

PUREEDGE LIGHTING LLC

TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

CFMW-7W-***-48-**K-**

PROJECT NUMBER

G104797632

REPORT NUMBER

104797632CHI-035

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-035

MODEL NUMBER(s)

CFMW-7W-***-48-**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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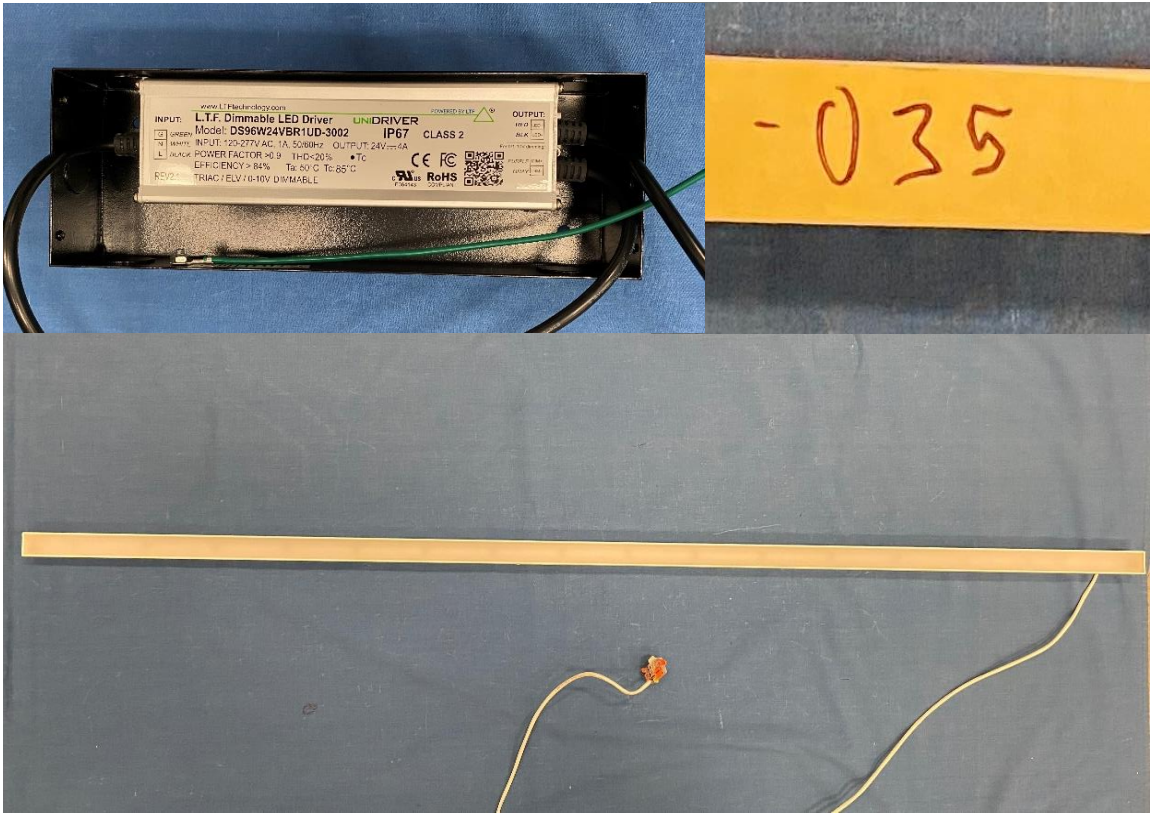
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH05192022111730	CFMW-7W-***-48-**K- **	LINEAR LOW VOLTAGE	Production	5/19/2022

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	CFMW-7W-***-48-**K-**	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	CFMW-7W-***-48-**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)	2872.7	2985.8
Input Power (W) @ 24VCD THROUGH 0-10 POWER SUPPLY	46.77	47.83
Lumen Efficacy (lm/W)	61.4	62.4
Input Power Factor (I) @ 24VCD THROUGH 0-10 POWER SUPPLY	0.960	0.963

Criteria	Results
Input ATHD (%) @ 24VCD THROUGH 0-10 POWER SUPPLY (Vac)	19.00
Correlated Color Temperature (K)	3428
Color Rendering Index - Ra (I)	92.2
Color Rendering Index - R9 (I)	55.2
Duv (I)	-0.0014
Chromaticity Coordinate (x)	0.408
Chromaticity Coordinate (y)	0.389
Chromaticity Coordinate (u')	0.238
Chromaticity Coordinate (v')	0.511
Input Power (W) @ 277 (Vac)	51.59
Input Power Factor (I) @ 277 (Vac)	0.784
Input ATHD (%) @ 277 (Vac)	31.71

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-***-48-**K-**	NA

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

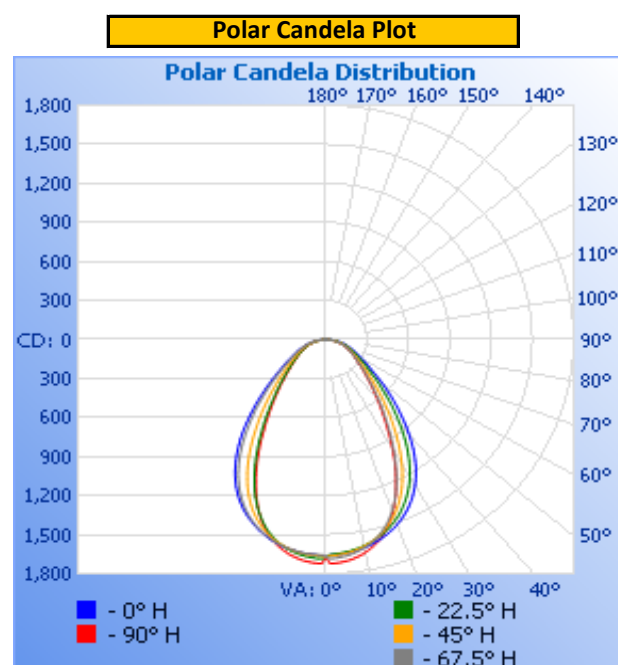
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up	120.01	406.1	46.77	0.960

Light Output (lm)	Lumen Efficacy (lm/W)
2872.7	61.4

INTENSITY SUMMARY - CANDELA

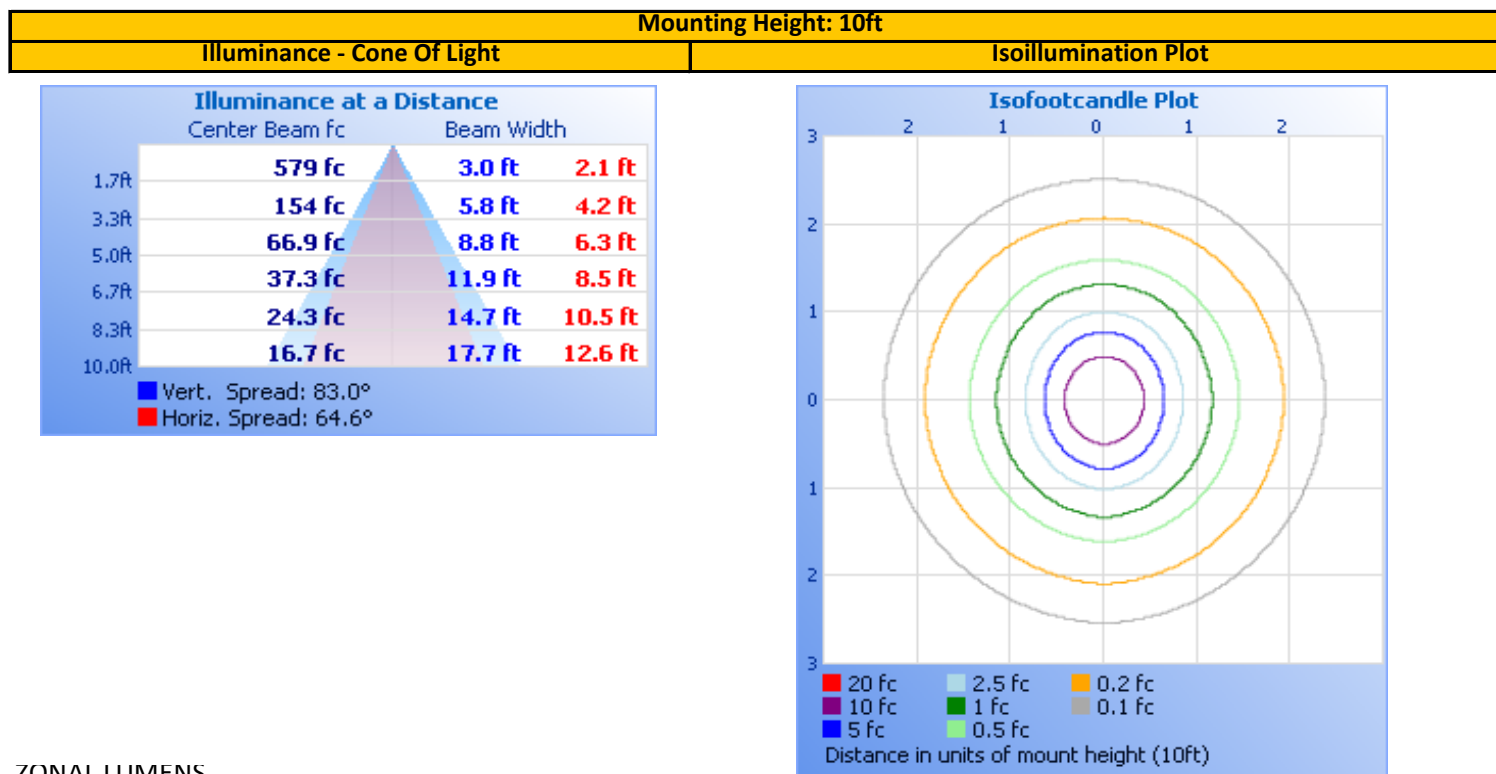
Angle	0	22.5	45	67.5	90
0	1673.0	1673.0	1673.0	1673.0	1673.0
5	1647.9	1639.7	1649.2	1669.3	1709.0
10	1622.2	1607.5	1610.6	1623.4	1660.1
15	1579.3	1554.3	1543.4	1539.1	1568.1
20	1513.1	1476.3	1440.4	1403.7	1416.1
25	1419.4	1365.7	1293.9	1213.5	1206.3
30	1295.1	1218.3	1102.7	986.5	967.0
35	1129.5	1033.3	889.3	769.0	741.8
40	932.8	826.9	688.4	586.0	568.1
45	733.1	634.5	521.0	447.9	437.1
50	549.8	474.3	395.1	348.9	343.0
55	405.2	358.2	307.0	278.1	275.5
60	308.7	276.4	245.3	226.1	224.8
65	239.6	218.8	198.0	185.1	184.1
70	186.6	172.7	158.1	148.3	147.2
75	142.9	131.5	120.4	112.0	110.7
80	99.4	88.8	79.4	73.6	71.9
85	52.5	41.9	34.6	29.8	29.0
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	1,191.8	41.5%	0-10	157.4	5.5%
0-40	1,765.4	61.5%	10-20	437.4	15.2%
0-60	2,493.9	86.8%	20-30	597.1	20.8%
60-90	378.8	13.2%	30-40	573.5	20.0%
70-100	173.3	6.0%	40-50	432.8	15.1%
90-120	0.0	0.0%	50-60	295.8	10.3%
0-90	2,872.7	100.0%	60-70	205.5	7.2%
90-180	0.0	0.0%	70-80	130.9	4.6%
0-180	2,872.7	100.0%	80-90	42.4	1.5%
			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. 104797632CHI-035

Test Configuration	Tested Model No.	Pass/Fail/NA
1	CFMW-7W-***-48-**K-**	NA

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

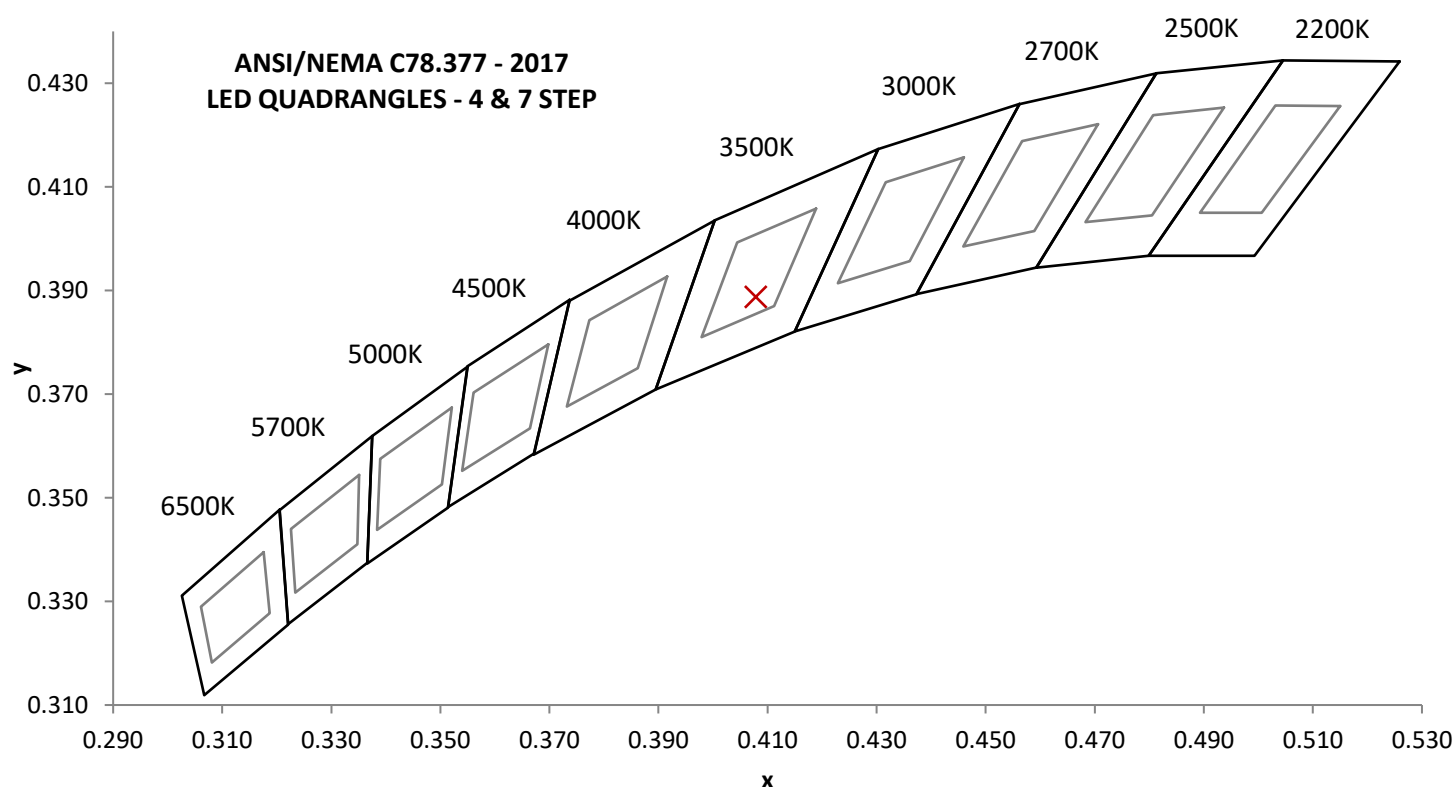
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()	Input ATHD (%)
120.04	414.0	47.83	0.963	19.00
277.01	237.6	51.59	0.784	31.71

Measured at 120.04(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra ()	CRI - R9 ()
2985.8	62.4	3428	92.2	55.2

Duv ()	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0014	0.408	0.389	0.238	0.511

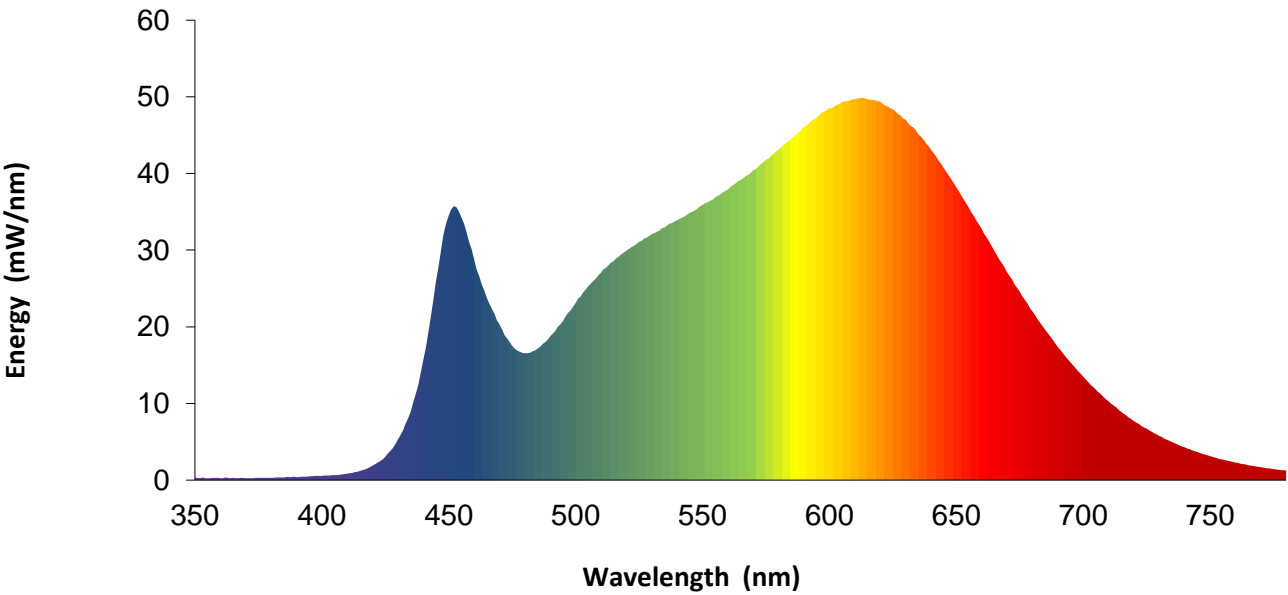


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.3		460	28.9		570	40.4		680	22.0
355	0.3		465	23.8		575	41.8		685	19.6
360	0.3		470	20.3		580	43.1		690	17.4
365	0.3		475	17.5		585	44.5		695	15.3
370	0.2		480	16.6		590	46.1		700	13.5
375	0.3		485	17.1		595	47.3		705	11.8
380	0.3		490	18.7		600	48.5		710	10.3
385	0.4		495	20.8		605	49.3		715	8.9
390	0.4		500	23.1		610	49.7		720	7.7
395	0.5		505	25.3		615	49.7		725	6.7
400	0.5		510	27.1		620	49.4		730	5.8
405	0.7		515	28.6		625	48.3		735	5.0
410	0.8		520	29.9		630	47.0		740	4.3
415	1.2		525	31.1		635	45.1		745	3.7
420	1.9		530	32.1		640	43.2		750	3.1
425	3.1		535	33.0		645	40.8		755	2.7
430	5.3		540	33.9		650	38.2		760	2.3
435	8.9		545	34.9		655	35.5		765	2.0
440	15.7		550	35.9		660	32.7		770	1.7
445	25.8		555	36.9		665	29.9		775	1.4
450	34.5		560	37.9		670	27.1		780	1.2
455	34.3		565	39.2		675	24.5		---	---

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	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

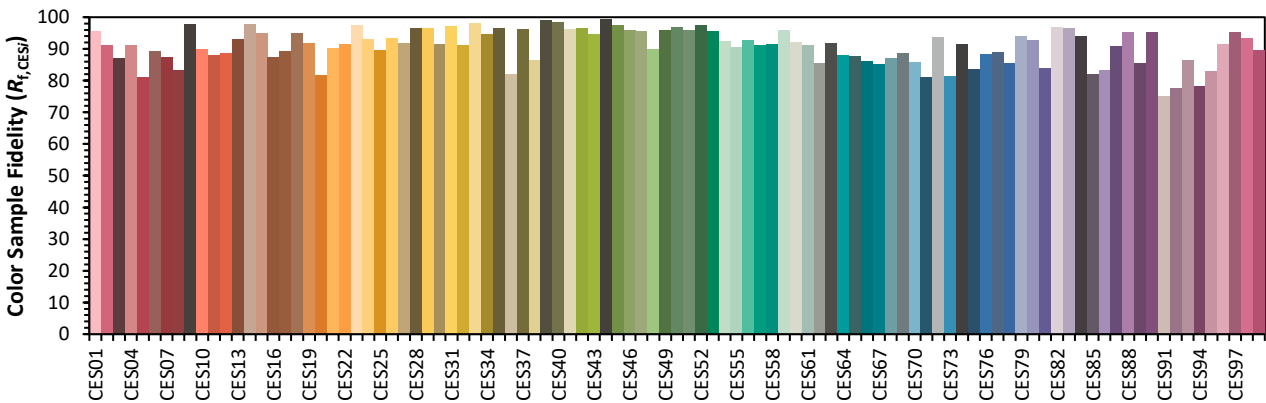
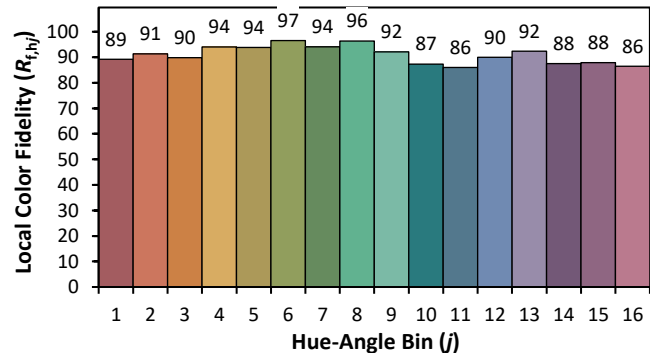
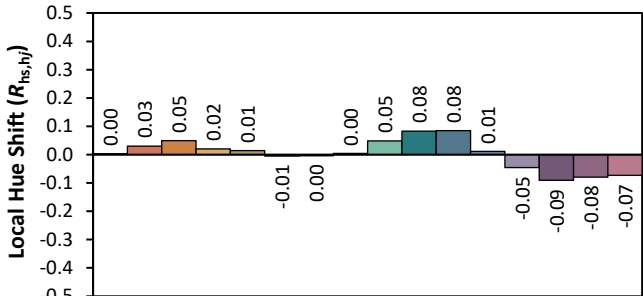
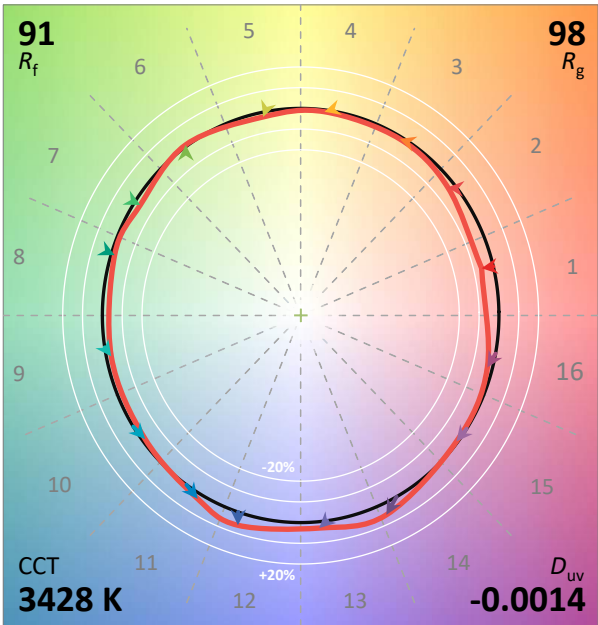
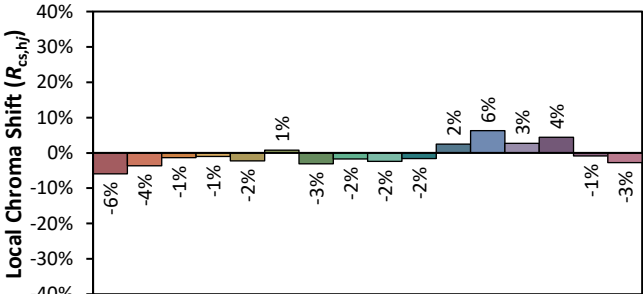
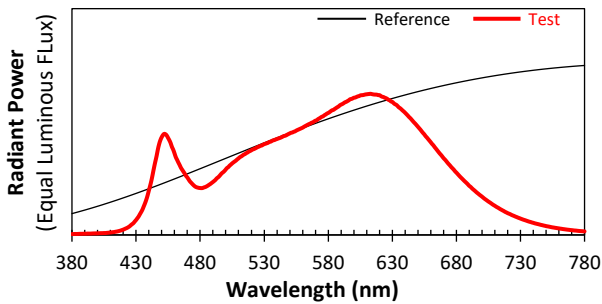
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Test Configuration	Tested Model No.	Pass/Fail/NA
1	CFMW-7W-***-48-**K-**	NA

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
Date: 6/1/2022

Manufacturer: PureEdge Lighting LLC
Model: CFMW-7W-***-48-**K-**



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

x 0.4078
y 0.3887
u' 0.2382
v' 0.5108