

VISUAL COMFORT AND COMPANY TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

700TDSYRGPB-LED930

PROJECT NUMBER

G105937918

REPORT NUMBER

105937918CHI-001

ISSUE DATE

8/27/2024

REVISED DATE

None

TEST DATES

2024-08-23 through 2024-08-26.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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PAGES

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REPORT NUMBER

105937918CHI-001

MODEL NUMBER(s)

700TDSYRGPB-LED930

REPORT RENDERED TO:

VISUAL COMFORT AND COMPANY
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-01387083-0.

TEST STANDARDS

IES 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

ANSI/IES TM-30-18: IES Method for Evaluating Light Source Color Rendition

In Charge of Testing:



Jehue Williams
Engineer
Lighting Division

Reviewer:



Jeff Davis
NA Technical Lead
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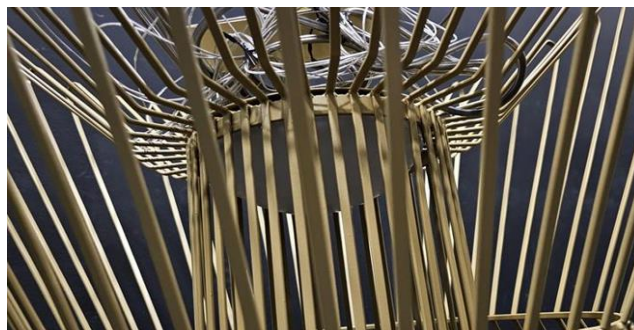
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH08222024104408	700TDSYRGPB-LED930	Syrma Grande Suspension	Production	8/22/2024

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	700TDSYRGPB-LED930	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	700TDSYRGPB-LED930
Product Description:	Syrma Grande Suspension
LED Model No.:	LUMINUS/ MP-3030-1100-30-90
Driver Model No.:	ERP/ESS020W-0700-24
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	609.1	636.2
Input Power (W) @ 120Vac (Vac)	17.07	17.05
Lumen Efficacy (lm/W)	35.7	37.3
Input Power Factor (I) @ 120Vac (Vac)	0.982	0.983

Criteria	Results
Input ATHD (%) @ 120Vac (Vac)	15.16
Correlated Color Temperature (K)	2770
Color Rendering Index - Ra (I)	93.3
Color Rendering Index - R9 (I)	64.6
Duv (I)	-0.0025
Chromaticity Coordinate (x)	0.450
Chromaticity Coordinate (y)	0.402
Chromaticity Coordinate (u')	0.260
Chromaticity Coordinate (v')	0.522
Input Power (W) @ (Vac)	17.49
Input Power Factor (I) @ (Vac)	0.942
Input ATHD (%) @ (Vac)	14.90

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.

*ANSI/IES Technical Memorandums (TM) reported are not NVLAP accredited

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

REPORT NO. 105937918CHI-001

Test Configuration	Tested Model No.	Pass/Fail/NA
1	700TDSYRGPB-LED930	NA

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

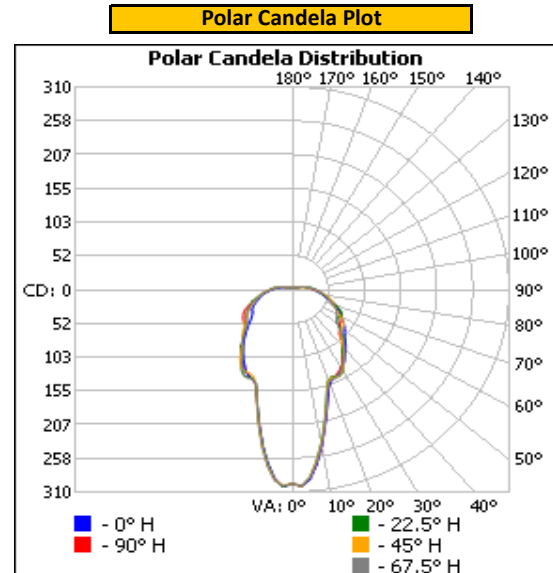
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up	120.02	144.8	17.07	0.982

Light Output (lm)	Lumen Efficacy (lm/W)
609.1	35.7

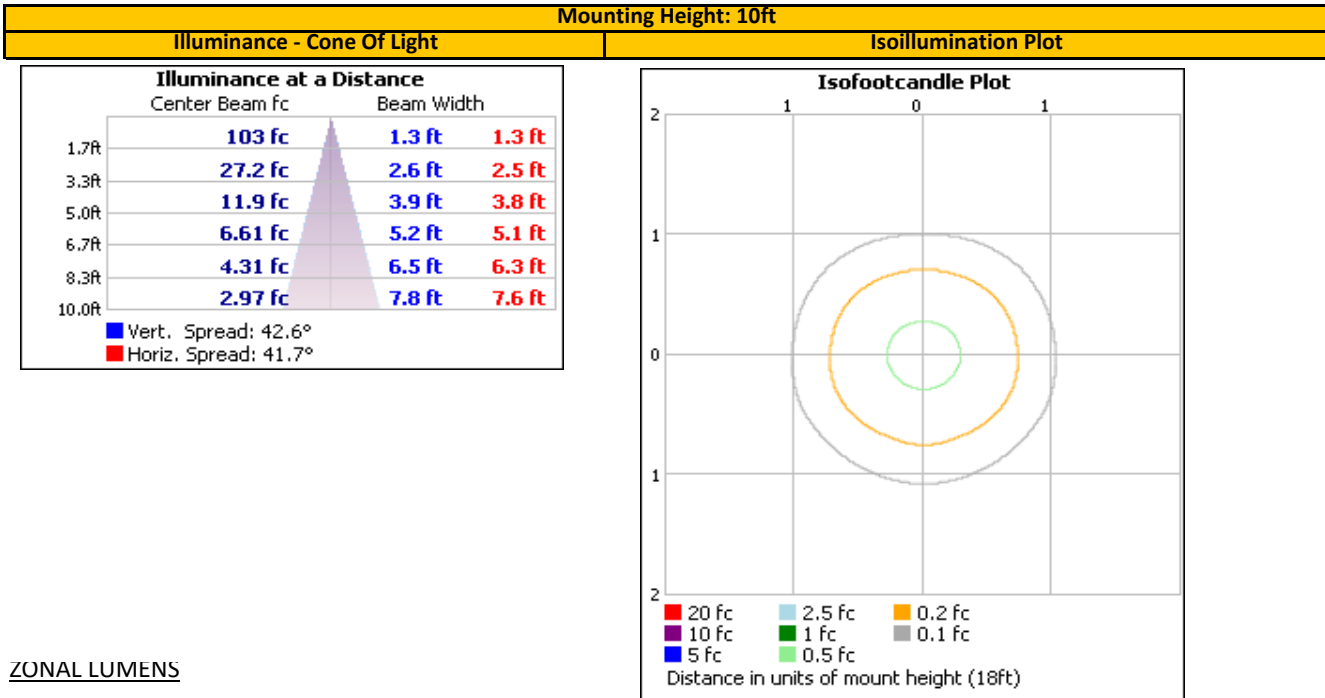
INTENSITY SUMMARY - CANDELA

Angle	0	22.5	45	67.5	90
0	297	297	297	297	297
5	292	288	289	289	290
10	243	238	240	241	243
15	192	185	187	188	191
20	155	148	150	153	154
25	148	146	147	149	145
30	141	145	143	140	138
35	131	126	130	129	125
40	119	111	113	117	113
45	107	105	98	102	95
50	98	87	93	86	89
55	90	79	90	77	85
60	80	81	79	73	81
65	73	76	68	68	74
70	62	64	61	60	65
75	53	54	57	55	53
80	44	46	49	47	45
85	37	39	40	41	39
90	30	34	32	34	30
95	25	28	25	28	26
100	21	21	20	20	21
105	17	16	15	16	16
110	13	11	11	12	11
115	8	8	8	8	7
120	6	6	6	5	6
125	5	5	5	5	5
130	4	4	4	4	4
135	4	4	4	4	4
140	4	3	3	4	4
145	3	3	3	3	3
150	3	3	3	3	3
155	3	3	3	3	3
160	3	3	3	3	3
165	3	2	3	3	3
170	3	2	2	2	2
175	3	2	2	2	3
180	1	1	1	1	1

Entire luminous intensity matrix found in .IES file



ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary					
Zone	Lumens	Luminaire	Zone	Lumens	Total
0-30	146.8	24.1%	90-100	28.6	4.7%
0-40	226.3	37.2%	100-110	16.9	2.8%
0-60	376.6	61.8%	110-120	8.0	1.3%
60-90	167.4	27.5%	120-130	4.3	0.7%
70-100	127.2	20.9%	130-140	3.0	0.5%
90-120	53.5	8.8%	140-150	2.1	0.3%
0-90	543.9	89.3%	150-160	1.3	0.2%
90-180	65.2	10.7%	160-170	0.7	0.1%
0-180	609.1	100.0%	170-180	0.2	0.0%

Test Configuration	Tested Model No.	Pass/Fail/NA
1	700TDSYRGPB-LED930	NA

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

Base Orientation
Up

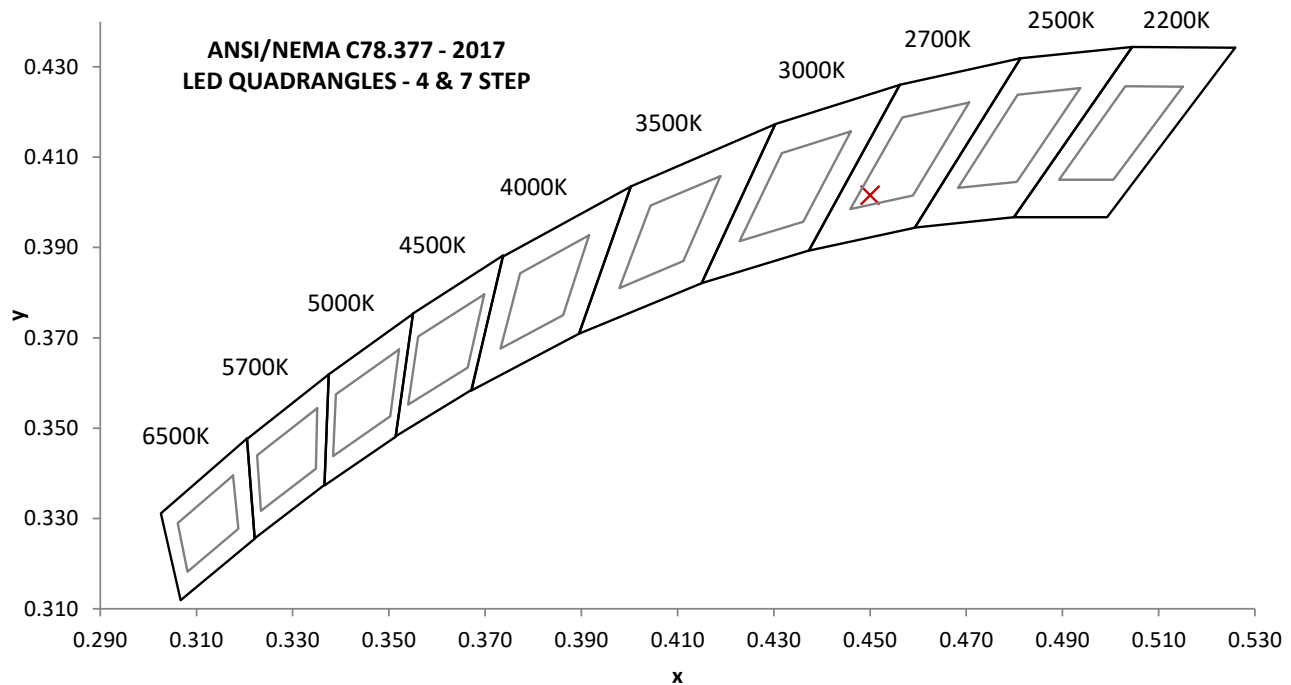
Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (l)	Input ATHD (%)
120.00	144.5	17.05	0.983	15.16
277.05	67.0	17.49	0.942	14.90

Measured at 120(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra (l)	CRI - R9 (l)
636.2*	37.3	2770	93.3	64.6

*Measurement uncertainty is increased due to the size of the sample in the sphere.

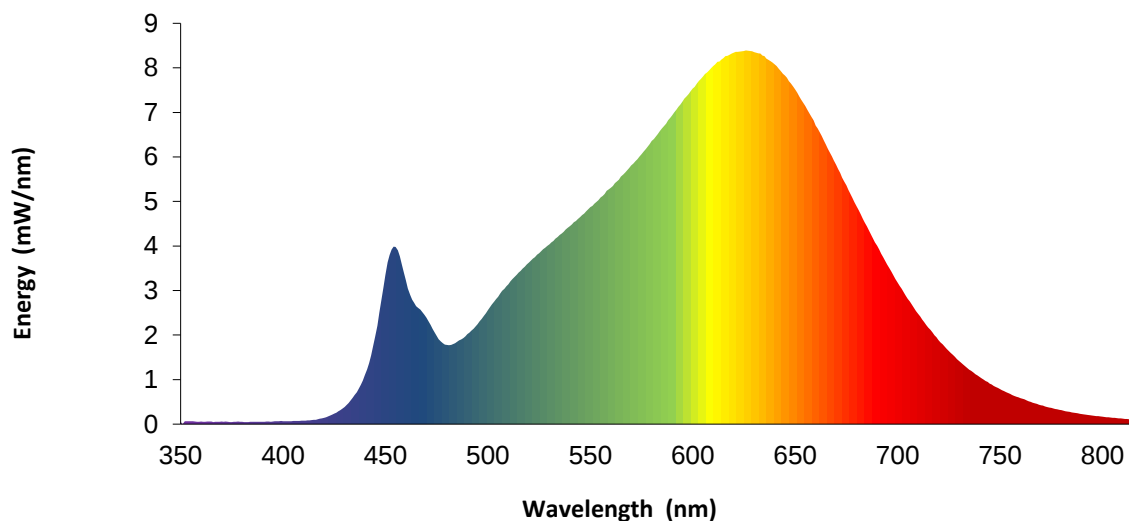
Duv (l)	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0025	0.450	0.402	0.260	0.522



SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	3.2		570	5.8		680	4.9
355	0.1		465	2.6		575	6.1		685	4.4
360	0.1		470	2.4		580	6.4		690	4.0
365	0.1		475	2.0		585	6.6		695	3.6
370	0.1		480	1.8		590	6.9		700	3.2
375	0.0		485	1.8		595	7.2		705	2.8
380	0.1		490	2.0		600	7.5		710	2.5
385	0.1		495	2.2		605	7.8		715	2.2
390	0.1		500	2.6		610	8.0		720	1.9
395	0.1		505	2.9		615	8.2		725	1.6
400	0.1		510	3.1		620	8.3		730	1.4
405	0.1		515	3.4		625	8.4		735	1.2
410	0.1		520	3.6		630	8.4		740	1.1
415	0.1		525	3.8		635	8.3		745	0.9
420	0.1		530	4.0		640	8.1		750	0.8
425	0.2		535	4.2		645	7.8		755	0.7
430	0.4		540	4.4		650	7.5		760	0.6
435	0.7		545	4.7		655	7.1		765	0.5
440	1.1		550	4.9		660	6.7		770	0.4
445	2.0		555	5.1		665	6.3		775	0.4
450	3.3		560	5.3		670	5.8		780	0.3
455	4.0		565	5.6		675	5.4		---	---

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



Total Quality. Assured.

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EQUIPMENT LIST

REPORT NO. 105937918CHI-001

#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	Yokogawa Power Meter	WT310E	CHI0664	4/2/2024	4/2/2025
2	Omega Thermometer	DPI8-C24	146920	10/9/2023	10/9/2024
3	LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV
4	Omega Thermohygrometer	OM-CP-RFPRHTEMP2000A	CHI0764	3/14/2024	3/14/2025
5	Chroma Power Supply	61604	CHI0371	VBV	VBV
8	Omega Thermohygrometer	OM-CP-RFPRHTEMP2000A	CHI0727	3/14/2024	3/14/2025
9	Labsphere Spectroradiometer	CDS2600	CHI0539	VBV	VBV
10	3 Meter Sphere	SPR600	CHI0088	VBV	VBV
11	Elgar AC Power Supply	CW1251	146112	VBV	VBV
12	Sorenson DC Power Supply	XFR150-8	146846	VBV	VBV
13	Yokogawa Power Meter	WT1600	146770	10/11/2023	10/11/2024
17	Omega thermometer	USB TC08	EQAH002615	4/5/2024	4/5/2025
26	Xitron Power Analyzer	XT2640	CHI0611	7/17/2024	7/17/2025

Note: Standard sources listed above are traceable to NIST: National Institute of Standards and Technology

REVISION HISTORY

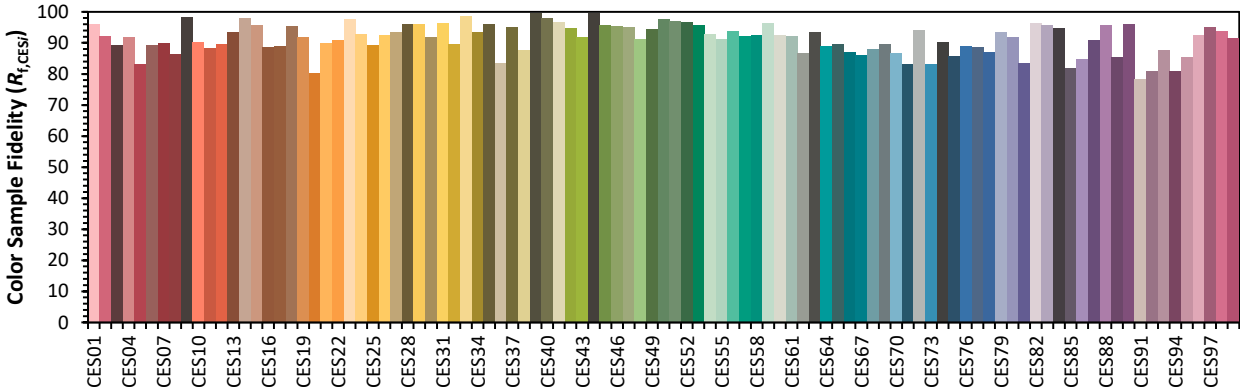
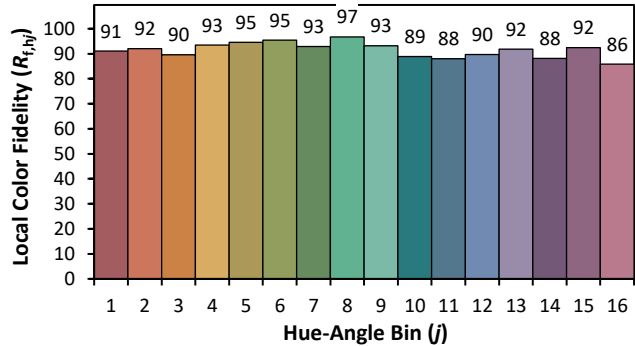
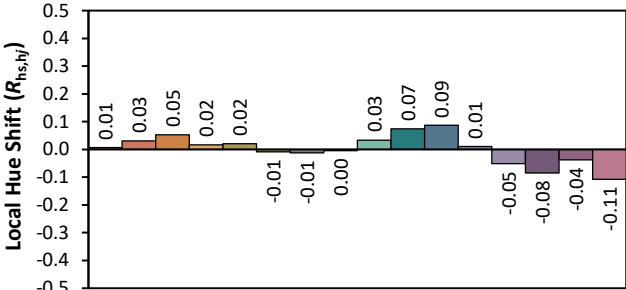
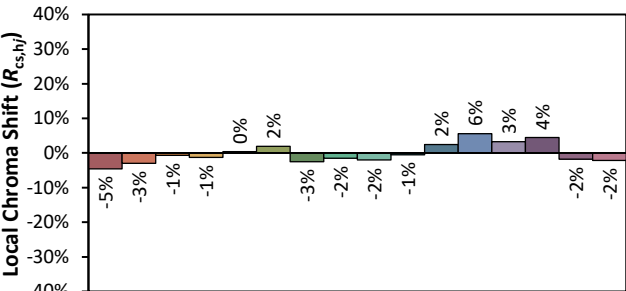
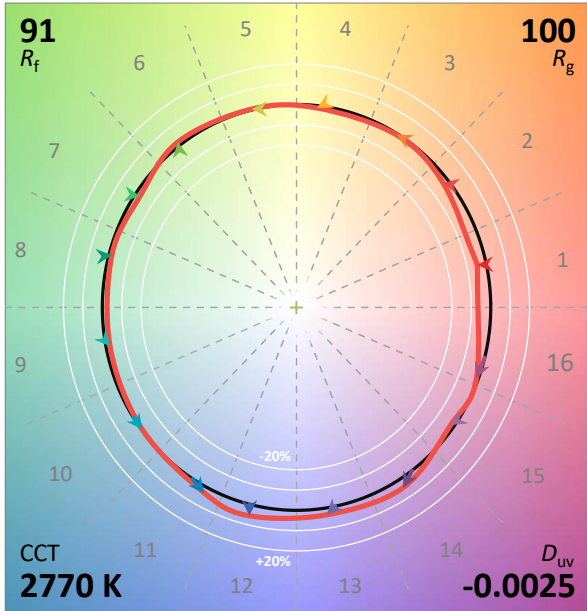
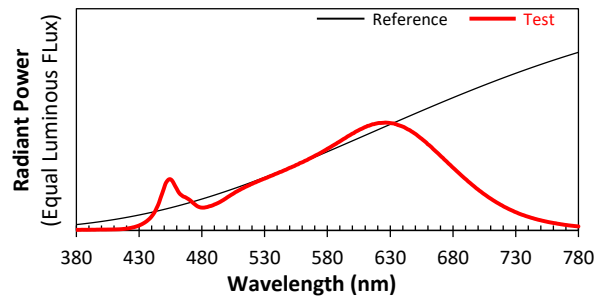
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Test Configuration	Tested Model No.	Pass/Fail/NA
1	700TDSYRGPB-LED930	NA

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
Date: 8/26/2024

Manufacturer: VISUAL COMFORT AND COMPANY
Model: 700TDSYRGPB-LED930



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

x 0.4501
y 0.4015
u' 0.2602
v' 0.5223