

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

TUBL-NSP-30K-WH

PROJECT NUMBER

G104430061

REPORT NUMBER

104430061CHI-005

ISSUE DATE

3/10/2021

REVISED DATE

None

TEST DATES

02/25/2021 through 03/03/2021.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

104430061CHI-005

MODEL NUMBER(s)

TUBL-NSP-30K-WH

REPORT RENDERED TO:

PURE EDGE LIGHTING
1718 WEST FULLERTON AVE
CHICAGO
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-01100816-1.

TEST STANDARDS

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

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:



Ian Smith
Engineer
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Reviewer:



Jeff Davis
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SAMPLE INFORMATION

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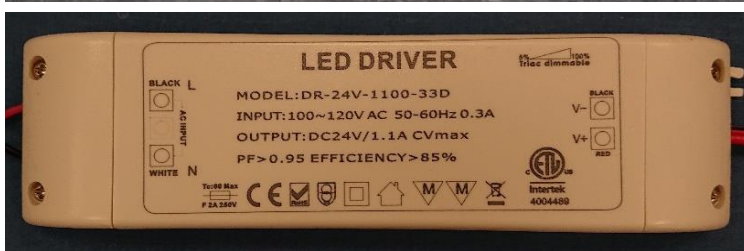
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH02182021102128	TUBL-NSP-30K-WH	LED ACCENT LIGHT	Prototype	2/18/2021

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	TUBL-NSP-30K-WH	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	TUBL-NSP-30K-WH
Product Description:	LED ACCENT LIGHT
LED Model No.:	LUMINUS/CXM-4-30-90-36-AC40-F5-3
Driver Model No.:	HUARI/DR-24V-1100-33D
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	862.7	868.1
Input Power (W) @ 120 (Vac)	17.64	17.56
Lumen Efficacy (lm/W)	48.9	49.4
Input Power Factor () @ 120 (Vac)	0.984	0.984

Criteria	Results
Input ATHD (%) @ 120 (Vac)	13.22
Correlated Color Temperature (K)	3024
Color Rendering Index - Ra ()	91.4
Color Rendering Index - R9 ()	58.0
Duv ()	0.0004
Chromaticity Coordinate (x)	0.435
Chromaticity Coordinate (y)	0.402
Chromaticity Coordinate (u')	0.250
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

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Test Configuration	Tested Model No.	Pass/Fail/NA
1	TUBL-NSP-30K-WH	NA

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

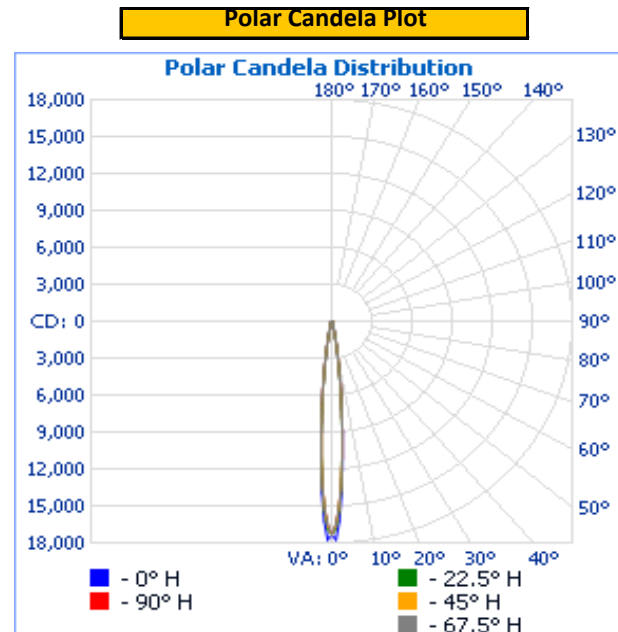
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)
Up	120.04	149.4	17.64	0.984

Light Output (lm)	Lumen Efficacy (lm/W)
862.7	48.9

INTENSITY SUMMARY - CANDELA

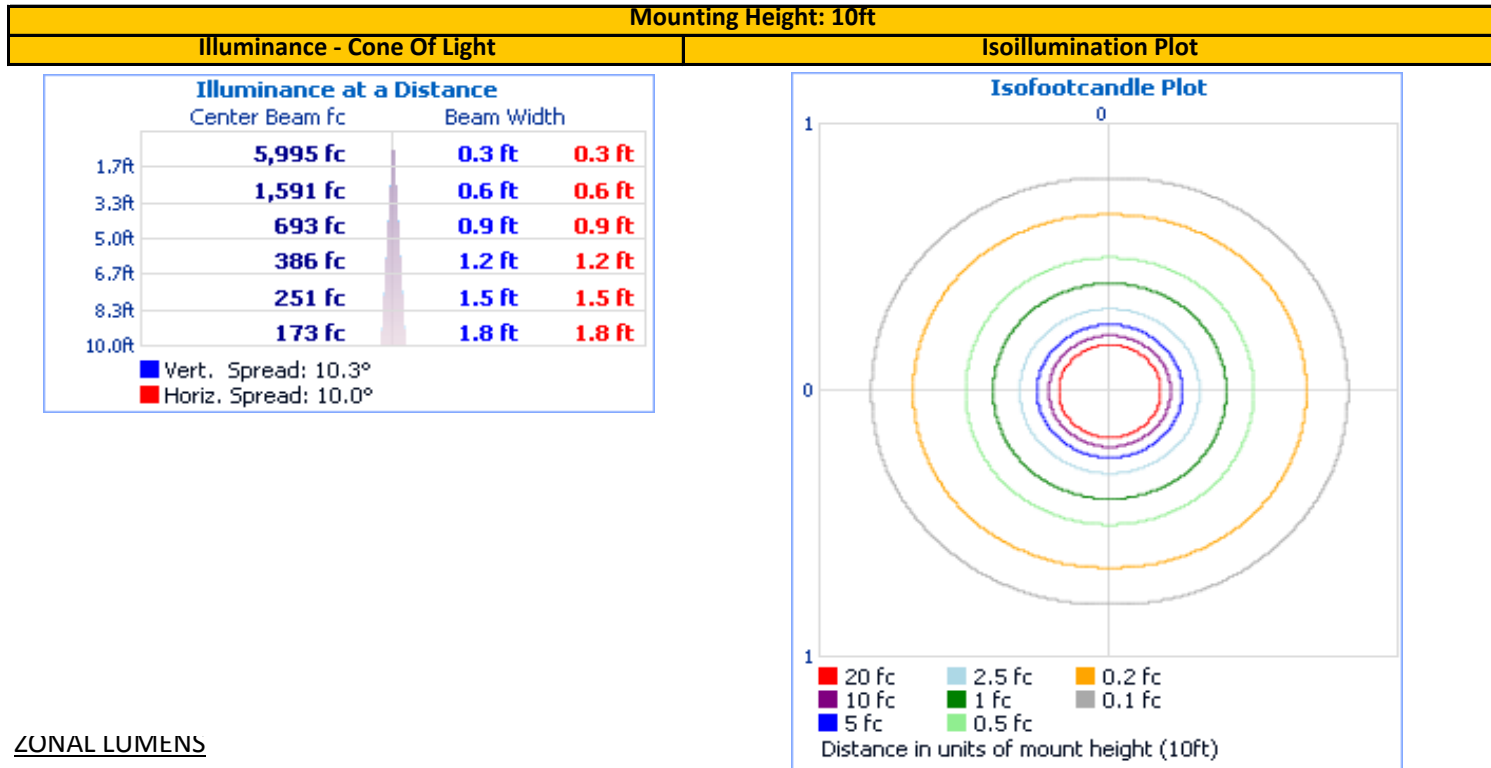
Angle	0	22.5	45	67.5	90
0	17324	17324	17324	17324	17324
5	9146	8844	8958	9078	9133
10	2029	1999	2019	2096	2115
15	440	433	436	445	446
20	167	169	173	173	175
25	87	86	86	84	85
30	48	49	51	50	51
35	30	31	33	33	33
40	19	20	20	21	21
45	11	12	12	13	13
50	6	7	7	7	8
55	4	4	5	5	5
60	3	3	3	3	3
65	2	2	2	2	3
70	1	2	2	2	2
75	1	1	1	2	2
80	1	1	2	1	1
85	1	2	1	1	2
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										
<div></div>	Zone	Lumens	Luminaire	<div></div>	Zone	Lumens	Total	Zone	Lumens	Total
	0-30	823.3	95.4%		0-10	624.9	72.4%	90-100	0.0	0.0%
	0-40	843.6	97.8%		10-20	156.9	18.2%	100-110	0.0	0.0%
	0-60	857.5	99.4%		20-30	41.4	4.8%	110-120	0.0	0.0%
	60-90	5.3	0.6%		30-40	20.3	2.4%	120-130	0.0	0.0%
	70-100	3.0	0.3%		40-50	9.7	1.1%	130-140	0.0	0.0%
	90-120	0.0	0.0%		50-60	4.2	0.5%	140-150	0.0	0.0%
	0-90	862.7	100.0%		60-70	2.3	0.3%	150-160	0.0	0.0%
	90-180	0.0	0.0%		70-80	1.5	0.2%	160-170	0.0	0.0%
	0-180	862.7	100.0%		80-90	1.4	0.2%	170-180	0.0	0.0%

INTEGRATING SPHERE TESTING

REPORT NO. 104430061CHI-005

Test Configuration	Tested Model No.	Pass/Fail/NA
1	TUBL-NSP-30K-WH	NA

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

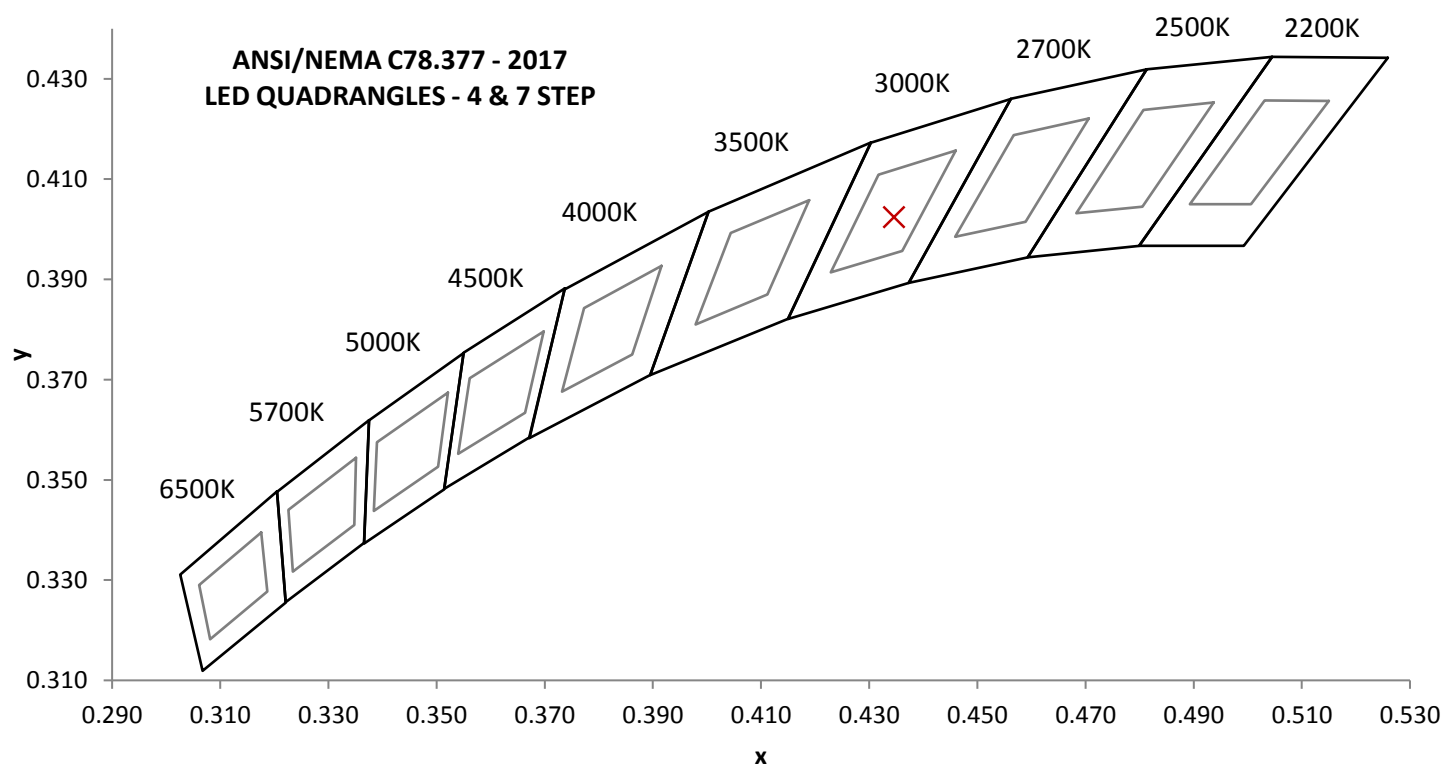
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (l)	Input ATHD (%)
119.99	148.7	17.56	0.984	13.22

Measured at 119.99(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra (l)	CRI - R9 (l)
868.1	49.4	3024	91.4	58.0

Duv (l)	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
0.0004	0.435	0.402	0.250	0.520

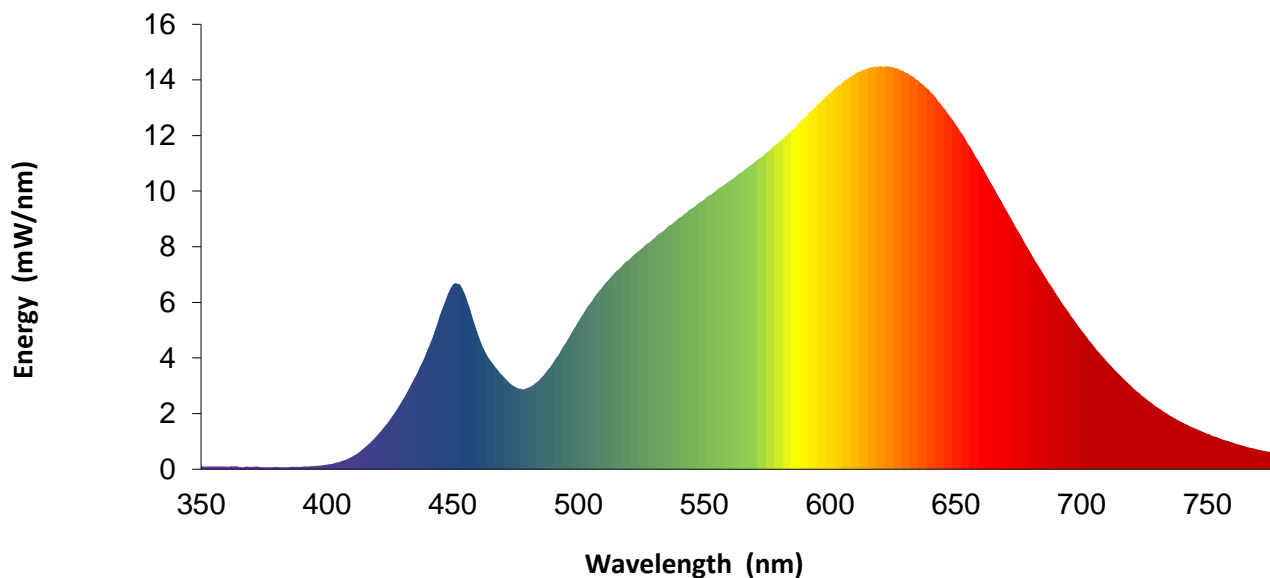


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	4.9		570	11.0		680	7.8
355	0.1		465	3.9		575	11.4		685	7.0
360	0.1		470	3.4		580	11.8		690	6.3
365	0.1		475	3.0		585	12.2		695	5.6
370	0.1		480	2.9		590	12.6		700	5.0
375	0.1		485	3.3		595	13.1		705	4.4
380	0.1		490	3.8		600	13.5		710	3.9
385	0.1		495	4.5		605	13.9		715	3.4
390	0.1		500	5.3		610	14.2		720	3.0
395	0.1		505	6.0		615	14.4		725	2.6
400	0.2		510	6.6		620	14.5		730	2.2
405	0.3		515	7.1		625	14.5		735	1.9
410	0.4		520	7.5		630	14.3		740	1.7
415	0.8		525	7.9		635	14.0		745	1.5
420	1.2		530	8.3		640	13.6		750	1.3
425	1.8		535	8.7		645	13.0		755	1.1
430	2.5		540	9.0		650	12.4		760	1.0
435	3.3		545	9.4		655	11.7		765	0.8
440	4.3		550	9.7		660	10.9		770	0.7
445	5.5		555	10.0		665	10.2		775	0.6
450	6.6		560	10.4		670	9.3		780	0.5
455	6.3		565	10.7		675	8.5		---	---

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

REPORT NO. 104430061CHI-005

#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	Yokogawa Power Meter	WT210	146919	7/1/2020	7/1/2021
2	Omega Thermometer	DPI8-C24	146920	10/1/2020	10/1/2021
3	LSI High Speed Mirror Goniometer	6440T	146928	VBUE	VBUE
4	Newport Thermohygrometer	iServer	146957	1/29/2021	1/29/2022
5	Pacific AC Power Supply	118-ACX	CHI0153	VBUE	VBUE
6	Newport Humidity Recorder	iServer	146961	9/3/2020	9/3/2021
7	Labsphere 2M Sphere & Spectroradiometer	CDS1100	146137	VBUE	VBUE
8	Elgar AC Power Supply	CW1251	146113	VBUE	VBUE
9	Sorenson DC Power Supply	XFR150-8	146847	VBUE	VBUE
10	Yokogawa Power Meter	WT1600	146767	4/6/2020	4/6/2021
11	Omega Thermometer	MDSi8	146873	7/1/2020	7/1/2021

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
---	None	---	---	---
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Test Configuration	Tested Model No.	Pass/Fail/NA
1	TUBL-NSP-30K-WH	NA

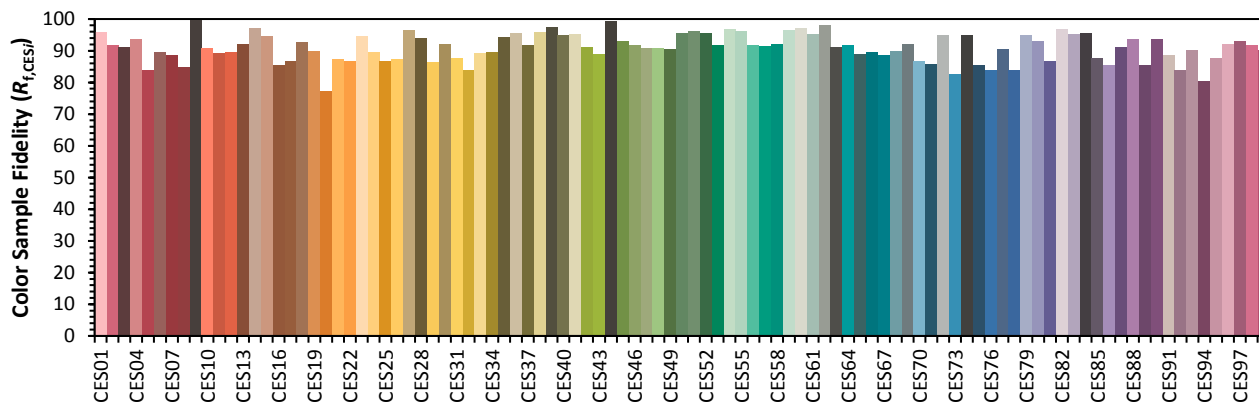
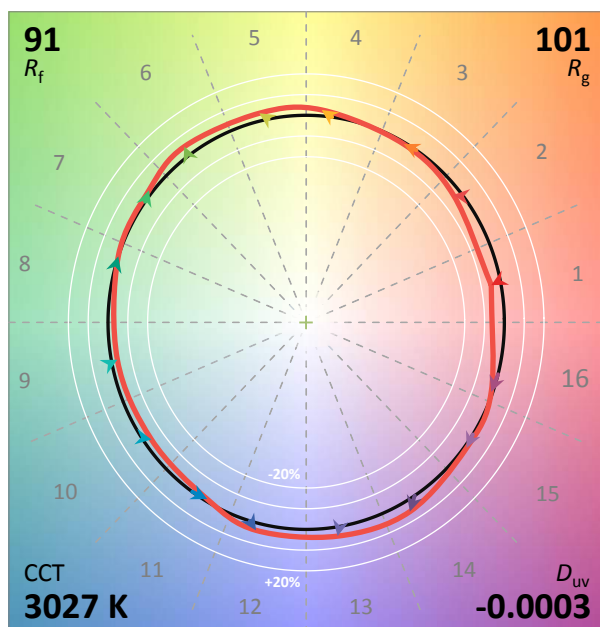
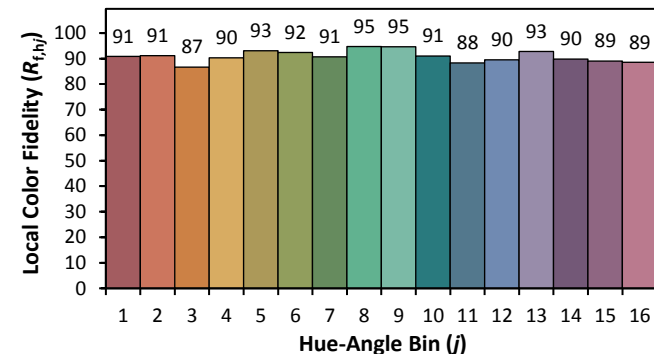
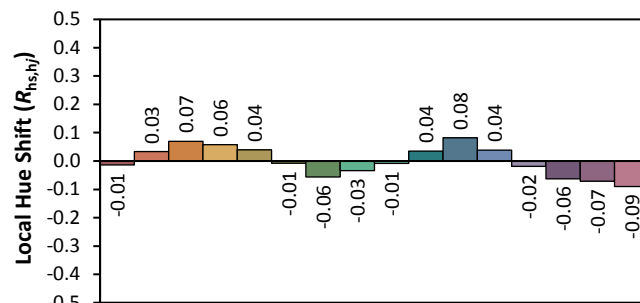
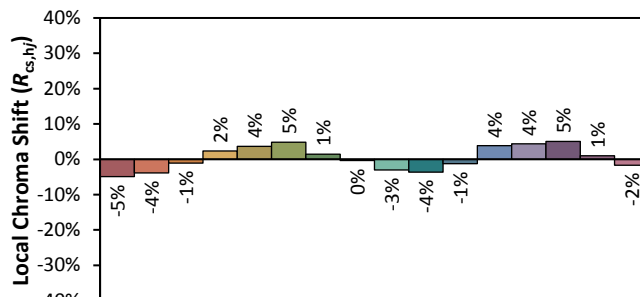
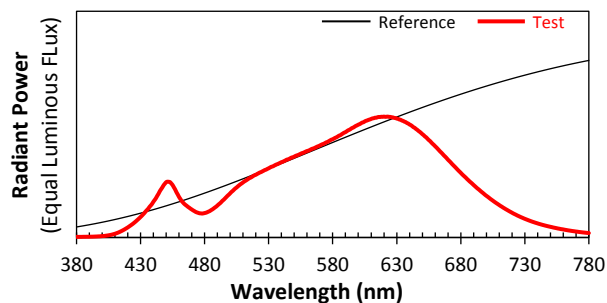
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Pure Edge Lighting

Date: 3/3/2021

Model: TUBL-NSP-30K-WH



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

x 0.4346

y 0.4024

u' 0.2498

v' 0.5204