

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: P1357419

Luminaire Tested: 8ASL4-10HE-2-35-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1357419
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: 8ASL4-10HE-2-35-UNV
Description: 8FT 1000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 3500K LEDS 2 ROW
Light Source: -
Ballast/Driver: -

Summary

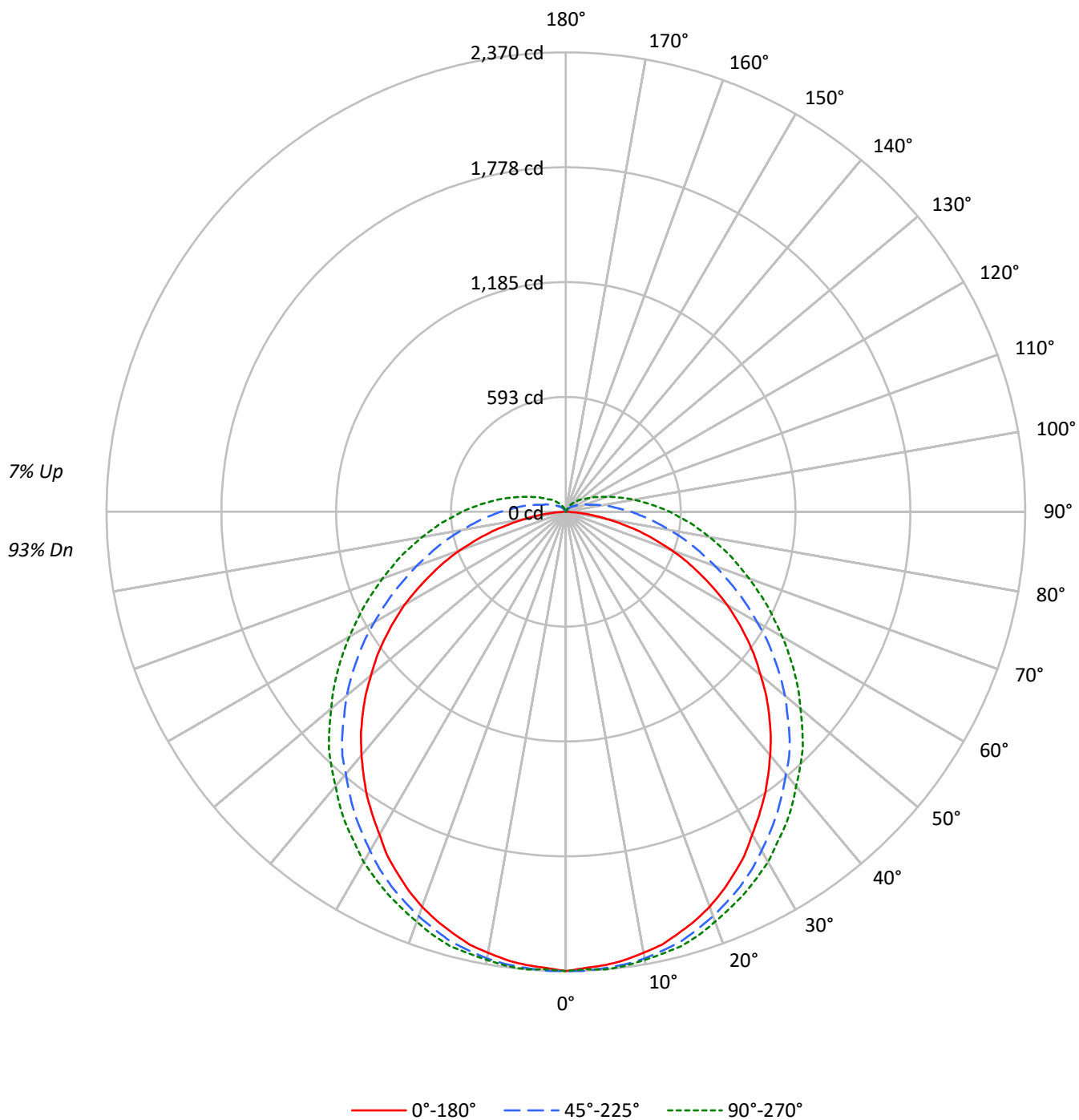
Lumens per Lamp: N/A
Luminaire Lumens: 8136.0 lumens
Efficiency: N/A
Efficacy: 122.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 7.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 66.4
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			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°	9591	9591	9591
5°	9526	9408	9372
10°	9472	9241	9144
15°	9397	9059	8961
20°	9296	8825	8703
25°	9129	8595	8482
30°	8918	8331	8261
35°	8757	8086	8005
40°	8568	7821	7736
45°	8379	7593	7540
50°	8132	7290	7248
55°	7898	6965	7017
60°	7610	6599	6771
65°	7150	6259	6580
70°	6640	5942	6405
75°	5890	5704	6348
80°	4689	5499	6328
85°	3010	5528	6509

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8379 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	224.8	2.8
10°-20°	646.0	7.9
20°-30°	978.9	12.0
30°-40°	1184.0	14.6
40°-50°	1248.2	15.3
50°-60°	1165.0	14.3
60°-70°	961.8	11.8
70°-80°	697.7	8.6
80°-90°	440.8	5.4
90°-100°	263.2	3.2
100°-110°	150.8	1.9
110°-120°	85.7	1.1
120°-130°	48.9	0.6
130°-140°	26.5	0.3
140°-150°	11.6	0.1
150°-160°	2.1	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1849.7	22.7
0°-40°	3033.7	37.3
0°-60°	5446.9	66.9
0°-90°	7547.3	92.8
90°-120°	499.7	6.1
90°-150°	586.6	7.2
90°-180°	589.0	7.2
0°-180°	8136.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2370	2370	2370	2370	2370	
5°	2348	2370	2362	2362	2370	223
15°	2251	2280	2295	2303	2318	635
25°	2057	2087	2131	2161	2176	947
35°	1789	1833	1900	1953	1975	1118
45°	1483	1543	1632	1699	1729	1144
55°	1140	1207	1312	1401	1438	1019
65°	768	850	976	1096	1148	762
75°	395	499	678	820	879	415
85°	74	231	432	581	641	91
90°	0	142	335	477	537	3
95°	0	89	253	388	440	0
105°	0	30	142	246	283	0
115°	0	15	82	149	179	0
125°	0	8	52	97	112	0
135°	0	0	30	60	74	0
145°	0	0	15	37	45	0
155°	0	0	0	8	15	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°	2369.9	2369.9	2369.9	2369.9	2369.9
2.5°	2355.0	2377.4	2369.9	2362.5	2362.5
5°	2347.6	2369.9	2362.5	2362.5	2369.9
7.5°	2332.7	2355.0	2355.0	2355.0	2362.5
10°	2310.3	2340.1	2340.1	2340.1	2347.6
12.5°	2288.0	2310.3	2317.8	2325.2	2332.7
15°	2250.7	2280.5	2295.4	2302.9	2317.8
17.5°	2213.4	2235.8	2258.1	2280.5	2288.0
20°	2168.7	2198.5	2220.9	2243.2	2250.7
22.5°	2116.5	2146.4	2176.2	2198.5	2213.4
25°	2056.9	2086.7	2131.4	2161.3	2176.2
27.5°	1997.3	2027.1	2079.3	2116.5	2131.4
30°	1922.8	1967.5	2019.7	2064.4	2086.7
32.5°	1855.7	1900.4	1960.0	2012.2	2027.1
35°	1788.6	1833.3	1900.4	1952.6	1974.9
37.5°	1714.1	1766.3	1833.3	1893.0	1915.3
40°	1639.6	1691.7	1766.3	1833.3	1848.2
42.5°	1565.0	1617.2	1706.6	1766.3	1788.6
45°	1483.1	1542.7	1632.1	1699.2	1729.0
47.5°	1401.1	1460.7	1550.1	1624.7	1654.5
50°	1311.7	1378.7	1475.6	1550.1	1580.0
52.5°	1229.7	1296.8	1393.6	1475.6	1512.9
55°	1140.3	1207.3	1311.7	1401.1	1438.4
57.5°	1050.8	1117.9	1229.7	1326.6	1363.8
60°	961.4	1028.5	1140.3	1252.0	1289.3
62.5°	864.5	939.0	1058.3	1170.1	1214.8
65°	767.6	849.6	976.3	1095.5	1147.7
67.5°	678.2	760.2	894.3	1028.5	1073.2
70°	581.3	670.7	819.8	953.9	1006.1
72.5°	484.4	581.3	745.3	886.9	939.0
75°	395.0	499.3	678.2	819.8	879.4
77.5°	298.1	424.8	611.1	760.2	812.3
80°	216.1	350.3	544.0	700.5	752.7
82.5°	141.6	283.2	484.4	640.9	693.1
85°	74.5	231.0	432.3	581.3	640.9
87.5°	22.4	178.9	380.1	529.1	581.3
90°	0.0	141.6	335.4	477.0	536.6
92.5°	0.0	111.8	290.7	432.3	484.4
95°	0.0	89.4	253.4	387.5	439.7
97.5°	0.0	74.5	223.6	350.3	395.0
100°	0.0	59.6	193.8	313.0	357.7
102.5°	0.0	44.7	164.0	275.7	320.5
105°	0.0	29.8	141.6	245.9	283.2
107.5°	0.0	22.4	119.2	216.1	253.4
110°	0.0	22.4	111.8	186.3	223.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	14.9	96.9	171.4	201.2
115°	0.0	14.9	82.0	149.1	178.9
117.5°	0.0	14.9	74.5	134.1	164.0
120°	0.0	14.9	67.1	119.2	141.6
122.5°	0.0	7.5	59.6	104.3	126.7
125°	0.0	7.5	52.2	96.9	111.8
127.5°	0.0	7.5	44.7	89.4	104.3
130°	0.0	7.5	44.7	82.0	96.9
132.5°	0.0	0.0	37.3	74.5	89.4
135°	0.0	0.0	29.8	59.6	74.5
137.5°	0.0	0.0	29.8	52.2	67.1
140°	0.0	0.0	22.4	52.2	59.6
142.5°	0.0	0.0	14.9	44.7	52.2
145°	0.0	0.0	14.9	37.3	44.7
147.5°	0.0	0.0	7.5	29.8	37.3
150°	0.0	0.0	7.5	22.4	29.8
152.5°	0.0	0.0	0.0	14.9	22.4
155°	0.0	0.0	0.0	7.5	14.9
157.5°	0.0	0.0	0.0	0.0	7.5
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	17.18	18.72	17.66	19.18	19.67	19.28	20.82	19.76	21.28	21.77
	3H	18.68	20.08	19.17	20.55	21.09	21.75	23.16	22.24	23.63	24.16
	4H	19.16	20.49	19.67	20.98	21.52	22.98	24.31	23.49	24.80	25.34
	6H	19.44	20.67	19.96	21.18	21.74	24.28	25.52	24.80	26.02	26.58
	8H	19.49	20.68	20.02	21.20	21.77	24.96	26.15	25.49	26.67	27.24
	12H	19.51	20.64	20.04	21.16	21.76	25.73	26.87	26.27	27.38	27.98
4H	2H	18.07	19.40	18.58	19.89	20.43	19.71	21.04	20.22	21.53	22.07
	3H	19.81	20.94	20.33	21.47	22.04	22.41	23.54	22.93	24.08	24.64
	4H	20.42	21.46	20.96	22.00	22.60	23.81	24.85	24.35	25.39	25.99
	6H	20.82	21.74	21.38	22.30	22.92	25.31	26.23	25.87	26.79	27.40
	8H	20.92	21.78	21.48	22.35	22.97	26.10	26.96	26.66	27.53	28.15
	12H	20.97	21.75	21.55	22.34	22.97	26.99	27.77	27.58	28.37	29.00
8H	4H	21.13	21.99	21.69	22.55	23.18	24.03	24.89	24.60	25.46	26.09
	6H	21.71	22.44	22.31	23.05	23.68	25.70	26.43	26.30	27.04	27.67
	8H	21.90	22.56	22.51	23.18	23.82	26.64	27.30	27.24	27.91	28.56
	12H	22.02	22.61	22.63	23.22	23.93	27.71	28.30	28.32	28.91	29.62
12H	4H	21.33	22.11	21.92	22.71	23.34	24.04	24.82	24.63	25.42	26.05
	6H	22.02	22.68	22.63	23.30	23.95	25.74	26.40	26.35	27.02	27.66
	8H	22.31	22.90	22.92	23.51	24.22	26.74	27.33	27.35	27.94	28.65

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-1

Test Date: 11/17/2025

Luminaire Tested: 4ASL-2-35-UNV-OPL-1_600mA

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

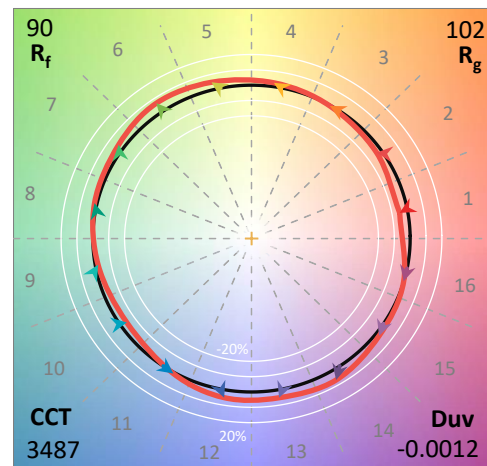
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2511-597-1
 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-2-35-UNV-OPL-1_600mA**
 Description: 2foot 4ASL LED LUMINAIRE WITH OPL LENS AND 3500K LEDS with 1 rows at 600mA

Spectral Parameters

CCT (K): 3487
 CIE u' : 0.2366
 CIE v' : 0.5099
 Duv: -0.0012
 CIE x: 0.4047
 CIE y: 0.3876
 CIE z: 0.2077
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 581
 Purity: 37.79273
 Rf: 90
 Rg: 102.4

CRI (Ra): 92.5
 R1: 94.7
 R2: 94.3
 R3: 92.9
 R4: 93.3
 R5: 93.9
 R6: 93.4
 R7: 92.5
 R8: 85.2
 R9: 61.3
 R10: 85.5
 R11: 93.7
 R12: 80.8
 R13: 94.3
 R14: 95.1
 R15: 90.9



Test Conditions

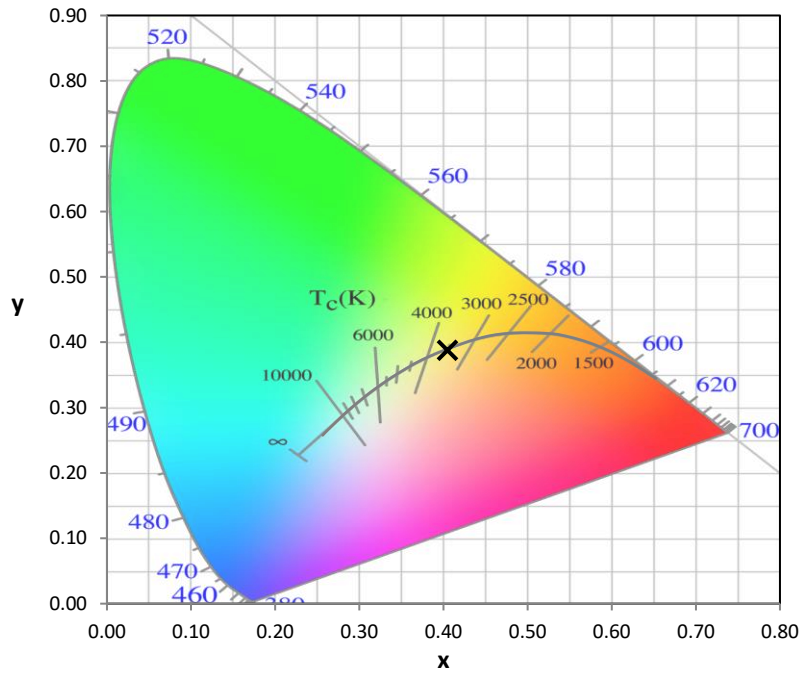
Stabilization Time: 31M
 Operation Time: 1H 31M
 Sphere Temperature (°C): 24.1

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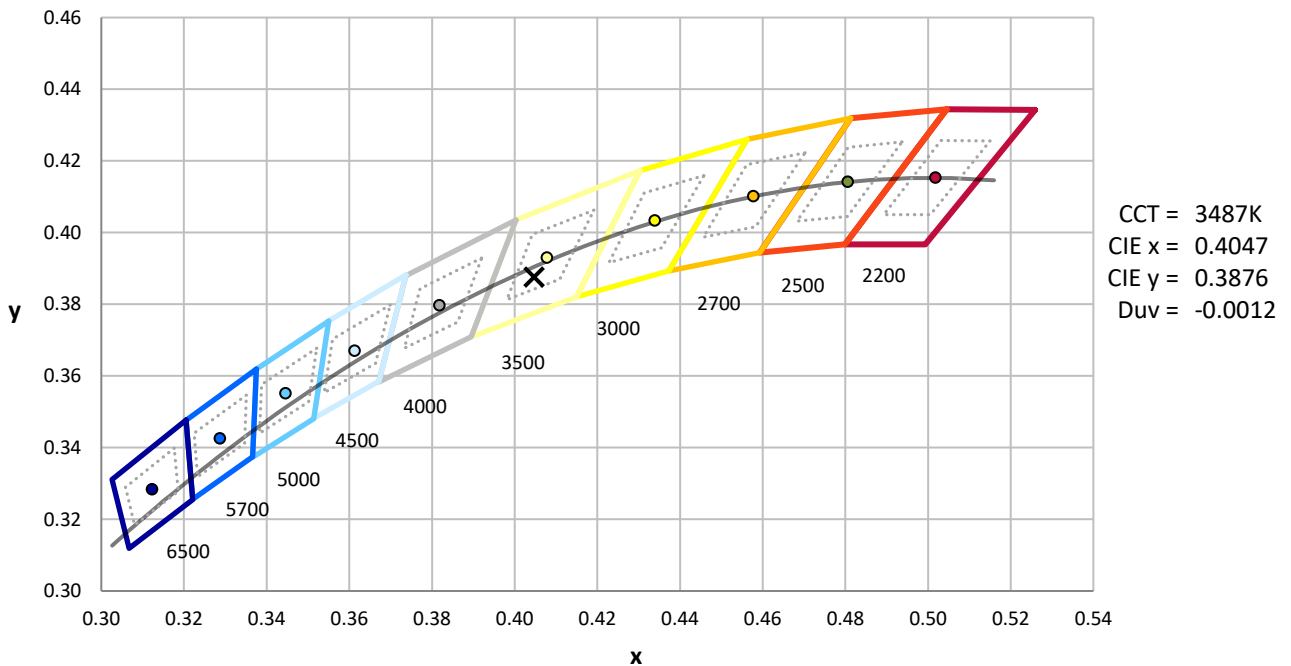
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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



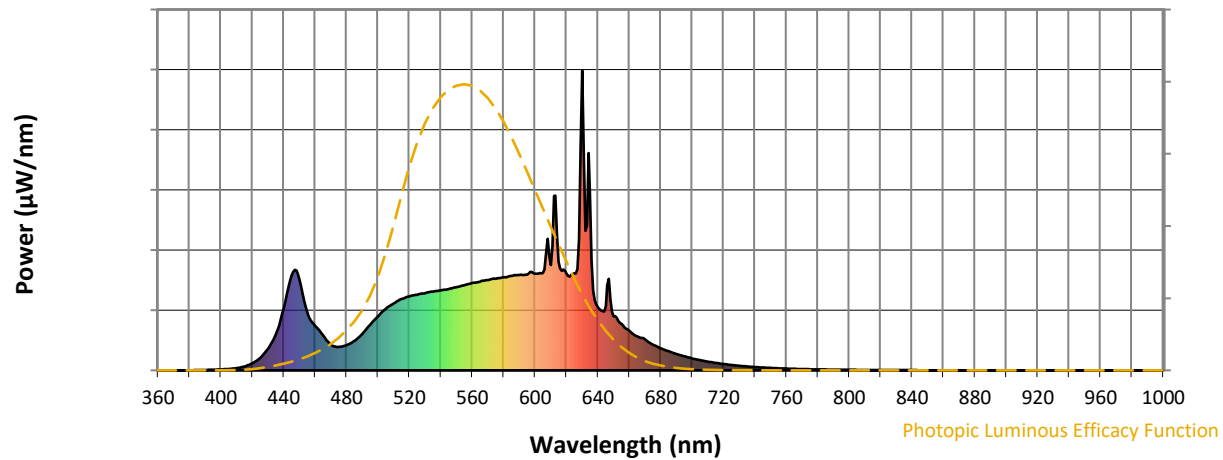
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

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Photopic Flux vs. Wavelength

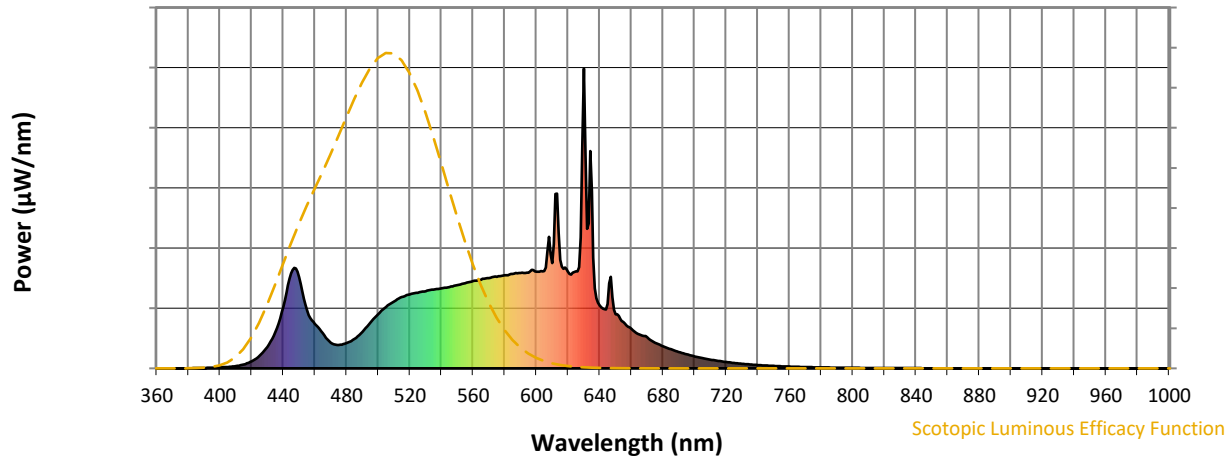


Photopic Lumens: NR

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	122	NR	620	322	NR	750	8	NR	880	0	NR
365	0	NR	495	152	NR	625	323	NR	755	7	NR	885	0	NR
370	0	NR	500	180	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	205	NR	635	589	NR	765	5	NR	895	0	NR
380	0	NR	510	223	NR	640	210	NR	770	4	NR	900	0	NR
385	1	NR	515	238	NR	645	214	NR	775	4	NR	905	0	NR
390	1	NR	520	247	NR	650	181	NR	780	3	NR	910	0	NR
395	2	NR	525	252	NR	655	155	NR	785	3	NR	915	0	NR
400	3	NR	530	258	NR	660	133	NR	790	2	NR	920	0	NR
405	5	NR	535	262	NR	665	113	NR	795	2	NR	925	0	NR
410	7	NR	540	267	NR	670	104	NR	800	2	NR	930	0	NR
415	13	NR	545	271	NR	675	86	NR	805	2	NR	935	0	NR
420	24	NR	550	277	NR	680	74	NR	810	1	NR	940	0	NR
425	42	NR	555	284	NR	685	64	NR	815	1	NR	945	0	NR
430	72	NR	560	291	NR	690	55	NR	820	1	NR	950	0	NR
435	122	NR	565	296	NR	695	47	NR	825	1	NR	955	0	NR
440	207	NR	570	301	NR	700	40	NR	830	1	NR	960	0	NR
445	317	NR	575	306	NR	705	34	NR	835	1	NR	965	0	NR
450	304	NR	580	310	NR	710	29	NR	840	1	NR	970	0	NR
455	193	NR	585	315	NR	715	25	NR	845	1	NR	975	0	NR
460	149	NR	590	318	NR	720	21	NR	850	0	NR	980	0	NR
465	117	NR	595	320	NR	725	18	NR	855	0	NR	985	0	NR
470	85	NR	600	322	NR	730	15	NR	860	0	NR	990	0	NR
475	78	NR	605	325	NR	735	13	NR	865	0	NR	995	0	NR
480	84	NR	610	351	NR	740	11	NR	870	0	NR	1000	0	NR
485	98	NR	615	362	NR	745	10	NR	875	0	NR			

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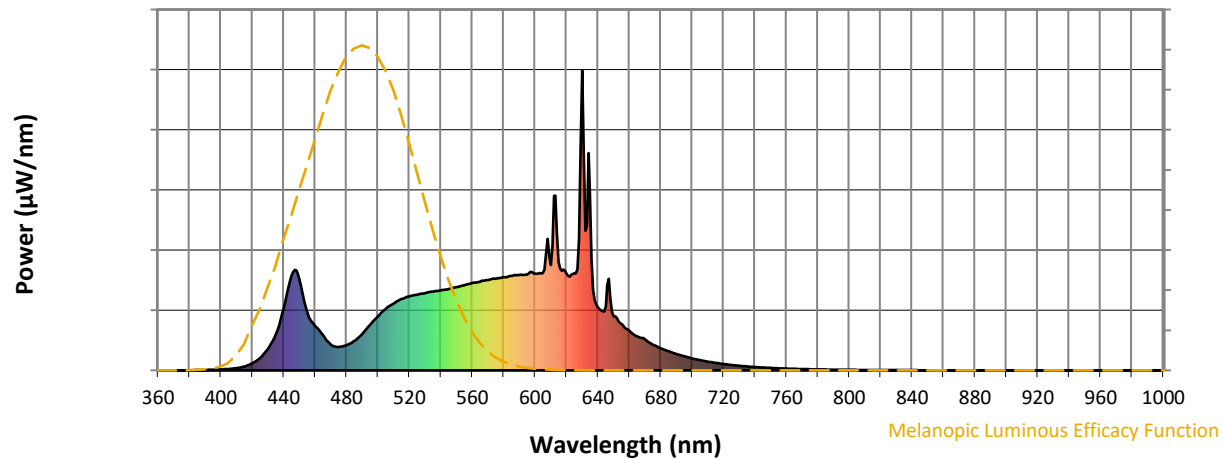
Scotopic Flux vs. Wavelength


Scotopic Lumens: NR
S/P: 1.58

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	122	NR	620	322	NR	750	8	NR	880	0	NR
365	0	NR	495	152	NR	625	323	NR	755	7	NR	885	0	NR
370	0	NR	500	180	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	205	NR	635	589	NR	765	5	NR	895	0	NR
380	0	NR	510	223	NR	640	210	NR	770	4	NR	900	0	NR
385	1	NR	515	238	NR	645	214	NR	775	4	NR	905	0	NR
390	1	NR	520	247	NR	650	181	NR	780	3	NR	910	0	NR
395	2	NR	525	252	NR	655	155	NR	785	3	NR	915	0	NR
400	3	NR	530	258	NR	660	133	NR	790	2	NR	920	0	NR
405	5	NR	535	262	NR	665	113	NR	795	2	NR	925	0	NR
410	7	NR	540	267	NR	670	104	NR	800	2	NR	930	0	NR
415	13	NR	545	271	NR	675	86	NR	805	2	NR	935	0	NR
420	24	NR	550	277	NR	680	74	NR	810	1	NR	940	0	NR
425	42	NR	555	284	NR	685	64	NR	815	1	NR	945	0	NR
430	72	NR	560	291	NR	690	55	NR	820	1	NR	950	0	NR
435	122	NR	565	296	NR	695	47	NR	825	1	NR	955	0	NR
440	207	NR	570	301	NR	700	40	NR	830	1	NR	960	0	NR
445	317	NR	575	306	NR	705	34	NR	835	1	NR	965	0	NR
450	304	NR	580	310	NR	710	29	NR	840	1	NR	970	0	NR
455	193	NR	585	315	NR	715	25	NR	845	1	NR	975	0	NR
460	149	NR	590	318	NR	720	21	NR	850	0	NR	980	0	NR
465	117	NR	595	320	NR	725	18	NR	855	0	NR	985	0	NR
470	85	NR	600	322	NR	730	15	NR	860	0	NR	990	0	NR
475	78	NR	605	325	NR	735	13	NR	865	0	NR	995	0	NR
480	84	NR	610	351	NR	740	11	NR	870	0	NR	1000	0	NR
485	98	NR	615	362	NR	745	10	NR	875	0	NR			

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Melanopic Flux vs. Wavelength

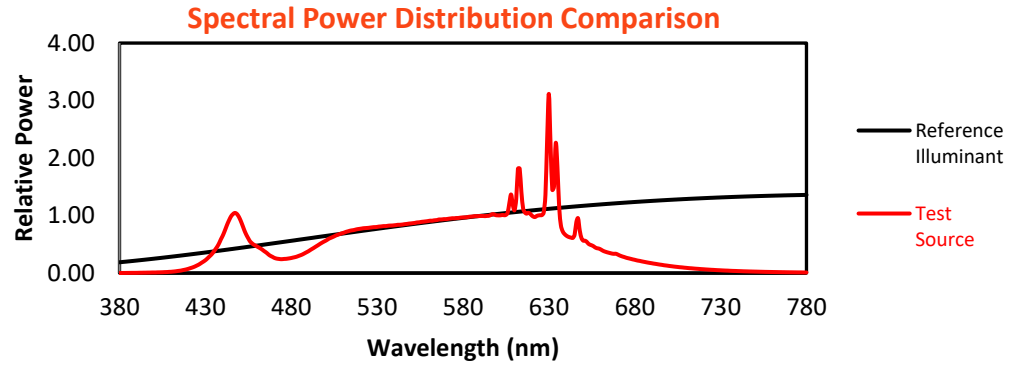
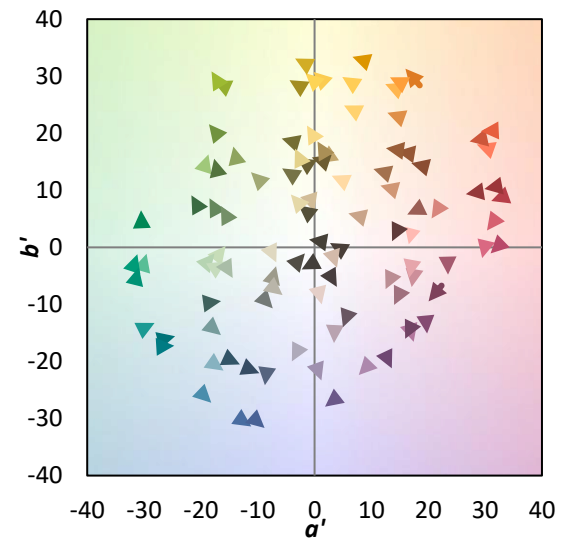
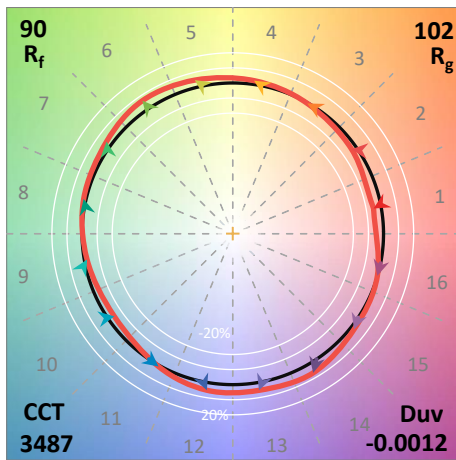
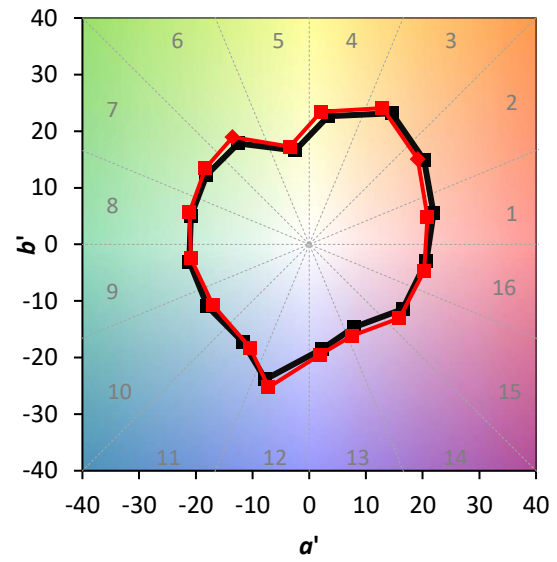
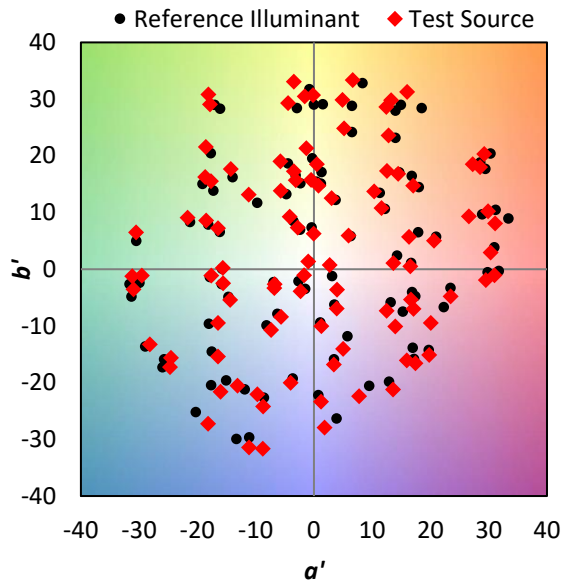


Melanopic Lumens: NR

M/P: 3.15

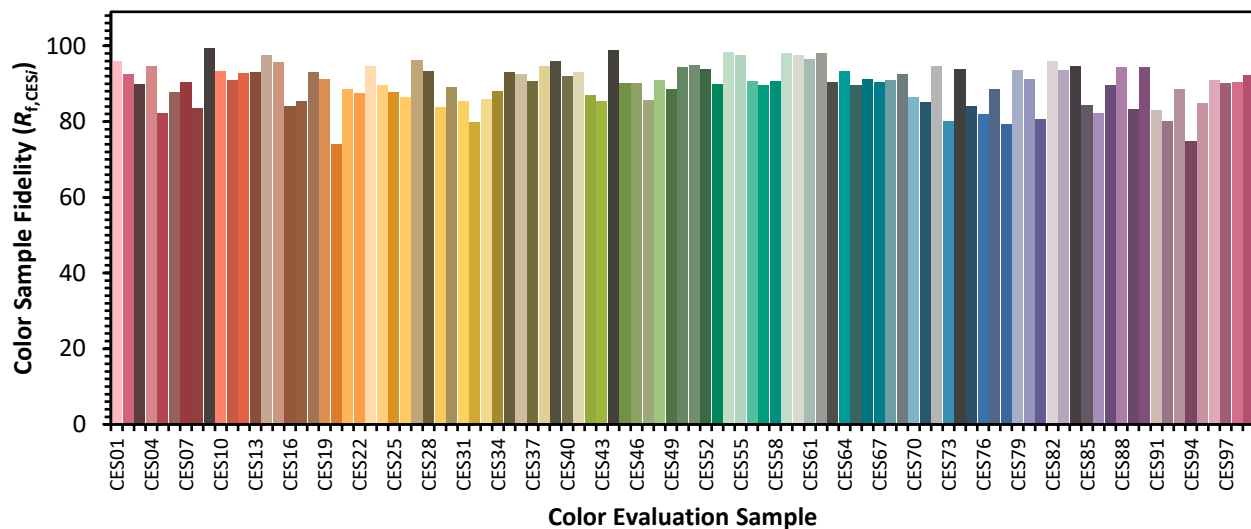
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	122	NR	620	322	NR	750	8	NR	880	0	NR
365	0	NR	495	152	NR	625	323	NR	755	7	NR	885	0	NR
370	0	NR	500	180	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	205	NR	635	589	NR	765	5	NR	895	0	NR
380	0	NR	510	223	NR	640	210	NR	770	4	NR	900	0	NR
385	1	NR	515	238	NR	645	214	NR	775	4	NR	905	0	NR
390	1	NR	520	247	NR	650	181	NR	780	3	NR	910	0	NR
395	2	NR	525	252	NR	655	155	NR	785	3	NR	915	0	NR
400	3	NR	530	258	NR	660	133	NR	790	2	NR	920	0	NR
405	5	NR	535	262	NR	665	113	NR	795	2	NR	925	0	NR
410	7	NR	540	267	NR	670	104	NR	800	2	NR	930	0	NR
415	13	NR	545	271	NR	675	86	NR	805	2	NR	935	0	NR
420	24	NR	550	277	NR	680	74	NR	810	1	NR	940	0	NR
425	42	NR	555	284	NR	685	64	NR	815	1	NR	945	0	NR
430	72	NR	560	291	NR	690	55	NR	820	1	NR	950	0	NR
435	122	NR	565	296	NR	695	47	NR	825	1	NR	955	0	NR
440	207	NR	570	301	NR	700	40	NR	830	1	NR	960	0	NR
445	317	NR	575	306	NR	705	34	NR	835	1	NR	965	0	NR
450	304	NR	580	310	NR	710	29	NR	840	1	NR	970	0	NR
455	193	NR	585	315	NR	715	25	NR	845	1	NR	975	0	NR
460	149	NR	590	318	NR	720	21	NR	850	0	NR	980	0	NR
465	117	NR	595	320	NR	725	18	NR	855	0	NR	985	0	NR
470	85	NR	600	322	NR	730	15	NR	860	0	NR	990	0	NR
475	78	NR	605	325	NR	735	13	NR	865	0	NR	995	0	NR
480	84	NR	610	351	NR	740	11	NR	870	0	NR	1000	0	NR
485	98	NR	615	362	NR	745	10	NR	875	0	NR			

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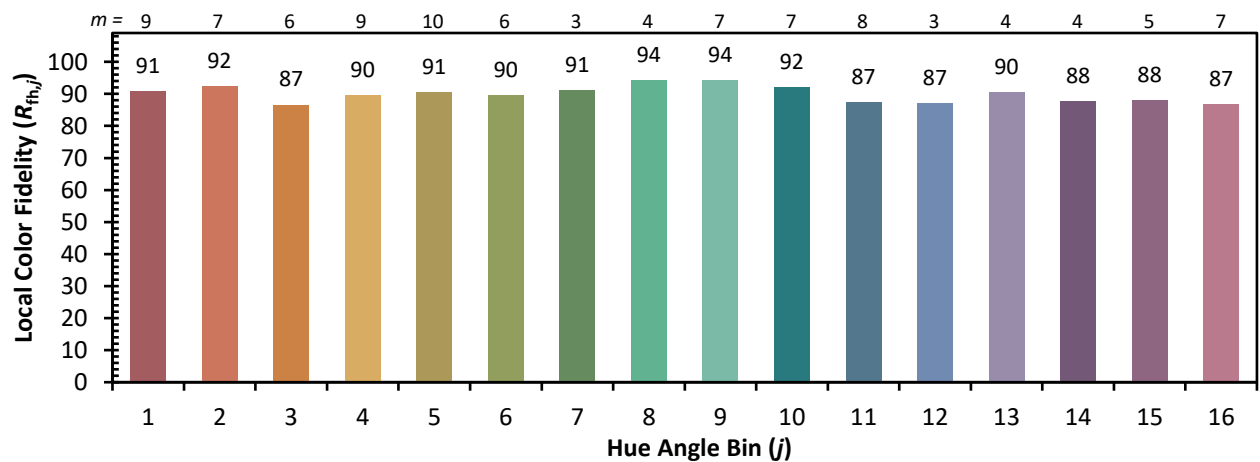
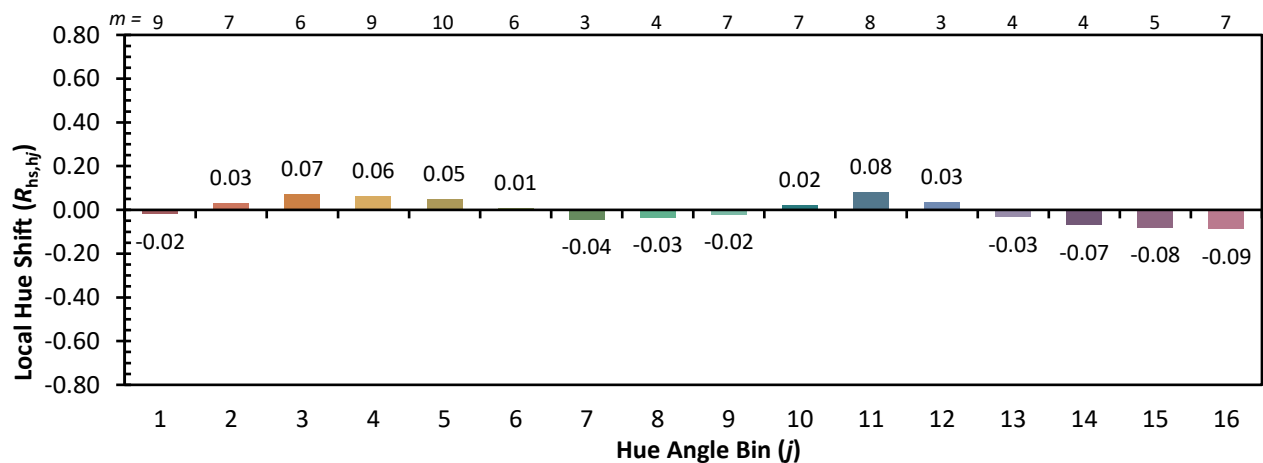
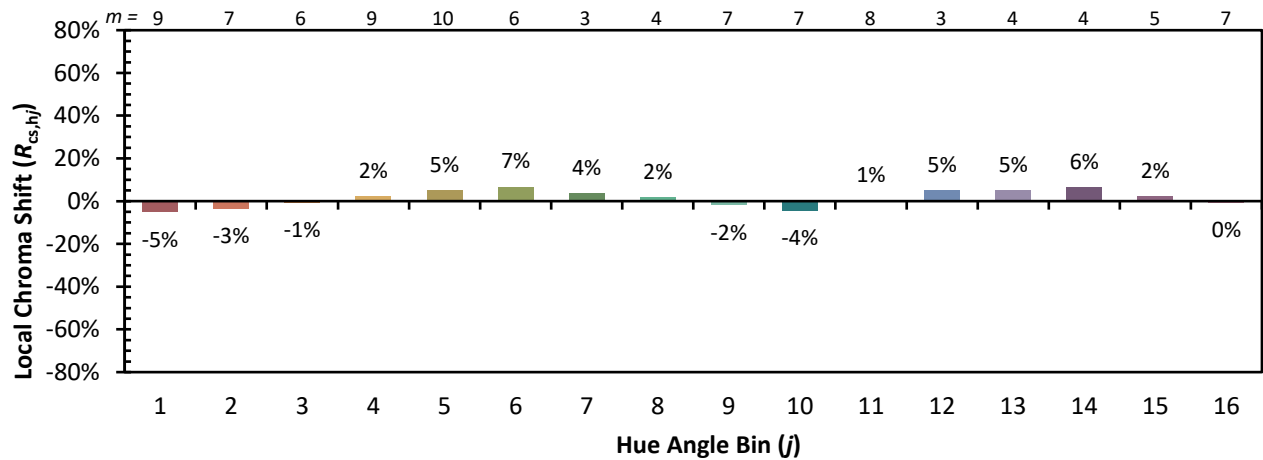
TM-30-18
Summary
 $R_f = 90$
 $R_g = 102.4$
 CIE $R_a = 92.5$
 $R_9 = 61.3$

Color Vector Graphics


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

CES01 = 86	CES26 = 87	CES51 = 95	CES76 = 82
CES02 = 62	CES27 = 96	CES52 = 94	CES77 = 89
CES03 = 31	CES28 = 93	CES53 = 90	CES78 = 79
CES04 = 70	CES29 = 84	CES54 = 98	CES79 = 93
CES05 = 50	CES30 = 89	CES55 = 97	CES80 = 91
CES06 = 51	CES31 = 85	CES56 = 91	CES81 = 81
CES07 = 43	CES32 = 80	CES57 = 90	CES82 = 96
CES08 = 41	CES33 = 86	CES58 = 91	CES83 = 94
CES09 = 29	CES34 = 88	CES59 = 98	CES84 = 95
CES10 = 75	CES35 = 93	CES60 = 97	CES85 = 84
CES11 = 58	CES36 = 93	CES61 = 96	CES86 = 82
CES12 = 64	CES37 = 91	CES62 = 98	CES87 = 90
CES13 = 43	CES38 = 95	CES63 = 91	CES88 = 94
CES14 = 74	CES39 = 96	CES64 = 93	CES89 = 83
CES15 = 71	CES40 = 92	CES65 = 90	CES90 = 94
CES16 = 47	CES41 = 93	CES66 = 91	CES91 = 83
CES17 = 49	CES42 = 87	CES67 = 91	CES92 = 80
CES18 = 56	CES43 = 85	CES68 = 91	CES93 = 89
CES19 = 71	CES44 = 99	CES69 = 93	CES94 = 75
CES20 = 66	CES45 = 90	CES70 = 87	CES95 = 85
CES21 = 86	CES46 = 90	CES71 = 85	CES96 = 91
CES22 = 78	CES47 = 86	CES72 = 95	CES97 = 90
CES23 = 91	CES48 = 91	CES73 = 80	CES98 = 91
CES24 = 90	CES49 = 88	CES74 = 94	CES99 = 92
CES25 = 71	CES50 = 94	CES75 = 84	



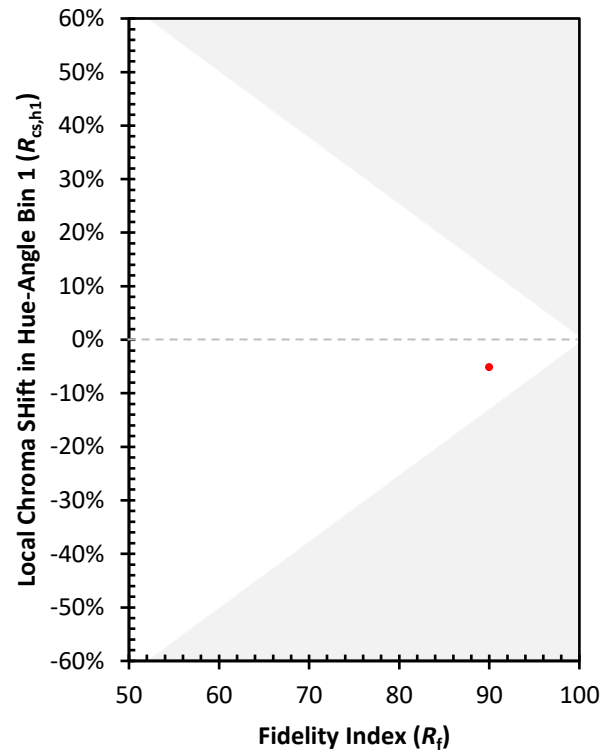
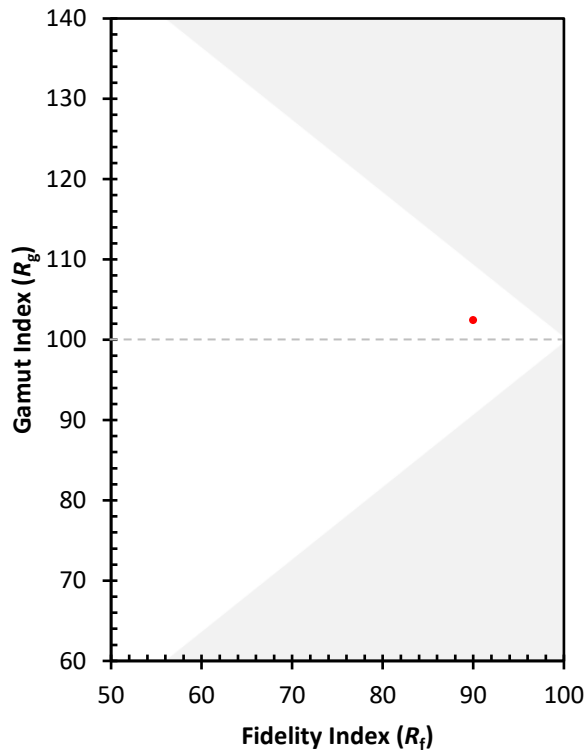
Color Rendition by Hue-Angle Bin



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TM-30-18

Measure Comparisons



(END OF REPORT)