



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
610-774-1300



Photometric Test Report

Relevant Standards

IES LM-79-2008, ANSI C82.77-10-2014, CIE 13.3-1995
CIE 15-2004, ANSI C78.377-2017, IES TM-30-2018

Prepared For

RBW Studio LLC

67 34th St, Mailbox 5, Unit 6A
Brooklyn, NY 11232
United States

Catalog Number

Radiant Square 8"

Order Number

14026619

Test Number

14026619.04

Test Date

2021-10-11

Prepared By

Cordaryl Cousar, Technician

Approved By

Kevin Rodriguez, Project Handler

The results contained in this report pertain only to the tested sample.

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Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the 4π geometry method.

Absorption correction was employed for Sphere measurement



Luminaire Description: Decorative white oak wall sconce with aluminum heat sink and frosted plastic diffuser
Lamp: 36 white LEDs
Mounting: Surface – Wall
Ballast/Driver: One ERP ESS010W-0200-42 LED driver

Luminaire



Luminaire Characteristics

Luminous Length: 1.88 in.
Luminous Width: 6.500 in.
Luminous Height: 6.50 in.

Summary of Results

Integrating Sphere

Luminous Flux: 434.9 Lumens
Efficacy: 54.82 lm/w
CCT: 2666 K
CRI (Ra): 94.9

Distribution

Total Luminaire Output: 445.1 Lumens
Luminaire Efficacy: 56 lm/w
Maximum Candela: 75 Candela

Electrical Data at 120 VAC

Test Temperature: 24.6 °C
Voltage: 120.1 VAC
Current: 0.06732 A
Power: 7.933 W
Power Factor: 0.981
Frequency: 60 Hz
Current THD: 12.9 %



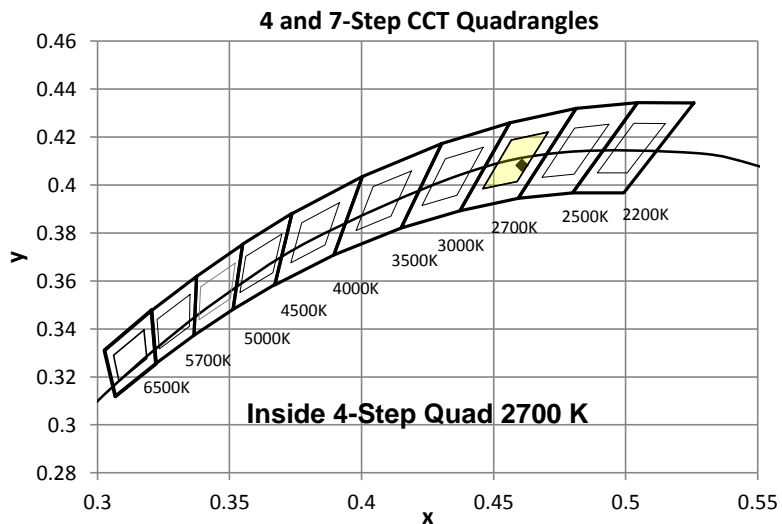
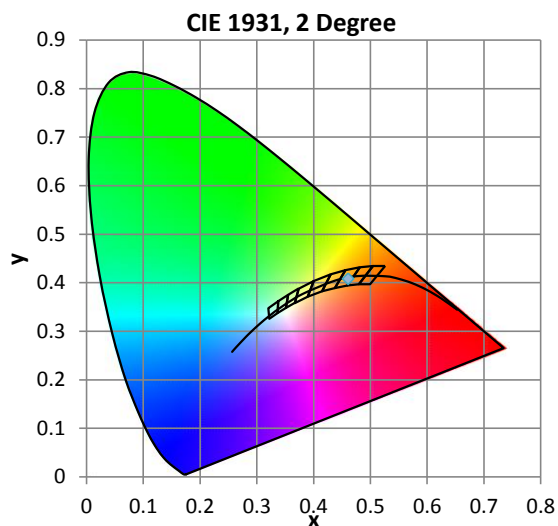
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.1 VAC	0.06732 A	7.933 W	0.981	60 Hz	12.9 %

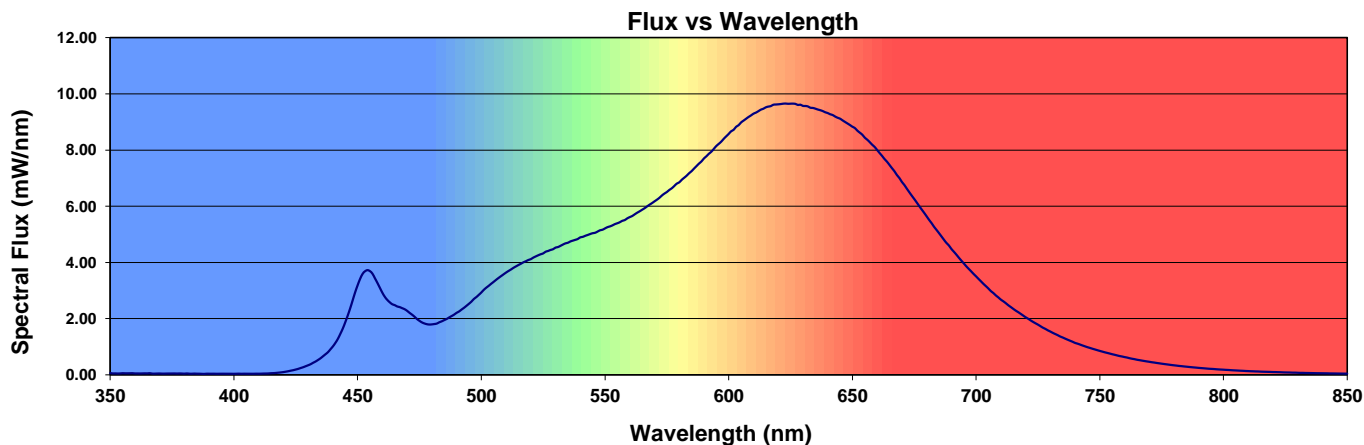
Summary of Results

Total Output:	435 Lumens	Chromaticity (x):	0.4608
Efficacy:	54.8 lm/w	Chromaticity (y):	0.4082
CCT:	2666 K	Chromaticity (u'):	0.2642
CRI (Ra):	94.9	Chromaticity (v'):	0.5266
CRI (R9):	67.5	TM-30 Rf:	93
Peak Wavelength:	624 nm	TM-30 Rg:	100
Dominant Wavelength:	585 nm	TM-30 Rcs,h1:	-4%
S/P Ratio:	1.3	Duv:	-0.0010
M/P Ratio:	0.49	WELL Building Standard v2	



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
94.9	96.1	98.9	98.8	95.9	96.3	97.0	92.1	84.4	67.5	96.8	97.8	86.8	97.3	99.3	92.1





Distribution - Goniophotometer

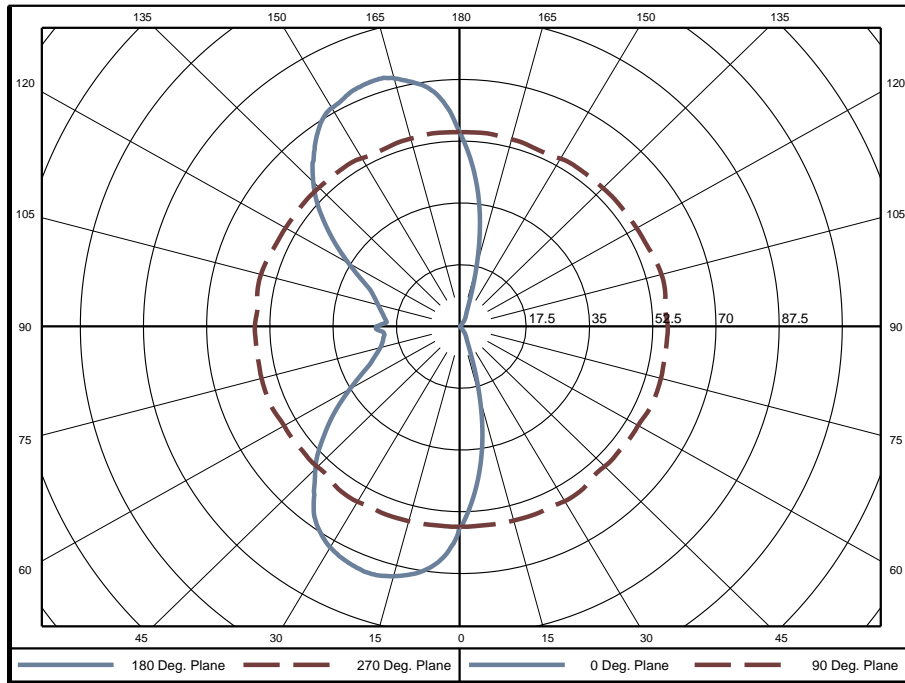
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.0 VAC	0.06742 A	7.942 W	0.981	60 Hz	12.9 %

Summary of Results

Spacing Criteria	Total Lumen Output:	445.1 Lumens
0-180: 0.41	Luminaire Efficacy:	56.0 lm/w
90-270: 1.53	Maximum Candela:	75 Candela
Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)		
Crosswise: 0	Endwise: 20.6	

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	1.36	0.3%	60-65	15.84	3.6%	120-125	15.64	3.5%
5-10	3.98	0.9%	65-70	15.97	3.6%	125-130	15.46	3.5%
10-15	6.30	1.4%	70-75	15.96	3.6%	130-135	15.08	3.4%
15-20	8.21	1.8%	75-80	15.89	3.6%	135-140	14.43	3.2%
20-25	9.84	2.2%	80-85	15.85	3.6%	140-145	13.60	3.1%
25-30	11.35	2.5%	85-90	15.92	3.6%	145-150	12.49	2.8%
30-35	12.79	2.9%	90-95	15.70	3.5%	150-155	11.01	2.5%
35-40	13.81	3.1%	95-100	15.72	3.5%	155-160	9.53	2.1%
40-45	14.45	3.2%	100-105	15.90	3.6%	160-165	7.98	1.8%
45-50	15.11	3.4%	105-110	15.89	3.6%	165-170	6.14	1.4%
50-55	15.51	3.5%	110-115	15.77	3.5%	170-175	3.90	0.9%
55-60	15.72	3.5%	115-120	15.70	3.5%	175-180	1.33	0.3%

Zone	Lumens	% of Luminaire
0-40	68	15.2%
0-60	128	28.9%
0-90	224	50.3%
90-180	221	49.7%



Candela Tabulation

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)															
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	56.83	56.83	56.83	56.83	56.83	56.83	56.83	56.83	56.83	56.83	56.83	56.83	56.83	56.83	56.83	56.83
5	46.84	46.27	48.97	52.38	56.67	61.28	64.33	65.91	67.02	65.91	64.33	61.28	56.67	52.38	48.97	46.27
10	34.28	34.67	40.51	48.11	56.78	65.00	68.98	70.63	71.14	70.63	68.98	65.00	56.78	48.11	40.51	34.67
15	20.31	21.85	30.97	43.52	56.89	67.82	71.66	73.07	73.28	73.07	71.66	67.82	56.89	43.52	30.97	21.85
20	9.38	10.96	20.80	38.51	56.97	69.88	73.38	74.22	74.20	74.22	73.38	69.88	56.97	38.51	20.80	10.96
25	4.97	5.66	11.94	32.92	56.81	71.19	74.15	73.98	73.45	73.98	74.15	71.19	56.81	32.92	11.94	5.66
30	3.46	3.82	6.76	27.31	57.11	72.78	74.88	73.32	71.82	73.32	74.88	72.78	57.11	27.31	6.76	3.82
35	2.45	2.80	4.48	21.52	57.00	73.64	74.60	71.11	68.47	71.11	74.60	73.64	57.00	21.52	4.48	2.80
40	1.24	1.73	3.51	16.00	55.98	72.92	72.42	66.55	62.08	66.55	72.42	72.92	55.98	16.00	3.51	1.73
45	0.46	0.71	2.82	11.86	55.85	73.13	70.80	62.10	55.97	62.10	70.80	73.13	55.85	11.86	2.82	0.71
50	0.38	0.46	2.04	9.18	55.86	73.45	69.11	57.29	48.86	57.29	69.11	73.45	55.86	9.18	2.04	0.46
55	0.35	0.43	1.05	7.75	56.00	73.74	67.30	51.64	41.64	51.64	67.30	73.74	56.00	7.75	1.05	0.43
60	0.32	0.40	0.56	6.94	55.96	73.67	65.15	45.60	34.33	45.60	65.15	73.67	55.96	6.94	0.56	0.40
65	0.31	0.39	0.47	6.51	56.52	74.31	63.66	40.28	28.29	40.28	63.66	74.31	56.52	6.51	0.47	0.39
70	0.30	0.40	0.42	6.25	56.67	74.35	61.99	35.46	24.78	35.46	61.99	74.35	56.67	6.25	0.42	0.40
75	0.29	0.40	0.40	6.07	56.60	73.94	60.50	31.34	22.44	31.34	60.50	73.94	56.60	6.07	0.40	0.40
80	0.29	0.40	0.40	5.95	56.36	73.55	59.01	28.42	21.33	28.42	59.01	73.55	56.36	5.95	0.40	0.40
85	0.32	0.42	0.41	5.91	56.37	73.42	58.20	26.96	20.91	26.96	58.20	73.42	56.37	5.91	0.41	0.42
90	0.32	0.43	0.41	5.92	56.50	73.48	57.90	26.37	22.96	26.37	57.90	73.48	56.50	5.92	0.41	0.43
95	0.35	0.49	0.48	5.69	55.99	72.07	57.41	26.36	20.34	26.36	57.41	72.07	55.99	5.69	0.48	0.49
100	0.35	0.49	0.50	5.78	56.63	73.12	58.99	28.24	21.54	28.24	58.99	73.12	56.63	5.78	0.50	0.49
105	0.34	0.49	0.52	5.88	56.73	73.54	60.47	31.07	23.10	31.07	60.47	73.54	56.73	5.88	0.52	0.49
110	0.35	0.50	0.56	5.99	56.31	73.40	61.86	34.79	25.09	34.79	61.86	73.40	56.31	5.99	0.56	0.50
115	0.36	0.51	0.60	6.18	55.71	73.07	63.01	39.44	28.60	39.44	63.01	73.07	55.71	6.18	0.60	0.51
120	0.37	0.52	0.67	6.56	55.53	73.18	65.07	45.14	34.77	45.14	65.07	73.18	55.53	6.56	0.67	0.52
125	0.39	0.54	1.13	7.22	55.40	73.30	67.34	51.31	42.17	51.31	67.34	73.30	55.40	7.22	1.13	0.54
130	0.42	0.57	2.09	8.45	55.39	73.43	69.43	57.26	49.79	57.26	69.43	73.43	55.39	8.45	2.09	0.57
135	0.47	0.86	2.89	10.73	55.24	73.21	71.21	62.21	56.73	62.21	71.21	73.21	55.24	10.73	2.89	0.86
140	1.09	1.86	3.53	14.53	55.14	72.82	72.71	66.63	62.39	66.63	72.71	72.82	55.14	14.53	3.53	1.86
145	2.25	2.86	4.34	19.66	55.16	72.36	73.67	70.18	67.73	70.18	73.67	72.36	55.16	19.66	4.34	2.86
150	3.21	3.77	6.31	25.21	54.84	71.11	73.58	72.17	71.15	72.17	73.58	71.11	54.84	25.21	6.31	3.77
155	4.30	5.49	10.85	30.78	54.31	69.28	72.58	72.71	72.55	72.71	72.58	69.28	54.31	30.78	10.85	5.49
160	7.72	10.59	19.13	36.47	54.60	68.06	72.08	73.20	73.46	73.20	72.08	68.06	54.60	36.47	19.13	10.59
165	16.93	21.18	29.20	41.75	54.85	66.30	70.64	72.46	72.93	72.46	70.64	66.30	54.85	41.75	29.20	21.18
170	30.86	34.09	38.90	46.65	55.06	63.62	68.23	70.43	70.06	70.43	68.23	63.62	55.06	46.65	38.90	34.09
175	43.91	45.84	47.60	51.02	55.10	59.89	63.51	66.03	65.42	66.03	63.51	59.89	55.10	51.02	47.60	45.84
180	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	7228	7228	7228
45	18	122	5023
55	13	42	5113
65	11	18	5409
75	10	15	5877
85	11	16	6618



Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as percent of total lumen output delivered to the task surface **																	
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	95	89	84	79	87	82	77	73	68	65	62	56	53	51	45	43	41	36
2	85	76	69	62	78	70	63	58	58	53	49	48	44	41	38	35	32	28
3	77	66	57	51	70	61	53	47	51	45	40	41	37	33	33	29	27	22
4	70	58	49	42	64	53	45	39	44	38	33	36	32	28	29	25	22	18
5	64	51	42	36	58	47	39	33	39	33	28	32	27	24	26	22	19	16
6	59	46	37	31	54	42	34	29	35	29	24	29	24	20	23	19	16	13
7	54	41	33	27	50	38	30	25	32	26	21	26	22	18	21	17	14	12
8	50	37	29	23	46	34	27	22	29	23	19	24	19	16	19	16	13	10
9	47	34	26	21	43	31	24	19	27	21	17	22	17	14	18	14	12	9
10	44	31	23	18	40	29	22	17	24	19	15	20	16	13	17	13	10	8

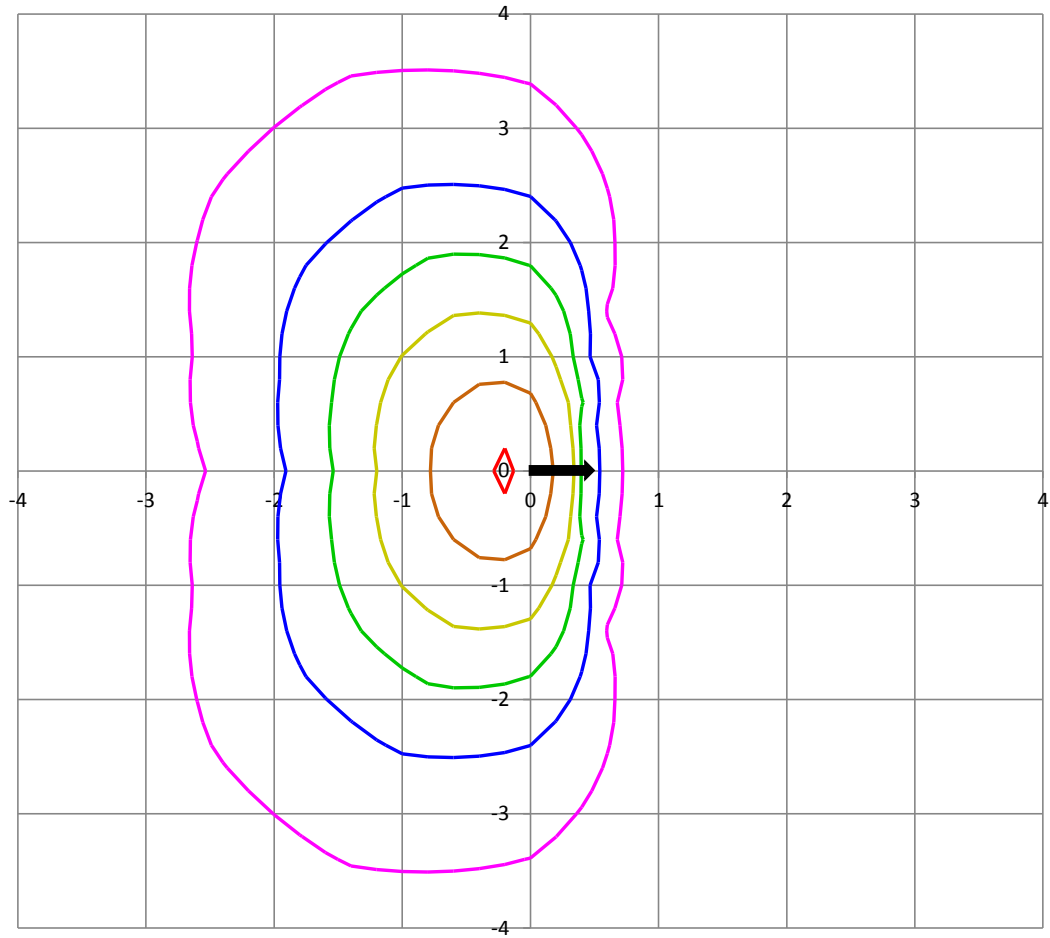
Beam and Field Information	
CIE Type:	Direct/Indirect
Center Beam Intensity:	56.83 Candela
Central Cone Intensity:	N/A Candela
Beam Flux:	409.4 Lumens
Beam Angle (0-180):	77.0 Degrees
Beam Angle (90-270):	N/A Degrees
Field Angle (0-180):	N/A Degrees
Field Angle (90-270):	N/A Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		3.55	4.67
6.00		1.58	7.01
8.00		0.888	9.34
10.0		0.568	11.7
12.0		0.395	14.0
14.0		0.290	16.4
16.0		0.222	18.7

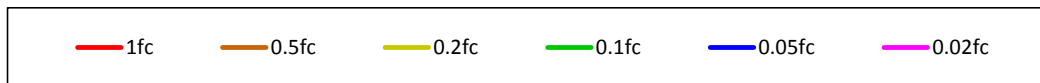


ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height



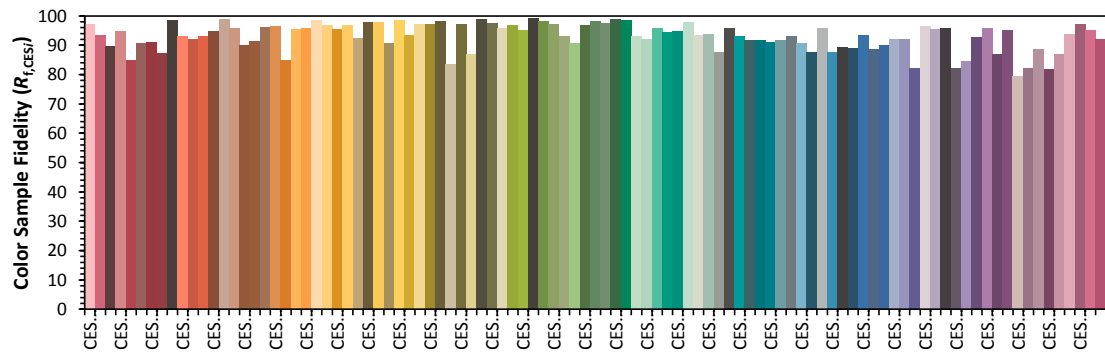
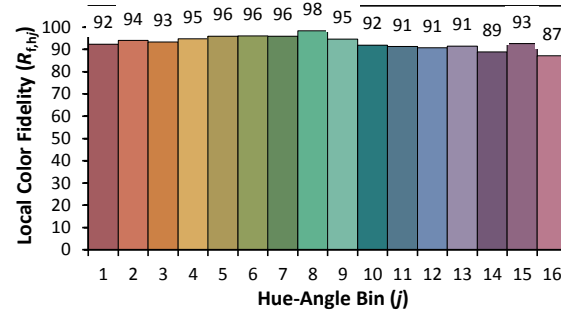
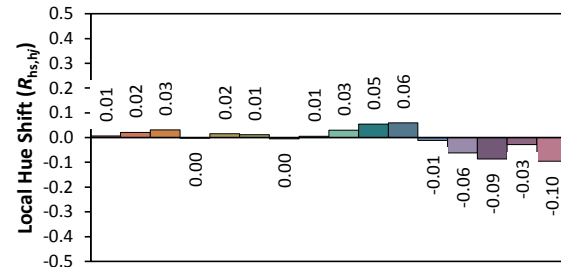
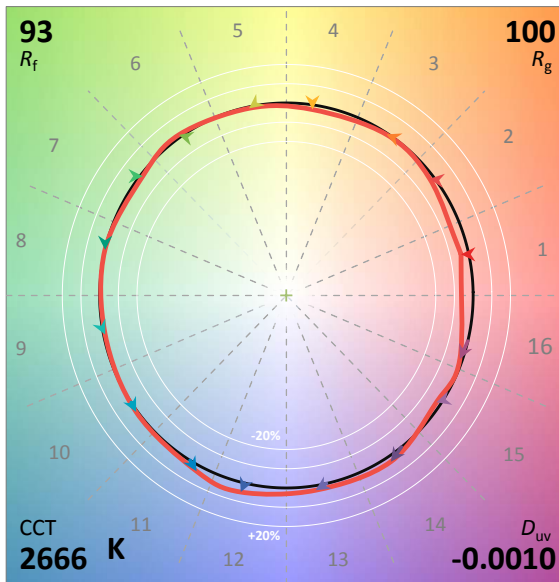
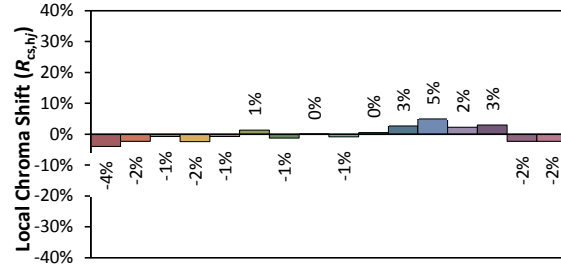
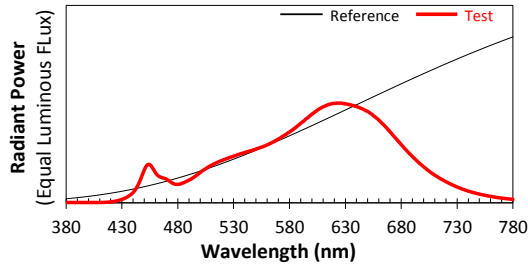
ANSI/IES TM-30-18 Color Rendition Report

Date: 2021-10-11

Manufacturer: RBW Studio LLC

Model:

Radiant Square 8"



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

x 0.4608

y 0.4082

u' 0.2642

v' 0.5266

CIE 13.3-1995
(CRI)

R_a 95

R_g 68

Colors are for visual orientation purposes only. Created with the IES TM-30-18 Calculator Version 2.00.