	Input ATHD (%)
119.95	549.9	65.74	0.997	4.37

Measured at 119.95(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra (I)	CRI - R9 (I)
3445.2	52.4	2711	93.7	70.6

Duv (I)	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0010	0.457	0.407	0.262	0.526

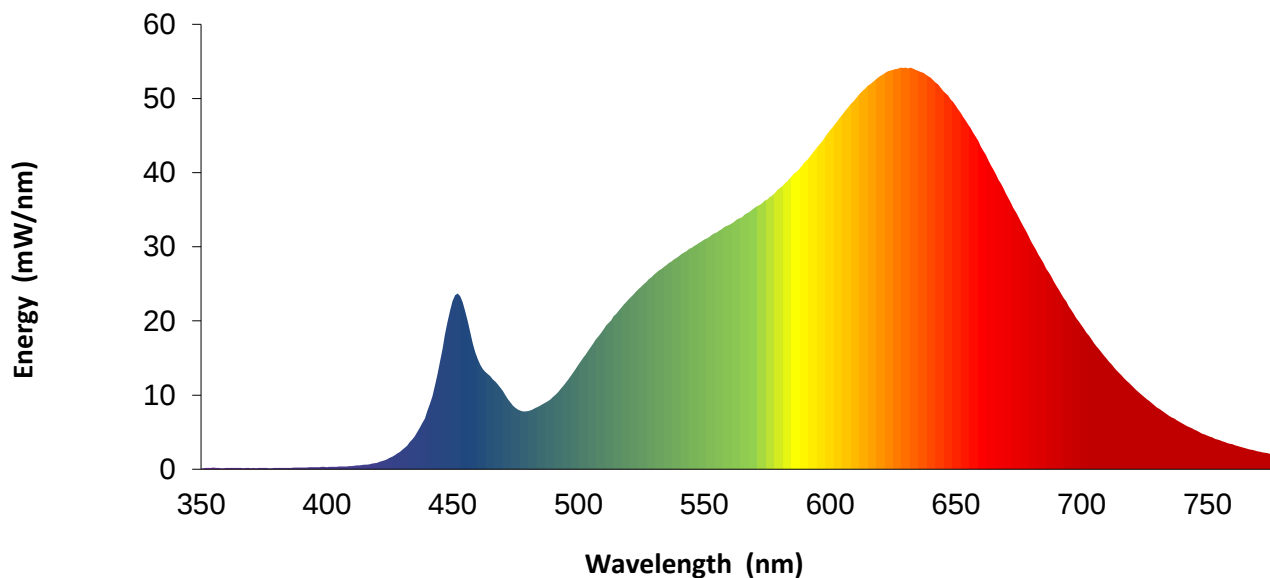


REPORT NO. 105265097CHI-020

SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	14.9		570	35.3		680	30.8
355	0.2		465	12.5		575	36.4		685	27.8
360	0.2		470	10.5		580	37.9		690	24.8
365	0.2		475	8.3		585	39.6		695	22.0
370	0.2		480	7.8		590	41.4		700	19.4
375	0.2		485	8.6		595	43.5		705	17.0
380	0.2		490	9.8		600	45.7		710	14.9
385	0.2		495	11.7		605	47.8		715	13.0
390	0.2		500	14.1		610	49.9		720	11.3
395	0.3		505	16.5		615	51.7		725	9.7
400	0.3		510	18.9		620	53.1		730	8.3
405	0.4		515	20.9		625	53.9		735	7.2
410	0.4		520	22.9		630	54.1		740	6.2
415	0.6		525	24.6		635	53.7		745	5.3
420	0.9		530	26.2		640	52.8		750	4.6
425	1.5		535	27.5		645	51.1		755	3.9
430	2.6		540	28.8		650	49.1		760	3.4
435	4.5		545	29.8		655	46.5		765	2.9
440	7.9		550	31.0		660	43.5		770	2.4
445	14.5		555	32.0		665	40.5		775	2.1
450	22.7		560	33.0		670	37.2		780	1.8
455	21.3		565	34.0		675	34.1		---	---

Without correction of sample absorption.



Portrayed color in graphic is estimated by wavelength (nm) and may not be exact - it is a visual representation only

EQUIPMENT LIST

REPORT NO. 105265097CHI-020

#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	Yokogawa Power Meter	WT310E	CHI0664	3/30/2022	3/30/2023
2	Omega Thermometer	DPI8-C24	146920	10/4/2022	10/4/2023
3	LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
4	Newport Thermohygrometer	iServer	CHI0452	2/3/2022	2/3/2023
5	Chroma Power Supply	61604	CHI0371	VBU	VBU
6	Sorenson DC Power Supply	XHR 150-7	146922	VBU	VBU
7	Multi Channel Spectroradiometer	OL770	CHI0092	VBU	VBU
8	Newport Humidity Recorder	iServer	146379	5/11/2022	5/11/2023
9	Labsphere Spectroradiometer	CDS2600	CHI0539	VBU	VBU
10	3 Meter Sphere	SPR600	CHI0088	VBU	VBU
11	Elgar AC Power Supply	CW1251	146112	VBU	VBU
12	Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU
13	Yokogawa Power Meter	WT1600	146769	4/5/2022	4/5/2023
17	Omega thermometer	USB TC08	EQAH002615	4/5/2022	4/5/2023
26	Xitron Power Analyzer	XT-2640	CHI0611	7/6/2022	7/6/2023

Note: Standard sources listed above are traceable to NIST: National Institute of Standards and Technology

REVISION HISTORY

#	Revision Date	Updated By	Reviewed By	Description of Change
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