

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: P1357115

Luminaire Tested: 4ASL4-10HE-2-50-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1357115
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: 4ASL4-10HE-2-50-UNV
Description: 4FT 1000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 5000K LEDS 2 ROW
Light Source: -
Ballast/Driver: -

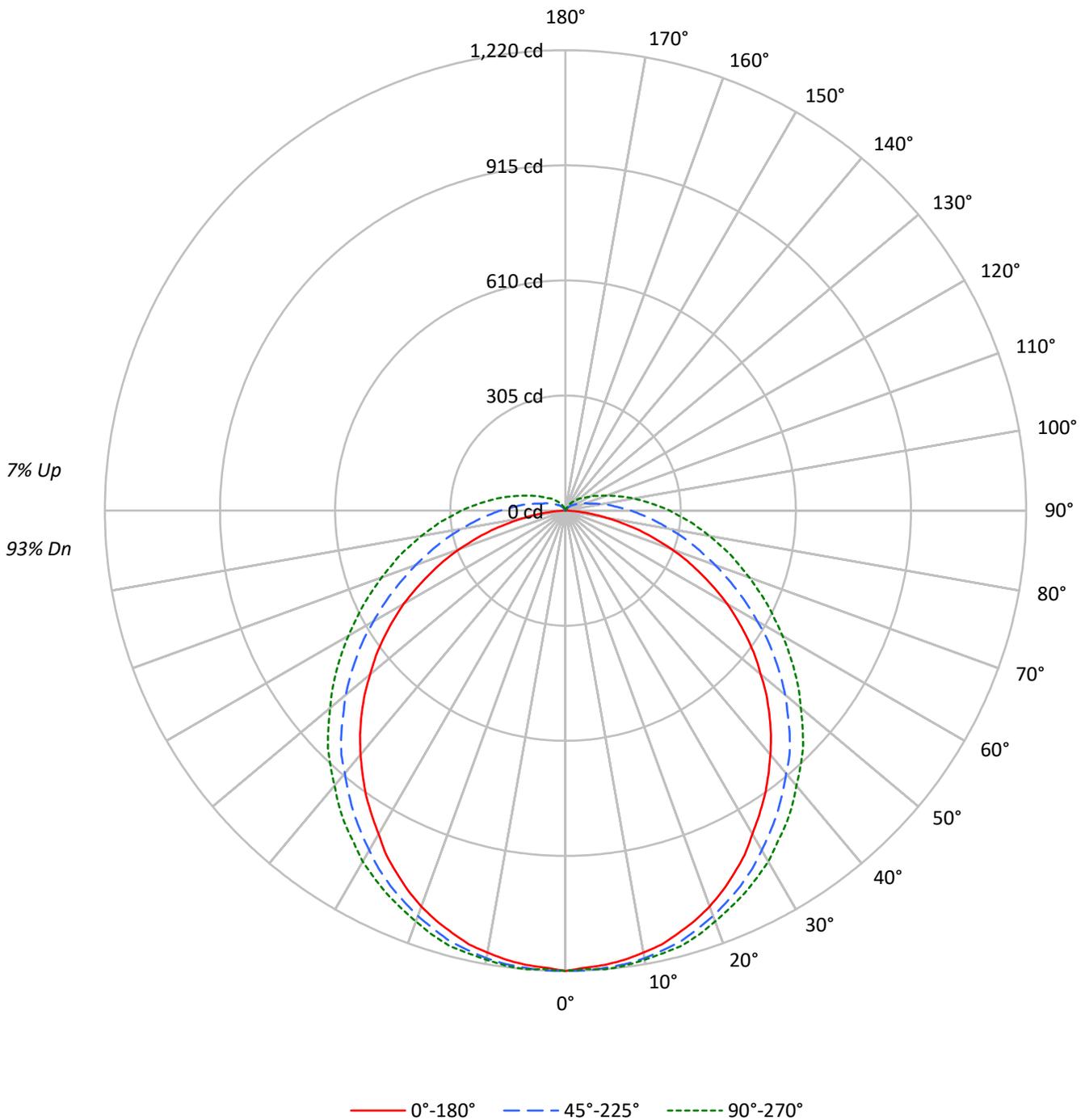
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4188.0 lumens
Efficiency: N/A
Efficacy: 126.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 3.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 33.2
Input Voltage (V): NR
Input Current (A_{in}): 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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CATALOG NUMBER: 4ASL4-10HE-2-50-UNV

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9900	9900	9900
5°	9821	9703	9673
10°	9755	9524	9438
15°	9665	9329	9249
20°	9549	9081	8983
25°	9366	8838	8755
30°	9136	8558	8527
35°	8957	8299	8263
40°	8749	8020	7985
45°	8538	7779	7782
50°	8267	7461	7482
55°	8005	7118	7243
60°	7684	6733	6989
65°	7184	6375	6793
70°	6623	6039	6612
75°	5807	5780	6552
80°	4529	5549	6532
85°	2752	5543	6719

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8538 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.7	2.8
10°-20°	332.6	7.9
20°-30°	503.9	12.0
30°-40°	609.5	14.6
40°-50°	642.5	15.3
50°-60°	599.7	14.3
60°-70°	495.1	11.8
70°-80°	359.2	8.6
80°-90°	226.9	5.4
90°-100°	135.4	3.2
100°-110°	77.6	1.9
110°-120°	44.1	1.1
120°-130°	25.1	0.6
130°-140°	13.6	0.3
140°-150°	6.0	0.1
150°-160°	1.1	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	952.2	22.7
0°-40°	1561.6	37.3
0°-60°	2803.8	66.9
0°-90°	3885.0	92.8
90°-120°	257.2	6.1
90°-150°	301.9	7.2
90°-180°	303.0	7.2
0°-180°	4188.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1220	1220	1220	1220	1220	
5°	1208	1220	1216	1216	1220	115
15°	1158	1174	1182	1185	1193	327
25°	1059	1074	1097	1112	1120	488
35°	921	944	978	1005	1017	575
45°	763	794	840	875	890	589
55°	587	622	675	721	740	525
65°	395	437	502	564	591	392
75°	203	257	349	422	453	214
85°	38	119	222	299	330	47
90°	0	73	173	246	276	2
95°	0	46	130	200	226	0
105°	0	15	73	127	146	0
115°	0	8	42	77	92	0
125°	0	4	27	50	58	0
135°	0	0	15	31	38	0
145°	0	0	8	19	23	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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CATALOG NUMBER: 4ASL4-10HE-2-50-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1219.9	1219.9	1219.9	1219.9	1219.9
2.5°	1212.2	1223.8	1219.9	1216.1	1216.1
5°	1208.4	1219.9	1216.1	1216.1	1219.9
7.5°	1200.7	1212.2	1212.2	1212.2	1216.1
10°	1189.2	1204.6	1204.6	1204.6	1208.4
12.5°	1177.7	1189.2	1193.1	1196.9	1200.7
15°	1158.5	1173.9	1181.6	1185.4	1193.1
17.5°	1139.4	1150.9	1162.4	1173.9	1177.7
20°	1116.3	1131.7	1143.2	1154.7	1158.5
22.5°	1089.5	1104.8	1120.2	1131.7	1139.4
25°	1058.8	1074.1	1097.2	1112.5	1120.2
27.5°	1028.1	1043.5	1070.3	1089.5	1097.2
30°	989.7	1012.8	1039.6	1062.6	1074.1
32.5°	955.2	978.2	1008.9	1035.8	1043.5
35°	920.7	943.7	978.2	1005.1	1016.6
37.5°	882.3	909.2	943.7	974.4	985.9
40°	844.0	870.8	909.2	943.7	951.4
42.5°	805.6	832.5	878.5	909.2	920.7
45°	763.4	794.1	840.1	874.7	890.0
47.5°	721.2	751.9	797.9	836.3	851.6
50°	675.2	709.7	759.6	797.9	813.3
52.5°	633.0	667.5	717.4	759.6	778.8
55°	586.9	621.5	675.2	721.2	740.4
57.5°	540.9	575.4	633.0	682.8	702.0
60°	494.9	529.4	586.9	644.5	663.7
62.5°	445.0	483.4	544.7	602.3	625.3
65°	395.1	437.3	502.5	563.9	590.8
67.5°	349.1	391.3	460.3	529.4	552.4
70°	299.2	345.3	422.0	491.0	517.9
72.5°	249.4	299.2	383.6	456.5	483.4
75°	203.3	257.0	349.1	422.0	452.7
77.5°	153.4	218.7	314.6	391.3	418.1
80°	111.3	180.3	280.0	360.6	387.5
82.5°	72.9	145.8	249.4	329.9	356.8
85°	38.4	118.9	222.5	299.2	329.9
87.5°	11.5	92.1	195.6	272.4	299.2
90°	0.0	72.9	172.6	245.5	276.2
92.5°	0.0	57.5	149.6	222.5	249.4
95°	0.0	46.0	130.4	199.5	226.3
97.5°	0.0	38.4	115.1	180.3	203.3
100°	0.0	30.7	99.7	161.1	184.1
102.5°	0.0	23.0	84.4	141.9	165.0
105°	0.0	15.3	72.9	126.6	145.8
107.5°	0.0	11.5	61.4	111.3	130.4
110°	0.0	11.5	57.5	95.9	115.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	7.7	49.9	88.2	103.6
115°	0.0	7.7	42.2	76.7	92.1
117.5°	0.0	7.7	38.4	69.1	84.4
120°	0.0	7.7	34.5	61.4	72.9
122.5°	0.0	3.8	30.7	53.7	65.2
125°	0.0	3.8	26.9	49.9	57.5
127.5°	0.0	3.8	23.0	46.0	53.7
130°	0.0	3.8	23.0	42.2	49.9
132.5°	0.0	0.0	19.2	38.4	46.0
135°	0.0	0.0	15.3	30.7	38.4
137.5°	0.0	0.0	15.3	26.9	34.5
140°	0.0	0.0	11.5	26.9	30.7
142.5°	0.0	0.0	7.7	23.0	26.9
145°	0.0	0.0	7.7	19.2	23.0
147.5°	0.0	0.0	3.8	15.3	19.2
150°	0.0	0.0	3.8	11.5	15.3
152.5°	0.0	0.0	0.0	7.7	11.5
155°	0.0	0.0	0.0	3.8	7.7
157.5°	0.0	0.0	0.0	0.0	3.8
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	17.28	18.81	17.75	19.27	19.76	19.34	20.87	19.81	21.33	21.82
	3H	18.78	20.18	19.26	20.65	21.18	21.79	23.19	22.27	23.66	24.19
	4H	19.26	20.59	19.77	21.07	21.62	23.00	24.33	23.50	24.81	25.36
	6H	19.53	20.77	20.05	21.27	21.83	24.27	25.51	24.79	26.01	26.57
	8H	19.59	20.77	20.12	21.30	21.86	24.93	26.11	25.46	26.64	27.20
	12H	19.60	20.74	20.14	21.26	21.86	25.66	26.79	26.19	27.31	27.91
4H	2H	18.16	19.48	18.66	19.97	20.52	19.77	21.09	20.27	21.58	22.13
	3H	19.90	21.03	20.42	21.56	22.13	22.45	23.58	22.97	24.11	24.68
	4H	20.51	21.54	21.05	22.08	22.68	23.83	24.87	24.37	25.41	26.01
	6H	20.91	21.82	21.47	22.39	23.00	25.30	26.22	25.86	26.78	27.40
	8H	21.01	21.87	21.57	22.44	23.06	26.07	26.93	26.63	27.50	28.12
	12H	21.05	21.84	21.64	22.43	23.06	26.92	27.71	27.51	28.30	28.93
8H	4H	21.20	22.06	21.77	22.63	23.26	24.05	24.91	24.62	25.48	26.11
	6H	21.79	22.52	22.39	23.13	23.76	25.70	26.43	26.29	27.04	27.67
	8H	21.98	22.64	22.59	23.26	23.90	26.61	27.27	27.22	27.89	28.53
	12H	22.10	22.69	22.71	23.30	24.01	27.65	28.24	28.26	28.85	29.56
12H	4H	21.40	22.19	21.99	22.78	23.41	24.06	24.84	24.65	25.44	26.07
	6H	22.09	22.75	22.70	23.37	24.02	25.74	26.40	26.34	27.02	27.66
	8H	22.38	22.97	22.99	23.58	24.29	26.72	27.31	27.33	27.91	28.62

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-5

Test Date: 11/18/2025

Luminaire Tested: 4ASL-2-50-UNV-OPL-1_600mA

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

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2511-597-5
 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-2-50-UNV-OPL-1_600mA**
 Description: 2foot 4ASL LED LUMINAIRE WITH OPL LENS AND 5000K LEDs with 1 rows at 600mA

Spectral Parameters

CCT (K): 5076
 CIE u': 0.2110
 CIE v': 0.4830
 Duv: -0.0005
 CIE x: 0.3429
 CIE y: 0.3489
 CIE z: 0.3082
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 572
 Purity: 7.553016
 R_f: 90.4
 R_g: 99

CRI (Ra):	94.9		
R1:	96.7	R9:	74.0
R2:	98.2	R10:	93.9
R3:	96.6	R11:	96.2
R4:	95.6	R12:	72.4
R5:	95.1	R13:	98.1
R6:	93.6	R14:	97.8
R7:	94.0	R15:	95.6
R8:	89.6		



Test Conditions

Stabilization Time: 24M
 Operation Time: 1H 24M
 Sphere Temperature (°C): 24.1

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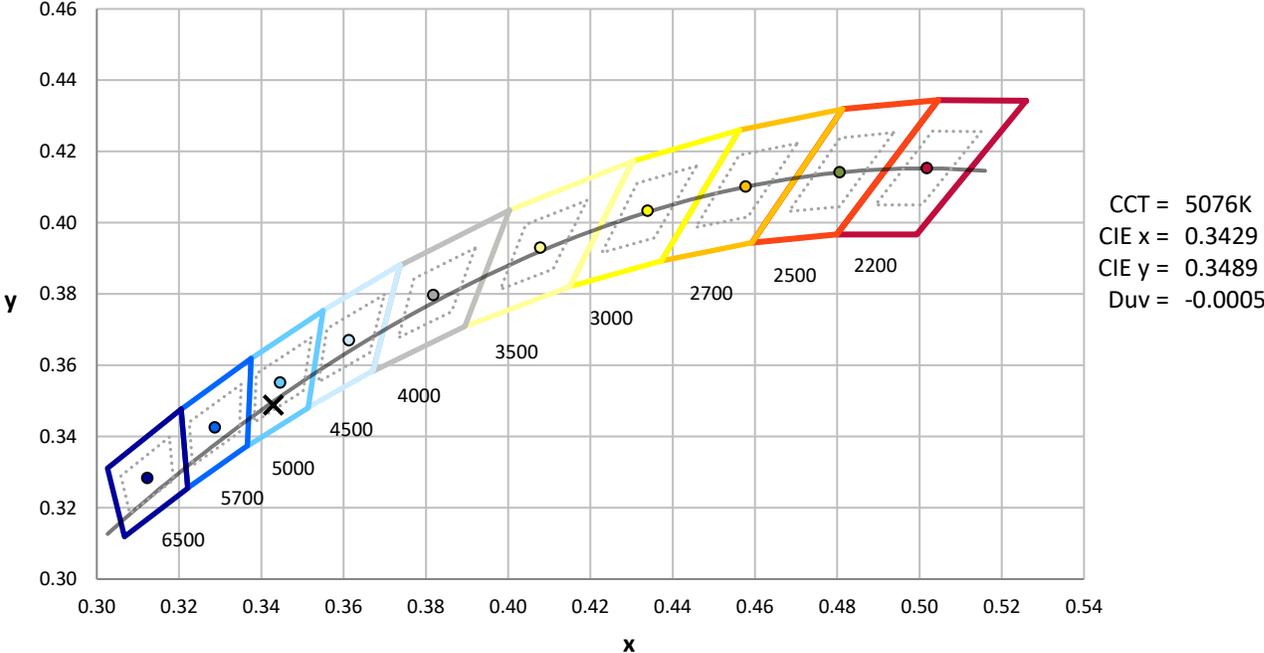
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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



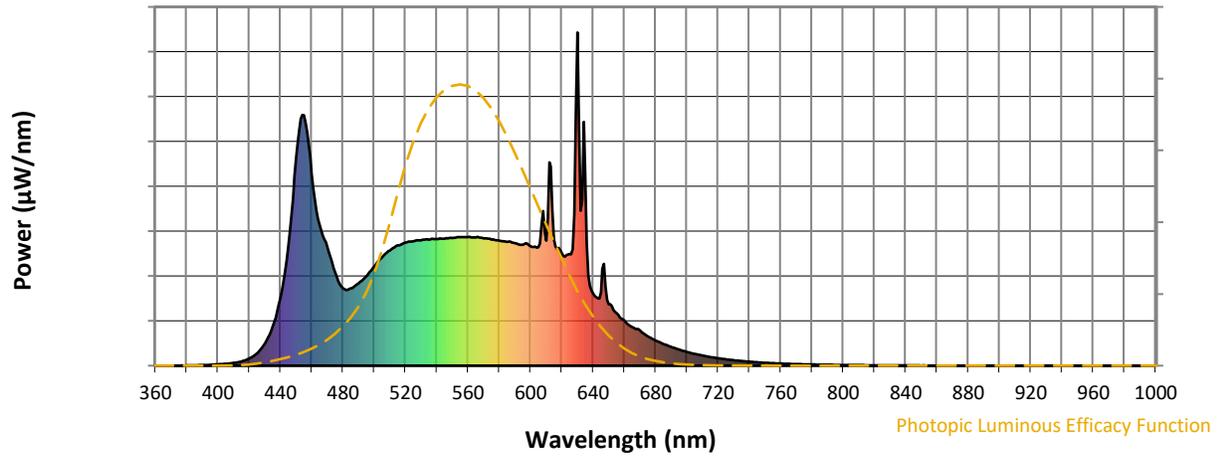
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

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Photopic Flux vs. Wavelength

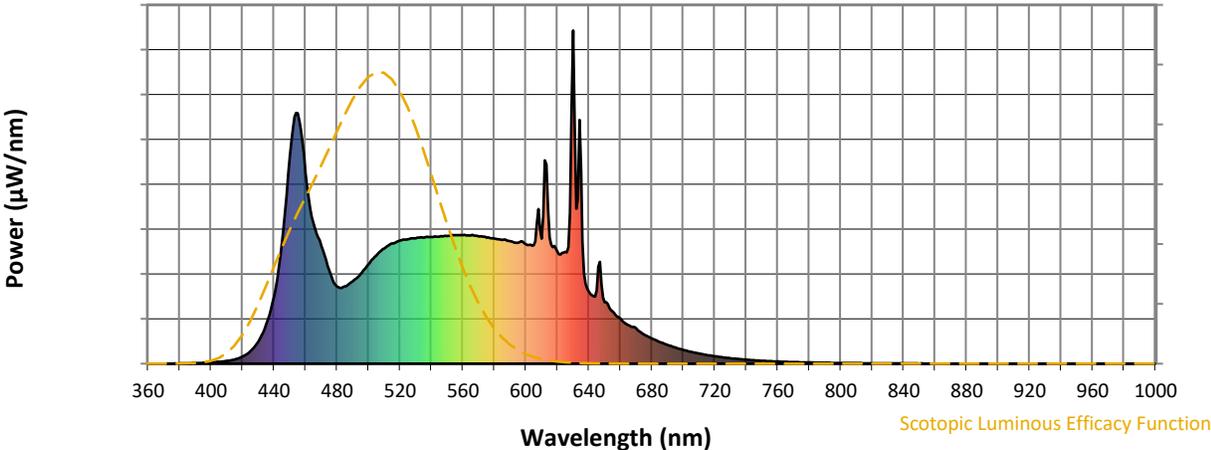


Photopic Lumens: NR

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	248	NR	620	337	NR	750	9	NR	880	0	NR
365	0	NR	495	269	NR	625	335	NR	755	8	NR	885	0	NR
370	0	NR	500	298	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	325	NR	635	580	NR	765	6	NR	895	0	NR
380	1	NR	510	346	NR	640	216	NR	770	5	NR	900	0	NR
385	1	NR	515	361	NR	645	221	NR	775	4	NR	905	0	NR
390	2	NR	520	369	NR	650	185	NR	780	4	NR	910	0	NR
395	3	NR	525	374	NR	655	158	NR	785	3	NR	915	0	NR
400	4	NR	530	376	NR	660	136	NR	790	3	NR	920	0	NR
405	6	NR	535	379	NR	665	116	NR	795	2	NR	925	0	NR
410	8	NR	540	381	NR	670	106	NR	800	2	NR	930	0	NR
415	13	NR	545	381	NR	675	88	NR	805	2	NR	935	0	NR
420	22	NR	550	383	NR	680	76	NR	810	2	NR	940	0	NR
425	37	NR	555	386	NR	685	65	NR	815	1	NR	945	0	NR
430	66	NR	560	386	NR	690	56	NR	820	1	NR	950	0	NR
435	119	NR	565	385	NR	695	48	NR	825	1	NR	955	0	NR
440	203	NR	570	382	NR	700	41	NR	830	1	NR	960	0	NR
445	359	NR	575	379	NR	705	35	NR	835	1	NR	965	0	NR
450	620	NR	580	376	NR	710	30	NR	840	1	NR	970	0	NR
455	752	NR	585	372	NR	715	26	NR	845	1	NR	975	0	NR
460	576	NR	590	368	NR	720	22	NR	850	1	NR	980	0	NR
465	423	NR	595	363	NR	725	19	NR	855	0	NR	985	0	NR
470	354	NR	600	358	NR	730	16	NR	860	0	NR	990	0	NR
475	280	NR	605	355	NR	735	14	NR	865	0	NR	995	0	NR
480	232	NR	610	375	NR	740	12	NR	870	0	NR	1000	0	NR
485	232	NR	615	379	NR	745	10	NR	875	0	NR			

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Scotopic Flux vs. Wavelength



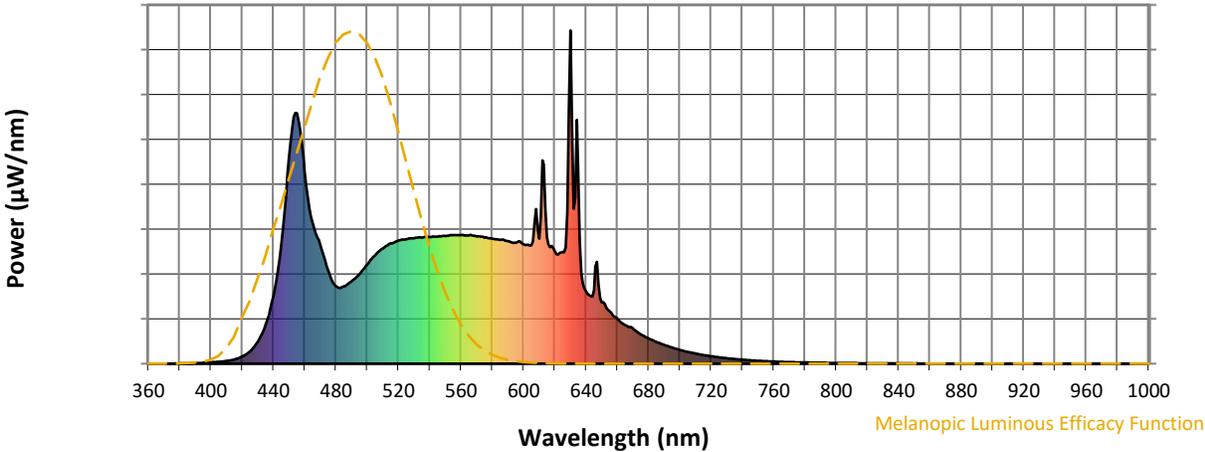
Scotopic Lumens: NR

S/P: 2.12

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	248	NR	620	337	NR	750	9	NR	880	0	NR
365	0	NR	495	269	NR	625	335	NR	755	8	NR	885	0	NR
370	0	NR	500	298	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	325	NR	635	580	NR	765	6	NR	895	0	NR
380	1	NR	510	346	NR	640	216	NR	770	5	NR	900	0	NR
385	1	NR	515	361	NR	645	221	NR	775	4	NR	905	0	NR
390	2	NR	520	369	NR	650	185	NR	780	4	NR	910	0	NR
395	3	NR	525	374	NR	655	158	NR	785	3	NR	915	0	NR
400	4	NR	530	376	NR	660	136	NR	790	3	NR	920	0	NR
405	6	NR	535	379	NR	665	116	NR	795	2	NR	925	0	NR
410	8	NR	540	381	NR	670	106	NR	800	2	NR	930	0	NR
415	13	NR	545	381	NR	675	88	NR	805	2	NR	935	0	NR
420	22	NR	550	383	NR	680	76	NR	810	2	NR	940	0	NR
425	37	NR	555	386	NR	685	65	NR	815	1	NR	945	0	NR
430	66	NR	560	386	NR	690	56	NR	820	1	NR	950	0	NR
435	119	NR	565	385	NR	695	48	NR	825	1	NR	955	0	NR
440	203	NR	570	382	NR	700	41	NR	830	1	NR	960	0	NR
445	359	NR	575	379	NR	705	35	NR	835	1	NR	965	0	NR
450	620	NR	580	376	NR	710	30	NR	840	1	NR	970	0	NR
455	752	NR	585	372	NR	715	26	NR	845	1	NR	975	0	NR
460	576	NR	590	368	NR	720	22	NR	850	1	NR	980	0	NR
465	423	NR	595	363	NR	725	19	NR	855	0	NR	985	0	NR
470	354	NR	600	358	NR	730	16	NR	860	0	NR	990	0	NR
475	280	NR	605	355	NR	735	14	NR	865	0	NR	995	0	NR
480	232	NR	610	375	NR	740	12	NR	870	0	NR	1000	0	NR
485	232	NR	615	379	NR	745	10	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



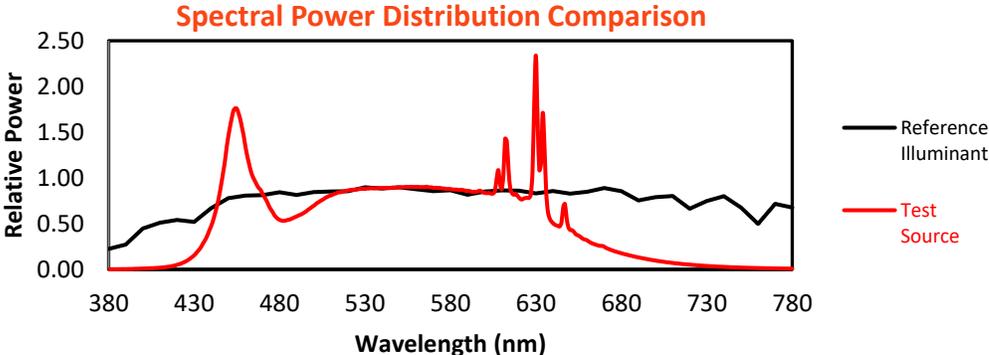
Melanopic Lumens: NR

M/P: 4.65

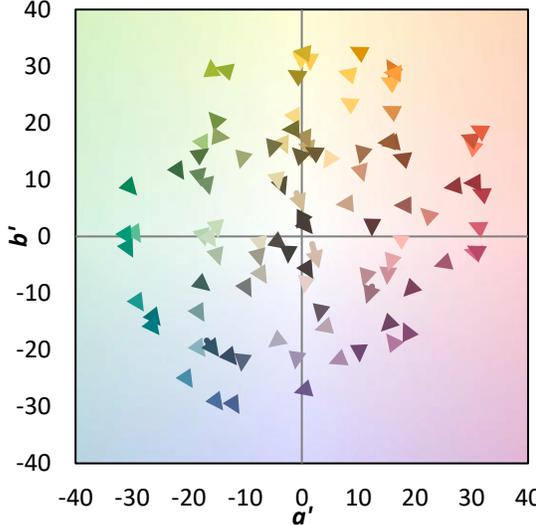
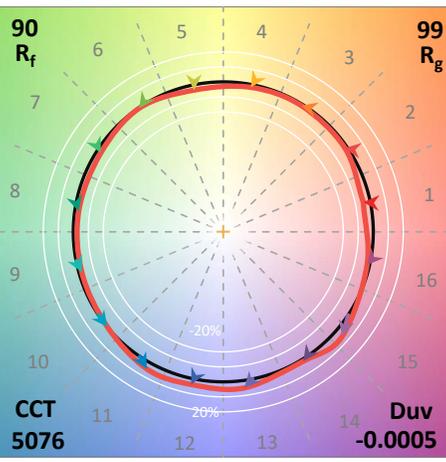
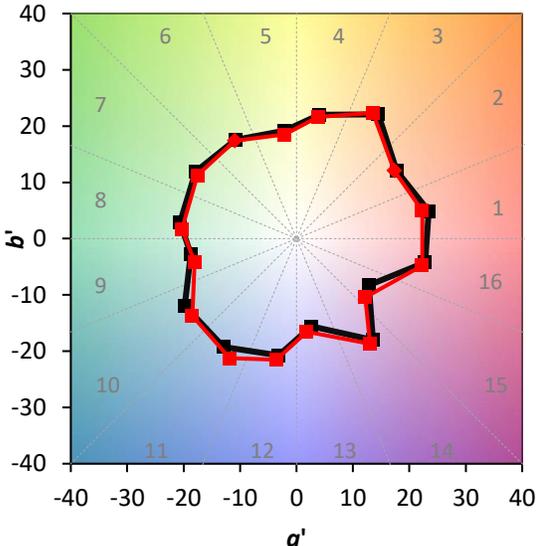
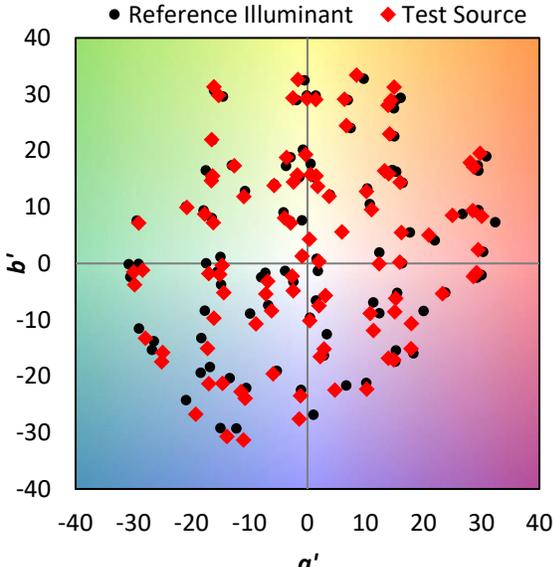
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	248	NR	620	337	NR	750	9	NR	880	0	NR
365	0	NR	495	269	NR	625	335	NR	755	8	NR	885	0	NR
370	0	NR	500	298	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	325	NR	635	580	NR	765	6	NR	895	0	NR
380	1	NR	510	346	NR	640	216	NR	770	5	NR	900	0	NR
385	1	NR	515	361	NR	645	221	NR	775	4	NR	905	0	NR
390	2	NR	520	369	NR	650	185	NR	780	4	NR	910	0	NR
395	3	NR	525	374	NR	655	158	NR	785	3	NR	915	0	NR
400	4	NR	530	376	NR	660	136	NR	790	3	NR	920	0	NR
405	6	NR	535	379	NR	665	116	NR	795	2	NR	925	0	NR
410	8	NR	540	381	NR	670	106	NR	800	2	NR	930	0	NR
415	13	NR	545	381	NR	675	88	NR	805	2	NR	935	0	NR
420	22	NR	550	383	NR	680	76	NR	810	2	NR	940	0	NR
425	37	NR	555	386	NR	685	65	NR	815	1	NR	945	0	NR
430	66	NR	560	386	NR	690	56	NR	820	1	NR	950	0	NR
435	119	NR	565	385	NR	695	48	NR	825	1	NR	955	0	NR
440	203	NR	570	382	NR	700	41	NR	830	1	NR	960	0	NR
445	359	NR	575	379	NR	705	35	NR	835	1	NR	965	0	NR
450	620	NR	580	376	NR	710	30	NR	840	1	NR	970	0	NR
455	752	NR	585	372	NR	715	26	NR	845	1	NR	975	0	NR
460	576	NR	590	368	NR	720	22	NR	850	1	NR	980	0	NR
465	423	NR	595	363	NR	725	19	NR	855	0	NR	985	0	NR
470	354	NR	600	358	NR	730	16	NR	860	0	NR	990	0	NR
475	280	NR	605	355	NR	735	14	NR	865	0	NR	995	0	NR
480	232	NR	610	375	NR	740	12	NR	870	0	NR	1000	0	NR
485	232	NR	615	379	NR	745	10	NR	875	0	NR			

Summary

$R_f = 90.4$
 $R_g = 99$
 $CIE R_a = 94.9$
 $R_9 = 74.0$

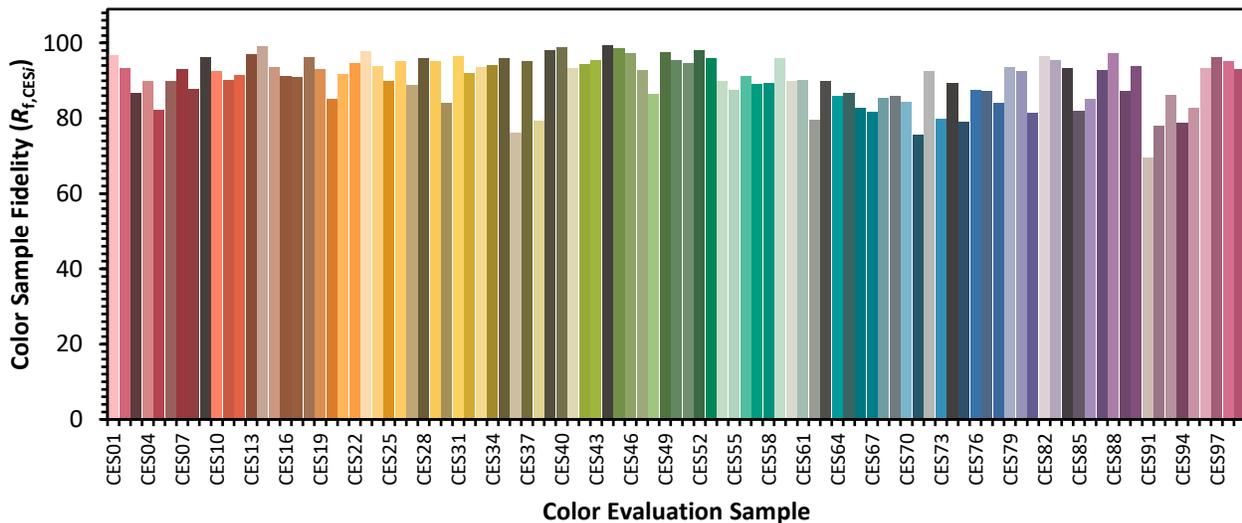


Color Vector Graphics

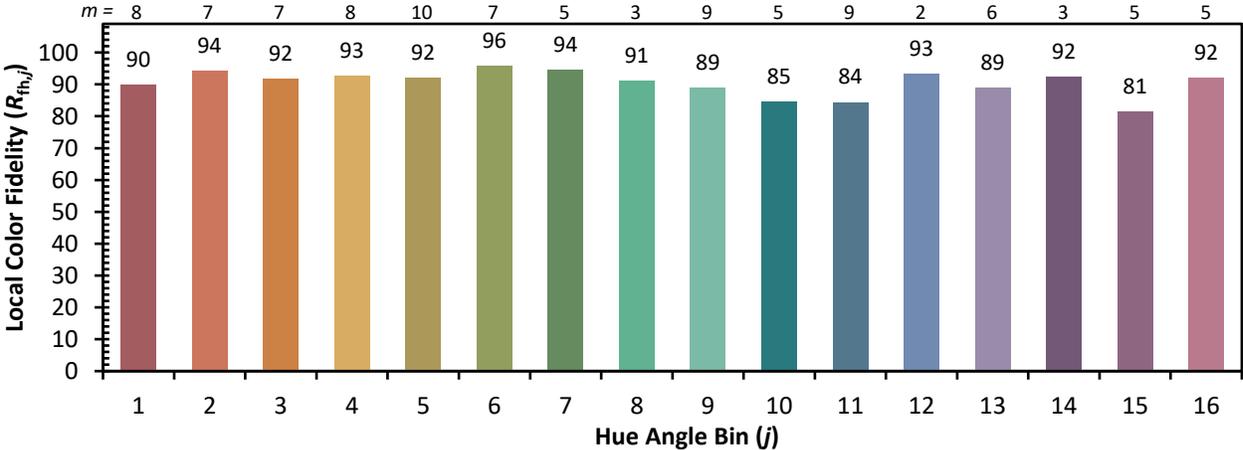
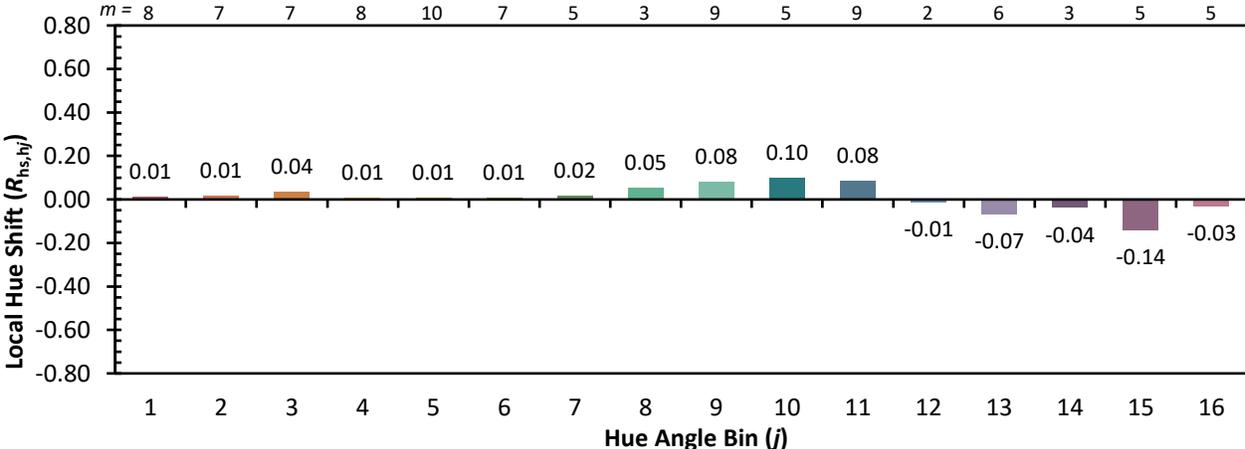
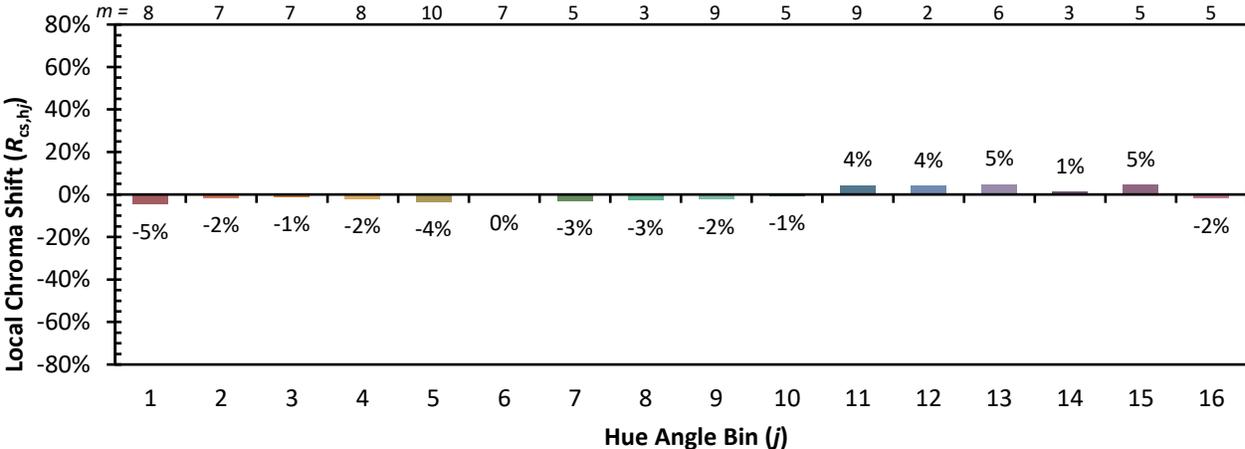


Individual Sample Fidelity Index ($R_{f,i}$)

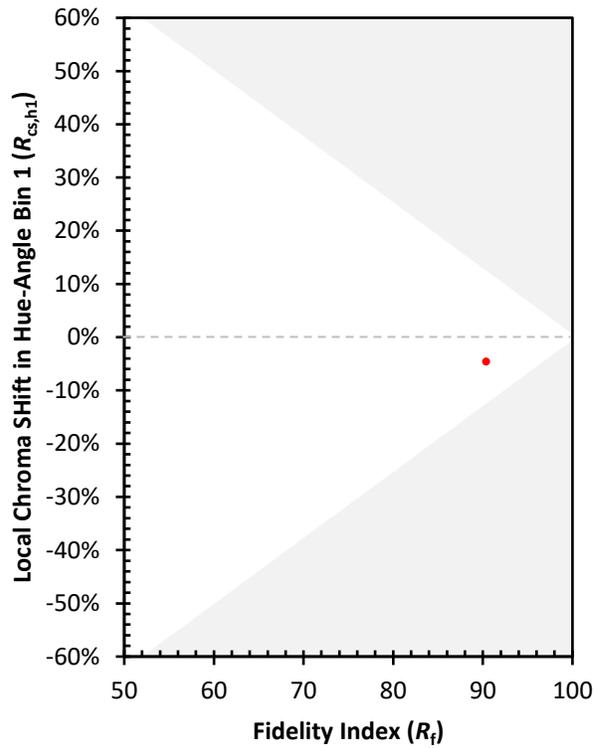
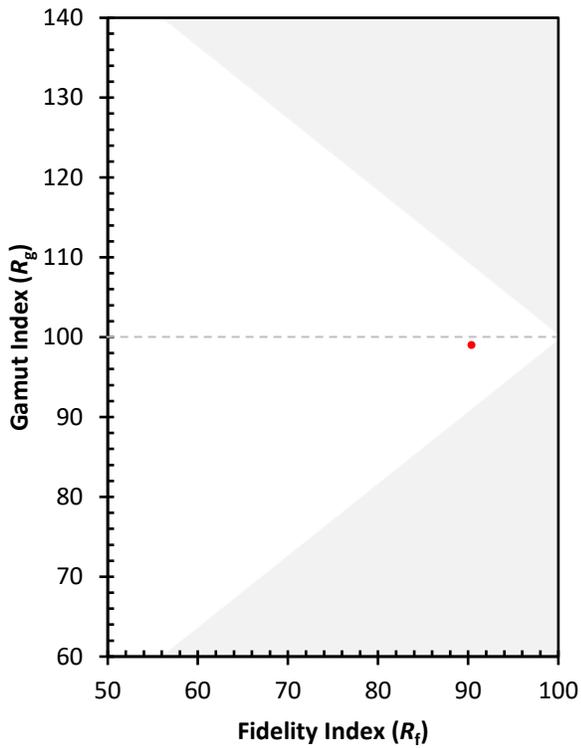
CES01 = 85	CES26 = 95	CES51 = 95	CES76 = 87
CES02 = 61	CES27 = 89	CES52 = 98	CES77 = 87
CES03 = 31	CES28 = 96	CES53 = 96	CES78 = 84
CES04 = 69	CES29 = 95	CES54 = 90	CES79 = 94
CES05 = 48	CES30 = 84	CES55 = 88	CES80 = 93
CES06 = 50	CES31 = 96	CES56 = 91	CES81 = 81
CES07 = 41	CES32 = 92	CES57 = 89	CES82 = 97
CES08 = 40	CES33 = 94	CES58 = 89	CES83 = 95
CES09 = 29	CES34 = 94	CES59 = 96	CES84 = 93
CES10 = 73	CES35 = 96	CES60 = 90	CES85 = 82
CES11 = 56	CES36 = 76	CES61 = 90	CES86 = 85
CES12 = 62	CES37 = 95	CES62 = 80	CES87 = 93
CES13 = 42	CES38 = 79	CES63 = 90	CES88 = 97
CES14 = 74	CES39 = 98	CES64 = 86	CES89 = 87
CES15 = 71	CES40 = 99	CES65 = 87	CES90 = 94
CES16 = 47	CES41 = 93	CES66 = 83	CES91 = 70
CES17 = 48	CES42 = 94	CES67 = 82	CES92 = 78
CES18 = 56	CES43 = 95	CES68 = 85	CES93 = 86
CES19 = 70	CES44 = 99	CES69 = 86	CES94 = 79
CES20 = 65	CES45 = 99	CES70 = 84	CES95 = 83
CES21 = 85	CES46 = 97	CES71 = 76	CES96 = 93
CES22 = 77	CES47 = 93	CES72 = 92	CES97 = 96
CES23 = 91	CES48 = 86	CES73 = 80	CES98 = 95
CES24 = 90	CES49 = 98	CES74 = 89	CES99 = 93
CES25 = 70	CES50 = 96	CES75 = 79	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)