

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: P981628

Luminaire Tested: 4WNLED-LD4-50SL-F-UNV-L830-CD1-U

Issue Date: 04/17/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P981628  
Test Lab: INNOVATION CENTER(P3)  
Issue Date: 04/17/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4WNLED-LD4-50SL-F-UNV-L830-CD1-U  
Description: METALUX 4FT WNLED WRAPAROUND 5000LM PACKAGE 80CRI 3000K TROFFER  
Light Source: 3000K CCT, 80+ CRI LEDS  
Ballast/Driver: -

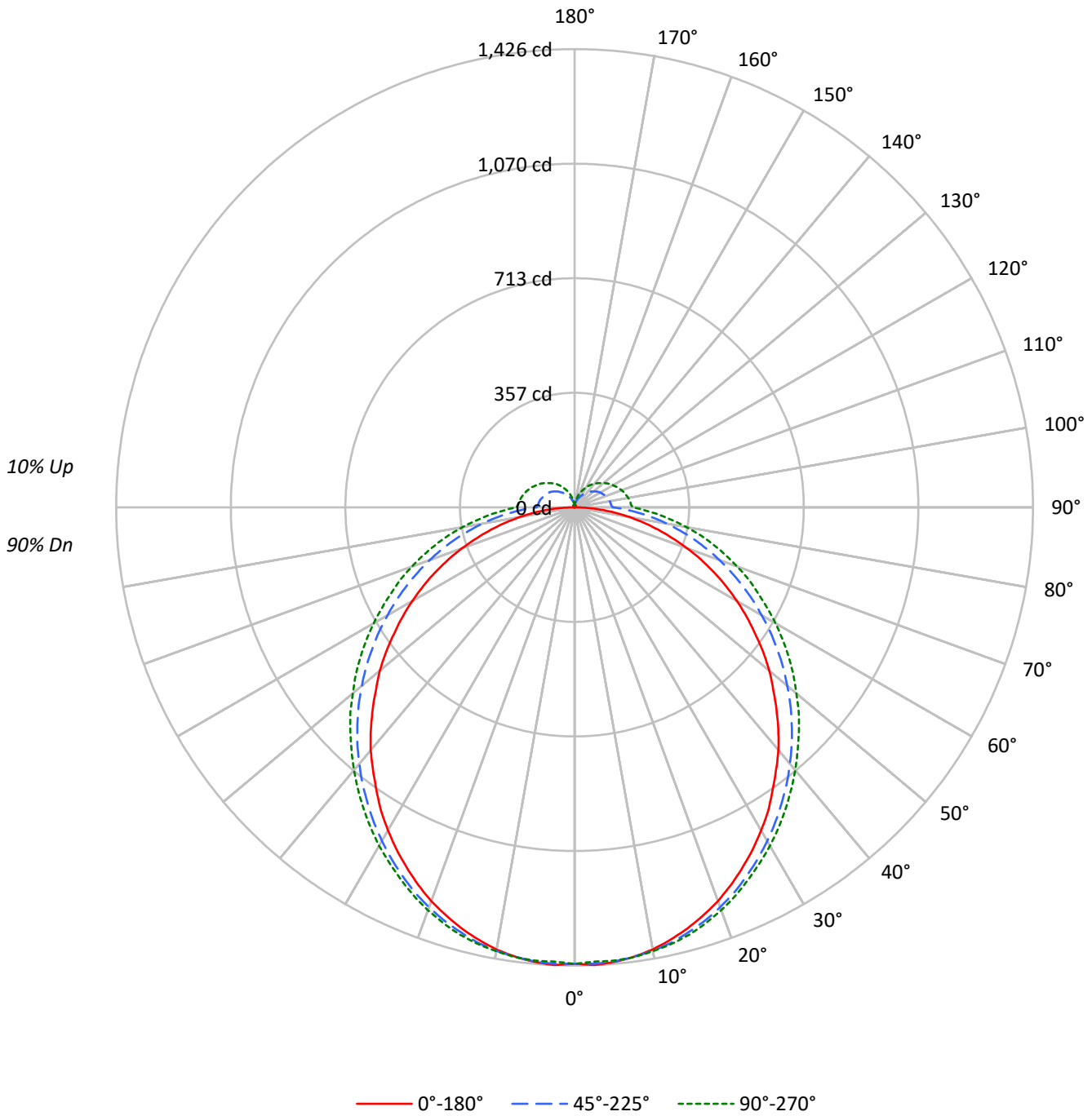
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4848.8 lumens  
Efficiency: N/A  
Efficacy: 128.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.27 / 1.38  
Luminous Opening: Rectangular w/ Sides (W: 0.75' x L: 4' x H: 0.17')  
CIE Type: Direct

Input Watts (W): 37.7  
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: 25 FT

TEST NUMBER: P981628  
CATALOG NUMBER: 4WNLED-LD4-50SL-F-UNV-L830-CD1-U

### 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	113	113	113	113	106	106	106	99	99	99	93	93	93	93	93	93	90
1	105	100	95	91	101	97	92	88	91	87	84	85	82	79	80	78	75	80	78	75	73
2	95	86	79	73	91	84	77	71	78	73	68	74	69	65	69	66	62	69	66	62	59
3	86	75	67	60	83	73	65	59	69	62	57	65	59	54	61	56	52	61	56	52	50
4	79	67	57	51	76	65	56	50	61	54	48	57	51	46	54	49	45	54	49	45	42
5	72	59	50	43	70	58	49	43	54	47	41	51	45	40	48	43	39	48	43	39	36
6	67	53	44	38	64	52	43	37	49	42	36	46	40	35	44	38	34	44	38	34	32
7	62	48	39	33	60	47	39	33	44	37	32	42	36	31	40	34	30	40	34	30	28
8	58	44	35	29	55	43	35	29	41	33	28	39	32	28	37	31	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	34	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	22	32	26	22	32	26	22	20

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

	0°	45°	90°
0°	5096	5096	5096
5°	5097	5029	5004
10°	5054	4943	4918
15°	4985	4843	4828
20°	4905	4735	4712
25°	4802	4612	4586
30°	4697	4483	4466
35°	4573	4351	4339
40°	4465	4220	4214
45°	4325	4086	4096
50°	4204	3943	3972
55°	4045	3798	3863
60°	3899	3643	3739
65°	3728	3491	3613
70°	3511	3327	3503
75°	3226	3148	3380
80°	2868	2917	3224
85°	2261	2663	3064

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4325 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.7	2.8
10°-20°	385.6	8.0
20°-30°	581.2	12.0
30°-40°	698.5	14.4
40°-50°	730.6	15.1
50°-60°	680.0	14.0
60°-70°	560.9	11.6
70°-80°	394.1	8.1
80°-90°	208.1	4.3
90°-100°	112.7	2.3
100°-110°	102.3	2.1
110°-120°	87.5	1.8
120°-130°	69.3	1.4
130°-140°	49.4	1.0
140°-150°	31.0	0.6
150°-160°	16.1	0.3
160°-170°	6.0	0.1
170°-180°	1.0	0.0
0°-30°	1101.5	22.7
0°-40°	1800.0	37.1
0°-60°	3210.6	66.2
0°-90°	4373.6	90.2
90°-120°	302.4	6.2
90°-150°	452.1	9.3
90°-180°	475.0	9.8
0°-180°	4848.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1420	1420	1420	1420	1420	
5°	1420	1412	1419	1419	1416	135
15°	1357	1354	1369	1377	1377	383
25°	1237	1243	1266	1277	1278	570
35°	1074	1091	1123	1141	1145	673
45°	888	916	956	978	987	686
55°	685	722	769	800	814	614
65°	478	520	576	614	628	473
75°	269	320	385	430	446	285
85°	81	136	203	246	264	85
90°	3	55	119	165	181	6
95°	0	51	114	158	174	1
105°	1	49	107	147	162	2
115°	3	46	97	134	147	3
125°	4	39	85	118	128	4
135°	5	31	69	99	107	4
145°	5	24	50	74	84	4
155°	7	19	35	50	58	3
165°	8	14	20	27	32	2
175°	8	8	10	10	11	1
180°	7	7	7	7	7	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4
2.5°	1425.8	1424.4	1421.7	1419.0	1417.7	1417.7	1416.3	1416.3	1416.3	1420.4	1421.7
5°	1420.4	1419.0	1416.3	1415.0	1413.6	1412.3	1412.3	1412.3	1413.6	1417.7	1419.0
7.5°	1410.9	1409.6	1406.9	1405.5	1404.2	1404.2	1404.2	1404.2	1405.5	1409.6	1410.9
10°	1397.4	1396.0	1393.3	1392.0	1392.0	1392.0	1392.0	1392.0	1394.7	1398.8	1401.5
12.5°	1378.5	1377.1	1375.8	1375.8	1374.4	1374.4	1375.8	1375.8	1378.5	1383.9	1387.9
15°	1356.9	1355.5	1354.2	1354.2	1354.2	1354.2	1355.5	1356.9	1360.9	1366.3	1369.0
17.5°	1331.2	1331.2	1329.8	1331.2	1331.2	1331.2	1332.5	1335.2	1337.9	1344.7	1348.7
20°	1304.1	1302.8	1301.4	1304.1	1304.1	1304.1	1305.5	1309.6	1313.6	1320.4	1324.4
22.5°	1271.7	1271.7	1271.7	1273.1	1274.4	1275.8	1277.1	1281.2	1286.6	1292.0	1297.4
25°	1236.6	1236.6	1236.6	1239.3	1242.0	1243.3	1244.7	1248.7	1255.5	1260.9	1266.3
27.5°	1200.1	1200.1	1200.1	1201.4	1205.5	1206.8	1209.5	1215.0	1221.7	1227.1	1233.9
30°	1160.9	1160.9	1162.2	1164.9	1169.0	1170.4	1173.1	1178.5	1186.6	1192.0	1198.7
32.5°	1120.4	1119.0	1120.4	1124.4	1128.5	1132.5	1133.9	1140.6	1148.7	1155.5	1162.2
35°	1074.4	1075.8	1078.5	1082.5	1086.6	1090.6	1093.3	1100.1	1109.5	1116.3	1123.1
37.5°	1029.8	1031.2	1033.9	1039.3	1044.7	1048.7	1052.8	1058.2	1069.0	1075.8	1083.9
40°	986.6	983.9	989.3	994.7	1001.4	1005.5	1009.5	1016.3	1027.1	1033.9	1042.0
42.5°	937.9	937.9	942.0	950.1	956.8	960.9	964.9	973.0	983.9	992.0	1000.1
45°	887.9	889.3	894.7	902.8	910.9	916.3	919.0	928.4	939.3	947.4	955.5
47.5°	837.9	840.6	846.0	855.5	863.6	869.0	871.7	882.5	893.3	902.8	910.9
50°	790.6	790.6	797.4	805.5	814.9	820.3	824.4	835.2	846.0	855.5	863.6
52.5°	739.2	739.2	746.0	756.8	764.9	771.7	775.7	787.9	798.7	808.2	817.6
55°	685.2	687.9	694.6	706.8	716.3	721.7	727.1	739.2	750.1	760.9	769.0
57.5°	635.2	636.5	644.6	655.5	666.3	671.7	678.4	689.2	701.4	713.6	721.7
60°	582.5	585.2	591.9	605.4	616.3	621.7	627.1	640.6	652.8	663.6	671.7
62.5°	531.1	532.5	541.9	554.1	564.9	571.7	578.4	590.6	602.7	613.6	624.4
65°	478.4	481.1	489.2	502.7	513.6	520.3	525.7	541.9	552.7	564.9	575.7
67.5°	425.7	428.4	437.9	451.4	463.5	470.3	475.7	490.6	504.1	516.3	527.1
70°	373.0	375.7	386.5	400.0	412.2	418.9	427.1	440.6	455.4	467.6	479.8
72.5°	318.9	323.0	332.5	347.3	363.5	370.3	377.1	393.3	406.8	420.3	431.1
75°	268.9	273.0	283.8	297.3	310.8	320.3	325.7	341.9	359.5	373.0	385.2
77.5°	218.9	223.0	233.8	248.7	263.5	271.6	279.8	294.6	309.5	323.0	336.5
80°	171.6	175.7	187.9	201.4	216.2	225.7	233.8	250.0	264.9	278.4	290.6
82.5°	125.7	129.7	141.9	156.8	173.0	181.1	189.2	204.1	220.3	233.8	247.3
85°	81.1	87.8	98.7	112.2	128.4	136.5	144.6	160.8	175.7	189.2	202.7
87.5°	39.2	44.6	56.8	71.6	86.5	96.0	102.7	117.6	133.8	146.0	159.5
90°	2.7	8.1	18.9	32.4	47.3	55.4	63.5	78.4	93.2	106.8	118.9
92.5°	0.0	5.4	16.2	29.7	44.6	52.7	59.5	74.3	89.2	102.7	114.9
95°	0.0	5.4	16.2	29.7	44.6	51.4	59.5	74.3	87.8	101.4	113.5
97.5°	1.4	5.4	16.2	29.7	43.2	51.4	58.1	73.0	86.5	100.0	112.2
100°	1.4	5.4	16.2	28.4	43.2	50.0	58.1	71.6	85.1	98.7	110.8
102.5°	1.4	5.4	16.2	28.4	43.2	50.0	56.8	70.3	83.8	97.3	109.5
105°	1.4	6.8	16.2	28.4	41.9	48.7	55.4	70.3	82.4	94.6	106.8
107.5°	1.4	6.8	16.2	28.4	41.9	48.7	55.4	68.9	81.1	93.2	104.1
110°	2.7	6.8	16.2	28.4	40.5	47.3	54.1	67.6	79.7	91.9	102.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	2.7	6.8	16.2	27.0	40.5	45.9	52.7	66.2	78.4	89.2	100.0
115°	2.7	6.8	16.2	27.0	39.2	45.9	51.4	64.9	75.7	87.8	97.3
117.5°	2.7	8.1	16.2	25.7	37.8	44.6	50.0	62.2	74.3	85.1	94.6
120°	4.1	8.1	14.9	25.7	36.5	43.2	48.7	60.8	71.6	82.4	91.9
122.5°	4.1	8.1	14.9	24.3	35.1	40.5	47.3	58.1	68.9	79.7	89.2
125°	4.1	8.1	14.9	23.0	33.8	39.2	44.6	55.4	66.2	75.7	85.1
127.5°	4.1	8.1	14.9	23.0	32.4	36.5	41.9	52.7	62.2	71.6	81.1
130°	4.1	8.1	13.5	21.6	29.7	35.1	39.2	50.0	58.1	67.6	77.0
132.5°	4.1	8.1	13.5	20.3	28.4	33.8	37.8	47.3	55.4	63.5	73.0
135°	5.4	8.1	13.5	20.3	27.0	31.1	35.1	43.2	51.4	59.5	68.9
137.5°	5.4	8.1	12.2	18.9	25.7	29.7	33.8	40.5	48.7	56.8	63.5
140°	5.4	8.1	12.2	17.6	24.3	28.4	31.1	37.8	45.9	52.7	59.5
142.5°	5.4	8.1	12.2	17.6	23.0	25.7	29.7	35.1	41.9	48.7	55.4
145°	5.4	8.1	12.2	16.2	21.6	24.3	27.0	33.8	39.2	44.6	50.0
147.5°	6.8	8.1	12.2	16.2	20.3	23.0	25.7	31.1	36.5	40.5	45.9
150°	6.8	8.1	10.8	14.9	18.9	21.6	24.3	28.4	33.8	37.8	41.9
152.5°	6.8	8.1	10.8	14.9	18.9	20.3	21.6	27.0	31.1	35.1	37.8
155°	6.8	8.1	10.8	13.5	17.6	18.9	20.3	24.3	28.4	31.1	35.1
157.5°	6.8	8.1	10.8	13.5	16.2	17.6	18.9	21.6	25.7	28.4	31.1
160°	6.8	8.1	10.8	12.2	14.9	16.2	17.6	20.3	23.0	25.7	27.0
162.5°	8.1	8.1	9.5	12.2	13.5	14.9	16.2	17.6	20.3	21.6	24.3
165°	8.1	8.1	9.5	10.8	12.2	13.5	13.5	16.2	17.6	18.9	20.3
167.5°	8.1	8.1	9.5	10.8	10.8	12.2	12.2	13.5	14.9	16.2	17.6
170°	8.1	8.1	8.1	9.5	10.8	10.8	10.8	12.2	13.5	13.5	14.9
172.5°	8.1	8.1	8.1	8.1	9.5	9.5	9.5	10.8	10.8	12.2	12.2
175°	8.1	8.1	8.1	8.1	8.1	8.1	9.5	9.5	9.5	9.5	9.5
177.5°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
180°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4	1420.4
2.5°	1423.1	1425.8	1424.4	1421.7	1421.7	1421.7	1420.4	1417.7	1416.3	1415.0
5°	1420.4	1423.1	1420.4	1419.0	1419.0	1419.0	1419.0	1417.7	1416.3	1416.3
7.5°	1413.6	1416.3	1415.0	1413.6	1413.6	1413.6	1413.6	1412.3	1412.3	1412.3
10°	1404.2	1408.2	1406.9	1405.5	1404.2	1405.5	1404.2	1404.2	1402.8	1402.8
12.5°	1389.3	1393.3	1393.3	1392.0	1392.0	1392.0	1392.0	1392.0	1390.6	1392.0
15°	1373.1	1377.1	1377.1	1377.1	1377.1	1377.1	1377.1	1377.1	1375.8	1377.1
17.5°	1352.8	1356.9	1358.2	1356.9	1358.2	1358.2	1358.2	1356.9	1356.9	1356.9
20°	1328.5	1332.5	1333.9	1332.5	1332.5	1332.5	1333.9	1333.9	1333.9	1333.9
22.5°	1301.4	1305.5	1305.5	1305.5	1306.9	1306.9	1306.9	1308.2	1308.2	1308.2
25°	1270.4	1274.4	1274.4	1275.8	1277.1	1277.1	1278.5	1278.5	1278.5	1278.5
27.5°	1240.6	1243.3	1243.3	1244.7	1246.0	1246.0	1246.0	1246.0	1248.7	1247.4
30°	1205.5	1208.2	1209.5	1212.2	1212.2	1213.6	1213.6	1215.0	1216.3	1216.3
32.5°	1169.0	1171.7	1173.1	1175.8	1177.1	1178.5	1178.5	1181.2	1182.5	1181.2
35°	1129.8	1132.5	1136.6	1137.9	1140.6	1140.6	1143.3	1143.3	1146.0	1144.7
37.5°	1090.6	1093.3	1096.0	1098.7	1101.4	1102.8	1104.1	1106.8	1109.5	1106.8
40°	1048.7	1052.8	1056.8	1059.5	1060.9	1063.6	1063.6	1067.6	1070.3	1067.6
42.5°	1006.8	1010.9	1014.9	1020.3	1020.3	1021.7	1024.4	1028.5	1028.5	1027.1
45°	963.6	966.3	973.0	977.1	978.4	979.8	982.5	983.9	986.6	986.6
47.5°	917.6	923.0	929.8	933.9	935.2	936.6	939.3	942.0	946.0	946.0
50°	871.7	878.4	881.1	887.9	890.6	892.0	896.0	898.7	901.4	900.1
52.5°	824.4	829.8	837.9	843.3	846.0	847.4	851.4	855.5	856.8	858.2
55°	777.1	783.8	791.9	797.4	800.1	802.8	805.5	808.2	812.2	813.6
57.5°	729.8	736.5	746.0	751.4	754.1	755.5	760.9	764.9	766.3	767.6
60°	681.1	689.2	698.7	704.1	706.8	710.9	712.2	719.0	720.3	721.7
62.5°	633.8	641.9	651.4	658.2	660.9	663.6	669.0	673.0	675.7	674.4
65°	586.5	594.6	604.1	610.9	613.6	617.6	621.7	625.7	628.4	628.4
67.5°	537.9	547.3	558.1	564.9	567.6	571.7	575.7	578.4	582.5	585.2
70°	490.6	501.4	510.8	517.6	520.3	524.4	528.4	535.2	535.2	537.9
72.5°	443.3	454.1	463.5	473.0	475.7	478.4	483.8	487.9	489.2	491.9
75°	397.3	408.1	417.6	424.4	429.8	432.5	437.9	440.6	443.3	446.0
77.5°	348.7	362.2	371.6	379.8	383.8	386.5	391.9	396.0	398.7	400.0
80°	302.7	313.5	323.0	331.1	335.2	339.2	344.6	347.3	351.4	352.7
82.5°	258.1	268.9	278.4	285.2	290.6	293.3	298.7	304.1	304.1	306.8
85°	213.5	224.3	233.8	241.9	246.0	250.0	254.1	259.5	260.8	263.5
87.5°	170.3	182.4	190.6	200.0	202.7	206.8	213.5	217.6	220.3	220.3
90°	131.1	141.9	151.4	160.8	164.9	167.6	174.3	178.4	181.1	181.1
92.5°	127.0	137.8	147.3	156.8	159.5	163.5	168.9	173.0	175.7	175.7
95°	125.7	136.5	146.0	154.1	158.1	160.8	167.6	170.3	173.0	174.3
97.5°	124.3	135.1	144.6	152.7	155.4	159.5	164.9	168.9	171.6	171.6
100°	121.6	132.4	141.9	150.0	154.1	156.8	162.2	166.2	167.6	168.9
102.5°	120.3	129.7	139.2	147.3	151.4	154.1	159.5	163.5	164.9	166.2
105°	117.6	128.4	136.5	144.6	147.3	151.4	155.4	159.5	162.2	162.2
107.5°	114.9	125.7	133.8	141.9	144.6	147.3	152.7	156.8	158.1	159.5
110°	112.2	123.0	131.1	137.8	141.9	144.6	148.7	152.7	154.1	155.4



TEST NUMBER: P981628

CATALOG NUMBER: 4WNLED-LD4-50SL-F-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	109.5	118.9	127.0	135.1	137.8	140.6	144.6	148.7	150.0	151.4
115°	106.8	116.2	124.3	131.1	133.8	136.5	140.6	144.6	146.0	147.3
117.5°	104.1	113.5	120.3	127.0	129.7	132.4	136.5	140.6	141.9	141.9
120°	101.4	109.5	117.6	123.0	125.7	128.4	132.4	135.1	137.8	137.8
122.5°	97.3	105.4	113.5	118.9	121.6	124.3	128.4	131.1	132.4	133.8
125°	94.6	102.7	109.5	114.9	117.6	120.3	123.0	125.7	127.0	128.4
127.5°	90.5	97.3	105.4	110.8	113.5	116.2	118.9	121.6	123.0	123.0
130°	85.1	93.2	100.0	106.8	109.5	110.8	114.9	116.2	117.6	117.6
132.5°	81.1	87.8	94.6	101.4	104.1	106.8	109.5	110.8	112.2	112.2
135°	75.7	82.4	89.2	96.0	98.7	101.4	104.1	105.4	106.8	106.8
137.5°	71.6	78.4	83.8	90.5	93.2	96.0	98.7	100.0	101.4	101.4
140°	66.2	71.6	78.4	85.1	87.8	89.2	93.2	94.6	96.0	96.0
142.5°	60.8	67.6	73.0	78.4	81.1	83.8	87.8	89.2	90.5	90.5
145°	56.8	62.2	66.2	71.6	74.3	77.0	81.1	83.8	83.8	83.8
147.5°	51.4	56.8	60.8	66.2	68.9	70.3	75.7	77.0	78.4	78.4
150°	47.3	51.4	55.4	59.5	62.2	64.9	68.9	71.6	71.6	71.6
152.5°	43.2	45.9	50.0	54.1	55.4	58.1	62.2	64.9	64.9	64.9
155°	37.8	41.9	44.6	47.3	50.0	51.4	55.4	58.1	58.1	58.1
157.5°	33.8	36.5	39.2	41.9	43.2	44.6	48.7	51.4	52.7	52.7
160°	29.7	32.4	33.8	36.5	37.8	39.2	40.5	44.6	45.9	45.9
162.5°	25.7	27.0	29.7	31.1	32.4	32.4	35.1	36.5	39.2	39.2
165°	21.6	23.0	24.3	25.7	27.0	27.0	28.4	31.1	32.4	32.4
167.5°	18.9	18.9	20.3	21.6	21.6	21.6	23.0	24.3	27.0	27.0
170°	14.9	16.2	16.2	16.2	17.6	17.6	17.6	18.9	20.3	21.6
172.5°	12.2	12.2	13.5	13.5	13.5	13.5	13.5	13.5	14.9	16.2
175°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	10.8
177.5°	8.1	8.1	8.1	6.8	6.8	6.8	6.8	6.8	6.8	5.4
180°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP3-2508-516-9

Test Date: 09/05/2025

Luminaire Tested: 4WNLED-LD4-50SL-F-UNVL930-CD1-U

Data in this report applies to families of products including 4WNLED-LD4-50SL-F-UNVL930-CD1-U

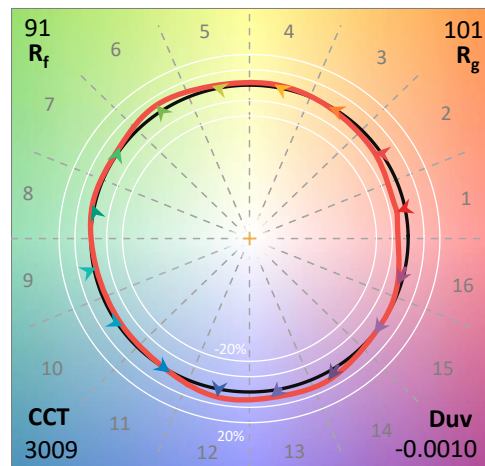
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP3-2508-516-9  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP3 - 3M SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 09/05/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Metalux  
 Catalog Number: **4WNLED-LD4-50SL-F-UNVL930-CD1-U**  
 Description: 4FT WNLED 5000LM 930

**Spectral Parameters**

CCT (K): 3009  
 CIE u': 0.2506  
 CIE v': 0.5199  
 Duv: -0.0010  
 CIE x: 0.4349  
 CIE y: 0.4010  
 CIE z: 0.1641  
 Peak Wavelength (nm): 630  
 Dominant Wavelength (nm): 583  
 Purity: 50.88854  
 Rf: 91  
 Rg: 101.1

CRI (Ra):	93.2		
R1:	94.6	R9:	57.2
R2:	96.2	R10:	89.7
R3:	96.5	R11:	95.8
R4:	94.7	R12:	84.5
R5:	94.3	R13:	94.9
R6:	96.0	R14:	96.9
R7:	91.6	R15:	89.9
R8:	81.9		



**Test Conditions**

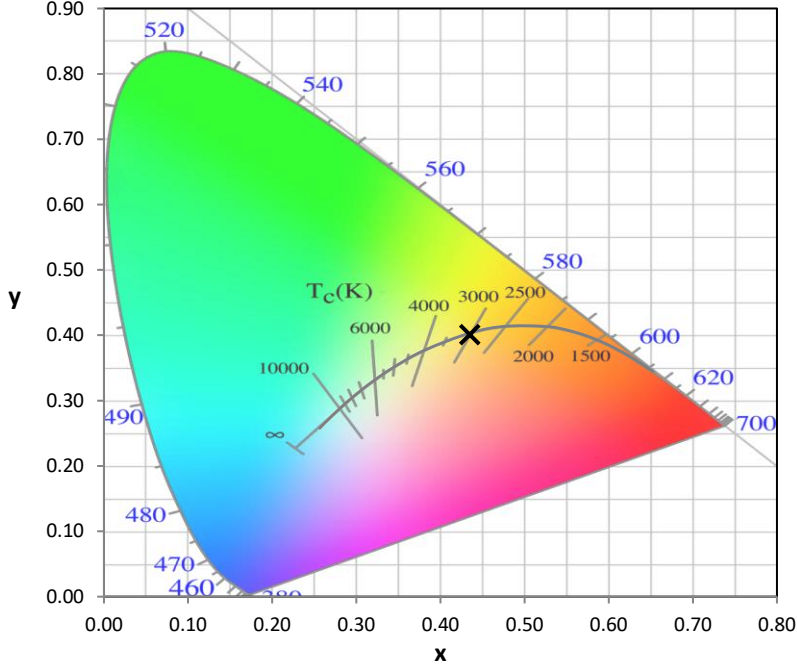
Stabilization Time: 23M  
 Operation Time: 1H 23M  
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP3-2508-516-9

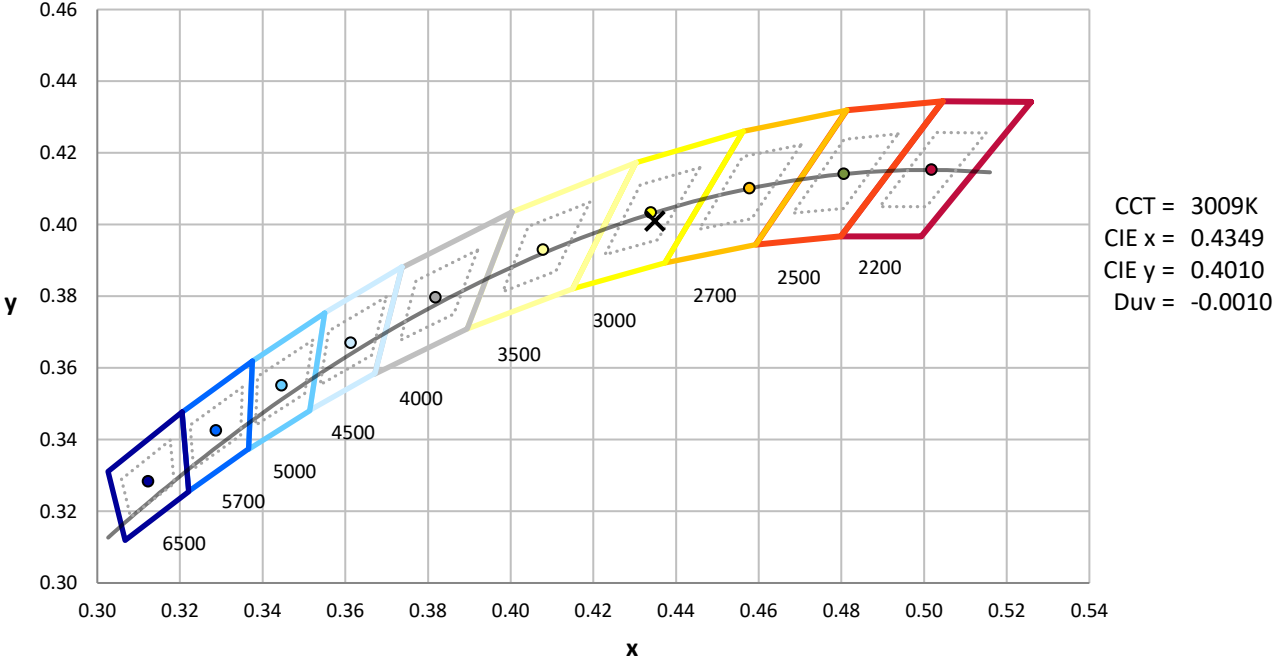
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	3M SPHERE IN02505	7/1/2025	1/1/2026
Power Meter	XITRON INXT2011006	1/20/2025	1/20/2026
AC Power Source	CHROMA 61604 IN6064A	10/22/2024	10/22/2025
DC Power Source	EYSIGHT N5770A IN0534	10/22/2024	10/22/2025
Sphere Thermometer	TANDD IN4036E	10/22/2024	10/22/2025

REPORT NUMBER: SP3-2508-516-9

CIE 1931 Chromaticity Diagram



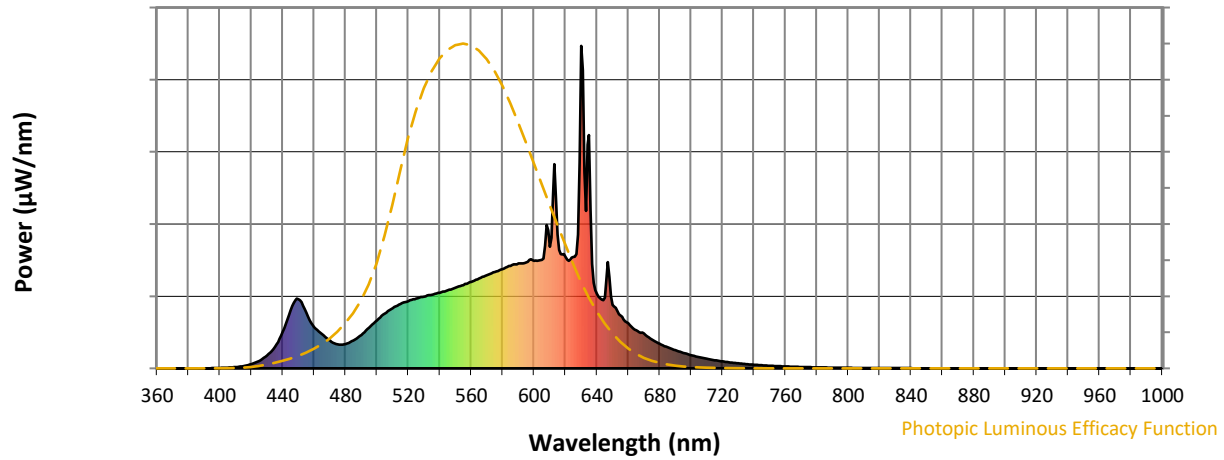
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP3-2508-516-9

**Photopic Flux vs. Wavelength**

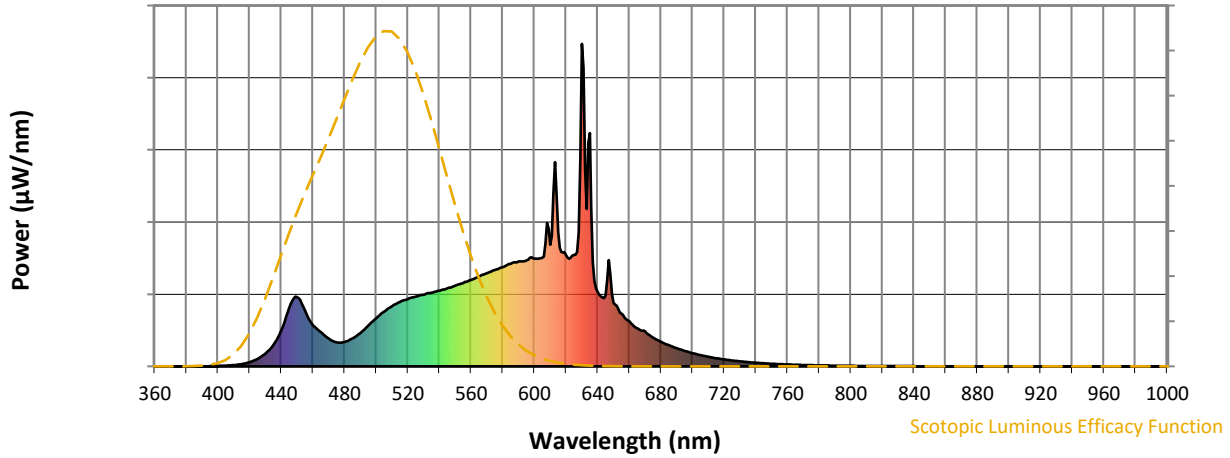


**Photopic Lumens: NR**

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	104	NR	620	345	NR	750	8	NR	880	0	NR
365	0	NR	495	126	NR	625	345	NR	755	7	NR	885	0	NR
370	0	NR	500	149	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	170	NR	635	724	NR	765	5	NR	895	0	NR
380	0	NR	510	186	NR	640	231	NR	770	4	NR	900	0	NR
385	0	NR	515	200	NR	645	219	NR	775	4	NR	905	0	NR
390	0	NR	520	208	NR	650	197	NR	780	3	NR	910	0	NR
395	1	NR	525	216	NR	655	163	NR	785	3	NR	915	0	NR
400	1	NR	530	223	NR	660	140	NR	790	2	NR	920	0	NR
405	2	NR	535	228	NR	665	118	NR	795	2	NR	925	0	NR
410	4	NR	540	235	NR	670	108	NR	800	2	NR	930	0	NR
415	7	NR	545	242	NR	675	89	NR	805	1	NR	935	0	NR
420	13	NR	550	250	NR	680	76	NR	810	1	NR	940	0	NR
425	23	NR	555	258	NR	685	66	NR	815	1	NR	945	0	NR
430	40	NR	560	268	NR	690	56	NR	820	1	NR	950	0	NR
435	66	NR	565	279	NR	695	48	NR	825	1	NR	955	0	NR
440	113	NR	570	288	NR	700	41	NR	830	1	NR	960	0	NR
445	181	NR	575	299	NR	705	35	NR	835	1	NR	965	0	NR
450	215	NR	580	308	NR	710	30	NR	840	1	NR	970	0	NR
455	173	NR	585	318	NR	715	25	NR	845	0	NR	975	0	NR
460	128	NR	590	325	NR	720	22	NR	850	0	NR	980	0	NR
465	106	NR	595	328	NR	725	18	NR	855	0	NR	985	0	NR
470	86	NR	600	333	NR	730	16	NR	860	0	NR	990	0	NR
475	74	NR	605	336	NR	735	13	NR	865	0	NR	995	0	NR
480	76	NR	610	377	NR	740	11	NR	870	0	NR	1000	0	NR
485	86	NR	615	415	NR	745	10	NR	875	0	NR			

REPORT NUMBER: SP3-2508-516-9

Scotopic Flux vs. Wavelength



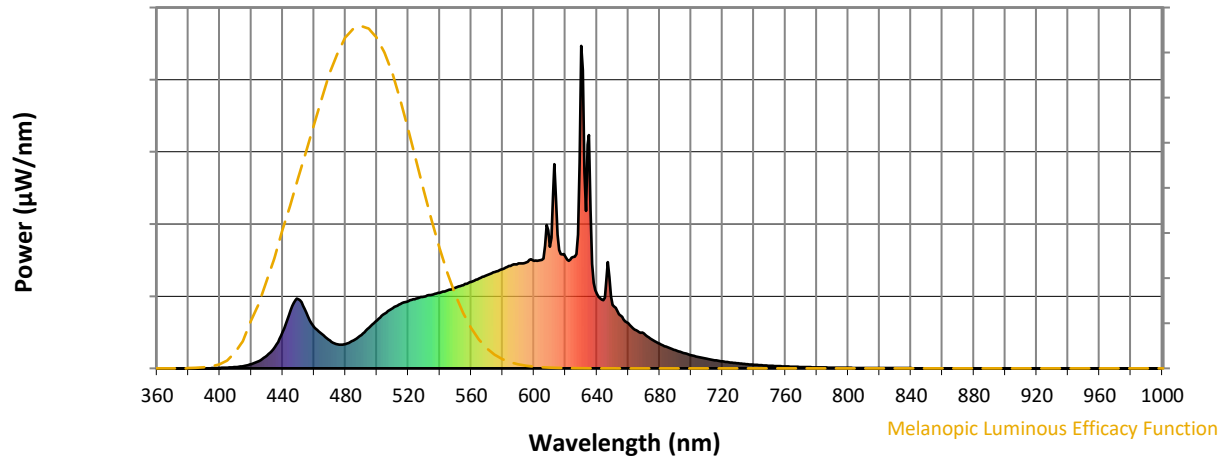
Scotopic Lumens: NR

S/P: 1.42

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	104	NR	620	345	NR	750	8	NR	880	0	NR
365	0	NR	495	126	NR	625	345	NR	755	7	NR	885	0	NR
370	0	NR	500	149	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	170	NR	635	724	NR	765	5	NR	895	0	NR
380	0	NR	510	186	NR	640	231	NR	770	4	NR	900	0	NR
385	0	NR	515	200	NR	645	219	NR	775	4	NR	905	0	NR
390	0	NR	520	208	NR	650	197	NR	780	3	NR	910	0	NR
395	1	NR	525	216	NR	655	163	NR	785	3	NR	915	0	NR
400	1	NR	530	223	NR	660	140	NR	790	2	NR	920	0	NR
405	2	NR	535	228	NR	665	118	NR	795	2	NR	925	0	NR
410	4	NR	540	235	NR	670	108	NR	800	2	NR	930	0	NR
415	7	NR	545	242	NR	675	89	NR	805	1	NR	935	0	NR
420	13	NR	550	250	NR	680	76	NR	810	1	NR	940	0	NR
425	23	NR	555	258	NR	685	66	NR	815	1	NR	945	0	NR
430	40	NR	560	268	NR	690	56	NR	820	1	NR	950	0	NR
435	66	NR	565	279	NR	695	48	NR	825	1	NR	955	0	NR
440	113	NR	570	288	NR	700	41	NR	830	1	NR	960	0	NR
445	181	NR	575	299	NR	705	35	NR	835	1	NR	965	0	NR
450	215	NR	580	308	NR	710	30	NR	840	1	NR	970	0	NR
455	173	NR	585	318	NR	715	25	NR	845	0	NR	975	0	NR
460	128	NR	590	325	NR	720	22	NR	850	0	NR	980	0	NR
465	106	NR	595	328	NR	725	18	NR	855	0	NR	985	0	NR
470	86	NR	600	333	NR	730	16	NR	860	0	NR	990	0	NR
475	74	NR	605	336	NR	735	13	NR	865	0	NR	995	0	NR
480	76	NR	610	377	NR	740	11	NR	870	0	NR	1000	0	NR
485	86	NR	615	415	NR	745	10	NR	875	0	NR			

REPORT NUMBER: SP3-2508-516-9

**Melanopic Flux vs. Wavelength**



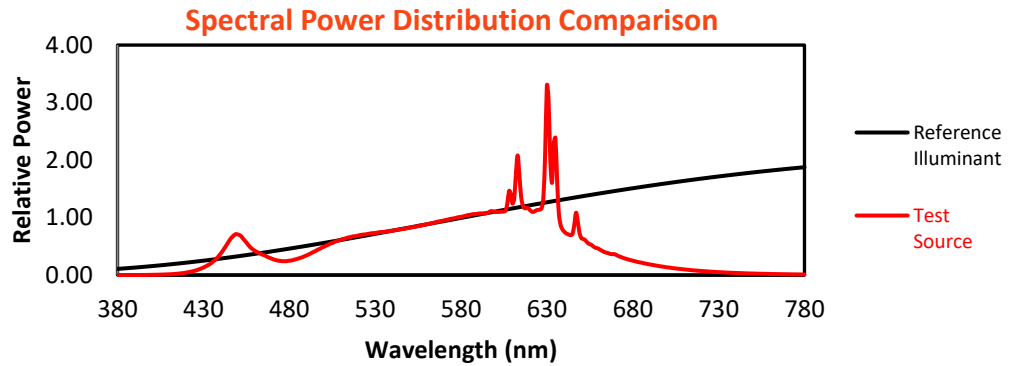
**Melanopic Lumens: NR**

**M/P: 2.75**

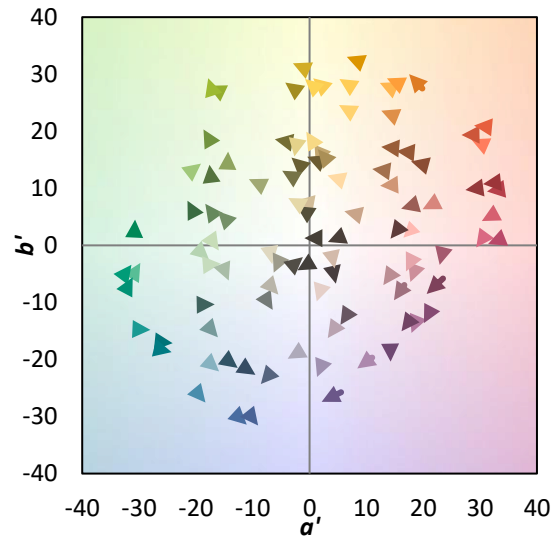
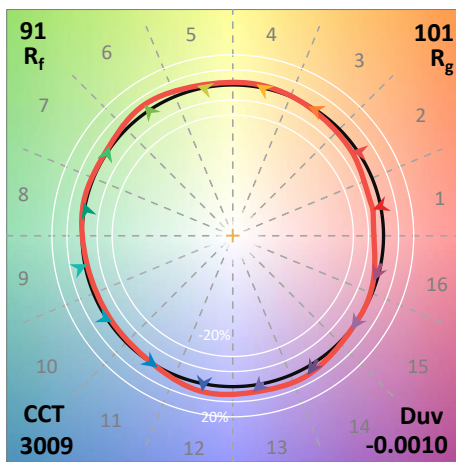
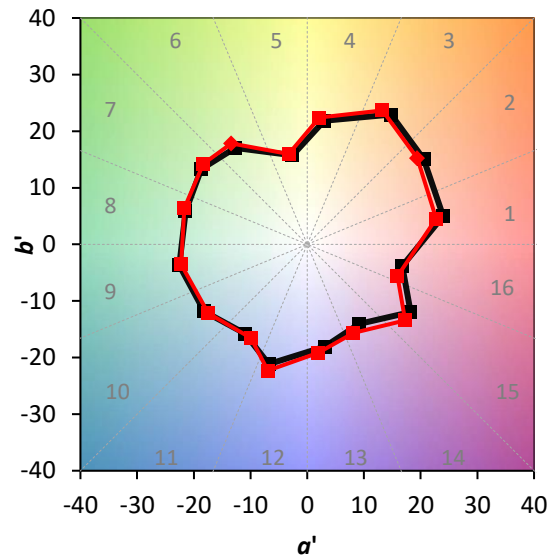
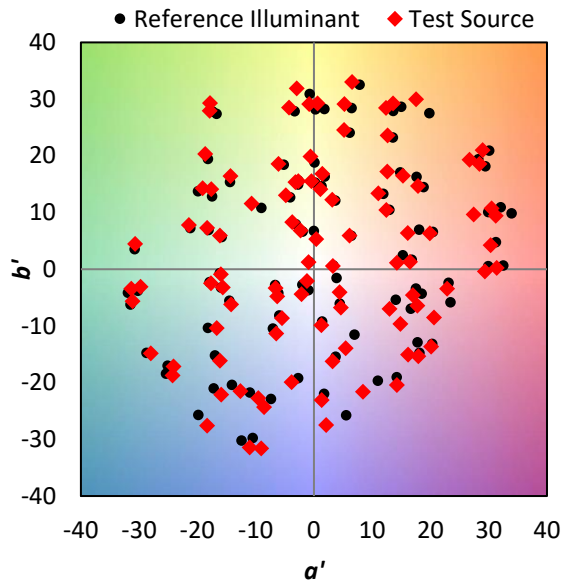
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	104	NR	620	345	NR	750	8	NR	880	0	NR
365	0	NR	495	126	NR	625	345	NR	755	7	NR	885	0	NR
370	0	NR	500	149	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	170	NR	635	724	NR	765	5	NR	895	0	NR
380	0	NR	510	186	NR	640	231	NR	770	4	NR	900	0	NR
385	0	NR	515	200	NR	645	219	NR	775	4	NR	905	0	NR
390	0	NR	520	208	NR	650	197	NR	780	3	NR	910	0	NR
395	1	NR	525	216	NR	655	163	NR	785	3	NR	915	0	NR
400	1	NR	530	223	NR	660	140	NR	790	2	NR	920	0	NR
405	2	NR	535	228	NR	665	118	NR	795	2	NR	925	0	NR
410	4	NR	540	235	NR	670	108	NR	800	2	NR	930	0	NR
415	7	NR	545	242	NR	675	89	NR	805	1	NR	935	0	NR
420	13	NR	550	250	NR	680	76	NR	810	1	NR	940	0	NR
425	23	NR	555	258	NR	685	66	NR	815	1	NR	945	0	NR
430	40	NR	560	268	NR	690	56	NR	820	1	NR	950	0	NR
435	66	NR	565	279	NR	695	48	NR	825	1	NR	955	0	NR
440	113	NR	570	288	NR	700	41	NR	830	1	NR	960	0	NR
445	181	NR	575	299	NR	705	35	NR	835	1	NR	965	0	NR
450	215	NR	580	308	NR	710	30	NR	840	1	NR	970	0	NR
455	173	NR	585	318	NR	715	25	NR	845	0	NR	975	0	NR
460	128	NR	590	325	NR	720	22	NR	850	0	NR	980	0	NR
465	106	NR	595	328	NR	725	18	NR	855	0	NR	985	0	NR
470	86	NR	600	333	NR	730	16	NR	860	0	NR	990	0	NR
475	74	NR	605	336	NR	735	13	NR	865	0	NR	995	0	NR
480	76	NR	610	377	NR	740	11	NR	870	0	NR	1000	0	NR
485	86	NR	615	415	NR	745	10	NR	875	0	NR			

**Summary**

$R_f = 91$   
 $R_g = 101.1$   
 $CIE R_a = 93.2$   
 $R_9 = 57.2$

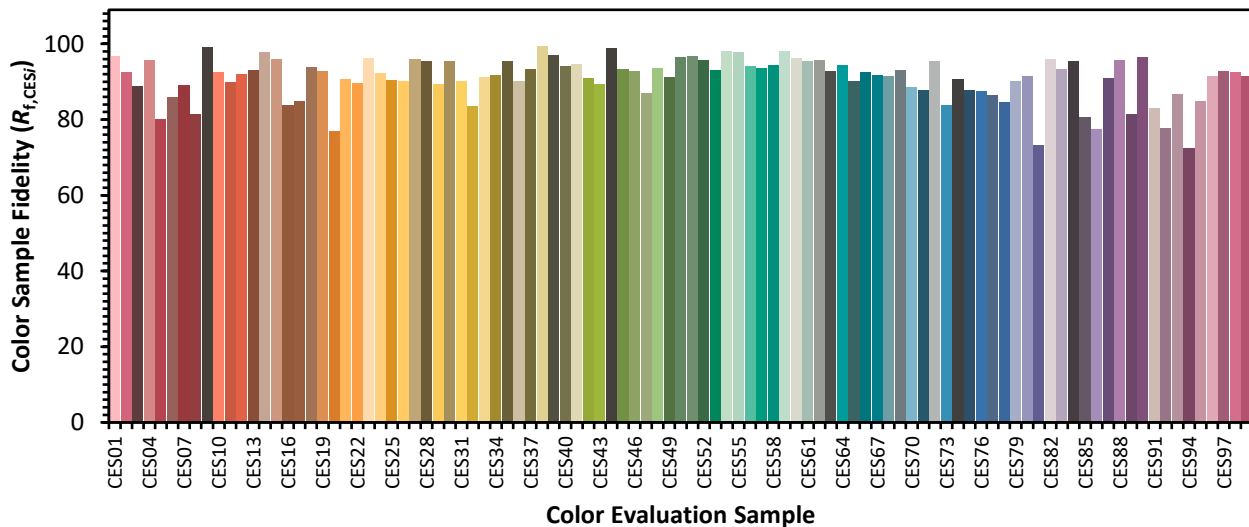


**Color Vector Graphics**

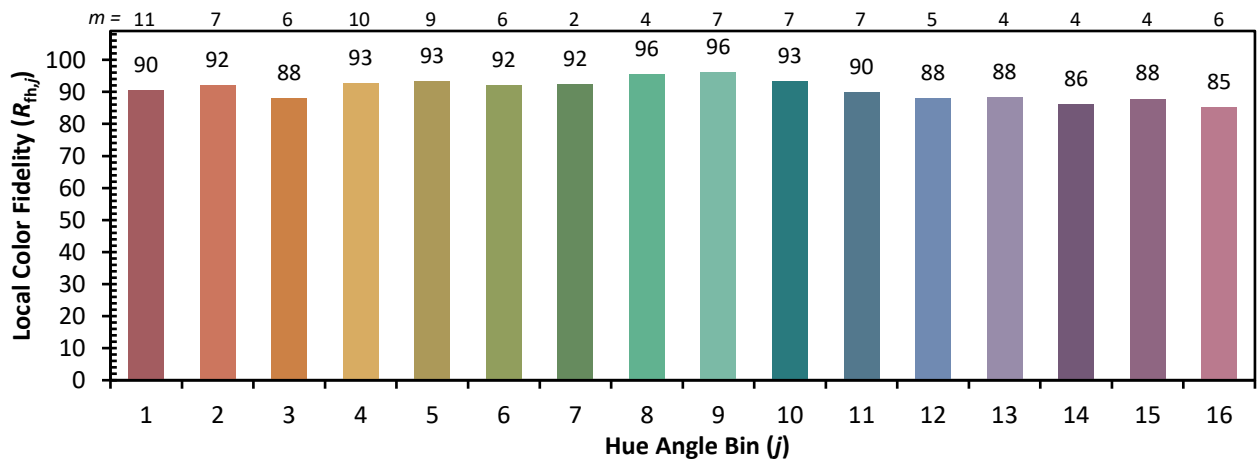
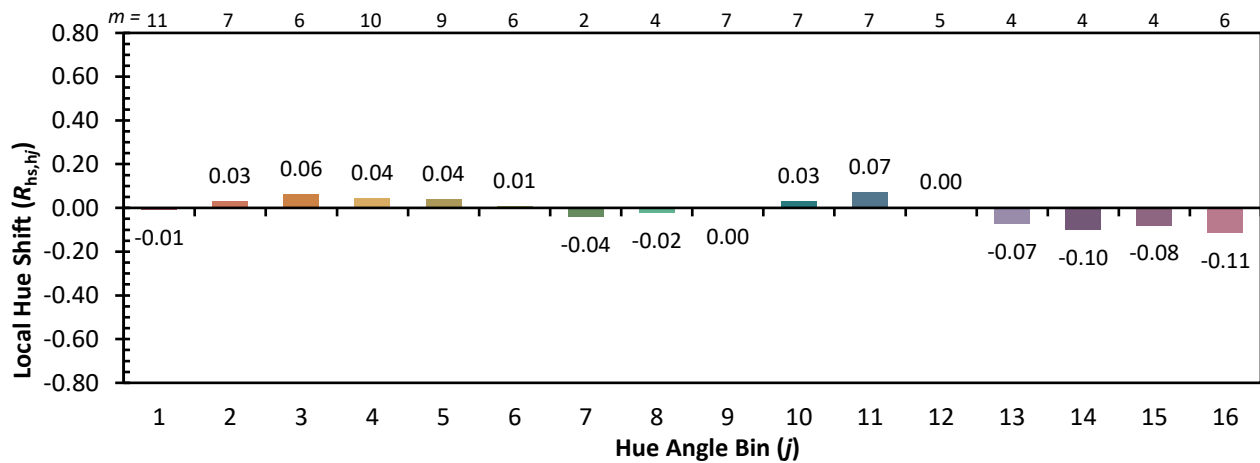
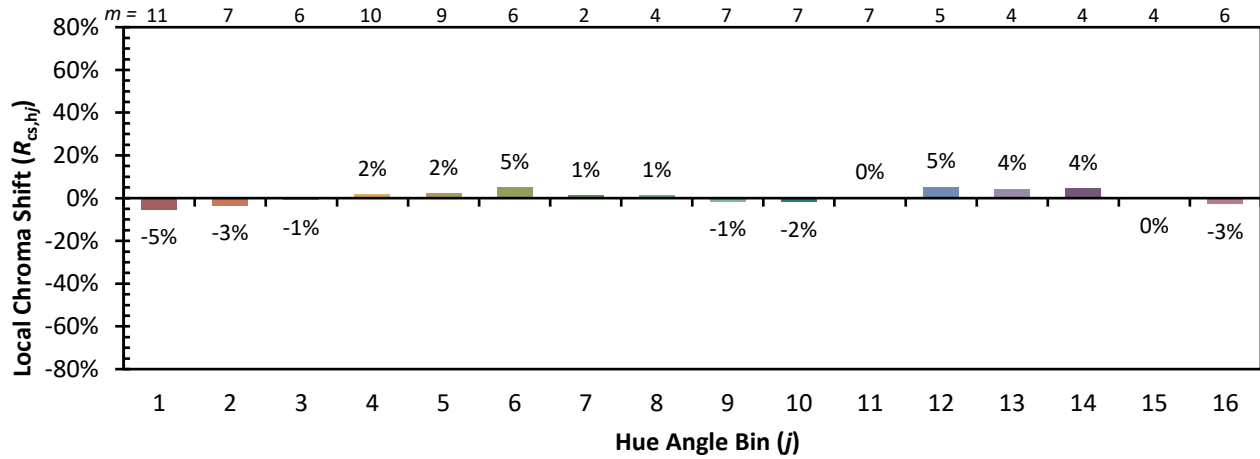


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

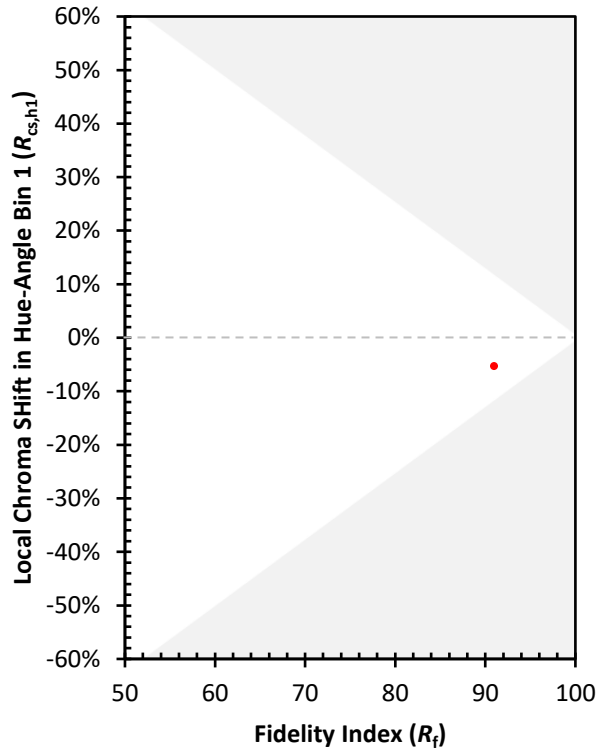
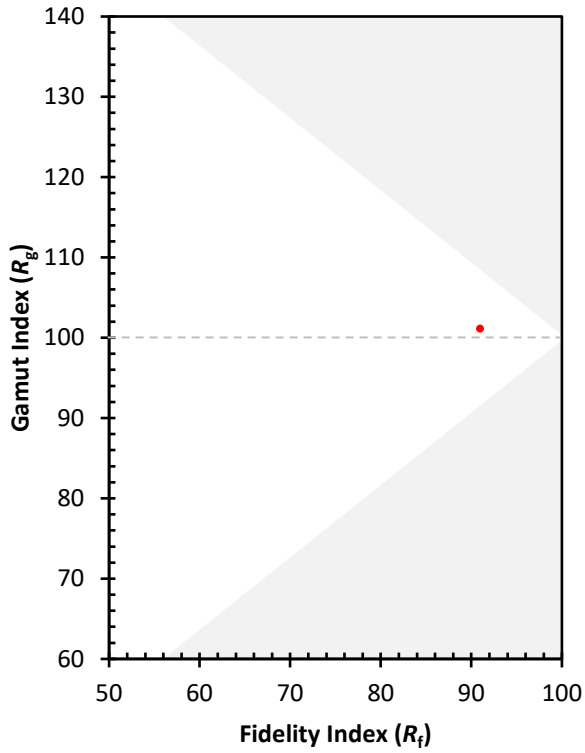
CES01 = 86	CES26 = 90	CES51 = 97	CES76 = 87
CES02 = 63	CES27 = 96	CES52 = 96	CES77 = 86
CES03 = 32	CES28 = 95	CES53 = 93	CES78 = 85
CES04 = 70	CES29 = 89	CES54 = 98	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 98	CES80 = 91
CES06 = 51	CES31 = 90	CES56 = 94	CES81 = 73
CES07 = 43	CES32 = 84	CES57 = 94	CES82 = 96
CES08 = 42	CES33 = 91	CES58 = 95	CES83 = 93
CES09 = 29	CES34 = 92	CES59 = 98	CES84 = 95
CES10 = 76	CES35 = 95	CES60 = 96	CES85 = 81
CES11 = 59	CES36 = 90	CES61 = 96	CES86 = 78
CES12 = 65	CES37 = 93	CES62 = 96	CES87 = 91
CES13 = 44	CES38 = 99	CES63 = 93	CES88 = 96
CES14 = 74	CES39 = 97	CES64 = 94	CES89 = 82
CES15 = 72	CES40 = 94	CES65 = 90	CES90 = 96
CES16 = 48	CES41 = 95	CES66 = 92	CES91 = 83
CES17 = 50	CES42 = 91	CES67 = 92	CES92 = 78
CES18 = 57	CES43 = 89	CES68 = 92	CES93 = 87
CES19 = 72	CES44 = 99	CES69 = 93	CES94 = 72
CES20 = 67	CES45 = 93	CES70 = 89	CES95 = 85
CES21 = 86	CES46 = 93	CES71 = 88	CES96 = 91
CES22 = 79	CES47 = 87	CES72 = 95	CES97 = 93
CES23 = 92	CES48 = 94	CES73 = 84	CES98 = 93
CES24 = 91	CES49 = 91	CES74 = 91	CES99 = 92
CES25 = 72	CES50 = 97	CES75 = 88	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)