

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: P1357007

Luminaire Tested: 3ASL4-15HE-2-30-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1357007
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: 3ASL4-15HE-2-30-UNV
Description: 3FT 1500 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 3000K LEDS 2 ROW
Light Source: -
Ballast/Driver: -

Summary

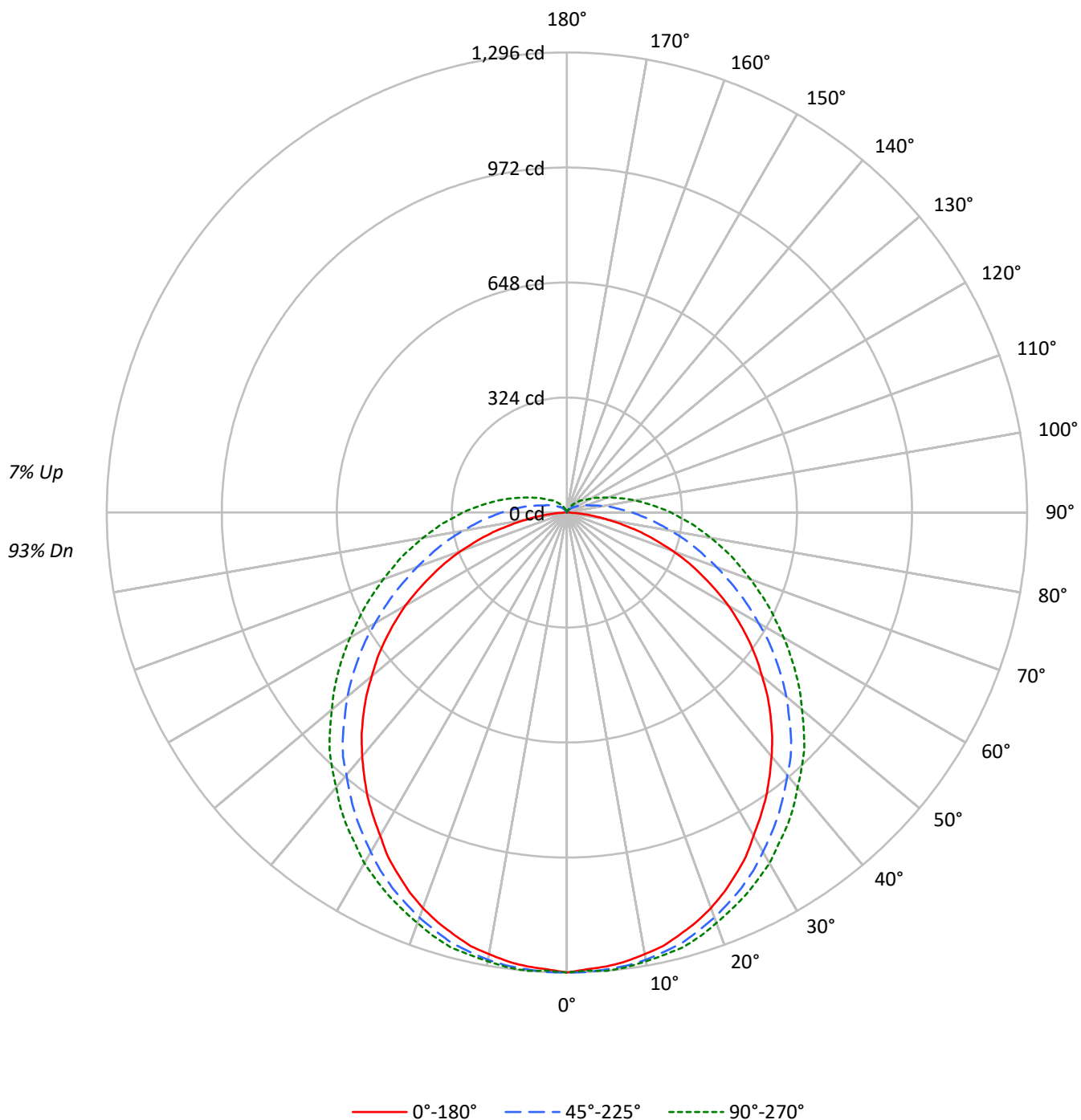
Lumens per Lamp: N/A
Luminaire Lumens: 4449.1 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 2.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 39
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°	14047	14047	14047
5°	13925	13761	13725
10°	13819	13499	13391
15°	13682	13215	13123
20°	13507	12858	12746
25°	13237	12506	12422
30°	12899	12106	12099
35°	12633	11733	11725
40°	12325	11330	11330
45°	12012	10983	11043
50°	11612	10525	10616
55°	11222	10034	10277
60°	10746	9482	9916
65°	10016	8968	9638
70°	9192	8482	9382
75°	8002	8103	9297
80°	6157	7759	9268
85°	3625	7720	9534

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 12012 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.9	2.8
10°-20°	353.3	7.9
20°-30°	535.3	12.0
30°-40°	647.4	14.6
40°-50°	682.6	15.3
50°-60°	637.1	14.3
60°-70°	526.0	11.8
70°-80°	381.6	8.6
80°-90°	241.1	5.4
90°-100°	143.9	3.2
100°-110°	82.5	1.9
110°-120°	46.9	1.1
120°-130°	26.7	0.6
130°-140°	14.5	0.3
140°-150°	6.3	0.1
150°-160°	1.1	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1011.5	22.7
0°-40°	1658.9	37.3
0°-60°	2978.5	66.9
0°-90°	4127.1	92.8
90°-120°	273.3	6.1
90°-150°	320.8	7.2
90°-180°	322.0	7.2
0°-180°	4449.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1296	1296	1296	1296	1296	
5°	1284	1296	1292	1292	1296	122
15°	1231	1247	1255	1259	1267	347
25°	1125	1141	1166	1182	1190	518
35°	978	1002	1039	1068	1080	611
45°	811	844	892	929	946	625
55°	624	660	717	766	786	557
65°	420	465	534	599	628	417
75°	216	273	371	448	481	227
85°	41	126	236	318	350	50
90°	0	77	183	261	293	2
95°	0	49	139	212	240	0
105°	0	16	77	134	155	0
115°	0	8	45	82	98	0
125°	0	4	28	53	61	0
135°	0	0	16	33	41	0
145°	0	0	8	20	24	0
155°	0	0	0	4	8	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°	1295.9	1295.9	1295.9	1295.9	1295.9
2.5°	1287.8	1300.0	1295.9	1291.9	1291.9
5°	1283.7	1295.9	1291.9	1291.9	1295.9
7.5°	1275.6	1287.8	1287.8	1287.8	1291.9
10°	1263.3	1279.6	1279.6	1279.6	1283.7
12.5°	1251.1	1263.3	1267.4	1271.5	1275.6
15°	1230.7	1247.0	1255.2	1259.3	1267.4
17.5°	1210.4	1222.6	1234.8	1247.0	1251.1
20°	1185.9	1202.2	1214.4	1226.7	1230.7
22.5°	1157.4	1173.7	1190.0	1202.2	1210.4
25°	1124.8	1141.1	1165.5	1181.8	1190.0
27.5°	1092.2	1108.5	1137.0	1157.4	1165.5
30°	1051.4	1075.9	1104.4	1128.9	1141.1
32.5°	1014.8	1039.2	1071.8	1100.3	1108.5
35°	978.1	1002.5	1039.2	1067.7	1080.0
37.5°	937.3	965.8	1002.5	1035.1	1047.4
40°	896.6	925.1	965.8	1002.5	1010.7
42.5°	855.8	884.3	933.2	965.8	978.1
45°	811.0	843.6	892.5	929.2	945.5
47.5°	766.2	798.8	847.7	888.4	904.7
50°	717.3	753.9	806.9	847.7	864.0
52.5°	672.4	709.1	762.1	806.9	827.3
55°	623.5	660.2	717.3	766.2	786.5
57.5°	574.6	611.3	672.4	725.4	745.8
60°	525.7	562.4	623.5	684.7	705.0
62.5°	472.7	513.5	578.7	639.8	664.3
65°	419.8	464.6	533.9	599.1	627.6
67.5°	370.9	415.7	489.0	562.4	586.8
70°	317.9	366.8	448.3	521.6	550.2
72.5°	264.9	317.9	407.5	485.0	513.5
75°	216.0	273.0	370.9	448.3	480.9
77.5°	163.0	232.3	334.2	415.7	444.2
80°	118.2	191.5	297.5	383.1	411.6
82.5°	77.4	154.9	264.9	350.5	379.0
85°	40.8	126.3	236.4	317.9	350.5
87.5°	12.2	97.8	207.8	289.3	317.9
90°	0.0	77.4	183.4	260.8	293.4
92.5°	0.0	61.1	158.9	236.4	264.9
95°	0.0	48.9	138.6	211.9	240.4
97.5°	0.0	40.8	122.3	191.5	216.0
100°	0.0	32.6	106.0	171.2	195.6
102.5°	0.0	24.5	89.7	150.8	175.2
105°	0.0	16.3	77.4	134.5	154.9
107.5°	0.0	12.2	65.2	118.2	138.6
110°	0.0	12.2	61.1	101.9	122.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	8.2	53.0	93.7	110.0
115°	0.0	8.2	44.8	81.5	97.8
117.5°	0.0	8.2	40.8	73.4	89.7
120°	0.0	8.2	36.7	65.2	77.4
122.5°	0.0	4.1	32.6	57.1	69.3
125°	0.0	4.1	28.5	53.0	61.1
127.5°	0.0	4.1	24.5	48.9	57.1
130°	0.0	4.1	24.5	44.8	53.0
132.5°	0.0	0.0	20.4	40.8	48.9
135°	0.0	0.0	16.3	32.6	40.8
137.5°	0.0	0.0	16.3	28.5	36.7
140°	0.0	0.0	12.2	28.5	32.6
142.5°	0.0	0.0	8.2	24.5	28.5
145°	0.0	0.0	8.2	20.4	24.5
147.5°	0.0	0.0	4.1	16.3	20.4
150°	0.0	0.0	4.1	12.2	16.3
152.5°	0.0	0.0	0.0	8.2	12.2
155°	0.0	0.0	0.0	4.1	8.2
157.5°	0.0	0.0	0.0	0.0	4.1
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	18.48	20.02	18.96	20.48	20.97	20.51	22.05	20.99	22.51	23.00
	3H	19.99	21.39	20.47	21.86	22.39	22.95	24.35	23.44	24.82	25.35
	4H	20.47	21.79	20.97	22.28	22.83	24.15	25.48	24.66	25.97	26.51
	6H	20.74	21.98	21.26	22.48	23.04	25.41	26.64	25.92	27.14	27.70
	8H	20.80	21.98	21.33	22.51	23.07	26.05	27.24	26.58	27.76	28.33
	12H	20.81	21.95	21.35	22.47	23.06	26.76	27.89	27.30	28.41	29.01
4H	2H	19.36	20.68	19.86	21.17	21.72	20.95	22.27	21.45	22.76	23.31
	3H	21.10	22.23	21.62	22.76	23.33	23.62	24.75	24.13	25.28	25.84
	4H	21.71	22.75	22.25	23.29	23.88	24.99	26.03	25.53	26.57	27.17
	6H	22.11	23.03	22.67	23.59	24.21	26.44	27.36	27.00	27.92	28.54
	8H	22.21	23.07	22.77	23.64	24.26	27.19	28.06	27.76	28.62	29.25
	12H	22.26	23.04	22.84	23.63	24.26	28.03	28.81	28.61	29.40	30.03
8H	4H	22.40	23.26	22.96	23.83	24.45	25.21	26.07	25.78	26.64	27.26
	6H	22.98	23.71	23.58	24.32	24.95	26.84	27.57	27.43	28.18	28.81
	8H	23.17	23.83	23.78	24.45	25.09	27.74	28.40	28.34	29.01	29.66
	12H	23.29	23.88	23.90	24.49	25.20	28.75	29.34	29.36	29.95	30.66
12H	4H	22.59	23.38	23.18	23.97	24.60	25.22	26.00	25.81	26.60	27.23
	6H	23.28	23.94	23.89	24.56	25.21	26.88	27.54	27.49	28.16	28.80
	8H	23.57	24.16	24.18	24.77	25.48	27.85	28.43	28.46	29.04	29.75

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

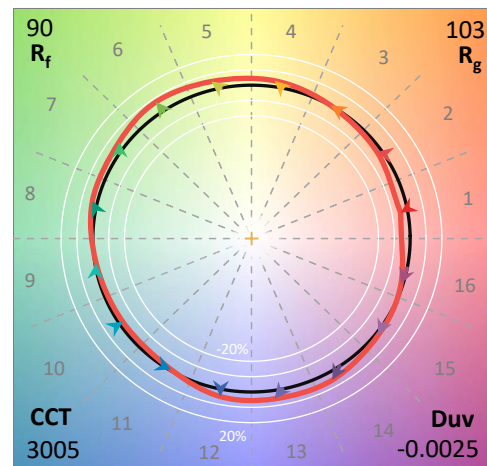
Test Information

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

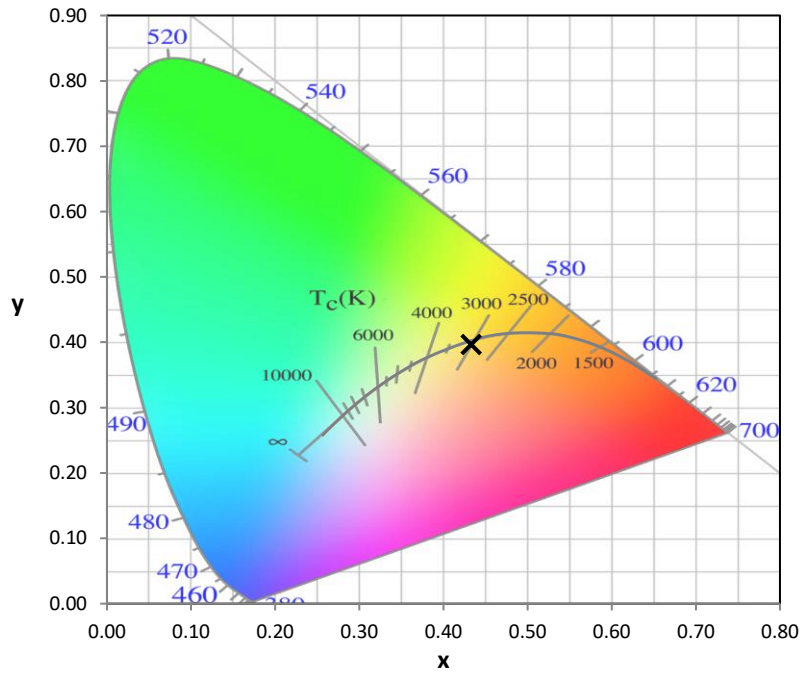
Stabilization Time: 32M
 Operation Time: 1H 32M
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2511-597-3

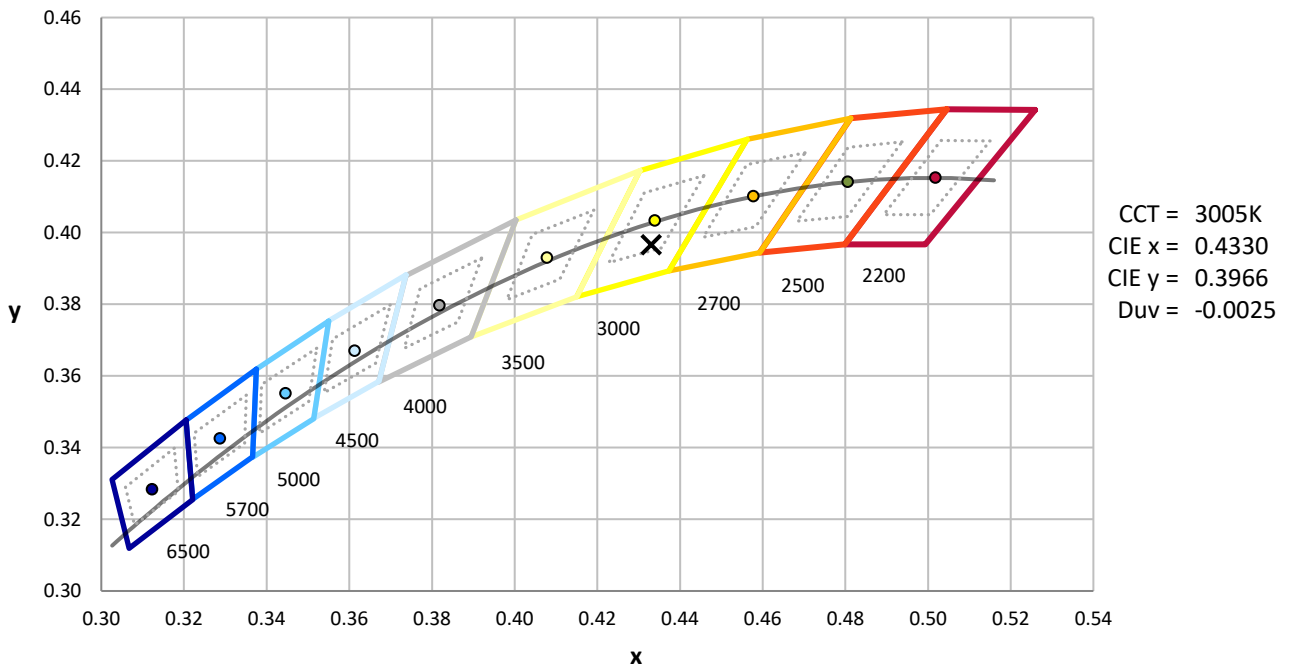
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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



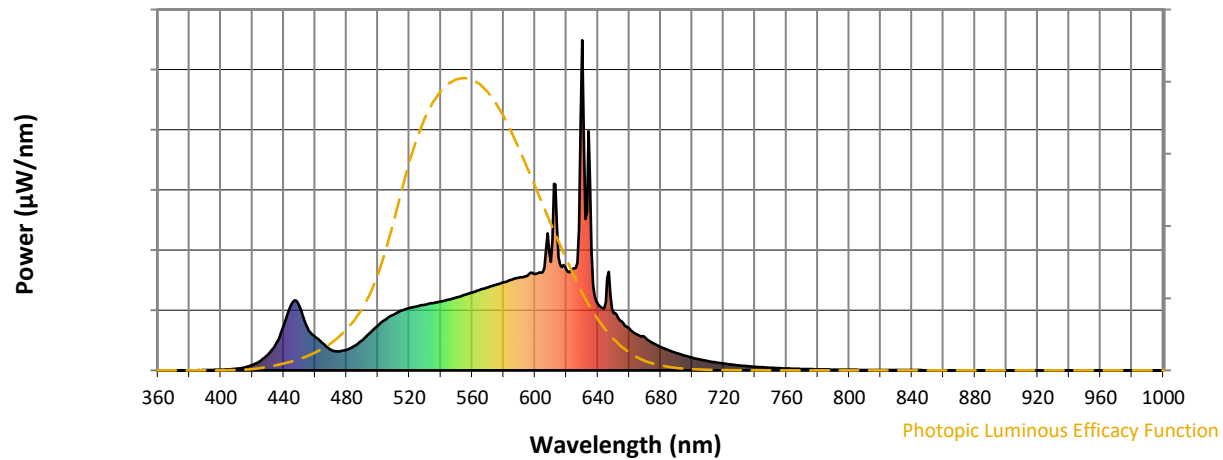
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

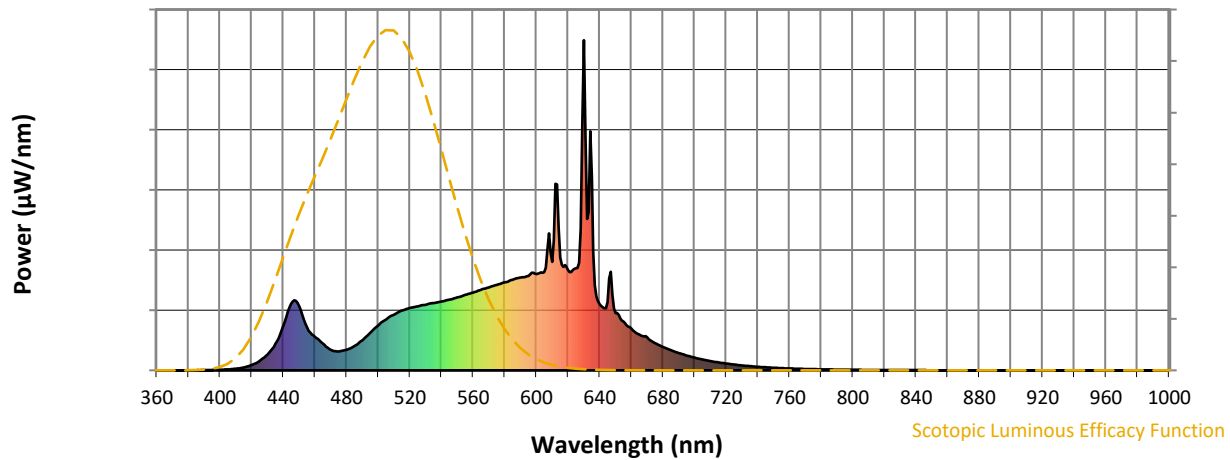


Photopic Lumens: NR

λ (nm)	Power 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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Scotopic Flux vs. Wavelength



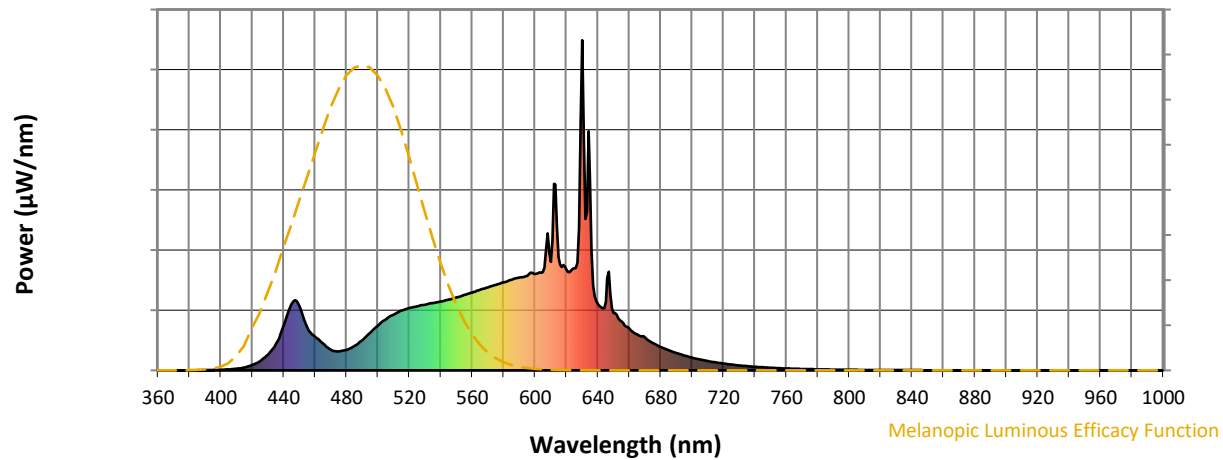
Scotopic Lumens: NR

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

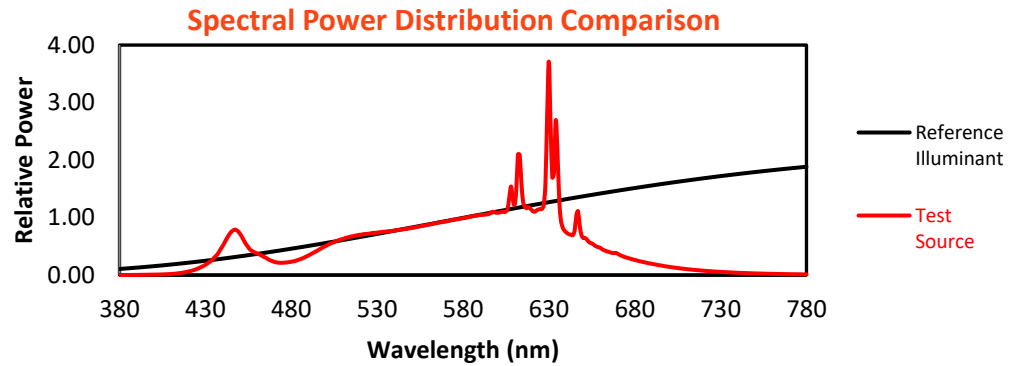
λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	92	NR	620	304	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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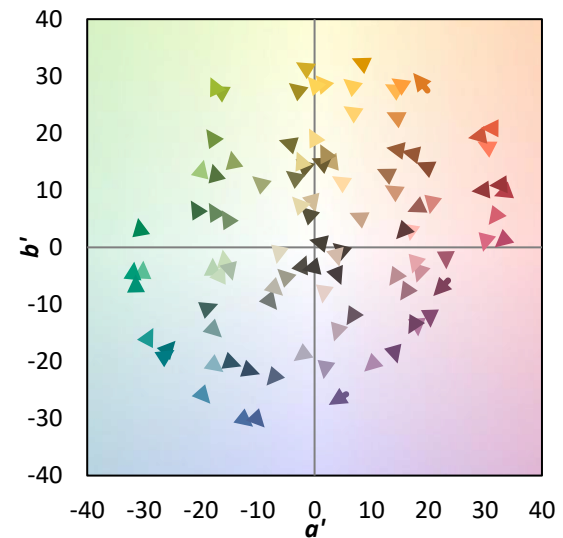
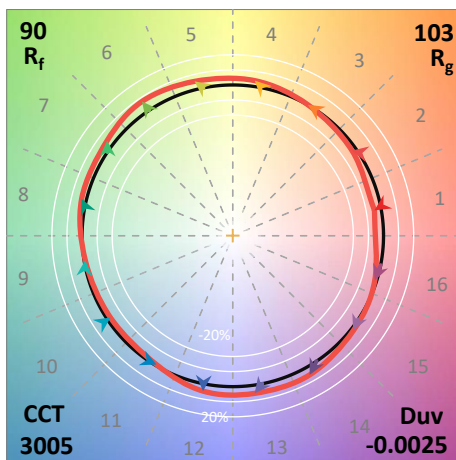
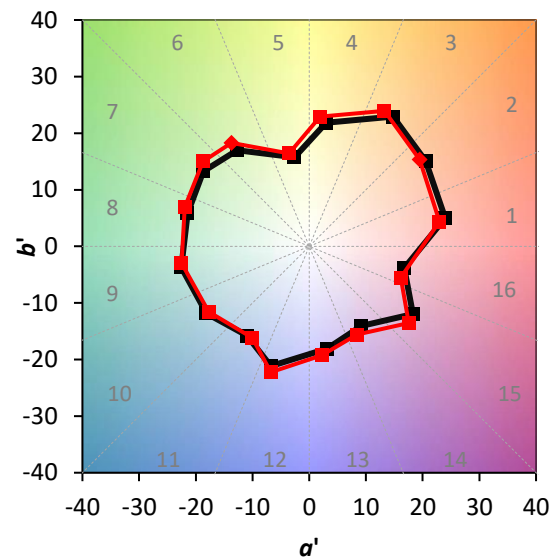
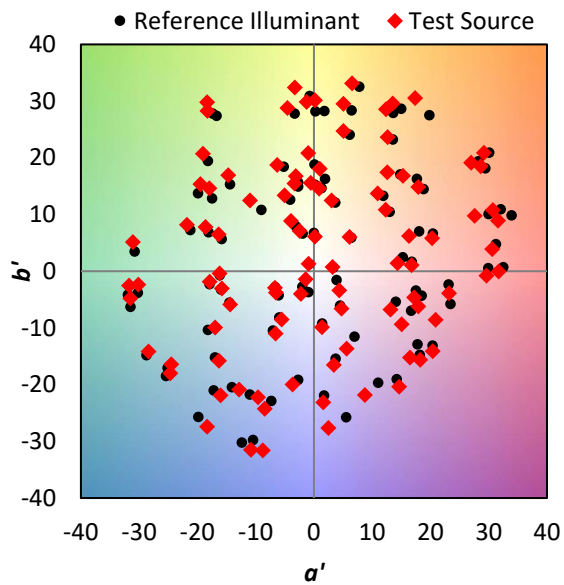
TM-30-18

Summary

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

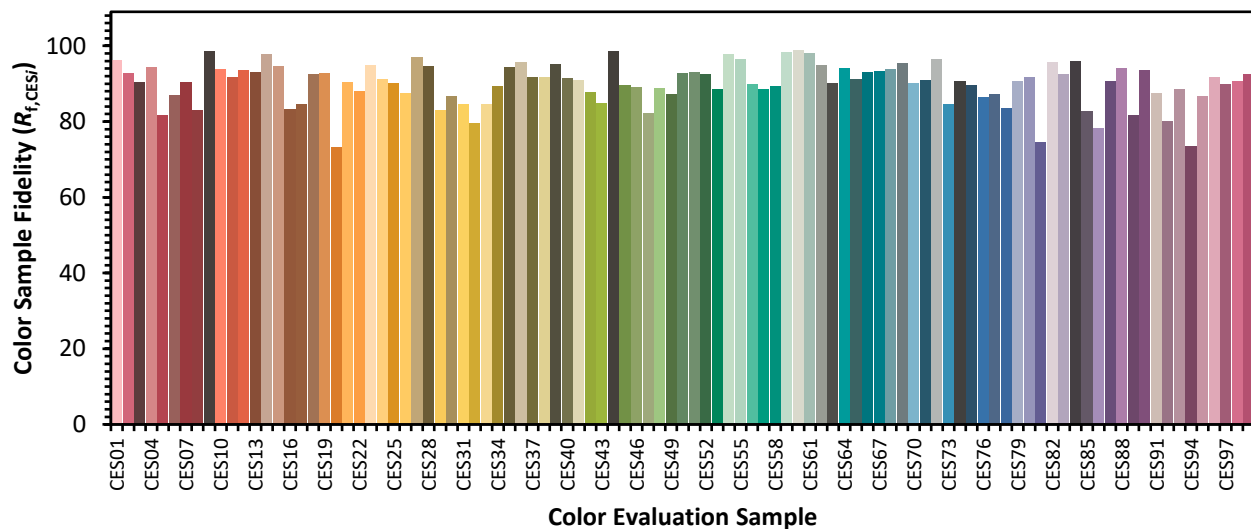


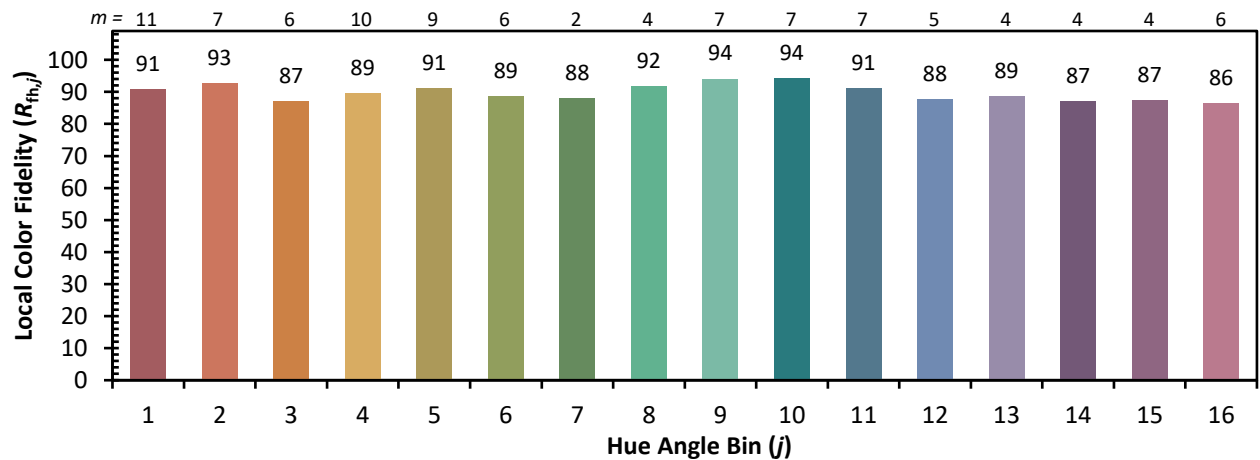
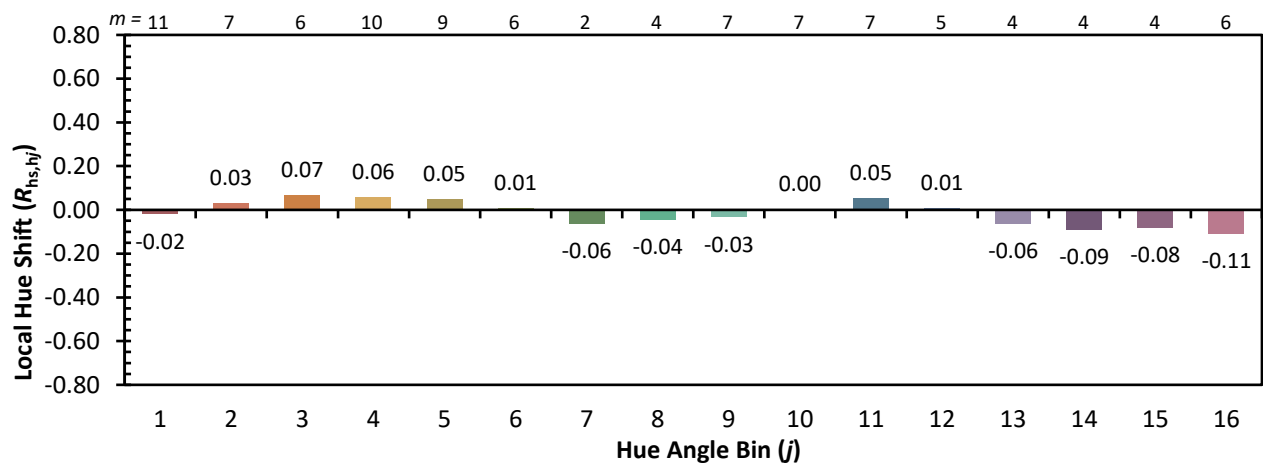
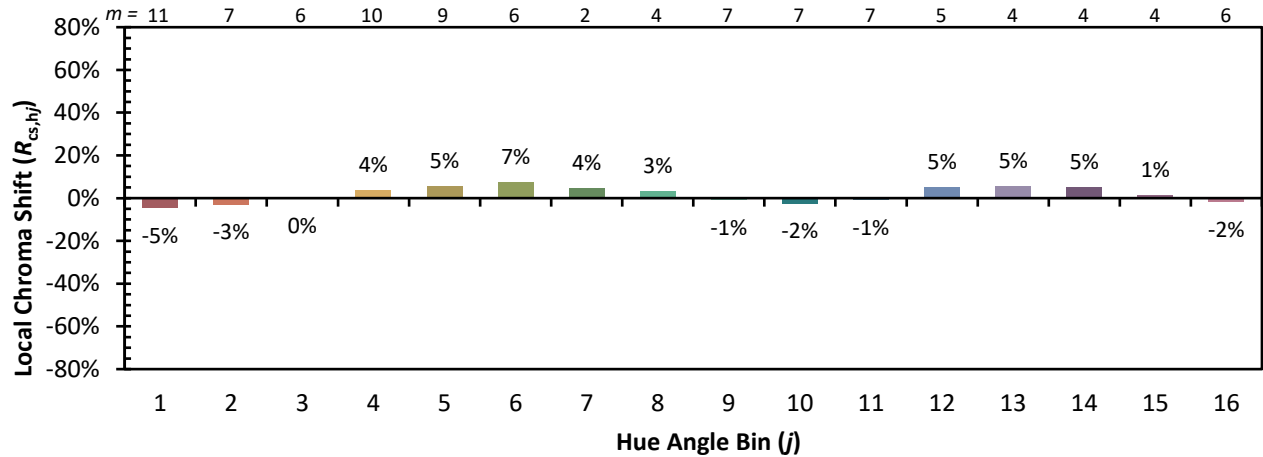
Color Vector Graphics



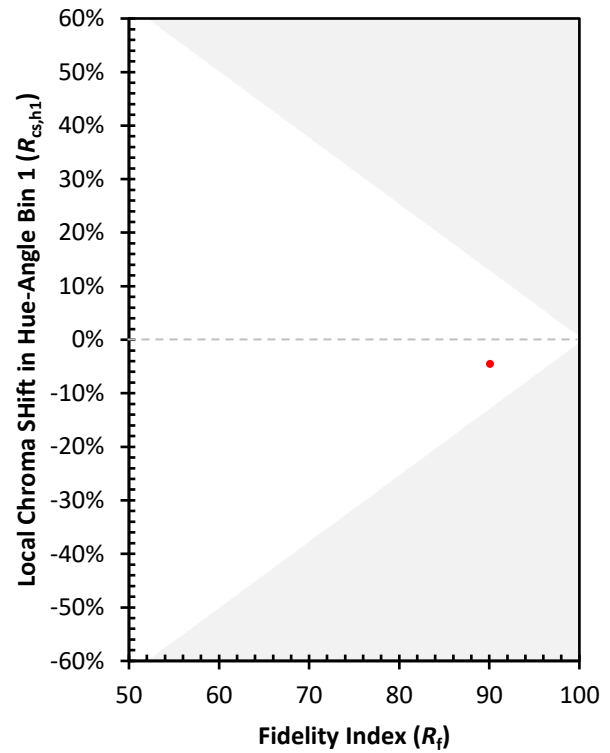
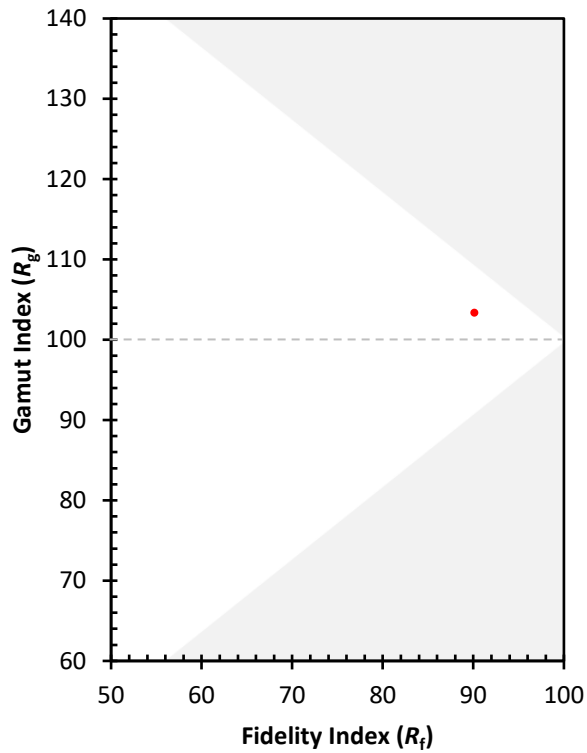
Individual Sample Fidelity Index (R_{fi})

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)