

VISUAL COMFORT AND COMPANY TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

700LSWIT5XX-LED930

PROJECT NUMBER

G105735679

REPORT NUMBER

105735679CHI-008

ISSUE DATE

1/16/2025

REVISED DATE

None

TEST DATES

2024-12-23 through 2025-01-07.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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PAGES

10

REPORT NUMBER

105735679CHI-008

MODEL NUMBER(s)

700LSWIT5XX-LED930

REPORT RENDERED TO:

VISUAL COMFORT AND COMPANY
7400 LINDER AVE
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-01387083-0.

TEST STANDARDS

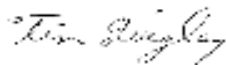
IES LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

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

ANSI NEMA ANSLG C78.377: 2017: Specifications for the Chromaticity of Solid State Lighting (SSL) Products

ANSI/IES TM-30-18: IES Method for Evaluating Light Source Color Rendition

In Charge of Testing:



T. Quigley
Engineer
Lighting Division

Reviewer:



J. Davis
N.A. Technical Lead
Lighting Division

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ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH12122024023126-006	700LSWIT5XX-LED930	Wit 5 Linear Suspension	Production	12/12/2024

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	700LSWIT5XX-LED930	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	700LSWIT5XX-LED930
Product Description:	Wit 5 Linear Suspension
LED Model No.:	XY ELC0435
Driver Model No.:	Macron GBLD001
Light Source:	LED

Criteria	Results
	Goniophotometer
Light Output (lumens)	3949.8
Input Power (W) @ 120 (Vac)	54.10
Lumen Efficacy (lm/W)	73.0
Input Power Factor (I) @ 120 (Vac)	0.979

Criteria	Results
Input ATHD (%) @ 120 (Vac)	8.75
Correlated Color Temperature (K)	2946
Color Rendering Index - Ra	94.3
Color Rendering Index - R9	69.5
Duv	-0.0010
Chromaticity Coordinate (x)	0.439
Chromaticity Coordinate (y)	0.402
Chromaticity Coordinate (u')	0.253
Chromaticity Coordinate (v')	0.521
Input Power (W) @ 277 (Vac)	54.48
Input Power Factor (I) @ 277 (Vac)	0.793
Input ATHD (%) @ 277 (Vac)	36.72

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.

*ANSI/IES Technical Memorandums (TM) reported are not NVLAP accredited

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

REPORT NO. 105735679CHI-008

Test Configuration	Tested Model No.	Pass/Fail/NA
1	700LSWIT5XX-LED930	NA

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

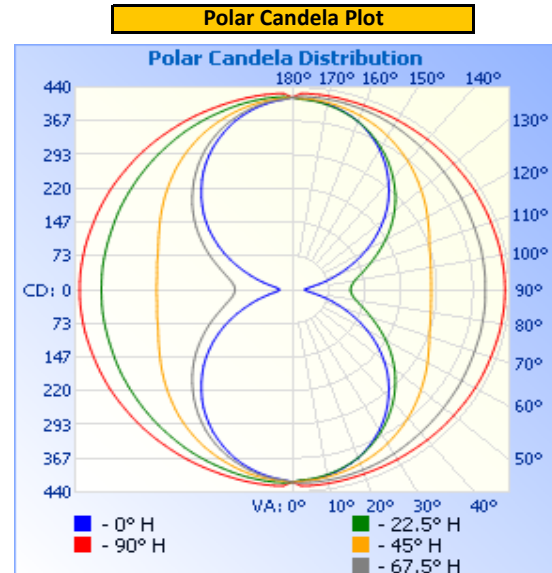
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up/Down	120.02	460.7	54.10	0.979

Light Output (lm)	Lumen Efficacy (lm/W)
3949.8	73.0

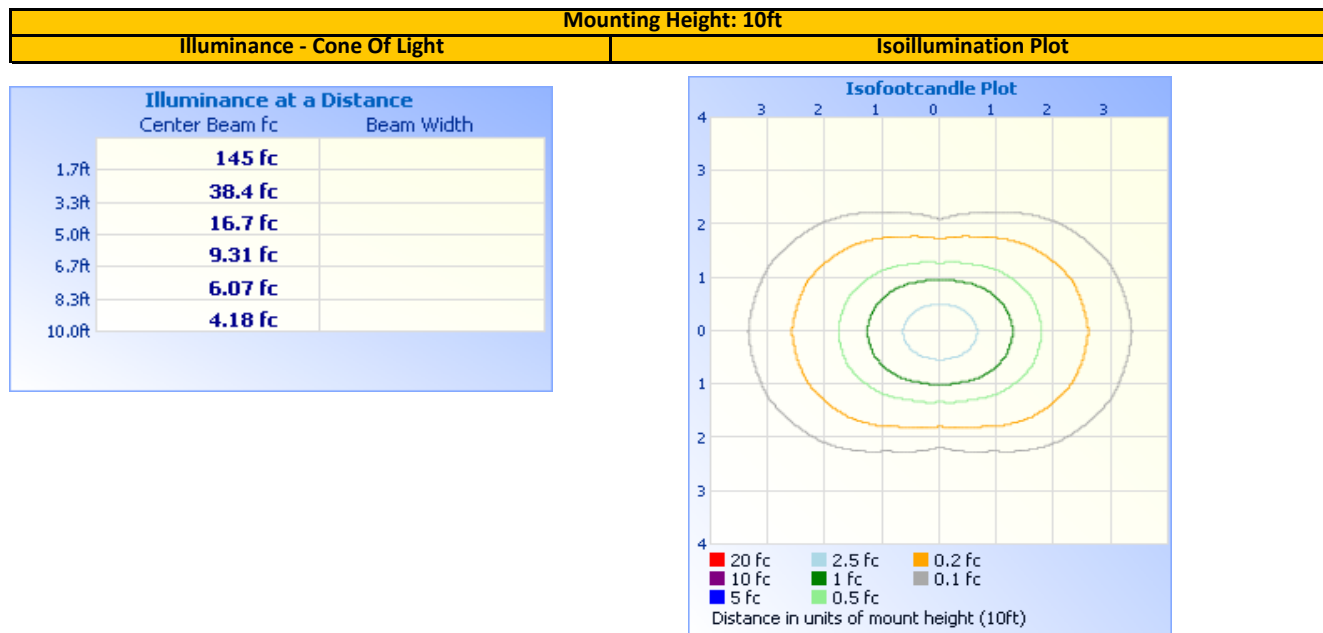
INTENSITY SUMMARY - CANDELA

Angle	0	22.5	45	67.5	90
0	418	418	418	418	418
5	414	413	416	420	427
10	409	408	413	420	427
15	401	400	408	419	426
20	389	389	402	417	426
25	372	375	395	415	426
30	353	358	386	412	426
35	330	339	375	408	426
40	304	318	364	405	426
45	275	295	352	402	426
50	244	271	340	400	427
55	210	245	328	398	427
60	174	219	317	396	428
65	138	193	306	394	428
70	102	169	296	393	428
75	70	148	289	393	429
80	43	131	285	392	430
85	29	121	282	392	431
90	26	118	281	391	431
95	29	121	282	392	431
100	43	131	285	392	430
105	70	148	289	393	429
110	102	169	296	393	428
115	138	193	306	394	428
120	174	219	317	396	428
125	210	245	328	398	427
130	244	271	340	400	427
135	275	295	352	402	426
140	304	318	364	405	426
145	330	339	375	408	426
150	353	358	386	412	426
155	372	375	395	415	426
160	389	389	402	417	426
165	401	400	408	419	426
170	409	408	413	420	427
175	414	413	416	420	427
180	418	418	418	418	418

Entire luminous intensity matrix found in .IES file



ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary																																																																																																			
<table><tr><th>Zone</th><th>Lumens</th><th>Luminaire</th></tr><tr><td>0-30</td><td>336.8</td><td>8.5%</td></tr><tr><td>0-40</td><td>570.0</td><td>14.4%</td></tr><tr><td>0-60</td><td>1,124.3</td><td>28.5%</td></tr><tr><td>60-90</td><td>850.7</td><td>21.5%</td></tr><tr><td>70-100</td><td>840.4</td><td>21.3%</td></tr><tr><td>90-120</td><td>850.7</td><td>21.5%</td></tr><tr><td>0-90</td><td>1,975.0</td><td>50.0%</td></tr><tr><td>90-180</td><td>1,974.8</td><td>50.0%</td></tr><tr><td>0-180</td><td>3,949.8</td><td>100.0%</td></tr></table>			Zone	Lumens	Luminaire	0-30	336.8	8.5%	0-40	570.0	14.4%	0-60	1,124.3	28.5%	60-90	850.7	21.5%	70-100	840.4	21.3%	90-120	850.7	21.5%	0-90	1,975.0	50.0%	90-180	1,974.8	50.0%	0-180	3,949.8	100.0%	<table><tr><th>Zone</th><th>Lumens</th><th>Total</th><th>Zone</th><th>Lumens</th><th>Total</th></tr><tr><td>0-10</td><td>39.7</td><td>1.0%</td><td>90-100</td><td>278.6</td><td>7.1%</td></tr><tr><td>10-20</td><td>115.5</td><td>2.9%</td><td>100-110</td><td>283.3</td><td>7.2%</td></tr><tr><td>20-30</td><td>181.6</td><td>4.6%</td><td>110-120</td><td>288.8</td><td>7.3%</td></tr><tr><td>30-40</td><td>233.2</td><td>5.9%</td><td>120-130</td><td>286.1</td><td>7.2%</td></tr><tr><td>40-50</td><td>268.2</td><td>6.8%</td><td>130-140</td><td>268.1</td><td>6.8%</td></tr><tr><td>50-60</td><td>286.1</td><td>7.2%</td><td>140-150</td><td>233.2</td><td>5.9%</td></tr><tr><td>60-70</td><td>288.8</td><td>7.3%</td><td>150-160</td><td>181.5</td><td>4.6%</td></tr><tr><td>70-80</td><td>283.3</td><td>7.2%</td><td>160-170</td><td>115.5</td><td>2.9%</td></tr><tr><td>80-90</td><td>278.6</td><td>7.1%</td><td>170-180</td><td>39.7</td><td>1.0%</td></tr></table>							Zone	Lumens	Total	Zone	Lumens	Total	0-10	39.7	1.0%	90-100	278.6	7.1%	10-20	115.5	2.9%	100-110	283.3	7.2%	20-30	181.6	4.6%	110-120	288.8	7.3%	30-40	233.2	5.9%	120-130	286.1	7.2%	40-50	268.2	6.8%	130-140	268.1	6.8%	50-60	286.1	7.2%	140-150	233.2	5.9%	60-70	288.8	7.3%	150-160	181.5	4.6%	70-80	283.3	7.2%	160-170	115.5	2.9%	80-90	278.6	7.1%	170-180	39.7	1.0%
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1	700LSWIT5XX-LED930	NA

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

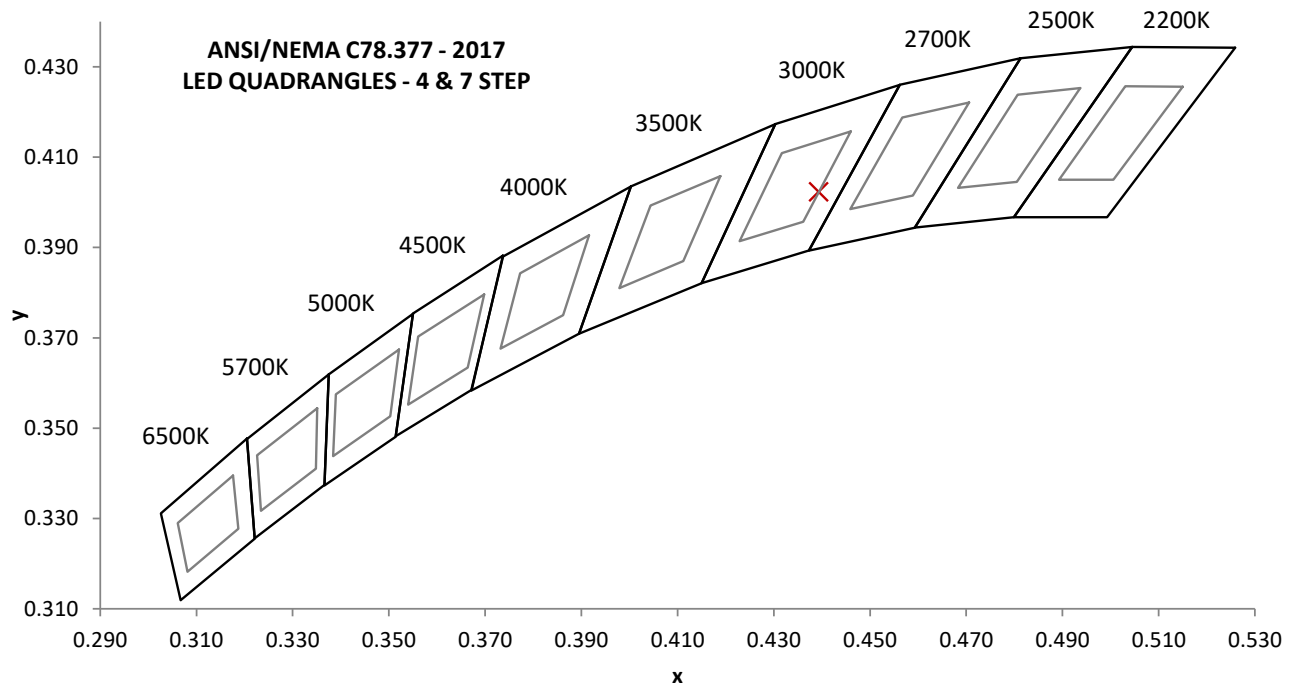
Base Orientation
Up/Down

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)	Input ATHD (%)
119.99	458.7	54.11	0.983	8.75
277.02	248.0	54.48	0.793	36.72

Measured at 119.99(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra	CRI - R9
4252.1	78.6	2946	94.3	69.5

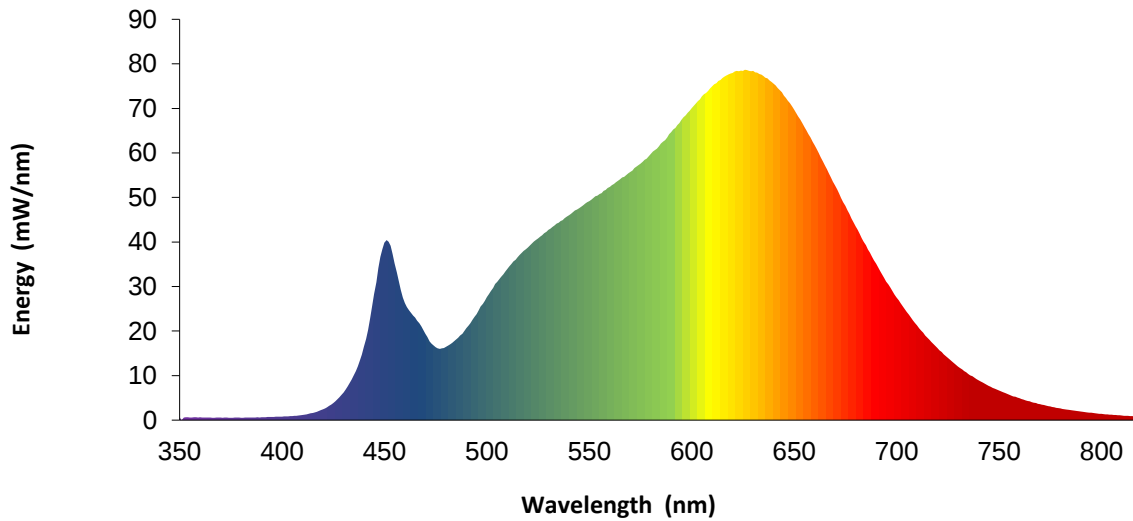
Duv (I)	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0010	0.439	0.402	0.253	0.521



SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.6		460	26.3		570	55.7		680	43.5
355	0.6		465	23.0		575	57.6		685	39.3
360	0.6		470	19.4		580	59.7		690	35.1
365	0.6		475	16.4		585	62.1		695	31.1
370	0.6		480	16.4		590	64.7		700	27.6
375	0.5		485	18.1		595	67.4		705	24.3
380	0.5		490	20.6		600	70.0		710	21.3
385	0.6		495	23.8		605	72.7		715	18.6
390	0.7		500	27.7		610	75.0		720	16.2
395	0.7		505	31.0		615	76.8		725	14.0
400	0.8		510	34.0		620	77.9		730	12.0
405	0.9		515	36.6		625	78.4		735	10.3
410	1.2		520	38.8		630	78.4		740	9.0
415	1.6		525	40.8		635	77.3		745	7.7
420	2.4		530	42.7		640	75.6		750	6.6
425	3.8		535	44.3		645	72.8		755	5.7
430	6.2		540	46.0		650	69.7		760	4.9
435	10.0		545	47.6		655	65.8		765	4.2
440	16.4		550	49.2		660	61.7		770	3.6
445	28.3		555	50.8		665	57.2		775	3.1
450	39.8		560	52.4		670	52.7		780	2.6
455	35.2		565	54.0		675	48.1		---	---

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. 105735679CHI-008

#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	Yokogawa Power Meter	WT310E	CHI0664	4/2/2024	4/2/2025
2	Omega Thermometer	DPI8-C24	146920	9/30/2024	9/30/2025
3	LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV
4	Omega Thermohygrometer	OM-CP-RFPRHTEMP2000A	CHI0764	10/8/2024	10/8/2025
5	Chroma Power Supply	61604	CHI0371	VBV	VBV
8	Omega Thermohygrometer	OM-CP-RFPRHTEMP2000A	CHI0727	10/8/2024	10/8/2025
9	Labsphere Spectroradiometer	CDS2600	CHI0539	VBV	VBV
10	3 Meter Sphere	SPR600	CHI0088	VBV	VBV
11	Elgar AC Power Supply	CW1251	146112	VBV	VBV
12	Sorenson DC Power Supply	XFR150-8	146846	VBV	VBV
13	Yokogawa Power Meter	WT1600	146769	4/10/2024	4/10/2025
17	Omega thermometer	USB TC08	CHI0625	4/10/2024	4/10/2025
26	Xitron Power Analyzer	XT2640	CHI0611	7/17/2024	7/17/2025

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

REVISION HISTORY

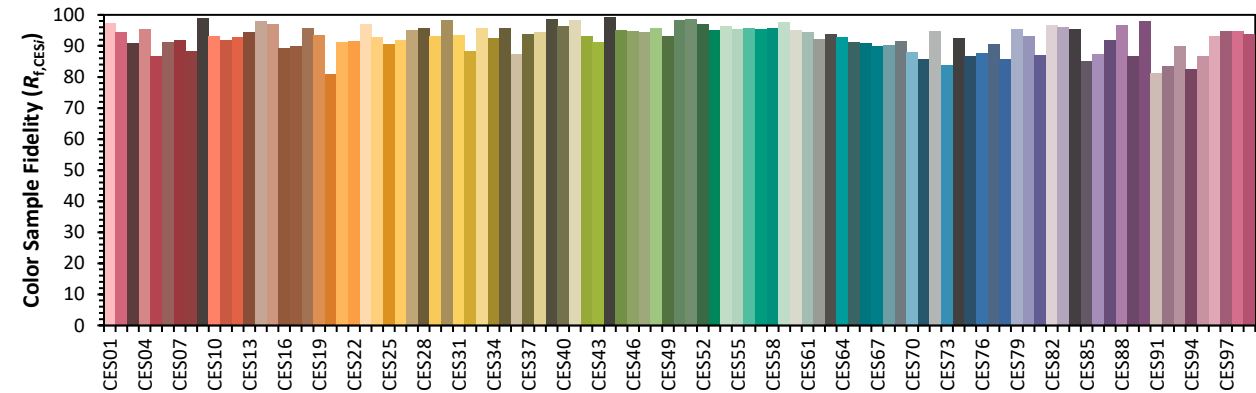
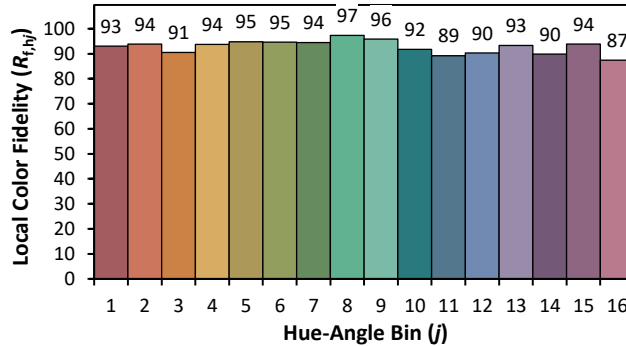
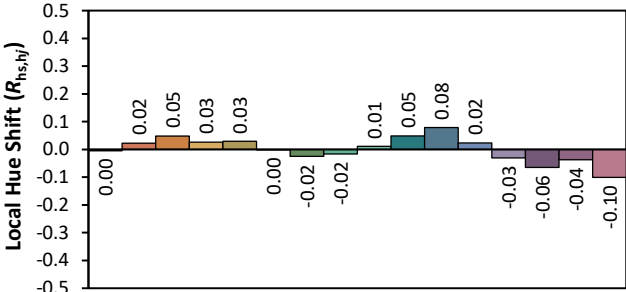
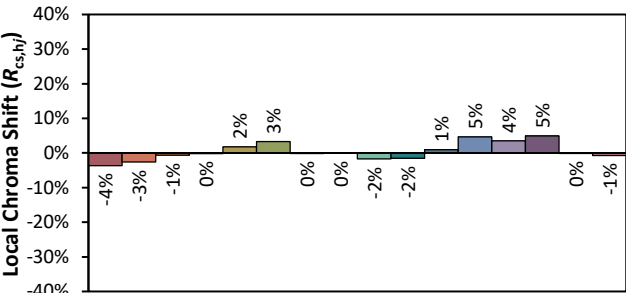
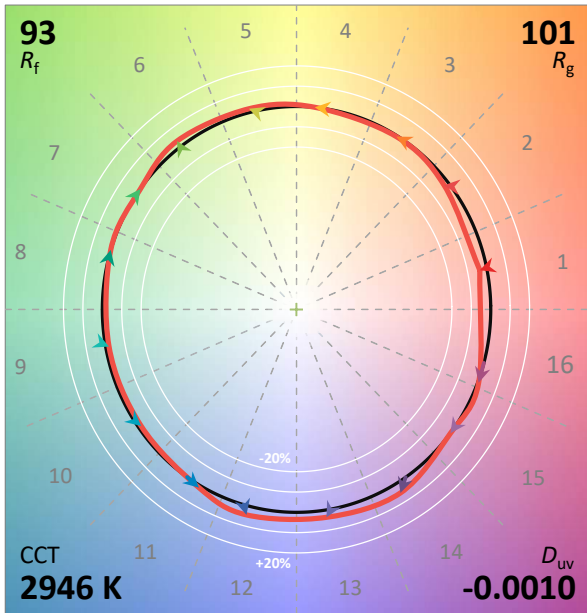
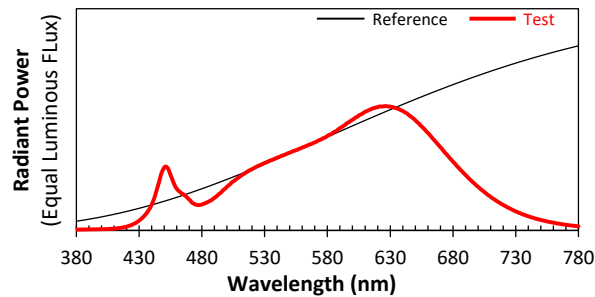
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Test Configuration	Tested Model No.	Pass/Fail/NA
1	700LSWIT5XX-LED930	NA

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
Date: 1/7/2025

Manufacturer: VISUAL COMFORT AND COMPANY
Model: 700LSWIT5XX-LED930



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

x 0.4393
y 0.4023
u' 0.2529
v' 0.5210