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: P979129

Luminaire Tested: **WPSLED15S-40W-3500K**

Issue Date: 03/31/2025

Report Generated By 670245763

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

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P979129
Test Lab:	Cooper Lighting Solutions
Issue Date:	03/31/2025
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	LUMARK
Catalog Number:	WPSLED15S-40W-3500K
Description:	LUMARK WALL PACK LED SMALL 80CRI CCT AND LUMEN SELECTIVE FIXTURE OPERATING @40W-3500K
Light Source:	3500K CCT, 80 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	5678 lumens
Efficiency:	N/A
Efficacy:	140.5 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):	40.4
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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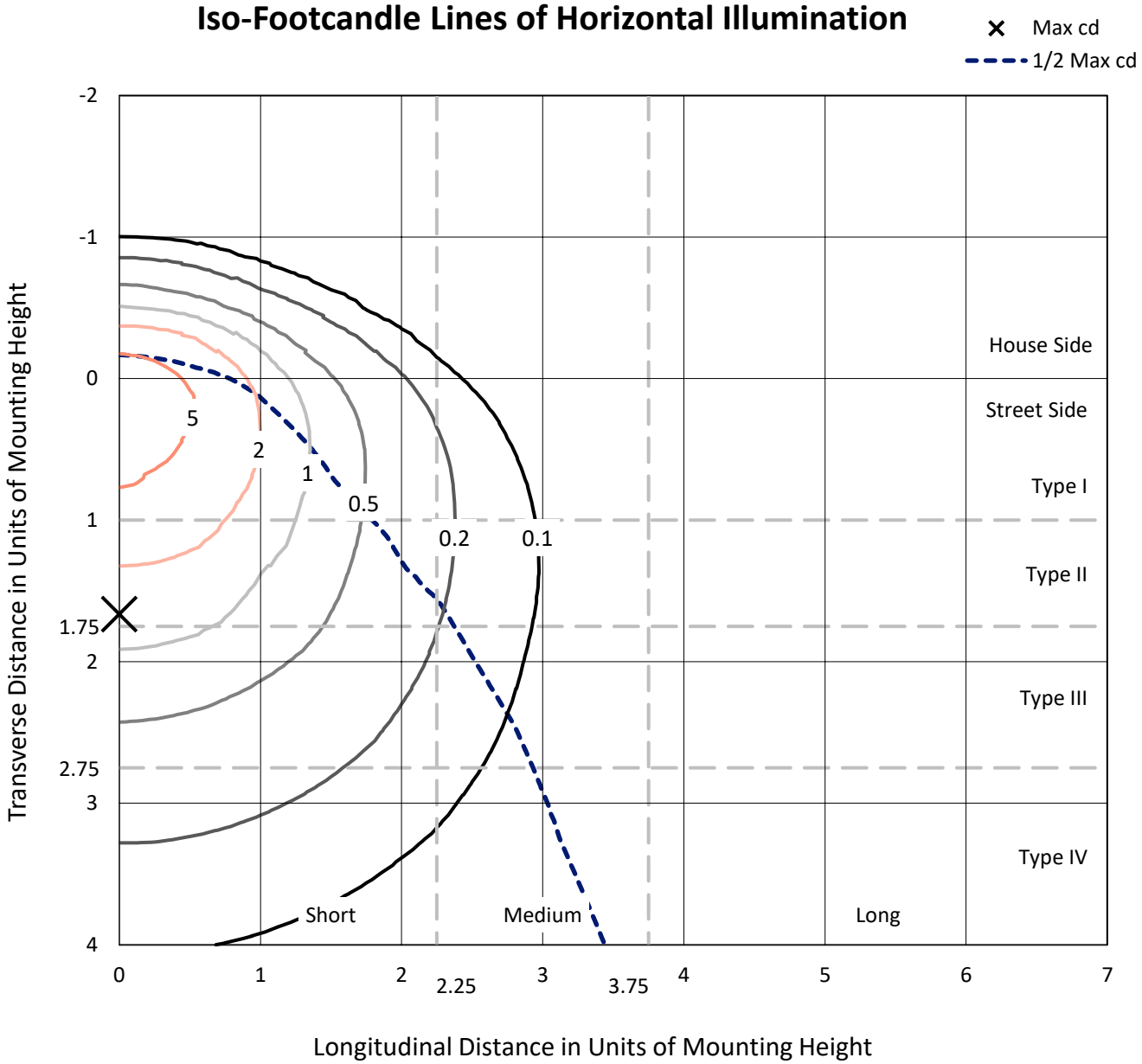
Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 8.4 fc
Type IV - Short - N/A

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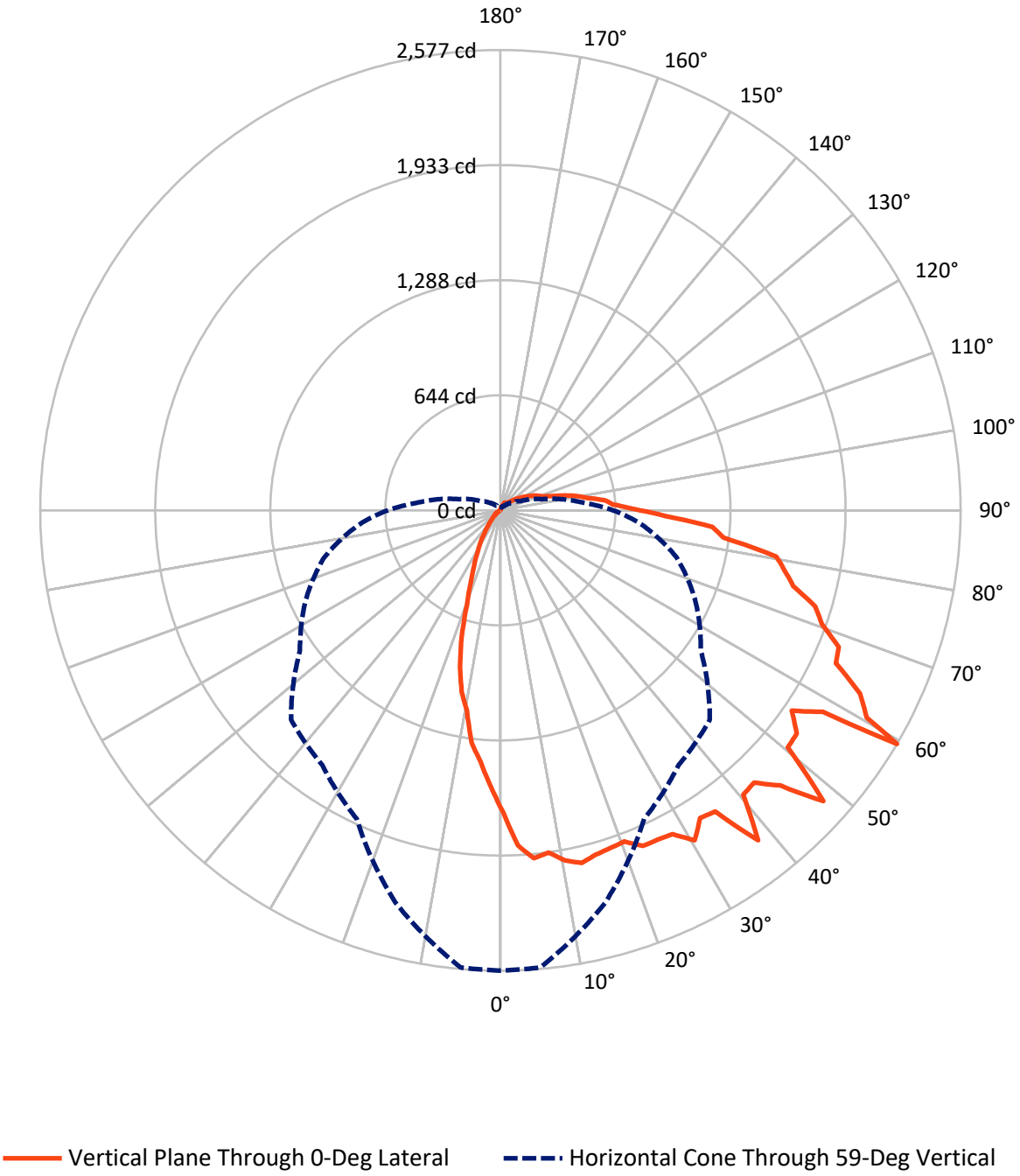
Luminous Intensity Polar Plot



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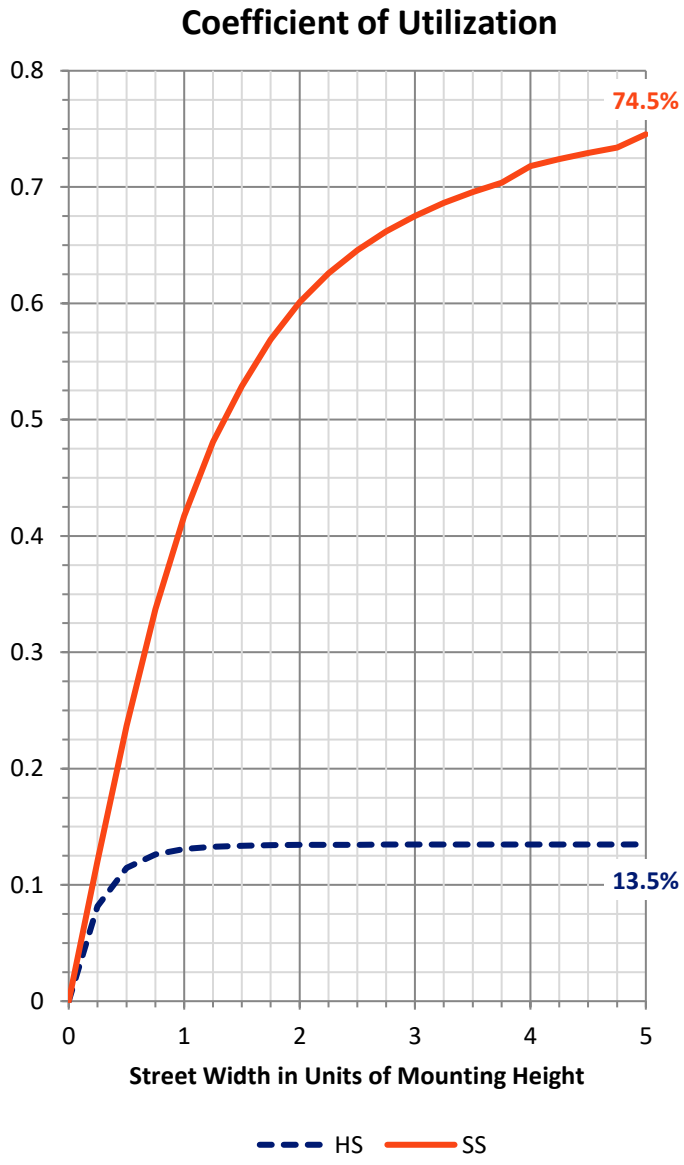
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	774.5	6.9	781.4
	% Fixture	13.6	0.1	13.8
Street Side	Lumens	4498.7	397.9	4896.6
	% Fixture	79.2	7.0	86.2
Total	Lumens	5273.2	404.8	5678.0
	% Fixture	92.9	7.1	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.7	2.8
10°-20°	423.6	7.5
20°-30°	598.6	10.5
30°-40°	714.9	12.6
40°-50°	779.2	13.7
50°-60°	786.2	13.8
60°-70°	773.6	13.6
70°-80°	635.3	11.2
80°-90°	403.2	7.1
90°-100°	191.1	3.4
100°-110°	96.3	1.7
110°-120°	54.2	1.0
120°-130°	29.9	0.5
130°-140°	16.6	0.3
140°-150°	10.7	0.2
150°-160°	4.7	0.1
160°-170°	1.2	0.0
170°-180°	0.1	0.0
0°-90°	5273.2	92.9
0°-180°	5678.0	100.0



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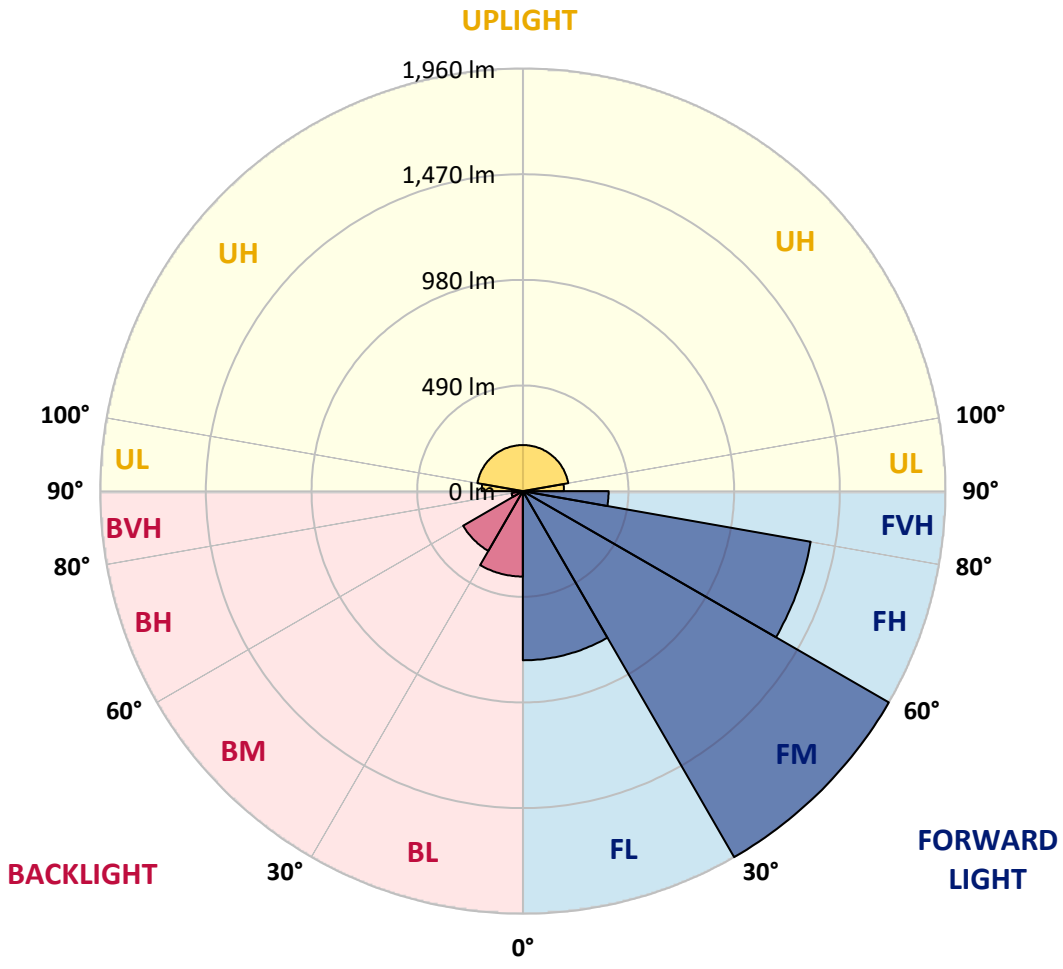
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	784.7	13.8			
FM	(30°-60°)	1960.3	34.5			
FH	(60°-80°)	1355.7	23.9			G1/1800
FVH	(80°-90°)	398.0	7.0			G3/500
BL	(0°-30°)	396.1	7.0	B1/500		
BM	(30°-60°)	320.0	5.6	B1/1000		
BH	(60°-80°)	53.2	0.9	B0/110		G0/110
BVH	(80°-90°)	5.2	0.1			G0/10
UL	(90°-100°)	191.1	3.4		U3/500	
UH	(100°-180°)	213.7	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°	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4
2.5°	1878.5	1883.4	1889.0	1872.2	1876.4	1877.1	1863.2	1843.7	1788.7	1725.3	1691.2
5°	1957.2	1953.7	1946.7	1907.1	1879.2	1861.8	1862.5	1863.9	1845.8	1744.1	1679.4
7.5°	1934.2	1944.0	1943.3	1924.5	1946.7	1959.3	1856.9	1835.3	1824.2	1735.1	1636.2
10°	1993.4	1995.5	1985.7	1951.6	1922.4	1879.2	1924.5	1821.4	1813.8	1714.2	1605.6
12.5°	2026.1	2041.4	2012.9	1967.6	1928.6	1903.6	1851.4	1877.8	1795.7	1705.8	1575.6
15°	1999.7	1983.6	1947.4	1924.5	1971.8	1902.9	1863.2	1852.7	1765.7	1700.3	1559.6
17.5°	1988.5	2005.2	1996.2	1966.2	1898.0	1937.7	1861.8	1827.0	1767.1	1688.4	1547.8
20°	1978.8	1996.9	1963.5	1924.5	1953.0	1860.4	1870.2	1811.0	1777.6	1663.4	1527.6
22.5°	2041.4	2039.3	1982.9	1948.8	1889.0	1917.5	1885.5	1806.8	1768.5	1645.3	1486.5
25°	2042.8	2044.2	2000.4	1950.2	1917.5	1870.9	1811.7	1774.8	1729.5	1609.8	1443.3
27.5°	2052.6	2054.7	1965.5	1945.4	1920.3	1857.6	1826.3	1752.5	1691.2	1564.5	1413.4
30°	2143.1	2120.1	2080.4	1986.4	1905.0	1872.9	1809.6	1752.5	1639.7	1524.1	1373.7
32.5°	2052.6	2042.8	2005.2	2040.7	1931.4	1843.7	1758.1	1672.4	1605.6	1458.7	1325.0
35°	2071.4	2062.3	1982.3	1977.4	1998.3	1826.3	1735.8	1628.6	1561.7	1412.0	1275.5
37.5°	2343.6	2308.1	2138.2	1980.2	1930.0	1853.4	1726.7	1648.0	1512.3	1358.4	1212.2
40°	2093.0	2077.6	2052.6	2152.8	1899.4	1852.7	1682.9	1639.7	1468.4	1306.2	1160.0
42.5°	2083.2	2070.7	2040.0	1989.2	2005.2	1793.6	1672.4	1579.1	1403.7	1232.4	1085.5
45°	2198.1	2177.2	2059.5	1994.1	1899.4	1791.5	1648.7	1526.2	1349.4	1158.6	1013.1
47.5°	2432.7	2401.4	2134.7	1975.3	1862.5	1822.1	1624.4	1477.5	1286.7	1089.6	933.7
50°	2085.3	2083.9	2184.2	2131.3	1816.5	1733.0	1609.8	1422.5	1236.6	1003.3	852.9
52.5°	2077.6	2082.5	2069.3	1999.7	1918.9	1672.4	1561.7	1360.5	1172.5	935.8	792.3
55°	1979.5	1963.5	1916.1	1932.1	1887.6	1639.0	1497.0	1306.9	1112.6	868.9	726.2
57.5°	2128.5	2088.1	1964.8	1856.2	1774.8	1690.5	1428.0	1239.3	1059.7	807.7	657.3
59°	2576.9	2568.5	2271.9	1905.0	1740.0	1657.8	1370.2	1205.2	1022.1	776.3	631.5
60°	2356.1	2338.0	2434.1	2005.2	1756.0	1601.4	1336.8	1184.3	998.4	752.0	614.8
62.5°	2260.1	2257.3	2146.6	2103.4	1856.9	1572.2	1344.5	1132.8	934.4	697.7	563.3
65°	2064.4	2049.1	2021.9	1975.3	1865.3	1573.5	1317.3	1091.7	878.7	636.4	484.6
67.5°	2043.5	2020.5	1973.2	1867.4	1754.6	1569.4	1234.5	1032.6	817.4	564.0	408.0
70°	1909.1	1918.9	1869.5	1797.0	1673.8	1469.1	1204.5	972.7	756.1	490.2	334.2
72.5°	1843.7	1854.1	1799.1	1716.3	1597.2	1365.4	1125.9	928.1	684.4	413.6	269.5
75°	1693.3	1693.3	1666.2	1593.0	1491.4	1289.5	1050.7	832.0	596.7	342.6	213.1
77.5°	1627.9	1627.2	1569.4	1482.3	1373.7	1176.7	945.5	748.5	526.4	277.1	155.3
80°	1566.6	1573.5	1499.7	1407.8	1283.2	1093.1	868.9	672.6	448.4	208.9	113.5
82.5°	1258.1	1244.2	1232.4	1171.8	1091.0	943.4	739.4	582.8	364.1	149.7	81.5
85°	1191.3	1199.7	1160.7	1095.2	1004.7	830.6	625.9	479.0	286.2	107.9	60.6
87.5°	923.2	914.9	889.8	875.2	815.3	672.6	510.4	373.2	221.4	79.4	44.6
90°	748.5	758.9	733.9	701.8	635.7	545.9	408.0	290.3	162.2	57.8	34.8
92.5°	629.4	646.1	632.9	596.7	534.0	443.5	329.3	217.2	120.5	43.9	29.2
95°	587.6	585.6	555.6	503.4	458.1	379.5	263.2	173.4	96.1	35.5	26.5
97.5°	493.6	499.9	488.8	435.9	393.4	319.6	213.8	137.2	76.6	31.3	23.7
100°	437.3	432.4	414.3	378.1	331.4	266.7	177.5	114.9	63.4	28.5	23.0
102.5°	371.1	371.1	346.7	313.3	276.4	220.7	149.0	99.6	52.2	27.9	22.3
105°	295.2	298.0	279.9	259.0	232.6	178.9	127.4	83.6	45.3	27.2	22.3
107.5°	251.3	256.2	247.2	226.3	201.9	156.0	107.9	70.3	39.7	26.5	21.6

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	*230.5*	233.2	222.1	205.4	179.6	136.5	94.0	59.9	36.9	26.5	20.9
112.5°	*211.0*	214.4	204.0	185.9	156.0	119.1	81.5	51.5	35.5	25.8	20.2
115°	*187.3*	189.4	181.0	164.3	137.2	104.4	71.7	47.3	34.8	24.4	18.8
117.5°	*165.7*	167.8	157.4	142.0	118.4	89.8	64.1	43.9	33.4	23.0	17.4
120°	*145.5*	144.8	138.6	124.6	103.0	79.4	57.1	40.4	32.0	21.6	16.0
122.5°	*127.4*	129.5	123.2	109.3	87.7	68.9	50.1	39.0	30.6	20.2	13.9
125°	*111.4*	111.4	106.5	94.0	75.9	59.9	46.0	36.9	29.9	18.8	12.5
127.5°	*96.8*	97.5	91.2	79.4	65.4	53.6	42.5	36.2	28.5	16.7	11.1
130°	*82.2*	82.2	76.6	67.5	57.8	50.1	42.5	34.8	26.5	14.6	9.7
132.5°	*69.6*	69.6	65.4	59.9	52.9	48.7	41.1	32.7	23.7	12.5	8.4
135°	*59.2*	59.2	56.4	54.3	49.4	46.0	39.0	31.3	21.6	11.1	7.0
137.5°	*53.6*	52.9	52.2	50.8	47.3	43.2	36.9	29.2	19.5	9.1	5.6
140°	*50.8*	51.5	50.8	50.1	46.6	41.8	36.2	27.9	17.4	7.7	4.9
142.5°	*52.2*	51.5	50.8	49.4	44.6	40.4	34.1	25.8	15.3	7.0	3.5
145°	*52.9*	52.9	50.8	47.3	42.5	36.9	31.3	23.0	13.2	5.6	3.5
147.5°	*51.5*	51.5	48.0	43.9	39.0	34.1	27.9	19.5	11.1	4.2	2.8
150°	*48.7*	48.0	43.9	39.0	35.5	29.9	23.7	16.7	9.1	3.5	2.8
152.5°	*43.2*	42.5	38.3	34.1	29.2	25.1	20.2	13.2	7.7	2.8	2.1
155°	*32.7*	33.4	29.9	26.5	23.0	20.2	16.7	11.1	5.6	2.8	2.1
157.5°	*25.1*	24.4	23.0	21.6	18.8	16.7	13.2	9.1	4.2	2.1	1.4
160°	*20.9*	20.9	19.5	17.4	15.3	13.2	10.4	7.0	3.5	2.1	1.4
162.5°	*17.4*	17.4	16.0	14.6	12.5	10.4	7.7	4.9	2.8	1.4	1.4
165°	*13.9*	13.9	13.2	11.1	9.7	7.0	4.9	3.5	2.1	1.4	1.4
167.5°	*10.4*	10.4	9.7	8.4	6.3	4.9	3.5	2.8	2.1	1.4	1.4
170°	*6.3*	6.3	5.6	4.9	3.5	2.8	2.8	2.1	2.1	1.4	1.4
172.5°	*2.1*	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.4	1.4	1.4
175°	*0.7*	0.7	0.7	1.4	1.4	2.1	1.4	1.4	1.4	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

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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4	1688.4
2.5°	1659.9	1634.1	1615.3	1599.3	1587.5	1568.7	1556.8	1555.4	1554.7	1547.1
5°	1626.5	1594.4	1558.9	1520.6	1493.5	1466.3	1439.9	1421.8	1417.6	1412.0
7.5°	1585.4	1537.3	1471.2	1428.7	1403.7	1407.8	1376.5	1334.7	1307.6	1312.5
10°	1548.5	1483.0	1406.4	1386.9	1304.1	1260.2	1216.4	1173.9	1150.9	1137.0
12.5°	1524.8	1429.4	1357.0	1270.0	1185.0	1092.4	1039.5	1029.1	1042.3	1040.2
15°	1502.5	1384.2	1308.3	1158.6	1045.8	1011.0	984.5	948.3	910.7	903.7
17.5°	1486.5	1343.1	1208.7	1053.4	975.5	889.8	785.4	747.1	742.2	740.1
20°	1453.1	1303.4	1132.1	986.6	876.6	730.4	665.6	606.4	567.5	562.6
22.5°	1404.4	1243.5	1040.2	912.1	733.2	613.4	516.6	475.5	454.7	449.1
25°	1361.2	1164.1	969.9	794.4	628.0	497.8	419.8	380.9	371.1	366.9
27.5°	1309.7	1089.0	903.0	674.7	521.5	411.5	344.6	316.1	304.3	303.6
30°	1258.8	1013.8	807.0	586.3	440.7	340.5	290.3	263.2	253.4	250.0
32.5°	1205.2	940.0	702.5	499.9	363.4	290.3	240.9	219.3	209.6	207.5
35°	1144.0	866.8	608.5	429.6	310.5	236.7	200.5	174.1	164.3	164.3
37.5°	1079.9	797.2	530.6	359.3	257.6	197.7	158.7	140.6	132.3	130.9
40°	1010.3	733.9	464.4	302.9	211.0	158.7	128.8	110.0	104.4	103.7
42.5°	941.3	644.7	404.5	253.4	175.5	128.8	102.4	89.1	84.2	82.9
45°	843.9	565.4	334.9	208.2	142.0	105.1	82.9	70.3	64.8	64.1
47.5°	753.4	478.3	277.8	172.0	114.2	83.6	65.4	55.0	52.2	51.5
50°	679.5	415.7	229.8	138.6	94.7	66.1	51.5	44.6	40.4	39.7
52.5°	609.9	362.1	197.0	114.9	76.6	51.5	41.1	34.1	34.8	34.8
55°	551.4	320.3	163.6	97.5	61.3	40.4	30.6	27.9	29.9	29.9
57.5°	503.4	267.4	137.2	82.9	48.7	32.7	23.0	23.0	23.7	23.7
59°	*471.4*	*240.9*	*121.8*	*73.8*	*42.5*	*27.2*	*18.8*	*19.5*	*18.8*	*18.1*
60°	451.9	222.8	115.6	68.9	37.6	23.7	16.7	16.0	15.3	15.3
62.5°	392.7	176.9	97.5	55.7	28.5	15.3	10.4	9.1	8.4	7.7
65°	329.3	145.5	80.8	43.9	20.9	8.4	3.5	2.1	0.7	0.0
67.5°	256.9	118.4	66.1	34.1	13.9	2.8	0.0	0.0	0.0	0.0
70°	206.1	95.4	53.6	25.8	7.7	0.0	0.0	0.0	0.0	0.0
72.5°	160.8	78.0	43.2	18.1	2.1	0.0	0.0	0.0	0.0	0.0
75°	121.1	62.7	34.1	11.8	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	90.5	48.7	26.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	70.3	38.3	20.2	4.2	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	52.9	29.2	14.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0
85°	40.4	23.0	11.1	1.4	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	31.3	18.1	8.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0
90°	25.1	14.6	7.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	20.9	12.5	5.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0
95°	19.5	11.1	4.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	18.1	10.4	4.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
100°	17.4	9.7	3.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	17.4	9.1	2.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0
105°	17.4	9.1	2.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	16.7	8.4	2.8	0.7	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

Scaled Data Report

REPORT NUMBER: P979129
CATALOG NUMBER: WPSLED15S-40W-3500K

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	16.7	7.0	2.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	15.3	6.3	2.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0
115°	14.6	4.9	2.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	12.5	2.8	2.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0
120°	9.7	2.1	2.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	9.1	1.4	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
125°	7.7	1.4	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	7.0	1.4	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
130°	6.3	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	5.6	2.1	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
135°	4.9	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	3.5	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
140°	3.5	1.4	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
142.5°	2.8	2.1	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0
145°	2.8	1.4	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
147.5°	2.8	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0
150°	2.1	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0
152.5°	2.1	1.4	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
155°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	1.4	1.4	0.7	0.7	0.7	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	0.7	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	0.7	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: SP1-2407-168-2

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.

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

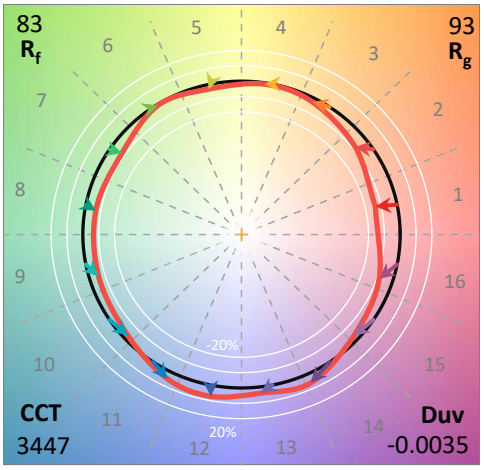
Test Information

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	CRI (Ra):	81.3		
CIE u':	0.2387	R1:	80.7	R9:	-0.6
CIE v':	0.5076	R2:	93.3	R10:	84.3
Duv:	-0.0035	R3:	92.2	R11:	76.0
CIE x:	0.4046	R4:	77.2	R12:	69.4
CIE y:	0.3824	R5:	81.3	R13:	84.3
CIE z:	0.2130	R6:	90.3	R14:	96.4
Peak Wavelength (nm):	597	R7:	79.5	R15:	73.7
Dominant Wavelength (nm):	582	R8:	55.9		
Purity:	36.18615				

Rf:	82.6
Rg:	93



Test Conditions

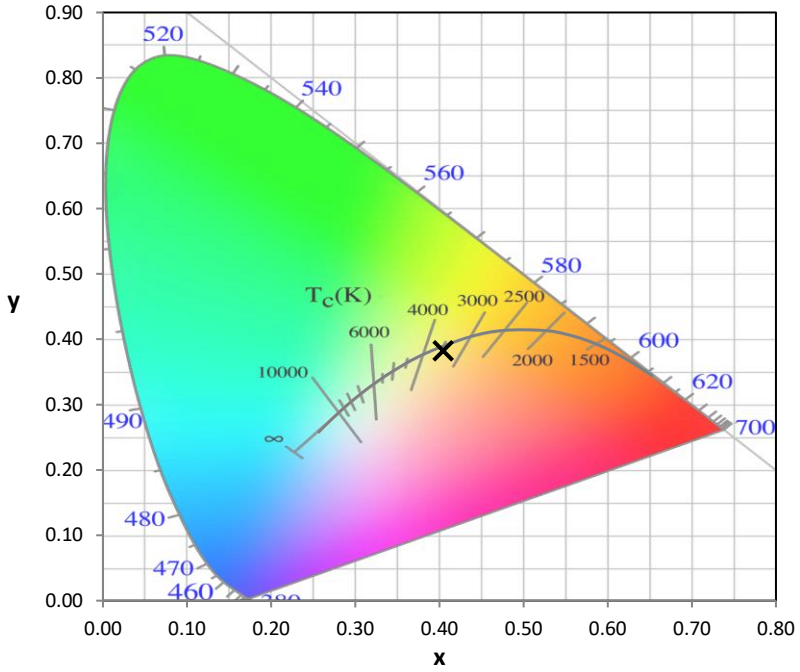
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2407-168-2

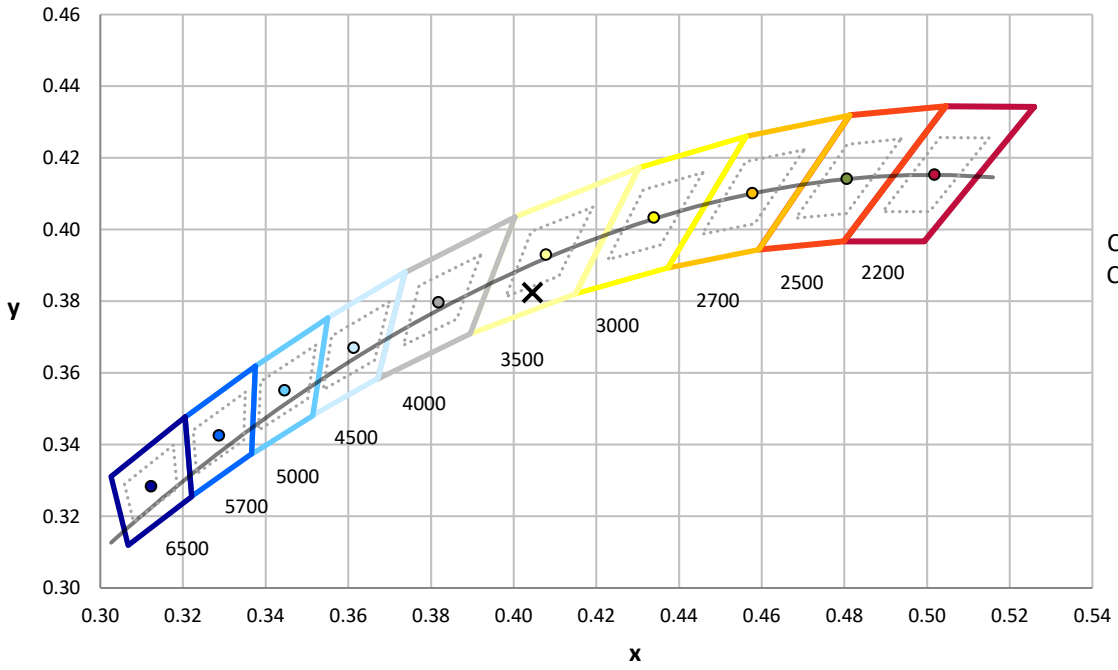
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

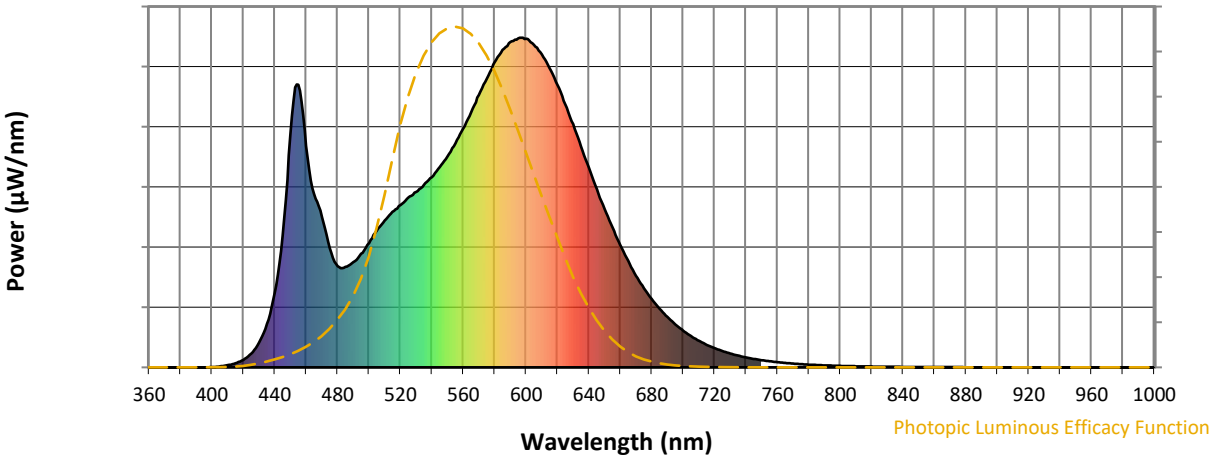


CCT = 3447K
CIE x = 0.4046
CIE y = 0.3824
Duv = -0.0035

Point lies inside the ANSI 3500K 7-step quadrangle

REPORT NUMBER: SP1-2407-168-2

Photopic Flux vs. Wavelength

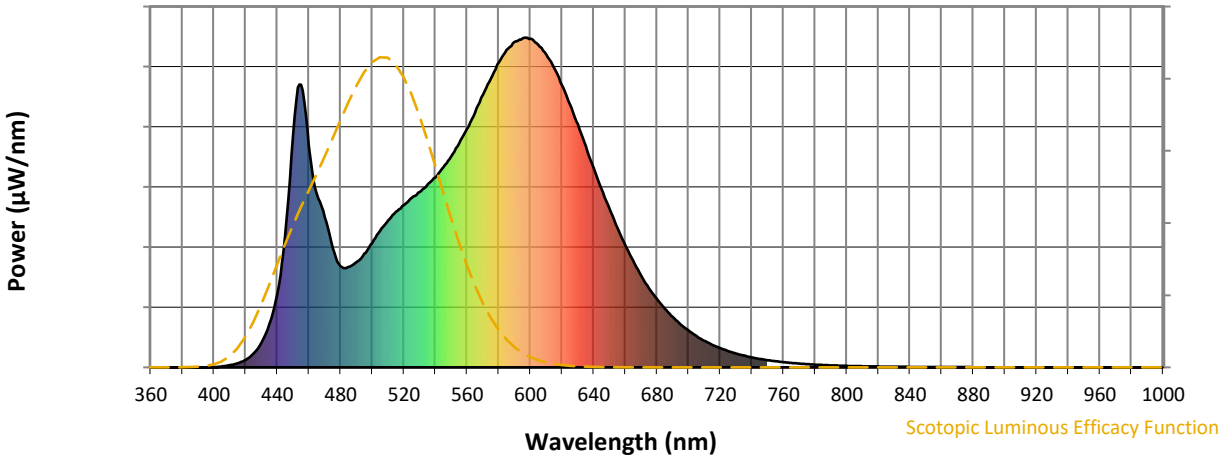


Photopic Lumens: NR

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

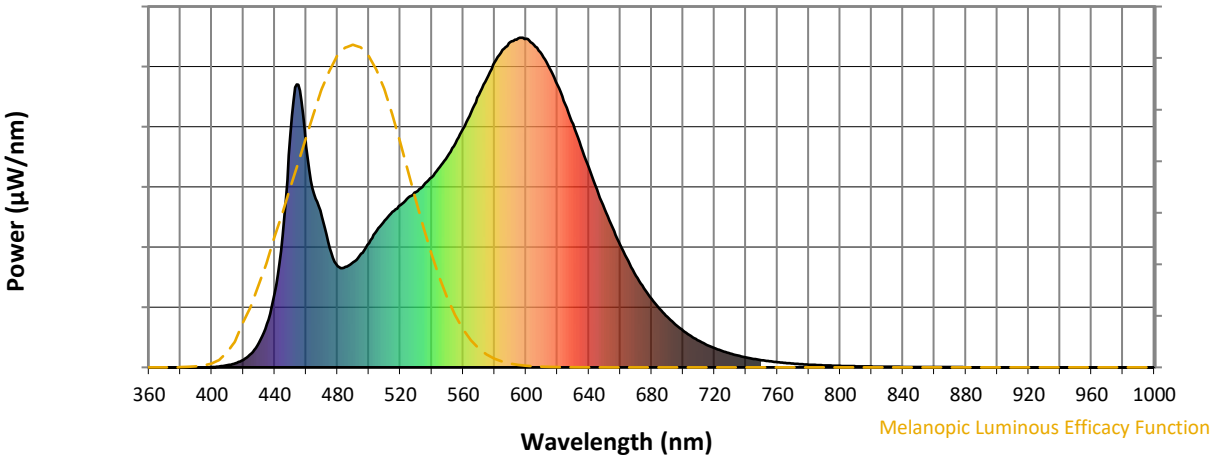


Scotopic Lumens: NR **S/P: 1.56**

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			

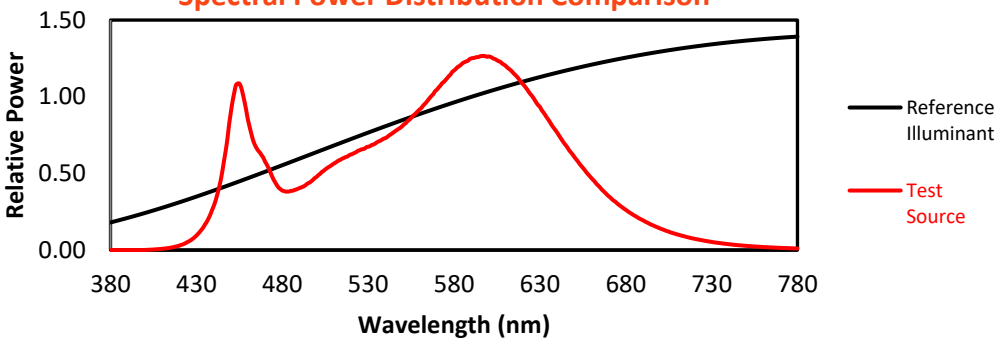
REPORT NUMBER: SP1-2407-168-2

TM-30-18

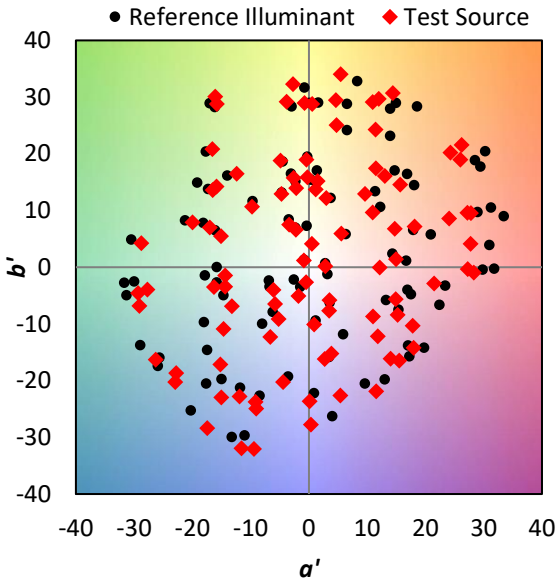
Summary

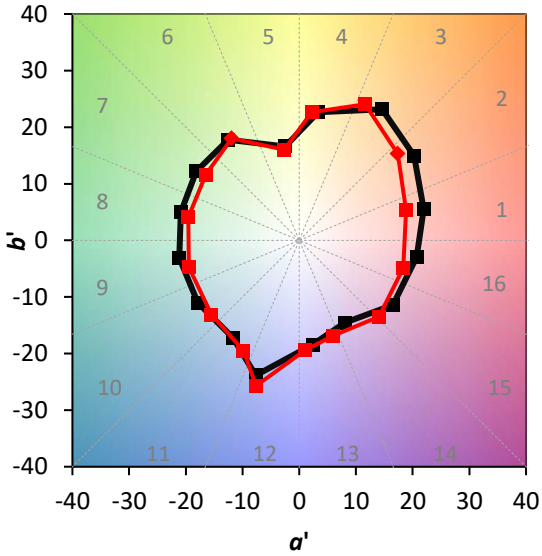
R_f = 82.6
R_g = 93
CIE R_a = 81.3
R_9 = -0.6

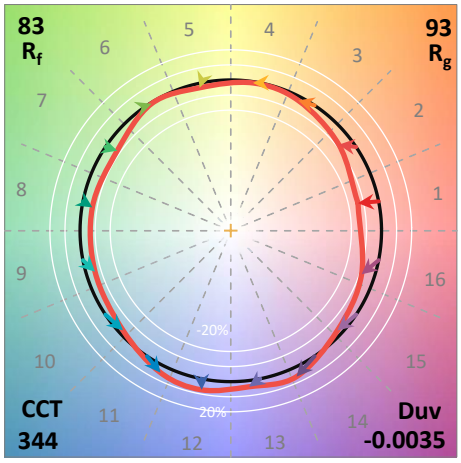
Spectral Power Distribution Comparison

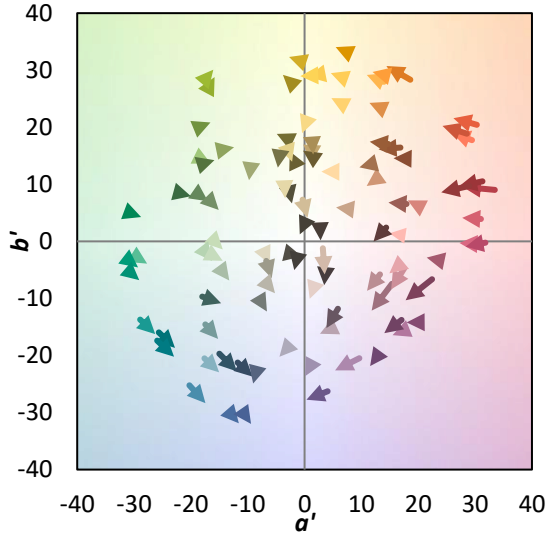


Color Vector Graphics







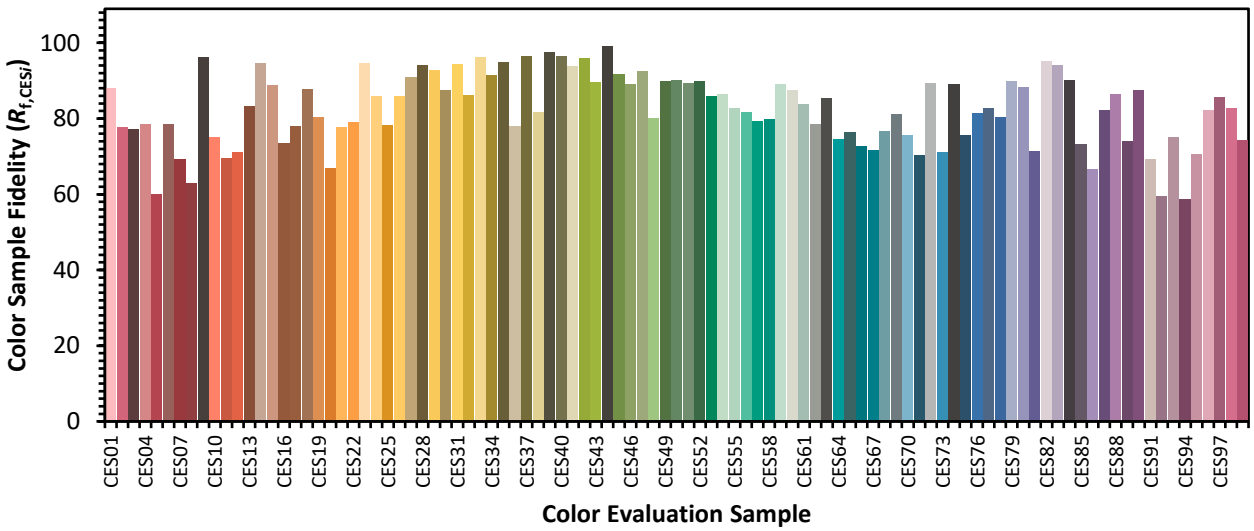


REPORT NUMBER: SP1-2407-168-2

TM-30-18

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

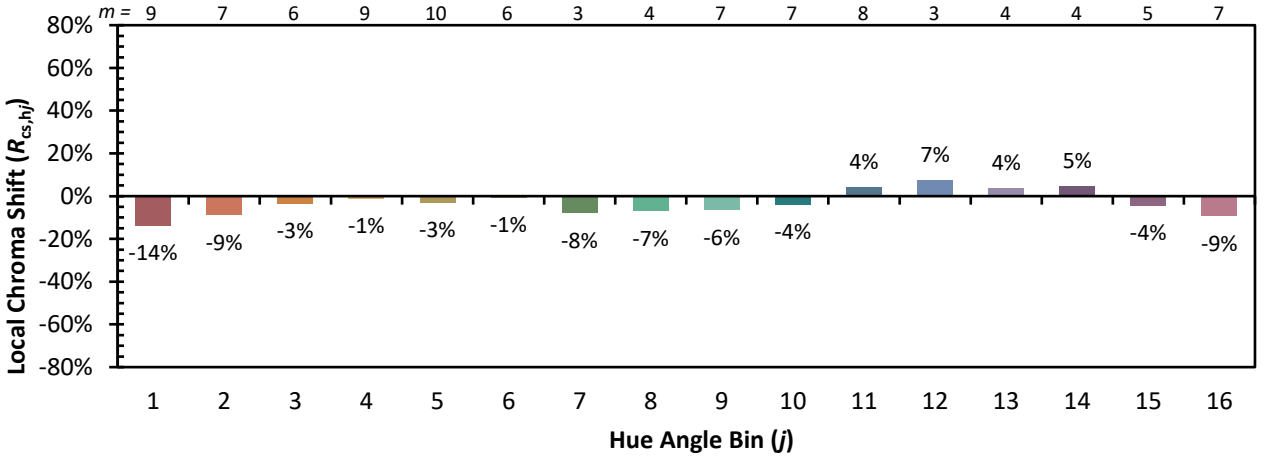
CES01 = 86	CES26 = 86	CES51 = 89	CES76 = 81
CES02 = 62	CES27 = 91	CES52 = 90	CES77 = 83
CES03 = 31	CES28 = 94	CES53 = 86	CES78 = 80
CES04 = 70	CES29 = 93	CES54 = 86	CES79 = 90
CES05 = 49	CES30 = 87	CES55 = 83	CES80 = 88
CES06 = 51	CES31 = 94	CES56 = 82	CES81 = 71
CES07 = 41	CES32 = 86	CES57 = 79	CES82 = 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	

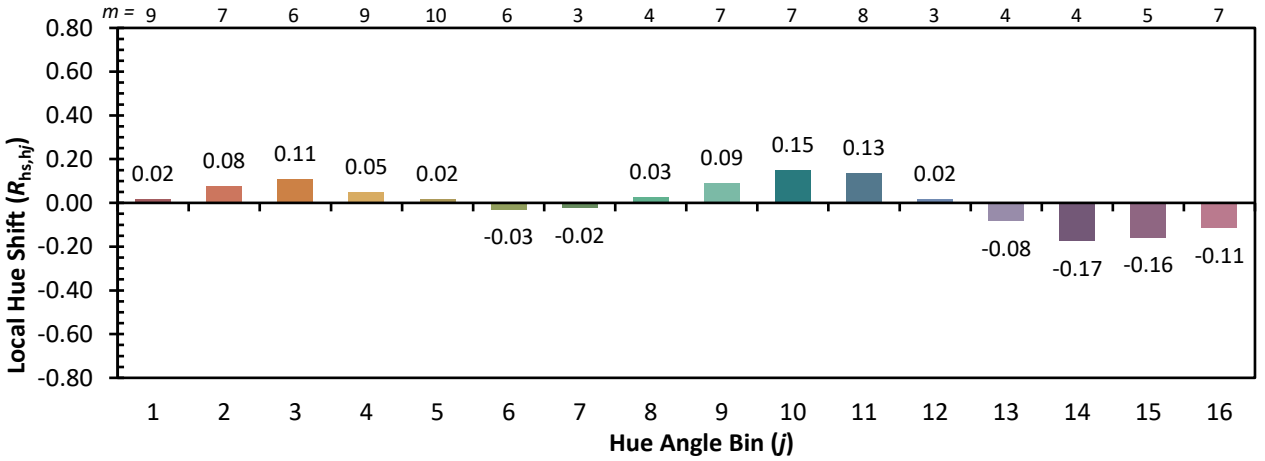


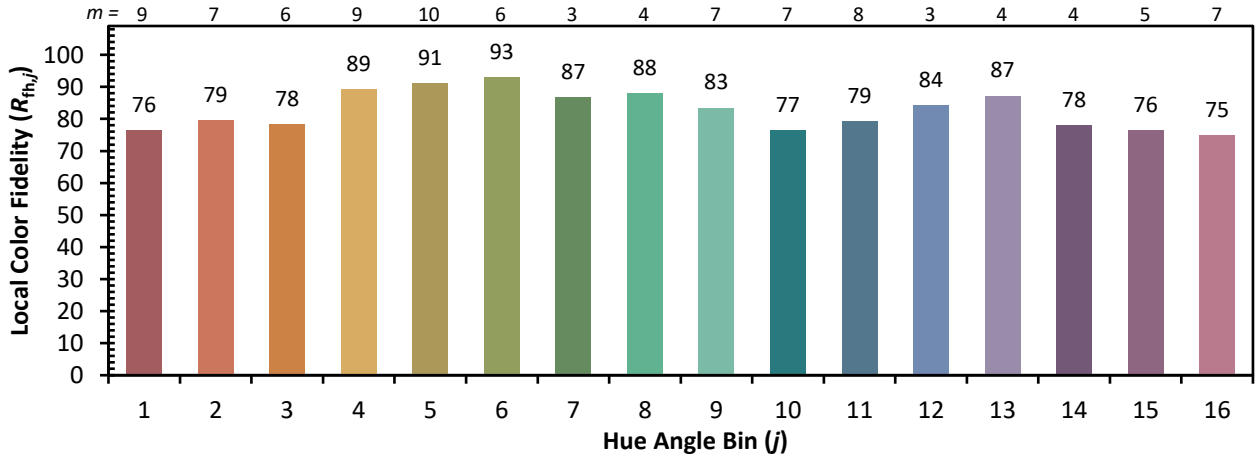
REPORT NUMBER: SP1-2407-168-2

TM-30-18

Color Rendition by Hue-Angle Bin







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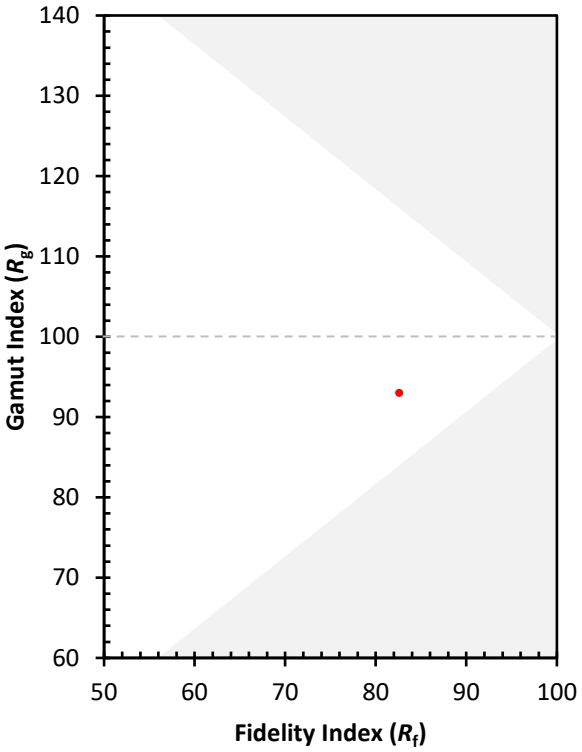
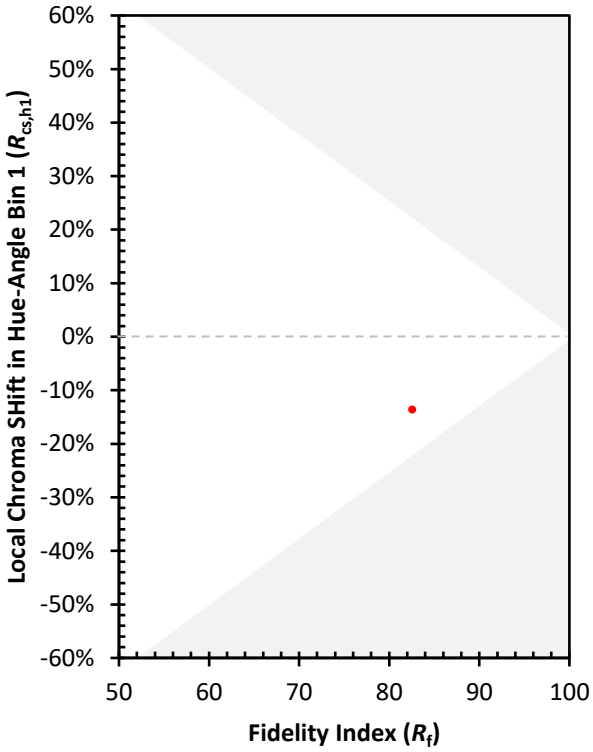
Measure Comparisons





(END OF REPORT)