

# PURE EDGE LIGHTING

## TEST REPORT

### SCOPE OF WORK

LED Performance Testing

### MODEL NUMBER

ST2A-24V-3-30K

### PROJECT NUMBER

G104430061

### REPORT NUMBER

104430061CHI-010

### ISSUE DATE

3/10/2021

### REVISED DATE

None

### TEST DATES

03/01/2021 through 03/04/2021.

### DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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**REPORT NUMBER**

104430061CHI-010

**MODEL NUMBER(s)**

ST2A-24V-3-30K

**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  
Lighting Division

Reviewer:



Jeff Davis  
NA Technical Lead  
Lighting Division

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## SAMPLE INFORMATION

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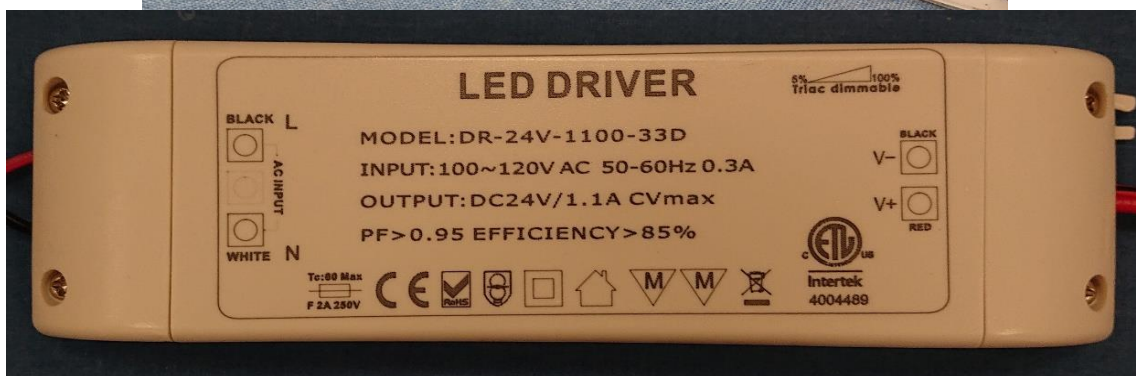
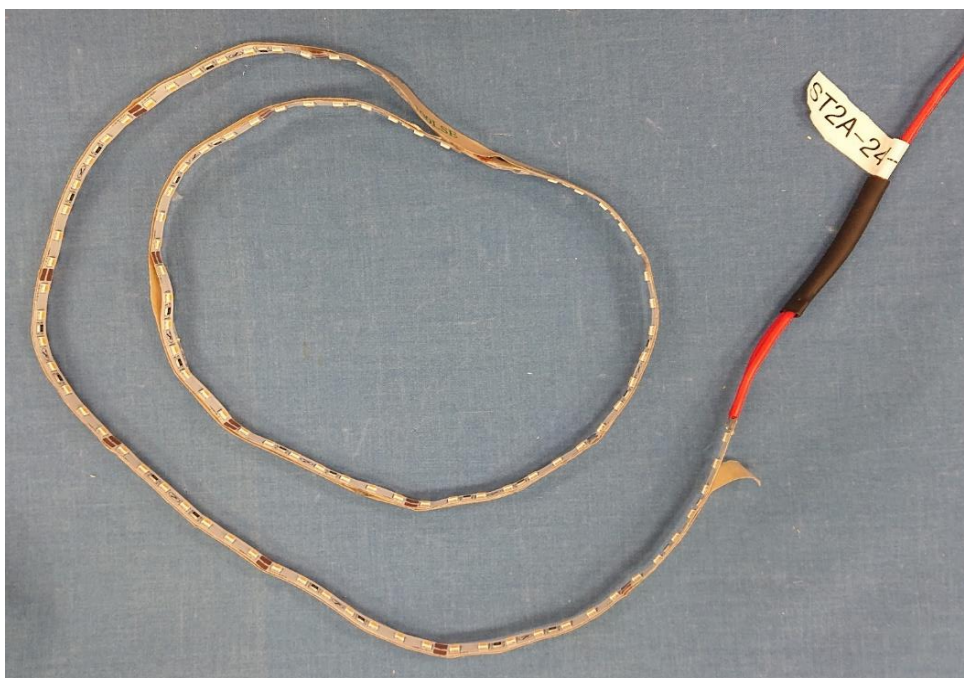
## ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH02182021102128	ST2A-24V-3-30K	LED STRIP LIGHT	Production	2/18/2021

## TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	ST2A-24V-3-30K	1

## SAMPLE PHOTOS - TESTED CONFIGURATIONS



## SUMMARY

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### PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	ST2A-24V-3-30K
Product Description:	LED STRIP LIGHT
LED Model No.:	LIANGAN/ LA-D2835P927M-3E2-00301
Driver Model No.:	HUARI/DR-24V-1100-33D
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	867.3	897.5
Input Power (W) @ 120 (Vac)	9.11	9.11
Lumen Efficacy (lm/W)	95.2	98.5
Input Power Factor ( ) @ 120 (Vac)	0.942	0.943

Criteria	Results
Input ATHD (%) @ 120 (Vac)	17.12
Correlated Color Temperature (K)	3140
Color Rendering Index - Ra ( )	92.8
Color Rendering Index - R9 ( )	64.0
Duv ( )	0.0026
Chromaticity Coordinate (x)	0.424
Chromaticity Coordinate (y)	0.394
Chromaticity Coordinate (u')	0.247
Chromaticity Coordinate (v')	0.516

### 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	ST2A-24V-3-30K	NA

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

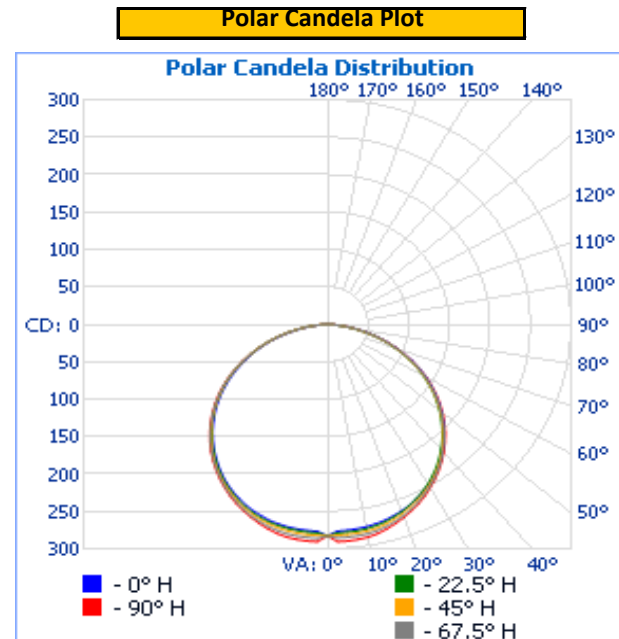
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)
Up	120.02	80.6	9.11	0.942

Light Output (lm)	Lumen Efficacy (lm/W)
867.3	95.2

**INTENSITY SUMMARY - CANDELA**

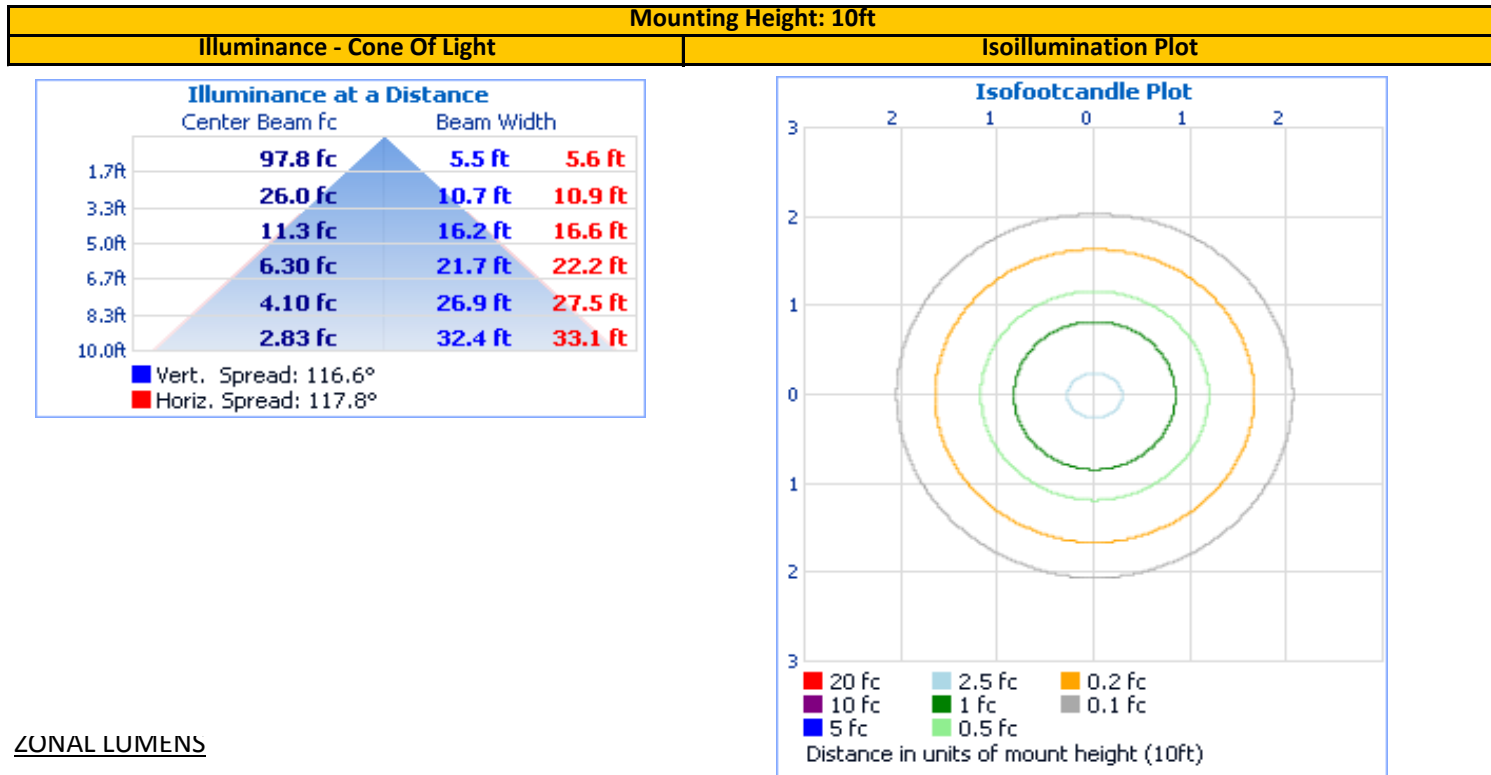
Angle	0	22.5	45	67.5	90
0	283	283	283	283	283
5	276	279	282	285	290
10	275	277	280	284	289
15	271	273	276	280	283
20	266	267	270	272	274
25	258	258	260	263	265
30	248	246	249	251	252
35	236	233	236	237	238
40	220	218	220	221	223
45	202	200	202	203	205
50	183	180	182	183	185
55	162	159	160	162	164
60	139	136	137	138	140
65	114	111	112	113	115
70	88	86	86	87	88
75	62	60	60	61	62
80	36	34	35	36	37
85	15	13	14	15	16
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	225.2	26.0%	0-10	26.9	3.1%
0-40	372.8	43.0%	10-20	78.1	9.0%
0-60	672.7	77.6%	20-30	120.2	13.9%
60-90	194.6	22.4%	30-40	147.6	17.0%
70-100	82.7	9.5%	40-50	156.0	18.0%
90-120	0.0	0.0%	50-60	143.9	16.6%
0-90	867.3	100.0%	60-70	111.9	12.9%
90-180	0.0	0.0%	70-80	65.0	7.5%
0-180	867.3	100.0%	80-90	17.7	2.0%
			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. 104430061CHI-010**

Test Configuration	Tested Model No.	Pass/Fail/NA
1	ST2A-24V-3-30K	NA

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

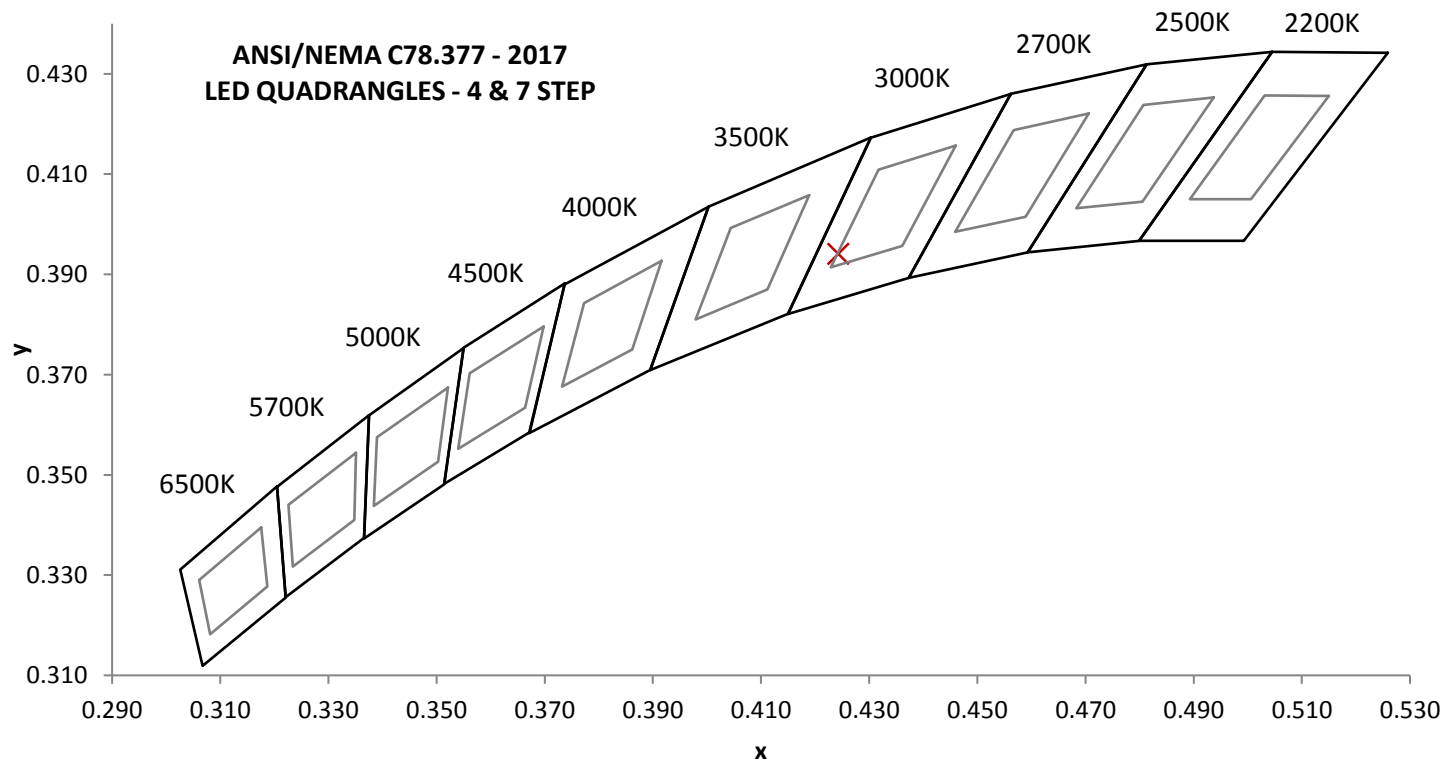
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)	Input ATHD (%)
120.03	80.5	9.11	0.943	17.12

**Measured at 120.03(Vac)**

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra (I)	CRI - R9 (I)
897.5	98.5	3140	92.8	64.0

Duv (I)	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
0.0026	0.424	0.394	0.247	0.516

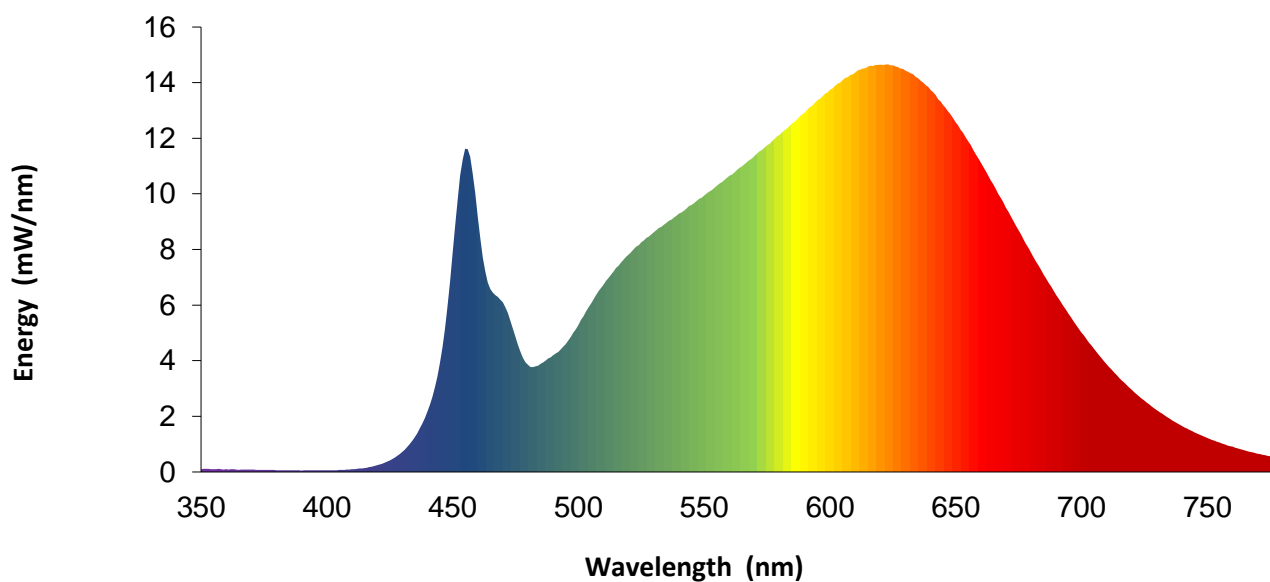


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	9.2		570	11.4		680	7.9
355	0.1		465	6.6		575	11.7		685	7.1
360	0.1		470	6.1		580	12.1		690	6.4
365	0.1		475	4.9		585	12.5		695	5.7
370	0.1		480	3.8		590	12.9		700	5.0
375	0.1		485	3.9		595	13.4		705	4.4
380	0.1		490	4.2		600	13.7		710	3.9
385	0.1		495	4.6		605	14.1		715	3.4
390	0.1		500	5.3		610	14.4		720	3.0
395	0.1		505	6.1		615	14.6		725	2.6
400	0.1		510	6.7		620	14.6		730	2.2
405	0.1		515	7.3		625	14.6		735	1.9
410	0.1		520	7.8		630	14.4		740	1.7
415	0.1		525	8.3		635	14.2		745	1.4
420	0.2		530	8.6		640	13.7		750	1.2
425	0.4		535	9.0		645	13.2		755	1.1
430	0.7		540	9.3		650	12.6		760	0.9
435	1.3		545	9.6		655	11.9		765	0.8
440	2.2		550	9.9		660	11.1		770	0.7
445	3.9		555	10.3		665	10.3		775	0.6
450	7.8		560	10.7		670	9.5		780	0.5
455	11.6		565	11.0		675	8.7		---	---

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	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	VBV	VBV
4	Newport Thermohygrometer	iServer	146957	1/29/2021	1/29/2022
5	Pacific AC Power Supply	118-ACX	CHI0153	VBV	VBV
6	Newport Humidity Recorder	iServer	146961	9/3/2020	9/3/2021
7	Labsphere 2M Sphere & Spectroradiometer	CDS1100	146137	VBV	VBV
8	Elgar AC Power Supply	CW1251	146113	VBV	VBV
9	Sorenson DC Power Supply	XFR150-8	146847	VBV	VBV
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	ST2A-24V-3-30K	NA

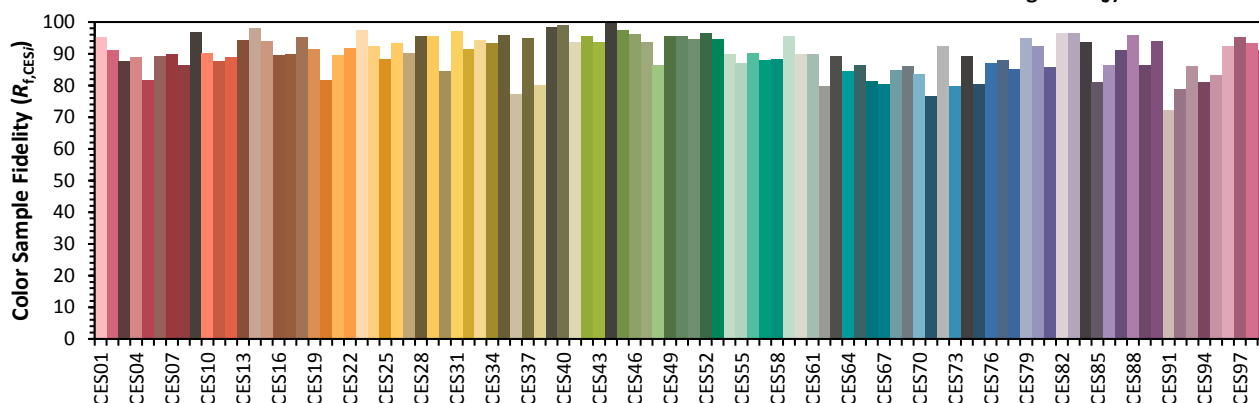
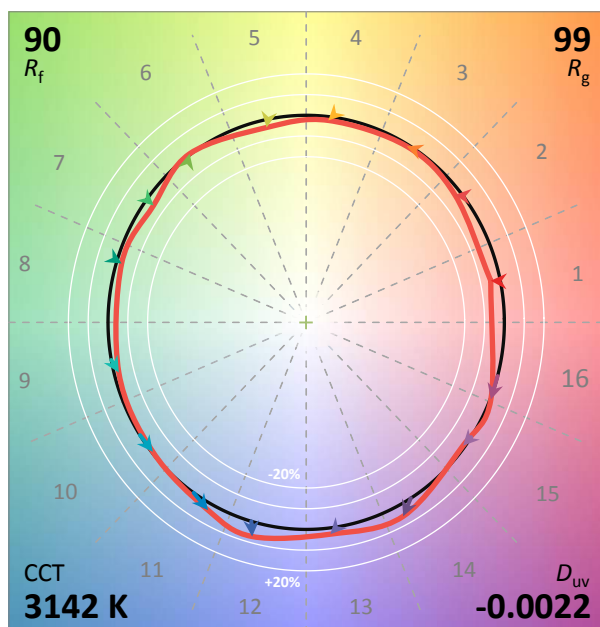
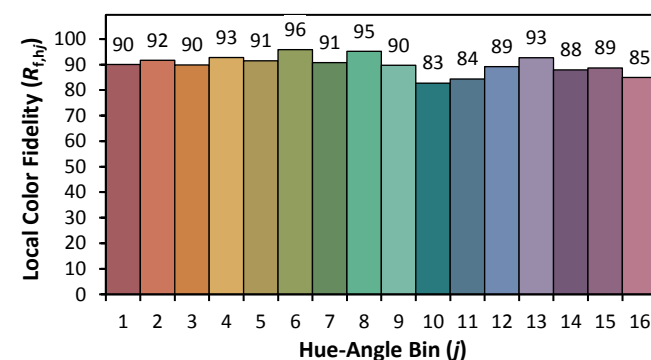
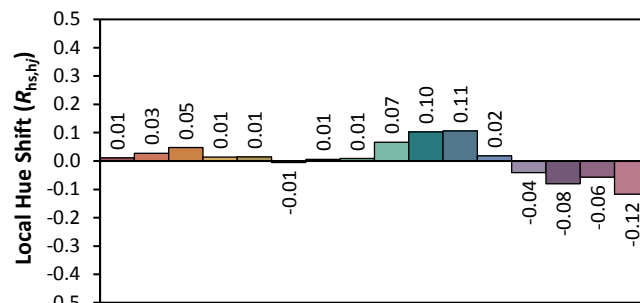
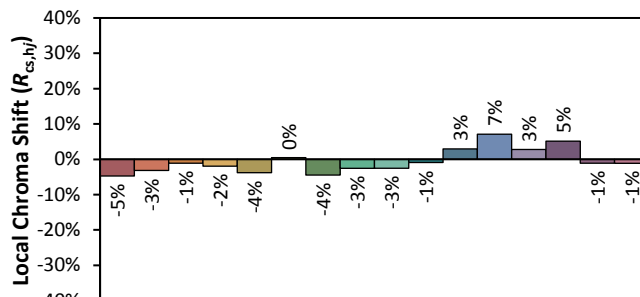
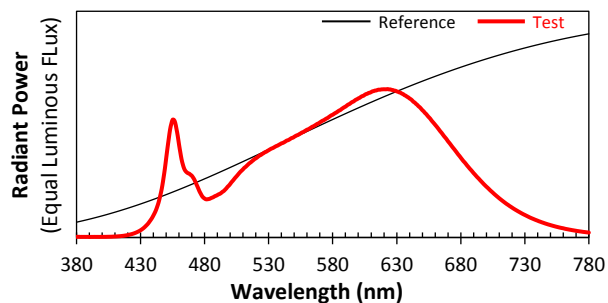
## ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Pure Edge Lighting

Date: 3/4/2021

Model: ST2A-24V-3-30K



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

 $x$  0.4243 $y$  0.3941 $u'$  0.2467 $v'$  0.5155