Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled data based on original data using

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P1357492

Luminaire Tested: 8ASL4-20VHE-3-27-UNV

Issue Date: 2/17/2026

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P1357492
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2511-597-12)
Test Lab:	INNOVATION CENTER
Issue Date:	2/17/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	FAIL-SAFE
Catalog Number:	8ASL4-20VHE-3-27-UNV
Description:	8FT 2000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 2700K LEDS 3 ROW
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	14848.0 lumens
Efficiency:	N/A
Efficacy:	110.5 lumens/watt
Spacing Criteria (0/90/45):	1.21 / 1.3 / 1.39
Luminous Opening:	Rectangular w/ Sides (W: 0.33' x L: 7.98' x H: 0.1')
CIE Type:	Direct

Input Watts (W):	134.4
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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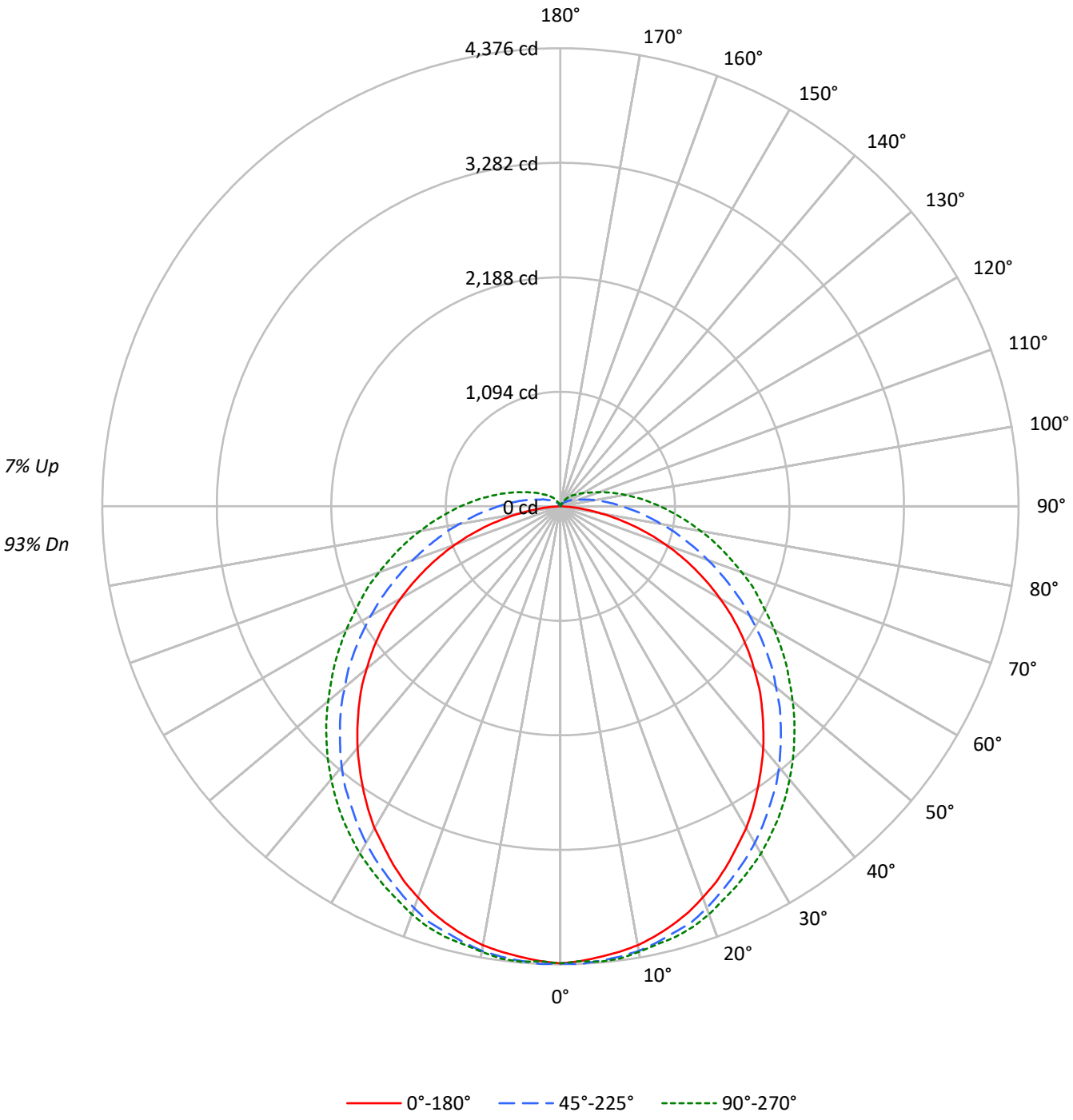
Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			20
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	105	100	95	91	102	97	92	88	91	88	84	86	83	80	81	79	77	74
2	95	86	79	72	92	84	77	71	79	73	68	75	70	66	71	67	63	61
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	32	28	37	32	27	25
9	54	40	32	26	52	39	31	26	38	30	25	36	30	25	35	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17673	17673	17673
5°	17536	17354	17269
10°	17458	17031	16832
15°	17285	16625	16462
20°	17045	16235	16044
25°	16763	15743	15570
30°	16465	15317	15168
35°	16090	14833	14721
40°	15752	14392	14250
45°	15388	13854	13778
50°	14972	13277	13286
55°	14527	12728	12845
60°	13941	12084	12396
65°	13193	11467	12025
70°	12238	10858	11733
75°	10829	10309	11534
80°	8669	9912	11448
85°	5503	9868	11619

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 15388 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.1	2.8
10°-20°	1189.0	8.0
20°-30°	1797.6	12.1
30°-40°	2176.7	14.7
40°-50°	2286.2	15.4
50°-60°	2132.9	14.4
60°-70°	1762.7	11.9
70°-80°	1269.2	8.5
80°-90°	788.7	5.3
90°-100°	462.1	3.1
100°-110°	264.4	1.8
110°-120°	149.3	1.0
120°-130°	85.9	0.6
130°-140°	46.3	0.3
140°-150°	19.5	0.1
150°-160°	3.6	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3400.7	22.9
0°-40°	5577.4	37.6
0°-60°	9996.4	67.3
0°-90°	13817.0	93.1
90°-120°	875.7	5.9
90°-150°	1027.4	6.9
90°-180°	1031.0	6.9
0°-180°	14848.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4367	4367	4367	4367	4367	
5°	4322	4358	4358	4358	4367	411
15°	4140	4194	4213	4240	4258	1167
25°	3777	3840	3904	3958	3995	1740
35°	3287	3377	3486	3586	3632	2057
45°	2724	2824	2978	3105	3160	2101
55°	2097	2215	2397	2569	2633	1874
65°	1416	1552	1789	2016	2097	1401
75°	726	908	1226	1489	1598	768
85°	136	409	772	1044	1144	167
90°	0	245	590	844	953	6
95°	0	154	445	681	781	0
105°	0	54	245	427	499	0
115°	0	27	145	263	309	0
125°	0	18	91	172	200	0
135°	0	0	54	109	136	0
145°	0	0	27	64	73	0
155°	0	0	0	18	27	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	

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TEST NUMBER: P1357492
CATALOG NUMBER: 8ASL4-20VHE-3-27-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4367.0	*4367.0*	4367.0	4367.0	4367.0
2.5°	*4348.8*	*4376.1*	*4376.1*	*4348.8*	*4348.8*
5°	4321.6	*4357.9*	4357.9	4357.9	4367.0
7.5°	4294.4	*4339.8*	4339.8	4339.8	4357.9
10°	4258.0	*4303.4*	4312.5	4312.5	4321.6
12.5°	4203.6	*4258.0*	4267.1	4276.2	4285.3
15°	4140.0	*4194.5*	4212.7	4239.9	4258.0
17.5°	4067.4	*4130.9*	4167.3	4194.5	4212.7
20°	3976.6	*4040.2*	4085.5	4121.9	4149.1
22.5°	3885.8	*3940.3*	3994.8	4040.2	4067.4
25°	3776.9	*3840.4*	3904.0	3958.4	3994.8
27.5°	3658.8	*3731.5*	3813.2	3876.7	3913.0
30°	3549.9	*3622.5*	3713.3	3795.0	3831.3
32.5°	3422.8	*3504.5*	3604.4	3686.1	3731.5
35°	3286.6	*3377.4*	3486.3	3586.2	3631.6
37.5°	3150.4	*3241.2*	3377.4	3477.3	3522.6
40°	3014.2	*3105.0*	3250.3	3359.2	3404.6
42.5°	2869.0	*2959.8*	3114.1	3232.1	3286.6
45°	2723.7	*2823.6*	2977.9	3105.0	3159.5
47.5°	2578.4	*2678.3*	2841.7	2977.9	3032.4
50°	2415.0	*2524.0*	2687.4	2841.7	2896.2
52.5°	2260.7	*2369.6*	2551.2	2705.5	2760.0
55°	2097.2	*2215.3*	2396.9	2569.4	2632.9
57.5°	1933.8	*2051.9*	2242.5	2424.1	2496.7
60°	1761.3	*1888.4*	2088.2	2278.8	2360.5
62.5°	1588.8	*1725.0*	1942.9	2142.6	2224.4
65°	1416.3	*1552.5*	1788.6	2015.5	2097.2
67.5°	1243.8	*1389.1*	1643.3	1879.4	1979.2
70°	1071.3	*1225.7*	1498.0	1743.2	1843.0
72.5°	898.8	*1062.2*	1361.8	1616.1	1715.9
75°	726.3	*907.9*	1225.7	1489.0	1597.9
77.5°	553.8	*762.6*	1107.6	1370.9	1479.9
80°	399.5	*635.5*	980.5	1252.9	1361.8
82.5°	254.2	*508.4*	871.6	1144.0	1252.9
85°	136.2	*408.6*	771.7	1044.1	1144.0
87.5°	45.4	*317.8*	671.8	944.2	1044.1
90°	0.0	*245.1*	590.1	844.3	953.3
92.5°	0.0	*190.7*	517.5	762.6	862.5
95°	0.0	*154.3*	444.9	680.9	780.8
97.5°	0.0	*127.1*	390.4	608.3	699.1
100°	0.0	*99.9*	335.9	544.7	626.5
102.5°	0.0	*81.7*	290.5	481.2	562.9
105°	0.0	*54.5*	245.1	426.7	499.3
107.5°	0.0	*45.4*	208.8	381.3	444.9
110°	0.0	*36.3*	190.7	326.8	390.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	*27.2*	172.5	290.5	354.1
115°	0.0	*27.2*	145.3	263.3	308.7
117.5°	0.0	*27.2*	127.1	236.1	281.4
120°	0.0	*18.2*	118.0	208.8	254.2
122.5°	0.0	*18.2*	99.9	190.7	227.0
125°	0.0	*18.2*	90.8	172.5	199.7
127.5°	0.0	*9.1*	81.7	154.3	181.6
130°	0.0	*9.1*	72.6	136.2	163.4
132.5°	0.0	*9.1*	63.6	127.1	154.3
135°	0.0	*0.0*	54.5	108.9	136.2
137.5°	0.0	*0.0*	45.4	99.9	118.0
140°	0.0	*0.0*	36.3	81.7	108.9
142.5°	0.0	*0.0*	27.2	72.6	90.8
145°	0.0	*0.0*	27.2	63.6	72.6
147.5°	0.0	*0.0*	18.2	45.4	63.6
150°	0.0	*0.0*	9.1	36.3	45.4
152.5°	0.0	*0.0*	0.0	27.2	36.3
155°	0.0	*0.0*	0.0	18.2	27.2
157.5°	0.0	*0.0*	0.0	0.0	9.1
160°	0.0	*0.0*	0.0	0.0	0.0
162.5°	0.0	*0.0*	0.0	0.0	0.0
165°	0.0	*0.0*	0.0	0.0	0.0
167.5°	0.0	*0.0*	0.0	0.0	0.0
170°	0.0	*0.0*	0.0	0.0	0.0
172.5°	0.0	*0.0*	0.0	0.0	0.0
175°	0.0	*0.0*	0.0	0.0	0.0
177.5°	0.0	*0.0*	0.0	0.0	0.0
180°	0.0	*0.0*	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
	Ceiling	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
	Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
	Reference plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	19.33	20.87	19.80	21.32	21.81	21.40	22.94	21.86	23.39	23.87
	3H	20.82	22.23	21.30	22.69	23.22	23.88	25.28	24.36	25.75	26.27
	4H	21.30	22.63	21.80	23.12	23.65	25.09	26.42	25.59	26.91	27.44
	6H	21.58	22.82	22.09	23.31	23.87	26.37	27.61	26.89	28.11	28.66
	8H	21.63	22.82	22.16	23.34	23.90	27.04	28.23	27.57	28.75	29.31
	12H	21.64	22.78	22.18	23.30	23.89	27.79	28.93	28.32	29.44	30.03
4H	2H	20.21	21.54	20.71	22.02	22.56	21.83	23.16	22.33	23.64	24.18
	3H	21.95	23.08	22.46	23.61	24.17	24.54	25.67	25.05	26.20	26.76
	4H	22.55	23.59	23.08	24.12	24.72	25.92	26.96	26.45	27.49	28.09
	6H	22.95	23.86	23.50	24.43	25.03	27.39	28.31	27.95	28.87	29.48
	8H	23.04	23.90	23.60	24.47	25.09	28.17	29.03	28.73	29.59	30.21
	12H	23.09	23.87	23.67	24.46	25.08	29.04	29.82	29.62	30.41	31.04
8H	4H	23.24	24.10	23.80	24.67	25.29	26.13	27.00	26.69	27.56	28.18
	6H	23.82	24.55	24.41	25.16	25.78	27.77	28.51	28.37	29.11	29.74
	8H	24.00	24.66	24.61	25.28	25.91	28.69	29.35	29.30	29.97	30.60
	12H	24.12	24.71	24.72	25.31	26.01	29.75	30.34	30.35	30.94	31.65
12H	4H	23.44	24.22	24.02	24.81	25.44	26.14	26.93	26.72	27.52	28.14
	6H	24.12	24.78	24.72	25.40	26.03	27.81	28.47	28.42	29.09	29.72
	8H	24.40	24.99	25.01	25.59	26.30	28.80	29.39	29.40	29.99	30.69

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LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-2

Test Date: 11/17/2025

Luminaire Tested: 4ASL-2-27-UNV-OPL-1_600mA

Data in this report applies to families of products including 4ASL

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

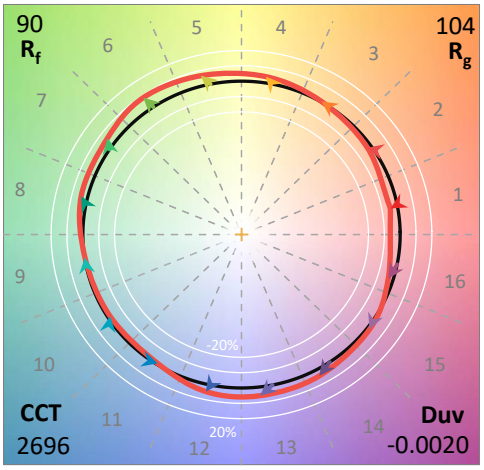
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2511-597-2
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	11/18/2025
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Fail-Safe
Catalog Number:	**4ASL-2-27-UNV-OPL-1_600mA**
Description:	2foot 4ASL LED LUMINAIRE WITH OPL LENS AND 2700K LEDS with 1 rows at 600mA

Spectral Parameters

CCT (K):	2696
CIE u':	0.2632
CIE v':	0.5245
Duv:	-0.0020
CIE x:	0.4568
CIE y:	0.4045
CIE z:	0.1387
Peak Wavelength (nm):	630
Dominant Wavelength (nm):	584
Purity:	58.52757
Rf:	90.1
Rg:	103.5

CRI (Ra):	94.4				
R1:	97.5	R9:	61.8
R2:	97.8	R10:	93.6
R3:	96.9	R11:	93.7
R4:	95.3	R12:	94.1
R5:	97.2	R13:	97.6
R6:	96.5	R14:	96.8
R7:	91.2	R15:	91.9
R8:	83.2		



Test Conditions

Stabilization Time:	32M
Operation Time:	1H 32M
Sphere Temperature (°C):	24.1

REPORT NUMBER: SP1-2511-597-2

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	10/21/2025	10/21/2026
Sphere Thermometer	ONSET IN0085	10/21/2025	10/21/2026
Room Thermometer	ONSET IN0046	10/21/2025	10/21/2026

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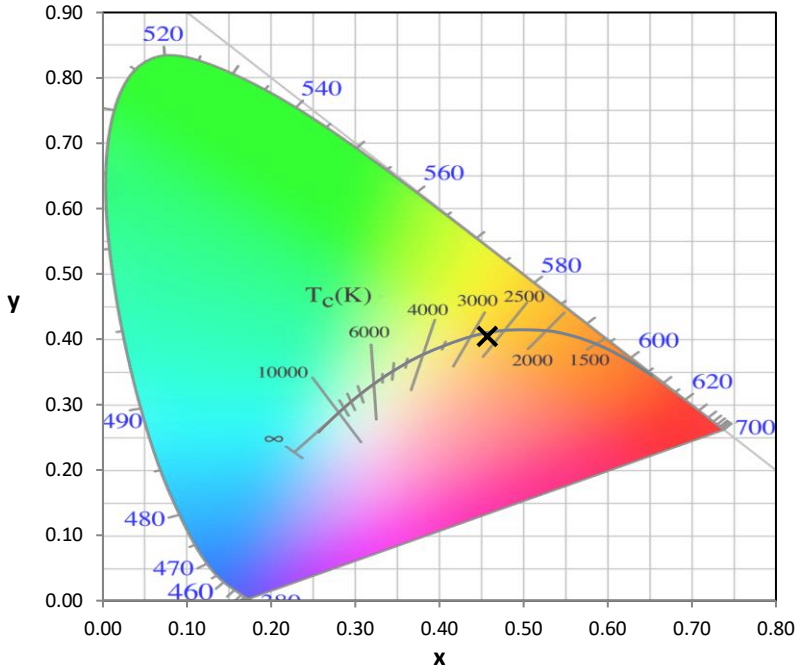
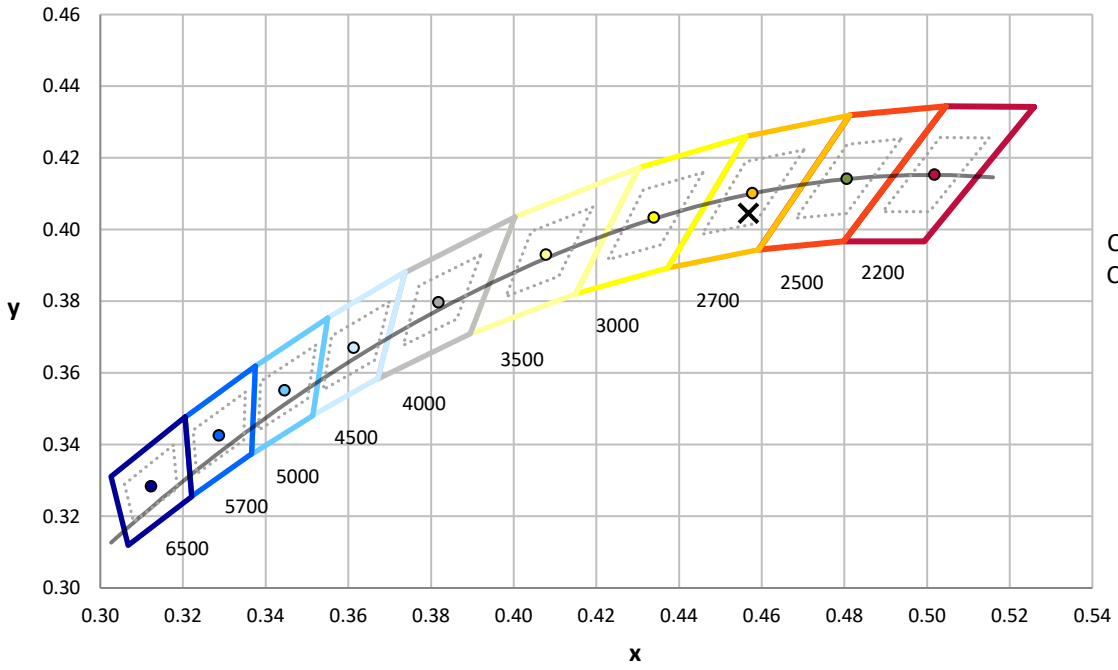
CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



CCT = 2696K
CIE x = 0.4568
CIE y = 0.4045
Duv = -0.0020

Point lies inside the ANSI 2700K 4-step quadrangle

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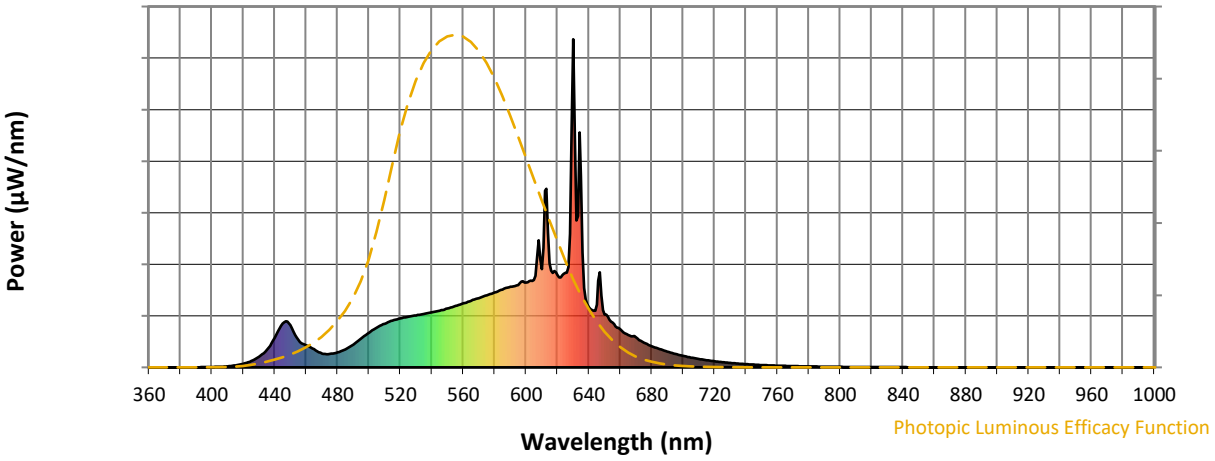
Photopic Flux vs. Wavelength



Photopic Lumens: NR

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	70	NR	620	281	NR	750	7	NR	880	0	NR
365	0	NR	495	88	NR	625	288	NR	755	6	NR	885	0	NR
370	0	NR	500	106	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	121	NR	635	581	NR	765	5	NR	895	0	NR
380	0	NR	510	133	NR	640	184	NR	770	4	NR	900	0	NR
385	0	NR	515	143	NR	645	191	NR	775	3	NR	905	0	NR
390	0	NR	520	149	NR	650	161	NR	780	3	NR	910	0	NR
395	1	NR	525	155	NR	655	136	NR	785	2	NR	915	0	NR
400	1	NR	530	158	NR	660	116	NR	790	2	NR	920	0	NR
405	2	NR	535	163	NR	665	99	NR	795	2	NR	925	0	NR
410	3	NR	540	168	NR	670	92	NR	800	2	NR	930	0	NR
415	6	NR	545	173	NR	675	75	NR	805	1	NR	935	0	NR
420	11	NR	550	179	NR	680	65	NR	810	1	NR	940	0	NR
425	19	NR	555	187	NR	685	56	NR	815	1	NR	945	0	NR
430	32	NR	560	195	NR	690	48	NR	820	1	NR	950	0	NR
435	54	NR	565	203	NR	695	41	NR	825	1	NR	955	0	NR
440	90	NR	570	211	NR	700	35	NR	830	1	NR	960	0	NR
445	134	NR	575	219	NR	705	30	NR	835	1	NR	965	0	NR
450	128	NR	580	228	NR	710	26	NR	840	1	NR	970	0	NR
455	83	NR	585	237	NR	715	22	NR	845	0	NR	975	0	NR
460	67	NR	590	246	NR	720	19	NR	850	0	NR	980	0	NR
465	55	NR	595	251	NR	725	16	NR	855	0	NR	985	0	NR
470	42	NR	600	259	NR	730	13	NR	860	0	NR	990	0	NR
475	41	NR	605	266	NR	735	11	NR	865	0	NR	995	0	NR
480	46	NR	610	299	NR	740	10	NR	870	0	NR	1000	0	NR
485	55	NR	615	317	NR	745	8	NR	875	0	NR			

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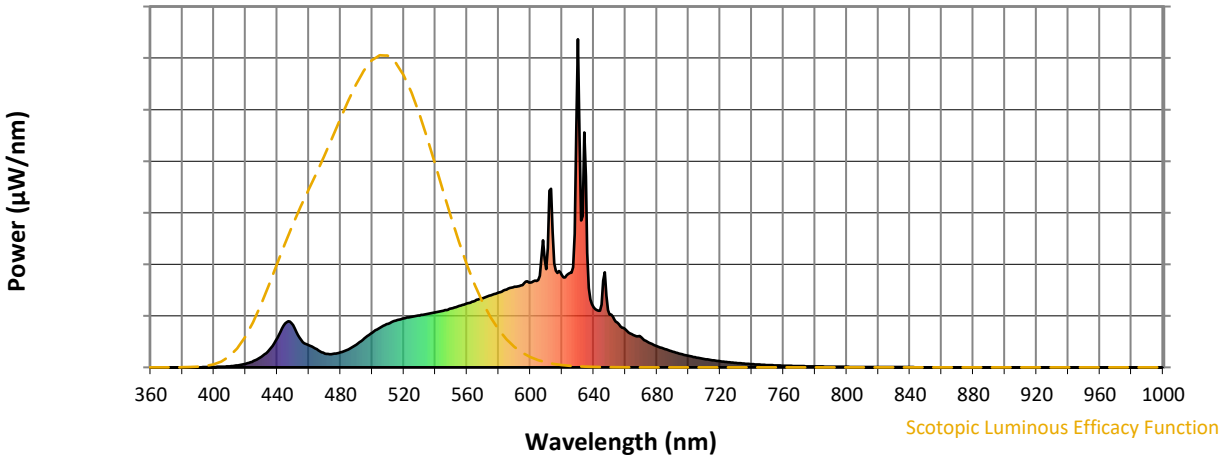
Scotopic Flux vs. Wavelength



Scotopic Lumens: NR **S/P: 1.29**

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	70	NR	620	281	NR	750	7	NR	880	0	NR
365	0	NR	495	88	NR	625	288	NR	755	6	NR	885	0	NR
370	0	NR	500	106	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	121	NR	635	581	NR	765	5	NR	895	0	NR
380	0	NR	510	133	NR	640	184	NR	770	4	NR	900	0	NR
385	0	NR	515	143	NR	645	191	NR	775	3	NR	905	0	NR
390	0	NR	520	149	NR	650	161	NR	780	3	NR	910	0	NR
395	1	NR	525	155	NR	655	136	NR	785	2	NR	915	0	NR
400	1	NR	530	158	NR	660	116	NR	790	2	NR	920	0	NR
405	2	NR	535	163	NR	665	99	NR	795	2	NR	925	0	NR
410	3	NR	540	168	NR	670	92	NR	800	2	NR	930	0	NR
415	6	NR	545	173	NR	675	75	NR	805	1	NR	935	0	NR
420	11	NR	550	179	NR	680	65	NR	810	1	NR	940	0	NR
425	19	NR	555	187	NR	685	56	NR	815	1	NR	945	0	NR
430	32	NR	560	195	NR	690	48	NR	820	1	NR	950	0	NR
435	54	NR	565	203	NR	695	41	NR	825	1	NR	955	0	NR
440	90	NR	570	211	NR	700	35	NR	830	1	NR	960	0	NR
445	134	NR	575	219	NR	705	30	NR	835	1	NR	965	0	NR
450	128	NR	580	228	NR	710	26	NR	840	1	NR	970	0	NR
455	83	NR	585	237	NR	715	22	NR	845	0	NR	975	0	NR
460	67	NR	590	246	NR	720	19	NR	850	0	NR	980	0	NR
465	55	NR	595	251	NR	725	16	NR	855	0	NR	985	0	NR
470	42	NR	600	259	NR	730	13	NR	860	0	NR	990	0	NR
475	41	NR	605	266	NR	735	11	NR	865	0	NR	995	0	NR
480	46	NR	610	299	NR	740	10	NR	870	0	NR	1000	0	NR
485	55	NR	615	317	NR	745	8	NR	875	0	NR			

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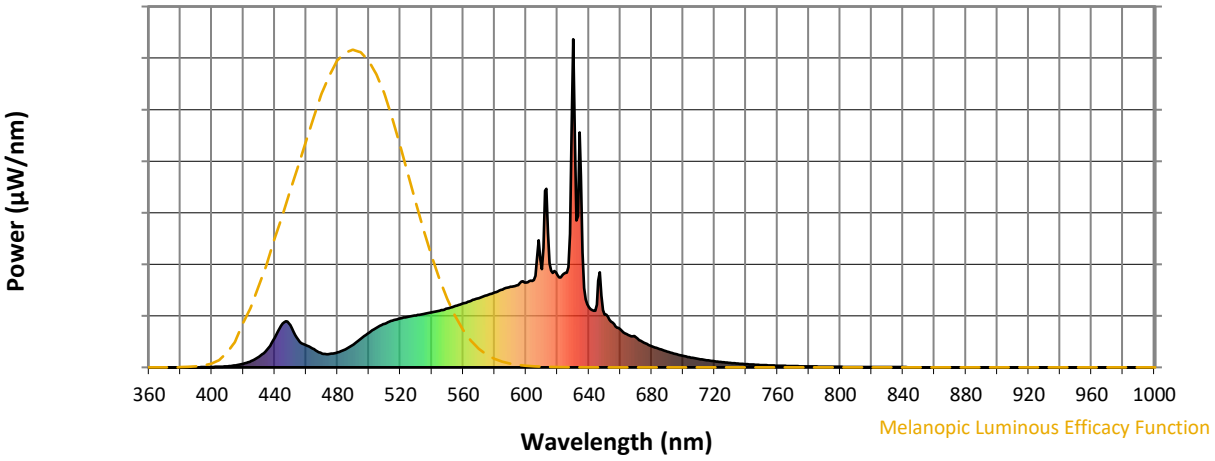
Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.45**

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	70	NR	620	281	NR	750	7	NR	880	0	NR
365	0	NR	495	88	NR	625	288	NR	755	6	NR	885	0	NR
370	0	NR	500	106	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	121	NR	635	581	NR	765	5	NR	895	0	NR
380	0	NR	510	133	NR	640	184	NR	770	4	NR	900	0	NR
385	0	NR	515	143	NR	645	191	NR	775	3	NR	905	0	NR
390	0	NR	520	149	NR	650	161	NR	780	3	NR	910	0	NR
395	1	NR	525	155	NR	655	136	NR	785	2	NR	915	0	NR
400	1	NR	530	158	NR	660	116	NR	790	2	NR	920	0	NR
405	2	NR	535	163	NR	665	99	NR	795	2	NR	925	0	NR
410	3	NR	540	168	NR	670	92	NR	800	2	NR	930	0	NR
415	6	NR	545	173	NR	675	75	NR	805	1	NR	935	0	NR
420	11	NR	550	179	NR	680	65	NR	810	1	NR	940	0	NR
425	19	NR	555	187	NR	685	56	NR	815	1	NR	945	0	NR
430	32	NR	560	195	NR	690	48	NR	820	1	NR	950	0	NR
435	54	NR	565	203	NR	695	41	NR	825	1	NR	955	0	NR
440	90	NR	570	211	NR	700	35	NR	830	1	NR	960	0	NR
445	134	NR	575	219	NR	705	30	NR	835	1	NR	965	0	NR
450	128	NR	580	228	NR	710	26	NR	840	1	NR	970	0	NR
455	83	NR	585	237	NR	715	22	NR	845	0	NR	975	0	NR
460	67	NR	590	246	NR	720	19	NR	850	0	NR	980	0	NR
465	55	NR	595	251	NR	725	16	NR	855	0	NR	985	0	NR
470	42	NR	600	259	NR	730	13	NR	860	0	NR	990	0	NR
475	41	NR	605	266	NR	735	11	NR	865	0	NR	995	0	NR
480	46	NR	610	299	NR	740	10	NR	870	0	NR	1000	0	NR
485	55	NR	615	317	NR	745	8	NR	875	0	NR			

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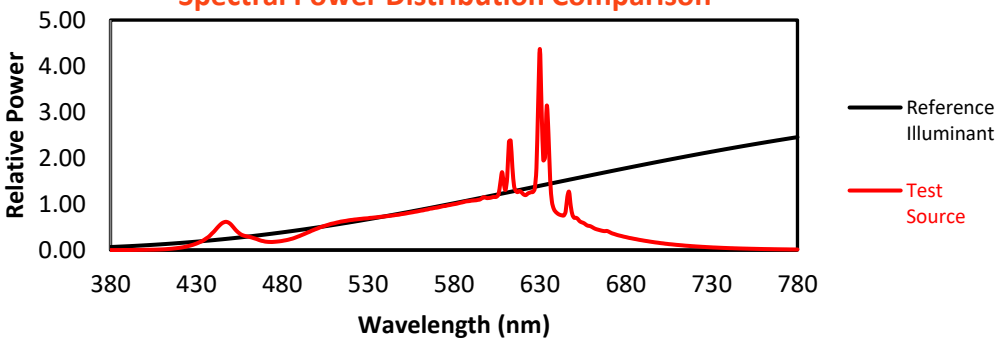
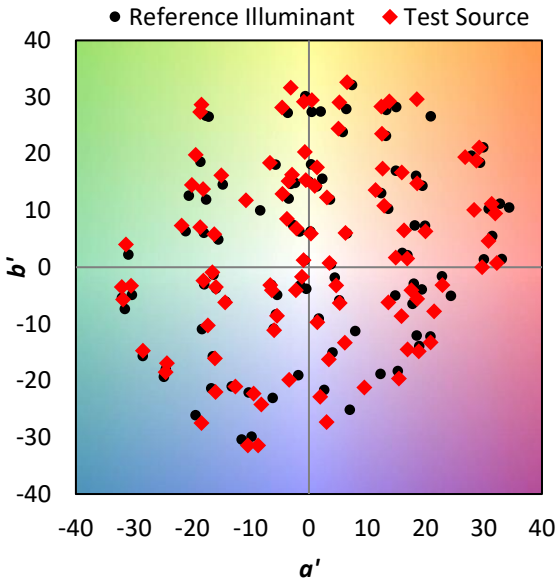
Summary

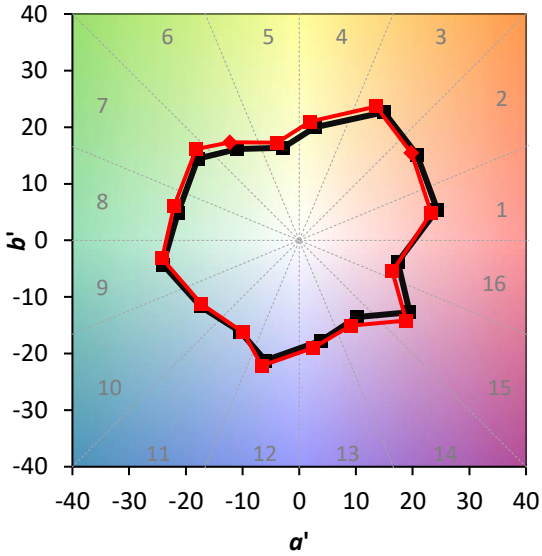
R_f = 90.1
R_g = 103.5
CIE R_a = 94.4
R_9 = 61.8

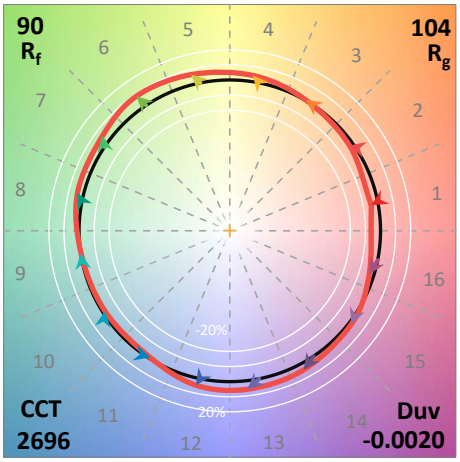
Spectral Power Distribution Comparison

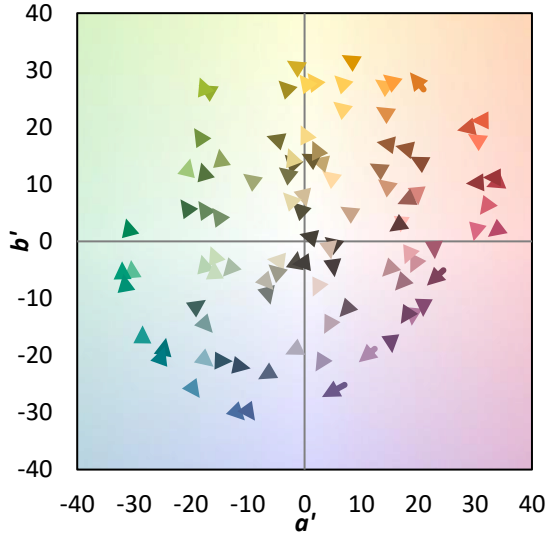


Color Vector Graphics









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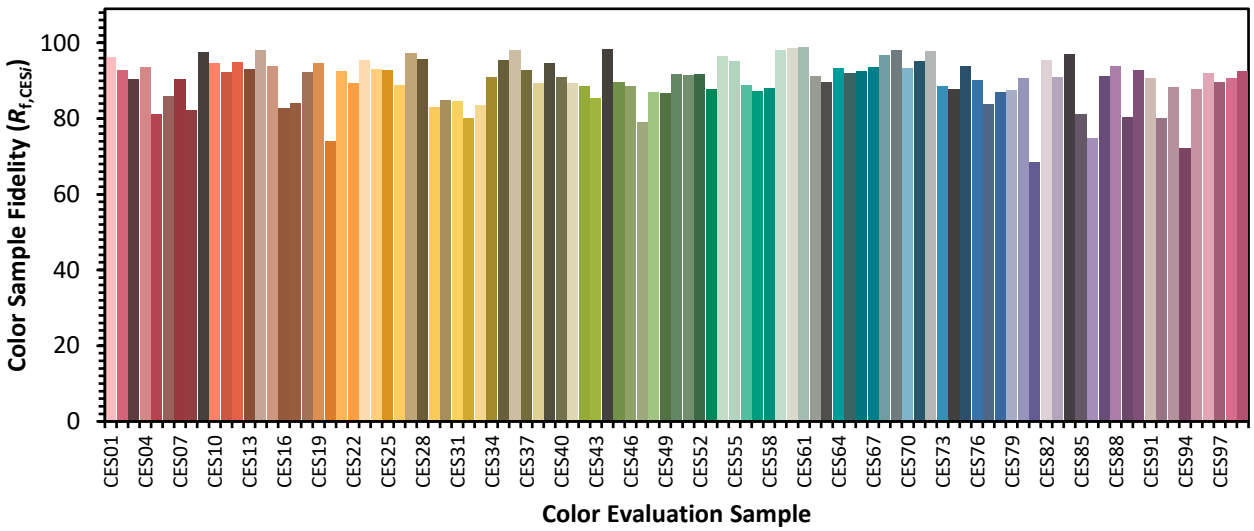
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 89	CES51 = 92	CES76 = 90
CES02 = 64	CES27 = 97	CES52 = 92	CES77 = 84
CES03 = 32	CES28 = 96	CES53 = 88	CES78 = 87
CES04 = 71	CES29 = 83	CES54 = 97	CES79 = 88
CES05 = 51	CES30 = 85	CES55 = 95	CES80 = 91
CES06 = 51	CES31 = 85	CES56 = 89	CES81 = 69
CES07 = 44	CES32 = 80	CES57 = 87	CES82 = 95
CES08 = 43	CES33 = 84	CES58 = 88	CES83 = 91
CES09 = 29	CES34 = 91	CES59 = 98	CES84 = 97
CES10 = 77	CES35 = 96	CES60 = 99	CES85 = 81
CES11 = 59	CES36 = 98	CES61 = 99	CES86 = 75
CES12 = 66	CES37 = 93	CES62 = 91	CES87 = 91
CES13 = 45	CES38 = 89	CES63 = 90	CES88 = 94
CES14 = 74	CES39 = 95	CES64 = 93	CES89 = 80
CES15 = 72	CES40 = 91	CES65 = 92	CES90 = 93
CES16 = 48	CES41 = 89	CES66 = 92	CES91 = 91
CES17 = 50	CES42 = 89	CES67 = 93	CES92 = 80
CES18 = 57	CES43 = 85	CES68 = 97	CES93 = 88
CES19 = 72	CES44 = 98	CES69 = 98	CES94 = 72
CES20 = 68	CES45 = 90	CES70 = 93	CES95 = 88
CES21 = 87	CES46 = 89	CES71 = 95	CES96 = 92
CES22 = 79	CES47 = 79	CES72 = 98	CES97 = 90
CES23 = 92	CES48 = 87	CES73 = 89	CES98 = 91
CES24 = 91	CES49 = 87	CES74 = 88	CES99 = 92
CES25 = 72	CES50 = 92	CES75 = 94	



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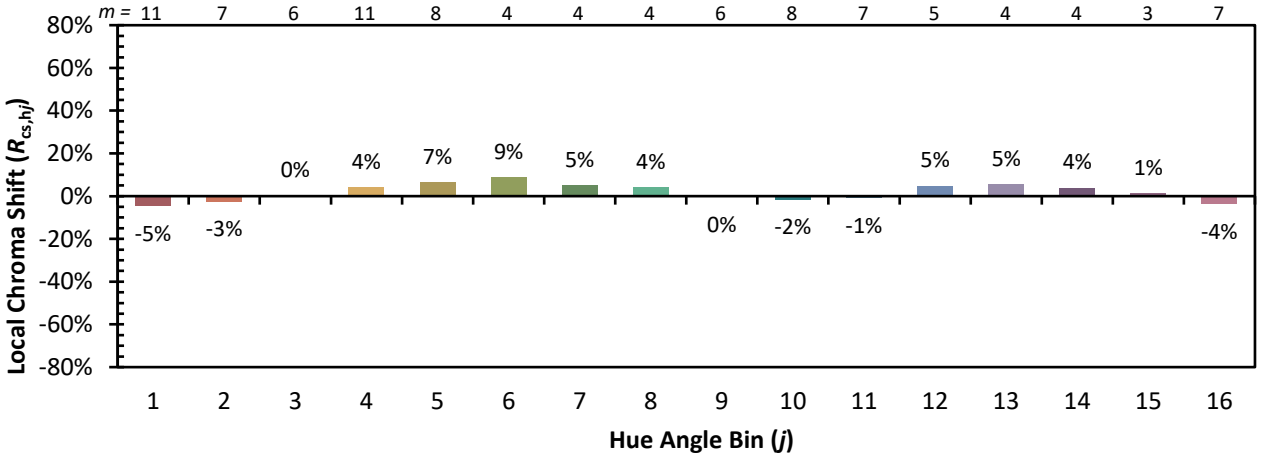
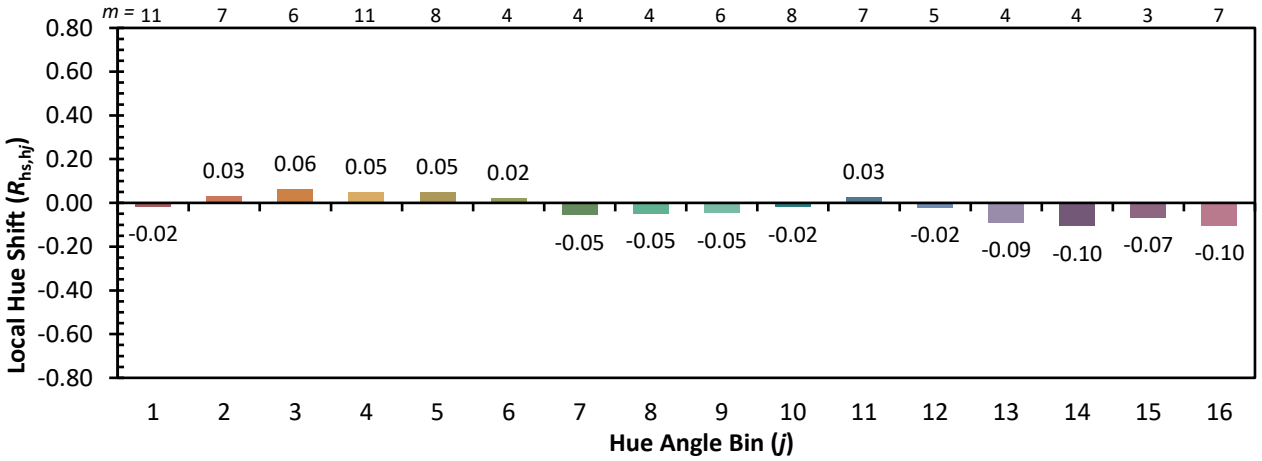
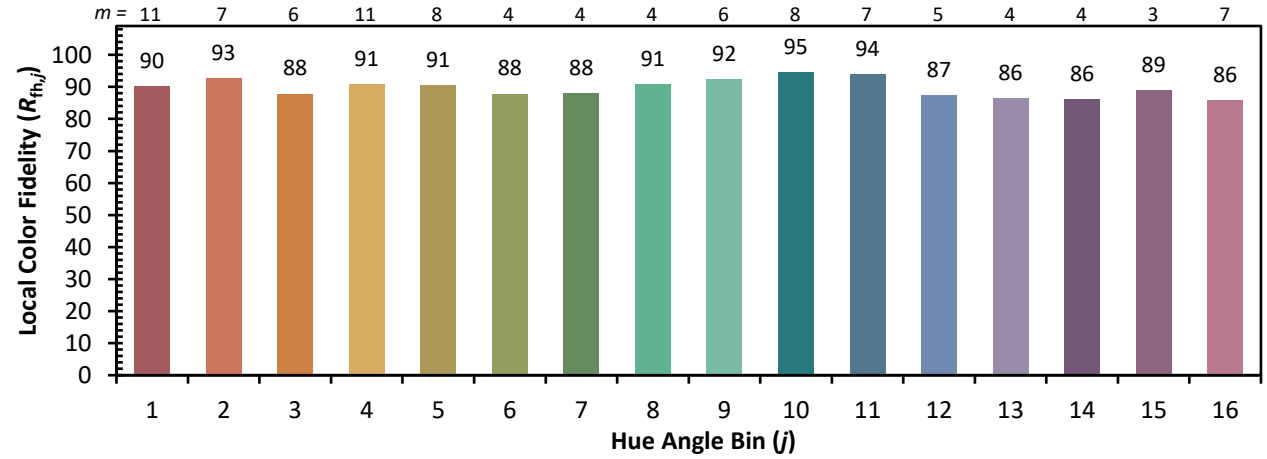
Color Rendition by Hue-Angle Bin







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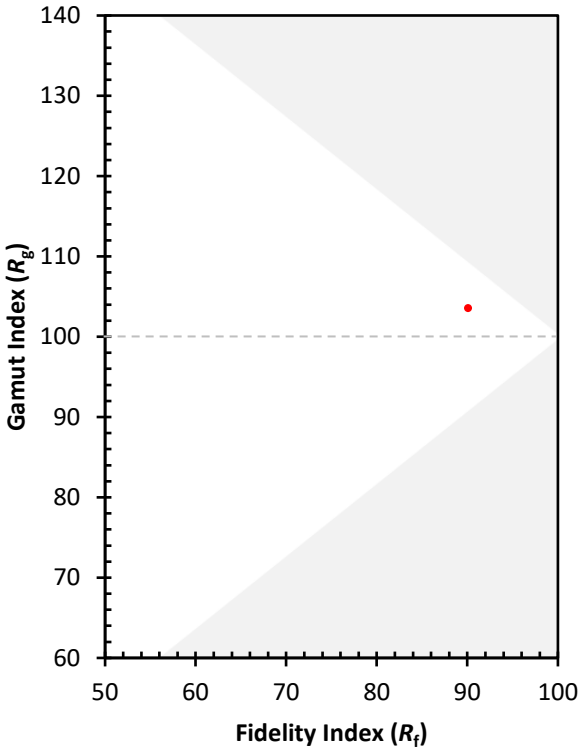
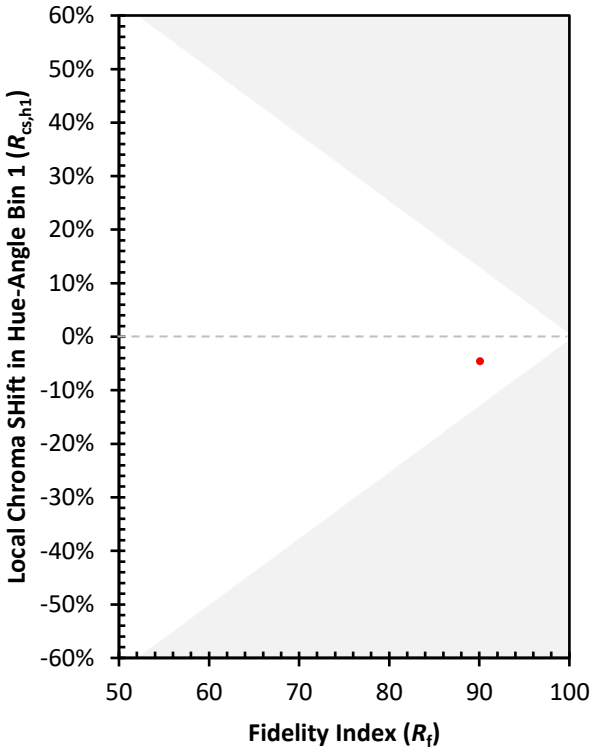
Measure Comparisons





(END OF REPORT)