

# PUREEDGE LIGHTING

## TEST REPORT

### SCOPE OF WORK

LED Performance Testing

### MODEL NUMBER

FJ24-ZOOM-ZZ2-30K-BK (Max Beam)

### PROJECT NUMBER

G104797632

### REPORT NUMBER

104797632CHI-005rev1

### ISSUE DATE

1/20/2022

### REVISED DATE

1/27/2022

### TEST DATES

2022-01-20.

### DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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**REPORT NUMBER**

104797632CHI-005rev1

**MODEL NUMBER(s)**

FJ24-ZOOM-ZZ2-30K-BK (MAX BEAM)

**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  
Engineer  
Lighting Division

Reviewer:



Jeff Davis  
N.A. Technical Lead  
Lighting Division

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## SAMPLE INFORMATION

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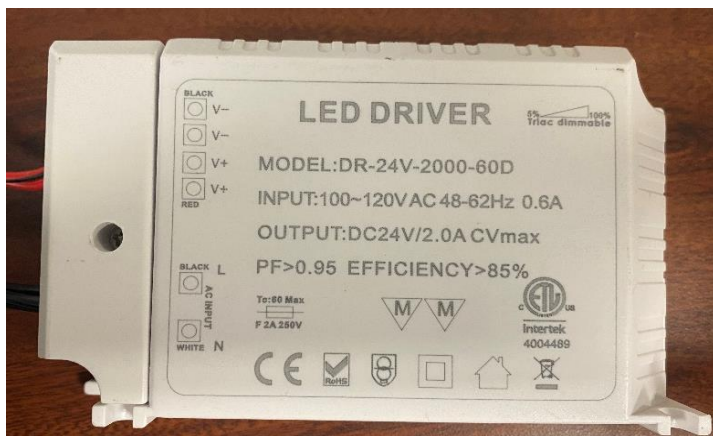
## ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH01182022074347-003	FJ24-ZOOM-ZZ2-30K-BK (Max Beam)	TRACK HEAD	Production	1/18/2022

## TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	FJ24-ZOOM-ZZ2-30K-BK (Max Beam)	1

## SAMPLE PHOTOS - TESTED CONFIGURATIONS



## SUMMARY

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### PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	FJ24-ZOOM-ZZ2-30K-BK (Max Beam)
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)	1156.5	1188.8
Input Power (W) @ 120 (Vac)	17.12	17.12
Lumen Efficacy (lm/W)	67.6	69.5
Input Power Factor (PF) @ 120 (Vac)	0.977	0.997

Criteria	Results
Input ATHD (%) @ 120 (Vac)	15.36
Correlated Color Temperature (K)	3002
Color Rendering Index - Ra (I)	93.6
Color Rendering Index - R9 (I)	67.7
Duv (I)	-0.0004
Chromaticity Coordinate (x)	0.436
Chromaticity Coordinate (y)	0.403
Chromaticity Coordinate (u')	0.251
Chromaticity Coordinate (v')	0.521

## 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-005REV1**

Test Configuration	Tested Model No.	Pass/Fail/NA
1	FJ24-ZOOM-ZZ2-30K-BK (Max Beam)	NA

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

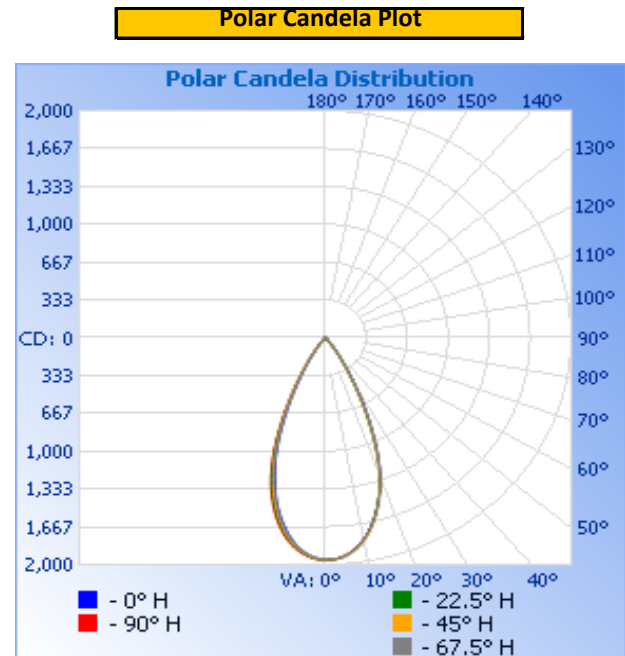
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)
Up	120.08	146.0	17.12	0.977

Light Output (lm)	Lumen Efficacy (lm/W)
1156.5	67.6

**INTENSITY SUMMARY - CANDELA**

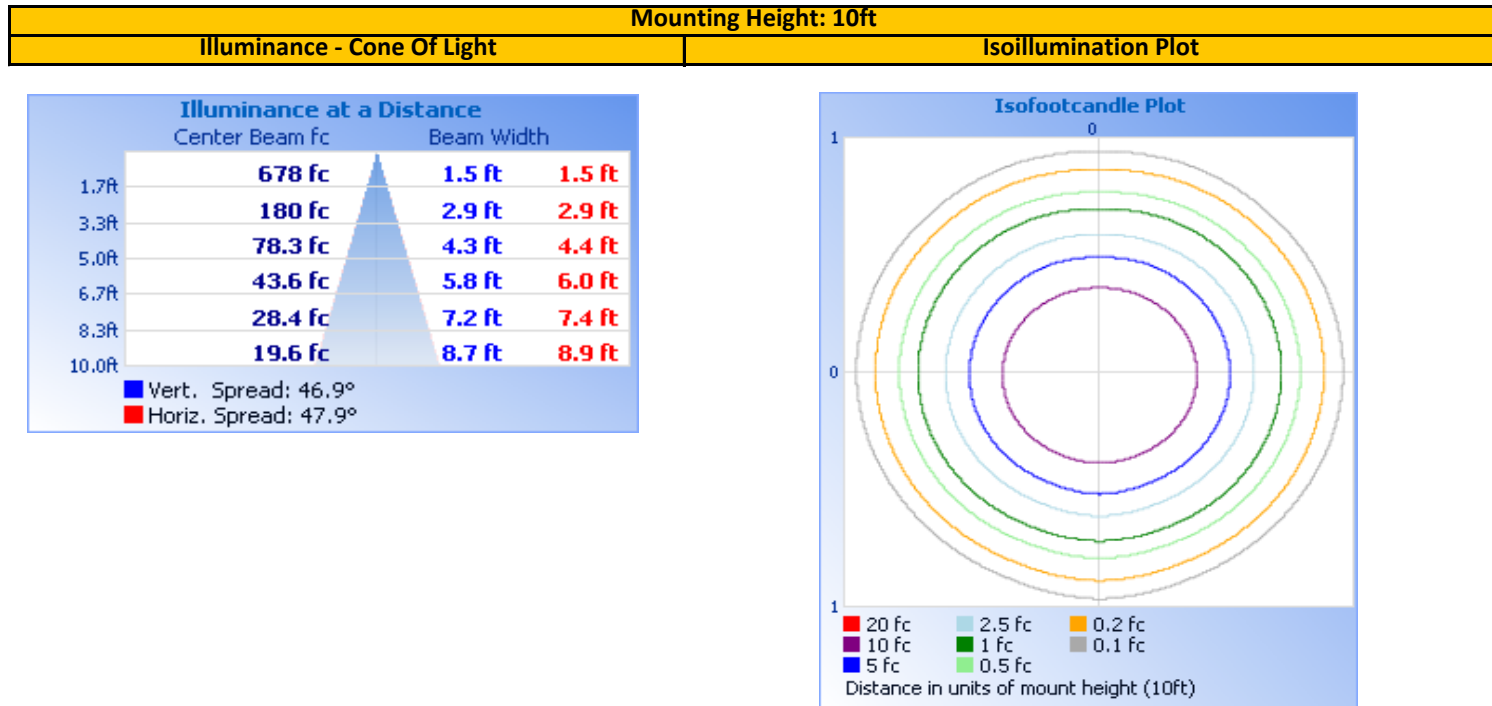
Angle	0	22.5	45	67.5	90
0	1958.2	1958.2	1958.2	1958.2	1958.2
5	1924.8	1928.7	1927.9	1924.6	1919.7
10	1803.6	1811.3	1812.7	1805.8	1801.5
15	1591.6	1591.7	1598.4	1599.7	1591.4
20	1302.8	1288.6	1296.6	1305.2	1294.2
25	903.6	866	878.3	888.9	891.1
30	498.6	462.2	470.3	478	483.1
35	212.1	194.2	197.6	202.5	206.3
40	67.9	60.7	62	64.8	67
45	20.7	17.3	16.6	17.8	18.9
50	7.3	5.7	5.2	5.6	5.9
55	3.4	2.6	2.5	2.7	2.8
60	1.5	1.4	1.4	1.5	1.5
65	0.3	0.3	0.3	0.3	0.4
70	0.3	0.3	0.3	0.3	0.3
75	0.2	0.2	0.2	0.2	0.2
80	0.1	0.1	0.1	0.1	0.1
85	0	0	0	0	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	1,001.3	86.6%	0-10	179.0	15.5%
0-40	1,135.2	98.2%	10-20	433.6	37.5%
0-60	1,155.7	99.9%	20-30	388.8	33.6%
60-90	0.8	0.1%	30-40	133.8	11.6%
70-100	0.2	0.0%	40-50	17.8	1.5%
90-120	0.0	0.0%	50-60	2.7	0.2%
0-90	1,156.5	100.0%	60-70	0.6	0.1%
90-180	0.0	0.0%	70-80	0.2	0.0%
0-180	1,156.5	100.0%	80-90	0.0	0.0%
			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-005REV1**

Test Configuration	Tested Model No.	Pass/Fail/NA
1	FJ24-ZOOM-ZZ2-30K-BK (Max Beam)	NA

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

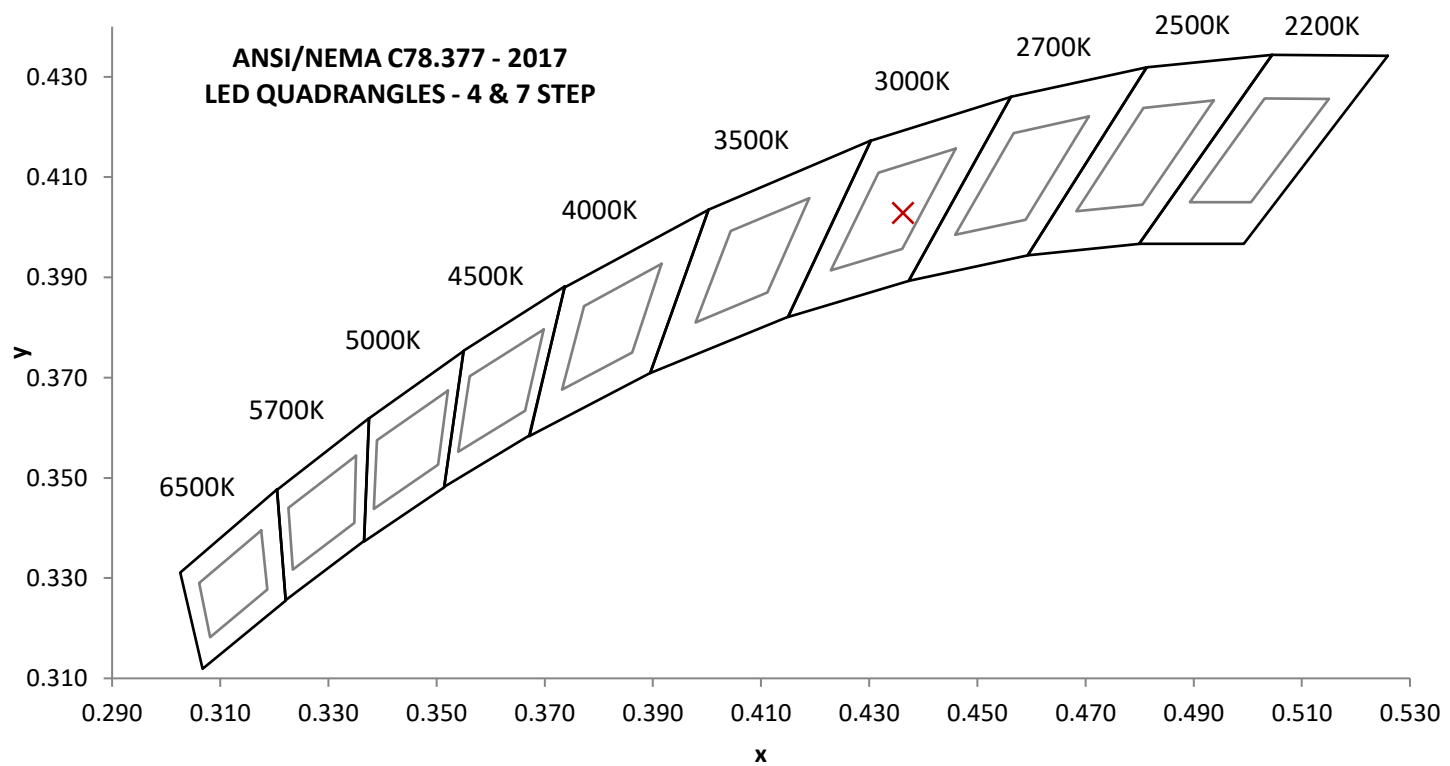
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)	Input ATHD (%)
120.00	146.0	17.12	0.997	15.36

**Measured at 120(Vac)**

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra (I)	CRI - R9 (I)
1188.8	69.5	3002	93.6	67.7

Duv (I)	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0004	0.436	0.403	0.251	0.521

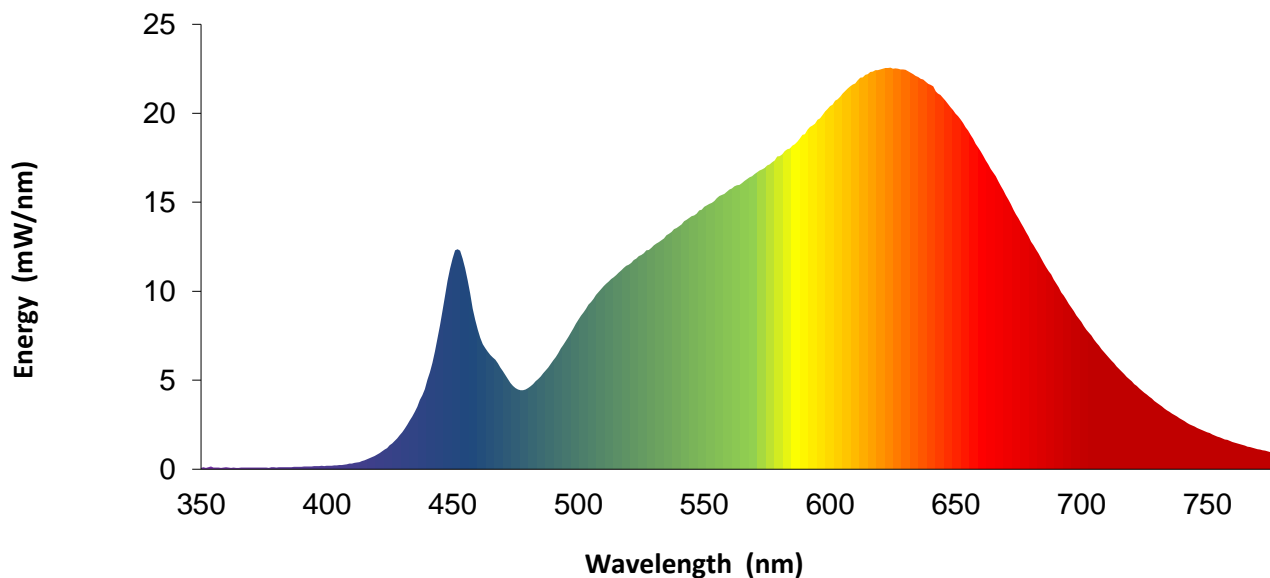


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	7.9		570	16.6		680	12.8
355	0.1		465	6.4		575	17.1		685	11.6
360	0.1		470	5.5		580	17.6		690	10.4
365	0.1		475	4.6		585	18.2		695	9.3
370	0.1		480	4.6		590	18.8		700	8.3
375	0.1		485	5.2		595	19.6		705	7.3
380	0.1		490	6.1		600	20.4		710	6.4
385	0.1		495	7.2		605	21.1		715	5.6
390	0.1		500	8.4		610	21.7		720	4.9
395	0.2		505	9.4		615	22.2		725	4.3
400	0.2		510	10.3		620	22.5		730	3.7
405	0.2		515	10.9		625	22.5		735	3.2
410	0.3		520	11.5		630	22.4		740	2.8
415	0.5		525	12.0		635	22.0		745	2.4
420	0.8		530	12.6		640	21.6		750	2.1
425	1.3		535	13.1		645	20.9		755	1.8
430	2.1		540	13.7		650	20.0		760	1.5
435	3.2		545	14.2		655	19.0		765	1.3
440	5.0		550	14.7		660	17.9		770	1.1
445	8.1		555	15.2		665	16.7		775	1.0
450	11.8		560	15.7		670	15.4		780	0.8
455	11.3		565	16.1		675	14.1		---	---

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**

**REPORT NO. 104797632CHI-005REV1**

#	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-ZOOM-ZZ2-30K-BK (Max Beam)	NA

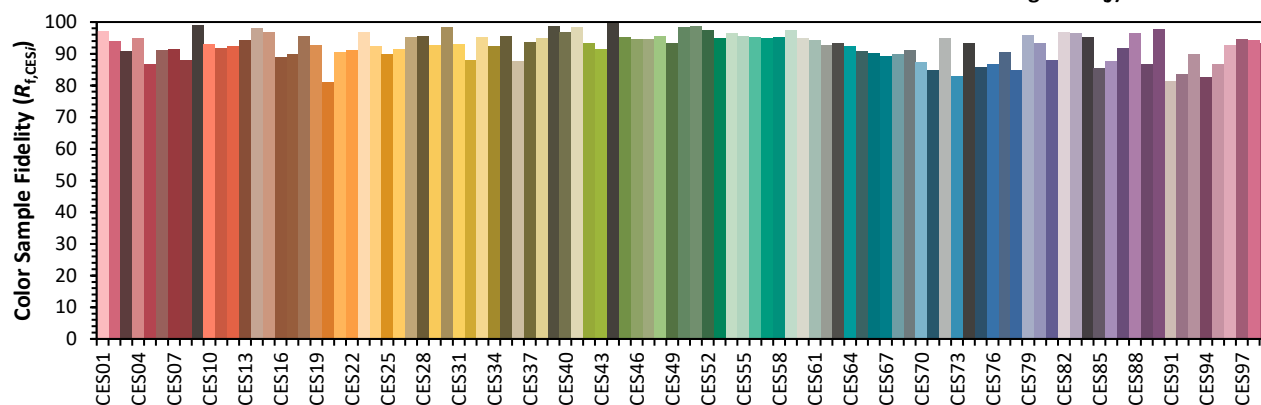
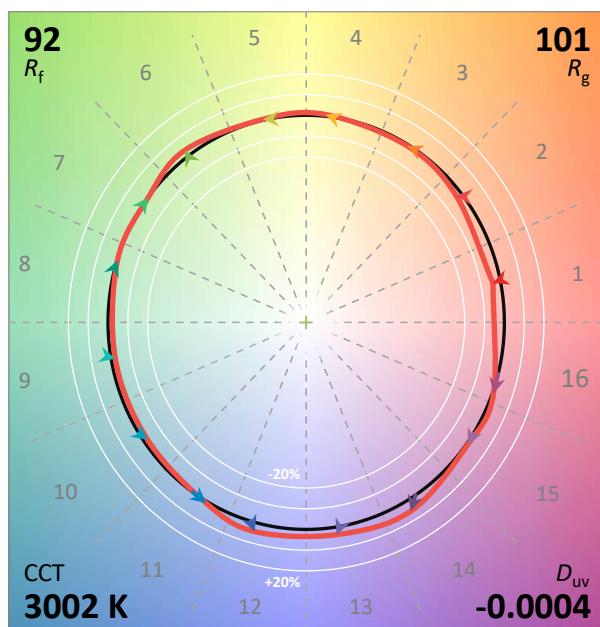
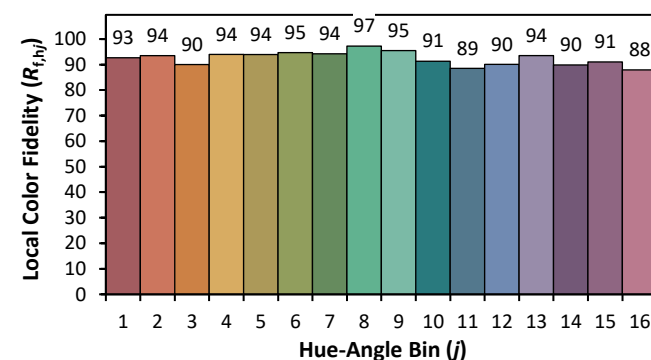
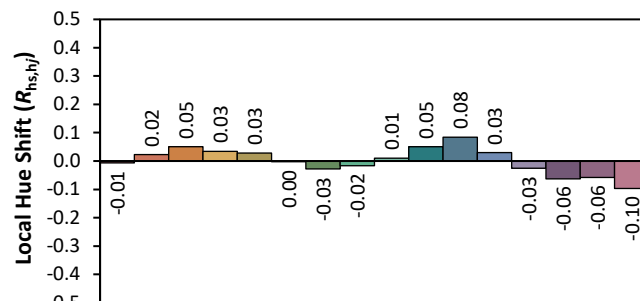
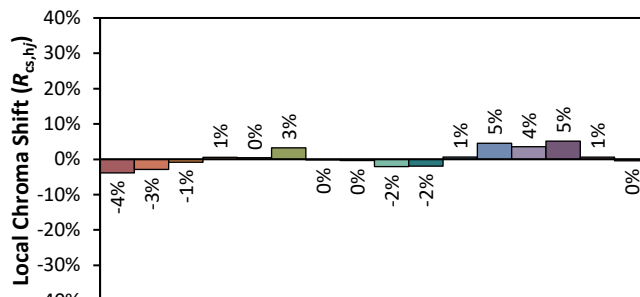
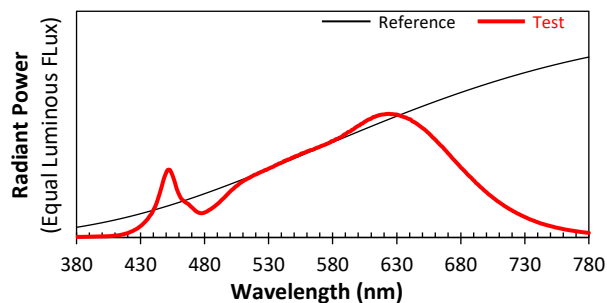
## ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: PureEdge Lighting

Date: 1/20/2022

Model: FJ24-ZOOM-ZZ2-30K-BK (Max Beam)



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

x 0.4362

y 0.4028

u' 0.2507

v' 0.5208