

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: P1067954

Luminaire Tested: **NAV-SA4B-730-U-LBC**

Issue Date: 08/07/2025

Test Information

Test Method: LM-79-08
Report Number: P1067954
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/07/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SA4B-730-U-LBC
Description: Navion AREA AND ROADWAY LUMINAIRE 800mA 4xLight Square PACKAGE
70CRI 3000K FIXTURE w/ LEFT CORNER BACKLIGHT CONTROL
Light Source: (56) 3000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13856.9 lumens
Efficiency: N/A
Efficacy: 96.2 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): 144.1
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



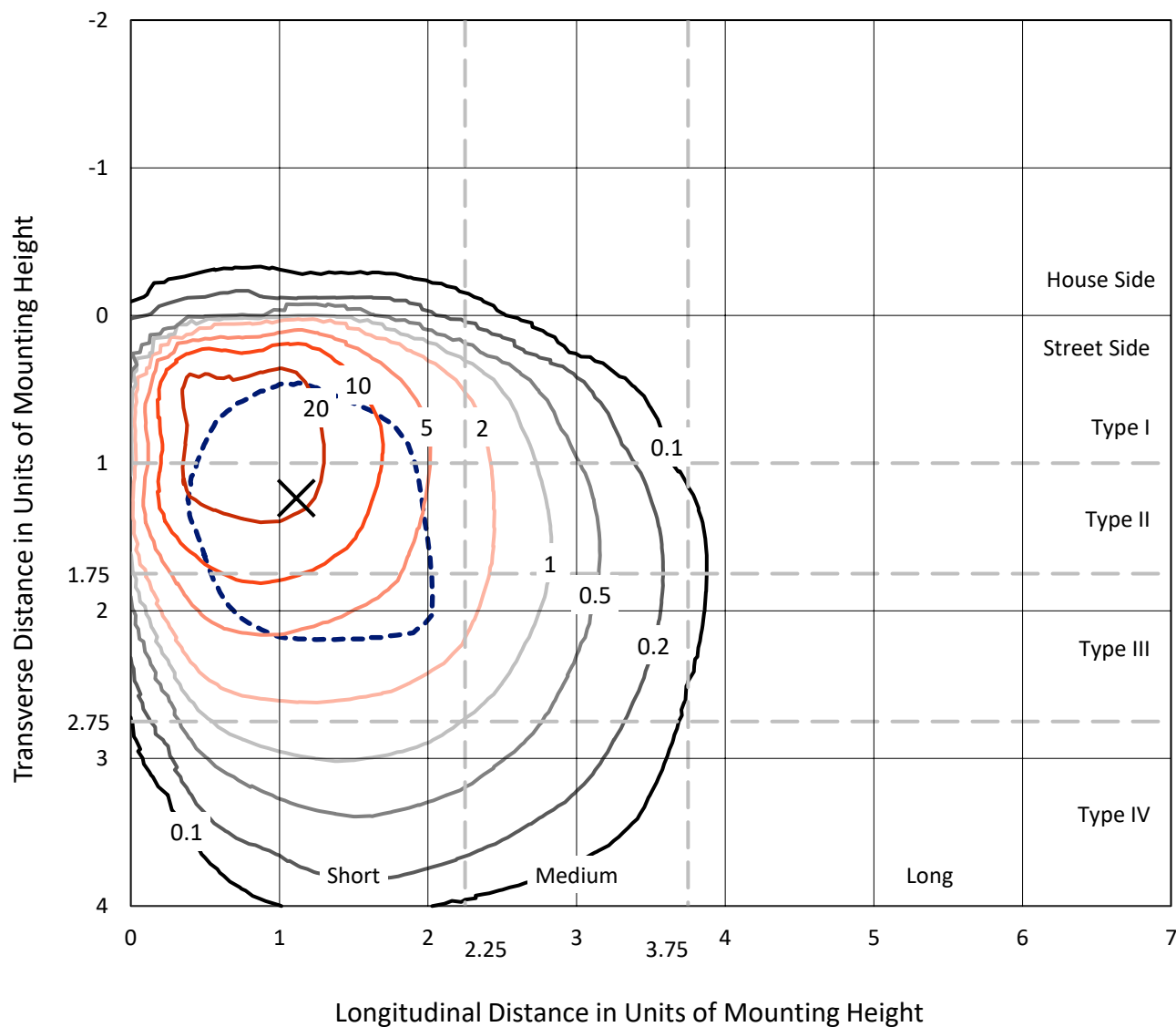
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

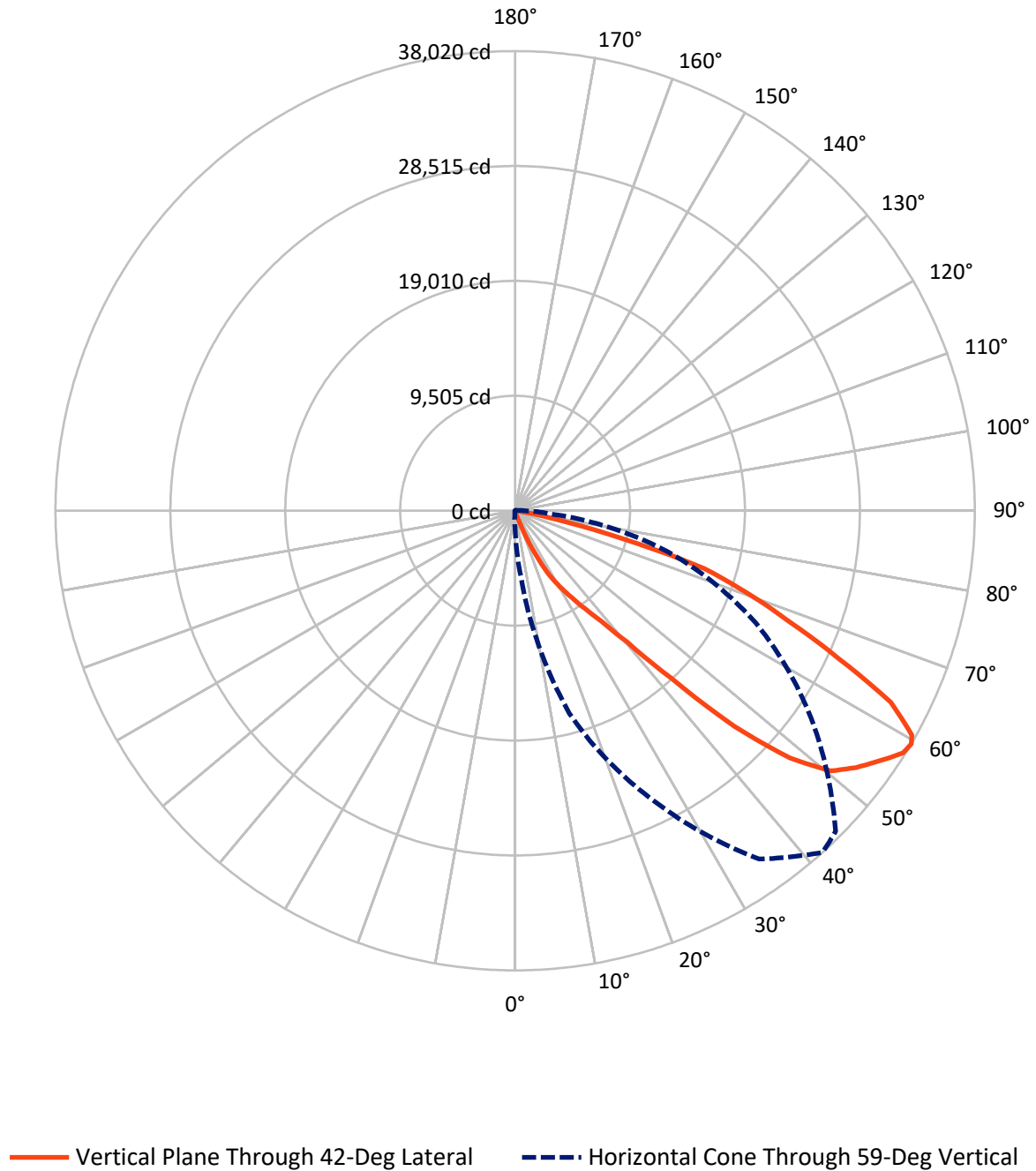


Based on 15 foot mounting height. Maximum calculated value = 41.2 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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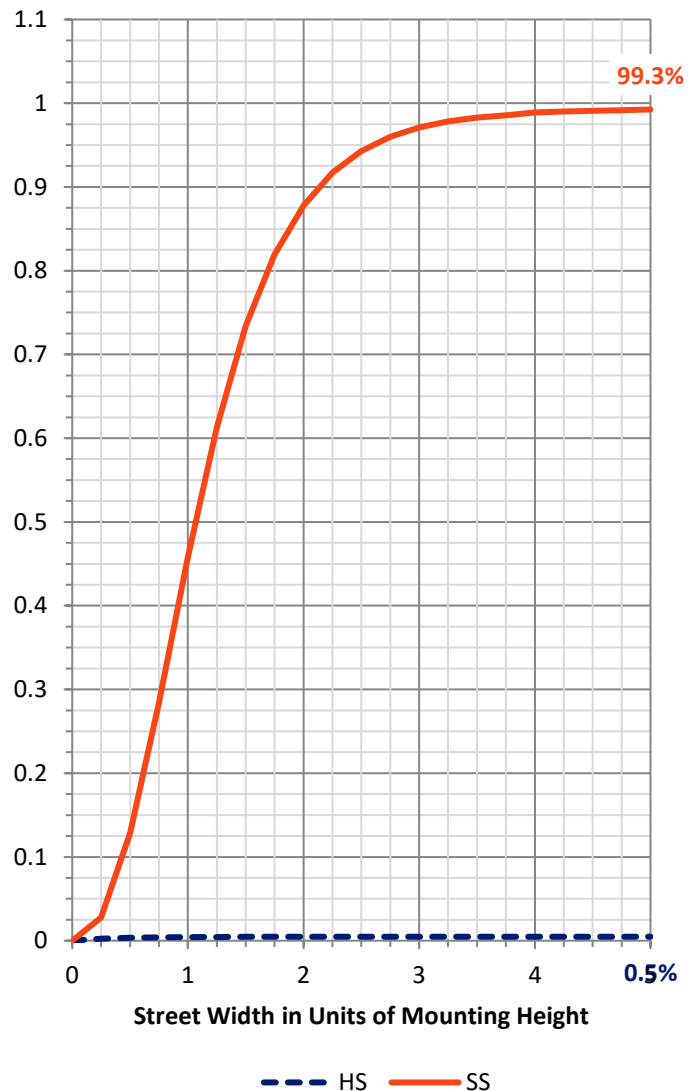
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	66.8	0.0	66.8
	% Fixture	0.5	0.0	0.5
Street Side	Lumens	13790.2	0.0	13790.2
	% Fixture	99.5	0.0	99.5
Total	Lumens	13856.9	0.0	13856.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4.1	0.0
10°-20°	20.2	0.1
20°-30°	258.5	1.9
30°-40°	871.4	6.3
40°-50°	2632.1	19.0
50°-60°	4646.2	33.5
60°-70°	4091.1	29.5
70°-80°	1302.2	9.4
80°-90°	31.1	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°	13856.9	100.0
0°-180°	13856.9	100.0



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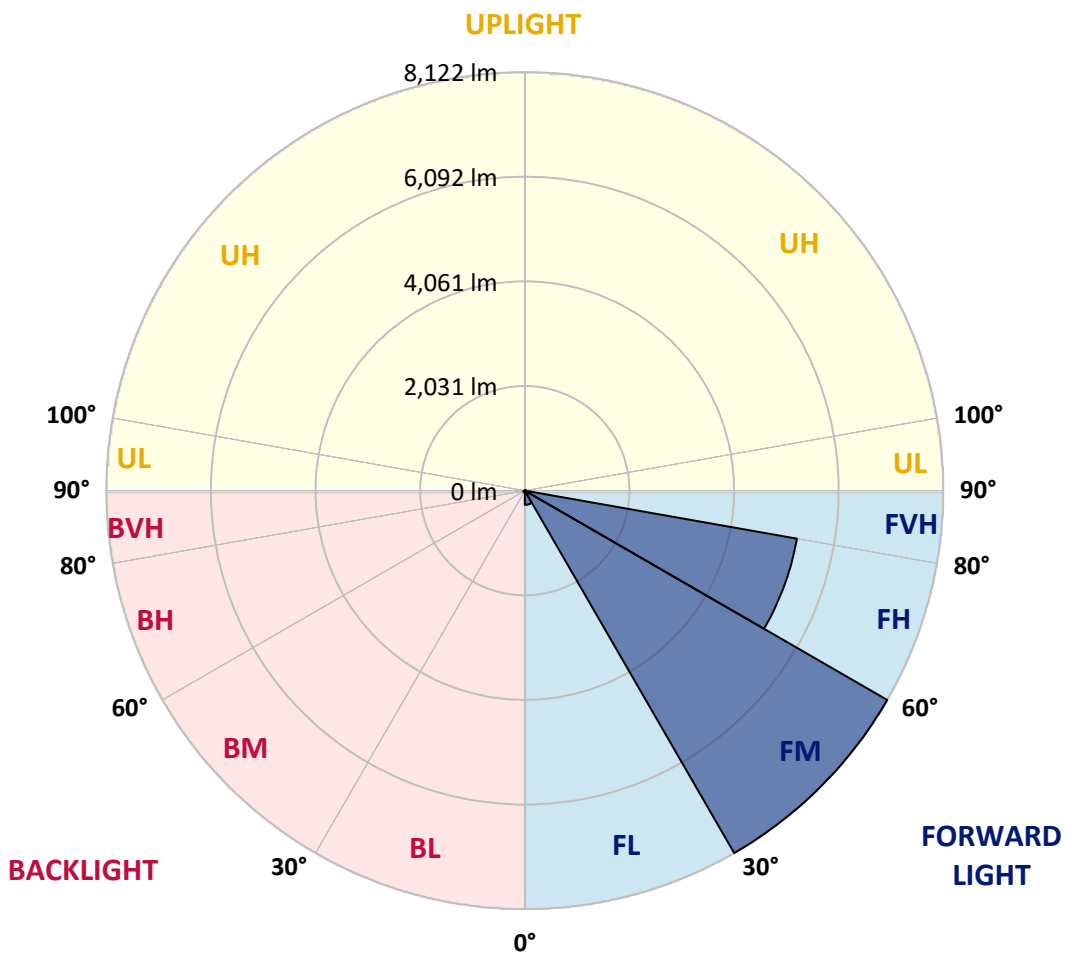
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	275.3	2.0			
FM	(30°-60°)	8122.5	58.6			
FH	(60°-80°)	5362.8	38.7			G3/7500
FVH	(80°-90°)	29.6	0.2			G1/100
BL	(0°-30°)	7.4	0.1	B0/110		
BM	(30°-60°)	27.3	0.2	B0/220		
BH	(60°-80°)	30.5	0.2	B0/110		G0/110
BVH	(80°-90°)	1.5	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°	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1
2.5°	60.8	60.8	56.5	52.1	47.8	43.4	43.4	43.4	39.1	39.1	34.8
5°	69.5	69.5	65.2	60.8	60.8	56.5	56.5	52.1	47.8	47.8	43.4
7.5°	73.9	73.9	73.9	73.9	69.5	69.5	69.5	65.2	60.8	56.5	52.1
10°	78.2	82.5	86.9	86.9	86.9	86.9	86.9	82.5	73.9	69.5	60.8
12.5°	86.9	91.2	99.9	108.6	108.6	113.0	108.6	104.3	95.6	82.5	69.5
15°	95.6	104.3	117.3	134.7	152.1	156.4	156.4	143.4	126.0	99.9	82.5
17.5°	108.6	121.6	156.4	212.9	273.7	321.5	321.5	286.7	199.9	130.3	95.6
20°	117.3	143.4	252.0	512.7	782.0	981.9	942.8	834.2	447.5	204.2	104.3
22.5°	130.3	182.5	534.4	1346.8	2085.4	2450.4	2363.5	1794.3	1003.6	364.9	126.0
25°	147.7	265.0	1060.1	2524.2	3875.4	4270.8	4214.3	3349.7	1829.1	612.6	160.8
27.5°	182.5	391.0	1698.7	3827.6	5717.5	6056.4	6034.7	4905.1	2923.9	986.2	208.5
30°	230.3	569.1	2519.9	5200.5	6938.3	7281.6	7173.0	6043.4	3944.9	1507.6	269.4
32.5°	286.7	795.1	3262.8	6212.8	8063.6	8515.4	8385.1	7033.9	4766.0	1950.7	399.7
35°	373.6	1016.6	3997.0	7107.8	9362.6	9936.1	9718.9	8054.9	5474.2	2450.4	482.3
37.5°	417.1	1147.0	4670.5	8081.0	10822.4	11604.5	11439.4	9345.3	6195.4	3089.0	590.9
40°	421.4	1303.4	5369.9	9349.6	12886.1	14280.7	13985.3	11561.0	7537.9	3910.2	760.3
42.5°	434.5	1538.0	6278.0	11513.2	16939.6	18942.5	18608.0	15636.3	10583.5	5556.8	1077.5
45°	495.3	1981.1	8128.8	15558.1	22505.1	25442.1	25055.4	21314.7	14836.9	8654.5	1837.8
47.5°	708.2	2980.4	11374.2	19924.4	28196.5	30538.3	30442.7	25789.6	18690.5	11830.4	3115.1
50°	1138.3	4574.9	15067.1	23595.6	31819.9	33831.5	33592.5	27657.8	20888.9	13998.3	3992.7
52.5°	1520.6	6099.8	17387.1	24946.8	32901.8	35300.0	35008.9	28339.9	21466.7	14637.0	4236.0
55°	1616.2	6651.6	18077.9	25363.9	33618.6	36542.5	36121.1	28796.1	21540.6	14180.8	3831.9
57.5°	1568.4	6130.2	17630.4	25772.2	34617.9	37819.9	37259.4	29686.7	21788.2	13407.5	3188.9
59°	1485.9	5487.2	17352.4	26098.1	35169.6	38019.7	37494.0	29882.2	21953.3	13055.6	2797.9
60°	1390.3	5052.8	17135.2	26311.0	35134.9	37706.9	37163.8	29791.0	22018.5	12751.4	2611.1
62.5°	1073.1	4031.8	16822.3	26158.9	32940.9	34852.5	34544.0	27557.9	21062.7	11778.2	2059.3
65°	834.2	3084.7	15675.4	23330.6	28031.4	29317.4	29221.9	23334.9	17726.0	10153.4	1485.9
67.5°	660.4	2250.5	13255.4	18894.7	22552.9	24382.0	24312.5	18942.5	13455.3	7759.5	1068.8
70°	538.7	1603.2	9088.9	14246.0	18038.8	20341.5	20241.6	15245.2	9970.9	4922.4	777.7
72.5°	456.2	1025.3	5513.3	10739.9	15054.1	16370.5	16079.4	12299.6	7251.2	2680.6	616.9
75°	386.7	630.0	2732.8	6695.0	8967.3	8958.6	8667.5	6512.6	3892.8	1312.1	490.9
77.5°	312.8	443.2	1073.1	1837.8	2828.3	3501.8	3445.3	2307.0	1164.4	382.3	304.1
80°	204.2	208.5	286.7	504.0	777.7	860.2	977.5	703.8	338.9	182.5	126.0
82.5°	91.2	99.9	130.3	165.1	165.1	152.1	134.7	99.9	73.9	60.8	30.4
85°	21.7	30.4	21.7	26.1	21.7	17.4	17.4	8.7	0.0	0.0	0.0
87.5°	4.3	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°	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1
2.5°	34.8	34.8	34.8	30.4	30.4	30.4	26.1	26.1	26.1	21.7	21.7
5°	43.4	39.1	34.8	34.8	30.4	30.4	26.1	21.7	21.7	21.7	17.4
7.5°	47.8	43.4	39.1	34.8	30.4	26.1	26.1	21.7	17.4	17.4	17.4
10°	56.5	52.1	43.4	34.8	30.4	26.1	21.7	21.7	17.4	13.0	13.0
12.5°	65.2	56.5	47.8	39.1	30.4	26.1	21.7	21.7	17.4	13.0	8.7
15°	73.9	65.2	52.1	39.1	30.4	26.1	21.7	21.7	13.0	8.7	4.3
17.5°	82.5	69.5	52.1	43.4	30.4	26.1	21.7	17.4	8.7	4.3	0.0
20°	86.9	73.9	56.5	43.4	30.4	26.1	21.7	13.0	4.3	0.0	0.0
22.5°	95.6	82.5	60.8	43.4	30.4	21.7	13.0	4.3	0.0	0.0	0.0
25°	113.0	86.9	60.8	43.4	30.4	21.7	8.7	0.0	0.0	0.0	0.0
27.5°	126.0	95.6	60.8	43.4	30.4	17.4	4.3	0.0	0.0	0.0	0.0
30°	147.7	104.3	65.2	43.4	30.4	13.0	4.3	0.0	0.0	0.0	0.0
32.5°	182.5	113.0	65.2	43.4	26.1	13.0	0.0	0.0	0.0	0.0	0.0
35°	221.6	130.3	65.2	43.4	26.1	13.0	0.0	0.0	0.0	0.0	0.0
37.5°	225.9	139.0	65.2	43.4	26.1	8.7	0.0	0.0	0.0	0.0	0.0
40°	234.6	130.3	69.5	43.4	26.1	8.7	0.0	0.0	0.0	0.0	0.0
42.5°	269.4	121.6	73.9	43.4	26.1	8.7	0.0	0.0	0.0	0.0	0.0
45°	399.7	126.0	73.9	47.8	26.1	13.0	0.0	0.0	0.0	0.0	0.0
47.5°	695.1	130.3	69.5	47.8	26.1	13.0	0.0	0.0	0.0	0.0	0.0
50°	890.6	152.1	69.5	52.1	30.4	8.7	0.0	0.0	0.0	0.0	0.0
52.5°	947.1	178.1	69.5	56.5	39.1	4.3	0.0	0.0	0.0	0.0	0.0
55°	921.1	208.5	73.9	60.8	47.8	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	851.5	225.9	78.2	65.2	52.1	0.0	0.0	0.0	0.0	0.0	0.0
59°	777.7	239.0	91.2	69.5	52.1	0.0	0.0	0.0	0.0	0.0	0.0
60°	716.9	252.0	95.6	73.9	52.1	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	577.8	269.4	104.3	86.9	43.4	0.0	0.0	0.0	0.0	0.0	0.0
65°	504.0	282.4	108.6	95.6	39.1	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	460.5	291.1	117.3	99.9	34.8	0.0	0.0	0.0	0.0	0.0	0.0
70°	425.8	286.7	126.0	95.6	30.4	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	386.7	273.7	152.1	86.9	26.1	0.0	0.0	0.0	0.0	0.0	0.0
75°	347.6	247.6	165.1	78.2	17.4	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	252.0	208.5	152.1	69.5	8.7	0.0	0.0	0.0	0.0	0.0	0.0
80°	108.6	113.0	108.6	52.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	21.7	26.1	21.7	13.0	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°	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1
2.5°	21.7	21.7	21.7	21.7	26.1	26.1	34.8	43.4	52.1	56.5	56.5
5°	17.4	17.4	17.4	17.4	17.4	21.7	26.1	34.8	47.8	52.1	52.1
7.5°	13.0	13.0	13.0	13.0	13.0	13.0	21.7	30.4	43.4	47.8	52.1
10°	13.0	8.7	8.7	4.3	4.3	8.7	13.0	26.1	39.1	43.4	47.8
12.5°	8.7	4.3	4.3	0.0	0.0	4.3	8.7	21.7	34.8	39.1	43.4
15°	4.3	0.0	0.0	0.0	0.0	0.0	4.3	17.4	30.4	34.8	43.4
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	26.1	34.8	39.1
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	21.7	30.4	34.8
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	17.4	26.1	30.4
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	17.4	21.7
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	13.0	17.4
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	13.0	17.4
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7	13.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7	13.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7	8.7
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
59°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	8.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
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°	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1
2.5°	60.8	60.8	56.5	52.1	52.1	52.1	56.5	60.8	60.8	60.8
5°	56.5	56.5	52.1	52.1	52.1	52.1	56.5	65.2	69.5	69.5
7.5°	56.5	56.5	52.1	52.1	52.1	52.1	56.5	65.2	69.5	73.9
10°	52.1	52.1	52.1	52.1	47.8	52.1	56.5	65.2	78.2	78.2
12.5°	52.1	52.1	52.1	52.1	47.8	52.1	60.8	69.5	82.5	86.9
15°	52.1	52.1	52.1	47.8	47.8	52.1	60.8	73.9	86.9	95.6
17.5°	47.8	52.1	52.1	47.8	47.8	52.1	60.8	73.9	95.6	108.6
20°	43.4	47.8	52.1	47.8	47.8	47.8	60.8	73.9	99.9	117.3
22.5°	39.1	43.4	47.8	47.8	43.4	47.8	60.8	78.2	108.6	130.3
25°	34.8	39.1	39.1	43.4	43.4	47.8	60.8	78.2	113.0	147.7
27.5°	26.1	30.4	34.8	39.1	39.1	47.8	60.8	82.5	121.6	182.5
30°	21.7	26.1	30.4	34.8	39.1	47.8	60.8	82.5	130.3	230.3
32.5°	21.7	26.1	30.4	34.8	39.1	43.4	60.8	86.9	143.4	286.7
35°	17.4	21.7	26.1	34.8	34.8	43.4	60.8	86.9	156.4	373.6
37.5°	17.4	21.7	26.1	34.8	34.8	43.4	60.8	86.9	191.2	417.1
40°	13.0	17.4	21.7	34.8	34.8	43.4	65.2	91.2	195.5	421.4
42.5°	13.0	17.4	21.7	30.4	34.8	43.4	65.2	91.2	182.5	434.5
45°	13.0	17.4	21.7	34.8	39.1	47.8	65.2	95.6	178.1	495.3
47.5°	13.0	17.4	21.7	34.8	43.4	47.8	65.2	95.6	182.5	708.2
50°	13.0	17.4	21.7	34.8	47.8	47.8	65.2	95.6	199.9	1138.3
52.5°	8.7	13.0	17.4	30.4	39.1	52.1	69.5	91.2	212.9	1520.6
55°	8.7	8.7	13.0	26.1	34.8	56.5	73.9	91.2	247.6	1616.2
57.5°	8.7	8.7	13.0	21.7	30.4	60.8	78.2	91.2	286.7	1568.4
59°	8.7	8.7	8.7	21.7	26.1	60.8	78.2	95.6	291.1	1485.9
60°	8.7	8.7	8.7	17.4	26.1	60.8	82.5	99.9	295.4	1390.3
62.5°	4.3	4.3	4.3	17.4	21.7	60.8	91.2	121.6	304.1	1073.1
65°	8.7	8.7	4.3	13.0	21.7	52.1	104.3	130.3	308.5	834.2
67.5°	8.7	8.7	8.7	17.4	21.7	52.1	108.6	134.7	308.5	660.4
70°	8.7	8.7	8.7	17.4	26.1	52.1	108.6	139.0	304.1	538.7
72.5°	8.7	8.7	8.7	17.4	26.1	47.8	99.9	143.4	291.1	456.2
75°	8.7	8.7	8.7	13.0	21.7	43.4	95.6	156.4	265.0	386.7
77.5°	8.7	8.7	8.7	8.7	17.4	34.8	86.9	173.8	234.6	312.8
80°	13.0	8.7	8.7	8.7	13.0	30.4	82.5	169.4	195.5	204.2
82.5°	13.0	8.7	8.7	4.3	8.7	21.7	65.2	130.3	99.9	91.2
85°	8.7	8.7	8.7	4.3	4.3	13.0	30.4	39.1	30.4	21.7
87.5°	8.7	8.7	8.7	4.3	4.3	4.3	4.3	4.3	4.3	4.3
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: SP1-2407-184-4

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-730-U-5WQ

Data in this report applies to families of products including GSS-SB1A-730-U-5WQ

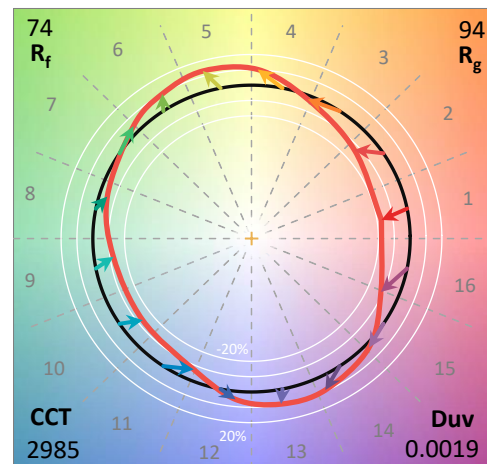
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-184-4
 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-730-U-5WQ**
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3000K CCT 26 LEDS

Spectral Parameters

CCT (K): 2985
 CIE u' : 0.2504
 CIE v' : 0.5243
 Duv: 0.0019
 CIE x: 0.4408
 CIE y: 0.4101
 CIE z: 0.1491
 Peak Wavelength (nm): 595
 Dominant Wavelength (nm): 582
 Purity: 55.41818
 R_f: 73.8
 R_g: 94.4

CRI (Ra): 70.8
 R1: 66.3
 R2: 80.6
 R3: 94.5
 R4: 68.2
 R5: 66.5
 R6: 74.7
 R7: 76.2
 R8: 39.6
 R9: -43.2
 R10: 57.6
 R11: 64.8
 R12: 53.5
 R13: 68.7
 R14: 97.0
 R15: 56.4



Test Conditions

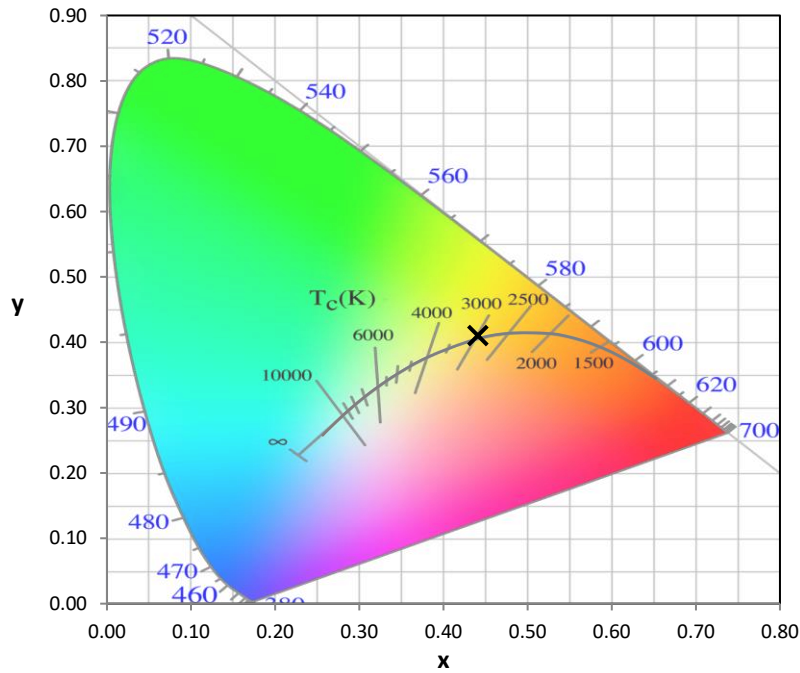
Stabilization Time: 36M
 Operation Time: 1H 36M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-4

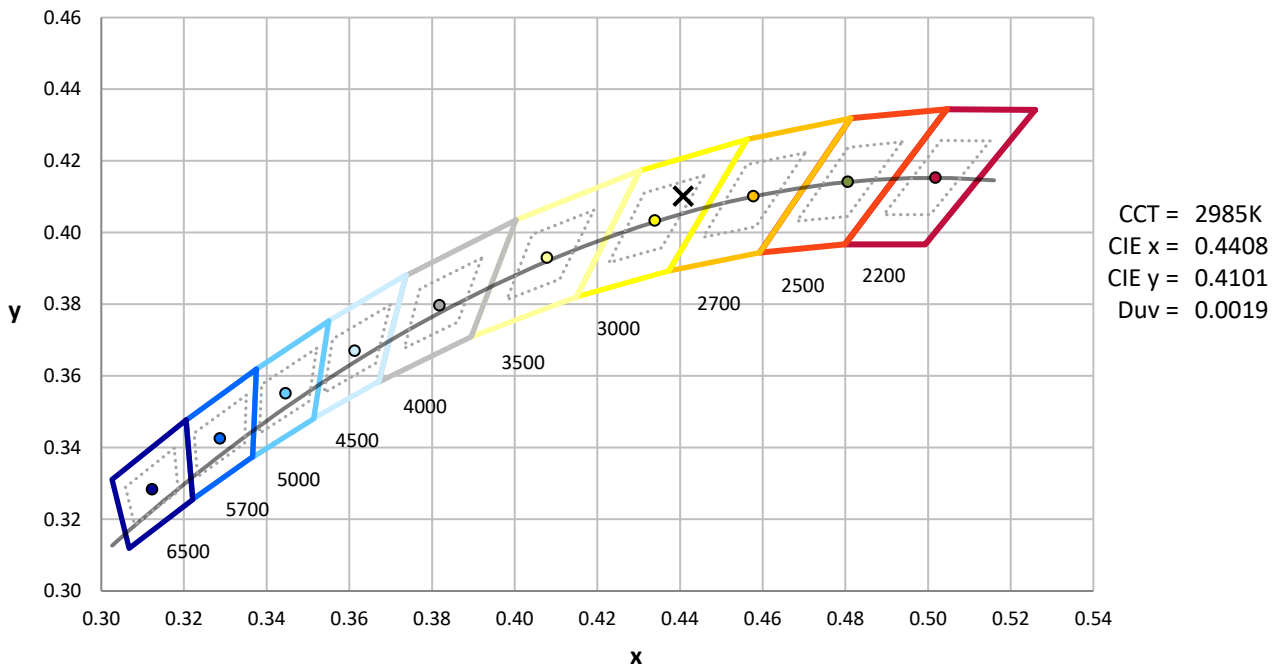
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-184-4

CIE 1931 Chromaticity Diagram



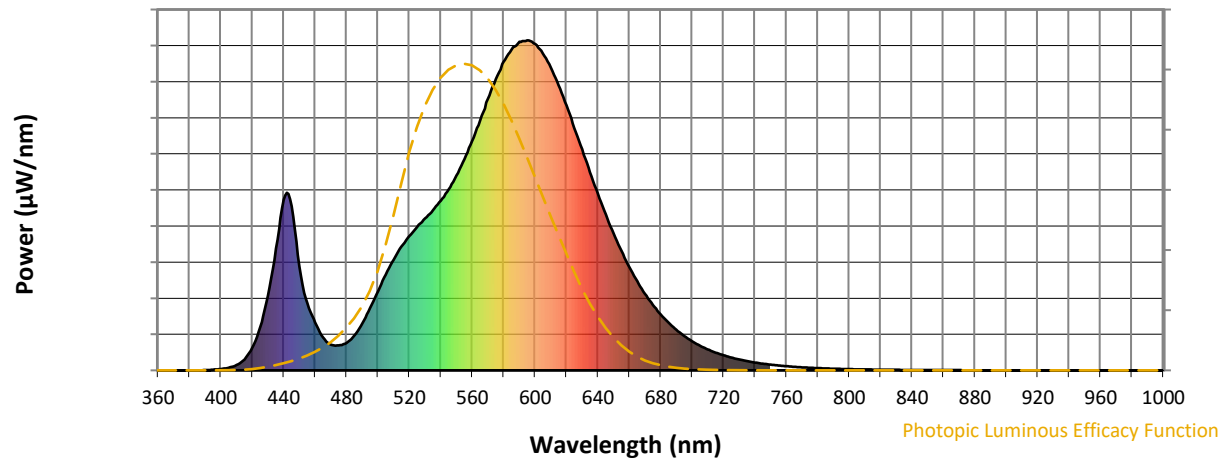
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-4

Photopic Flux vs. Wavelength

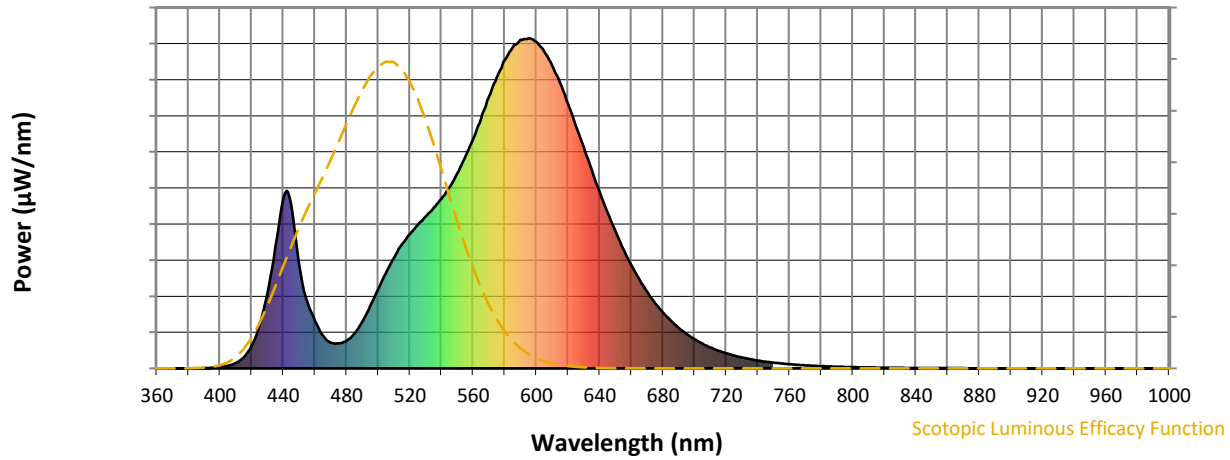


Photopic Lumens: NR

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	142	NR	620	803	NR	750	17	NR	880	0	NR
365	0	NR	495	189	NR	625	734	NR	755	15	NR	885	0	NR
370	0	NR	500	240	NR	630	670	NR	760	13	NR	890	0	NR
375	0	NR	505	290	NR	635	600	NR	765	11	NR	895	0	NR
380	0	NR	510	335	NR	640	535	NR	770	9	NR	900	0	NR
385	0	NR	515	375	NR	645	473	NR	775	8	NR	905	0	NR
390	1	NR	520	408	NR	650	415	NR	780	7	NR	910	0	NR
395	2	NR	525	434	NR	655	362	NR	785	6	NR	915	0	NR
400	4	NR	530	461	NR	660	313	NR	790	5	NR	920	0	NR
405	8	NR	535	486	NR	665	271	NR	795	4	NR	925	0	NR
410	16	NR	540	514	NR	670	231	NR	800	4	NR	930	0	NR
415	33	NR	545	549	NR	675	198	NR	805	3	NR	935	0	NR
420	69	NR	550	591	NR	680	169	NR	810	3	NR	940	0	NR
425	131	NR	555	640	NR	685	144	NR	815	2	NR	945	0	NR
430	227	NR	560	695	NR	690	123	NR	820	2	NR	950	0	NR
435	369	NR	565	757	NR	695	104	NR	825	2	NR	955	0	NR
440	517	NR	570	822	NR	700	88	NR	830	2	NR	960	0	NR
445	498	NR	575	882	NR	705	75	NR	835	1	NR	965	0	NR
450	315	NR	580	935	NR	710	63	NR	840	1	NR	970	0	NR
455	204	NR	585	972	NR	715	54	NR	845	1	NR	975	0	NR
460	145	NR	590	996	NR	720	46	NR	850	1	NR	980	0	NR
465	100	NR	595	1000	NR	725	39	NR	855	1	NR	985	0	NR
470	78	NR	600	989	NR	730	33	NR	860	1	NR	990	0	NR
475	76	NR	605	960	NR	735	28	NR	865	1	NR	995	0	NR
480	83	NR	610	918	NR	740	24	NR	870	1	NR	1000	0	NR
485	105	NR	615	864	NR	745	20	NR	875	1	NR			

REPORT NUMBER: SP1-2407-184-4

Scotopic Flux vs. Wavelength



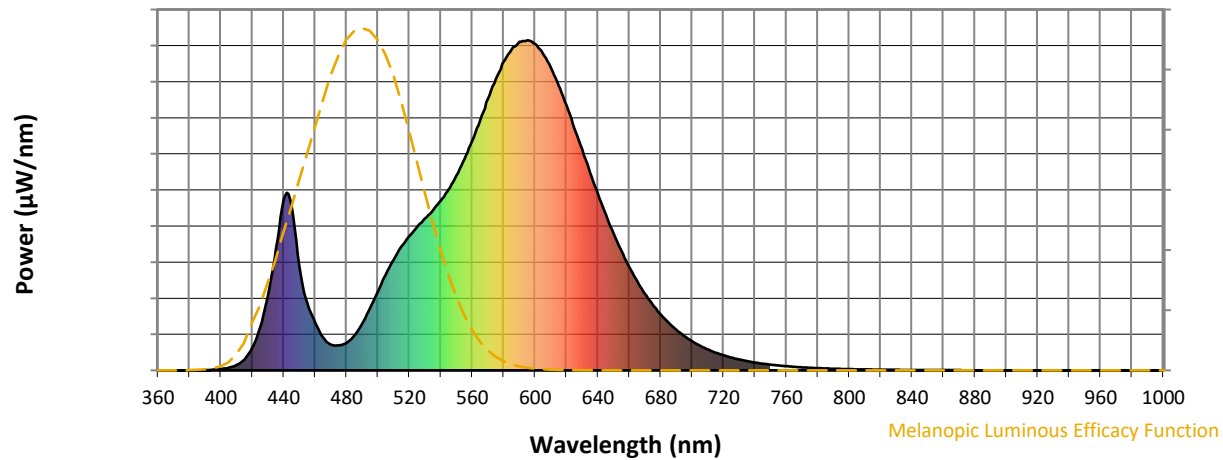
Scotopic Lumens: NR

S/P: 1.19

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	142	NR	620	803	NR	750	17	NR	880	0	NR
365	0	NR	495	189	NR	625	734	NR	755	15	NR	885	0	NR
370	0	NR	500	240	NR	630	670	NR	760	13	NR	890	0	NR
375	0	NR	505	290	NR	635	600	NR	765	11	NR	895	0	NR
380	0	NR	510	335	NR	640	535	NR	770	9	NR	900	0	NR
385	0	NR	515	375	NR	645	473	NR	775	8	NR	905	0	NR
390	1	NR	520	408	NR	650	415	NR	780	7	NR	910	0	NR
395	2	NR	525	434	NR	655	362	NR	785	6	NR	915	0	NR
400	4	NR	530	461	NR	660	313	NR	790	5	NR	920	0	NR
405	8	NR	535	486	NR	665	271	NR	795	4	NR	925	0	NR
410	16	NR	540	514	NR	670	231	NR	800	4	NR	930	0	NR
415	33	NR	545	549	NR	675	198	NR	805	3	NR	935	0	NR
420	69	NR	550	591	NR	680	169	NR	810	3	NR	940	0	NR
425	131	NR	555	640	NR	685	144	NR	815	2	NR	945	0	NR
430	227	NR	560	695	NR	690	123	NR	820	2	NR	950	0	NR
435	369	NR	565	757	NR	695	104	NR	825	2	NR	955	0	NR
440	517	NR	570	822	NR	700	88	NR	830	2	NR	960	0	NR
445	498	NR	575	882	NR	705	75	NR	835	1	NR	965	0	NR
450	315	NR	580	935	NR	710	63	NR	840	1	NR	970	0	NR
455	204	NR	585	972	NR	715	54	NR	845	1	NR	975	0	NR
460	145	NR	590	996	NR	720	46	NR	850	1	NR	980	0	NR
465	100	NR	595	1000	NR	725	39	NR	855	1	NR	985	0	NR
470	78	NR	600	989	NR	730	33	NR	860	1	NR	990	0	NR
475	76	NR	605	960	NR	735	28	NR	865	1	NR	995	0	NR
480	83	NR	610	918	NR	740	24	NR	870	1	NR	1000	0	NR
485	105	NR	615	864	NR	745	20	NR	875	1	NR			

REPORT NUMBER: SP1-2407-184-4

Melanopic Flux vs. Wavelength



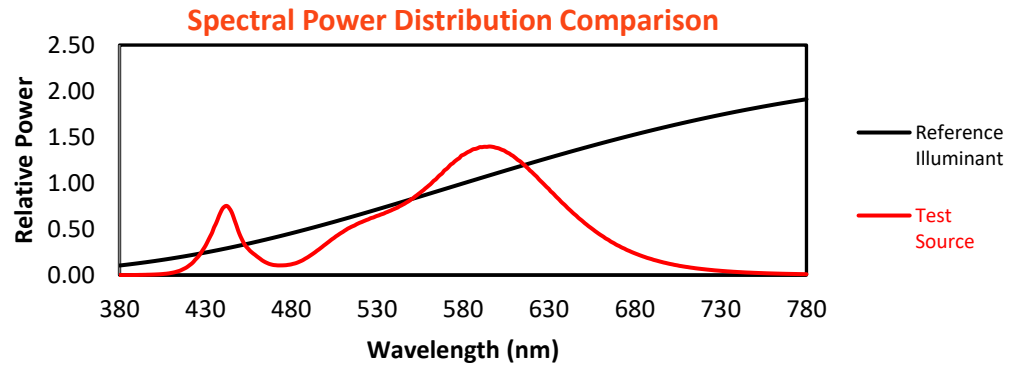
Melanopic Lumens: NR

M/P: 2.13

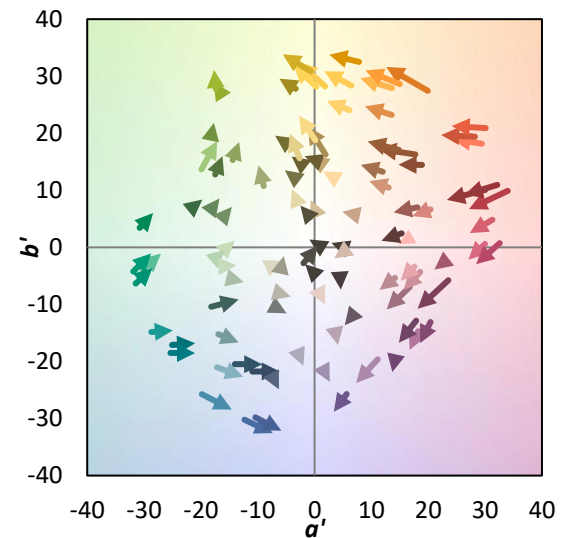
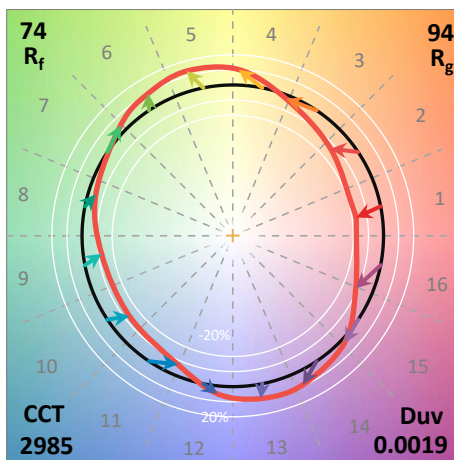
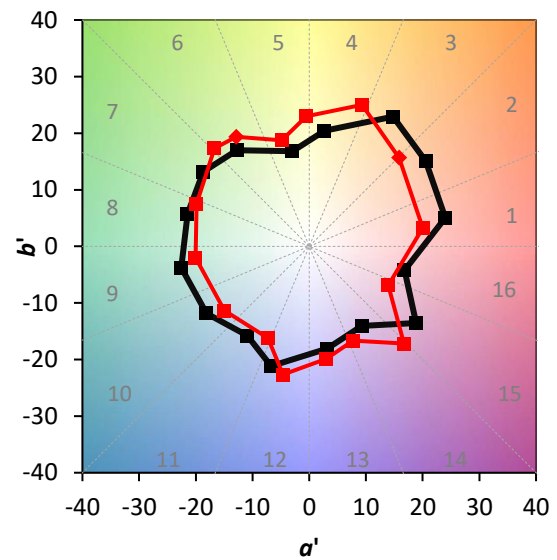
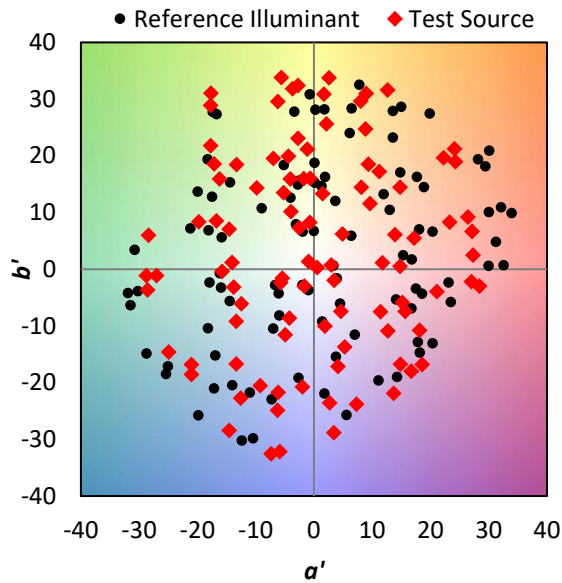
λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)
360	0	NR	490	142	NR	620	803	NR	750	17	NR	880	0	NR
365	0	NR	495	189	NR	625	734	NR	755	15	NR	885	0	NR
370	0	NR	500	240	NR	630	670	NR	760	13	NR	890	0	NR
375	0	NR	505	290	NR	635	600	NR	765	11	NR	895	0	NR
380	0	NR	510	335	NR	640	535	NR	770	9	NR	900	0	NR
385	0	NR	515	375	NR	645	473	NR	775	8	NR	905	0	NR
390	1	NR	520	408	NR	650	415	NR	780	7	NR	910	0	NR
395	2	NR	525	434	NR	655	362	NR	785	6	NR	915	0	NR
400	4	NR	530	461	NR	660	313	NR	790	5	NR	920	0	NR
405	8	NR	535	486	NR	665	271	NR	795	4	NR	925	0	NR
410	16	NR	540	514	NR	670	231	NR	800	4	NR	930	0	NR
415	33	NR	545	549	NR	675	198	NR	805	3	NR	935	0	NR
420	69	NR	550	591	NR	680	169	NR	810	3	NR	940	0	NR
425	131	NR	555	640	NR	685	144	NR	815	2	NR	945	0	NR
430	227	NR	560	695	NR	690	123	NR	820	2	NR	950	0	NR
435	369	NR	565	757	NR	695	104	NR	825	2	NR	955	0	NR
440	517	NR	570	822	NR	700	88	NR	830	2	NR	960	0	NR
445	498	NR	575	882	NR	705	75	NR	835	1	NR	965	0	NR
450	315	NR	580	935	NR	710	63	NR	840	1	NR	970	0	NR
455	204	NR	585	972	NR	715	54	NR	845	1	NR	975	0	NR
460	145	NR	590	996	NR	720	46	NR	850	1	NR	980	0	NR
465	100	NR	595	1000	NR	725	39	NR	855	1	NR	985	0	NR
470	78	NR	600	989	NR	730	33	NR	860	1	NR	990	0	NR
475	76	NR	605	960	NR	735	28	NR	865	1	NR	995	0	NR
480	83	NR	610	918	NR	740	24	NR	870	1	NR	1000	0	NR
485	105	NR	615	864	NR	745	20	NR	875	1	NR			

Summary

$R_f = 73.8$
 $R_g = 94.4$
 $CIE\ R_a = 70.8$
 $R_g = -43.2$

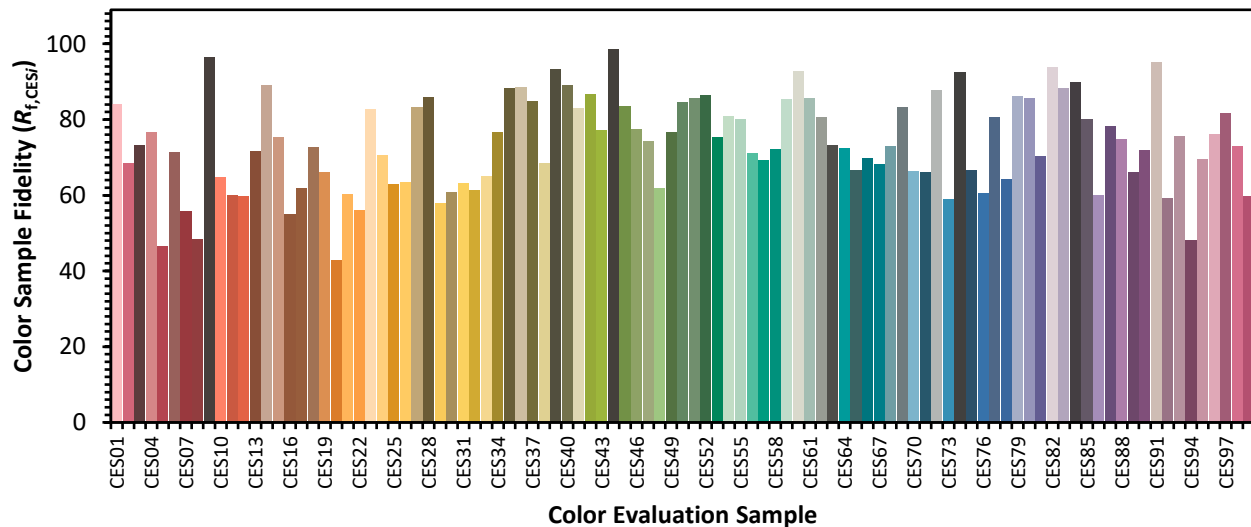


Color Vector Graphics

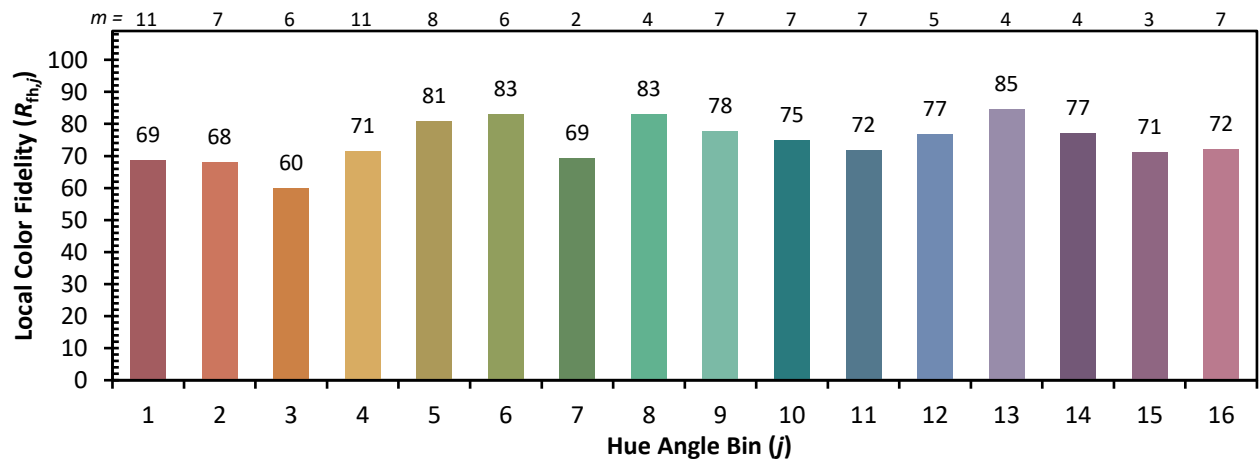
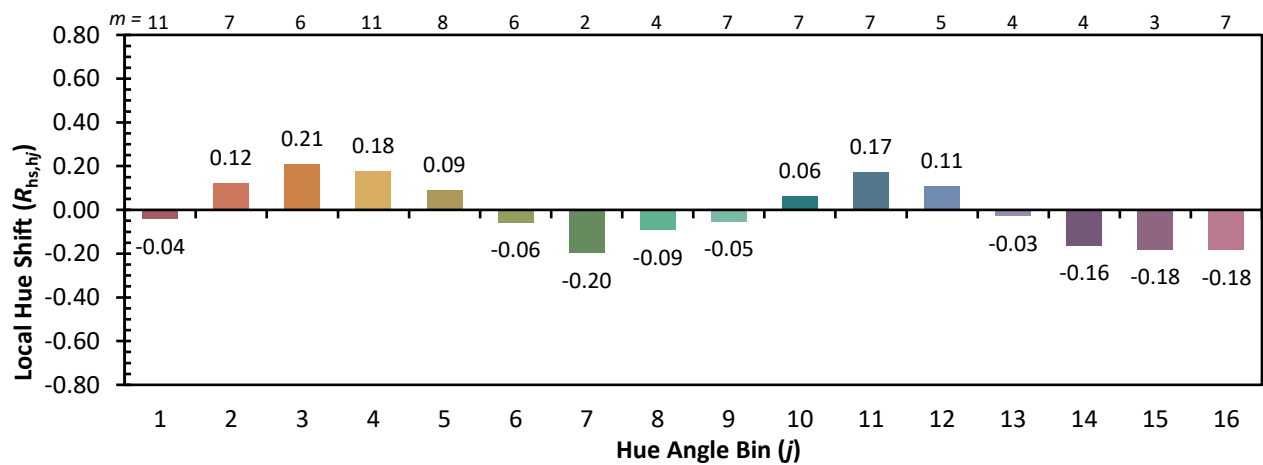
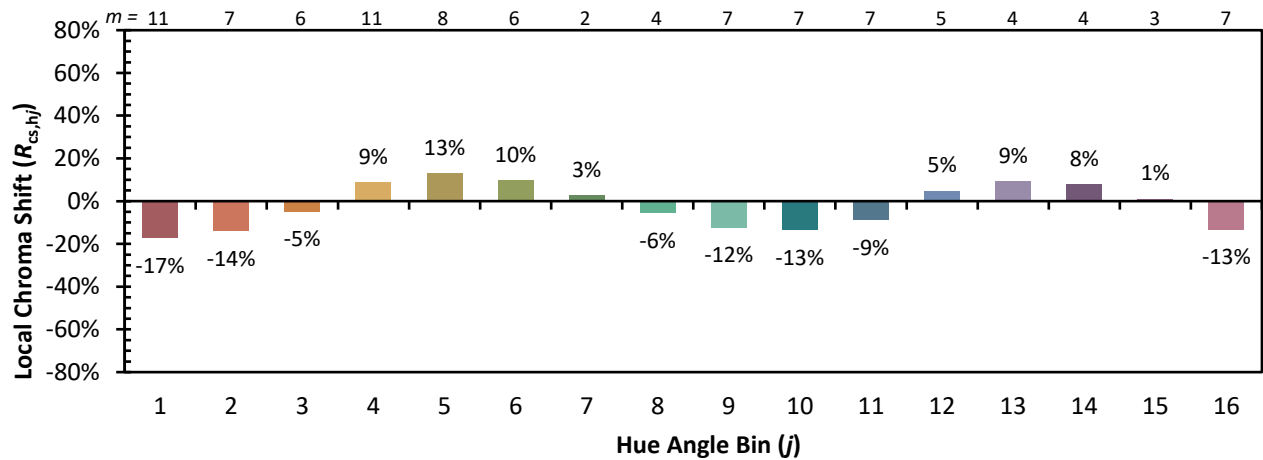


Individual Sample Fidelity Index ($R_{f,i}$)

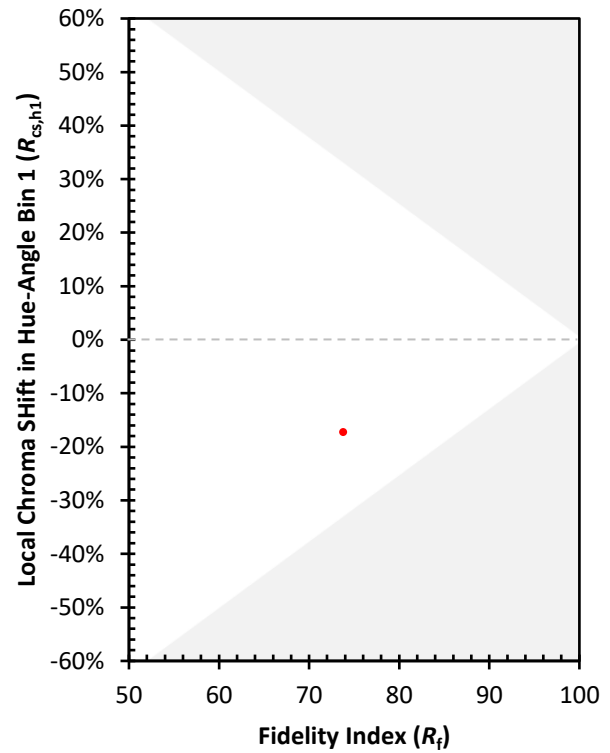
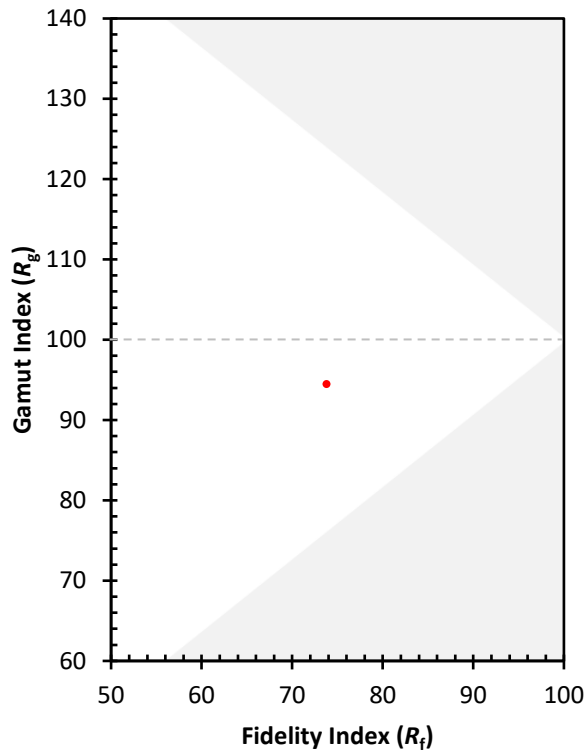
CES01 = 86	CES26 = 63	CES51 = 86	CES76 = 61
CES02 = 62	CES27 = 83	CES52 = 86	CES77 = 81
CES03 = 31	CES28 = 86	CES53 = 75	CES78 = 64
CES04 = 71	CES29 = 58	CES54 = 81	CES79 = 86
CES05 = 49	CES30 = 61	CES55 = 80	CES80 = 86
CES06 = 51	CES31 = 63	CES56 = 71	CES81 = 70
CES07 = 41	CES32 = 61	CES57 = 69	CES82 = 94
CES08 = 40	CES33 = 65	CES58 = 72	CES83 = 88
CES09 = 29	CES34 = 77	CES59 = 85	CES84 = 90
CES10 = 76	CES35 = 88	CES60 = 93	CES85 = 80
CES11 = 59	CES36 = 89	CES61 = 86	CES86 = 60
CES12 = 65	CES37 = 85	CES62 = 81	CES87 = 78
CES13 = 43	CES38 = 69	CES63 = 73	CES88 = 75
CES14 = 74	CES39 = 93	CES64 = 72	CES89 = 66
CES15 = 71	CES40 = 89	CES65 = 67	CES90 = 72
CES16 = 47	CES41 = 83	CES66 = 70	CES91 = 95
CES17 = 50	CES42 = 87	CES67 = 68	CES92 = 59
CES18 = 56	CES43 = 77	CES68 = 73	CES93 = 76
CES19 = 73	CES44 = 99	CES69 = 83	CES94 = 48
CES20 = 66	CES45 = 83	CES70 = 66	CES95 = 70
CES21 = 87	CES46 = 77	CES71 = 66	CES96 = 76
CES22 = 79	CES47 = 74	CES72 = 88	CES97 = 82
CES23 = 92	CES48 = 62	CES73 = 59	CES98 = 73
CES24 = 91	CES49 = 77	CES74 = 93	CES99 = 60
CES25 = 73	CES50 = 85	CES75 = 67	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)