

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: P1357025

Luminaire Tested: 3ASL4-20HE-2-30-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1357025
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2511-597-7)
Test Lab: INNOVATION CENTER
Issue Date: 2/17/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: 3ASL4-20HE-2-30-UNV
Description: 3FT 2000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 3000K LEDS 2 ROW
Light Source: -
Ballast/Driver: -

Summary

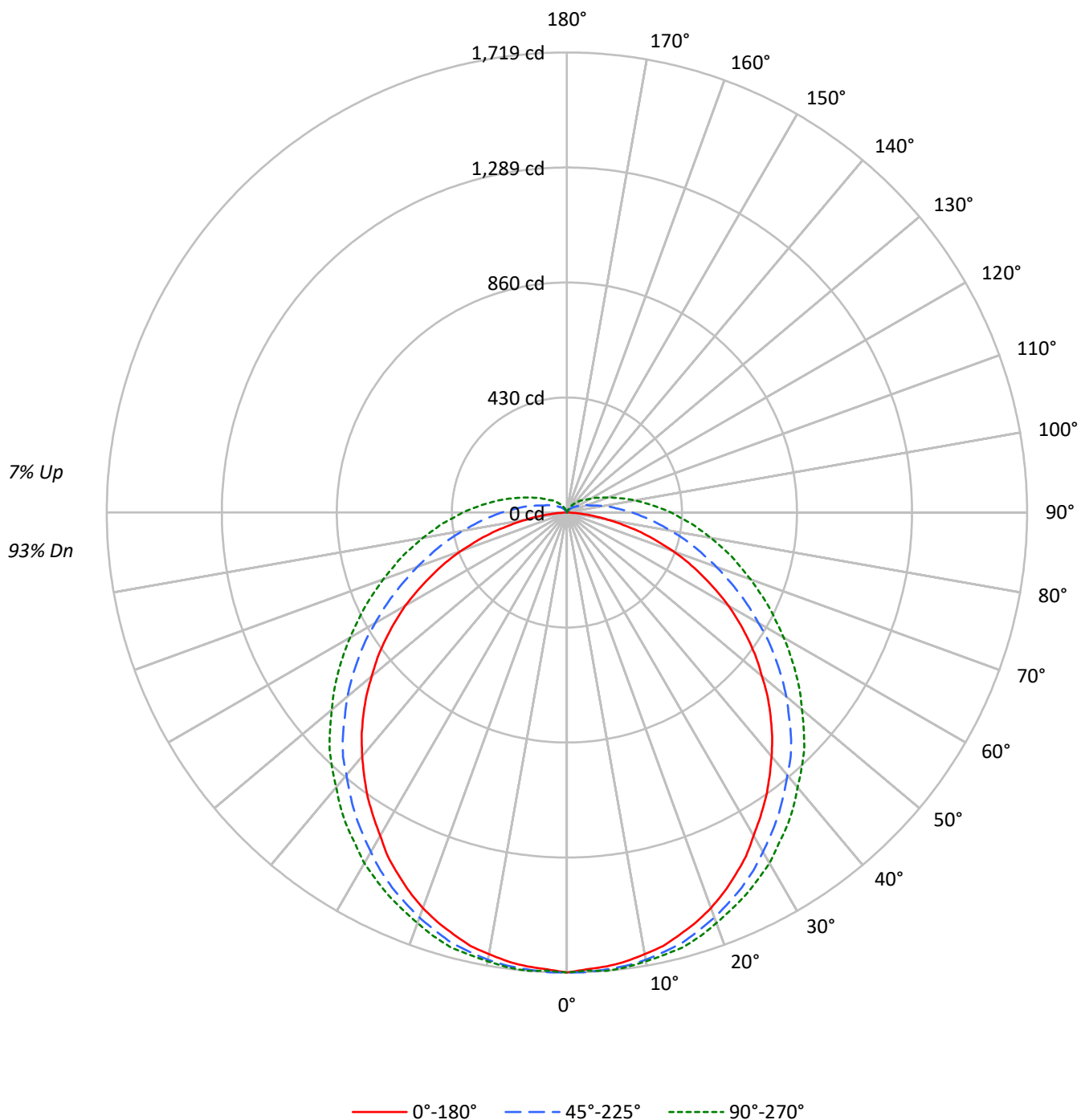
Lumens per Lamp: N/A
Luminaire Lumens: 5901.0 lumens
Efficiency: N/A
Efficacy: 109.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 2.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 53.7
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			
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	50	30	10
RCR																				
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	95	95	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	65	70	66	63	63	63	60
3	86	75	66	59	83	73	65	58	69	62	56	65	59	55	62	57	53	53	53	50
4	79	66	57	50	76	64	56	49	61	54	48	58	51	46	55	49	45	45	45	42
5	72	59	50	43	70	57	49	42	54	47	41	52	45	40	49	43	39	39	39	36
6	67	53	44	37	64	52	43	37	49	41	36	47	40	35	44	39	34	34	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	30	30	28
8	58	44	35	29	56	43	34	29	41	33	28	39	32	28	37	31	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	24	24	22
10	50	37	29	24	49	36	28	23	35	28	23	33	27	22	32	26	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18632	18632	18632
5°	18470	18252	18205
10°	18331	17906	17762
15°	18148	17528	17407
20°	17916	17055	16907
25°	17557	16588	16476
30°	17110	16056	16048
35°	16756	15562	15551
40°	16347	15029	15027
45°	15932	14567	14646
50°	15400	13961	14080
55°	14885	13308	13631
60°	14253	12576	13153
65°	13285	11894	12783
70°	12190	11250	12443
75°	10614	10747	12330
80°	8168	10291	12291
85°	4807	10238	12646

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 15932 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.0	2.8
10°-20°	468.6	7.9
20°-30°	710.0	12.0
30°-40°	858.7	14.6
40°-50°	905.3	15.3
50°-60°	845.0	14.3
60°-70°	697.6	11.8
70°-80°	506.1	8.6
80°-90°	319.7	5.4
90°-100°	190.9	3.2
100°-110°	109.4	1.9
110°-120°	62.1	1.1
120°-130°	35.4	0.6
130°-140°	19.2	0.3
140°-150°	8.4	0.1
150°-160°	1.5	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1341.6	22.7
0°-40°	2200.4	37.3
0°-60°	3950.6	66.9
0°-90°	5474.0	92.8
90°-120°	362.4	6.1
90°-150°	425.4	7.2
90°-180°	427.0	7.2
0°-180°	5901.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1719	1719	1719	1719	1719	
5°	1703	1719	1714	1714	1719	162
15°	1632	1654	1665	1670	1681	461
25°	1492	1514	1546	1568	1578	687
35°	1297	1330	1378	1416	1432	811
45°	1076	1119	1184	1232	1254	829
55°	827	876	951	1016	1043	739
65°	557	616	708	795	832	553
75°	286	362	492	595	638	301
85°	54	168	314	422	465	66
90°	0	103	243	346	389	2
95°	0	65	184	281	319	0
105°	0	22	103	178	205	0
115°	0	11	60	108	130	0
125°	0	5	38	70	81	0
135°	0	0	22	43	54	0
145°	0	0	11	27	32	0
155°	0	0	0	5	11	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1718.9	1718.9	1718.9	1718.9	1718.9
2.5°	1708.1	1724.3	1718.9	1713.5	1713.5
5°	1702.7	1718.9	1713.5	1713.5	1718.9
7.5°	1691.9	1708.1	1708.1	1708.1	1713.5
10°	1675.7	1697.3	1697.3	1697.3	1702.7
12.5°	1659.4	1675.7	1681.1	1686.5	1691.9
15°	1632.4	1654.0	1664.8	1670.3	1681.1
17.5°	1605.4	1621.6	1637.8	1654.0	1659.4
20°	1573.0	1594.6	1610.8	1627.0	1632.4
22.5°	1535.1	1556.7	1578.4	1594.6	1605.4
25°	1491.9	1513.5	1545.9	1567.6	1578.4
27.5°	1448.6	1470.3	1508.1	1535.1	1545.9
30°	1394.6	1427.0	1464.8	1497.3	1513.5
32.5°	1345.9	1378.4	1421.6	1459.4	1470.3
35°	1297.3	1329.7	1378.4	1416.2	1432.4
37.5°	1243.2	1281.1	1329.7	1373.0	1389.2
40°	1189.2	1227.0	1281.1	1329.7	1340.5
42.5°	1135.1	1173.0	1237.8	1281.1	1297.3
45°	1075.7	1118.9	1183.8	1232.4	1254.0
47.5°	1016.2	1059.4	1124.3	1178.4	1200.0
50°	951.3	1000.0	1070.3	1124.3	1145.9
52.5°	891.9	940.5	1010.8	1070.3	1097.3
55°	827.0	875.7	951.3	1016.2	1043.2
57.5°	762.2	810.8	891.9	962.2	989.2
60°	697.3	745.9	827.0	908.1	935.1
62.5°	627.0	681.1	767.6	848.6	881.1
65°	556.8	616.2	708.1	794.6	832.4
67.5°	491.9	551.3	648.6	745.9	778.4
70°	421.6	486.5	594.6	691.9	729.7
72.5°	351.3	421.6	540.5	643.2	681.1
75°	286.5	362.2	491.9	594.6	637.8
77.5°	216.2	308.1	443.2	551.3	589.2
80°	156.8	254.1	394.6	508.1	545.9
82.5°	102.7	205.4	351.3	464.9	502.7
85°	54.1	167.6	313.5	421.6	464.9
87.5°	16.2	129.7	275.7	383.8	421.6
90°	0.0	102.7	243.2	345.9	389.2
92.5°	0.0	81.1	210.8	313.5	351.3
95°	0.0	64.9	183.8	281.1	318.9
97.5°	0.0	54.1	162.2	254.1	286.5
100°	0.0	43.2	140.5	227.0	259.5
102.5°	0.0	32.4	118.9	200.0	232.4
105°	0.0	21.6	102.7	178.4	205.4
107.5°	0.0	16.2	86.5	156.8	183.8
110°	0.0	16.2	81.1	135.1	162.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	10.8	70.3	124.3	145.9
115°	0.0	10.8	59.5	108.1	129.7
117.5°	0.0	10.8	54.1	97.3	118.9
120°	0.0	10.8	48.6	86.5	102.7
122.5°	0.0	5.4	43.2	75.7	91.9
125°	0.0	5.4	37.8	70.3	81.1
127.5°	0.0	5.4	32.4	64.9	75.7
130°	0.0	5.4	32.4	59.5	70.3
132.5°	0.0	0.0	27.0	54.1	64.9
135°	0.0	0.0	21.6	43.2	54.1
137.5°	0.0	0.0	21.6	37.8	48.6
140°	0.0	0.0	16.2	37.8	43.2
142.5°	0.0	0.0	10.8	32.4	37.8
145°	0.0	0.0	10.8	27.0	32.4
147.5°	0.0	0.0	5.4	21.6	27.0
150°	0.0	0.0	5.4	16.2	21.6
152.5°	0.0	0.0	0.0	10.8	16.2
155°	0.0	0.0	0.0	5.4	10.8
157.5°	0.0	0.0	0.0	0.0	5.4
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	19.46	21.00	19.94	21.46	21.95	21.50	23.03	21.97	23.49	23.98
	3H	20.97	22.37	21.45	22.84	23.37	23.93	25.33	24.42	25.80	26.34
	4H	21.45	22.78	21.95	23.26	23.81	25.13	26.46	25.64	26.95	27.49
	6H	21.72	22.96	22.24	23.46	24.02	26.39	27.62	26.91	28.12	28.68
	8H	21.78	22.96	22.31	23.49	24.05	27.03	28.22	27.56	28.74	29.31
	12H	21.79	22.93	22.33	23.45	24.04	27.74	28.88	28.28	29.39	29.99
4H	2H	20.34	21.67	20.84	22.15	22.70	21.93	23.26	22.43	23.74	24.29
	3H	22.08	23.21	22.60	23.74	24.31	24.60	25.73	25.12	26.26	26.83
	4H	22.69	23.73	23.23	24.27	24.87	25.97	27.01	26.51	27.55	28.15
	6H	23.09	24.01	23.65	24.57	25.19	27.42	28.34	27.98	28.90	29.52
	8H	23.19	24.05	23.75	24.62	25.24	28.18	29.04	28.74	29.60	30.23
	12H	23.24	24.02	23.82	24.61	25.25	29.01	29.79	29.59	30.39	31.02
8H	4H	23.38	24.24	23.94	24.81	25.43	26.19	27.05	26.76	27.62	28.25
	6H	23.97	24.70	24.56	25.30	25.94	27.82	28.55	28.42	29.16	29.79
	8H	24.15	24.81	24.76	25.43	26.08	28.72	29.38	29.33	30.00	30.64
	12H	24.27	24.86	24.88	25.47	26.18	29.74	30.33	30.35	30.93	31.64
12H	4H	23.58	24.36	24.16	24.95	25.58	26.20	26.98	26.79	27.58	28.21
	6H	24.26	24.93	24.87	25.54	26.19	27.86	28.52	28.47	29.14	29.78
	8H	24.55	25.14	25.16	25.75	26.46	28.83	29.42	29.44	30.02	30.73

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-3

Test Date: 11/18/2025

Luminaire Tested: 4ASL-2-30-UNV-OPL-1_600mA

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

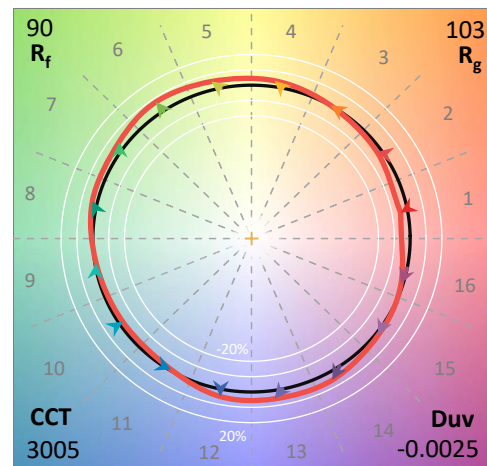
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2511-597-3
 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-2-30-UNV-OPL-1_600mA**
 Description: 2foot 4ASL LED LUMINAIRE WITH OPL LENS AND 3000K LEDS with 1 rows at 600mA

Spectral Parameters

CCT (K): 3005
 CIE u' : 0.2513
 CIE v' : 0.5178
 Duv: -0.0025
 CIE x : 0.4330
 CIE y : 0.3966
 CIE z : 0.1704
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 583
 Purity: 49.00645
 R_f: 90.1
 R_g: 103.3

CRI (Ra): 93.9
 R1: 96.5
 R2: 96.6
 R3: 95.5
 R4: 94.4
 R5: 96.0
 R6: 96.4
 R7: 91.7
 R8: 84.0
 R9: 62.0
 R10: 90.8
 R11: 94.1
 R12: 88.9
 R13: 96.4
 R14: 96.3
 R15: 91.9



Test Conditions

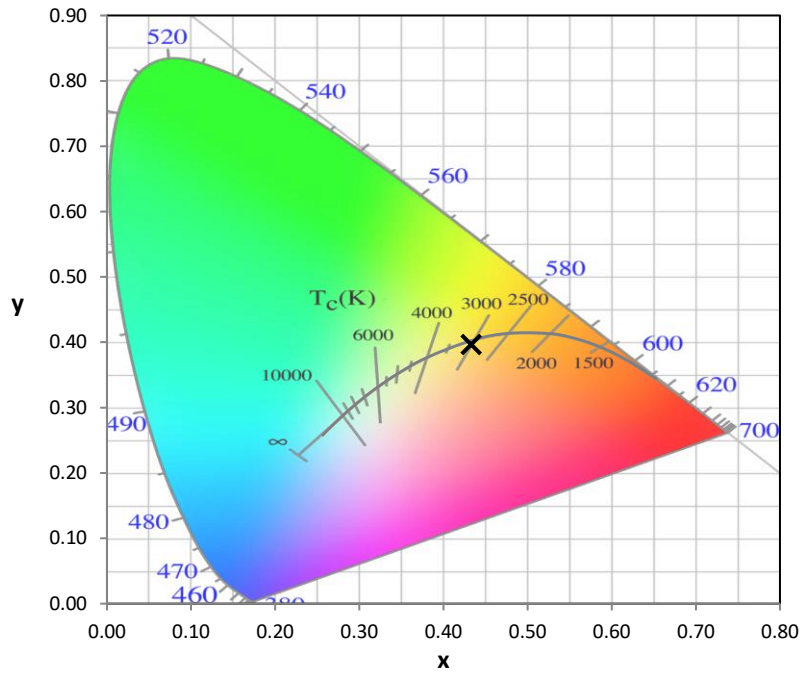
Stabilization Time: 32M
 Operation Time: 1H 32M
 Sphere Temperature (°C): 24.1

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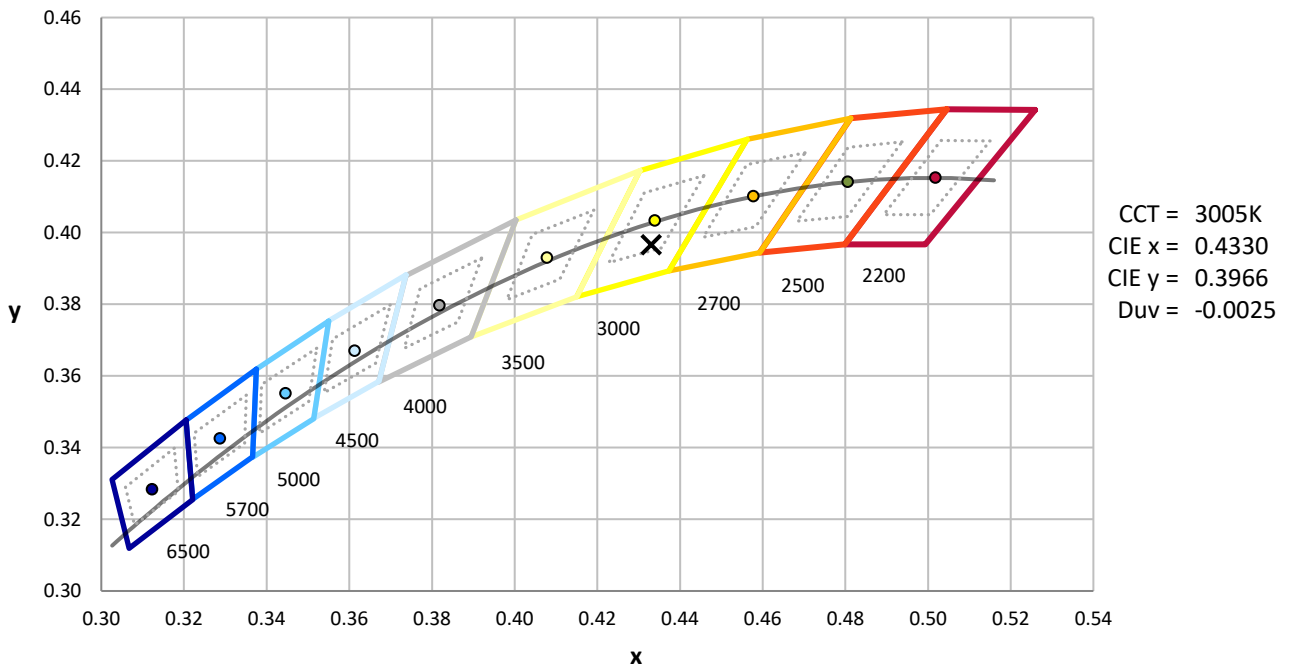
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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



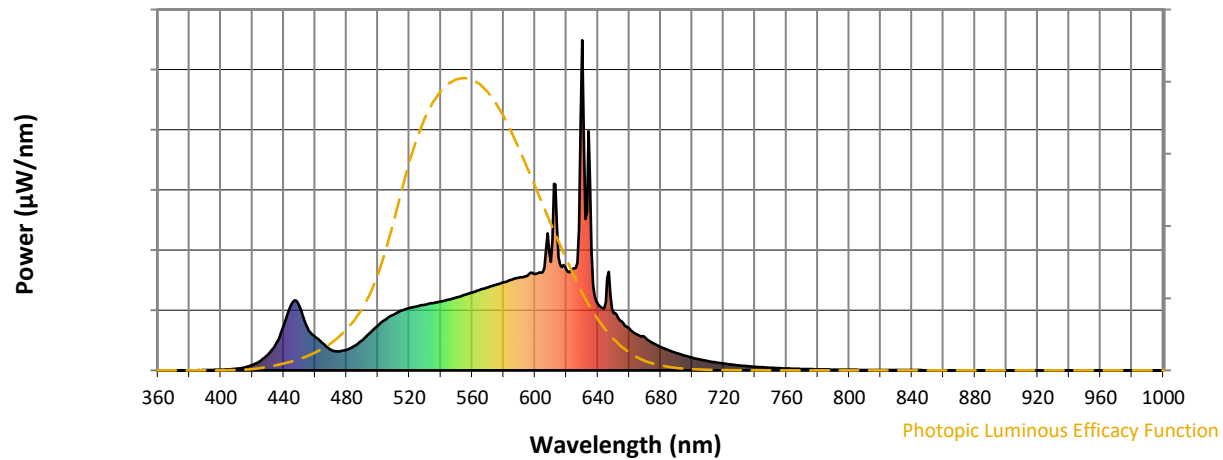
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

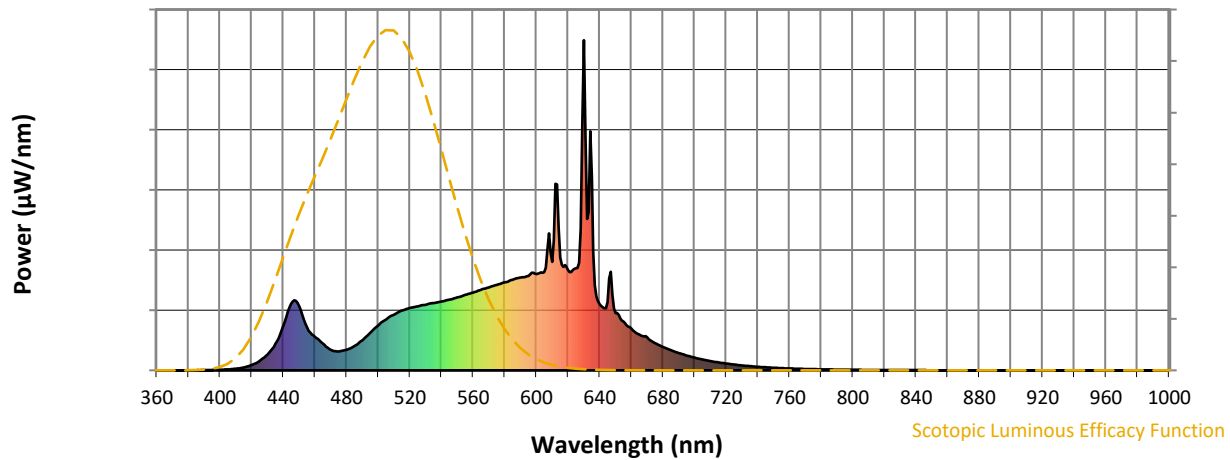


Photopic Lumens: NR

λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	92	NR	620	304	NR	750	8	NR	880	0	NR
365	0	NR	495	114	NR	625	309	NR	755	7	NR	885	0	NR
370	0	NR	500	136	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	154	NR	635	582	NR	765	5	NR	895	0	NR
380	0	NR	510	169	NR	640	200	NR	770	4	NR	900	0	NR
385	0	NR	515	181	NR	645	207	NR	775	4	NR	905	0	NR
390	1	NR	520	189	NR	650	174	NR	780	3	NR	910	0	NR
395	1	NR	525	194	NR	655	148	NR	785	3	NR	915	0	NR
400	2	NR	530	199	NR	660	127	NR	790	2	NR	920	0	NR
405	3	NR	535	203	NR	665	108	NR	795	2	NR	925	0	NR
410	5	NR	540	208	NR	670	100	NR	800	2	NR	930	0	NR
415	9	NR	545	214	NR	675	83	NR	805	2	NR	935	0	NR
420	16	NR	550	221	NR	680	71	NR	810	1	NR	940	0	NR
425	28	NR	555	228	NR	685	61	NR	815	1	NR	945	0	NR
430	48	NR	560	236	NR	690	53	NR	820	1	NR	950	0	NR
435	80	NR	565	244	NR	695	45	NR	825	1	NR	955	0	NR
440	135	NR	570	251	NR	700	38	NR	830	1	NR	960	0	NR
445	202	NR	575	259	NR	705	33	NR	835	1	NR	965	0	NR
450	195	NR	580	266	NR	710	28	NR	840	1	NR	970	0	NR
455	130	NR	585	274	NR	715	24	NR	845	1	NR	975	0	NR
460	101	NR	590	281	NR	720	20	NR	850	0	NR	980	0	NR
465	82	NR	595	286	NR	725	17	NR	855	0	NR	985	0	NR
470	62	NR	600	292	NR	730	15	NR	860	0	NR	990	0	NR
475	58	NR	605	298	NR	735	13	NR	865	0	NR	995	0	NR
480	62	NR	610	328	NR	740	11	NR	870	0	NR	1000	0	NR
485	74	NR	615	342	NR	745	9	NR	875	0	NR			

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Scotopic Flux vs. Wavelength



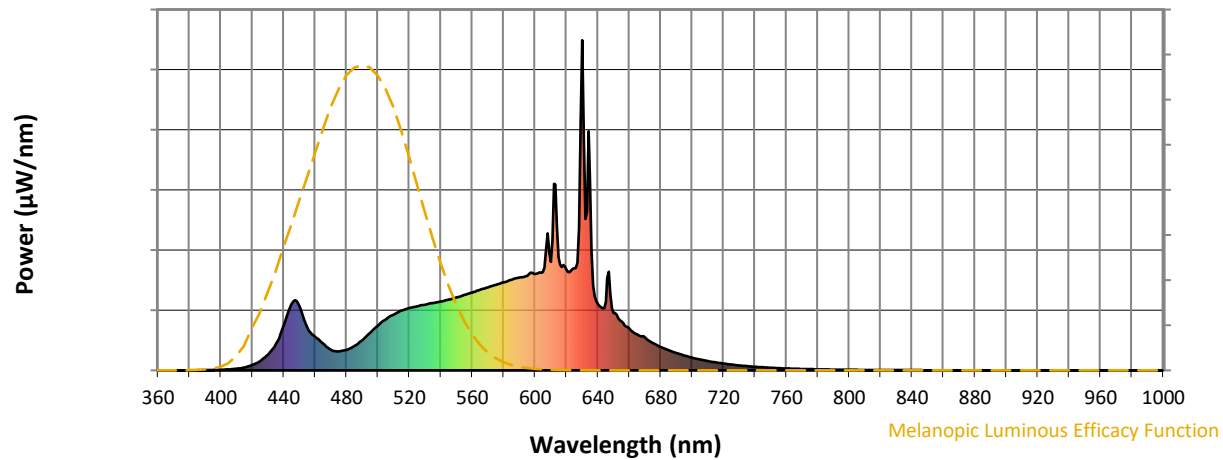
Scotopic Lumens: NR

S/P: 1.42

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	92	NR	620	304	NR	750	8	NR	880	0	NR
365	0	NR	495	114	NR	625	309	NR	755	7	NR	885	0	NR
370	0	NR	500	136	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	154	NR	635	582	NR	765	5	NR	895	0	NR
380	0	NR	510	169	NR	640	200	NR	770	4	NR	900	0	NR
385	0	NR	515	181	NR	645	207	NR	775	4	NR	905	0	NR
390	1	NR	520	189	NR	650	174	NR	780	3	NR	910	0	NR
395	1	NR	525	194	NR	655	148	NR	785	3	NR	915	0	NR
400	2	NR	530	199	NR	660	127	NR	790	2	NR	920	0	NR
405	3	NR	535	203	NR	665	108	NR	795	2	NR	925	0	NR
410	5	NR	540	208	NR	670	100	NR	800	2	NR	930	0	NR
415	9	NR	545	214	NR	675	83	NR	805	2	NR	935	0	NR
420	16	NR	550	221	NR	680	71	NR	810	1	NR	940	0	NR
425	28	NR	555	228	NR	685	61	NR	815	1	NR	945	0	NR
430	48	NR	560	236	NR	690	53	NR	820	1	NR	950	0	NR
435	80	NR	565	244	NR	695	45	NR	825	1	NR	955	0	NR
440	135	NR	570	251	NR	700	38	NR	830	1	NR	960	0	NR
445	202	NR	575	259	NR	705	33	NR	835	1	NR	965	0	NR
450	195	NR	580	266	NR	710	28	NR	840	1	NR	970	0	NR
455	130	NR	585	274	NR	715	24	NR	845	1	NR	975	0	NR
460	101	NR	590	281	NR	720	20	NR	850	0	NR	980	0	NR
465	82	NR	595	286	NR	725	17	NR	855	0	NR	985	0	NR
470	62	NR	600	292	NR	730	15	NR	860	0	NR	990	0	NR
475	58	NR	605	298	NR	735	13	NR	865	0	NR	995	0	NR
480	62	NR	610	328	NR	740	11	NR	870	0	NR	1000	0	NR
485	74	NR	615	342	NR	745	9	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.76

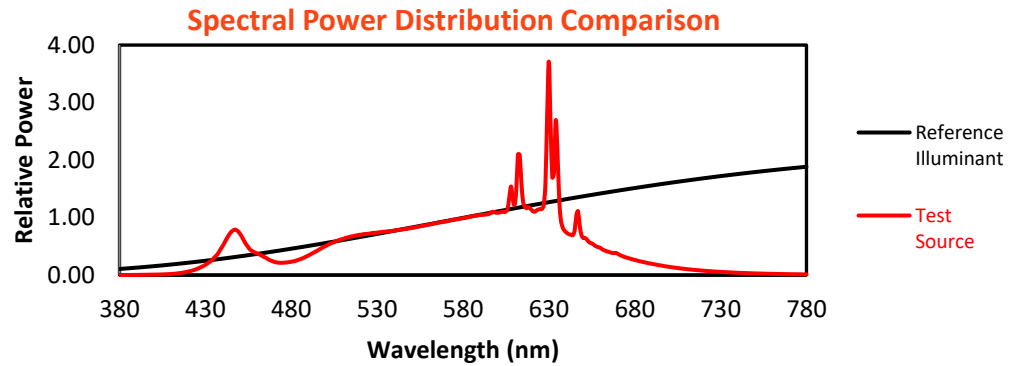
λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)
360	0	NR	490	92	NR	620	304	NR	750	8	NR	880	0	NR
365	0	NR	495	114	NR	625	309	NR	755	7	NR	885	0	NR
370	0	NR	500	136	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	154	NR	635	582	NR	765	5	NR	895	0	NR
380	0	NR	510	169	NR	640	200	NR	770	4	NR	900	0	NR
385	0	NR	515	181	NR	645	207	NR	775	4	NR	905	0	NR
390	1	NR	520	189	NR	650	174	NR	780	3	NR	910	0	NR
395	1	NR	525	194	NR	655	148	NR	785	3	NR	915	0	NR
400	2	NR	530	199	NR	660	127	NR	790	2	NR	920	0	NR
405	3	NR	535	203	NR	665	108	NR	795	2	NR	925	0	NR
410	5	NR	540	208	NR	670	100	NR	800	2	NR	930	0	NR
415	9	NR	545	214	NR	675	83	NR	805	2	NR	935	0	NR
420	16	NR	550	221	NR	680	71	NR	810	1	NR	940	0	NR
425	28	NR	555	228	NR	685	61	NR	815	1	NR	945	0	NR
430	48	NR	560	236	NR	690	53	NR	820	1	NR	950	0	NR
435	80	NR	565	244	NR	695	45	NR	825	1	NR	955	0	NR
440	135	NR	570	251	NR	700	38	NR	830	1	NR	960	0	NR
445	202	NR	575	259	NR	705	33	NR	835	1	NR	965	0	NR
450	195	NR	580	266	NR	710	28	NR	840	1	NR	970	0	NR
455	130	NR	585	274	NR	715	24	NR	845	1	NR	975	0	NR
460	101	NR	590	281	NR	720	20	NR	850	0	NR	980	0	NR
465	82	NR	595	286	NR	725	17	NR	855	0	NR	985	0	NR
470	62	NR	600	292	NR	730	15	NR	860	0	NR	990	0	NR
475	58	NR	605	298	NR	735	13	NR	865	0	NR	995	0	NR
480	62	NR	610	328	NR	740	11	NR	870	0	NR	1000	0	NR
485	74	NR	615	342	NR	745	9	NR	875	0	NR			

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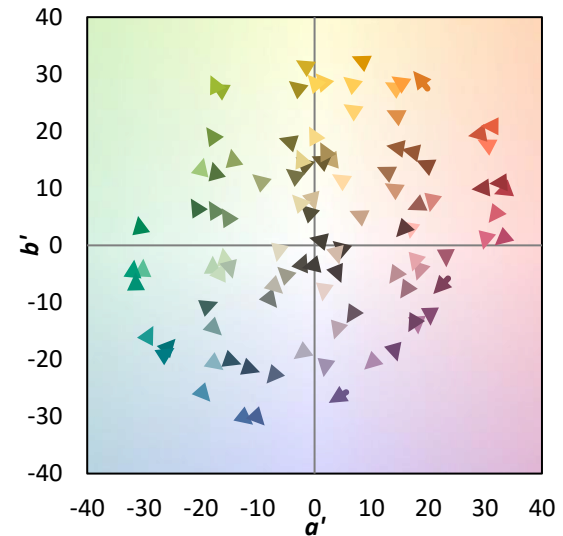
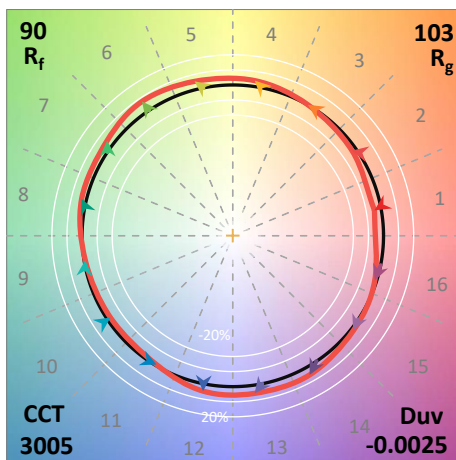
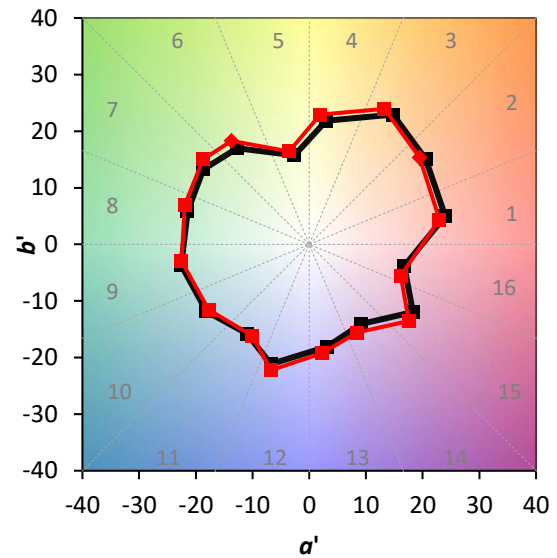
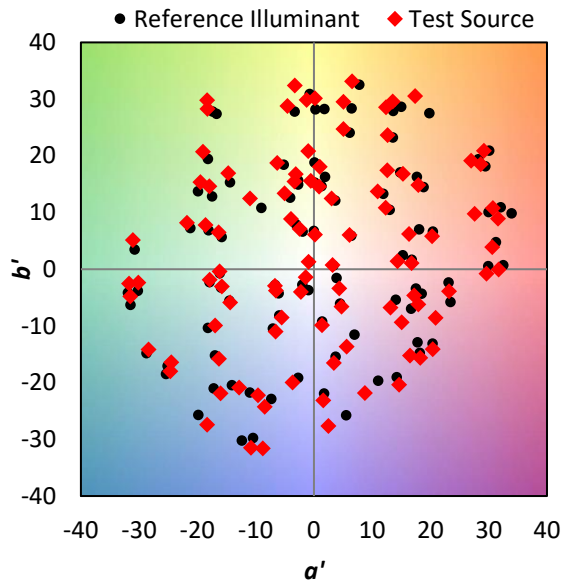
TM-30-18

Summary

$R_f = 90.1$
 $R_g = 103.3$
 $CIE R_a = 93.9$
 $R_9 = 62.0$

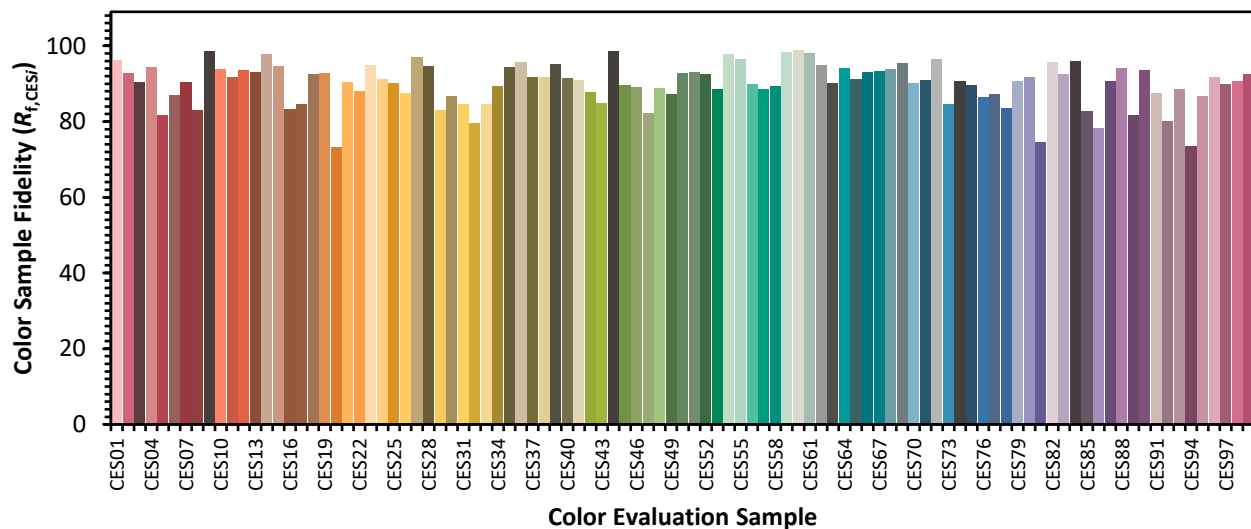


Color Vector Graphics

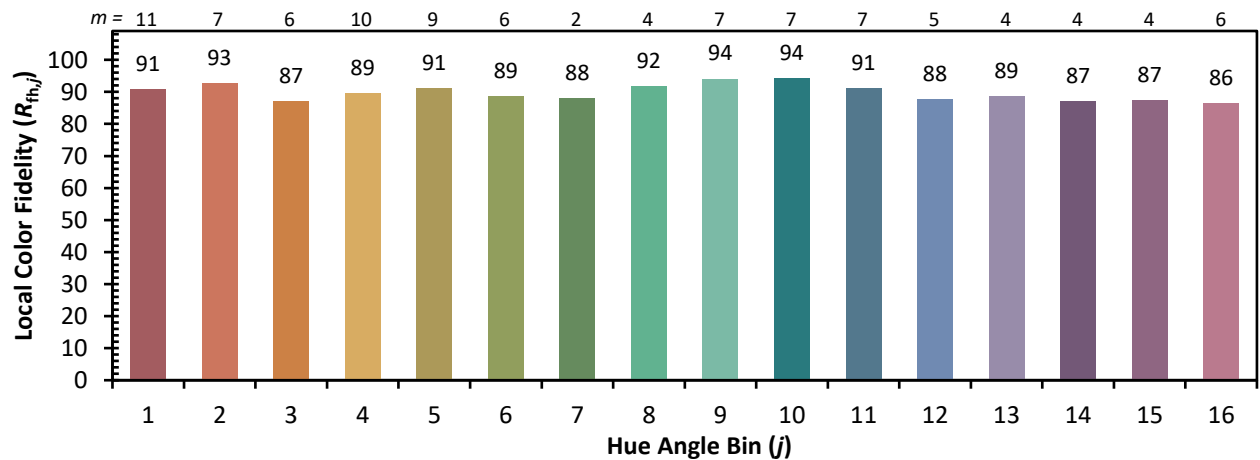
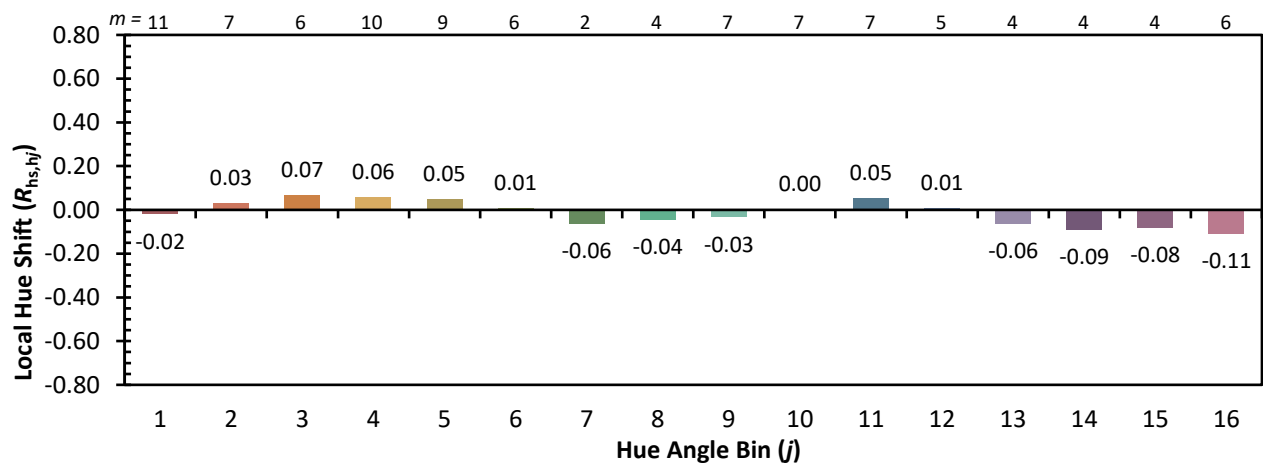
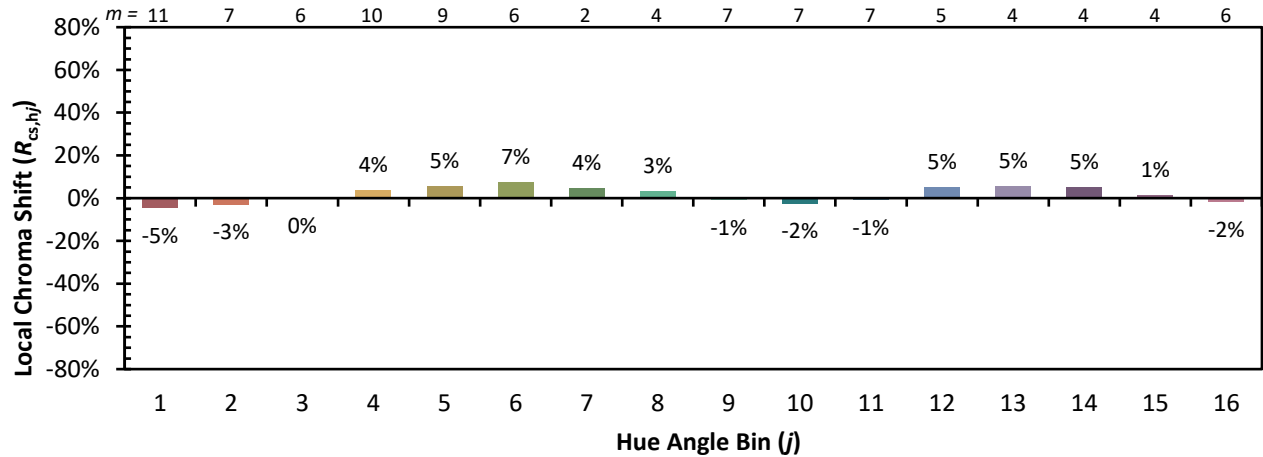


Individual Sample Fidelity Index ($R_{f,i}$)

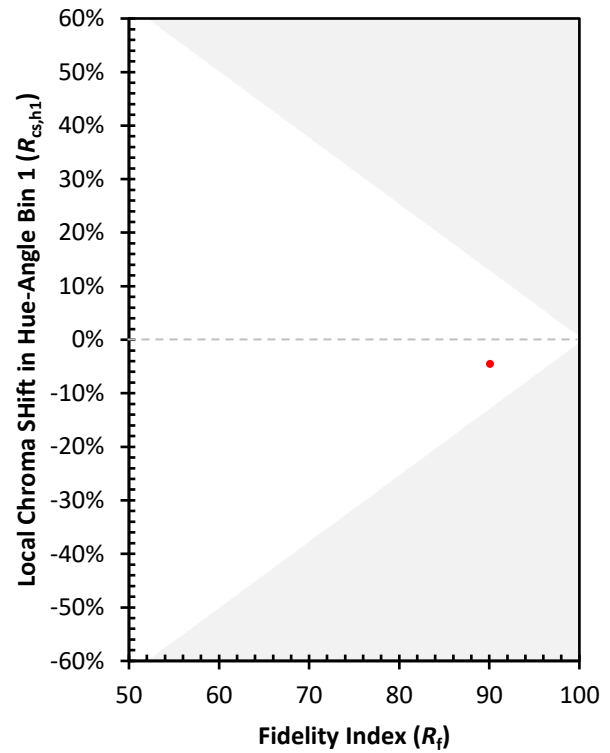
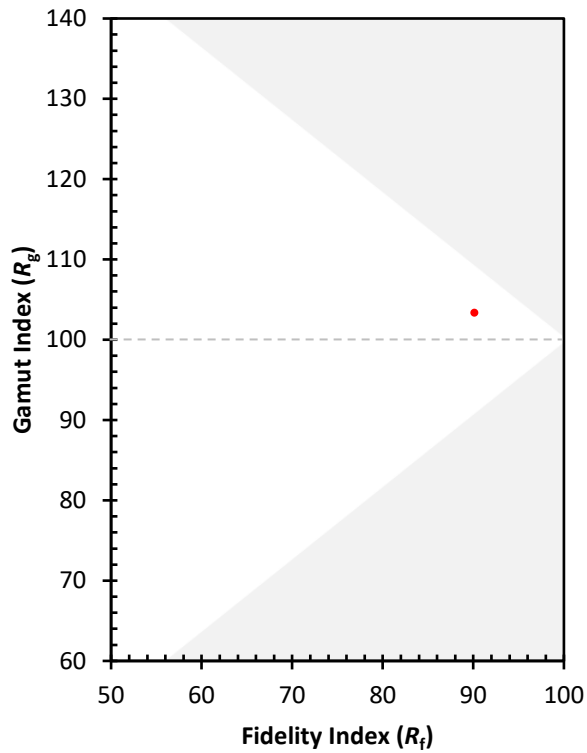
CES01 = 86	CES26 = 88	CES51 = 93	CES76 = 86
CES02 = 63	CES27 = 97	CES52 = 93	CES77 = 87
CES03 = 32	CES28 = 95	CES53 = 89	CES78 = 83
CES04 = 70	CES29 = 83	CES54 = 98	CES79 = 91
CES05 = 51	CES30 = 87	CES55 = 97	CES80 = 92
CES06 = 51	CES31 = 85	CES56 = 90	CES81 = 75
CES07 = 44	CES32 = 80	CES57 = 89	CES82 = 96
CES08 = 42	CES33 = 85	CES58 = 89	CES83 = 92
CES09 = 29	CES34 = 89	CES59 = 98	CES84 = 96
CES10 = 76	CES35 = 94	CES60 = 99	CES85 = 83
CES11 = 59	CES36 = 96	CES61 = 98	CES86 = 78
CES12 = 65	CES37 = 92	CES62 = 95	CES87 = 91
CES13 = 44	CES38 = 92	CES63 = 90	CES88 = 94
CES14 = 74	CES39 = 95	CES64 = 94	CES89 = 82
CES15 = 72	CES40 = 91	CES65 = 91	CES90 = 94
CES16 = 48	CES41 = 91	CES66 = 93	CES91 = 87
CES17 = 50	CES42 = 88	CES67 = 93	CES92 = 80
CES18 = 57	CES43 = 85	CES68 = 94	CES93 = 89
CES19 = 72	CES44 = 99	CES69 = 96	CES94 = 74
CES20 = 67	CES45 = 90	CES70 = 90	CES95 = 87
CES21 = 86	CES46 = 89	CES71 = 91	CES96 = 92
CES22 = 79	CES47 = 82	CES72 = 96	CES97 = 90
CES23 = 92	CES48 = 89	CES73 = 85	CES98 = 91
CES24 = 91	CES49 = 87	CES74 = 91	CES99 = 93
CES25 = 72	CES50 = 93	CES75 = 90	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)