

PUREEDGE LIGHTING LLC

TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

CFD*-7W-***-23-**K-**

PROJECT NUMBER

G104797632

REPORT NUMBER

104797632CHI-030

ISSUE DATE

6/20/2022

REVISED DATE

None

TEST DATES

2022-05-31 through 2022-06-02.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

104797632CHI-030

MODEL NUMBER(s)

CFD*-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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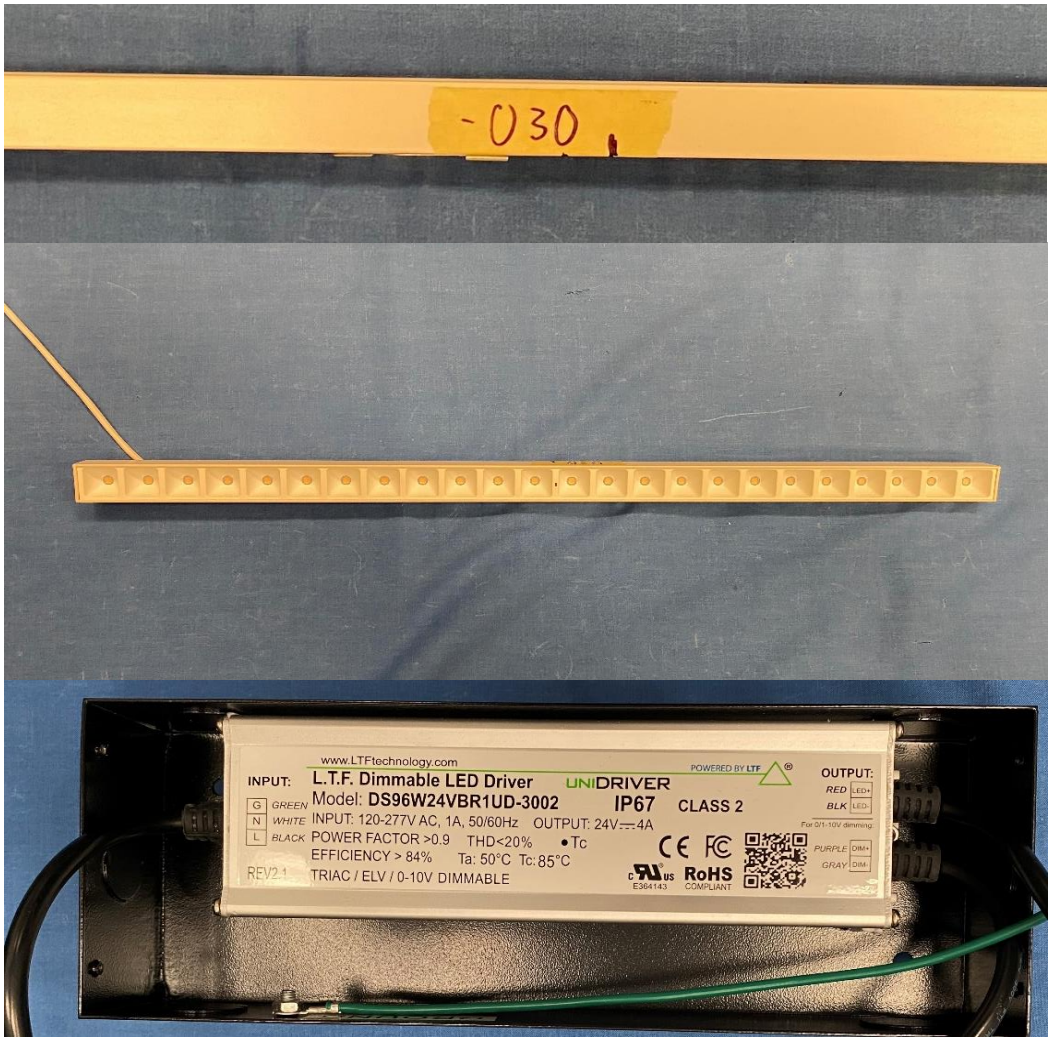
ITEMS RECEIVED

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

TESTED SAMPLE CONFIGURATIONS

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

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	CFD*-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)	1600.6	1597.5
Input Power (W) @ 24VCD THROUGH 0-10 POWER SUPPLY (Vac)	20.59	20.99
Lumen Efficacy (lm/W)	77.7	76.1
Input Power Factor () @ 24VCD THROUGH 0-10 POWER SUPPLY (Vac)	0.878	0.881

Criteria	Results
Input ATHD (%) @ 24VCD THROUGH 0-10 POWER SUPPLY (Vac)	28.89
Correlated Color Temperature (K)	3440
Color Rendering Index - Ra ()	90.7
Color Rendering Index - R9 ()	59.3
Duv ()	0.0012
Chromaticity Coordinate (x)	0.410
Chromaticity Coordinate (y)	0.396
Chromaticity Coordinate (u')	0.237
Chromaticity Coordinate (v')	0.514
Input Power (W) @ 120-277V INPUT TO POWER SUPPLY (Vac)	26.23
Input Power Factor () @ 120-277V INPUT TO POWER SUPPLY (Vac)	0.635
Input ATHD (%) @ 120-277V INPUT TO POWER SUPPLY (Vac)	48.91

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	CFD*-7W-***-23-**K-**	NA

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

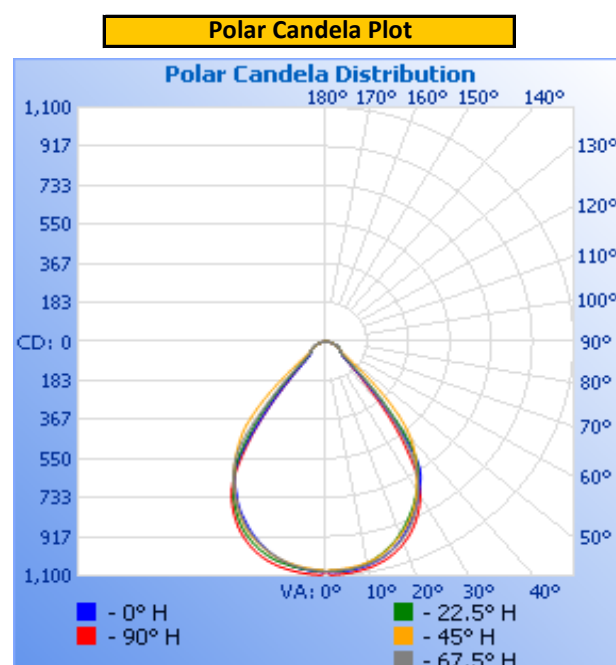
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up	119.97	195.5	20.59	0.878

Light Output (lm)	Lumen Efficacy (lm/W)
1600.6	77.7

INTENSITY SUMMARY - CANDELA

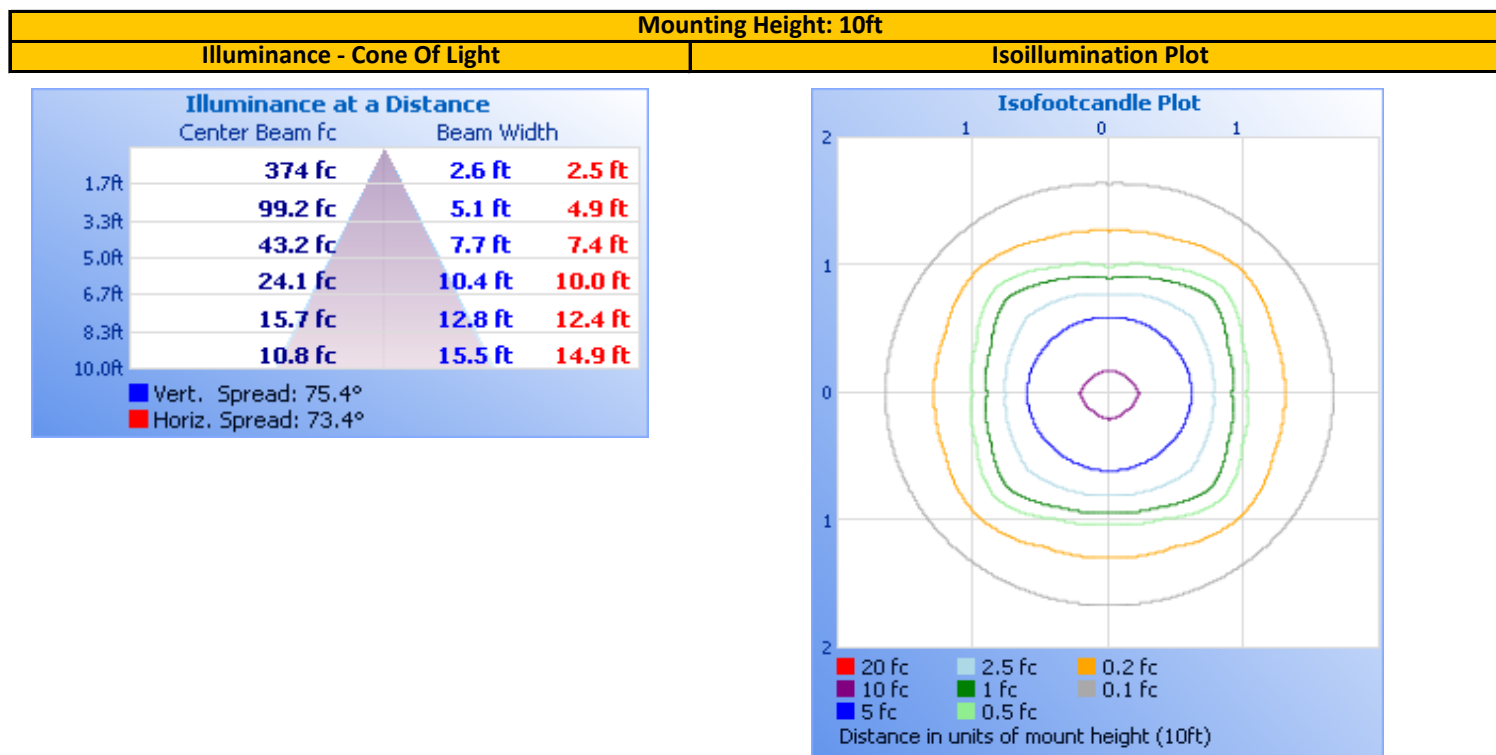
Angle	0	22.5	45	67.5	90
0	1079.8	1079.8	1079.8	1079.8	1079.8
5	1081.5	1075.8	1069.8	1075.4	1092.6
10	1067.8	1057.3	1054.0	1063.2	1080.4
15	1036.4	1016.8	1020.8	1036.4	1055.1
20	983.5	962.0	967.1	988.2	1009.0
25	908.8	890.4	899.9	917.7	938.2
30	825.2	809.9	808.4	819.5	838.8
35	726.2	706.9	696.9	677.8	637.6
40	431.3	488.1	579.7	440.5	359.0
45	160.2	217.2	383.8	204.9	151.9
50	94.1	98.3	171.0	102.6	95.2
55	81.4	81.0	87.9	81.4	81.3
60	70.8	70.9	70.9	69.8	69.3
65	59.9	59.6	58.2	57.4	56.7
70	47.9	47.2	44.8	44.2	43.4
75	35.1	33.9	31.1	30.2	29.7
80	22.2	20.1	17.4	16.6	16.3
85	9.7	7.1	5.2	4.8	4.8
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	807.1	50.4%	0-10	102.1	6.4%
0-40	1,225.9	76.6%	10-20	289.0	18.1%
0-60	1,501.5	93.8%	20-30	416.0	26.0%
60-90	99.1	6.2%	30-40	418.8	26.2%
70-100	41.4	2.6%	40-50	198.2	12.4%
90-120	0.0	0.0%	50-60	77.4	4.8%
0-90	1,600.6	100.0%	60-70	57.7	3.6%
90-180	0.0	0.0%	70-80	33.6	2.1%
0-180	1,600.6	100.0%	80-90	7.8	0.5%
			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-030

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

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

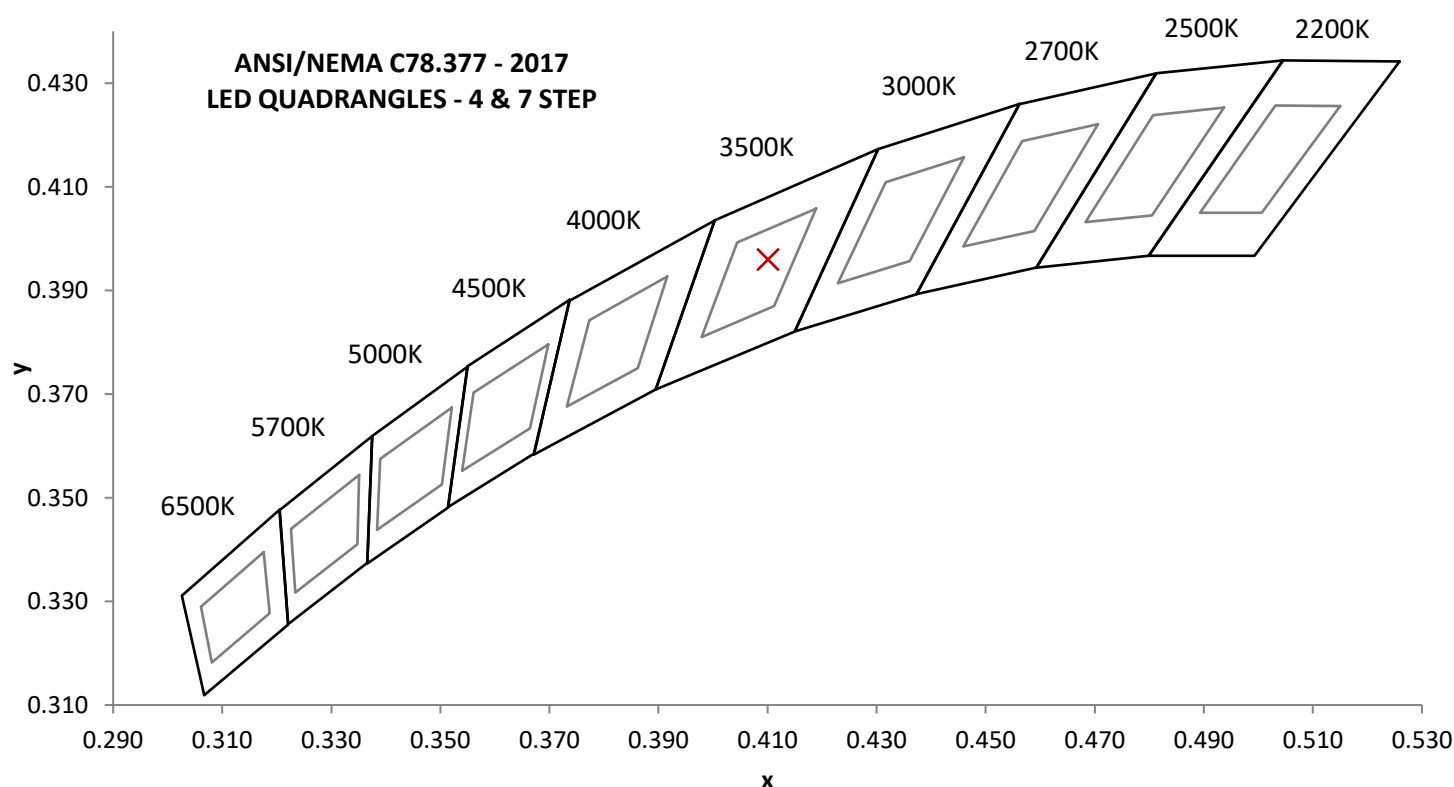
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()	Input ATHD (%)
120.04	198.6	20.99	0.881	28.89
276.98	149.0	26.23	0.635	48.91

Measured at 120.04(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra ()	CRI - R9 ()
1597.5	76.1	3440	90.7	59.3

Duv ()	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
0.0012	0.410	0.396	0.237	0.514

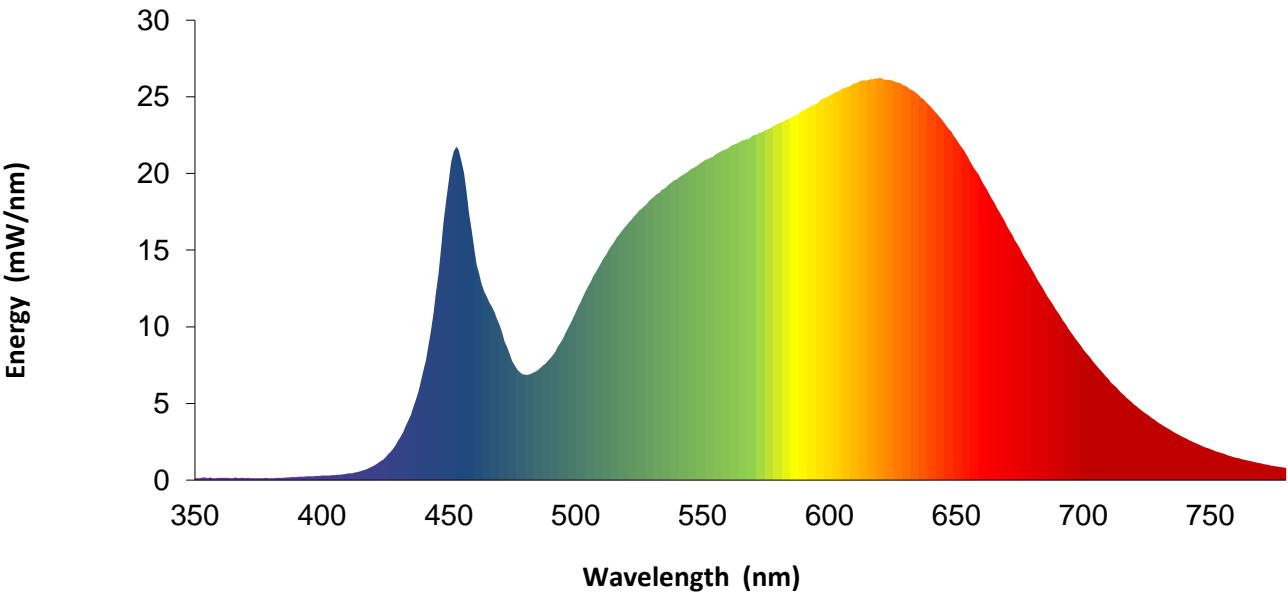


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	15.2		570	22.5		680	13.7
355	0.1		465	11.9		575	22.8		685	12.3
360	0.1		470	10.1		580	23.3		690	10.9
365	0.1		475	7.8		585	23.6		695	9.7
370	0.1		480	6.9		590	24.1		700	8.5
375	0.1		485	7.2		595	24.6		705	7.5
380	0.1		490	7.9		600	25.1		710	6.6
385	0.2		495	9.2		605	25.5		715	5.7
390	0.2		500	10.9		610	25.9		720	4.9
395	0.2		505	12.7		615	26.1		725	4.3
400	0.3		510	14.1		620	26.2		730	3.7
405	0.3		515	15.5		625	26.1		735	3.2
410	0.4		520	16.6		630	25.7		740	2.8
415	0.6		525	17.6		635	25.2		745	2.4
420	0.9		530	18.4		640	24.4		750	2.0
425	1.5		535	19.0		645	23.4		755	1.7
430	2.5		540	19.6		650	22.3		760	1.5
435	4.2		545	20.2		655	20.9		765	1.3
440	7.1		550	20.8		660	19.5		770	1.1
445	12.2		555	21.2		665	18.1		775	0.9
450	19.5		560	21.7		670	16.6		780	0.8
455	20.8		565	22.1		675	15.1		---	---

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

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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

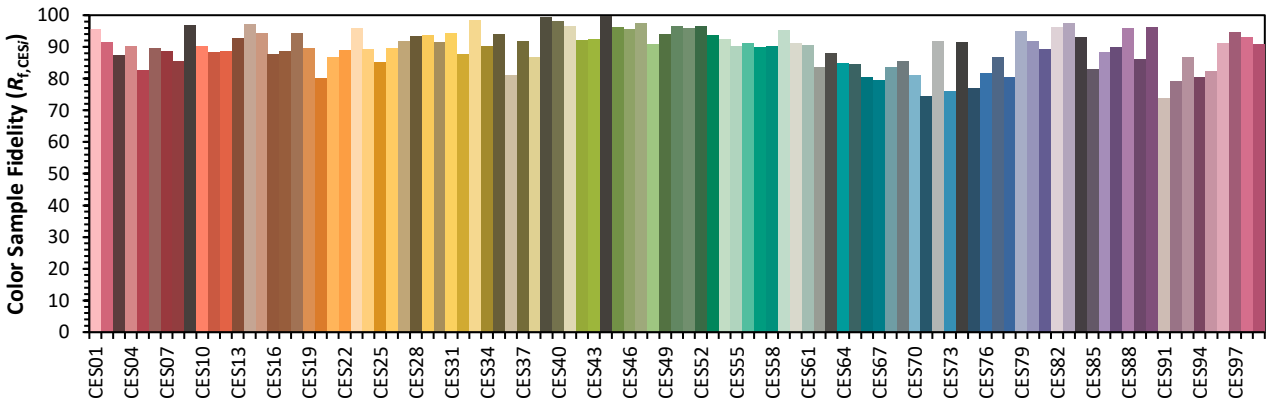
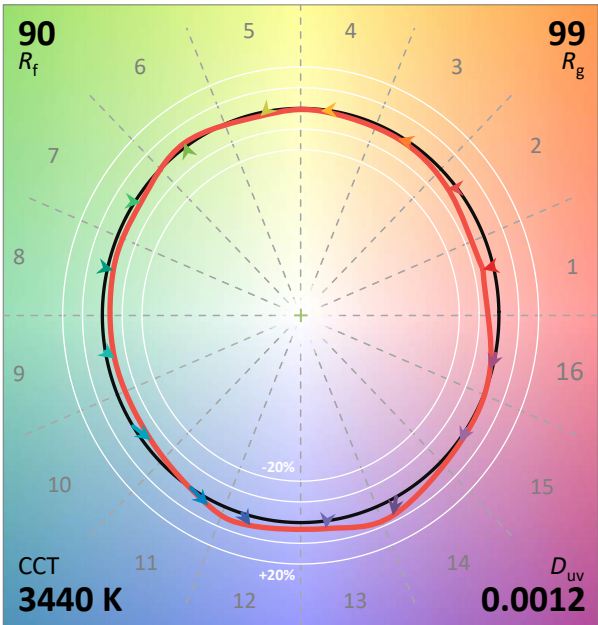
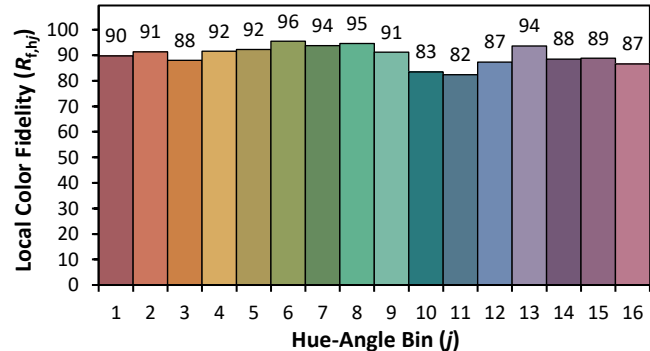
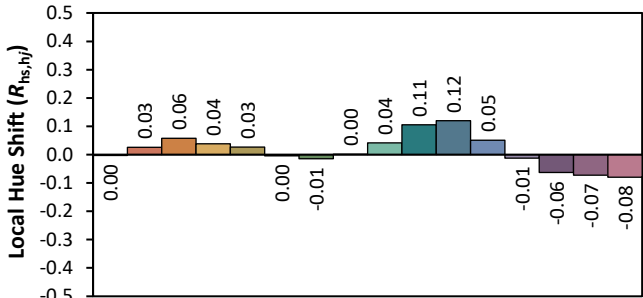
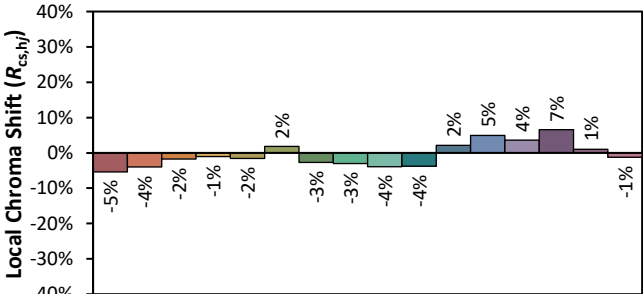
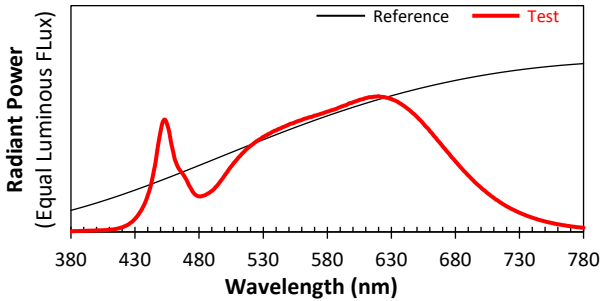
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Test Configuration	Tested Model No.	Pass/Fail/NA
1	CFD*-7W-***-23-**K-**	NA

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
Date: 5/31/2022

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



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

x 0.4101
y 0.3959
u' 0.2367
v' 0.5141