

PUREEDGE LIGHTING

TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

FJ24-TUBL-WW-30K-BK

PROJECT NUMBER

G104797632

REPORT NUMBER

104797632CHI-001rev1

ISSUE DATE

1/20/2022

REVISED DATE

1/27/2022

TEST DATES

2022-01-19.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

104797632CHI-001rev1

MODEL NUMBER(s)

FJ24-TUBL-WW-30K-BK

REPORT RENDERED TO:

PUREEDGE LIGHTING
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-0119885-0.

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:



Maximilian Carvajal
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Lighting Division

Reviewer:



Jeff Davis
N.A. Technical Lead
Lighting Division

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SAMPLE INFORMATION

REPORT NO. 104797632CHI-001REV1

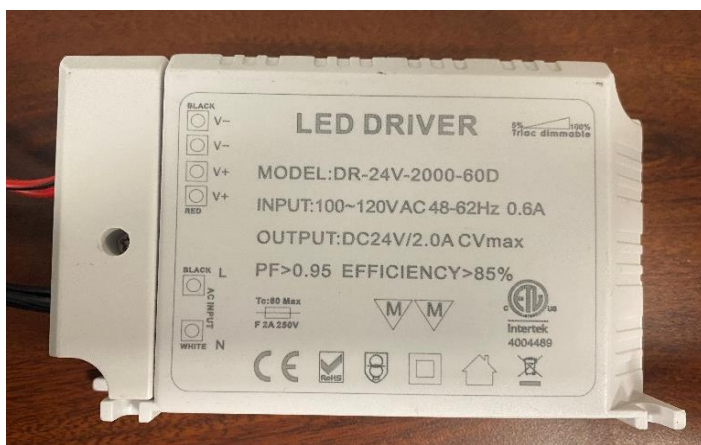
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH01182022074347-001	FJ24-TUBL-WW-30K-BK	TRACK HEAD	Production	1/18/2022

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	FJ24-TUBL-WW-30K-BK	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

REPORT NO. 104797632CHI-001REV1

PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	FJ24-TUBL-WW-30K-BK
Product Description:	TRACK HEAD
LED Model No.:	LUMINUS/CXM-9-30-90-36-AC40-F5-3
Driver Model No.:	HUARI/DR-24V-2000-60D
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	715.3	711.8
Input Power (W) @ 120 (Vac)	17.04	17.03
Lumen Efficacy (lm/W)	42.0	41.8
Input Power Factor (PF) @ 120 (Vac)	0.977	0.977

Criteria	Results
Input ATHD (%) @ 120 (Vac)	15.63
Correlated Color Temperature (K)	2995
Color Rendering Index - Ra (I)	93.7
Color Rendering Index - R9 (I)	67.6
Duv (I)	-0.0008
Chromaticity Coordinate (x)	0.436
Chromaticity Coordinate (y)	0.402
Chromaticity Coordinate (u')	0.251
Chromaticity Coordinate (v')	0.520

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

REPORT NO. 104797632CHI-001REV1

Test Configuration	Tested Model No.	Pass/Fail/NA
1	FJ24-TUBL-WW-30K-BK	NA

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

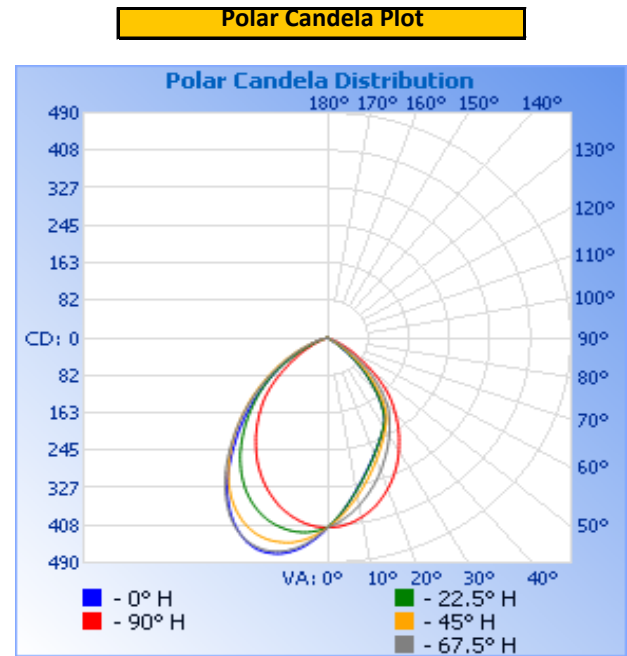
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)
Up	120.07	145.2	17.04	0.977

Light Output (lm)	Lumen Efficacy (lm/W)
715.3	42.0

INTENSITY SUMMARY - CANDELA

Angle	0	22.5	45	67.5	90
0	413.5	413.5	413.5	413.5	413.5
5	375.9	375.4	382.8	394.9	409.1
10	336.1	337.1	349.2	369.6	396.5
15	301.4	302.8	316	341.1	377.5
20	272	273	285.1	310.2	351.8
25	247.4	247.6	256.8	278.8	321.5
30	225.5	224.8	231.3	247.9	286.8
35	196.3	195.9	206.5	217.5	249.6
40	153	151.5	167.2	185.1	211.6
45	103.2	104.3	123	142.9	173.1
50	57.7	59.4	78.8	100.3	126.4
55	21.6	24.2	40.2	61.5	82.4
60	1.8	2.5	11	29.8	48.4
65	0.1	0.1	0.9	6.3	22.7
70	0	0.1	0.2	0.8	4.9
75	0	0	0.1	0.3	0.8
80	0	0	0	0.1	0.3
85	0	0	0	0	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

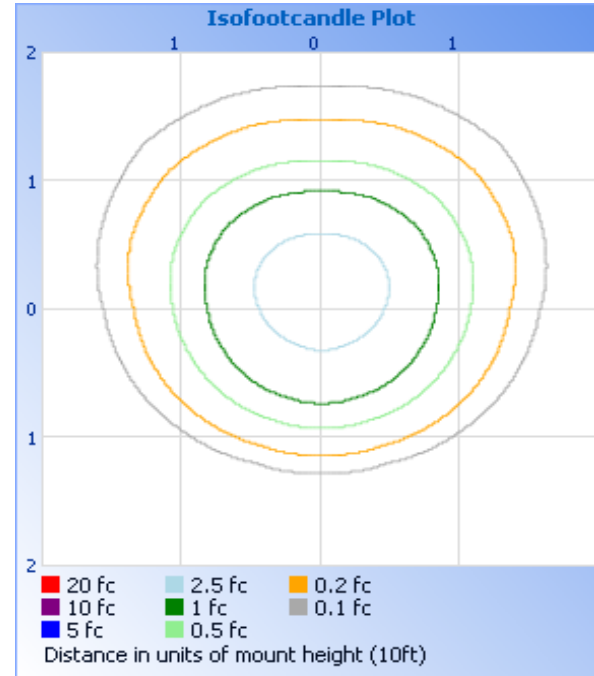
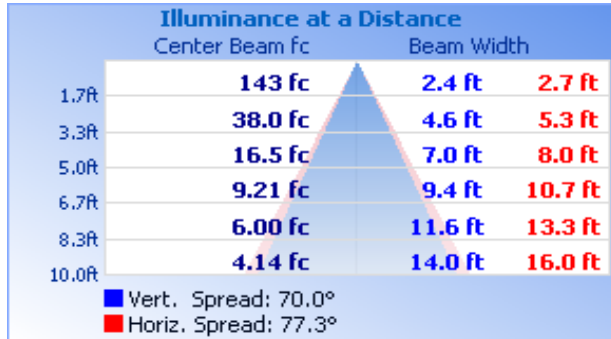
Entire luminous intensity matrix found in .IES file



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ILLUMINANCE SUMMARY

Mounting Height: 10ft	
Illuminance - Cone Of Light	Isoillumination Plot



ZONAL LUMENS

Zonal Lumen Summary

Zone	Lumens	Luminaire
0-30	302.3	42.3%
0-40	469.1	65.6%
0-60	682.1	95.4%
60-90	33.1	4.6%
70-100	5.5	0.8%
90-120	0.0	0.0%
0-90	715.3	100.0%
90-180	0.0	0.0%
0-180	715.3	100.0%

Zone	Lumens	Total	Zone	Lumens	Total
0-10	38.9	5.4%	90-100	0.0	0.0%
10-20	108.4	15.2%	100-110	0.0	0.0%
20-30	155.0	21.7%	110-120	0.0	0.0%
30-40	166.8	23.3%	120-130	0.0	0.0%
40-50	135.6	19.0%	130-140	0.0	0.0%
50-60	77.5	10.8%	140-150	0.0	0.0%
60-70	27.7	3.9%	150-160	0.0	0.0%
70-80	5.2	0.7%	160-170	0.0	0.0%
80-90	0.3	0.0%	170-180	0.0	0.0%

INTEGRATING SPHERE TESTING

REPORT NO. 104797632CHI-001REV1

Test Configuration	Tested Model No.	Pass/Fail/NA
1	FJ24-TUBL-WW-30K-BK	NA

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

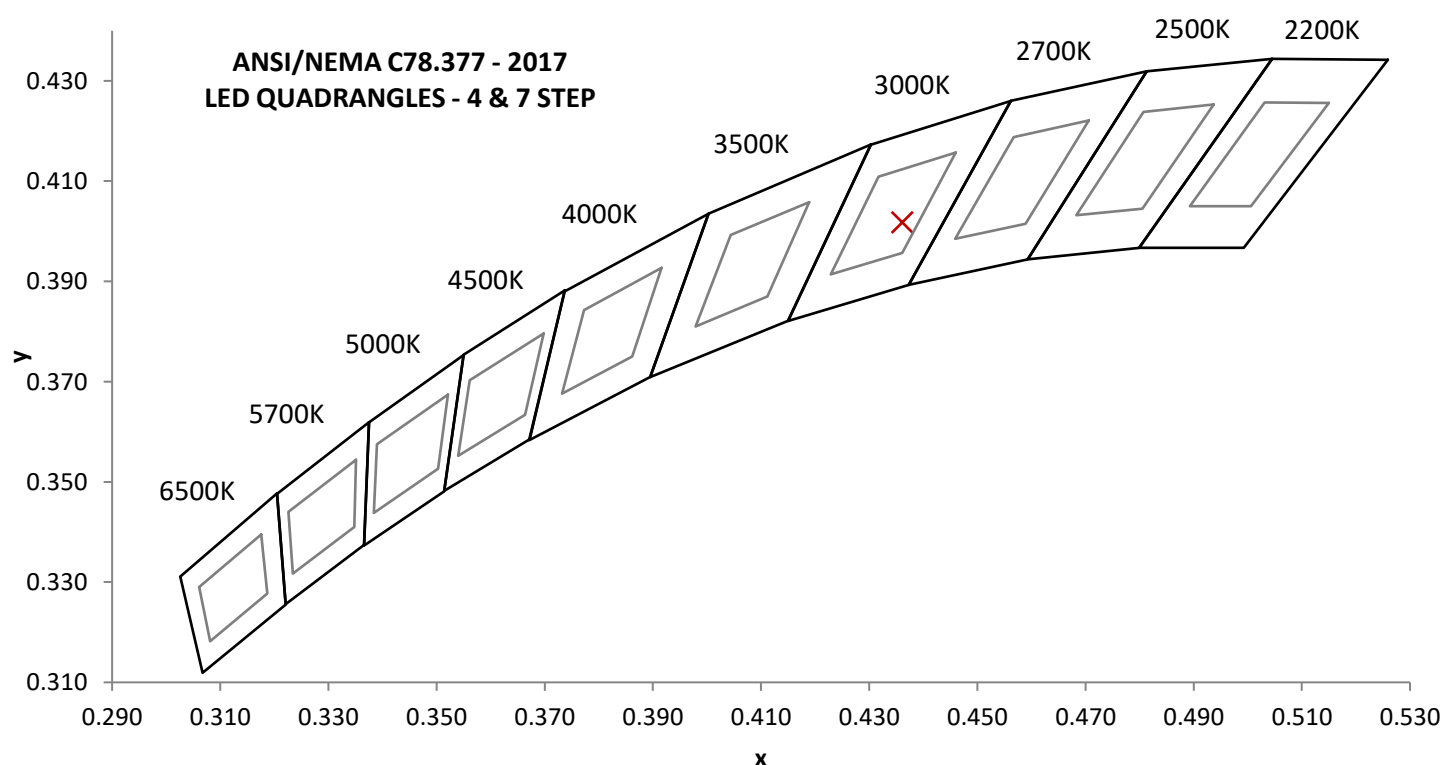
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)	Input ATHD (%)
119.99	145.3	17.03	0.977	15.63

Measured at 119.99(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra (I)	CRI - R9 (I)
711.8	41.8	2995	93.7	67.6

Duv (I)	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0008	0.436	0.402	0.251	0.520

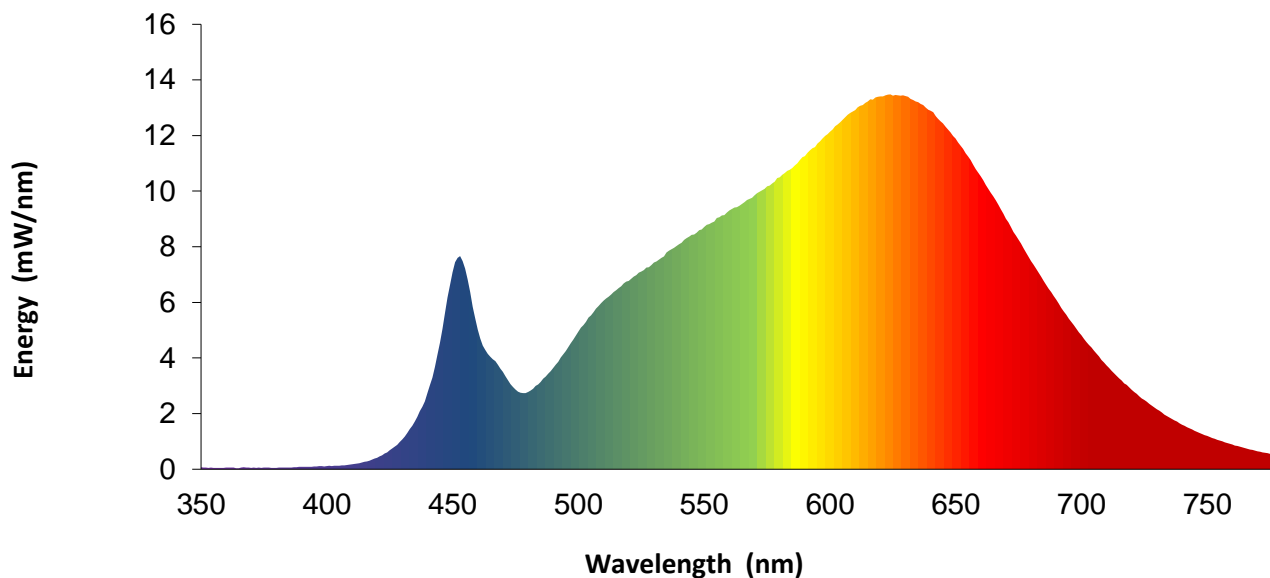


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	5.0		570	9.8		680	7.5
355	0.1		465	4.1		575	10.2		685	6.8
360	0.1		470	3.5		580	10.5		690	6.1
365	0.0		475	2.9		585	10.8		695	5.4
370	0.1		480	2.8		590	11.3		700	4.8
375	0.1		485	3.1		595	11.7		705	4.3
380	0.1		490	3.6		600	12.1		710	3.7
385	0.1		495	4.3		605	12.6		715	3.3
390	0.1		500	5.0		610	12.9		720	2.9
395	0.1		505	5.5		615	13.2		725	2.5
400	0.1		510	6.1		620	13.4		730	2.2
405	0.1		515	6.4		625	13.4		735	1.9
410	0.2		520	6.8		630	13.4		740	1.6
415	0.3		525	7.1		635	13.2		745	1.4
420	0.4		530	7.4		640	12.9		750	1.2
425	0.7		535	7.8		645	12.4		755	1.0
430	1.1		540	8.1		650	11.9		760	0.9
435	1.7		545	8.4		655	11.2		765	0.8
440	2.7		550	8.7		660	10.5		770	0.6
445	4.5		555	9.0		665	9.8		775	0.6
450	7.1		560	9.3		670	9.0		780	0.5
455	7.2		565	9.5		675	8.3		---	---

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. 104797632CHI-001REV1

#	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	VBUE	VBUE
4	Newport Thermohygrometer	iServer	146379	4/13/2021	4/13/2022
5	Chroma Power Supply	61604	CHI0371	VBUE	VBUE
8	Newport Humidity Recorder	iServer	146961	9/21/2021	9/21/2022
9	Labsphere Spectroradiometer	CDS2600	CHI0539	VBUE	VBUE
10	3 Meter Sphere	SPR600	CHI0088	VBUE	VBUE
11	Elgar AC Power Supply	CW1251	146112	VBUE	VBUE
12	Sorenson DC Power Supply	XFR150-8	146846	VBUE	VBUE
13	Yokogawa Power Meter	WT1600	146767	4/8/2021	4/8/2022
17	Omega thermometer	USB TC08	EQAH002615	4/6/2021	4/6/2022
26	Xitron Power Analyzer	XT-2640	CHI0611	6/9/2021	6/9/2022

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
1	1/27/2022	Max Carvajal <i>MC</i>	Jeff Davis <i>JD</i>	Change to Model Number
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Test Configuration	Tested Model No.	Pass/Fail/NA
1	FJ24-TUBL-WW-30K-BK	NA

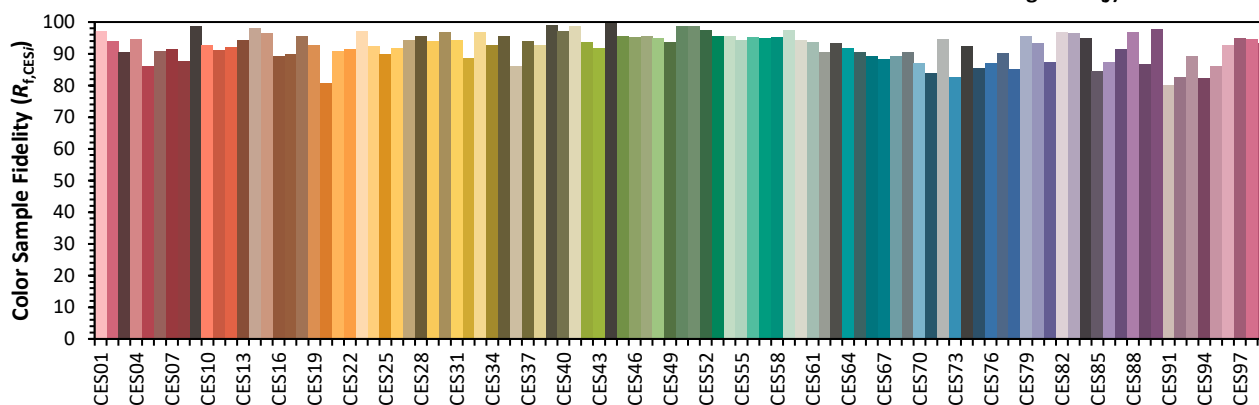
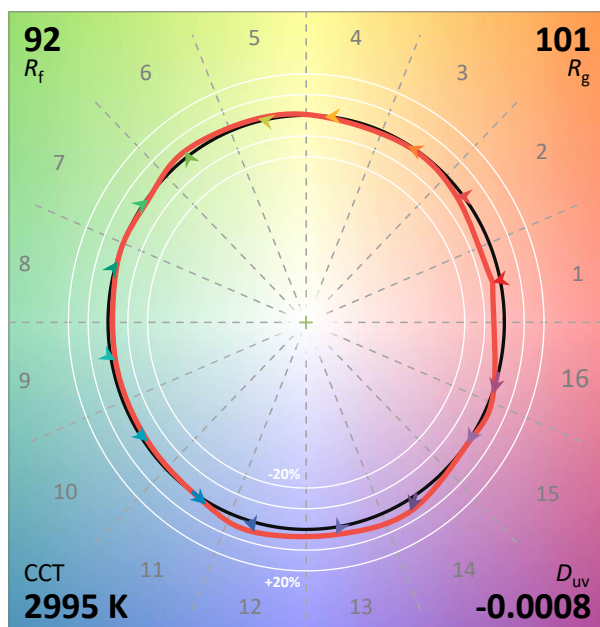
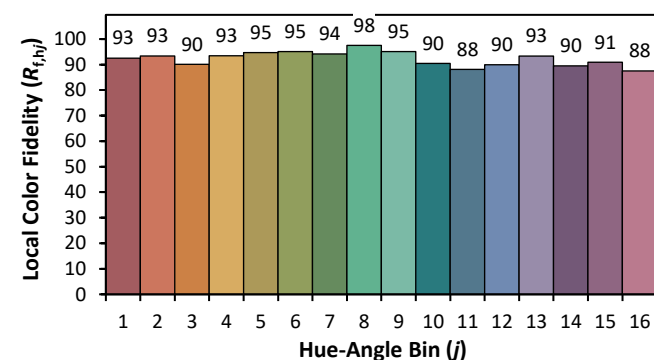
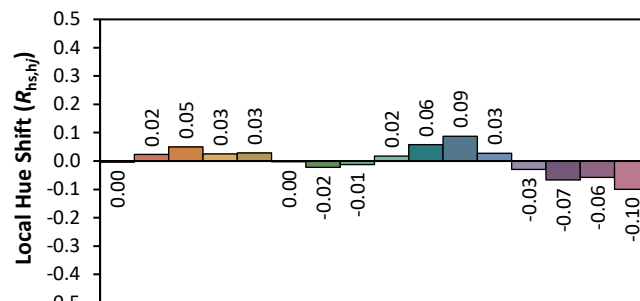
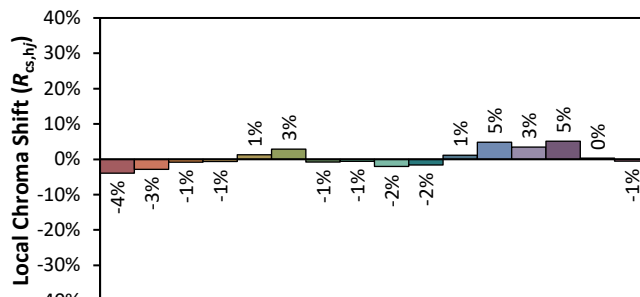
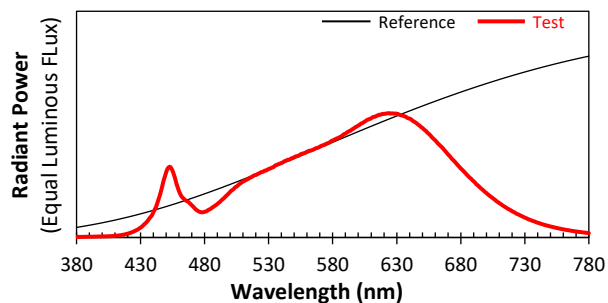
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: PureEdge Lighting

Date: 1/19/2022

Model: FJ24-TUBL-WW-30K-BK



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

x 0.4361

y 0.4018

u' 0.2510

v' 0.5203