

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: P1356983

Luminaire Tested: 3ASL4-10-1-50-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1356983
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2511-597-6)
Test Lab: INNOVATION CENTER
Issue Date: 2/17/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: 3ASL4-10-1-50-UNV
Description: 3FT 1000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 5000K LEDS 1 ROW
Light Source: -
Ballast/Driver: -

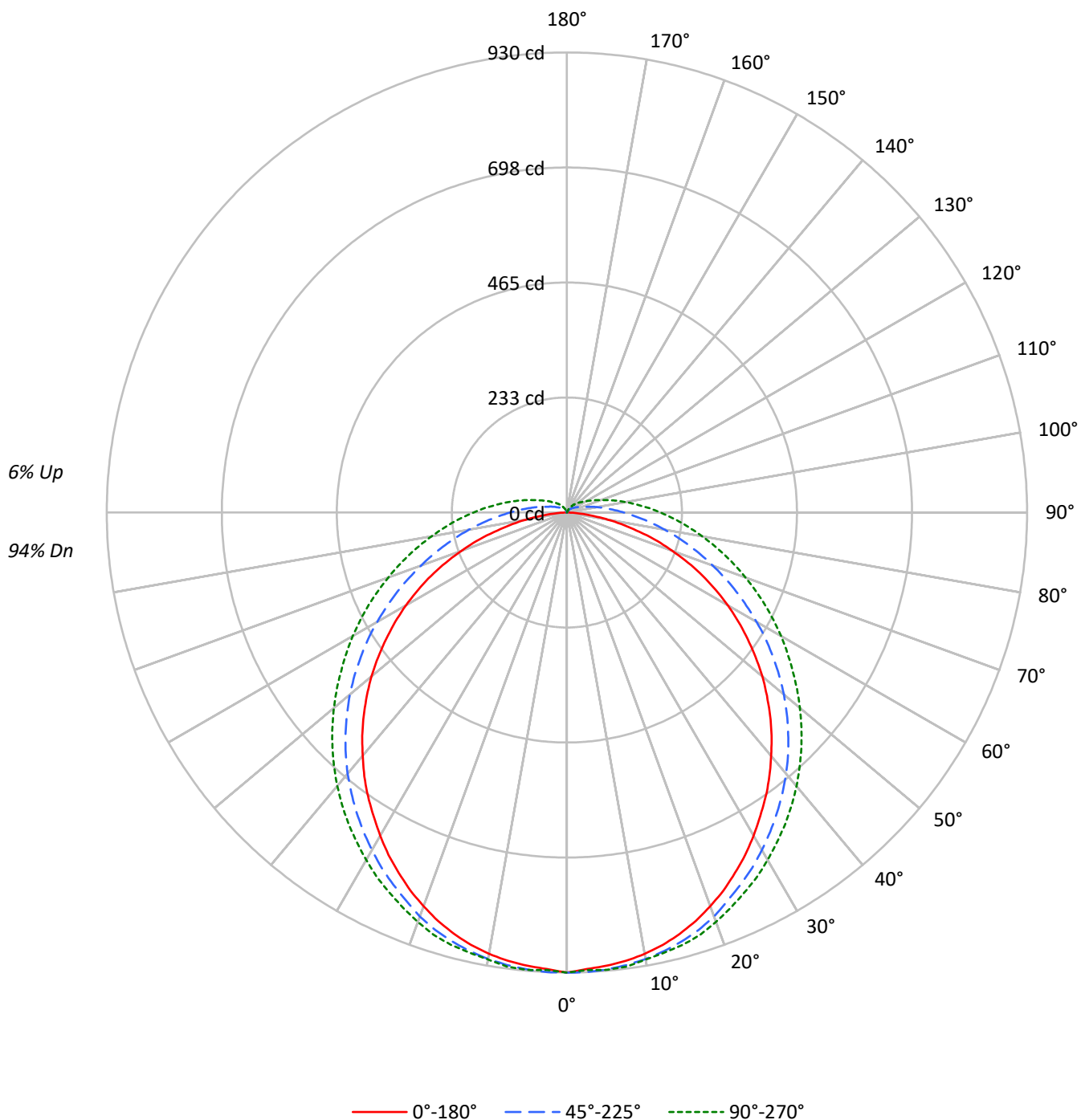
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3114.0 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 2.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 26.4
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
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	118	118	118	118	114	114	114	114	108	108	108		102	102	102		96
1	106	100	95	91	102	97	93	89	92	88	85		87	84	81		82
2	95	86	79	73	92	84	77	71	79	74	69		75	70	66		71
3	87	76	67	60	84	73	65	59	69	63	57		66	60	55		62
4	79	67	57	50	76	65	56	50	62	54	48		58	52	47		56
5	73	59	50	43	70	58	49	43	55	47	42		52	46	41		50
6	67	53	44	38	65	52	43	37	50	42	36		47	41	35		45
7	62	48	39	33	60	47	39	33	45	37	32		43	36	31		41
8	58	44	35	29	56	43	35	29	41	34	29		39	33	28		38
9	54	40	32	26	52	39	32	26	38	31	26		36	30	25		35
10	51	37	29	24	49	36	29	24	35	28	23		34	27	23		32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10082	10082	10082
5°	9975	9874	9829
10°	9910	9668	9571
15°	9802	9449	9370
20°	9647	9202	9121
25°	9460	8908	8853
30°	9255	8639	8601
35°	9052	8363	8350
40°	8822	8085	8091
45°	8602	7782	7827
50°	8347	7466	7550
55°	8029	7109	7273
60°	7678	6737	7030
65°	7229	6344	6786
70°	6540	5931	6548
75°	5653	5562	6366
80°	4438	5242	6255
85°	2523	5016	6297

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 8602 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.1	2.8
10°-20°	252.8	8.1
20°-30°	382.3	12.3
30°-40°	462.1	14.8
40°-50°	485.8	15.6
50°-60°	452.6	14.5
60°-70°	371.8	11.9
70°-80°	264.0	8.5
80°-90°	159.1	5.1
90°-100°	89.1	2.9
100°-110°	49.4	1.6
110°-120°	27.5	0.9
120°-130°	15.9	0.5
130°-140°	8.7	0.3
140°-150°	3.9	0.1
150°-160°	0.9	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	723.2	23.2
0°-40°	1185.3	38.1
0°-60°	2123.7	68.2
0°-90°	2918.7	93.7
90°-120°	166.0	5.3
90°-150°	194.4	6.2
90°-180°	195.0	6.3
0°-180°	3114.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	930	930	930	930	930	
5°	920	928	927	926	928	87
15°	882	893	898	902	905	249
25°	804	819	830	842	848	370
35°	701	719	741	760	769	438
45°	581	602	632	659	670	448
55°	446	471	508	542	557	399
65°	303	330	378	422	442	299
75°	153	192	255	307	329	163
85°	28	82	154	210	232	35
90°	0	48	115	168	188	1
95°	0	28	84	133	152	0
105°	0	10	44	80	95	0
115°	0	5	27	48	58	0
125°	0	3	17	32	37	0
135°	0	1	10	20	25	0
145°	1	0	4	12	15	1
155°	1	1	0	3	4	1
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°	930.1	930.1	930.1	930.1	930.1
2.5°	923.8	932.2	930.1	925.9	925.9
5°	919.6	928.0	927.0	925.9	928.0
7.5°	914.3	922.8	922.8	923.8	925.9
10°	905.9	916.4	916.4	916.4	917.5
12.5°	895.4	905.9	908.0	909.1	911.2
15°	881.7	893.3	897.5	901.7	904.9
17.5°	865.9	877.5	884.9	890.1	895.4
20°	847.0	859.6	869.1	875.4	880.7
22.5°	827.0	839.6	849.1	858.6	864.9
25°	803.9	818.6	830.2	841.7	848.1
27.5°	780.7	795.4	810.2	823.9	831.2
30°	754.4	771.2	788.1	803.9	811.2
32.5°	727.1	744.9	764.9	781.8	790.2
35°	700.8	718.6	740.7	759.7	769.1
37.5°	672.3	690.2	715.5	736.5	746.0
40°	641.8	661.8	689.2	711.3	721.8
42.5°	612.4	632.4	661.8	686.0	696.5
45°	580.8	601.8	632.4	658.7	670.2
47.5°	548.2	570.3	602.9	630.3	642.9
50°	515.6	538.7	572.4	601.8	614.5
52.5°	480.8	505.0	540.8	572.4	586.1
55°	446.1	471.4	508.2	541.9	556.6
57.5°	411.4	436.7	476.6	512.4	528.2
60°	375.6	401.9	443.0	481.9	499.8
62.5°	338.8	366.2	409.3	451.4	470.3
65°	303.0	330.4	377.7	421.9	441.9
67.5°	265.1	294.6	345.1	391.4	412.5
70°	226.2	259.9	313.5	363.0	384.0
72.5°	191.5	226.2	284.1	334.6	356.7
75°	152.6	191.5	254.6	307.2	329.3
77.5°	118.9	161.0	227.3	280.9	303.0
80°	85.2	131.5	201.0	255.7	277.8
82.5°	54.7	105.2	176.8	232.5	253.6
85°	28.4	82.1	153.6	210.4	231.5
87.5°	8.4	63.1	132.6	188.3	209.4
90°	0.0	48.4	114.7	168.3	188.3
92.5°	0.0	36.8	98.9	150.5	170.5
95°	0.0	28.4	84.2	132.6	151.5
97.5°	0.0	22.1	72.6	116.8	135.7
100°	0.0	17.9	62.1	103.1	121.0
102.5°	0.0	14.7	53.7	91.5	107.3
105°	0.0	10.5	44.2	80.0	94.7
107.5°	0.0	7.4	38.9	70.5	83.1
110°	0.0	6.3	34.7	61.0	73.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	5.3	30.5	54.7	65.2
115°	0.0	5.3	27.4	48.4	57.9
117.5°	0.0	4.2	23.1	43.1	51.6
120°	0.0	4.2	21.0	38.9	46.3
122.5°	0.0	3.2	18.9	34.7	42.1
125°	0.0	3.2	16.8	31.6	36.8
127.5°	0.0	2.1	14.7	28.4	33.7
130°	0.0	2.1	13.7	25.3	30.5
132.5°	0.0	1.1	12.6	23.1	27.4
135°	0.0	1.1	10.5	20.0	25.3
137.5°	0.0	0.0	9.5	17.9	22.1
140°	0.0	0.0	7.4	15.8	20.0
142.5°	1.1	0.0	6.3	13.7	16.8
145°	1.1	0.0	4.2	11.6	14.7
147.5°	1.1	1.1	3.2	9.5	11.6
150°	1.1	1.1	2.1	6.3	9.5
152.5°	1.1	1.1	1.1	4.2	6.3
155°	1.1	1.1	0.0	3.2	4.2
157.5°	1.1	1.1	0.0	1.1	2.1
160°	1.1	1.1	0.0	0.0	1.1
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	17.42	18.98	17.88	19.42	19.89	19.38	20.93	19.84	21.37	21.84
	3H	18.92	20.33	19.39	20.78	21.29	21.77	23.19	22.25	23.64	24.15
	4H	19.39	20.73	19.88	21.20	21.72	22.93	24.27	23.42	24.74	25.26
	6H	19.67	20.92	20.17	21.40	21.94	24.12	25.37	24.63	25.85	26.39
	8H	19.72	20.92	20.24	21.42	21.97	24.73	25.92	25.25	26.43	26.98
	12H	19.73	20.88	20.26	21.38	21.96	25.39	26.54	25.91	27.04	27.61
4H	2H	18.28	19.62	18.78	20.09	20.62	19.81	21.15	20.31	21.62	22.15
	3H	20.01	21.15	20.52	21.67	22.21	22.43	23.58	22.94	24.09	24.64
	4H	20.61	21.65	21.14	22.18	22.76	23.76	24.80	24.28	25.33	25.90
	6H	21.01	21.93	21.55	22.48	23.07	25.14	26.06	25.68	26.61	27.20
	8H	21.10	21.97	21.65	22.52	23.12	25.85	26.72	26.40	27.27	27.87
	12H	21.14	21.93	21.72	22.51	23.12	26.63	27.42	27.21	28.00	28.61
8H	4H	21.25	22.12	21.81	22.67	23.28	23.97	24.84	24.52	25.39	25.99
	6H	21.82	22.56	22.41	23.15	23.76	25.52	26.25	26.10	26.85	27.46
	8H	22.00	22.66	22.60	23.27	23.89	26.37	27.03	26.96	27.64	28.26
	12H	22.11	22.70	22.71	23.29	23.98	27.34	27.93	27.93	28.52	29.21
12H	4H	21.43	22.22	22.01	22.80	23.41	23.98	24.77	24.55	25.35	25.96
	6H	22.09	22.76	22.69	23.36	23.99	25.55	26.22	26.15	26.82	27.45
	8H	22.36	22.95	22.96	23.55	24.24	26.47	27.06	27.07	27.66	28.35

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

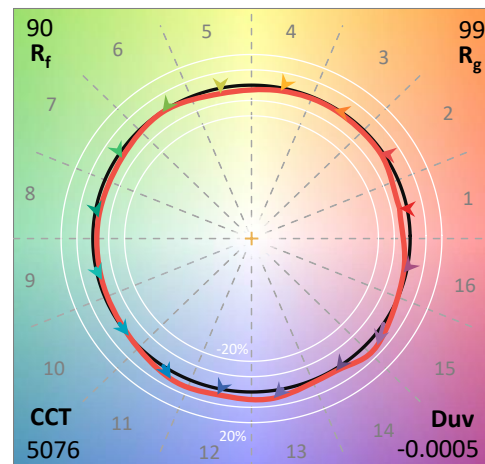
Test Information

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



Test Conditions

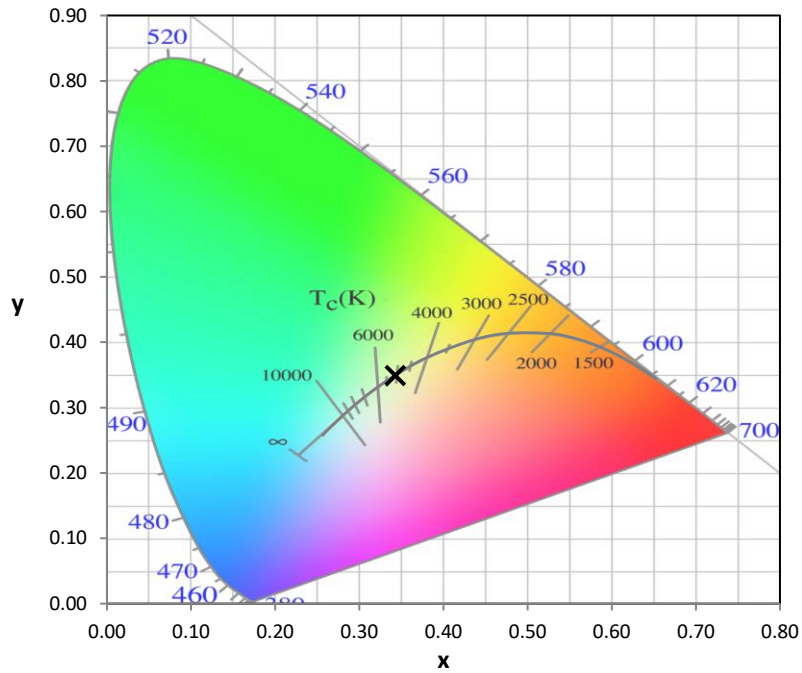
Stabilization Time: 24M
 Operation Time: 1H 24M
 Sphere Temperature (°C): 24.1

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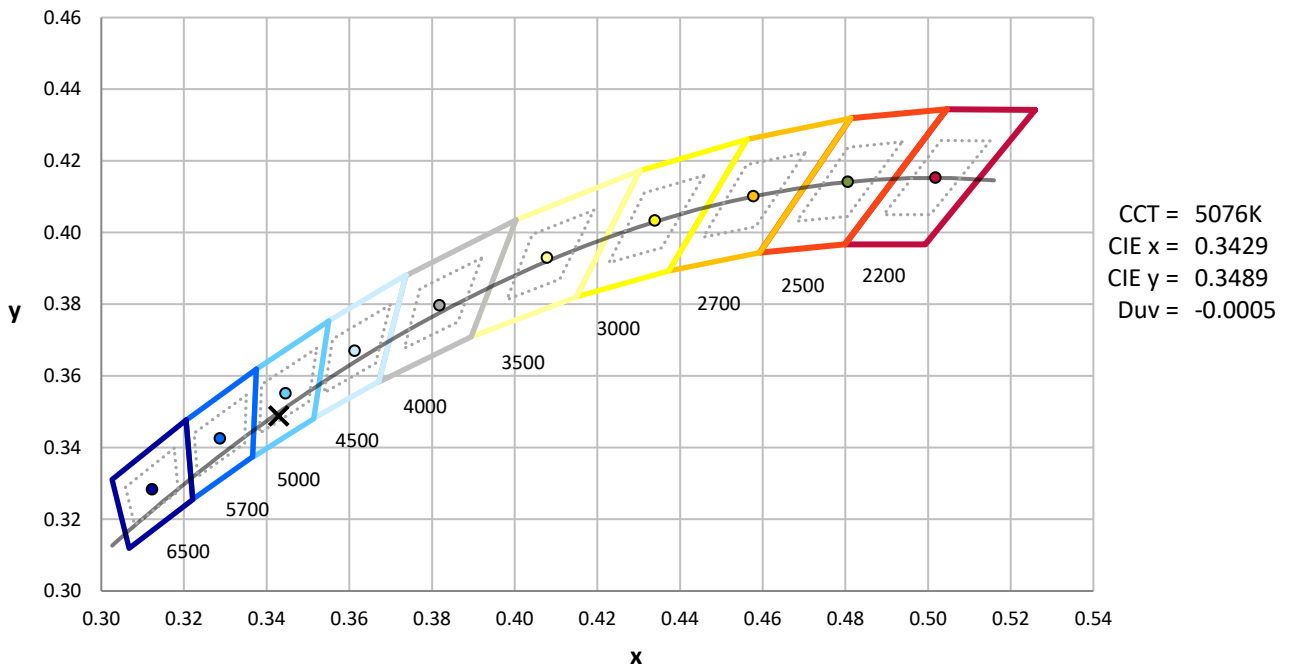
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

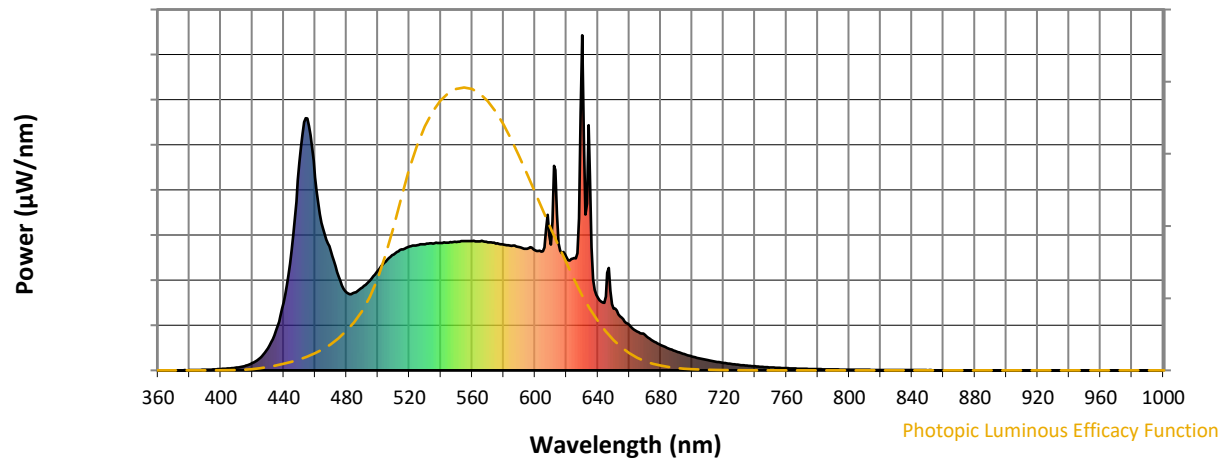


CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



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Photopic Flux vs. Wavelength

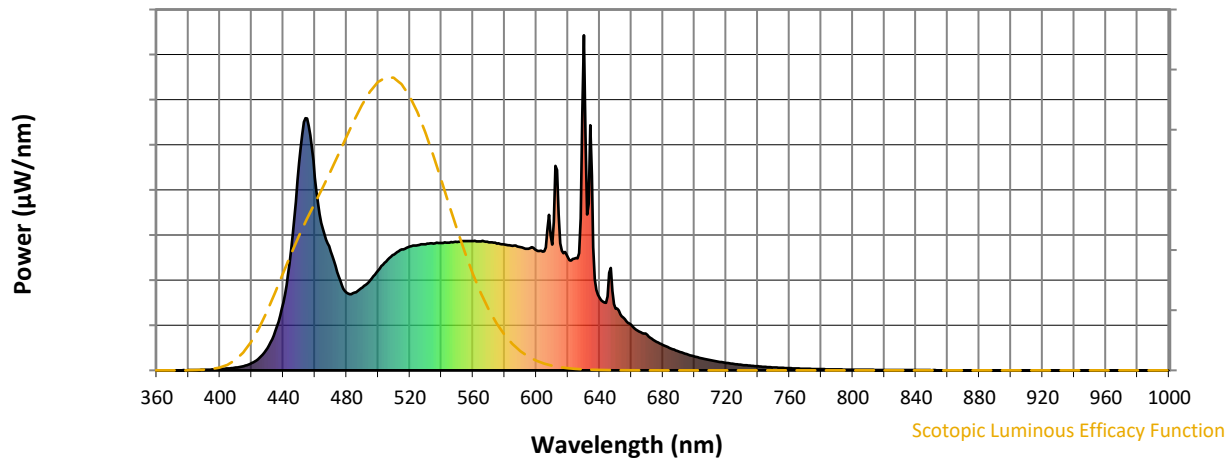


Photopic Lumens: NR

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	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



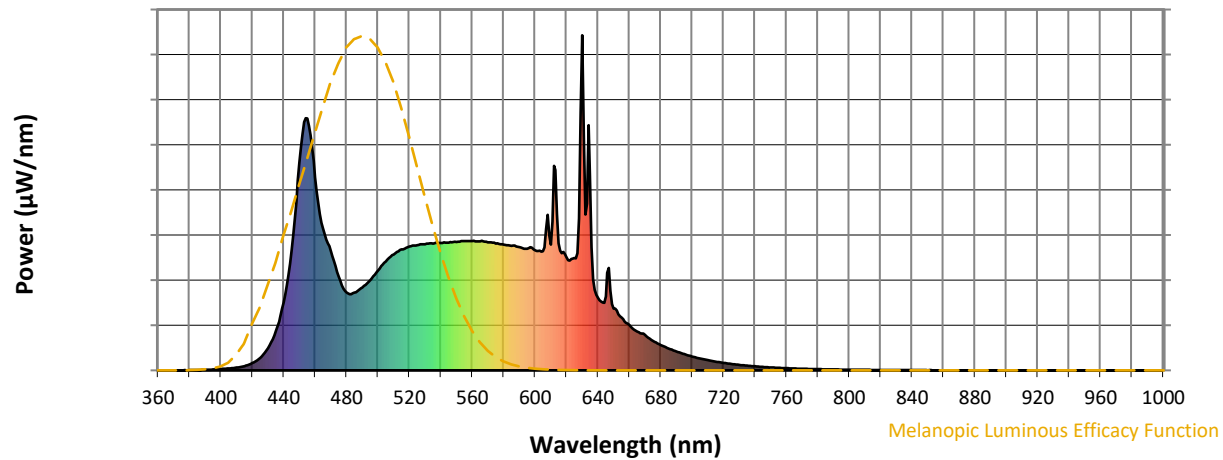
Scotopic Lumens: NR

S/P: 2.12

λ (nm)	Power W ^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	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

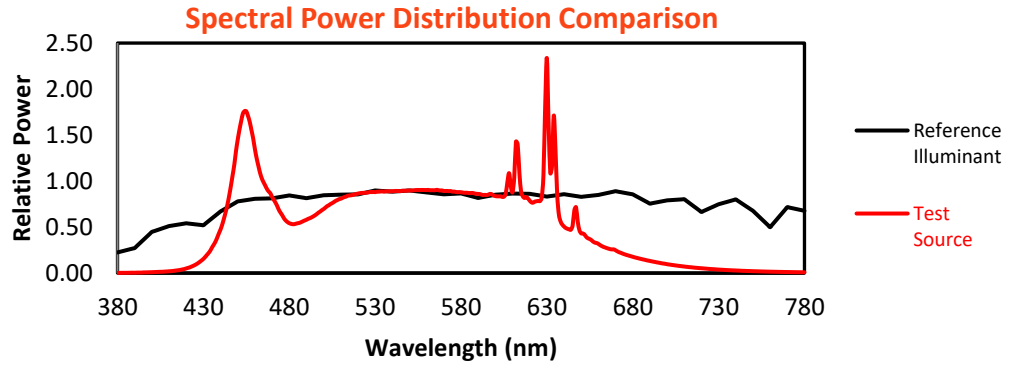
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	248	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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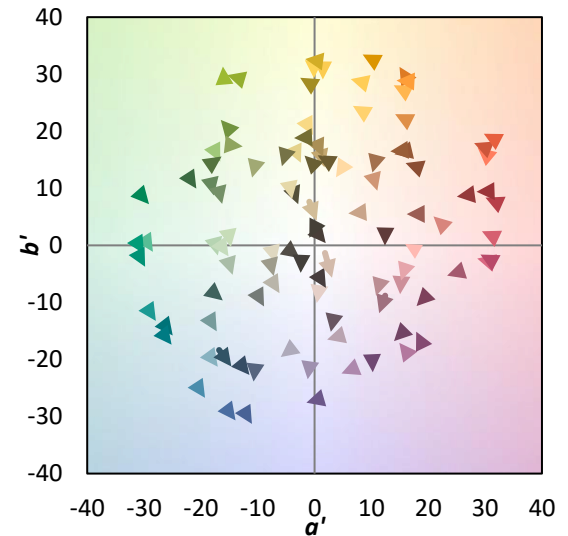
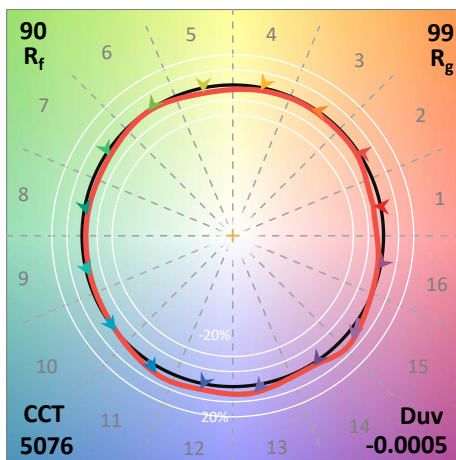
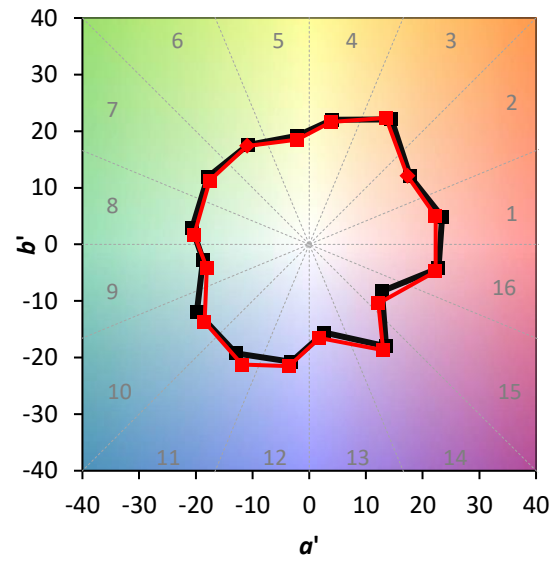
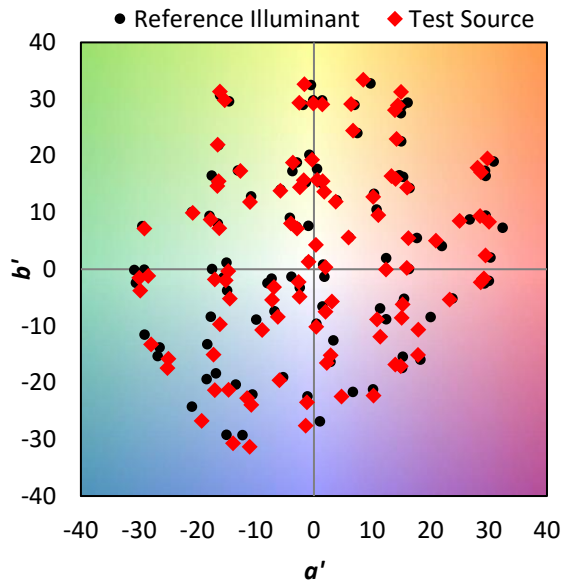
TM-30-18

Summary

$R_f = 90.4$
 $R_g = 99$
 $\text{CIE } R_a = 94.9$
 $R_9 = 74.0$

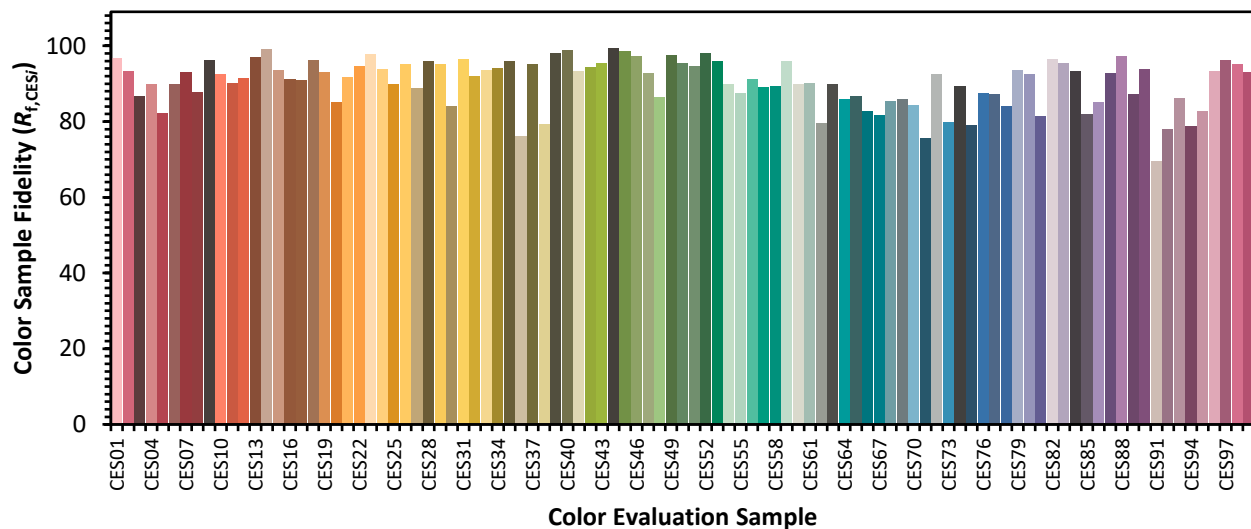


Color Vector Graphics

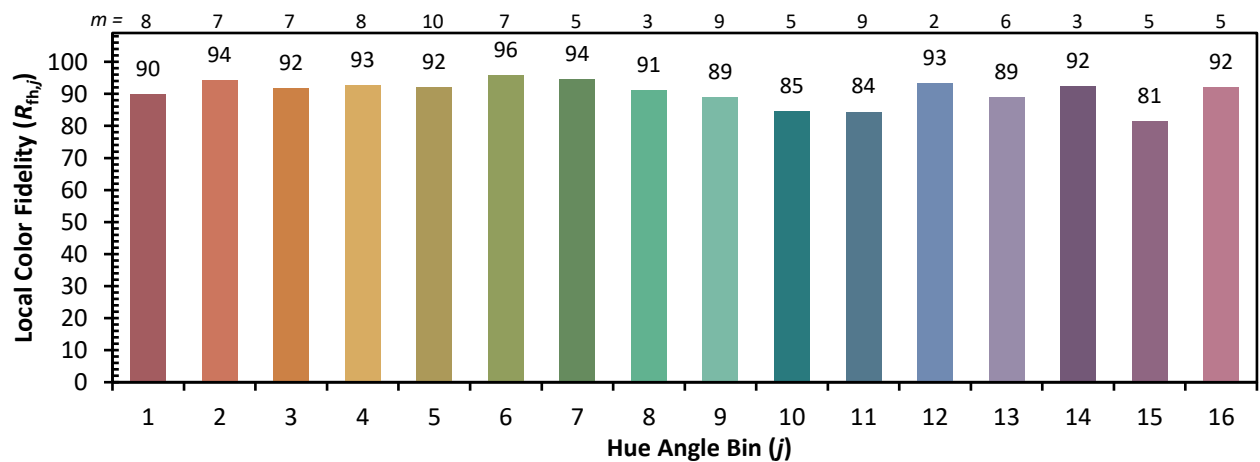
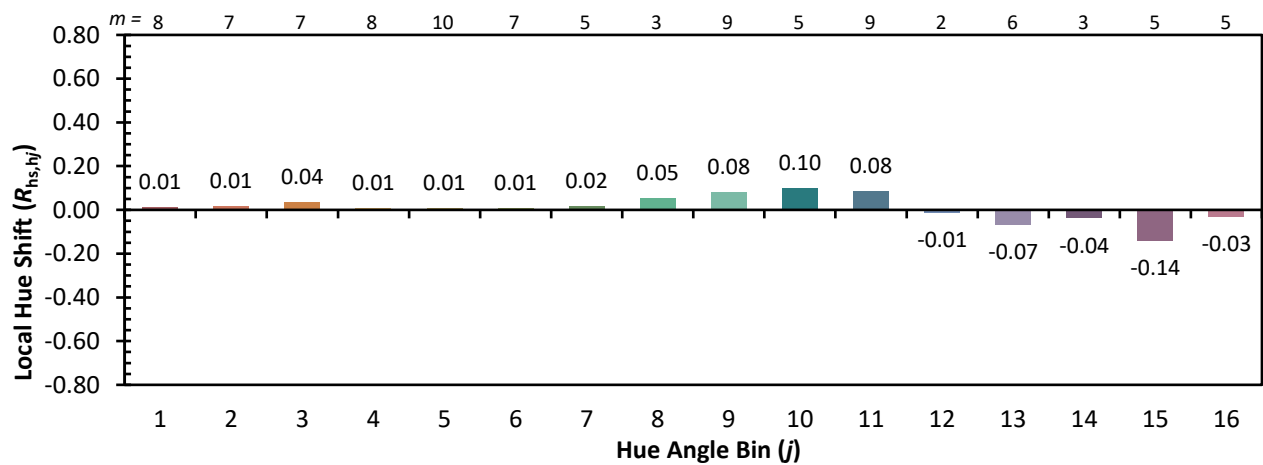
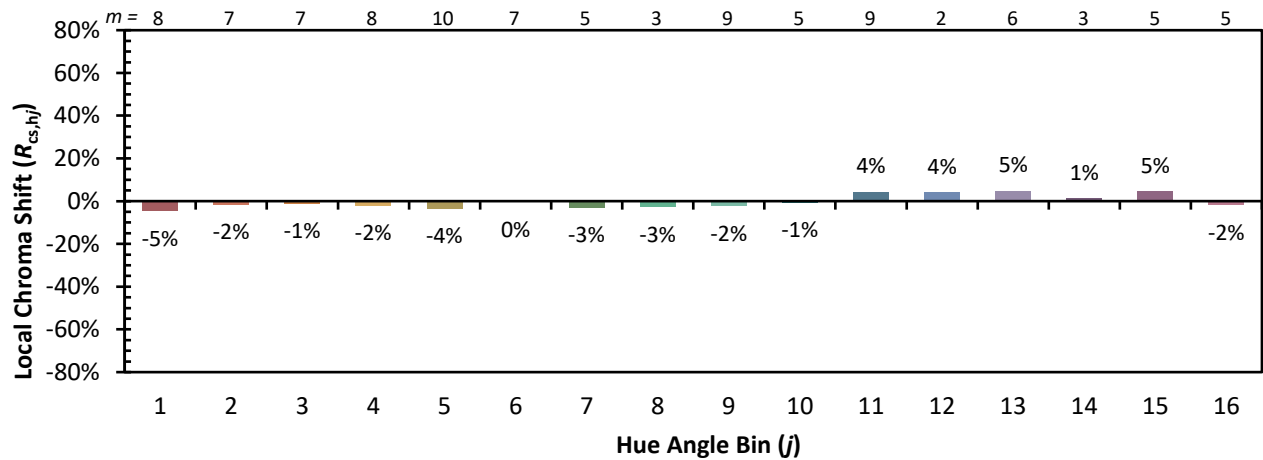


Individual Sample Fidelity Index ($R_{f,i}$)

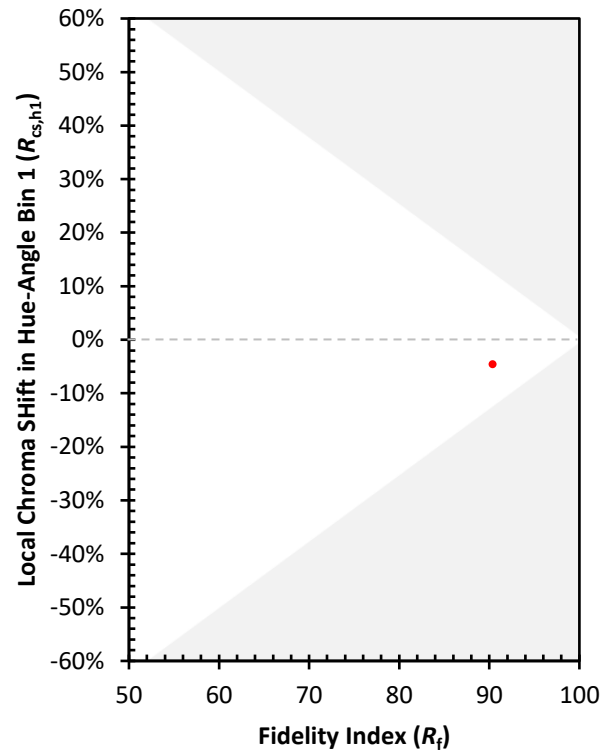
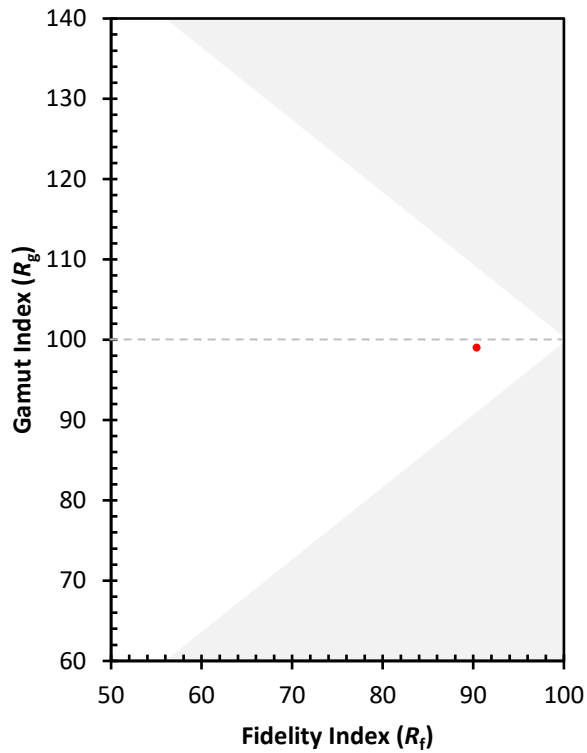
CES01 = 85	CES26 = 95	CES51 = 95	CES76 = 87
CES02 = 61	CES27 = 89	CES52 = 98	CES77 = 87
CES03 = 31	CES28 = 96	CES53 = 96	CES78 = 84
CES04 = 69	CES29 = 95	CES54 = 90	CES79 = 94
CES05 = 48	CES30 = 84	CES55 = 88	CES80 = 93
CES06 = 50	CES31 = 96	CES56 = 91	CES81 = 81
CES07 = 41	CES32 = 92	CES57 = 89	CES82 = 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)