

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: P1357506

Luminaire Tested: 8ASL4-20VHE-3-R63-UNV

Issue Date: 2/17/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1357506  
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: 8ASL4-20VHE-3-R63-UNV  
Description: 8FT 2000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND R63 LEDS 3 ROW  
Light Source: -  
Ballast/Driver: -

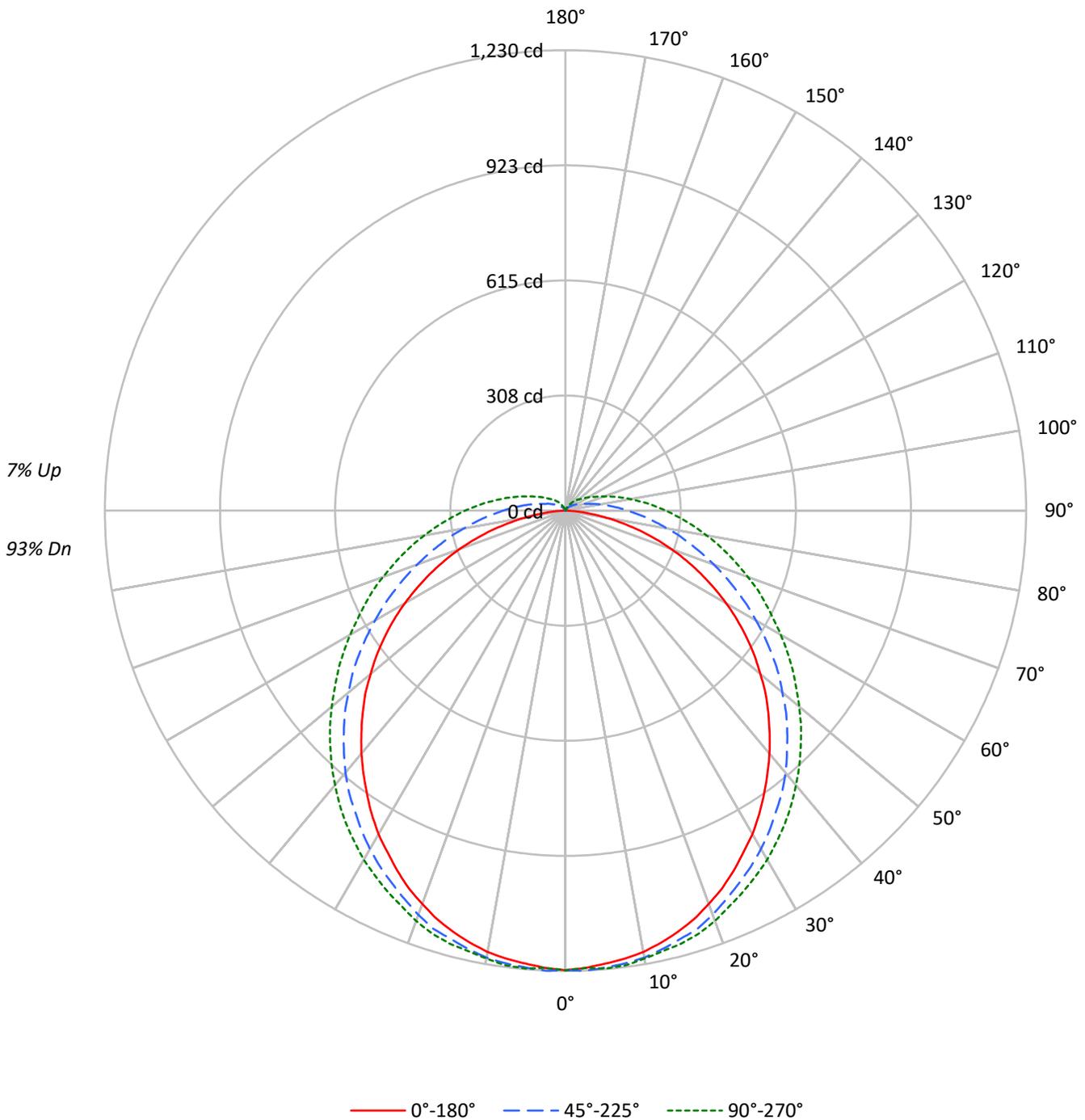
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4175.0 lumens  
Efficiency: N/A  
Efficacy: 42.0 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): 99.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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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CATALOG NUMBER: 8ASL4-20VHE-3-R63-UNV

### Luminous Intensity Polar Plot





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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	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°	4969	4969	4969
5°	4931	4880	4856
10°	4909	4789	4733
15°	4860	4674	4629
20°	4793	4565	4512
25°	4714	4427	4378
30°	4630	4307	4265
35°	4524	4171	4139
40°	4429	4047	4007
45°	4327	3895	3874
50°	4210	3733	3736
55°	4085	3579	3612
60°	3920	3398	3485
65°	3709	3224	3381
70°	3441	3053	3299
75°	3045	2898	3243
80°	2437	2787	3219
85°	1548	2775	3267

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4327 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.4	2.8
10°-20°	334.3	8.0
20°-30°	505.5	12.1
30°-40°	612.0	14.7
40°-50°	642.8	15.4
50°-60°	599.7	14.4
60°-70°	495.6	11.9
70°-80°	356.9	8.5
80°-90°	221.8	5.3
90°-100°	129.9	3.1
100°-110°	74.3	1.8
110°-120°	42.0	1.0
120°-130°	24.2	0.6
130°-140°	13.0	0.3
140°-150°	5.5	0.1
150°-160°	1.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	956.2	22.9
0°-40°	1568.3	37.6
0°-60°	2810.8	67.3
0°-90°	3885.1	93.1
90°-120°	246.2	5.9
90°-150°	288.9	6.9
90°-180°	290.0	6.9
0°-180°	4175.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1215	1225	1225	1225	1228	115
15°	1164	1179	1184	1192	1197	328
25°	1062	1080	1098	1113	1123	489
35°	924	950	980	1008	1021	578
45°	766	794	837	873	888	591
55°	590	623	674	722	740	527
65°	398	436	503	567	590	394
75°	204	255	345	419	449	216
85°	38	115	217	294	322	47
90°	0	69	166	237	268	2
95°	0	43	125	192	220	0
105°	0	15	69	120	140	0
115°	0	8	41	74	87	0
125°	0	5	26	48	56	0
135°	0	0	15	31	38	0
145°	0	0	8	18	20	0
155°	0	0	0	5	8	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P1357506  
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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1227.9	1227.9	1227.9	1227.9	1227.9
2.5°	1222.8	1230.5	1230.5	1222.8	1222.8
5°	1215.2	1225.4	1225.4	1225.4	1227.9
7.5°	1207.5	1220.3	1220.3	1220.3	1225.4
10°	1197.3	1210.1	1212.6	1212.6	1215.2
12.5°	1182.0	1197.3	1199.8	1202.4	1204.9
15°	1164.1	1179.4	1184.5	1192.2	1197.3
17.5°	1143.7	1161.5	1171.8	1179.4	1184.5
20°	1118.2	1136.0	1148.8	1159.0	1166.7
22.5°	1092.6	1107.9	1123.3	1136.0	1143.7
25°	1062.0	1079.9	1097.7	1113.0	1123.3
27.5°	1028.8	1049.2	1072.2	1090.1	1100.3
30°	998.2	1018.6	1044.1	1067.1	1077.3
32.5°	962.4	985.4	1013.5	1036.5	1049.2
35°	924.1	949.7	980.3	1008.4	1021.1
37.5°	885.8	911.4	949.7	977.7	990.5
40°	847.5	873.1	913.9	944.6	957.3
42.5°	806.7	832.2	875.6	908.8	924.1
45°	765.9	793.9	837.3	873.1	888.4
47.5°	725.0	753.1	799.0	837.3	852.7
50°	679.1	709.7	755.6	799.0	814.4
52.5°	635.7	666.3	717.4	760.8	776.1
55°	589.7	622.9	674.0	722.5	740.3
57.5°	543.8	576.9	630.6	681.6	702.0
60°	495.3	531.0	587.2	640.8	663.7
62.5°	446.7	485.0	546.3	602.5	625.4
65°	398.2	436.5	502.9	566.7	589.7
67.5°	349.7	390.6	462.1	528.4	556.5
70°	301.2	344.6	421.2	490.1	518.2
72.5°	252.7	298.7	382.9	454.4	482.5
75°	204.2	255.3	344.6	418.7	449.3
77.5°	155.7	214.4	311.4	385.5	416.1
80°	112.3	178.7	275.7	352.3	382.9
82.5°	71.5	143.0	245.1	321.7	352.3
85°	38.3	114.9	217.0	293.6	321.7
87.5°	12.8	89.3	188.9	265.5	293.6
90°	0.0	68.9	165.9	237.4	268.0
92.5°	0.0	53.6	145.5	214.4	242.5
95°	0.0	43.4	125.1	191.5	219.5
97.5°	0.0	35.7	109.8	171.0	196.6
100°	0.0	28.1	94.5	153.2	176.1
102.5°	0.0	23.0	81.7	135.3	158.3
105°	0.0	15.3	68.9	120.0	140.4
107.5°	0.0	12.8	58.7	107.2	125.1
110°	0.0	10.2	53.6	91.9	109.8



TEST NUMBER: P1357506  
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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	7.7	48.5	81.7	99.6
115°	0.0	7.7	40.8	74.0	86.8
117.5°	0.0	7.7	35.7	66.4	79.1
120°	0.0	5.1	33.2	58.7	71.5
122.5°	0.0	5.1	28.1	53.6	63.8
125°	0.0	5.1	25.5	48.5	56.2
127.5°	0.0	2.6	23.0	43.4	51.1
130°	0.0	2.6	20.4	38.3	46.0
132.5°	0.0	2.6	17.9	35.7	43.4
135°	0.0	0.0	15.3	30.6	38.3
137.5°	0.0	0.0	12.8	28.1	33.2
140°	0.0	0.0	10.2	23.0	30.6
142.5°	0.0	0.0	7.7	20.4	25.5
145°	0.0	0.0	7.7	17.9	20.4
147.5°	0.0	0.0	5.1	12.8	17.9
150°	0.0	0.0	2.6	10.2	12.8
152.5°	0.0	0.0	0.0	7.7	10.2
155°	0.0	0.0	0.0	5.1	7.7
157.5°	0.0	0.0	0.0	0.0	2.6
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	14.92	16.46	15.39	16.91	17.40	16.99	18.53	17.46	18.98	19.47
	3H	16.41	17.82	16.90	18.28	18.81	19.47	20.87	19.95	21.34	21.86
	4H	16.89	18.23	17.40	18.71	19.25	20.68	22.01	21.19	22.50	23.03
	6H	17.17	18.41	17.68	18.90	19.46	21.96	23.20	22.48	23.70	24.25
	8H	17.22	18.41	17.75	18.93	19.49	22.63	23.82	23.16	24.34	24.90
	12H	17.23	18.37	17.77	18.89	19.48	23.38	24.52	23.91	25.03	25.62
4H	2H	15.80	17.13	16.31	17.62	18.15	17.42	18.75	17.92	19.23	19.77
	3H	17.54	18.67	18.05	19.20	19.76	20.13	21.26	20.64	21.79	22.35
	4H	18.14	19.18	18.68	19.72	20.31	21.51	22.55	22.05	23.09	23.68
	6H	18.54	19.46	19.09	20.02	20.62	22.98	23.90	23.54	24.46	25.07
	8H	18.63	19.50	19.19	20.06	20.68	23.76	24.62	24.32	25.18	25.80
	12H	18.68	19.46	19.26	20.05	20.68	24.63	25.41	25.21	26.00	26.63
8H	4H	18.83	19.70	19.39	20.26	20.88	21.73	22.59	22.29	23.15	23.77
	6H	19.41	20.14	20.00	20.75	21.37	23.37	24.10	23.96	24.70	25.33
	8H	19.59	20.25	20.20	20.87	21.51	24.28	24.94	24.89	25.56	26.19
	12H	19.71	20.30	20.31	20.90	21.61	25.34	25.93	25.95	26.53	27.24
12H	4H	19.03	19.81	19.61	20.41	21.03	21.73	22.52	22.32	23.11	23.73
	6H	19.71	20.37	20.32	20.99	21.63	23.40	24.06	24.01	24.68	25.32
	8H	19.99	20.58	20.60	21.18	21.89	24.39	24.98	24.99	25.58	26.28

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-7

Test Date: 01/21/2026

Luminaire Tested: 4ASL-2-R630-UNV-OPL-1\_600mA

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

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2511-597-7  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 01/29/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Fail-Safe  
 Catalog Number: **4ASL-2-R630-UNV-OPL-1\_600mA**  
 Description: 2foot 4ASL LED LUMINAIRE WITH OPL LENS AND RED 630NM LEDS with 1 rows at 600mA

**Spectral Parameters**

CCT (K): 0  
 CIE u': 0.5395  
 CIE v': 0.5190  
 Duv: 0.0000  
 CIE x: 0.7004  
 CIE y: 0.2995  
 CIE z: 0.0001  
 Peak Wavelength (nm): 638  
 Dominant Wavelength (nm): 624  
 Purity: 99.9862  
 Rf: NR  
 Rg: NR

CRI (Ra): 0.0  
 R1: 0.0  
 R2: 0.0  
 R3: 0.0  
 R4: 0.0  
 R5: 0.0  
 R6: 0.0  
 R7: 0.0  
 R8: 0.0  
 R9: 0.0  
 R10: 0.0  
 R11: 0.0  
 R12: 0.0  
 R13: 0.0  
 R14: 0.0  
 R15: 0.0



**Test Conditions**

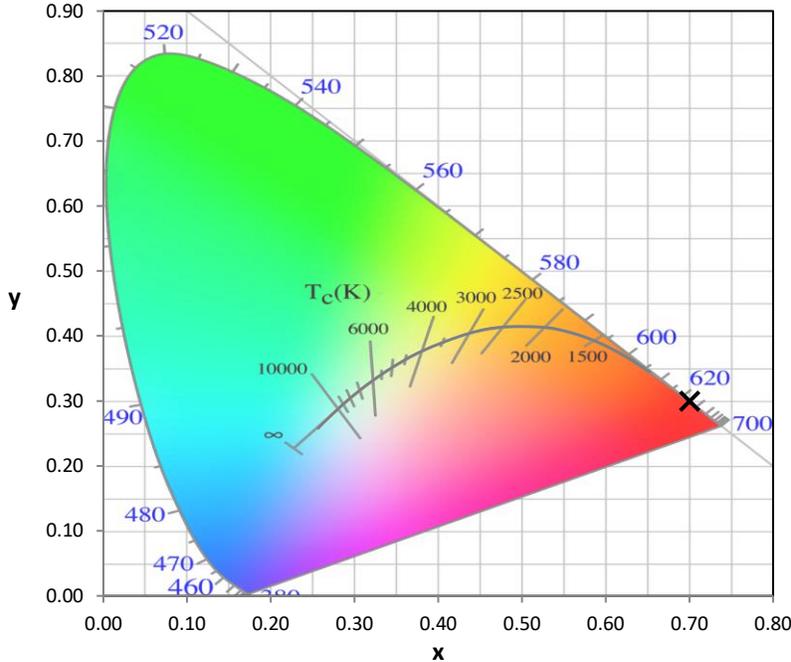
Stabilization Time: 69M  
 Operation Time: 2H 9M  
 Sphere Temperature (°C): 25.1

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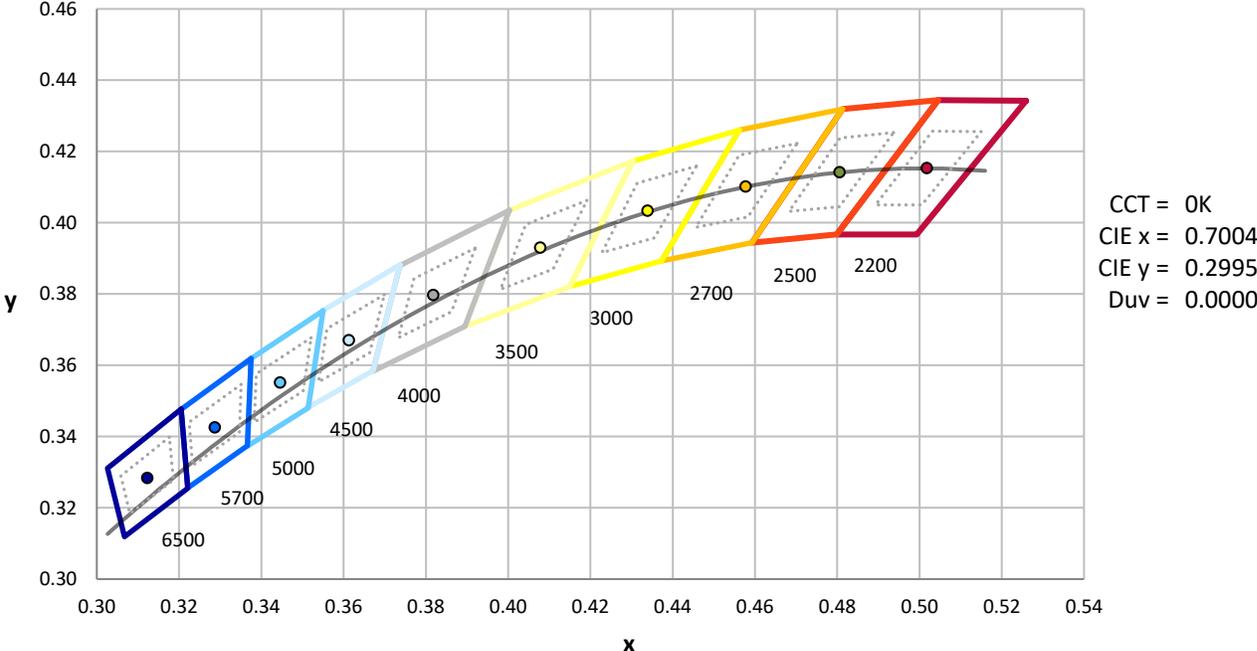
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

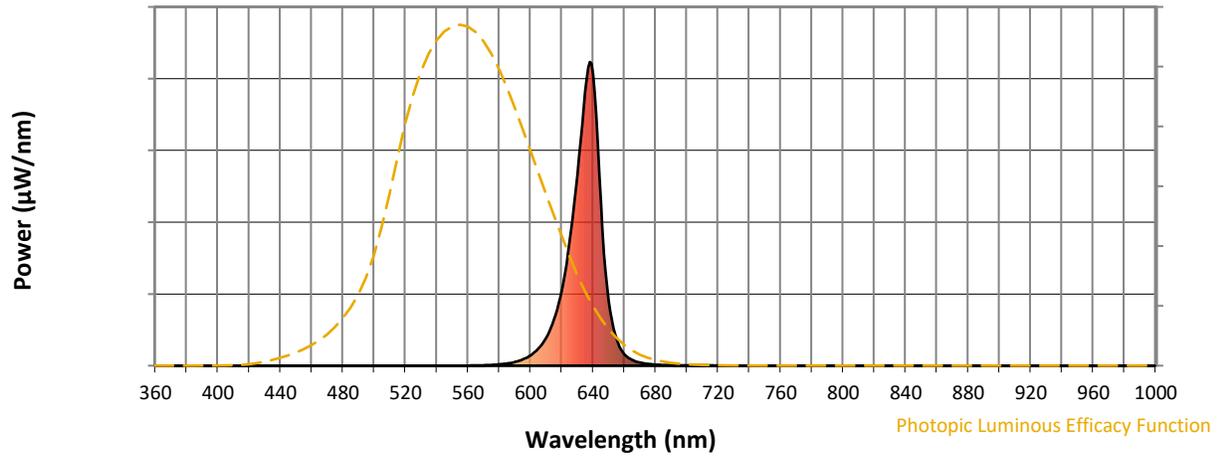


CCT = 0K  
 CIE x = 0.7004  
 CIE y = 0.2995  
 Duv = 0.0000

Point lies outside the range

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**Photopic Flux vs. Wavelength**

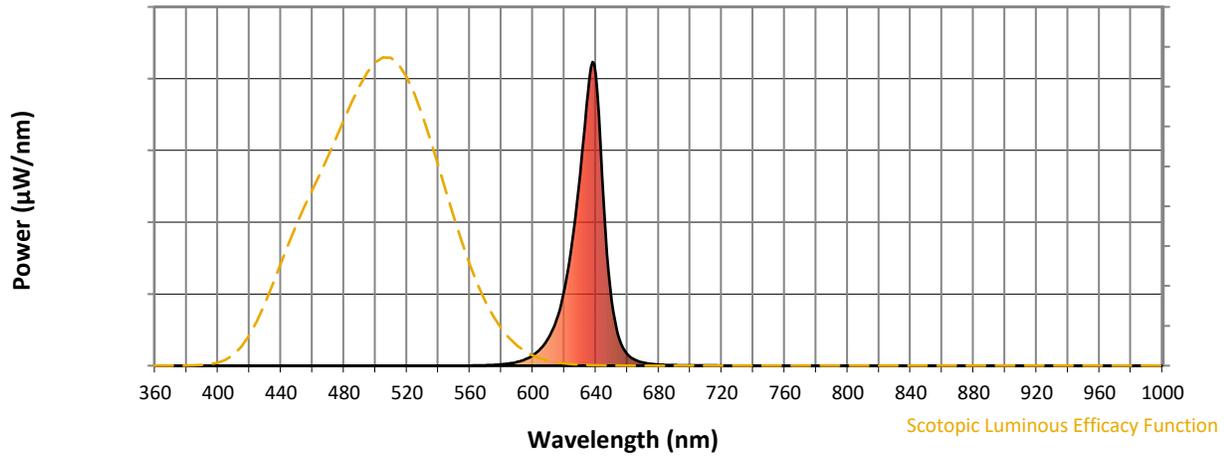


**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	0	NR	620	248	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	409	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	630	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	903	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	960	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	535	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	212	NR	780	0	NR	910	0	NR
395	0	NR	525	0	NR	655	88	NR	785	0	NR	915	0	NR
400	0	NR	530	0	NR	660	38	NR	790	0	NR	920	0	NR
405	0	NR	535	0	NR	665	19	NR	795	0	NR	925	0	NR
410	0	NR	540	0	NR	670	10	NR	800	0	NR	930	0	NR
415	0	NR	545	0	NR	675	6	NR	805	0	NR	935	0	NR
420	0	NR	550	0	NR	680	4	NR	810	0	NR	940	0	NR
425	0	NR	555	0	NR	685	2	NR	815	0	NR	945	0	NR
430	0	NR	560	0	NR	690	2	NR	820	0	NR	950	0	NR
435	0	NR	565	1	NR	695	1	NR	825	0	NR	955	0	NR
440	0	NR	570	2	NR	700	1	NR	830	0	NR	960	0	NR
445	0	NR	575	3	NR	705	1	NR	835	0	NR	965	0	NR
450	0	NR	580	4	NR	710	1	NR	840	0	NR	970	0	NR
455	0	NR	585	7	NR	715	1	NR	845	0	NR	975	0	NR
460	0	NR	590	12	NR	720	1	NR	850	0	NR	980	0	NR
465	0	NR	595	20	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	34	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	56	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	92	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	152	NR	745	0	NR	875	0	NR			

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**Scotopic Flux vs. Wavelength**



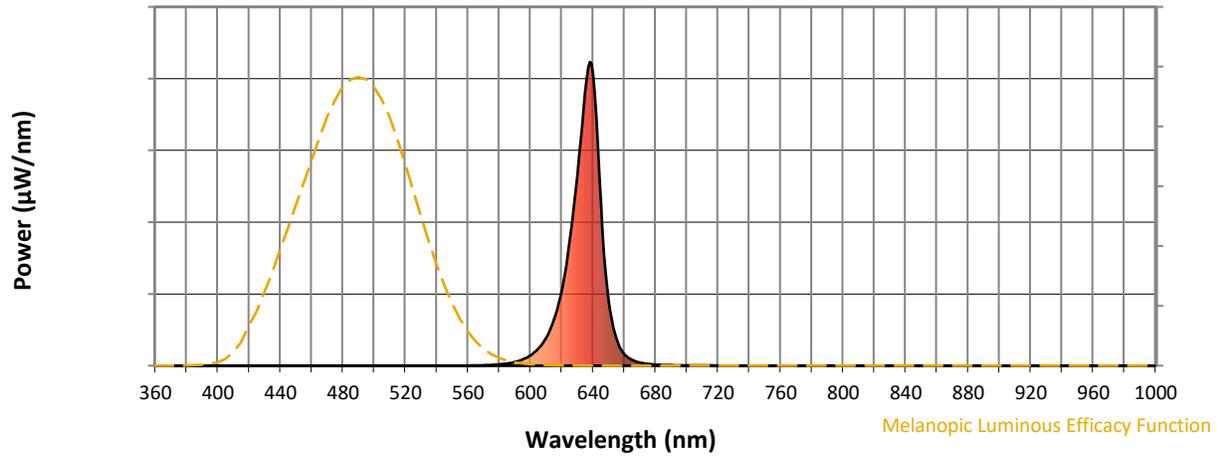
**Scotopic Lumens: NR**

**S/P: 0.05**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	0	NR	620	248	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	409	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	630	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	903	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	960	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	535	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	212	NR	780	0	NR	910	0	NR
395	0	NR	525	0	NR	655	88	NR	785	0	NR	915	0	NR
400	0	NR	530	0	NR	660	38	NR	790	0	NR	920	0	NR
405	0	NR	535	0	NR	665	19	NR	795	0	NR	925	0	NR
410	0	NR	540	0	NR	670	10	NR	800	0	NR	930	0	NR
415	0	NR	545	0	NR	675	6	NR	805	0	NR	935	0	NR
420	0	NR	550	0	NR	680	4	NR	810	0	NR	940	0	NR
425	0	NR	555	0	NR	685	2	NR	815	0	NR	945	0	NR
430	0	NR	560	0	NR	690	2	NR	820	0	NR	950	0	NR
435	0	NR	565	1	NR	695	1	NR	825	0	NR	955	0	NR
440	0	NR	570	2	NR	700	1	NR	830	0	NR	960	0	NR
445	0	NR	575	3	NR	705	1	NR	835	0	NR	965	0	NR
450	0	NR	580	4	NR	710	1	NR	840	0	NR	970	0	NR
455	0	NR	585	7	NR	715	1	NR	845	0	NR	975	0	NR
460	0	NR	590	12	NR	720	1	NR	850	0	NR	980	0	NR
465	0	NR	595	20	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	34	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	56	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	92	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	152	NR	745	0	NR	875	0	NR			

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 0.02**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	0	NR	620	248	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	409	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	630	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	903	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	960	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	535	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	212	NR	780	0	NR	910	0	NR
395	0	NR	525	0	NR	655	88	NR	785	0	NR	915	0	NR
400	0	NR	530	0	NR	660	38	NR	790	0	NR	920	0	NR
405	0	NR	535	0	NR	665	19	NR	795	0	NR	925	0	NR
410	0	NR	540	0	NR	670	10	NR	800	0	NR	930	0	NR
415	0	NR	545	0	NR	675	6	NR	805	0	NR	935	0	NR
420	0	NR	550	0	NR	680	4	NR	810	0	NR	940	0	NR
425	0	NR	555	0	NR	685	2	NR	815	0	NR	945	0	NR
430	0	NR	560	0	NR	690	2	NR	820	0	NR	950	0	NR
435	0	NR	565	1	NR	695	1	NR	825	0	NR	955	0	NR
440	0	NR	570	2	NR	700	1	NR	830	0	NR	960	0	NR
445	0	NR	575	3	NR	705	1	NR	835	0	NR	965	0	NR
450	0	NR	580	4	NR	710	1	NR	840	0	NR	970	0	NR
455	0	NR	585	7	NR	715	1	NR	845	0	NR	975	0	NR
460	0	NR	590	12	NR	720	1	NR	850	0	NR	980	0	NR
465	0	NR	595	20	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	34	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	56	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	92	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	152	NR	745	0	NR	875	0	NR			

**Summary**

$R_f = 0$   
 $R_g = 0$   
 CIE  $R_a = 0.0$   
 $R_9 = 0.0$



**Color Vector Graphics**



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

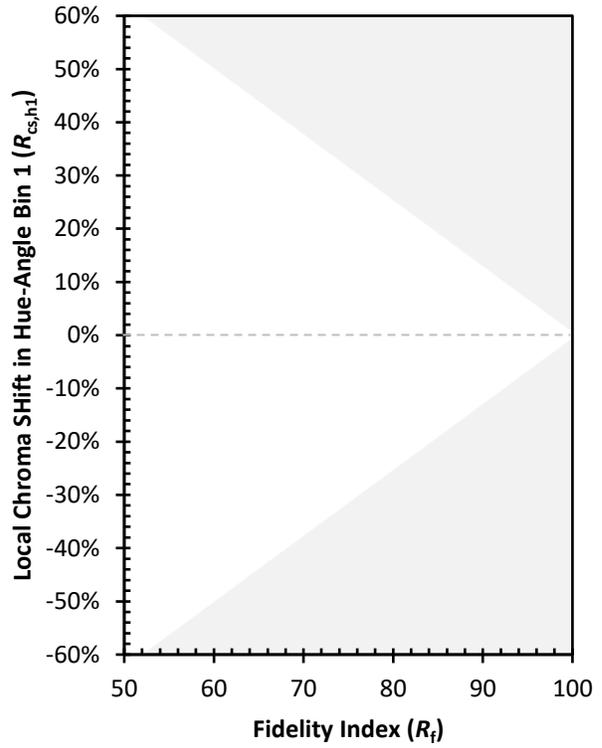
CES01 = 0	CES26 = 0	CES51 = 0	CES76 = 0
CES02 = 0	CES27 = 0	CES52 = 0	CES77 = 0
CES03 = 0	CES28 = 0	CES53 = 0	CES78 = 0
CES04 = 0	CES29 = 0	CES54 = 0	CES79 = 0
CES05 = 0	CES30 = 0	CES55 = 0	CES80 = 0
CES06 = 0	CES31 = 0	CES56 = 0	CES81 = 0
CES07 = 0	CES32 = 0	CES57 = 0	CES82 = 0
CES08 = 0	CES33 = 0	CES58 = 0	CES83 = 0
CES09 = 0	CES34 = 0	CES59 = 0	CES84 = 0
CES10 = 0	CES35 = 0	CES60 = 0	CES85 = 0
CES11 = 0	CES36 = 0	CES61 = 0	CES86 = 0
CES12 = 0	CES37 = 0	CES62 = 0	CES87 = 0
CES13 = 0	CES38 = 0	CES63 = 0	CES88 = 0
CES14 = 0	CES39 = 0	CES64 = 0	CES89 = 0
CES15 = 0	CES40 = 0	CES65 = 0	CES90 = 0
CES16 = 0	CES41 = 0	CES66 = 0	CES91 = 0
CES17 = 0	CES42 = 0	CES67 = 0	CES92 = 0
CES18 = 0	CES43 = 0	CES68 = 0	CES93 = 0
CES19 = 0	CES44 = 0	CES69 = 0	CES94 = 0
CES20 = 0	CES45 = 0	CES70 = 0	CES95 = 0
CES21 = 0	CES46 = 0	CES71 = 0	CES96 = 0
CES22 = 0	CES47 = 0	CES72 = 0	CES97 = 0
CES23 = 0	CES48 = 0	CES73 = 0	CES98 = 0
CES24 = 0	CES49 = 0	CES74 = 0	CES99 = 0
CES25 = 0	CES50 = 0	CES75 = 0	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)