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: P437788

Luminaire Tested: **ISS-SA1F-722-U-SLR-HSS**

Issue Date: 12/9/2020

Report Generated By 670245982

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Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P437788
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-23)
Test Lab:	INNOVATION CENTER
Issue Date:	12/9/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	ISS-SA1F-722-U-SLR-HSS
Description:	IMPACT ELITE LED QUARTER SPHERE LUMINAIRE
	(1) 70 CRI, 2200K, 1200mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4292 lumens
Efficiency:	N/A
Efficacy:	65.0 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):	66
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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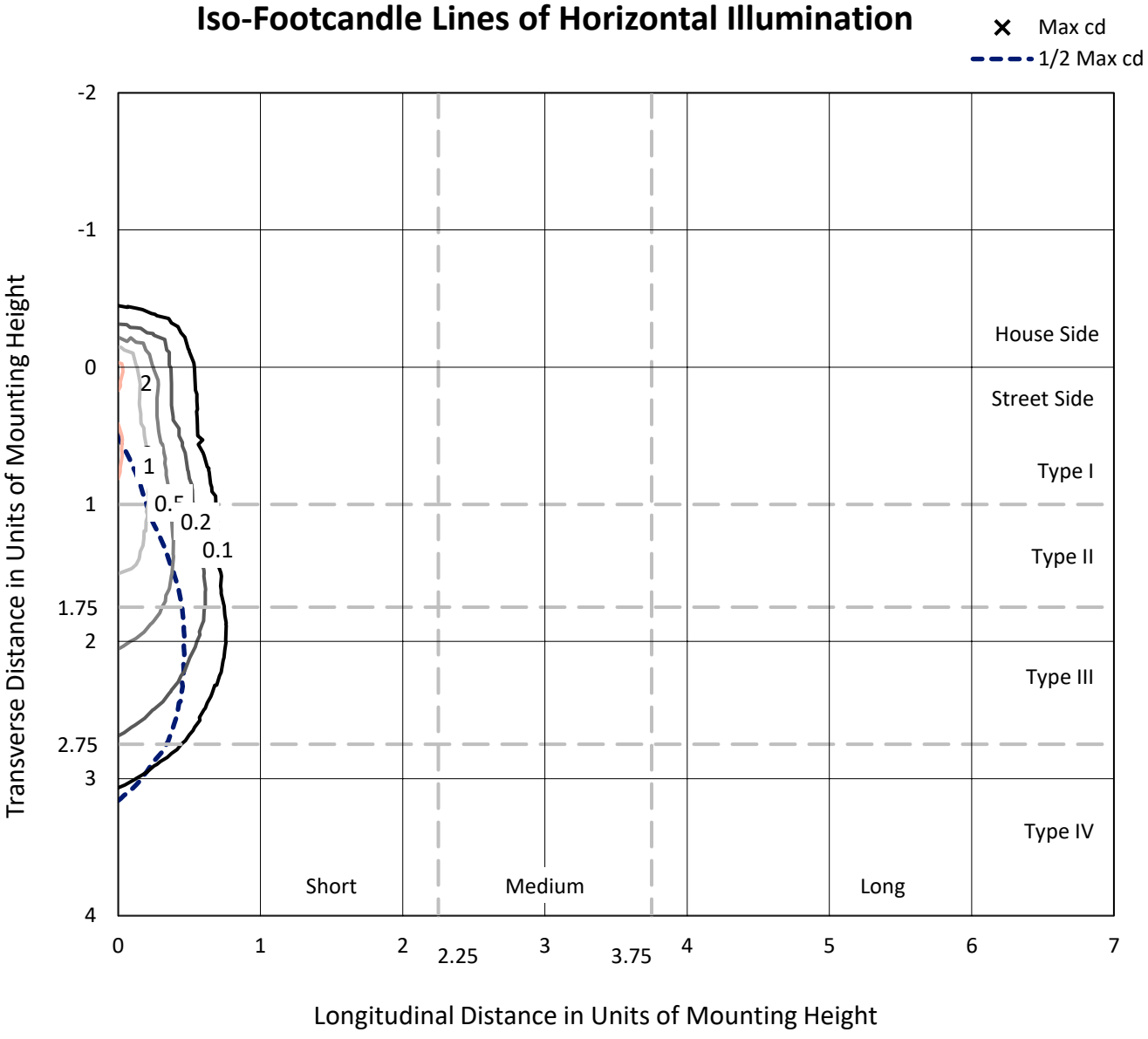
Iso-Footcandle Lines of Horizontal Illumination



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

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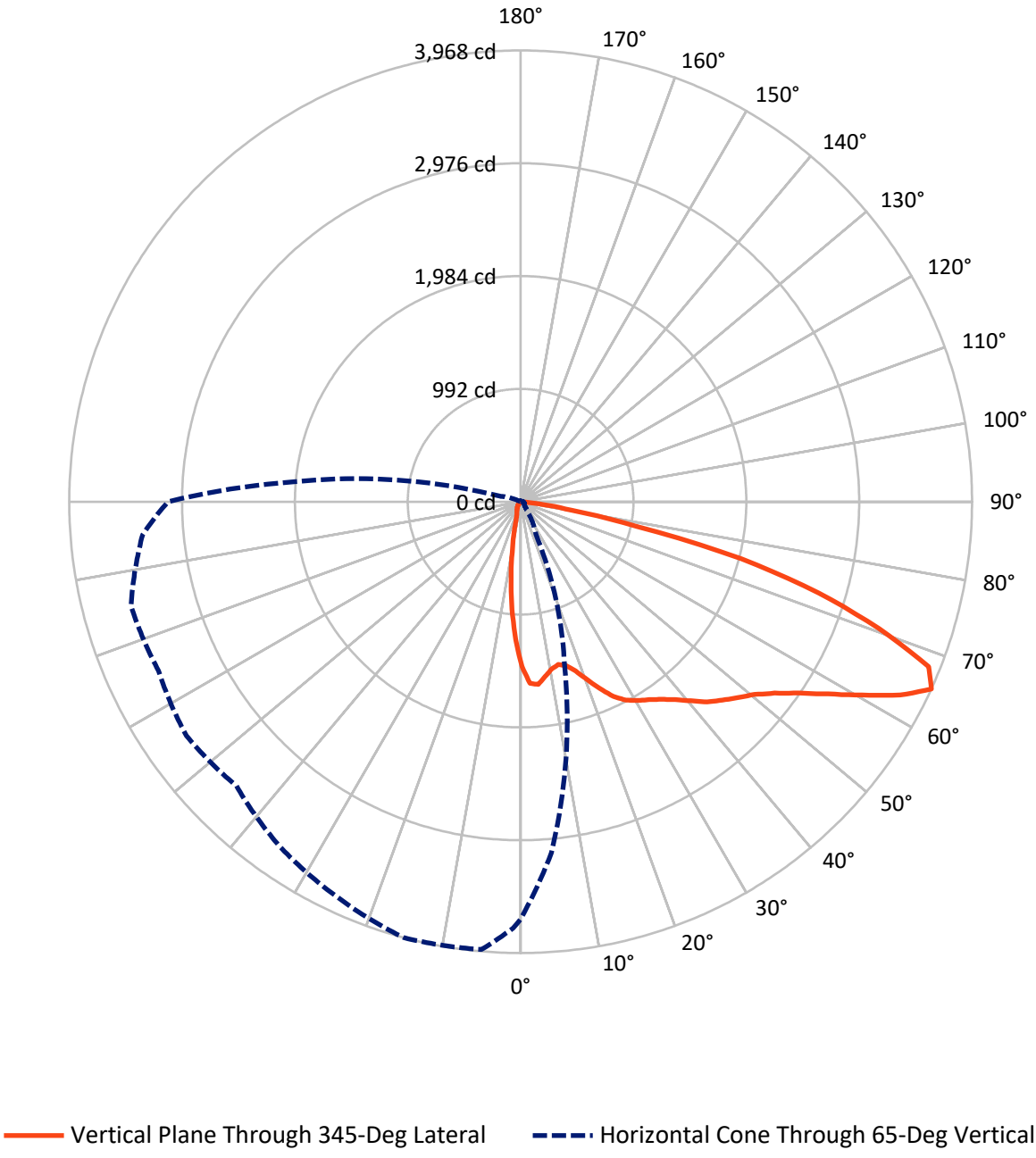
Luminous Intensity Polar Plot



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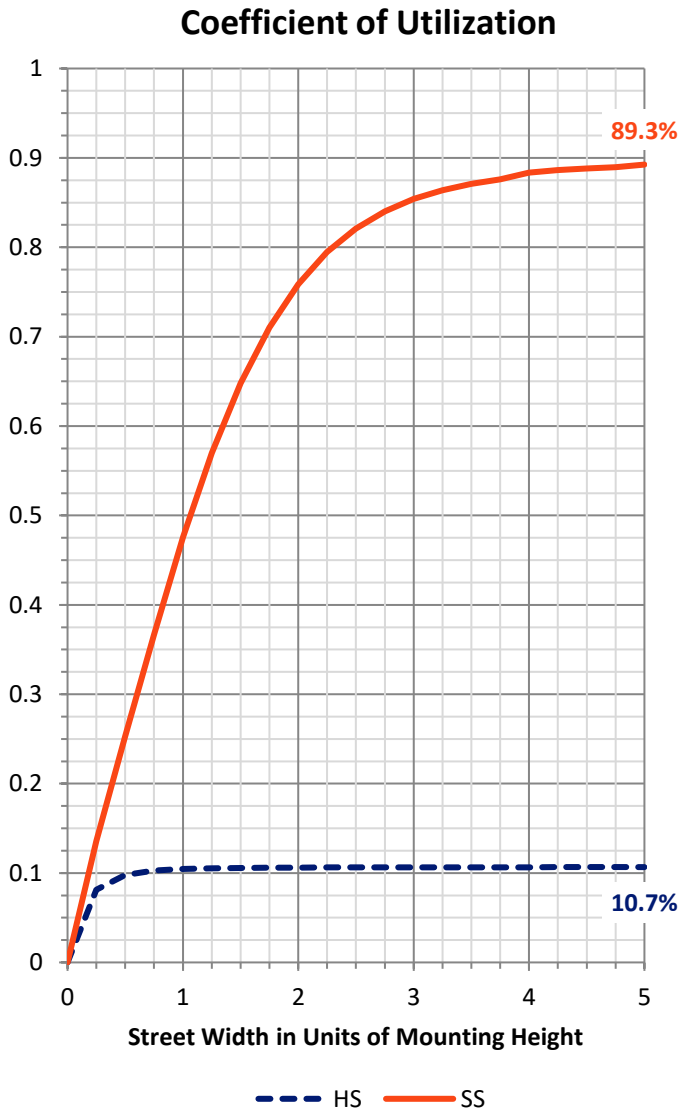
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	462.7	0.0	462.7
	% Fixture	10.8	0.0	10.8
Street Side	Lumens	3829.3	0.0	3829.3
	% Fixture	89.2	0.0	89.2
Total	Lumens	4292.0	0.0	4292.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.5	2.5
10°-20°	209.3	4.9
20°-30°	305.2	7.1
30°-40°	453.7	10.6
40°-50°	665.1	15.5
50°-60°	957.0	22.3
60°-70°	1073.6	25.0
70°-80°	471.1	11.0
80°-90°	49.6	1.2
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°	4292.0	100.0
0°-180°	4292.0	100.0



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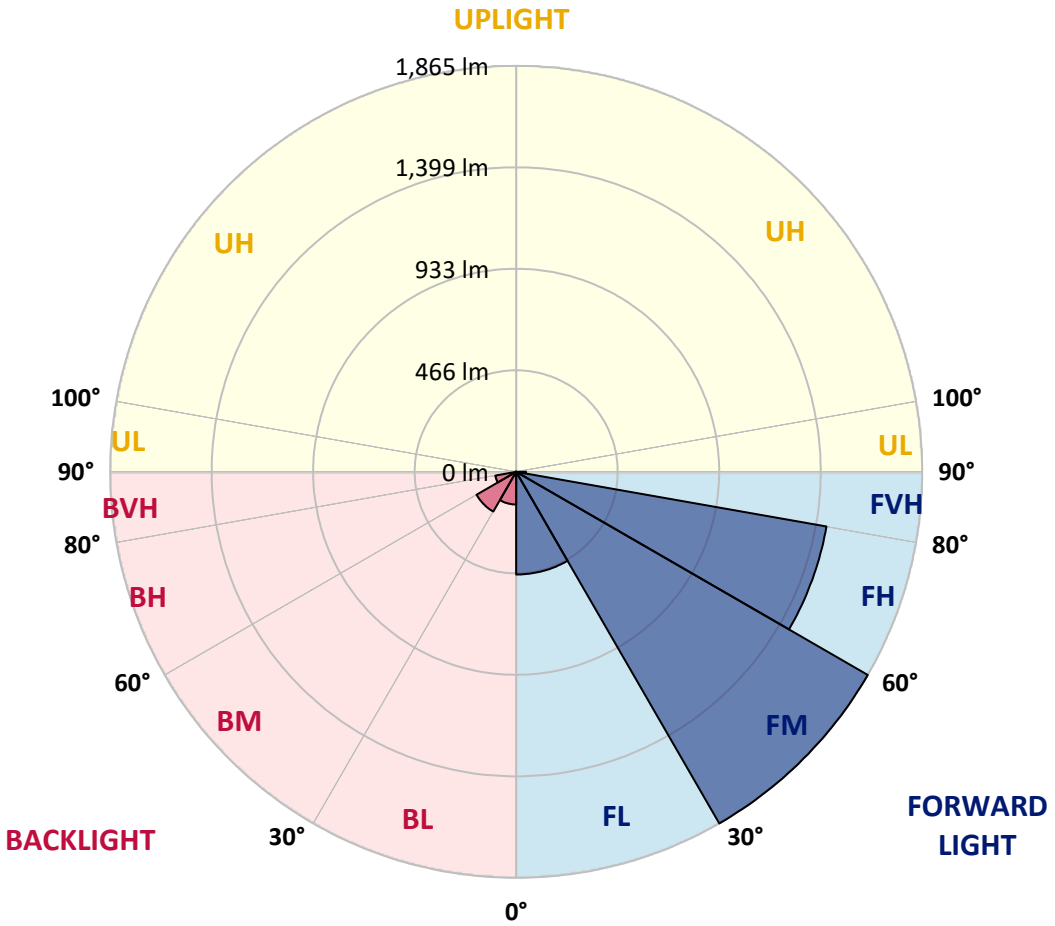
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	471.9	11.0			
FM	(30°-60°)	1865.2	43.5			
FH	(60°-80°)	1447.4	33.7			G1/1800
FVH	(80°-90°)	44.8	1.0			G1/100
BL	(0°-30°)	150.1	3.5	B1/500		
BM	(30°-60°)	210.6	4.9	B0/220		
BH	(60°-80°)	97.2	2.3	B0/110		G0/110
BVH	(80°-90°)	4.8	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°	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4
2.5°	1532.9	1532.9	1510.2	1456.7	1407.2	1347.5	1314.5	1283.6	1250.6	1228.0	1192.9
5°	1460.8	1446.4	1413.4	1314.5	1209.4	1139.4	1085.8	991.0	945.7	912.7	898.3
7.5°	1341.3	1333.1	1279.5	1164.1	1038.4	925.1	853.0	774.7	712.9	688.2	644.9
10°	1258.9	1250.6	1182.6	1026.1	879.8	797.4	739.7	684.0	624.3	564.5	519.2
12.5°	1217.7	1201.2	1135.3	958.1	832.4	752.0	686.1	618.1	543.9	478.0	424.4
15°	1228.0	1201.2	1127.0	945.7	797.4	698.5	614.0	515.1	440.9	362.6	313.2
17.5°	1300.1	1271.2	1180.6	956.0	752.0	626.4	515.1	403.8	304.9	232.8	208.1
20°	1434.0	1403.1	1279.5	978.7	723.2	554.2	397.6	278.1	201.9	168.9	154.5
22.5°	1605.0	1563.8	1417.5	1015.8	690.2	482.1	300.8	197.8	154.5	133.9	123.6
25°	1784.3	1743.1	1580.3	1071.4	669.6	420.3	232.8	154.5	125.7	113.3	107.1
27.5°	1947.0	1895.5	1726.6	1153.8	644.9	364.7	193.7	133.9	113.3	98.9	94.8
30°	2095.4	2035.6	1872.9	1223.9	609.9	315.2	166.9	123.6	105.1	92.7	86.5
32.5°	2221.1	2173.7	1992.4	1273.3	581.0	288.5	148.3	109.2	90.7	80.4	76.2
35°	2371.5	2326.1	2107.8	1314.5	562.5	276.1	136.0	103.0	84.5	74.2	65.9
37.5°	2575.5	2509.5	2235.5	1351.6	541.9	265.8	125.7	96.8	80.4	68.0	61.8
40°	2758.8	2686.7	2383.8	1378.4	531.6	257.5	123.6	92.7	76.2	63.9	57.7
42.5°	2921.6	2855.7	2503.3	1388.7	523.3	243.1	121.6	90.7	76.2	61.8	53.6
45°	3024.6	2964.9	2645.5	1415.5	523.3	232.8	113.3	90.7	74.2	59.8	51.5
47.5°	3119.4	3061.7	2769.1	1444.3	515.1	224.6	103.0	98.9	74.2	57.7	47.4
50°	3257.4	3212.1	2925.7	1530.8	500.7	212.2	92.7	96.8	76.2	55.6	47.4
52.5°	3432.6	3412.0	3156.5	1648.3	480.1	189.6	82.4	90.7	76.2	53.6	45.3
55°	3626.2	3618.0	3397.5	1755.4	455.3	162.8	76.2	82.4	74.2	49.4	41.2
57.5°	3743.7	3743.7	3554.1	1815.2	434.7	129.8	68.0	68.0	72.1	45.3	37.1
60°	3786.9	3741.6	3535.6	1809.0	399.7	107.1	61.8	55.6	76.2	39.1	33.0
62.5°	3782.8	3683.9	3362.5	1710.1	352.3	98.9	53.6	47.4	55.6	35.0	28.8
65°	*3671.6*	*3552.1*	*3098.8*	*1489.6*	*317.3*	*98.9*	*45.3*	*39.1*	*37.1*	*30.9*	*22.7*
67.5°	3364.6	3292.5	2713.5	1263.0	292.6	98.9	39.1	33.0	28.8	24.7	20.6
70°	2857.7	2762.9	2186.0	974.6	274.0	98.9	33.0	28.8	26.8	20.6	16.5
72.5°	1862.6	1809.0	1337.2	669.6	224.6	96.8	28.8	26.8	24.7	18.5	14.4
75°	1013.7	937.5	735.5	239.0	160.7	70.1	24.7	22.7	18.5	16.5	12.4
77.5°	438.9	422.4	375.0	63.9	47.4	20.6	14.4	14.4	12.4	12.4	8.2
80°	57.7	43.3	49.4	18.5	16.5	10.3	8.2	6.2	6.2	6.2	4.1
82.5°	2.1	2.1	0.0	2.1	6.2	4.1	0.0	0.0	2.1	2.1	2.1
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

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4
2.5°	1209.4	1184.7	1166.2	1166.2	1190.9	1176.5	1192.9	1182.6	1211.5	1225.9	1221.8
5°	867.4	877.7	867.4	883.9	910.7	925.1	933.3	953.9	951.9	960.1	974.6
7.5°	628.4	628.4	632.5	628.4	653.1	679.9	694.3	688.2	684.0	675.8	690.2
10°	504.8	482.1	455.3	455.3	459.5	473.9	475.9	465.6	451.2	424.4	432.7
12.5°	395.6	379.1	362.6	327.6	325.5	317.3	315.2	286.4	263.7	255.5	255.5
15°	290.5	280.2	261.7	245.2	228.7	220.5	206.0	171.0	148.3	146.3	148.3
17.5°	193.7	187.5	181.3	181.3	175.1	160.7	146.3	123.6	113.3	109.2	111.3
20°	144.2	142.2	136.0	138.0	138.0	125.7	111.3	101.0	96.8	96.8	98.9
22.5°	119.5	117.4	111.3	111.3	111.3	105.1	94.8	88.6	86.5	86.5	86.5
25°	103.0	101.0	96.8	94.8	94.8	90.7	82.4	78.3	76.2	76.2	76.2
27.5°	92.7	90.7	86.5	82.4	82.4	78.3	74.2	68.0	68.0	68.0	68.0
30°	82.4	80.4	78.3	74.2	72.1	68.0	63.9	61.8	59.8	59.8	59.8
32.5°	74.2	72.1	70.1	68.0	63.9	59.8	55.6	53.6	51.5	51.5	51.5
35°	63.9	59.8	57.7	59.8	57.7	51.5	49.4	45.3	43.3	43.3	43.3
37.5°	57.7	53.6	49.4	47.4	47.4	47.4	43.3	39.1	37.1	35.0	37.1
40°	53.6	49.4	45.3	41.2	39.1	41.2	37.1	33.0	30.9	28.8	30.9
42.5°	49.4	45.3	39.1	35.0	30.9	35.0	30.9	26.8	24.7	22.7	24.7
45°	47.4	43.3	37.1	30.9	26.8	26.8	26.8	22.7	18.5	18.5	18.5
47.5°	45.3	41.2	33.0	26.8	22.7	20.6	20.6	16.5	14.4	12.4	12.4
50°	43.3	39.1	30.9	22.7	18.5	16.5	16.5	12.4	10.3	10.3	10.3
52.5°	41.2	37.1	28.8	20.6	16.5	12.4	10.3	8.2	8.2	6.2	6.2
55°	37.1	33.0	24.7	18.5	14.4	10.3	8.2	6.2	6.2	4.1	6.2
57.5°	35.0	30.9	22.7	16.5	12.4	8.2	6.2	4.1	4.1	4.1	4.1
60°	30.9	26.8	18.5	12.4	8.2	6.2	4.1	4.1	4.1	2.1	2.1
62.5°	24.7	22.7	16.5	10.3	6.2	4.1	2.1	2.1	2.1	2.1	2.1
65°	*22.7*	*20.6*	*14.4*	*8.2*	*4.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*
67.5°	18.5	16.5	10.3	6.2	2.1	2.1	0.0	2.1	2.1	0.0	0.0
70°	14.4	14.4	8.2	4.1	2.1	0.0	0.0	2.1	2.1	0.0	0.0
72.5°	12.4	12.4	8.2	2.1	0.0	0.0	0.0	2.1	2.1	2.1	0.0
75°	10.3	10.3	8.2	4.1	0.0	0.0	0.0	2.1	2.1	2.1	2.1
77.5°	8.2	6.2	4.1	2.1	0.0	0.0	0.0	2.1	2.1	2.1	2.1
80°	4.1	4.1	2.1	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1
82.5°	2.1	2.1	0.0	0.0	0.0	0.0	0.0	2.1	4.1	4.1	2.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	4.1	4.1	4.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	2.1	4.1	4.1	4.1	4.1
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°	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4
2.5°	1232.1	1265.1	1302.1	1324.8	1374.3	1417.5	1469.0	1514.4	1567.9	1596.8	1607.1
5°	989.0	1007.5	1054.9	1116.7	1172.3	1250.6	1341.3	1442.3	1551.5	1603.0	1640.0
7.5°	682.0	698.5	766.5	824.1	916.9	1017.8	1141.4	1279.5	1421.6	1493.8	1559.7
10°	445.0	467.7	525.4	605.7	723.2	846.8	972.5	1116.7	1281.5	1366.0	1454.6
12.5°	257.5	284.3	354.4	459.5	574.8	706.7	836.5	995.2	1178.5	1271.2	1361.9
15°	148.3	158.6	199.9	292.6	422.4	583.1	735.5	906.6	1120.8	1223.9	1331.0
17.5°	111.3	117.4	129.8	168.9	269.9	447.1	661.4	879.8	1127.0	1265.1	1359.8
20°	98.9	103.0	109.2	123.6	171.0	317.3	570.7	861.2	1186.8	1364.0	1479.3
22.5°	88.6	92.7	98.9	109.2	129.8	214.3	475.9	859.2	1285.7	1510.2	1640.0
25°	78.3	82.4	88.6	98.9	115.4	154.5	368.8	853.0	1409.3	1671.0	1833.7
27.5°	68.0	72.1	78.3	88.6	103.0	127.7	280.2	834.4	1557.6	1844.0	2017.1
30°	59.8	63.9	70.1	78.3	92.7	111.3	214.3	803.5	1685.4	1998.6	2140.7
32.5°	51.5	55.6	61.8	70.1	82.4	96.8	173.1	737.6	1784.3	2120.1	2241.7
35°	43.3	47.4	53.6	61.8	72.1	82.4	142.2	630.5	1885.2	2245.8	2363.2
37.5°	37.1	41.2	45.3	53.6	63.9	74.2	117.4	562.5	1959.4	2402.4	2517.8
40°	30.9	35.0	41.2	47.4	55.6	70.1	94.8	471.8	2033.6	2552.8	2659.9
42.5°	24.7	28.8	35.0	43.3	51.5	61.8	76.2	389.4	2107.8	2688.8	2789.7
45°	18.5	22.7	28.8	39.1	51.5	53.6	61.8	331.7	2126.3	2816.5	2903.1
47.5°	14.4	16.5	22.7	33.0	49.4	47.4	51.5	288.5	2161.3	2917.5	3014.3
50°	10.3	12.4	18.5	30.9	43.3	39.1	45.3	272.0	2210.8	2995.8	3047.3
52.5°	8.2	10.3	14.4	26.8	35.0	35.0	41.2	288.5	2274.6	3088.5	3131.8
55°	6.2	8.2	12.4	18.5	26.8	30.9	39.1	311.1	2398.3	3251.3	3243.0
57.5°	4.1	6.2	10.3	14.4	20.6	26.8	37.1	346.1	2523.9	3434.6	3442.9
60°	4.1	6.2	8.2	12.4	18.5	22.7	33.0	350.3	2503.3	3461.4	3583.0
62.5°	2.1	4.1	8.2	10.3	14.4	18.5	28.8	294.6	2305.5	3331.6	3508.8
65°	*2.1*	*4.1*	*6.2*	*10.3*	*12.4*	*16.5*	*22.7*	*187.5*	*2006.8*	*3100.8*	*3335.7*
67.5°	2.1	4.1	6.2	8.2	10.3	14.4	18.5	96.8	1701.9	2861.8	3088.5
70°	2.1	4.1	6.2	8.2	10.3	12.4	16.5	47.4	1289.8	2412.7	2705.3
72.5°	2.1	4.1	6.2	8.2	8.2	10.3	14.4	33.0	828.3	1813.1	2095.4
75°	2.1	4.1	4.1	6.2	8.2	10.3	12.4	22.7	535.7	1219.7	1588.5
77.5°	2.1	4.1	4.1	6.2	8.2	10.3	14.4	20.6	391.5	836.5	1098.2
80°	2.1	4.1	4.1	6.2	8.2	8.2	10.3	14.4	210.2	554.2	698.5
82.5°	4.1	4.1	6.2	6.2	6.2	8.2	10.3	10.3	109.2	354.4	471.8
85°	4.1	4.1	6.2	6.2	8.2	8.2	8.2	10.3	47.4	148.3	234.9
87.5°	4.1	6.2	6.2	6.2	8.2	8.2	8.2	8.2	6.2	8.2	8.2
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: P437788
CATALOG NUMBER: ISS-SA1F-722-U-SLR-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1448.4	1448.4	1448.4	1448.4	1448.4	1448.4	*1448.4*	1448.4	1448.4	1448.4
2.5°	1638.0	1664.8	1677.1	1666.8	1658.6	1633.9	*1598.8*	1563.8	1535.0	1532.9
5°	1724.5	1782.2	1827.5	1804.9	1774.0	1701.9	*1613.3*	1514.4	1477.3	1460.8
7.5°	1706.0	1831.7	1907.9	1887.3	1825.5	1689.5	*1551.5*	1421.6	1361.9	1341.3
10°	1621.5	1790.5	1891.4	1885.2	1827.5	1666.8	*1495.8*	1339.2	1275.4	1258.9
12.5°	1543.2	1710.1	1806.9	1811.1	1790.5	1642.1	*1469.0*	1302.1	1225.9	1217.7
15°	1502.0	1644.2	1701.9	1714.2	1722.5	1640.0	*1493.8*	1326.9	1246.5	1228.0
17.5°	1510.2	1578.2	1592.7	1582.4	1638.0	1642.1	*1563.8*	1413.4	1322.8	1300.1
20°	1559.7	1535.0	1487.6	1497.9	1559.7	1650.4	*1668.9*	1565.9	1462.9	1434.0
22.5°	1654.5	1532.9	1438.1	1429.9	1510.2	1664.8	*1782.2*	1728.6	1621.5	1605.0
25°	1794.6	1563.8	1417.5	1401.0	1471.1	1679.2	*1897.6*	1899.7	1815.2	1784.3
27.5°	1930.6	1613.3	1415.5	1399.0	1471.1	1697.7	*1975.9*	2068.6	1980.0	1947.0
30°	2008.9	1671.0	1448.4	1417.5	1497.9	1714.2	*2027.4*	2202.5	2124.2	2095.4
32.5°	2081.0	1732.8	1483.5	1446.4	1549.4	1759.5	*2074.8*	2324.1	2256.1	2221.1
35°	2140.7	1804.9	1549.4	1491.7	1625.6	1825.5	*2132.5*	2458.0	2414.7	2371.5
37.5°	2198.4	1877.0	1642.1	1609.1	1753.4	1920.3	*2208.7*	2598.1	2618.7	2575.5
40°	2280.8	1959.4	1800.8	1774.0	1940.9	2064.5	*2301.4*	2738.2	2806.2	2758.8
42.5°	2359.1	2064.5	1961.5	1986.2	2167.5	2231.4	*2406.5*	2866.0	2942.2	2921.6
45°	2431.2	2194.3	2194.3	2254.0	2412.7	2414.7	*2486.9*	2954.6	3034.9	3024.6
47.5°	2526.0	2355.0	2435.3	2600.2	2684.7	2573.4	*2573.4*	3039.0	3148.2	3119.4
50°	2618.7	2569.3	2754.7	2905.1	2979.3	2765.0	*2662.0*	3152.4	3282.2	3257.4
52.5°	2719.7	2777.4	3053.5	3201.8	3245.1	2983.4	*2795.9*	3265.7	3432.6	3432.6
55°	2882.4	2954.6	3368.7	3492.3	3554.1	3164.7	*2966.9*	3426.4	3615.9	3626.2
57.5°	3049.3	3125.6	3545.9	3702.5	3782.8	3432.6	*3187.4*	3640.7	3745.7	3743.7
60°	3224.5	3304.8	3683.9	3838.5	3955.9	3706.6	*3449.0*	3836.4	3807.5	3786.9
62.5°	3440.8	3440.8	3735.4	3807.5	3949.7	3879.7	*3743.7*	3947.7	3830.2	3782.8
65°	*3545.9*	*3512.9*	*3587.1*	*3533.5*	*3696.3*	*3830.2*	*3968.3*	*3951.8*	*3749.9*	*3671.6*
67.5°	3490.3	3290.4	3162.7	3082.3	3117.3	3348.1	*3869.4*	3756.0	3424.3	3364.6
70°	3109.1	2631.1	2511.6	2383.8	2315.8	2554.8	*3344.0*	3317.2	2913.4	2857.7
72.5°	2534.2	1899.7	1611.2	1741.0	1675.1	1945.0	*2740.3*	2340.6	1912.0	1862.6
75°	2103.6	1413.4	1050.8	1052.8	1063.1	1277.4	*2002.7*	1390.7	1050.8	1013.7
77.5°	1522.6	995.2	848.9	760.3	768.5	815.9	*1042.5*	593.4	484.2	438.9
80°	929.2	616.0	686.1	609.9	589.3	453.3	*449.2*	86.5	57.7	57.7
82.5°	506.8	391.5	364.7	131.9	204.0	247.2	*204.0*	4.1	2.1	2.1
85°	257.5	156.6	74.2	22.7	26.8	22.7	*4.1*	0.0	0.0	0.0
87.5°	8.2	6.2	6.2	4.1	4.1	2.1	*2.1*	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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.13

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

Test Information

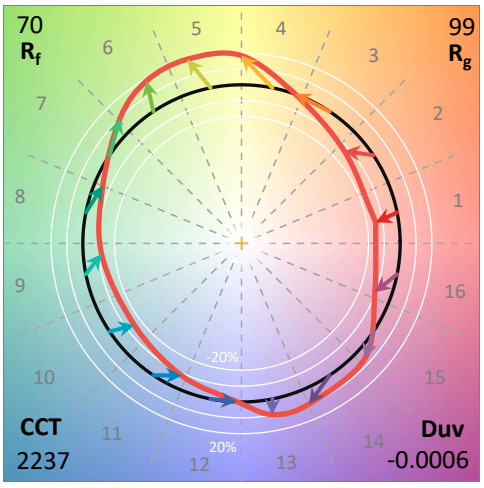
Test Method:	LM-79-2008 Report
Number:	SP1-1908-441-10-R4
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	10/28/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	**SA1C-722-U-5WQ**
Description:	McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

CCT (K):	2237	CRI (Ra):	72.0		
CIE u':	0.2876	R1:	68.9	R9:	-17.4
CIE v':	0.5346	R2:	83.0	R10:	61.3
Duv:	-0.0006	R3:	95.2	R11:	59.8
CIE x:	0.5005	R4:	66.2	R12:	50.5
CIE y:	0.4134	R5:	65.9	R13:	71.1
CIE z:	0.0860	R6:	76.3	R14:	96.9
Peak Wavelength (nm):	603	R7:	76.7		
Dominant Wavelength (nm):	587	R8:	43.8		
Purity:	74.5				

Rf:	69.8
Rg:	99.2



Test Conditions

Stabilization Time:	71M
Operation Time:	12H
Room Temperature (°C) / RH%:	24.7/41%
Sphere Temperature (°C):	25.6

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

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Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/28/2019	12/28/2019
Power Meter	IN0071	12/5/2018	12/5/2019
AC Power Source	IN0063	12/5/2018	12/5/2019
DC Power Source	IN0208	12/5/2018	12/5/2019
Sphere Thermometer	IN0085	12/5/2018	12/5/2019
Room Thermometer	IN0046	12/5/2018	12/5/2019

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

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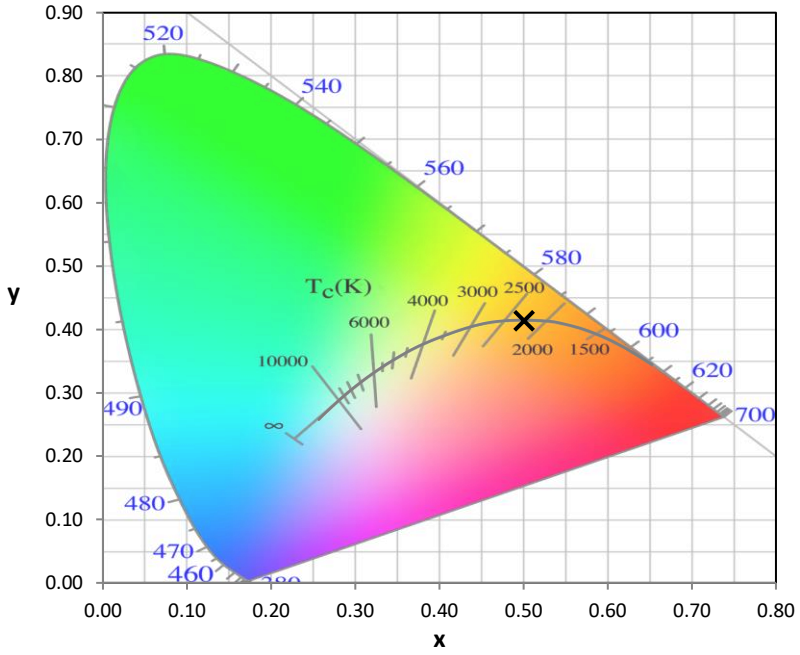
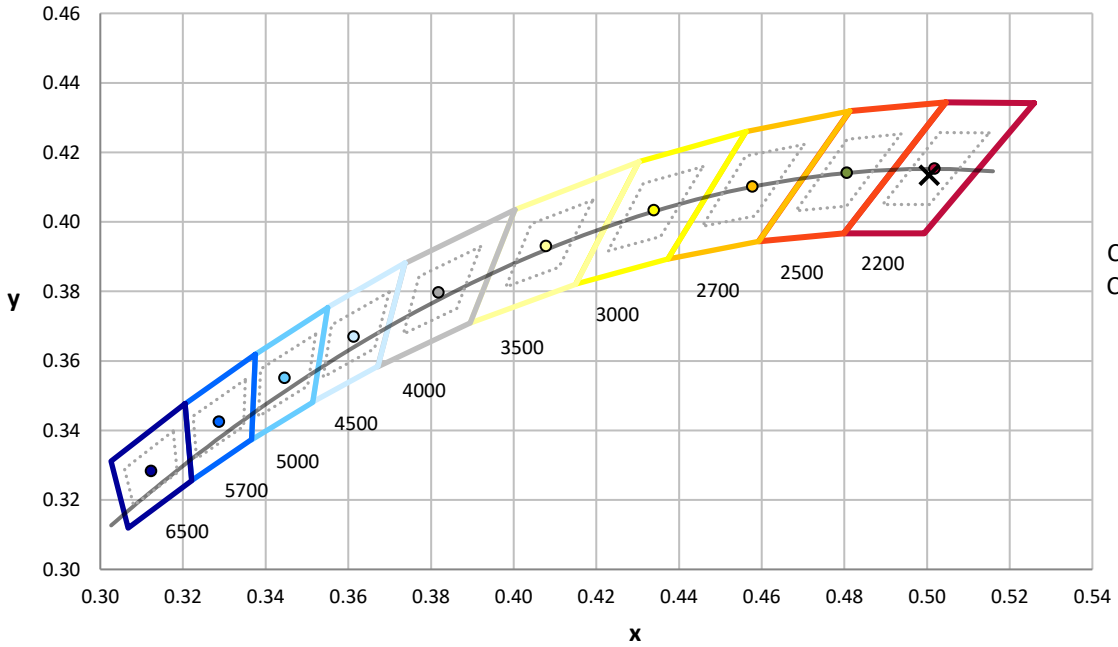
CIE 1931 Chromaticity Diagram



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



CCT = 2237K
CIE x = 0.5005
CIE y = 0.4134
Duv = -0.0006

Point lies inside the ANSI 2200K 4-step quadrangle

Cooper Lighting Solutions Photometric Lab
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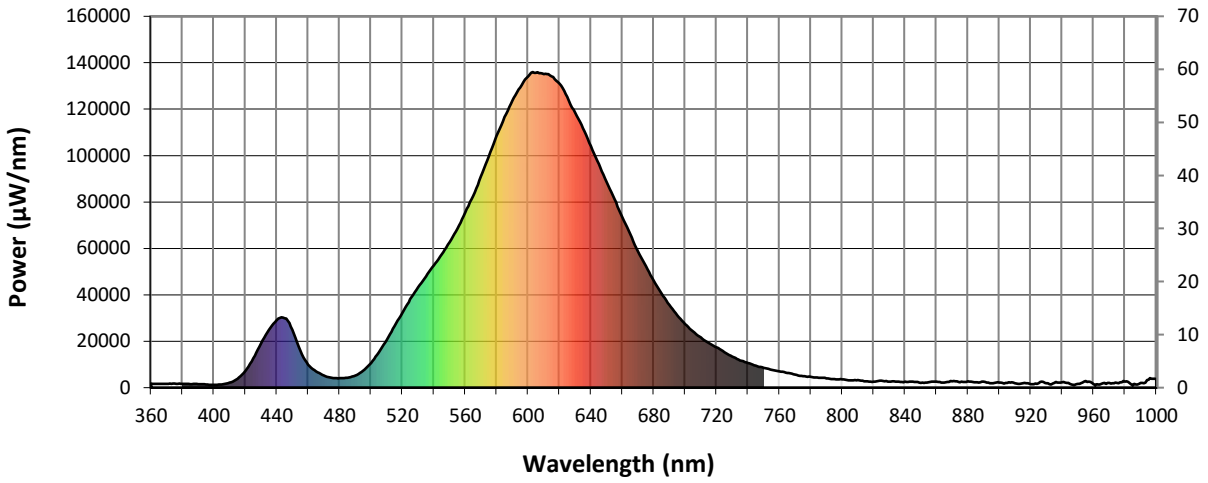
Photopic Flux vs. Wavelength



######

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	1768	NR	490	5206	NR	620	130919	NR	750	8553	NR	880	2713	NR
365	1569	NR	495	7286	NR	625	125335	NR	755	7696	NR	885	2316	NR
370	1594	NR	500	10654	NR	630	118388	NR	760	6978	NR	890	2539	NR
375	1744	NR	505	15189	NR	635	111855	NR	765	6377	NR	895	1933	NR
380	1659	NR	510	20541	NR	640	104062	NR	770	5600	NR	900	2216	NR
385	1504	NR	515	26492	NR	645	96365	NR	775	5000	NR	905	2067	NR
390	1541	NR	520	32294	NR	650	88651	NR	780	4709	NR	910	1959	NR
395	1355	NR	525	38123	NR	655	81152	NR	785	4305	NR	915	1874	NR
400	1243	NR	530	43232	NR	660	73523	NR	790	4040	NR	920	1484	NR
405	1417	NR	535	48012	NR	665	66123	NR	795	3642	NR	925	1914	NR
410	2147	NR	540	52623	NR	670	58677	NR	800	3594	NR	930	1948	NR
415	3837	NR	545	57516	NR	675	52349	NR	805	3190	NR	935	2079	NR
420	7159	NR	550	62613	NR	680	46159	NR	810	3241	NR	940	2263	NR
425	12599	NR	555	68554	NR	685	40525	NR	815	2732	NR	945	1688	NR
430	19019	NR	560	75325	NR	690	35615	NR	820	2612	NR	950	1560	NR
435	24875	NR	565	82533	NR	695	31158	NR	825	2966	NR	955	2826	NR
440	29103	NR	570	90909	NR	700	27409	NR	830	2574	NR	960	1477	NR
445	29901	NR	575	99621	NR	705	24204	NR	835	2633	NR	965	1568	NR
450	24862	NR	580	108484	NR	710	21558	NR	840	2526	NR	970	2030	NR
455	15942	NR	585	116679	NR	715	19222	NR	845	2631	NR	975	1986	NR
460	9916	NR	590	123752	NR	720	17310	NR	850	2079	NR	980	2540	NR
465	7051	NR	595	129324	NR	725	15280	NR	855	2309	NR	985	1139	NR
470	5227	NR	600	134082	NR	730	13282	NR	860	2528	NR	990	2018	NR
475	4257	NR	605	135698	NR	735	11753	NR	865	2121	NR	995	3445	NR
480	4052	NR	610	135144	NR	740	10654	NR	870	2751	NR	1000	3704	NR
485	4298	NR	615	134180	NR	745	9451	NR	875	2317	NR			

Cooper Lighting Solutions Photometric Lab
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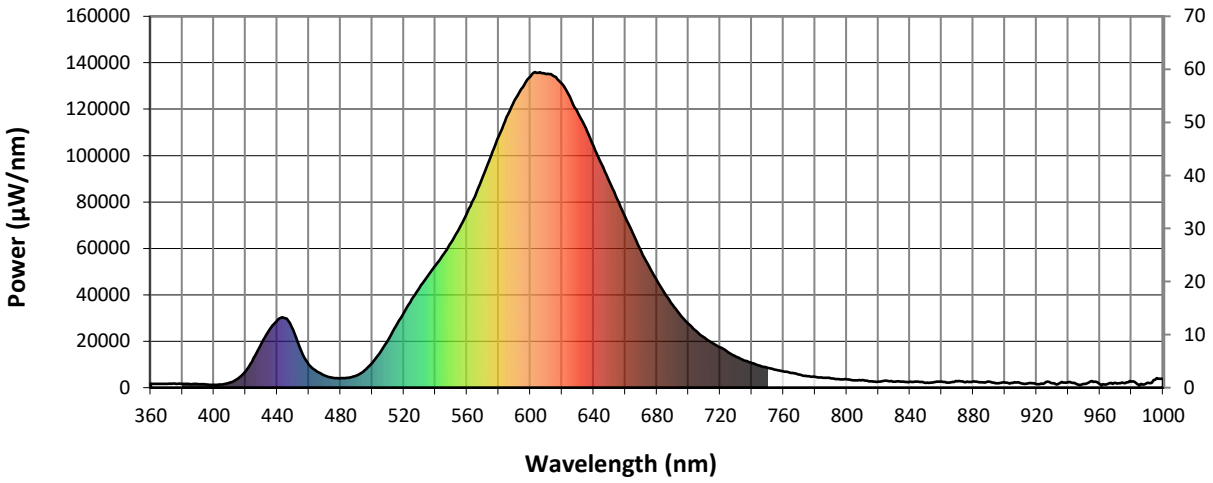
Scotopic Flux vs. Wavelength



Scotopic Lumens: 4696.9 **S/P: 0.85**

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	1768	NR	490	5206	NR	620	130919	NR	750	8553	NR	880	2713	NR
365	1569	NR	495	7286	NR	625	125335	NR	755	7696	NR	885	2316	NR
370	1594	NR	500	10654	NR	630	118388	NR	760	6978	NR	890	2539	NR
375	1744	NR	505	15189	NR	635	111855	NR	765	6377	NR	895	1933	NR
380	1659	NR	510	20541	NR	640	104062	NR	770	5600	NR	900	2216	NR
385	1504	NR	515	26492	NR	645	96365	NR	775	5000	NR	905	2067	NR
390	1541	NR	520	32294	NR	650	88651	NR	780	4709	NR	910	1959	NR
395	1355	NR	525	38123	NR	655	81152	NR	785	4305	NR	915	1874	NR
400	1243	NR	530	43232	NR	660	73523	NR	790	4040	NR	920	1484	NR
405	1417	NR	535	48012	NR	665	66123	NR	795	3642	NR	925	1914	NR
410	2147	NR	540	52623	NR	670	58677	NR	800	3594	NR	930	1948	NR
415	3837	NR	545	57516	NR	675	52349	NR	805	3190	NR	935	2079	NR
420	7159	NR	550	62613	NR	680	46159	NR	810	3241	NR	940	2263	NR
425	12599	NR	555	68554	NR	685	40525	NR	815	2732	NR	945	1688	NR
430	19019	NR	560	75325	NR	690	35615	NR	820	2612	NR	950	1560	NR
435	24875	NR	565	82533	NR	695	31158	NR	825	2966	NR	955	2826	NR
440	29103	NR	570	90909	NR	700	27409	NR	830	2574	NR	960	1477	NR
445	29901	NR	575	99621	NR	705	24204	NR	835	2633	NR	965	1568	NR
450	24862	NR	580	108484	NR	710	21558	NR	840	2526	NR	970	2030	NR
455	15942	NR	585	116679	NR	715	19222	NR	845	2631	NR	975	1986	NR
460	9916	NR	590	123752	NR	720	17310	NR	850	2079	NR	980	2540	NR
465	7051	NR	595	129324	NR	725	15280	NR	855	2309	NR	985	1139	NR
470	5227	NR	600	134082	NR	730	13282	NR	860	2528	NR	990	2018	NR
475	4257	NR	605	135698	NR	735	11753	NR	865	2121	NR	995	3445	NR
480	4052	NR	610	135144	NR	740	10654	NR	870	2751	NR	1000	3704	NR
485	4298	NR	615	134180	NR	745	9451	NR	875	2317	NR			

Cooper Lighting Solutions Photometric Lab
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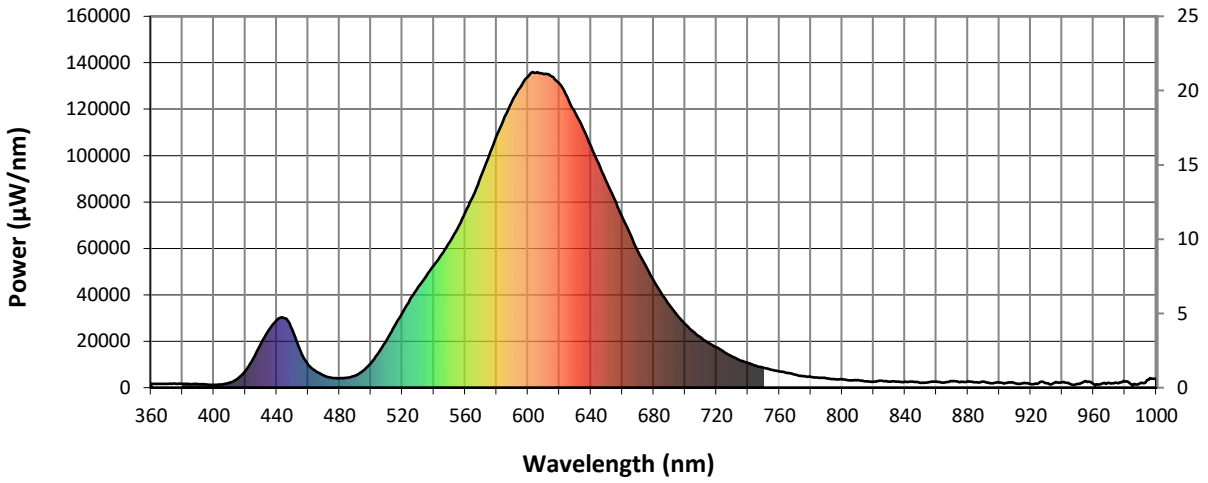
Melanopic Flux vs. Wavelength



Melanopic Lumens: 1470.8 **M/P: 0.27**

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	1768	NR	490	5206	NR	620	130919	NR	750	8553	NR	880	2713	NR
365	1569	NR	495	7286	NR	625	125335	NR	755	7696	NR	885	2316	NR
370	1594	NR	500	10654	NR	630	118388	NR	760	6978	NR	890	2539	NR
375	1744	NR	505	15189	NR	635	111855	NR	765	6377	NR	895	1933	NR
380	1659	NR	510	20541	NR	640	104062	NR	770	5600	NR	900	2216	NR
385	1504	NR	515	26492	NR	645	96365	NR	775	5000	NR	905	2067	NR
390	1541	NR	520	32294	NR	650	88651	NR	780	4709	NR	910	1959	NR
395	1355	NR	525	38123	NR	655	81152	NR	785	4305	NR	915	1874	NR
400	1243	NR	530	43232	NR	660	73523	NR	790	4040	NR	920	1484	NR
405	1417	NR	535	48012	NR	665	66123	NR	795	3642	NR	925	1914	NR
410	2147	NR	540	52623	NR	670	58677	NR	800	3594	NR	930	1948	NR
415	3837	NR	545	57516	NR	675	52349	NR	805	3190	NR	935	2079	NR
420	7159	NR	550	62613	NR	680	46159	NR	810	3241	NR	940	2263	NR
425	12599	NR	555	68554	NR	685	40525	NR	815	2732	NR	945	1688	NR
430	19019	NR	560	75325	NR	690	35615	NR	820	2612	NR	950	1560	NR
435	24875	NR	565	82533	NR	695	31158	NR	825	2966	NR	955	2826	NR
440	29103	NR	570	90909	NR	700	27409	NR	830	2574	NR	960	1477	NR
445	29901	NR	575	99621	NR	705	24204	NR	835	2633	NR	965	1568	NR
450	24862	NR	580	108484	NR	710	21558	NR	840	2526	NR	970	2030	NR
455	15942	NR	585	116679	NR	715	19222	NR	845	2631	NR	975	1986	NR
460	9916	NR	590	123752	NR	720	17310	NR	850	2079	NR	980	2540	NR
465	7051	NR	595	129324	NR	725	15280	NR	855	2309	NR	985	1139	NR
470	5227	NR	600	134082	NR	730	13282	NR	860	2528	NR	990	2018	NR
475	4257	NR	605	135698	NR	735	11753	NR	865	2121	NR	995	3445	NR
480	4052	NR	610	135144	NR	740	10654	NR	870	2751	NR	1000	3704	NR
485	4298	NR	615	134180	NR	745	9451	NR	875	2317	NR			

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

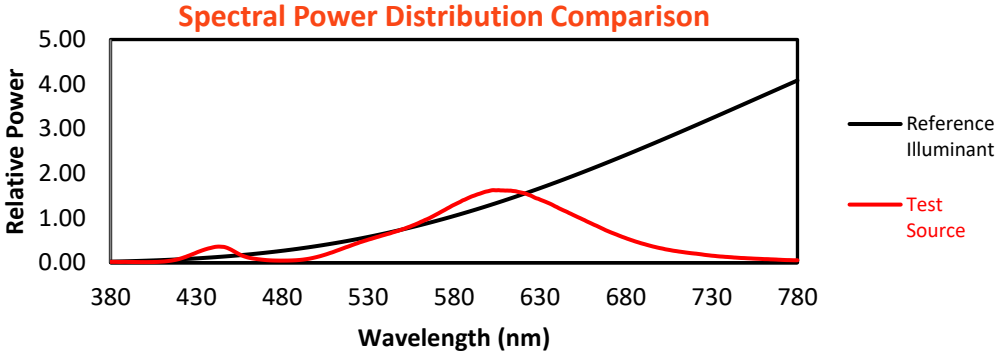
REPORT NUMBER: SP1-1908-441-10-R4

TM-30-18

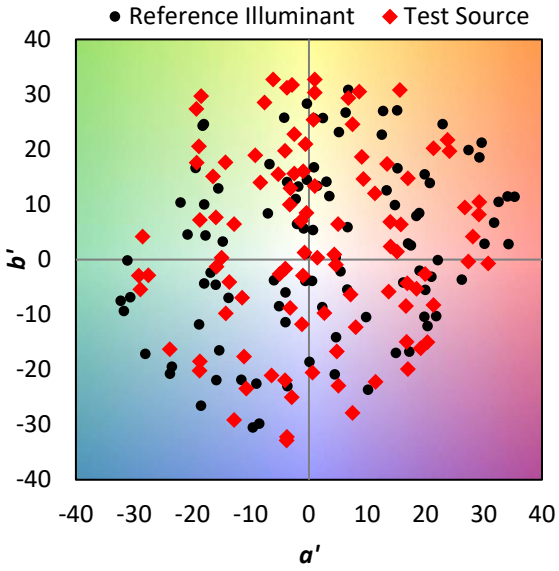
Summary

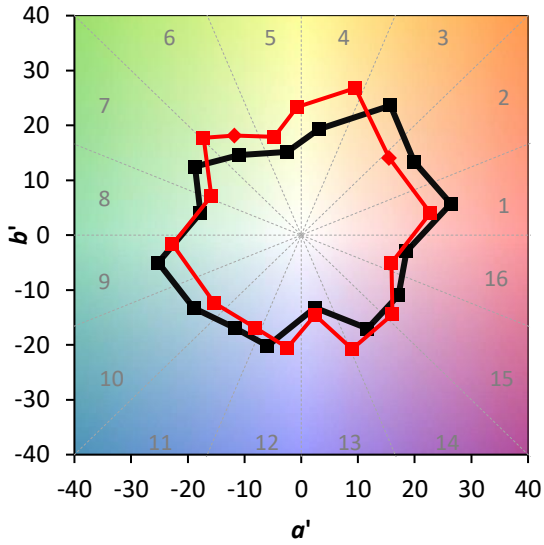
R_f = 69.8
R_g = 99.2
CIE R_a = 72.0
R_9 = -17.4

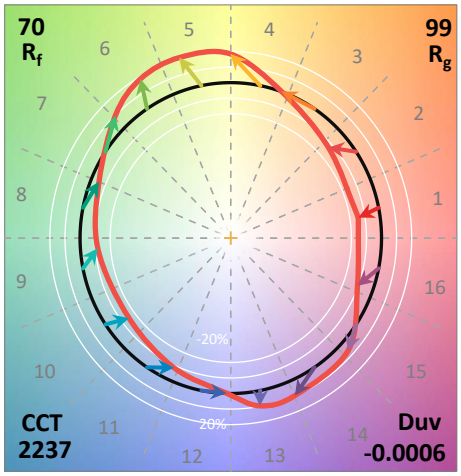
Spectral Power Distribution Comparison

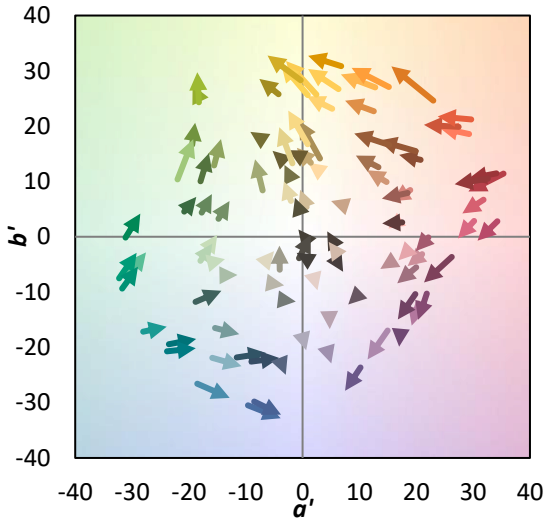


Color Vector Graphics









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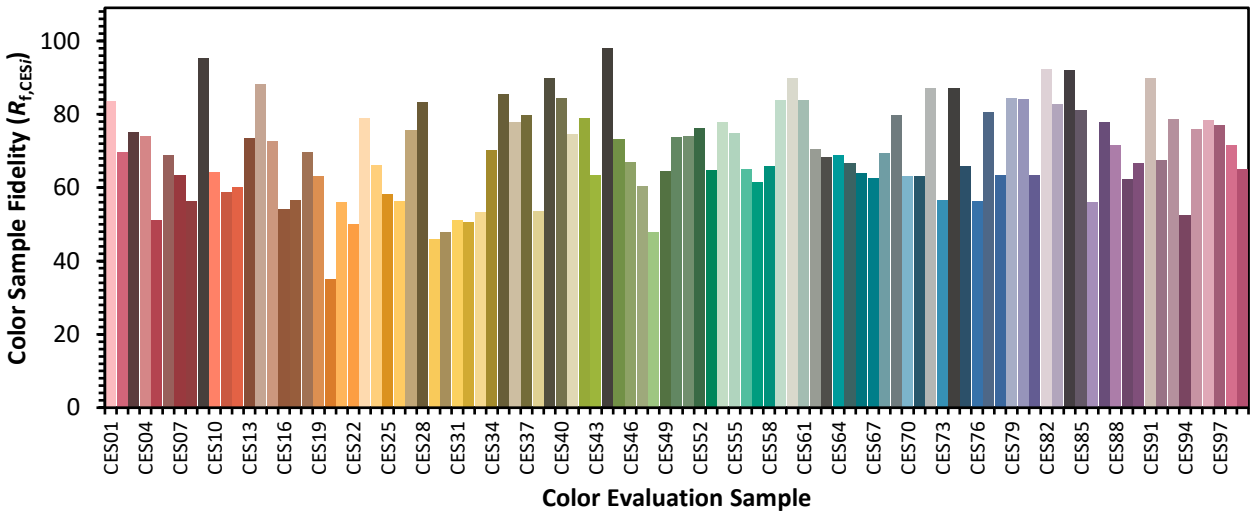
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 87	CES26 = 56	CES51 = 74	CES76 = 56
CES02 = 65	CES27 = 76	CES52 = 76	CES77 = 81
CES03 = 32	CES28 = 83	CES53 = 65	CES78 = 63
CES04 = 72	CES29 = 46	CES54 = 78	CES79 = 84
CES05 = 52	CES30 = 48	CES55 = 75	CES80 = 84
CES06 = 52	CES31 = 51	CES56 = 65	CES81 = 63
CES07 = 44	CES32 = 51	CES57 = 62	CES82 = 92
CES08 = 42	CES33 = 53	CES58 = 66	CES83 = 83
CES09 = 29	CES34 = 70	CES59 = 84	CES84 = 92
CES10 = 78	CES35 = 85	CES60 = 90	CES85 = 81
CES11 = 61	CES36 = 78	CES61 = 84	CES86 = 56
CES12 = 68	CES37 = 80	CES62 = 70	CES87 = 78
CES13 = 45	CES38 = 53	CES63 = 68	CES88 = 72
CES14 = 75	CES39 = 90	CES64 = 69	CES89 = 62
CES15 = 72	CES40 = 84	CES65 = 67	CES90 = 67
CES16 = 49	CES41 = 75	CES66 = 64	CES91 = 90
CES17 = 51	CES42 = 79	CES67 = 63	CES92 = 67
CES18 = 57	CES43 = 64	CES68 = 69	CES93 = 79
CES19 = 74	CES44 = 98	CES69 = 80	CES94 = 52
CES20 = 68	CES45 = 73	CES70 = 63	CES95 = 76
CES21 = 89	CES46 = 67	CES71 = 63	CES96 = 78
CES22 = 81	CES47 = 60	CES72 = 87	CES97 = 77
CES23 = 92	CES48 = 48	CES73 = 56	CES98 = 71
CES24 = 92	CES49 = 64	CES74 = 87	CES99 = 65
CES25 = 74	CES50 = 74	CES75 = 66	



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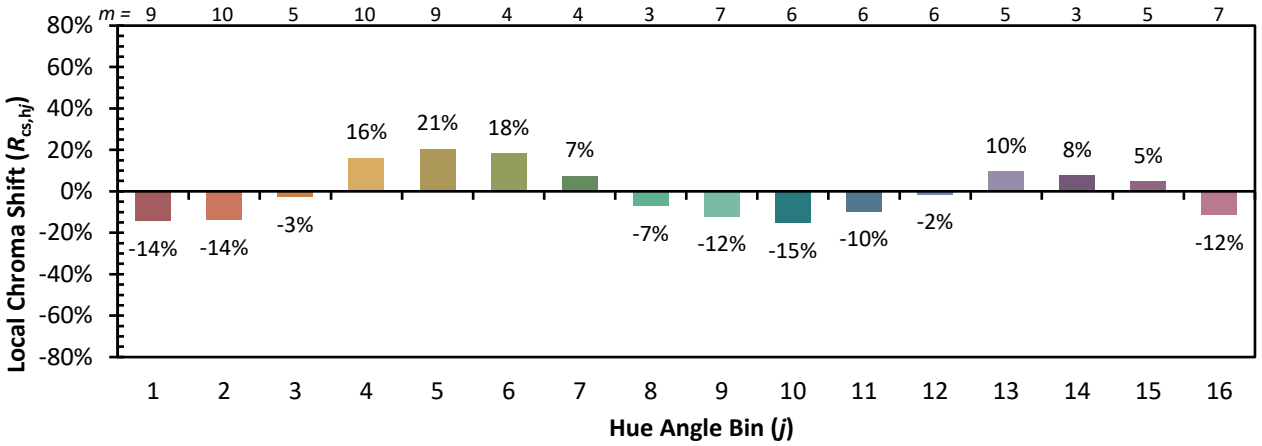
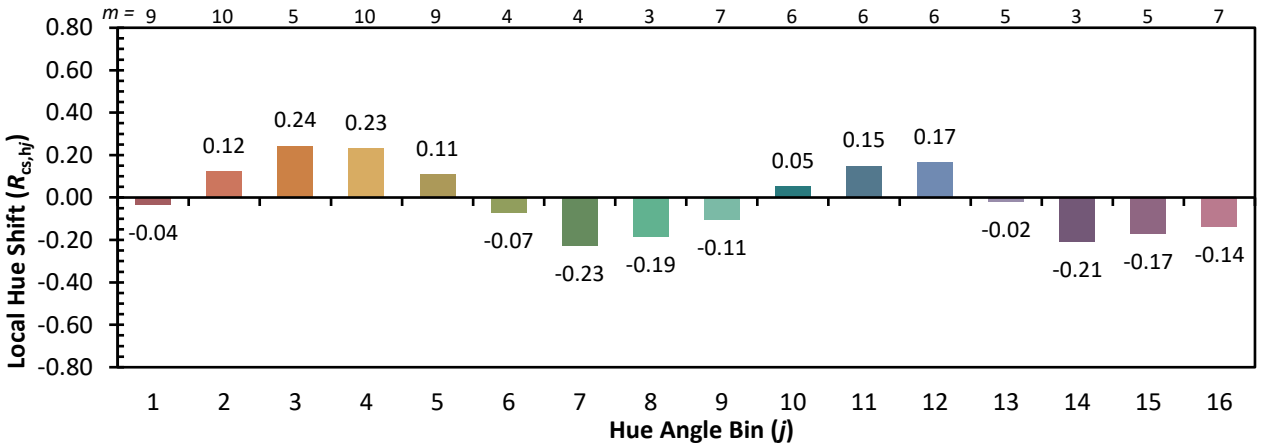
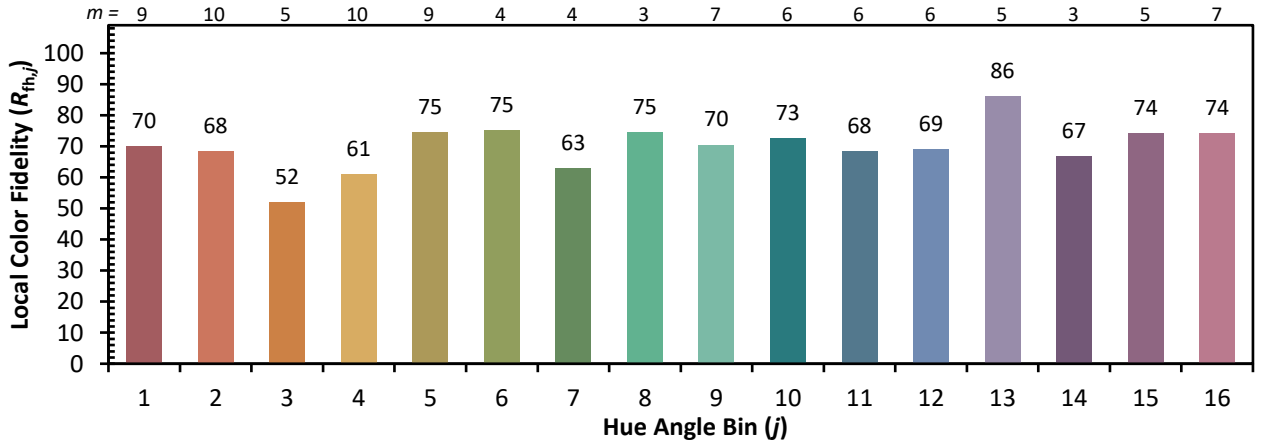
Color Rendition by Hue-Angle Bin







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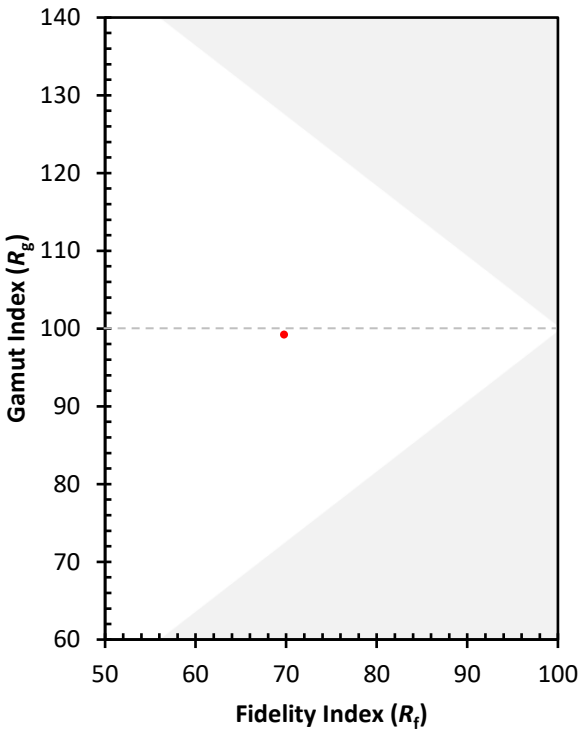
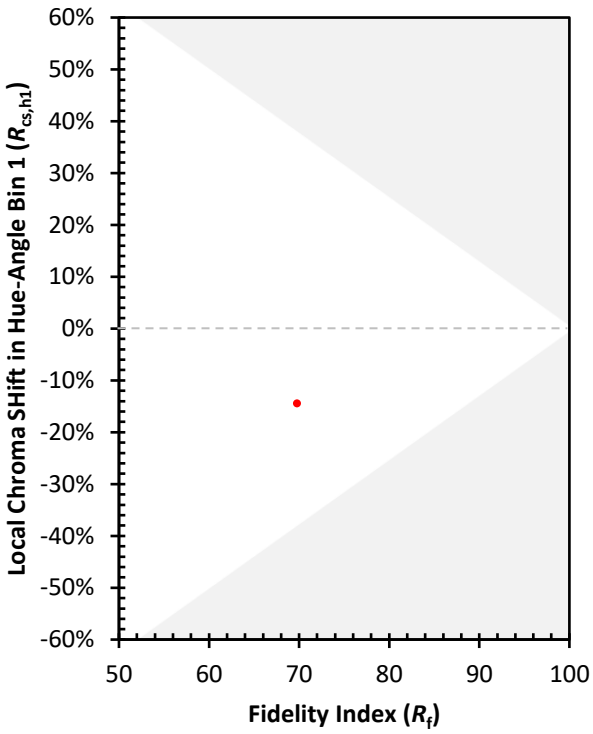
Measure Comparisons





(END OF REPORT)