

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: P976999

Luminaire Tested: 24SR-LD2-C-64-UNV-L830-CD1-ST-U

Issue Date: 03/18/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P976999  
Test Lab: INNOVATION CENTER(P3)  
Issue Date: 03/18/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 24SR-LD2-C-64-UNV-L830-CD1-ST-U  
Description: METALUX SKYRIDGE 2x4 6400LM PACKAGE 80CRI 3000K TROFFER with Straw SKYTRIM  
Light Source: 3000K CCT, 80+ CRI LEDS  
Ballast/Driver: -

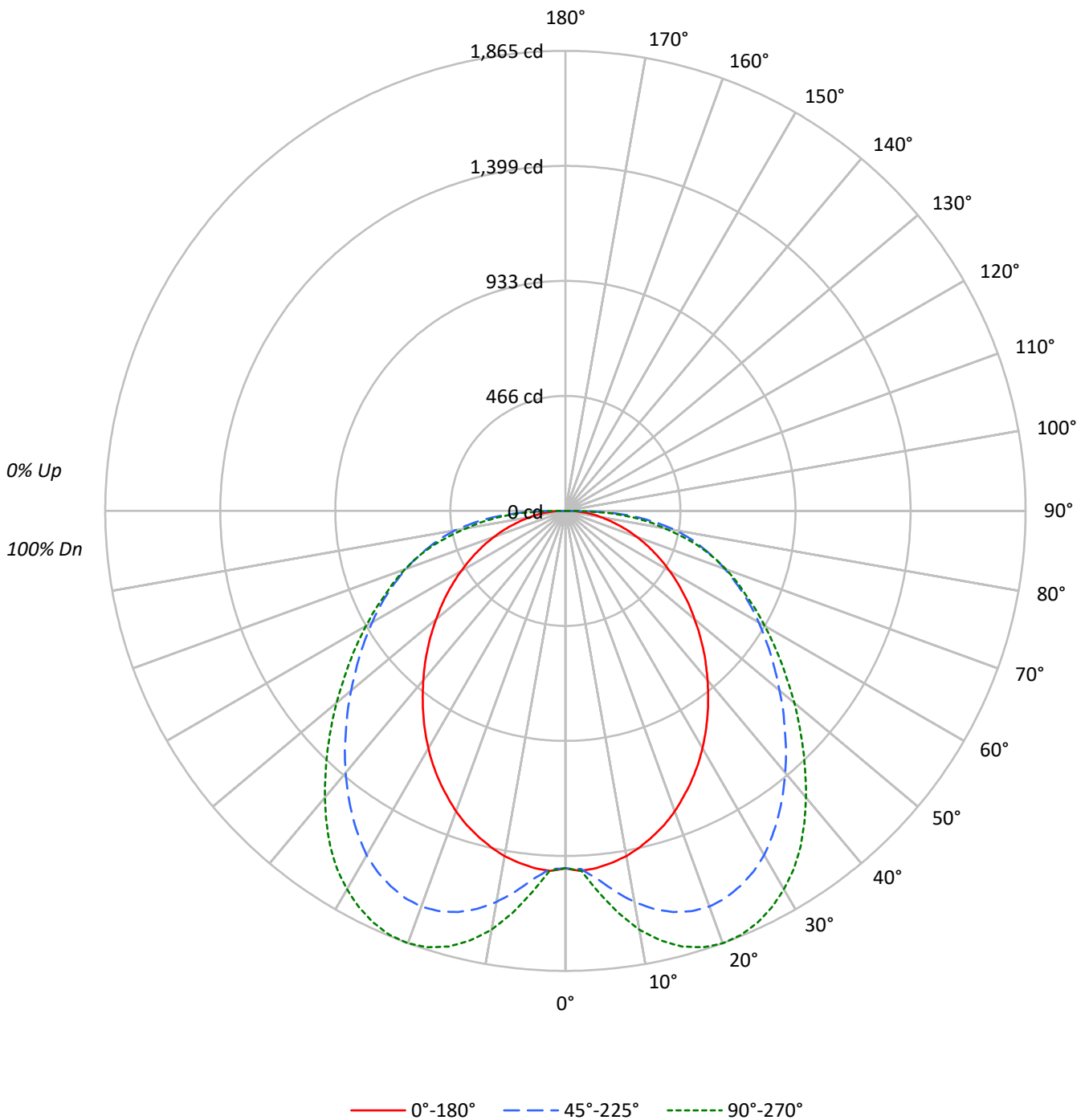
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5501.0 lumens  
Efficiency: N/A  
Efficacy: 115.6 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.62 / 1.56  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 47.6  
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: P976999  
CATALOG NUMBER: 24SR-LD2-C-64-UNV-L830-CD1-ST-U

### Luminous Intensity Polar Plot





TEST NUMBER: P976999

CATALOG NUMBER: 24SR-LD2-C-64-UNV-L830-CD1-ST-U

**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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	107	102	97	92	104	99	95	91	95	91	88	91	88	85	87	85	83	80	80	80	80
2	97	88	80	74	94	86	79	73	82	76	71	79	74	69	76	71	68	66	66	66	66
3	88	76	68	61	85	75	67	60	72	65	59	69	63	58	66	61	57	54	54	54	54
4	80	67	58	51	78	66	57	50	63	56	50	61	54	49	59	53	48	46	46	46	46
5	74	60	50	43	71	59	50	43	57	49	43	55	48	42	53	47	42	40	40	40	40
6	68	54	44	38	66	53	44	38	51	43	37	49	42	37	48	41	37	34	34	34	34
7	63	49	40	33	61	48	39	33	46	39	33	45	38	33	43	37	32	30	30	30	30
8	58	44	36	30	57	44	35	29	42	35	29	41	34	29	40	34	29	27	27	27	27
9	55	41	32	26	53	40	32	26	39	31	26	38	31	26	37	31	26	24	24	24	24
10	51	37	29	24	50	37	29	24	36	29	24	35	28	24	34	28	24	22	22	22	22

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

	0°	45°	90°
0°	1950	1950	1950
5°	1963	2023	2097
10°	1941	2199	2355
15°	1903	2345	2547
20°	1855	2445	2671
25°	1794	2491	2734
30°	1726	2504	2751
35°	1651	2474	2729
40°	1573	2434	2664
45°	1502	2392	2591
50°	1430	2372	2536
55°	1371	2385	2502
60°	1314	2434	2510
65°	1259	2537	2570
70°	1207	2705	2723
75°	1151	2983	2938
80°	1144	3522	3179
85°	1254	4534	3964

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 87.5°  
 Luminance: 6009 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.6	2.6
10°-20°	462.4	8.4
20°-30°	739.3	13.4
30°-40°	895.0	16.3
40°-50°	914.0	16.6
50°-60°	842.3	15.3
60°-70°	716.4	13.0
70°-80°	535.7	9.7
80°-90°	250.2	4.5
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°	1347.3	24.5
0°-40°	2242.3	40.8
0°-60°	3998.6	72.7
0°-90°	5501.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5501.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1449	1449	1449	1449	1449	
5°	1454	1445	1498	1536	1552	138
15°	1366	1489	1684	1789	1828	385
25°	1208	1436	1678	1797	1842	556
35°	1005	1270	1506	1621	1661	628
45°	789	1051	1257	1338	1362	609
55°	584	849	1017	1056	1067	523
65°	395	672	797	802	807	392
75°	221	486	574	565	565	237
85°	81	256	294	260	257	86
90°	0	0	0	0	0	



TEST NUMBER: P976999  
 CATALOG NUMBER: 24SR-LD2-C-64-UNV-L830-CD1-ST-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1449.1	1449.1	1449.1	1449.1	1449.1	1449.1	1449.1	1449.1	1449.1	1449.1	1449.1
2.5°	1460.8	1457.9	1453.5	1447.5	1446.1	1446.1	1444.6	1444.6	1447.5	1453.5	1462.2
5°	1453.5	1450.5	1446.1	1441.6	1443.2	1447.5	1456.5	1466.8	1481.5	1497.8	1515.5
7.5°	1438.8	1437.2	1434.2	1434.2	1446.1	1466.8	1487.5	1508.1	1531.7	1556.8	1583.4
10°	1420.9	1419.5	1417.9	1429.9	1456.5	1487.5	1516.8	1544.8	1577.4	1609.8	1640.8
12.5°	1395.9	1395.9	1400.3	1426.9	1463.8	1502.2	1539.1	1576.0	1614.4	1652.7	1686.6
15°	1366.3	1366.3	1381.2	1419.5	1466.8	1511.1	1555.4	1596.7	1640.8	1683.7	1719.0
17.5°	1333.9	1332.6	1360.6	1407.6	1460.8	1512.5	1562.7	1608.4	1654.1	1701.3	1738.3
20°	1295.6	1298.6	1335.3	1389.9	1449.1	1506.5	1559.7	1608.4	1657.1	1707.3	1742.6
22.5°	1252.7	1258.7	1304.4	1364.9	1431.3	1490.4	1546.4	1598.1	1648.3	1698.4	1733.9
25°	1208.4	1216.0	1272.0	1335.3	1406.2	1466.8	1522.8	1577.4	1627.7	1677.7	1713.3
27.5°	1161.4	1171.7	1235.0	1301.6	1372.3	1435.8	1491.8	1547.8	1598.1	1649.7	1682.3
30°	1111.1	1124.4	1192.3	1260.1	1333.9	1395.9	1451.9	1509.5	1561.1	1611.4	1642.4
32.5°	1058.1	1074.2	1143.5	1217.4	1289.7	1350.2	1406.2	1465.2	1513.9	1561.1	1592.1
35°	1004.9	1024.1	1094.8	1168.7	1239.4	1300.0	1354.6	1413.6	1462.2	1506.5	1536.1
37.5°	950.3	973.9	1044.8	1117.1	1186.4	1247.0	1303.0	1357.6	1406.2	1447.5	1477.1
40°	895.7	922.3	993.2	1063.9	1133.2	1190.8	1245.4	1300.0	1348.6	1385.6	1413.6
42.5°	842.6	869.0	941.5	1012.2	1075.8	1134.8	1189.4	1242.4	1286.7	1323.6	1348.6
45°	789.4	817.4	888.3	957.6	1021.2	1080.1	1134.8	1183.4	1226.3	1257.3	1282.3
47.5°	736.4	765.8	836.7	906.0	966.5	1024.1	1080.1	1124.4	1165.7	1196.7	1217.4
50°	683.2	715.7	785.0	855.9	914.9	972.5	1025.5	1066.8	1105.2	1133.2	1152.4
52.5°	634.5	665.5	736.4	807.1	866.3	923.7	973.9	1013.8	1047.6	1072.8	1091.9
55°	584.3	618.2	692.1	760.0	820.4	878.0	923.7	960.6	991.6	1016.6	1031.5
57.5°	535.6	573.9	646.2	714.1	776.1	830.7	875.0	910.3	938.5	959.2	972.5
60°	488.3	528.3	603.5	671.4	733.4	786.4	829.3	861.7	886.9	904.6	916.3
62.5°	441.3	486.9	560.8	631.5	690.5	742.1	782.1	811.6	835.3	851.4	858.7
65°	395.4	442.7	519.3	588.8	647.8	696.5	734.8	761.4	783.4	796.8	799.7
67.5°	351.1	401.4	478.0	547.5	604.9	650.8	687.7	712.7	731.8	740.7	743.7
70°	306.8	358.7	436.7	506.2	560.8	604.9	638.9	662.5	678.8	687.7	687.7
72.5°	265.5	317.4	395.4	463.3	513.6	557.8	588.8	610.9	625.6	631.5	630.1
75°	221.4	274.5	351.1	416.1	464.9	506.2	537.2	559.2	569.6	573.9	572.5
77.5°	182.9	233.1	306.8	367.4	419.0	453.0	484.0	504.6	514.9	517.9	516.5
80°	147.6	194.8	259.8	317.4	361.4	398.4	426.4	448.6	457.4	454.6	441.3
82.5°	113.6	156.5	213.9	264.1	305.4	339.4	369.0	382.1	383.7	376.3	364.4
85°	81.2	113.6	162.2	205.1	243.5	268.5	286.2	296.5	299.5	293.7	280.4
87.5°	45.7	66.3	95.9	126.9	156.5	174.2	184.5	190.4	194.8	188.9	179.9
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: P976999

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1449.1	1449.1	1449.1	1449.1	1449.1	1449.1	1449.1	1449.1
2.5°	1453.5	1457.9	1456.5	1459.5	1460.8	1460.8	1456.5	1459.5
5°	1516.8	1525.8	1531.7	1540.5	1546.4	1546.4	1547.8	1552.4
7.5°	1586.4	1601.0	1614.4	1624.7	1632.0	1635.0	1639.4	1643.7
10°	1651.1	1669.0	1683.7	1697.0	1705.7	1711.7	1716.0	1723.6
12.5°	1701.3	1722.0	1738.3	1753.0	1764.9	1773.6	1778.0	1784.0
15°	1738.3	1761.9	1781.0	1797.3	1807.6	1817.9	1822.3	1828.2
17.5°	1760.3	1784.0	1804.6	1820.9	1832.6	1842.9	1848.9	1854.8
20°	1766.3	1789.9	1812.0	1828.2	1840.2	1853.3	1859.2	1865.2
22.5°	1757.3	1781.0	1804.6	1822.3	1835.6	1848.9	1854.8	1860.8
25°	1739.7	1764.9	1788.3	1806.2	1817.9	1831.2	1838.6	1841.5
27.5°	1711.7	1736.7	1760.3	1776.6	1789.9	1803.2	1810.6	1812.0
30°	1671.9	1697.0	1720.6	1736.7	1751.6	1763.3	1770.6	1770.6
32.5°	1623.1	1646.7	1671.9	1686.6	1699.9	1711.7	1719.0	1722.0
35°	1567.1	1590.7	1614.4	1627.7	1642.4	1651.1	1657.1	1661.4
37.5°	1506.5	1530.2	1549.4	1561.1	1577.4	1583.4	1592.1	1590.7
40°	1441.6	1460.8	1478.5	1488.8	1502.2	1509.5	1518.4	1516.8
42.5°	1373.9	1392.9	1407.6	1419.5	1426.9	1434.2	1440.2	1438.8
45°	1304.4	1322.2	1335.3	1341.3	1353.2	1356.0	1361.9	1361.9
47.5°	1235.0	1249.7	1261.7	1270.4	1276.4	1279.3	1285.3	1285.3
50°	1168.7	1182.0	1189.4	1196.7	1202.7	1207.0	1210.0	1211.4
52.5°	1103.8	1114.1	1120.1	1125.8	1131.8	1134.8	1137.7	1136.1
55°	1041.8	1049.2	1053.5	1058.1	1062.5	1066.8	1066.8	1066.8
57.5°	979.9	984.2	988.6	991.6	995.9	998.9	998.9	998.9
60°	919.3	923.7	925.2	928.2	932.6	934.0	935.6	932.6
62.5°	860.3	861.7	863.3	864.7	869.0	872.0	872.0	870.6
65°	799.7	799.7	801.3	802.7	805.7	808.7	810.1	807.1
67.5°	740.7	740.7	742.1	742.1	746.7	749.7	751.1	751.1
70°	683.2	681.8	684.7	686.1	689.1	689.1	692.1	692.1
72.5°	625.6	624.2	627.2	627.2	630.1	631.5	631.5	631.5
75°	569.6	565.2	566.6	563.6	566.6	566.6	565.2	565.2
77.5°	509.0	498.7	495.9	489.9	489.9	489.9	486.9	486.9
80°	432.3	422.0	417.6	413.1	413.1	411.7	410.3	410.3
82.5°	355.7	346.7	342.4	338.0	340.8	336.4	338.0	339.4
85°	273.1	265.5	262.7	258.2	256.8	256.8	258.2	256.8
87.5°	177.1	169.6	169.6	165.2	168.2	163.8	159.3	162.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P976999

CATALOG NUMBER: 24SR-LD2-C-64-UNV-L830-CD1-ST-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	13.7	15.4	14.0	15.7	16.0	15.6	17.3	15.9	17.6	17.9
	3H	15.5	17.1	15.9	17.4	17.8	17.9	19.4	18.3	19.8	20.1
	4H	16.3	17.7	16.7	18.1	18.5	19.0	20.4	19.4	20.8	21.2
	6H	16.8	18.2	17.2	18.5	18.9	19.9	21.3	20.3	21.7	22.1
	8H	17.0	18.3	17.4	18.7	19.1	20.4	21.7	20.8	22.1	22.5
	12H	17.1	18.4	17.6	18.8	19.2	20.7	22.0	21.2	22.4	22.8
4H	2H	15.0	16.4	15.4	16.8	17.2	16.3	17.8	16.7	18.1	18.5
	3H	17.3	18.6	17.7	18.9	19.3	18.9	20.1	19.3	20.5	20.9
	4H	18.3	19.5	18.7	19.9	20.3	20.1	21.3	20.6	21.7	22.1
	6H	19.2	20.2	19.6	20.6	21.1	21.3	22.3	21.7	22.7	23.2
	8H	19.5	20.4	19.9	20.9	21.3	21.8	22.7	22.2	23.2	23.6
	12H	19.7	20.6	20.2	21.0	21.5	22.3	23.1	22.7	23.6	24.1
8H	4H	19.2	20.2	19.7	20.6	21.1	20.7	21.6	21.1	22.1	22.5
	6H	20.5	21.3	21.0	21.8	22.2	22.0	22.8	22.5	23.3	23.8
	8H	21.0	21.7	21.5	22.2	22.7	22.6	23.4	23.1	23.9	24.4
	12H	21.5	22.1	22.0	22.6	23.2	23.3	23.9	23.8	24.4	25.0
12H	4H	19.4	20.3	19.9	20.7	21.2	20.8	21.6	21.3	22.1	22.6
	6H	20.8	21.5	21.3	22.0	22.5	22.2	22.9	22.7	23.4	23.9
	8H	21.5	22.1	22.0	22.6	23.2	22.9	23.6	23.4	24.1	24.6

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

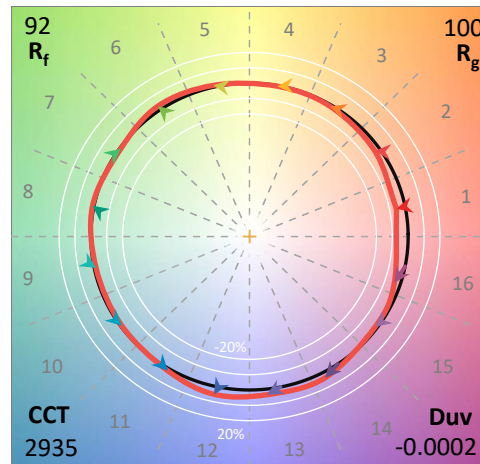
**Test Information**

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

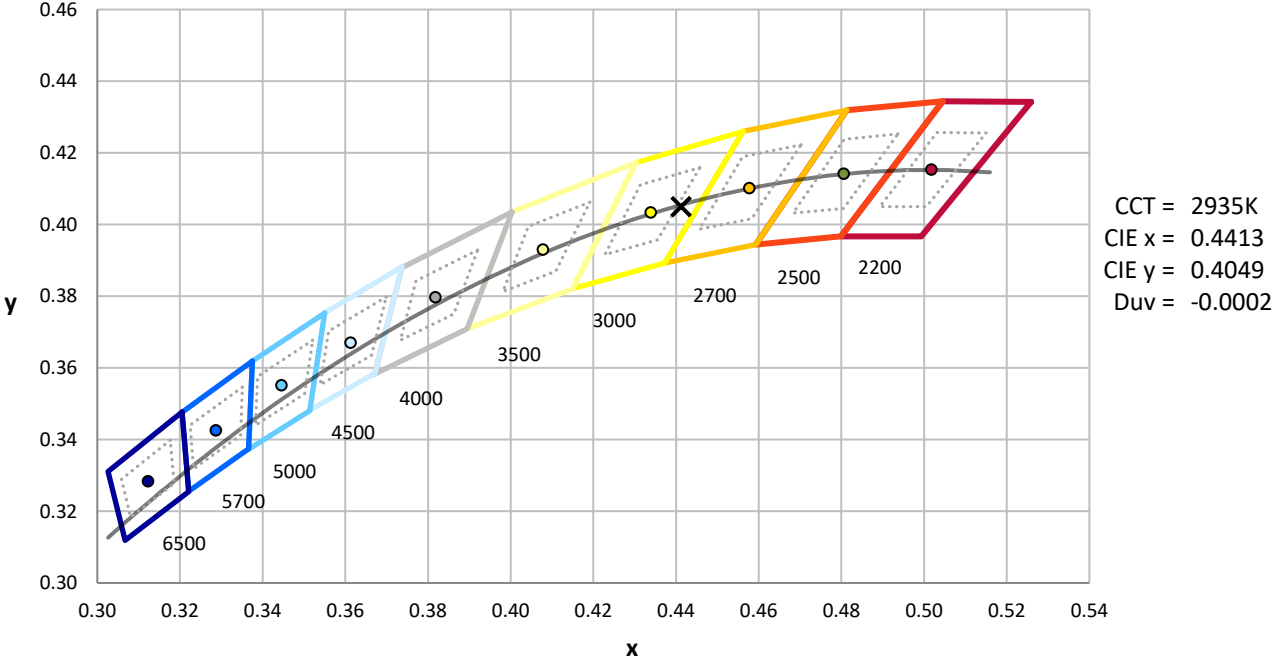
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208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



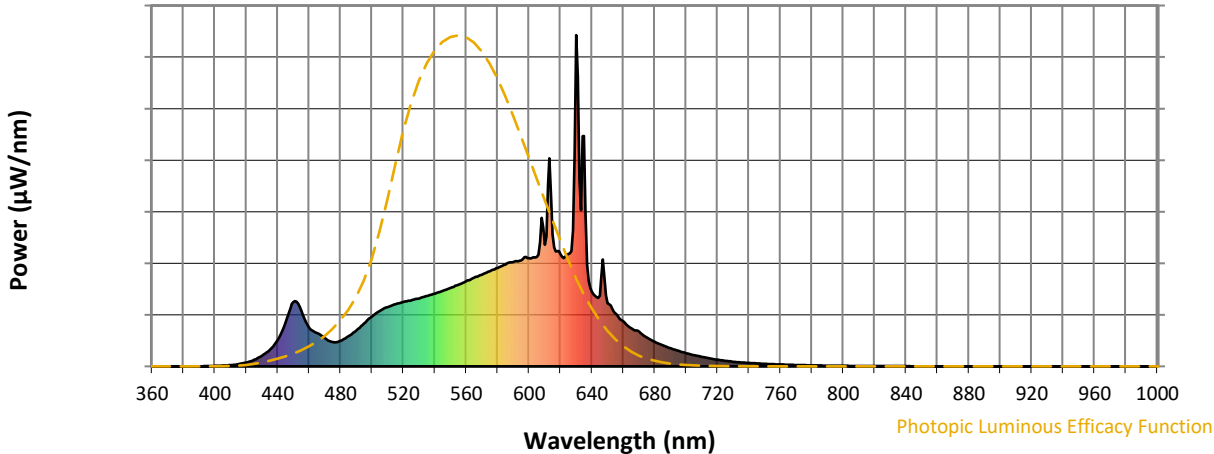
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 7-step quadrangle

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**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			

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**Scotopic Flux vs. Wavelength**



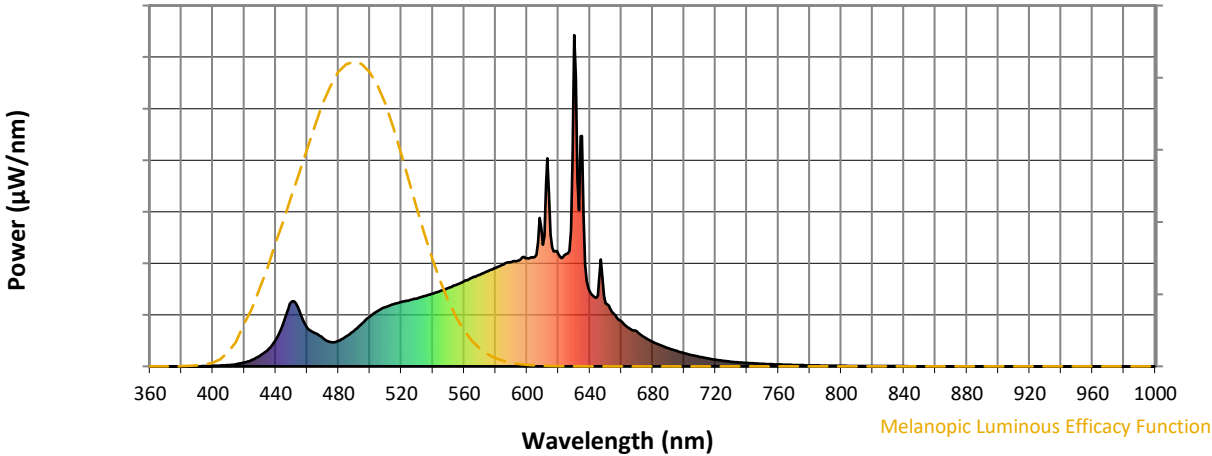
**Scotopic Lumens: NR**

**S/P: 1.4**

$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )
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			

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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**

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

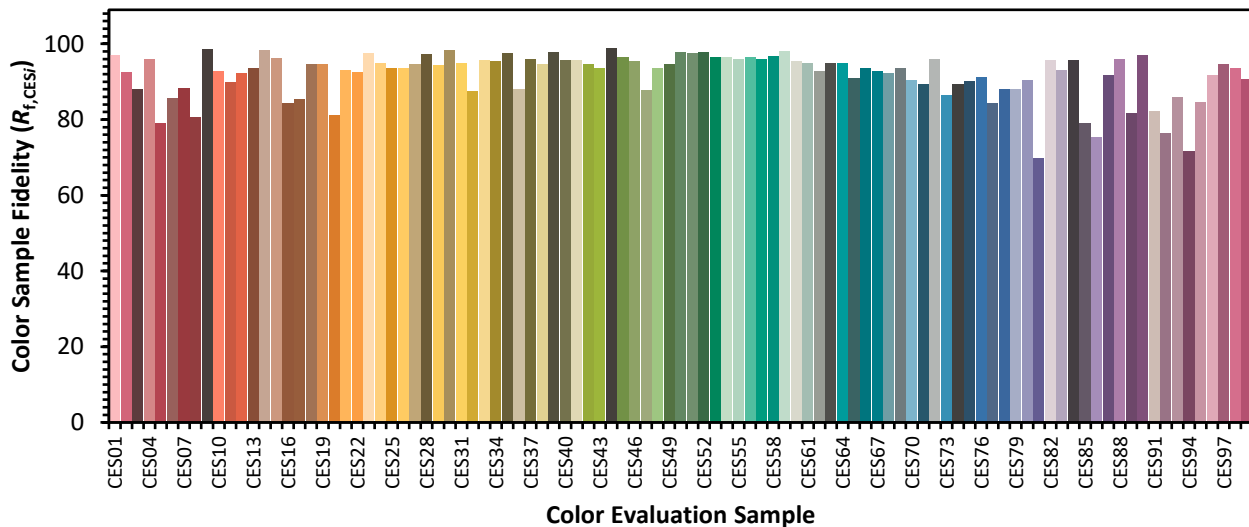


**Color Vector Graphics**

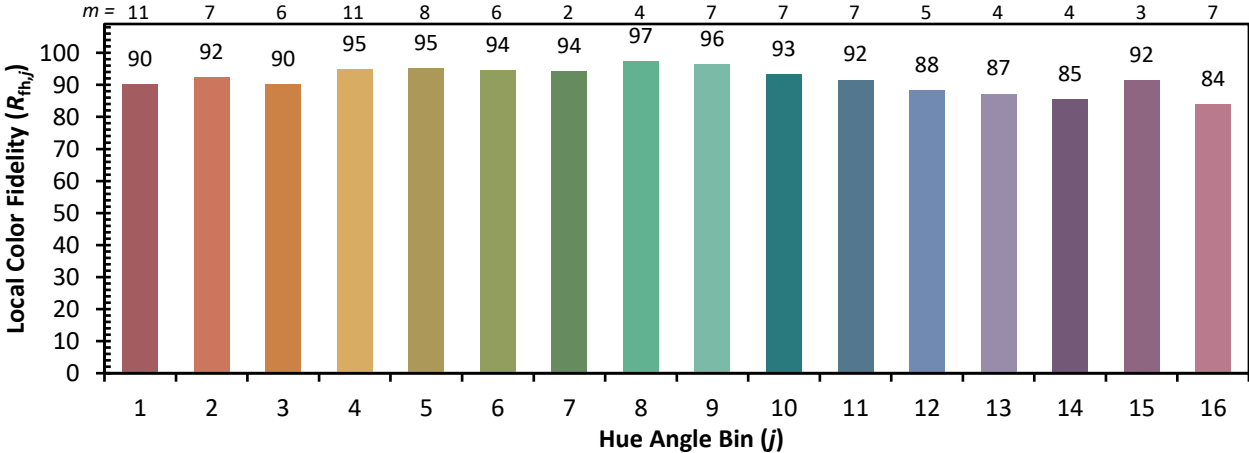


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)