

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: P1067908

Luminaire Tested: **NAV-SA4D-722-U-LBC**

Issue Date: 08/07/2025

Test Information

Test Method: LM-79-08
Report Number: P1067908
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/07/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SA4D-722-U-LBC
Description: Navion AREA AND ROADWAY LUMINAIRE 1200mA 4xLight Square PACKAGE
70CRI 2200K FIXTURE w/ LEFT CORNER BACKLIGHT CONTROL
Light Source: (56) 2200K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15397.1 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B0 - U0 - G3

Input Watts (W): 218.9
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



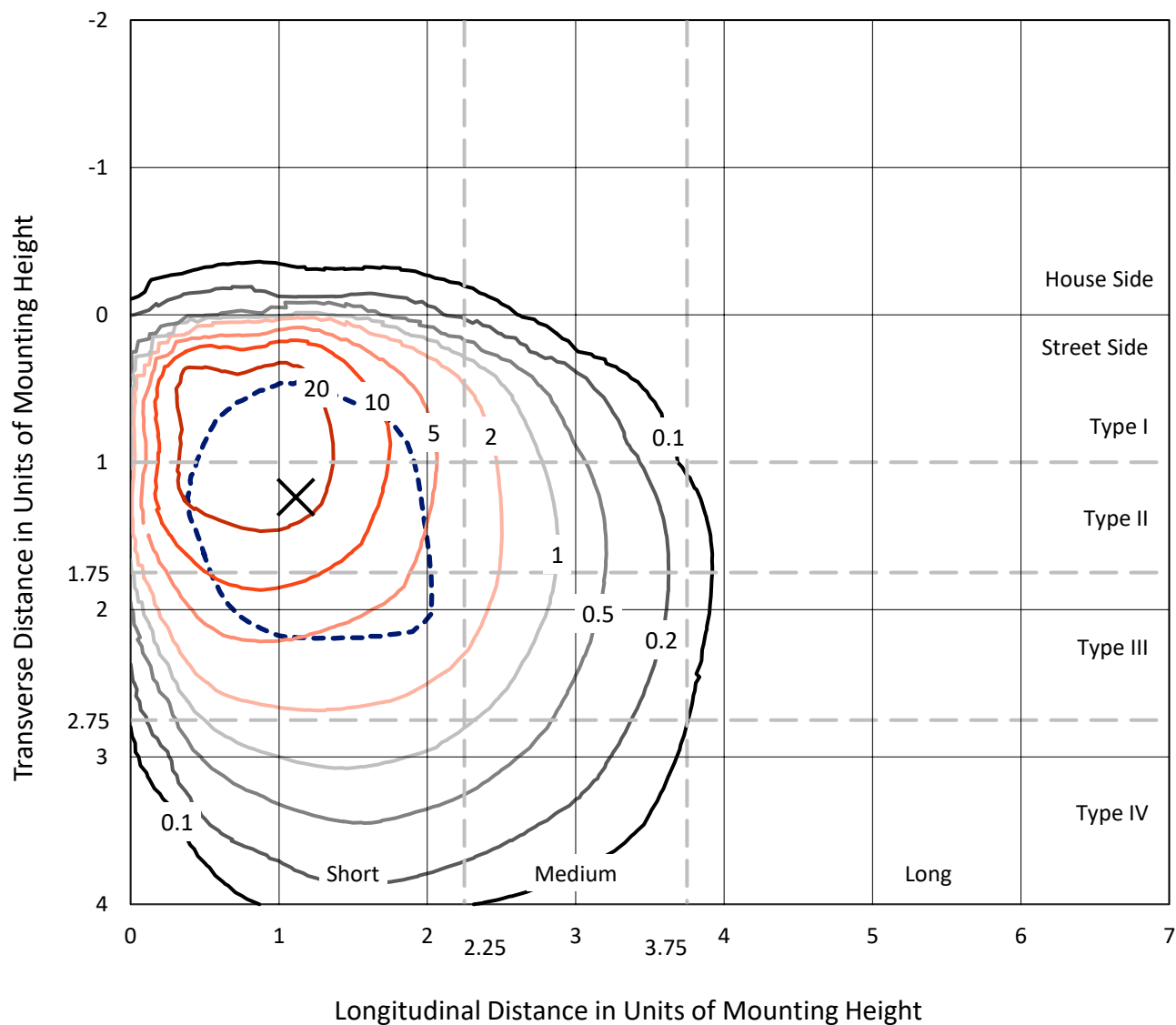
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

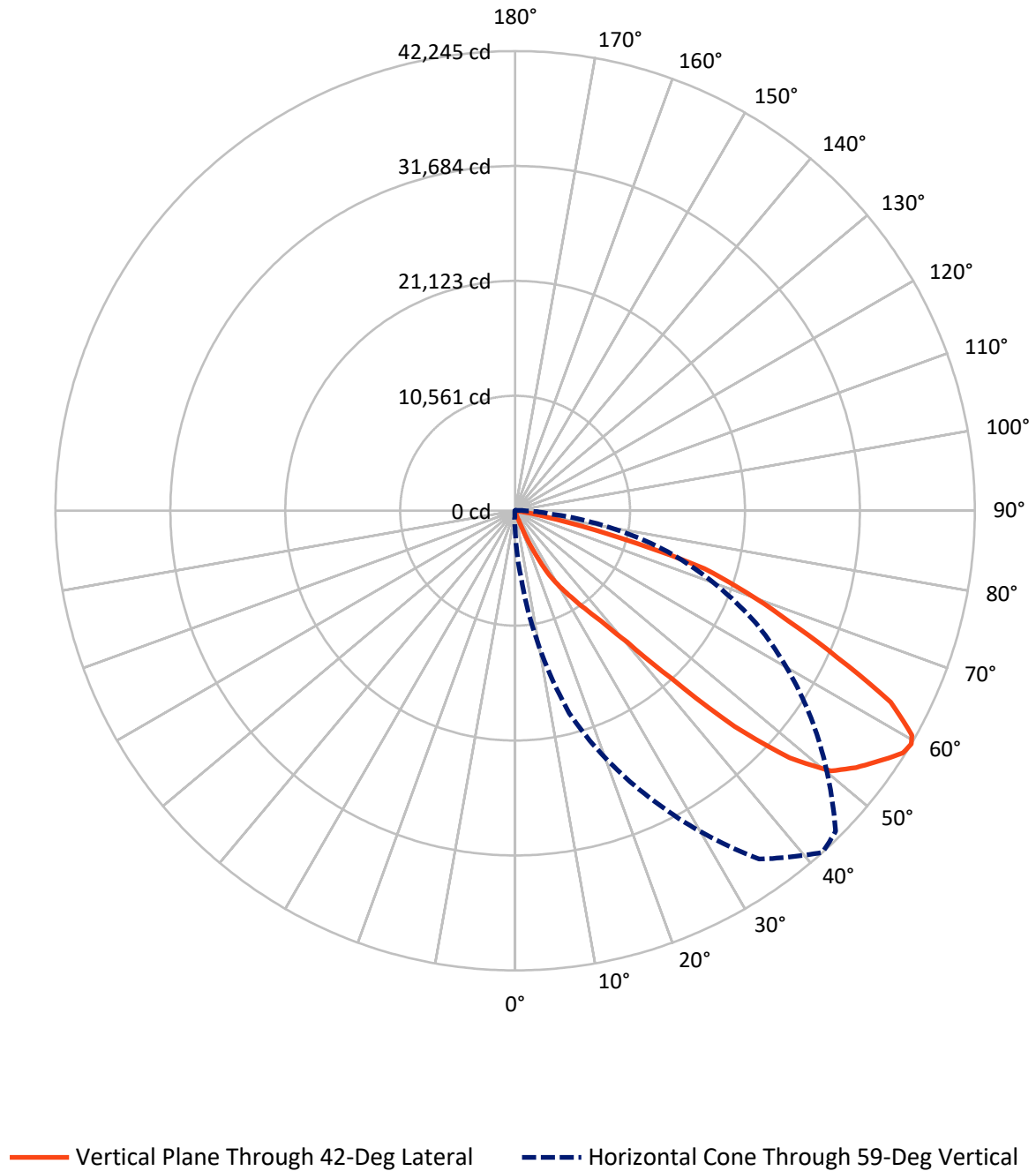


Based on 15 foot mounting height. Maximum calculated value = 45.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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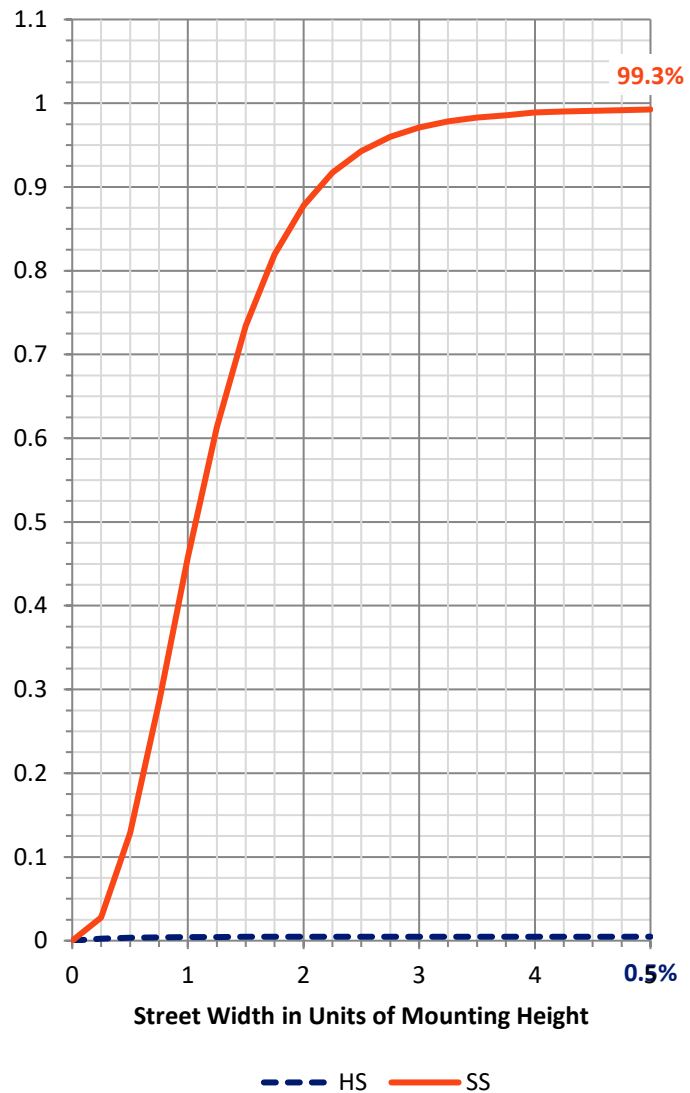
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	74.2	0.0	74.2
	% Fixture	0.5	0.0	0.5
Street Side	Lumens	15322.9	0.0	15322.9
	% Fixture	99.5	0.0	99.5
Total	Lumens	15397.1	0.0	15397.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4.5	0.0
10°-20°	22.4	0.1
20°-30°	287.2	1.9
30°-40°	968.3	6.3
40°-50°	2924.6	19.0
50°-60°	5162.7	33.5
60°-70°	4545.8	29.5
70°-80°	1446.9	9.4
80°-90°	34.6	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°	15397.1	100.0
0°-180°	15397.1	100.0



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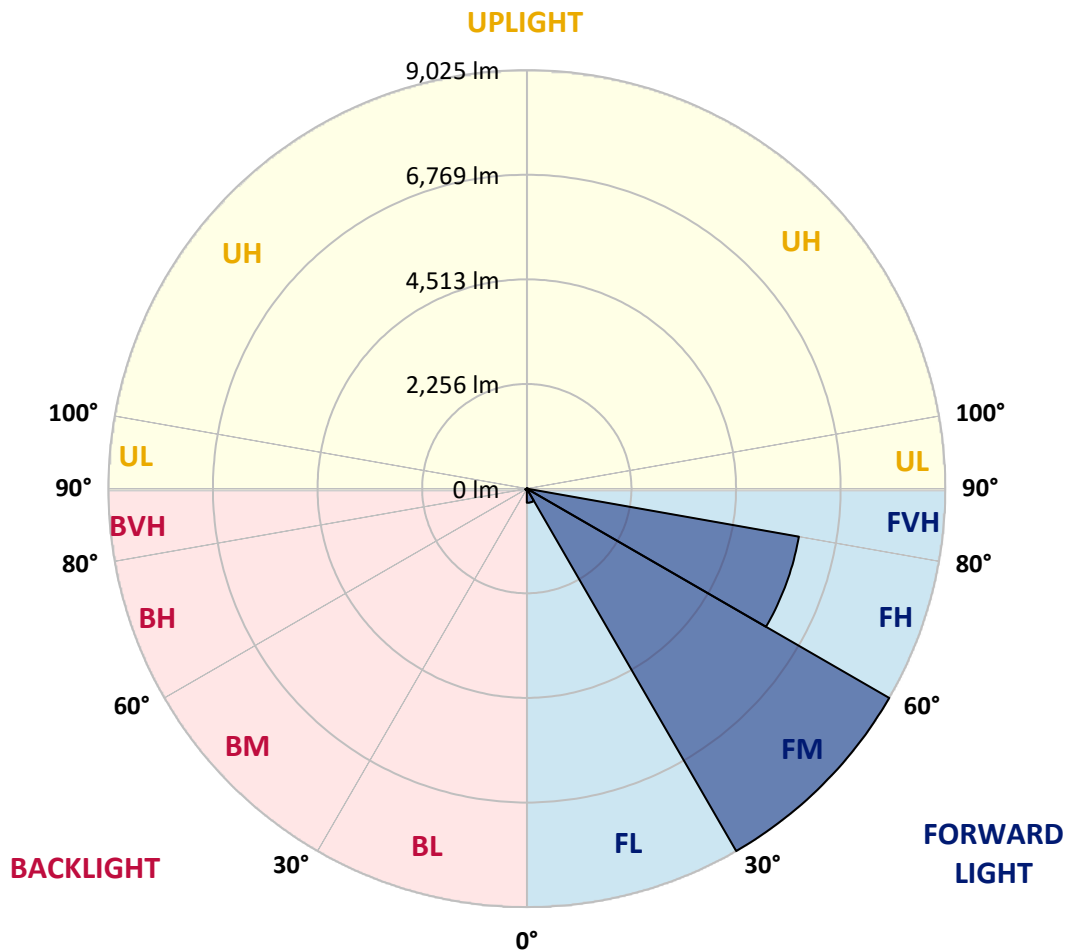
CATALOG NUMBER: NAV-SA4D-722-U-LBC

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	305.9	2.0			
FM	(30°-60°)	9025.2	58.6			
FH	(60°-80°)	5958.8	38.7			G3/7500
FVH	(80°-90°)	32.9	0.2			G1/100
BL	(0°-30°)	8.3	0.1	B0/110		
BM	(30°-60°)	30.3	0.2	B0/220		
BH	(60°-80°)	33.9	0.2	B0/110		G0/110
BVH	(80°-90°)	1.7	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-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	42°	45°	55°	65°	75°	85°
0°	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4
2.5°	67.6	67.6	62.8	57.9	53.1	48.3	48.3	48.3	43.4	43.4	38.6
5°	77.2	77.2	72.4	67.6	67.6	62.8	62.8	57.9	53.1	53.1	48.3
7.5°	82.1	82.1	82.1	82.1	77.2	77.2	77.2	72.4	67.6	62.8	57.9
10°	86.9	91.7	96.5	96.5	96.5	96.5	96.5	91.7	82.1	77.2	67.6
12.5°	96.5	101.4	111.0	120.7	120.7	125.5	120.7	115.9	106.2	91.7	77.2
15°	106.2	115.9	130.3	149.7	169.0	173.8	173.8	159.3	140.0	111.0	91.7
17.5°	120.7	135.2	173.8	236.5	304.1	357.2	357.2	318.6	222.1	144.8	106.2
20°	130.3	159.3	280.0	569.6	868.9	1091.0	1047.6	926.9	497.2	226.9	115.9
22.5°	144.8	202.8	593.8	1496.5	2317.2	2722.7	2626.2	1993.8	1115.2	405.5	140.0
25°	164.1	294.5	1177.9	2804.8	4306.1	4745.4	4682.7	3722.0	2032.4	680.7	178.6
27.5°	202.8	434.5	1887.6	4253.0	6353.0	6729.5	6705.4	5450.2	3248.9	1095.8	231.7
30°	255.9	632.4	2799.9	5778.5	7709.5	8090.9	7970.2	6715.0	4383.4	1675.1	299.3
32.5°	318.6	883.4	3625.5	6903.3	8959.8	9461.9	9317.1	7815.7	5295.8	2167.5	444.1
35°	415.2	1129.6	4441.3	7897.8	10403.3	11040.5	10799.1	8950.2	6082.6	2722.7	535.9
37.5°	463.4	1274.5	5189.6	8979.1	12025.3	12894.2	12710.8	10383.9	6884.0	3432.4	656.5
40°	468.3	1448.2	5966.8	10388.8	14318.4	15868.0	15539.7	12846.0	8375.7	4344.7	844.8
42.5°	482.7	1708.9	6975.7	12792.9	18822.4	21047.9	20676.2	17374.2	11759.8	6174.4	1197.2
45°	550.3	2201.3	9032.2	17287.3	25006.4	28269.8	27840.2	23683.7	16485.9	9616.4	2042.0
47.5°	786.9	3311.7	12638.4	22138.9	31330.5	33932.5	33826.3	28656.0	20767.9	13145.3	3461.3
50°	1264.8	5083.4	16741.8	26218.1	35356.6	37591.7	37326.2	30731.9	23210.6	15554.2	4436.5
52.5°	1689.6	6777.8	19319.6	27719.5	36558.6	39223.4	38900.0	31489.8	23852.7	16263.8	4706.8
55°	1795.8	7390.9	20087.2	28182.9	37355.2	40604.1	40135.8	31996.7	23934.7	15757.0	4257.9
57.5°	1742.7	6811.6	19590.0	28636.7	38465.5	42023.4	41400.6	32986.3	24209.9	14897.7	3543.4
59°	1651.0	6097.1	19281.0	28998.8	39078.6	42245.4	41661.3	33203.5	24393.3	14506.6	3108.9
60°	1544.8	5614.4	19039.7	29235.3	39040.0	41897.9	41294.4	33102.2	24465.8	14168.7	2901.3
62.5°	1192.4	4479.9	18692.1	29066.4	36602.1	38726.2	38383.4	30620.8	23403.7	13087.3	2288.2
65°	926.9	3427.5	17417.6	25923.7	31147.0	32576.0	32469.7	25928.5	19696.2	11281.9	1651.0
67.5°	733.8	2500.6	14728.7	20994.8	25059.5	27091.9	27014.7	21047.9	14950.8	8621.9	1187.6
70°	598.6	1781.3	10099.1	15829.4	20043.8	22602.3	22491.3	16939.7	11079.1	5469.6	864.1
72.5°	506.9	1139.3	6126.1	11933.6	16727.3	18190.0	17866.6	13666.6	8057.1	2978.6	685.5
75°	429.6	700.0	3036.5	7439.2	9964.0	9954.3	9630.9	7236.4	4325.4	1457.9	545.5
77.5°	347.6	492.4	1192.4	2042.0	3142.7	3891.0	3828.2	2563.4	1293.8	424.8	337.9
80°	226.9	231.7	318.6	560.0	864.1	955.8	1086.2	782.1	376.5	202.8	140.0
82.5°	101.4	111.0	144.8	183.4	183.4	169.0	149.7	111.0	82.1	67.6	33.8
85°	24.1	33.8	24.1	29.0	24.1	19.3	19.3	9.7	0.0	0.0	0.0
87.5°	4.8	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°	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4
2.5°	38.6	38.6	38.6	33.8	33.8	33.8	29.0	29.0	29.0	24.1	24.1
5°	48.3	43.4	38.6	38.6	33.8	33.8	29.0	24.1	24.1	24.1	19.3
7.5°	53.1	48.3	43.4	38.6	33.8	29.0	29.0	24.1	19.3	19.3	19.3
10°	62.8	57.9	48.3	38.6	33.8	29.0	24.1	24.1	19.3	14.5	14.5
12.5°	72.4	62.8	53.1	43.4	33.8	29.0	24.1	24.1	19.3	14.5	9.7
15°	82.1	72.4	57.9	43.4	33.8	29.0	24.1	24.1	14.5	9.7	4.8
17.5°	91.7	77.2	57.9	48.3	33.8	29.0	24.1	19.3	9.7	4.8	0.0
20°	96.5	82.1	62.8	48.3	33.8	29.0	24.1	14.5	4.8	0.0	0.0
22.5°	106.2	91.7	67.6	48.3	33.8	24.1	14.5	4.8	0.0	0.0	0.0
25°	125.5	96.5	67.6	48.3	33.8	24.1	9.7	0.0	0.0	0.0	0.0
27.5°	140.0	106.2	67.6	48.3	33.8	19.3	4.8	0.0	0.0	0.0	0.0
30°	164.1	115.9	72.4	48.3	33.8	14.5	4.8	0.0	0.0	0.0	0.0
32.5°	202.8	125.5	72.4	48.3	29.0	14.5	0.0	0.0	0.0	0.0	0.0
35°	246.2	144.8	72.4	48.3	29.0	14.5	0.0	0.0	0.0	0.0	0.0
37.5°	251.0	154.5	72.4	48.3	29.0	9.7	0.0	0.0	0.0	0.0	0.0
40°	260.7	144.8	77.2	48.3	29.0	9.7	0.0	0.0	0.0	0.0	0.0
42.5°	299.3	135.2	82.1	48.3	29.0	9.7	0.0	0.0	0.0	0.0	0.0
45°	444.1	140.0	82.1	53.1	29.0	14.5	0.0	0.0	0.0	0.0	0.0
47.5°	772.4	144.8	77.2	53.1	29.0	14.5	0.0	0.0	0.0	0.0	0.0
50°	989.6	169.0	77.2	57.9	33.8	9.7	0.0	0.0	0.0	0.0	0.0
52.5°	1052.4	197.9	77.2	62.8	43.4	4.8	0.0	0.0	0.0	0.0	0.0
55°	1023.4	231.7	82.1	67.6	53.1	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	946.2	251.0	86.9	72.4	57.9	0.0	0.0	0.0	0.0	0.0	0.0
59°	864.1	265.5	101.4	77.2	57.9	0.0	0.0	0.0	0.0	0.0	0.0
60°	796.5	280.0	106.2	82.1	57.9	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	642.1	299.3	115.9	96.5	48.3	0.0	0.0	0.0	0.0	0.0	0.0
65°	560.0	313.8	120.7	106.2	43.4	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	511.7	323.4	130.3	111.0	38.6	0.0	0.0	0.0	0.0	0.0	0.0
70°	473.1	318.6	140.0	106.2	33.8	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	429.6	304.1	169.0	96.5	29.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	386.2	275.2	183.4	86.9	19.3	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	280.0	231.7	169.0	77.2	9.7	0.0	0.0	0.0	0.0	0.0	0.0
80°	120.7	125.5	120.7	57.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	24.1	29.0	24.1	14.5	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°	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4
2.5°	24.1	24.1	24.1	24.1	29.0	29.0	38.6	48.3	57.9	62.8	62.8
5°	19.3	19.3	19.3	19.3	19.3	24.1	29.0	38.6	53.1	57.9	57.9
7.5°	14.5	14.5	14.5	14.5	14.5	14.5	24.1	33.8	48.3	53.1	57.9
10°	14.5	9.7	9.7	4.8	4.8	9.7	14.5	29.0	43.4	48.3	53.1
12.5°	9.7	4.8	4.8	0.0	0.0	4.8	9.7	24.1	38.6	43.4	48.3
15°	4.8	0.0	0.0	0.0	0.0	0.0	4.8	19.3	33.8	38.6	48.3
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	29.0	38.6	43.4
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	24.1	33.8	38.6
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	19.3	29.0	33.8
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	19.3	24.1
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	14.5	19.3
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	14.5	19.3
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7	14.5
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7	14.5
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7	9.7
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
59°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	9.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8
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°	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4
2.5°	67.6	67.6	62.8	57.9	57.9	57.9	62.8	67.6	67.6	67.6
5°	62.8	62.8	57.9	57.9	57.9	57.9	62.8	72.4	77.2	77.2
7.5°	62.8	62.8	57.9	57.9	57.9	57.9	62.8	72.4	77.2	82.1
10°	57.9	57.9	57.9	57.9	53.1	57.9	62.8	72.4	86.9	86.9
12.5°	57.9	57.9	57.9	57.9	53.1	57.9	67.6	77.2	91.7	96.5
15°	57.9	57.9	57.9	53.1	53.1	57.9	67.6	82.1	96.5	106.2
17.5°	53.1	57.9	57.9	53.1	53.1	57.9	67.6	82.1	106.2	120.7
20°	48.3	53.1	57.9	53.1	53.1	53.1	67.6	82.1	111.0	130.3
22.5°	43.4	48.3	53.1	53.1	48.3	53.1	67.6	86.9	120.7	144.8
25°	38.6	43.4	43.4	48.3	48.3	53.1	67.6	86.9	125.5	164.1
27.5°	29.0	33.8	38.6	43.4	43.4	53.1	67.6	91.7	135.2	202.8
30°	24.1	29.0	33.8	38.6	43.4	53.1	67.6	91.7	144.8	255.9
32.5°	24.1	29.0	33.8	38.6	43.4	48.3	67.6	96.5	159.3	318.6
35°	19.3	24.1	29.0	38.6	38.6	48.3	67.6	96.5	173.8	415.2
37.5°	19.3	24.1	29.0	38.6	38.6	48.3	67.6	96.5	212.4	463.4
40°	14.5	19.3	24.1	38.6	38.6	48.3	72.4	101.4	217.2	468.3
42.5°	14.5	19.3	24.1	33.8	38.6	48.3	72.4	101.4	202.8	482.7
45°	14.5	19.3	24.1	38.6	43.4	53.1	72.4	106.2	197.9	550.3
47.5°	14.5	19.3	24.1	38.6	48.3	53.1	72.4	106.2	202.8	786.9
50°	14.5	19.3	24.1	38.6	53.1	53.1	72.4	106.2	222.1	1264.8
52.5°	9.7	14.5	19.3	33.8	43.4	57.9	77.2	101.4	236.5	1689.6
55°	9.7	9.7	14.5	29.0	38.6	62.8	82.1	101.4	275.2	1795.8
57.5°	9.7	9.7	14.5	24.1	33.8	67.6	86.9	101.4	318.6	1742.7
59°	9.7	9.7	9.7	24.1	29.0	67.6	86.9	106.2	323.4	1651.0
60°	9.7	9.7	9.7	19.3	29.0	67.6	91.7	111.0	328.3	1544.8
62.5°	4.8	4.8	4.8	19.3	24.1	67.6	101.4	135.2	337.9	1192.4
65°	9.7	9.7	4.8	14.5	24.1	57.9	115.9	144.8	342.8	926.9
67.5°	9.7	9.7	9.7	19.3	24.1	57.9	120.7	149.7	342.8	733.8
70°	9.7	9.7	9.7	19.3	29.0	57.9	120.7	154.5	337.9	598.6
72.5°	9.7	9.7	9.7	19.3	29.0	53.1	111.0	159.3	323.4	506.9
75°	9.7	9.7	9.7	14.5	24.1	48.3	106.2	173.8	294.5	429.6
77.5°	9.7	9.7	9.7	9.7	19.3	38.6	96.5	193.1	260.7	347.6
80°	14.5	9.7	9.7	9.7	14.5	33.8	91.7	188.3	217.2	226.9
82.5°	14.5	9.7	9.7	4.8	9.7	24.1	72.4	144.8	111.0	101.4
85°	9.7	9.7	9.7	4.8	4.8	14.5	33.8	43.4	33.8	24.1
87.5°	9.7	9.7	9.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8
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: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

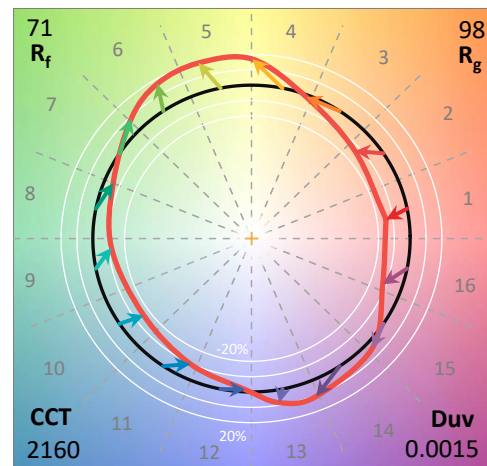
Data in this report applies to families of products including GSS-SB1A-722-U-5WQ

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-184-2
 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-722-U-5WQ**
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI
 2200K CCT 26 LEDS

Spectral Parameters

CCT (K):	2160	CRI (Ra):	71.9		
CIE u':	0.2927	R1:	68.7	R9:	-17.8
CIE v':	0.5388	R2:	82.6	R10:	60.5
Duv:	0.0015	R3:	95.5	R11:	60.2
CIE x:	0.5130	R4:	66.4	R12:	48.2
CIE y:	0.4197	R5:	65.4	R13:	70.7
CIE z:	0.0674	R6:	75.9	R14:	96.8
Peak Wavelength (nm):	609	R7:	77.2	R15:	61.8
Dominant Wavelength (nm):	587	R8:	43.5		
Purity:	79.96089				
Rf:	70.6				
Rg:	97.6				



Test Conditions

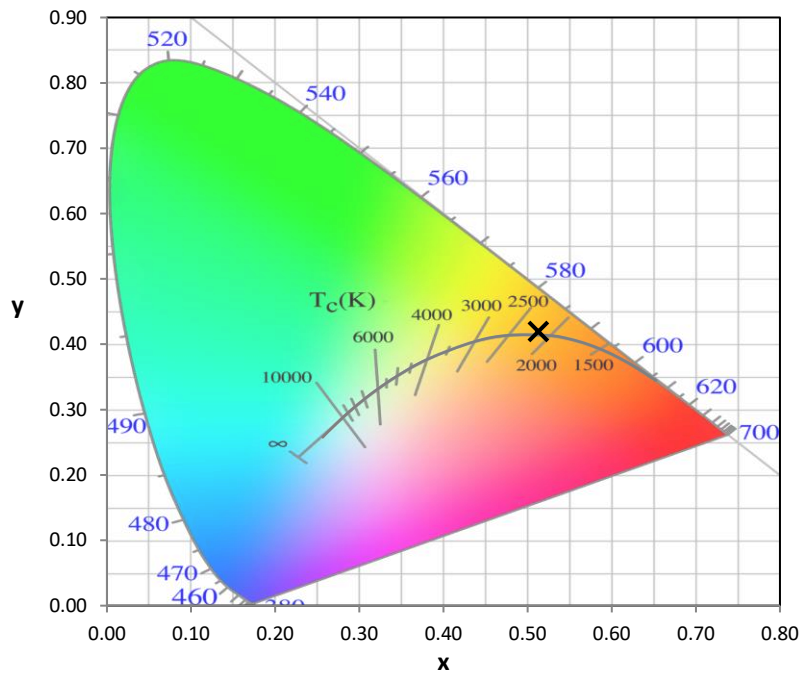
Stabilization Time: 21M
 Operation Time: 1H 21M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-2

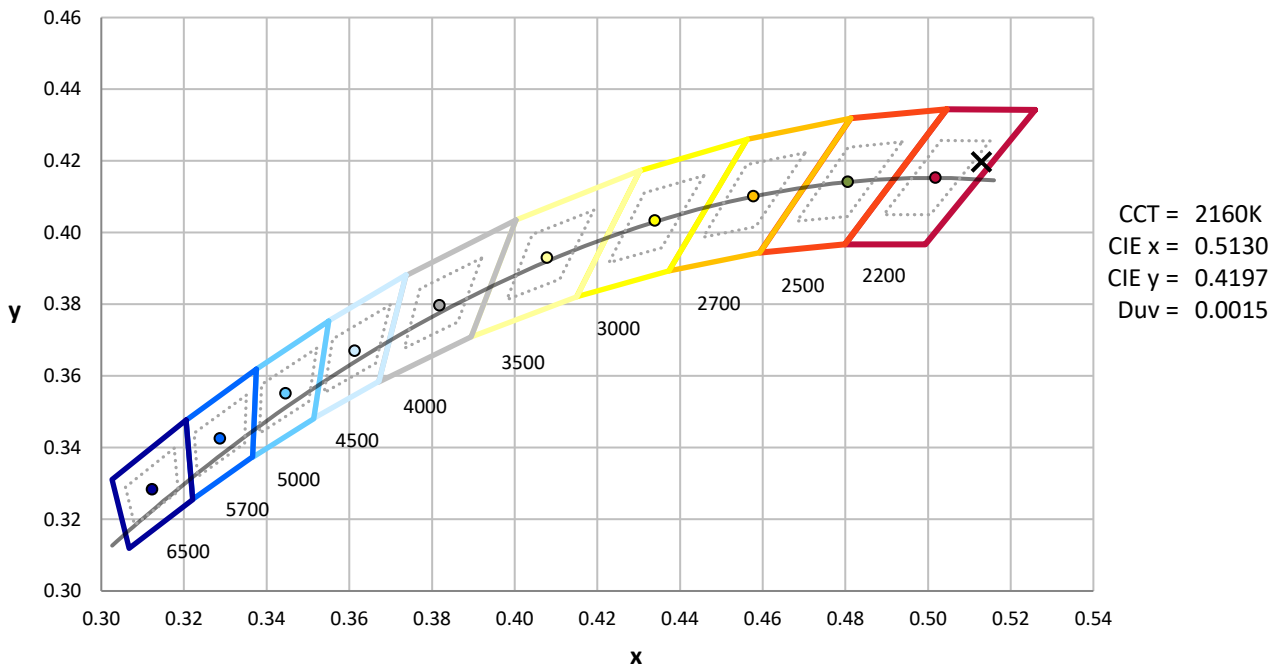
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



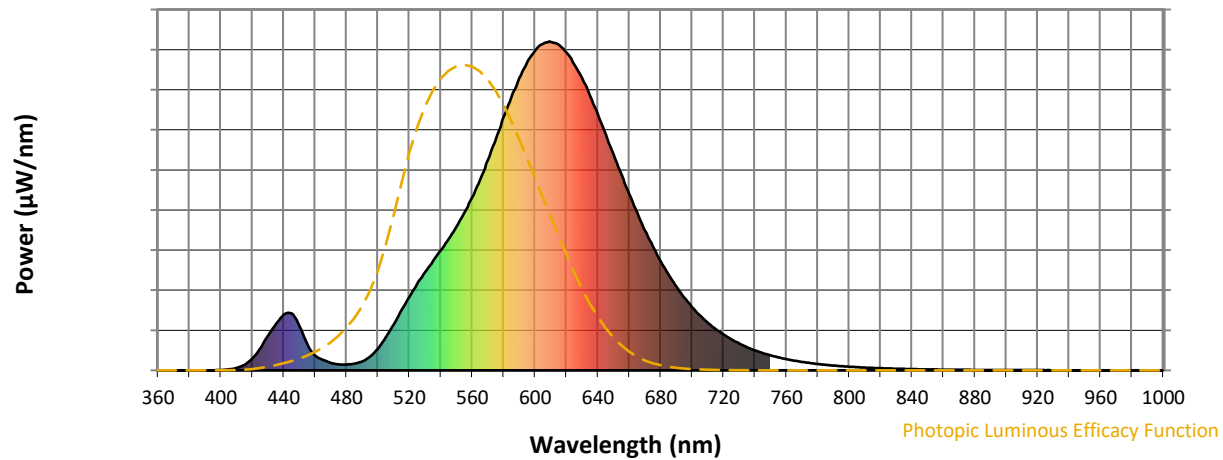
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2200K 7-step quadrangle

REPORT NUMBER: SP1-2407-184-2

Photopic Flux vs. Wavelength

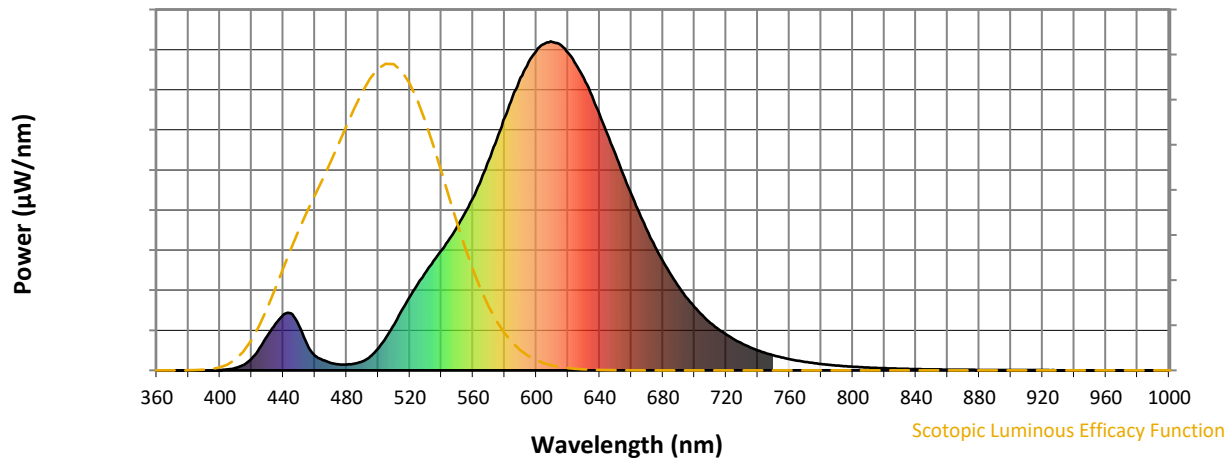


Photopic Lumens: NR

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	27	NR	620	966	NR	750	46	NR	880	1	NR
365	0	NR	495	42	NR	625	930	NR	755	39	NR	885	1	NR
370	0	NR	500	67	NR	630	888	NR	760	34	NR	890	1	NR
375	0	NR	505	101	NR	635	835	NR	765	30	NR	895	1	NR
380	0	NR	510	139	NR	640	778	NR	770	26	NR	900	1	NR
385	0	NR	515	183	NR	645	717	NR	775	22	NR	905	1	NR
390	0	NR	520	224	NR	650	656	NR	780	19	NR	910	1	NR
395	0	NR	525	262	NR	655	595	NR	785	17	NR	915	1	NR
400	1	NR	530	299	NR	660	536	NR	790	15	NR	920	1	NR
405	3	NR	535	332	NR	665	480	NR	795	13	NR	925	1	NR
410	7	NR	540	365	NR	670	425	NR	800	11	NR	930	1	NR
415	17	NR	545	400	NR	675	376	NR	805	10	NR	935	0	NR
420	36	NR	550	437	NR	680	332	NR	810	8	NR	940	0	NR
425	67	NR	555	479	NR	685	291	NR	815	8	NR	945	0	NR
430	105	NR	560	525	NR	690	255	NR	820	7	NR	950	0	NR
435	141	NR	565	579	NR	695	221	NR	825	6	NR	955	0	NR
440	169	NR	570	639	NR	700	192	NR	830	5	NR	960	0	NR
445	173	NR	575	703	NR	705	167	NR	835	4	NR	965	0	NR
450	136	NR	580	769	NR	710	144	NR	840	4	NR	970	0	NR
455	80	NR	585	832	NR	715	125	NR	845	3	NR	975	0	NR
460	45	NR	590	890	NR	720	109	NR	850	3	NR	980	0	NR
465	32	NR	595	937	NR	725	94	NR	855	3	NR	985	0	NR
470	23	NR	600	972	NR	730	81	NR	860	2	NR	990	0	NR
475	18	NR	605	992	NR	735	70	NR	865	2	NR	995	0	NR
480	18	NR	610	998	NR	740	61	NR	870	2	NR	1000	0	NR
485	20	NR	615	990	NR	745	53	NR	875	2	NR			

REPORT NUMBER: SP1-2407-184-2

Scotopic Flux vs. Wavelength



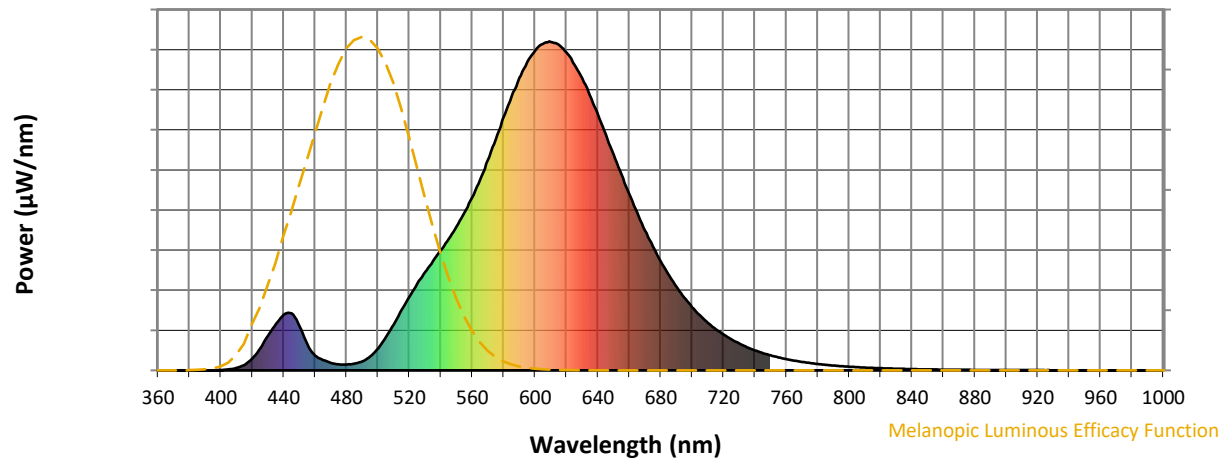
Scotopic Lumens: NR

S/P: 0.8

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	27	NR	620	966	NR	750	46	NR	880	1	NR
365	0	NR	495	42	NR	625	930	NR	755	39	NR	885	1	NR
370	0	NR	500	67	NR	630	888	NR	760	34	NR	890	1	NR
375	0	NR	505	101	NR	635	835	NR	765	30	NR	895	1	NR
380	0	NR	510	139	NR	640	778	NR	770	26	NR	900	1	NR
385	0	NR	515	183	NR	645	717	NR	775	22	NR	905	1	NR
390	0	NR	520	224	NR	650	656	NR	780	19	NR	910	1	NR
395	0	NR	525	262	NR	655	595	NR	785	17	NR	915	1	NR
400	1	NR	530	299	NR	660	536	NR	790	15	NR	920	1	NR
405	3	NR	535	332	NR	665	480	NR	795	13	NR	925	1	NR
410	7	NR	540	365	NR	670	425	NR	800	11	NR	930	1	NR
415	17	NR	545	400	NR	675	376	NR	805	10	NR	935	0	NR
420	36	NR	550	437	NR	680	332	NR	810	8	NR	940	0	NR
425	67	NR	555	479	NR	685	291	NR	815	8	NR	945	0	NR
430	105	NR	560	525	NR	690	255	NR	820	7	NR	950	0	NR
435	141	NR	565	579	NR	695	221	NR	825	6	NR	955	0	NR
440	169	NR	570	639	NR	700	192	NR	830	5	NR	960	0	NR
445	173	NR	575	703	NR	705	167	NR	835	4	NR	965	0	NR
450	136	NR	580	769	NR	710	144	NR	840	4	NR	970	0	NR
455	80	NR	585	832	NR	715	125	NR	845	3	NR	975	0	NR
460	45	NR	590	890	NR	720	109	NR	850	3	NR	980	0	NR
465	32	NR	595	937	NR	725	94	NR	855	3	NR	985	0	NR
470	23	NR	600	972	NR	730	81	NR	860	2	NR	990	0	NR
475	18	NR	605	992	NR	735	70	NR	865	2	NR	995	0	NR
480	18	NR	610	998	NR	740	61	NR	870	2	NR	1000	0	NR
485	20	NR	615	990	NR	745	53	NR	875	2	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 1.21

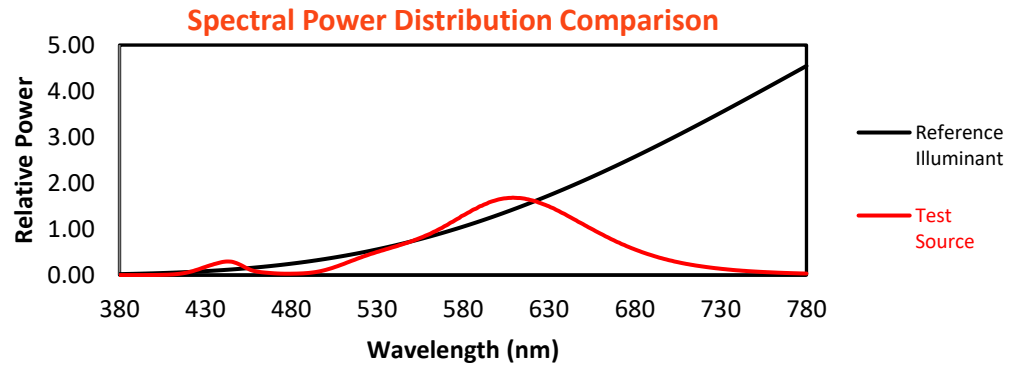
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	27	NR	620	966	NR	750	46	NR	880	1	NR
365	0	NR	495	42	NR	625	930	NR	755	39	NR	885	1	NR
370	0	NR	500	67	NR	630	888	NR	760	34	NR	890	1	NR
375	0	NR	505	101	NR	635	835	NR	765	30	NR	895	1	NR
380	0	NR	510	139	NR	640	778	NR	770	26	NR	900	1	NR
385	0	NR	515	183	NR	645	717	NR	775	22	NR	905	1	NR
390	0	NR	520	224	NR	650	656	NR	780	19	NR	910	1	NR
395	0	NR	525	262	NR	655	595	NR	785	17	NR	915	1	NR
400	1	NR	530	299	NR	660	536	NR	790	15	NR	920	1	NR
405	3	NR	535	332	NR	665	480	NR	795	13	NR	925	1	NR
410	7	NR	540	365	NR	670	425	NR	800	11	NR	930	1	NR
415	17	NR	545	400	NR	675	376	NR	805	10	NR	935	0	NR
420	36	NR	550	437	NR	680	332	NR	810	8	NR	940	0	NR
425	67	NR	555	479	NR	685	291	NR	815	8	NR	945	0	NR
430	105	NR	560	525	NR	690	255	NR	820	7	NR	950	0	NR
435	141	NR	565	579	NR	695	221	NR	825	6	NR	955	0	NR
440	169	NR	570	639	NR	700	192	NR	830	5	NR	960	0	NR
445	173	NR	575	703	NR	705	167	NR	835	4	NR	965	0	NR
450	136	NR	580	769	NR	710	144	NR	840	4	NR	970	0	NR
455	80	NR	585	832	NR	715	125	NR	845	3	NR	975	0	NR
460	45	NR	590	890	NR	720	109	NR	850	3	NR	980	0	NR
465	32	NR	595	937	NR	725	94	NR	855	3	NR	985	0	NR
470	23	NR	600	972	NR	730	81	NR	860	2	NR	990	0	NR
475	18	NR	605	992	NR	735	70	NR	865	2	NR	995	0	NR
480	18	NR	610	998	NR	740	61	NR	870	2	NR	1000	0	NR
485	20	NR	615	990	NR	745	53	NR	875	2	NR			

REPORT NUMBER: SP1-2407-184-2

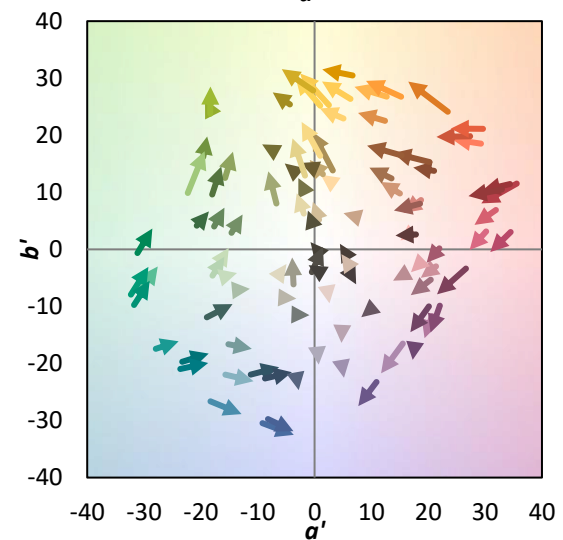
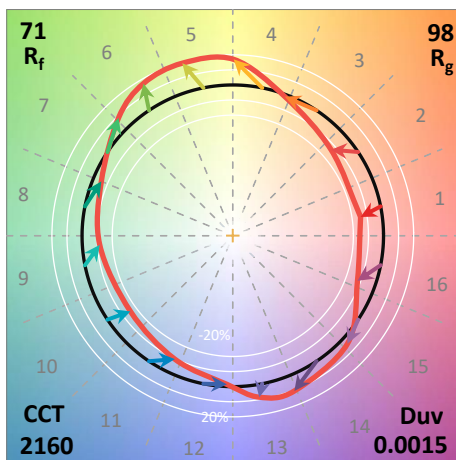
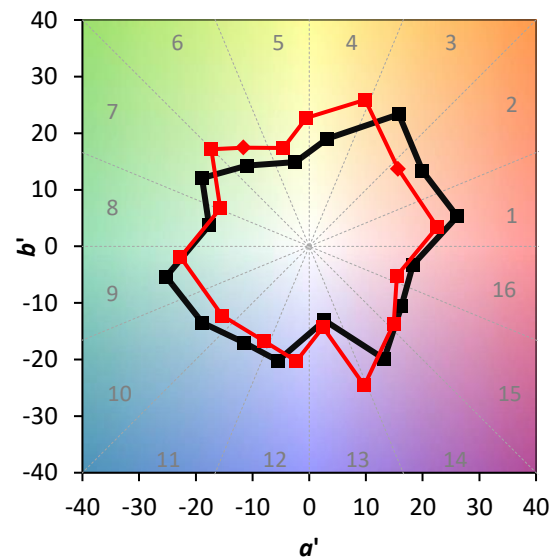
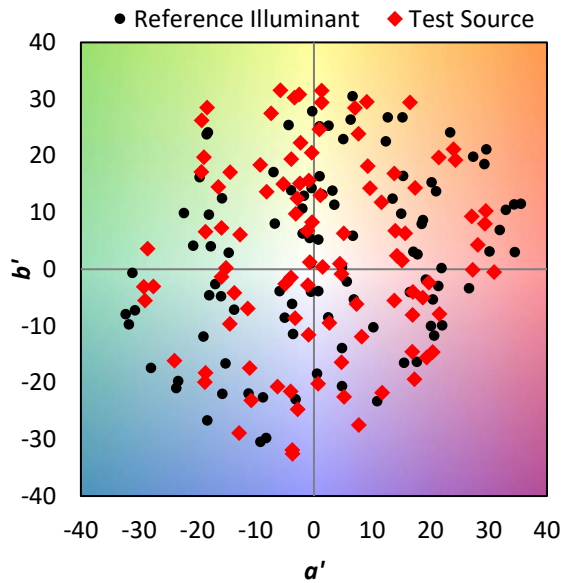
TM-30-18

Summary

$R_f = 70.6$
 $R_g = 97.6$
 $CIE R_a = 71.9$
 $R_g = -17.8$

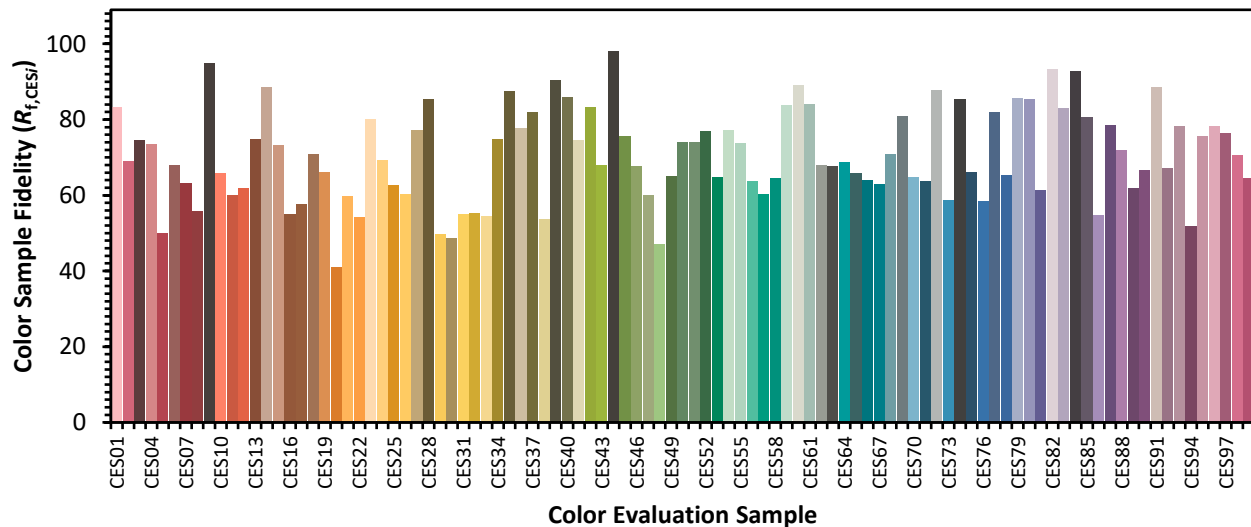


Color Vector Graphics

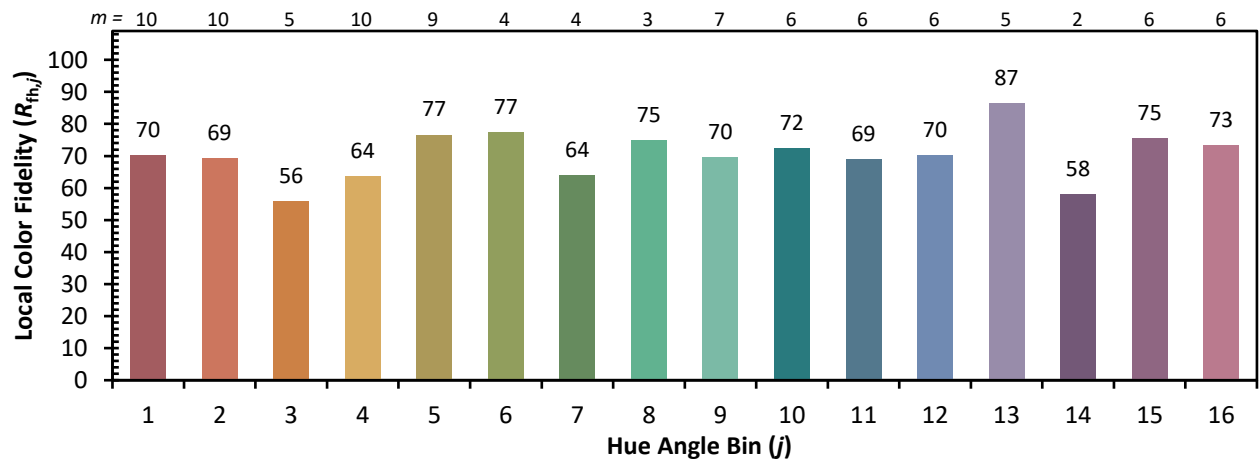
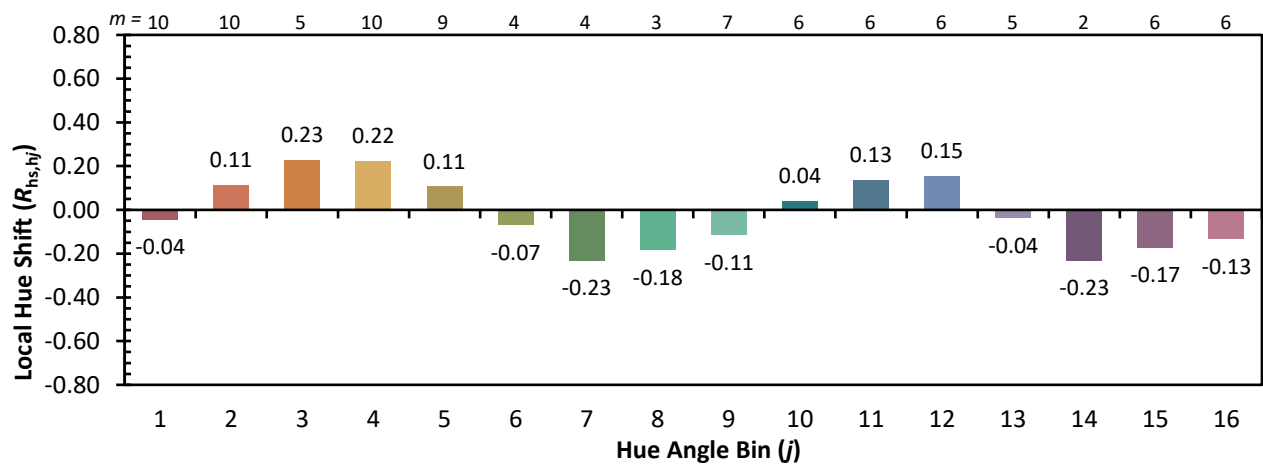
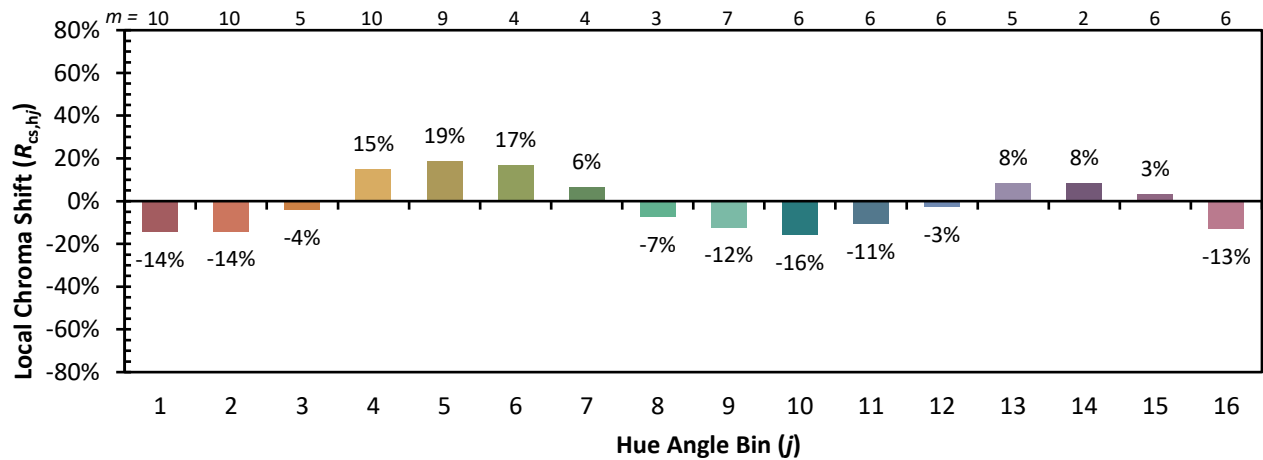


Individual Sample Fidelity Index ($R_{f,i}$)

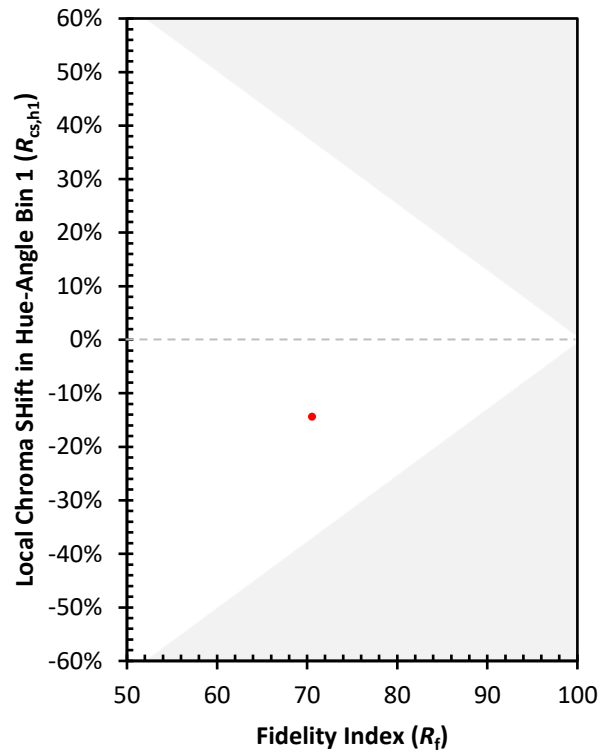
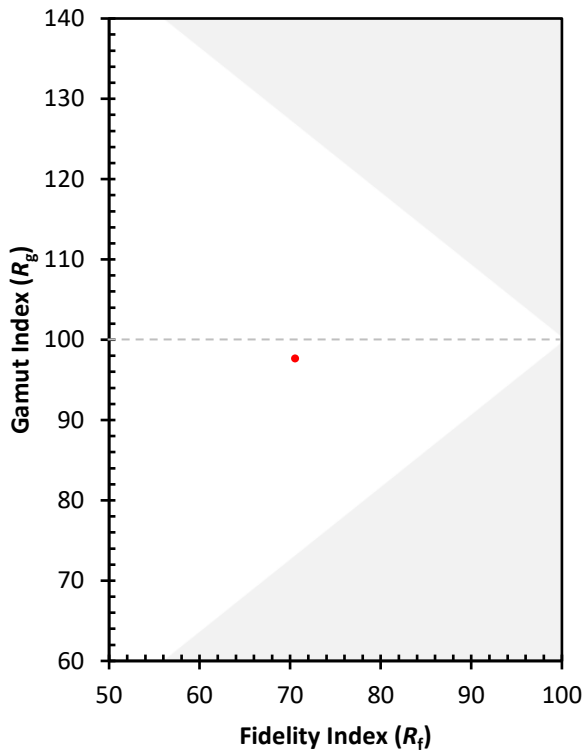
CES01 = 87	CES26 = 60	CES51 = 74	CES76 = 58
CES02 = 65	CES27 = 77	CES52 = 77	CES77 = 82
CES03 = 32	CES28 = 85	CES53 = 65	CES78 = 65
CES04 = 72	CES29 = 50	CES54 = 77	CES79 = 86
CES05 = 52	CES30 = 49	CES55 = 74	CES80 = 85
CES06 = 53	CES31 = 55	CES56 = 64	CES81 = 61
CES07 = 44	CES32 = 55	CES57 = 60	CES82 = 93
CES08 = 43	CES33 = 55	CES58 = 64	CES83 = 83
CES09 = 29	CES34 = 75	CES59 = 84	CES84 = 93
CES10 = 79	CES35 = 88	CES60 = 89	CES85 = 81
CES11 = 62	CES36 = 78	CES61 = 84	CES86 = 55
CES12 = 68	CES37 = 82	CES62 = 68	CES87 = 79
CES13 = 45	CES38 = 54	CES63 = 68	CES88 = 72
CES14 = 75	CES39 = 90	CES64 = 69	CES89 = 62
CES15 = 72	CES40 = 86	CES65 = 66	CES90 = 67
CES16 = 49	CES41 = 75	CES66 = 64	CES91 = 89
CES17 = 51	CES42 = 83	CES67 = 63	CES92 = 67
CES18 = 57	CES43 = 68	CES68 = 71	CES93 = 78
CES19 = 74	CES44 = 98	CES69 = 81	CES94 = 52
CES20 = 68	CES45 = 76	CES70 = 65	CES95 = 76
CES21 = 89	CES46 = 68	CES71 = 64	CES96 = 78
CES22 = 81	CES47 = 60	CES72 = 88	CES97 = 76
CES23 = 92	CES48 = 47	CES73 = 59	CES98 = 71
CES24 = 92	CES49 = 65	CES74 = 85	CES99 = 65
CES25 = 74	CES50 = 74	CES75 = 66	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)