

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P979124

Luminaire Tested: **WPSLED15S-50W-3500K**

Issue Date: 03/31/2025



Test Information

Test Method: LM-79-08
Report Number: P979124
Test Lab: Cooper Lighting Solutions
Issue Date: 03/31/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: WPSLED15S-50W-3500K
Description: LUMARK WALL PACK LED SMALL 80CRI CCT AND LUMEN SELECTIVE FIXTURE
OPERATING @50W-3500K
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

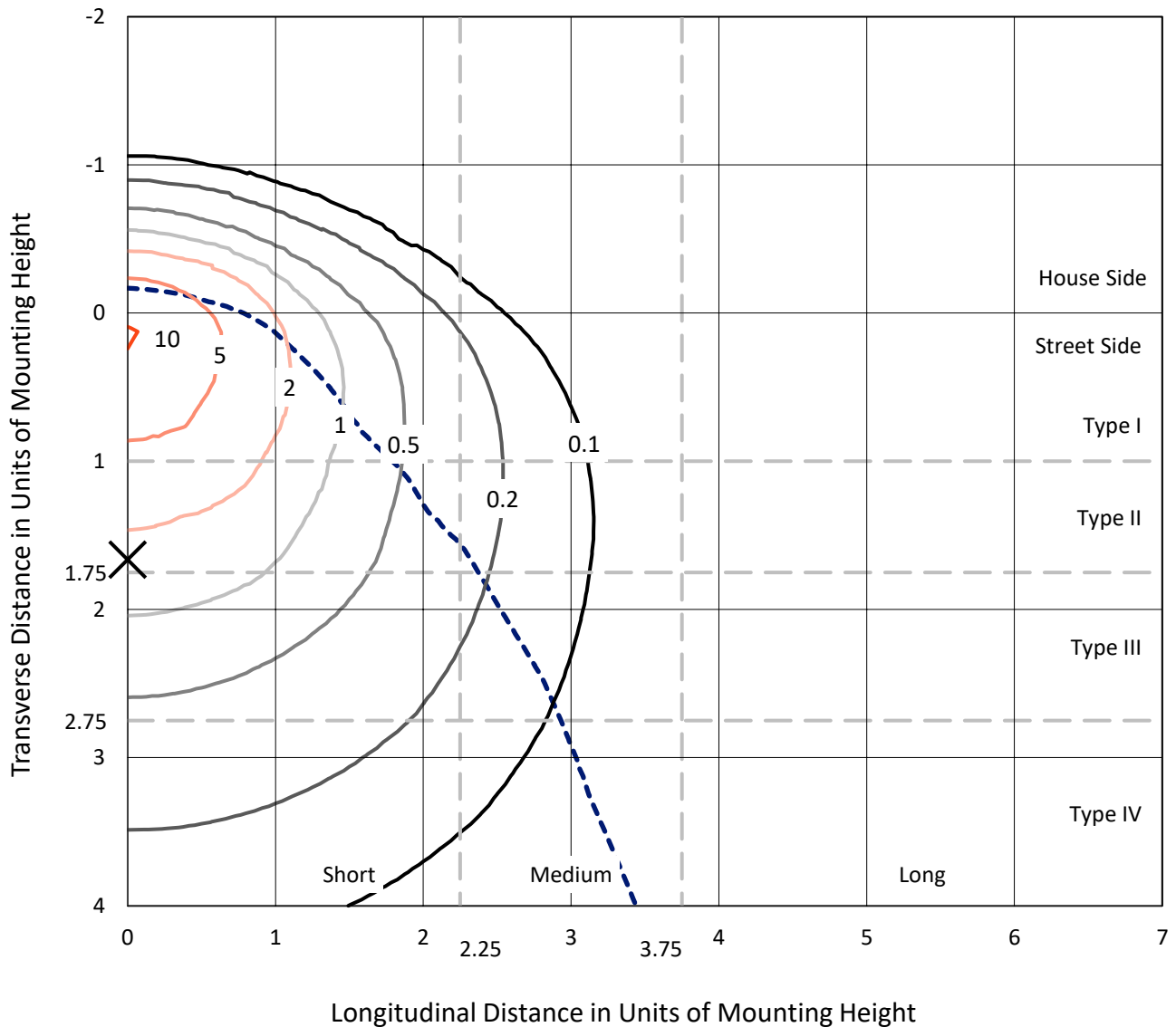
Lumens per Lamp: N/A
Luminaire Lumens: 6946 lumens
Efficiency: N/A
Efficacy: 138.9 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.61' x L: 0.12' x H: 0.44')
IES Classification: Type IV - Short
BUG Rating: B1 - U3 - G3

Input Watts (W): 50
Input Voltage (V): 120
Input Current (Ain): 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

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Iso-Footcandle Lines of Horizontal Illumination

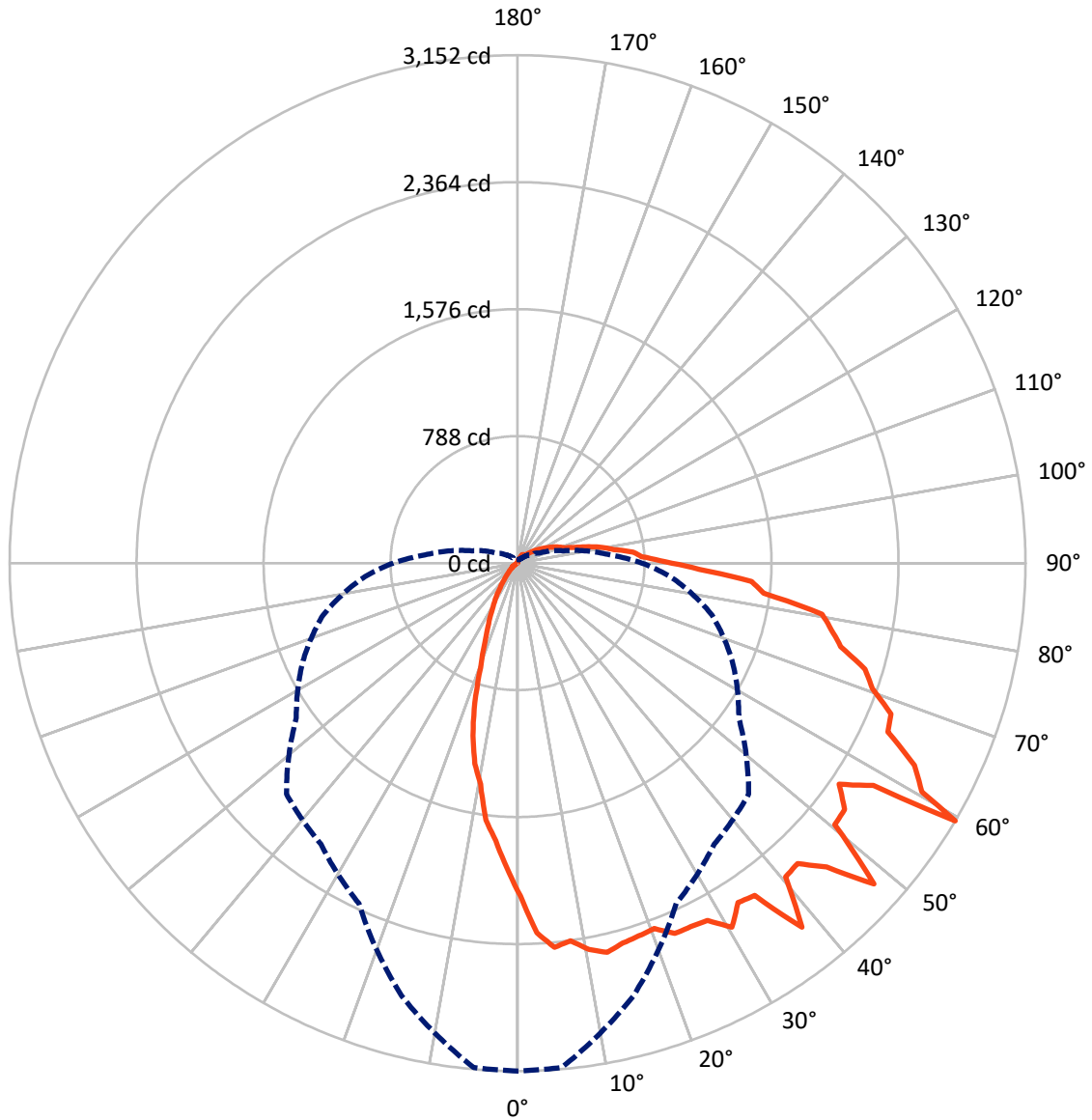
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 10.3 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral - - - Horizontal Cone Through 59-Deg Vertical

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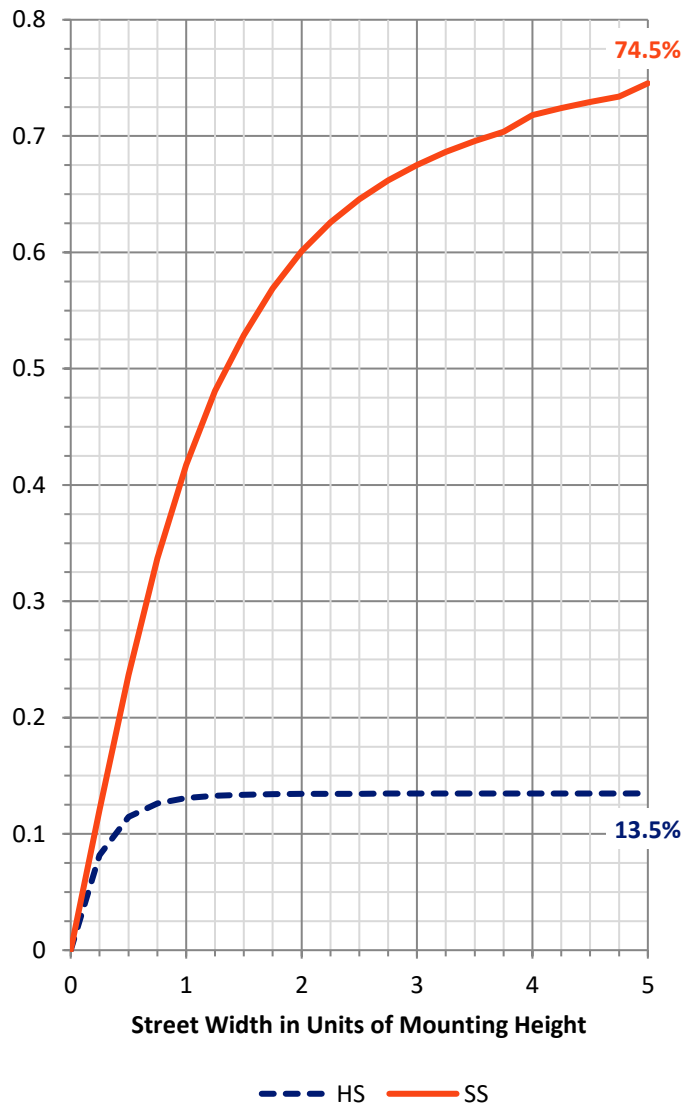
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	947.5	8.4	955.9
	% Fixture	13.6	0.1	13.8
Street Side	Lumens	5503.3	486.8	5990.1
	% Fixture	79.2	7.0	86.2
Total	Lumens	6450.8	495.2	6946.0
	% Fixture	92.9	7.1	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.1	2.8
10°-20°	518.2	7.5
20°-30°	732.2	10.5
30°-40°	874.5	12.6
40°-50°	953.2	13.7
50°-60°	961.7	13.8
60°-70°	946.3	13.6
70°-80°	777.2	11.2
80°-90°	493.3	7.1
90°-100°	233.8	3.4
100°-110°	117.8	1.7
110°-120°	66.3	1.0
120°-130°	36.6	0.5
130°-140°	20.3	0.3
140°-150°	13.1	0.2
150°-160°	5.8	0.1
160°-170°	1.5	0.0
170°-180°	0.1	0.0
0°-90°	6450.8	92.9
0°-180°	6946.0	100.0



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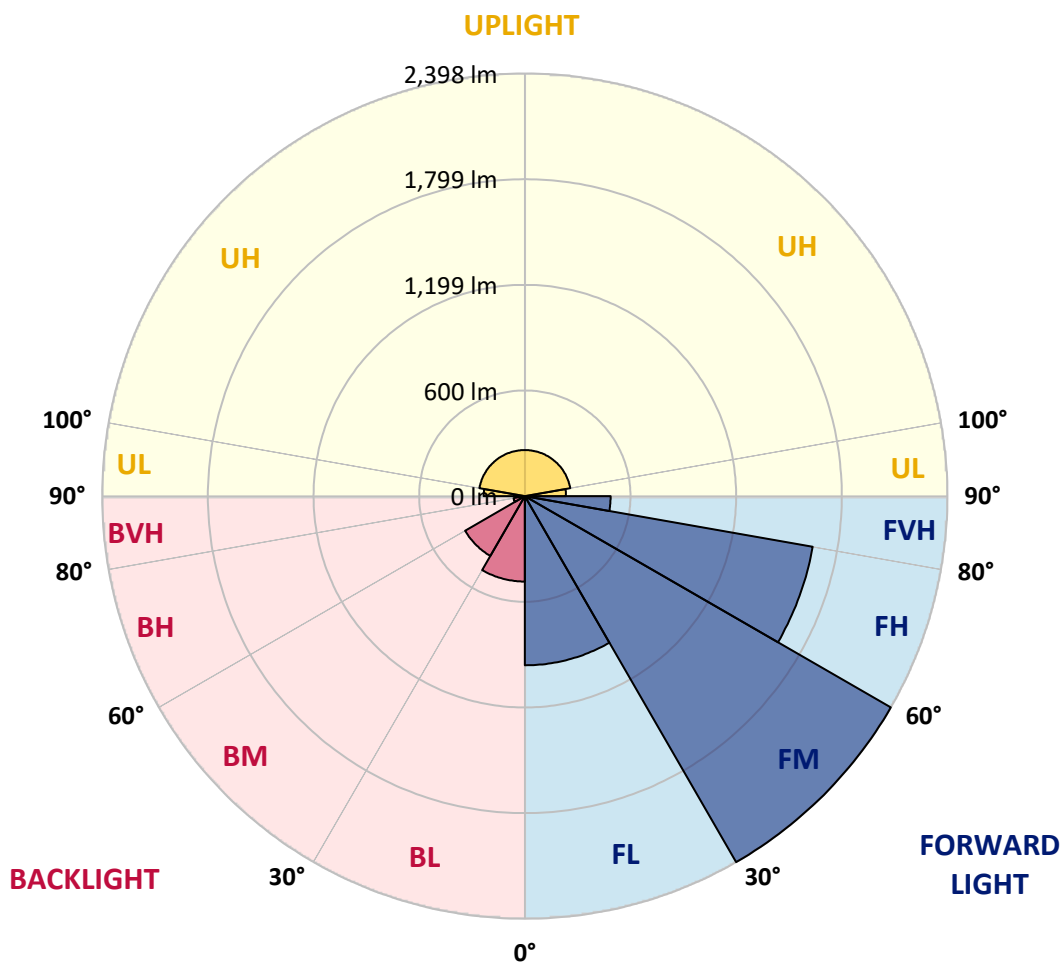
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	959.9	13.8			
FM (30°-60°)	2398.1	34.5			
FH (60°-80°)	1658.4	23.9			G1/1800
FVH (80°-90°)	486.9	7.0			G3/500
BL (0°-30°)	484.6	7.0	B1/500		
BM (30°-60°)	391.4	5.6	B1/1000		
BH (60°-80°)	65.1	0.9	B0/110		G0/110
BVH (80°-90°)	6.4	0.1			G0/10
UL (90°-100°)	233.8	3.4		U3/500	
UH (100°-180°)	261.4	3.8		U3/500	

BUG Rating: B1-U3-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5
2.5°	2298.0	2304.0	2310.8	2290.3	2295.5	2296.3	2279.3	2255.4	2188.1	2110.6	2068.9
5°	2394.3	2390.0	2381.5	2332.9	2298.9	2277.6	2278.4	2280.1	2258.0	2133.6	2054.4
7.5°	2366.2	2378.1	2377.2	2354.2	2381.5	2396.8	2271.6	2245.2	2231.6	2122.6	2001.6
10°	2438.6	2441.1	2429.2	2387.4	2351.7	2298.9	2354.2	2228.2	2218.8	2097.0	1964.1
12.5°	2478.6	2497.3	2462.4	2407.0	2359.3	2328.7	2264.8	2297.2	2196.7	2086.8	1927.5
15°	2446.2	2426.6	2382.3	2354.2	2412.1	2327.8	2279.3	2266.5	2160.0	2080.0	1907.9
17.5°	2432.6	2453.0	2442.0	2405.3	2321.9	2370.4	2277.6	2235.0	2161.7	2065.5	1893.4
20°	2420.7	2442.8	2401.9	2354.2	2389.2	2275.9	2287.8	2215.4	2174.5	2034.8	1868.7
22.5°	2497.3	2494.8	2425.8	2384.0	2310.8	2345.7	2306.5	2210.3	2163.4	2012.7	1818.5
25°	2499.0	2500.7	2447.1	2385.7	2345.7	2288.6	2216.2	2171.1	2115.7	1969.2	1765.7
27.5°	2511.0	2513.5	2404.5	2379.8	2349.1	2272.5	2234.1	2143.8	2068.9	1913.9	1729.0
30°	2621.7	2593.6	2545.0	2430.0	2330.4	2291.2	2213.7	2143.8	2005.9	1864.5	1680.5
32.5°	2511.0	2499.0	2453.0	2496.5	2362.7	2255.4	2150.7	2045.9	1964.1	1784.4	1620.9
35°	2533.9	2522.9	2424.9	2419.0	2444.5	2234.1	2123.4	1992.2	1910.5	1727.3	1560.4
37.5°	2867.0	2823.5	2615.7	2422.4	2361.0	2267.4	2112.3	2016.1	1850.0	1661.8	1482.9
40°	2560.4	2541.6	2511.0	2633.6	2323.6	2266.5	2058.7	2005.9	1796.3	1597.9	1419.0
42.5°	2548.4	2533.1	2495.6	2433.4	2453.0	2194.1	2045.9	1931.8	1717.1	1507.6	1327.9
45°	2689.0	2663.4	2519.5	2439.4	2323.6	2191.5	2016.9	1867.0	1650.7	1417.3	1239.3
47.5°	2976.0	2937.7	2611.5	2416.4	2278.4	2229.0	1987.1	1807.4	1574.0	1333.0	1142.2
50°	2551.0	2549.3	2671.9	2607.2	2222.2	2120.0	1969.2	1740.1	1512.7	1227.4	1043.4
52.5°	2541.6	2547.6	2531.4	2446.2	2347.4	2045.9	1910.5	1664.3	1434.3	1144.7	969.3
55°	2421.5	2401.9	2344.0	2363.6	2309.1	2005.0	1831.3	1598.7	1361.1	1063.0	888.4
57.5°	2603.8	2554.4	2403.6	2270.8	2171.1	2068.0	1746.9	1516.1	1296.4	988.0	804.0
59°	3152.3	3142.1	2779.3	2330.4	2128.5	2028.0	1676.2	1474.4	1250.4	949.7	772.5
60°	2882.3	2860.2	2977.7	2453.0	2148.1	1959.0	1635.4	1448.8	1221.4	919.9	752.1
62.5°	2764.8	2761.4	2625.9	2573.1	2271.6	1923.2	1644.7	1385.8	1143.0	853.5	689.1
65°	2525.4	2506.7	2473.5	2416.4	2281.8	1924.9	1611.5	1335.5	1074.9	778.5	592.8
67.5°	2499.9	2471.8	2413.9	2284.4	2146.4	1919.8	1510.1	1263.1	1000.0	689.9	499.1
70°	2335.5	2347.4	2286.9	2198.4	2047.6	1797.2	1473.5	1189.9	925.0	599.6	408.8
72.5°	2255.4	2268.2	2200.9	2099.6	1953.9	1670.3	1377.3	1135.4	837.3	505.9	329.6
75°	2071.4	2071.4	2038.2	1948.8	1824.4	1577.4	1285.3	1017.8	729.9	419.1	260.6
77.5°	1991.4	1990.5	1919.8	1813.4	1680.5	1439.5	1156.7	915.6	643.9	339.0	189.9
80°	1916.4	1924.9	1834.7	1722.2	1569.8	1337.2	1063.0	822.8	548.5	255.5	138.8
82.5°	1539.1	1522.1	1507.6	1433.5	1334.7	1154.1	904.6	712.9	445.5	183.1	99.7
85°	1457.3	1467.6	1419.9	1339.8	1229.1	1016.1	765.7	586.0	350.1	132.0	74.1
87.5°	1129.4	1119.2	1088.5	1070.6	997.4	822.8	624.3	456.5	270.9	97.1	54.5
90°	915.6	928.4	897.7	858.6	777.6	667.8	499.1	355.2	198.5	70.7	42.6
92.5°	770.0	790.4	774.2	729.9	653.3	542.6	402.9	265.7	147.4	53.7	35.8
95°	718.9	716.3	679.7	615.8	560.4	464.2	322.0	212.1	117.5	43.4	32.4
97.5°	603.9	611.6	597.9	533.2	481.2	391.0	261.5	167.8	93.7	38.3	29.0
100°	534.9	528.9	506.8	462.5	405.4	326.2	217.2	140.5	77.5	34.9	28.1
102.5°	454.0	454.0	424.2	383.3	338.1	270.0	182.3	121.8	63.9	34.1	27.3
105°	361.1	364.5	342.4	316.9	284.5	218.9	155.9	102.2	55.4	33.2	27.3
107.5°	307.5	313.4	302.4	276.8	247.0	190.8	132.0	86.0	48.5	32.4	26.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	281.9	285.3	271.7	251.3	219.8	166.9	115.0	73.3	45.1	32.4	25.6
112.5°	258.1	262.3	249.6	227.4	190.8	145.6	99.7	63.0	43.4	31.5	24.7
115°	229.1	231.7	221.5	201.0	167.8	127.8	87.7	57.9	42.6	29.8	23.0
117.5°	202.7	205.3	192.5	173.8	144.8	109.9	78.4	53.7	40.9	28.1	21.3
120°	178.0	177.2	169.5	152.5	126.1	97.1	69.8	49.4	39.2	26.4	19.6
122.5°	155.9	158.4	150.8	133.7	107.3	84.3	61.3	47.7	37.5	24.7	17.0
125°	136.3	136.3	130.3	115.0	92.8	73.3	56.2	45.1	36.6	23.0	15.3
127.5°	118.4	119.2	111.6	97.1	80.1	65.6	52.0	44.3	34.9	20.4	13.6
130°	100.5	100.5	93.7	82.6	70.7	61.3	52.0	42.6	32.4	17.9	11.9
132.5°	85.2	85.2	80.1	73.3	64.7	59.6	50.3	40.0	29.0	15.3	10.2
135°	72.4	72.4	69.0	66.4	60.5	56.2	47.7	38.3	26.4	13.6	8.5
137.5°	65.6	64.7	63.9	62.2	57.9	52.8	45.1	35.8	23.8	11.1	6.8
140°	62.2	63.0	62.2	61.3	57.1	51.1	44.3	34.1	21.3	9.4	6.0
142.5°	63.9	63.0	62.2	60.5	54.5	49.4	41.7	31.5	18.7	8.5	4.3
145°	64.7	64.7	62.2	57.9	52.0	45.1	38.3	28.1	16.2	6.8	4.3
147.5°	63.0	63.0	58.8	53.7	47.7	41.7	34.1	23.8	13.6	5.1	3.4
150°	59.6	58.8	53.7	47.7	43.4	36.6	29.0	20.4	11.1	4.3	3.4
152.5°	52.8	52.0	46.8	41.7	35.8	30.7	24.7	16.2	9.4	3.4	2.6
155°	40.0	40.9	36.6	32.4	28.1	24.7	20.4	13.6	6.8	3.4	2.6
157.5°	30.7	29.8	28.1	26.4	23.0	20.4	16.2	11.1	5.1	2.6	1.7
160°	25.6	25.6	23.8	21.3	18.7	16.2	12.8	8.5	4.3	2.6	1.7
162.5°	21.3	21.3	19.6	17.9	15.3	12.8	9.4	6.0	3.4	1.7	1.7
165°	17.0	17.0	16.2	13.6	11.9	8.5	6.0	4.3	2.6	1.7	1.7
167.5°	12.8	12.8	11.9	10.2	7.7	6.0	4.3	3.4	2.6	1.7	1.7
170°	7.7	7.7	6.8	6.0	4.3	3.4	3.4	2.6	2.6	1.7	1.7
172.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.7	1.7	1.7
175°	0.9	0.9	0.9	1.7	1.7	2.6	1.7	1.7	1.7	1.7	1.7
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5
2.5°	2030.6	1999.1	1976.1	1956.5	1942.0	1919.0	1904.5	1902.8	1902.0	1892.6
5°	1989.7	1950.5	1907.1	1860.2	1827.0	1793.8	1761.4	1739.3	1734.2	1727.3
7.5°	1939.4	1880.7	1799.7	1747.8	1717.1	1722.2	1683.9	1632.8	1599.6	1605.5
10°	1894.3	1814.2	1720.5	1696.7	1595.3	1541.7	1488.0	1436.0	1407.9	1390.9
12.5°	1865.3	1748.6	1660.1	1553.6	1449.7	1336.4	1271.7	1258.9	1275.1	1272.5
15°	1838.1	1693.3	1600.4	1417.3	1279.3	1236.7	1204.4	1160.1	1114.1	1105.6
17.5°	1818.5	1643.0	1478.6	1288.7	1193.3	1088.5	960.8	913.9	908.0	905.4
20°	1777.6	1594.5	1384.9	1206.9	1072.3	893.5	814.3	741.9	694.2	688.2
22.5°	1718.0	1521.2	1272.5	1115.8	896.9	750.4	632.0	581.7	556.2	549.4
25°	1665.2	1424.1	1186.5	971.8	768.3	609.0	513.6	465.9	454.0	448.9
27.5°	1602.1	1332.1	1104.7	825.3	638.0	503.4	421.6	386.7	372.2	371.4
30°	1540.0	1240.1	987.2	717.2	539.2	416.5	355.2	322.0	310.0	305.8
32.5°	1474.4	1149.9	859.4	611.6	444.6	355.2	294.7	268.3	256.4	253.8
35°	1399.4	1060.4	744.4	525.5	379.9	289.6	245.3	212.9	201.0	201.0
37.5°	1321.1	975.3	649.0	439.5	315.1	241.9	194.2	172.1	161.8	160.1
40°	1235.9	897.7	568.1	370.5	258.1	194.2	157.6	134.6	127.8	126.9
42.5°	1151.6	788.7	494.9	310.0	214.6	157.6	125.2	109.0	103.1	101.4
45°	1032.3	691.6	409.7	254.7	173.8	128.6	101.4	86.0	79.2	78.4
47.5°	921.6	585.2	339.8	210.4	139.7	102.2	80.1	67.3	63.9	63.0
50°	831.3	508.5	281.1	169.5	115.8	80.9	63.0	54.5	49.4	48.5
52.5°	746.1	442.9	241.0	140.5	93.7	63.0	50.3	41.7	42.6	42.6
55°	674.6	391.8	200.2	119.2	75.0	49.4	37.5	34.1	36.6	36.6
57.5°	615.8	327.1	167.8	101.4	59.6	40.0	28.1	28.1	29.0	29.0
59°	576.6	294.7	149.1	90.3	52.0	33.2	23.0	23.8	23.0	22.1
60°	552.8	272.6	141.4	84.3	46.0	29.0	20.4	19.6	18.7	18.7
62.5°	480.4	216.3	119.2	68.1	34.9	18.7	12.8	11.1	10.2	9.4
65°	402.9	178.0	98.8	53.7	25.6	10.2	4.3	2.6	0.9	0.0
67.5°	314.3	144.8	80.9	41.7	17.0	3.4	0.0	0.0	0.0	0.0
70°	252.1	116.7	65.6	31.5	9.4	0.0	0.0	0.0	0.0	0.0
72.5°	196.8	95.4	52.8	22.1	2.6	0.0	0.0	0.0	0.0	0.0
75°	148.2	76.7	41.7	14.5	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	110.7	59.6	32.4	8.5	0.0	0.0	0.0	0.0	0.0	0.0
80°	86.0	46.8	24.7	5.1	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	64.7	35.8	17.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0
85°	49.4	28.1	13.6	1.7	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	38.3	22.1	10.2	1.7	0.0	0.0	0.0	0.0	0.0	0.0
90°	30.7	17.9	8.5	0.9	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	25.6	15.3	6.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0
95°	23.8	13.6	6.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	22.1	12.8	5.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0
100°	21.3	11.9	4.3	0.9	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	21.3	11.1	3.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0
105°	21.3	11.1	3.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	20.4	10.2	3.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P979124
 CATALOG NUMBER: WPSLED15S-50W-3500K

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	20.4	8.5	3.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	18.7	7.7	2.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0
115°	17.9	6.0	2.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	15.3	3.4	2.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0
120°	11.9	2.6	2.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	11.1	1.7	1.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0
125°	9.4	1.7	1.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	8.5	1.7	1.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0
130°	7.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	6.8	2.6	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
135°	6.0	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	4.3	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
140°	4.3	1.7	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
142.5°	3.4	2.6	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0
145°	3.4	1.7	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
147.5°	3.4	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0
150°	2.6	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0
152.5°	2.6	1.7	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
155°	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	1.7	1.7	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
160°	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
165°	1.7	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
170°	1.7	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

Report Prepared for

Cooper Lighting Solutions

Lumark

Report Number: SP1-2407-168-2

Test Date: 08/08/2024

Luminaire Tested: LSDL-92S-100W 3500k

Data in this report applies to families of products including LSDL-92S-100W 3500k.

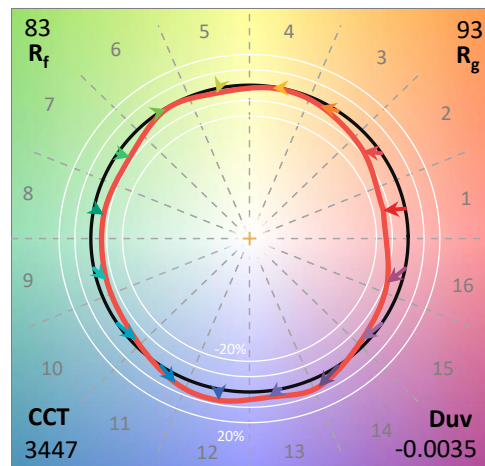
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-168-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/12/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Lumark
 Catalog Number: **LSDL-92S-100W 3500k**
 Description: Lumark Wallpack 100W

Spectral Parameters

CCT (K): 3447
 CIE u': 0.2387
 CIE v': 0.5076
 Duv: -0.0035
 CIE x: 0.4046
 CIE y: 0.3824
 CIE z: 0.2130
 Peak Wavelength (nm): 597
 Dominant Wavelength (nm): 582
 Purity: 36.18615
 Rf: 82.6
 Rg: 93

CRI (Ra):	81.3		
R1:	80.7	R9:	-0.6
R2:	93.3	R10:	84.3
R3:	92.2	R11:	76.0
R4:	77.2	R12:	69.4
R5:	81.3	R13:	84.3
R6:	90.3	R14:	96.4
R7:	79.5	R15:	73.7
R8:	55.9		



Test Conditions

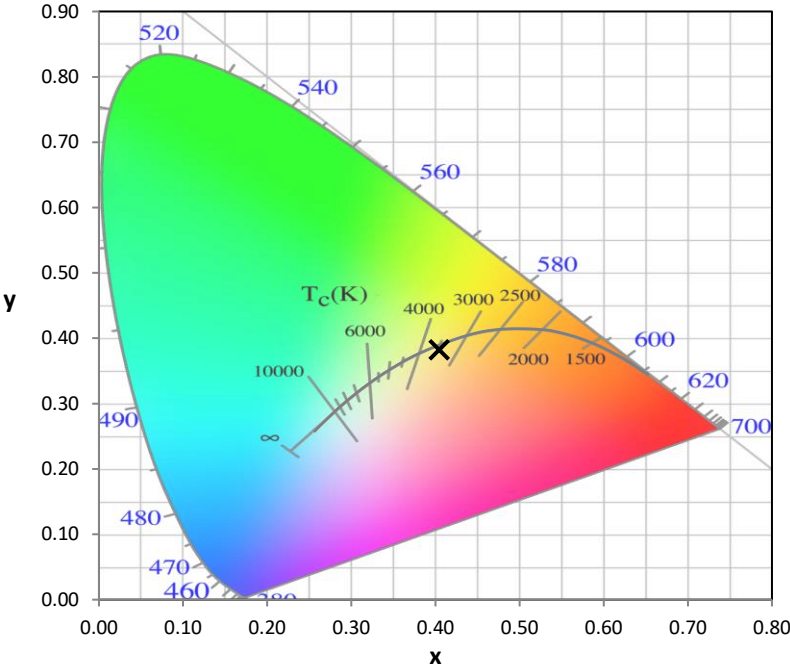
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-168-2

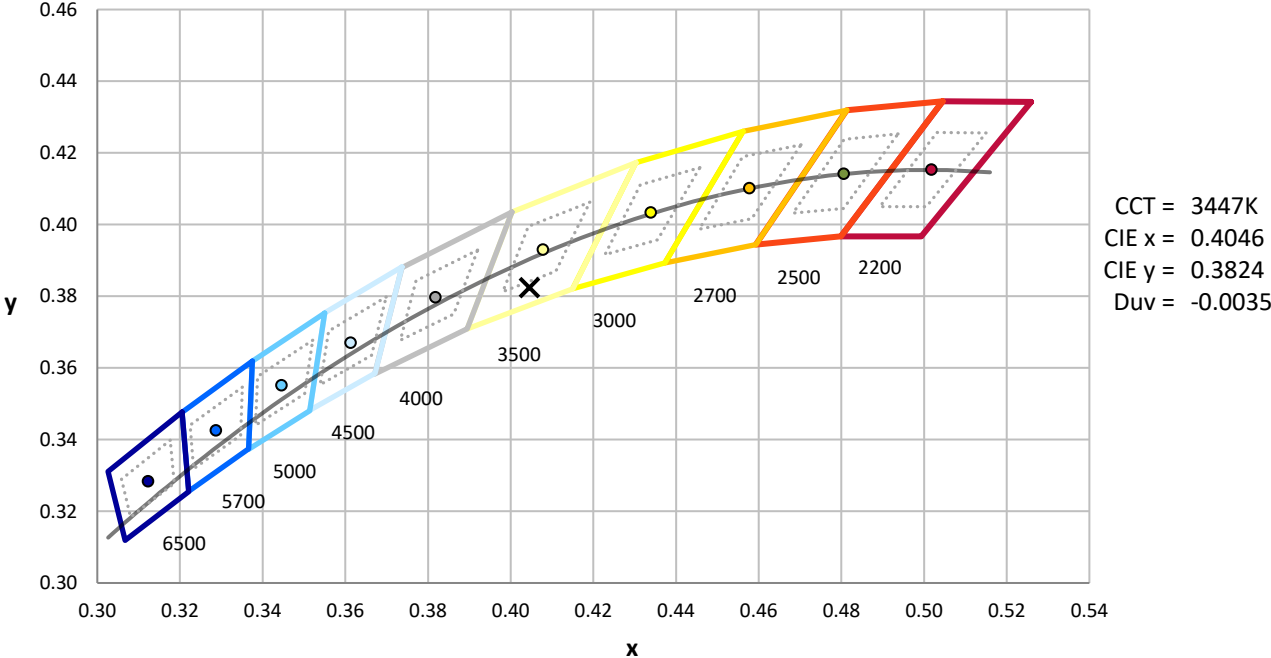
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

REPORT NUMBER: SP1-2407-168-2

CIE 1931 Chromaticity Diagram



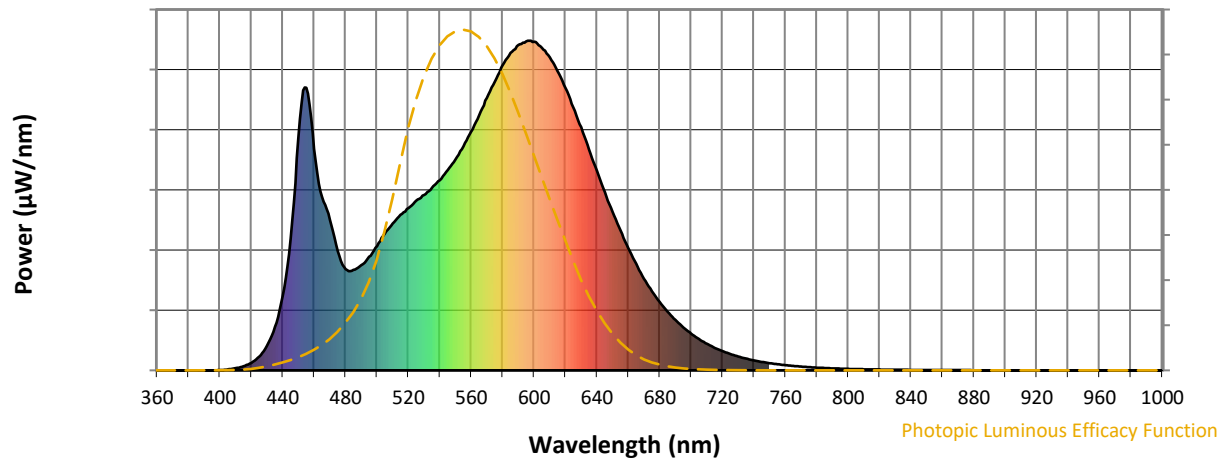
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 7-step quadrangle

REPORT NUMBER: SP1-2407-168-2

Photopic Flux vs. Wavelength

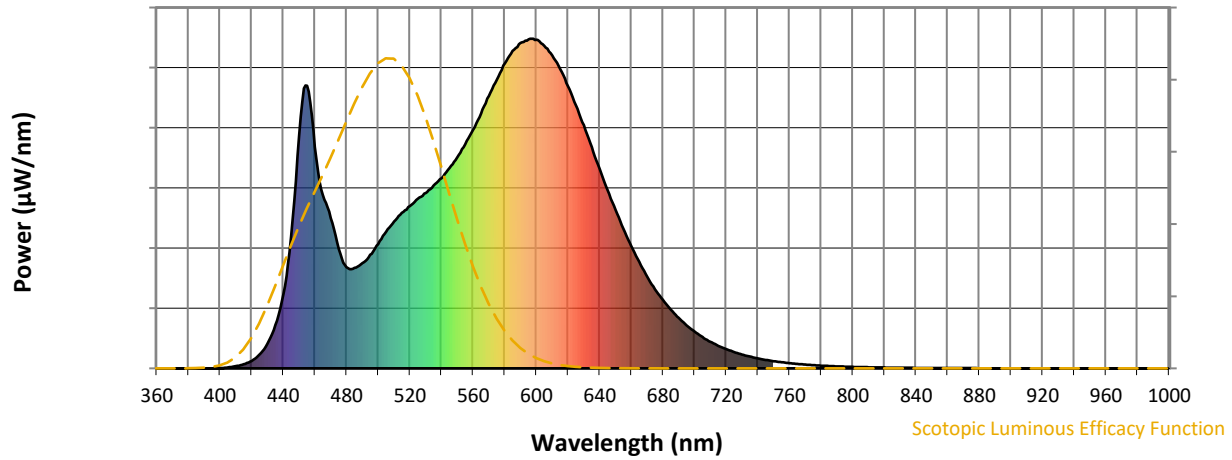


Photopic Lumens: NR

λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)
360	0	NR	490	319	NR	620	856	NR	750	22	NR	880	1	NR
365	0	NR	495	344	NR	625	798	NR	755	18	NR	885	0	NR
370	0	NR	500	377	NR	630	738	NR	760	16	NR	890	0	NR
375	0	NR	505	415	NR	635	671	NR	765	13	NR	895	0	NR
380	0	NR	510	445	NR	640	606	NR	770	11	NR	900	0	NR
385	0	NR	515	472	NR	645	541	NR	775	10	NR	905	0	NR
390	0	NR	520	492	NR	650	481	NR	780	8	NR	910	0	NR
395	0	NR	525	514	NR	655	424	NR	785	7	NR	915	0	NR
400	1	NR	530	532	NR	660	371	NR	790	6	NR	920	0	NR
405	3	NR	535	554	NR	665	323	NR	795	5	NR	925	0	NR
410	6	NR	540	577	NR	670	278	NR	800	4	NR	930	0	NR
415	12	NR	545	608	NR	675	240	NR	805	4	NR	935	0	NR
420	23	NR	550	640	NR	680	207	NR	810	3	NR	940	0	NR
425	42	NR	555	680	NR	685	178	NR	815	3	NR	945	0	NR
430	75	NR	560	725	NR	690	154	NR	820	3	NR	950	0	NR
435	132	NR	565	774	NR	695	131	NR	825	2	NR	955	0	NR
440	225	NR	570	826	NR	700	111	NR	830	2	NR	960	0	NR
445	400	NR	575	875	NR	705	95	NR	835	2	NR	965	0	NR
450	706	NR	580	925	NR	710	80	NR	840	1	NR	970	0	NR
455	858	NR	585	963	NR	715	68	NR	845	1	NR	975	0	NR
460	672	NR	590	987	NR	720	58	NR	850	1	NR	980	0	NR
465	526	NR	595	998	NR	725	49	NR	855	1	NR	985	0	NR
470	456	NR	600	997	NR	730	42	NR	860	1	NR	990	0	NR
475	363	NR	605	978	NR	735	36	NR	865	1	NR	995	0	NR
480	307	NR	610	950	NR	740	30	NR	870	1	NR	1000	0	NR
485	305	NR	615	908	NR	745	26	NR	875	1	NR			

REPORT NUMBER: SP1-2407-168-2

Scotopic Flux vs. Wavelength



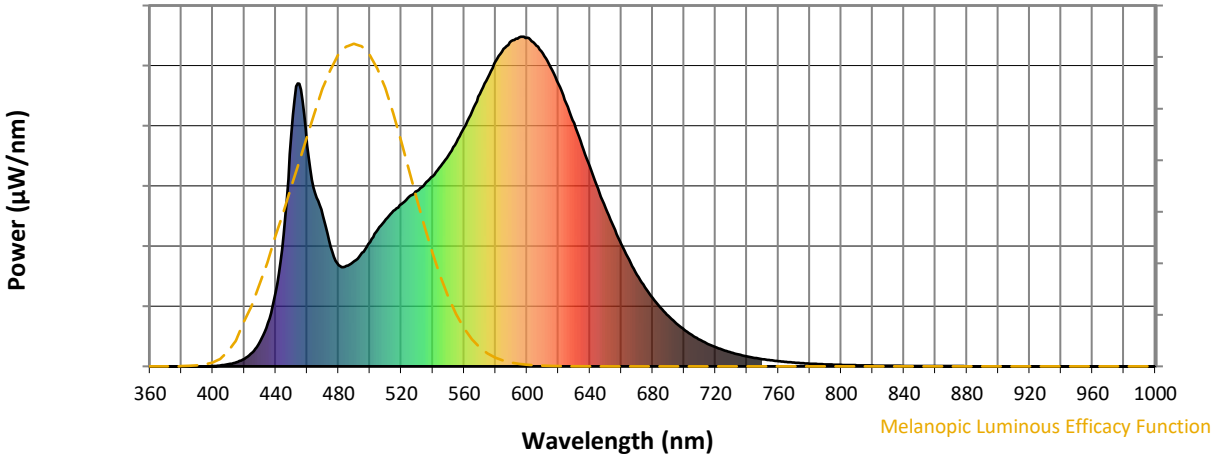
Scotopic Lumens: NR

S/P: 1.56

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	319	NR	620	856	NR	750	22	NR	880	1	NR
365	0	NR	495	344	NR	625	798	NR	755	18	NR	885	0	NR
370	0	NR	500	377	NR	630	738	NR	760	16	NR	890	0	NR
375	0	NR	505	415	NR	635	671	NR	765	13	NR	895	0	NR
380	0	NR	510	445	NR	640	606	NR	770	11	NR	900	0	NR
385	0	NR	515	472	NR	645	541	NR	775	10	NR	905	0	NR
390	0	NR	520	492	NR	650	481	NR	780	8	NR	910	0	NR
395	0	NR	525	514	NR	655	424	NR	785	7	NR	915	0	NR
400	1	NR	530	532	NR	660	371	NR	790	6	NR	920	0	NR
405	3	NR	535	554	NR	665	323	NR	795	5	NR	925	0	NR
410	6	NR	540	577	NR	670	278	NR	800	4	NR	930	0	NR
415	12	NR	545	608	NR	675	240	NR	805	4	NR	935	0	NR
420	23	NR	550	640	NR	680	207	NR	810	3	NR	940	0	NR
425	42	NR	555	680	NR	685	178	NR	815	3	NR	945	0	NR
430	75	NR	560	725	NR	690	154	NR	820	3	NR	950	0	NR
435	132	NR	565	774	NR	695	131	NR	825	2	NR	955	0	NR
440	225	NR	570	826	NR	700	111	NR	830	2	NR	960	0	NR
445	400	NR	575	875	NR	705	95	NR	835	2	NR	965	0	NR
450	706	NR	580	925	NR	710	80	NR	840	1	NR	970	0	NR
455	858	NR	585	963	NR	715	68	NR	845	1	NR	975	0	NR
460	672	NR	590	987	NR	720	58	NR	850	1	NR	980	0	NR
465	526	NR	595	998	NR	725	49	NR	855	1	NR	985	0	NR
470	456	NR	600	997	NR	730	42	NR	860	1	NR	990	0	NR
475	363	NR	605	978	NR	735	36	NR	865	1	NR	995	0	NR
480	307	NR	610	950	NR	740	30	NR	870	1	NR	1000	0	NR
485	305	NR	615	908	NR	745	26	NR	875	1	NR			

REPORT NUMBER: SP1-2407-168-2

Melanopic Flux vs. Wavelength



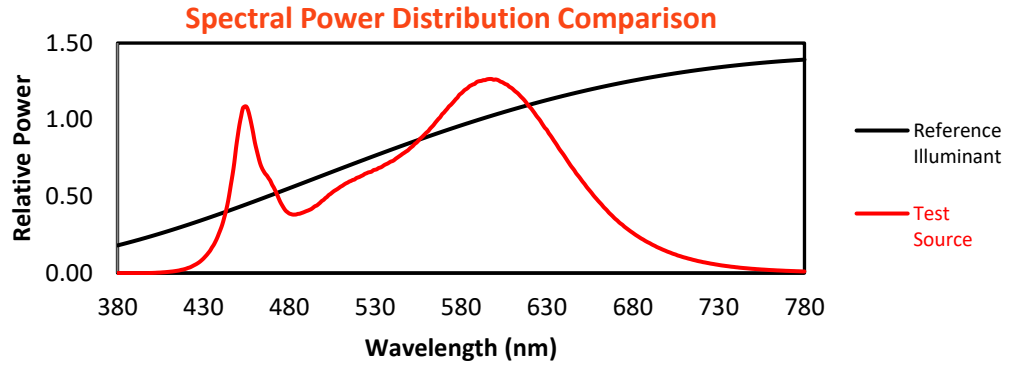
Melanopic Lumens: NR

M/P: 3.22

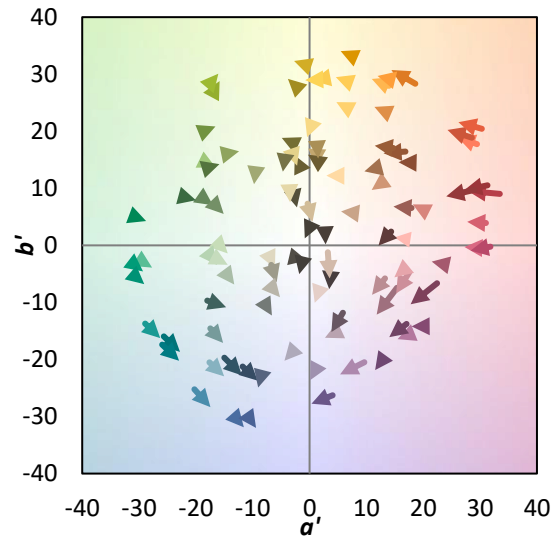
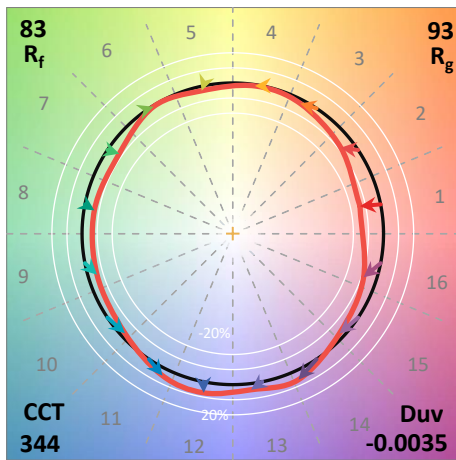
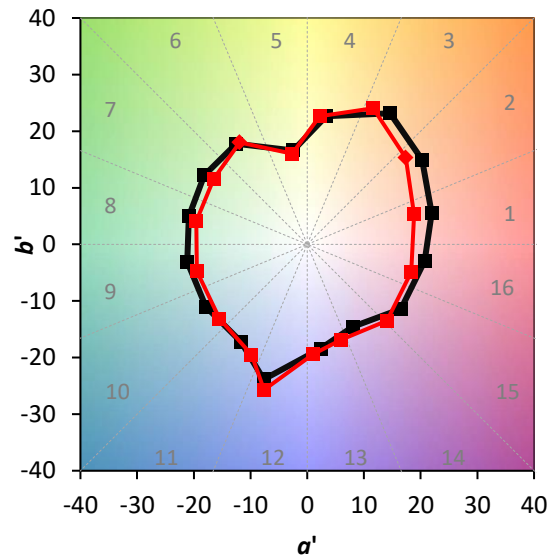
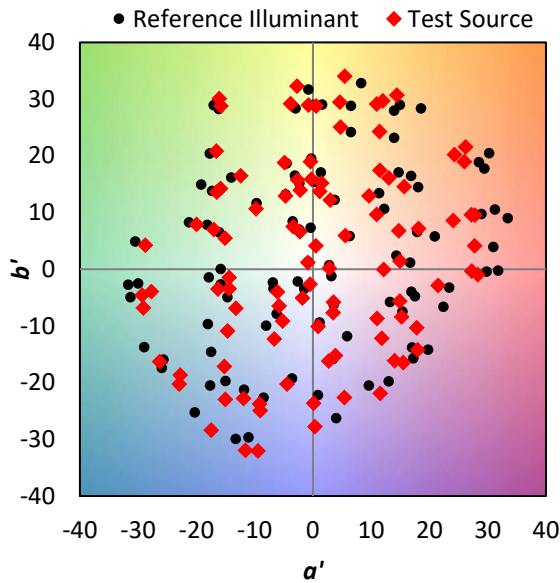
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	319	NR	620	856	NR	750	22	NR	880	1	NR
365	0	NR	495	344	NR	625	798	NR	755	18	NR	885	0	NR
370	0	NR	500	377	NR	630	738	NR	760	16	NR	890	0	NR
375	0	NR	505	415	NR	635	671	NR	765	13	NR	895	0	NR
380	0	NR	510	445	NR	640	606	NR	770	11	NR	900	0	NR
385	0	NR	515	472	NR	645	541	NR	775	10	NR	905	0	NR
390	0	NR	520	492	NR	650	481	NR	780	8	NR	910	0	NR
395	0	NR	525	514	NR	655	424	NR	785	7	NR	915	0	NR
400	1	NR	530	532	NR	660	371	NR	790	6	NR	920	0	NR
405	3	NR	535	554	NR	665	323	NR	795	5	NR	925	0	NR
410	6	NR	540	577	NR	670	278	NR	800	4	NR	930	0	NR
415	12	NR	545	608	NR	675	240	NR	805	4	NR	935	0	NR
420	23	NR	550	640	NR	680	207	NR	810	3	NR	940	0	NR
425	42	NR	555	680	NR	685	178	NR	815	3	NR	945	0	NR
430	75	NR	560	725	NR	690	154	NR	820	3	NR	950	0	NR
435	132	NR	565	774	NR	695	131	NR	825	2	NR	955	0	NR
440	225	NR	570	826	NR	700	111	NR	830	2	NR	960	0	NR
445	400	NR	575	875	NR	705	95	NR	835	2	NR	965	0	NR
450	706	NR	580	925	NR	710	80	NR	840	1	NR	970	0	NR
455	858	NR	585	963	NR	715	68	NR	845	1	NR	975	0	NR
460	672	NR	590	987	NR	720	58	NR	850	1	NR	980	0	NR
465	526	NR	595	998	NR	725	49	NR	855	1	NR	985	0	NR
470	456	NR	600	997	NR	730	42	NR	860	1	NR	990	0	NR
475	363	NR	605	978	NR	735	36	NR	865	1	NR	995	0	NR
480	307	NR	610	950	NR	740	30	NR	870	1	NR	1000	0	NR
485	305	NR	615	908	NR	745	26	NR	875	1	NR			

Summary

$R_f = 82.6$
 $R_g = 93$
 CIE $R_a = 81.3$
 $R_9 = -0.6$

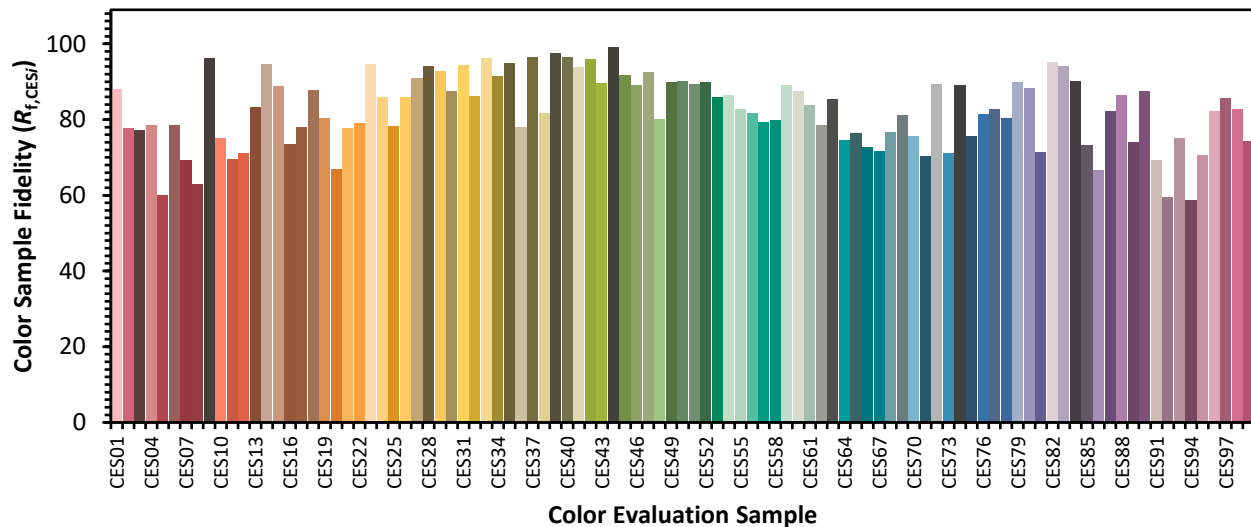


Color Vector Graphics

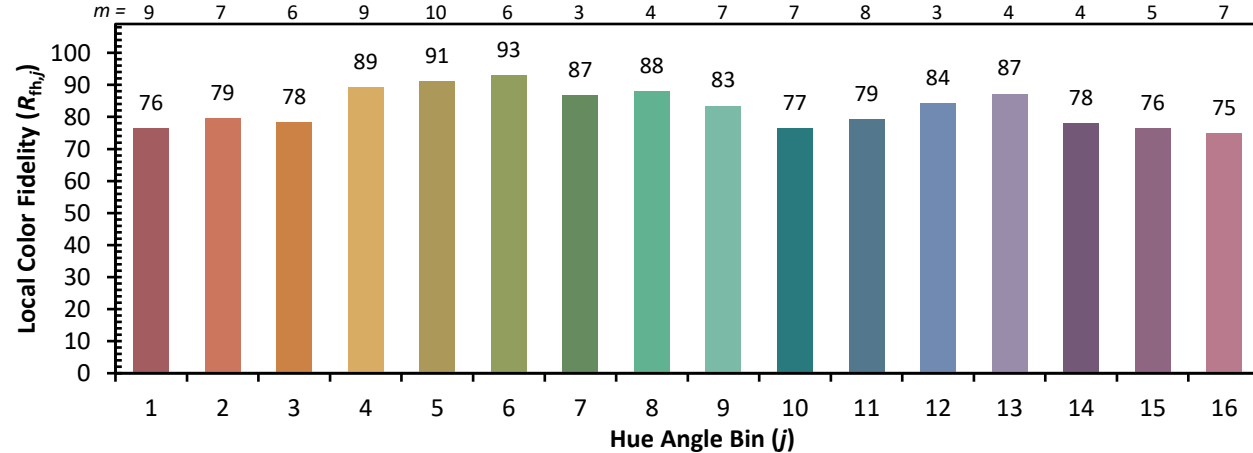
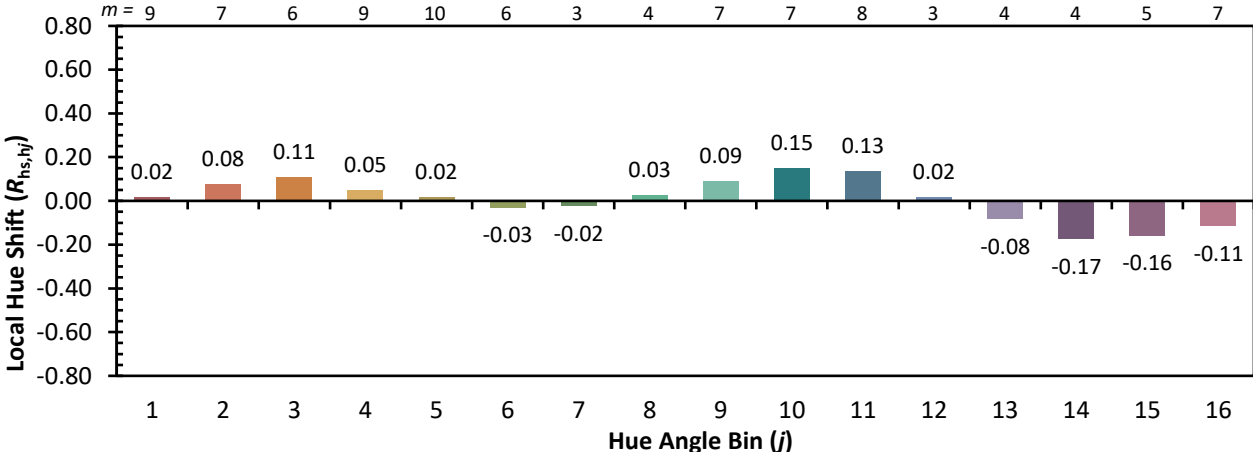
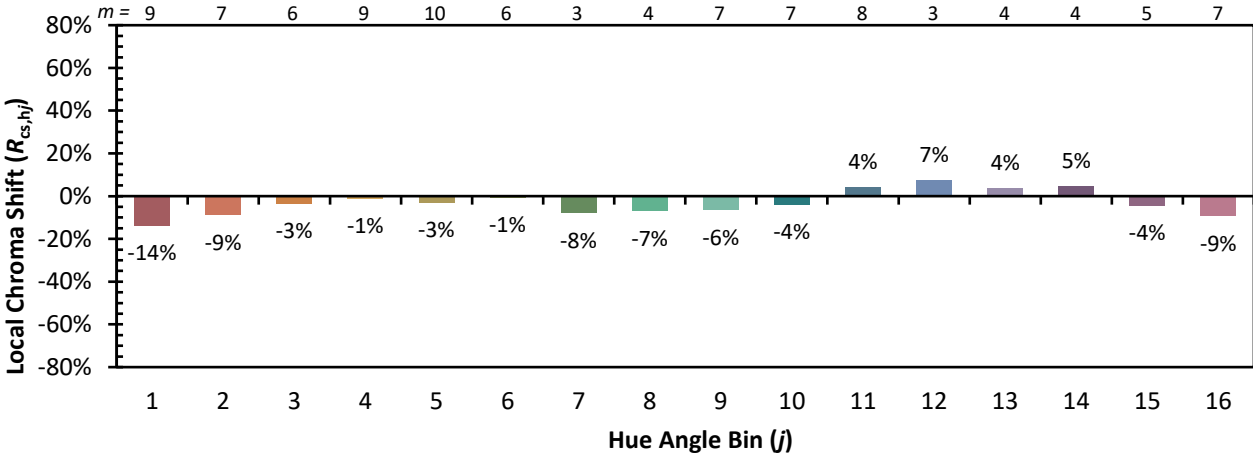


Individual Sample Fidelity Index ($R_{f,i}$)

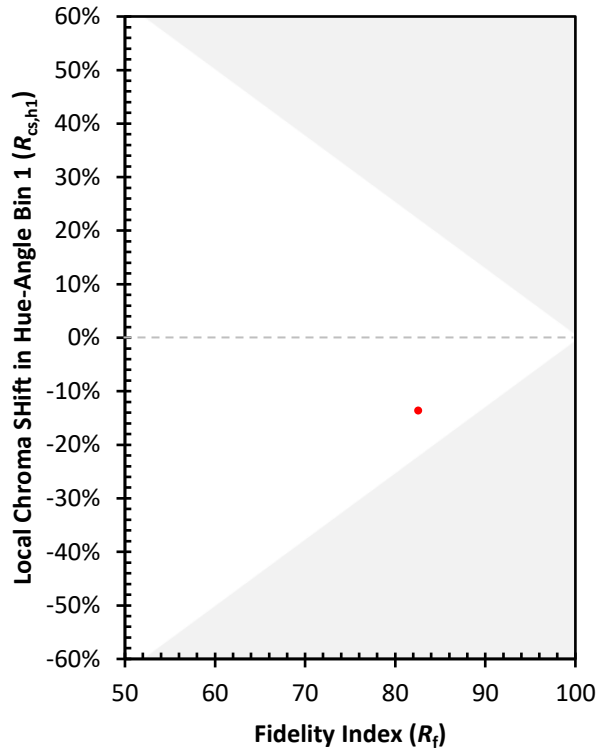
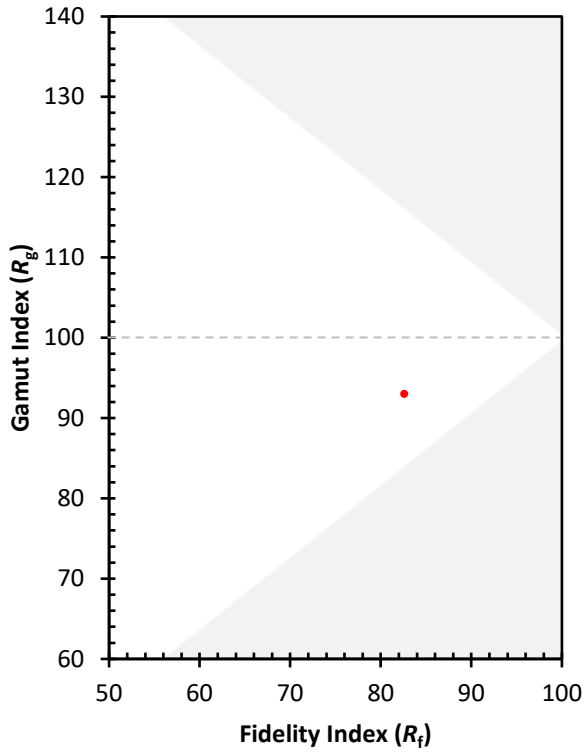
CES01 = 86	CES26 = 86	CES51 = 89	CES76 = 81
CES02 = 62	CES27 = 91	CES52 = 90	CES77 = 83
CES03 = 31	CES28 = 94	CES53 = 86	CES78 = 80
CES04 = 70	CES29 = 93	CES54 = 86	CES79 = 90
CES05 = 49	CES30 = 87	CES55 = 83	CES80 = 88
CES06 = 51	CES31 = 94	CES56 = 82	CES81 = 71
CES07 = 41	CES32 = 86	CES57 = 79	CES82 = 95
CES08 = 40	CES33 = 96	CES58 = 80	CES83 = 94
CES09 = 29	CES34 = 91	CES59 = 89	CES84 = 90
CES10 = 75	CES35 = 95	CES60 = 88	CES85 = 73
CES11 = 58	CES36 = 78	CES61 = 84	CES86 = 67
CES12 = 64	CES37 = 96	CES62 = 79	CES87 = 82
CES13 = 43	CES38 = 82	CES63 = 86	CES88 = 86
CES14 = 74	CES39 = 97	CES64 = 74	CES89 = 74
CES15 = 71	CES40 = 96	CES65 = 76	CES90 = 88
CES16 = 47	CES41 = 94	CES66 = 73	CES91 = 69
CES17 = 50	CES42 = 96	CES67 = 72	CES92 = 59
CES18 = 56	CES43 = 90	CES68 = 77	CES93 = 75
CES19 = 72	CES44 = 99	CES69 = 81	CES94 = 59
CES20 = 66	CES45 = 92	CES70 = 76	CES95 = 71
CES21 = 86	CES46 = 89	CES71 = 70	CES96 = 82
CES22 = 79	CES47 = 92	CES72 = 89	CES97 = 86
CES23 = 92	CES48 = 80	CES73 = 71	CES98 = 83
CES24 = 91	CES49 = 90	CES74 = 89	CES99 = 74
CES25 = 72	CES50 = 90	CES75 = 76	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)