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: McGRAW-EDISON

Report Number: P437596

Luminaire Tested: **ISS-SA1D-830-U-SLL-HSS**

Issue Date: 12/9/2020

Report Generated By 670245982

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P437596
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-21)
Test Lab:	INNOVATION CENTER
Issue Date:	12/9/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	ISS-SA1D-830-U-SLL-HSS
Description:	IMPACT ELITE LED QUARTER SPHERE LUMINAIRE
	(1) 80 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	3395 lumens
Efficiency:	N/A
Efficacy:	75.1 lumens/watt
Luminous Opening:	Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification:	Type IV - Short
BUG Rating:	B1 - U0 - G1

Input Watts (W):	45.2
Input Voltage (V):	NR
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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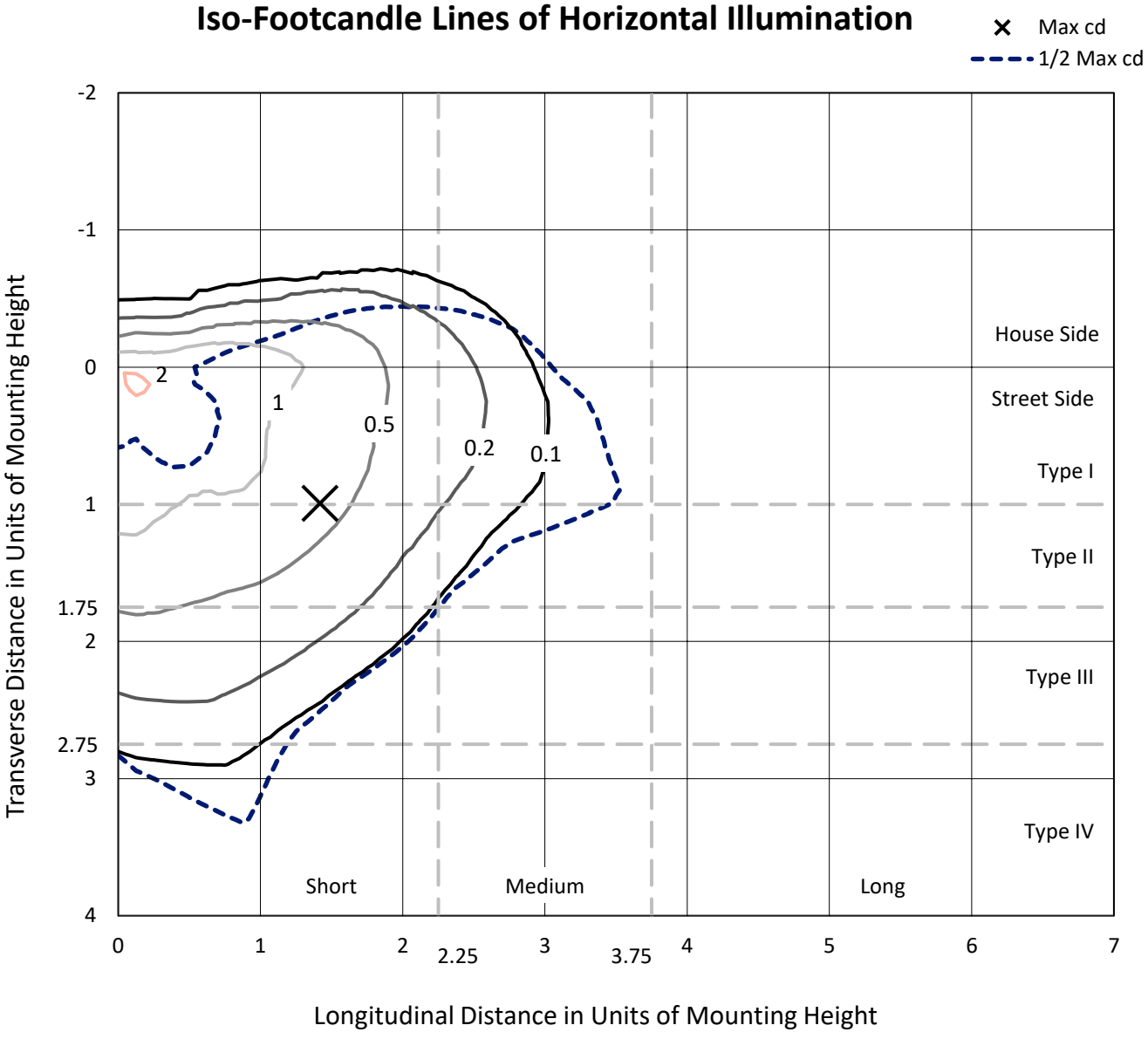
Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 2.3 fc
Type IV - Short - N/A

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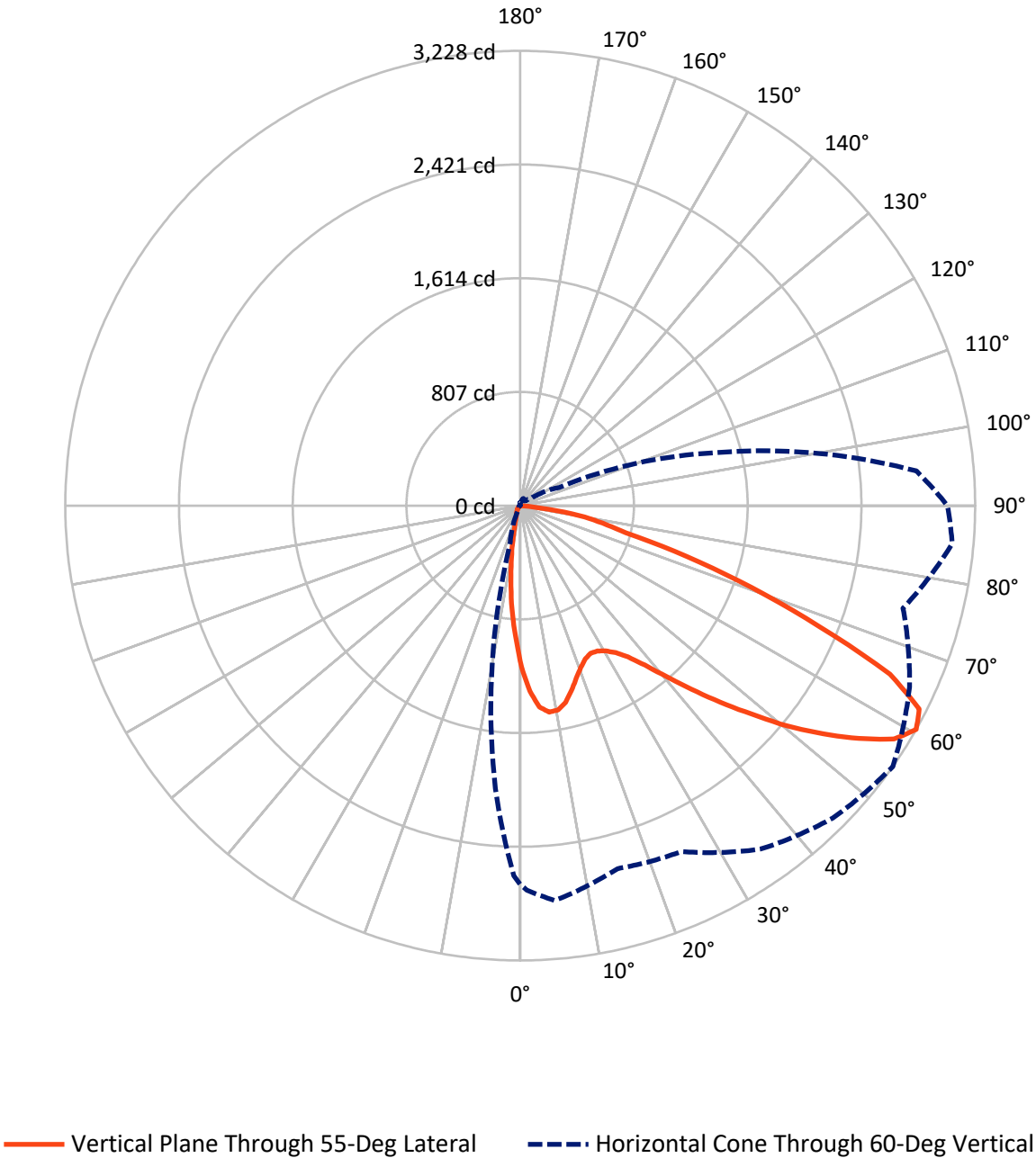
Luminous Intensity Polar Plot



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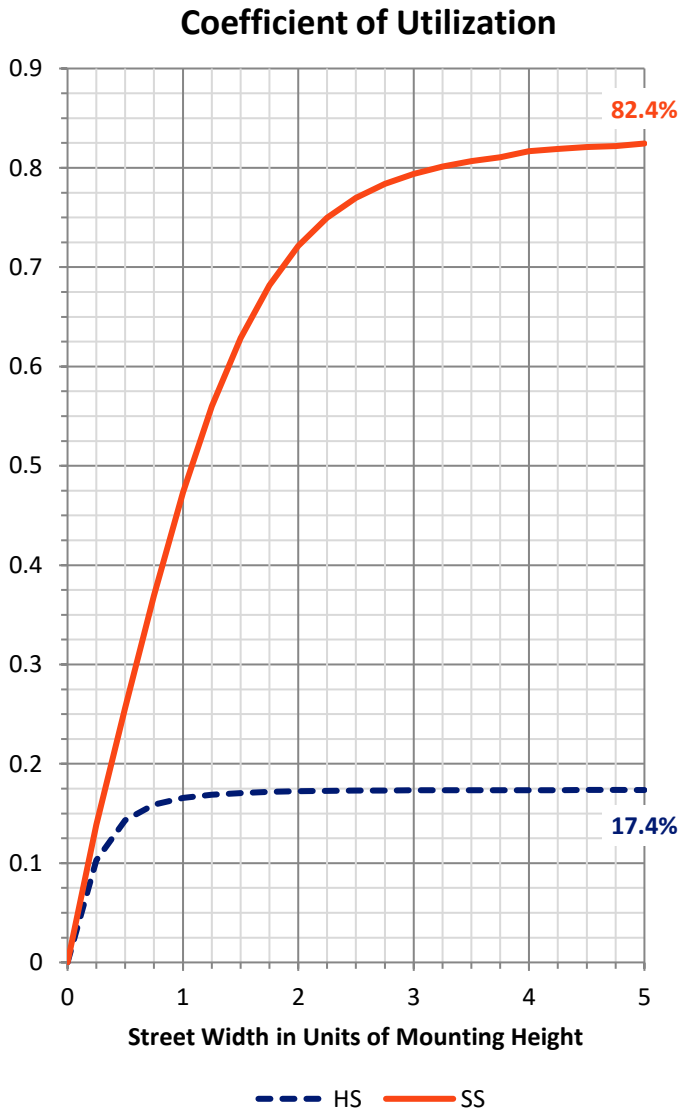
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	594.7	0.0	594.7
	% Fixture	17.5	0.0	17.5
Street Side	Lumens	2800.3	0.0	2800.3
	% Fixture	82.5	0.0	82.5
Total	Lumens	3395.0	0.0	3395.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.4	2.5
10°-20°	167.2	4.9
20°-30°	245.8	7.2
30°-40°	367.6	10.8
40°-50°	543.8	16.0
50°-60°	781.6	23.0
60°-70°	837.8	24.7
70°-80°	338.5	10.0
80°-90°	27.4	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	3395.0	100.0
0°-180°	3395.0	100.0



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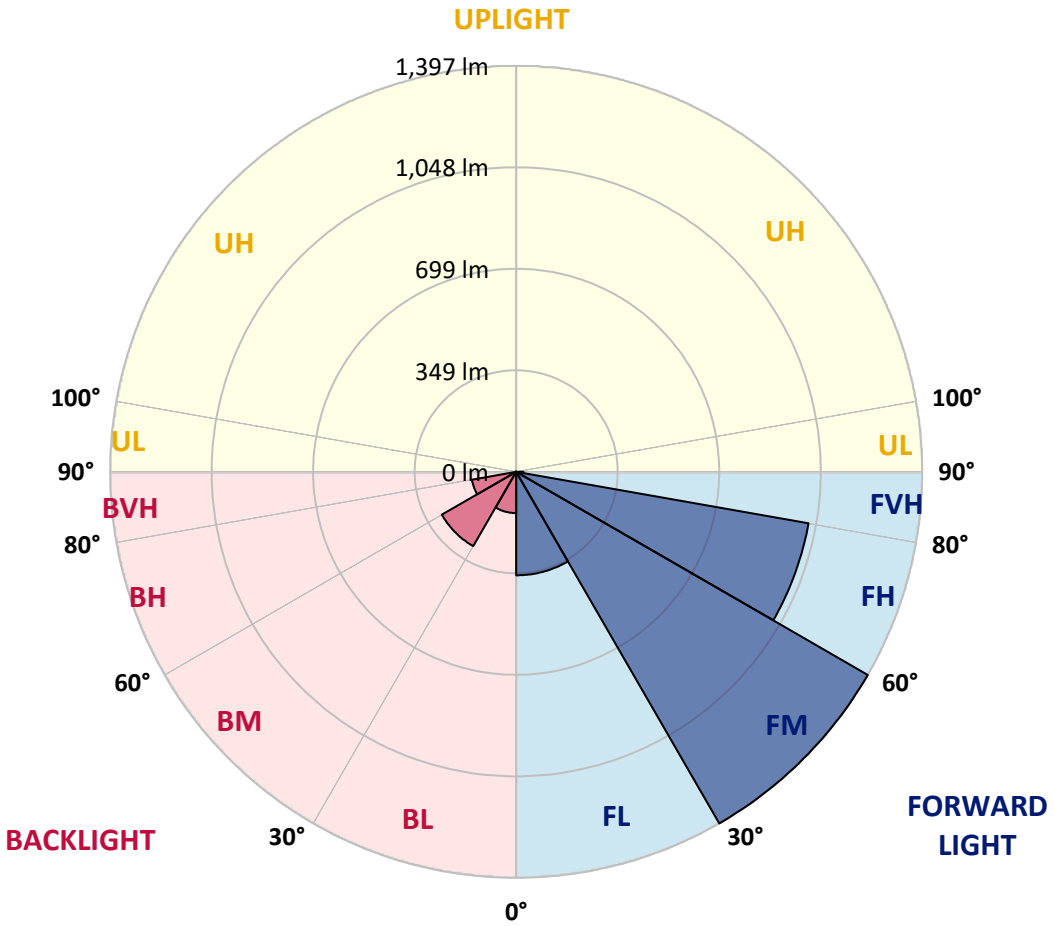
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	356.3	10.5			
FM	(30°-60°)	1397.5	41.2			
FH	(60°-80°)	1021.6	30.1			G1/1800
FVH	(80°-90°)	24.9	0.7			G1/100
BL	(0°-30°)	142.1	4.2	B1/500		
BM	(30°-60°)	295.5	8.7	B1/1000		
BH	(60°-80°)	154.7	4.6	B1/500		G1/500
BVH	(80°-90°)	2.5	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	*1145.5*	1145.5	1145.5	1145.5
2.5°	1230.7	1230.7	1240.6	1270.1	1302.8	1319.2	1337.3	*1319.2*	1315.9	1289.7	1270.1
5°	1193.0	1201.2	1232.4	1311.0	1394.6	1437.2	1460.2	*1435.6*	1391.3	1334.0	1261.9
7.5°	1107.8	1117.7	1153.7	1281.5	1396.2	1481.5	1522.4	*1479.8*	1404.4	1299.6	1194.7
10°	1016.0	1034.1	1081.6	1227.5	1360.2	1461.8	1519.2	*1474.9*	1381.5	1247.1	1117.7
12.5°	955.4	968.5	1032.4	1178.3	1320.9	1411.0	1442.1	*1432.3*	1347.1	1222.5	1086.5
15°	945.6	962.0	1029.2	1175.0	1283.2	1337.3	1348.7	*1361.8*	1332.3	1225.8	1096.3
17.5°	988.2	1006.2	1081.6	1199.6	1248.8	1248.8	1260.2	*1286.4*	1314.3	1258.6	1155.3
20°	1075.0	1099.6	1183.2	1263.5	1230.7	1191.4	1193.0	*1227.5*	1302.8	1332.3	1260.2
22.5°	1191.4	1224.2	1325.8	1363.5	1250.4	1160.3	1152.1	*1181.6*	1304.5	1407.7	1404.4
25°	1345.4	1384.8	1483.1	1481.5	1297.9	1147.2	1139.0	*1160.3*	1319.2	1489.7	1530.6
27.5°	1484.7	1517.5	1615.8	1574.9	1345.4	1163.5	1145.5	*1168.5*	1330.7	1550.3	1643.7
30°	1602.7	1630.6	1717.5	1642.1	1386.4	1191.4	1160.3	*1196.3*	1355.3	1583.1	1745.3
32.5°	1692.9	1733.8	1814.1	1694.5	1435.6	1227.5	1194.7	*1243.8*	1396.2	1625.7	1833.8
35°	1814.1	1835.4	1930.5	1746.9	1501.1	1304.5	1252.0	*1317.6*	1463.4	1681.4	1932.1
37.5°	1919.0	1974.7	2037.0	1801.0	1581.4	1399.5	1342.2	*1435.6*	1555.2	1745.3	2046.8
40°	2043.6	2107.5	2174.7	1878.1	1655.2	1524.1	1499.5	*1591.3*	1692.9	1838.7	2159.9
42.5°	2158.3	2217.3	2263.2	1968.2	1745.3	1665.0	1683.0	*1779.7*	1833.8	1935.4	2256.6
45°	2250.1	2302.5	2371.3	2030.5	1845.3	1822.3	1914.1	*1989.5*	1973.1	2019.0	2343.5
47.5°	2345.1	2409.0	2436.9	2096.0	1974.7	2028.8	2192.7	*2209.1*	2119.0	2096.0	2418.9
50°	2410.7	2458.2	2476.2	2176.3	2133.7	2300.9	2432.0	*2459.8*	2277.9	2156.6	2517.2
52.5°	2491.0	2536.8	2558.1	2271.4	2304.1	2545.0	2697.4	*2690.9*	2432.0	2256.6	2613.9
55°	2633.5	2676.1	2697.4	2387.7	2425.4	2754.8	2923.6	*2917.0*	2615.5	2400.8	2758.1
57.5°	2735.1	2771.2	2805.6	2518.8	2576.2	2889.2	3077.6	*3126.8*	2836.7	2582.7	2915.4
60°	*2689.3*	*2730.2*	*2813.8*	*2667.9*	*2708.9*	*2976.0*	*3136.6*	*3228.4*	*3048.1*	*2812.2*	*3077.6*
62.5°	2559.8	2620.4	2707.3	2785.9	2812.2	2990.8	3054.7	*3177.6*	3161.2	3043.2	3151.4
65°	2395.9	2458.2	2541.8	2802.3	2789.2	2771.2	2808.9	*2882.6*	2997.3	3154.7	3115.3
67.5°	2100.9	2191.1	2295.9	2610.6	2425.4	2322.2	2332.0	*2291.0*	2522.1	2994.1	2931.8
70°	1710.9	1802.7	1915.7	2214.0	1869.9	1733.8	1768.3	*1742.0*	1923.9	2569.6	2512.3
72.5°	1204.5	1302.8	1442.1	1845.3	1302.8	1083.2	1165.2	*1234.0*	1450.3	2061.6	1845.3
75°	798.1	868.6	968.5	1389.7	929.2	727.6	745.6	*773.5*	970.2	1558.5	1165.2
77.5°	413.0	483.4	527.7	744.0	575.2	573.6	560.5	*596.5*	606.4	935.7	608.0
80°	231.1	254.0	277.0	362.2	288.4	340.9	352.3	*431.0*	399.9	468.7	254.0
82.5°	113.1	142.6	155.7	222.9	185.2	136.0	67.2	*140.9*	237.6	254.0	118.0
85°	1.6	3.3	8.2	18.0	4.9	4.9	0.0	*4.9*	24.6	31.1	41.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5
2.5°	1248.8	1235.6	1198.0	1165.2	1114.4	1093.1	1058.7	1050.5	1022.6	994.7	978.4
5°	1225.8	1188.1	1111.1	1035.7	966.9	903.0	855.4	816.1	771.9	753.8	765.3
7.5°	1134.0	1081.6	970.2	881.7	783.3	709.6	642.4	608.0	567.0	550.6	539.2
10°	1058.7	994.7	866.9	750.6	657.2	599.8	558.8	509.7	462.1	424.4	419.5
12.5°	1011.1	942.3	799.7	676.8	608.0	552.3	504.7	440.8	386.8	350.7	334.3
15°	1009.5	924.3	778.4	649.0	568.7	498.2	437.6	365.4	309.7	263.8	247.5
17.5°	1068.5	965.2	788.3	619.5	512.9	421.2	342.5	267.1	213.0	181.9	165.5
20°	1171.7	1058.7	806.3	590.0	458.9	342.5	240.9	181.9	145.9	131.1	124.5
22.5°	1296.3	1161.9	839.1	567.0	403.1	258.9	170.4	131.1	114.7	104.9	103.2
25°	1447.1	1293.0	884.9	550.6	352.3	199.9	132.7	108.2	98.3	91.8	88.5
27.5°	1579.8	1419.2	953.8	537.5	303.2	163.9	113.1	95.0	85.2	80.3	78.7
30°	1678.1	1522.4	1032.4	508.0	263.8	142.6	106.5	90.1	78.7	72.1	70.5
32.5°	1791.2	1601.1	1070.1	478.5	240.9	126.2	93.4	80.3	72.1	65.6	63.9
35°	1915.7	1710.9	1107.8	455.6	226.2	113.1	85.2	70.5	60.6	54.1	52.4
37.5°	2060.0	1832.2	1142.2	435.9	218.0	104.9	80.3	65.6	55.7	49.2	45.9
40°	2220.6	1927.2	1165.2	422.8	206.5	100.0	77.0	62.3	52.4	44.2	42.6
42.5°	2348.4	2037.0	1171.7	417.9	195.0	98.3	73.7	60.6	49.2	42.6	39.3
45°	2440.2	2133.7	1194.7	413.0	186.8	91.8	72.1	59.0	45.9	39.3	36.1
47.5°	2507.3	2236.9	1216.0	408.1	178.6	83.6	77.0	59.0	44.2	36.1	32.8
50°	2631.9	2358.2	1257.0	394.9	167.2	75.4	77.0	57.4	42.6	34.4	31.1
52.5°	2766.3	2515.5	1348.7	380.2	152.4	67.2	70.5	57.4	41.0	32.8	29.5
55°	2894.1	2707.3	1433.9	360.5	127.8	60.6	65.6	57.4	37.7	31.1	27.9
57.5°	2987.5	2835.1	1479.8	336.0	101.6	54.1	54.1	54.1	32.8	26.2	24.6
60°	*3031.8*	*2822.0*	*1458.5*	*304.8*	*81.9*	*47.5*	*44.2*	*55.7*	*29.5*	*22.9*	*21.3*
62.5°	2997.3	2686.0	1365.1	272.0	72.1	41.0	36.1	49.2	26.2	19.7	18.0
65°	2890.8	2456.5	1209.4	245.8	70.5	34.4	29.5	29.5	21.3	16.4	14.7
67.5°	2627.0	2155.0	1024.2	221.2	72.1	29.5	24.6	22.9	18.0	13.1	11.5
70°	2184.5	1732.2	775.1	209.8	72.1	24.6	21.3	18.0	13.1	11.5	9.8
72.5°	1388.1	1075.0	537.5	185.2	72.1	19.7	18.0	16.4	9.8	8.2	4.9
75°	822.7	653.9	252.4	142.6	60.6	16.4	13.1	9.8	4.9	3.3	3.3
77.5°	483.4	419.5	109.8	78.7	26.2	9.8	6.6	3.3	1.6	0.0	0.0
80°	198.3	172.1	41.0	22.9	11.5	4.9	1.6	0.0	0.0	0.0	0.0
82.5°	116.4	121.3	14.7	9.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0
85°	36.1	55.7	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5
2.5°	976.7	960.3	953.8	943.9	935.7	925.9	939.0	950.5	937.4	952.1	975.1
5°	753.8	729.3	762.0	740.7	752.2	739.1	721.1	724.3	727.6	721.1	739.1
7.5°	522.8	534.2	542.4	540.8	550.6	532.6	532.6	521.1	504.7	511.3	508.0
10°	396.6	373.6	381.8	380.2	398.2	373.6	357.3	339.2	337.6	340.9	337.6
12.5°	316.3	288.4	270.4	260.6	258.9	247.5	232.7	214.7	203.2	201.6	211.4
15°	237.6	216.3	199.9	185.2	183.5	160.6	140.9	127.8	116.4	118.0	124.5
17.5°	163.9	157.3	152.4	139.3	131.1	111.4	95.0	86.9	83.6	83.6	85.2
20°	119.6	116.4	113.1	108.2	100.0	85.2	75.4	72.1	70.5	70.5	72.1
22.5°	100.0	95.0	91.8	90.1	83.6	72.1	65.6	62.3	62.3	62.3	62.3
25°	85.2	81.9	80.3	77.0	72.1	62.3	57.4	55.7	54.1	54.1	55.7
27.5°	77.0	70.5	67.2	67.2	62.3	55.7	50.8	49.2	47.5	47.5	49.2
30°	68.8	63.9	60.6	57.4	54.1	47.5	44.2	42.6	42.6	42.6	42.6
32.5°	60.6	57.4	54.1	50.8	45.9	42.6	39.3	37.7	36.1	36.1	36.1
35°	49.2	45.9	45.9	44.2	39.3	36.1	32.8	31.1	29.5	31.1	31.1
37.5°	42.6	37.7	37.7	37.7	34.4	31.1	27.9	26.2	24.6	24.6	26.2
40°	39.3	32.8	31.1	31.1	31.1	26.2	22.9	21.3	19.7	19.7	21.3
42.5°	34.4	29.5	26.2	24.6	26.2	22.9	18.0	16.4	16.4	16.4	16.4
45°	32.8	26.2	22.9	19.7	21.3	19.7	14.7	13.1	13.1	13.1	13.1
47.5°	29.5	22.9	19.7	14.7	14.7	14.7	11.5	9.8	9.8	9.8	9.8
50°	27.9	21.3	14.7	13.1	11.5	11.5	9.8	8.2	6.6	6.6	8.2
52.5°	26.2	19.7	13.1	9.8	8.2	8.2	6.6	6.6	4.9	4.9	4.9
55°	24.6	16.4	11.5	8.2	6.6	4.9	4.9	4.9	4.9	3.3	4.9
57.5°	21.3	14.7	8.2	6.6	3.3	3.3	3.3	3.3	3.3	3.3	3.3
60°	*19.7*	*11.5*	*6.6*	*3.3*	*1.6*	*1.6*	*1.6*	*1.6*	*1.6*	*1.6*	*1.6*
62.5°	16.4	9.8	4.9	3.3	1.6	0.0	1.6	1.6	1.6	1.6	1.6
65°	13.1	8.2	3.3	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	9.8	6.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	8.2	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	4.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	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

Scaled Data Report

REPORT NUMBER: P437596
CATALOG NUMBER: ISS-SA1D-830-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5
2.5°	973.4	983.3	1019.3	1052.1	1088.2	1127.5	1160.3	1207.8	1222.5	1230.7
5°	735.8	771.9	816.1	855.4	925.9	991.5	1068.5	1152.1	1186.5	1193.0
7.5°	531.0	555.5	603.1	681.7	745.6	844.0	943.9	1055.4	1107.8	1107.8
10°	365.4	406.4	467.1	540.8	626.0	712.9	829.2	955.4	1004.6	1016.0
12.5°	232.7	278.6	360.5	440.8	539.2	624.4	740.7	883.3	939.0	955.4
15°	134.4	165.5	240.9	329.4	447.4	555.5	686.7	860.4	929.2	945.6
17.5°	90.1	101.6	142.6	219.6	350.7	494.9	670.3	884.9	968.5	988.2
20°	75.4	80.3	95.0	136.0	247.5	431.0	663.7	939.0	1040.6	1075.0
22.5°	65.6	70.5	80.3	100.0	177.0	363.8	658.8	1017.7	1155.3	1191.4
25°	57.4	62.3	70.5	85.2	124.5	296.6	667.0	1129.1	1302.8	1345.4
27.5°	50.8	55.7	63.9	73.7	100.0	229.4	668.6	1234.0	1440.5	1484.7
30°	44.2	49.2	55.7	63.9	80.3	177.0	639.1	1340.5	1551.9	1602.7
32.5°	39.3	42.6	49.2	55.7	67.2	137.7	578.5	1422.5	1643.7	1692.9
35°	32.8	36.1	42.6	47.5	59.0	111.4	511.3	1497.9	1753.5	1814.1
37.5°	27.9	31.1	36.1	42.6	52.4	86.9	444.1	1563.4	1860.0	1919.0
40°	22.9	27.9	32.8	37.7	47.5	67.2	370.4	1633.9	1981.3	2043.6
42.5°	19.7	22.9	27.9	34.4	41.0	54.1	304.8	1678.1	2084.5	2158.3
45°	14.7	19.7	26.2	34.4	34.4	42.6	262.2	1710.9	2158.3	2250.1
47.5°	11.5	16.4	22.9	32.8	31.1	36.1	240.9	1768.3	2259.9	2345.1
50°	9.8	13.1	22.9	27.9	26.2	31.1	247.5	1819.1	2336.9	2410.7
52.5°	8.2	11.5	19.7	21.3	22.9	27.9	260.6	1912.5	2433.6	2491.0
55°	6.6	9.8	14.7	18.0	19.7	26.2	281.9	2028.8	2559.8	2633.5
57.5°	4.9	8.2	11.5	14.7	18.0	24.6	296.6	2102.6	2677.8	2735.1
60°	*4.9*	*6.6*	*9.8*	*13.1*	*16.4*	*22.9*	*275.3*	*2015.7*	*2627.0*	*2689.3*
62.5°	3.3	6.6	8.2	11.5	13.1	18.0	203.2	1825.6	2474.6	2559.8
65°	1.6	4.9	6.6	8.2	9.8	13.1	116.4	1596.2	2294.3	2395.9
67.5°	0.0	3.3	4.9	6.6	6.6	9.8	54.1	1288.1	1997.7	2100.9
70°	0.0	1.6	3.3	3.3	4.9	8.2	27.9	909.5	1571.6	1710.9
72.5°	1.6	1.6	3.3	3.3	3.3	6.6	18.0	550.6	1057.0	1204.5
75°	1.6	1.6	1.6	1.6	3.3	4.9	11.5	354.0	665.3	798.1
77.5°	1.6	3.3	1.6	1.6	1.6	3.3	6.6	196.7	363.8	413.0
80°	1.6	1.6	1.6	1.6	1.6	3.3	3.3	18.0	172.1	231.1
82.5°	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	88.5	113.1
85°	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	1.6	1.6
87.5°	0.0	0.0	0.0	1.6	1.6	1.6	0.0	0.0	0.0	0.0
90°	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

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

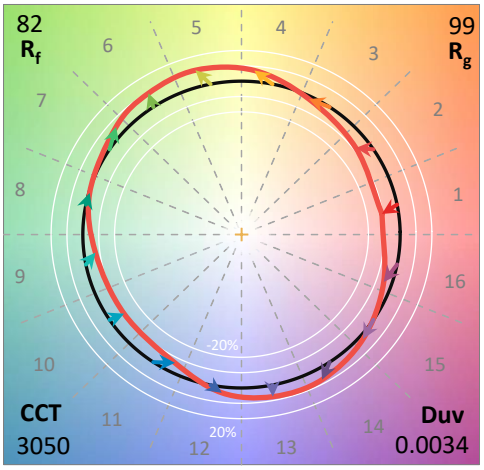
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2408-195-9
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	08/07/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	MCGRAW EDISON
Catalog Number:	**GALN-SB1A-830-U-5WQ**
Description:	GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

Spectral Parameters

CCT (K):	3050	CRI (Ra):	81.0		
CIE u':	0.2476	R1:	79.6	R9:	7.1
CIE v':	0.5251	R2:	85.6	R10:	67.0
Duv:	0.0034	R3:	92.0	R11:	82.7
CIE x:	0.4383	R4:	82.6	R12:	63.2
CIE y:	0.4131	R5:	78.9	R13:	80.3
CIE z:	0.1487	R6:	81.7	R14:	95.0
Peak Wavelength (nm):	603	R7:	85.2	R15:	71.7
Dominant Wavelength (nm):	581	R8:	62.0		
Purity:	55.55201				

Rf:	81.5
Rg:	99.2



Test Conditions

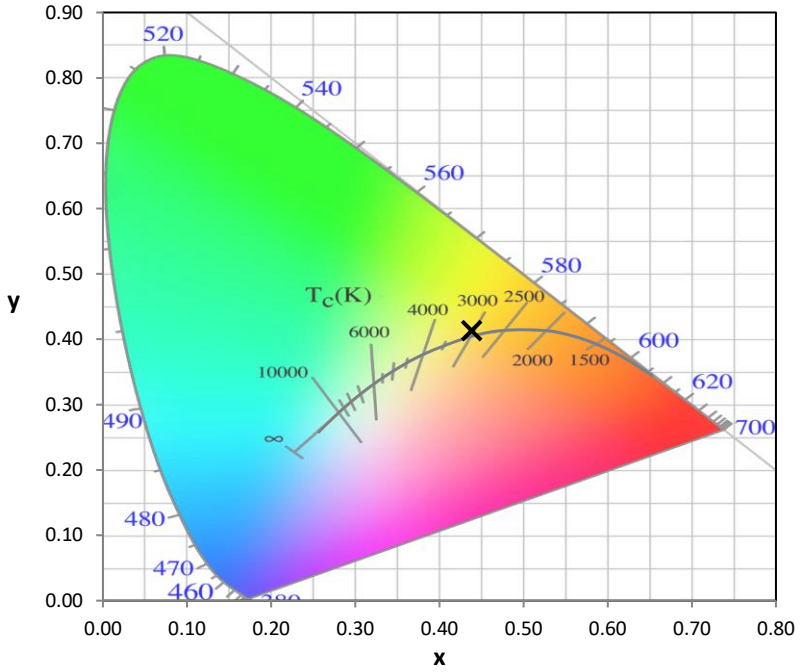
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2408-195-9

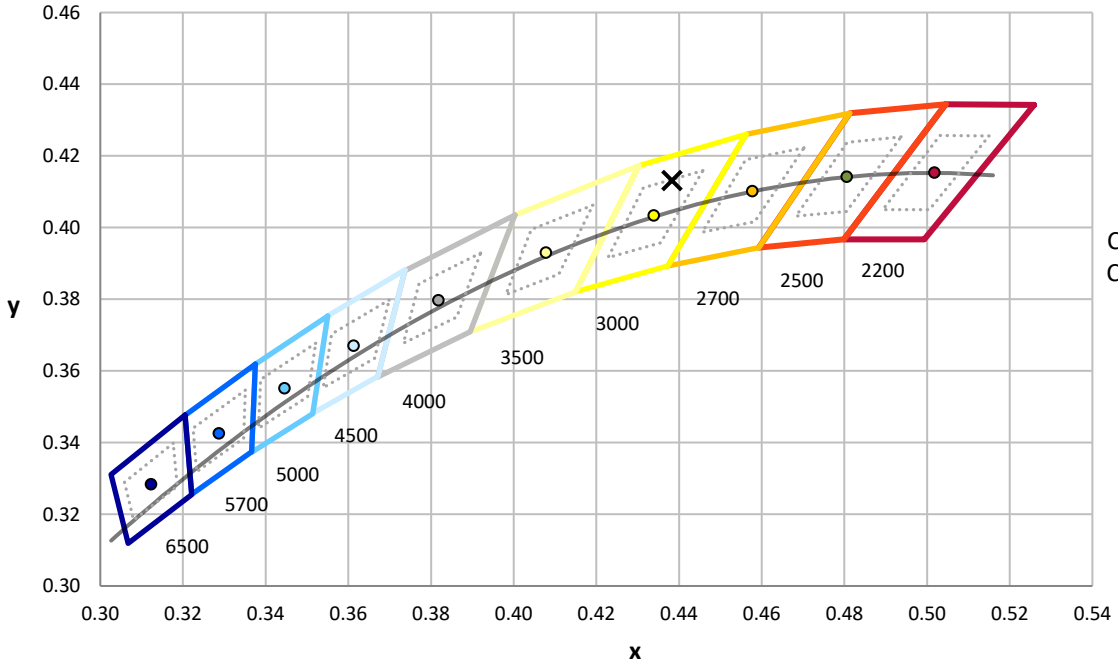
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2408-195-9

CIE 1931 Chromaticity Diagram



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

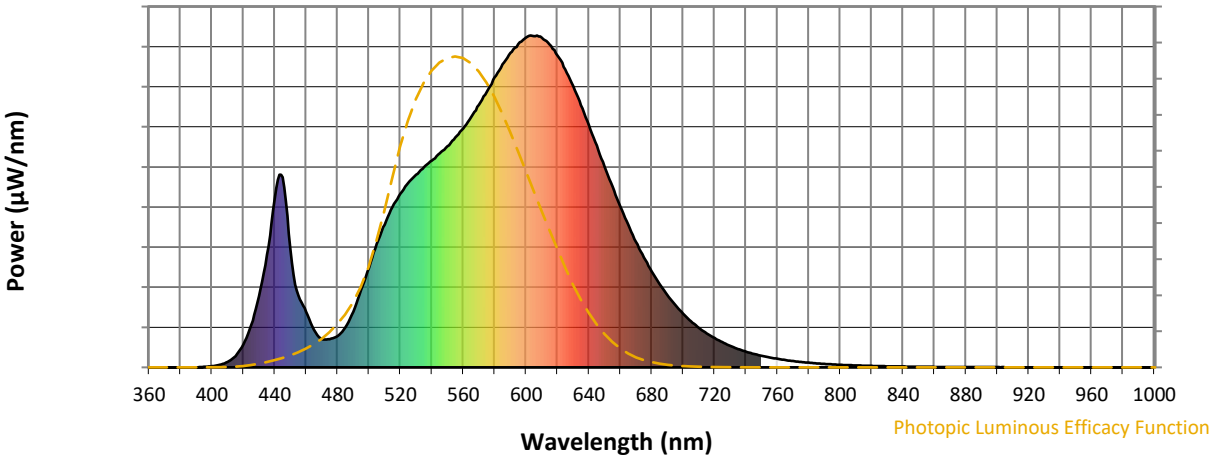


CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength

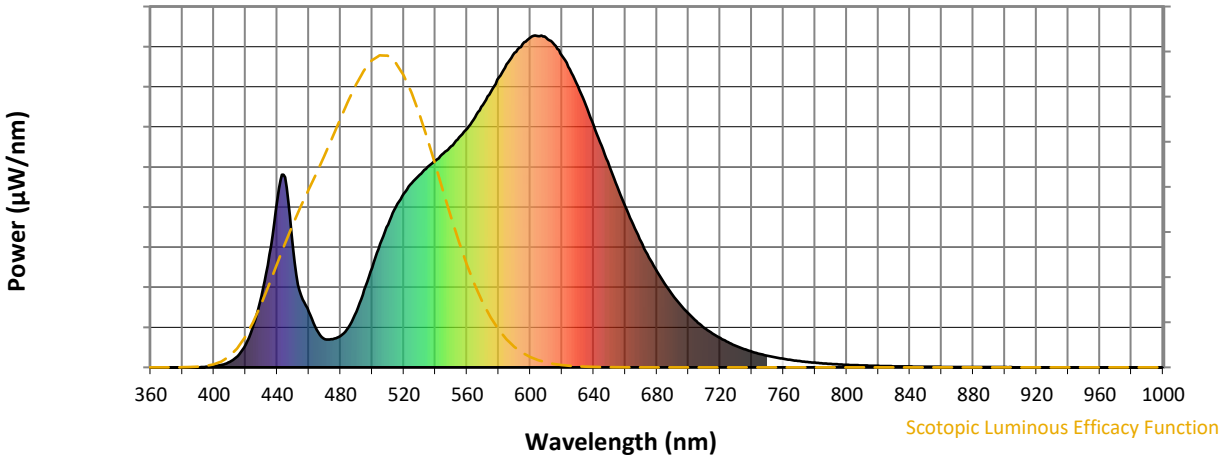


Photopic Lumens: NR

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	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

Scotopic Flux vs. Wavelength

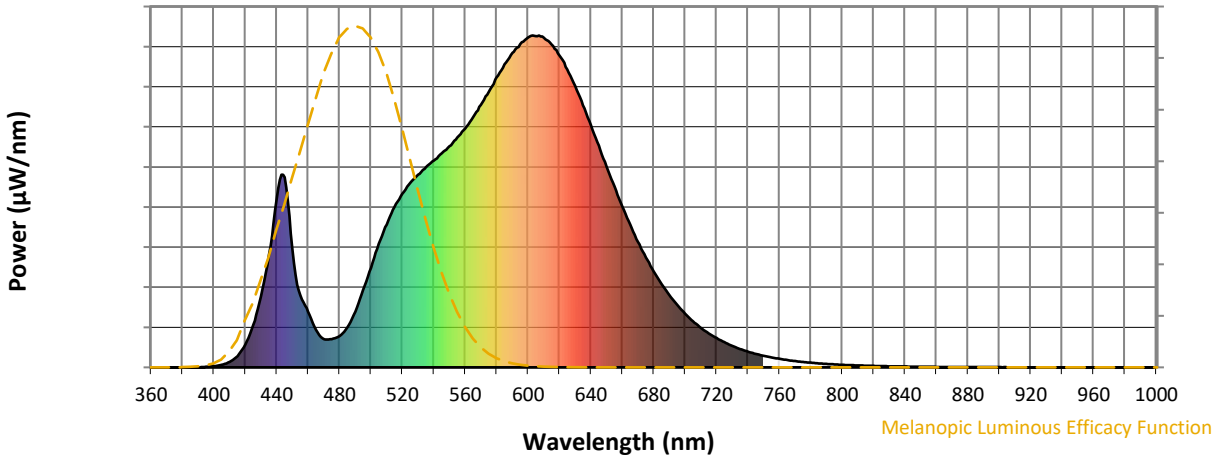


Scotopic Lumens: NR **S/P: 1.27**

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	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.32**

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	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

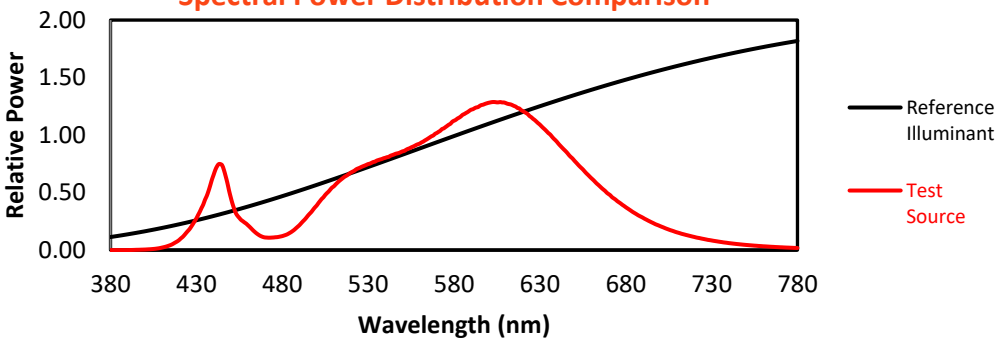
REPORT NUMBER: SP1-2408-195-9

TM-30-18

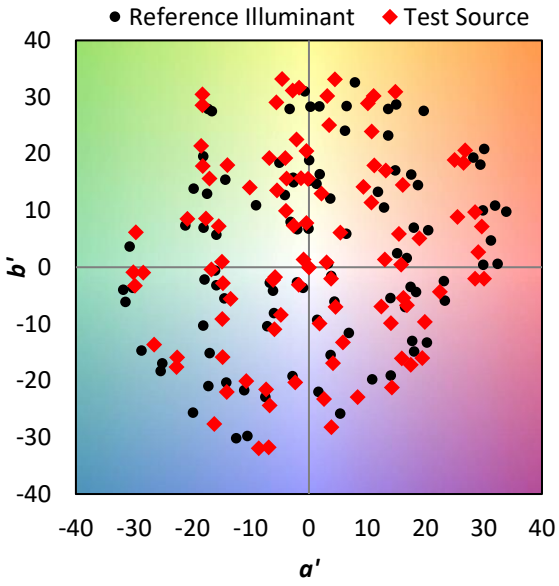
Summary

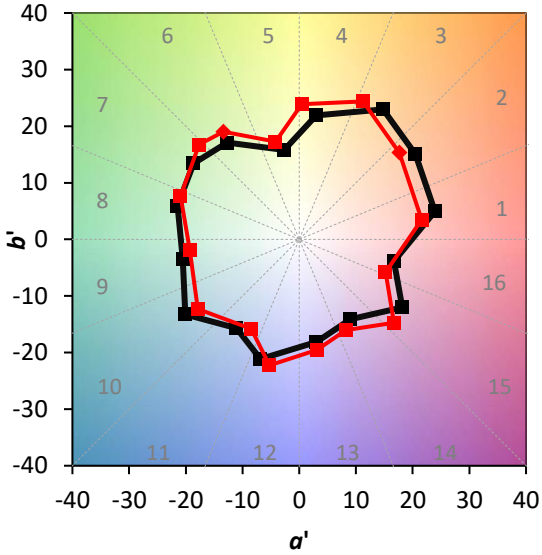
R_f = 81.5
R_g = 99.2
CIE R_a = 81.0
R_9 = 7.1

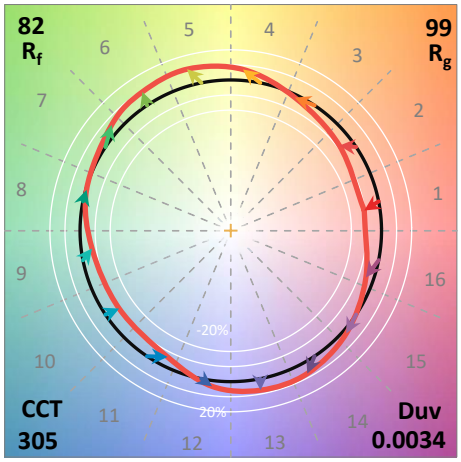
Spectral Power Distribution Comparison

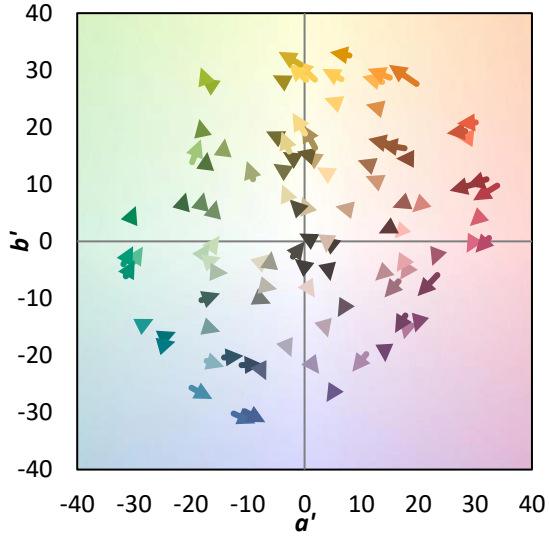


Color Vector Graphics









REPORT NUMBER: SP1-2408-195-9

TM-30-18

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

CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 95
CES08 = 41	CES33 = 71	CES58 = 78	CES83 = 90
CES09 = 29	CES34 = 82	CES59 = 92	CES84 = 94
CES10 = 76	CES35 = 90	CES60 = 95	CES85 = 86
CES11 = 59	CES36 = 93	CES61 = 93	CES86 = 72
CES12 = 65	CES37 = 87	CES62 = 83	CES87 = 85
CES13 = 43	CES38 = 75	CES63 = 77	CES88 = 83
CES14 = 74	CES39 = 94	CES64 = 83	CES89 = 75
CES15 = 71	CES40 = 89	CES65 = 77	CES90 = 81
CES16 = 47	CES41 = 85	CES66 = 80	CES91 = 96
CES17 = 50	CES42 = 86	CES67 = 79	CES92 = 73
CES18 = 56	CES43 = 81	CES68 = 84	CES93 = 84
CES19 = 72	CES44 = 99	CES69 = 91	CES94 = 64
CES20 = 66	CES45 = 87	CES70 = 78	CES95 = 80
CES21 = 87	CES46 = 82	CES71 = 76	CES96 = 84
CES22 = 79	CES47 = 77	CES72 = 92	CES97 = 87
CES23 = 92	CES48 = 71	CES73 = 71	CES98 = 81
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 74
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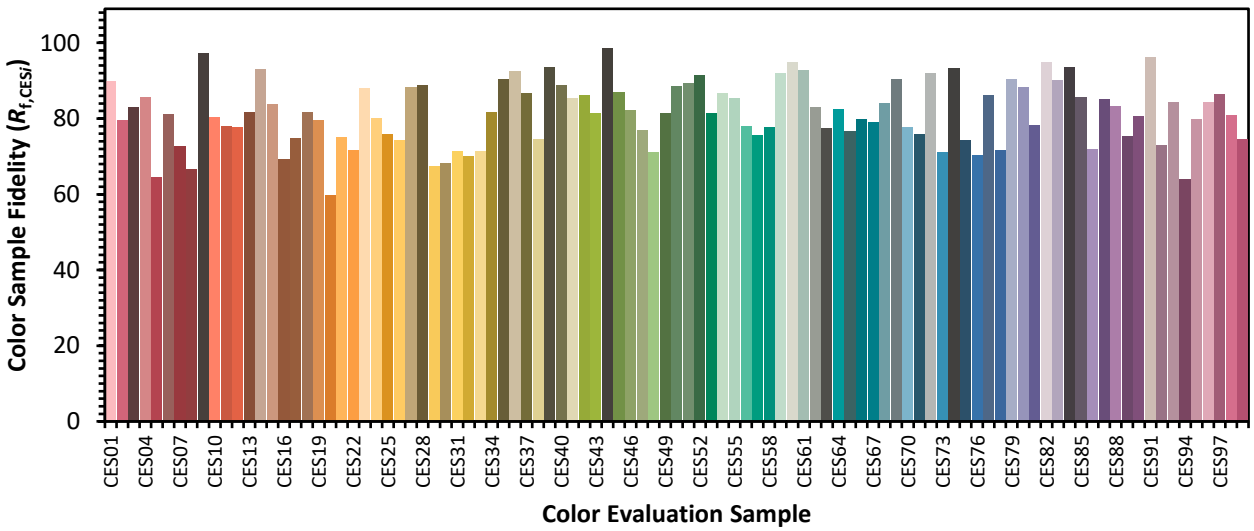

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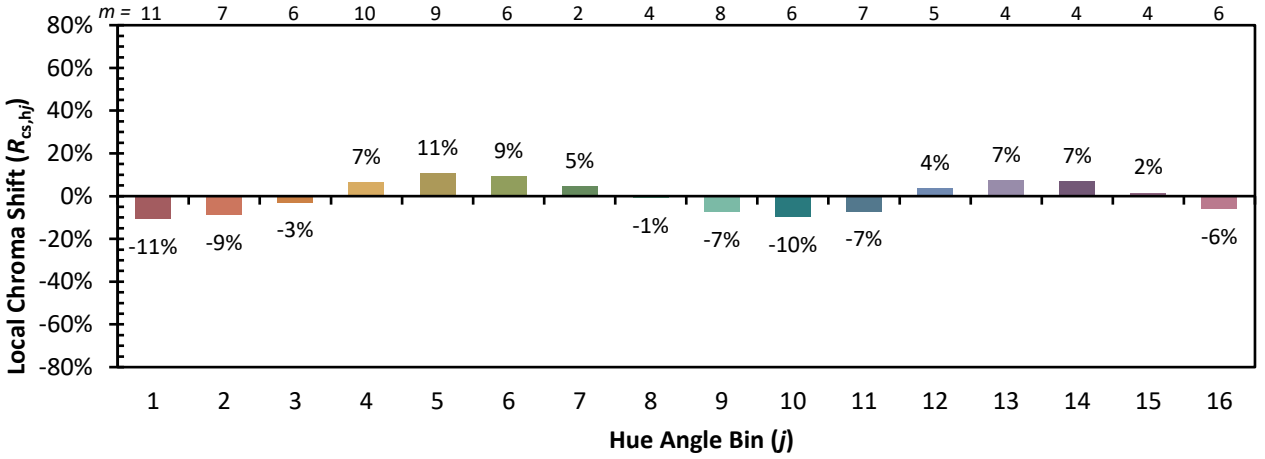
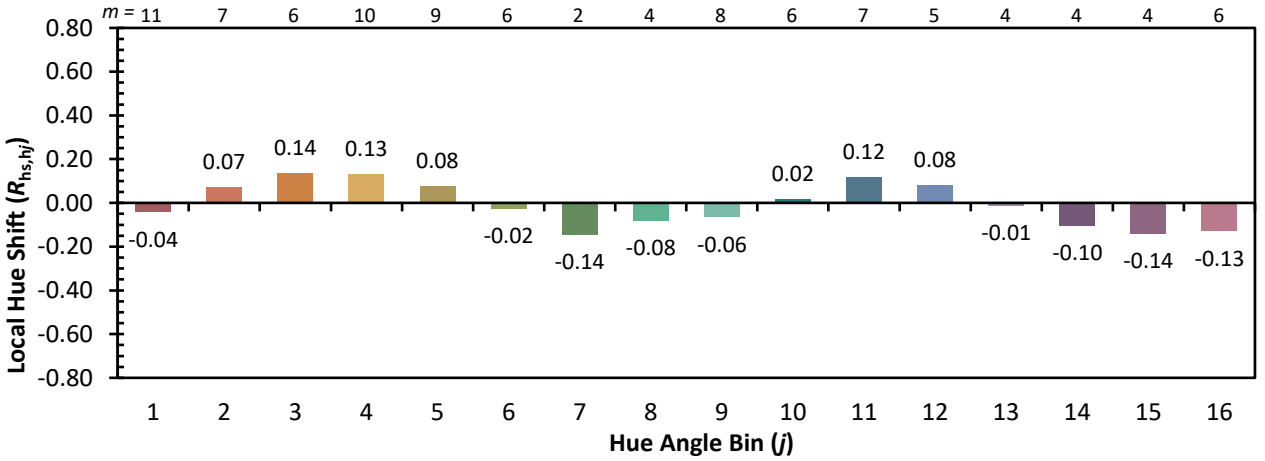
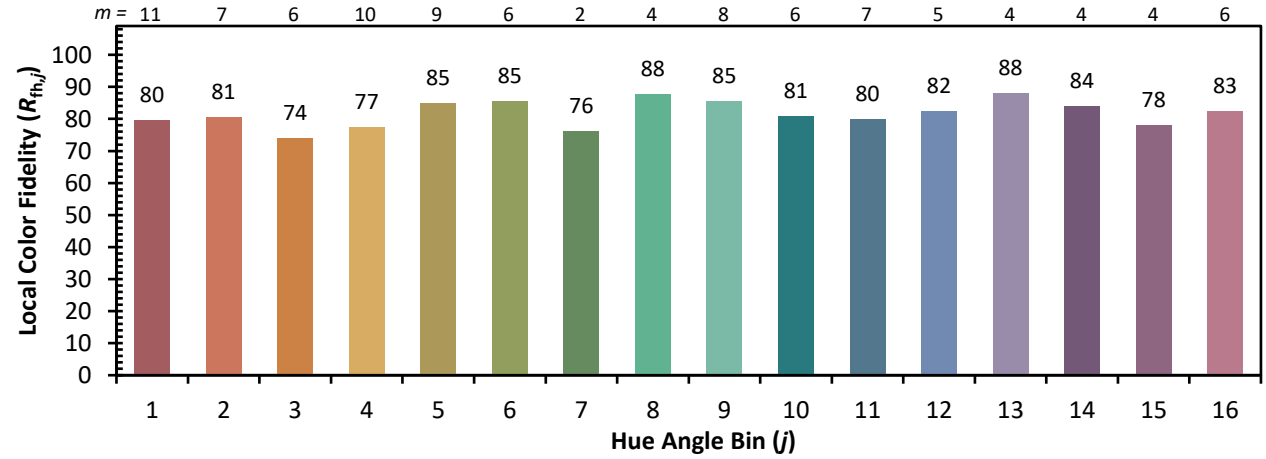
Color Rendition by Hue-Angle Bin







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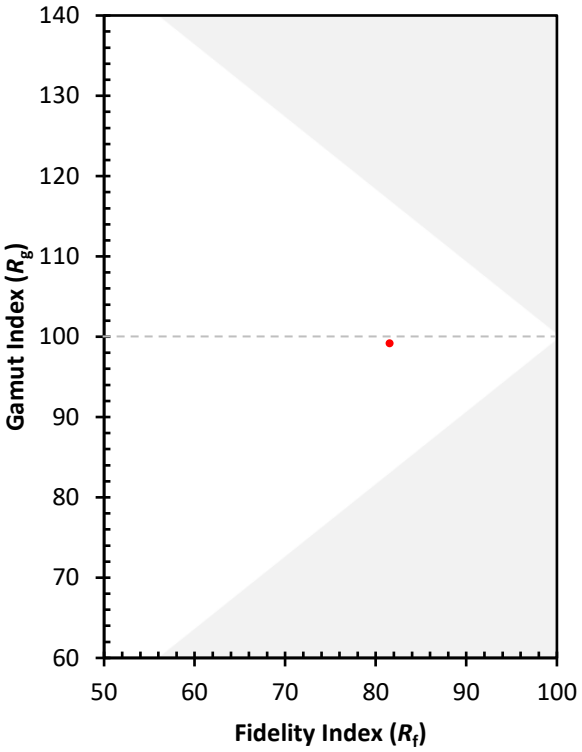
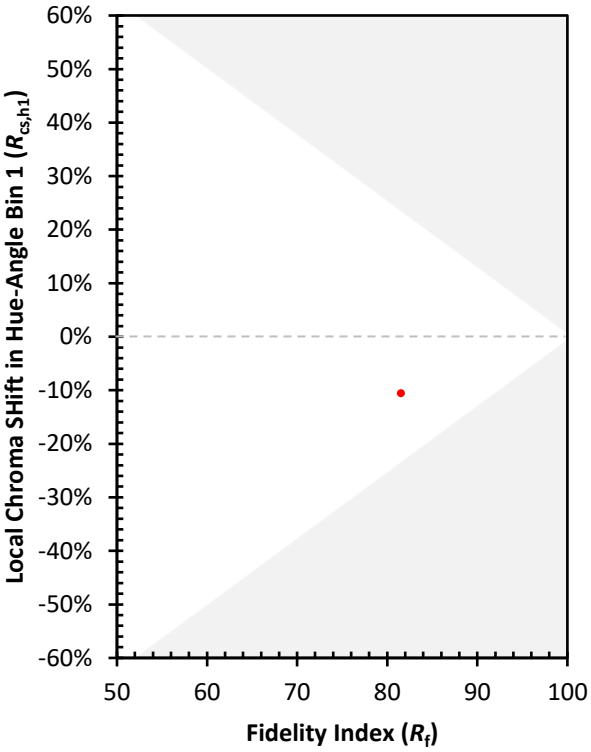
Measure Comparisons





(END OF REPORT)