

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: P979131

Luminaire Tested: **WPSLED15S-40W-5000K**

Issue Date: 03/31/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P979131  
Test Lab: Cooper Lighting Solutions  
Issue Date: 03/31/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: WPSLED15S-40W-5000K  
Description: LUMARK WALL PACK LED SMALL 80CRI CCT AND LUMEN SELECTIVE FIXTURE  
OPERATING @40W-5000K  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

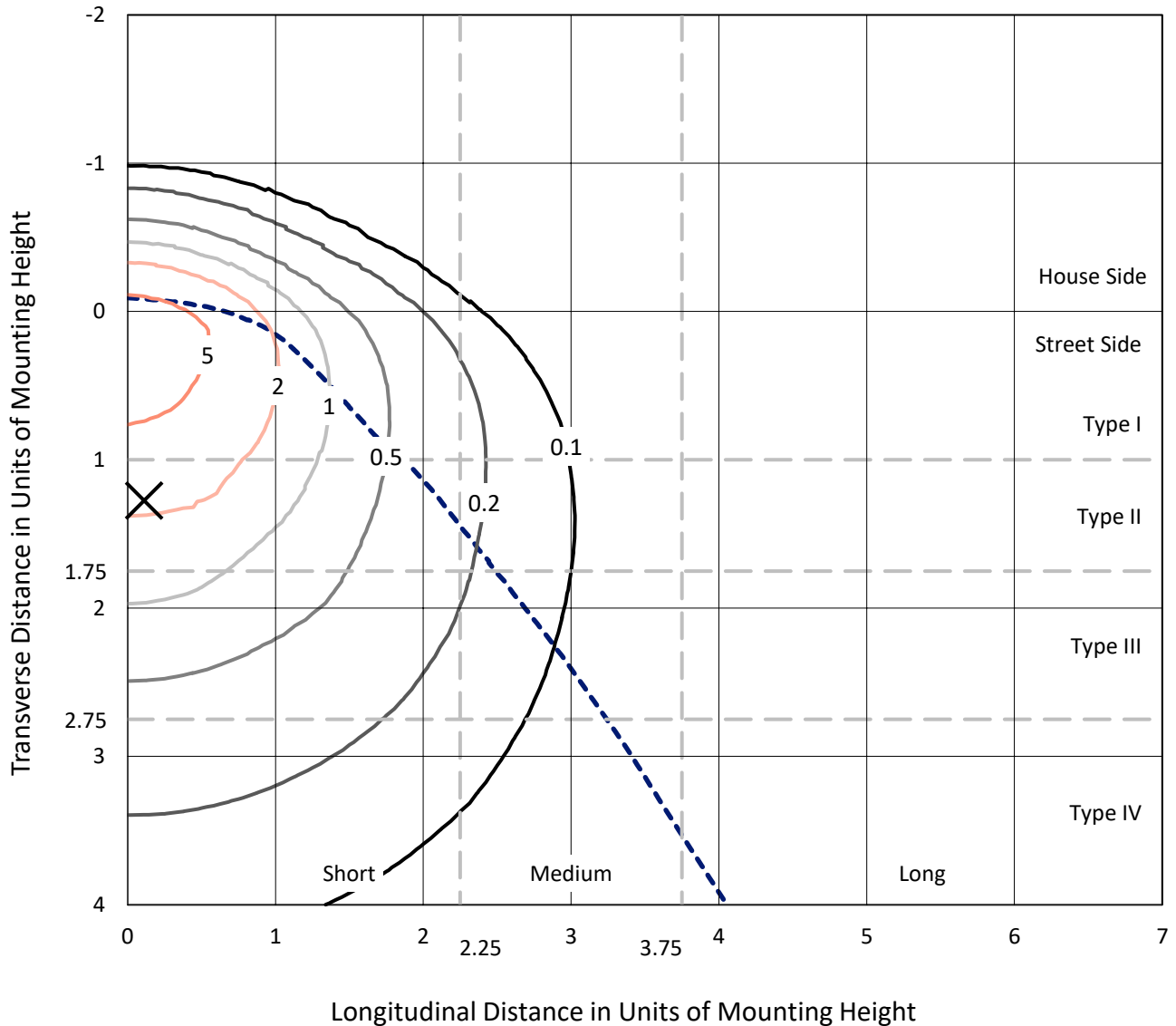
Lumens per Lamp: N/A  
Luminaire Lumens: 6059.6 lumens  
Efficiency: N/A  
Efficacy: 152.3 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.61' x L: 0.12' x H: 0.44')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U3 - G4

Input Watts (W): 39.8  
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

REPORT NUMBER: P979131  
 CATALOG NUMBER: WPSLED15S-40W-5000K

### Iso-Footcandle Lines of Horizontal Illumination

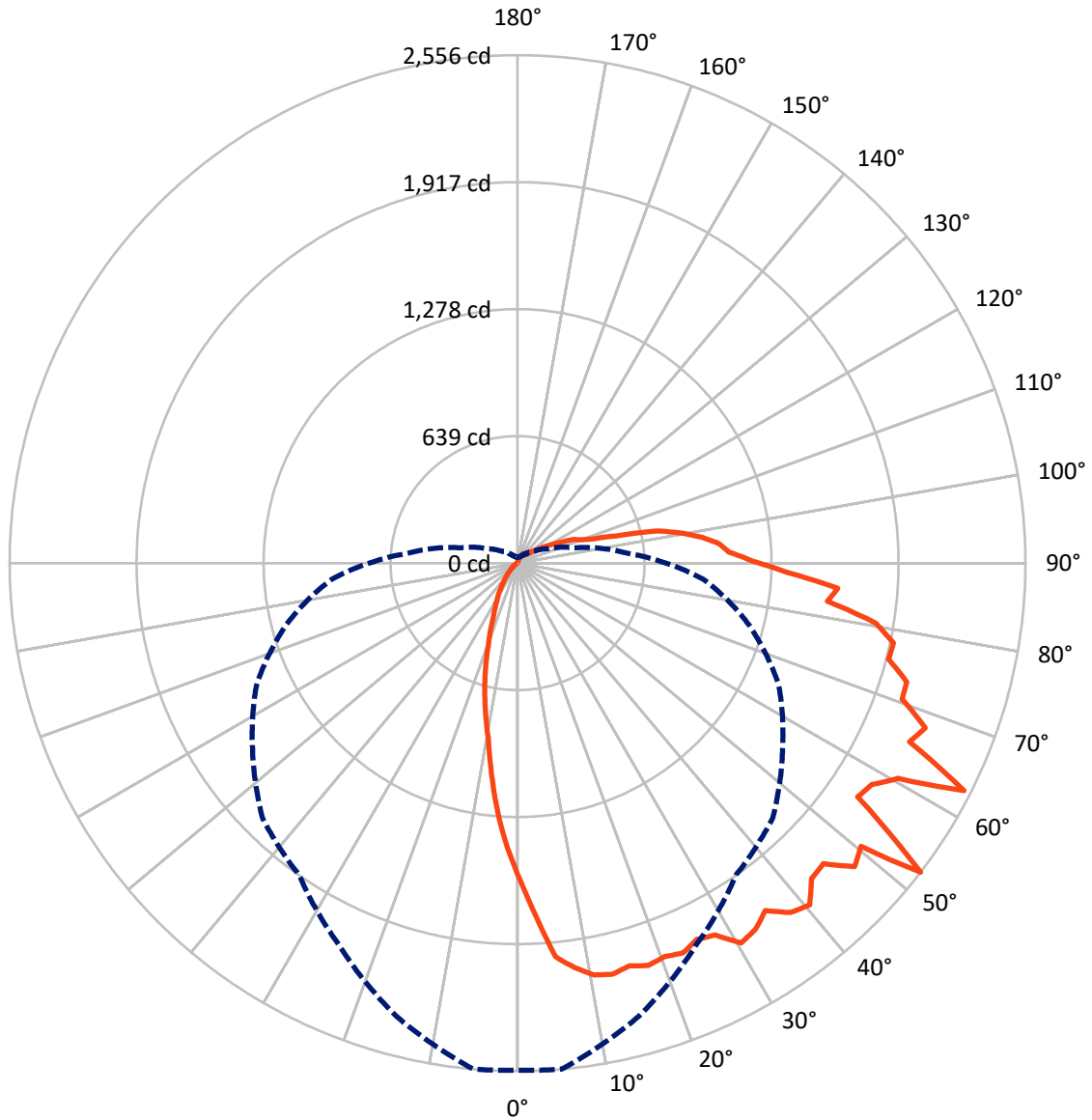
× Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 8.9 fc  
 Type IV - Short - N/A

REPORT NUMBER: P979131  
CATALOG NUMBER: WPSLED15S-40W-5000K

### Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral      - - - Horizontal Cone Through 52-Deg Vertical

REPORT NUMBER: P979131  
 CATALOG NUMBER: WPSLED15S-40W-5000K

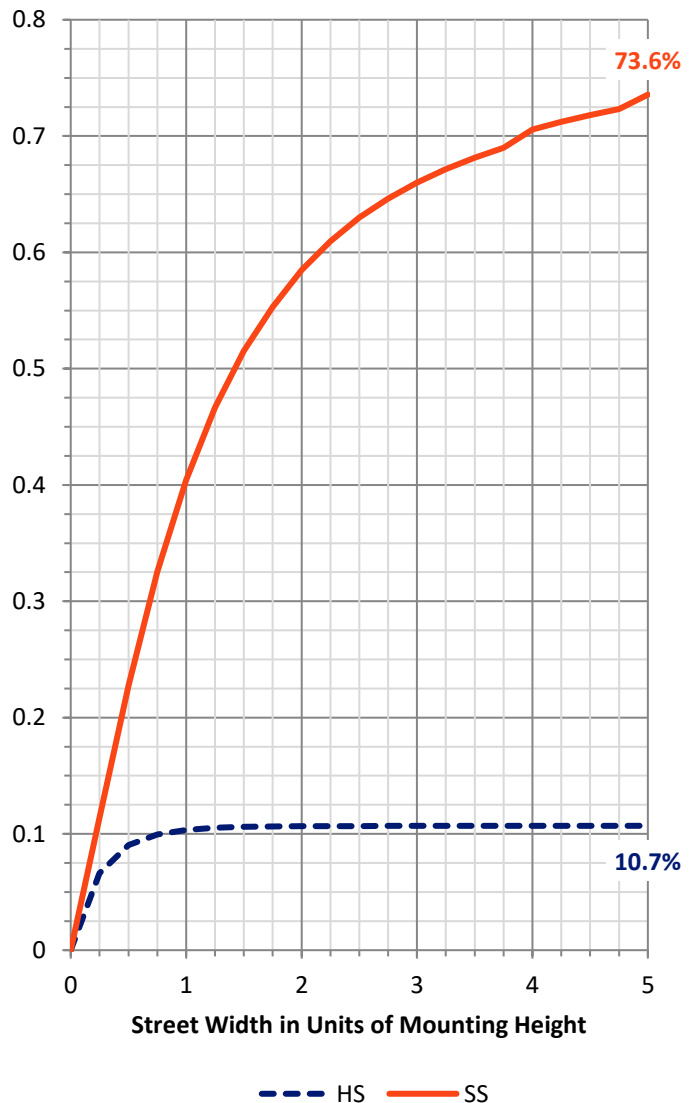
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	655.3	6.7	662.0
	% Fixture	10.8	0.1	10.9
<b>Street Side</b>	Lumens	4812.6	585.0	5397.6
	% Fixture	79.4	9.7	89.1
<b>Total</b>	Lumens	5468.0	591.7	6059.6
	% Fixture	90.2	9.8	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.8	2.5
10°-20°	403.9	6.7
20°-30°	583.2	9.6
30°-40°	710.8	11.7
40°-50°	786.4	13.0
50°-60°	812.1	13.4
60°-70°	807.0	13.3
70°-80°	702.4	11.6
80°-90°	511.4	8.4
90°-100°	307.9	5.1
100°-110°	148.4	2.4
110°-120°	66.8	1.1
120°-130°	31.9	0.5
130°-140°	17.8	0.3
140°-150°	11.9	0.2
150°-160°	5.4	0.1
160°-170°	1.5	0.0
170°-180°	0.1	0.0
0°-90°	5468.0	90.2
0°-180°	6059.6	100.0



REPORT NUMBER: P979131

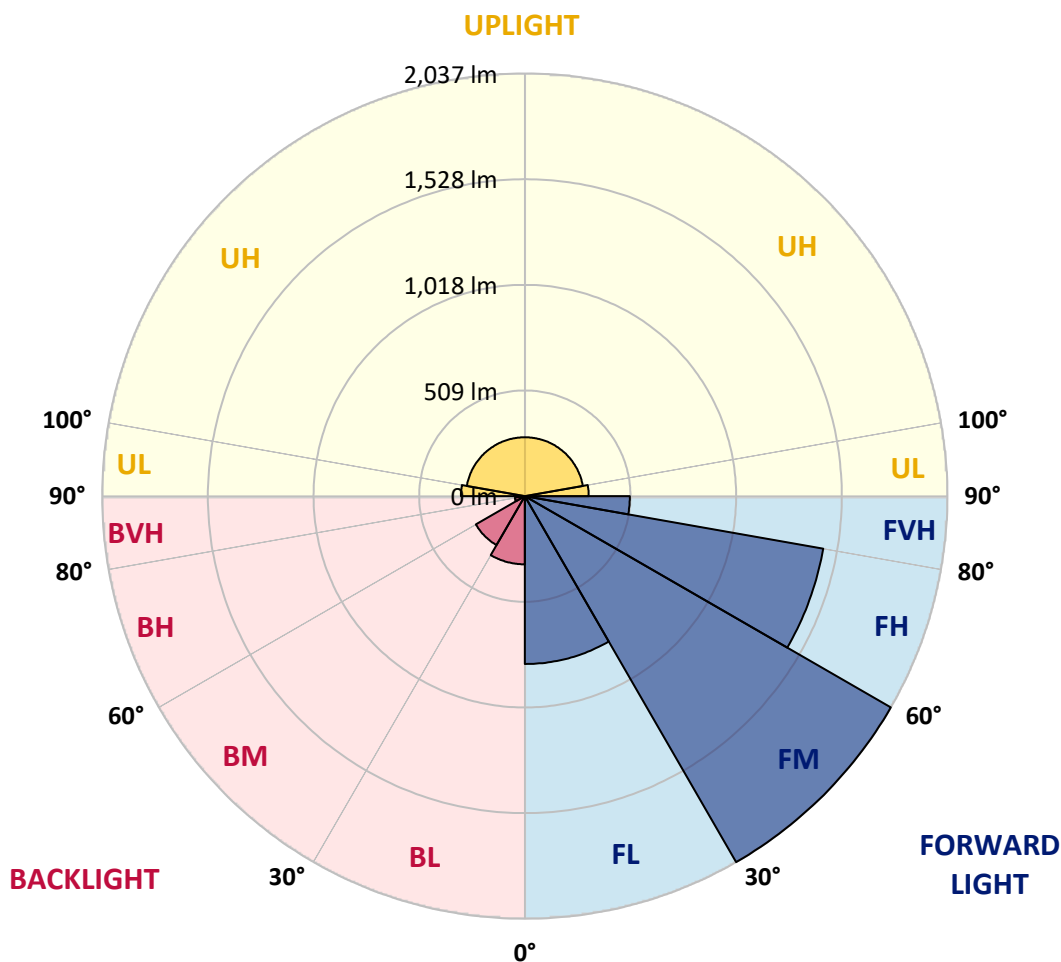
CATALOG NUMBER: WPSLED15S-40W-5000K

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	809.2	13.4			
FM (30°-60°)	2036.9	33.6			
FH (60°-80°)	1460.4	24.1			G1/1800
FVH (80°-90°)	506.1	8.4			G4/750
BL (0°-30°)	328.6	5.4	B1/500		
BM (30°-60°)	272.4	4.5	B1/1000		
BH (60°-80°)	49.0	0.8	B0/110		G0/110
BVH (80°-90°)	5.3	0.1			G0/10
UL (90°-100°)	307.9	5.1		U3/500	
UH (100°-180°)	283.8	4.7		U3/500	

**BUG Rating: B1-U3-G4**

Type IV Short





REPORT NUMBER: P979131

CATALOG NUMBER: WPSLED15S-40W-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7
2.5°	1779.3	1779.3	1775.7	1771.4	1770.6	1767.8	1754.1	1720.3	1664.3	1612.6	1593.9
5°	1987.7	1989.8	1988.4	1946.0	1902.9	1838.2	1789.3	1752.7	1729.0	1621.9	1582.4
7.5°	2051.6	2054.5	2064.6	2046.6	2025.0	1992.7	1886.3	1776.4	1722.5	1616.1	1551.5
10°	2101.9	2107.7	2094.7	2053.1	2008.5	2003.5	1974.0	1842.5	1714.6	1611.1	1524.2
12.5°	2111.3	2122.8	2077.5	2035.1	2035.1	1998.4	1971.9	1909.3	1729.0	1612.6	1506.2
15°	2097.6	2103.4	2063.8	2049.5	2048.0	1989.8	1946.7	1929.5	1752.7	1609.0	1485.4
17.5°	2126.4	2128.5	2114.9	2073.9	1999.2	2012.8	1966.8	1923.7	1795.1	1603.2	1469.5
20°	2117.7	2113.4	2065.3	2043.7	2066.0	1969.0	1941.7	1893.5	1820.9	1588.1	1442.2
22.5°	2133.5	2131.4	2072.5	2058.1	2010.7	2009.2	1975.4	1896.4	1818.1	1565.8	1408.5
25°	2097.6	2097.6	2045.2	2043.0	2024.3	1980.5	1904.3	1874.1	1798.0	1542.1	1376.1
27.5°	2129.2	2119.2	2048.0	2020.0	2012.1	1952.5	1907.9	1844.7	1763.5	1506.9	1338.8
30°	2226.2	2217.6	2140.7	2043.0	1976.2	1961.1	1897.8	1821.7	1716.0	1464.5	1296.4
32.5°	2206.8	2198.2	2159.4	2124.2	1994.1	1926.6	1833.9	1761.3	1670.0	1418.5	1251.8
35°	2163.7	2147.2	2093.3	2096.2	2065.3	1903.6	1830.3	1700.2	1625.5	1374.7	1202.9
37.5°	2255.0	2231.3	2142.9	2073.9	2040.1	1905.7	1819.5	1693.8	1583.1	1327.3	1144.7
40°	2292.4	2262.9	2134.3	2133.5	1982.6	1949.6	1772.8	1681.5	1540.0	1272.7	1091.6
42.5°	2178.1	2170.2	2250.7	2124.2	2028.6	1887.8	1754.8	1637.0	1483.9	1207.3	1024.0
45°	2178.1	2157.3	2079.6	2118.4	2003.5	1836.8	1736.9	1590.3	1416.4	1140.4	952.9
47.5°	2316.1	2282.3	2150.1	2025.7	2017.8	1863.3	1711.0	1556.5	1337.3	1070.7	875.3
50°	2257.9	2239.9	2207.6	2120.6	1903.6	1861.9	1672.9	1503.3	1263.3	995.3	795.5
52°	2551.8	2556.1	2359.9	2122.8	1916.5	1815.2	1628.4	1449.4	1206.5	939.2	748.1
52.5°	2444.0	2474.9	2451.2	2096.9	1934.5	1790.8	1620.5	1430.7	1190.7	920.5	736.6
55°	2078.9	2076.8	2067.4	2264.3	1933.0	1716.7	1599.6	1366.8	1125.3	861.6	679.1
57.5°	2098.3	2102.6	2031.5	1978.3	2022.9	1703.8	1549.3	1292.8	1069.3	801.2	620.9
60°	2206.8	2200.4	2220.5	2011.4	1858.3	1700.2	1436.5	1236.7	1022.6	738.0	574.9
62.5°	2540.3	2521.6	2318.2	2055.9	1861.2	1709.6	1394.8	1188.6	968.7	685.5	526.7
65°	2175.2	2167.3	2127.8	2202.5	1895.0	1628.4	1378.3	1160.5	911.9	630.9	459.2
67.5°	2218.3	2213.3	2130.7	2004.2	1920.1	1627.6	1337.3	1101.6	857.3	561.2	388.8
70°	2054.5	2053.1	2006.3	1939.5	1792.9	1598.9	1275.5	1026.9	794.1	483.6	316.9
72.5°	2040.1	2048.0	1980.5	1870.5	1729.7	1486.1	1210.1	969.4	719.3	413.9	259.4
75°	1930.2	1928.7	1878.4	1782.1	1645.6	1409.9	1145.5	917.7	639.6	344.9	203.4
77.5°	1931.6	1933.8	1871.2	1747.6	1586.7	1328.7	1074.3	818.5	561.9	273.8	155.2
80°	1826.0	1827.4	1744.8	1640.6	1487.5	1243.9	975.9	735.1	477.9	209.8	114.3
82.5°	1563.0	1570.2	1516.3	1443.7	1333.7	1117.4	870.2	657.5	401.7	156.7	84.8
85°	1605.4	1616.9	1539.3	1435.1	1294.2	1049.2	777.5	564.8	318.3	112.1	62.5
87.5°	1341.6	1358.9	1302.1	1234.6	1112.4	901.1	667.6	459.9	250.1	84.8	48.1
90°	1171.3	1182.8	1139.0	1065.0	944.2	779.0	577.0	383.7	193.3	63.2	38.1
92.5°	1047.0	1064.3	1043.4	984.5	873.8	694.2	491.5	307.6	146.6	48.9	32.3
95°	1003.9	1019.0	962.2	875.3	766.0	603.6	407.4	246.5	112.8	39.5	28.0
97.5°	926.3	936.3	895.4	779.7	673.3	515.2	329.8	184.0	87.7	33.8	25.2
100°	829.3	832.9	775.4	699.2	572.7	414.6	250.8	143.7	71.1	30.9	23.0
102.5°	711.4	719.3	640.3	546.9	449.1	324.8	196.9	116.4	58.9	29.5	23.0
105°	507.3	511.6	465.7	415.4	350.0	251.5	163.8	97.7	49.6	28.7	23.0
107.5°	384.5	389.5	366.5	329.1	275.9	208.4	133.7	81.2	43.8	28.0	22.3



REPORT NUMBER: P979131  
 CATALOG NUMBER: WPSLED15S-40W-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	334.2	334.9	316.2	285.3	238.6	171.7	110.7	67.5	40.2	28.0	21.6
112.5°	298.2	303.3	280.3	249.4	201.9	146.6	92.7	57.5	38.8	27.3	20.8
115°	243.6	245.0	229.2	206.2	165.3	121.4	79.8	51.7	38.1	25.9	19.4
117.5°	204.1	203.4	191.9	168.2	136.5	100.6	70.4	48.1	36.6	23.7	18.0
120°	163.8	166.0	155.9	138.7	113.5	85.5	61.8	45.3	35.2	22.3	16.5
122.5°	138.7	139.4	131.5	116.4	93.4	73.3	54.6	42.4	33.8	20.8	14.4
125°	115.7	116.4	109.9	97.0	79.0	64.0	49.6	41.0	33.1	19.4	12.9
127.5°	98.4	99.2	92.7	81.2	68.3	57.5	47.4	40.2	32.3	17.2	11.5
130°	83.4	82.6	77.6	69.7	61.1	53.9	46.7	38.8	29.5	15.1	10.1
132.5°	70.4	69.7	66.1	61.8	56.1	52.5	45.3	37.4	26.6	13.7	8.6
135°	61.1	60.4	58.9	57.5	53.9	50.3	43.8	35.2	24.4	11.5	7.2
137.5°	55.3	56.1	56.8	56.1	51.7	48.1	41.7	33.1	21.6	10.1	5.7
140°	57.5	56.8	56.1	55.3	51.0	46.0	40.2	31.6	19.4	8.6	5.0
142.5°	57.5	57.5	56.8	54.6	48.9	44.6	38.1	29.5	17.2	7.2	4.3
145°	57.5	57.5	55.3	51.7	47.4	41.7	35.2	25.9	15.1	5.7	3.6
147.5°	56.8	56.8	53.2	48.1	43.1	38.8	31.6	22.3	12.9	5.0	3.6
150°	53.9	53.2	48.1	43.1	39.5	34.5	26.6	19.4	10.8	4.3	2.9
152.5°	46.7	46.7	43.1	38.1	33.1	28.7	23.0	15.8	8.6	3.6	2.2
155°	37.4	36.6	33.8	30.2	26.6	24.4	19.4	13.7	7.2	2.9	2.2
157.5°	28.7	28.0	26.6	24.4	23.0	20.8	15.8	10.8	5.7	2.9	2.2
160°	25.2	25.2	23.0	21.6	19.4	16.5	12.9	8.6	4.3	2.2	1.4
162.5°	21.6	21.6	19.4	18.0	15.1	12.2	9.3	5.7	3.6	2.2	1.4
165°	16.5	16.5	15.1	13.7	11.5	8.6	6.5	4.3	2.9	2.2	1.4
167.5°	12.2	12.2	10.8	10.1	7.9	5.7	4.3	3.6	2.2	2.2	1.4
170°	7.2	7.2	6.5	5.7	4.3	3.6	3.6	2.9	2.2	1.4	1.4
172.5°	2.9	2.9	2.9	2.2	2.9	2.9	2.9	2.2	2.2	1.4	1.4
175°	0.7	0.7	1.4	1.4	2.2	2.2	2.2	2.2	2.2	1.4	1.4
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





REPORT NUMBER: P979131  
 CATALOG NUMBER: WPSLED15S-40W-5000K

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7	1596.7
2.5°	1580.9	1560.8	1522.7	1478.9	1458.1	1444.4	1437.9	1437.9	1435.1	1437.9
5°	1559.4	1481.0	1434.3	1397.7	1351.7	1320.1	1297.1	1274.1	1260.4	1259.7
7.5°	1517.0	1413.5	1350.3	1286.3	1215.2	1170.6	1123.9	1089.4	1070.7	1073.6
10°	1469.5	1362.5	1263.3	1172.8	1073.6	1012.5	955.0	921.3	893.2	889.6
12.5°	1431.5	1303.6	1167.7	1037.7	938.5	853.7	797.7	779.7	770.3	767.5
15°	1397.0	1243.2	1083.7	931.3	812.7	751.7	712.9	678.4	659.0	659.7
17.5°	1371.1	1183.5	991.0	830.7	727.2	651.1	584.9	559.8	551.2	553.3
20°	1337.3	1117.4	914.8	755.3	638.1	549.0	500.1	457.0	441.2	439.8
22.5°	1292.8	1049.2	832.9	674.8	546.9	462.8	403.9	374.4	362.2	358.6
25°	1248.2	976.6	758.8	592.8	475.7	388.8	333.4	304.0	290.3	288.9
27.5°	1201.5	906.2	692.0	510.9	401.0	326.2	271.6	250.1	243.6	240.7
30°	1149.1	844.4	613.7	444.1	342.1	271.6	234.3	213.4	206.2	204.8
32.5°	1092.3	778.2	538.2	383.7	291.0	233.5	197.6	183.2	175.3	175.3
35°	1031.9	710.7	469.2	332.7	247.2	198.3	167.4	150.2	140.8	139.4
37.5°	968.7	643.2	409.6	286.0	211.3	168.2	137.3	122.2	117.1	114.3
40°	904.0	579.2	357.1	245.8	177.5	136.5	112.1	97.7	92.7	92.7
42.5°	836.5	511.6	309.7	209.8	150.9	112.8	90.5	79.0	74.7	75.5
45°	761.0	446.3	263.7	177.5	125.0	92.0	74.0	63.2	58.2	57.5
47.5°	679.1	383.7	225.6	150.2	102.8	75.5	59.6	50.3	46.7	45.3
50°	610.8	330.6	191.1	123.6	85.5	60.4	46.7	39.5	35.9	35.2
52°	557.6	296.1	171.0	107.8	73.3	50.3	38.8	32.3	30.9	31.6
52.5°	548.3	288.2	166.7	104.9	69.7	48.1	36.6	30.2	30.2	30.9
55°	493.0	253.7	144.4	89.1	56.8	38.1	27.3	24.4	25.9	25.2
57.5°	447.7	214.9	122.2	76.2	46.0	29.5	19.4	19.4	19.4	18.7
60°	399.5	184.7	104.9	64.7	35.9	20.8	13.7	12.2	10.8	10.8
62.5°	343.5	153.8	90.5	53.2	27.3	12.9	7.2	5.7	5.0	5.0
65°	288.9	128.6	76.9	43.1	19.4	6.5	1.4	0.0	0.0	0.0
67.5°	234.3	108.5	64.0	33.8	12.9	1.4	0.0	0.0	0.0	0.0
70°	189.0	89.8	53.2	25.2	6.5	0.0	0.0	0.0	0.0	0.0
72.5°	149.5	74.7	43.1	17.2	1.4	0.0	0.0	0.0	0.0	0.0
75°	115.7	61.1	33.8	10.8	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	88.4	48.9	25.9	6.5	0.0	0.0	0.0	0.0	0.0	0.0
80°	68.3	38.8	20.1	3.6	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	52.5	30.9	15.1	2.2	0.0	0.0	0.0	0.0	0.0	0.0
85°	41.0	23.7	11.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	33.1	18.7	7.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0
90°	26.6	15.1	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	23.0	12.2	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	19.4	10.1	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	18.0	9.3	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	17.2	8.6	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	17.2	7.9	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	17.2	7.9	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	16.5	7.2	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P979131  
 CATALOG NUMBER: WPSLED15S-40W-5000K

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	16.5	6.5	2.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	15.8	5.0	2.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
115°	14.4	3.6	2.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	12.9	2.2	2.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
120°	10.1	1.4	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	8.6	1.4	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
125°	7.9	0.7	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	7.9	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
130°	6.5	2.2	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	5.7	2.2	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
135°	5.0	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	4.3	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
140°	3.6	2.2	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
142.5°	2.9	2.2	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0
145°	2.9	2.2	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0
147.5°	2.9	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0
150°	2.2	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0
152.5°	2.2	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0
155°	2.2	1.4	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
157.5°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
160°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
165°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
170°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	1.4	0.7	0.7	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

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

Lumark

Report Number: SP1-2407-168-4

Test Date: 08/08/2024

Luminaire Tested: LSDL-92S-100W 5000k

Data in this report applies to families of products including LSDL-92S-100W 5000k.

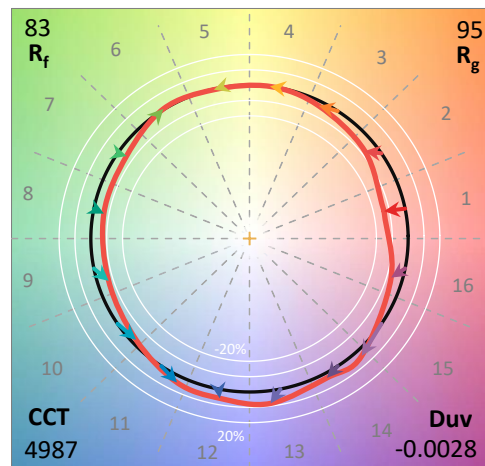
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-168-4  
 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 5000k**  
 Description: Lumark Wallpack 100W

**Spectral Parameters**

CCT (K): 4987  
 CIE u': 0.2135  
 CIE v': 0.4819  
 Duv: -0.0028  
 CIE x: 0.3449  
 CIE y: 0.3461  
 CIE z: 0.3090  
 Peak Wavelength (nm): 453  
 Dominant Wavelength (nm): 576  
 Purity: 7.317109  
 Rf: 82.9  
 Rg: 94.6

CRI (Ra):	83.4		
R1:	82.5	R9:	6.6
R2:	92.4	R10:	80.3
R3:	94.5	R11:	78.9
R4:	79.9	R12:	59.3
R5:	82.3	R13:	85.9
R6:	86.3	R14:	97.8
R7:	84.5	R15:	77.3
R8:	64.7		



**Test Conditions**

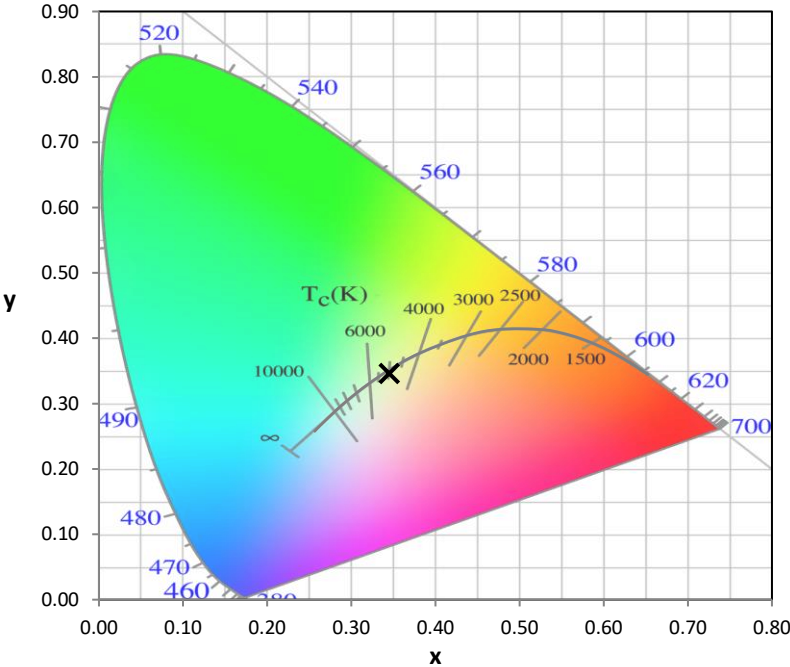
Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-168-4

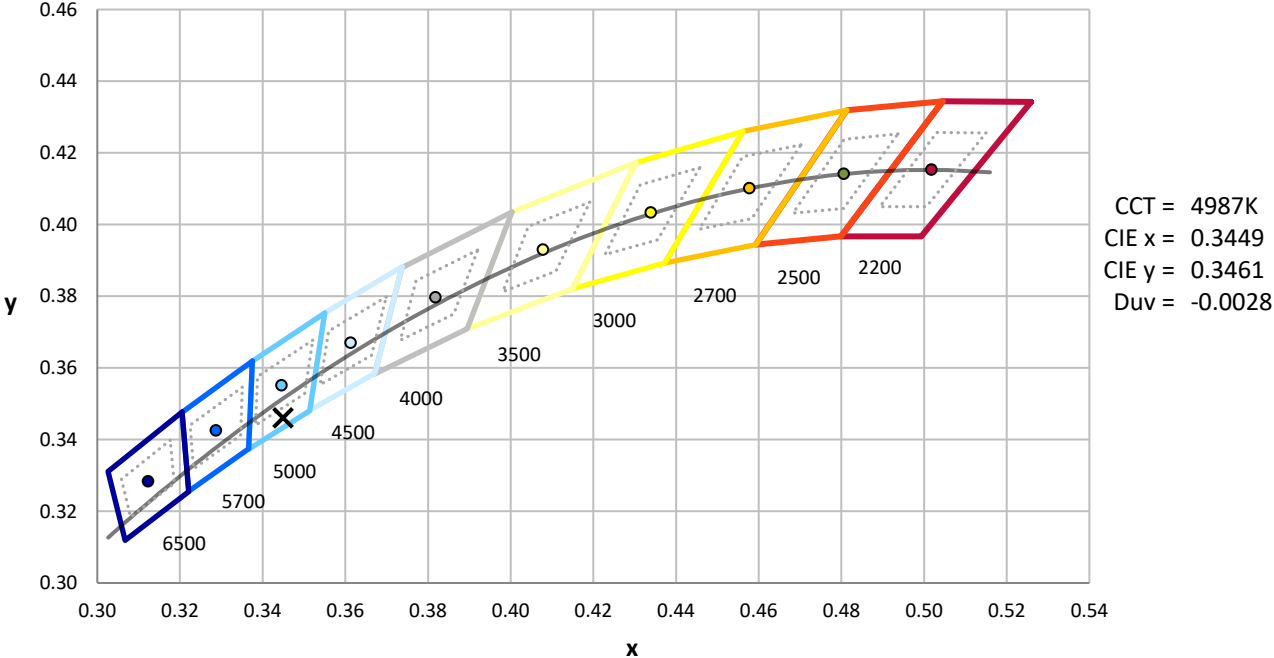
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-168-4

CIE 1931 Chromaticity Diagram



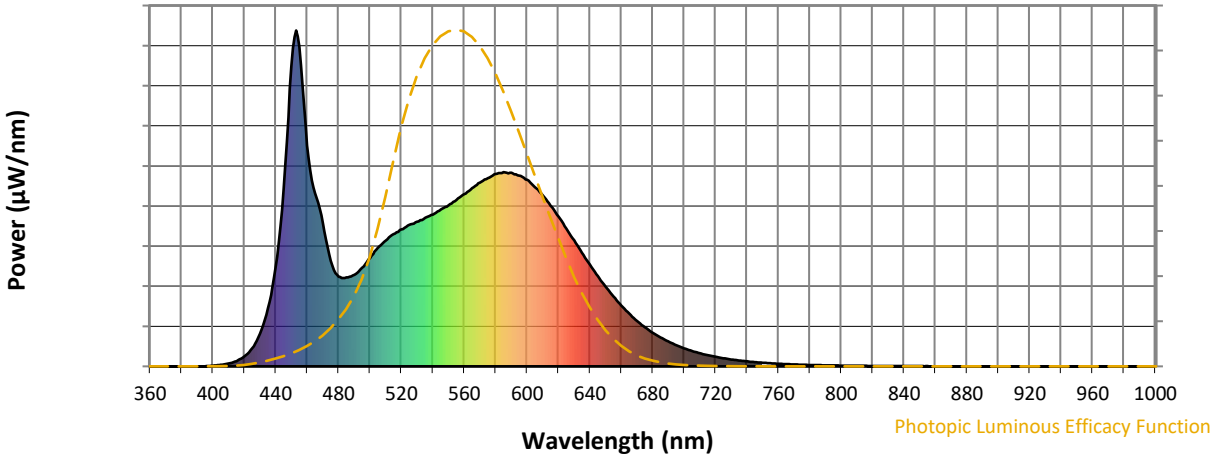
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2407-168-4

**Photopic Flux vs. Wavelength**

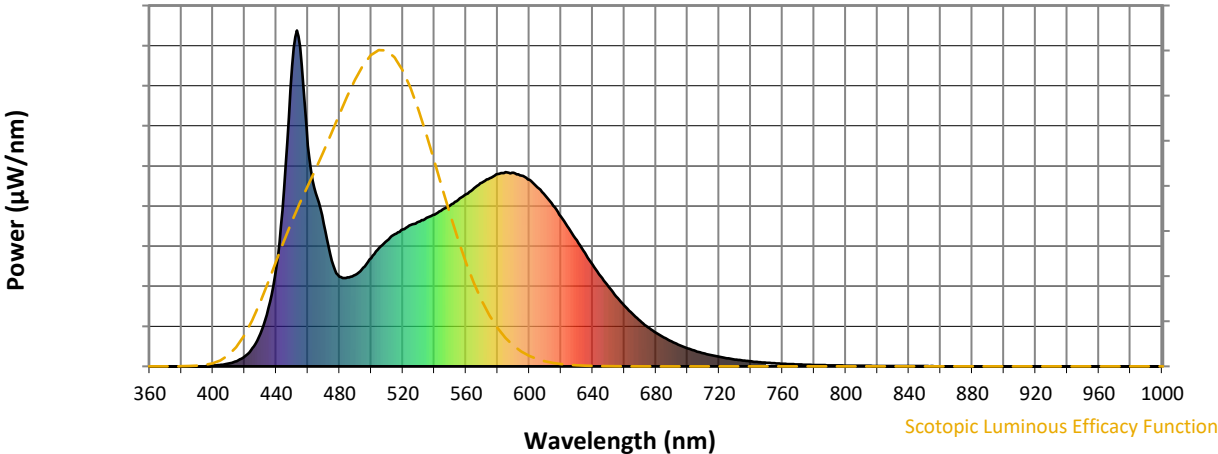


**Photopic Lumens: NR**

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	273	NR	620	446	NR	750	11	NR	880	0	NR
365	0	NR	495	294	NR	625	410	NR	755	9	NR	885	0	NR
370	0	NR	500	322	NR	630	376	NR	760	8	NR	890	0	NR
375	0	NR	505	352	NR	635	338	NR	765	7	NR	895	0	NR
380	0	NR	510	374	NR	640	303	NR	770	6	NR	900	0	NR
385	0	NR	515	393	NR	645	269	NR	775	5	NR	905	0	NR
390	0	NR	520	408	NR	650	237	NR	780	4	NR	910	0	NR
395	0	NR	525	421	NR	655	208	NR	785	4	NR	915	0	NR
400	2	NR	530	430	NR	660	181	NR	790	3	NR	920	0	NR
405	5	NR	535	442	NR	665	157	NR	795	3	NR	925	0	NR
410	9	NR	540	451	NR	670	135	NR	800	2	NR	930	0	NR
415	16	NR	545	467	NR	675	116	NR	805	2	NR	935	0	NR
420	29	NR	550	480	NR	680	100	NR	810	2	NR	940	0	NR
425	54	NR	555	495	NR	685	86	NR	815	2	NR	945	0	NR
430	98	NR	560	513	NR	690	74	NR	820	1	NR	950	0	NR
435	174	NR	565	530	NR	695	63	NR	825	1	NR	955	0	NR
440	296	NR	570	546	NR	700	54	NR	830	1	NR	960	0	NR
445	529	NR	575	561	NR	705	46	NR	835	1	NR	965	0	NR
450	894	NR	580	572	NR	710	39	NR	840	1	NR	970	0	NR
455	952	NR	585	578	NR	715	33	NR	845	1	NR	975	0	NR
460	658	NR	590	576	NR	720	28	NR	850	1	NR	980	0	NR
465	516	NR	595	568	NR	725	24	NR	855	1	NR	985	0	NR
470	424	NR	600	555	NR	730	21	NR	860	0	NR	990	0	NR
475	314	NR	605	534	NR	735	17	NR	865	0	NR	995	0	NR
480	267	NR	610	509	NR	740	15	NR	870	0	NR	1000	0	NR
485	265	NR	615	479	NR	745	13	NR	875	0	NR			

REPORT NUMBER: SP1-2407-168-4

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

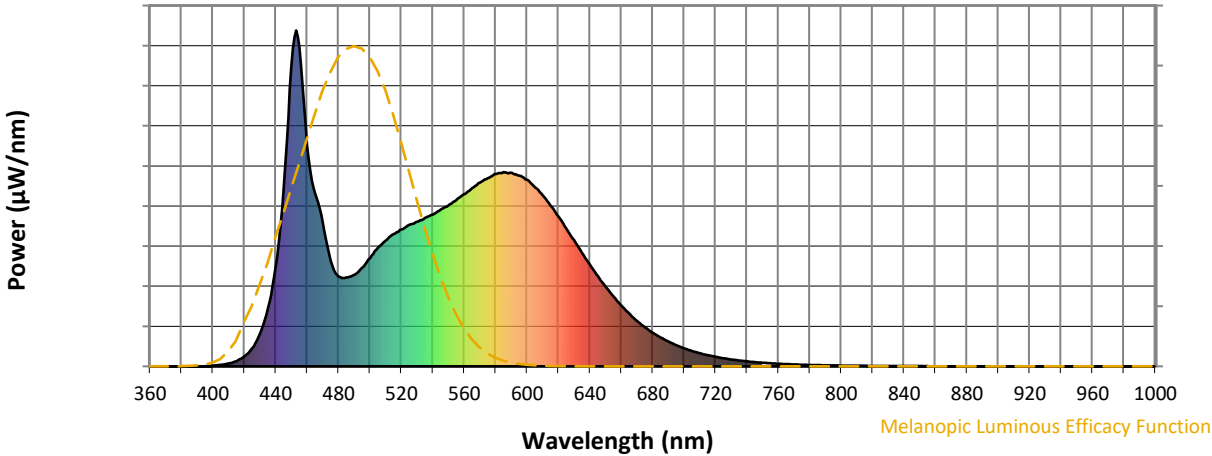
S/P: 2

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	273	NR	620	446	NR	750	11	NR	880	0	NR
365	0	NR	495	294	NR	625	410	NR	755	9	NR	885	0	NR
370	0	NR	500	322	NR	630	376	NR	760	8	NR	890	0	NR
375	0	NR	505	352	NR	635	338	NR	765	7	NR	895	0	NR
380	0	NR	510	374	NR	640	303	NR	770	6	NR	900	0	NR
385	0	NR	515	393	NR	645	269	NR	775	5	NR	905	0	NR
390	0	NR	520	408	NR	650	237	NR	780	4	NR	910	0	NR
395	0	NR	525	421	NR	655	208	NR	785	4	NR	915	0	NR
400	2	NR	530	430	NR	660	181	NR	790	3	NR	920	0	NR
405	5	NR	535	442	NR	665	157	NR	795	3	NR	925	0	NR
410	9	NR	540	451	NR	670	135	NR	800	2	NR	930	0	NR
415	16	NR	545	467	NR	675	116	NR	805	2	NR	935	0	NR
420	29	NR	550	480	NR	680	100	NR	810	2	NR	940	0	NR
425	54	NR	555	495	NR	685	86	NR	815	2	NR	945	0	NR
430	98	NR	560	513	NR	690	74	NR	820	1	NR	950	0	NR
435	174	NR	565	530	NR	695	63	NR	825	1	NR	955	0	NR
440	296	NR	570	546	NR	700	54	NR	830	1	NR	960	0	NR
445	529	NR	575	561	NR	705	46	NR	835	1	NR	965	0	NR
450	894	NR	580	572	NR	710	39	NR	840	1	NR	970	0	NR
455	952	NR	585	578	NR	715	33	NR	845	1	NR	975	0	NR
460	658	NR	590	576	NR	720	28	NR	850	1	NR	980	0	NR
465	516	NR	595	568	NR	725	24	NR	855	1	NR	985	0	NR
470	424	NR	600	555	NR	730	21	NR	860	0	NR	990	0	NR
475	314	NR	605	534	NR	735	17	NR	865	0	NR	995	0	NR
480	267	NR	610	509	NR	740	15	NR	870	0	NR	1000	0	NR
485	265	NR	615	479	NR	745	13	NR	875	0	NR			



REPORT NUMBER: SP1-2407-168-4

Melanopic Flux vs. Wavelength



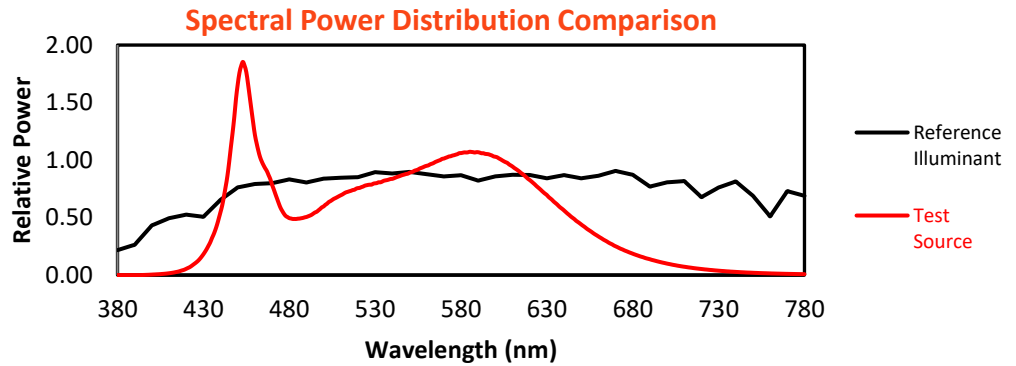
Melanopic Lumens: NR

M/P: 4.35

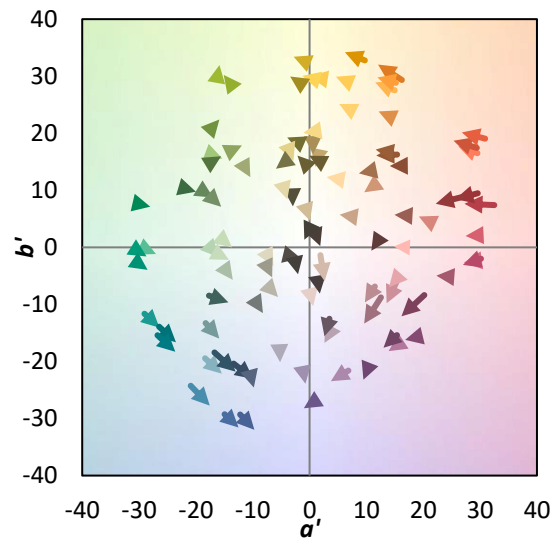
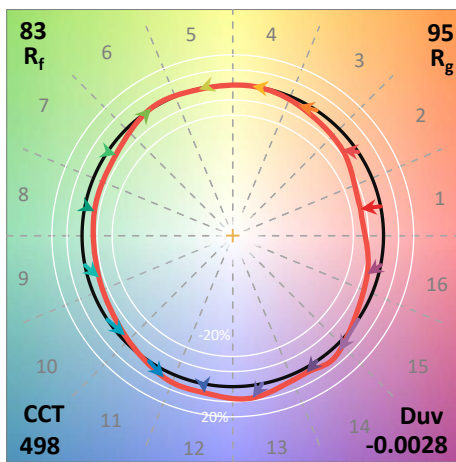
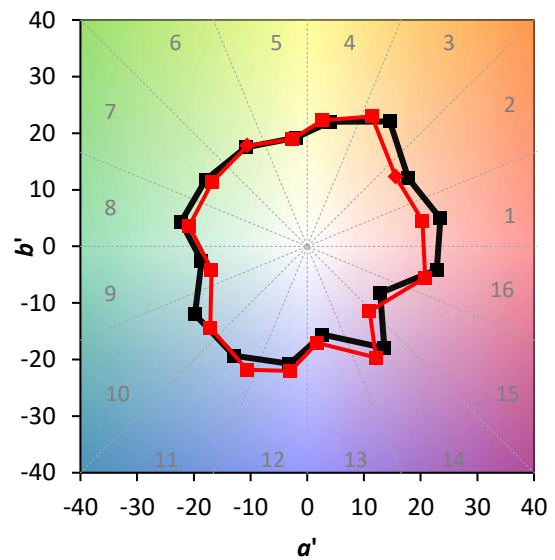
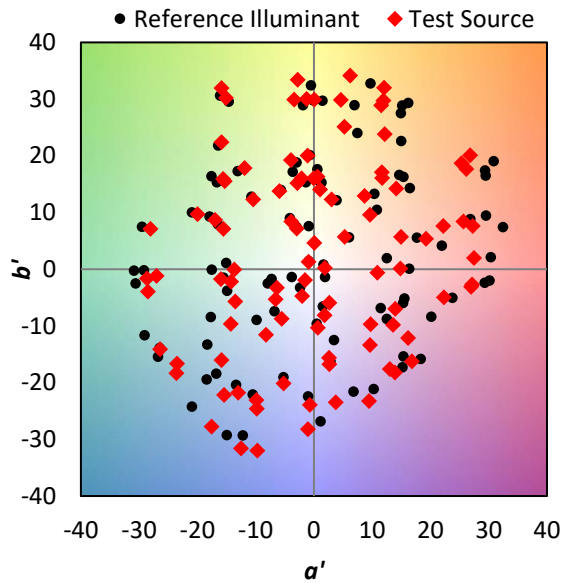
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	273	NR	620	446	NR	750	11	NR	880	0	NR
365	0	NR	495	294	NR	625	410	NR	755	9	NR	885	0	NR
370	0	NR	500	322	NR	630	376	NR	760	8	NR	890	0	NR
375	0	NR	505	352	NR	635	338	NR	765	7	NR	895	0	NR
380	0	NR	510	374	NR	640	303	NR	770	6	NR	900	0	NR
385	0	NR	515	393	NR	645	269	NR	775	5	NR	905	0	NR
390	0	NR	520	408	NR	650	237	NR	780	4	NR	910	0	NR
395	0	NR	525	421	NR	655	208	NR	785	4	NR	915	0	NR
400	2	NR	530	430	NR	660	181	NR	790	3	NR	920	0	NR
405	5	NR	535	442	NR	665	157	NR	795	3	NR	925	0	NR
410	9	NR	540	451	NR	670	135	NR	800	2	NR	930	0	NR
415	16	NR	545	467	NR	675	116	NR	805	2	NR	935	0	NR
420	29	NR	550	480	NR	680	100	NR	810	2	NR	940	0	NR
425	54	NR	555	495	NR	685	86	NR	815	2	NR	945	0	NR
430	98	NR	560	513	NR	690	74	NR	820	1	NR	950	0	NR
435	174	NR	565	530	NR	695	63	NR	825	1	NR	955	0	NR
440	296	NR	570	546	NR	700	54	NR	830	1	NR	960	0	NR
445	529	NR	575	561	NR	705	46	NR	835	1	NR	965	0	NR
450	894	NR	580	572	NR	710	39	NR	840	1	NR	970	0	NR
455	952	NR	585	578	NR	715	33	NR	845	1	NR	975	0	NR
460	658	NR	590	576	NR	720	28	NR	850	1	NR	980	0	NR
465	516	NR	595	568	NR	725	24	NR	855	1	NR	985	0	NR
470	424	NR	600	555	NR	730	21	NR	860	0	NR	990	0	NR
475	314	NR	605	534	NR	735	17	NR	865	0	NR	995	0	NR
480	267	NR	610	509	NR	740	15	NR	870	0	NR	1000	0	NR
485	265	NR	615	479	NR	745	13	NR	875	0	NR			

**Summary**

$R_f = 82.9$   
 $R_g = 94.6$   
 $CIE R_a = 83.4$   
 $R_9 = 6.6$

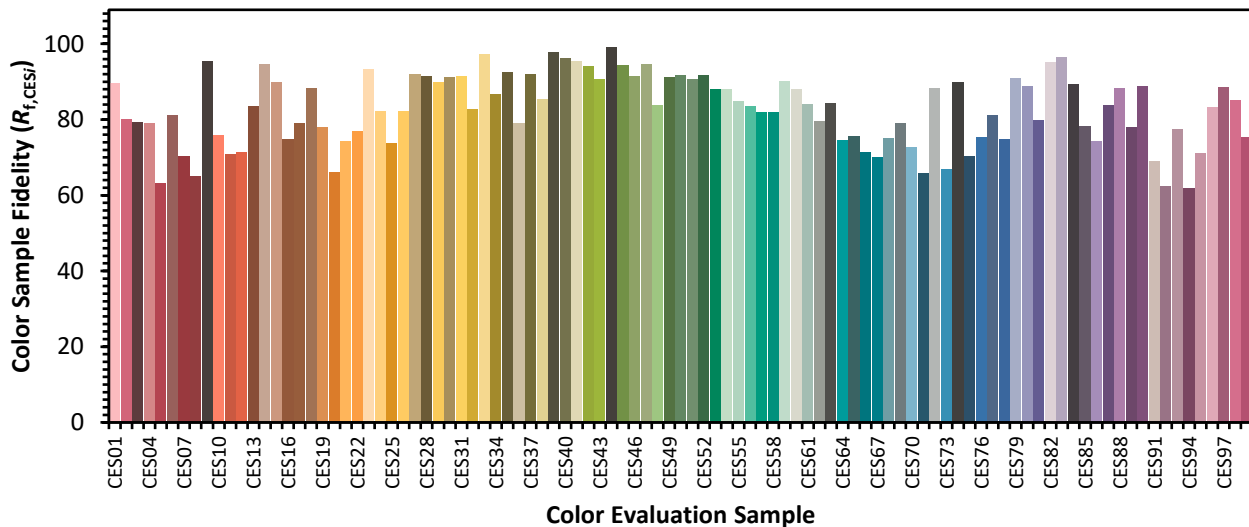


**Color Vector Graphics**

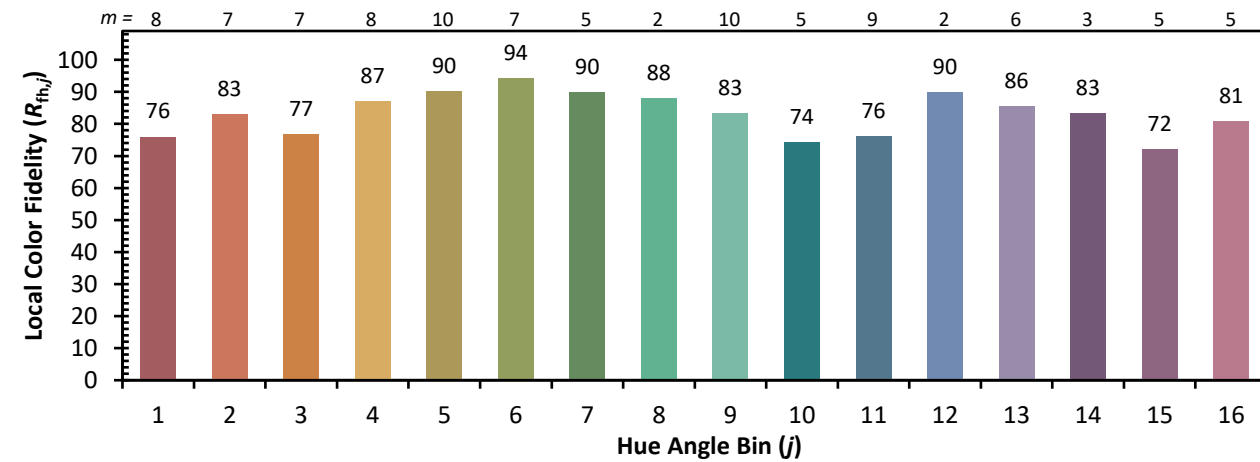
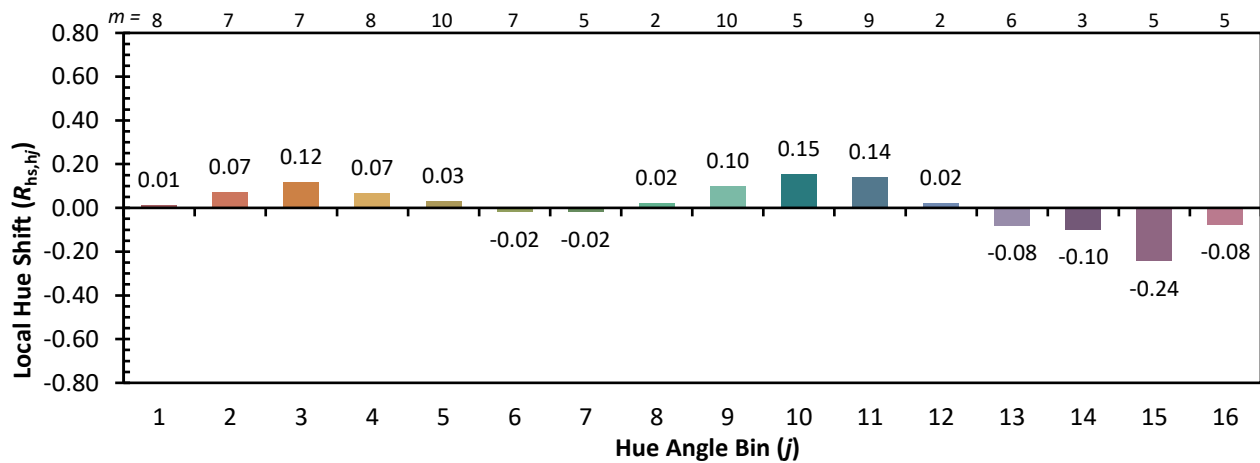
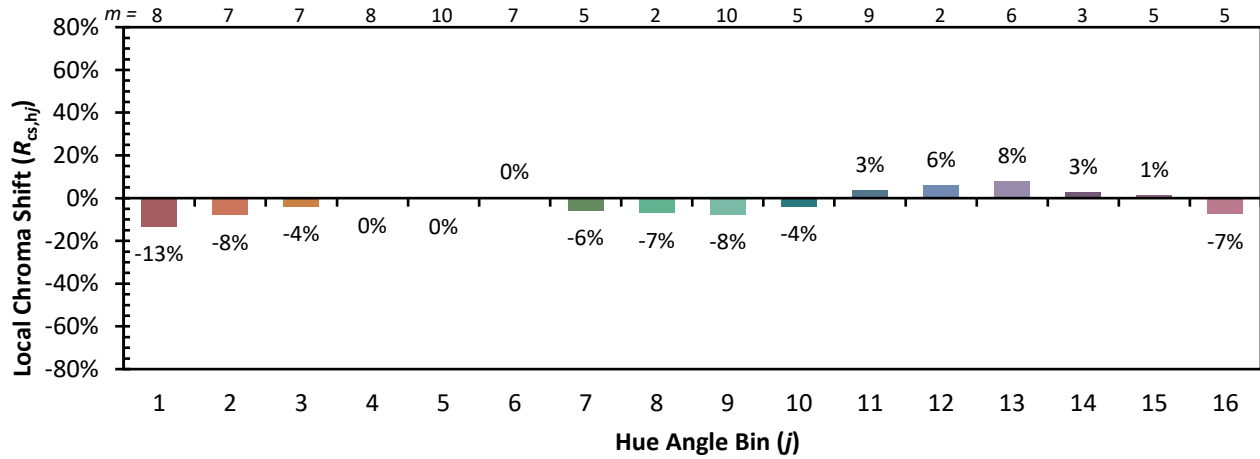


Individual Sample Fidelity Index ( $R_{f,i}$ )

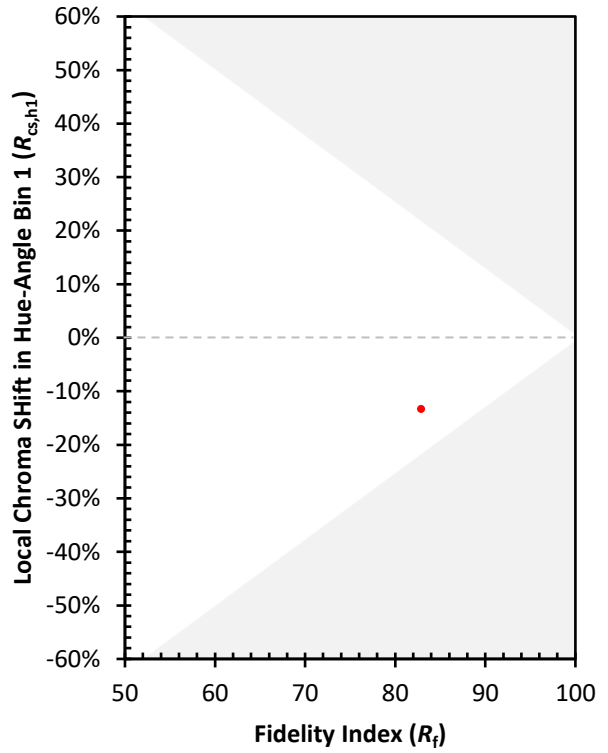
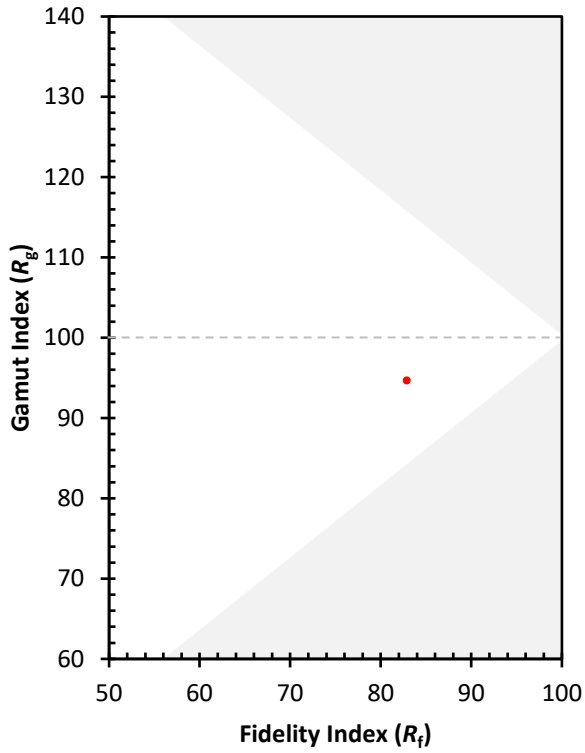
CES01 = 85	CES26 = 82	CES51 = 91	CES76 = 75
CES02 = 60	CES27 = 92	CES52 = 92	CES77 = 81
CES03 = 30	CES28 = 92	CES53 = 88	CES78 = 75
CES04 = 69	CES29 = 90	CES54 = 88	CES79 = 91
CES05 = 47	CES30 = 91	CES55 = 85	CES80 = 89
CES06 = 50	CES31 = 91	CES56 = 84	CES81 = 80
CES07 = 40	CES32 = 83	CES57 = 82	CES82 = 95
CES08 = 39	CES33 = 97	CES58 = 82	CES83 = 96
CES09 = 29	CES34 = 87	CES59 = 90	CES84 = 89
CES10 = 73	CES35 = 92	CES60 = 88	CES85 = 78
CES11 = 56	CES36 = 79	CES61 = 84	CES86 = 74
CES12 = 62	CES37 = 92	CES62 = 80	CES87 = 84
CES13 = 42	CES38 = 85	CES63 = 84	CES88 = 88
CES14 = 74	CES39 = 98	CES64 = 75	CES89 = 78
CES15 = 71	CES40 = 96	CES65 = 76	CES90 = 89
CES16 = 46	CES41 = 96	CES66 = 72	CES91 = 69
CES17 = 49	CES42 = 94	CES67 = 70	CES92 = 62
CES18 = 56	CES43 = 91	CES68 = 75	CES93 = 77
CES19 = 71	CES44 = 99	CES69 = 79	CES94 = 62
CES20 = 64	CES45 = 94	CES70 = 73	CES95 = 71
CES21 = 85	CES46 = 91	CES71 = 66	CES96 = 83
CES22 = 77	CES47 = 95	CES72 = 88	CES97 = 89
CES23 = 91	CES48 = 84	CES73 = 67	CES98 = 85
CES24 = 90	CES49 = 91	CES74 = 90	CES99 = 75
CES25 = 71	CES50 = 92	CES75 = 70	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)