

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: P1068099

Luminaire Tested: **NAV-SA4C-835-U-LBC**

Issue Date: 08/07/2025

Test Information

Test Method: LM-79-08
Report Number: P1068099
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/07/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SA4C-835-U-LBC
Description: Navion AREA AND ROADWAY LUMINAIRE 1050mA 4xLight Square PACKAGE
80CRI 3500K FIXTURE w/ LEFT CORNER BACKLIGHT CONTROL
Light Source: (56) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16643.9 lumens
Efficiency: N/A
Efficacy: 87.4 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): 190.4
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



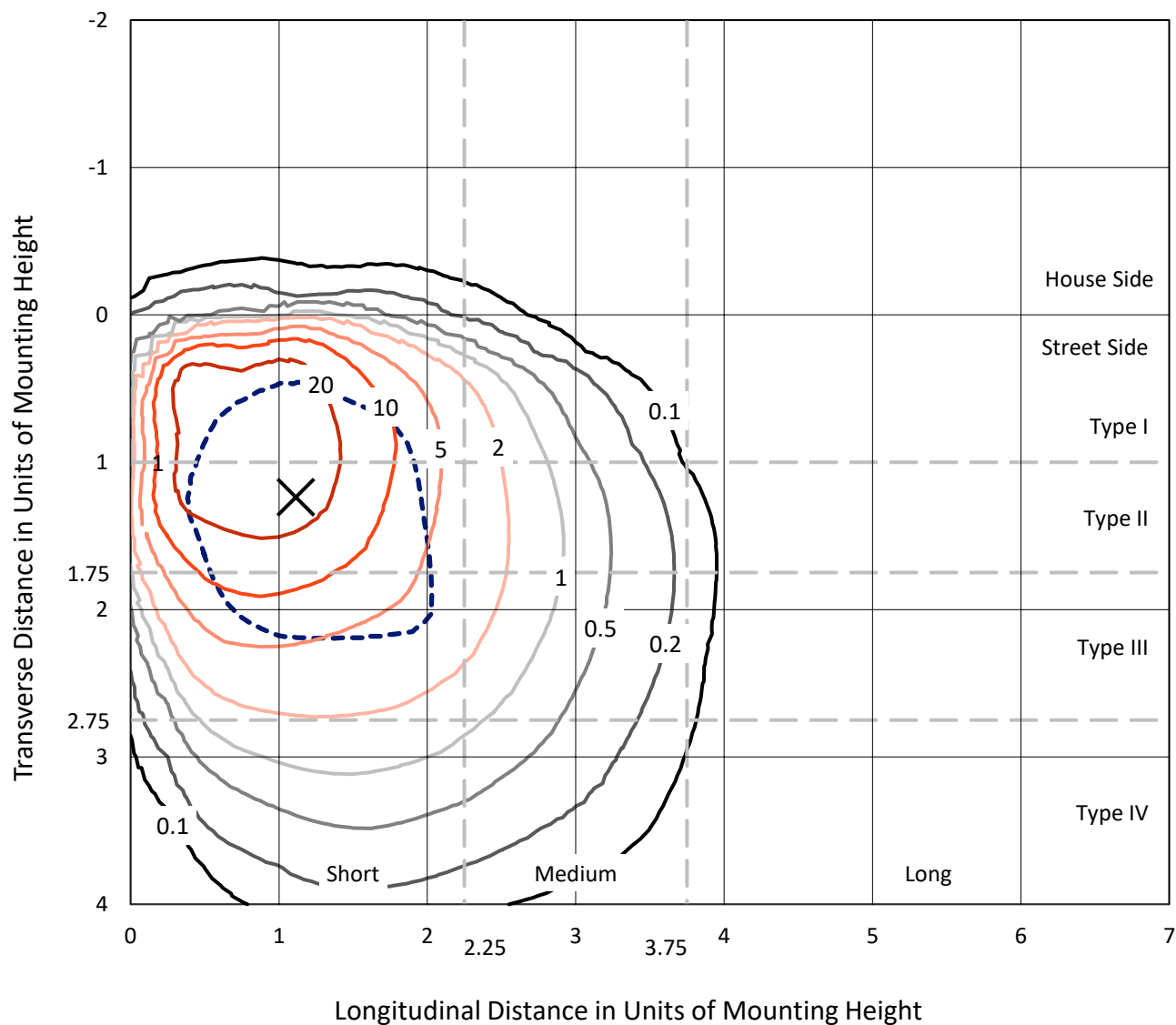
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

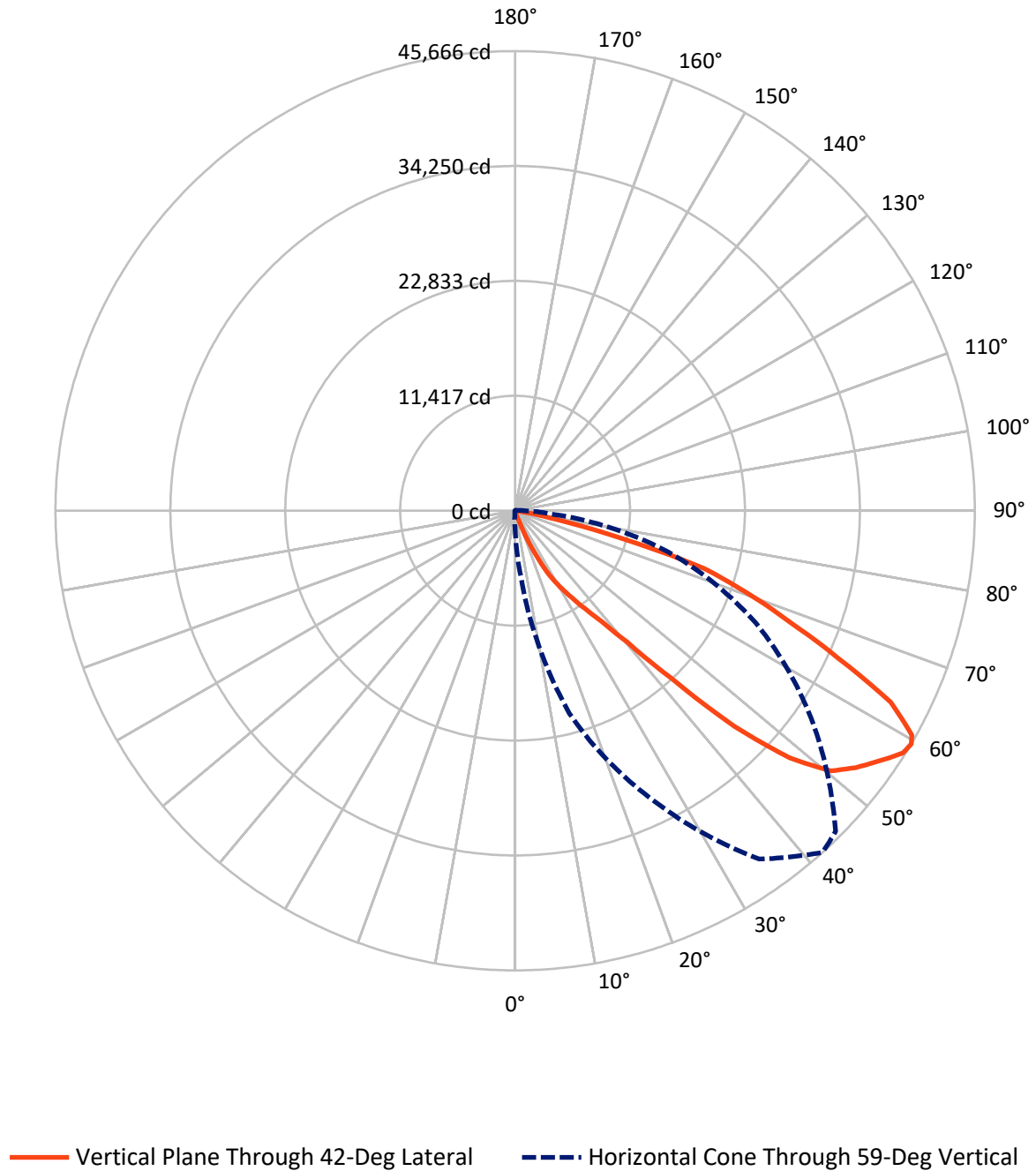


Based on 15 foot mounting height. Maximum calculated value = 49.4 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	80.2	0.0	80.2
	% Fixture	0.5	0.0	0.5
Street Side	Lumens	16563.7	0.0	16563.7
	% Fixture	99.5	0.0	99.5
Total	Lumens	16643.9	0.0	16643.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4.9	0.0
10°-20°	24.3	0.1
20°-30°	310.5	1.9
30°-40°	1046.7	6.3
40°-50°	3161.4	19.0
50°-60°	5580.7	33.5
60°-70°	4913.9	29.5
70°-80°	1564.1	9.4
80°-90°	37.4	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°	16643.9	100.0
0°-180°	16643.9	100.0



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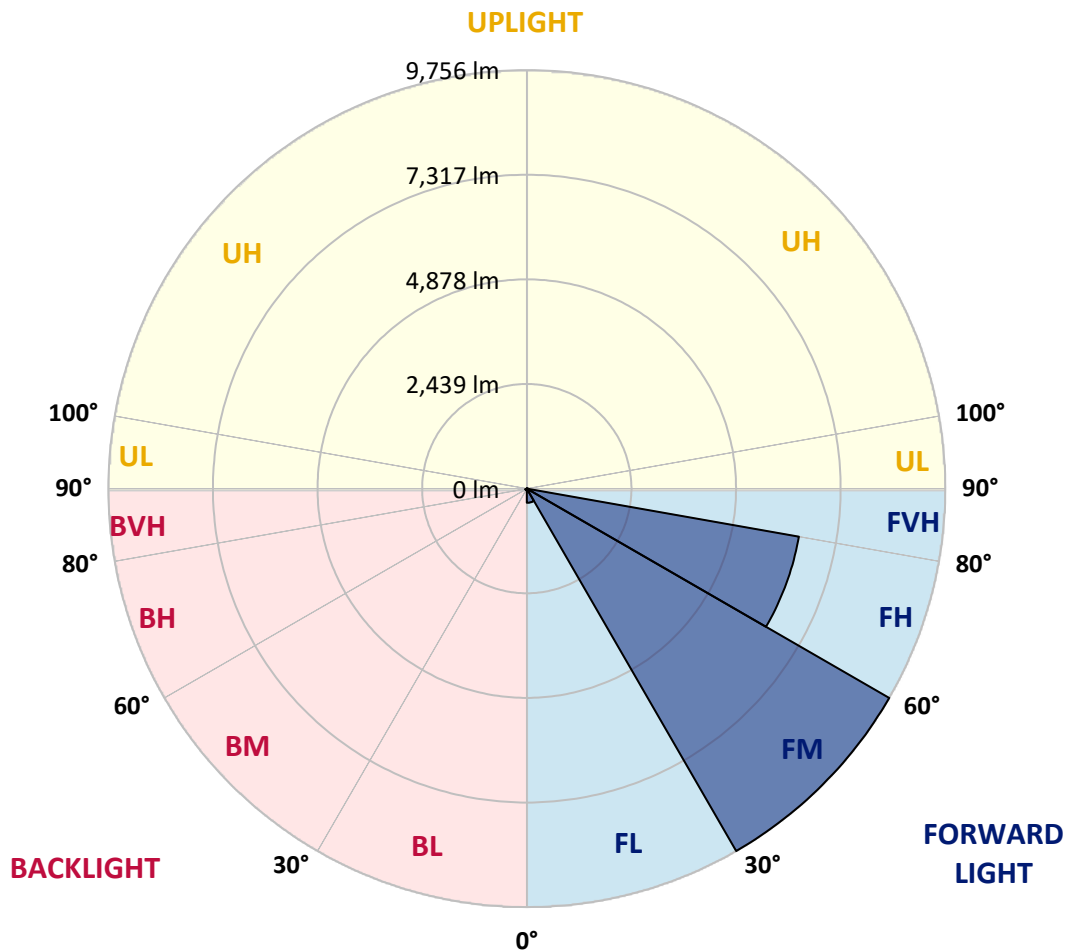
CATALOG NUMBER: NAV-SA4C-835-U-LBC

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	330.7	2.0			
FM	(30°-60°)	9756.1	58.6			
FH	(60°-80°)	6441.3	38.7			G3/7500
FVH	(80°-90°)	35.6	0.2			G1/100
BL	(0°-30°)	8.9	0.1	B0/110		
BM	(30°-60°)	32.8	0.2	B0/220		
BH	(60°-80°)	36.7	0.2	B0/110		G0/110
BVH	(80°-90°)	1.8	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°	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
2.5°	73.1	73.1	67.8	62.6	57.4	52.2	52.2	52.2	47.0	47.0	41.7
5°	83.5	83.5	78.3	73.1	73.1	67.8	67.8	62.6	57.4	57.4	52.2
7.5°	88.7	88.7	88.7	88.7	83.5	83.5	83.5	78.3	73.1	67.8	62.6
10°	93.9	99.1	104.4	104.4	104.4	104.4	104.4	99.1	88.7	83.5	73.1
12.5°	104.4	109.6	120.0	130.5	130.5	135.7	130.5	125.2	114.8	99.1	83.5
15°	114.8	125.2	140.9	161.8	182.6	187.9	187.9	172.2	151.3	120.0	99.1
17.5°	130.5	146.1	187.9	255.7	328.8	386.2	386.2	344.4	240.0	156.6	114.8
20°	140.9	172.2	302.7	615.8	939.3	1179.4	1132.4	1001.9	537.5	245.3	125.2
22.5°	156.6	219.2	641.9	1617.7	2504.8	2943.2	2838.8	2155.2	1205.5	438.3	151.3
25°	177.4	318.3	1273.3	3031.9	4654.8	5129.7	5061.9	4023.4	2197.0	735.8	193.1
27.5°	219.2	469.7	2040.4	4597.4	6867.4	7274.5	7248.4	5891.6	3512.0	1184.6	250.5
30°	276.6	683.6	3026.7	6246.4	8333.8	8746.1	8615.6	7258.8	4738.3	1810.8	323.5
32.5°	344.4	955.0	3919.0	7462.3	9685.4	10228.1	10071.5	8448.6	5724.6	2343.1	480.1
35°	448.8	1221.1	4800.9	8537.3	11245.7	11934.5	11673.6	9674.9	6575.2	2943.2	579.2
37.5°	501.0	1377.7	5609.8	9706.3	12999.1	13938.4	13740.1	11224.8	7441.5	3710.3	709.7
40°	506.2	1565.5	6450.0	11230.0	15477.8	17152.9	16798.1	13886.2	9054.0	4696.6	913.2
42.5°	521.8	1847.3	7540.6	13828.8	20346.6	22752.3	22350.5	18781.1	12712.1	6674.4	1294.2
45°	594.9	2379.6	9763.7	18687.1	27031.4	30559.0	30094.6	25601.5	17820.9	10395.1	2207.4
47.5°	850.6	3579.8	13661.8	23931.7	33867.5	36680.2	36565.4	30976.5	22449.6	14209.7	3741.6
50°	1367.2	5495.0	18097.5	28341.2	38219.7	40635.8	40348.8	33220.4	25090.1	16813.7	4795.7
52.5°	1826.4	7326.7	20884.1	29964.1	39519.1	42399.6	42050.0	34039.7	25784.2	17580.8	5088.0
55°	1941.3	7989.4	21713.8	30465.1	40380.1	43892.1	43385.9	34587.7	25872.9	17032.9	4602.6
57.5°	1883.8	7363.2	21176.3	30955.6	41580.3	45426.3	44753.1	35657.4	26170.4	16104.0	3830.3
59°	1784.7	6590.9	20842.4	31347.0	42243.1	45666.4	45034.9	35892.3	26368.7	15681.3	3360.7
60°	1669.9	6069.0	20581.4	31602.7	42201.3	45290.6	44638.3	35782.7	26446.9	15316.0	3136.3
62.5°	1288.9	4842.7	20205.7	31420.1	39566.0	41862.1	41491.6	33100.4	25298.9	14147.1	2473.5
65°	1001.9	3705.1	18828.0	28022.9	33669.2	35213.9	35099.1	28028.1	21291.1	12195.4	1784.7
67.5°	793.2	2703.1	15921.4	22694.9	27088.8	29285.7	29202.3	22752.3	16161.4	9320.1	1283.7
70°	647.1	1925.6	10916.9	17111.2	21666.9	24432.6	24312.6	18311.4	11976.3	5912.5	934.1
72.5°	547.9	1231.5	6622.2	12899.9	18081.8	19663.0	19313.4	14773.3	8709.5	3219.8	741.0
75°	464.4	756.7	3282.4	8041.6	10770.8	10760.4	10410.7	7822.4	4675.7	1576.0	589.7
77.5°	375.7	532.3	1288.9	2207.4	3397.2	4206.0	4138.2	2771.0	1398.5	459.2	365.3
80°	245.3	250.5	344.4	605.3	934.1	1033.2	1174.1	845.4	407.0	219.2	151.3
82.5°	109.6	120.0	156.6	198.3	198.3	182.6	161.8	120.0	88.7	73.1	36.5
85°	26.1	36.5	26.1	31.3	26.1	20.9	20.9	10.4	0.0	0.0	0.0
87.5°	5.2	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°	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
2.5°	41.7	41.7	41.7	36.5	36.5	36.5	31.3	31.3	31.3	26.1	26.1
5°	52.2	47.0	41.7	41.7	36.5	36.5	31.3	26.1	26.1	26.1	20.9
7.5°	57.4	52.2	47.0	41.7	36.5	31.3	31.3	26.1	20.9	20.9	20.9
10°	67.8	62.6	52.2	41.7	36.5	31.3	26.1	26.1	20.9	15.7	15.7
12.5°	78.3	67.8	57.4	47.0	36.5	31.3	26.1	26.1	20.9	15.7	10.4
15°	88.7	78.3	62.6	47.0	36.5	31.3	26.1	26.1	15.7	10.4	5.2
17.5°	99.1	83.5	62.6	52.2	36.5	31.3	26.1	20.9	10.4	5.2	0.0
20°	104.4	88.7	67.8	52.2	36.5	31.3	26.1	15.7	5.2	0.0	0.0
22.5°	114.8	99.1	73.1	52.2	36.5	26.1	15.7	5.2	0.0	0.0	0.0
25°	135.7	104.4	73.1	52.2	36.5	26.1	10.4	0.0	0.0	0.0	0.0
27.5°	151.3	114.8	73.1	52.2	36.5	20.9	5.2	0.0	0.0	0.0	0.0
30°	177.4	125.2	78.3	52.2	36.5	15.7	5.2	0.0	0.0	0.0	0.0
32.5°	219.2	135.7	78.3	52.2	31.3	15.7	0.0	0.0	0.0	0.0	0.0
35°	266.1	156.6	78.3	52.2	31.3	15.7	0.0	0.0	0.0	0.0	0.0
37.5°	271.4	167.0	78.3	52.2	31.3	10.4	0.0	0.0	0.0	0.0	0.0
40°	281.8	156.6	83.5	52.2	31.3	10.4	0.0	0.0	0.0	0.0	0.0
42.5°	323.5	146.1	88.7	52.2	31.3	10.4	0.0	0.0	0.0	0.0	0.0
45°	480.1	151.3	88.7	57.4	31.3	15.7	0.0	0.0	0.0	0.0	0.0
47.5°	834.9	156.6	83.5	57.4	31.3	15.7	0.0	0.0	0.0	0.0	0.0
50°	1069.8	182.6	83.5	62.6	36.5	10.4	0.0	0.0	0.0	0.0	0.0
52.5°	1137.6	214.0	83.5	67.8	47.0	5.2	0.0	0.0	0.0	0.0	0.0
55°	1106.3	250.5	88.7	73.1	57.4	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	1022.8	271.4	93.9	78.3	62.6	0.0	0.0	0.0	0.0	0.0	0.0
59°	934.1	287.0	109.6	83.5	62.6	0.0	0.0	0.0	0.0	0.0	0.0
60°	861.0	302.7	114.8	88.7	62.6	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	694.0	323.5	125.2	104.4	52.2	0.0	0.0	0.0	0.0	0.0	0.0
65°	605.3	339.2	130.5	114.8	47.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	553.2	349.6	140.9	120.0	41.7	0.0	0.0	0.0	0.0	0.0	0.0
70°	511.4	344.4	151.3	114.8	36.5	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	464.4	328.8	182.6	104.4	31.3	0.0	0.0	0.0	0.0	0.0	0.0
75°	417.5	297.4	198.3	93.9	20.9	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	302.7	250.5	182.6	83.5	10.4	0.0	0.0	0.0	0.0	0.0	0.0
80°	130.5	135.7	130.5	62.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	26.1	31.3	26.1	15.7	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°	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
2.5°	26.1	26.1	26.1	26.1	31.3	31.3	41.7	52.2	62.6	67.8	67.8
5°	20.9	20.9	20.9	20.9	20.9	26.1	31.3	41.7	57.4	62.6	62.6
7.5°	15.7	15.7	15.7	15.7	15.7	15.7	26.1	36.5	52.2	57.4	62.6
10°	15.7	10.4	10.4	5.2	5.2	10.4	15.7	31.3	47.0	52.2	57.4
12.5°	10.4	5.2	5.2	0.0	0.0	5.2	10.4	26.1	41.7	47.0	52.2
15°	5.2	0.0	0.0	0.0	0.0	0.0	5.2	20.9	36.5	41.7	52.2
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	31.3	41.7	47.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	26.1	36.5	41.7
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	20.9	31.3	36.5
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	20.9	26.1
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	15.7	20.9
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	15.7	20.9
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4	15.7
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4	15.7
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4	10.4
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.2
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.2
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
59°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.2
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	10.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.2
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°	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
2.5°	73.1	73.1	67.8	62.6	62.6	62.6	67.8	73.1	73.1	73.1
5°	67.8	67.8	62.6	62.6	62.6	62.6	67.8	78.3	83.5	83.5
7.5°	67.8	67.8	62.6	62.6	62.6	62.6	67.8	78.3	83.5	88.7
10°	62.6	62.6	62.6	62.6	57.4	62.6	67.8	78.3	93.9	93.9
12.5°	62.6	62.6	62.6	62.6	57.4	62.6	73.1	83.5	99.1	104.4
15°	62.6	62.6	62.6	57.4	57.4	62.6	73.1	88.7	104.4	114.8
17.5°	57.4	62.6	62.6	57.4	57.4	62.6	73.1	88.7	114.8	130.5
20°	52.2	57.4	62.6	57.4	57.4	57.4	73.1	88.7	120.0	140.9
22.5°	47.0	52.2	57.4	57.4	52.2	57.4	73.1	93.9	130.5	156.6
25°	41.7	47.0	47.0	52.2	52.2	57.4	73.1	93.9	135.7	177.4
27.5°	31.3	36.5	41.7	47.0	47.0	57.4	73.1	99.1	146.1	219.2
30°	26.1	31.3	36.5	41.7	47.0	57.4	73.1	99.1	156.6	276.6
32.5°	26.1	31.3	36.5	41.7	47.0	52.2	73.1	104.4	172.2	344.4
35°	20.9	26.1	31.3	41.7	41.7	52.2	73.1	104.4	187.9	448.8
37.5°	20.9	26.1	31.3	41.7	41.7	52.2	73.1	104.4	229.6	501.0
40°	15.7	20.9	26.1	41.7	41.7	52.2	78.3	109.6	234.8	506.2
42.5°	15.7	20.9	26.1	36.5	41.7	52.2	78.3	109.6	219.2	521.8
45°	15.7	20.9	26.1	41.7	47.0	57.4	78.3	114.8	214.0	594.9
47.5°	15.7	20.9	26.1	41.7	52.2	57.4	78.3	114.8	219.2	850.6
50°	15.7	20.9	26.1	41.7	57.4	57.4	78.3	114.8	240.0	1367.2
52.5°	10.4	15.7	20.9	36.5	47.0	62.6	83.5	109.6	255.7	1826.4
55°	10.4	10.4	15.7	31.3	41.7	67.8	88.7	109.6	297.4	1941.3
57.5°	10.4	10.4	15.7	26.1	36.5	73.1	93.9	109.6	344.4	1883.8
59°	10.4	10.4	10.4	26.1	31.3	73.1	93.9	114.8	349.6	1784.7
60°	10.4	10.4	10.4	20.9	31.3	73.1	99.1	120.0	354.9	1669.9
62.5°	5.2	5.2	5.2	20.9	26.1	73.1	109.6	146.1	365.3	1288.9
65°	10.4	10.4	5.2	15.7	26.1	62.6	125.2	156.6	370.5	1001.9
67.5°	10.4	10.4	10.4	20.9	26.1	62.6	130.5	161.8	370.5	793.2
70°	10.4	10.4	10.4	20.9	31.3	62.6	130.5	167.0	365.3	647.1
72.5°	10.4	10.4	10.4	20.9	31.3	57.4	120.0	172.2	349.6	547.9
75°	10.4	10.4	10.4	15.7	26.1	52.2	114.8	187.9	318.3	464.4
77.5°	10.4	10.4	10.4	10.4	20.9	41.7	104.4	208.7	281.8	375.7
80°	15.7	10.4	10.4	10.4	15.7	36.5	99.1	203.5	234.8	245.3
82.5°	15.7	10.4	10.4	5.2	10.4	26.1	78.3	156.6	120.0	109.6
85°	10.4	10.4	10.4	5.2	5.2	15.7	36.5	47.0	36.5	26.1
87.5°	10.4	10.4	10.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2
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: SP1-2407-184-10

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-835-U-5WQ

Data in this report applies to families of products including GSS-SB1A-835-U-5WQ

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-184-10
 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-835-U-5WQ**
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 3500K CCT 26 LEDS

Spectral Parameters

CCT (K): 3411
 CIE u' : 0.2360
 CIE v' : 0.5189
 Duv: 0.0044
 CIE x: 0.4154
 CIE y: 0.4059
 CIE z: 0.1787
 Peak Wavelength (nm): 601
 Dominant Wavelength (nm): 579
 Purity: 46.51914
 R_f: 86.6
 R_g: 95.9

CRI (Ra): 83.5
 R1: 81.1
 R2: 88.9
 R3: 97.2
 R4: 83.8
 R5: 81.7
 R6: 86.9
 R7: 86.1
 R8: 62.2
 R9: 6.3
 R10: 75.4
 R11: 84.1
 R12: 69.7
 R13: 82.8
 R14: 98.5
 R15: 72.6



Test Conditions

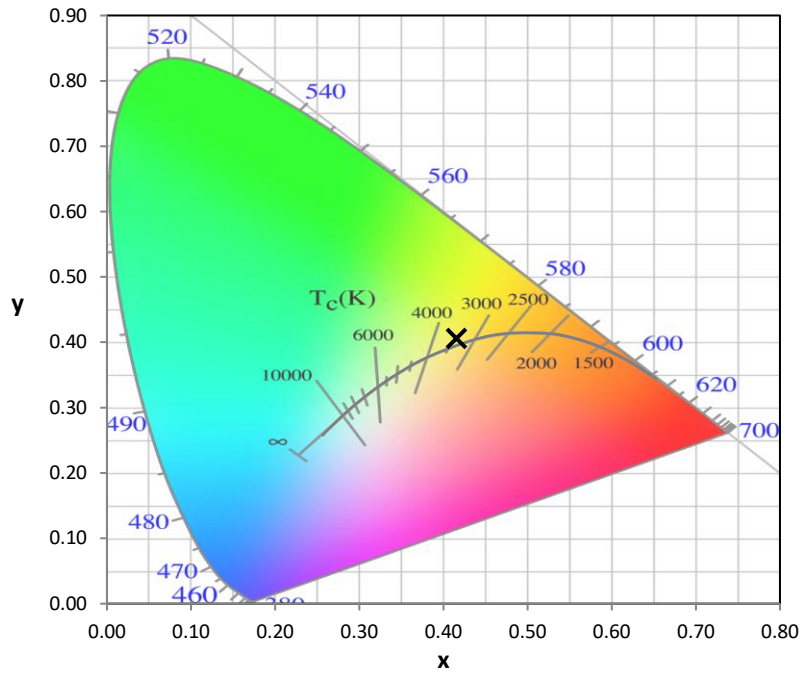
Stabilization Time: 35M
 Operation Time: 1H 35M
 Sphere Temperature (°C): 25.2

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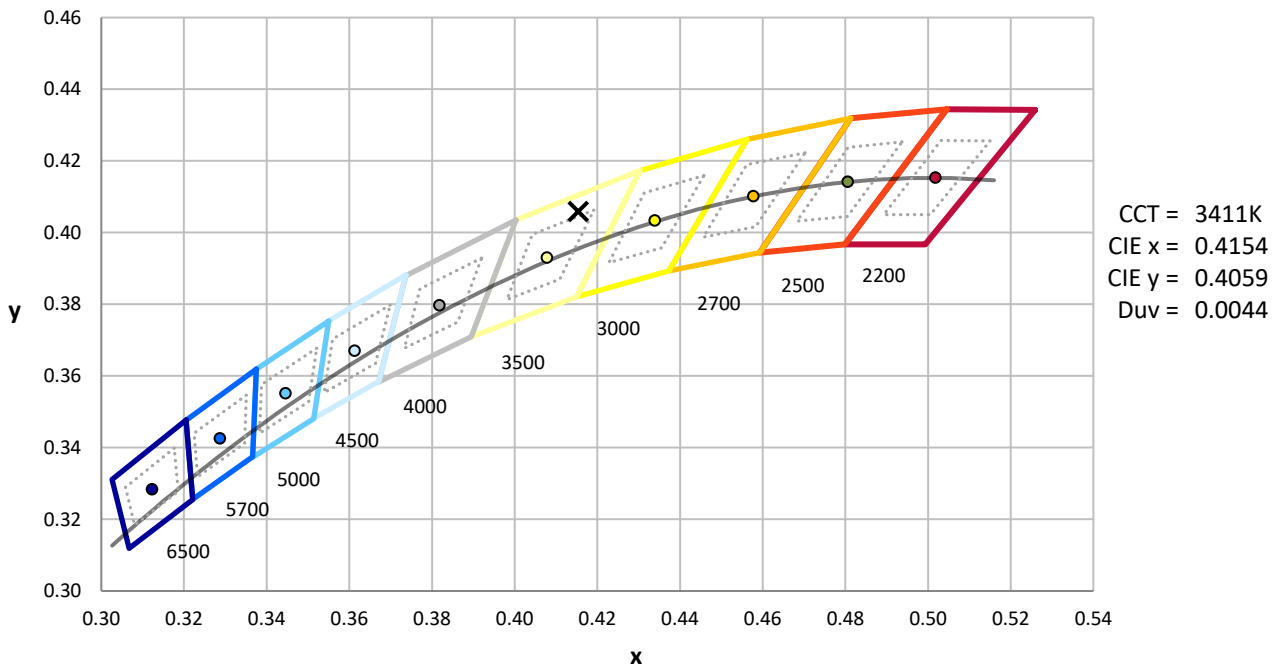
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	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 3500K 7-step quadrangle

REPORT NUMBER: SP1-2407-184-10

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	311	NR	620	903	NR	750	26	NR	880	1	NR
365	0	NR	495	376	NR	625	851	NR	755	22	NR	885	1	NR
370	0	NR	500	438	NR	630	797	NR	760	19	NR	890	0	NR
375	0	NR	505	491	NR	635	735	NR	765	16	NR	895	0	NR
380	0	NR	510	533	NR	640	672	NR	770	14	NR	900	0	NR
385	0	NR	515	566	NR	645	607	NR	775	12	NR	905	0	NR
390	0	NR	520	592	NR	650	546	NR	780	10	NR	910	0	NR
395	1	NR	525	608	NR	655	487	NR	785	9	NR	915	0	NR
400	3	NR	530	625	NR	660	429	NR	790	7	NR	920	0	NR
405	6	NR	535	642	NR	665	378	NR	795	6	NR	925	0	NR
410	12	NR	540	657	NR	670	329	NR	800	5	NR	930	0	NR
415	22	NR	545	677	NR	675	286	NR	805	5	NR	935	0	NR
420	43	NR	550	701	NR	680	248	NR	810	4	NR	940	0	NR
425	80	NR	555	728	NR	685	213	NR	815	3	NR	945	0	NR
430	140	NR	560	757	NR	690	184	NR	820	3	NR	950	0	NR
435	243	NR	565	793	NR	695	156	NR	825	3	NR	955	0	NR
440	412	NR	570	831	NR	700	134	NR	830	2	NR	960	0	NR
445	610	NR	575	872	NR	705	114	NR	835	2	NR	965	0	NR
450	597	NR	580	911	NR	710	97	NR	840	2	NR	970	0	NR
455	412	NR	585	944	NR	715	83	NR	845	1	NR	975	0	NR
460	330	NR	590	974	NR	720	70	NR	850	1	NR	980	0	NR
465	274	NR	595	992	NR	725	60	NR	855	1	NR	985	0	NR
470	211	NR	600	999	NR	730	51	NR	860	1	NR	990	0	NR
475	200	NR	605	992	NR	735	43	NR	865	1	NR	995	0	NR
480	220	NR	610	975	NR	740	36	NR	870	1	NR	1000	0	NR
485	255	NR	615	944	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-184-10

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.48

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	311	NR	620	903	NR	750	26	NR	880	1	NR
365	0	NR	495	376	NR	625	851	NR	755	22	NR	885	1	NR
370	0	NR	500	438	NR	630	797	NR	760	19	NR	890	0	NR
375	0	NR	505	491	NR	635	735	NR	765	16	NR	895	0	NR
380	0	NR	510	533	NR	640	672	NR	770	14	NR	900	0	NR
385	0	NR	515	566	NR	645	607	NR	775	12	NR	905	0	NR
390	0	NR	520	592	NR	650	546	NR	780	10	NR	910	0	NR
395	1	NR	525	608	NR	655	487	NR	785	9	NR	915	0	NR
400	3	NR	530	625	NR	660	429	NR	790	7	NR	920	0	NR
405	6	NR	535	642	NR	665	378	NR	795	6	NR	925	0	NR
410	12	NR	540	657	NR	670	329	NR	800	5	NR	930	0	NR
415	22	NR	545	677	NR	675	286	NR	805	5	NR	935	0	NR
420	43	NR	550	701	NR	680	248	NR	810	4	NR	940	0	NR
425	80	NR	555	728	NR	685	213	NR	815	3	NR	945	0	NR
430	140	NR	560	757	NR	690	184	NR	820	3	NR	950	0	NR
435	243	NR	565	793	NR	695	156	NR	825	3	NR	955	0	NR
440	412	NR	570	831	NR	700	134	NR	830	2	NR	960	0	NR
445	610	NR	575	872	NR	705	114	NR	835	2	NR	965	0	NR
450	597	NR	580	911	NR	710	97	NR	840	2	NR	970	0	NR
455	412	NR	585	944	NR	715	83	NR	845	1	NR	975	0	NR
460	330	NR	590	974	NR	720	70	NR	850	1	NR	980	0	NR
465	274	NR	595	992	NR	725	60	NR	855	1	NR	985	0	NR
470	211	NR	600	999	NR	730	51	NR	860	1	NR	990	0	NR
475	200	NR	605	992	NR	735	43	NR	865	1	NR	995	0	NR
480	220	NR	610	975	NR	740	36	NR	870	1	NR	1000	0	NR
485	255	NR	615	944	NR	745	31	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.88

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	311	NR	620	903	NR	750	26	NR	880	1	NR
365	0	NR	495	376	NR	625	851	NR	755	22	NR	885	1	NR
370	0	NR	500	438	NR	630	797	NR	760	19	NR	890	0	NR
375	0	NR	505	491	NR	635	735	NR	765	16	NR	895	0	NR
380	0	NR	510	533	NR	640	672	NR	770	14	NR	900	0	NR
385	0	NR	515	566	NR	645	607	NR	775	12	NR	905	0	NR
390	0	NR	520	592	NR	650	546	NR	780	10	NR	910	0	NR
395	1	NR	525	608	NR	655	487	NR	785	9	NR	915	0	NR
400	3	NR	530	625	NR	660	429	NR	790	7	NR	920	0	NR
405	6	NR	535	642	NR	665	378	NR	795	6	NR	925	0	NR
410	12	NR	540	657	NR	670	329	NR	800	5	NR	930	0	NR
415	22	NR	545	677	NR	675	286	NR	805	5	NR	935	0	NR
420	43	NR	550	701	NR	680	248	NR	810	4	NR	940	0	NR
425	80	NR	555	728	NR	685	213	NR	815	3	NR	945	0	NR
430	140	NR	560	757	NR	690	184	NR	820	3	NR	950	0	NR
435	243	NR	565	793	NR	695	156	NR	825	3	NR	955	0	NR
440	412	NR	570	831	NR	700	134	NR	830	2	NR	960	0	NR
445	610	NR	575	872	NR	705	114	NR	835	2	NR	965	0	NR
450	597	NR	580	911	NR	710	97	NR	840	2	NR	970	0	NR
455	412	NR	585	944	NR	715	83	NR	845	1	NR	975	0	NR
460	330	NR	590	974	NR	720	70	NR	850	1	NR	980	0	NR
465	274	NR	595	992	NR	725	60	NR	855	1	NR	985	0	NR
470	211	NR	600	999	NR	730	51	NR	860	1	NR	990	0	NR
475	200	NR	605	992	NR	735	43	NR	865	1	NR	995	0	NR
480	220	NR	610	975	NR	740	36	NR	870	1	NR	1000	0	NR
485	255	NR	615	944	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-184-10

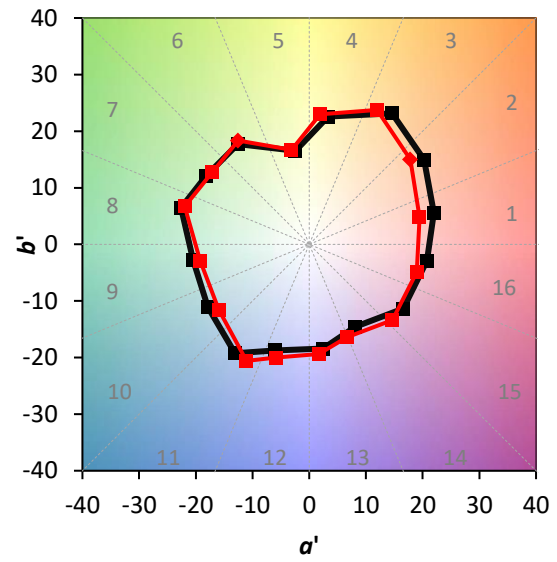
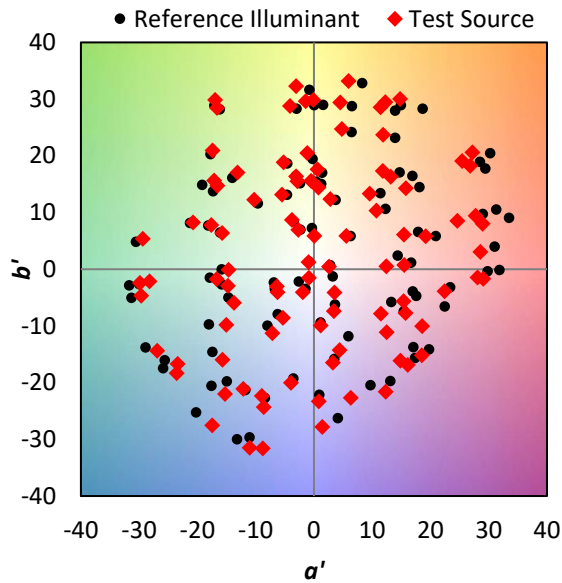
TM-30-18

Summary

$R_f = 86.6$
 $R_g = 95.9$
 $CIE R_a = 83.5$
 $R_9 = 6.3$

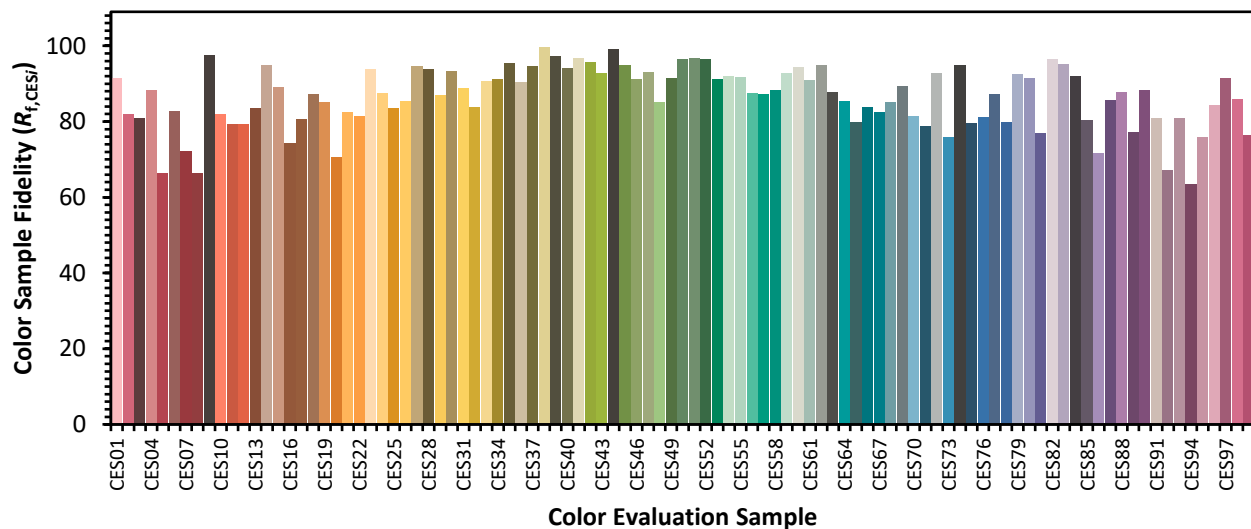


Color Vector Graphics

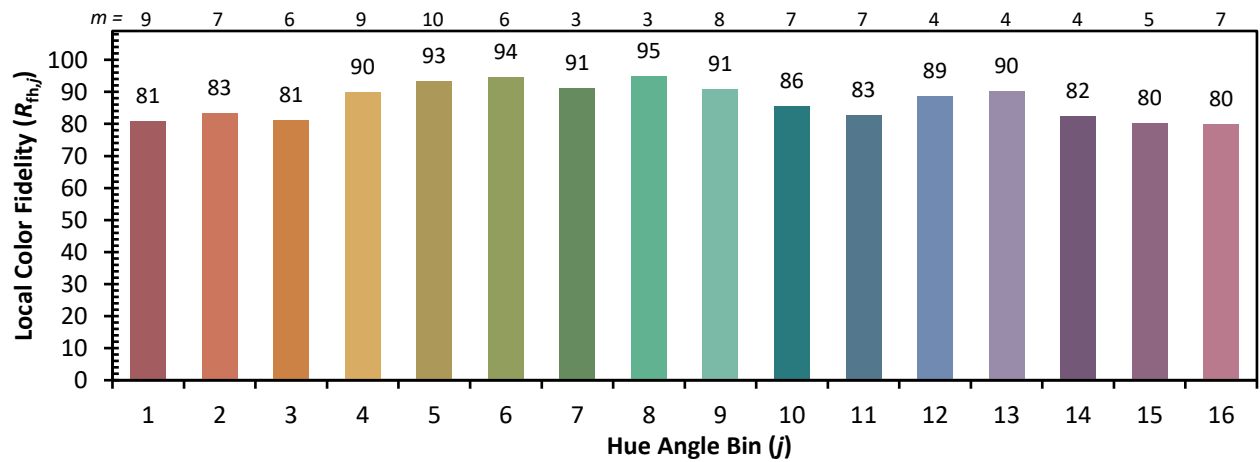
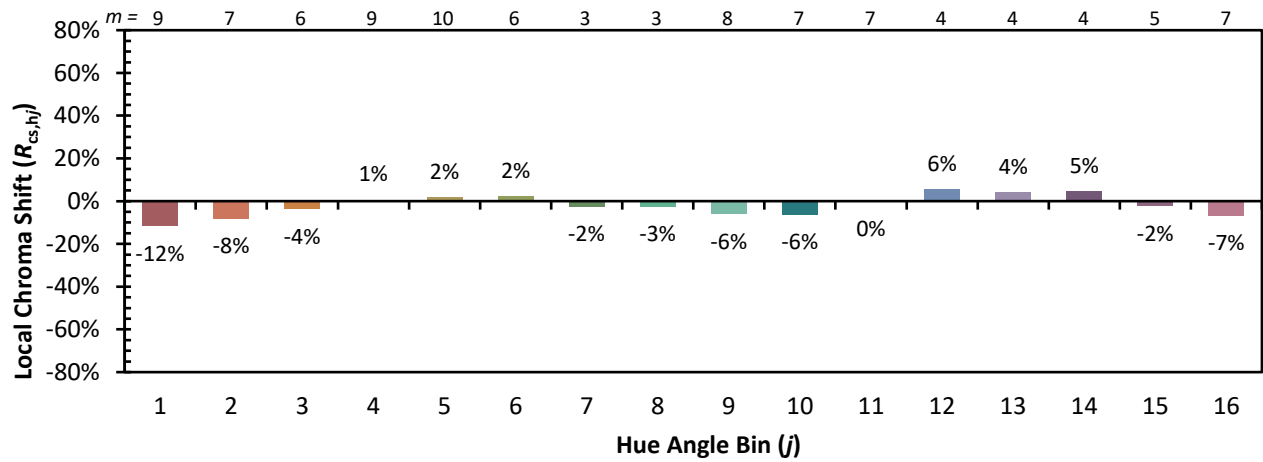


Individual Sample Fidelity Index ($R_{f,i}$)

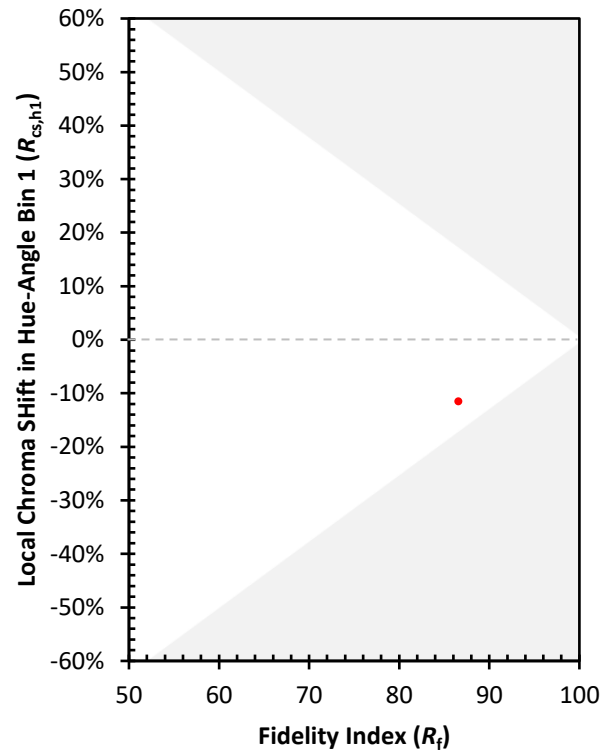
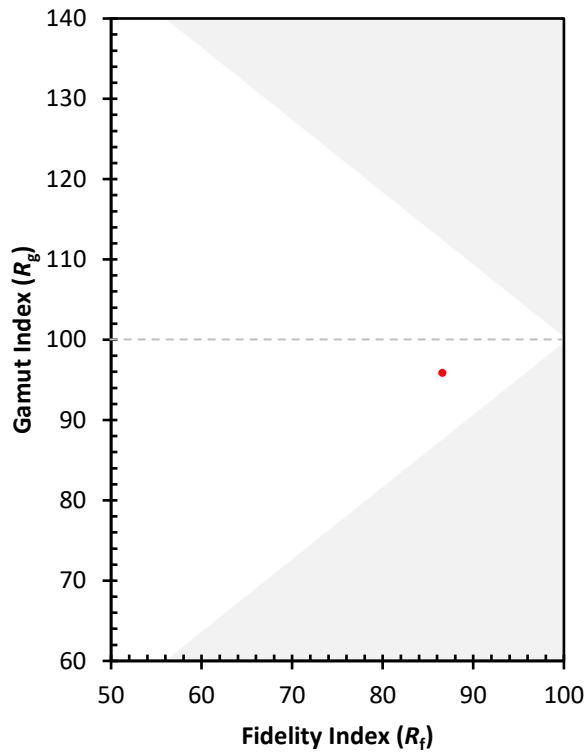
CES01 = 86	CES26 = 85	CES51 = 97	CES76 = 81
CES02 = 62	CES27 = 95	CES52 = 96	CES77 = 87
CES03 = 31	CES28 = 94	CES53 = 91	CES78 = 80
CES04 = 70	CES29 = 87	CES54 = 92	CES79 = 93
CES05 = 49	CES30 = 93	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 89	CES56 = 88	CES81 = 77
CES07 = 41	CES32 = 84	CES57 = 87	CES82 = 96
CES08 = 40	CES33 = 91	CES58 = 88	CES83 = 95
CES09 = 29	CES34 = 91	CES59 = 93	CES84 = 92
CES10 = 75	CES35 = 95	CES60 = 94	CES85 = 80
CES11 = 58	CES36 = 90	CES61 = 91	CES86 = 72
CES12 = 64	CES37 = 95	CES62 = 95	CES87 = 86
CES13 = 43	CES38 = 100	CES63 = 88	CES88 = 88
CES14 = 74	CES39 = 97	CES64 = 85	CES89 = 77
CES15 = 71	CES40 = 94	CES65 = 80	CES90 = 88
CES16 = 47	CES41 = 97	CES66 = 84	CES91 = 81
CES17 = 49	CES42 = 96	CES67 = 82	CES92 = 67
CES18 = 56	CES43 = 93	CES68 = 85	CES93 = 81
CES19 = 72	CES44 = 99	CES69 = 89	CES94 = 63
CES20 = 66	CES45 = 95	CES70 = 81	CES95 = 76
CES21 = 86	CES46 = 91	CES71 = 79	CES96 = 84
CES22 = 78	CES47 = 93	CES72 = 93	CES97 = 92
CES23 = 91	CES48 = 85	CES73 = 76	CES98 = 86
CES24 = 90	CES49 = 92	CES74 = 95	CES99 = 77
CES25 = 72	CES50 = 96	CES75 = 80	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)