

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: P977004

Luminaire Tested: 24SR-LD2-C-48-UNV-L835-CD1-ST-U

Issue Date: 03/18/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P977004  
Test Lab: INNOVATION CENTER(P3)  
Issue Date: 03/18/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 24SR-LD2-C-48-UNV-L835-CD1-ST-U  
Description: METALUX SKYRIDGE 2x4 4800LM PACKAGE 80CRI 3500K TROFFER with Straw SKYTRIM  
Light Source: 3500K CCT, 80+ CRI LEDS  
Ballast/Driver: -

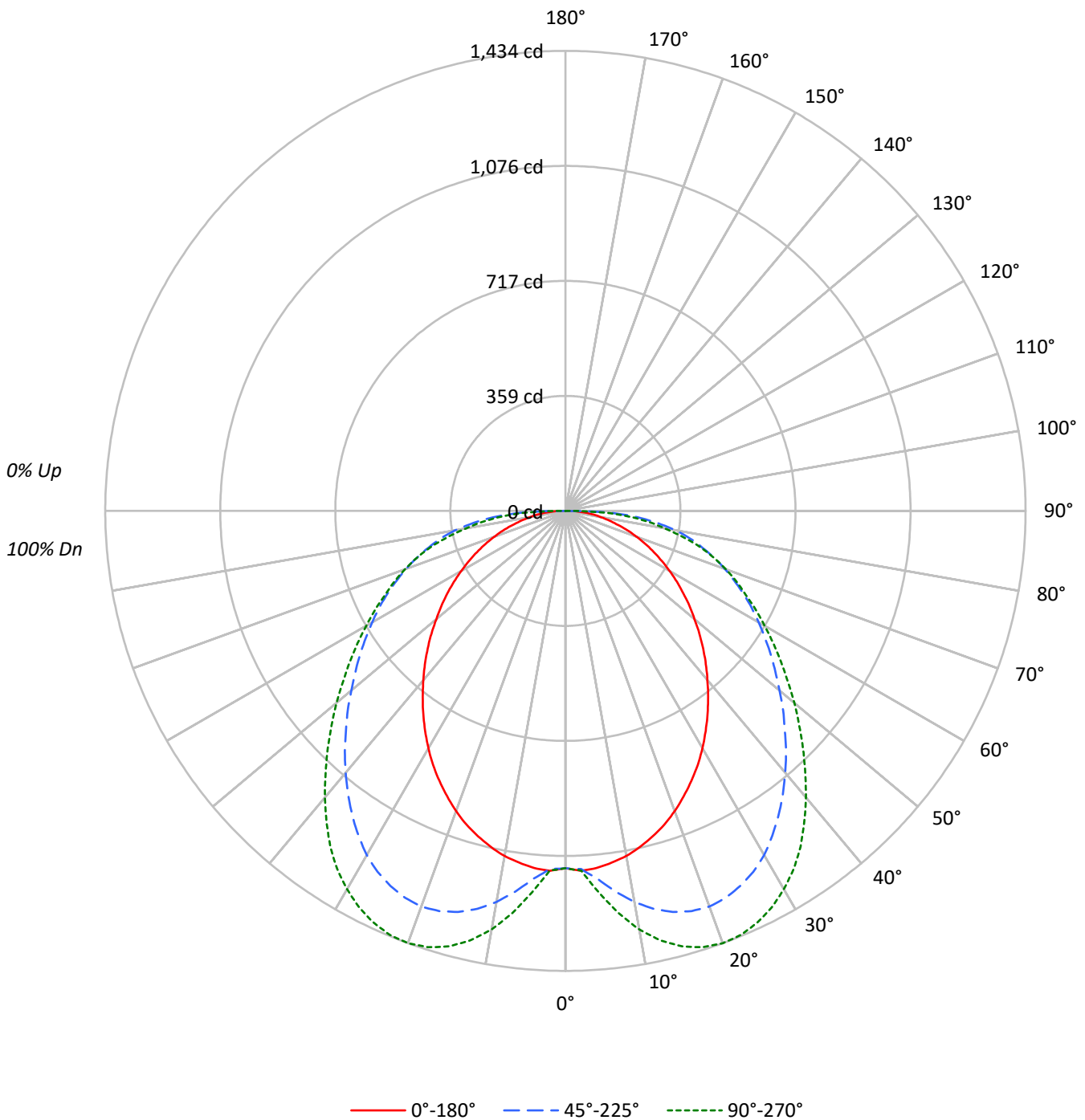
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4229.0 lumens  
Efficiency: N/A  
Efficacy: 121.5 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): 34.8  
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: P977004  
CATALOG NUMBER: 24SR-LD2-C-48-UNV-L835-CD1-ST-U

### Luminous Intensity Polar Plot





TEST NUMBER: P977004

CATALOG NUMBER: 24SR-LD2-C-48-UNV-L835-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	102	102	102	100
1	107	102	97	92	104	99	95	91	95	91	88	91	88	85	87	85	83	83	83	83	80
2	97	88	80	74	94	86	79	73	82	76	71	79	74	69	76	71	68	68	68	68	66
3	88	76	68	61	85	75	67	60	72	65	59	69	63	58	66	61	57	57	57	57	54
4	80	67	58	51	78	66	57	50	63	56	50	61	54	49	59	53	48	48	48	48	46
5	74	60	50	43	71	59	50	43	57	49	43	55	48	42	53	47	42	42	42	42	40
6	68	54	44	38	66	53	44	38	51	43	37	49	42	37	48	41	37	37	37	37	34
7	63	49	40	33	61	48	39	33	46	39	33	45	38	33	43	37	32	32	32	32	30
8	58	44	36	30	57	44	35	29	42	35	29	41	34	29	40	34	29	29	29	29	27
9	55	41	32	26	53	40	32	26	39	31	26	38	31	26	37	31	26	26	26	26	24
10	51	37	29	24	50	37	29	24	36	29	24	35	28	24	34	28	24	24	24	24	22

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

	0°	45°	90°
0°	1499	1499	1499
5°	1509	1555	1612
10°	1492	1691	1810
15°	1463	1803	1958
20°	1426	1879	2053
25°	1379	1915	2102
30°	1327	1925	2115
35°	1269	1902	2098
40°	1209	1871	2048
45°	1155	1839	1992
50°	1099	1823	1949
55°	1054	1833	1924
60°	1010	1871	1929
65°	968	1950	1975
70°	928	2080	2093
75°	885	2294	2259
80°	879	2708	2444
85°	963	3486	3047

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 87.5°  
 Luminance: 4621 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.9	2.6
10°-20°	355.4	8.4
20°-30°	568.4	13.4
30°-40°	688.1	16.3
40°-50°	702.7	16.6
50°-60°	647.5	15.3
60°-70°	550.8	13.0
70°-80°	411.8	9.7
80°-90°	192.4	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°	1035.8	24.5
0°-40°	1723.8	40.8
0°-60°	3074.0	72.7
0°-90°	4229.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4229.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1117	1111	1151	1181	1193	106
15°	1050	1145	1294	1375	1406	296
25°	929	1104	1290	1382	1416	427
35°	772	976	1158	1246	1277	483
45°	607	808	967	1029	1047	468
55°	449	653	782	812	820	402
65°	304	517	612	617	620	302
75°	170	373	441	434	434	182
85°	62	197	226	200	197	66
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1114.0	1114.0	1114.0	1114.0	1114.0	1114.0	1114.0	1114.0	1114.0	1114.0	1114.0
2.5°	1123.1	1120.8	1117.4	1112.8	1111.8	1111.8	1110.5	1110.5	1112.8	1117.4	1124.1
5°	1117.4	1115.1	1111.8	1108.2	1109.5	1112.8	1119.7	1127.6	1138.9	1151.4	1165.0
7.5°	1106.1	1104.9	1102.6	1102.6	1111.8	1127.6	1143.5	1159.4	1177.6	1196.8	1217.2
10°	1092.4	1091.3	1090.1	1099.2	1119.7	1143.5	1166.1	1187.6	1212.7	1237.6	1261.4
12.5°	1073.1	1073.1	1076.5	1096.9	1125.3	1154.8	1183.2	1211.6	1241.1	1270.5	1296.6
15°	1050.4	1050.4	1061.8	1091.3	1127.6	1161.7	1195.7	1227.5	1261.4	1294.3	1321.5
17.5°	1025.5	1024.4	1046.0	1082.1	1123.1	1162.7	1201.4	1236.5	1271.6	1307.9	1336.3
20°	996.0	998.3	1026.6	1068.5	1114.0	1158.2	1199.1	1236.5	1273.9	1312.5	1339.7
22.5°	963.1	967.6	1002.7	1049.3	1100.3	1145.8	1188.9	1228.5	1267.2	1305.6	1333.0
25°	929.0	934.8	977.9	1026.6	1081.1	1127.6	1170.7	1212.7	1251.3	1289.8	1317.1
27.5°	892.8	900.8	949.5	1000.6	1055.0	1103.8	1146.9	1189.9	1228.5	1268.2	1293.3
30°	854.2	864.4	916.6	968.7	1025.5	1073.1	1116.2	1160.5	1200.2	1238.8	1262.6
32.5°	813.4	825.8	879.1	935.9	991.4	1038.0	1081.1	1126.4	1163.8	1200.2	1224.0
35°	772.5	787.3	841.7	898.5	952.8	999.4	1041.4	1086.7	1124.1	1158.2	1180.9
37.5°	730.5	748.7	803.2	858.8	912.1	958.6	1001.7	1043.7	1081.1	1112.8	1135.6
40°	688.5	709.0	763.5	817.9	871.1	915.4	957.4	999.4	1036.8	1065.2	1086.7
42.5°	647.8	668.1	723.8	778.2	827.0	872.4	914.3	955.1	989.2	1017.6	1036.8
45°	606.9	628.4	682.9	736.2	785.0	830.4	872.4	909.8	942.7	966.6	985.8
47.5°	566.1	588.7	643.2	696.5	743.1	787.3	830.4	864.4	896.2	920.0	935.9
50°	525.2	550.2	603.5	658.0	703.4	747.6	788.4	820.2	849.6	871.1	886.0
52.5°	487.8	511.6	566.1	620.5	666.0	710.1	748.7	779.4	805.3	824.7	839.4
55°	449.2	475.3	532.1	584.3	630.7	675.0	710.1	738.5	762.3	781.5	793.0
57.5°	411.8	441.2	496.8	549.0	596.6	638.6	672.7	699.8	721.5	737.4	747.6
60°	375.4	406.1	464.0	516.2	563.8	604.6	637.6	662.4	681.8	695.4	704.4
62.5°	339.2	374.4	431.1	485.5	530.8	570.5	601.2	624.0	642.1	654.5	660.2
65°	304.0	340.3	399.2	452.7	498.0	535.4	564.9	585.3	602.3	612.5	614.8
67.5°	269.9	308.5	367.5	420.9	465.0	500.3	528.7	547.9	562.6	569.5	571.8
70°	235.9	275.7	335.7	389.2	431.1	465.0	491.1	509.3	521.8	528.7	528.7
72.5°	204.1	244.0	304.0	356.2	394.8	428.9	452.7	469.6	480.9	485.5	484.4
75°	170.2	211.0	269.9	319.8	357.4	389.2	413.0	429.9	437.9	441.2	440.2
77.5°	140.6	179.2	235.9	282.4	322.1	348.2	372.1	387.9	395.9	398.2	397.1
80°	113.4	149.8	199.7	244.0	277.9	306.3	327.8	344.9	351.6	349.5	339.2
82.5°	87.3	120.3	164.4	203.1	234.8	260.9	283.7	293.7	295.0	289.3	280.2
85°	62.4	87.3	124.7	157.7	187.2	206.4	220.0	227.9	230.2	225.8	215.6
87.5°	35.1	51.0	73.7	97.6	120.3	133.9	141.8	146.4	149.8	145.2	138.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1114.0	1114.0	1114.0	1114.0	1114.0	1114.0	1114.0	1114.0
2.5°	1117.4	1120.8	1119.7	1122.0	1123.1	1123.1	1119.7	1122.0
5°	1166.1	1173.0	1177.6	1184.3	1188.9	1188.9	1189.9	1193.4
7.5°	1219.5	1230.8	1241.1	1249.0	1254.7	1256.9	1260.3	1263.7
10°	1269.3	1283.1	1294.3	1304.6	1311.3	1315.9	1319.2	1325.0
12.5°	1307.9	1323.8	1336.3	1347.6	1356.8	1363.5	1366.9	1371.4
15°	1336.3	1354.5	1369.2	1381.7	1389.6	1397.6	1400.9	1405.5
17.5°	1353.3	1371.4	1387.3	1399.8	1408.9	1416.8	1421.4	1426.0
20°	1357.9	1376.0	1393.0	1405.5	1414.7	1424.7	1429.3	1433.9
22.5°	1351.0	1369.2	1387.3	1400.9	1411.1	1421.4	1426.0	1430.5
25°	1337.4	1356.8	1374.8	1388.5	1397.6	1407.8	1413.4	1415.7
27.5°	1315.9	1335.1	1353.3	1365.8	1376.0	1386.3	1391.9	1393.0
30°	1285.3	1304.6	1322.7	1335.1	1346.6	1355.6	1361.2	1361.2
32.5°	1247.8	1266.0	1285.3	1296.6	1306.9	1315.9	1321.5	1323.8
35°	1204.7	1222.9	1241.1	1251.3	1262.6	1269.3	1273.9	1277.2
37.5°	1158.2	1176.3	1191.1	1200.2	1212.7	1217.2	1224.0	1222.9
40°	1108.2	1123.1	1136.6	1144.6	1154.8	1160.5	1167.3	1166.1
42.5°	1056.2	1070.8	1082.1	1091.3	1096.9	1102.6	1107.2	1106.1
45°	1002.7	1016.5	1026.6	1031.1	1040.3	1042.4	1047.0	1047.0
47.5°	949.5	960.8	969.9	976.6	981.2	983.5	988.1	988.1
50°	898.5	908.7	914.3	920.0	924.6	927.9	930.2	931.3
52.5°	848.5	856.5	861.1	865.5	870.1	872.4	874.7	873.4
55°	800.9	806.6	809.9	813.4	816.8	820.2	820.2	820.2
57.5°	753.3	756.6	760.0	762.3	765.6	767.9	767.9	767.9
60°	706.7	710.1	711.3	713.6	716.9	718.0	719.2	716.9
62.5°	661.4	662.4	663.7	664.7	668.1	670.4	670.4	669.3
65°	614.8	614.8	616.0	617.1	619.4	621.7	622.7	620.5
67.5°	569.5	569.5	570.5	570.5	574.0	576.3	577.4	577.4
70°	525.2	524.1	526.4	527.5	529.8	529.8	532.1	532.1
72.5°	480.9	479.8	482.1	482.1	484.4	485.5	485.5	485.5
75°	437.9	434.5	435.6	433.3	435.6	435.6	434.5	434.5
77.5°	391.3	383.4	381.2	376.6	376.6	376.6	374.4	374.4
80°	332.4	324.4	321.1	317.6	317.6	316.5	315.4	315.4
82.5°	273.4	266.6	263.2	259.8	262.0	258.6	259.8	260.9
85°	209.9	204.1	202.0	198.5	197.4	197.4	198.5	197.4
87.5°	136.2	130.4	130.4	127.0	129.3	126.0	122.4	124.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P977004  
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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	12.8	14.5	13.1	14.8	15.1	14.7	16.4	15.0	16.7	17.0
	3H	14.6	16.2	15.0	16.5	16.9	17.0	18.5	17.4	18.9	19.2
	4H	15.3	16.8	15.7	17.2	17.5	18.1	19.5	18.5	19.9	20.3
	6H	15.9	17.3	16.3	17.6	18.0	19.0	20.4	19.4	20.8	21.1
	8H	16.1	17.4	16.5	17.8	18.2	19.4	20.8	19.9	21.1	21.5
	12H	16.2	17.5	16.7	17.9	18.3	19.8	21.1	20.3	21.5	21.9
4H	2H	14.1	15.5	14.5	15.9	16.2	15.4	16.9	15.8	17.2	17.6
	3H	16.4	17.6	16.8	18.0	18.4	18.0	19.2	18.4	19.6	20.0
	4H	17.4	18.5	17.8	19.0	19.4	19.2	20.4	19.7	20.8	21.2
	6H	18.2	19.3	18.7	19.7	20.1	20.4	21.4	20.8	21.8	22.3
	8H	18.6	19.5	19.0	19.9	20.4	20.9	21.8	21.3	22.3	22.7
	12H	18.8	19.6	19.3	20.1	20.6	21.4	22.2	21.8	22.7	23.2
8H	4H	18.3	19.3	18.8	19.7	20.2	19.8	20.7	20.2	21.1	21.6
	6H	19.6	20.4	20.0	20.8	21.3	21.1	21.9	21.6	22.4	22.9
	8H	20.1	20.8	20.6	21.3	21.8	21.7	22.5	22.2	23.0	23.4
	12H	20.6	21.2	21.1	21.7	22.2	22.4	23.0	22.9	23.5	24.0
12H	4H	18.5	19.3	19.0	19.8	20.3	19.9	20.7	20.3	21.2	21.7
	6H	19.9	20.6	20.4	21.1	21.6	21.3	22.0	21.8	22.5	23.0
	8H	20.6	21.2	21.1	21.7	22.3	22.0	22.7	22.5	23.1	23.7

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-457-6

Test Date: 07/01/2025

Luminaire Tested: 24SR-LD2-64-C-UNV-L935-CD1-U

Data in this report applies to families of products including 24SR-LD2-64-C-UNV-L935-CD1-U

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2506-457-6  
 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-L935-CD1-U**  
 Description: 2X4 SKYRIDGE 6400LM Fixture with new LTN chip

**Spectral Parameters**

CCT (K): 3329  
 CIE u': 0.2411  
 CIE v': 0.5118  
 Duv: -0.0021  
 CIE x: 0.4128  
 CIE y: 0.3894  
 CIE z: 0.1979  
 Peak Wavelength (nm): 630  
 Dominant Wavelength (nm): 582  
 Purity: 40.74075  
 Rf: 91.4  
 Rg: 100.2

CRI (Ra):	93.9		
R1:	95.4	R9:	60.5
R2:	97.4	R10:	92.5
R3:	97.7	R11:	95.9
R4:	94.9	R12:	82.0
R5:	95.1	R13:	96.0
R6:	95.7	R14:	98.0
R7:	91.7	R15:	91.5
R8:	83.2		



**Test Conditions**

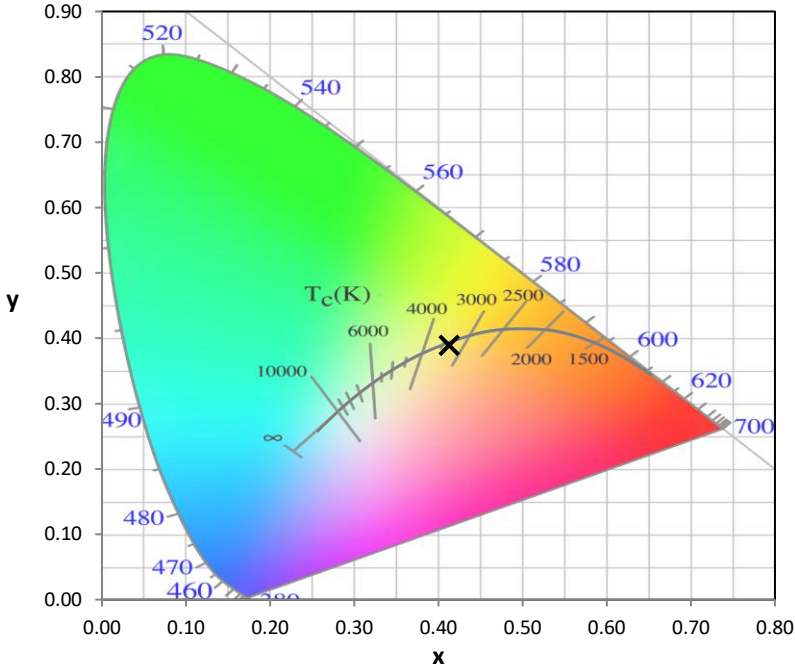
Stabilization Time: 48M  
 Operation Time: 1H 48M  
 Sphere Temperature (°C): 24.0

REPORT NUMBER: SP1-2506-457-6

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: SP1-2506-457-6

CIE 1931 Chromaticity Diagram



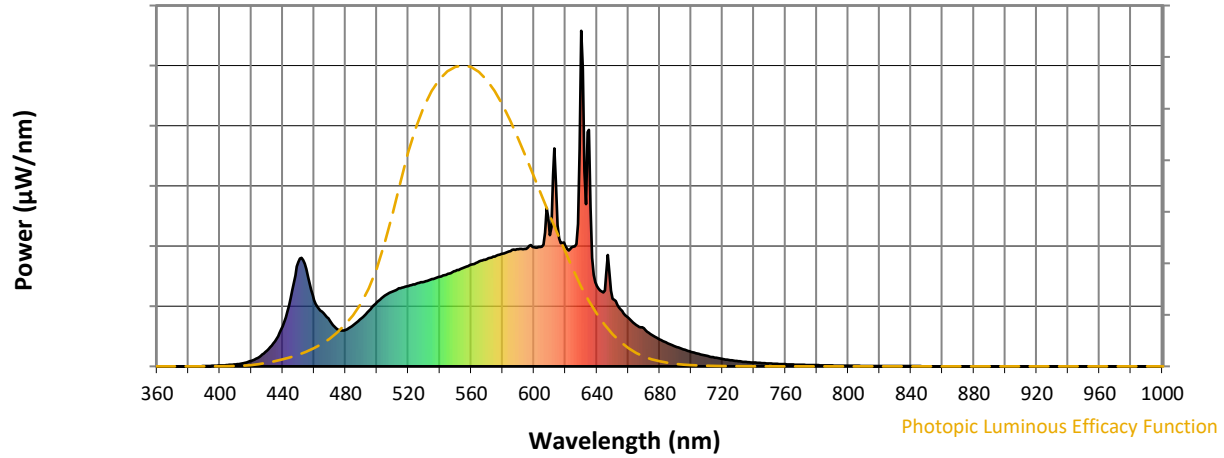
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 7-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (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	143	NR	620	358	NR	750	9	NR	880	0	NR
365	0	NR	495	166	NR	625	357	NR	755	7	NR	885	0	NR
370	0	NR	500	191	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	210	NR	635	705	NR	765	5	NR	895	0	NR
380	0	NR	510	223	NR	640	239	NR	770	5	NR	900	0	NR
385	0	NR	515	233	NR	645	226	NR	775	4	NR	905	0	NR
390	1	NR	520	240	NR	650	201	NR	780	3	NR	910	0	NR
395	2	NR	525	246	NR	655	170	NR	785	3	NR	915	0	NR
400	3	NR	530	251	NR	660	145	NR	790	2	NR	920	0	NR
405	4	NR	535	260	NR	665	123	NR	795	2	NR	925	0	NR
410	6	NR	540	267	NR	670	113	NR	800	2	NR	930	0	NR
415	9	NR	545	276	NR	675	93	NR	805	2	NR	935	0	NR
420	16	NR	550	284	NR	680	80	NR	810	1	NR	940	0	NR
425	28	NR	555	294	NR	685	69	NR	815	1	NR	945	0	NR
430	46	NR	560	303	NR	690	59	NR	820	1	NR	950	0	NR
435	75	NR	565	313	NR	695	51	NR	825	1	NR	955	0	NR
440	120	NR	570	319	NR	700	43	NR	830	1	NR	960	0	NR
445	203	NR	575	327	NR	705	37	NR	835	1	NR	965	0	NR
450	311	NR	580	336	NR	710	31	NR	840	1	NR	970	0	NR
455	290	NR	585	344	NR	715	26	NR	845	1	NR	975	0	NR
460	197	NR	590	349	NR	720	22	NR	850	0	NR	980	0	NR
465	163	NR	595	350	NR	725	18	NR	855	0	NR	985	0	NR
470	135	NR	600	355	NR	730	15	NR	860	0	NR	990	0	NR
475	110	NR	605	357	NR	735	13	NR	865	0	NR	995	0	NR
480	108	NR	610	391	NR	740	11	NR	870	0	NR	1000	0	NR
485	123	NR	615	421	NR	745	10	NR	875	0	NR			

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.57**

$\lambda$ (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	143	NR	620	358	NR	750	9	NR	880	0	NR
365	0	NR	495	166	NR	625	357	NR	755	7	NR	885	0	NR
370	0	NR	500	191	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	210	NR	635	705	NR	765	5	NR	895	0	NR
380	0	NR	510	223	NR	640	239	NR	770	5	NR	900	0	NR
385	0	NR	515	233	NR	645	226	NR	775	4	NR	905	0	NR
390	1	NR	520	240	NR	650	201	NR	780	3	NR	910	0	NR
395	2	NR	525	246	NR	655	170	NR	785	3	NR	915	0	NR
400	3	NR	530	251	NR	660	145	NR	790	2	NR	920	0	NR
405	4	NR	535	260	NR	665	123	NR	795	2	NR	925	0	NR
410	6	NR	540	267	NR	670	113	NR	800	2	NR	930	0	NR
415	9	NR	545	276	NR	675	93	NR	805	2	NR	935	0	NR
420	16	NR	550	284	NR	680	80	NR	810	1	NR	940	0	NR
425	28	NR	555	294	NR	685	69	NR	815	1	NR	945	0	NR
430	46	NR	560	303	NR	690	59	NR	820	1	NR	950	0	NR
435	75	NR	565	313	NR	695	51	NR	825	1	NR	955	0	NR
440	120	NR	570	319	NR	700	43	NR	830	1	NR	960	0	NR
445	203	NR	575	327	NR	705	37	NR	835	1	NR	965	0	NR
450	311	NR	580	336	NR	710	31	NR	840	1	NR	970	0	NR
455	290	NR	585	344	NR	715	26	NR	845	1	NR	975	0	NR
460	197	NR	590	349	NR	720	22	NR	850	0	NR	980	0	NR
465	163	NR	595	350	NR	725	18	NR	855	0	NR	985	0	NR
470	135	NR	600	355	NR	730	15	NR	860	0	NR	990	0	NR
475	110	NR	605	357	NR	735	13	NR	865	0	NR	995	0	NR
480	108	NR	610	391	NR	740	11	NR	870	0	NR	1000	0	NR
485	123	NR	615	421	NR	745	10	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.17

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	143	NR	620	358	NR	750	9	NR	880	0	NR
365	0	NR	495	166	NR	625	357	NR	755	7	NR	885	0	NR
370	0	NR	500	191	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	210	NR	635	705	NR	765	5	NR	895	0	NR
380	0	NR	510	223	NR	640	239	NR	770	5	NR	900	0	NR
385	0	NR	515	233	NR	645	226	NR	775	4	NR	905	0	NR
390	1	NR	520	240	NR	650	201	NR	780	3	NR	910	0	NR
395	2	NR	525	246	NR	655	170	NR	785	3	NR	915	0	NR
400	3	NR	530	251	NR	660	145	NR	790	2	NR	920	0	NR
405	4	NR	535	260	NR	665	123	NR	795	2	NR	925	0	NR
410	6	NR	540	267	NR	670	113	NR	800	2	NR	930	0	NR
415	9	NR	545	276	NR	675	93	NR	805	2	NR	935	0	NR
420	16	NR	550	284	NR	680	80	NR	810	1	NR	940	0	NR
425	28	NR	555	294	NR	685	69	NR	815	1	NR	945	0	NR
430	46	NR	560	303	NR	690	59	NR	820	1	NR	950	0	NR
435	75	NR	565	313	NR	695	51	NR	825	1	NR	955	0	NR
440	120	NR	570	319	NR	700	43	NR	830	1	NR	960	0	NR
445	203	NR	575	327	NR	705	37	NR	835	1	NR	965	0	NR
450	311	NR	580	336	NR	710	31	NR	840	1	NR	970	0	NR
455	290	NR	585	344	NR	715	26	NR	845	1	NR	975	0	NR
460	197	NR	590	349	NR	720	22	NR	850	0	NR	980	0	NR
465	163	NR	595	350	NR	725	18	NR	855	0	NR	985	0	NR
470	135	NR	600	355	NR	730	15	NR	860	0	NR	990	0	NR
475	110	NR	605	357	NR	735	13	NR	865	0	NR	995	0	NR
480	108	NR	610	391	NR	740	11	NR	870	0	NR	1000	0	NR
485	123	NR	615	421	NR	745	10	NR	875	0	NR			

**Summary**

$R_f = 91.4$   
 $R_g = 100.2$   
 $CIE R_a = 93.9$   
 $R_9 = 60.5$



**Color Vector Graphics**

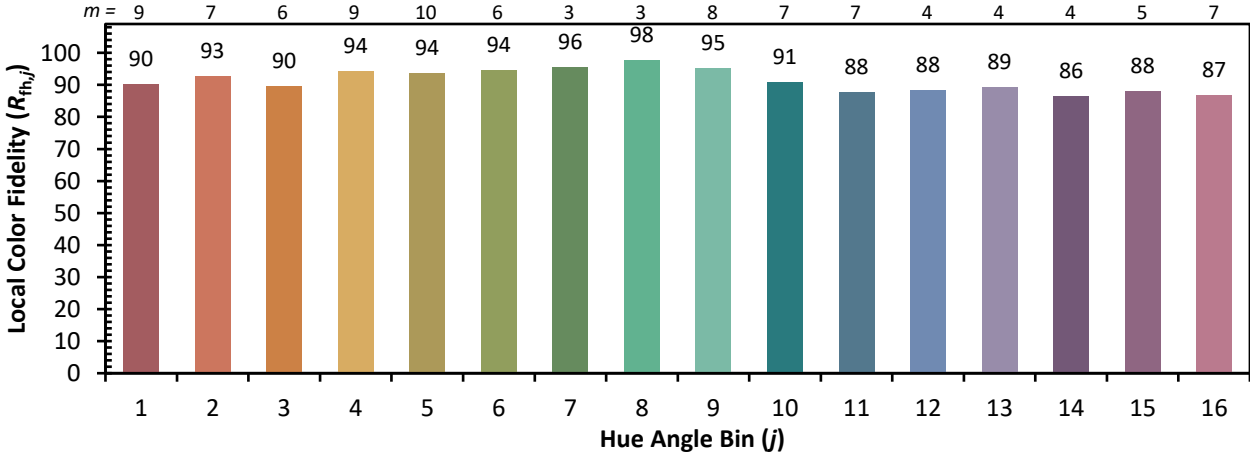
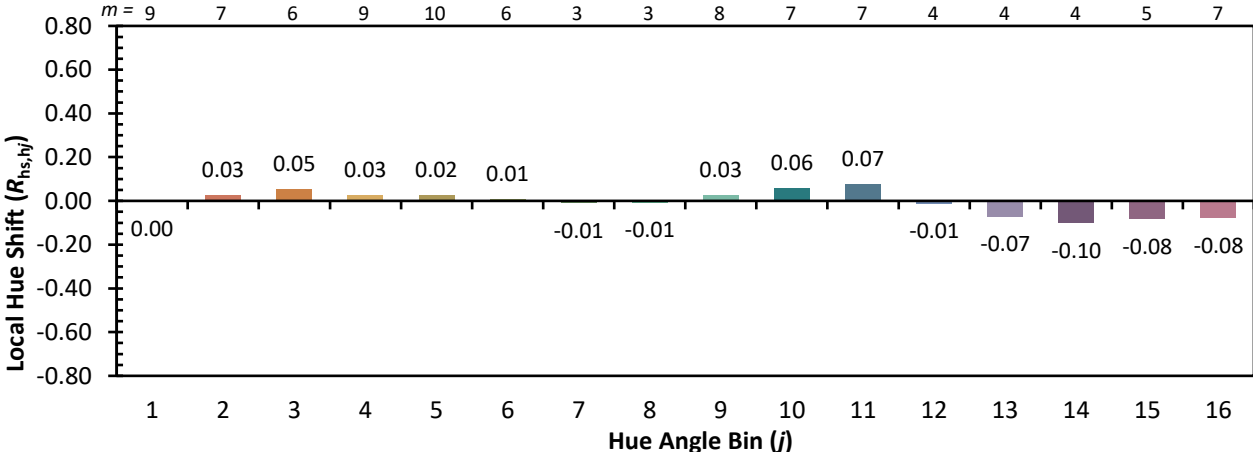
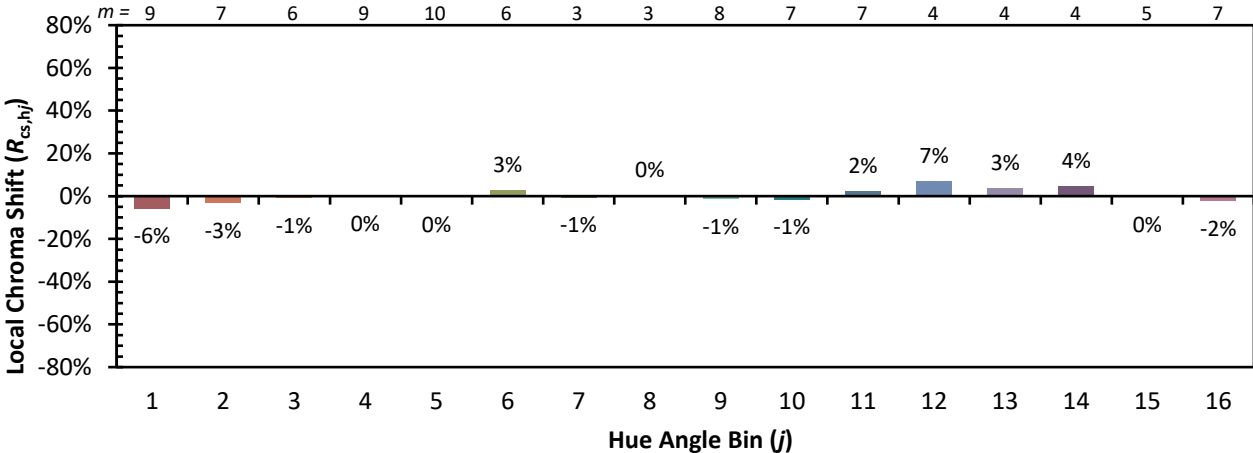


Individual Sample Fidelity Index ( $R_{f,i}$ )

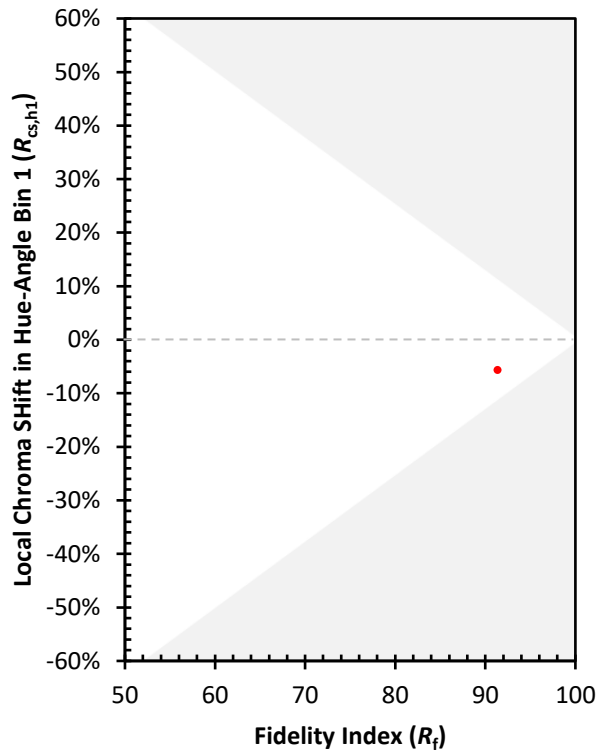
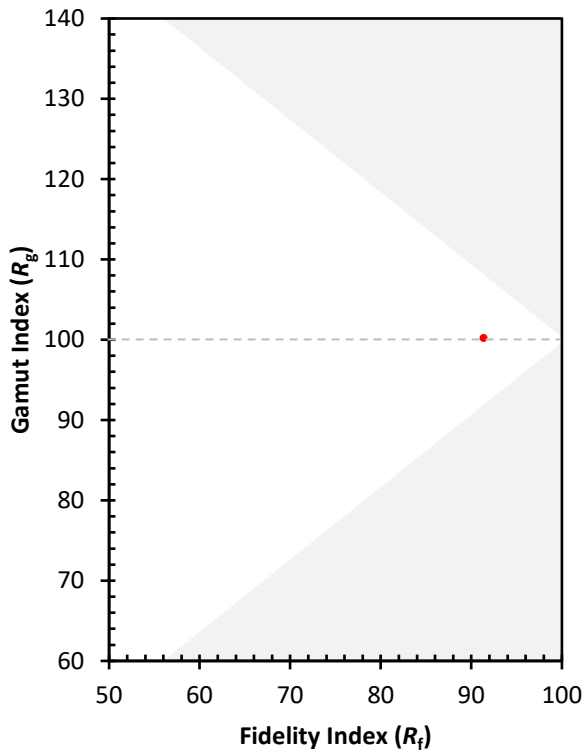
CES01 = 86	CES26 = 93	CES51 = 98	CES76 = 88
CES02 = 63	CES27 = 93	CES52 = 98	CES77 = 87
CES03 = 31	CES28 = 96	CES53 = 97	CES78 = 85
CES04 = 70	CES29 = 95	CES54 = 95	CES79 = 91
CES05 = 50	CES30 = 96	CES55 = 94	CES80 = 92
CES06 = 51	CES31 = 95	CES56 = 96	CES81 = 75
CES07 = 43	CES32 = 87	CES57 = 95	CES82 = 96
CES08 = 42	CES33 = 97	CES58 = 96	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 98	CES84 = 95
CES10 = 75	CES35 = 96	CES60 = 94	CES85 = 80
CES11 = 58	CES36 = 84	CES61 = 93	CES86 = 79
CES12 = 64	CES37 = 95	CES62 = 89	CES87 = 91
CES13 = 44	CES38 = 91	CES63 = 94	CES88 = 97
CES14 = 74	CES39 = 99	CES64 = 92	CES89 = 83
CES15 = 72	CES40 = 97	CES65 = 90	CES90 = 98
CES16 = 48	CES41 = 97	CES66 = 90	CES91 = 77
CES17 = 49	CES42 = 93	CES67 = 89	CES92 = 77
CES18 = 56	CES43 = 92	CES68 = 89	CES93 = 86
CES19 = 71	CES44 = 99	CES69 = 91	CES94 = 74
CES20 = 67	CES45 = 96	CES70 = 88	CES95 = 84
CES21 = 86	CES46 = 96	CES71 = 84	CES96 = 92
CES22 = 78	CES47 = 91	CES72 = 94	CES97 = 95
CES23 = 91	CES48 = 94	CES73 = 83	CES98 = 94
CES24 = 90	CES49 = 94	CES74 = 91	CES99 = 92
CES25 = 71	CES50 = 98	CES75 = 86	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)