

PUREEDGE LIGHTING LLC

TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

CFMW-7W-**-23-**K-**

PROJECT NUMBER

G104797632

REPORT NUMBER

104797632CHI-033

ISSUE DATE

6/20/2022

REVISED DATE

None

TEST DATES

2022-06-01 through 2022-06-03.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

104797632CHI-033

MODEL NUMBER(s)

CFMW-7W-***-23-**K-**

REPORT RENDERED TO:

PUREEDGE LIGHTING LLC
1718 W. FULLERTON AVE
CHICAGO, IL 60614
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-01199885-2.

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:



Maximilian Carvajal
Engineer
Lighting Division

Reviewer:



Jeff Davis
N.A. Technical Lead
Lighting Division

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SAMPLE INFORMATION

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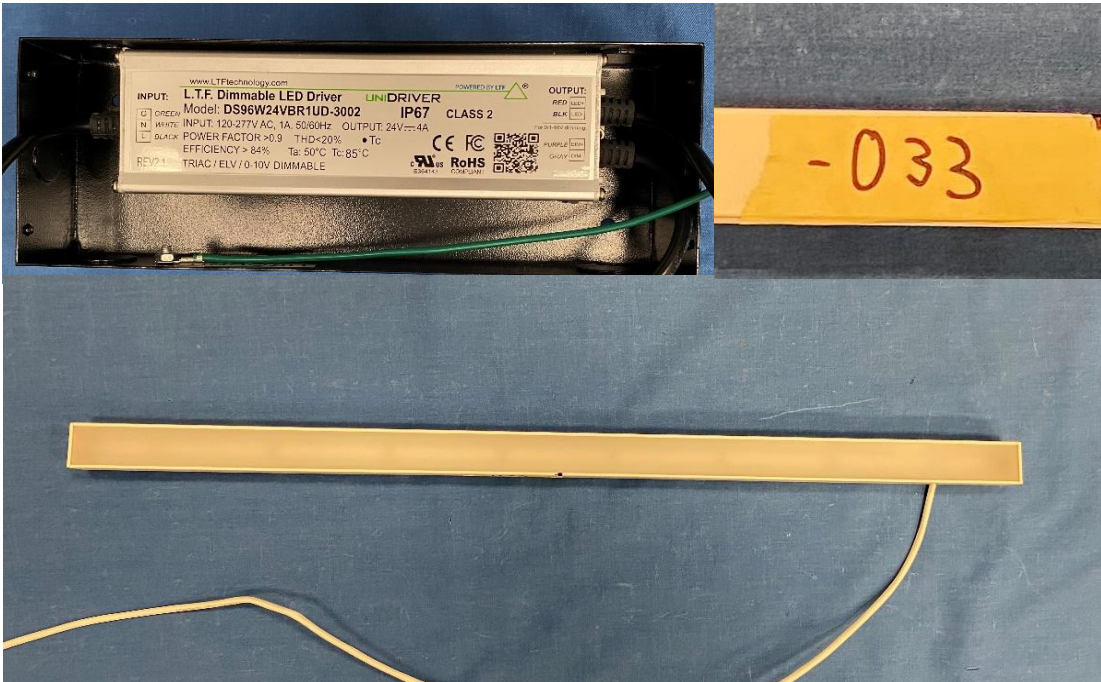
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH05192022111730	CFMW-7W-***-23-**K- **	LINEAR LOW VOLTAGE	Production	5/19/2022

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	CFMW-7W-***-23-**K-**	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	CFMW-7W-***-23-***K-***
Product Description:	LINEAR LOW VOLTAGE
LED Model No.:	Lumileds 2835
Driver Model No.:	LTF Uni Driver / PSB-96W-UNI-24VDC
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	1401.5	1472.5
Input Power (W) @ 24VDC THROUGH 0-10 POWER SUPPLY	23.90	24.79
Lumen Efficacy (lm/W)	58.6	59.4
Input Power Factor (I) @ 24VDC THROUGH 0-10 POWER SUPPLY	0.895	0.900

Criteria	Results
Input ATHD (%) @ 24VDC THROUGH 0-10 POWER SUPPLY (Vac)	27.40
Correlated Color Temperature (K)	3418
Color Rendering Index - Ra (I)	92.3
Color Rendering Index - R9 (I)	55.2
Duv (I)	-0.0013
Chromaticity Coordinate (x)	0.409
Chromaticity Coordinate (y)	0.389
Chromaticity Coordinate (u')	0.238
Chromaticity Coordinate (v')	0.511
Input Power (W) @ 277 (Vac)	30.94
Input Power Factor (I) @ 277 (Vac)	0.702
Input ATHD (%) @ 277 (Vac)	41.43

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	CFMW-7W-***-23-**K-**	NA

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

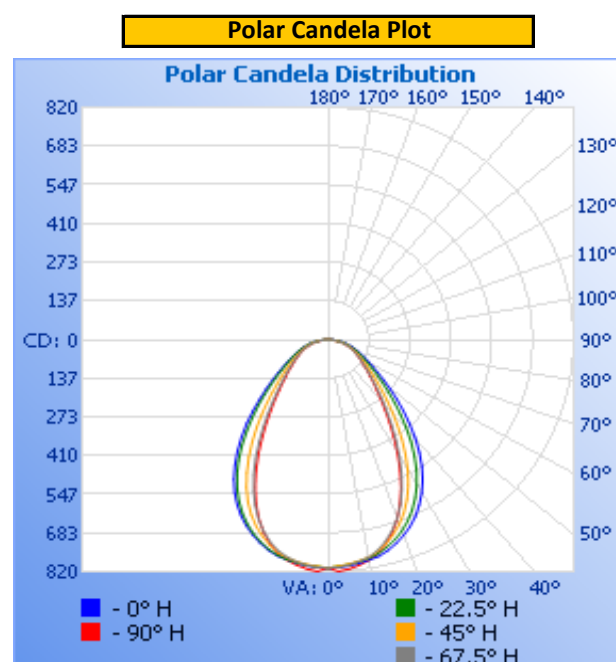
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)
Up	120.06	222.5	23.90	0.895

Light Output (lm)	Lumen Efficacy (lm/W)
1401.5	58.6

INTENSITY SUMMARY - CANDELA

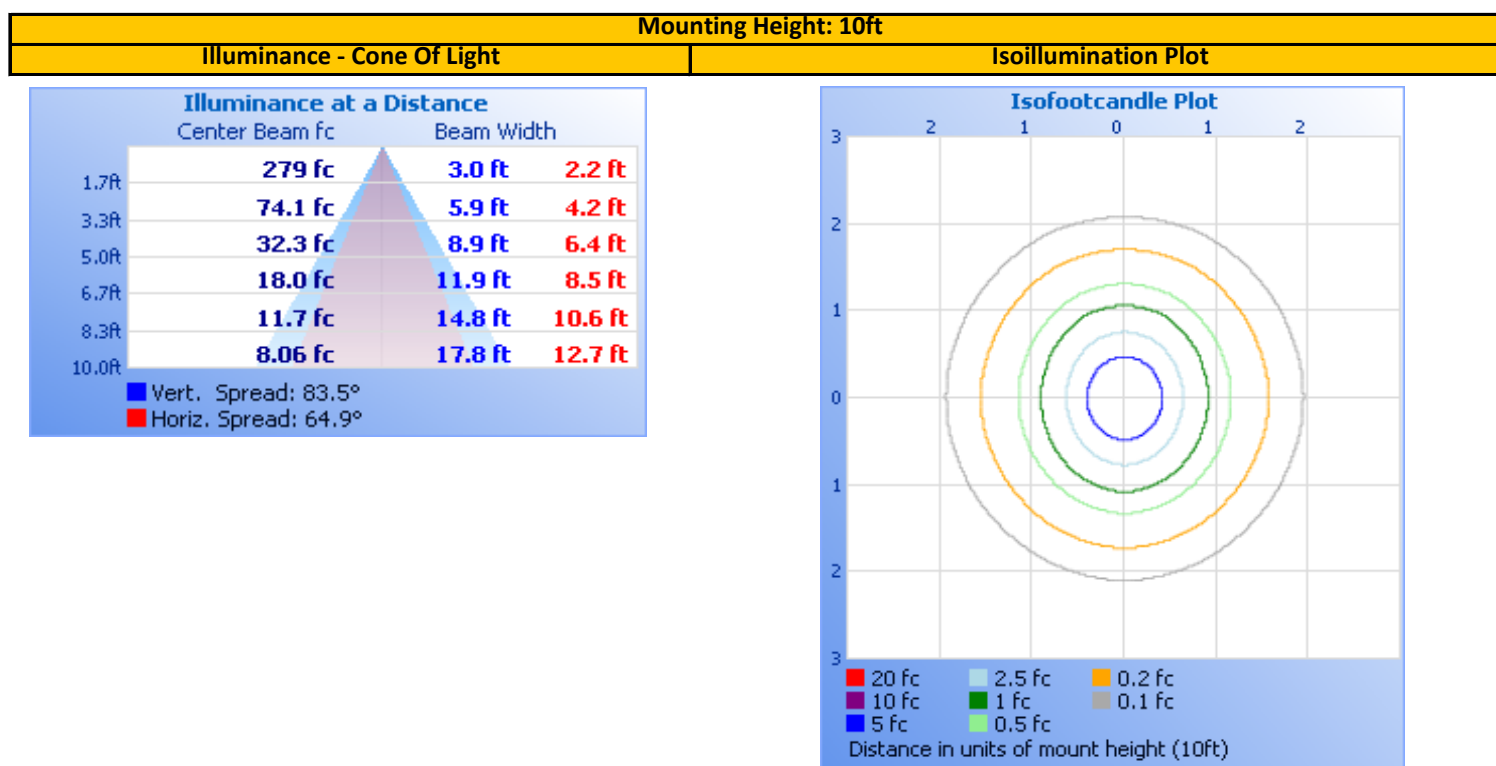
Angle	0	22.5	45	67.5	90
0	806.4	806.4	806.4	806.4	806.4
5	801.7	797.4	795.6	799.5	813.3
10	789.8	784.0	780.8	780.6	790.7
15	771.0	759.3	746.6	738.0	746.7
20	736.3	719.8	694.4	672.9	674.4
25	689.4	664.3	623.7	583.6	576.3
30	625.0	592.4	531.9	476.4	463.7
35	546.1	503.5	430.1	371.7	357.5
40	452.1	405.4	334.0	285.0	273.4
45	355.3	312.9	255.1	220.1	213.4
50	270.3	237.9	197.4	174.5	170.4
55	203.1	182.6	156.2	141.2	139.5
60	156.2	142.8	126.0	115.9	115.4
65	122.2	113.3	102.0	95.1	94.7
70	94.8	88.6	80.8	75.9	75.5
75	71.1	66.1	60.2	56.4	56.2
80	47.5	43.1	38.7	36.1	35.8
85	22.9	19.0	15.9	14.0	13.9
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	Zone	Lumens	Total
0-30	574.0	41.0%	0-10	75.9	5.4%
0-40	850.2	60.7%	10-20	210.9	15.0%
0-60	1,210.2	86.3%	20-30	287.2	20.5%
60-90	191.3	13.7%	30-40	276.3	19.7%
70-100	86.0	6.1%	40-50	211.0	15.1%
90-120	0.0	0.0%	50-60	148.9	10.6%
0-90	1,401.5	100.0%	60-70	105.3	7.5%
90-180	0.0	0.0%	70-80	65.8	4.7%
0-180	1,401.5	100.0%	80-90	20.2	1.4%
			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

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Test Configuration	Tested Model No.	Pass/Fail/NA
1	CFMW-7W-***-23-**K-**	NA

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

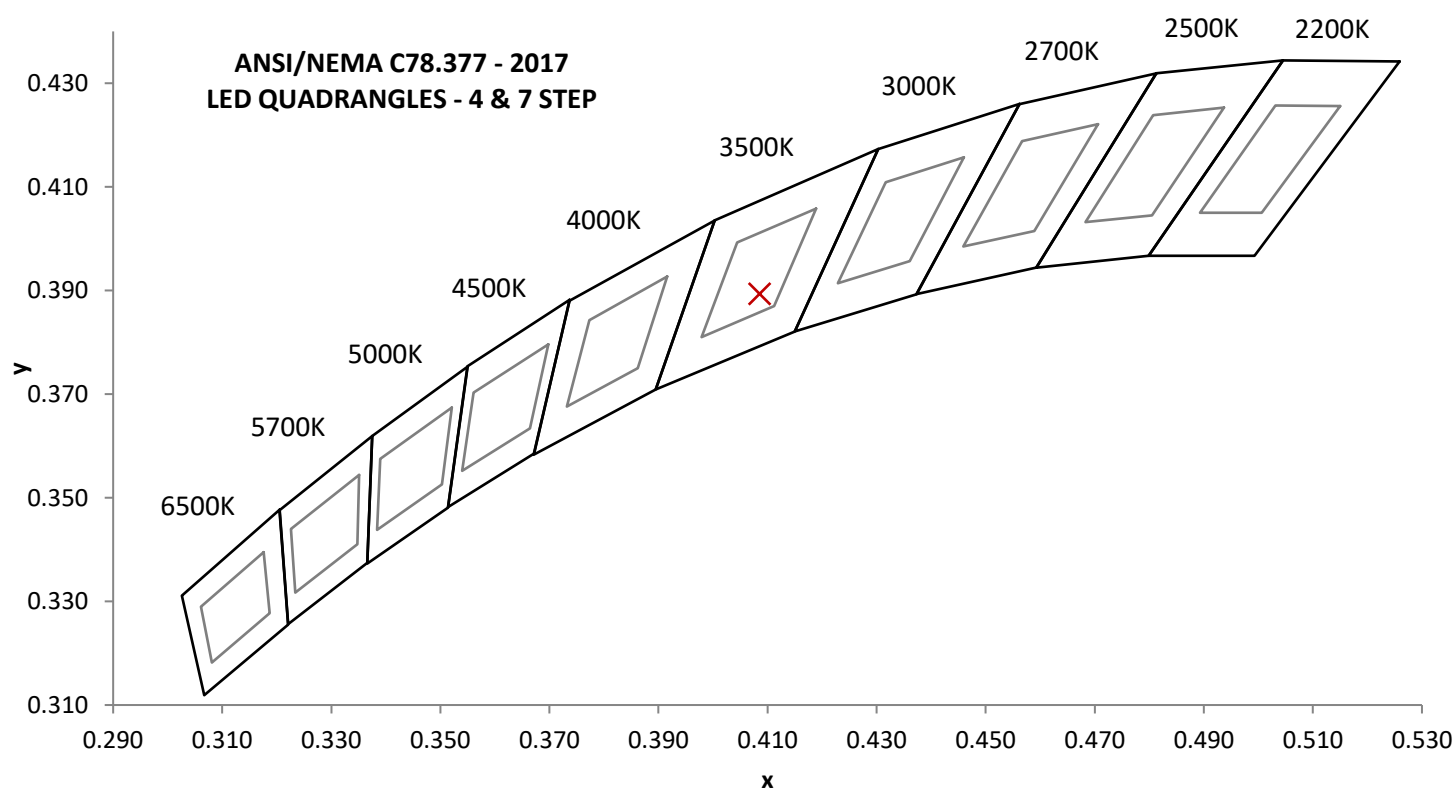
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (l)	Input ATHD (%)
119.97	229.5	24.79	0.900	27.40
276.97	159.2	30.94	0.702	41.43

Measured at 119.97(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra (l)	CRI - R9 (l)
1472.5	59.4	3418	92.3	55.2

Duv (l)	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0013	0.409	0.389	0.238	0.511

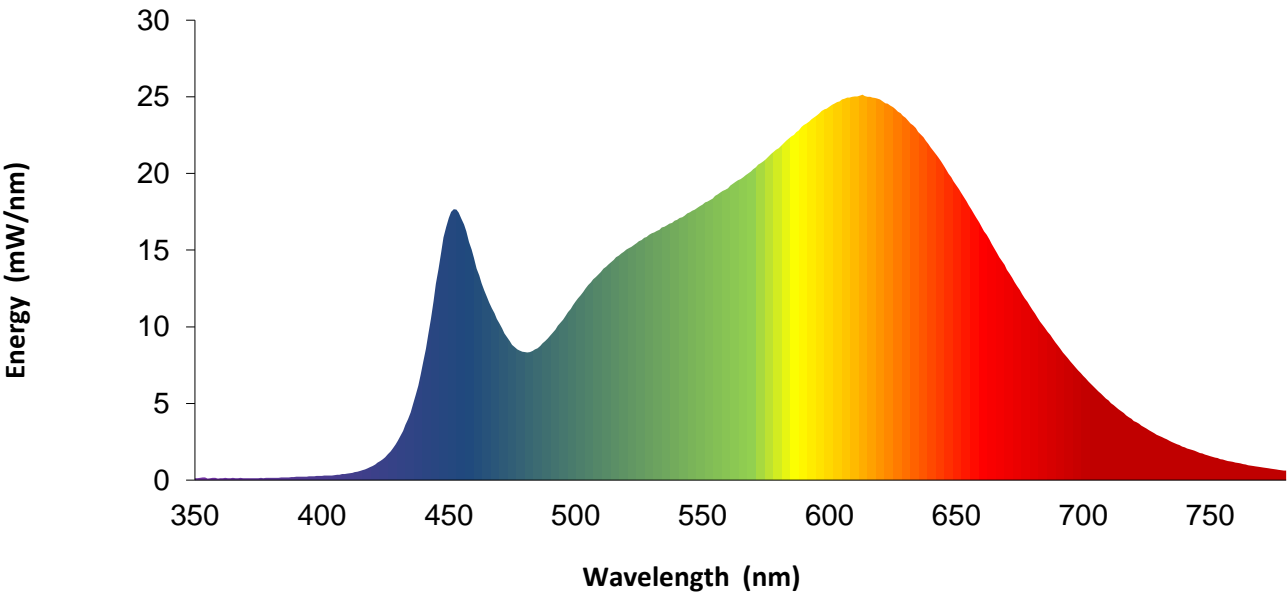


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	14.5		570	20.3		680	11.1
355	0.1		465	12.0		575	20.9		685	9.9
360	0.1		470	10.2		580	21.7		690	8.8
365	0.2		475	8.8		585	22.4		695	7.7
370	0.1		480	8.4		590	23.2		700	6.8
375	0.1		485	8.6		595	23.8		705	5.9
380	0.1		490	9.4		600	24.4		710	5.2
385	0.2		495	10.5		605	24.8		715	4.5
390	0.2		500	11.6		610	25.0		720	3.9
395	0.2		505	12.7		615	25.0		725	3.4
400	0.3		510	13.6		620	24.8		730	2.9
405	0.3		515	14.4		625	24.3		735	2.5
410	0.4		520	15.0		630	23.6		740	2.1
415	0.6		525	15.6		635	22.7		745	1.8
420	0.9		530	16.1		640	21.7		750	1.6
425	1.5		535	16.5		645	20.5		755	1.3
430	2.6		540	17.0		650	19.2		760	1.1
435	4.4		545	17.5		655	17.9		765	1.0
440	7.7		550	18.0		660	16.5		770	0.8
445	12.8		555	18.5		665	15.1		775	0.7
450	17.1		560	19.0		670	13.7		780	0.6
455	17.0		565	19.6		675	12.4		---	---

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	WT310E	CHI0664	3/30/2022	3/30/2023
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	CHI0452	2/3/2022	2/3/2023
5	Chroma Power Supply	61604	CHI0371	VBU	VBU
8	Newport Humidity Recorder	iServer	146961	9/21/2021	9/21/2022
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	4/4/2022	4/4/2023
17	Omega thermometer	USB TC08	EQAH002615	4/5/2022	4/5/2023

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

REVISION HISTORY

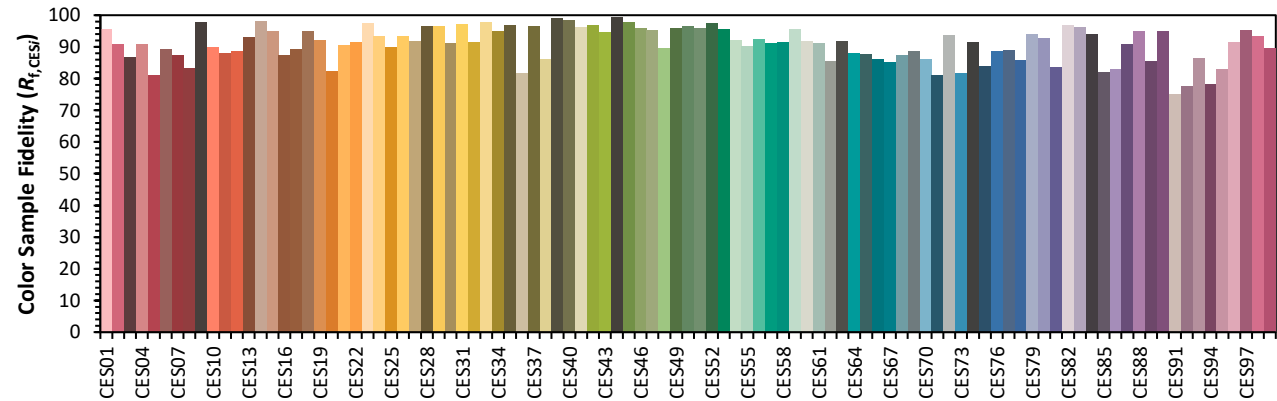
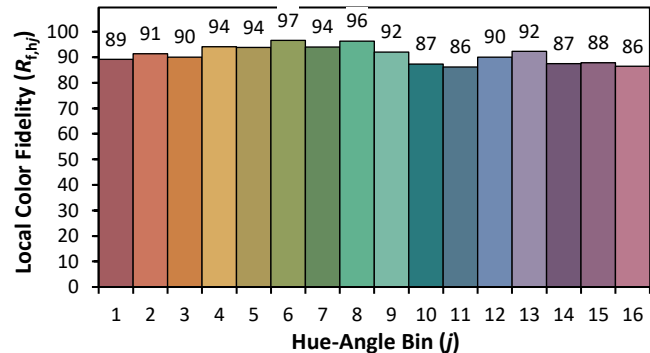
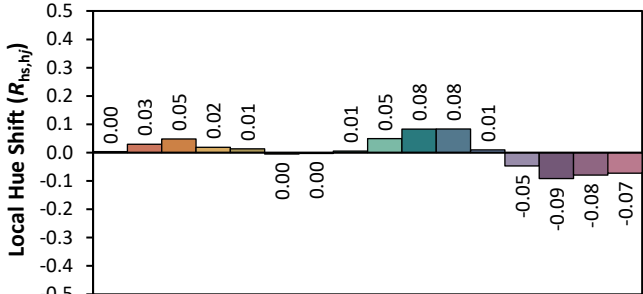
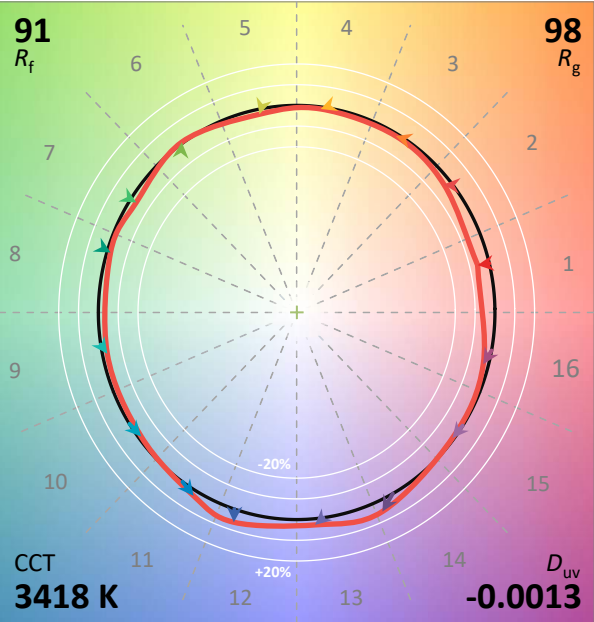
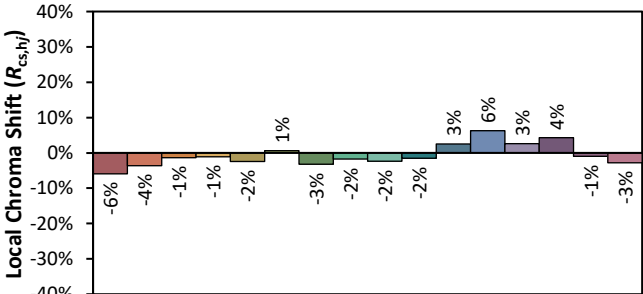
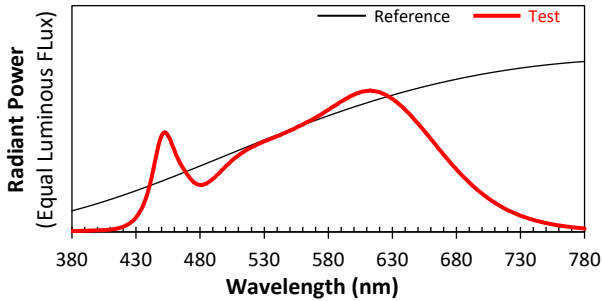
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Test Configuration	Tested Model No.	Pass/Fail/NA
1	CFMW-7W-***-23-**K-**	NA

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
Date: 6/1/2022

Manufacturer: PureEdge Lighting LLC
Model: CFMW-7W-***-23-**K-**



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

x 0.4085
y 0.3893
u' 0.2384
v' 0.5112