

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: P1068061

Luminaire Tested: **NAV-SA1A-830-U-LBC**

Issue Date: 08/07/2025

Test Information

Test Method: LM-79-08
Report Number: P1068061
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/07/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SA1A-830-U-LBC
Description: Navion AREA AND ROADWAY LUMINAIRE 615mA 1xLight Square PACKAGE
80CRI 3000K FIXTURE w/ LEFT CORNER BACKLIGHT CONTROL
Light Source: (14) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2534.2 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B0 - U0 - G1

Input Watts (W): 29.2
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



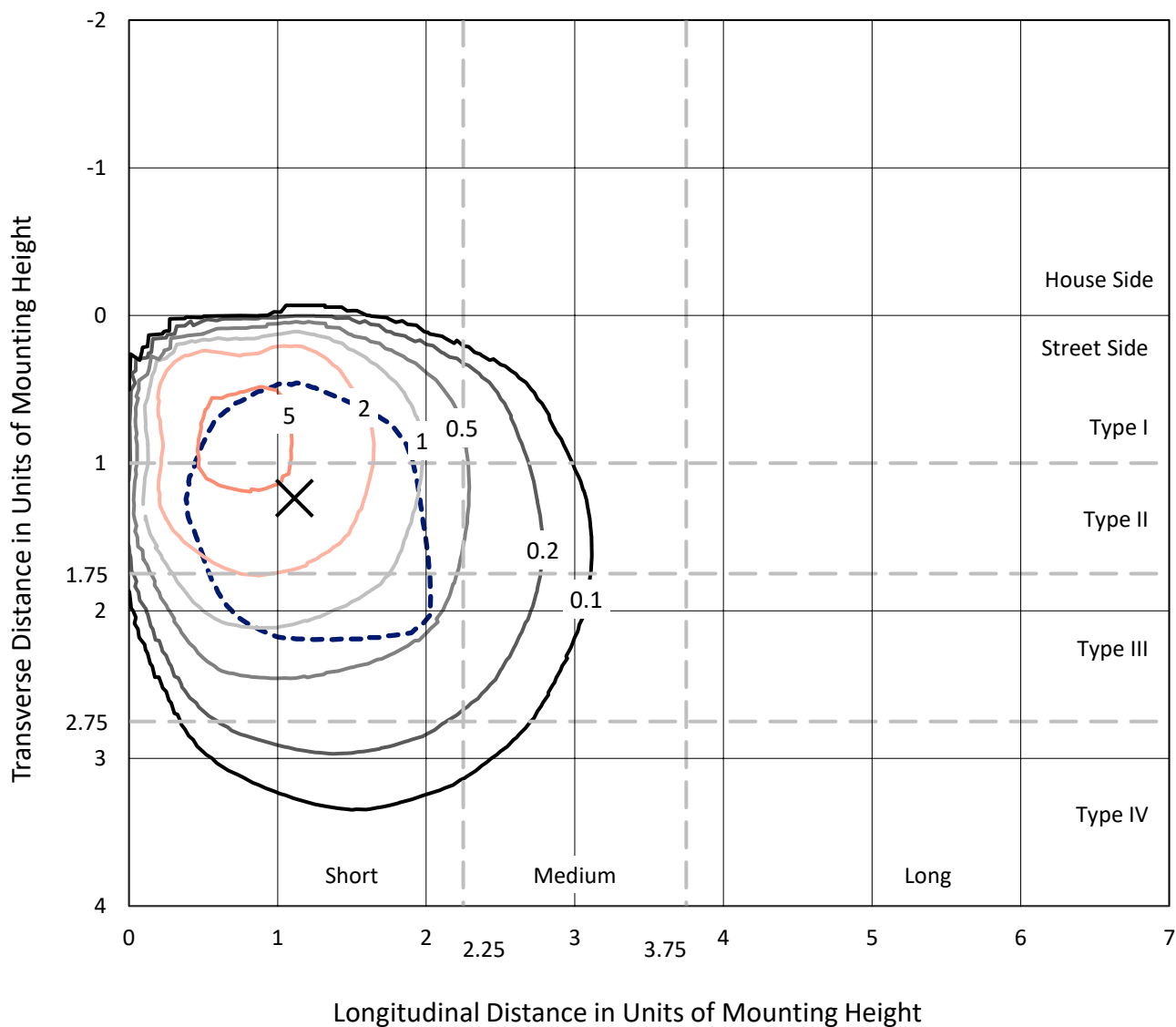
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

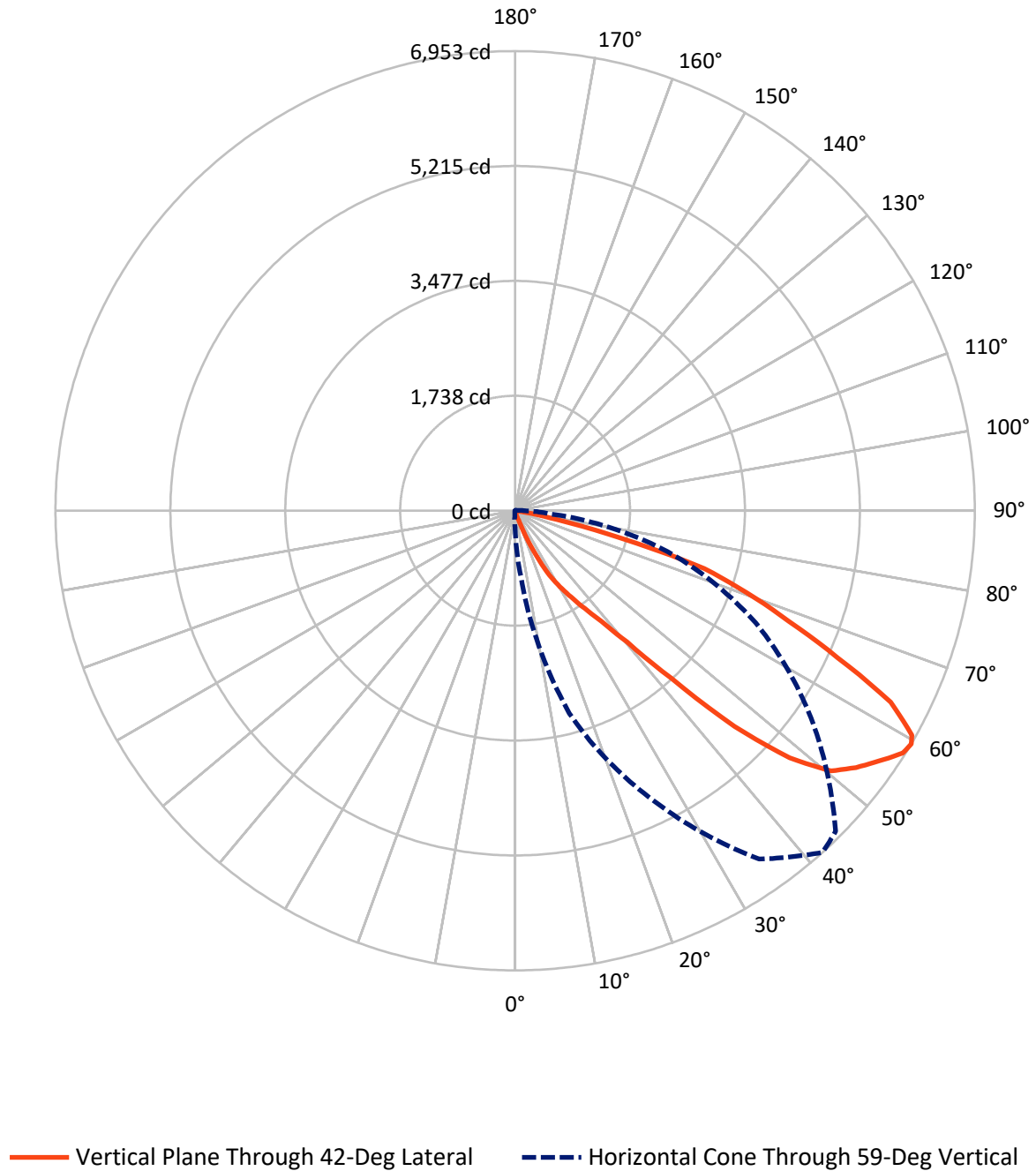


Based on 15 foot mounting height. Maximum calculated value = 7.5 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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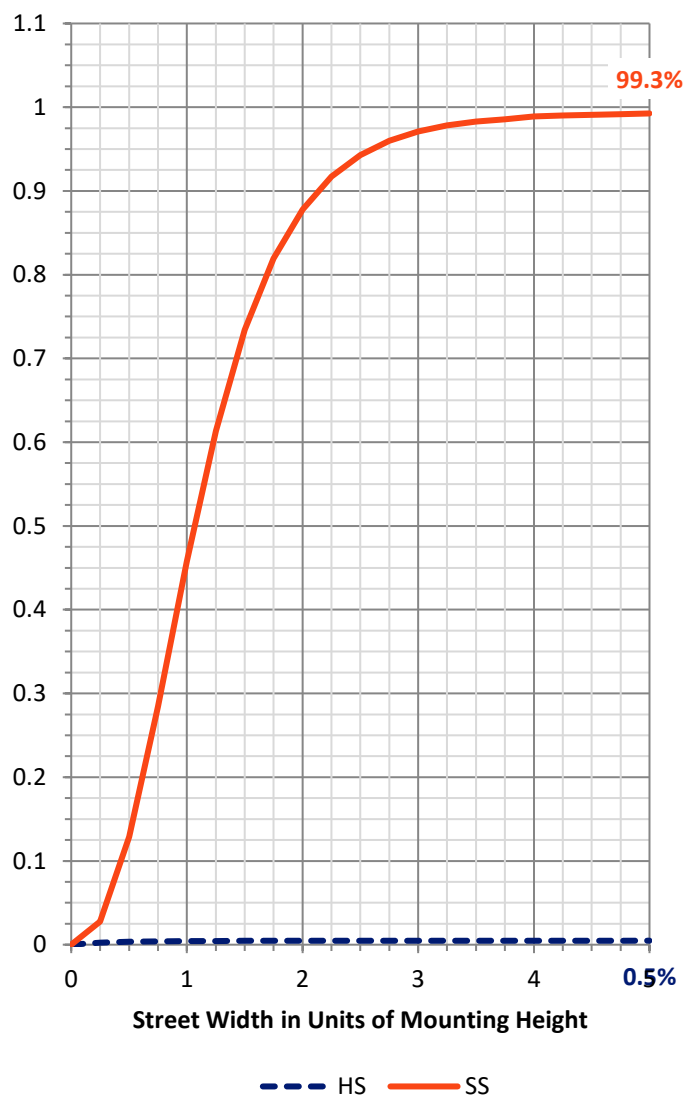
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	12.2	0.0	12.2
	% Fixture	0.5	0.0	0.5
Street Side	Lumens	2522.0	0.0	2522.0
	% Fixture	99.5	0.0	99.5
Total	Lumens	2534.2	0.0	2534.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.7	0.0
10°-20°	3.7	0.1
20°-30°	47.3	1.9
30°-40°	159.4	6.3
40°-50°	481.4	19.0
50°-60°	849.7	33.5
60°-70°	748.2	29.5
70°-80°	238.2	9.4
80°-90°	5.7	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°	2534.2	100.0
0°-180°	2534.2	100.0



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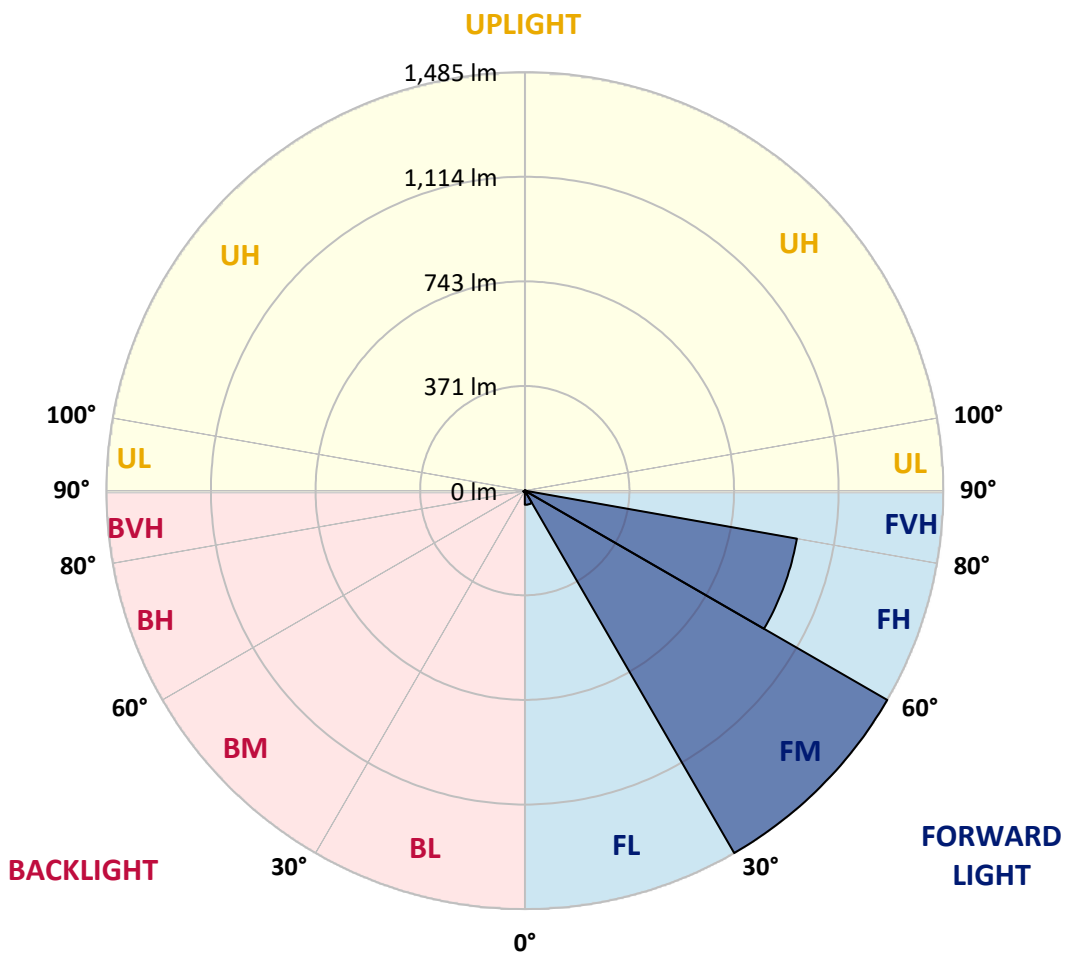
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	50.3	2.0			
FM	(30°-60°)	1485.5	58.6			
FH	(60°-80°)	980.8	38.7			G1/1800
FVH	(80°-90°)	5.4	0.2			G0/10
BL	(0°-30°)	1.4	0.1	B0/110		
BM	(30°-60°)	5.0	0.2	B0/220		
BH	(60°-80°)	5.6	0.2	B0/110		G0/110
BVH	(80°-90°)	0.3	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-G1

Type III Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	42°	45°	55°	65°	75°	85°
0°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
2.5°	11.1	11.1	10.3	9.5	8.7	7.9	7.9	7.9	7.2	7.2	6.4
5°	12.7	12.7	11.9	11.1	11.1	10.3	10.3	9.5	8.7	8.7	7.9
7.5°	13.5	13.5	13.5	13.5	12.7	12.7	12.7	11.9	11.1	10.3	9.5
10°	14.3	15.1	15.9	15.9	15.9	15.9	15.9	15.1	13.5	12.7	11.1
12.5°	15.9	16.7	18.3	19.9	19.9	20.7	19.9	19.1	17.5	15.1	12.7
15°	17.5	19.1	21.5	24.6	27.8	28.6	28.6	26.2	23.0	18.3	15.1
17.5°	19.9	22.2	28.6	38.9	50.1	58.8	58.8	52.4	36.6	23.8	17.5
20°	21.5	26.2	46.1	93.8	143.0	179.6	172.4	152.6	81.8	37.3	19.1
22.5°	23.8	33.4	97.7	246.3	381.4	448.1	432.2	328.2	183.5	66.7	23.0
25°	27.0	48.5	193.9	461.6	708.8	781.1	770.7	612.6	334.5	112.0	29.4
27.5°	33.4	71.5	310.7	700.0	1045.6	1107.6	1103.7	897.1	534.7	180.4	38.1
30°	42.1	104.1	460.8	951.1	1268.9	1331.7	1311.8	1105.2	721.5	275.7	49.3
32.5°	52.4	145.4	596.7	1136.2	1474.7	1557.3	1533.5	1286.4	871.6	356.8	73.1
35°	68.3	185.9	731.0	1299.9	1712.3	1817.2	1777.4	1473.1	1001.2	448.1	88.2
37.5°	76.3	209.8	854.2	1477.9	1979.3	2122.3	2092.1	1709.1	1133.1	564.9	108.1
40°	77.1	238.4	982.1	1709.9	2356.7	2611.7	2557.7	2114.3	1378.6	715.1	139.0
42.5°	79.5	281.3	1148.1	2105.6	3098.0	3464.3	3403.1	2859.6	1935.6	1016.2	197.1
45°	90.6	362.3	1486.6	2845.3	4115.9	4653.0	4582.3	3898.1	2713.4	1582.8	336.1
47.5°	129.5	545.1	2080.2	3643.9	5156.7	5585.0	5567.5	4716.5	3418.2	2163.6	569.7
50°	208.2	836.7	2755.6	4315.3	5819.4	6187.3	6143.6	5058.2	3820.3	2560.1	730.2
52.5°	278.1	1115.6	3179.9	4562.4	6017.2	6455.8	6402.6	5183.0	3925.9	2676.9	774.7
55°	295.6	1216.5	3306.2	4638.7	6148.3	6683.1	6606.0	5266.4	3939.5	2593.5	700.8
57.5°	286.8	1121.1	3224.3	4713.4	6331.1	6916.7	6814.2	5429.3	3984.7	2452.0	583.2
59°	271.7	1003.5	3173.5	4773.0	6432.0	6953.2	6857.1	5465.0	4014.9	2387.7	511.7
60°	254.3	924.1	3133.8	4811.9	6425.7	6896.0	6796.7	5448.3	4026.9	2332.1	477.5
62.5°	196.3	737.4	3076.6	4784.1	6024.4	6374.0	6317.6	5039.9	3852.1	2154.1	376.6
65°	152.6	564.1	2866.8	4266.8	5126.5	5361.7	5344.2	4267.6	3241.8	1856.9	271.7
67.5°	120.8	411.6	2424.2	3455.6	4124.6	4459.1	4446.4	3464.3	2460.8	1419.1	195.5
70°	98.5	293.2	1662.2	2605.4	3299.0	3720.2	3701.9	2788.1	1823.5	900.2	142.2
72.5°	83.4	187.5	1008.3	1964.2	2753.2	2993.9	2940.7	2249.4	1326.1	490.2	112.8
75°	70.7	115.2	499.8	1224.4	1640.0	1638.4	1585.2	1191.1	711.9	240.0	89.8
77.5°	57.2	81.0	196.3	336.1	517.3	640.4	630.1	421.9	212.9	69.9	55.6
80°	37.3	38.1	52.4	92.2	142.2	157.3	178.8	128.7	62.0	33.4	23.0
82.5°	16.7	18.3	23.8	30.2	30.2	27.8	24.6	18.3	13.5	11.1	5.6
85°	4.0	5.6	4.0	4.8	4.0	3.2	3.2	1.6	0.0	0.0	0.0
87.5°	0.8	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°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
2.5°	6.4	6.4	6.4	5.6	5.6	5.6	4.8	4.8	4.8	4.0	4.0
5°	7.9	7.2	6.4	6.4	5.6	5.6	4.8	4.0	4.0	4.0	3.2
7.5°	8.7	7.9	7.2	6.4	5.6	4.8	4.8	4.0	3.2	3.2	3.2
10°	10.3	9.5	7.9	6.4	5.6	4.8	4.0	4.0	3.2	2.4	2.4
12.5°	11.9	10.3	8.7	7.2	5.6	4.8	4.0	4.0	3.2	2.4	1.6
15°	13.5	11.9	9.5	7.2	5.6	4.8	4.0	4.0	2.4	1.6	0.8
17.5°	15.1	12.7	9.5	7.9	5.6	4.8	4.0	3.2	1.6	0.8	0.0
20°	15.9	13.5	10.3	7.9	5.6	4.8	4.0	2.4	0.8	0.0	0.0
22.5°	17.5	15.1	11.1	7.9	5.6	4.0	2.4	0.8	0.0	0.0	0.0
25°	20.7	15.9	11.1	7.9	5.6	4.0	1.6	0.0	0.0	0.0	0.0
27.5°	23.0	17.5	11.1	7.9	5.6	3.2	0.8	0.0	0.0	0.0	0.0
30°	27.0	19.1	11.9	7.9	5.6	2.4	0.8	0.0	0.0	0.0	0.0
32.5°	33.4	20.7	11.9	7.9	4.8	2.4	0.0	0.0	0.0	0.0	0.0
35°	40.5	23.8	11.9	7.9	4.8	2.4	0.0	0.0	0.0	0.0	0.0
37.5°	41.3	25.4	11.9	7.9	4.8	1.6	0.0	0.0	0.0	0.0	0.0
40°	42.9	23.8	12.7	7.9	4.8	1.6	0.0	0.0	0.0	0.0	0.0
42.5°	49.3	22.2	13.5	7.9	4.8	1.6	0.0	0.0	0.0	0.0	0.0
45°	73.1	23.0	13.5	8.7	4.8	2.4	0.0	0.0	0.0	0.0	0.0
47.5°	127.1	23.8	12.7	8.7	4.8	2.4	0.0	0.0	0.0	0.0	0.0
50°	162.9	27.8	12.7	9.5	5.6	1.6	0.0	0.0	0.0	0.0	0.0
52.5°	173.2	32.6	12.7	10.3	7.2	0.8	0.0	0.0	0.0	0.0	0.0
55°	168.4	38.1	13.5	11.1	8.7	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	155.7	41.3	14.3	11.9	9.5	0.0	0.0	0.0	0.0	0.0	0.0
59°	142.2	43.7	16.7	12.7	9.5	0.0	0.0	0.0	0.0	0.0	0.0
60°	131.1	46.1	17.5	13.5	9.5	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	105.7	49.3	19.1	15.9	7.9	0.0	0.0	0.0	0.0	0.0	0.0
65°	92.2	51.6	19.9	17.5	7.2	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	84.2	53.2	21.5	18.3	6.4	0.0	0.0	0.0	0.0	0.0	0.0
70°	77.9	52.4	23.0	17.5	5.6	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	70.7	50.1	27.8	15.9	4.8	0.0	0.0	0.0	0.0	0.0	0.0
75°	63.6	45.3	30.2	14.3	3.2	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	46.1	38.1	27.8	12.7	1.6	0.0	0.0	0.0	0.0	0.0	0.0
80°	19.9	20.7	19.9	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	4.0	4.8	4.0	2.4	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°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
2.5°	4.0	4.0	4.0	4.0	4.8	4.8	6.4	7.9	9.5	10.3	10.3
5°	3.2	3.2	3.2	3.2	3.2	4.0	4.8	6.4	8.7	9.5	9.5
7.5°	2.4	2.4	2.4	2.4	2.4	2.4	4.0	5.6	7.9	8.7	9.5
10°	2.4	1.6	1.6	0.8	0.8	1.6	2.4	4.8	7.2	7.9	8.7
12.5°	1.6	0.8	0.8	0.0	0.0	0.8	1.6	4.0	6.4	7.2	7.9
15°	0.8	0.0	0.0	0.0	0.0	0.0	0.8	3.2	5.6	6.4	7.9
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	4.8	6.4	7.2
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	4.0	5.6	6.4
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	3.2	4.8	5.6
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	3.2	4.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.4	3.2
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.4	3.2
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	2.4
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	2.4
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	1.6
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
59°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
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°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
2.5°	11.1	11.1	10.3	9.5	9.5	9.5	10.3	11.1	11.1	11.1
5°	10.3	10.3	9.5	9.5	9.5	9.5	10.3	11.9	12.7	12.7
7.5°	10.3	10.3	9.5	9.5	9.5	9.5	10.3	11.9	12.7	13.5
10°	9.5	9.5	9.5	9.5	8.7	9.5	10.3	11.9	14.3	14.3
12.5°	9.5	9.5	9.5	9.5	8.7	9.5	11.1	12.7	15.1	15.9
15°	9.5	9.5	9.5	8.7	8.7	9.5	11.1	13.5	15.9	17.5
17.5°	8.7	9.5	9.5	8.7	8.7	9.5	11.1	13.5	17.5	19.9
20°	7.9	8.7	9.5	8.7	8.7	8.7	11.1	13.5	18.3	21.5
22.5°	7.2	7.9	8.7	8.7	7.9	8.7	11.1	14.3	19.9	23.8
25°	6.4	7.2	7.2	7.9	7.9	8.7	11.1	14.3	20.7	27.0
27.5°	4.8	5.6	6.4	7.2	7.2	8.7	11.1	15.1	22.2	33.4
30°	4.0	4.8	5.6	6.4	7.2	8.7	11.1	15.1	23.8	42.1
32.5°	4.0	4.8	5.6	6.4	7.2	7.9	11.1	15.9	26.2	52.4
35°	3.2	4.0	4.8	6.4	6.4	7.9	11.1	15.9	28.6	68.3
37.5°	3.2	4.0	4.8	6.4	6.4	7.9	11.1	15.9	35.0	76.3
40°	2.4	3.2	4.0	6.4	6.4	7.9	11.9	16.7	35.8	77.1
42.5°	2.4	3.2	4.0	5.6	6.4	7.9	11.9	16.7	33.4	79.5
45°	2.4	3.2	4.0	6.4	7.2	8.7	11.9	17.5	32.6	90.6
47.5°	2.4	3.2	4.0	6.4	7.9	8.7	11.9	17.5	33.4	129.5
50°	2.4	3.2	4.0	6.4	8.7	8.7	11.9	17.5	36.6	208.2
52.5°	1.6	2.4	3.2	5.6	7.2	9.5	12.7	16.7	38.9	278.1
55°	1.6	1.6	2.4	4.8	6.4	10.3	13.5	16.7	45.3	295.6
57.5°	1.6	1.6	2.4	4.0	5.6	11.1	14.3	16.7	52.4	286.8
59°	1.6	1.6	1.6	4.0	4.8	11.1	14.3	17.5	53.2	271.7
60°	1.6	1.6	1.6	3.2	4.8	11.1	15.1	18.3	54.0	254.3
62.5°	0.8	0.8	0.8	3.2	4.0	11.1	16.7	22.2	55.6	196.3
65°	1.6	1.6	0.8	2.4	4.0	9.5	19.1	23.8	56.4	152.6
67.5°	1.6	1.6	1.6	3.2	4.0	9.5	19.9	24.6	56.4	120.8
70°	1.6	1.6	1.6	3.2	4.8	9.5	19.9	25.4	55.6	98.5
72.5°	1.6	1.6	1.6	3.2	4.8	8.7	18.3	26.2	53.2	83.4
75°	1.6	1.6	1.6	2.4	4.0	7.9	17.5	28.6	48.5	70.7
77.5°	1.6	1.6	1.6	1.6	3.2	6.4	15.9	31.8	42.9	57.2
80°	2.4	1.6	1.6	1.6	2.4	5.6	15.1	31.0	35.8	37.3
82.5°	2.4	1.6	1.6	0.8	1.6	4.0	11.9	23.8	18.3	16.7
85°	1.6	1.6	1.6	0.8	0.8	2.4	5.6	7.2	5.6	4.0
87.5°	1.6	1.6	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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

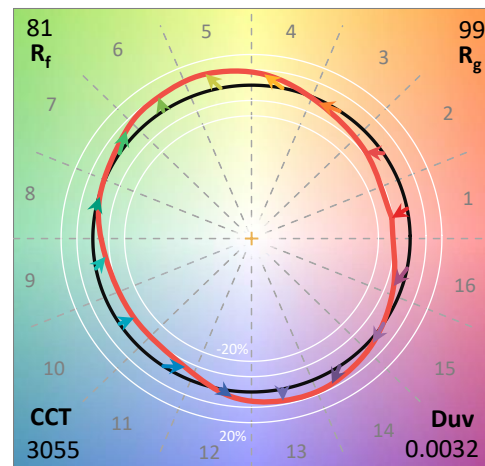
Test Information

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

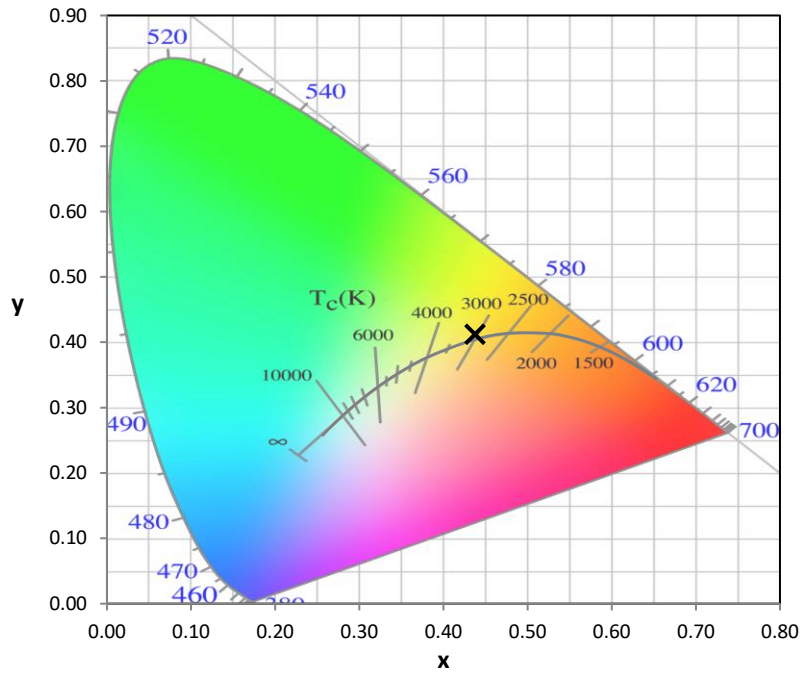
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-9

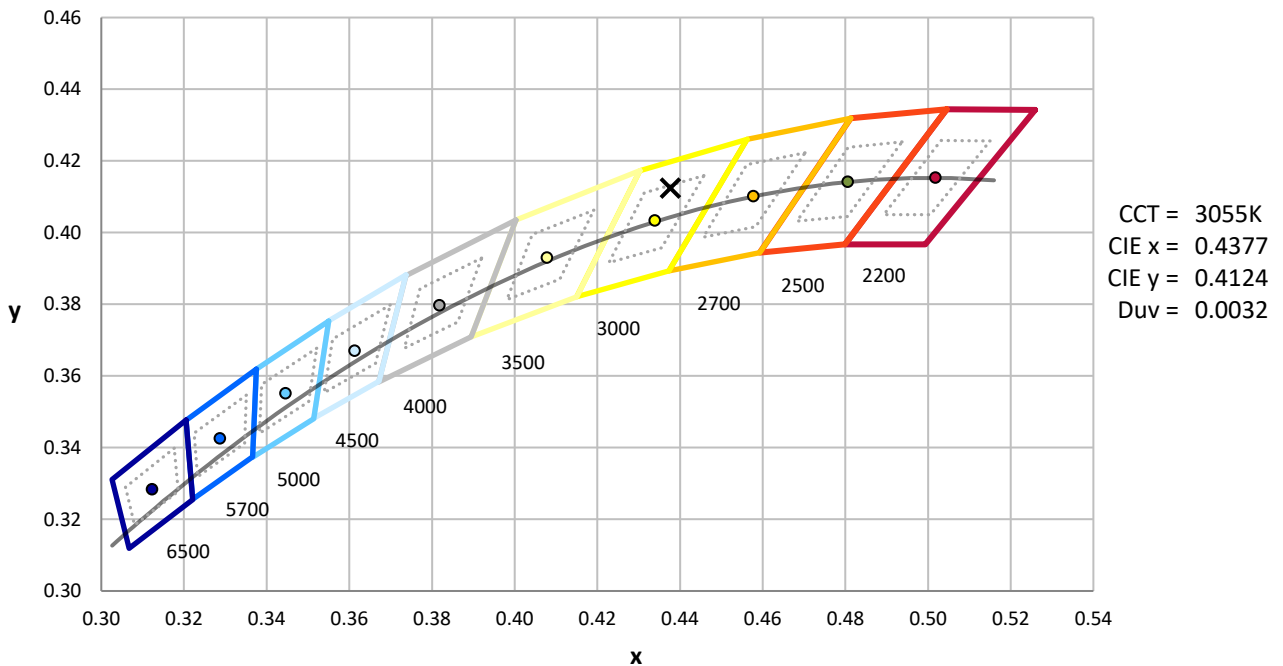
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-184-9

CIE 1931 Chromaticity Diagram



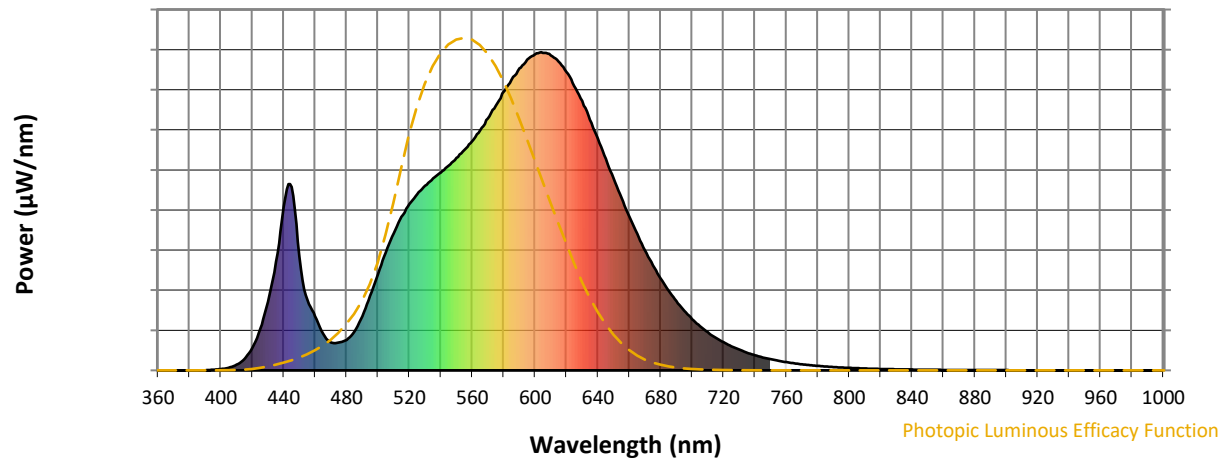
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-9

Photopic Flux vs. Wavelength

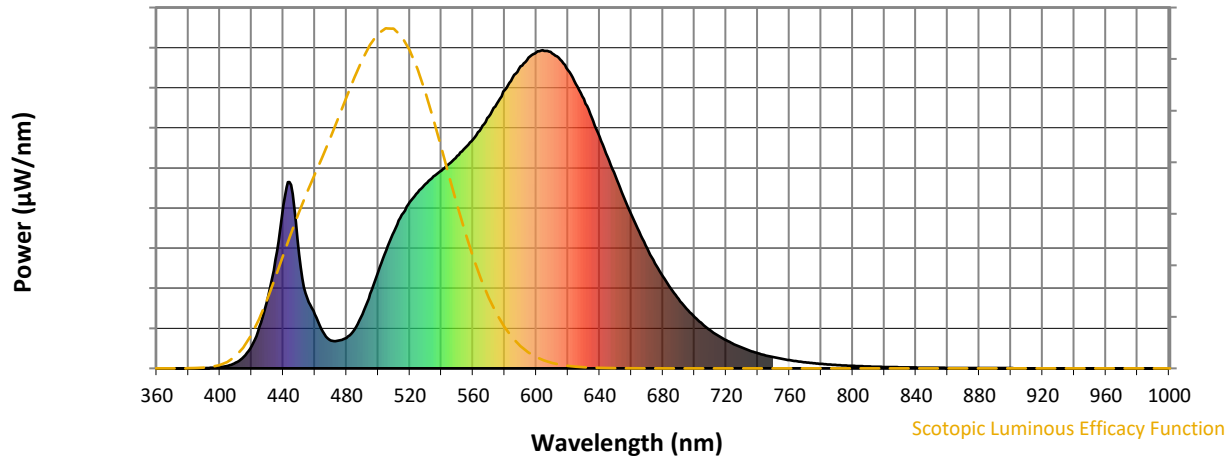


Photopic Lumens: NR

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

Scotopic Flux vs. Wavelength



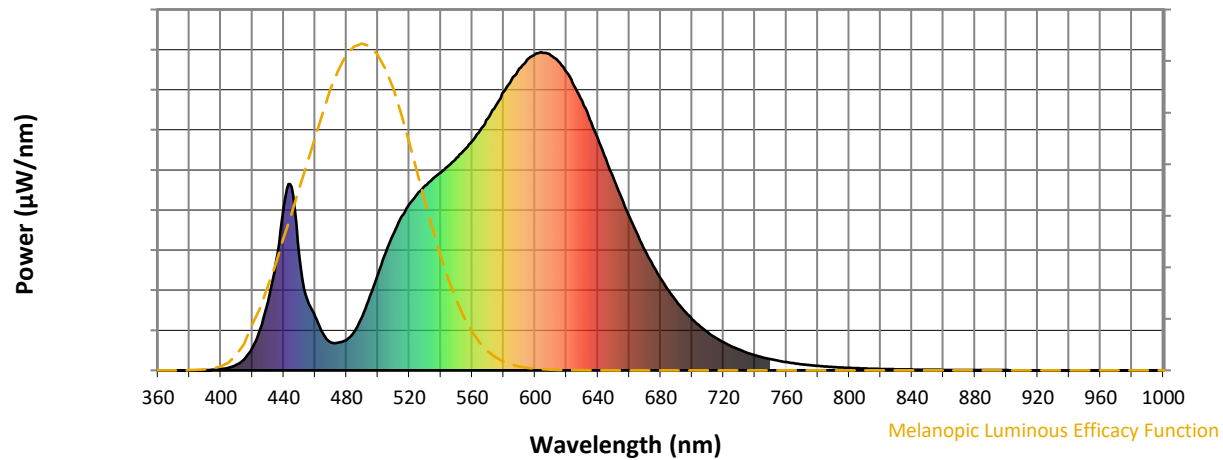
Scotopic Lumens: NR

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

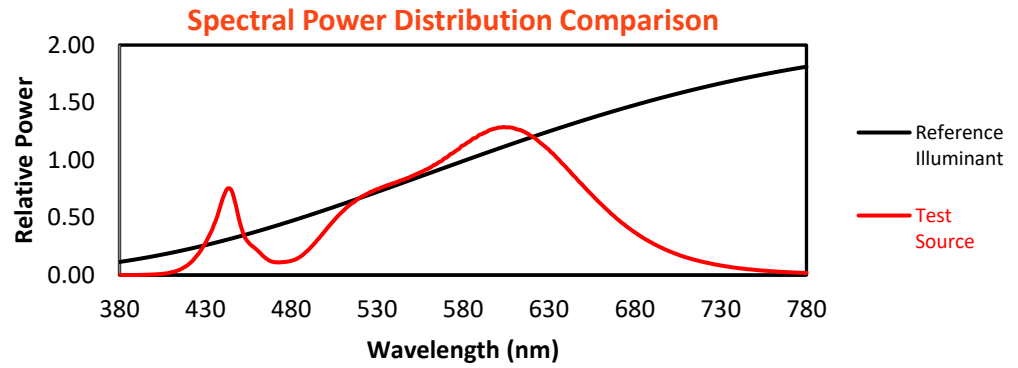
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	170	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

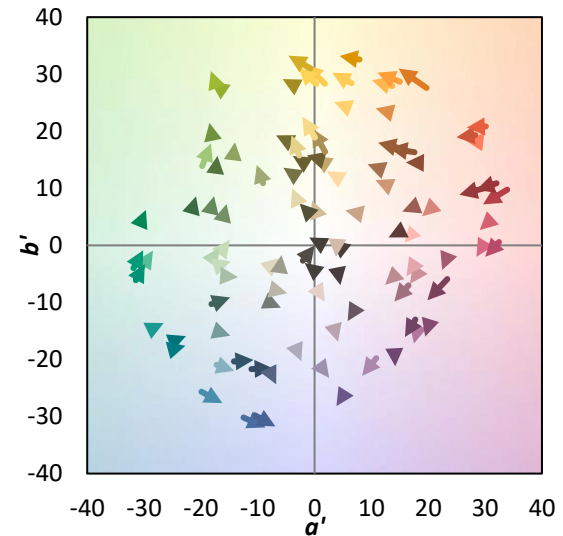
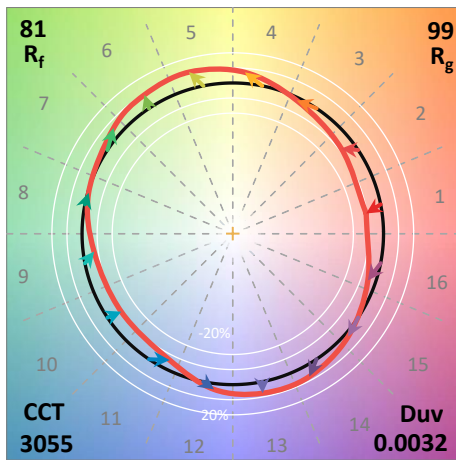
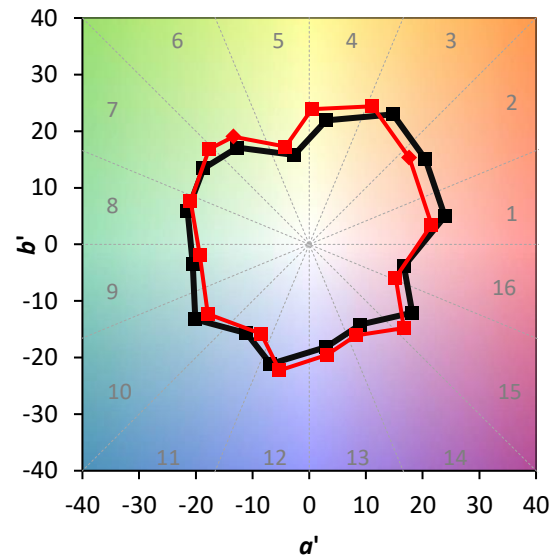
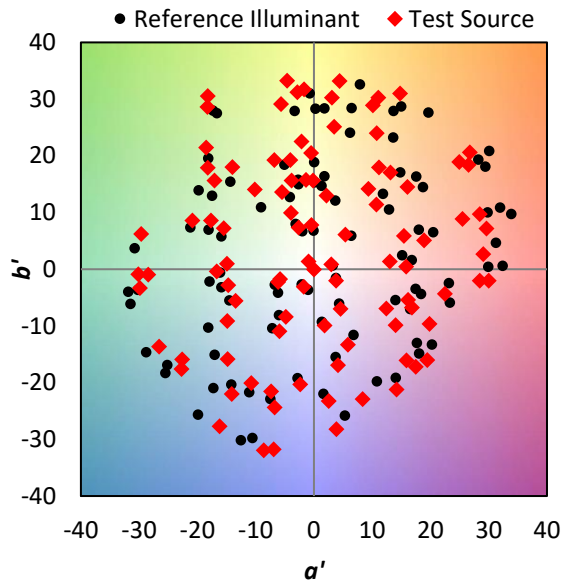
TM-30-18

Summary

$R_f = 81.5$
 $R_g = 99.2$
 $CIE R_a = 80.9$
 $R_9 = 6.8$

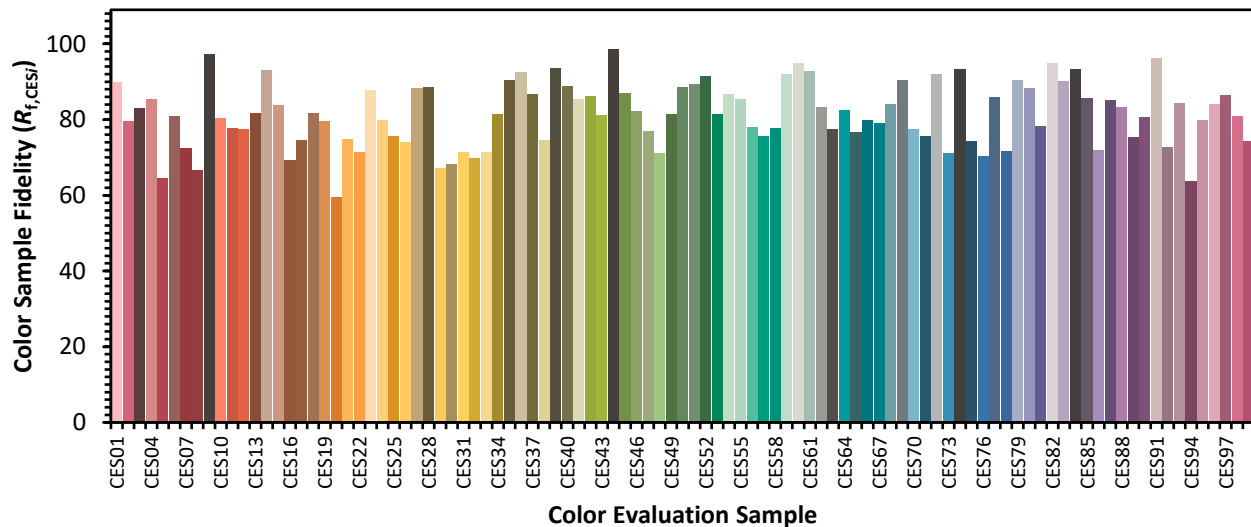


Color Vector Graphics

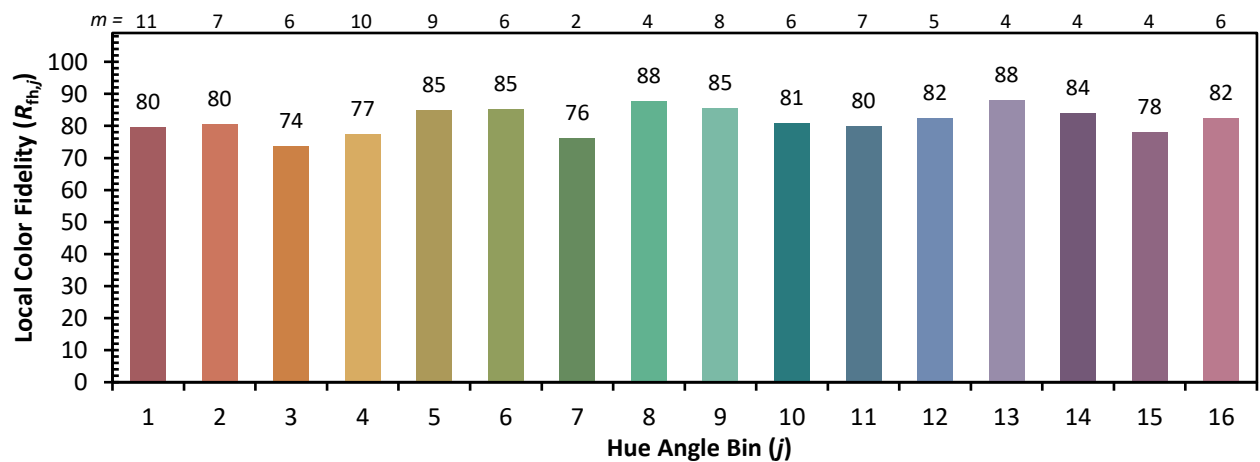
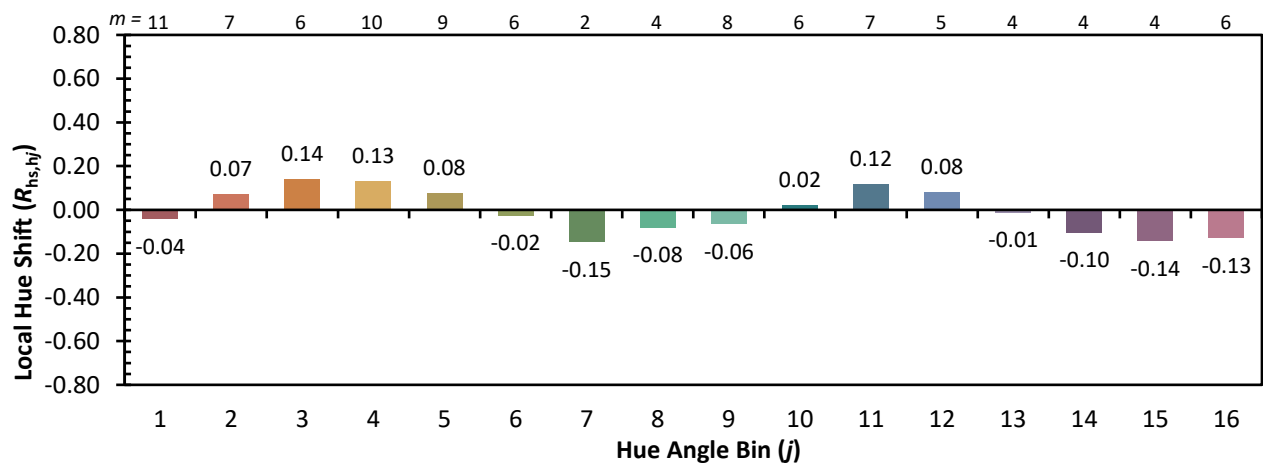
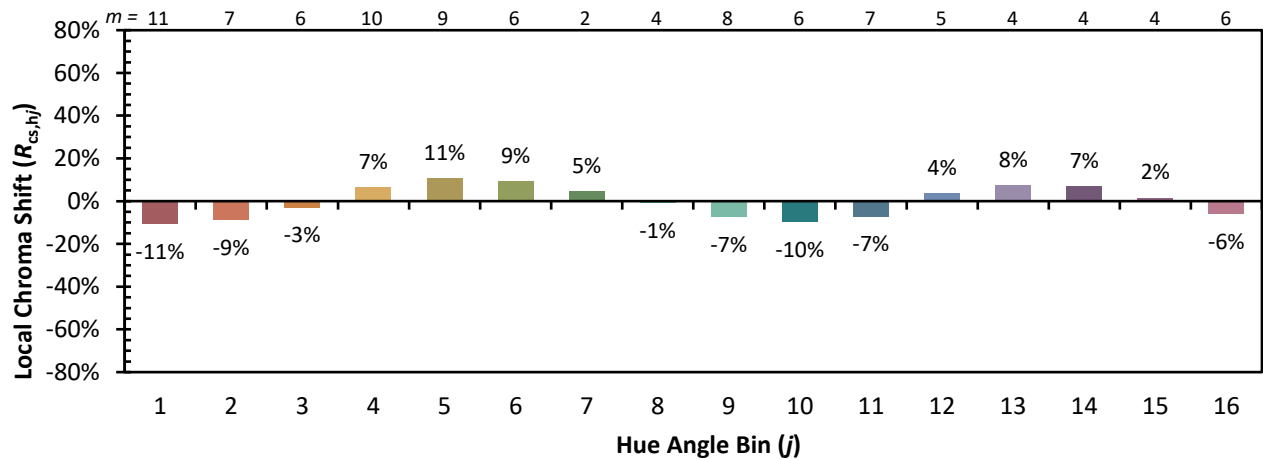


Individual Sample Fidelity Index ($R_{f,i}$)

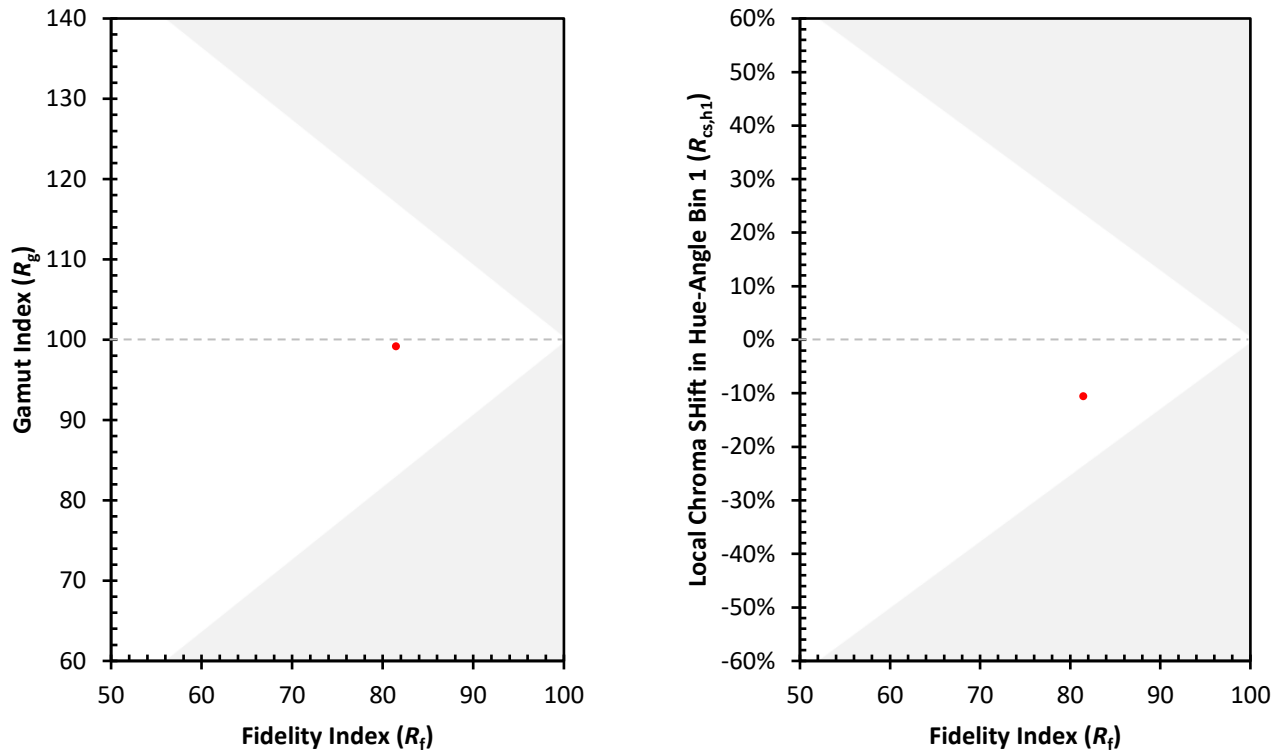
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 91	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 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)