

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P1068073

Luminaire Tested: **NAV-SA4A-830-U-LBC**

Issue Date: 08/07/2025

Test Information

Test Method: LM-79-08
Report Number: P1068073
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/07/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SA4A-830-U-LBC
Description: Navion AREA AND ROADWAY LUMINAIRE 615mA 4xLight Square PACKAGE
80CRI 3000K FIXTURE w/ LEFT CORNER BACKLIGHT CONTROL
Light Source: (56) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9720 lumens
Efficiency: N/A
Efficacy: 90.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B0 - U0 - G2

Input Watts (W): 107.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.97
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

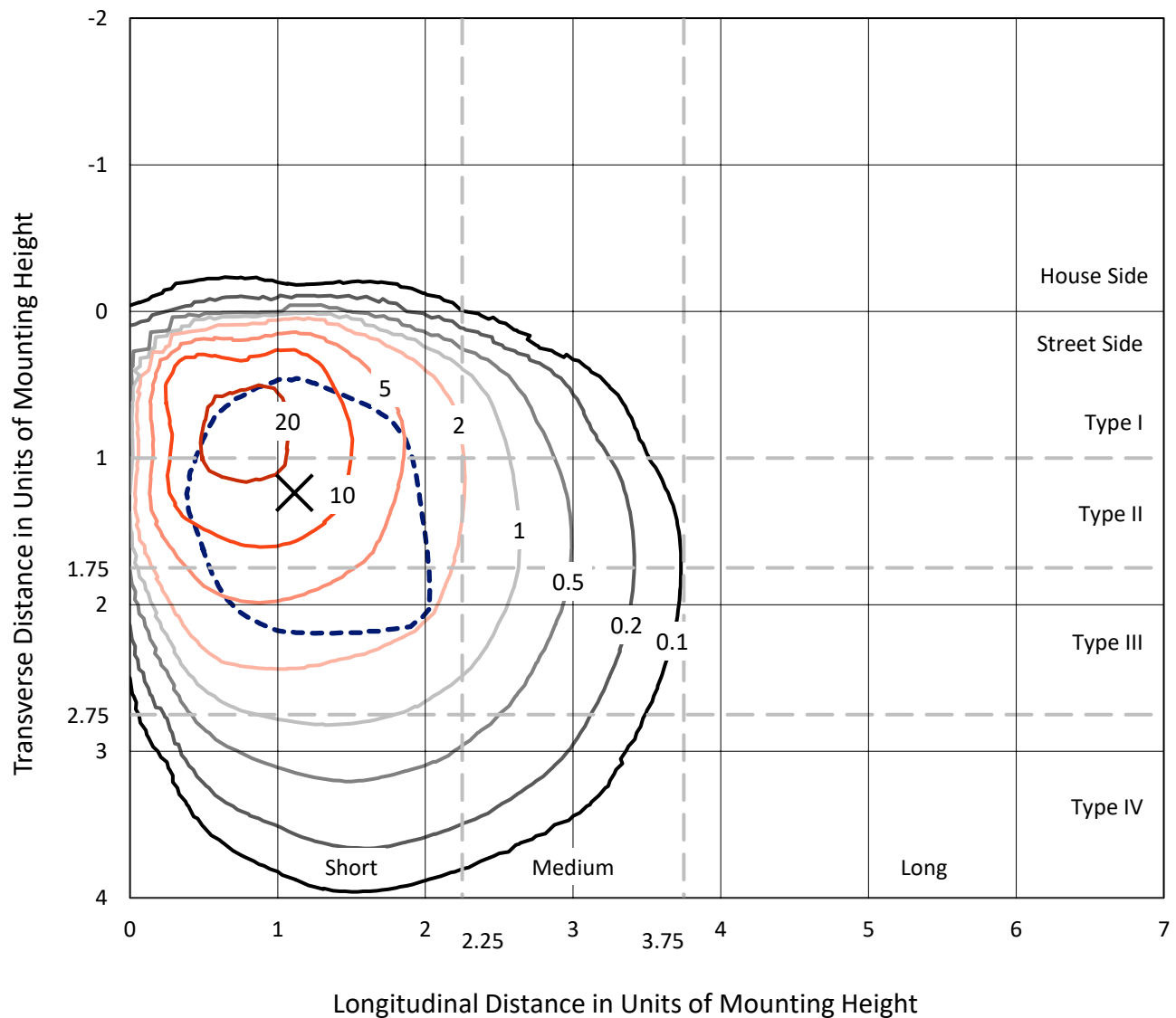


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

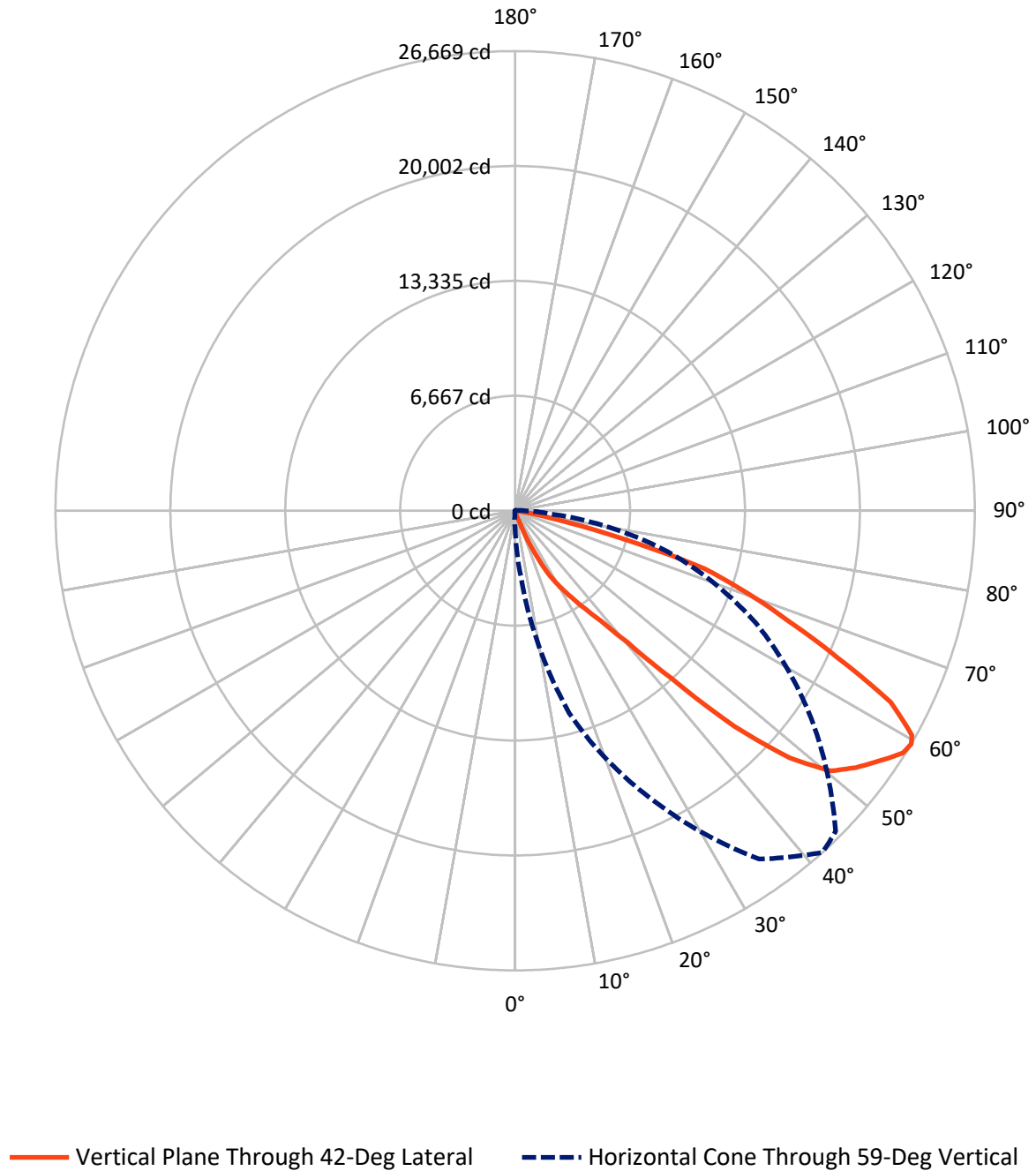


Based on 15 foot mounting height. Maximum calculated value = 28.9 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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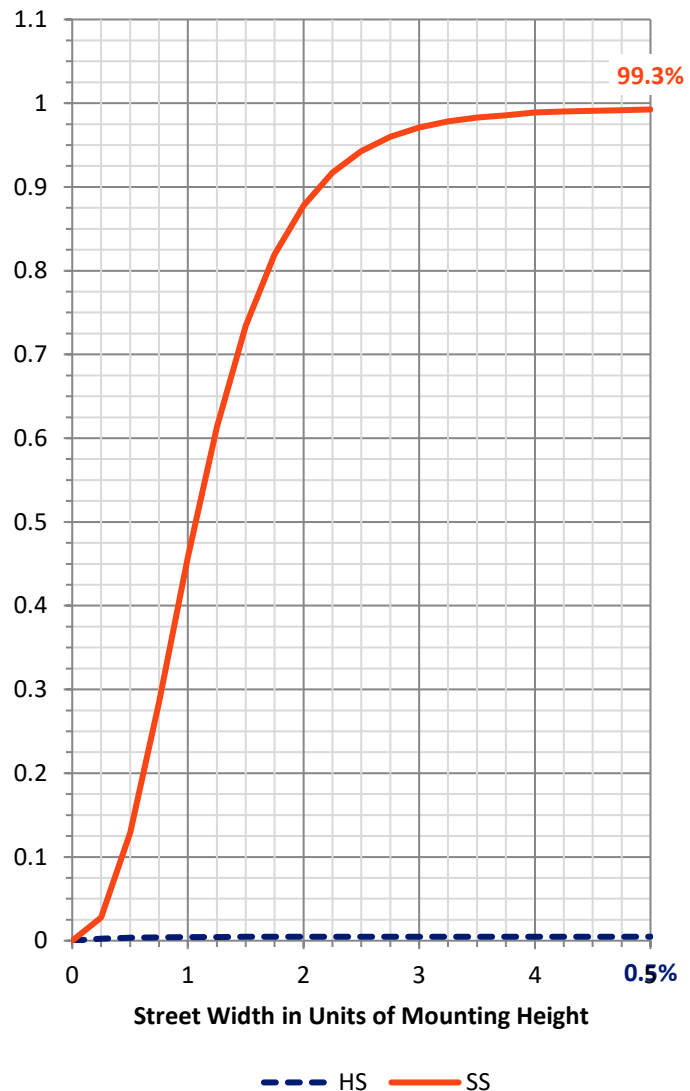
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	46.8	0.0	46.8
	% Fixture	0.5	0.0	0.5
Street Side	Lumens	9673.2	0.0	9673.2
	% Fixture	99.5	0.0	99.5
Total	Lumens	9720.0	0.0	9720.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2.8	0.0
10°-20°	14.2	0.1
20°-30°	181.3	1.9
30°-40°	611.3	6.3
40°-50°	1846.3	19.0
50°-60°	3259.1	33.5
60°-70°	2869.7	29.5
70°-80°	913.4	9.4
80°-90°	21.8	0.2
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°	9720.0	100.0
0°-180°	9720.0	100.0



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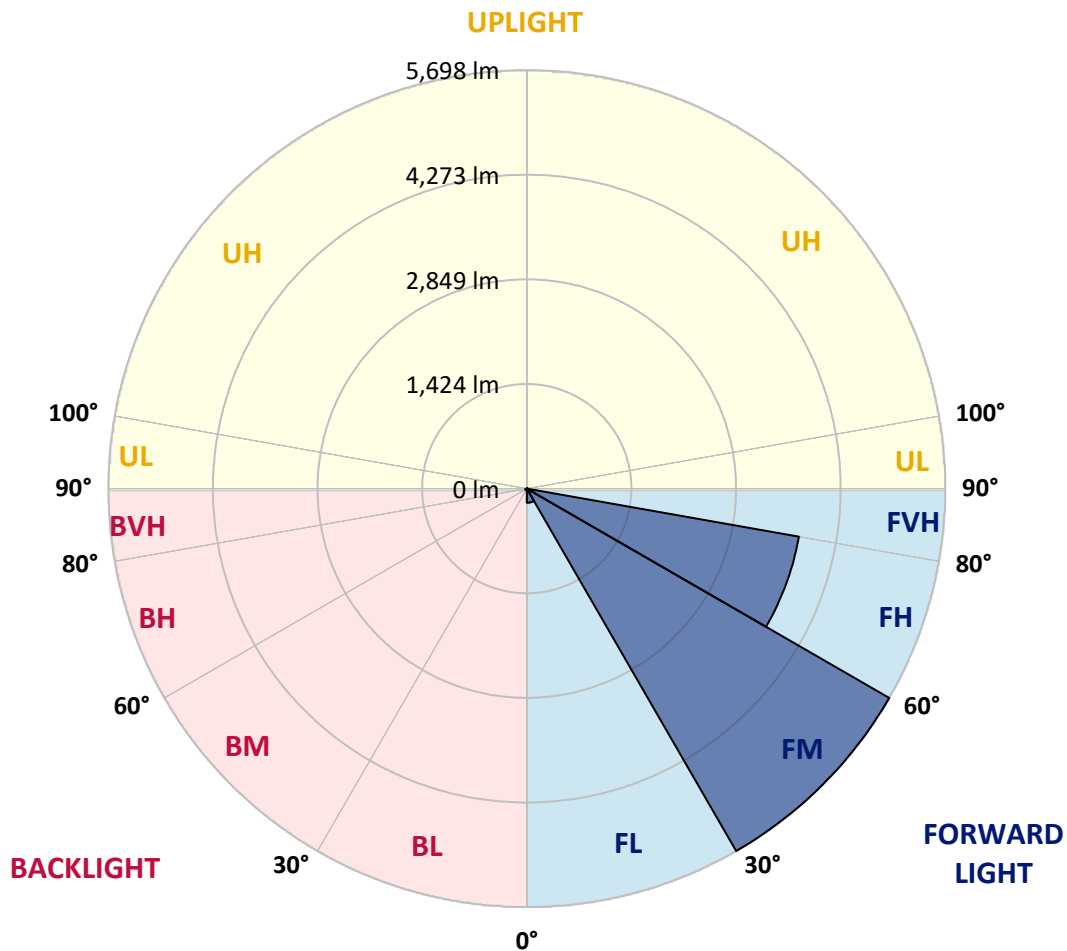
CATALOG NUMBER: NAV-SA4A-830-U-LBC

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	193.1	2.0			
FM	(30°-60°)	5697.5	58.6			
FH	(60°-80°)	3761.7	38.7			G2/5000
FVH	(80°-90°)	20.8	0.2			G1/100
BL	(0°-30°)	5.2	0.1	B0/110		
BM	(30°-60°)	19.1	0.2	B0/220		
BH	(60°-80°)	21.4	0.2	B0/110		G0/110
BVH	(80°-90°)	1.1	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	42°	45°	55°	65°	75°	85°
0°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
2.5°	42.7	42.7	39.6	36.6	33.5	30.5	30.5	30.5	27.4	27.4	24.4
5°	48.8	48.8	45.7	42.7	42.7	39.6	39.6	36.6	33.5	33.5	30.5
7.5°	51.8	51.8	51.8	51.8	48.8	48.8	48.8	45.7	42.7	39.6	36.6
10°	54.9	57.9	61.0	61.0	61.0	61.0	61.0	57.9	51.8	48.8	42.7
12.5°	61.0	64.0	70.1	76.2	76.2	79.2	76.2	73.1	67.0	57.9	48.8
15°	67.0	73.1	82.3	94.5	106.7	109.7	109.7	100.6	88.4	70.1	57.9
17.5°	76.2	85.3	109.7	149.3	192.0	225.5	225.5	201.1	140.2	91.4	67.0
20°	82.3	100.6	176.8	359.6	548.6	688.7	661.3	585.1	313.9	143.2	73.1
22.5°	91.4	128.0	374.8	944.7	1462.8	1718.8	1657.9	1258.6	704.0	256.0	88.4
25°	103.6	185.9	743.6	1770.6	2718.4	2995.7	2956.1	2349.7	1283.0	429.7	112.8
27.5°	128.0	274.3	1191.6	2684.9	4010.6	4248.3	4233.1	3440.7	2051.0	691.8	146.3
30°	161.5	399.2	1767.6	3647.9	4866.9	5107.7	5031.5	4239.1	2767.2	1057.5	188.9
32.5°	201.1	557.7	2288.7	4358.0	5656.3	5973.2	5881.8	4934.0	3343.2	1368.4	280.4
35°	262.1	713.1	2803.7	4985.8	6567.5	6969.8	6817.4	5650.2	3839.9	1718.8	338.3
37.5°	292.6	804.6	3276.1	5668.4	7591.5	8140.0	8024.2	6555.3	4345.8	2166.8	414.5
40°	295.6	914.3	3766.8	6558.3	9039.0	10017.3	9810.1	8109.5	5287.5	2742.8	533.3
42.5°	304.8	1078.8	4403.7	8076.0	11882.4	13287.3	13052.7	10968.1	7423.8	3897.8	755.8
45°	347.4	1389.7	5702.0	10913.3	15786.3	17846.5	17575.2	14951.3	10407.4	6070.7	1289.1
47.5°	496.8	2090.6	7978.5	13976.1	19778.6	21421.3	21354.2	18090.3	13110.6	8298.5	2185.1
50°	798.5	3209.1	10568.9	16551.3	22320.3	23731.3	23563.7	19400.7	14652.6	9819.2	2800.7
52.5°	1066.6	4278.8	12196.3	17499.1	23079.1	24761.4	24557.2	19879.2	15058.0	10267.2	2971.4
55°	1133.7	4665.8	12680.9	17791.6	23582.0	25633.0	25337.4	20199.2	15109.8	9947.2	2687.9
57.5°	1100.2	4300.1	12367.0	18078.1	24282.9	26529.0	26135.8	20823.9	15283.5	9404.7	2236.9
59°	1042.3	3849.1	12171.9	18306.7	24669.9	26669.1	26300.4	20961.1	15399.3	9157.9	1962.6
60°	975.2	3544.3	12019.6	18456.0	24645.6	26449.7	26068.8	20897.1	15445.0	8944.6	1831.6
62.5°	752.7	2828.1	11800.1	18349.3	23106.5	24447.5	24231.1	19330.6	14774.5	8261.9	1444.5
65°	585.1	2163.8	10995.6	16365.4	19662.8	20564.9	20497.8	16368.4	12434.0	7122.1	1042.3
67.5°	463.2	1578.6	9298.1	13253.8	15819.8	17102.9	17054.1	13287.3	9438.3	5442.9	749.7
70°	377.9	1124.5	6375.5	9992.9	12653.4	14268.6	14198.6	10693.9	6994.1	3452.9	545.5
72.5°	320.0	719.2	3867.3	7533.6	10559.8	11483.2	11279.0	8627.6	5086.4	1880.3	432.8
75°	271.2	441.9	1916.9	4696.3	6290.2	6284.1	6079.9	4568.3	2730.6	920.4	344.4
77.5°	219.4	310.9	752.7	1289.1	1984.0	2456.3	2416.7	1618.3	816.7	268.2	213.3
80°	143.2	146.3	201.1	353.5	545.5	603.4	685.7	493.7	237.7	128.0	88.4
82.5°	64.0	70.1	91.4	115.8	115.8	106.7	94.5	70.1	51.8	42.7	21.3
85°	15.2	21.3	15.2	18.3	15.2	12.2	12.2	6.1	0.0	0.0	0.0
87.5°	3.0	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°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
2.5°	24.4	24.4	24.4	21.3	21.3	21.3	18.3	18.3	18.3	15.2	15.2
5°	30.5	27.4	24.4	24.4	21.3	21.3	18.3	15.2	15.2	15.2	12.2
7.5°	33.5	30.5	27.4	24.4	21.3	18.3	18.3	15.2	12.2	12.2	12.2
10°	39.6	36.6	30.5	24.4	21.3	18.3	15.2	15.2	12.2	9.1	9.1
12.5°	45.7	39.6	33.5	27.4	21.3	18.3	15.2	15.2	12.2	9.1	6.1
15°	51.8	45.7	36.6	27.4	21.3	18.3	15.2	15.2	9.1	6.1	3.0
17.5°	57.9	48.8	36.6	30.5	21.3	18.3	15.2	12.2	6.1	3.0	0.0
20°	61.0	51.8	39.6	30.5	21.3	18.3	15.2	9.1	3.0	0.0	0.0
22.5°	67.0	57.9	42.7	30.5	21.3	15.2	9.1	3.0	0.0	0.0	0.0
25°	79.2	61.0	42.7	30.5	21.3	15.2	6.1	0.0	0.0	0.0	0.0
27.5°	88.4	67.0	42.7	30.5	21.3	12.2	3.0	0.0	0.0	0.0	0.0
30°	103.6	73.1	45.7	30.5	21.3	9.1	3.0	0.0	0.0	0.0	0.0
32.5°	128.0	79.2	45.7	30.5	18.3	9.1	0.0	0.0	0.0	0.0	0.0
35°	155.4	91.4	45.7	30.5	18.3	9.1	0.0	0.0	0.0	0.0	0.0
37.5°	158.5	97.5	45.7	30.5	18.3	6.1	0.0	0.0	0.0	0.0	0.0
40°	164.6	91.4	48.8	30.5	18.3	6.1	0.0	0.0	0.0	0.0	0.0
42.5°	188.9	85.3	51.8	30.5	18.3	6.1	0.0	0.0	0.0	0.0	0.0
45°	280.4	88.4	51.8	33.5	18.3	9.1	0.0	0.0	0.0	0.0	0.0
47.5°	487.6	91.4	48.8	33.5	18.3	9.1	0.0	0.0	0.0	0.0	0.0
50°	624.7	106.7	48.8	36.6	21.3	6.1	0.0	0.0	0.0	0.0	0.0
52.5°	664.4	124.9	48.8	39.6	27.4	3.0	0.0	0.0	0.0	0.0	0.0
55°	646.1	146.3	51.8	42.7	33.5	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	597.3	158.5	54.9	45.7	36.6	0.0	0.0	0.0	0.0	0.0	0.0
59°	545.5	167.6	64.0	48.8	36.6	0.0	0.0	0.0	0.0	0.0	0.0
60°	502.8	176.8	67.0	51.8	36.6	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	405.3	188.9	73.1	61.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0
65°	353.5	198.1	76.2	67.0	27.4	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	323.0	204.2	82.3	70.1	24.4	0.0	0.0	0.0	0.0	0.0	0.0
70°	298.7	201.1	88.4	67.0	21.3	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	271.2	192.0	106.7	61.0	18.3	0.0	0.0	0.0	0.0	0.0	0.0
75°	243.8	173.7	115.8	54.9	12.2	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	176.8	146.3	106.7	48.8	6.1	0.0	0.0	0.0	0.0	0.0	0.0
80°	76.2	79.2	76.2	36.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	15.2	18.3	15.2	9.1	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°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
2.5°	15.2	15.2	15.2	15.2	18.3	18.3	24.4	30.5	36.6	39.6	39.6
5°	12.2	12.2	12.2	12.2	12.2	15.2	18.3	24.4	33.5	36.6	36.6
7.5°	9.1	9.1	9.1	9.1	9.1	9.1	15.2	21.3	30.5	33.5	36.6
10°	9.1	6.1	6.1	3.0	3.0	6.1	9.1	18.3	27.4	30.5	33.5
12.5°	6.1	3.0	3.0	0.0	0.0	3.0	6.1	15.2	24.4	27.4	30.5
15°	3.0	0.0	0.0	0.0	0.0	0.0	3.0	12.2	21.3	24.4	30.5
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	18.3	24.4	27.4
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	15.2	21.3	24.4
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	12.2	18.3	21.3
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	12.2	15.2
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	9.1	12.2
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	9.1	12.2
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1	9.1
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1	9.1
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1	6.1
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
59°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	6.1
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
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):

	285°	295°	305°	315°	318°	325°	335°	345°	355°	360°
0°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
2.5°	42.7	42.7	39.6	36.6	36.6	36.6	39.6	42.7	42.7	42.7
5°	39.6	39.6	36.6	36.6	36.6	36.6	39.6	45.7	48.8	48.8
7.5°	39.6	39.6	36.6	36.6	36.6	36.6	39.6	45.7	48.8	51.8
10°	36.6	36.6	36.6	36.6	33.5	36.6	39.6	45.7	54.9	54.9
12.5°	36.6	36.6	36.6	36.6	33.5	36.6	42.7	48.8	57.9	61.0
15°	36.6	36.6	36.6	33.5	33.5	36.6	42.7	51.8	61.0	67.0
17.5°	33.5	36.6	36.6	33.5	33.5	36.6	42.7	51.8	67.0	76.2
20°	30.5	33.5	36.6	33.5	33.5	33.5	42.7	51.8	70.1	82.3
22.5°	27.4	30.5	33.5	33.5	30.5	33.5	42.7	54.9	76.2	91.4
25°	24.4	27.4	27.4	30.5	30.5	33.5	42.7	54.9	79.2	103.6
27.5°	18.3	21.3	24.4	27.4	27.4	33.5	42.7	57.9	85.3	128.0
30°	15.2	18.3	21.3	24.4	27.4	33.5	42.7	57.9	91.4	161.5
32.5°	15.2	18.3	21.3	24.4	27.4	30.5	42.7	61.0	100.6	201.1
35°	12.2	15.2	18.3	24.4	24.4	30.5	42.7	61.0	109.7	262.1
37.5°	12.2	15.2	18.3	24.4	24.4	30.5	42.7	61.0	134.1	292.6
40°	9.1	12.2	15.2	24.4	24.4	30.5	45.7	64.0	137.1	295.6
42.5°	9.1	12.2	15.2	21.3	24.4	30.5	45.7	64.0	128.0	304.8
45°	9.1	12.2	15.2	24.4	27.4	33.5	45.7	67.0	124.9	347.4
47.5°	9.1	12.2	15.2	24.4	30.5	33.5	45.7	67.0	128.0	496.8
50°	9.1	12.2	15.2	24.4	33.5	33.5	45.7	67.0	140.2	798.5
52.5°	6.1	9.1	12.2	21.3	27.4	36.6	48.8	64.0	149.3	1066.6
55°	6.1	6.1	9.1	18.3	24.4	39.6	51.8	64.0	173.7	1133.7
57.5°	6.1	6.1	9.1	15.2	21.3	42.7	54.9	64.0	201.1	1100.2
59°	6.1	6.1	6.1	15.2	18.3	42.7	54.9	67.0	204.2	1042.3
60°	6.1	6.1	6.1	12.2	18.3	42.7	57.9	70.1	207.2	975.2
62.5°	3.0	3.0	3.0	12.2	15.2	42.7	64.0	85.3	213.3	752.7
65°	6.1	6.1	3.0	9.1	15.2	36.6	73.1	91.4	216.4	585.1
67.5°	6.1	6.1	6.1	12.2	15.2	36.6	76.2	94.5	216.4	463.2
70°	6.1	6.1	6.1	12.2	18.3	36.6	76.2	97.5	213.3	377.9
72.5°	6.1	6.1	6.1	12.2	18.3	33.5	70.1	100.6	204.2	320.0
75°	6.1	6.1	6.1	9.1	15.2	30.5	67.0	109.7	185.9	271.2
77.5°	6.1	6.1	6.1	6.1	12.2	24.4	61.0	121.9	164.6	219.4
80°	9.1	6.1	6.1	6.1	9.1	21.3	57.9	118.9	137.1	143.2
82.5°	9.1	6.1	6.1	3.0	6.1	15.2	45.7	91.4	70.1	64.0
85°	6.1	6.1	6.1	3.0	3.0	9.1	21.3	27.4	21.3	15.2
87.5°	6.1	6.1	6.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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: SP1-2407-184-9

Test Date: 10/10/2024

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

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

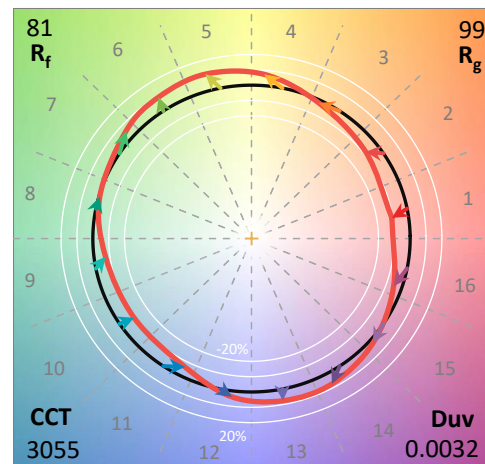
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-184-9
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/15/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: McGraw-Edison
 Catalog Number: **GSS-SB1A-830-U-5WQ**
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 3000K CCT 26 LEDS

Spectral Parameters

CCT (K): 3055
 CIE u' : 0.2475
 CIE v' : 0.5247
 Duv: 0.0032
 CIE x: 0.4377
 CIE y: 0.4124
 CIE z: 0.1499
 Peak Wavelength (nm): 604
 Dominant Wavelength (nm): 581
 Purity: 55.16339
 R_f: 81.5
 R_g: 99.2

CRI (Ra): 80.9
 R1: 79.5
 R2: 85.6
 R3: 92.1
 R4: 82.4
 R5: 78.9
 R6: 81.7
 R7: 85.1
 R8: 61.9
 R9: 6.8
 R10: 67.1
 R11: 82.5
 R12: 63.4
 R13: 80.2
 R14: 95.1
 R15: 71.7



Test Conditions

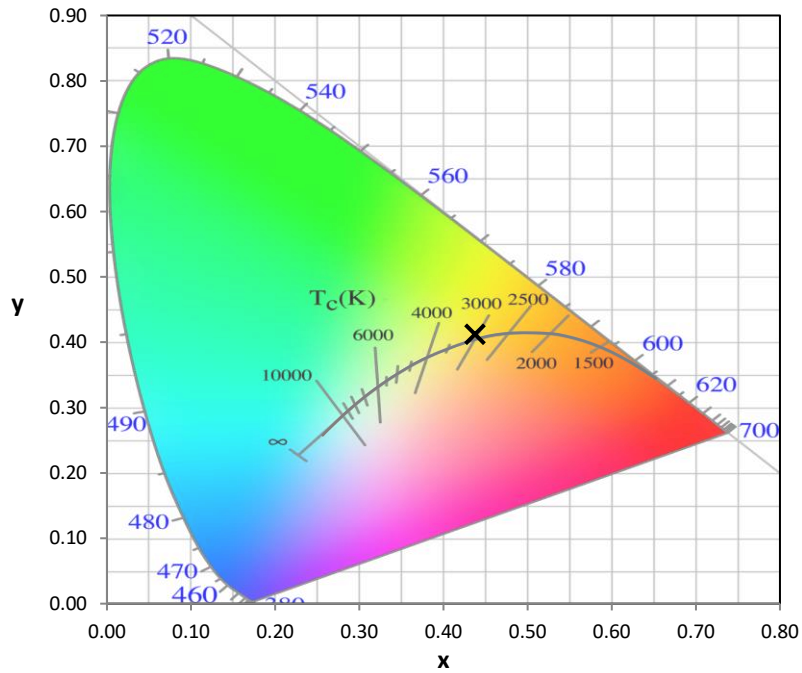
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-9

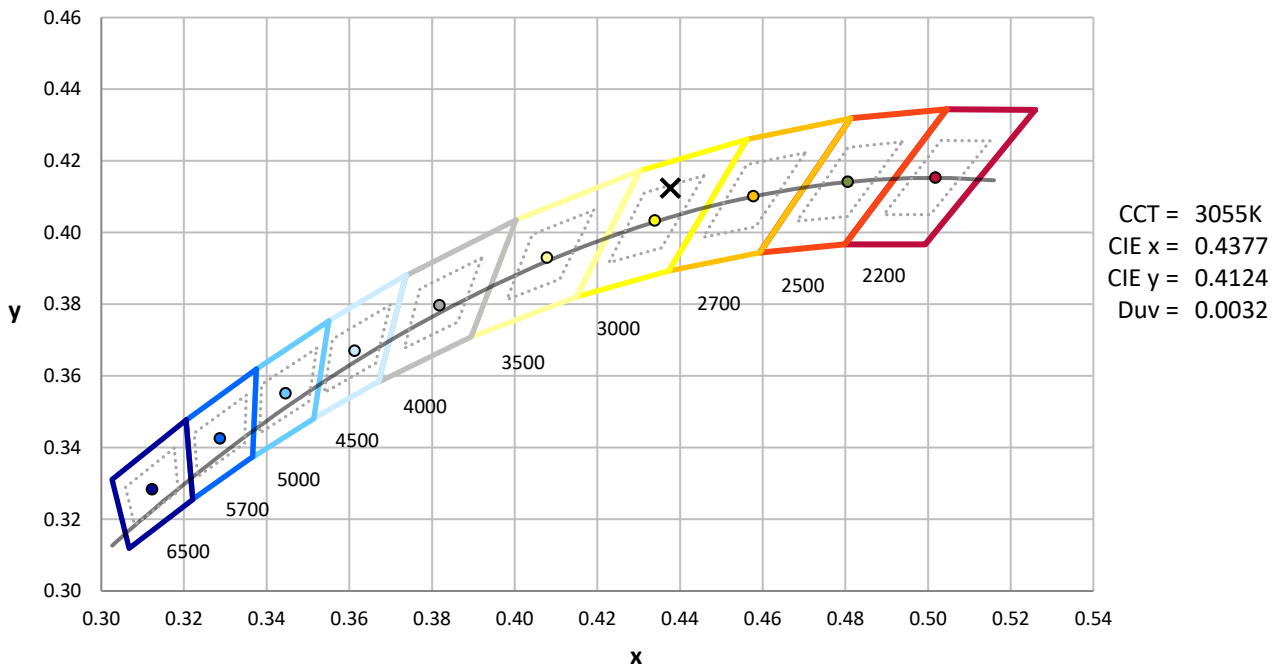
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



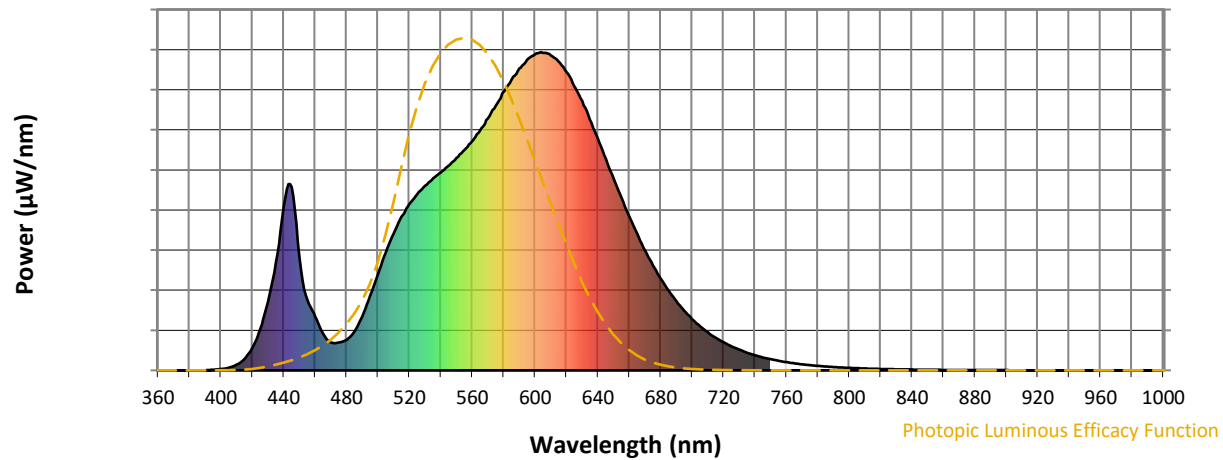
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-9

Photopic Flux vs. Wavelength

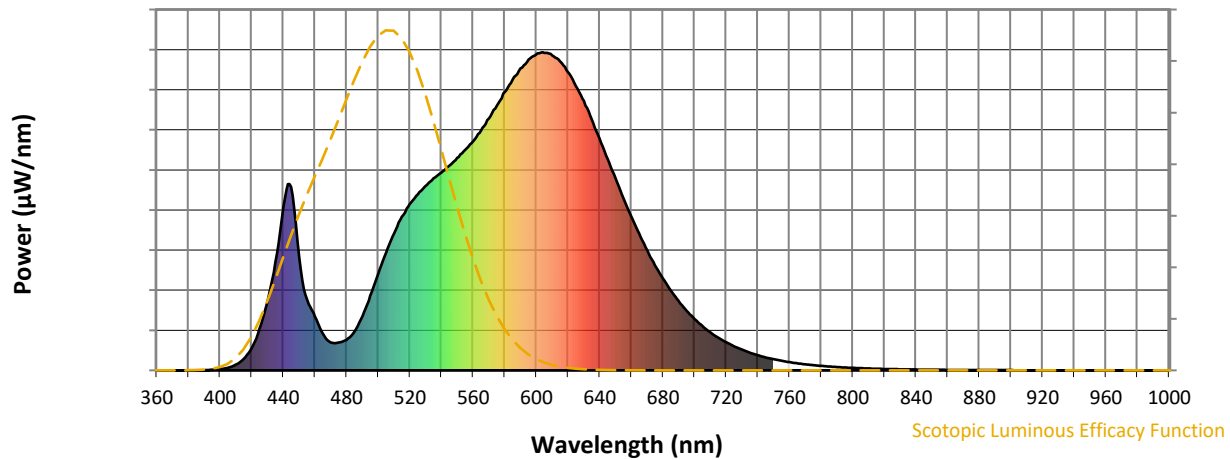


Photopic Lumens: NR

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	170	NR	620	938	NR	750	35	NR	880	1	NR
365	0	NR	495	234	NR	625	894	NR	755	30	NR	885	1	NR
370	0	NR	500	302	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	371	NR	635	788	NR	765	22	NR	895	1	NR
380	0	NR	510	431	NR	640	728	NR	770	19	NR	900	1	NR
385	0	NR	515	482	NR	645	665	NR	775	16	NR	905	1	NR
390	0	NR	520	523	NR	650	603	NR	780	14	NR	910	0	NR
395	2	NR	525	553	NR	655	542	NR	785	12	NR	915	0	NR
400	4	NR	530	580	NR	660	484	NR	790	11	NR	920	0	NR
405	8	NR	535	603	NR	665	430	NR	795	9	NR	925	0	NR
410	18	NR	540	622	NR	670	377	NR	800	8	NR	930	0	NR
415	36	NR	545	644	NR	675	330	NR	805	7	NR	935	0	NR
420	71	NR	550	668	NR	680	289	NR	810	6	NR	940	0	NR
425	131	NR	555	693	NR	685	250	NR	815	5	NR	945	0	NR
430	215	NR	560	720	NR	690	218	NR	820	4	NR	950	0	NR
435	341	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	514	NR	570	792	NR	700	161	NR	830	3	NR	960	0	NR
445	576	NR	575	832	NR	705	139	NR	835	3	NR	965	0	NR
450	358	NR	580	875	NR	710	119	NR	840	3	NR	970	0	NR
455	222	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	170	NR	590	950	NR	720	88	NR	850	2	NR	980	0	NR
465	115	NR	595	977	NR	725	76	NR	855	2	NR	985	0	NR
470	88	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	87	NR	605	997	NR	735	56	NR	865	1	NR	995	0	NR
480	96	NR	610	990	NR	740	47	NR	870	1	NR	1000	0	NR
485	122	NR	615	971	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2407-184-9

Scotopic Flux vs. Wavelength



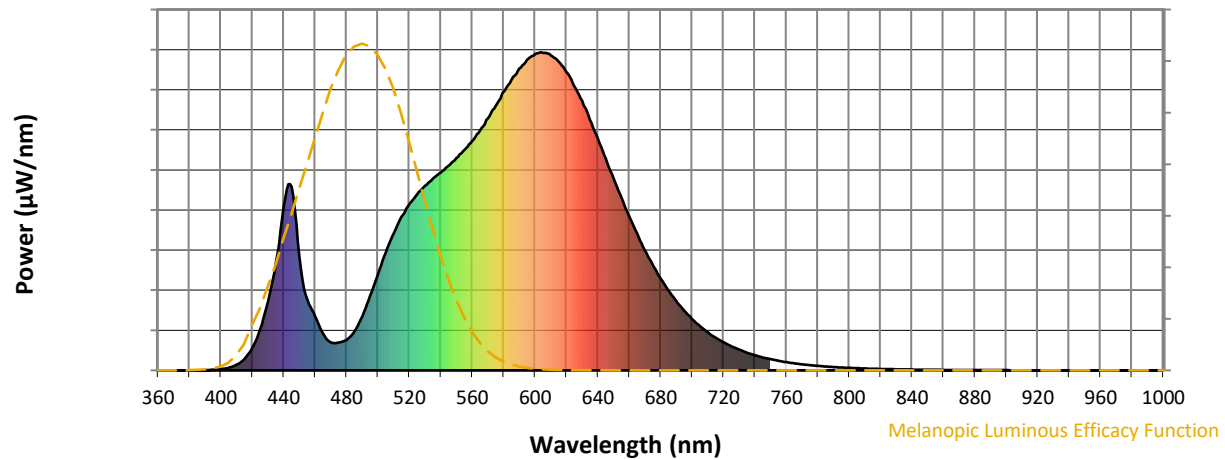
Scotopic Lumens: NR

S/P: 1.28

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	170	NR	620	938	NR	750	35	NR	880	1	NR
365	0	NR	495	234	NR	625	894	NR	755	30	NR	885	1	NR
370	0	NR	500	302	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	371	NR	635	788	NR	765	22	NR	895	1	NR
380	0	NR	510	431	NR	640	728	NR	770	19	NR	900	1	NR
385	0	NR	515	482	NR	645	665	NR	775	16	NR	905	1	NR
390	0	NR	520	523	NR	650	603	NR	780	14	NR	910	0	NR
395	2	NR	525	553	NR	655	542	NR	785	12	NR	915	0	NR
400	4	NR	530	580	NR	660	484	NR	790	11	NR	920	0	NR
405	8	NR	535	603	NR	665	430	NR	795	9	NR	925	0	NR
410	18	NR	540	622	NR	670	377	NR	800	8	NR	930	0	NR
415	36	NR	545	644	NR	675	330	NR	805	7	NR	935	0	NR
420	71	NR	550	668	NR	680	289	NR	810	6	NR	940	0	NR
425	131	NR	555	693	NR	685	250	NR	815	5	NR	945	0	NR
430	215	NR	560	720	NR	690	218	NR	820	4	NR	950	0	NR
435	341	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	514	NR	570	792	NR	700	161	NR	830	3	NR	960	0	NR
445	576	NR	575	832	NR	705	139	NR	835	3	NR	965	0	NR
450	358	NR	580	875	NR	710	119	NR	840	3	NR	970	0	NR
455	222	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	170	NR	590	950	NR	720	88	NR	850	2	NR	980	0	NR
465	115	NR	595	977	NR	725	76	NR	855	2	NR	985	0	NR
470	88	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	87	NR	605	997	NR	735	56	NR	865	1	NR	995	0	NR
480	96	NR	610	990	NR	740	47	NR	870	1	NR	1000	0	NR
485	122	NR	615	971	NR	745	41	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.33

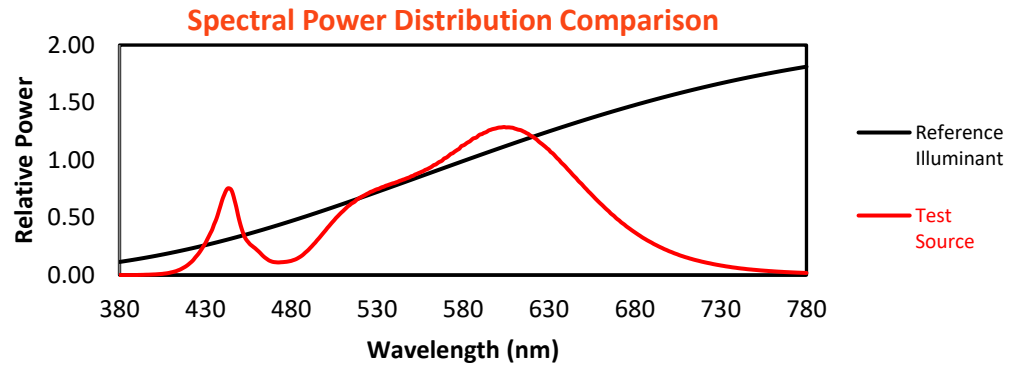
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	170	NR	620	938	NR	750	35	NR	880	1	NR
365	0	NR	495	234	NR	625	894	NR	755	30	NR	885	1	NR
370	0	NR	500	302	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	371	NR	635	788	NR	765	22	NR	895	1	NR
380	0	NR	510	431	NR	640	728	NR	770	19	NR	900	1	NR
385	0	NR	515	482	NR	645	665	NR	775	16	NR	905	1	NR
390	0	NR	520	523	NR	650	603	NR	780	14	NR	910	0	NR
395	2	NR	525	553	NR	655	542	NR	785	12	NR	915	0	NR
400	4	NR	530	580	NR	660	484	NR	790	11	NR	920	0	NR
405	8	NR	535	603	NR	665	430	NR	795	9	NR	925	0	NR
410	18	NR	540	622	NR	670	377	NR	800	8	NR	930	0	NR
415	36	NR	545	644	NR	675	330	NR	805	7	NR	935	0	NR
420	71	NR	550	668	NR	680	289	NR	810	6	NR	940	0	NR
425	131	NR	555	693	NR	685	250	NR	815	5	NR	945	0	NR
430	215	NR	560	720	NR	690	218	NR	820	4	NR	950	0	NR
435	341	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	514	NR	570	792	NR	700	161	NR	830	3	NR	960	0	NR
445	576	NR	575	832	NR	705	139	NR	835	3	NR	965	0	NR
450	358	NR	580	875	NR	710	119	NR	840	3	NR	970	0	NR
455	222	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	170	NR	590	950	NR	720	88	NR	850	2	NR	980	0	NR
465	115	NR	595	977	NR	725	76	NR	855	2	NR	985	0	NR
470	88	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	87	NR	605	997	NR	735	56	NR	865	1	NR	995	0	NR
480	96	NR	610	990	NR	740	47	NR	870	1	NR	1000	0	NR
485	122	NR	615	971	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2407-184-9

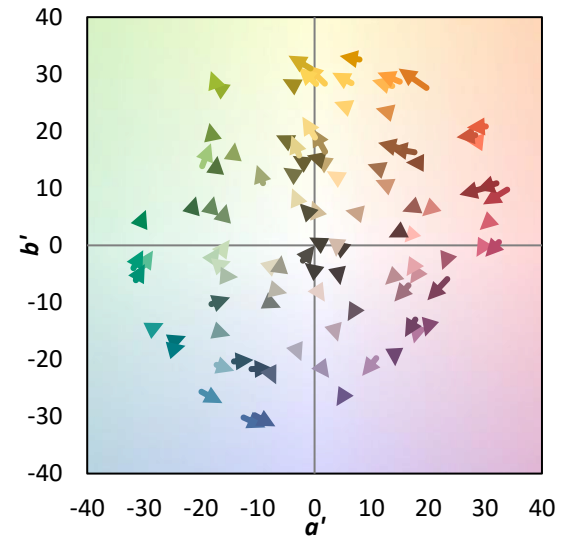
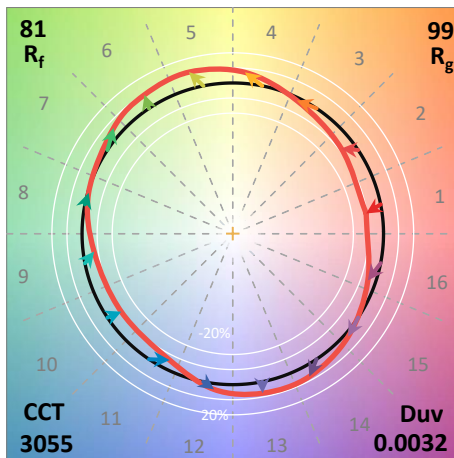
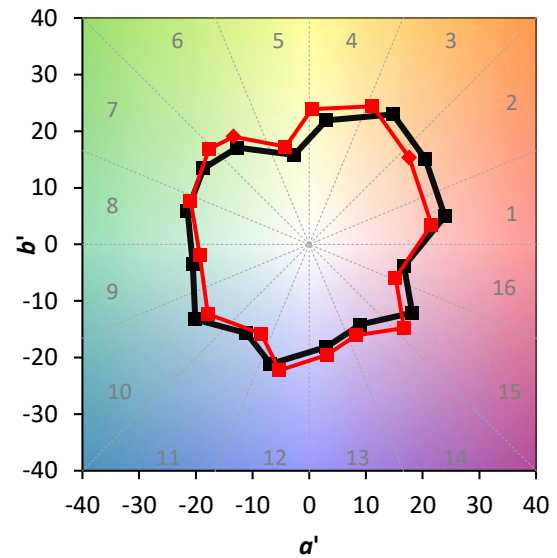
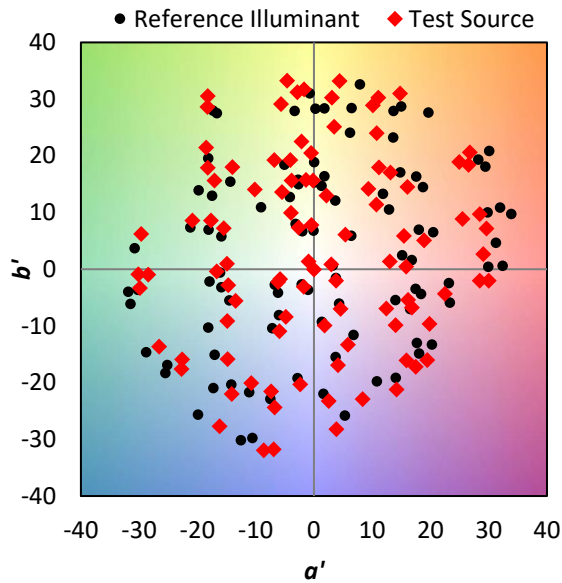
TM-30-18

Summary

$R_f = 81.5$
 $R_g = 99.2$
 $CIE\ R_a = 80.9$
 $R_g = 6.8$

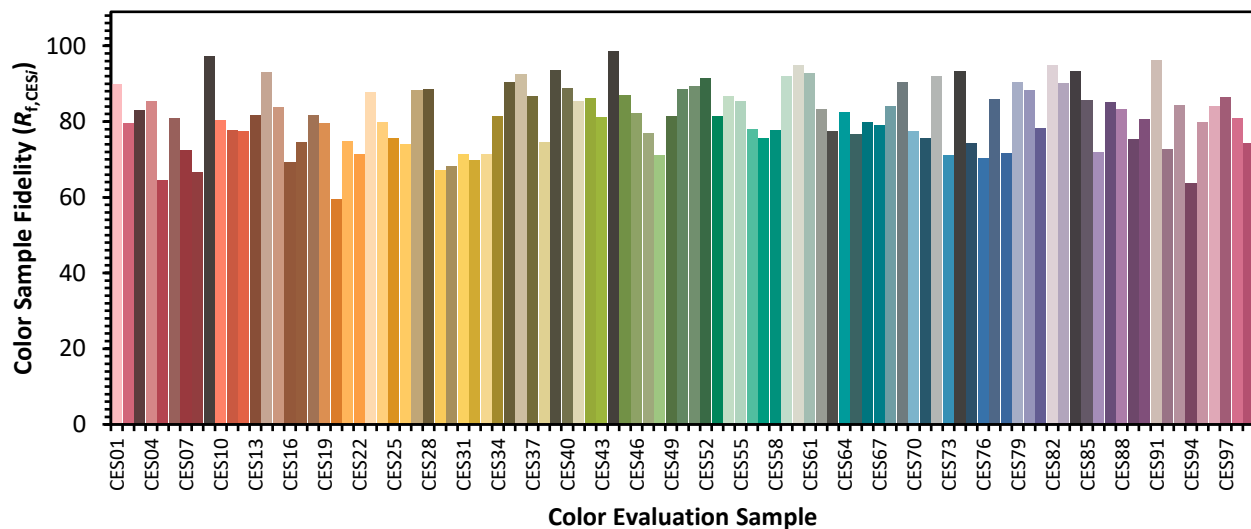


Color Vector Graphics

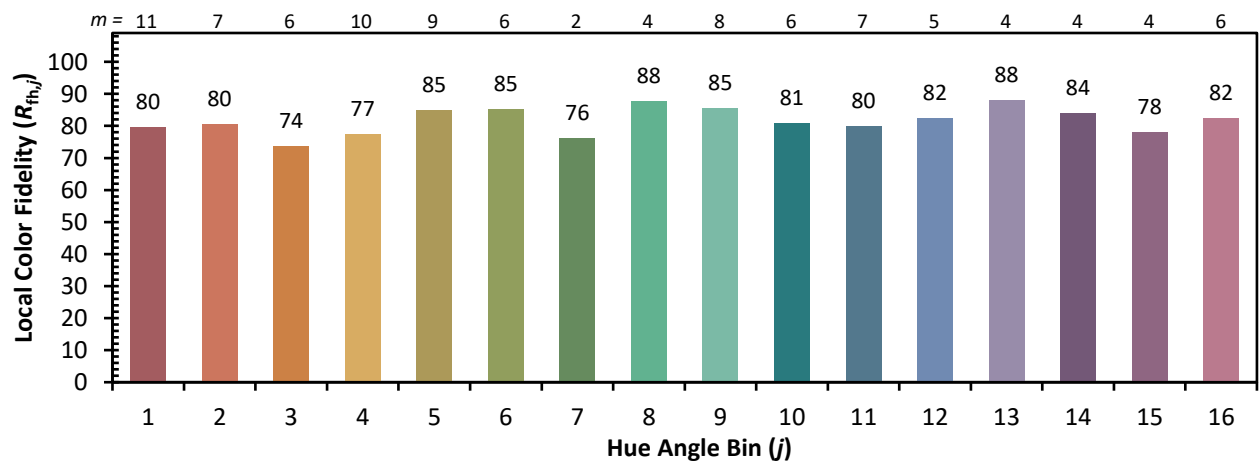
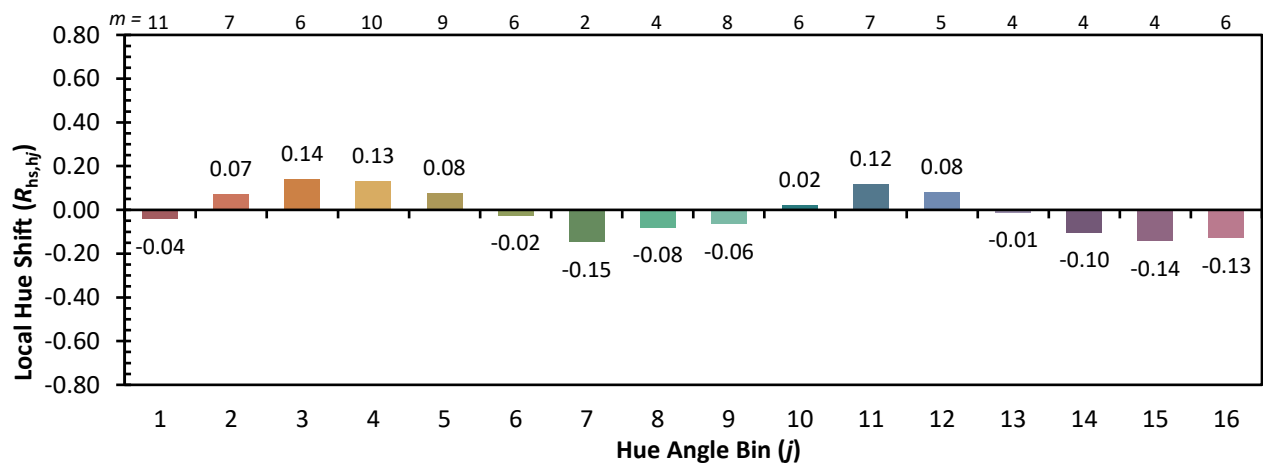
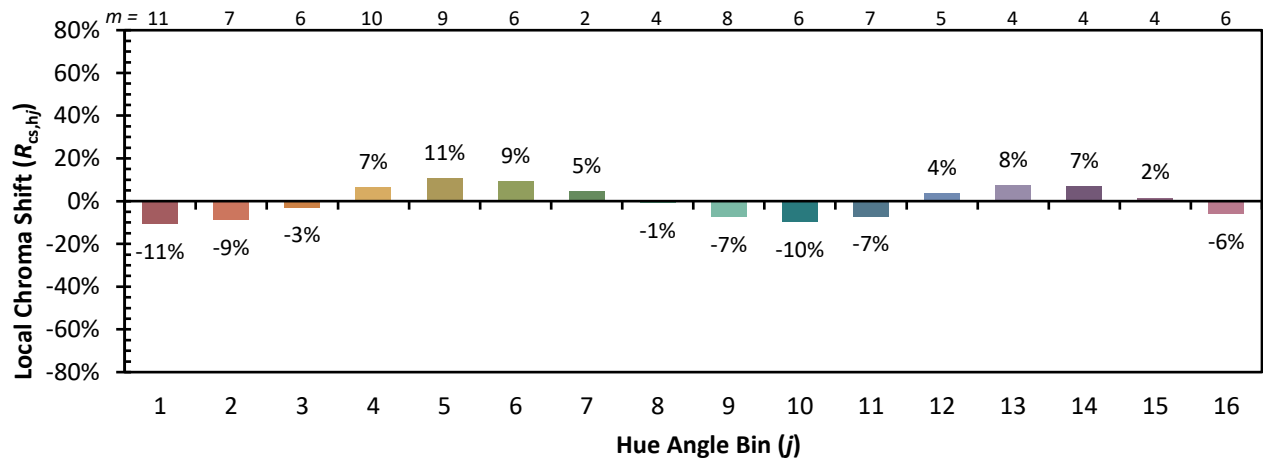


Individual Sample Fidelity Index ($R_{f,i}$)

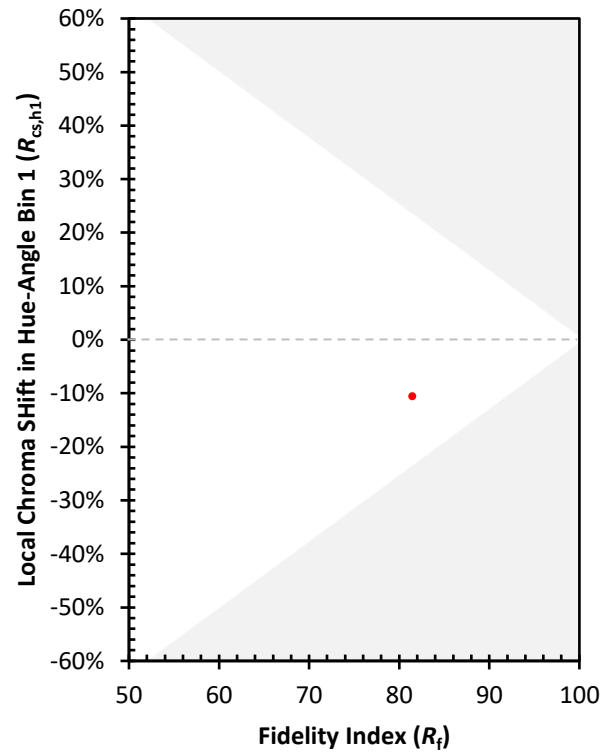
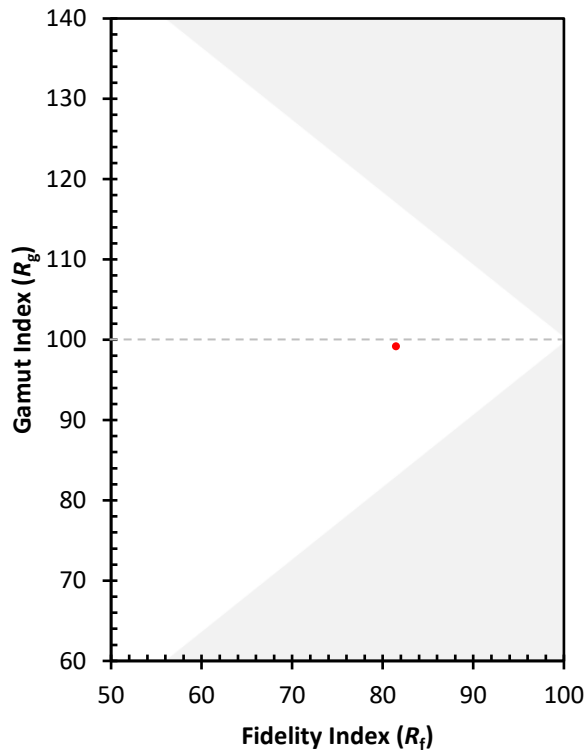
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 91	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 95
CES08 = 41	CES33 = 71	CES58 = 78	CES83 = 90
CES09 = 29	CES34 = 82	CES59 = 92	CES84 = 93
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 = 90	CES94 = 64
CES20 = 66	CES45 = 87	CES70 = 77	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)