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

Scaled data based on original data using

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

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P628973

Luminaire Tested: GWS-SA1A-760-U-SLR-W

Issue Date: 1/10/2023

Report Generated By 670246102 / DESKTOP-G35701P

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P628973
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-41)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	1/10/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	GWS-SA1A-760-U-SLR-W
Description:	GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR RIGHT OPTICS
Light Source:	(16) 5700K CCT, 70 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	2716.6 lumens
Efficiency:	N/A
Efficacy:	137.9 lumens/watt
Luminous Opening:	Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification:	Type III - Short
BUG Rating:	B1 - U0 - G1

Input Watts (W):	19.7
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	0
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	28.75 FT

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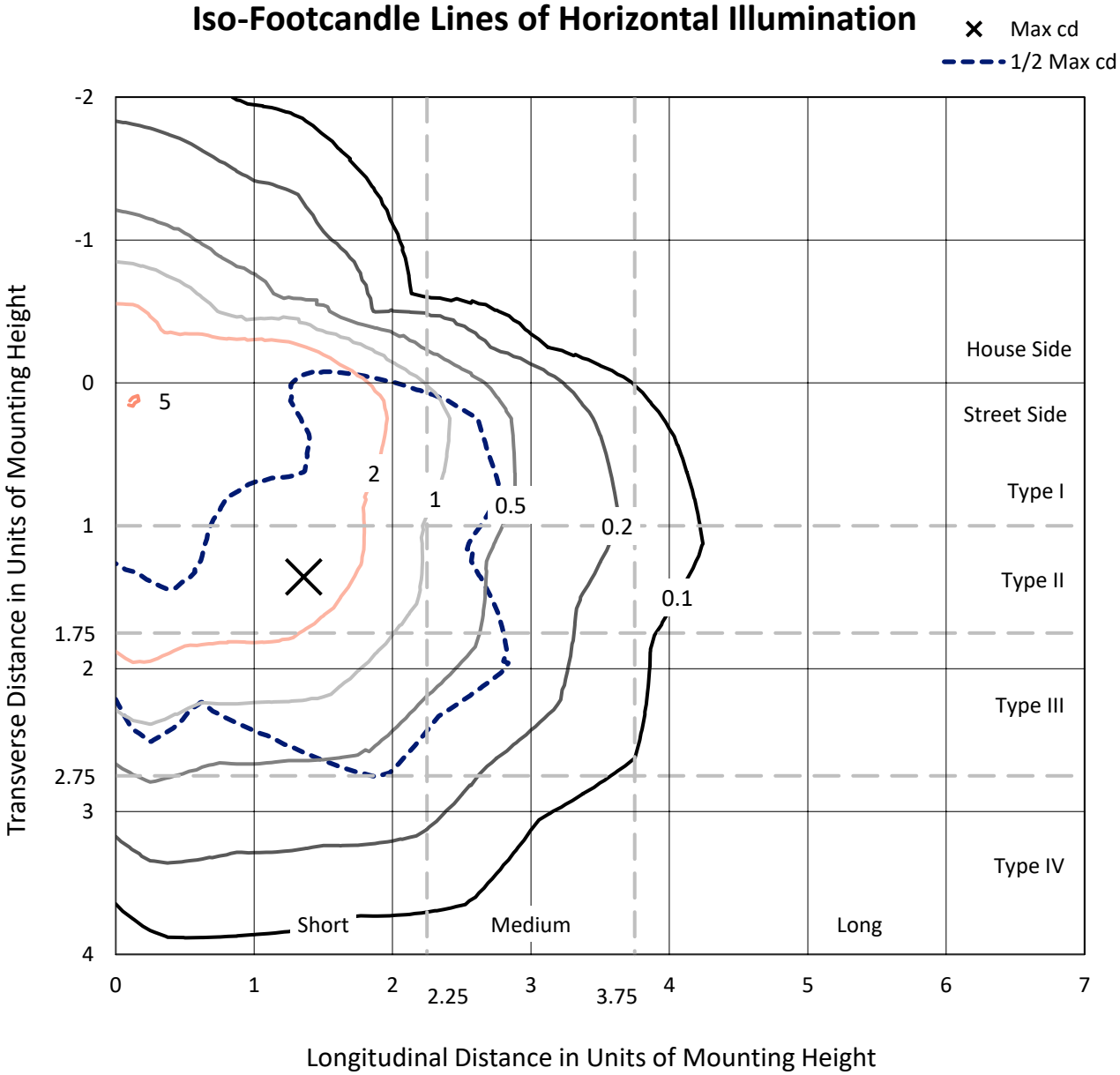
Iso-Footcandle Lines of Horizontal Illumination



Based on 10 foot mounting height. Maximum calculated value = 5.1 fc
Type III - Short - N/A

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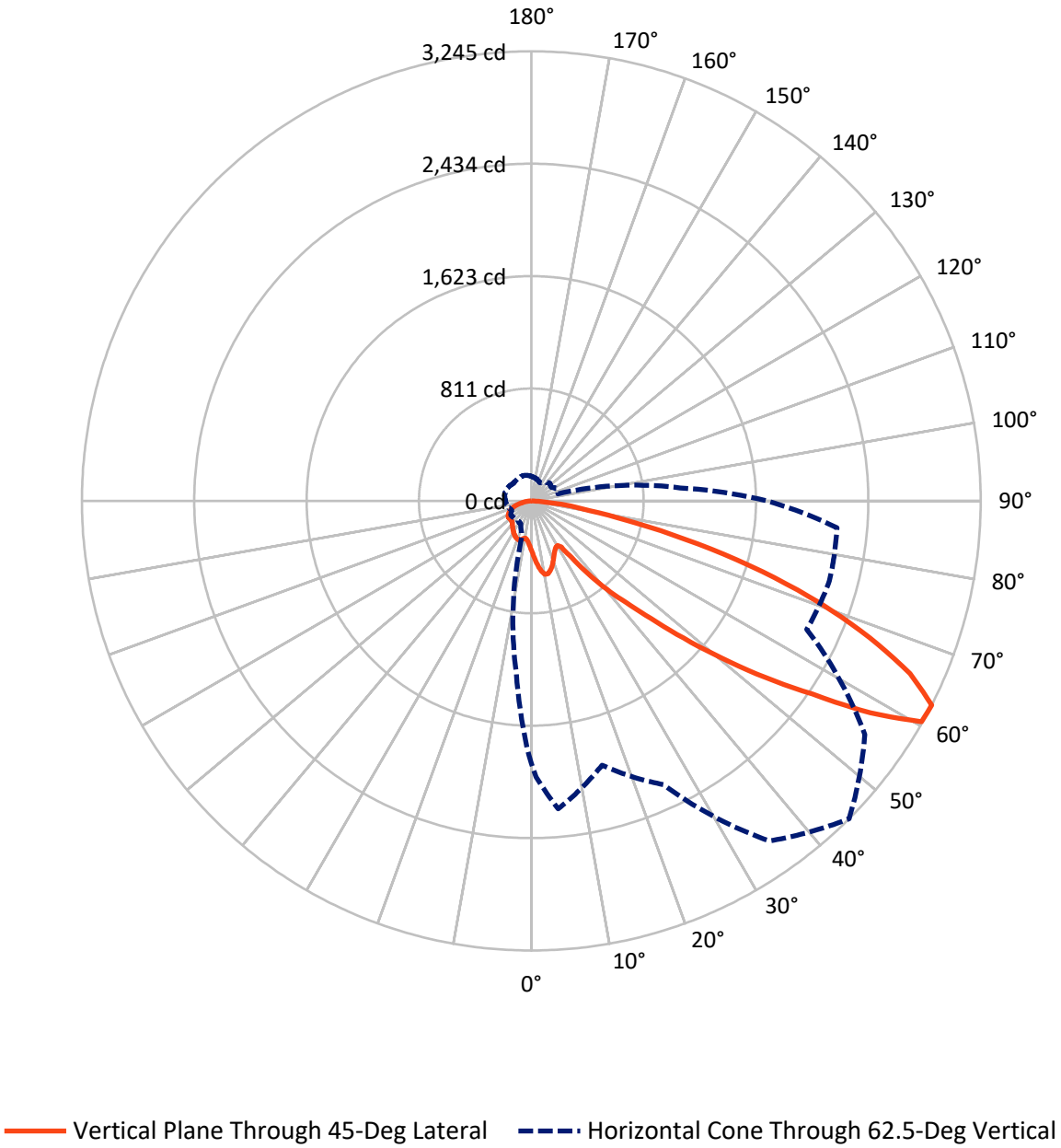
Luminous Intensity Polar Plot



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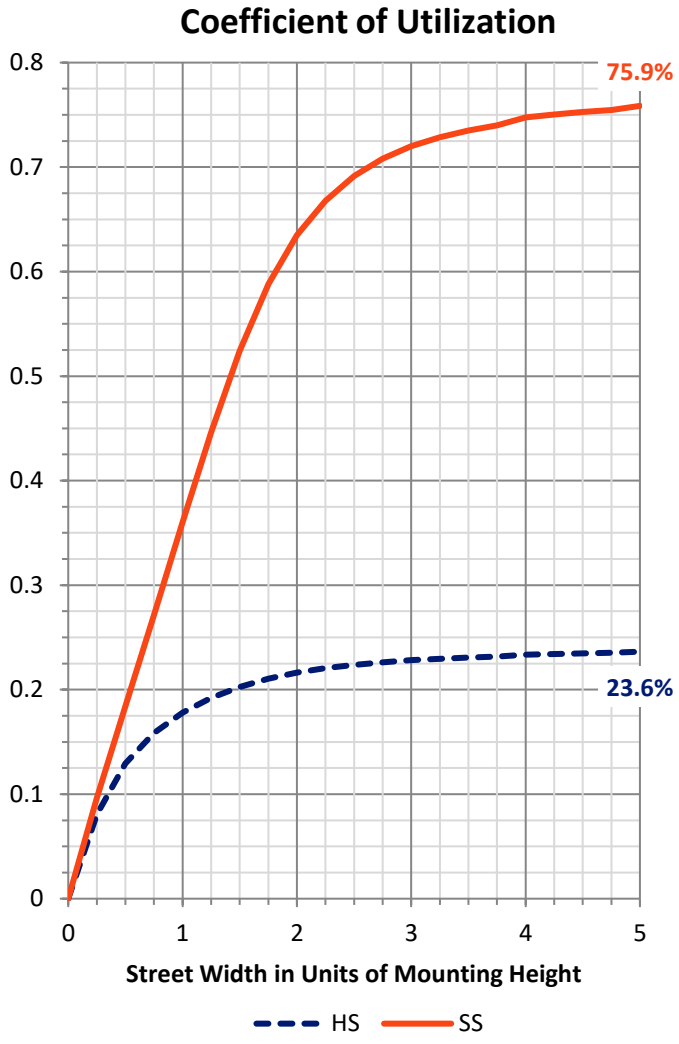
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	648.2	0.0	648.2
	% Fixture	23.9	0.0	23.9
Street Side	Lumens	2068.4	0.0	2068.4
	% Fixture	76.1	0.0	76.1
Total	Lumens	2716.6	0.0	2716.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.2	1.3
10°-20°	110.4	4.1
20°-30°	171.5	6.3
30°-40°	232.8	8.6
40°-50°	368.9	13.6
50°-60°	650.8	24.0
60°-70°	724.1	26.7
70°-80°	367.3	13.5
80°-90°	55.6	2.0
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°	2716.6	100.0
0°-180°	2716.6	100.0



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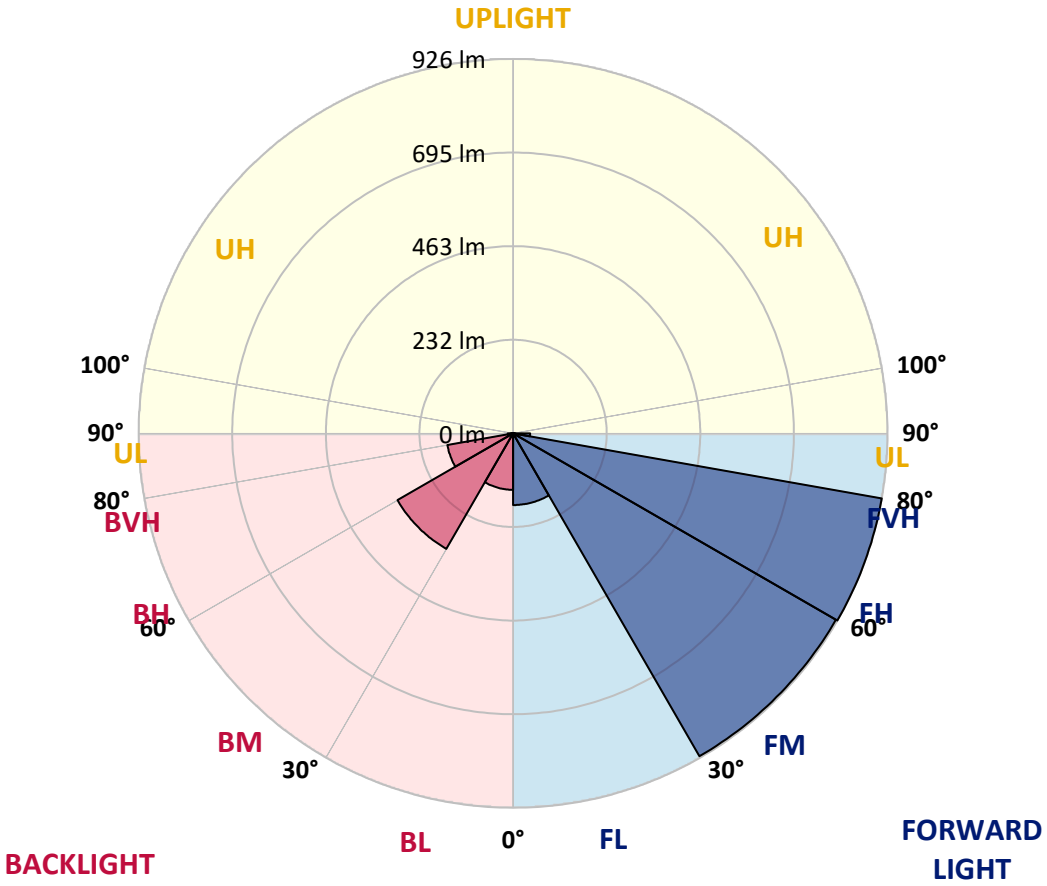
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	177.4	6.5			
FM	(30°-60°)	922.4	34.0			
FH	(60°-80°)	926.4	34.1			G1/1800
FVH	(80°-90°)	42.2	1.6			G1/100
BL	(0°-30°)	139.7	5.1	B1/500		
BM	(30°-60°)	330.1	12.2	B1/1000		
BH	(60°-80°)	165.0	6.1	B1/500		G1/500
BVH	(80°-90°)	13.4	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1
Type III Short



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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5
2.5°	387.5	387.3	391.2	397.2	402.7	405.2	409.3	408.9	405.6	401.3	399.8
5°	417.9	418.8	425.5	438.7	453.3	459.5	462.2	461.1	455.2	447.5	434.2
7.5°	445.5	446.9	457.4	477.2	495.3	503.5	510.1	508.8	500.2	486.0	466.3
10°	465.6	467.3	479.8	503.1	523.2	530.4	538.9	539.3	531.7	512.5	492.4
12.5°	485.8	487.4	499.2	520.4	533.5	533.7	538.7	541.3	541.7	532.9	512.7
15°	506.8	508.2	518.9	530.8	530.2	518.7	518.7	523.9	535.2	541.5	527.6
17.5°	524.7	526.5	534.8	530.8	512.5	491.8	489.3	495.9	515.6	540.1	538.7
20°	539.5	540.9	545.5	519.5	486.2	459.1	454.3	461.9	488.7	531.3	547.1
22.5°	553.7	554.5	552.0	504.7	457.8	426.8	421.0	429.0	457.8	515.6	554.3
25°	570.5	569.7	558.0	489.3	431.9	401.3	395.3	404.4	434.4	494.9	562.1
27.5°	590.1	587.0	563.1	472.6	412.0	382.3	378.2	387.9	415.9	475.7	568.3
30°	606.7	600.8	564.0	457.8	401.7	374.3	371.9	380.9	406.8	462.8	576.1
32.5°	625.3	617.0	568.7	453.9	407.4	393.7	397.0	397.6	409.3	459.1	587.8
35°	651.8	641.1	581.6	465.2	466.7	489.9	501.8	485.8	446.5	467.3	610.0
37.5°	691.9	678.3	608.0	514.2	589.1	641.1	669.9	633.3	559.6	498.4	643.6
40°	740.6	723.4	641.7	604.7	703.4	786.7	837.9	784.2	676.1	575.9	690.7
42.5°	808.7	790.6	707.1	693.5	809.3	933.4	1000.2	920.2	778.7	676.1	766.1
45°	927.4	909.9	827.0	782.6	933.4	1113.9	1207.7	1096.5	883.0	776.6	907.2
47.5°	1146.6	1126.1	1005.1	881.3	1074.9	1348.4	1479.6	1317.6	991.4	891.8	1144.2
50°	1409.9	1390.2	1228.7	998.1	1231.2	1599.1	1781.6	1577.3	1116.2	1031.9	1427.4
52.5°	1726.6	1722.9	1547.7	1145.8	1393.9	1866.5	2116.6	1865.1	1253.0	1220.5	1748.2
55°	2012.1	2048.3	1952.9	1371.0	1604.1	2202.4	2461.1	2178.9	1438.5	1532.3	2124.0
57.5°	2166.0	2263.2	2409.9	1830.5	1909.7	2603.8	2886.2	2562.1	1757.3	2051.4	2472.4
60°	2064.4	2174.6	2440.3	2176.5	2212.9	2925.5	3237.1	2884.2	2070.3	2411.7	2452.7
62.5°	1895.3	1994.2	2230.5	1974.5	2259.8	2996.3	3245.3	2940.3	2194.8	2228.9	2215.5
65°	1694.8	1794.5	2044.8	1723.6	2110.6	2828.2	3005.9	2775.2	1971.2	2013.8	2018.7
67.5°	1428.4	1520.6	1775.4	1532.5	1923.9	2581.6	2638.4	2539.9	1815.3	1883.2	1812.2
70°	1067.2	1150.3	1375.3	1245.4	1621.7	2260.4	2214.5	2229.1	1640.3	1707.7	1513.8
72.5°	729.3	791.8	984.8	978.6	1241.9	1809.5	1745.6	1884.0	1370.0	1459.5	1154.0
75°	510.1	558.8	711.8	773.1	938.7	1341.2	1243.1	1410.1	1069.9	1197.6	842.0
77.5°	313.0	345.3	449.6	572.8	603.9	917.9	772.1	1061.1	751.3	873.5	561.7
80°	156.5	172.1	218.4	360.1	400.4	540.9	426.4	616.0	508.4	540.9	310.8
82.5°	47.3	52.2	64.0	136.8	207.5	311.4	252.0	357.9	277.7	253.6	122.4
85°	12.5	14.2	17.7	40.5	72.8	111.7	85.1	173.4	133.1	93.6	46.1
87.5°	1.0	1.0	0.8	0.8	0.4	0.0	0.0	12.3	24.9	14.2	8.0
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°	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5
2.5°	392.6	391.8	383.4	377.2	370.0	363.0	355.8	349.4	342.2	335.0	333.0
5°	424.3	418.5	400.7	385.6	370.8	357.9	346.6	334.8	325.4	316.1	312.6
7.5°	452.3	442.2	416.3	393.5	372.9	356.8	340.2	323.1	309.7	296.6	293.3
10°	477.6	464.2	431.5	402.7	379.9	361.6	342.0	319.2	299.9	283.8	279.5
12.5°	496.3	481.7	444.7	411.6	385.6	365.1	345.7	325.6	305.2	284.4	279.7
15°	511.1	495.9	455.6	418.3	385.8	359.3	340.6	333.6	327.2	306.9	298.2
17.5°	523.0	507.0	465.0	422.5	380.3	341.8	325.6	335.9	352.1	339.4	323.1
20°	533.9	517.7	472.2	425.3	368.0	317.8	308.7	330.5	355.0	354.6	340.0
22.5°	545.9	530.0	482.7	427.0	350.7	293.3	298.6	322.7	342.7	348.6	339.6
25°	561.1	547.1	497.3	430.7	331.1	276.4	291.2	312.6	329.3	330.7	325.4
27.5°	578.8	568.3	519.1	439.3	312.2	267.8	282.6	298.4	313.7	314.3	307.9
30°	598.1	591.1	539.3	446.5	298.0	265.1	271.5	284.2	293.9	295.6	290.0
32.5°	622.8	616.6	557.2	441.8	289.6	264.5	261.2	267.8	275.8	275.8	271.5
35°	656.7	648.1	576.1	423.7	279.3	262.0	250.3	252.2	255.7	256.3	253.8
37.5°	704.8	690.7	595.2	387.9	262.4	253.2	237.8	235.5	236.7	238.4	237.8
40°	764.5	741.3	623.2	344.9	242.3	236.1	224.8	220.5	219.5	222.7	224.0
42.5°	839.6	804.0	653.2	304.8	224.0	216.6	209.6	205.9	204.2	209.8	213.1
45°	959.5	900.9	682.0	265.1	213.7	199.9	195.2	192.5	193.3	199.9	204.0
47.5°	1166.6	1048.7	709.4	240.0	212.9	188.0	182.2	182.8	185.1	192.1	197.0
50°	1428.6	1246.8	727.7	229.5	215.3	180.8	173.2	176.5	180.0	186.8	192.5
52.5°	1695.4	1431.3	705.9	223.8	215.1	181.0	164.7	174.6	176.3	183.1	189.2
55°	1878.8	1451.9	609.8	214.9	211.8	189.2	158.2	173.8	174.8	181.0	186.5
57.5°	1948.8	1381.5	465.0	217.4	202.0	195.6	155.3	168.0	175.4	180.8	186.5
60°	1864.2	1248.9	282.6	223.8	186.1	195.2	157.1	157.5	170.3	179.3	185.1
62.5°	*1704.8*	*1078.6*	*198.5*	*205.7*	*174.6*	*184.3*	*161.5*	*145.2*	*161.2*	*172.1*	*177.3*
65°	1522.2	878.2	151.4	177.1	169.1	167.4	162.9	134.3	148.9	159.6	164.1
67.5°	1332.0	682.6	123.0	132.0	152.8	151.4	148.9	124.6	134.3	141.9	147.1
70°	1092.3	477.6	103.9	99.1	131.0	135.7	130.2	112.5	115.6	123.4	127.5
72.5°	799.0	297.6	85.4	81.9	105.3	118.7	115.8	99.1	100.6	108.0	111.3
75°	574.7	170.3	68.5	67.5	80.4	101.6	95.8	85.4	87.0	92.6	94.8
77.5°	365.3	94.8	52.9	54.3	57.6	75.9	81.9	73.0	73.0	76.3	78.2
80°	195.6	54.3	38.7	39.3	40.3	58.0	64.6	56.6	56.6	54.3	56.6
82.5°	79.8	31.3	26.5	24.7	26.9	39.7	45.2	36.0	37.6	33.9	34.8
85°	26.3	15.6	13.2	13.0	12.8	17.5	21.8	17.9	21.4	13.6	14.2
87.5°	3.5	2.9	1.6	1.2	1.4	0.6	1.2	1.4	1.4	1.0	1.0
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°	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5
2.5°	331.5	329.9	323.9	325.4	324.3	322.7	324.3	321.3	323.7	324.6	329.7
5°	310.0	306.0	300.3	297.4	296.8	295.1	295.3	293.9	294.3	297.8	303.6
7.5°	290.6	286.9	282.4	280.3	278.5	276.6	276.4	276.2	277.9	281.0	286.5
10°	276.6	274.6	272.7	273.5	272.7	271.9	270.5	270.5	273.1	278.7	285.5
12.5°	276.6	276.2	276.6	279.1	278.9	279.1	277.2	278.3	285.7	295.1	304.8
15°	291.4	288.2	288.2	289.4	289.0	289.0	289.0	293.3	310.2	324.8	335.0
17.5°	309.5	299.9	295.8	295.1	294.9	294.9	295.8	305.0	331.3	346.8	352.7
20°	322.1	303.8	297.0	294.3	294.5	294.9	297.4	310.2	339.2	347.0	345.5
22.5°	324.3	300.7	292.5	288.6	289.2	289.6	293.3	306.9	328.5	329.7	326.8
25°	313.9	292.1	283.2	280.1	281.0	280.7	284.0	293.9	309.3	308.9	307.3
27.5°	298.2	278.3	271.7	269.6	271.1	269.4	270.5	278.1	290.0	289.6	289.0
30°	282.2	264.9	258.9	257.9	259.8	257.3	257.5	263.9	272.1	271.7	271.5
32.5°	266.1	251.5	246.2	246.2	248.0	245.4	245.8	251.3	256.9	255.2	255.2
35°	250.9	240.6	236.3	235.5	236.9	235.1	235.9	241.1	243.1	240.8	239.4
37.5°	237.6	233.0	228.7	225.8	226.0	226.2	228.7	232.6	231.4	228.1	226.2
40°	225.2	225.2	221.1	215.8	215.1	216.6	220.7	225.0	221.5	217.8	215.5
42.5°	216.4	218.2	214.3	209.0	207.7	210.2	214.7	217.8	213.7	209.6	206.5
45°	208.1	212.7	210.0	204.0	202.4	205.3	211.0	212.3	206.7	202.8	200.5
47.5°	202.4	208.6	206.7	200.9	198.5	202.6	208.6	208.3	201.4	197.2	195.4
50°	198.3	206.1	205.9	200.9	198.3	203.4	208.8	206.1	198.5	194.2	192.3
52.5°	195.0	205.9	207.3	204.4	202.6	207.1	210.4	205.3	196.4	191.9	190.5
55°	193.5	206.7	207.7	205.1	203.4	207.5	210.4	206.9	196.4	192.3	191.1
57.5°	194.0	205.7	205.9	202.2	199.3	204.4	209.0	207.9	198.7	194.0	192.5
60°	191.5	200.1	200.5	194.8	191.5	197.7	205.7	205.1	197.7	192.7	190.0
62.5°	*183.3*	*190.9*	*191.1*	*185.7*	*181.0*	*189.8*	*198.7*	*198.5*	*191.7*	*186.8*	*183.7*
65°	169.5	177.5	179.6	174.4	170.7	180.2	189.4	189.0	182.2	177.7	174.6
67.5°	152.4	161.0	165.0	161.5	160.0	168.7	177.3	177.1	171.5	167.2	164.5
70°	131.6	138.8	145.4	145.4	144.4	154.3	163.5	162.7	157.5	154.3	152.2
72.5°	114.4	119.9	122.0	124.0	127.1	137.4	145.2	145.8	142.1	140.5	142.1
75°	97.3	100.8	102.6	101.0	106.3	117.0	127.3	128.3	124.4	121.8	122.4
77.5°	80.0	83.9	85.8	82.1	81.7	95.2	107.8	110.0	106.7	102.6	103.9
80°	57.8	62.9	66.0	63.6	62.7	68.7	86.0	88.4	85.4	82.1	83.9
82.5°	35.4	38.3	39.1	41.5	46.7	49.2	55.3	63.6	61.3	58.4	63.6
85°	14.0	16.7	18.5	21.0	24.5	29.0	34.1	40.7	37.0	35.8	42.2
87.5°	0.8	0.2	0.0	0.4	3.5	6.8	14.6	20.2	16.9	18.1	21.8
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: P628973
CATALOG NUMBER: GWS-SA1A-760-U-SLR-W

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5
2.5°	333.8	339.2	346.4	352.3	359.9	367.1	374.5	381.9	385.8	387.5
5°	310.2	320.0	331.5	344.3	359.1	374.7	390.6	406.8	417.1	417.9
7.5°	296.0	310.2	326.0	342.0	360.3	381.9	407.0	432.1	442.6	445.5
10°	300.5	316.3	328.9	343.9	364.0	391.0	420.6	450.0	462.2	465.6
12.5°	318.6	321.7	325.6	339.4	364.0	398.8	434.6	469.6	482.5	485.8
15°	333.6	318.8	311.8	326.4	359.1	405.6	449.4	488.1	503.7	506.8
17.5°	334.8	309.3	294.1	307.3	350.5	410.3	463.6	508.6	521.8	524.7
20°	322.3	299.3	279.5	287.5	338.7	412.4	473.9	523.6	536.6	539.5
22.5°	308.1	291.0	269.6	269.2	324.6	414.6	486.2	537.8	551.8	553.7
25°	294.7	279.7	261.6	255.9	308.1	419.0	502.9	559.2	569.9	570.5
27.5°	279.1	267.6	255.2	249.7	293.7	427.2	527.6	584.7	591.1	590.1
30°	264.9	256.3	250.7	249.1	284.7	433.4	551.0	609.8	610.2	606.7
32.5°	249.9	246.6	246.6	252.0	277.2	431.9	570.1	634.3	630.4	625.3
35°	236.5	237.1	241.5	254.0	264.9	417.5	588.4	664.9	659.2	651.8
37.5°	223.8	228.5	234.7	246.8	248.7	396.1	609.8	708.3	701.1	691.9
40°	212.9	220.1	227.3	233.2	231.4	365.7	639.6	759.4	751.3	740.6
42.5°	204.2	211.2	219.2	219.9	220.5	334.0	671.3	821.9	820.4	808.7
45°	198.7	203.2	210.8	209.8	219.9	299.1	700.5	917.3	936.2	927.4
47.5°	195.0	198.5	199.3	203.6	225.2	267.8	738.2	1104.1	1156.7	1146.6
50°	192.9	196.4	187.2	204.0	226.0	247.6	790.2	1338.5	1423.3	1409.9
52.5°	192.7	191.9	177.9	208.3	221.5	235.3	817.4	1509.7	1697.6	1726.6
55°	193.1	182.8	173.2	209.6	212.5	230.8	726.4	1591.9	1950.8	2012.1
57.5°	189.4	173.0	175.9	204.6	195.4	242.9	537.0	1562.5	2052.0	2166.0
60°	182.4	163.5	180.8	191.3	177.9	222.1	369.8	1431.3	1947.1	2064.4
62.5°	*172.4*	*156.9*	*180.2*	*174.0*	*171.5*	*181.8*	*254.2*	*1247.6*	*1780.7*	*1895.3*
65°	161.0	151.6	170.5	157.3	158.8	139.9	179.8	1040.3	1582.1	1694.8
67.5°	148.9	148.3	156.3	140.1	134.1	110.9	131.0	833.8	1326.8	1428.4
70°	135.1	139.7	142.1	124.4	108.8	87.0	97.3	583.1	978.8	1067.2
72.5°	121.3	121.8	125.3	108.2	81.4	69.7	73.0	353.1	664.9	729.3
75°	107.4	103.5	106.7	88.0	60.7	57.2	56.4	218.2	459.3	510.1
77.5°	92.3	88.0	83.7	66.2	48.7	44.2	43.2	122.4	281.8	313.0
80°	75.1	69.3	62.5	48.5	35.6	31.7	31.5	59.6	140.5	156.5
82.5°	58.4	47.5	45.7	30.2	22.0	19.3	20.6	22.8	42.4	47.3
85°	40.9	34.6	24.3	12.1	9.9	8.0	7.8	6.8	11.3	12.5
87.5°	22.8	15.0	7.8	1.4	1.6	1.9	1.4	1.0	1.0	1.0
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-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-9-R4

Test Date: 10/23/2019

Luminaire Tested: SA1C-760-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.13

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

Test Information

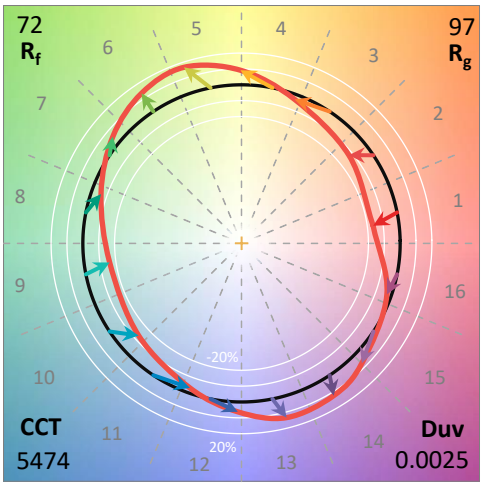
Test Method:	LM-79-2008
Report Number:	SP1-1908-441-9-R4
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	10/28/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	**SA1C-760-U-5WQ**
Description:	McGRAW EDISON 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):	5474	CRI (Ra):	71.7		
CIE u':	0.2052	R1:	70.6	R9:	-27.1
CIE v':	0.4804	R2:	74.6	R10:	40.8
Duv:	0.0025	R3:	78.3	R11:	74.6
CIE x:	0.3330	R4:	73.8	R12:	50.4
CIE y:	0.3466	R5:	72.4	R13:	70.0
CIE z:	0.3204	R6:	67.5	R14:	87.8
Peak Wavelength (nm):	442	R7:	77.5		
Dominant Wavelength (nm):	554	R8:	58.9		
Purity:	4.1				

Rf:	72.1
Rg:	97.2



Test Conditions

Stabilization Time:	240M
Operation Time:	12H
Room Temperature (°C) / RH%:	24.6/31%
Sphere Temperature (°C):	25.9

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

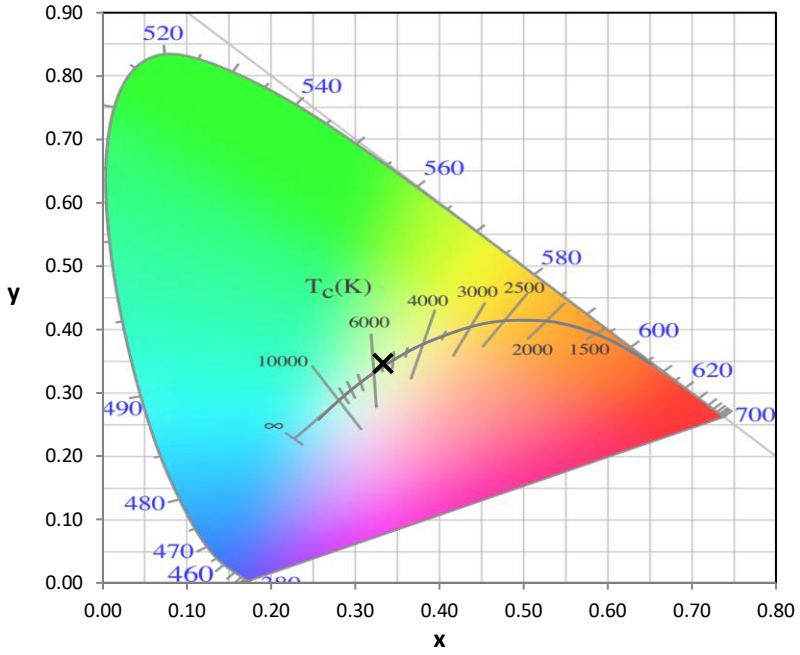
REPORT NUMBER: SP1-1908-441-9-R4

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

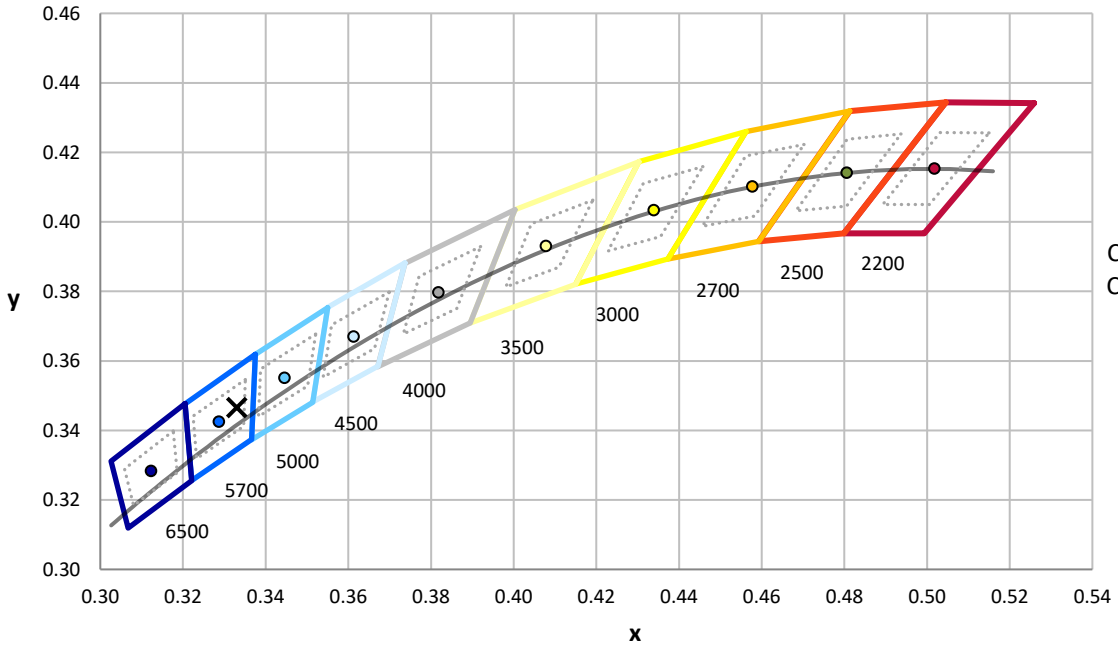
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

REPORT NUMBER: SP1-1908-441-9-R4

CIE 1931 Chromaticity Diagram



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



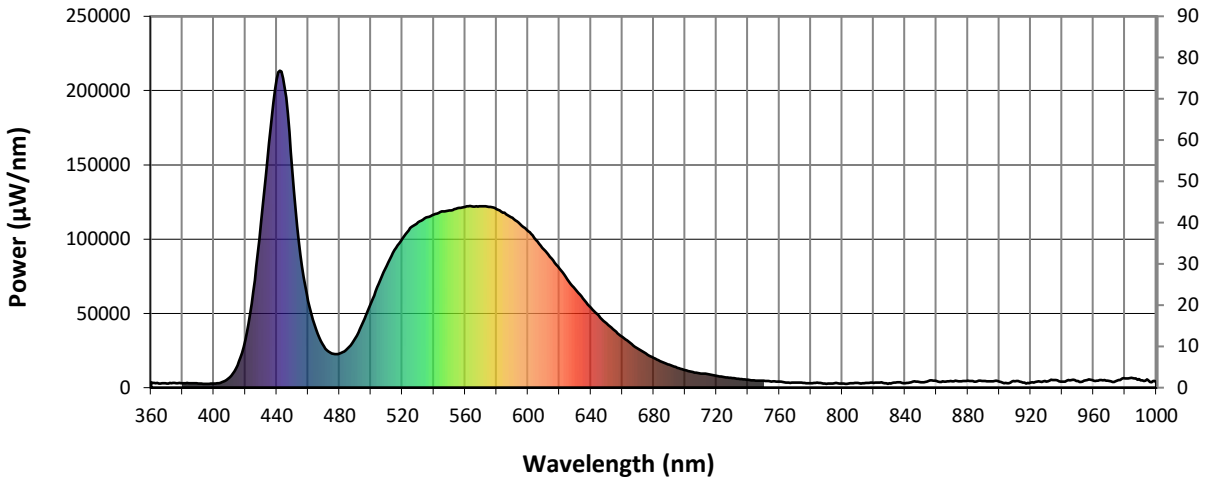
CCT = 5474K
CIE x = 0.3330
CIE y = 0.3466
Duv = 0.0025

Point lies inside the ANSI 5700K 4-step quadrangle

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

REPORT NUMBER: SP1-1908-441-9-R4

Photopic Flux vs. Wavelength



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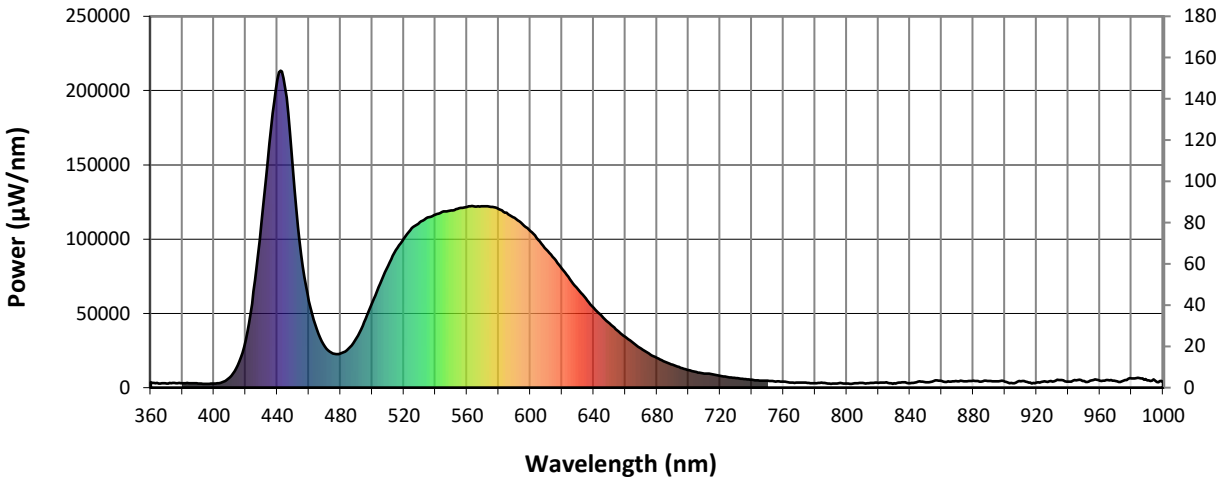
λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	3540	NR	490	33363	NR	620	80193	NR	750	4663	NR	880	4678	NR
365	2862	NR	495	44177	NR	625	73091	NR	755	4147	NR	885	4128	NR
370	2865	NR	500	57019	NR	630	66269	NR	760	4040	NR	890	4504	NR
375	3254	NR	505	70030	NR	635	60012	NR	765	3474	NR	895	4371	NR
380	3076	NR	510	81972	NR	640	53914	NR	770	3469	NR	900	4082	NR
385	2904	NR	515	92590	NR	645	48385	NR	775	3181	NR	905	2982	NR
390	2689	NR	520	100305	NR	650	43219	NR	780	2969	NR	910	4351	NR
395	2619	NR	525	107452	NR	655	38562	NR	785	3132	NR	915	3365	NR
400	2679	NR	530	111373	NR	660	34110	NR	790	2507	NR	920	3430	NR
405	3515	NR	535	114505	NR	665	30085	NR	795	2968	NR	925	4264	NR
410	6934	NR	540	116408	NR	670	26205	NR	800	2758	NR	930	4095	NR
415	14943	NR	545	118700	NR	675	22906	NR	805	2872	NR	935	5048	NR
420	31939	NR	550	119209	NR	680	20058	NR	810	3094	NR	940	4074	NR
425	64701	NR	555	120742	NR	685	17413	NR	815	3222	NR	945	4949	NR
430	110939	NR	560	121594	NR	690	15447	NR	820	3238	NR	950	4387	NR
435	164597	NR	565	121913	NR	695	13398	NR	825	3524	NR	955	4978	NR
440	207696	NR	570	122147	NR	700	11777	NR	830	2921	NR	960	4706	NR
445	201830	NR	575	121605	NR	705	10412	NR	835	3595	NR	965	5083	NR
450	145410	NR	580	120248	NR	710	9544	NR	840	3016	NR	970	4522	NR
455	89594	NR	585	117717	NR	715	8940	NR	845	4032	NR	975	4740	NR
460	58321	NR	590	114359	NR	720	7897	NR	850	3579	NR	980	6122	NR
465	39318	NR	595	109974	NR	725	7045	NR	855	4571	NR	985	6450	NR
470	27693	NR	600	105269	NR	730	6483	NR	860	4485	NR	990	4875	NR
475	23081	NR	605	99453	NR	735	5838	NR	865	3978	NR	995	4764	NR
480	23002	NR	610	92921	NR	740	5261	NR	870	4298	NR	1000	3640	NR
485	26201	NR	615	86989	NR	745	4760	NR	875	4356	NR			

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

REPORT NUMBER: SP1-1908-441-9-R4

Scotopic Flux vs. Wavelength



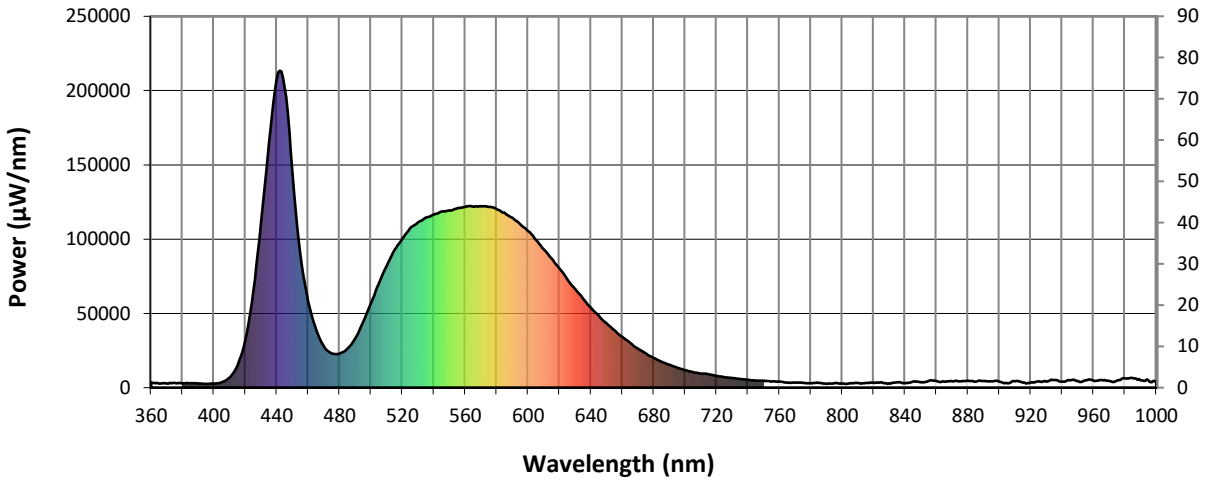
Scotopic Lumens: 13759.3 **S/P: 1.85**

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	3540	NR	490	33363	NR	620	80193	NR	750	4663	NR	880	4678	NR
365	2862	NR	495	44177	NR	625	73091	NR	755	4147	NR	885	4128	NR
370	2865	NR	500	57019	NR	630	66269	NR	760	4040	NR	890	4504	NR
375	3254	NR	505	70030	NR	635	60012	NR	765	3474	NR	895	4371	NR
380	3076	NR	510	81972	NR	640	53914	NR	770	3469	NR	900	4082	NR
385	2904	NR	515	92590	NR	645	48385	NR	775	3181	NR	905	2982	NR
390	2689	NR	520	100305	NR	650	43219	NR	780	2969	NR	910	4351	NR
395	2619	NR	525	107452	NR	655	38562	NR	785	3132	NR	915	3365	NR
400	2679	NR	530	111373	NR	660	34110	NR	790	2507	NR	920	3430	NR
405	3515	NR	535	114505	NR	665	30085	NR	795	2968	NR	925	4264	NR
410	6934	NR	540	116408	NR	670	26205	NR	800	2758	NR	930	4095	NR
415	14943	NR	545	118700	NR	675	22906	NR	805	2872	NR	935	5048	NR
420	31939	NR	550	119209	NR	680	20058	NR	810	3094	NR	940	4074	NR
425	64701	NR	555	120742	NR	685	17413	NR	815	3222	NR	945	4949	NR
430	110939	NR	560	121594	NR	690	15447	NR	820	3238	NR	950	4387	NR
435	164597	NR	565	121913	NR	695	13398	NR	825	3524	NR	955	4978	NR
440	207696	NR	570	122147	NR	700	11777	NR	830	2921	NR	960	4706	NR
445	201830	NR	575	121605	NR	705	10412	NR	835	3595	NR	965	5083	NR
450	145410	NR	580	120248	NR	710	9544	NR	840	3016	NR	970	4522	NR
455	89594	NR	585	117717	NR	715	8940	NR	845	4032	NR	975	4740	NR
460	58321	NR	590	114359	NR	720	7897	NR	850	3579	NR	980	6122	NR
465	39318	NR	595	109974	NR	725	7045	NR	855	4571	NR	985	6450	NR
470	27693	NR	600	105269	NR	730	6483	NR	860	4485	NR	990	4875	NR
475	23081	NR	605	99453	NR	735	5838	NR	865	3978	NR	995	4764	NR
480	23002	NR	610	92921	NR	740	5261	NR	870	4298	NR	1000	3640	NR
485	26201	NR	615	86989	NR	745	4760	NR	875	4356	NR			

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

REPORT NUMBER: SP1-1908-441-9-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 5527.6 **M/P: 0.74**

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	3540	NR	490	33363	NR	620	80193	NR	750	4663	NR	880	4678	NR
365	2862	NR	495	44177	NR	625	73091	NR	755	4147	NR	885	4128	NR
370	2865	NR	500	57019	NR	630	66269	NR	760	4040	NR	890	4504	NR
375	3254	NR	505	70030	NR	635	60012	NR	765	3474	NR	895	4371	NR
380	3076	NR	510	81972	NR	640	53914	NR	770	3469	NR	900	4082	NR
385	2904	NR	515	92590	NR	645	48385	NR	775	3181	NR	905	2982	NR
390	2689	NR	520	100305	NR	650	43219	NR	780	2969	NR	910	4351	NR
395	2619	NR	525	107452	NR	655	38562	NR	785	3132	NR	915	3365	NR
400	2679	NR	530	111373	NR	660	34110	NR	790	2507	NR	920	3430	NR
405	3515	NR	535	114505	NR	665	30085	NR	795	2968	NR	925	4264	NR
410	6934	NR	540	116408	NR	670	26205	NR	800	2758	NR	930	4095	NR
415	14943	NR	545	118700	NR	675	22906	NR	805	2872	NR	935	5048	NR
420	31939	NR	550	119209	NR	680	20058	NR	810	3094	NR	940	4074	NR
425	64701	NR	555	120742	NR	685	17413	NR	815	3222	NR	945	4949	NR
430	110939	NR	560	121594	NR	690	15447	NR	820	3238	NR	950	4387	NR
435	164597	NR	565	121913	NR	695	13398	NR	825	3524	NR	955	4978	NR
440	207696	NR	570	122147	NR	700	11777	NR	830	2921	NR	960	4706	NR
445	201830	NR	575	121605	NR	705	10412	NR	835	3595	NR	965	5083	NR
450	145410	NR	580	120248	NR	710	9544	NR	840	3016	NR	970	4522	NR
455	89594	NR	585	117717	NR	715	8940	NR	845	4032	NR	975	4740	NR
460	58321	NR	590	114359	NR	720	7897	NR	850	3579	NR	980	6122	NR
465	39318	NR	595	109974	NR	725	7045	NR	855	4571	NR	985	6450	NR
470	27693	NR	600	105269	NR	730	6483	NR	860	4485	NR	990	4875	NR
475	23081	NR	605	99453	NR	735	5838	NR	865	3978	NR	995	4764	NR
480	23002	NR	610	92921	NR	740	5261	NR	870	4298	NR	1000	3640	NR
485	26201	NR	615	86989	NR	745	4760	NR	875	4356	NR			

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

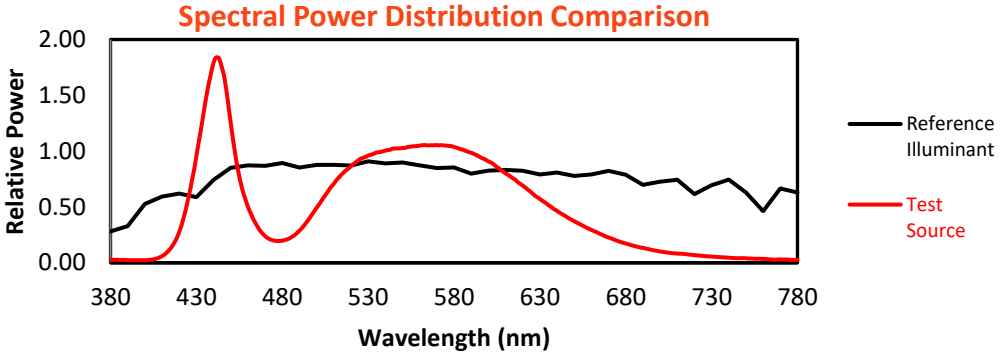
REPORT NUMBER: SP1-1908-441-9-R4

TM-30-18

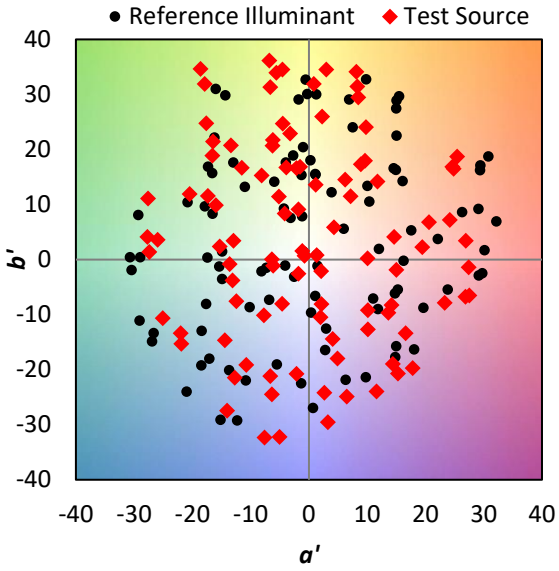
Summary

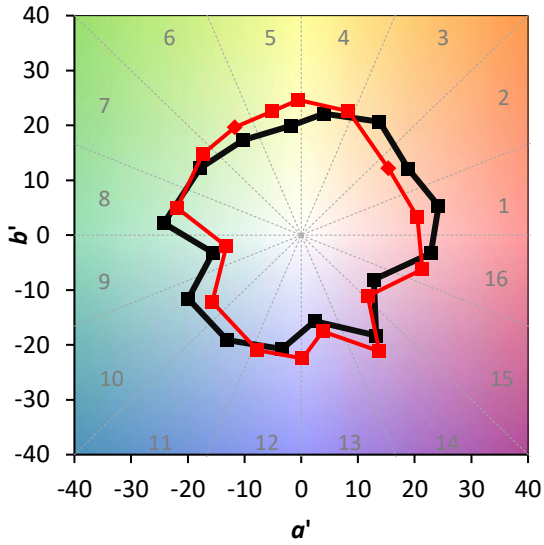
R_f = 72.1
R_g = 97.2
CIE R_a = 71.7
R_9 = -27.1

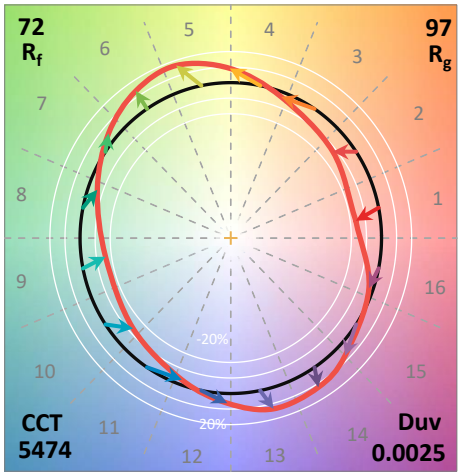
Spectral Power Distribution Comparison

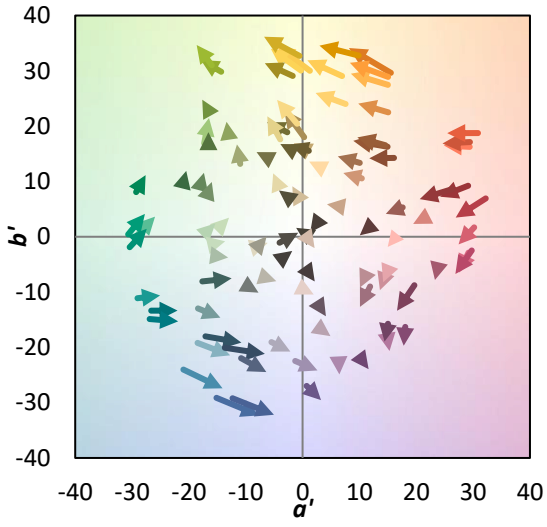


Color Vector Graphics









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

REPORT NUMBER: SP1-1908-441-9-R4

TM-30-18

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

CES01 = 85	CES26 = 54	CES51 = 88	CES76 = 43
CES02 = 59	CES27 = 79	CES52 = 90	CES77 = 64
CES03 = 30	CES28 = 77	CES53 = 77	CES78 = 46
CES04 = 69	CES29 = 50	CES54 = 81	CES79 = 74
CES05 = 46	CES30 = 59	CES55 = 80	CES80 = 70
CES06 = 50	CES31 = 55	CES56 = 70	CES81 = 71
CES07 = 38	CES32 = 52	CES57 = 68	CES82 = 88
CES08 = 38	CES33 = 63	CES58 = 70	CES83 = 82
CES09 = 29	CES34 = 63	CES59 = 88	CES84 = 87
CES10 = 72	CES35 = 79	CES60 = 92	CES85 = 84
CES11 = 55	CES36 = 90	CES61 = 88	CES86 = 76
CES12 = 61	CES37 = 72	CES62 = 81	CES87 = 75
CES13 = 41	CES38 = 68	CES63 = 75	CES88 = 77
CES14 = 74	CES39 = 91	CES64 = 72	CES89 = 76
CES15 = 70	CES40 = 83	CES65 = 65	CES90 = 76
CES16 = 46	CES41 = 84	CES66 = 66	CES91 = 92
CES17 = 48	CES42 = 70	CES67 = 64	CES92 = 70
CES18 = 55	CES43 = 69	CES68 = 71	CES93 = 83
CES19 = 70	CES44 = 98	CES69 = 80	CES94 = 60
CES20 = 64	CES45 = 79	CES70 = 58	CES95 = 73
CES21 = 85	CES46 = 78	CES71 = 55	CES96 = 79
CES22 = 77	CES47 = 76	CES72 = 84	CES97 = 84
CES23 = 91	CES48 = 68	CES73 = 47	CES98 = 73
CES24 = 90	CES49 = 78	CES74 = 94	CES99 = 62
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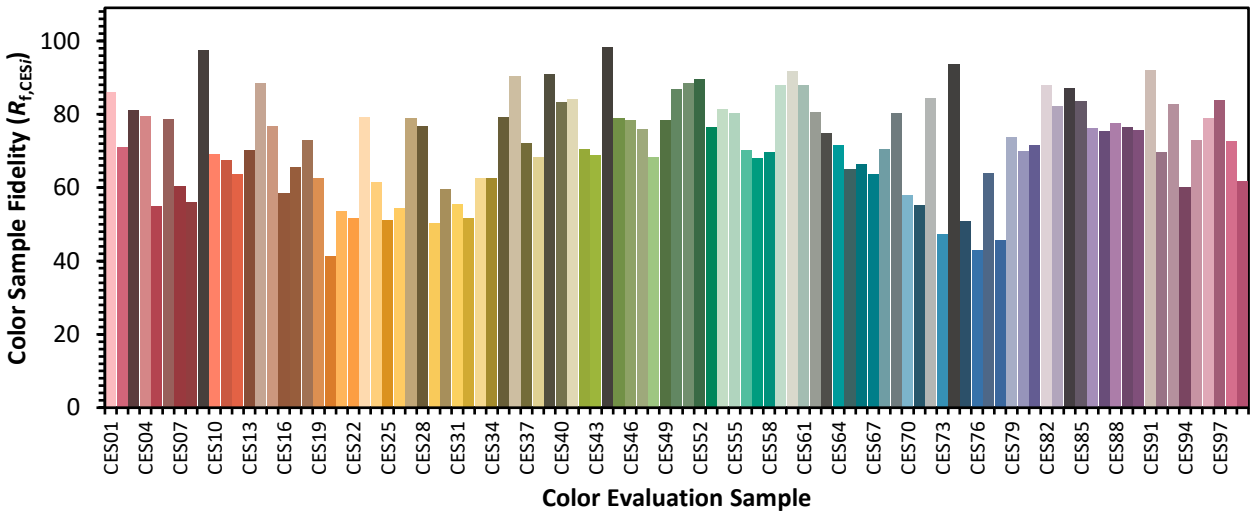

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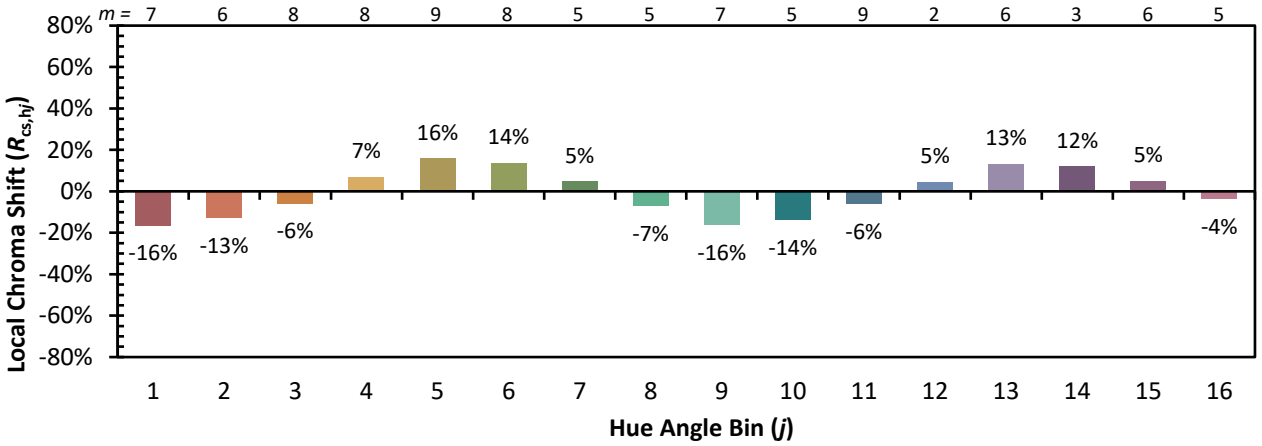
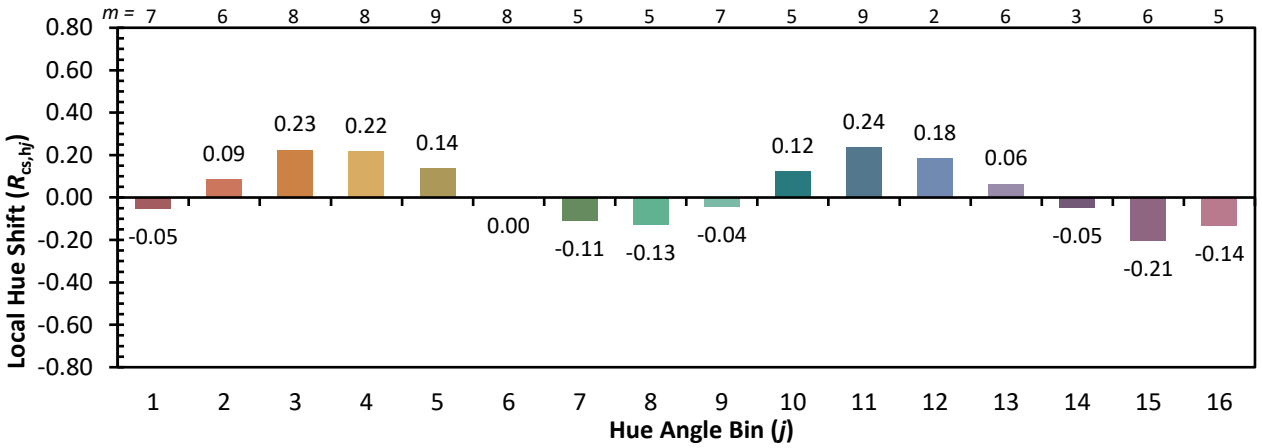
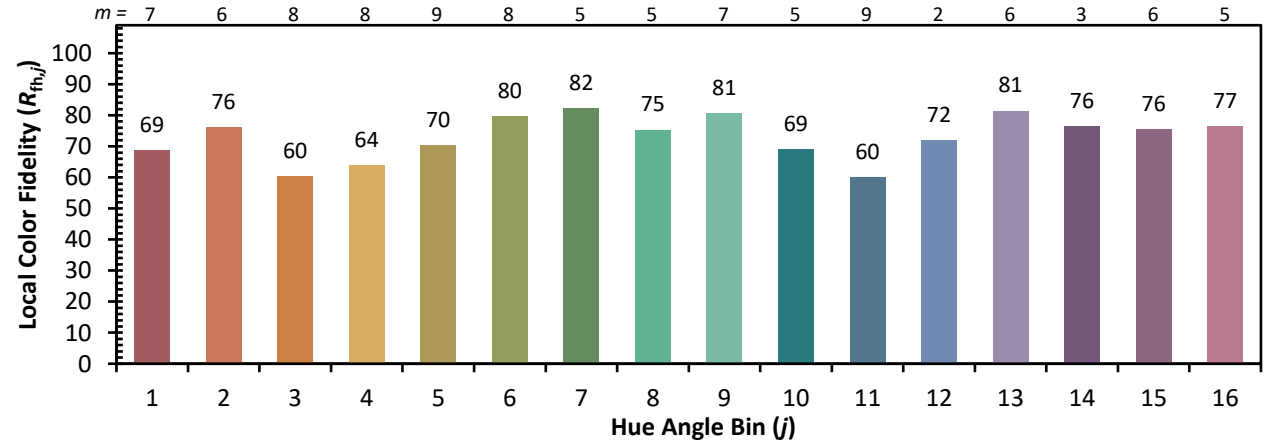
Color Rendition by Hue-Angle Bin







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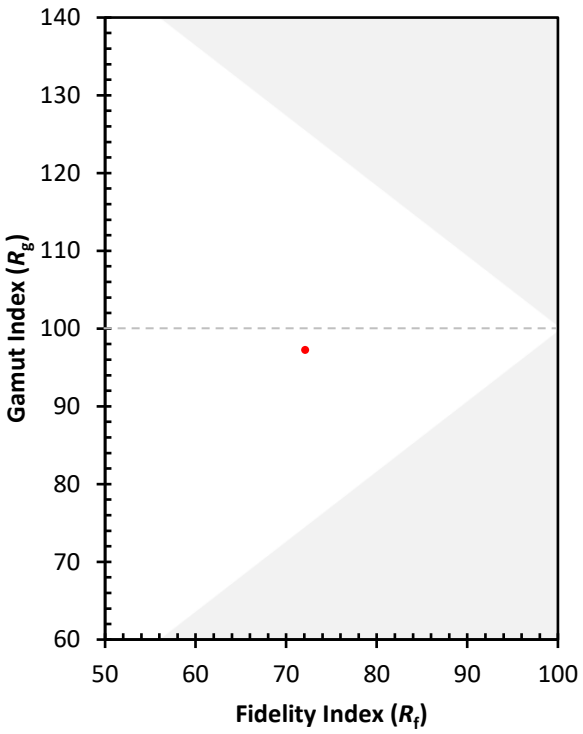
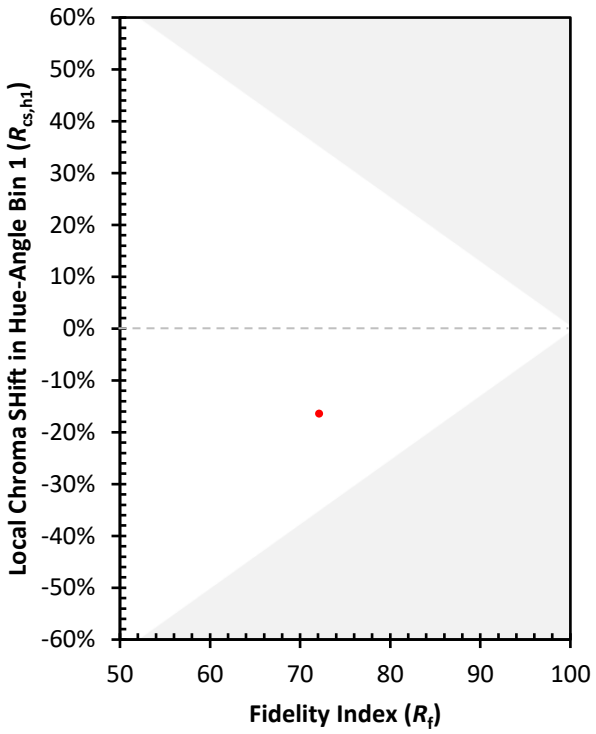
Measure Comparisons





(END OF REPORT)