

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: P1357051

Luminaire Tested: 3ASL4-30VHE-3-27-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1357051
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2511-597-12)
Test Lab: INNOVATION CENTER
Issue Date: 2/17/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: 3ASL4-30VHE-3-27-UNV
Description: 3FT 3000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 2700K LEDS 3 ROW
Light Source: -
Ballast/Driver: -

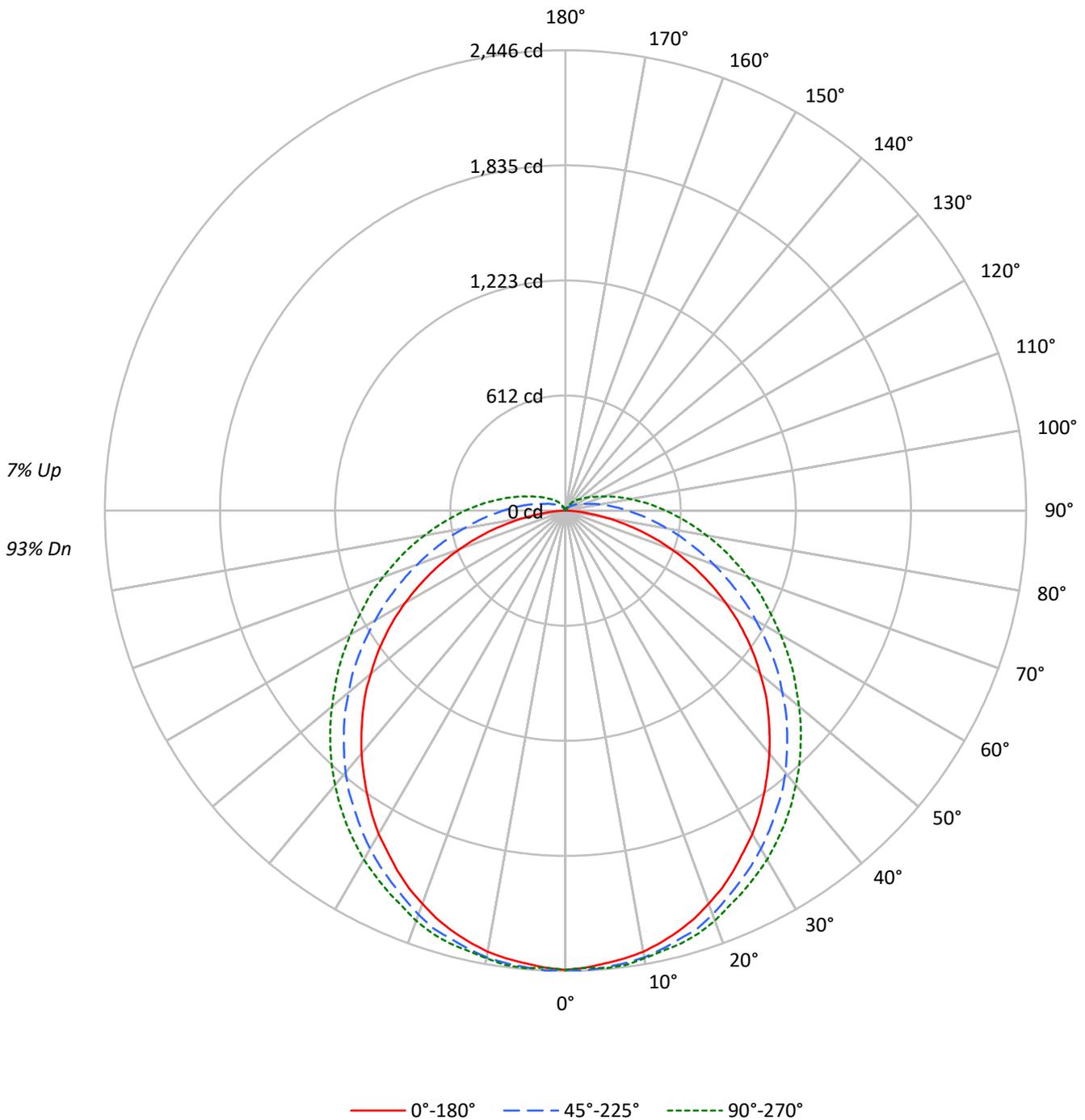
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8298.0 lumens
Efficiency: N/A
Efficacy: 105.2 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): 78.9
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

TEST NUMBER: P1357051
CATALOG NUMBER: 3ASL4-30VHE-3-27-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	96	96	96	96	96	96	93
1	105	100	95	91	102	97	92	88	91	88	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	75	70	66	71	67	63	63	63	63	61
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	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	35	29	41	34	28	39	32	28	37	32	27	27	27	27	25
9	54	40	32	26	52	39	31	26	38	30	25	36	30	25	35	29	24	24	24	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	26454	26454	26454
5°	26199	25942	25849
10°	26032	25425	25195
15°	25723	24787	24641
20°	25313	24176	24016
25°	24839	23412	23304
30°	24339	22747	22703
35°	23724	21997	22035
40°	23156	21310	21330
45°	22546	20479	20622
50°	21849	19590	19888
55°	21097	18738	19226
60°	20120	17747	18555
65°	18884	16791	17999
70°	17311	15840	17563
75°	15037	14965	17264
80°	11632	14292	17137
85°	6762	14085	17390

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 22546 cd/sqm



TEST NUMBER: P1357051
 CATALOG NUMBER: 3ASL4-30VHE-3-27-UNV

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.4	2.8
10°-20°	664.5	8.0
20°-30°	1004.6	12.1
30°-40°	1216.5	14.7
40°-50°	1277.6	15.4
50°-60°	1192.0	14.4
60°-70°	985.1	11.9
70°-80°	709.3	8.5
80°-90°	440.8	5.3
90°-100°	258.3	3.1
100°-110°	147.7	1.8
110°-120°	83.4	1.0
120°-130°	48.0	0.6
130°-140°	25.9	0.3
140°-150°	10.9	0.1
150°-160°	2.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1900.5	22.9
0°-40°	3117.0	37.6
0°-60°	5586.6	67.3
0°-90°	7721.8	93.1
90°-120°	489.4	5.9
90°-150°	574.2	6.9
90°-180°	576.0	6.9
0°-180°	8298.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2441	2441	2441	2441	2441	
5°	2415	2436	2436	2436	2441	230
15°	2314	2344	2354	2370	2380	652
25°	2111	2146	2182	2212	2232	972
35°	1837	1888	1948	2004	2030	1150
45°	1522	1578	1664	1735	1766	1174
55°	1172	1238	1340	1436	1471	1047
65°	792	868	1000	1126	1172	783
75°	406	507	685	832	893	429
85°	76	228	431	584	639	93
90°	0	137	330	472	533	3
95°	0	86	249	380	436	0
105°	0	30	137	238	279	0
115°	0	15	81	147	172	0
125°	0	10	51	96	112	0
135°	0	0	30	61	76	0
145°	0	0	15	36	41	0
155°	0	0	0	10	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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 CATALOG NUMBER: 3ASL4-30VHE-3-27-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2440.6	2440.6	2440.6	2440.6	2440.6
2.5°	2430.4	2445.6	2445.6	2430.4	2430.4
5°	2415.2	2435.5	2435.5	2435.5	2440.6
7.5°	2400.0	2425.3	2425.3	2425.3	2435.5
10°	2379.7	2405.0	2410.1	2410.1	2415.2
12.5°	2349.2	2379.7	2384.7	2389.8	2394.9
15°	2313.7	2344.1	2354.3	2369.5	2379.7
17.5°	2273.1	2308.6	2328.9	2344.1	2354.3
20°	2222.4	2257.9	2283.3	2303.6	2318.8
22.5°	2171.6	2202.1	2232.5	2257.9	2273.1
25°	2110.7	2146.3	2181.8	2212.2	2232.5
27.5°	2044.8	2085.4	2131.0	2166.6	2186.9
30°	1983.9	2024.5	2075.2	2120.9	2141.2
32.5°	1912.9	1958.5	2014.3	2060.0	2085.4
35°	1836.8	1887.5	1948.4	2004.2	2029.6
37.5°	1760.6	1811.4	1887.5	1943.3	1968.7
40°	1684.5	1735.3	1816.5	1877.3	1902.7
42.5°	1603.4	1654.1	1740.4	1806.3	1836.8
45°	1522.2	1578.0	1664.2	1735.3	1765.7
47.5°	1441.0	1496.8	1588.1	1664.2	1694.7
50°	1349.7	1410.5	1501.9	1588.1	1618.6
52.5°	1263.4	1324.3	1425.8	1512.0	1542.5
55°	1172.1	1238.0	1339.5	1435.9	1471.4
57.5°	1080.7	1146.7	1253.3	1354.7	1395.3
60°	984.3	1055.4	1167.0	1273.6	1319.2
62.5°	887.9	964.0	1085.8	1197.4	1243.1
65°	791.5	867.6	999.6	1126.4	1172.1
67.5°	695.1	776.3	918.4	1050.3	1106.1
70°	598.7	685.0	837.2	974.2	1030.0
72.5°	502.3	593.6	761.1	903.2	959.0
75°	405.9	507.4	685.0	832.1	893.0
77.5°	309.5	426.2	619.0	766.2	827.0
80°	223.3	355.2	548.0	700.2	761.1
82.5°	142.1	284.1	487.1	639.3	700.2
85°	76.1	228.3	431.3	583.5	639.3
87.5°	25.4	177.6	375.5	527.7	583.5
90°	0.0	137.0	329.8	471.9	532.8
92.5°	0.0	106.6	289.2	426.2	482.0
95°	0.0	86.3	248.6	380.5	436.4
97.5°	0.0	71.0	218.2	340.0	390.7
100°	0.0	55.8	187.7	304.4	350.1
102.5°	0.0	45.7	162.4	268.9	314.6
105°	0.0	30.4	137.0	238.5	279.1
107.5°	0.0	25.4	116.7	213.1	248.6
110°	0.0	20.3	106.6	182.7	218.2



TEST NUMBER: P1357051
 CATALOG NUMBER: 3ASL4-30VHE-3-27-UNV

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	15.2	96.4	162.4	197.9
115°	0.0	15.2	81.2	147.1	172.5
117.5°	0.0	15.2	71.0	131.9	157.3
120°	0.0	10.1	66.0	116.7	142.1
122.5°	0.0	10.1	55.8	106.6	126.8
125°	0.0	10.1	50.7	96.4	111.6
127.5°	0.0	5.1	45.7	86.3	101.5
130°	0.0	5.1	40.6	76.1	91.3
132.5°	0.0	5.1	35.5	71.0	86.3
135°	0.0	0.0	30.4	60.9	76.1
137.5°	0.0	0.0	25.4	55.8	66.0
140°	0.0	0.0	20.3	45.7	60.9
142.5°	0.0	0.0	15.2	40.6	50.7
145°	0.0	0.0	15.2	35.5	40.6
147.5°	0.0	0.0	10.1	25.4	35.5
150°	0.0	0.0	5.1	20.3	25.4
152.5°	0.0	0.0	0.0	15.2	20.3
155°	0.0	0.0	0.0	10.1	15.2
157.5°	0.0	0.0	0.0	0.0	5.1
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	20.70	22.24	21.17	22.70	23.18	22.70	24.24	23.17	24.70	25.18
	3H	22.20	23.60	22.68	24.07	24.59	25.15	26.56	25.63	27.02	27.54
	4H	22.68	24.01	23.18	24.49	25.03	26.34	27.67	26.84	28.15	28.69
	6H	22.96	24.20	23.47	24.69	25.25	27.57	28.81	28.09	29.31	29.86
	8H	23.01	24.20	23.54	24.72	25.28	28.21	29.40	28.73	29.92	30.47
	12H	23.02	24.16	23.56	24.68	25.27	28.90	30.03	29.43	30.55	31.14
4H	2H	21.57	22.90	22.08	23.39	23.92	23.14	24.47	23.64	24.95	25.49
	3H	23.31	24.44	23.82	24.97	25.53	25.81	26.95	26.33	27.47	28.03
	4H	23.91	24.95	24.45	25.49	26.08	27.17	28.21	27.71	28.75	29.34
	6H	24.31	25.23	24.87	25.79	26.40	28.60	29.52	29.15	30.08	30.68
	8H	24.41	25.27	24.97	25.83	26.45	29.34	30.20	29.90	30.76	31.38
	12H	24.45	25.24	25.03	25.83	26.45	30.15	30.93	30.73	31.52	32.15
8H	4H	24.59	25.45	25.15	26.01	26.63	27.39	28.25	27.95	28.81	29.43
	6H	25.17	25.90	25.76	26.50	27.13	28.99	29.72	29.58	30.32	30.95
	8H	25.35	26.01	25.95	26.62	27.26	29.87	30.53	30.47	31.14	31.78
	12H	25.46	26.05	26.07	26.66	27.36	30.87	31.46	31.47	32.06	32.76
12H	4H	24.78	25.56	25.36	26.15	26.78	27.40	28.18	27.98	28.77	29.40
	6H	25.46	26.12	26.06	26.73	27.37	29.02	29.69	29.63	30.30	30.94
	8H	25.74	26.33	26.34	26.93	27.63	29.97	30.56	30.58	31.17	31.87

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
 R_f: 90.1
 R_g: 103.5

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



Test Conditions

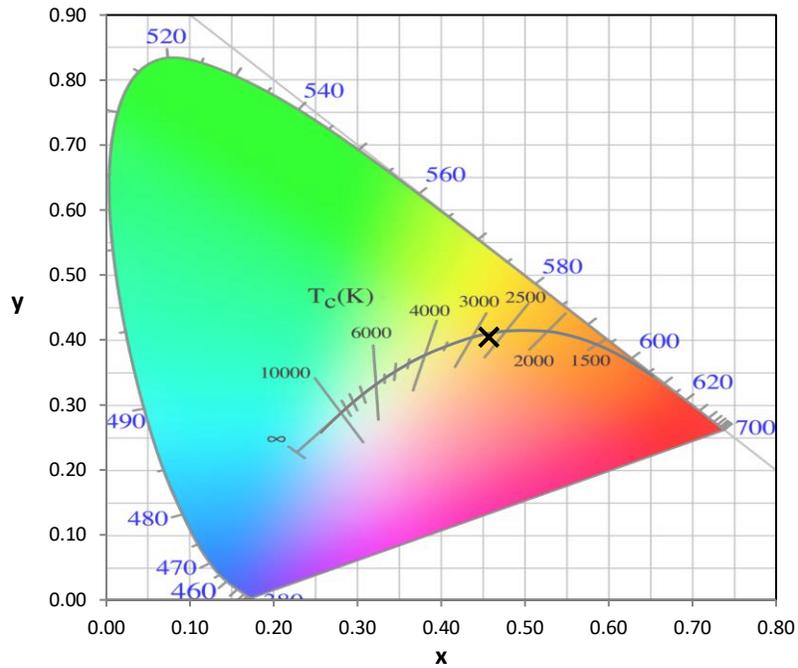
Stabilization Time: 32M
 Operation Time: 1H 32M
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2511-597-2

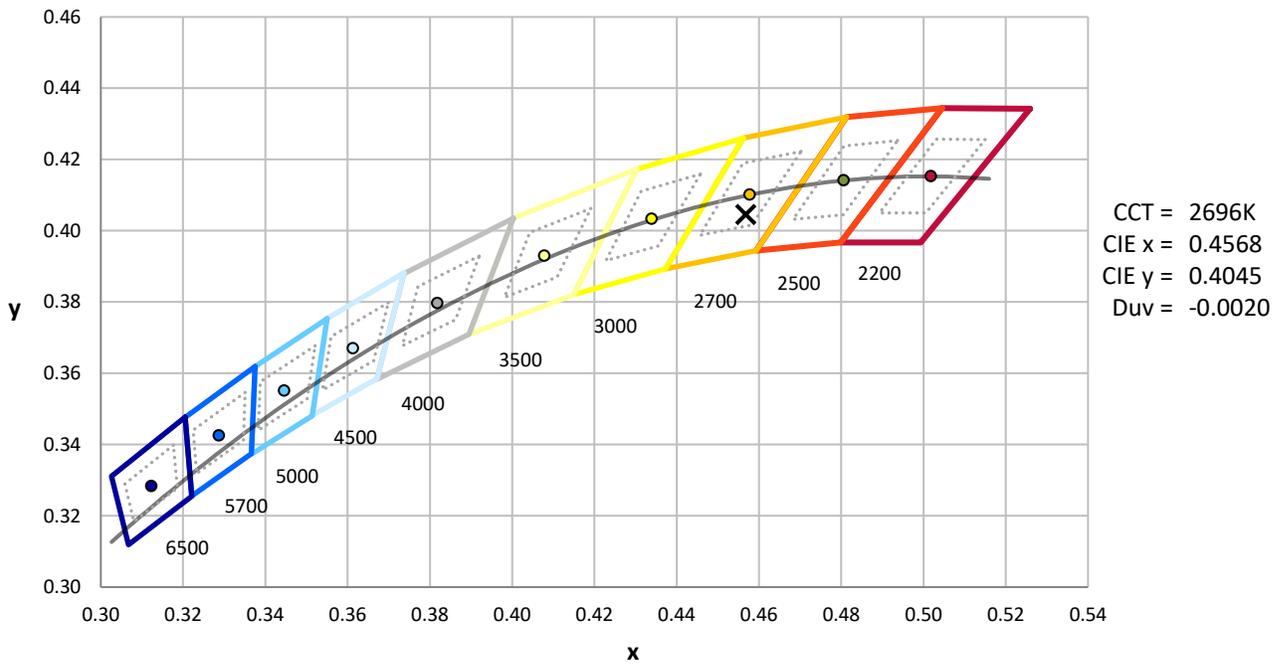
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

REPORT NUMBER: SP1-2511-597-2

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

REPORT NUMBER: SP1-2511-597-2

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			

REPORT NUMBER: SP1-2511-597-2

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			

REPORT NUMBER: SP1-2511-597-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.45

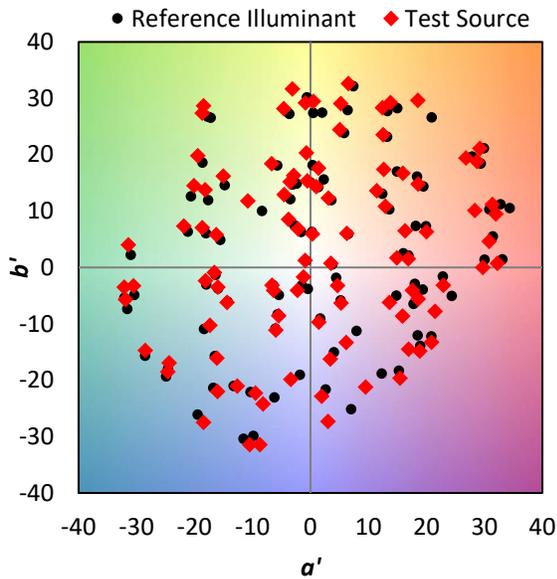
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	70	NR	620	281	NR	750	7	NR	880	0	NR
365	0	NR	495	88	NR	625	288	NR	755	6	NR	885	0	NR
370	0	NR	500	106	NR	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

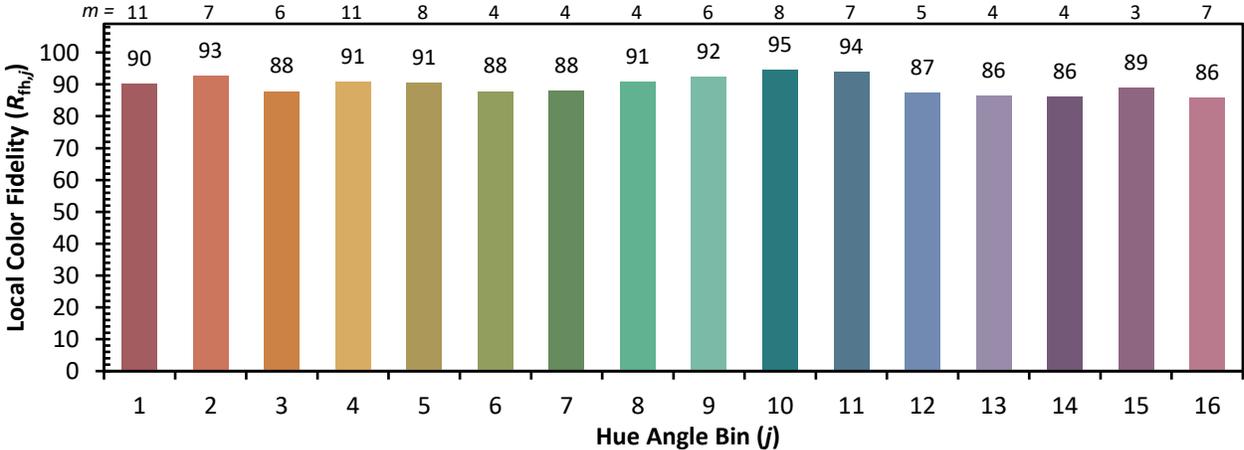


Individual Sample Fidelity Index ($R_{f,i}$)

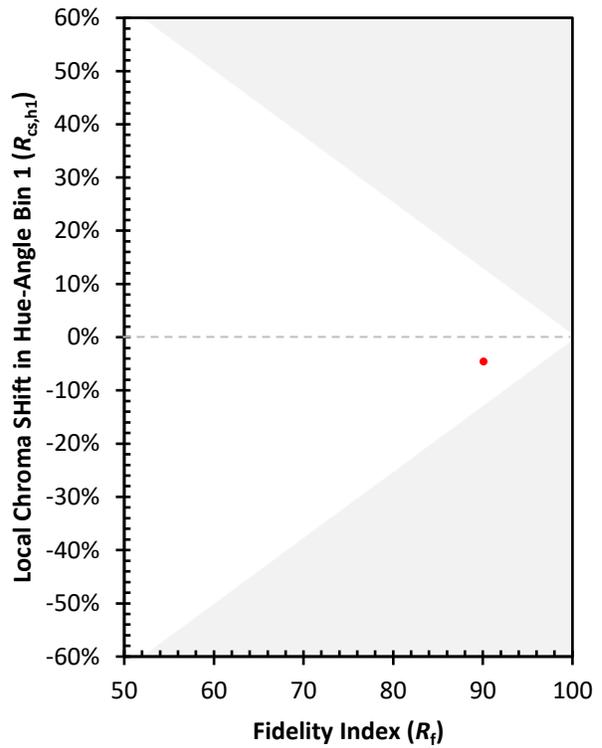
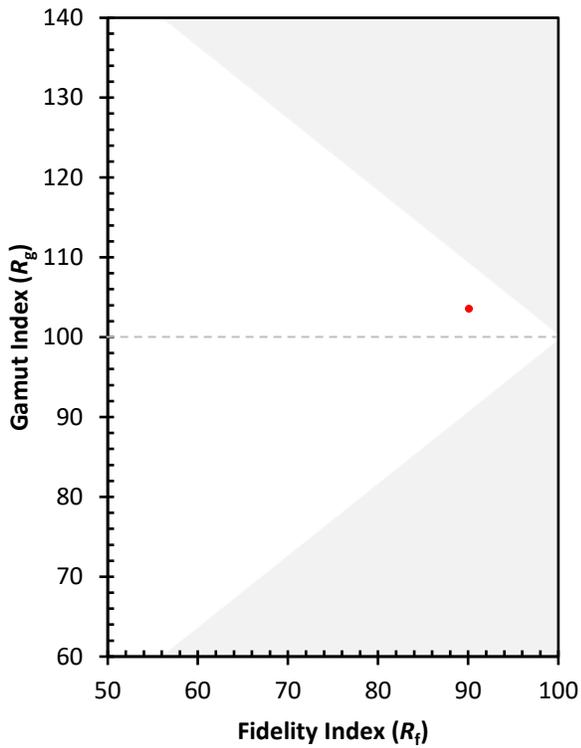
CES01 = 86	CES26 = 89	CES51 = 92	CES76 = 90
CES02 = 64	CES27 = 97	CES52 = 92	CES77 = 84
CES03 = 32	CES28 = 96	CES53 = 88	CES78 = 87
CES04 = 71	CES29 = 83	CES54 = 97	CES79 = 88
CES05 = 51	CES30 = 85	CES55 = 95	CES80 = 91
CES06 = 51	CES31 = 85	CES56 = 89	CES81 = 69
CES07 = 44	CES32 = 80	CES57 = 87	CES82 = 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)