

VISUAL COMFORT AND COMPANY TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

7000WPIT19B-LED930

PROJECT NUMBER

G104659241

REPORT NUMBER

104659241CHI-023

ISSUE DATE

10/25/2021

REVISED DATE

None

TEST DATES

10/15/2021 through 10/22/2021.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

104659241CHI-023

MODEL NUMBER(s)

7000WPIT19B-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-01166088-0.

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

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

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

In Charge of Testing:



Max Carvajal
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Reviewer:



Jeff Davis
N.A. Technical Lead
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SAMPLE INFORMATION

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ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH10142021015751-006	700OWPIT19B-LED930	Pitch 19 Outdoor Wall	Production	10/14/2021

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	700OWPIT19B-LED930	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	7000WPIT19B-LED930
Product Description:	Pitch 19 Outdoor Wall
LED Model No.:	15DB29-06
Driver Model No.:	TA60WA12LED65B15-0000
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	702.7	702.1
Input Power (W) @ 120VAC (Vac)	20.44	20.34
Lumen Efficacy (lm/W)	34.4	34.5
Input Power Factor () @ 120VAC (Vac)	0.871	0.919

Criteria	Results
Input ATHD (%) @ 120VAC (Vac)	41.76
Correlated Color Temperature (K)	3002
Color Rendering Index - Ra ()	92.4
Color Rendering Index - R9 ()	63.8
Duv ()	0.0006
Chromaticity Coordinate (x)	0.438
Chromaticity Coordinate (y)	0.406
Chromaticity Coordinate (u')	0.250
Chromaticity Coordinate (v')	0.522

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

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Test Configuration	Tested Model No.	Pass/Fail/NA
1	7000WPIT19B-LED930	NA

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

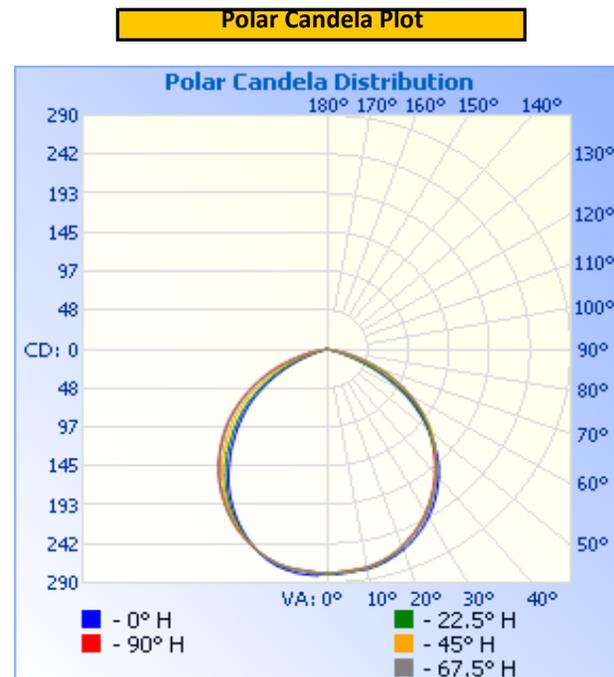
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Horizontal	120.05	195.4	20.44	0.871

Light Output (lm)	Lumen Efficacy (lm/W)
702.7	34.4

INTENSITY SUMMARY - CANDELA

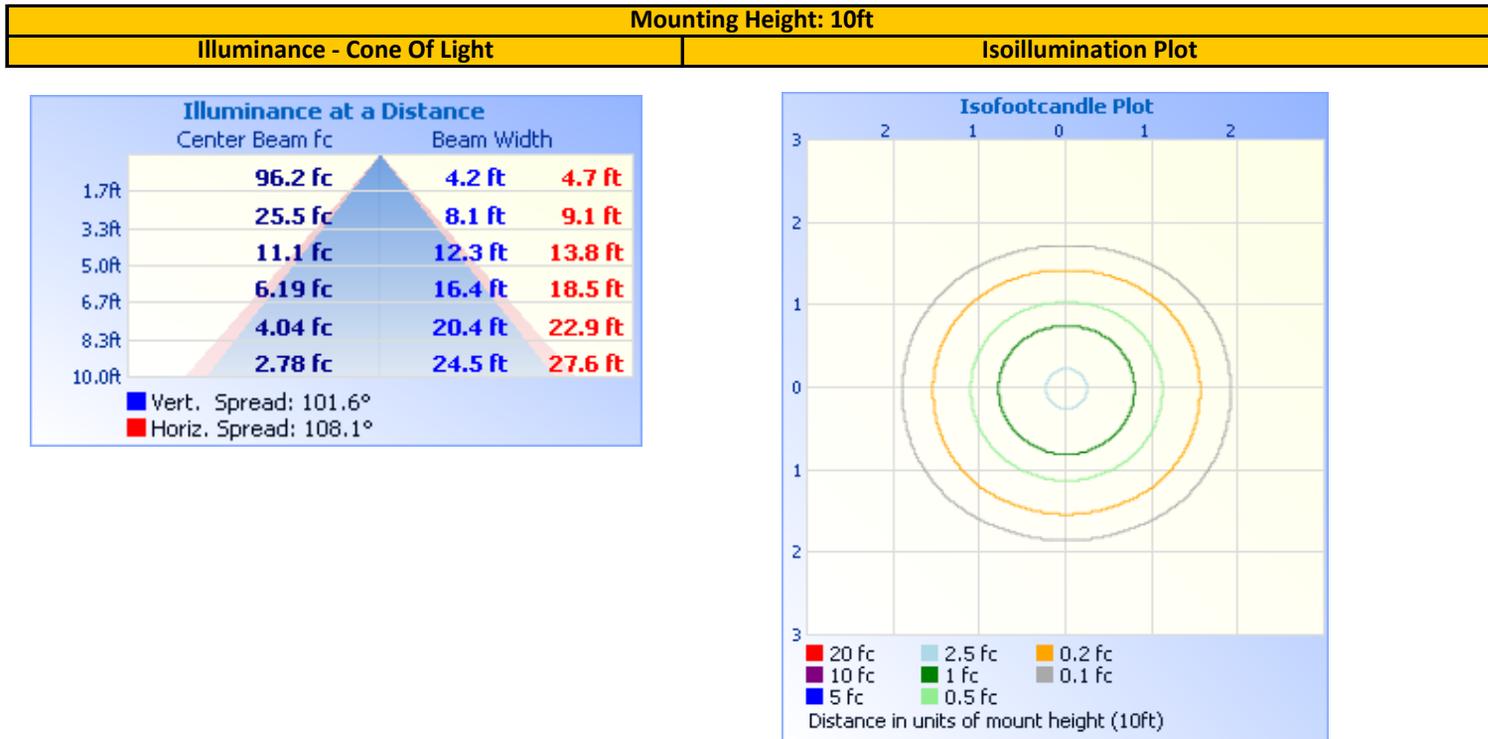
Angle	0	22.5	45	67.5	90
0	278	278	278	278	278
5	278.4	278	277.2	276.7	276.3
10	277	276	275.3	275	274.6
15	272.3	270.6	269.6	269.6	268.9
20	264.7	261.3	260.7	260.5	259.9
25	254.2	250.1	249.7	249.5	248.8
30	241	236.3	235.9	235.5	234.6
35	225.1	220.2	219.6	219	218.3
40	206.6	202.4	202.2	201.2	200.2
45	185	182.5	182.9	181.9	180
50	159.7	158.7	163.3	161.2	159
55	131.6	133.1	140.9	138.7	136.3
60	101.8	104.2	114.5	114.9	111.1
65	69.4	72.8	85.1	89.5	85.7
70	38.2	41.7	54.1	62.4	59.3
75	12	13.8	24.2	33.9	33.2
80	1.2	1.1	3.6	9.2	9.5
85	0.4	0.3	0.3	0.2	0.1
90	0	0	0	0	0
95	0	0	0	0	0
100	0	0	0	0	0
105	0	0	0	0	0
110	0	0	0	0	0
115	0	0	0	0	0
120	0	0	0	0	0
125	0	0	0	0	0
130	0	0	0	0	0
135	0	0	0	0	0
140	0	0	0	0	0
145	0	0	0	0	0
150	0	0	0	0	0
155	0	0	0	0	0
160	0	0	0	0	0
165	0	0	0	0	0
170	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0

Entire luminous intensity matrix found in .IES file



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ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary					
Zone	Lumens	Luminaire			
0-30	216.7	30.8%			
0-40	352.0	50.1%			
0-60	603.6	85.9%			
60-90	99.2	14.1%			
70-100	24.7	3.5%			
90-120	0.0	0.0%			
0-90	702.7	100.0%			
90-180	0.0	0.0%			
0-180	702.7	100.0%			
Zone	Lumens	Total	Zone	Lumens	Total
0-10	26.4	3.8%	90-100	0.0	0.0%
10-20	76.0	10.8%	100-110	0.0	0.0%
20-30	114.3	16.3%	110-120	0.0	0.0%
30-40	135.3	19.2%	120-130	0.0	0.0%
40-50	135.8	19.3%	130-140	0.0	0.0%
50-60	115.8	16.5%	140-150	0.0	0.0%
60-70	74.5	10.6%	150-160	0.0	0.0%
70-80	23.8	3.4%	160-170	0.0	0.0%
80-90	0.9	0.1%	170-180	0.0	0.0%

INTEGRATING SPHERE TESTING

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Test Configuration	Tested Model No.	Pass/Fail/NA
1	700WPIT19B-LED930	NA

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

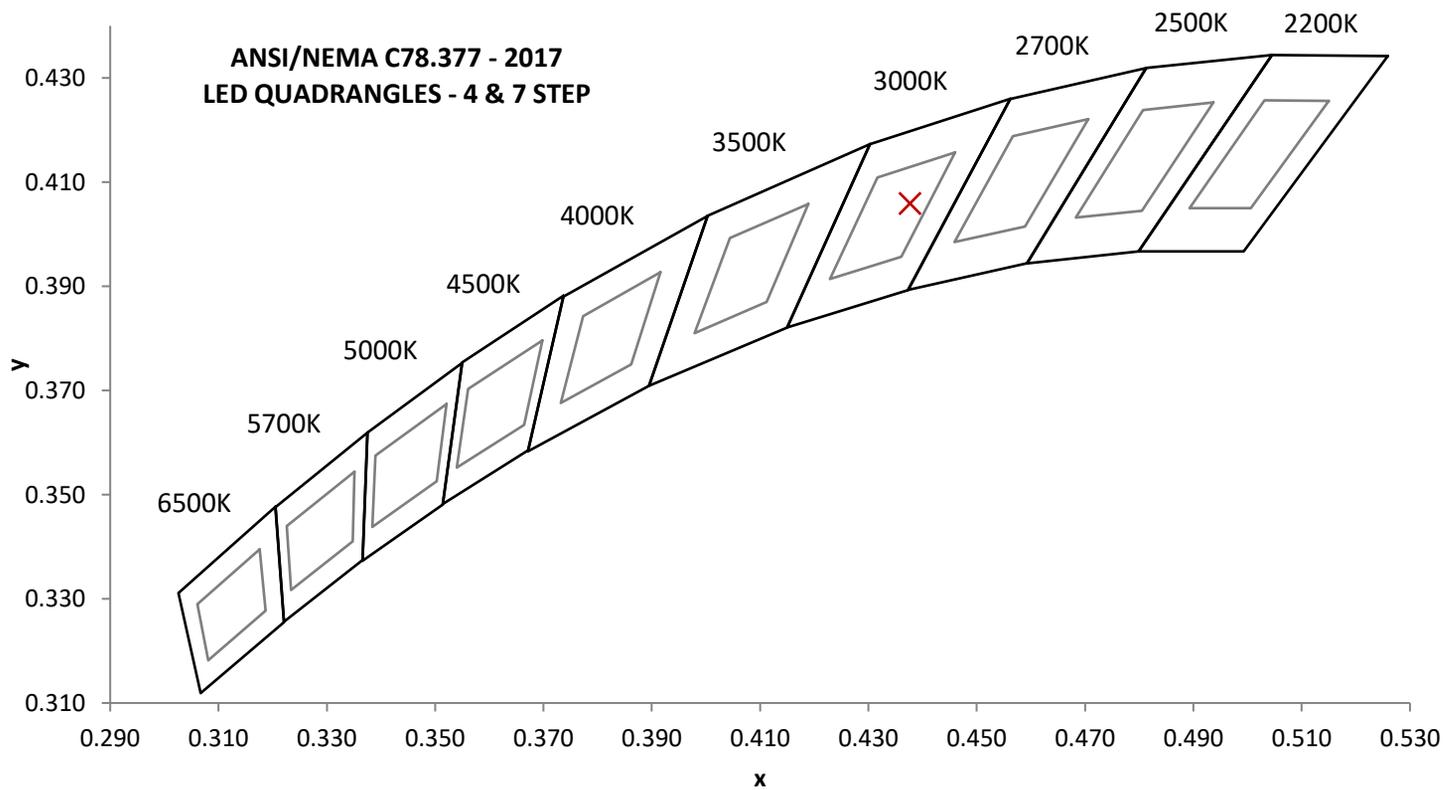
Base Orientation
Horizontal

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()	Input ATHD (%)
120.00	184.5	20.34	0.919	41.76

Measured at 120(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra ()	CRI - R9 ()
702.1	34.5	3002	92.4	63.8

Duv ()	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
0.0006	0.438	0.406	0.250	0.522

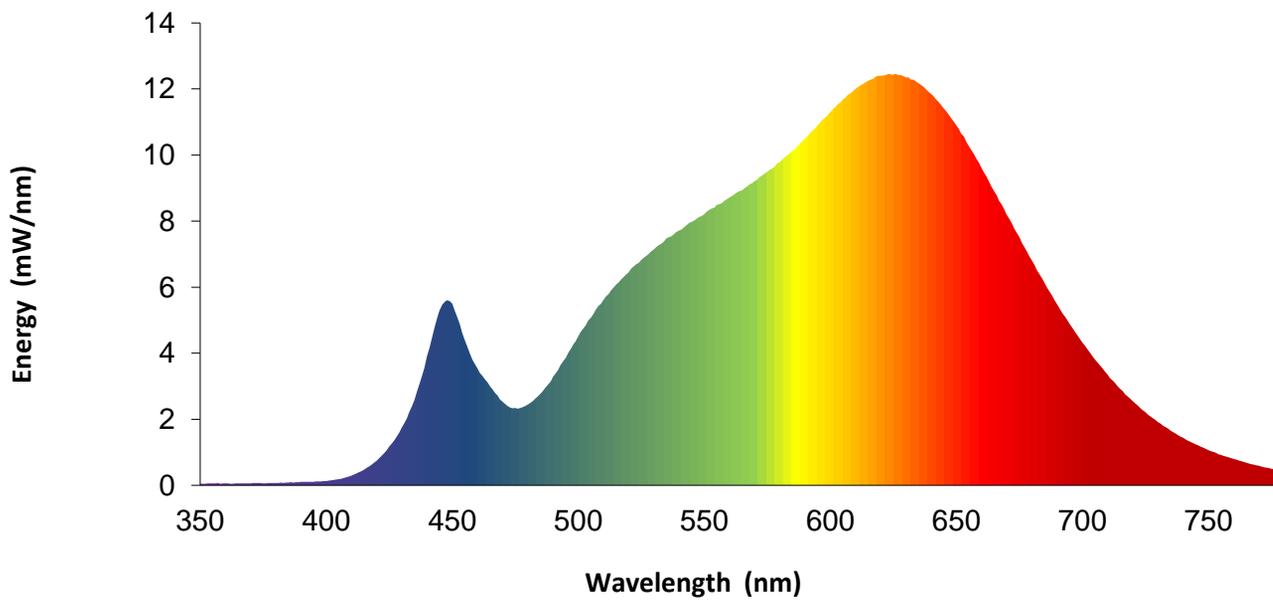


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	3.5		570	9.2		680	6.8
355	0.1		465	3.0		575	9.5		685	6.1
360	0.1		470	2.5		580	9.8		690	5.5
365	0.1		475	2.3		585	10.1		695	4.9
370	0.1		480	2.4		590	10.5		700	4.3
375	0.1		485	2.8		595	10.9		705	3.8
380	0.1		490	3.3		600	11.3		710	3.3
385	0.1		495	3.9		605	11.7		715	2.9
390	0.1		500	4.5		610	12.0		720	2.5
395	0.1		505	5.1		615	12.3		725	2.2
400	0.1		510	5.6		620	12.4		730	1.9
405	0.2		515	6.1		625	12.4		735	1.7
410	0.3		520	6.4		630	12.4		740	1.4
415	0.5		525	6.8		635	12.2		745	1.2
420	0.7		530	7.1		640	11.9		750	1.1
425	1.2		535	7.5		645	11.4		755	0.9
430	1.7		540	7.7		650	10.9		760	0.8
435	2.6		545	8.0		655	10.3		765	0.7
440	3.9		550	8.2		660	9.6		770	0.6
445	5.3		555	8.5		665	8.9		775	0.5
450	5.5		560	8.7		670	8.2		780	0.4
455	4.4		565	8.9		675	7.5		---	---

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

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#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	Yokogawa Power Meter	WT210	146919	7/1/2021	7/1/2022
2	Omega Thermometer	DPI8-C24	146920	10/4/2021	10/4/2022
3	LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
4	Newport Thermohygrometer	iServer	146379	4/13/2021	4/13/2022
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	CHI0451	1/29/2021	1/29/2022
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	146767	4/8/2021	4/8/2022
17	Omega thermometer	USB TC08	EQA002615	4/6/2021	4/6/2022
26	Xitron Power Analyzer	XT-2640	CHI0611	6/9/2021	6/9/2022
27					
28					
29					
30					

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

REVISION HISTORY

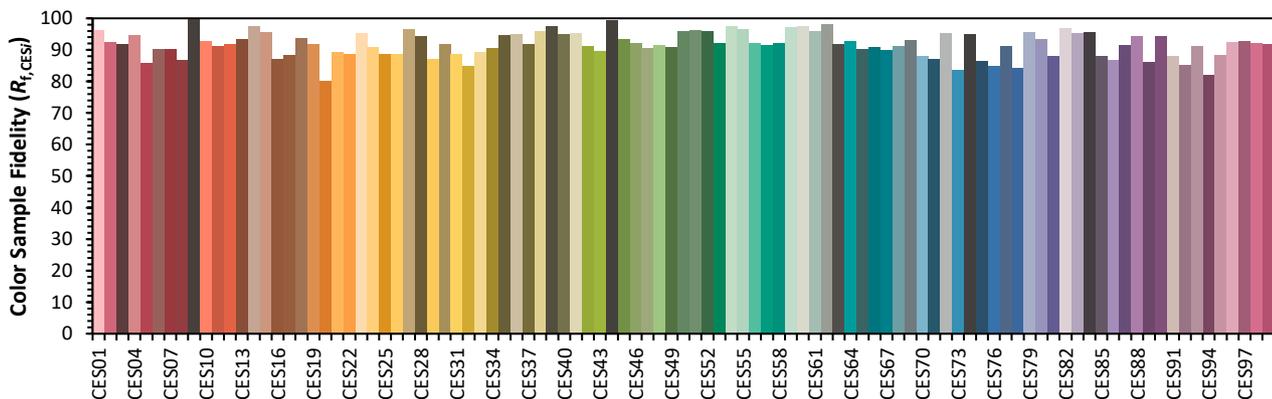
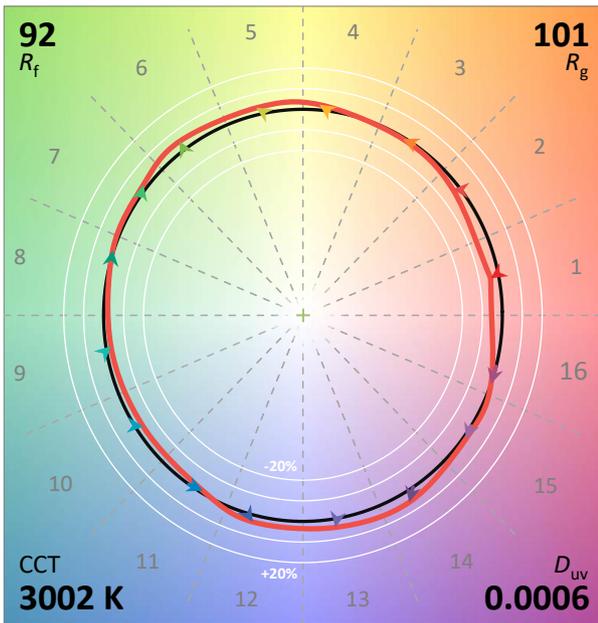
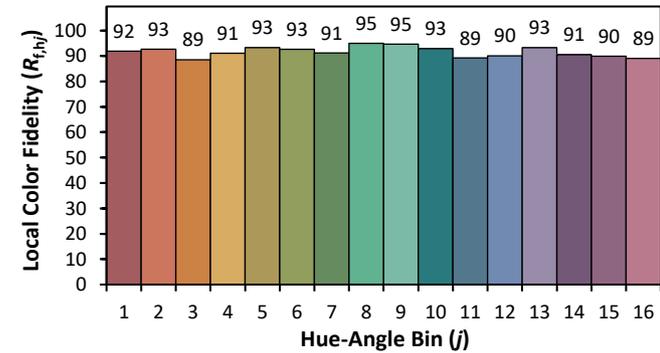
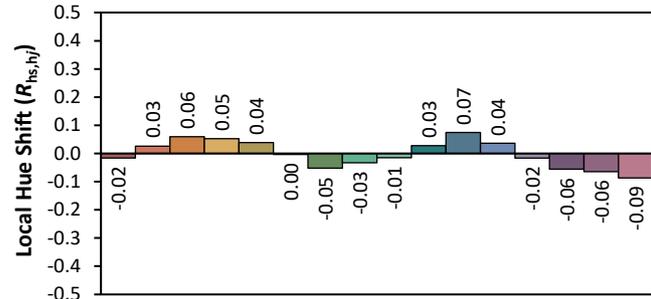
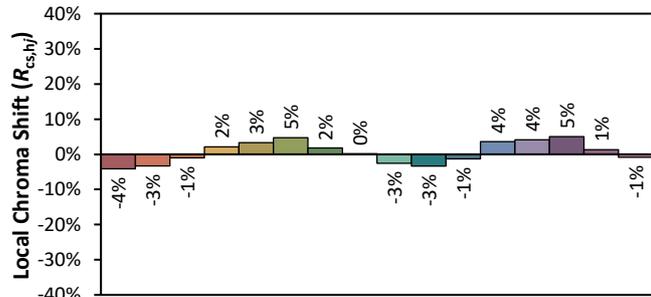
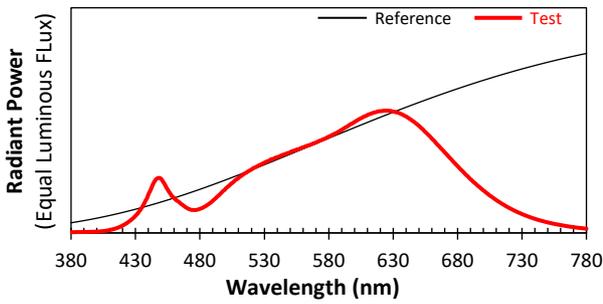
#	Revision Date	Updated By	Reviewed By	Description of Change
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Test Configuration	Tested Model No.	Pass/Fail/NA
1	7000WPIT19B-LED930	NA

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
 Date: 10/15/2021

Manufacturer: VISUAL COMFORT AND COMPANY
 Model: 7000WPIT19B-LED930



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

x 0.4377
 y 0.4058
 u' 0.2503
 v' 0.5222