

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: P1357403

Luminaire Tested: 8ASL4-10-1-30-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1357403
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: 8ASL4-10-1-30-UNV
Description: 8FT 1000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 3000K LEDS 1 ROW
Light Source: -
Ballast/Driver: -

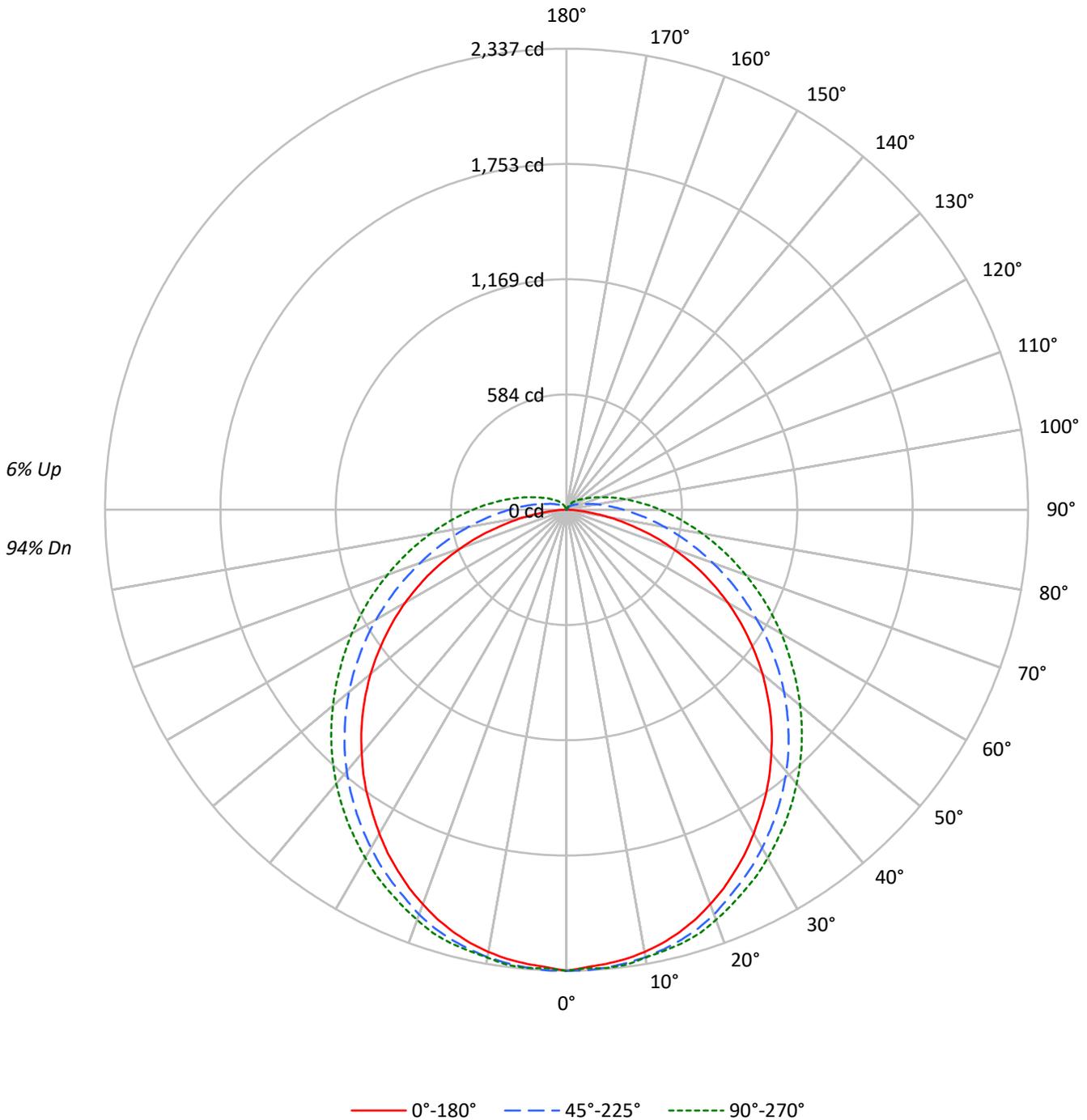
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7824.0 lumens
Efficiency: N/A
Efficacy: 111.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 7.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 70.4
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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Luminous Intensity Polar Plot





TEST NUMBER: P1357403
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	96	96	96	94
1	106	100	95	91	102	97	93	89	92	88	85	87	84	81	82	80	78	82	80	78	75
2	95	86	79	73	92	84	77	71	79	74	69	75	70	66	71	67	64	71	67	64	61
3	87	76	67	60	84	73	65	59	69	63	57	66	60	55	62	58	54	62	58	54	51
4	79	67	57	50	76	65	56	50	62	54	48	58	52	47	56	50	46	56	50	46	43
5	73	59	50	43	70	58	49	43	55	47	42	52	46	41	50	44	40	50	44	40	37
6	67	53	44	38	65	52	43	37	50	42	36	47	41	35	45	39	35	45	39	35	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	31	41	35	31	29
8	58	44	35	29	56	43	35	29	41	34	29	39	33	28	38	32	27	38	32	27	25
9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	35	29	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	32	27	22	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9458	9458	9458
5°	9376	9275	9220
10°	9333	9093	8978
15°	9250	8899	8790
20°	9122	8677	8556
25°	8964	8411	8305
30°	8792	8168	8069
35°	8620	7918	7833
40°	8427	7667	7590
45°	8245	7392	7343
50°	8031	7105	7083
55°	7764	6780	6823
60°	7470	6441	6594
65°	7093	6085	6366
70°	6493	5710	6143
75°	5715	5381	5973
80°	4646	5104	5867
85°	2885	4936	5907

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8245 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.3	2.8
10°-20°	635.3	8.1
20°-30°	960.5	12.3
30°-40°	1161.0	14.8
40°-50°	1220.7	15.6
50°-60°	1137.2	14.5
60°-70°	934.2	11.9
70°-80°	663.2	8.5
80°-90°	399.8	5.1
90°-100°	224.0	2.9
100°-110°	124.0	1.6
110°-120°	69.2	0.9
120°-130°	39.9	0.5
130°-140°	21.8	0.3
140°-150°	9.7	0.1
150°-160°	2.2	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-30°	1817.1	23.2
0°-40°	2978.1	38.1
0°-60°	5336.0	68.2
0°-90°	7333.2	93.7
90°-120°	417.2	5.3
90°-150°	488.5	6.2
90°-180°	491.0	6.3
0°-180°	7824.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2337	2337	2337	2337	2337	
5°	2310	2332	2329	2326	2332	220
15°	2215	2244	2255	2266	2274	625
25°	2020	2057	2086	2115	2131	931
35°	1761	1806	1861	1909	1932	1101
45°	1459	1512	1589	1655	1684	1125
55°	1121	1184	1277	1362	1398	1002
65°	761	830	949	1060	1110	751
75°	383	481	640	772	828	410
85°	71	206	386	529	582	89
90°	0	122	288	423	473	3
95°	0	71	212	333	381	0
105°	0	26	111	201	238	0
115°	0	13	69	122	145	0
125°	0	8	42	79	92	0
135°	0	3	26	50	63	0
145°	3	0	11	29	37	1
155°	3	3	0	8	11	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°	2337.0	2337.0	2337.0	2337.0	2337.0
2.5°	2321.1	2342.3	2337.0	2326.4	2326.4
5°	2310.5	2331.7	2329.0	2326.4	2331.7
7.5°	2297.3	2318.5	2318.5	2321.1	2326.4
10°	2276.2	2302.6	2302.6	2302.6	2305.2
12.5°	2249.7	2276.2	2281.4	2284.1	2289.4
15°	2215.4	2244.4	2255.0	2265.6	2273.5
17.5°	2175.7	2204.8	2223.3	2236.5	2249.7
20°	2128.1	2159.8	2183.6	2199.5	2212.7
22.5°	2077.9	2109.6	2133.4	2157.2	2173.1
25°	2019.7	2056.7	2085.8	2114.9	2130.8
27.5°	1961.6	1998.6	2035.6	2070.0	2088.5
30°	1895.5	1937.8	1980.1	2019.7	2038.2
32.5°	1826.7	1871.7	1921.9	1964.2	1985.4
35°	1760.7	1805.6	1861.1	1908.7	1932.5
37.5°	1689.3	1734.2	1797.7	1850.5	1874.3
40°	1612.6	1662.8	1731.6	1787.1	1813.5
42.5°	1538.6	1588.8	1662.8	1723.6	1750.1
45°	1459.3	1512.2	1588.8	1654.9	1684.0
47.5°	1377.3	1432.8	1514.8	1583.5	1615.3
50°	1295.4	1353.5	1438.1	1512.2	1543.9
52.5°	1208.1	1268.9	1358.8	1438.1	1472.5
55°	1120.9	1184.3	1276.9	1361.5	1398.5
57.5°	1033.7	1097.1	1197.6	1287.4	1327.1
60°	943.8	1009.9	1113.0	1210.8	1255.7
62.5°	851.2	920.0	1028.4	1134.1	1181.7
65°	761.4	830.1	949.1	1060.1	1110.3
67.5°	666.2	740.2	867.1	983.4	1036.3
70°	568.4	653.0	787.8	912.1	964.9
72.5°	481.1	568.4	713.8	840.7	896.2
75°	383.3	481.1	639.8	771.9	827.5
77.5°	298.7	404.5	571.0	705.8	761.4
80°	214.1	330.5	504.9	642.4	697.9
82.5°	137.5	264.4	444.1	584.2	637.1
85°	71.4	206.2	386.0	528.7	581.6
87.5°	21.1	158.6	333.1	473.2	526.1
90°	0.0	121.6	288.2	423.0	473.2
92.5°	0.0	92.5	248.5	378.0	428.3
95°	0.0	71.4	211.5	333.1	380.7
97.5°	0.0	55.5	182.4	293.4	341.0
100°	0.0	44.9	156.0	259.1	304.0
102.5°	0.0	37.0	134.8	230.0	269.6
105°	0.0	26.4	111.0	200.9	237.9
107.5°	0.0	18.5	97.8	177.1	208.8
110°	0.0	15.9	87.2	153.3	185.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	13.2	76.7	137.5	163.9
115°	0.0	13.2	68.7	121.6	145.4
117.5°	0.0	10.6	58.2	108.4	129.5
120°	0.0	10.6	52.9	97.8	116.3
122.5°	0.0	7.9	47.6	87.2	105.7
125°	0.0	7.9	42.3	79.3	92.5
127.5°	0.0	5.3	37.0	71.4	84.6
130°	0.0	5.3	34.4	63.4	76.7
132.5°	0.0	2.6	31.7	58.2	68.7
135°	0.0	2.6	26.4	50.2	63.4
137.5°	0.0	0.0	23.8	44.9	55.5
140°	0.0	0.0	18.5	39.7	50.2
142.5°	2.6	0.0	15.9	34.4	42.3
145°	2.6	0.0	10.6	29.1	37.0
147.5°	2.6	2.6	7.9	23.8	29.1
150°	2.6	2.6	5.3	15.9	23.8
152.5°	2.6	2.6	2.6	10.6	15.9
155°	2.6	2.6	0.0	7.9	10.6
157.5°	2.6	2.6	0.0	2.6	5.3
160°	2.6	2.6	0.0	0.0	2.6
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	17.23	18.78	17.69	19.22	19.69	19.25	20.80	19.71	21.24	21.71
	3H	18.72	20.13	19.19	20.58	21.09	21.68	23.09	22.15	23.55	24.06
	4H	19.19	20.53	19.68	21.00	21.53	22.86	24.20	23.36	24.67	25.20
	6H	19.47	20.72	19.97	21.20	21.74	24.10	25.35	24.60	25.83	26.37
	8H	19.52	20.72	20.04	21.22	21.77	24.74	25.94	25.26	26.44	26.99
	12H	19.53	20.68	20.06	21.18	21.76	25.46	26.61	25.98	27.11	27.68
4H	2H	18.10	19.44	18.59	19.91	20.43	19.68	21.02	20.18	21.49	22.02
	3H	19.83	20.97	20.33	21.48	22.03	22.34	23.48	22.84	23.99	24.54
	4H	20.43	21.47	20.95	21.99	22.57	23.69	24.73	24.21	25.25	25.83
	6H	20.82	21.74	21.37	22.29	22.89	25.11	26.03	25.65	26.58	27.17
	8H	20.91	21.78	21.47	22.33	22.94	25.86	26.72	26.41	27.27	27.88
	12H	20.96	21.74	21.53	22.32	22.93	26.70	27.48	27.27	28.06	28.67
8H	4H	21.09	21.95	21.64	22.50	23.11	23.90	24.76	24.45	25.31	25.92
	6H	21.65	22.39	22.24	22.98	23.59	25.48	26.22	26.07	26.81	27.42
	8H	21.83	22.49	22.43	23.10	23.72	26.37	27.03	26.97	27.64	28.26
	12H	21.94	22.53	22.54	23.12	23.82	27.39	27.99	27.99	28.58	29.27
12H	4H	21.27	22.06	21.84	22.64	23.25	23.90	24.69	24.48	25.27	25.88
	6H	21.93	22.60	22.53	23.20	23.83	25.52	26.18	26.11	26.79	27.41
	8H	22.21	22.80	22.80	23.39	24.08	26.47	27.06	27.07	27.66	28.35

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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
 Rf: 90.1
 Rg: 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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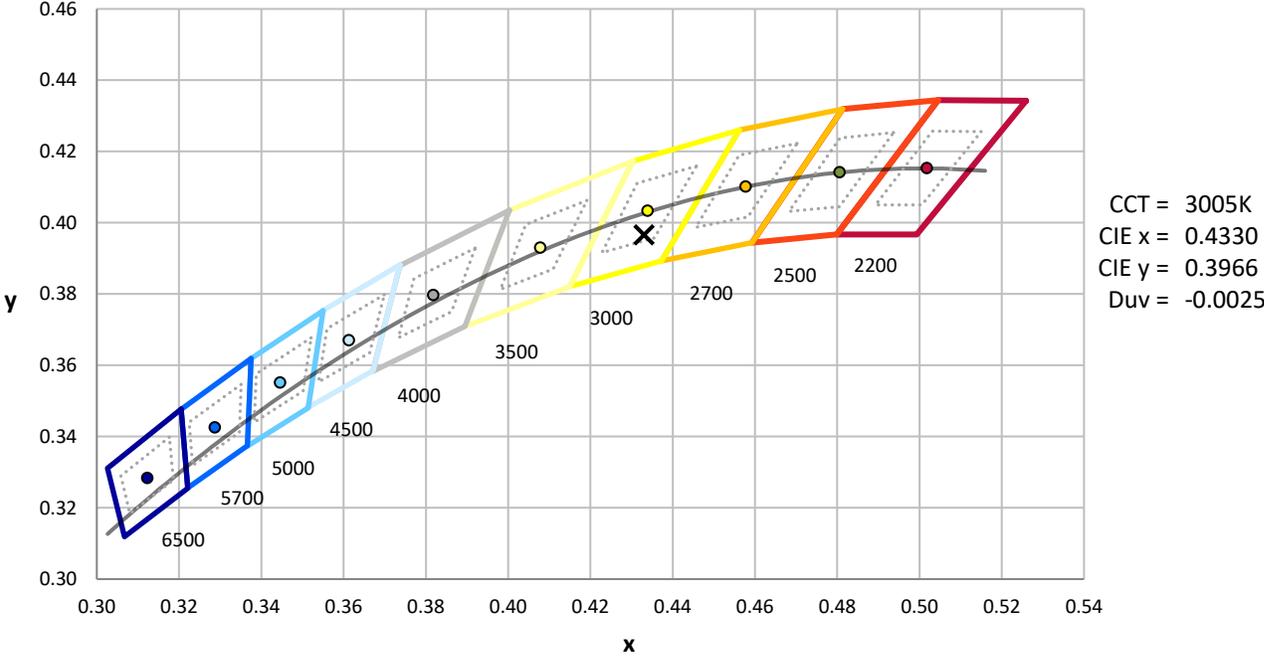
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	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

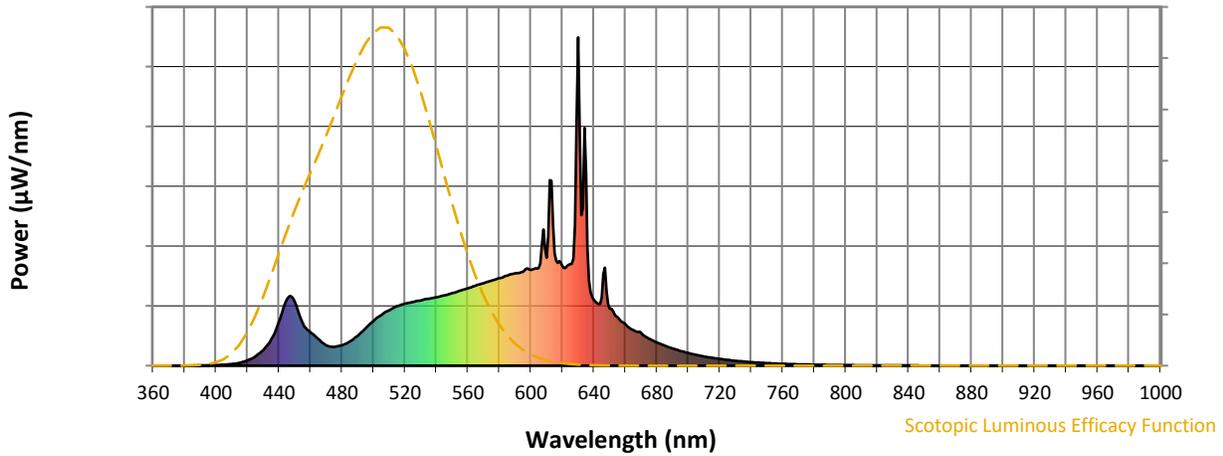


Photopic Lumens: NR

λ (nm)	Power 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



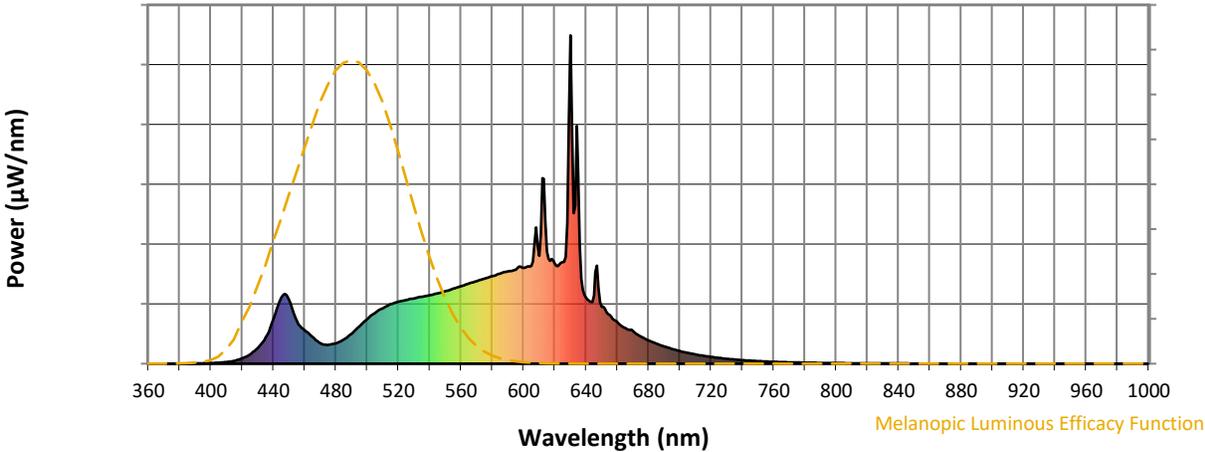
Scotopic Lumens: NR

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

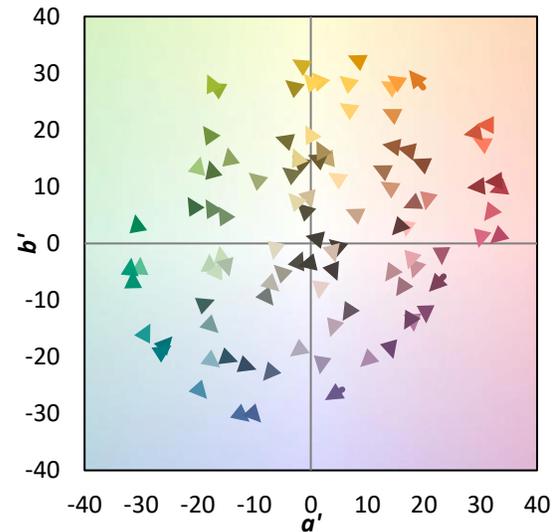
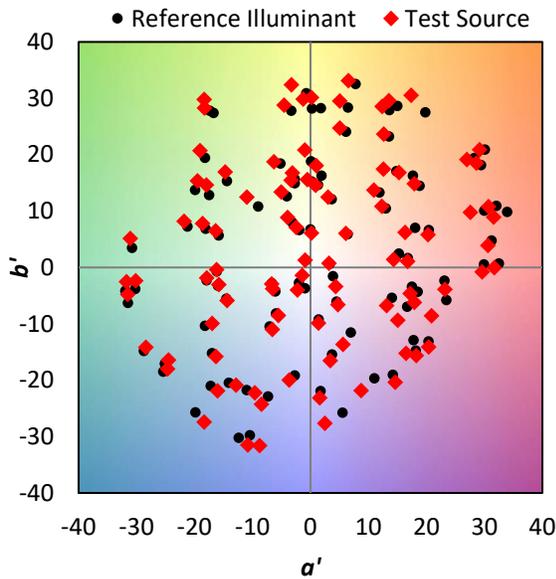
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	92	NR	620	304	NR	750	8	NR	880	0	NR
365	0	NR	495	114	NR	625	309	NR	755	7	NR	885	0	NR
370	0	NR	500	136	NR	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			

Summary

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

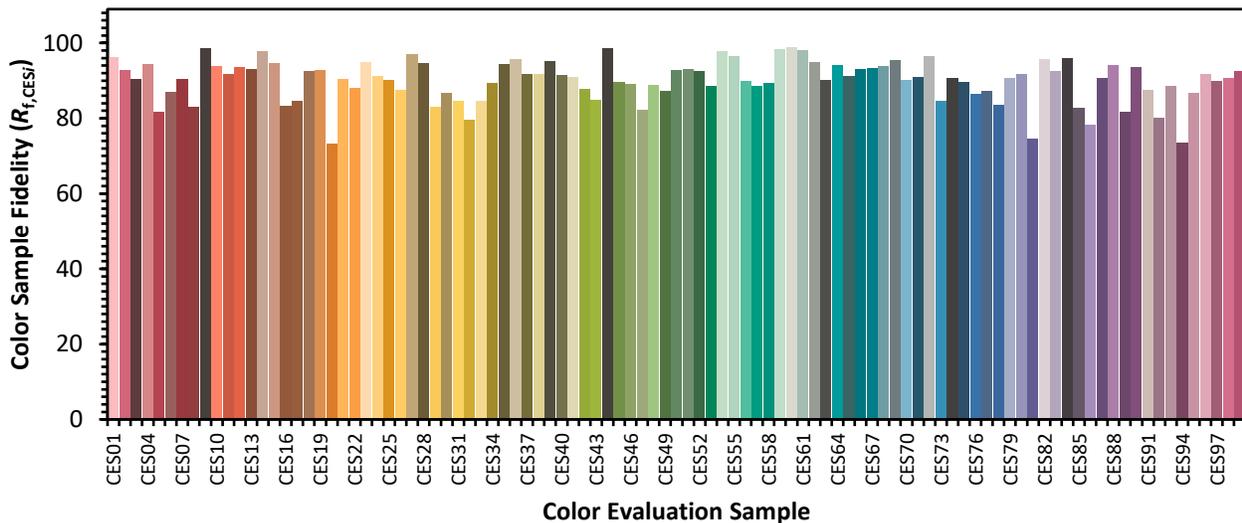


Color Vector Graphics

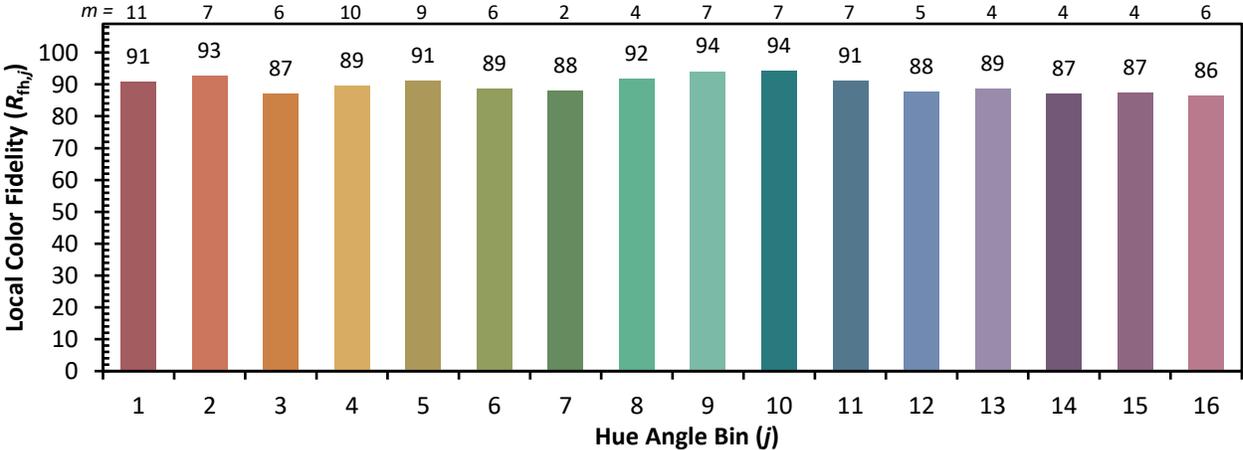


Individual Sample Fidelity Index ($R_{f,i}$)

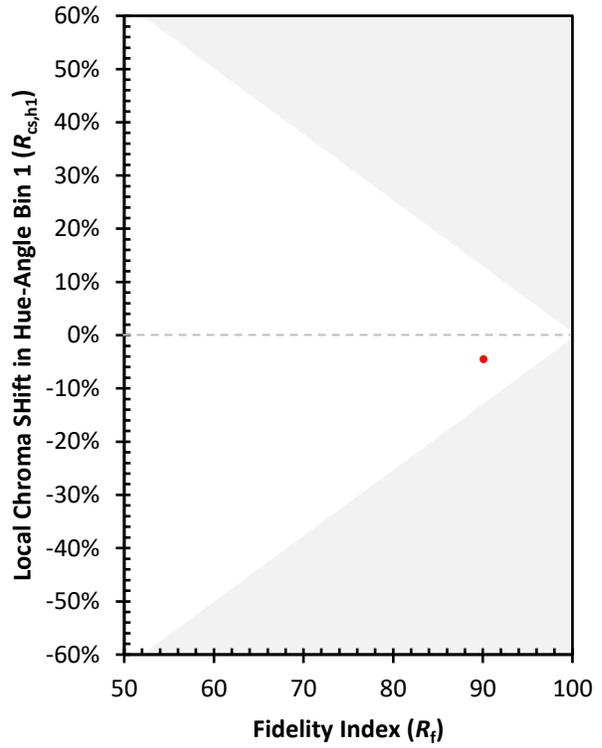
CES01 = 86	CES26 = 88	CES51 = 93	CES76 = 86
CES02 = 63	CES27 = 97	CES52 = 93	CES77 = 87
CES03 = 32	CES28 = 95	CES53 = 89	CES78 = 83
CES04 = 70	CES29 = 83	CES54 = 98	CES79 = 91
CES05 = 51	CES30 = 87	CES55 = 97	CES80 = 92
CES06 = 51	CES31 = 85	CES56 = 90	CES81 = 75
CES07 = 44	CES32 = 80	CES57 = 89	CES82 = 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)