

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: P630563

Luminaire Tested: GWS-SA1D-830-U-SLR-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P630563
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-42)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1D-830-U-SLR-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND
SPILL LIGHT ELIMINATOR RIGHT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (16) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2569.8 lumens
Efficiency: N/A
Efficacy: 58.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G0

Input Watts (W): 44.3
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



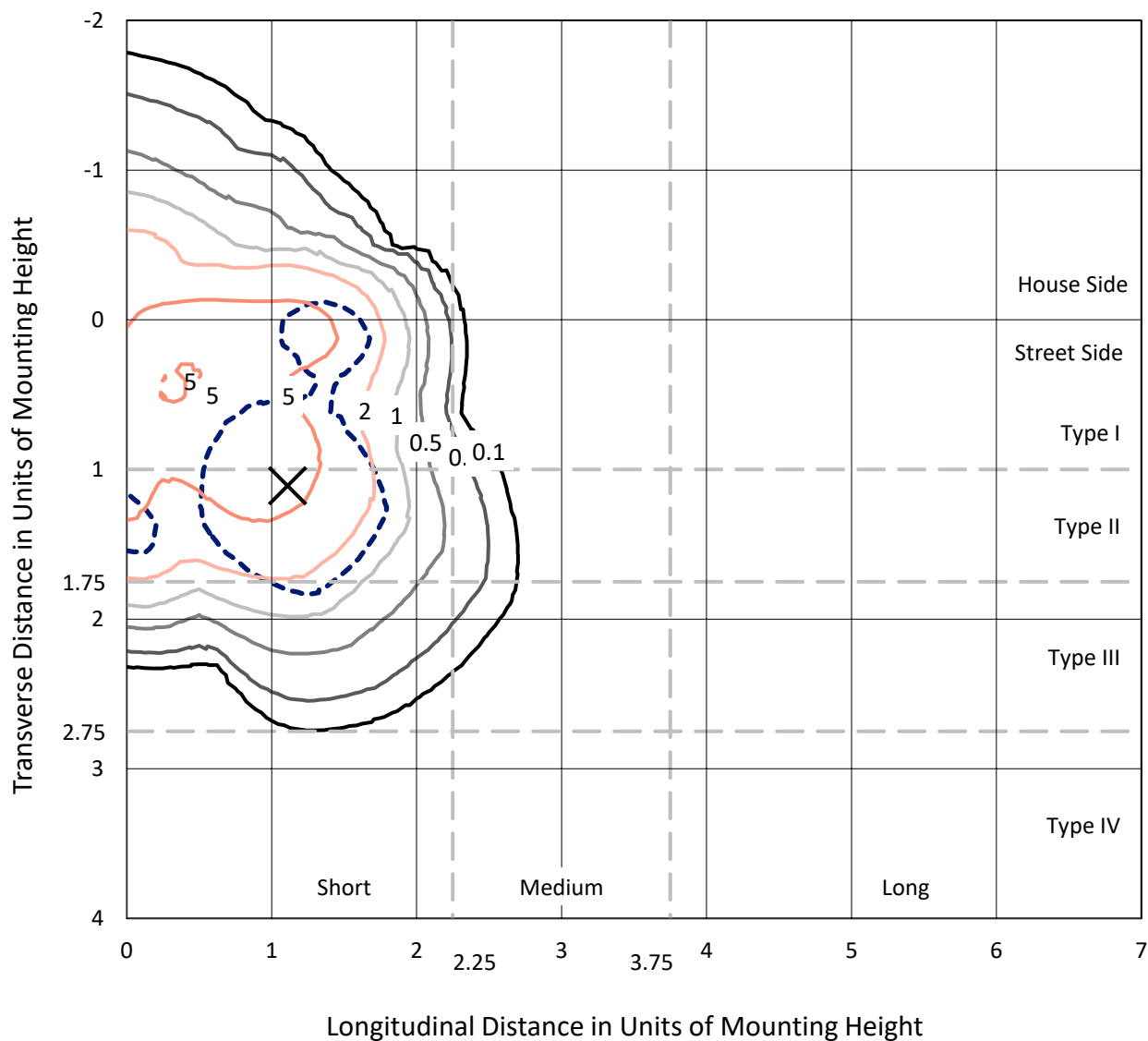
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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

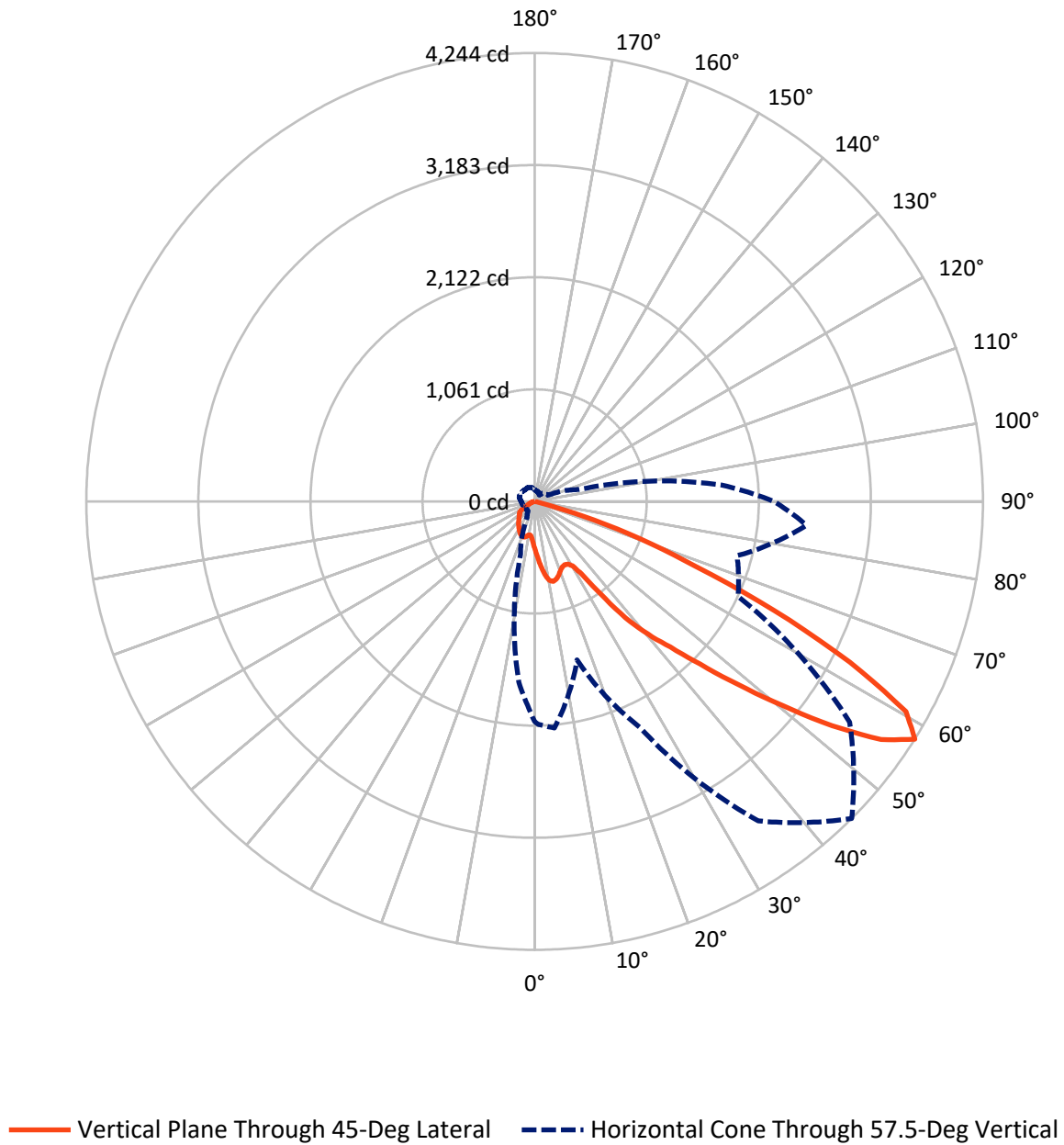


Based on 10 foot mounting height. Maximum calculated value = 8 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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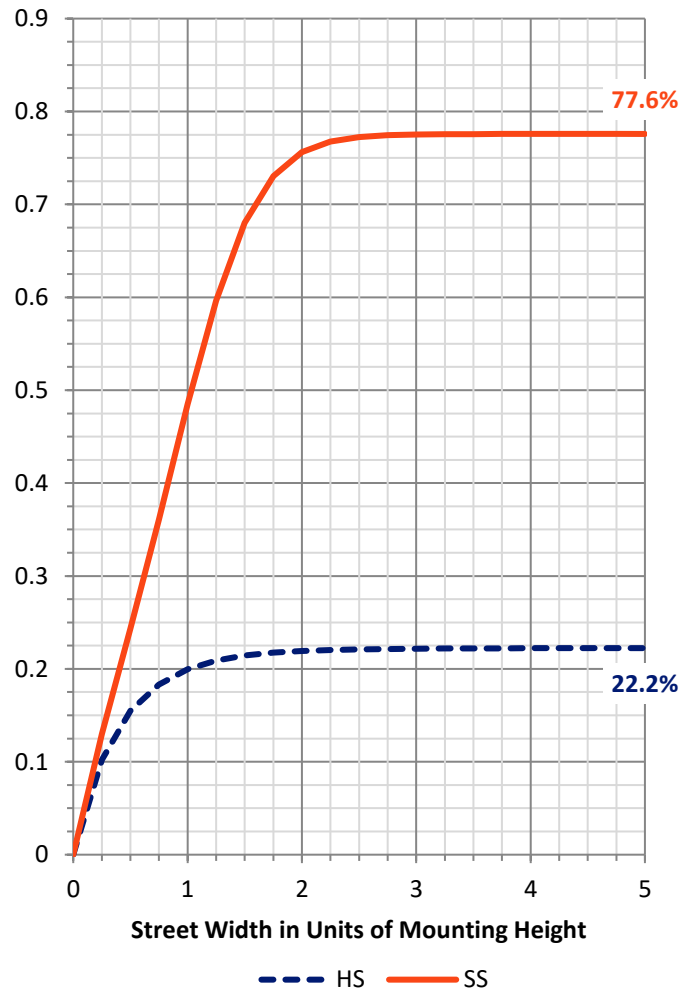
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	575.4	0.0	575.4
	% Fixture	22.4	0.0	22.4
Street Side	Lumens	1994.4	0.0	1994.4
	% Fixture	77.6	0.0	77.6
Total	Lumens	2569.8	0.0	2569.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.4	1.7
10°-20°	143.7	5.6
20°-30°	233.5	9.1
30°-40°	360.8	14.0
40°-50°	578.5	22.5
50°-60°	790.7	30.8
60°-70°	383.0	14.9
70°-80°	35.1	1.4
80°-90°	0.1	0.0
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°	2569.8	100.0
0°-180°	2569.8	100.0

Coefficient of Utilization



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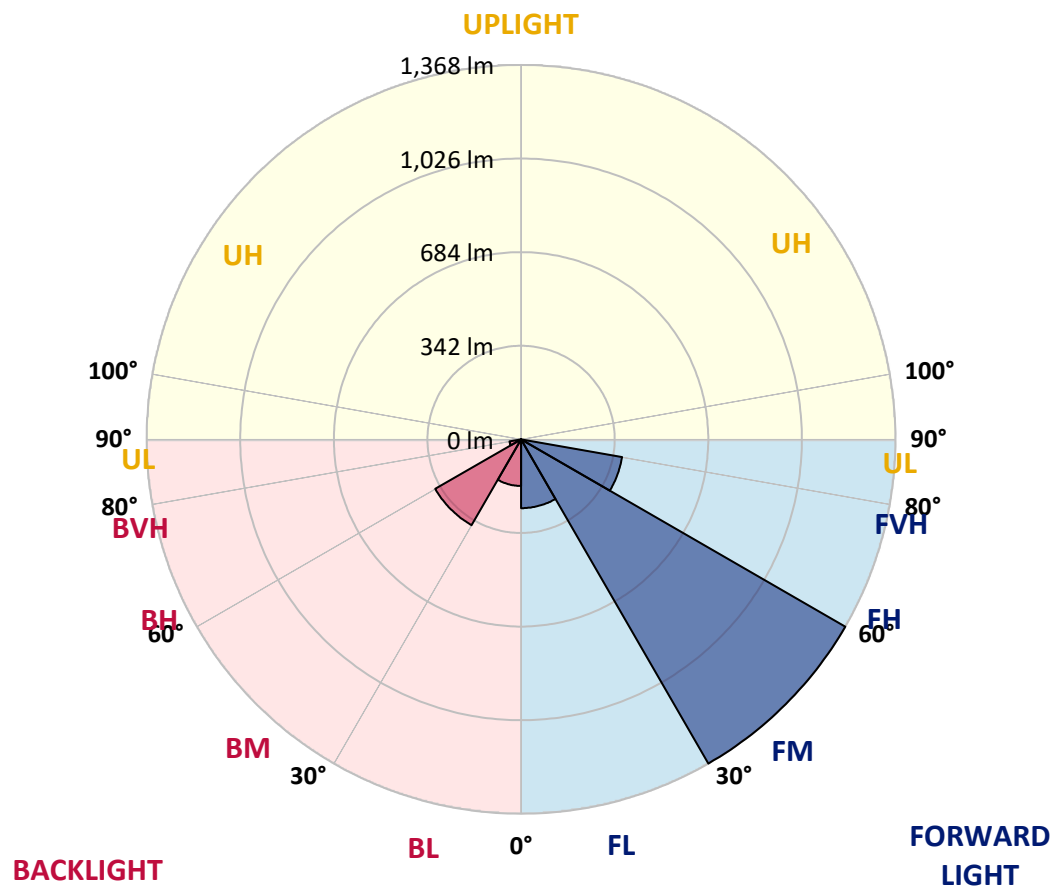
CATALOG NUMBER: GWS-SA1D-830-U-SLR-W-GRSBK

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	251.4	9.8			
FM	(30°-60°)	1368.0	53.2			
FH	(60°-80°)	374.9	14.6			G0/660
FVH	(80°-90°)	0.1	0.0			G0/10
BL	(0°-30°)	170.3	6.6	B1/500		
BM	(30°-60°)	362.0	14.1	B1/1000		
BH	(60°-80°)	43.1	1.7	B0/110		G0/110
BVH	(80°-90°)	0.0	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G0

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7
2.5°	489.3	492.4	497.6	508.6	518.0	524.2	526.9	526.3	522.5	519.7	514.2
5°	541.8	541.8	551.8	577.0	596.4	608.4	614.7	610.9	603.3	591.2	572.5
7.5°	587.7	589.4	606.4	642.3	671.6	688.9	698.9	696.8	683.4	660.2	622.9
10°	623.6	625.7	648.2	692.0	726.5	744.2	759.0	760.4	745.5	714.8	672.0
12.5°	658.5	660.6	684.1	726.2	756.6	763.8	777.0	782.1	778.3	756.6	712.0
15°	696.2	701.0	721.0	752.4	765.2	756.6	765.2	774.5	787.3	785.2	745.2
17.5°	733.1	736.6	756.9	768.0	753.8	731.4	735.5	746.6	775.6	803.9	778.0
20°	767.3	772.1	789.0	774.5	731.7	696.8	697.2	711.7	755.9	815.3	811.5
22.5°	803.2	810.5	822.5	781.8	711.3	669.6	671.3	684.4	740.4	826.0	849.5
25°	850.2	857.1	865.0	799.7	704.8	656.1	662.7	674.7	740.4	844.3	896.4
27.5°	913.7	918.5	918.9	833.2	716.2	658.2	672.0	685.8	762.5	880.9	959.3
30°	993.5	1001.1	991.0	885.4	751.7	685.8	706.2	723.4	810.1	942.7	1051.8
32.5°	1090.5	1101.2	1087.7	962.7	826.0	781.1	818.0	828.1	886.1	1032.1	1156.8
35°	1204.5	1213.4	1198.9	1069.8	999.3	1007.6	1074.6	1061.8	1038.7	1142.3	1279.4
37.5°	1329.5	1337.7	1309.8	1232.1	1255.6	1291.5	1398.5	1354.7	1280.1	1284.2	1412.3
40°	1444.1	1453.1	1409.2	1408.5	1456.9	1522.5	1651.6	1591.2	1489.7	1470.0	1537.0
42.5°	1562.9	1569.1	1529.4	1502.5	1612.3	1747.3	1884.0	1802.5	1628.5	1607.1	1693.1
45°	1732.4	1745.6	1674.8	1548.7	1752.1	2005.9	2196.5	2037.3	1723.1	1705.8	1932.0
47.5°	1981.8	1991.4	1847.1	1577.7	1882.3	2328.1	2587.1	2341.9	1806.3	1767.0	2258.7
50°	2187.9	2194.5	2005.6	1609.5	2020.8	2675.5	3032.2	2703.1	1899.9	1868.1	2563.6
52.5°	2339.8	2364.7	2213.8	1674.8	2202.8	3084.0	3525.0	3131.0	2046.0	2063.6	2816.4
55°	2371.3	2405.1	2356.1	1714.8	2363.0	3500.1	3980.1	3513.9	2191.7	2211.7	2901.3
57.5°	2084.0	2110.9	2151.6	1553.2	2359.2	3690.7	4244.2	3641.0	2125.4	1983.5	2583.3
60°	1561.2	1579.8	1653.7	1187.2	2169.6	3522.2	4038.4	3424.8	1858.5	1513.5	1968.3
62.5°	925.8	934.1	1027.7	769.0	1800.8	3033.2	3349.2	2955.2	1468.6	1018.0	1205.5
65°	355.3	351.9	423.4	379.5	1324.3	2416.2	2491.1	2252.8	1007.6	466.5	459.6
67.5°	54.9	52.5	70.8	112.2	955.1	1674.4	1643.7	1623.7	631.2	108.8	95.0
70°	12.4	12.4	15.2	33.2	583.6	983.8	1052.9	1003.8	404.0	23.1	12.4
72.5°	5.9	5.9	7.3	14.2	211.3	405.4	472.4	465.1	131.2	7.6	4.5
75°	2.1	2.4	2.4	3.1	12.8	21.1	48.3	34.5	8.3	0.0	0.0
77.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.3	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



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7
2.5°	502.1	499.7	490.7	478.6	466.9	456.5	445.8	433.0	423.7	413.0	409.5
5°	558.0	542.8	518.3	492.8	469.3	449.3	429.9	409.2	394.0	378.8	373.6
7.5°	605.3	582.9	543.2	504.8	472.7	444.4	416.4	388.1	366.0	348.1	342.6
10°	647.8	621.9	568.7	521.4	481.0	448.2	414.4	378.8	350.1	328.7	323.6
12.5°	684.4	654.4	590.5	533.9	484.5	446.8	414.0	385.7	359.8	335.3	328.7
15°	715.1	682.0	608.8	542.1	479.3	429.6	400.9	396.4	394.3	367.4	354.6
17.5°	745.2	707.9	623.6	545.9	464.8	399.2	378.5	398.8	420.6	403.0	386.8
20°	776.6	734.1	638.8	546.6	440.6	365.0	361.5	393.7	421.3	415.8	400.6
22.5°	813.6	766.9	657.8	546.3	410.2	336.0	349.1	383.6	406.1	405.7	393.7
25°	867.1	808.4	683.4	548.4	377.1	313.5	335.3	366.7	385.0	384.3	374.3
27.5°	924.4	857.8	716.5	553.5	348.8	300.4	319.1	343.6	359.5	358.8	350.1
30°	1004.9	914.7	748.3	553.9	328.4	293.5	301.1	318.0	333.2	331.5	324.9
32.5°	1102.6	979.0	774.9	534.2	315.6	287.0	282.5	291.1	302.8	300.4	298.7
35°	1220.7	1055.3	797.7	491.0	295.9	273.8	261.7	263.5	271.8	273.1	272.5
37.5°	1355.4	1146.1	826.0	434.1	269.3	254.8	238.6	237.2	242.1	246.6	250.0
40°	1488.3	1248.3	864.3	376.4	245.2	230.7	215.1	211.7	213.7	221.7	228.9
42.5°	1637.8	1366.8	905.8	327.0	228.6	204.1	189.2	182.7	188.5	201.3	210.0
45°	1853.3	1532.8	946.2	287.6	221.7	180.6	160.6	159.9	166.4	183.0	192.7
47.5°	2155.8	1747.6	972.7	256.9	221.3	162.3	138.5	142.6	150.2	166.4	177.5
50°	2450.7	2016.6	943.4	233.4	214.1	150.2	121.9	130.2	137.8	151.9	163.3
52.5°	2628.5	2161.3	829.1	211.3	191.6	144.7	105.7	120.2	121.6	134.3	146.4
55°	2609.9	2067.7	635.0	177.1	158.5	136.7	88.7	108.4	109.1	118.8	129.1
57.5°	2265.3	1775.3	436.1	143.7	119.1	112.9	73.2	91.5	98.1	103.9	111.5
60°	1688.2	1295.3	194.4	116.7	75.6	76.3	62.5	69.1	79.1	86.0	92.5
62.5°	994.8	745.2	79.1	70.1	41.8	48.0	50.4	50.4	56.6	61.8	66.0
65°	376.0	260.7	32.1	35.2	21.8	22.4	29.7	36.6	41.4	45.9	51.5
67.5°	66.0	45.6	16.6	13.1	12.8	11.4	15.2	23.8	26.6	30.0	32.5
70°	11.1	9.3	6.9	6.6	5.9	6.2	10.0	16.9	18.6	19.7	20.7
72.5°	3.1	2.8	2.1	1.7	1.4	1.7	6.2	13.1	13.8	14.5	15.5
75°	0.0	0.0	0.0	0.0	0.0	0.0	2.4	9.3	10.0	10.4	11.4
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.8	3.5	2.8
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

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CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7
2.5°	407.5	400.6	396.8	394.7	394.7	391.9	388.8	387.8	392.3	392.3	399.9
5°	367.1	361.5	355.3	351.5	345.7	346.7	343.2	342.9	347.4	349.5	357.4
7.5°	339.1	332.2	328.4	326.0	322.9	321.5	318.4	317.3	319.8	323.2	330.8
10°	320.5	319.4	319.1	320.8	320.8	319.1	316.3	314.6	315.3	321.8	330.5
12.5°	325.3	327.4	328.0	330.8	332.2	330.8	328.7	329.4	333.9	346.0	358.8
15°	346.3	344.6	343.9	345.3	346.3	345.0	344.3	349.5	365.0	382.3	396.8
17.5°	368.8	357.7	352.9	352.9	353.6	352.9	353.6	363.6	388.8	406.1	416.8
20°	380.2	359.8	352.2	350.5	351.9	352.2	354.6	366.0	393.7	405.7	408.2
22.5°	376.7	351.2	342.6	341.2	342.6	343.9	346.3	356.0	381.9	388.1	387.1
25°	359.5	334.3	327.4	327.4	330.5	330.1	331.2	338.1	359.5	363.3	361.5
27.5°	337.7	313.9	308.0	311.5	314.2	313.5	313.9	319.8	335.6	336.7	335.0
30°	315.6	294.9	289.4	293.5	297.3	296.6	297.0	302.8	312.9	311.8	309.4
32.5°	293.2	278.0	273.8	276.3	282.1	281.4	282.8	289.0	292.8	288.3	285.6
35°	272.5	264.5	261.4	262.8	267.3	268.3	270.7	274.9	274.9	269.3	264.5
37.5°	253.1	252.1	250.0	248.3	252.4	255.5	259.0	263.8	256.9	249.0	244.5
40°	235.2	239.6	236.9	232.4	234.8	239.3	246.2	250.0	241.7	233.8	226.2
42.5°	218.6	226.2	225.1	219.6	221.7	225.8	233.8	236.9	227.2	218.2	211.0
45°	202.7	213.4	214.1	207.2	209.3	213.4	222.7	223.8	211.3	201.7	196.5
47.5°	188.9	200.6	201.0	195.8	196.5	202.4	211.0	211.3	197.2	188.2	181.6
50°	175.8	189.2	190.3	185.8	186.5	193.4	200.6	199.2	184.1	174.7	168.9
52.5°	159.9	178.2	180.6	178.5	181.3	186.8	191.3	186.5	168.9	159.5	154.4
55°	142.6	166.4	171.6	170.2	173.3	177.8	178.9	175.8	153.7	144.3	139.5
57.5°	122.6	137.1	146.1	143.3	145.7	150.2	153.3	150.9	134.3	127.1	122.9
60°	101.5	111.2	113.3	108.8	106.7	114.6	121.9	118.8	104.6	100.1	95.3
62.5°	74.2	85.3	86.7	80.8	78.4	87.0	93.2	90.1	74.6	69.8	66.0
65°	59.4	69.8	72.5	67.0	65.6	72.2	76.0	68.4	57.3	52.1	48.0
67.5°	39.0	47.3	54.6	54.2	51.5	53.5	50.8	44.5	36.6	33.8	31.1
70°	24.2	29.0	33.5	35.2	34.9	34.2	30.4	25.9	23.5	22.4	21.1
72.5°	18.6	23.5	26.9	28.0	28.3	27.3	24.2	20.0	17.6	16.2	15.2
75°	13.8	17.6	20.4	21.8	22.4	21.8	18.6	15.9	13.5	12.4	11.4
77.5°	4.8	5.9	7.3	7.9	7.6	7.3	6.6	6.6	5.2	4.8	4.1
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

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CATALOG NUMBER: GWS-SA1D-830-U-SLR-W-GRSBK

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7
2.5°	408.5	414.7	426.1	436.5	447.5	458.9	471.4	484.1	490.0	489.3
5°	369.5	383.0	401.6	422.0	444.8	469.3	496.6	524.5	536.6	541.8
7.5°	345.0	364.0	388.5	414.4	444.4	479.3	520.4	564.2	581.9	587.7
10°	348.1	370.2	390.5	415.8	447.9	493.1	544.2	596.4	617.1	623.6
12.5°	373.3	378.1	383.6	404.4	444.8	503.5	566.0	628.1	652.0	658.5
15°	396.1	373.6	363.3	382.3	433.7	510.7	588.1	662.3	688.6	696.2
17.5°	397.1	363.3	340.1	355.0	415.8	513.8	609.8	697.2	725.8	733.1
20°	384.3	351.9	322.2	322.5	391.2	513.1	627.8	728.6	760.7	767.3
22.5°	365.7	338.4	307.7	297.0	365.0	511.8	647.5	762.1	797.0	803.2
25°	345.0	321.1	293.9	277.6	338.8	513.1	675.1	806.0	844.3	850.2
27.5°	322.5	302.1	283.2	270.0	316.7	518.3	708.2	861.9	907.5	913.7
30°	299.0	283.8	276.3	268.3	302.8	519.7	744.2	927.2	984.8	993.5
32.5°	275.9	267.6	268.0	269.3	289.7	510.0	777.0	999.7	1076.7	1090.5
35°	254.5	252.1	259.0	265.9	270.7	485.2	805.6	1085.3	1190.3	1204.5
37.5°	236.2	238.3	246.9	253.8	250.0	449.9	843.6	1192.4	1317.4	1329.5
40°	218.6	223.8	233.8	236.9	234.1	408.9	889.2	1295.6	1427.5	1444.1
42.5°	202.4	206.2	220.3	221.0	229.6	367.1	933.0	1406.8	1554.3	1562.9
45°	189.2	188.5	203.0	207.5	235.5	320.8	975.9	1554.9	1720.0	1732.4
47.5°	176.5	175.8	179.2	199.6	237.9	278.0	1018.3	1771.8	1960.3	1981.8
50°	164.4	165.4	154.7	195.8	224.8	245.2	1037.7	1972.4	2178.9	2187.9
52.5°	153.7	149.9	131.2	183.4	196.8	214.1	982.8	2063.6	2314.3	2339.8
55°	138.5	117.4	108.1	148.8	155.4	186.8	804.9	2010.8	2326.0	2371.3
57.5°	118.4	92.2	91.9	109.8	109.8	173.3	515.6	1717.9	2004.5	2084.0
60°	91.2	71.5	76.0	76.3	70.4	126.4	289.4	1244.5	1482.1	1561.2
62.5°	64.9	54.6	57.3	45.6	40.4	63.2	138.8	716.5	914.7	925.8
65°	43.5	36.9	30.0	25.2	24.9	26.9	57.3	259.0	314.9	355.3
67.5°	28.7	22.4	15.9	15.9	18.0	18.0	21.8	42.8	60.1	54.9
70°	18.6	15.5	10.0	9.7	11.7	11.7	11.1	11.7	12.4	12.4
72.5°	13.8	11.7	5.9	5.2	6.6	6.9	6.2	5.9	5.9	5.9
75°	10.4	8.3	3.5	2.4	3.1	4.1	3.5	2.4	2.4	2.1
77.5°	4.1	3.1	1.4	1.0	1.7	2.4	2.1	1.0	0.7	0.7
80°	0.3	0.7	0.7	0.7	1.0	1.4	1.7	0.7	0.3	0.3
82.5°	0.0	0.3	0.3	0.3	0.7	1.0	1.4	0.7	0.3	0.3
85°	0.0	0.0	0.0	0.0	0.7	1.0	0.7	0.3	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.3	1.0	0.7	0.3	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

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.

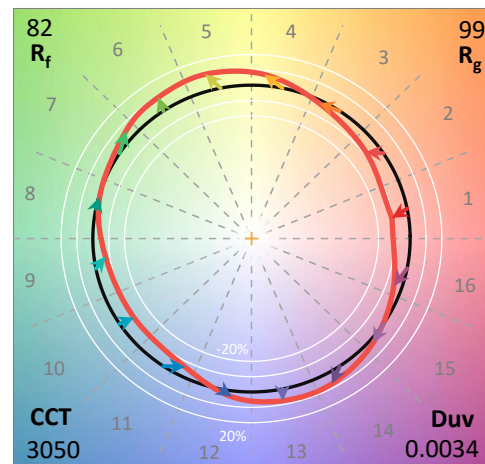
Test Information

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
 CIE u' : 0.2476
 CIE v' : 0.5251
 Duv: 0.0034
 CIE x: 0.4383
 CIE y: 0.4131
 CIE z: 0.1487
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 581
 Purity: 55.55201
 Rf: 81.5
 Rg: 99.2

CRI (Ra): 81.0
 R1: 79.6
 R2: 85.6
 R3: 92.0
 R4: 82.6
 R5: 78.9
 R6: 81.7
 R7: 85.2
 R8: 62.0
 R9: 7.1
 R10: 67.0
 R11: 82.7
 R12: 63.2
 R13: 80.3
 R14: 95.0
 R15: 71.7



Test Conditions

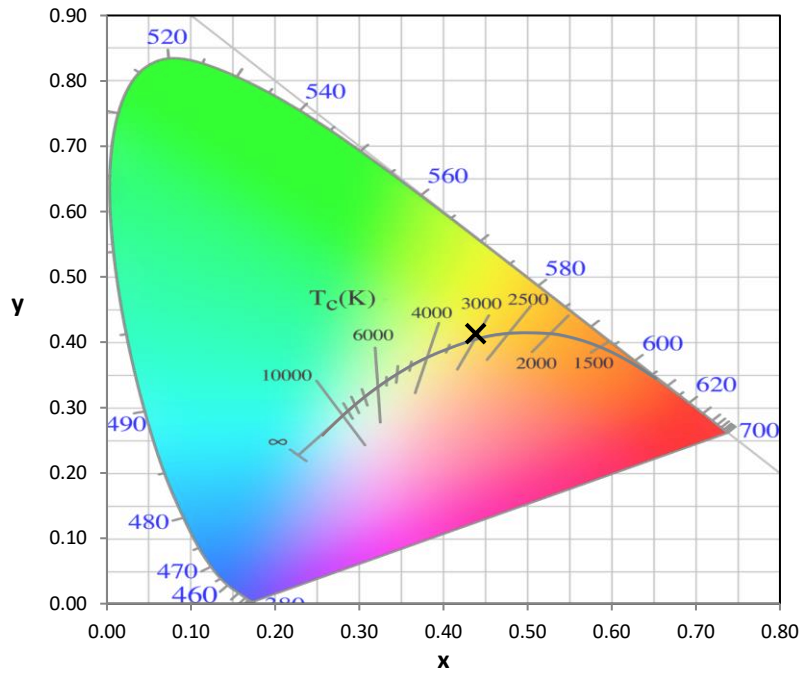
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

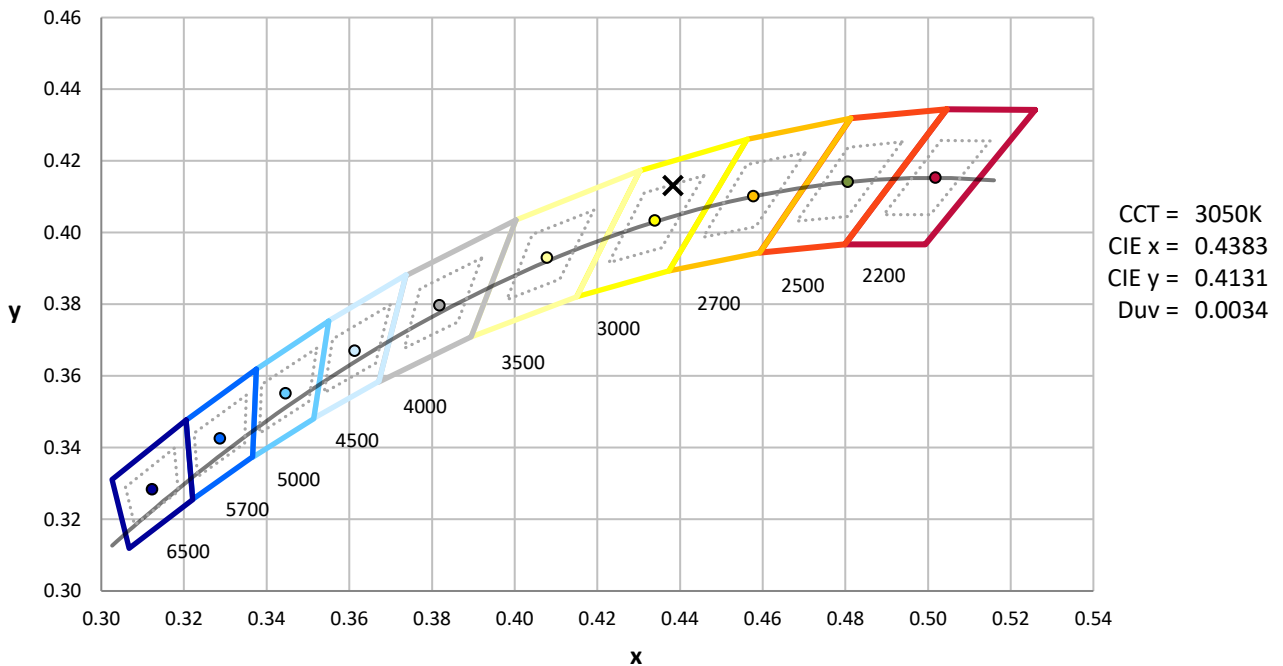
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



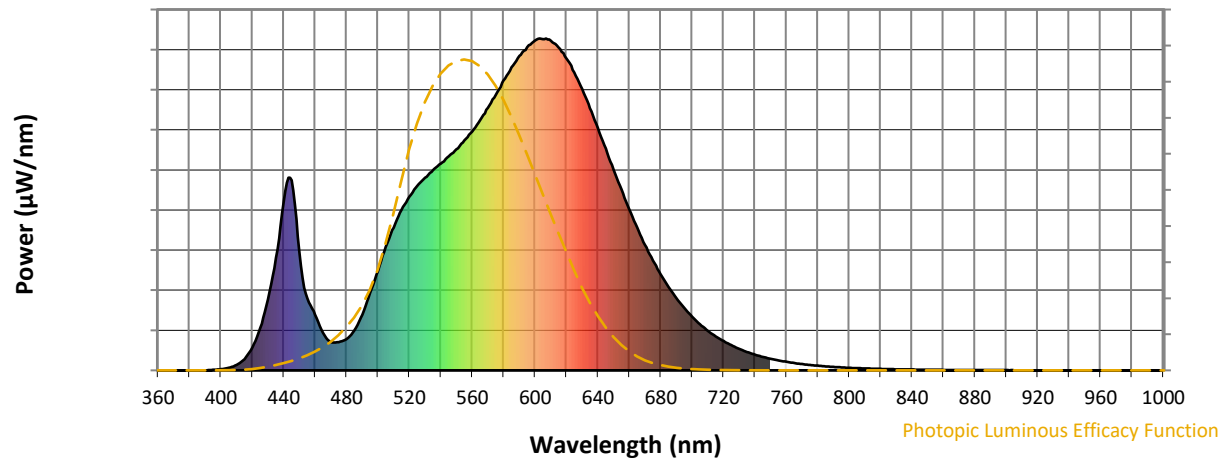
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

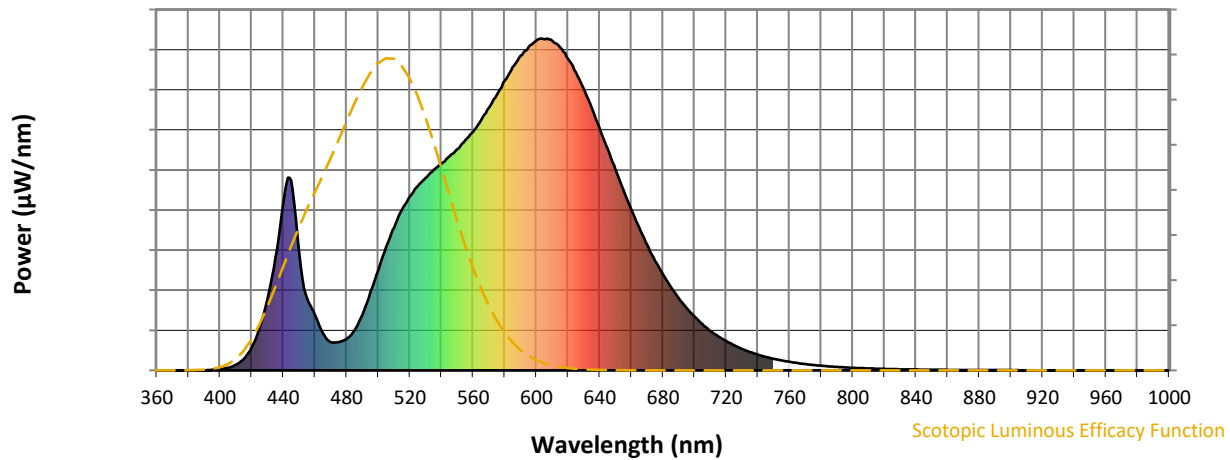


Photopic Lumens: NR

λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	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



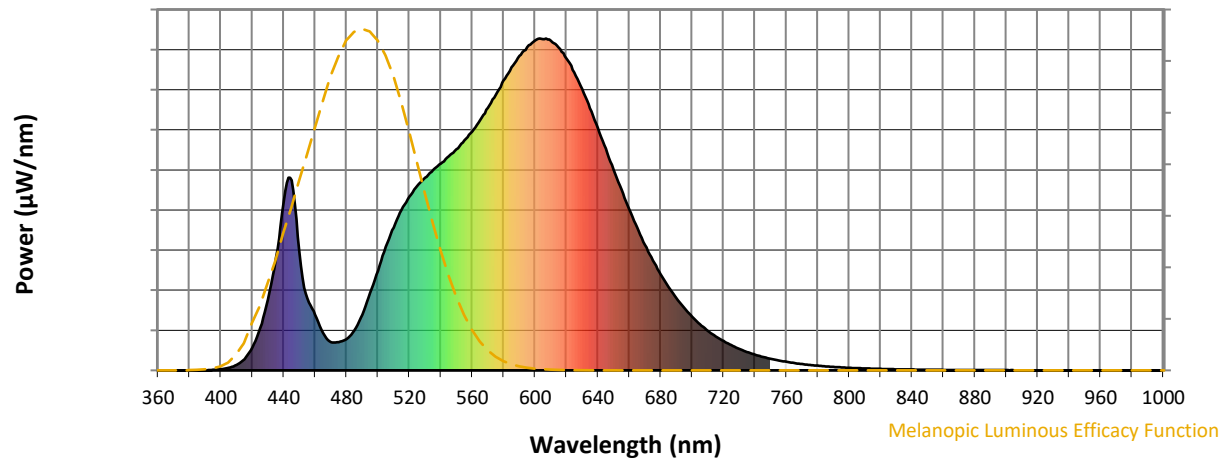
Scotopic Lumens: NR

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			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

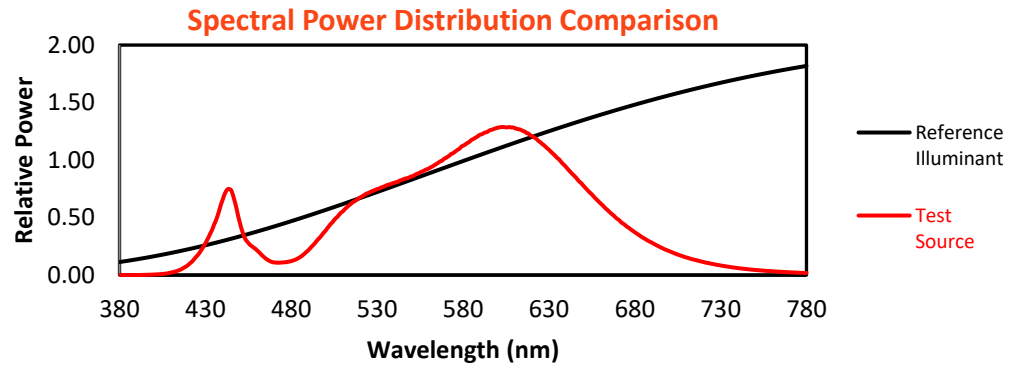
λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	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			

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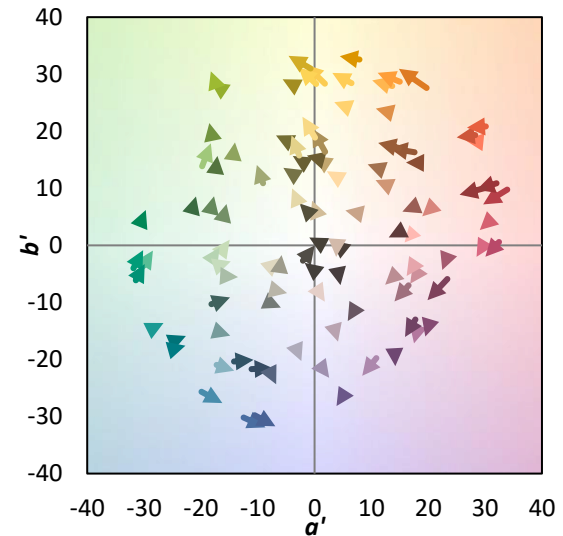
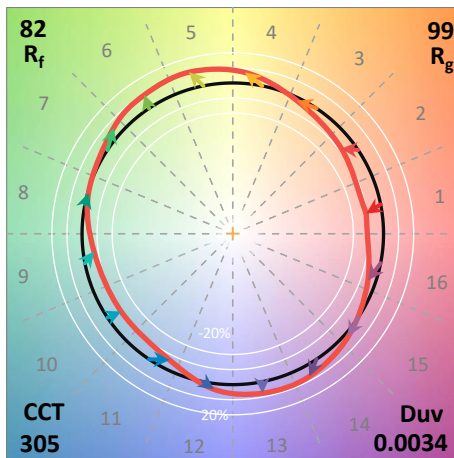
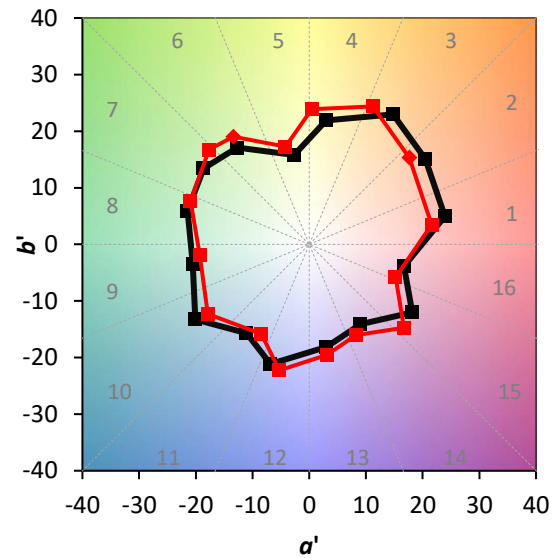
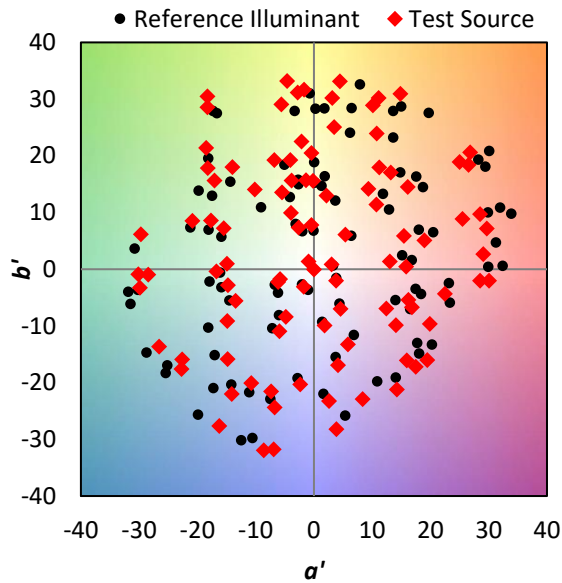
TM-30-18

Summary

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

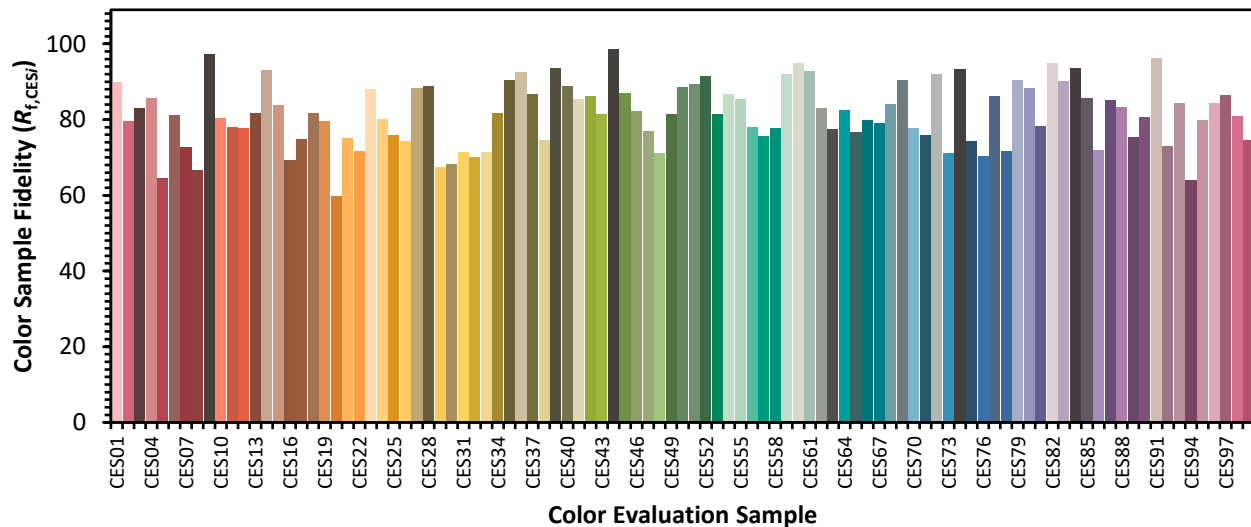


Color Vector Graphics

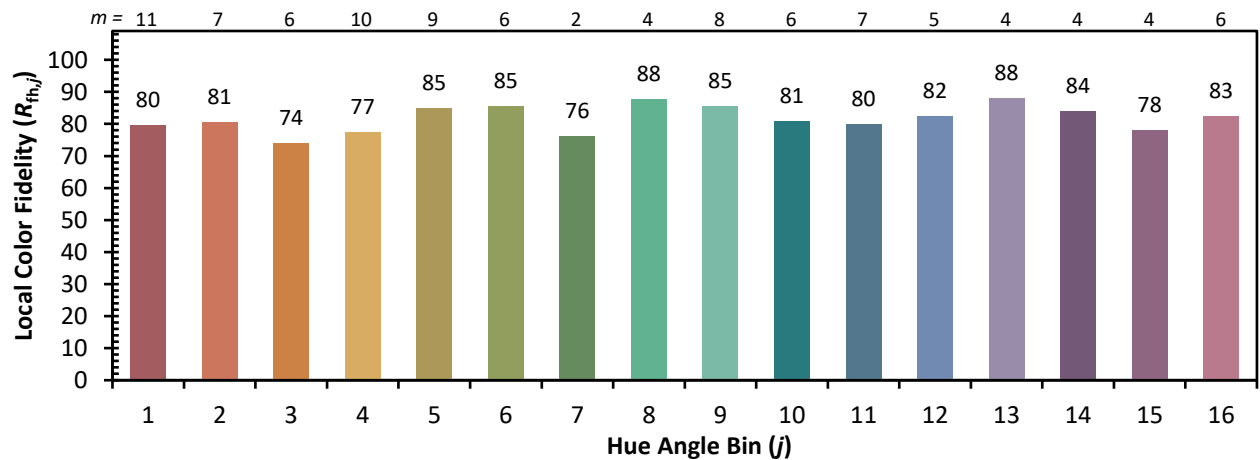
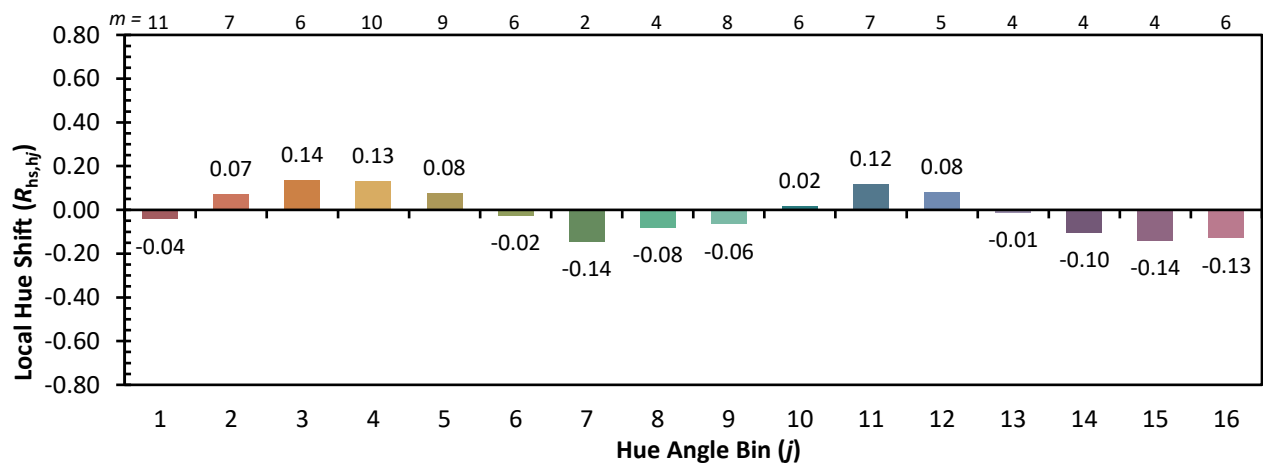
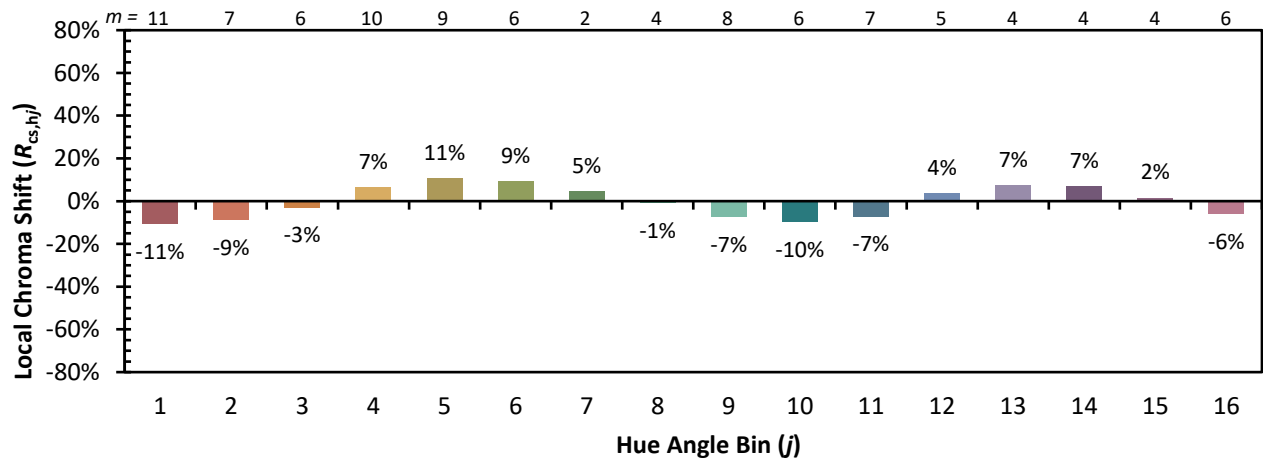


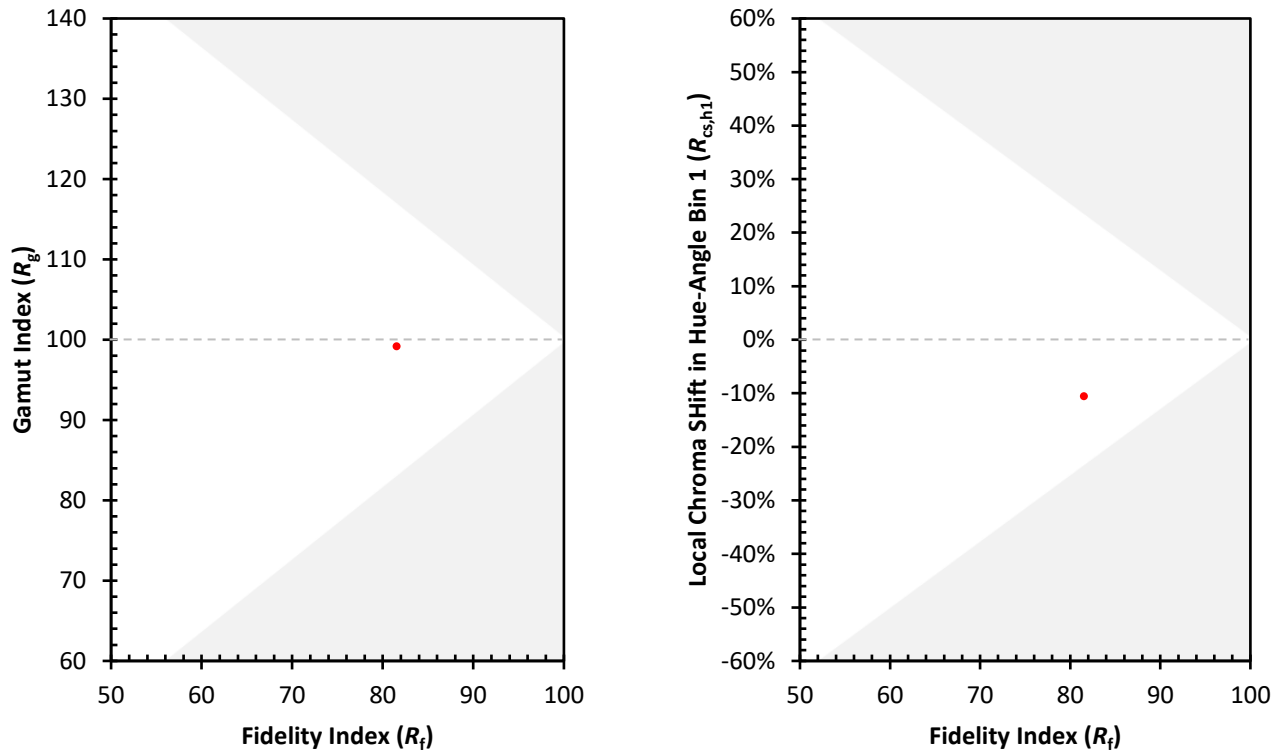
Individual Sample Fidelity Index ($R_{f,i}$)

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
CES25 = 72	CES50 = 89	CES75 = 74	



Color Rendition by Hue-Angle Bin



Measure Comparisons


(END OF REPORT)