

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: P1356763

Luminaire Tested: 1ASL4-5-1-27-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1356763
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: 1ASL4-5-1-27-UNV
Description: 1FT 500 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 2700K LEDS 1 ROW
Light Source: -
Ballast/Driver: -

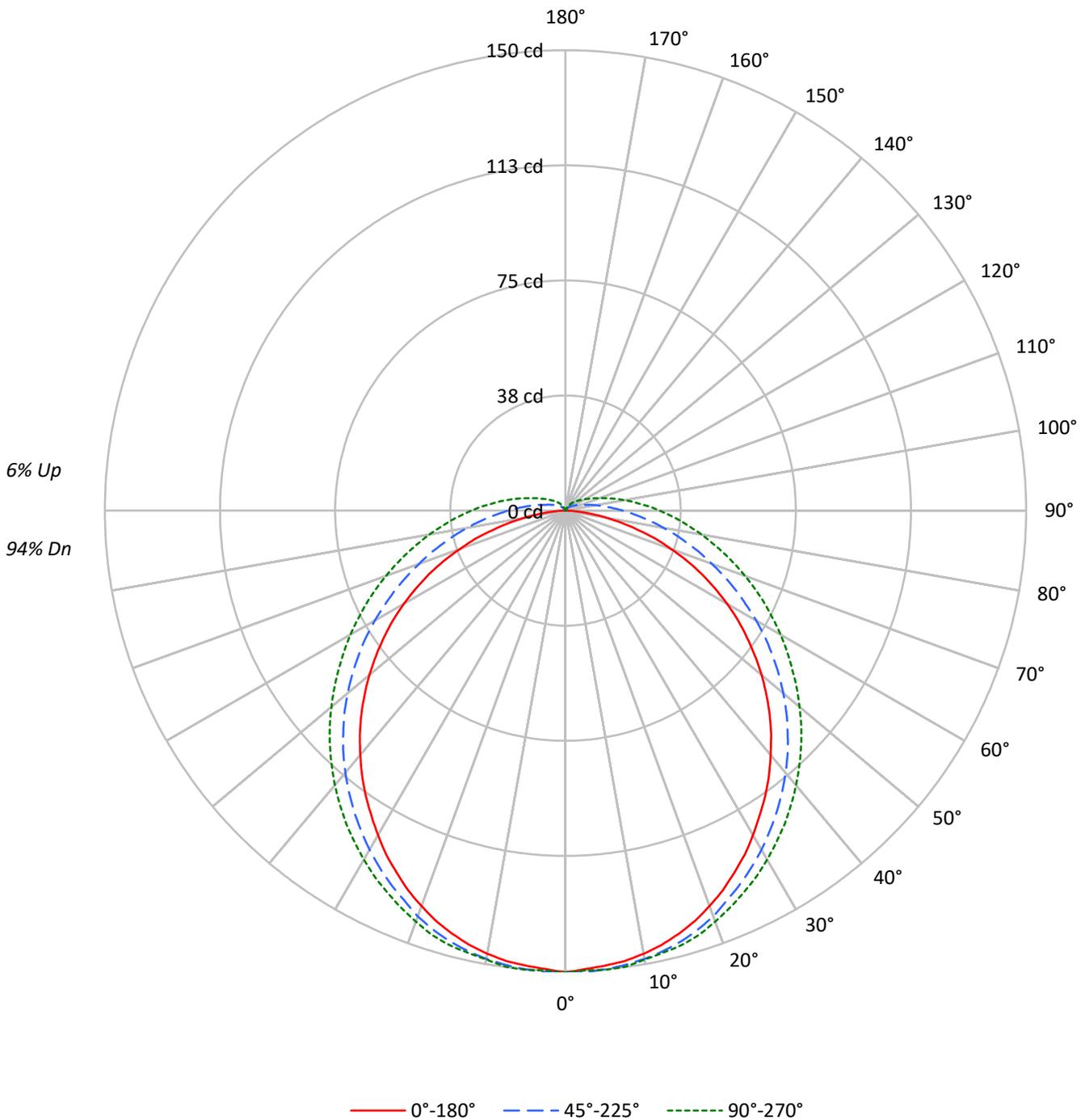
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 504.0 lumens
Efficiency: N/A
Efficacy: 112.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 0.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 4.5
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





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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	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°	4963	4963	4963
5°	4881	4840	4840
10°	4819	4720	4713
15°	4737	4596	4615
20°	4632	4457	4490
25°	4510	4297	4361
30°	4381	4150	4236
35°	4249	3998	4112
40°	4106	3845	3984
45°	3963	3681	3856
50°	3797	3511	3720
55°	3604	3325	3582
60°	3386	3126	3462
65°	3113	2916	3341
70°	2731	2695	3227
75°	2253	2493	3135
80°	1635	2303	3083
85°	785	2148	3104

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3963 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	14.3	2.8
10°-20°	40.9	8.1
20°-30°	61.9	12.3
30°-40°	74.8	14.8
40°-50°	78.6	15.6
50°-60°	73.2	14.5
60°-70°	60.2	11.9
70°-80°	42.7	8.5
80°-90°	25.8	5.1
90°-100°	14.4	2.9
100°-110°	8.0	1.6
110°-120°	4.5	0.9
120°-130°	2.6	0.5
130°-140°	1.4	0.3
140°-150°	0.6	0.1
150°-160°	0.1	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	117.0	23.2
0°-40°	191.8	38.1
0°-60°	343.7	68.2
0°-90°	472.4	93.7
90°-120°	26.9	5.3
90°-150°	31.5	6.2
90°-180°	32.0	6.3
0°-180°	504.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	150	150	150	150	150	
5°	149	150	150	150	150	14
15°	143	145	145	146	146	40
25°	130	132	134	136	137	60
35°	113	116	120	123	124	71
45°	94	97	102	107	108	72
55°	72	76	82	88	90	65
65°	49	54	61	68	72	48
75°	25	31	41	50	53	26
85°	5	13	25	34	38	6
90°	0	8	19	27	30	0
95°	0	5	14	22	24	0
105°	0	2	7	13	15	0
115°	0	1	4	8	9	0
125°	0	0	3	5	6	0
135°	0	0	2	3	4	0
145°	0	0	1	2	2	0
155°	0	0	0	0	1	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°	150.5	150.5	150.5	150.5	150.5
2.5°	149.5	150.9	150.5	149.9	149.9
5°	148.8	150.2	150.0	149.9	150.2
7.5°	148.0	149.3	149.3	149.5	149.9
10°	146.6	148.3	148.3	148.3	148.5
12.5°	144.9	146.6	147.0	147.1	147.5
15°	142.7	144.6	145.3	145.9	146.5
17.5°	140.2	142.0	143.2	144.1	144.9
20°	137.1	139.1	140.7	141.7	142.5
22.5°	133.9	135.9	137.4	139.0	140.0
25°	130.1	132.5	134.4	136.2	137.3
27.5°	126.4	128.7	131.1	133.3	134.5
30°	122.1	124.8	127.6	130.1	131.3
32.5°	117.7	120.6	123.8	126.5	127.9
35°	113.4	116.3	119.9	123.0	124.5
37.5°	108.8	111.7	115.8	119.2	120.7
40°	103.9	107.1	111.5	115.1	116.8
42.5°	99.1	102.3	107.1	111.0	112.7
45°	94.0	97.4	102.3	106.6	108.5
47.5°	88.7	92.3	97.6	102.0	104.1
50°	83.4	87.2	92.6	97.4	99.5
52.5°	77.8	81.7	87.5	92.6	94.9
55°	72.2	76.3	82.3	87.7	90.1
57.5°	66.6	70.7	77.1	82.9	85.5
60°	60.8	65.1	71.7	78.0	80.9
62.5°	54.8	59.3	66.2	73.1	76.1
65°	49.0	53.5	61.1	68.3	71.5
67.5°	42.9	47.7	55.9	63.3	66.8
70°	36.6	42.1	50.7	58.8	62.2
72.5°	31.0	36.6	46.0	54.2	57.7
75°	24.7	31.0	41.2	49.7	53.3
77.5°	19.2	26.1	36.8	45.5	49.0
80°	13.8	21.3	32.5	41.4	45.0
82.5°	8.9	17.0	28.6	37.6	41.0
85°	4.6	13.3	24.9	34.1	37.5
87.5°	1.4	10.2	21.5	30.5	33.9
90°	0.0	7.8	18.6	27.2	30.5
92.5°	0.0	6.0	16.0	24.4	27.6
95°	0.0	4.6	13.6	21.5	24.5
97.5°	0.0	3.6	11.8	18.9	22.0
100°	0.0	2.9	10.0	16.7	19.6
102.5°	0.0	2.4	8.7	14.8	17.4
105°	0.0	1.7	7.2	12.9	15.3
107.5°	0.0	1.2	6.3	11.4	13.5
110°	0.0	1.0	5.6	9.9	11.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.9	4.9	8.9	10.6
115°	0.0	0.9	4.4	7.8	9.4
117.5°	0.0	0.7	3.7	7.0	8.3
120°	0.0	0.7	3.4	6.3	7.5
122.5°	0.0	0.5	3.1	5.6	6.8
125°	0.0	0.5	2.7	5.1	6.0
127.5°	0.0	0.3	2.4	4.6	5.4
130°	0.0	0.3	2.2	4.1	4.9
132.5°	0.0	0.2	2.0	3.7	4.4
135°	0.0	0.2	1.7	3.2	4.1
137.5°	0.0	0.0	1.5	2.9	3.6
140°	0.0	0.0	1.2	2.6	3.2
142.5°	0.2	0.0	1.0	2.2	2.7
145°	0.2	0.0	0.7	1.9	2.4
147.5°	0.2	0.2	0.5	1.5	1.9
150°	0.2	0.2	0.3	1.0	1.5
152.5°	0.2	0.2	0.2	0.7	1.0
155°	0.2	0.2	0.0	0.5	0.7
157.5°	0.2	0.2	0.0	0.2	0.3
160°	0.2	0.2	0.0	0.0	0.2
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	14.88	16.43	15.34	16.88	17.34	16.62	18.17	17.08	18.61	19.08
	3H	16.38	17.79	16.85	18.25	18.75	18.93	20.35	19.40	20.80	21.31
	4H	16.86	18.20	17.35	18.67	19.19	20.02	21.36	20.51	21.83	22.35
	6H	17.14	18.38	17.64	18.87	19.41	21.10	22.35	21.61	22.83	23.37
	8H	17.19	18.39	17.71	18.89	19.44	21.63	22.83	22.15	23.33	23.88
	12H	17.20	18.35	17.73	18.85	19.43	22.18	23.32	22.70	23.82	24.40
4H	2H	15.70	17.04	16.19	17.51	18.03	17.06	18.40	17.56	18.88	19.40
	3H	17.43	18.57	17.94	19.09	19.63	19.60	20.74	20.11	21.26	21.80
	4H	18.03	19.08	18.56	19.60	20.18	20.86	21.90	21.38	22.43	23.00
	6H	18.43	19.35	18.98	19.90	20.50	22.13	23.05	22.68	23.60	24.20
	8H	18.53	19.39	19.08	19.94	20.55	22.76	23.63	23.31	24.18	24.78
	12H	18.57	19.36	19.14	19.94	20.55	23.43	24.21	24.00	24.79	25.40
8H	4H	18.63	19.50	19.18	20.05	20.66	21.08	21.95	21.63	22.50	23.10
	6H	19.20	19.93	19.78	20.53	21.14	22.52	23.26	23.10	23.85	24.46
	8H	19.38	20.04	19.97	20.64	21.27	23.29	23.95	23.89	24.56	25.18
	12H	19.49	20.08	20.08	20.67	21.36	24.13	24.73	24.73	25.32	26.01
12H	4H	18.79	19.58	19.36	20.16	20.77	21.09	21.88	21.66	22.46	23.07
	6H	19.44	20.11	20.04	20.71	21.33	22.56	23.22	23.16	23.83	24.45
	8H	19.71	20.30	20.31	20.89	21.58	23.40	23.99	24.00	24.58	25.27

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-2

Test Date: 11/17/2025

Luminaire Tested: 4ASL-2-27-UNV-OPL-1_600mA

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

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2511-597-2
 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-2-27-UNV-OPL-1_600mA**
 Description: 2foot 4ASL LED LUMINAIRE WITH OPL LENS AND 2700K LEDs with 1 rows at 600mA

Spectral Parameters

CCT (K): 2696
 CIE u': 0.2632
 CIE v': 0.5245
 Duv: -0.0020
 CIE x: 0.4568
 CIE y: 0.4045
 CIE z: 0.1387
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 584
 Purity: 58.52757
 Rf: 90.1
 Rg: 103.5

CRI (Ra): 94.4
 R1: 97.5
 R2: 97.8
 R3: 96.9
 R4: 95.3
 R5: 97.2
 R6: 96.5
 R7: 91.2
 R8: 83.2
 R9: 61.8
 R10: 93.6
 R11: 93.7
 R12: 94.1
 R13: 97.6
 R14: 96.8
 R15: 91.9



Test Conditions

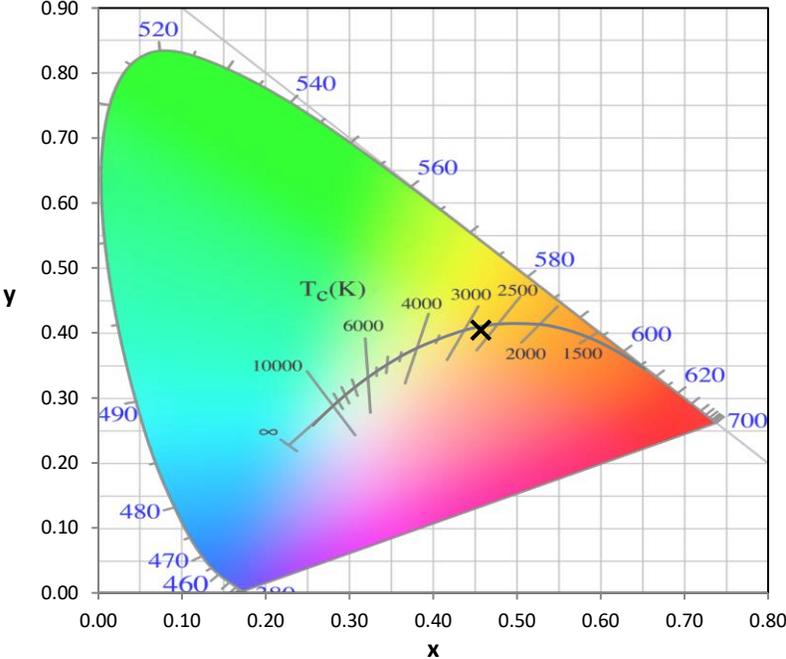
Stabilization Time: 32M
 Operation Time: 1H 32M
 Sphere Temperature (°C): 24.1

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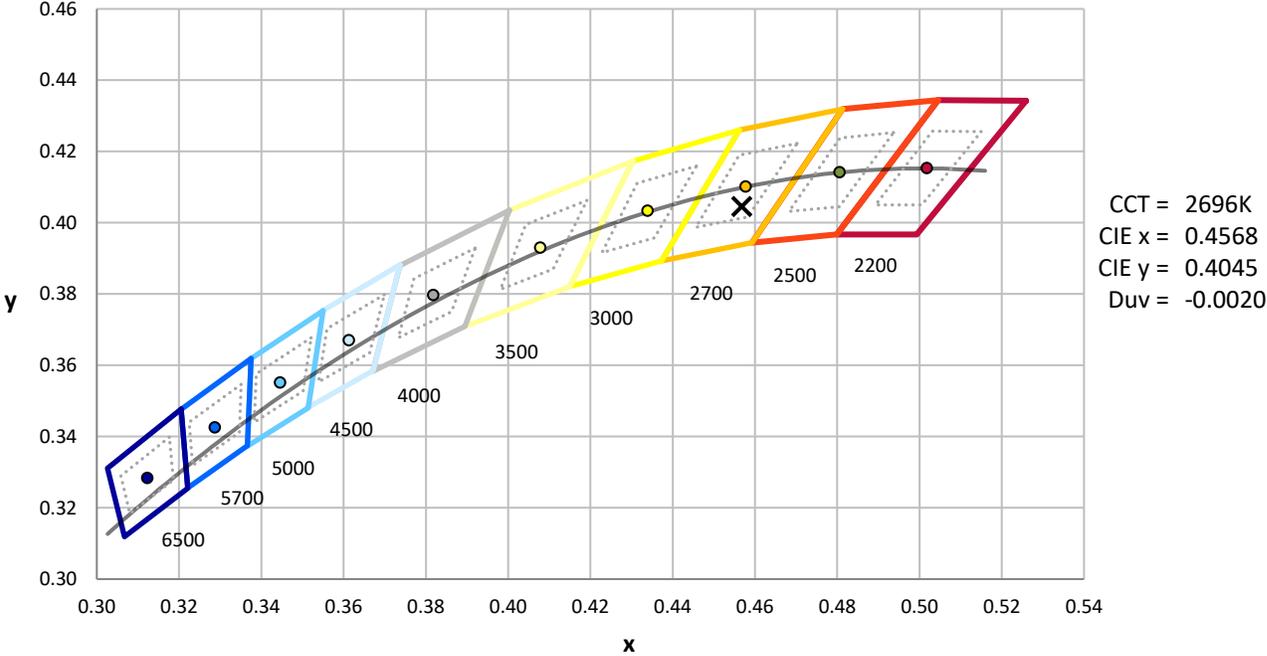
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	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 2700K 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	70	NR	620	281	NR	750	7	NR	880	0	NR
365	0	NR	495	88	NR	625	288	NR	755	6	NR	885	0	NR
370	0	NR	500	106	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	121	NR	635	581	NR	765	5	NR	895	0	NR
380	0	NR	510	133	NR	640	184	NR	770	4	NR	900	0	NR
385	0	NR	515	143	NR	645	191	NR	775	3	NR	905	0	NR
390	0	NR	520	149	NR	650	161	NR	780	3	NR	910	0	NR
395	1	NR	525	155	NR	655	136	NR	785	2	NR	915	0	NR
400	1	NR	530	158	NR	660	116	NR	790	2	NR	920	0	NR
405	2	NR	535	163	NR	665	99	NR	795	2	NR	925	0	NR
410	3	NR	540	168	NR	670	92	NR	800	2	NR	930	0	NR
415	6	NR	545	173	NR	675	75	NR	805	1	NR	935	0	NR
420	11	NR	550	179	NR	680	65	NR	810	1	NR	940	0	NR
425	19	NR	555	187	NR	685	56	NR	815	1	NR	945	0	NR
430	32	NR	560	195	NR	690	48	NR	820	1	NR	950	0	NR
435	54	NR	565	203	NR	695	41	NR	825	1	NR	955	0	NR
440	90	NR	570	211	NR	700	35	NR	830	1	NR	960	0	NR
445	134	NR	575	219	NR	705	30	NR	835	1	NR	965	0	NR
450	128	NR	580	228	NR	710	26	NR	840	1	NR	970	0	NR
455	83	NR	585	237	NR	715	22	NR	845	0	NR	975	0	NR
460	67	NR	590	246	NR	720	19	NR	850	0	NR	980	0	NR
465	55	NR	595	251	NR	725	16	NR	855	0	NR	985	0	NR
470	42	NR	600	259	NR	730	13	NR	860	0	NR	990	0	NR
475	41	NR	605	266	NR	735	11	NR	865	0	NR	995	0	NR
480	46	NR	610	299	NR	740	10	NR	870	0	NR	1000	0	NR
485	55	NR	615	317	NR	745	8	NR	875	0	NR			

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Scotopic Flux vs. Wavelength



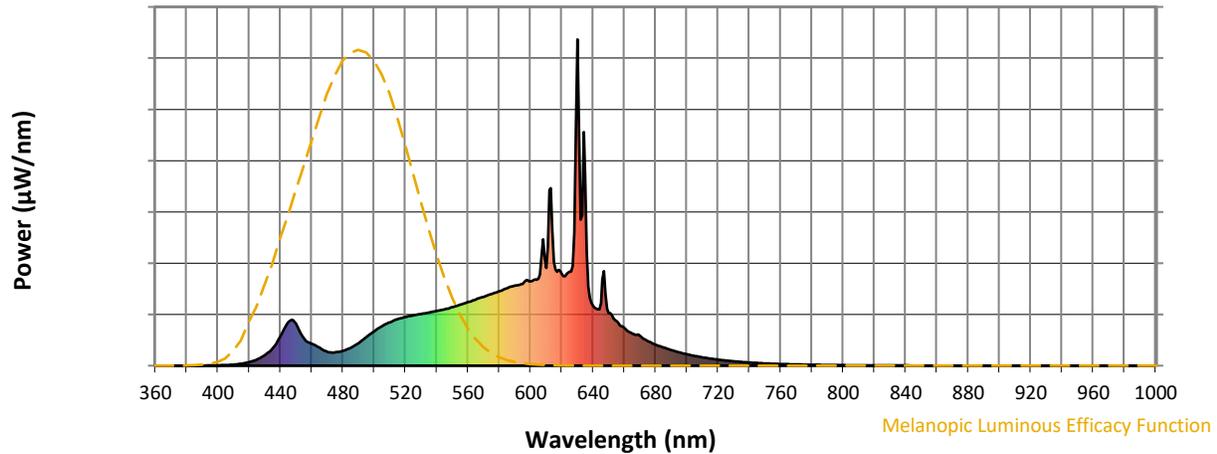
Scotopic Lumens: NR

S/P: 1.29

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	70	NR	620	281	NR	750	7	NR	880	0	NR
365	0	NR	495	88	NR	625	288	NR	755	6	NR	885	0	NR
370	0	NR	500	106	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	121	NR	635	581	NR	765	5	NR	895	0	NR
380	0	NR	510	133	NR	640	184	NR	770	4	NR	900	0	NR
385	0	NR	515	143	NR	645	191	NR	775	3	NR	905	0	NR
390	0	NR	520	149	NR	650	161	NR	780	3	NR	910	0	NR
395	1	NR	525	155	NR	655	136	NR	785	2	NR	915	0	NR
400	1	NR	530	158	NR	660	116	NR	790	2	NR	920	0	NR
405	2	NR	535	163	NR	665	99	NR	795	2	NR	925	0	NR
410	3	NR	540	168	NR	670	92	NR	800	2	NR	930	0	NR
415	6	NR	545	173	NR	675	75	NR	805	1	NR	935	0	NR
420	11	NR	550	179	NR	680	65	NR	810	1	NR	940	0	NR
425	19	NR	555	187	NR	685	56	NR	815	1	NR	945	0	NR
430	32	NR	560	195	NR	690	48	NR	820	1	NR	950	0	NR
435	54	NR	565	203	NR	695	41	NR	825	1	NR	955	0	NR
440	90	NR	570	211	NR	700	35	NR	830	1	NR	960	0	NR
445	134	NR	575	219	NR	705	30	NR	835	1	NR	965	0	NR
450	128	NR	580	228	NR	710	26	NR	840	1	NR	970	0	NR
455	83	NR	585	237	NR	715	22	NR	845	0	NR	975	0	NR
460	67	NR	590	246	NR	720	19	NR	850	0	NR	980	0	NR
465	55	NR	595	251	NR	725	16	NR	855	0	NR	985	0	NR
470	42	NR	600	259	NR	730	13	NR	860	0	NR	990	0	NR
475	41	NR	605	266	NR	735	11	NR	865	0	NR	995	0	NR
480	46	NR	610	299	NR	740	10	NR	870	0	NR	1000	0	NR
485	55	NR	615	317	NR	745	8	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.45

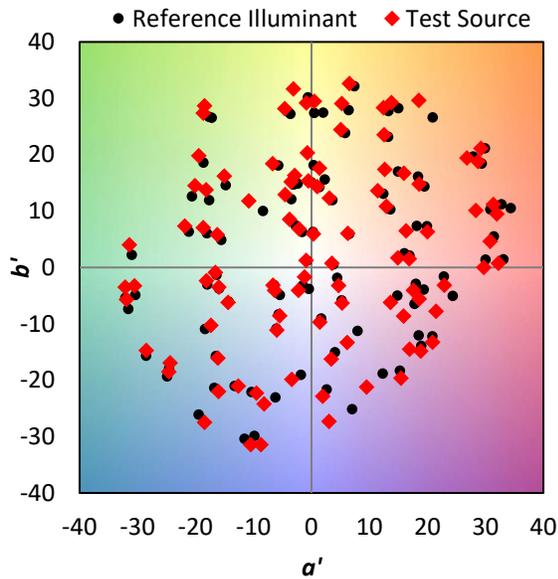
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	70	NR	620	281	NR	750	7	NR	880	0	NR
365	0	NR	495	88	NR	625	288	NR	755	6	NR	885	0	NR
370	0	NR	500	106	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	121	NR	635	581	NR	765	5	NR	895	0	NR
380	0	NR	510	133	NR	640	184	NR	770	4	NR	900	0	NR
385	0	NR	515	143	NR	645	191	NR	775	3	NR	905	0	NR
390	0	NR	520	149	NR	650	161	NR	780	3	NR	910	0	NR
395	1	NR	525	155	NR	655	136	NR	785	2	NR	915	0	NR
400	1	NR	530	158	NR	660	116	NR	790	2	NR	920	0	NR
405	2	NR	535	163	NR	665	99	NR	795	2	NR	925	0	NR
410	3	NR	540	168	NR	670	92	NR	800	2	NR	930	0	NR
415	6	NR	545	173	NR	675	75	NR	805	1	NR	935	0	NR
420	11	NR	550	179	NR	680	65	NR	810	1	NR	940	0	NR
425	19	NR	555	187	NR	685	56	NR	815	1	NR	945	0	NR
430	32	NR	560	195	NR	690	48	NR	820	1	NR	950	0	NR
435	54	NR	565	203	NR	695	41	NR	825	1	NR	955	0	NR
440	90	NR	570	211	NR	700	35	NR	830	1	NR	960	0	NR
445	134	NR	575	219	NR	705	30	NR	835	1	NR	965	0	NR
450	128	NR	580	228	NR	710	26	NR	840	1	NR	970	0	NR
455	83	NR	585	237	NR	715	22	NR	845	0	NR	975	0	NR
460	67	NR	590	246	NR	720	19	NR	850	0	NR	980	0	NR
465	55	NR	595	251	NR	725	16	NR	855	0	NR	985	0	NR
470	42	NR	600	259	NR	730	13	NR	860	0	NR	990	0	NR
475	41	NR	605	266	NR	735	11	NR	865	0	NR	995	0	NR
480	46	NR	610	299	NR	740	10	NR	870	0	NR	1000	0	NR
485	55	NR	615	317	NR	745	8	NR	875	0	NR			

Summary

$R_f = 90.1$
 $R_g = 103.5$
 $CIE R_a = 94.4$
 $R_9 = 61.8$

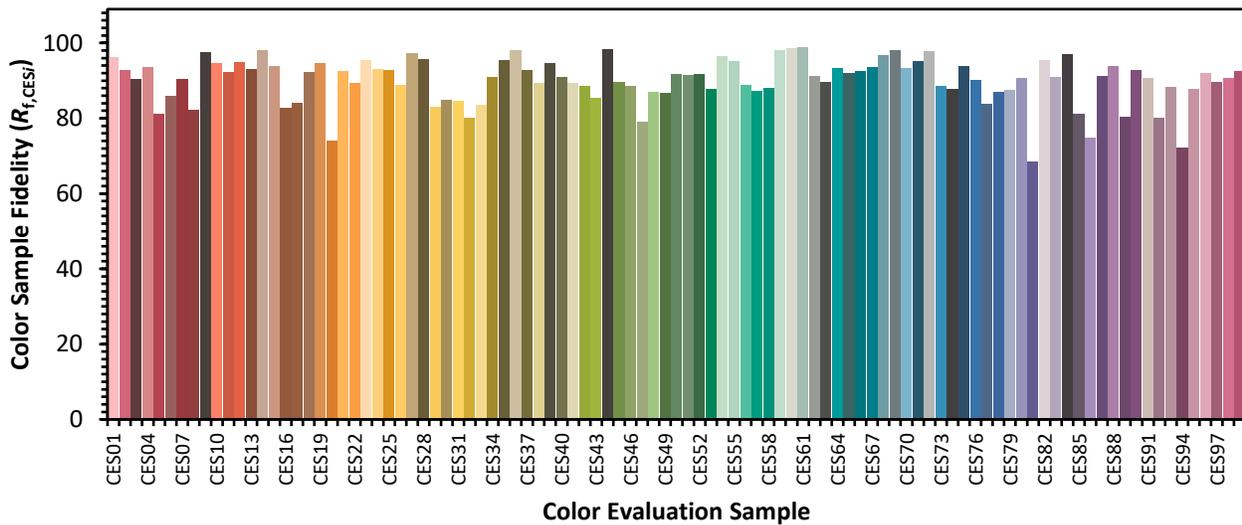


Color Vector Graphics

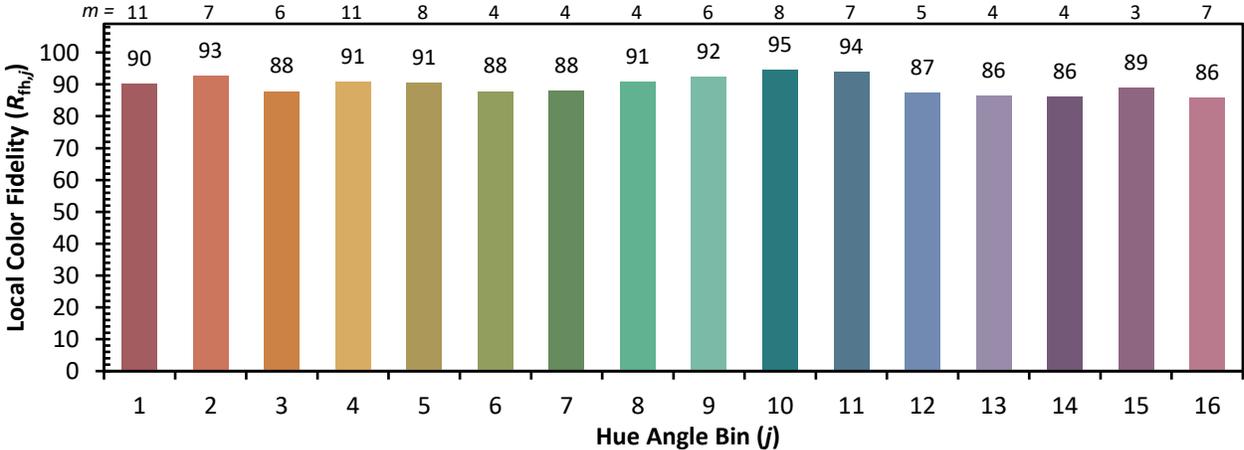


Individual Sample Fidelity Index ($R_{f,i}$)

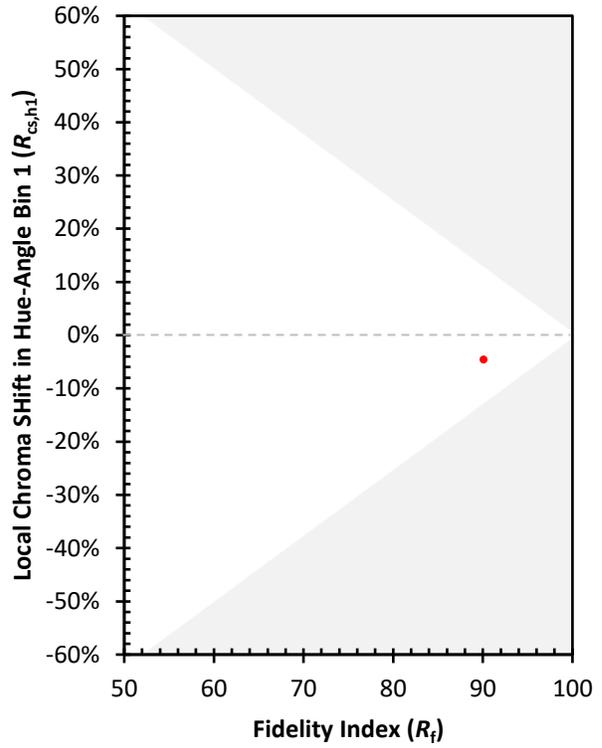
CES01 = 86	CES26 = 89	CES51 = 92	CES76 = 90
CES02 = 64	CES27 = 97	CES52 = 92	CES77 = 84
CES03 = 32	CES28 = 96	CES53 = 88	CES78 = 87
CES04 = 71	CES29 = 83	CES54 = 97	CES79 = 88
CES05 = 51	CES30 = 85	CES55 = 95	CES80 = 91
CES06 = 51	CES31 = 85	CES56 = 89	CES81 = 69
CES07 = 44	CES32 = 80	CES57 = 87	CES82 = 95
CES08 = 43	CES33 = 84	CES58 = 88	CES83 = 91
CES09 = 29	CES34 = 91	CES59 = 98	CES84 = 97
CES10 = 77	CES35 = 96	CES60 = 99	CES85 = 81
CES11 = 59	CES36 = 98	CES61 = 99	CES86 = 75
CES12 = 66	CES37 = 93	CES62 = 91	CES87 = 91
CES13 = 45	CES38 = 89	CES63 = 90	CES88 = 94
CES14 = 74	CES39 = 95	CES64 = 93	CES89 = 80
CES15 = 72	CES40 = 91	CES65 = 92	CES90 = 93
CES16 = 48	CES41 = 89	CES66 = 92	CES91 = 91
CES17 = 50	CES42 = 89	CES67 = 93	CES92 = 80
CES18 = 57	CES43 = 85	CES68 = 97	CES93 = 88
CES19 = 72	CES44 = 98	CES69 = 98	CES94 = 72
CES20 = 68	CES45 = 90	CES70 = 93	CES95 = 88
CES21 = 87	CES46 = 89	CES71 = 95	CES96 = 92
CES22 = 79	CES47 = 79	CES72 = 98	CES97 = 90
CES23 = 92	CES48 = 87	CES73 = 89	CES98 = 91
CES24 = 91	CES49 = 87	CES74 = 88	CES99 = 92
CES25 = 72	CES50 = 92	CES75 = 94	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)