

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: METALUX

Report Number: P976329

Luminaire Tested: 22SR-LD2-20-C-UNV-L830-CD1-U

Issue Date: 03/18/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P976329  
Test Lab: INNOVATION CENTER(P3)  
Issue Date: 03/18/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 22SR-LD2-20-C-UNV-L830-CD1-U  
Description: METALUX SKYRIDGE 2x2 2000LM PACKAGE 80CRI 3000K CURVED REFLECTOR TROFFER  
Light Source: 3000K CCT, 80+ CRI LEDS  
Ballast/Driver: -

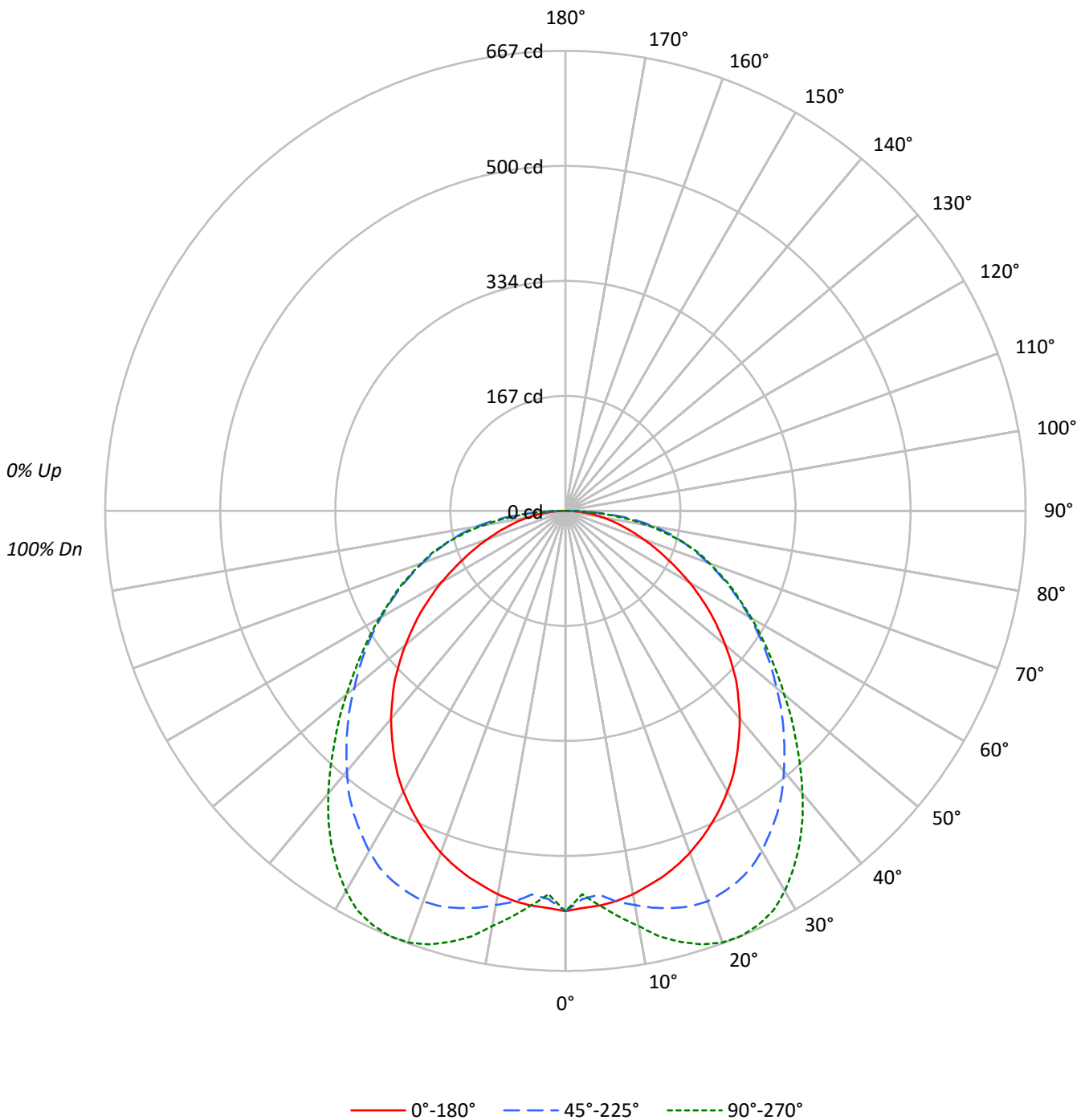
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1908.0 lumens  
Efficiency: N/A  
Efficacy: 138.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.51 / 1.48  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 13.8  
Input Voltage (V): 120  
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: 28.75 FT

TEST NUMBER: P976329  
CATALOG NUMBER: 22SR-LD2-20-C-UNV-L830-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P976329

CATALOG NUMBER: 22SR-LD2-20-C-UNV-L830-CD1-U

**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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82				82
2	98	89	82	75	95	87	80	75	83	78	73	80	75	71	77	73	69	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36				36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32				32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28				28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	32	27	25				25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	24	23				23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1562	1562	1562
5°	1552	1508	1552
10°	1542	1586	1670
15°	1528	1661	1802
20°	1511	1725	1907
25°	1487	1759	1966
30°	1460	1769	1977
35°	1422	1759	1942
40°	1381	1731	1878
45°	1333	1701	1800
50°	1267	1671	1734
55°	1200	1663	1690
60°	1119	1661	1676
65°	1026	1680	1699
70°	948	1731	1747
75°	890	1842	1842
80°	863	2021	1881
85°	861	2152	1843

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 85°  
 Luminance: 2242 cd/sqm



TEST NUMBER: P976329  
 CATALOG NUMBER: 22SR-LD2-20-C-UNV-L830-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.6	2.9
10°-20°	167.5	8.8
20°-30°	267.7	14.0
30°-40°	323.7	17.0
40°-50°	328.4	17.2
50°-60°	295.7	15.5
60°-70°	239.5	12.5
70°-80°	167.1	8.8
80°-90°	63.9	3.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	489.7	25.7
0°-40°	813.5	42.6
0°-60°	1437.6	75.3
0°-90°	1908.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1908.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	574	556	558	572	574	55
15°	548	548	596	635	647	155
25°	501	518	592	646	662	231
35°	433	455	536	580	591	271
45°	350	379	447	470	473	269
55°	256	302	354	360	360	228
65°	161	224	264	262	267	160
75°	86	149	177	175	177	91
85°	28	62	70	63	60	30
90°	0	0	0	0	0	



TEST NUMBER: P976329

CATALOG NUMBER: 22SR-LD2-20-C-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	580.3	580.3	580.3	580.3	580.3	580.3	580.3	580.3	580.3	580.3	580.3
2.5°	576.3	577.3	576.3	575.3	574.4	573.4	572.4	570.4	567.4	565.4	563.4
5°	574.4	574.4	570.4	564.4	559.4	556.4	553.5	551.5	552.4	555.5	558.4
7.5°	570.4	568.4	559.4	551.5	547.5	547.5	549.5	556.4	563.4	568.4	571.4
10°	564.4	560.4	547.5	541.5	546.4	550.4	555.5	562.4	566.4	572.4	580.3
12.5°	556.4	550.4	535.5	537.5	547.5	552.4	555.5	561.4	571.4	581.3	589.3
15°	548.4	538.6	525.5	534.6	544.5	547.5	551.5	563.4	574.4	584.3	596.3
17.5°	538.6	525.5	516.6	527.5	536.6	542.5	549.5	561.4	574.4	588.3	601.2
20°	527.5	512.6	507.7	519.6	530.6	537.5	543.5	558.4	573.4	587.3	602.3
22.5°	514.6	496.7	496.7	507.7	521.6	527.5	535.5	552.4	567.4	583.3	598.3
25°	500.7	481.8	483.8	495.7	509.7	517.6	525.5	542.5	560.4	575.3	592.3
27.5°	485.8	465.8	469.8	481.8	494.7	504.7	513.6	531.5	548.4	566.4	583.3
30°	469.8	450.0	452.9	464.9	479.8	489.8	498.7	516.6	534.6	553.5	569.4
32.5°	452.9	433.0	436.0	448.0	463.8	472.9	481.8	499.7	519.6	537.5	552.4
35°	433.0	415.1	418.1	430.0	446.0	454.9	463.8	483.8	501.7	518.6	535.5
37.5°	413.1	396.1	398.1	411.1	428.0	437.0	446.0	464.9	482.8	499.7	515.6
40°	393.2	377.2	380.3	392.2	409.1	417.1	426.0	446.0	463.8	479.8	492.7
42.5°	371.3	358.3	361.4	373.2	389.2	398.1	408.1	426.0	442.9	457.8	469.8
45°	350.4	339.4	341.4	353.4	369.3	379.2	388.3	407.1	423.0	435.0	446.9
47.5°	326.5	317.5	322.5	334.4	350.4	359.4	369.3	387.2	401.2	414.1	424.0
50°	302.6	295.7	301.6	314.6	330.5	341.4	350.4	366.3	380.3	392.2	399.2
52.5°	278.7	275.7	281.7	294.6	311.5	320.6	329.5	346.4	360.3	370.3	377.2
55°	255.8	253.8	261.8	275.7	293.7	301.6	310.6	326.5	339.4	348.4	354.4
57.5°	230.9	232.0	240.9	256.8	273.7	282.7	290.6	305.5	318.6	325.5	331.5
60°	208.0	209.1	220.9	236.9	254.8	263.8	271.7	285.7	296.6	303.6	308.6
62.5°	183.2	189.1	202.1	217.0	234.9	243.8	252.9	265.8	276.7	282.7	285.7
65°	161.2	168.3	183.2	199.1	217.0	224.0	232.9	245.8	254.8	260.8	263.8
67.5°	140.3	149.4	164.3	181.2	198.1	207.1	214.0	226.0	234.0	238.9	241.9
70°	120.5	131.4	147.4	163.2	179.2	187.1	194.1	206.0	213.0	218.0	220.0
72.5°	102.5	113.5	130.4	145.4	160.3	169.2	175.2	186.1	193.1	197.1	198.1
75°	85.6	97.5	112.5	127.4	142.3	149.4	156.3	165.2	172.2	176.2	177.2
77.5°	70.6	81.7	96.6	110.5	123.4	129.4	136.3	145.4	151.3	154.3	155.2
80°	55.7	66.7	79.7	92.6	104.5	108.5	114.5	122.4	129.4	130.4	130.4
82.5°	41.8	51.7	62.7	73.7	83.7	87.6	91.5	98.6	102.5	103.5	102.5
85°	27.9	34.8	42.8	50.8	58.8	61.7	65.7	70.6	70.6	72.6	69.7
87.5°	14.0	16.9	21.9	24.9	29.9	31.8	33.8	34.8	34.8	34.8	33.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P976329

CATALOG NUMBER: 22SR-LD2-20-C-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	580.3	580.3	580.3	580.3	580.3	580.3	580.3	580.3	580.3	580.3
2.5°	561.4	560.4	558.4	558.4	558.4	557.5	557.5	557.5	556.4	556.4
5°	562.4	565.4	569.4	572.4	572.4	572.4	573.4	573.4	574.4	574.4
7.5°	574.4	577.3	581.3	584.3	586.3	587.3	590.3	591.3	593.2	593.2
10°	588.3	593.2	598.3	601.2	604.2	606.2	607.2	611.2	611.2	611.2
12.5°	597.2	605.2	612.1	619.2	622.1	624.1	627.1	629.1	632.1	632.1
15°	607.2	616.1	624.1	632.1	635.0	638.1	642.1	645.0	646.0	647.0
17.5°	612.1	623.2	632.1	640.1	643.0	646.0	652.0	656.0	658.0	659.0
20°	614.1	626.1	637.0	646.0	650.0	653.0	659.0	662.9	665.9	665.9
22.5°	613.2	625.2	637.0	647.0	651.0	654.0	660.0	663.9	665.9	666.9
25°	608.2	620.1	632.1	642.1	646.0	649.0	655.0	659.0	662.0	662.0
27.5°	598.3	611.2	622.1	632.1	635.0	640.1	645.0	649.0	652.0	653.0
30°	584.3	597.2	609.2	617.2	621.2	624.1	629.1	634.1	635.0	636.1
32.5°	567.4	580.3	590.3	598.3	602.3	605.2	610.1	614.1	616.1	615.2
35°	548.4	559.4	569.4	577.3	580.3	582.3	587.3	589.3	591.3	591.3
37.5°	527.5	536.6	546.4	552.4	554.4	556.4	560.4	563.4	563.4	564.4
40°	502.7	512.6	519.6	525.5	527.5	528.6	532.6	533.5	534.6	534.6
42.5°	479.8	487.8	492.7	496.7	498.7	500.7	502.7	502.7	502.7	503.7
45°	454.9	460.9	465.8	468.9	469.8	470.9	471.8	472.9	472.9	472.9
47.5°	431.0	436.0	439.0	442.0	442.0	442.9	442.9	444.0	444.0	444.0
50°	405.2	409.1	411.1	413.1	413.1	413.1	414.1	414.1	414.1	414.1
52.5°	381.2	384.3	385.2	386.3	386.3	387.2	387.2	386.3	387.2	386.3
55°	357.4	359.4	360.3	359.4	360.3	360.3	360.3	359.4	360.3	360.3
57.5°	333.5	334.4	334.4	333.5	334.4	333.5	333.5	334.4	335.5	335.5
60°	309.5	309.5	308.6	308.6	308.6	308.6	308.6	310.6	310.6	311.5
62.5°	286.7	286.7	285.7	284.7	284.7	284.7	285.7	286.7	287.7	287.7
65°	263.8	263.8	262.8	261.8	261.8	261.8	262.8	263.8	264.8	266.8
67.5°	242.9	240.9	240.9	239.9	239.9	239.9	241.9	242.9	243.8	243.8
70°	219.0	219.0	217.0	218.0	218.0	218.0	219.0	220.0	220.9	222.0
72.5°	198.1	197.1	196.1	197.1	197.1	197.1	198.1	200.1	201.1	202.1
75°	177.2	176.2	176.2	175.2	175.2	176.2	176.2	177.2	177.2	177.2
77.5°	155.2	152.3	151.3	149.4	149.4	149.4	149.4	149.4	149.4	149.4
80°	129.4	125.4	122.4	122.4	121.4	121.4	121.4	121.4	120.5	121.4
82.5°	99.5	97.5	94.6	93.5	93.5	93.5	91.5	91.5	91.5	93.5
85°	67.7	66.7	63.7	62.7	62.7	61.7	60.7	60.7	61.7	59.7
87.5°	32.9	31.8	29.9	29.9	29.9	28.9	28.9	27.9	28.9	27.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P976329  
 CATALOG NUMBER: 22SR-LD2-20-C-UNV-L830-CD1-U

**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	12.6	14.3	13.0	14.6	14.9	14.1	15.8	14.5	16.1	16.4
	3H	14.3	15.8	14.7	16.2	16.5	16.3	17.8	16.7	18.1	18.5
	4H	15.0	16.4	15.4	16.8	17.1	17.3	18.7	17.7	19.1	19.4
	6H	15.5	16.8	15.9	17.2	17.6	18.1	19.5	18.5	19.8	20.2
	8H	15.7	17.0	16.1	17.4	17.8	18.4	19.7	18.9	20.1	20.5
	12H	15.8	17.1	16.3	17.4	17.9	18.7	19.9	19.1	20.3	20.7
4H	2H	13.7	15.2	14.1	15.5	15.9	14.8	16.3	15.2	16.6	17.0
	3H	15.9	17.1	16.3	17.5	17.9	17.3	18.5	17.7	18.9	19.3
	4H	16.8	17.9	17.2	18.3	18.7	18.4	19.5	18.8	19.9	20.4
	6H	17.5	18.5	18.0	18.9	19.4	19.4	20.4	19.9	20.8	21.3
	8H	17.8	18.7	18.3	19.2	19.6	19.8	20.7	20.3	21.2	21.6
	12H	18.0	18.8	18.5	19.3	19.8	20.1	20.9	20.6	21.4	21.9
8H	4H	17.6	18.5	18.0	18.9	19.4	18.9	19.8	19.3	20.2	20.7
	6H	18.6	19.4	19.1	19.9	20.3	20.1	20.8	20.5	21.3	21.8
	8H	19.1	19.7	19.6	20.3	20.7	20.6	21.2	21.1	21.7	22.2
	12H	19.4	20.0	19.9	20.5	21.1	21.0	21.6	21.5	22.1	22.6
12H	4H	17.7	18.5	18.2	19.0	19.5	19.0	19.8	19.4	20.3	20.7
	6H	18.9	19.6	19.4	20.0	20.6	20.2	20.9	20.7	21.4	21.9
	8H	19.4	20.0	19.9	20.5	21.1	20.8	21.4	21.3	21.9	22.4

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-457-5

Test Date: 07/02/2025

Luminaire Tested: 24SR-LD2-64-C-UNV-L930-CD1-U

Data in this report applies to families of products including 24SR-LD2-64-C-UNV-L930-CD1-U

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2506-457-5  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 07/02/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Metalux  
 Catalog Number: **24SR-LD2-64-C-UNV-L930-CD1-U**  
 Description: 2X4 SKYRIDGE 6400LM Fixture with new LTN chip

**Spectral Parameters**

CCT (K): 2935  
 CIE u': 0.2530  
 CIE v': 0.5224  
 Duv: -0.0002  
 CIE x: 0.4413  
 CIE y: 0.4049  
 CIE z: 0.1538  
 Peak Wavelength (nm): 630  
 Dominant Wavelength (nm): 583  
 Purity: 53.99297  
 Rf: 91.8  
 Rg: 99.6

CRI (Ra):	93.5		
R1:	94.7	R9:	55.1
R2:	97.2	R10:	92.3
R3:	98.6	R11:	97.0
R4:	95.2	R12:	86.4
R5:	94.7	R13:	95.3
R6:	96.8	R14:	98.2
R7:	90.9	R15:	89.3
R8:	80.4		



**Test Conditions**

Stabilization Time: 40M  
 Operation Time: 1H 40M  
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-457-5

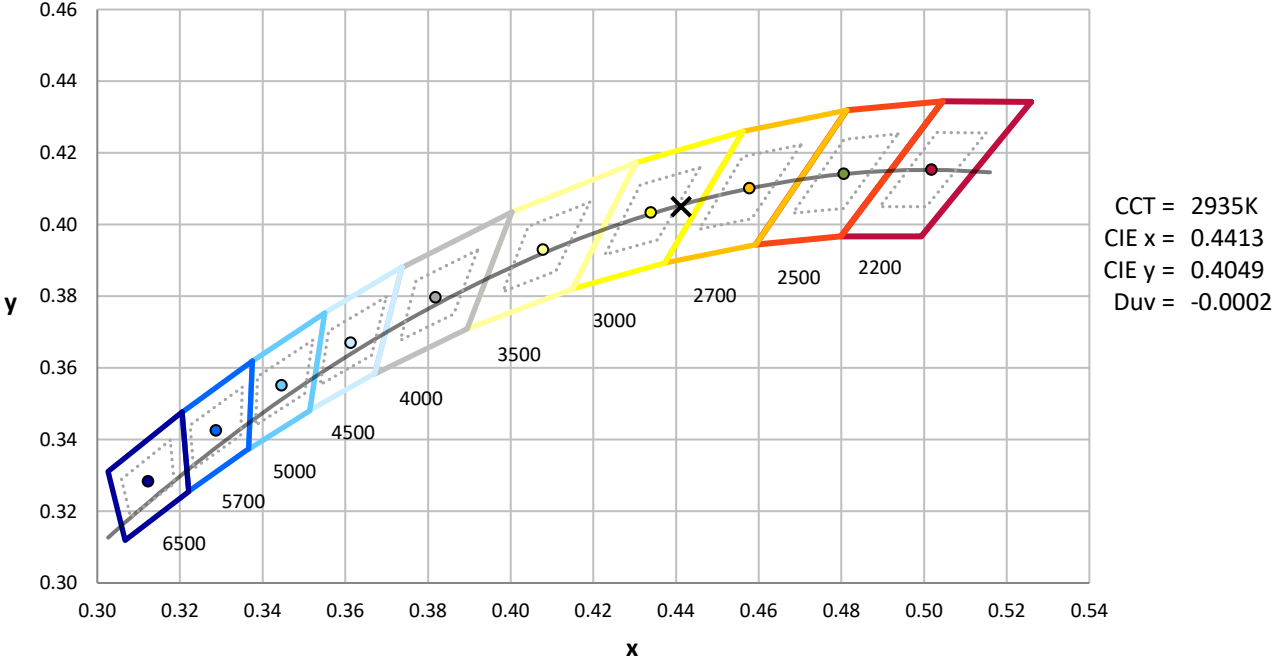
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208	10/22/2024	10/22/2025
Sphere Thermometer	ONSET IN0085	10/22/2024	10/22/2025
Room Thermometer	ONSET IN0046	10/22/2024	10/22/2025

REPORT NUMBER: SP1-2506-457-5

CIE 1931 Chromaticity Diagram



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



CCT = 2935K  
 CIE x = 0.4413  
 CIE y = 0.4049  
 Duv = -0.0002

Point lies inside the ANSI 3000K 7-step quadrangle

REPORT NUMBER: SP1-2506-457-5

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

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	108	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	129	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	151	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	168	NR	635	695	NR	765	5	NR	895	0	NR
380	0	NR	510	179	NR	640	225	NR	770	4	NR	900	0	NR
385	0	NR	515	187	NR	645	214	NR	775	4	NR	905	0	NR
390	0	NR	520	194	NR	650	190	NR	780	3	NR	910	0	NR
395	1	NR	525	199	NR	655	160	NR	785	3	NR	915	0	NR
400	2	NR	530	205	NR	660	136	NR	790	2	NR	920	0	NR
405	2	NR	535	213	NR	665	115	NR	795	2	NR	925	0	NR
410	4	NR	540	219	NR	670	106	NR	800	2	NR	930	0	NR
415	7	NR	545	228	NR	675	87	NR	805	1	NR	935	0	NR
420	12	NR	550	236	NR	680	74	NR	810	1	NR	940	0	NR
425	20	NR	555	247	NR	685	64	NR	815	1	NR	945	0	NR
430	32	NR	560	257	NR	690	55	NR	820	1	NR	950	0	NR
435	50	NR	565	267	NR	695	47	NR	825	1	NR	955	0	NR
440	79	NR	570	277	NR	700	40	NR	830	1	NR	960	0	NR
445	133	NR	575	287	NR	705	34	NR	835	1	NR	965	0	NR
450	194	NR	580	297	NR	710	29	NR	840	1	NR	970	0	NR
455	168	NR	585	308	NR	715	24	NR	845	0	NR	975	0	NR
460	117	NR	590	315	NR	720	20	NR	850	0	NR	980	0	NR
465	101	NR	595	320	NR	725	17	NR	855	0	NR	985	0	NR
470	85	NR	600	327	NR	730	14	NR	860	0	NR	990	0	NR
475	73	NR	605	331	NR	735	12	NR	865	0	NR	995	0	NR
480	77	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	91	NR	615	398	NR	745	9	NR	875	0	NR			

REPORT NUMBER: SP1-2506-457-5

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.4**

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	108	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	129	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	151	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	168	NR	635	695	NR	765	5	NR	895	0	NR
380	0	NR	510	179	NR	640	225	NR	770	4	NR	900	0	NR
385	0	NR	515	187	NR	645	214	NR	775	4	NR	905	0	NR
390	0	NR	520	194	NR	650	190	NR	780	3	NR	910	0	NR
395	1	NR	525	199	NR	655	160	NR	785	3	NR	915	0	NR
400	2	NR	530	205	NR	660	136	NR	790	2	NR	920	0	NR
405	2	NR	535	213	NR	665	115	NR	795	2	NR	925	0	NR
410	4	NR	540	219	NR	670	106	NR	800	2	NR	930	0	NR
415	7	NR	545	228	NR	675	87	NR	805	1	NR	935	0	NR
420	12	NR	550	236	NR	680	74	NR	810	1	NR	940	0	NR
425	20	NR	555	247	NR	685	64	NR	815	1	NR	945	0	NR
430	32	NR	560	257	NR	690	55	NR	820	1	NR	950	0	NR
435	50	NR	565	267	NR	695	47	NR	825	1	NR	955	0	NR
440	79	NR	570	277	NR	700	40	NR	830	1	NR	960	0	NR
445	133	NR	575	287	NR	705	34	NR	835	1	NR	965	0	NR
450	194	NR	580	297	NR	710	29	NR	840	1	NR	970	0	NR
455	168	NR	585	308	NR	715	24	NR	845	0	NR	975	0	NR
460	117	NR	590	315	NR	720	20	NR	850	0	NR	980	0	NR
465	101	NR	595	320	NR	725	17	NR	855	0	NR	985	0	NR
470	85	NR	600	327	NR	730	14	NR	860	0	NR	990	0	NR
475	73	NR	605	331	NR	735	12	NR	865	0	NR	995	0	NR
480	77	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	91	NR	615	398	NR	745	9	NR	875	0	NR			

REPORT NUMBER: SP1-2506-457-5

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 2.72**

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	108	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	129	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	151	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	168	NR	635	695	NR	765	5	NR	895	0	NR
380	0	NR	510	179	NR	640	225	NR	770	4	NR	900	0	NR
385	0	NR	515	187	NR	645	214	NR	775	4	NR	905	0	NR
390	0	NR	520	194	NR	650	190	NR	780	3	NR	910	0	NR
395	1	NR	525	199	NR	655	160	NR	785	3	NR	915	0	NR
400	2	NR	530	205	NR	660	136	NR	790	2	NR	920	0	NR
405	2	NR	535	213	NR	665	115	NR	795	2	NR	925	0	NR
410	4	NR	540	219	NR	670	106	NR	800	2	NR	930	0	NR
415	7	NR	545	228	NR	675	87	NR	805	1	NR	935	0	NR
420	12	NR	550	236	NR	680	74	NR	810	1	NR	940	0	NR
425	20	NR	555	247	NR	685	64	NR	815	1	NR	945	0	NR
430	32	NR	560	257	NR	690	55	NR	820	1	NR	950	0	NR
435	50	NR	565	267	NR	695	47	NR	825	1	NR	955	0	NR
440	79	NR	570	277	NR	700	40	NR	830	1	NR	960	0	NR
445	133	NR	575	287	NR	705	34	NR	835	1	NR	965	0	NR
450	194	NR	580	297	NR	710	29	NR	840	1	NR	970	0	NR
455	168	NR	585	308	NR	715	24	NR	845	0	NR	975	0	NR
460	117	NR	590	315	NR	720	20	NR	850	0	NR	980	0	NR
465	101	NR	595	320	NR	725	17	NR	855	0	NR	985	0	NR
470	85	NR	600	327	NR	730	14	NR	860	0	NR	990	0	NR
475	73	NR	605	331	NR	735	12	NR	865	0	NR	995	0	NR
480	77	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	91	NR	615	398	NR	745	9	NR	875	0	NR			

**Summary**

$R_f = 91.8$   
 $R_g = 99.6$   
 $CIE R_a = 93.5$   
 $R_9 = 55.1$



**Color Vector Graphics**



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

CES01 = 86	CES26 = 94	CES51 = 97	CES76 = 91
CES02 = 63	CES27 = 95	CES52 = 98	CES77 = 84
CES03 = 32	CES28 = 97	CES53 = 97	CES78 = 88
CES04 = 70	CES29 = 94	CES54 = 96	CES79 = 88
CES05 = 51	CES30 = 98	CES55 = 96	CES80 = 90
CES06 = 51	CES31 = 95	CES56 = 97	CES81 = 70
CES07 = 44	CES32 = 87	CES57 = 96	CES82 = 96
CES08 = 42	CES33 = 96	CES58 = 97	CES83 = 93
CES09 = 29	CES34 = 95	CES59 = 98	CES84 = 96
CES10 = 76	CES35 = 97	CES60 = 95	CES85 = 79
CES11 = 59	CES36 = 88	CES61 = 95	CES86 = 75
CES12 = 65	CES37 = 96	CES62 = 93	CES87 = 92
CES13 = 44	CES38 = 95	CES63 = 95	CES88 = 96
CES14 = 74	CES39 = 98	CES64 = 95	CES89 = 82
CES15 = 72	CES40 = 96	CES65 = 91	CES90 = 97
CES16 = 48	CES41 = 96	CES66 = 94	CES91 = 82
CES17 = 50	CES42 = 95	CES67 = 93	CES92 = 77
CES18 = 57	CES43 = 94	CES68 = 92	CES93 = 86
CES19 = 72	CES44 = 99	CES69 = 93	CES94 = 72
CES20 = 67	CES45 = 97	CES70 = 91	CES95 = 85
CES21 = 86	CES46 = 95	CES71 = 89	CES96 = 92
CES22 = 79	CES47 = 88	CES72 = 96	CES97 = 95
CES23 = 92	CES48 = 94	CES73 = 86	CES98 = 94
CES24 = 91	CES49 = 95	CES74 = 89	CES99 = 91
CES25 = 72	CES50 = 98	CES75 = 90	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)