

# VC BRANDS LLC

## TEST REPORT

### SCOPE OF WORK

LED Performance Testing

### MODEL NUMBER

ENCY3R\*-L279WD\*D-UNV-WB

### PROJECT NUMBER

G104663946

### REPORT NUMBER

104663946CHI-001

### ISSUE DATE

4/26/2021

### REVISED DATE

None

### TEST DATES

04/21/2021 through 04/23/2021.

### DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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**REPORT NUMBER**

104663946CHI-001

**MODEL NUMBER(s)**

ENCY3R\*-L279WD\*D-UNV-WB

**REPORT RENDERED TO:**

VC BRANDS LLC  
7400 LINDER AVE  
SKOKIE, IL 60077  
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-01166088-0.

**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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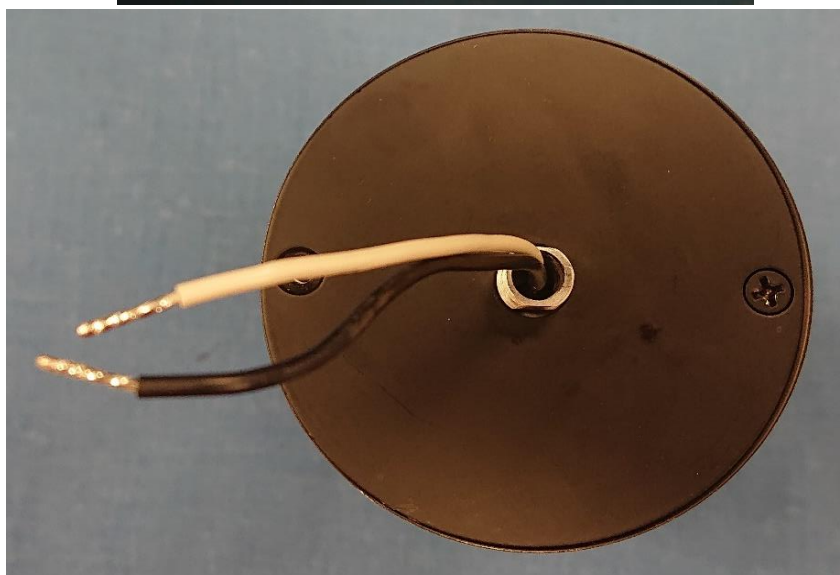
**ITEMS RECEIVED**

Item No.	Control No.	Model No.	Description	Type	Received
1	AH04192021124650	ENCY3R*-L279WD*D-UNV-WB	FIXED CYLINDERS WARM DIM	Production	4/19/2021

**TESTED SAMPLE CONFIGURATIONS**

Config No.	Tested Model No.	Item Nos. Utilized
1	ENCY3R*-L279WD*D-UNV-WB	1

**SAMPLE PHOTOS - TESTED CONFIGURATIONS**



## SUMMARY

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### PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	ENCY3R*-L279WD*D-UNV-WB
Product Description:	FIXED CYLINDERS WARM DIM
LED Model No.:	BridgeLux DS159 Vesta Series Dim-To-Warm 15mm Array
Driver Model No.:	ESS030W-0700-42
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	1870.7	1923.5
Input Power (W) @ 120 (Vac)	29.33	29.34
Lumen Efficacy (lm/W)	63.8	65.6
Input Power Factor ( ) @ 120 (Vac)	0.988	0.987

Criteria	Results
Input ATHD (%) @ 120 (Vac)	12.32
Correlated Color Temperature (K)	2849
Color Rendering Index - Ra ( )	91.3
Color Rendering Index - R9 ( )	65.1
Duv ( )	-0.0017
Chromaticity Coordinate (x)	0.445
Chromaticity Coordinate (y)	0.402
Chromaticity Coordinate (u')	0.257
Chromaticity Coordinate (v')	0.522

### 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	ENCY3R*-L279WD*D-UNV-WB	NA

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

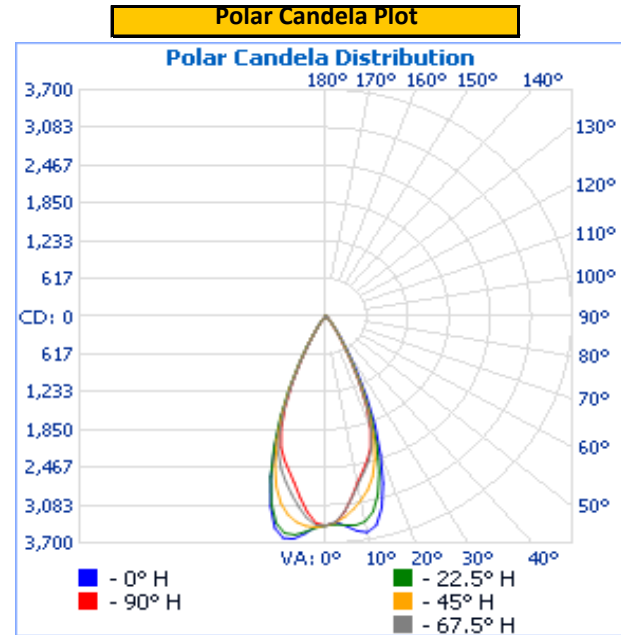
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)
Up	119.95	247.5	29.33	0.988

Light Output (lm)	Lumen Efficacy (lm/W)
1870.7	63.8

**INTENSITY SUMMARY - CANDELA**

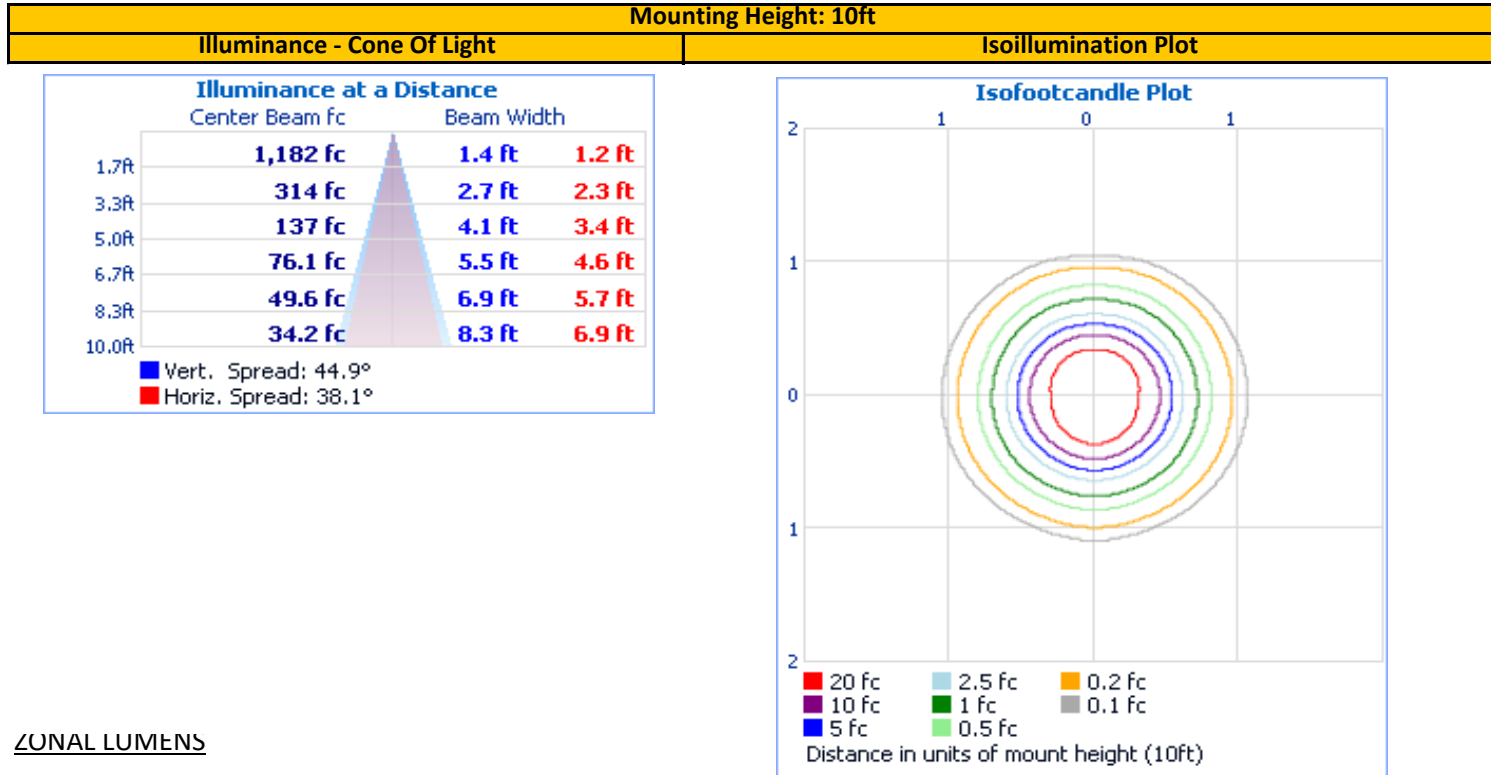
Angle	0	22.5	45	67.5	90
0	3416	3416	3416	3416	3416
5	3435	3423	3286	3201	3210
10	3581	3400	3045	2782	2754
15	3241	3016	2710	2461	2419
20	2401	2237	2104	1997	1973
25	1444	1307	1255	1205	1194
30	658	582	552	526	512
35	261	240	227	208	194
40	123	113	104	93	88
45	51	46	44	42	40
50	18	18	18	19	18
55	13	13	13	13	13
60	10	9	10	9	9
65	7	6	6	6	6
70	5	5	5	5	5
75	4	4	4	4	4
80	2	2	2	2	2
85	1	1	1	1	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



ZONAL LUMENS

Zonal Lumen Summary					
Zone	Lumens	Luminaire	Zone	Lumens	Total
0-30	1,653.2	88.4%	0-10	314.8	16.8%
0-40	1,810.0	96.8%	10-20	763.6	40.8%
0-60	1,859.0	99.4%	20-30	574.9	30.7%
60-90	11.8	0.6%	30-40	156.7	8.4%
70-100	5.1	0.3%	40-50	37.3	2.0%
90-120	0.0	0.0%	50-60	11.7	0.6%
0-90	1,870.7	100.0%	60-70	6.7	0.4%
90-180	0.0	0.0%	70-80	3.8	0.2%
0-180	1,870.7	100.0%	80-90	1.2	0.1%
			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. 104663946CHI-001**

Test Configuration	Tested Model No.	Pass/Fail/NA
1	ENCY3R*-L279WD*D-UNV-WB	NA

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

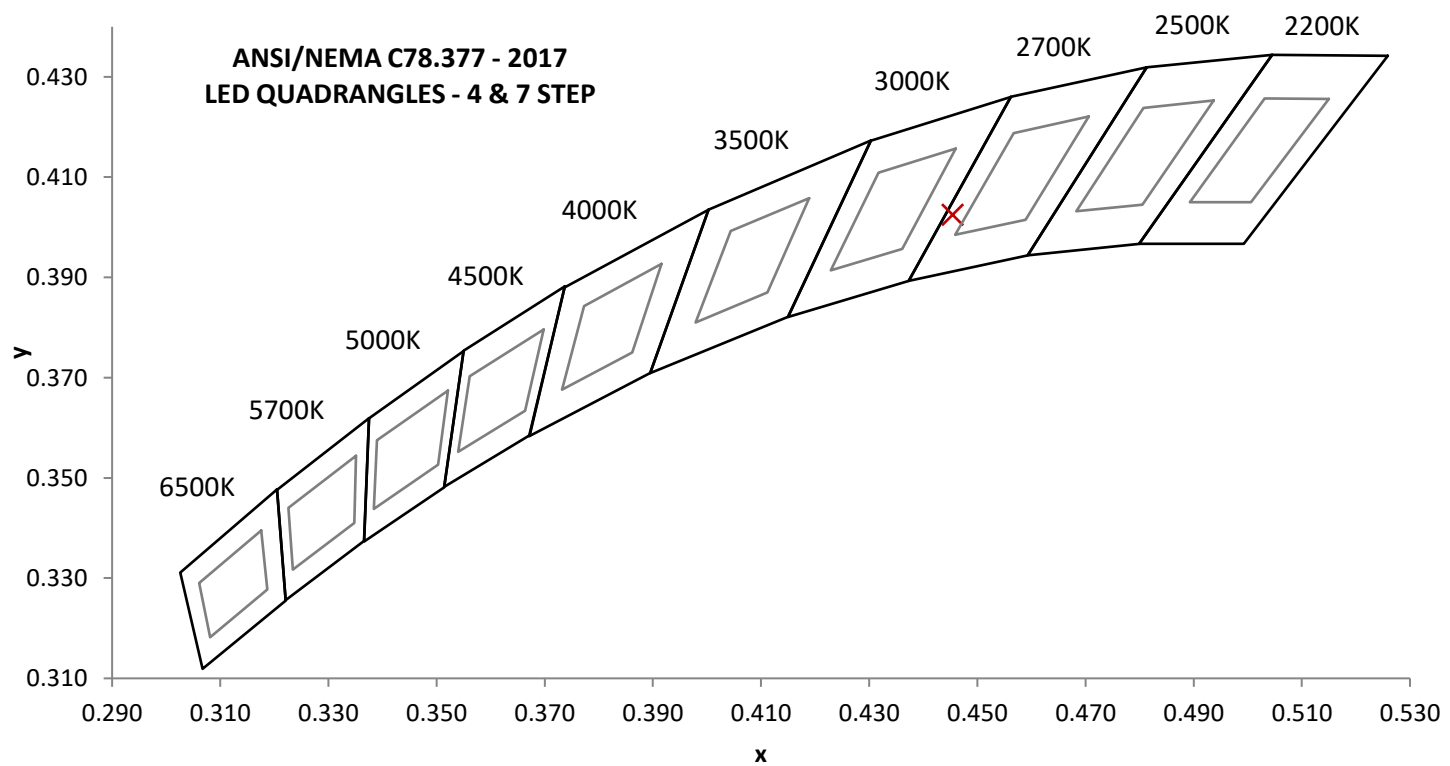
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (l)	Input ATHD (%)
119.99	247.6	29.34	0.987	12.32

Measured at 119.99(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra (l)	CRI - R9 (l)
1923.5	65.6	2849	91.3	65.1

Duv (l)	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0017	0.445	0.402	0.257	0.522

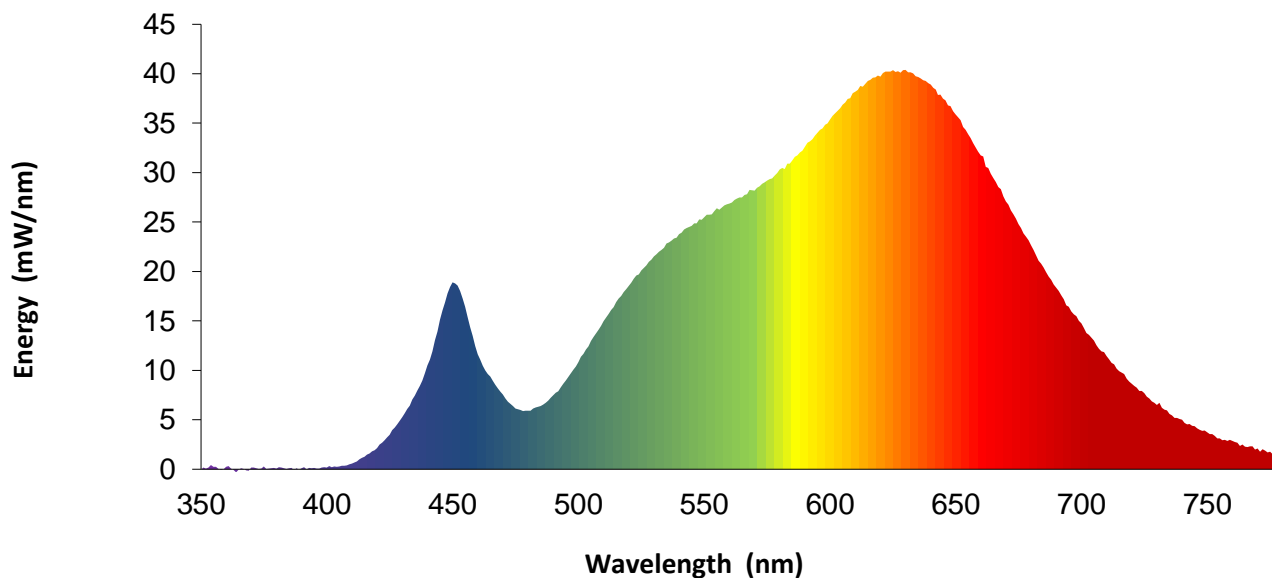


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	-0.1		460	11.6		570	28.2		680	22.6
355	0.2		465	9.4		575	29.2		685	20.4
360	0.2		470	7.5		580	30.3		690	18.3
365	-0.1		475	6.2		585	31.2		695	16.4
370	0.2		480	5.9		590	32.6		700	14.7
375	0.3		485	6.4		595	34.0		705	13.0
380	0.1		490	7.5		600	35.4		710	11.5
385	0.1		495	9.0		605	36.9		715	9.9
390	0.1		500	10.8		610	38.2		720	8.6
395	0.1		505	13.0		615	39.3		725	7.7
400	0.2		510	15.0		620	39.7		730	6.5
405	0.3		515	16.9		625	40.4		735	5.6
410	0.6		520	18.6		630	40.4		740	5.0
415	1.3		525	20.1		635	39.7		745	4.4
420	2.1		530	21.5		640	38.9		750	3.7
425	3.5		535	22.8		645	37.5		755	3.1
430	5.3		540	23.8		650	35.9		760	2.9
435	7.4		545	24.6		655	33.9		765	2.3
440	10.5		550	25.5		660	31.7		770	2.1
445	15.1		555	26.4		665	29.4		775	1.8
450	18.9		560	26.9		670	27.1		780	1.5
455	16.4		565	27.5		675	24.8		---	---

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	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 Spectroradiometer	CDS-600	146923	VBUE	VBUE
8	2M Rotating Sphere	7660-ROT	146923	VBUE	VBUE
9	Omega thermometer	USB TC08	EQAH002615	4/7/2020	4/7/2021
10	Ametek DC Power Supply	XFR150-8	1468464	VBUE	VBUE
11	Yokogawa Power Meter	WT210	146880	10/1/2020	10/1/2021
12	Chroma Power Supply	61604	CHI0371	VBUE	VBUE

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	ENCY3R*-L279WD*D-UNV-WB	NA

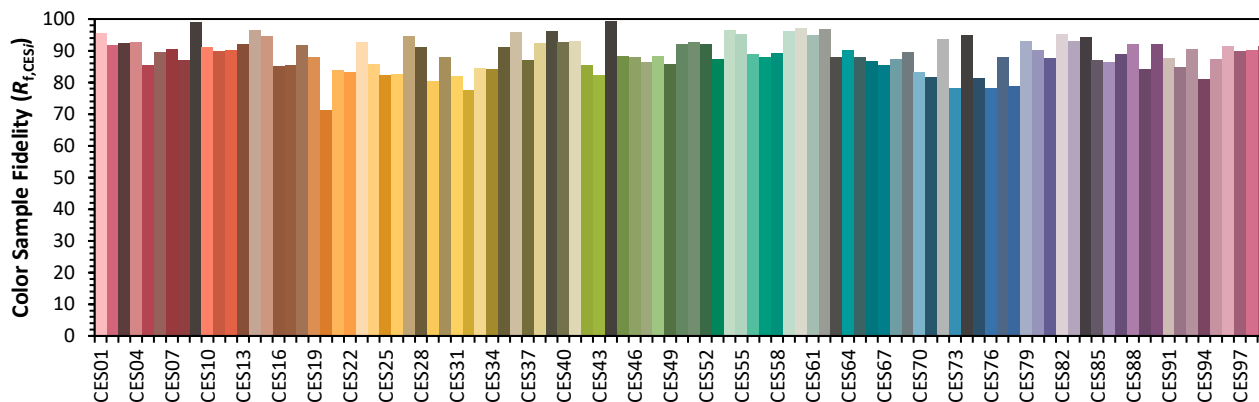
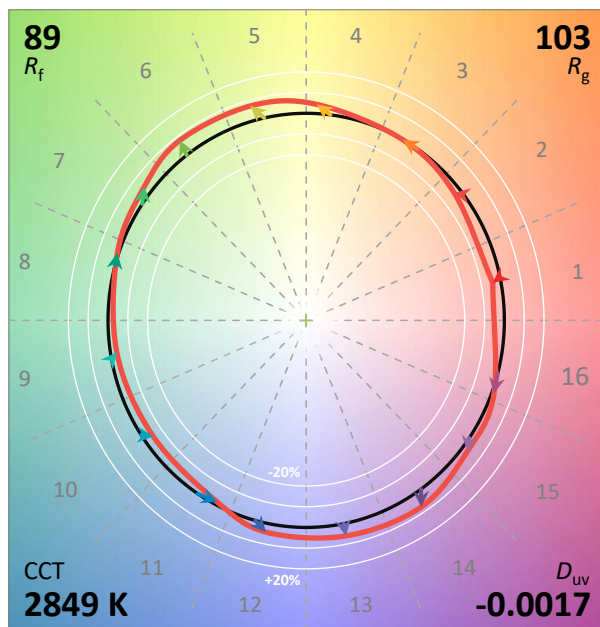
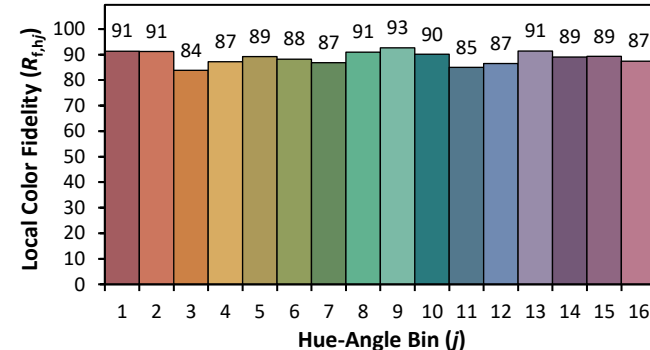
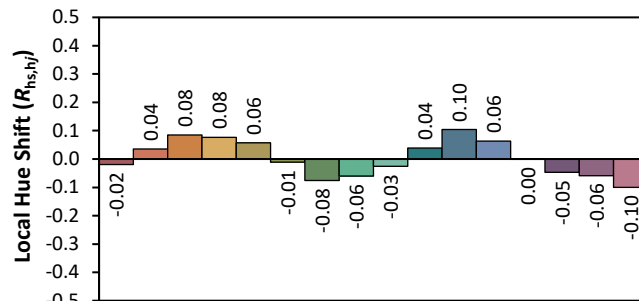
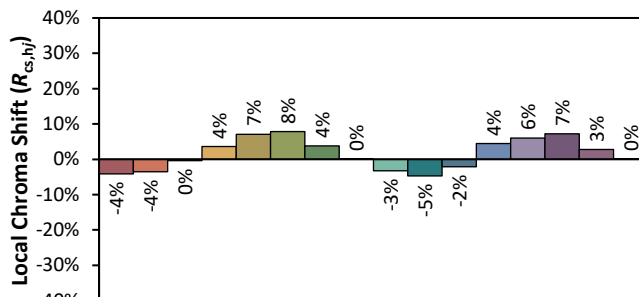
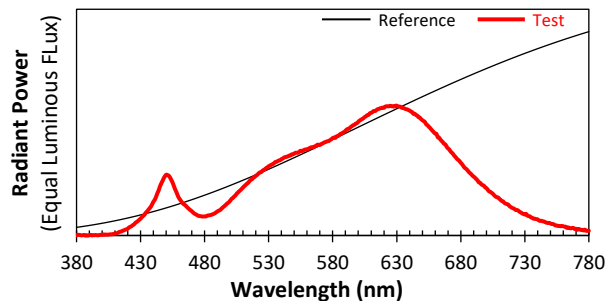
## ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: VC Brands LLC

Date: 4/21/2021

Model: ENCY3R\*-L279WD\*D-UNV-WB



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

 $x$  0.4454 $y$  0.4024 $u'$  0.2568 $v'$  0.5220