

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



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P630070

Luminaire Tested: GWS-SA1C-830-U-SLR-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P630070  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-44)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA1C-830-U-SLR-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (16) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

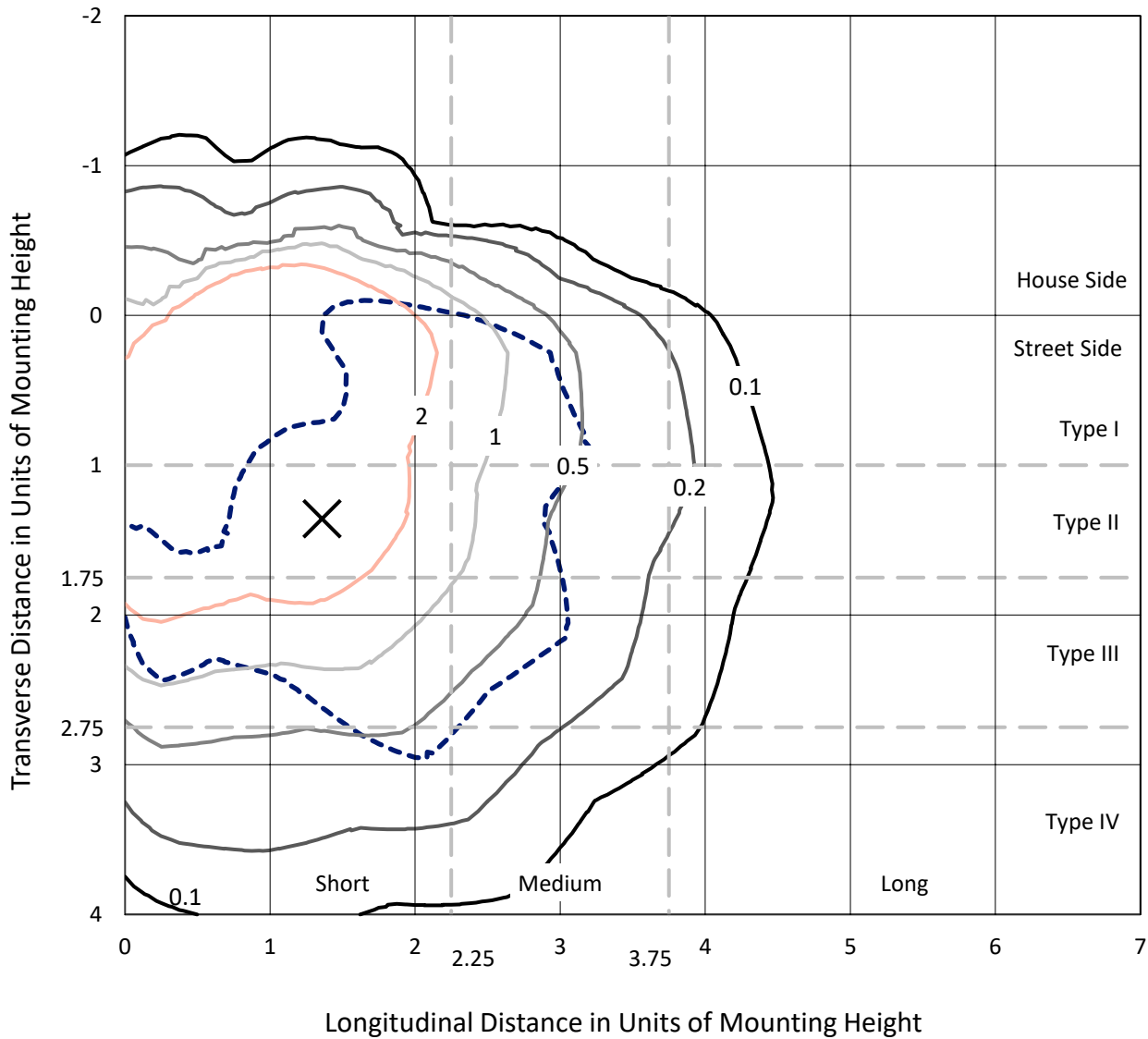
Lumens per Lamp: N/A  
Luminaire Lumens: 2369.6 lumens  
Efficiency: N/A  
Efficacy: 69.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 34.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
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

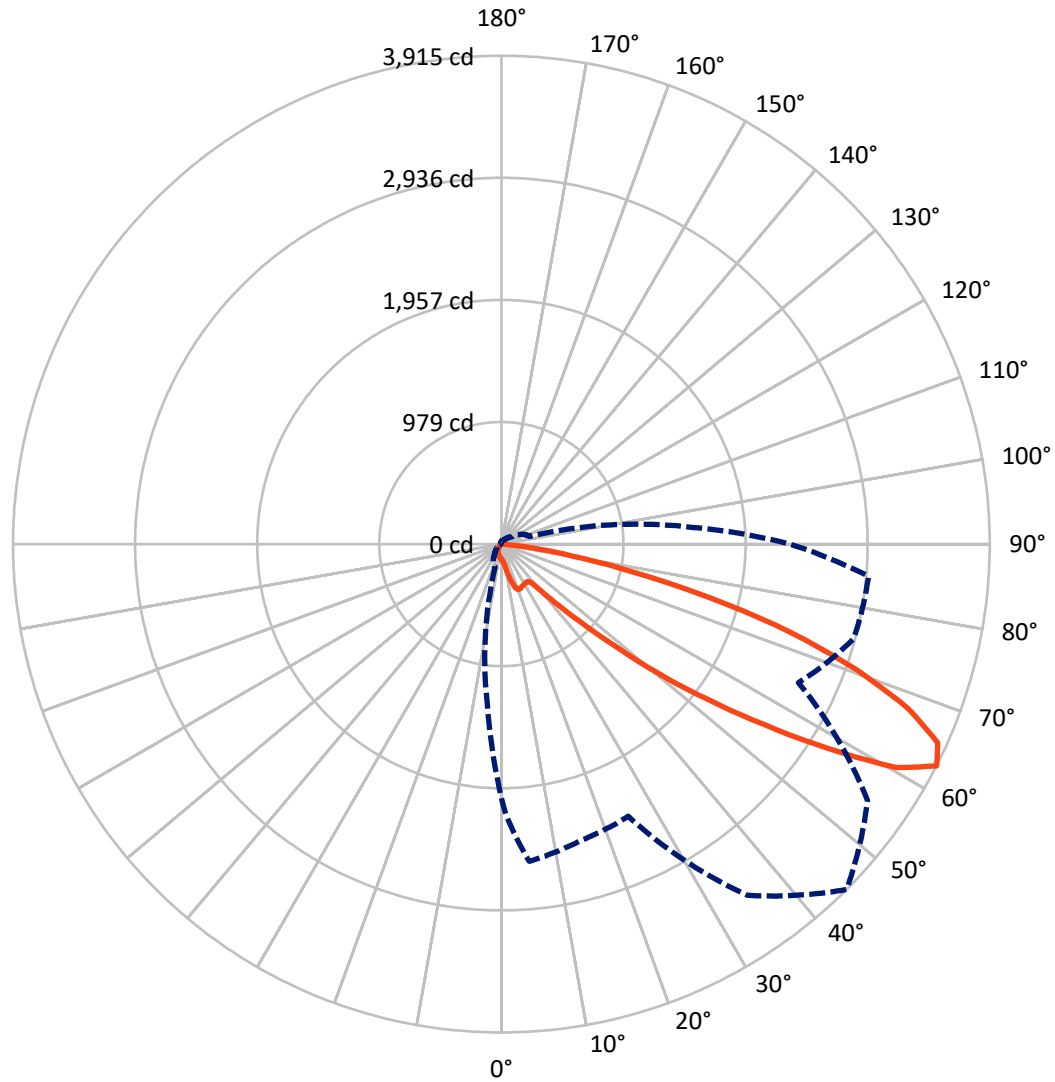
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.8 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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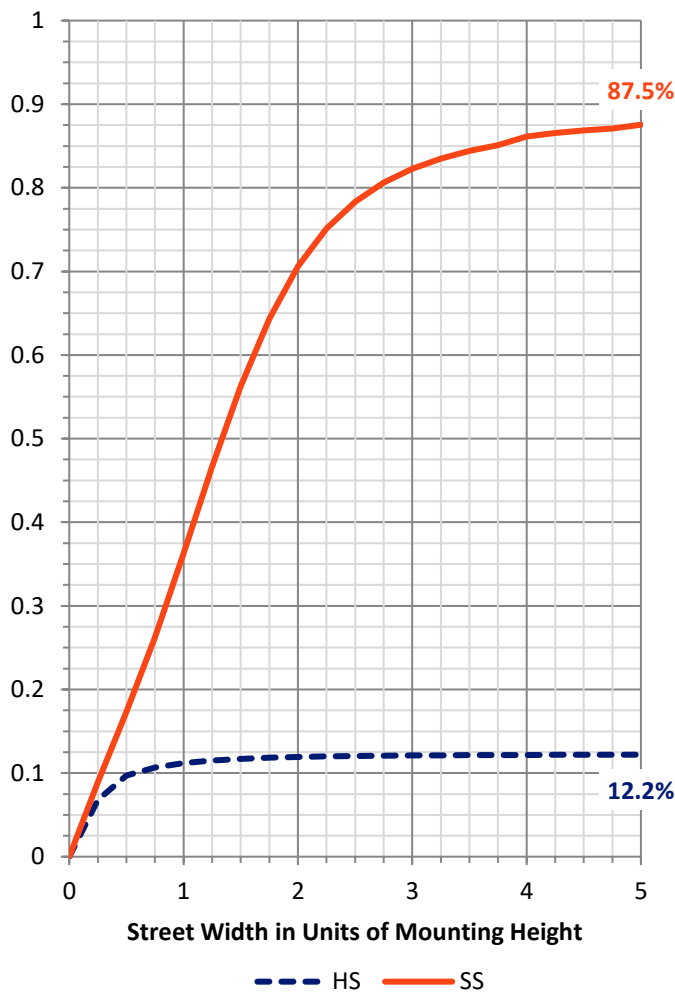
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	292.4	0.0	292.4
	% Fixture	12.3	0.0	12.3
<b>Street Side</b>	Lumens	2077.2	0.0	2077.2
	% Fixture	87.7	0.0	87.7
<b>Total</b>	Lumens	2369.6	0.0	2369.6
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	10.9	0.5
10°-20°	41.3	1.7
20°-30°	89.8	3.8
30°-40°	147.4	6.2
40°-50°	271.0	11.4
50°-60°	581.9	24.6
60°-70°	781.6	33.0
70°-80°	407.0	17.2
80°-90°	38.6	1.6
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°	2369.6	100.0
0°-180°	2369.6	100.0

**Coefficient of Utilization**



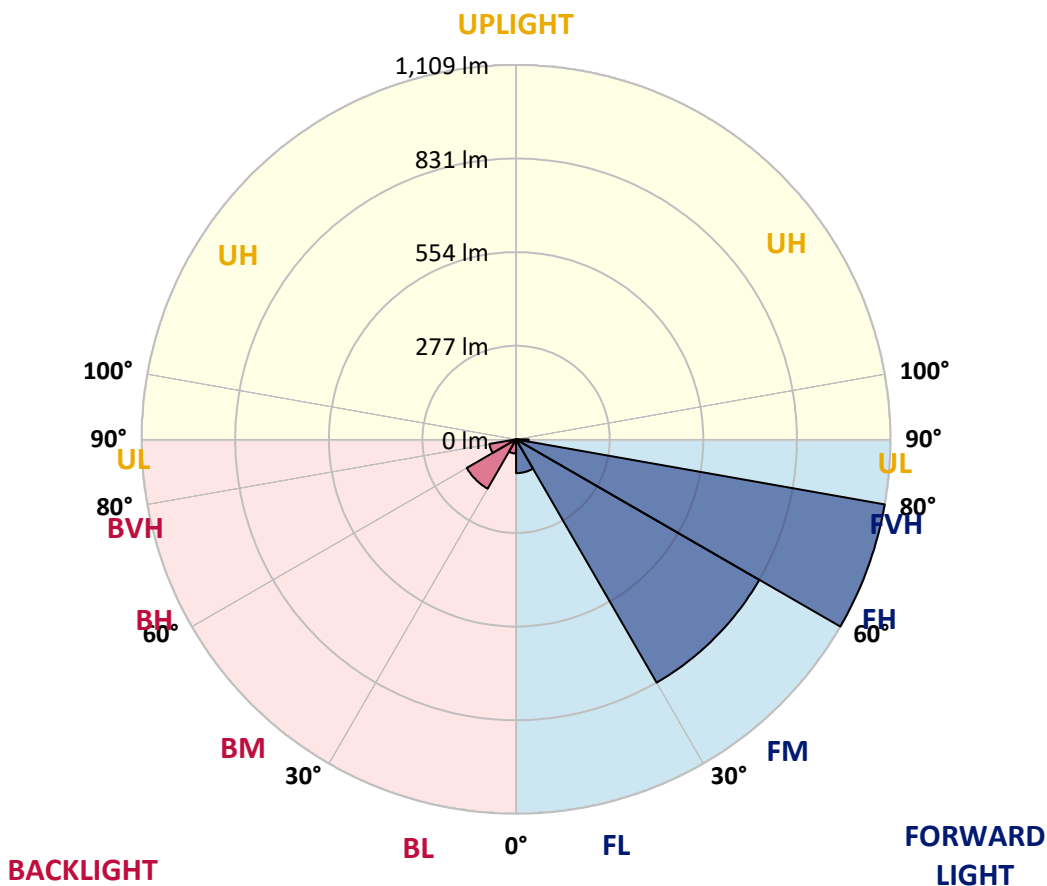
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	100.1	4.2			
FM (30°-60°)	831.7	35.1			
FH (60°-80°)	1108.5	46.8			G1/1800
FVH (80°-90°)	36.9	1.6			G1/100
BL (0°-30°)	41.9	1.8	B0/110		
BM (30°-60°)	168.6	7.1	B0/220		
BH (60°-80°)	80.1	3.4	B0/110		G0/110
BVH (80°-90°)	1.7	0.1			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2
2.5°	125.6	126.2	126.7	128.6	130.0	131.1	131.4	130.6	128.6	126.7	124.0
5°	121.8	122.3	124.3	129.5	134.7	138.8	140.1	139.3	134.7	128.6	122.3
7.5°	121.5	122.6	127.3	138.2	149.4	157.9	160.1	158.2	149.4	137.4	124.5
10°	131.4	133.3	140.1	159.8	180.4	195.4	201.5	193.2	179.3	157.4	136.3
12.5°	157.1	160.4	173.5	202.3	234.0	254.0	262.2	252.1	230.2	198.4	165.0
15°	197.6	202.5	222.3	265.2	302.7	320.5	323.3	317.5	292.0	257.0	212.1
17.5°	254.8	261.9	292.6	336.4	363.5	369.8	369.0	362.9	344.3	320.2	277.8
20°	323.3	331.7	361.8	398.0	400.7	393.3	389.2	385.7	379.4	375.3	342.1
22.5°	392.2	402.6	434.1	443.1	418.5	397.2	387.0	389.8	399.1	419.3	405.9
25°	460.9	470.8	500.3	476.0	426.7	391.1	378.3	384.8	407.0	450.8	468.0
27.5°	541.1	548.5	566.0	498.4	428.1	386.2	373.6	383.7	410.8	470.5	536.2
30°	624.6	629.0	620.5	504.4	423.4	378.8	369.0	383.7	417.4	483.6	587.4
32.5°	685.9	686.7	659.1	505.0	421.0	372.8	364.6	382.1	423.7	494.6	636.9
35°	749.1	745.0	696.0	513.2	427.5	375.0	367.9	386.8	433.6	507.5	680.4
37.5°	813.2	805.8	737.4	526.6	444.5	398.8	394.4	410.6	449.4	525.2	728.3
40°	878.9	868.8	780.3	546.9	482.3	479.8	494.9	493.0	493.0	548.0	777.6
42.5°	959.1	947.3	843.8	604.1	570.4	625.4	666.5	641.0	594.0	600.2	841.7
45°	1065.0	1054.9	953.9	713.6	708.6	835.1	890.4	840.0	722.9	721.0	948.7
47.5°	1234.4	1232.5	1129.3	840.6	877.8	1102.0	1208.7	1111.8	869.9	848.8	1151.2
50°	1472.6	1466.8	1348.0	989.5	1079.0	1432.6	1623.1	1461.6	1047.5	997.9	1422.5
52.5°	1740.8	1746.8	1654.3	1152.0	1292.7	1800.5	2065.7	1862.3	1240.5	1187.6	1763.8
55°	1993.4	2027.9	2003.6	1342.3	1501.6	2206.7	2551.8	2301.9	1479.4	1435.9	2146.4
57.5°	2191.1	2288.2	2459.0	1618.7	1747.1	2681.8	3094.6	2778.4	1758.3	1839.1	2667.3
60°	2202.0	2330.6	2727.2	2197.1	2063.0	3089.4	3636.5	3244.0	2196.8	2523.6	3075.4
62.5°	2037.0	2174.9	2552.6	2459.8	2407.0	3436.2	3914.6	3583.4	2628.2	2924.6	2954.4
65°	1848.1	1987.4	2357.7	2161.8	2367.0	3421.4	3844.0	3591.4	2667.3	2652.0	2737.9
67.5°	1562.6	1687.7	2023.0	1913.5	2181.7	3256.3	3517.7	3365.0	2457.4	2480.4	2518.7
70°	1140.6	1261.0	1572.2	1577.7	1905.3	2958.8	3022.6	3001.5	2263.0	2287.4	2177.9
72.5°	823.9	925.4	1193.9	1293.8	1521.0	2481.2	2437.1	2518.4	1941.7	2037.2	1749.3
75°	592.3	668.4	875.9	1125.5	1205.7	1842.6	1744.6	1950.5	1558.0	1754.2	1315.2
77.5°	240.3	267.1	344.6	758.2	792.4	1239.6	1068.0	1416.7	1110.7	1152.6	637.5
80°	9.9	10.9	14.2	391.4	543.3	697.4	571.5	757.4	733.5	464.2	150.5
82.5°	1.1	1.1	2.5	112.8	237.9	384.8	269.3	436.3	371.4	196.8	68.4
85°	0.3	0.3	0.5	12.9	55.8	61.6	36.4	133.8	172.7	80.5	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2.5	2.7	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°	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2
2.5°	124.0	122.6	121.0	119.3	118.5	116.3	115.5	115.0	114.4	114.7	114.7
5°	119.9	116.9	113.3	109.8	107.8	105.7	104.6	104.0	104.3	105.4	105.4
7.5°	119.3	113.6	105.9	101.3	99.1	97.4	96.3	95.8	96.1	97.4	98.0
10°	128.4	118.2	104.6	96.6	94.2	92.5	91.4	90.6	90.1	91.1	91.4
12.5°	147.8	133.8	111.1	96.1	91.7	89.5	88.7	87.0	86.2	86.8	87.0
15°	188.0	164.0	124.3	98.3	89.5	87.0	85.7	84.3	82.9	82.7	82.9
17.5°	240.6	206.1	144.2	103.5	87.9	84.9	82.9	81.0	79.1	78.8	78.6
20°	305.7	257.8	172.2	111.7	86.5	82.9	80.2	77.5	75.0	74.2	74.2
22.5°	365.1	320.2	208.0	121.8	84.6	80.2	76.9	73.6	70.9	69.5	69.2
25°	437.7	386.5	251.0	133.6	81.8	76.6	73.1	69.8	67.1	65.4	64.9
27.5°	510.7	456.3	299.7	148.9	78.6	73.1	69.8	66.8	63.8	61.9	61.3
30°	581.6	531.5	354.5	168.1	76.1	69.5	66.8	63.8	61.0	58.0	57.2
32.5°	657.7	608.5	415.8	189.4	74.2	67.1	64.0	61.3	57.8	55.0	53.6
35°	731.1	687.8	483.4	210.2	72.3	64.9	61.6	58.8	55.0	52.0	50.1
37.5°	805.0	768.6	554.0	222.8	69.5	61.9	58.8	56.7	52.3	48.7	46.5
40°	883.3	852.1	630.4	217.6	67.1	58.6	56.9	54.5	49.5	45.4	42.7
42.5°	969.2	931.7	708.1	197.6	64.9	55.8	54.2	51.7	47.1	42.2	38.6
45°	1077.3	1019.0	771.9	167.5	66.0	53.1	49.8	49.3	44.9	38.6	34.2
47.5°	1263.2	1153.1	821.4	148.1	73.4	50.1	46.3	47.6	43.0	35.0	30.1
50°	1547.6	1375.4	867.7	146.7	84.6	48.7	43.0	46.5	41.1	31.5	26.5
52.5°	1818.5	1601.2	897.2	158.8	94.4	52.3	39.7	45.2	39.7	29.0	24.1
55°	2077.7	1731.5	844.4	167.5	103.7	63.0	37.2	43.0	38.0	27.6	23.3
57.5°	2357.2	1789.5	664.8	185.3	110.3	72.0	37.8	39.7	35.9	26.8	23.0
60°	2440.7	1715.3	401.3	208.6	106.7	74.7	41.9	35.3	32.8	25.2	22.2
62.5°	2310.9	1539.3	236.8	190.0	103.7	70.6	47.9	32.6	29.8	23.0	20.5
65°	2116.9	1300.4	154.4	160.4	110.0	63.0	50.9	31.2	27.1	20.8	18.1
67.5°	1895.2	1047.5	108.1	94.7	101.5	56.7	43.0	30.9	24.4	17.5	14.8
70°	1596.3	784.5	76.1	62.7	84.6	50.4	33.4	30.1	21.3	14.2	11.5
72.5°	1233.3	491.0	56.7	40.5	60.2	41.1	26.5	25.5	17.2	11.8	8.8
75°	909.5	280.0	40.0	29.3	39.7	31.2	19.7	18.1	14.8	11.2	7.9
77.5°	474.9	140.1	24.9	22.4	22.7	19.4	14.2	13.1	13.7	11.2	7.4
80°	91.1	27.9	15.1	16.4	12.3	12.3	10.4	10.9	12.0	9.0	6.3
82.5°	38.0	6.0	8.2	9.3	7.7	8.5	8.5	8.8	8.5	6.6	4.7
85°	0.0	0.0	3.6	3.8	5.2	5.2	4.4	4.4	4.4	3.8	2.7
87.5°	0.0	0.0	0.0	0.0	0.3	0.8	1.6	1.9	2.2	1.6	1.1
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°	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2
2.5°	114.4	113.9	114.7	115.2	115.8	115.8	115.2	114.7	113.9	114.7	113.9
5°	105.7	106.5	107.8	108.4	108.9	107.8	107.3	105.7	104.3	104.6	104.0
7.5°	98.8	99.6	101.3	102.4	102.4	101.8	100.2	98.5	96.3	96.3	96.1
10°	92.5	93.6	95.5	96.9	97.4	96.9	95.3	93.1	91.1	91.1	90.3
12.5°	87.3	88.7	90.9	92.8	93.3	92.8	91.1	89.0	86.8	86.8	86.2
15°	82.9	84.6	87.0	89.2	90.1	89.2	87.3	84.6	82.4	82.7	81.8
17.5°	78.8	80.2	83.5	85.9	86.8	85.9	83.5	79.9	77.7	78.3	77.7
20°	74.2	75.8	79.1	81.8	82.7	81.8	79.1	75.3	73.1	73.1	73.4
22.5°	69.2	70.9	74.2	76.1	77.2	76.4	73.6	70.1	67.9	67.9	68.2
25°	64.9	65.7	68.2	70.1	70.3	69.5	67.3	64.6	63.0	63.8	64.0
27.5°	60.8	60.8	61.9	63.0	62.7	61.9	61.0	58.8	58.6	59.4	60.2
30°	56.4	55.0	54.5	53.6	53.4	53.1	53.9	53.9	54.5	55.6	56.4
32.5°	52.6	49.8	47.4	44.9	43.5	44.6	46.8	48.7	50.6	52.3	53.1
35°	48.2	43.8	39.7	36.4	34.2	35.9	39.4	43.0	46.3	48.4	49.8
37.5°	43.8	37.5	32.6	28.5	26.8	28.2	32.0	37.0	41.9	44.6	46.5
40°	39.1	31.2	25.5	22.2	20.5	21.9	25.7	30.7	37.2	40.8	43.2
42.5°	34.5	25.7	20.5	17.2	16.4	17.2	20.3	25.2	32.3	36.7	40.0
45°	29.8	21.3	16.4	14.0	13.1	14.0	16.4	20.5	27.6	32.6	36.4
47.5°	25.7	18.1	13.7	11.5	10.9	11.8	13.7	17.2	23.3	28.2	32.6
50°	22.4	15.9	11.8	9.9	9.3	10.1	11.8	14.5	19.7	24.1	28.7
52.5°	20.3	14.8	10.4	8.5	8.2	8.8	10.1	12.3	16.7	20.5	24.9
55°	19.7	14.8	9.6	7.7	7.4	7.9	9.0	10.7	14.5	17.8	21.6
57.5°	20.3	15.9	9.0	6.6	6.3	6.8	7.9	9.3	12.6	15.3	18.9
60°	20.3	16.1	7.9	5.2	4.9	5.5	6.6	8.2	11.2	13.4	16.4
62.5°	18.3	14.8	6.6	4.1	3.6	4.1	5.5	6.8	9.9	12.0	14.5
65°	15.9	12.6	5.5	3.0	2.5	3.0	4.4	5.7	8.5	10.4	13.1
67.5°	12.9	9.6	4.1	2.2	1.6	2.2	3.3	4.7	7.1	9.0	11.8
70°	9.6	6.8	3.3	1.9	1.6	1.9	3.0	4.4	6.3	8.2	10.9
72.5°	7.1	4.7	2.7	1.9	1.4	1.9	2.7	4.1	6.0	7.9	10.4
75°	6.0	3.8	2.5	1.6	1.4	1.6	2.5	3.8	5.5	7.4	9.9
77.5°	5.7	3.6	2.2	1.4	1.1	1.4	2.2	3.3	4.9	6.8	9.6
80°	4.9	3.0	1.9	1.1	0.8	1.1	1.9	2.7	3.8	5.2	7.4
82.5°	3.8	2.5	1.4	0.5	0.3	0.5	1.4	1.6	2.5	3.0	4.4
85°	2.5	1.4	0.5	0.0	0.0	0.0	0.5	1.1	1.1	1.4	2.2
87.5°	1.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	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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 CATALOG NUMBER: GWS-SA1C-830-U-SLR-W-HSS

**CANDELA DISTRIBUTION (continued):**

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2
2.5°	115.5	115.8	116.3	117.1	119.1	120.7	122.3	124.5	125.6	125.6
5°	104.6	104.8	105.1	106.2	108.9	111.1	114.7	119.1	121.3	121.8
7.5°	96.1	96.6	97.2	98.0	100.7	103.7	108.4	116.6	120.7	121.5
10°	91.1	92.0	93.1	94.7	97.2	100.5	108.4	123.2	130.0	131.4
12.5°	87.3	88.7	89.8	91.7	94.7	99.9	115.8	141.8	153.8	157.1
15°	83.5	85.1	86.8	88.7	92.0	101.8	130.0	175.2	195.2	197.6
17.5°	79.6	81.6	83.8	85.9	90.1	106.5	152.5	221.4	249.4	254.8
20°	75.3	77.7	80.7	83.5	88.1	113.9	183.7	276.4	311.5	323.3
22.5°	70.6	73.6	77.2	80.7	85.9	122.9	221.4	335.6	384.6	392.2
25°	66.8	69.8	73.1	76.6	82.4	133.8	267.1	408.9	453.5	460.9
27.5°	63.2	66.2	69.2	72.5	78.8	148.1	322.2	486.9	533.5	541.1
30°	59.4	63.0	66.0	69.2	75.5	165.6	385.7	573.4	617.5	624.6
32.5°	56.1	59.7	62.7	66.0	73.1	184.8	452.4	650.1	685.9	685.9
35°	53.4	57.2	59.4	63.8	71.2	197.1	515.7	723.1	750.2	749.1
37.5°	50.4	55.0	56.7	59.7	68.7	198.4	575.1	800.3	820.3	813.2
40°	47.4	52.3	54.7	56.4	66.0	187.2	640.2	871.2	888.2	878.9
42.5°	44.6	48.4	52.0	53.9	64.3	167.5	692.5	947.0	967.3	959.1
45°	41.9	45.2	47.4	50.9	65.4	153.8	737.4	1035.4	1071.0	1065.0
47.5°	39.1	41.9	43.2	48.7	72.8	147.5	764.7	1172.3	1239.4	1234.4
50°	36.1	39.4	39.4	48.2	83.8	149.7	788.6	1370.5	1474.2	1472.6
52.5°	33.1	36.7	36.1	52.3	92.2	159.8	815.7	1545.4	1725.7	1740.8
55°	30.1	33.4	33.9	60.5	97.2	168.6	710.8	1619.0	1940.6	1993.4
57.5°	26.8	28.7	35.3	66.8	95.5	194.1	486.9	1632.4	2077.7	2191.1
60°	23.3	24.9	40.0	65.4	90.3	179.3	306.6	1512.0	2058.3	2202.0
62.5°	20.3	23.0	42.2	57.8	92.0	155.5	195.4	1288.6	1873.0	2037.0
65°	17.8	22.2	38.3	52.3	93.1	105.4	131.9	1048.3	1692.1	1848.1
67.5°	15.9	24.6	31.5	46.5	79.9	74.2	90.6	814.6	1422.7	1562.6
70°	14.5	25.2	25.7	40.0	61.9	47.6	59.7	548.2	980.7	1140.6
72.5°	13.1	18.6	19.4	32.0	40.0	29.0	38.6	313.7	714.9	823.9
75°	12.6	12.6	13.4	20.8	22.2	21.1	24.9	187.2	512.7	592.3
77.5°	11.8	9.6	8.5	13.4	12.0	15.1	14.8	83.2	222.3	240.3
80°	9.3	6.8	5.7	8.5	8.2	10.1	8.8	6.8	10.1	9.9
82.5°	5.7	4.4	4.1	5.2	4.7	5.2	4.1	1.1	1.1	1.1
85°	2.7	2.5	2.2	2.2	2.5	2.2	1.6	0.5	0.3	0.3
87.5°	1.4	1.4	1.1	0.8	1.1	1.1	0.8	0.3	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

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

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

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

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2408-195-9  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 08/07/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW EDISON  
 Catalog Number: **GALN-SB1A-830-U-5WQ**  
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

**Spectral Parameters**

CCT (K): 3050  
 CIE u': 0.2476  
 CIE v': 0.5251  
 Duv: 0.0034  
 CIE x: 0.4383  
 CIE y: 0.4131  
 CIE z: 0.1487  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 581  
 Purity: 55.55201  
 Rf: 81.5  
 Rg: 99.2

CRI (Ra):	81.0		
R1:	79.6	R9:	7.1
R2:	85.6	R10:	67.0
R3:	92.0	R11:	82.7
R4:	82.6	R12:	63.2
R5:	78.9	R13:	80.3
R6:	81.7	R14:	95.0
R7:	85.2	R15:	71.7
R8:	62.0		



**Test Conditions**

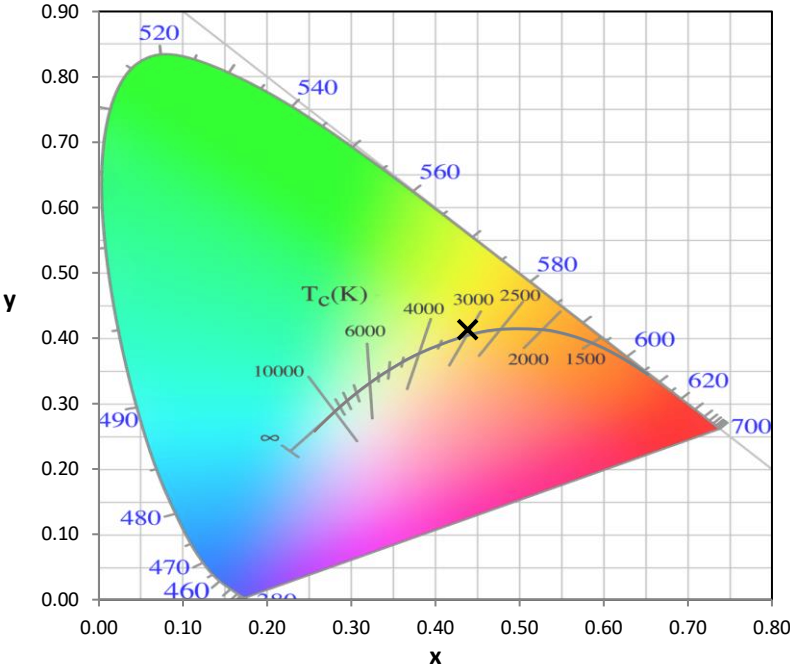
Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

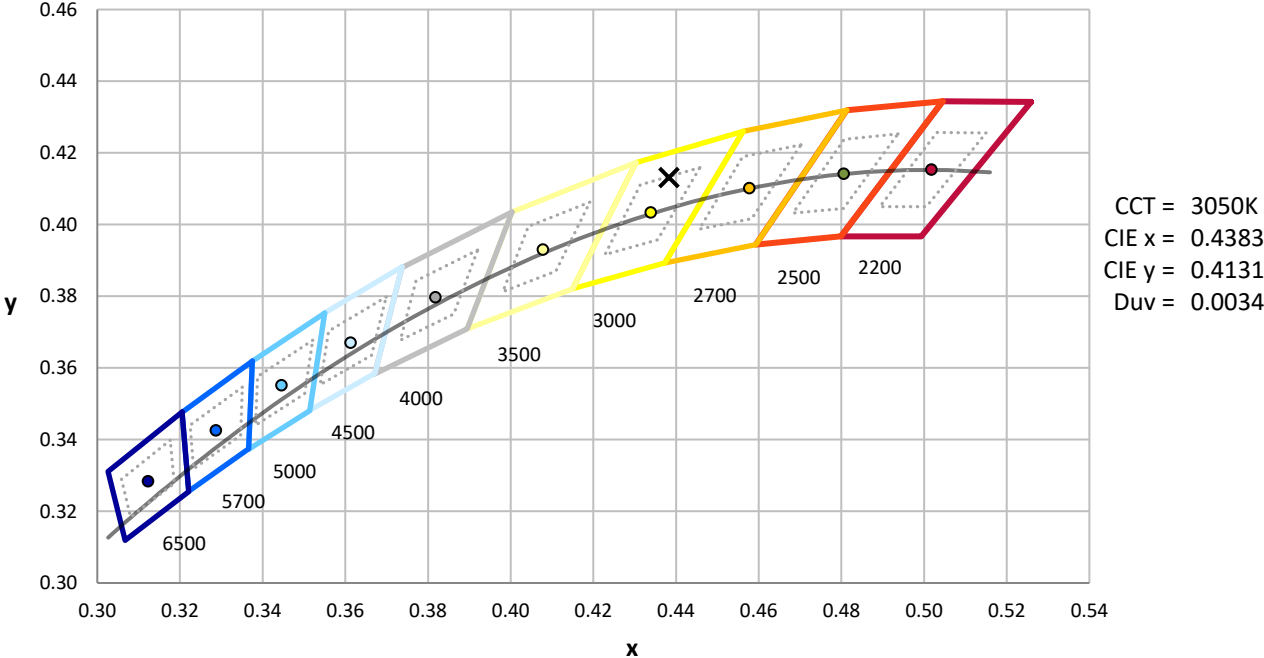
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



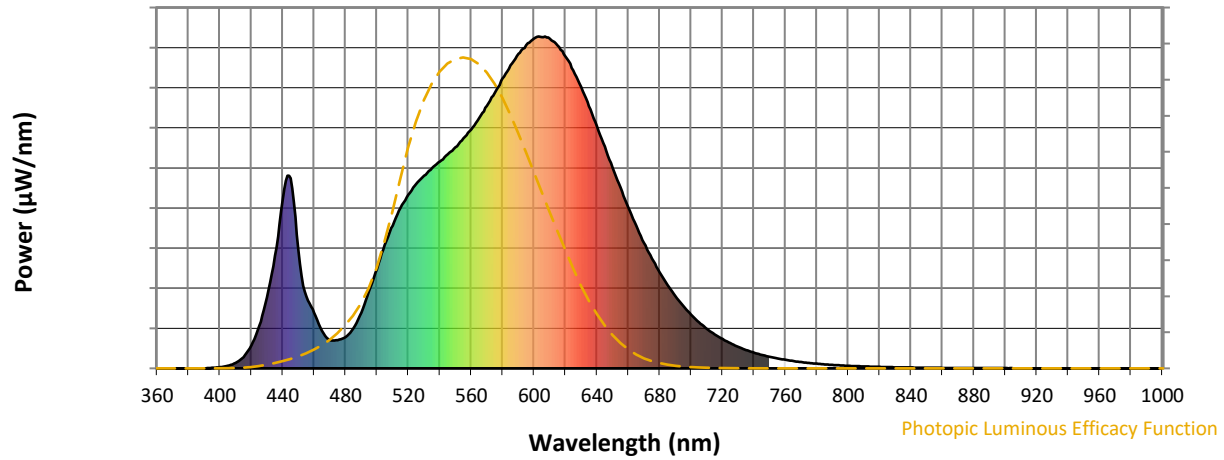
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**

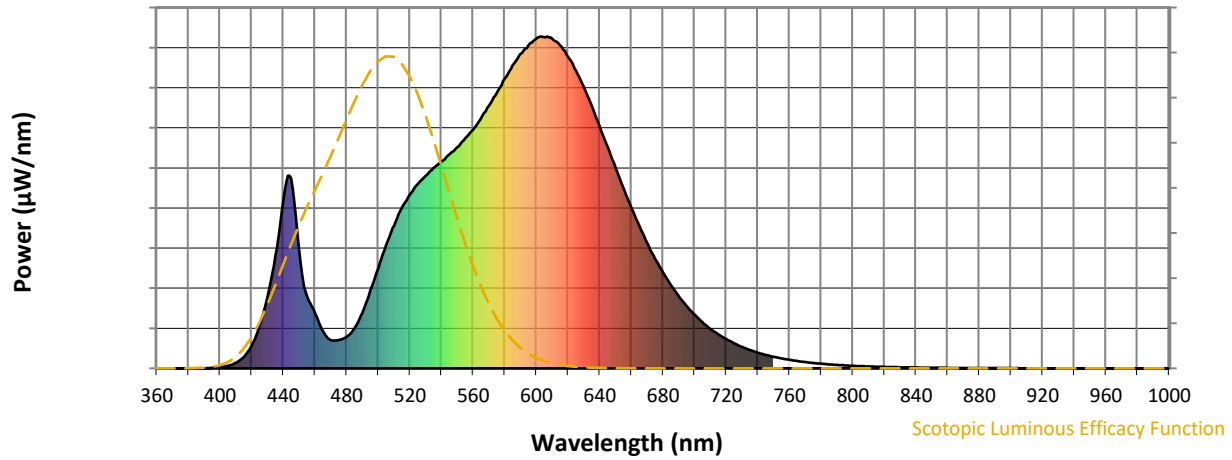


**Photopic Lumens: NR**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

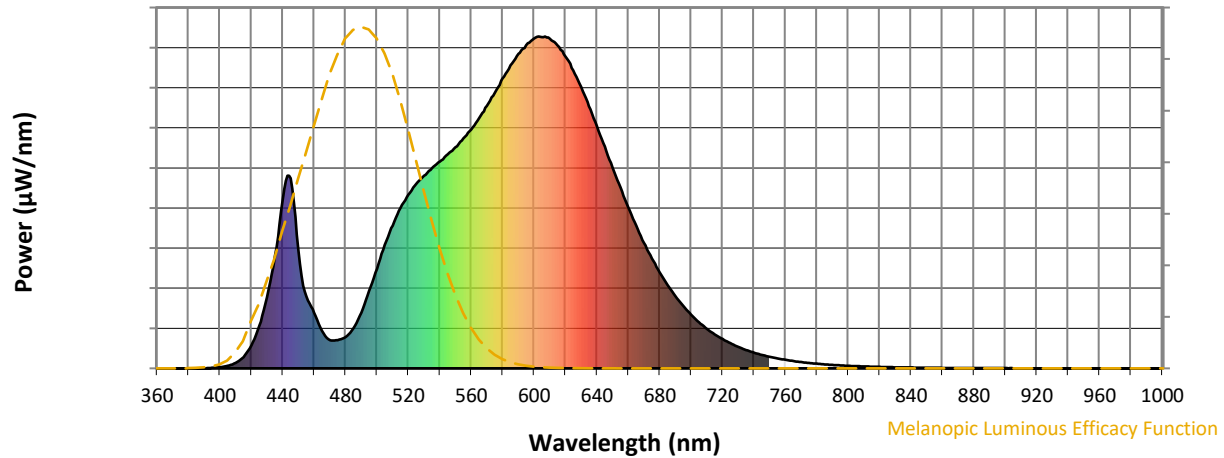
**S/P: 1.27**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			



REPORT NUMBER: SP1-2408-195-9

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 2.32**

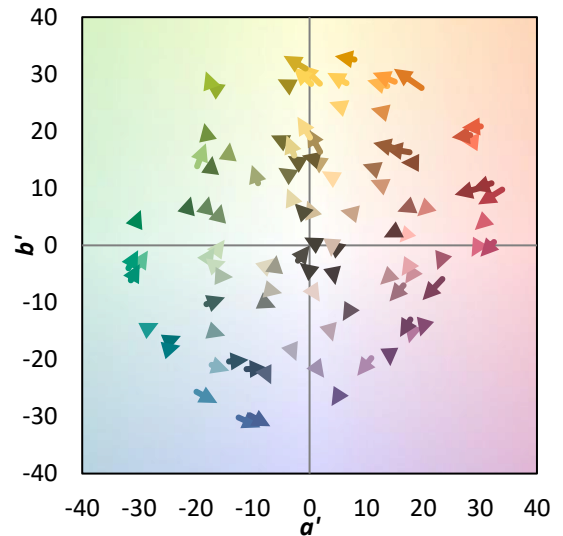
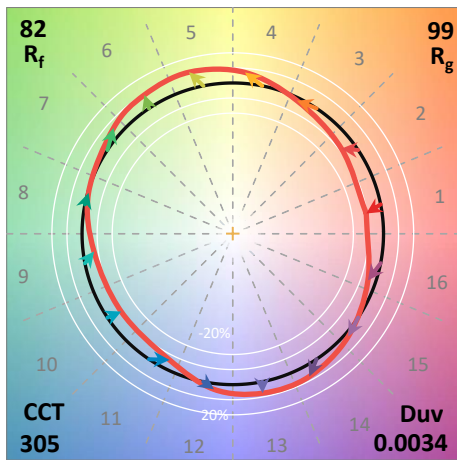
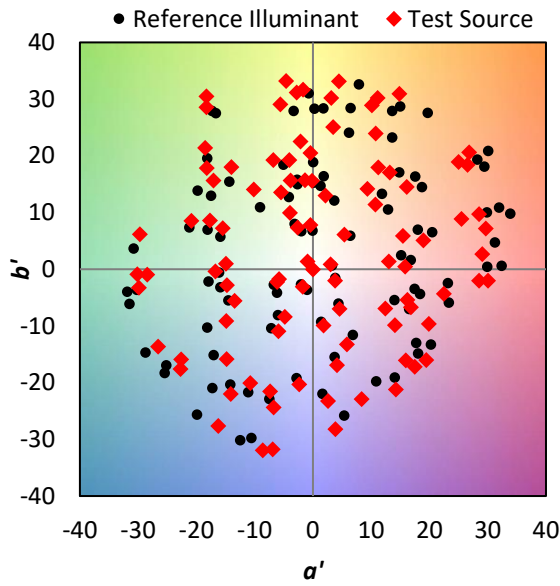
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

**Summary**

$R_f = 81.5$   
 $R_g = 99.2$   
 $CIE R_a = 81.0$   
 $R_9 = 7.1$

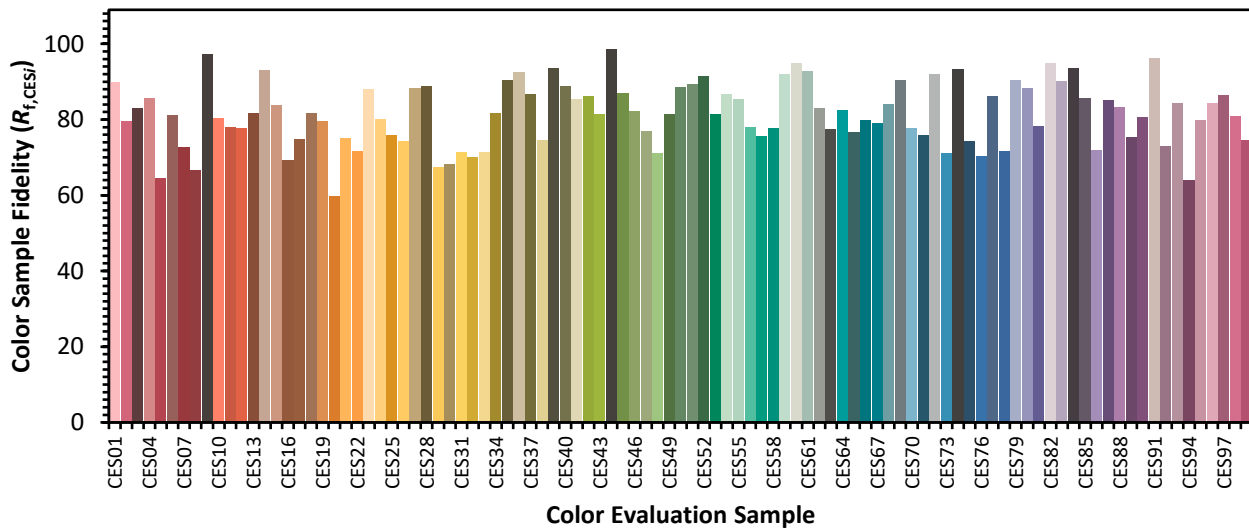


**Color Vector Graphics**

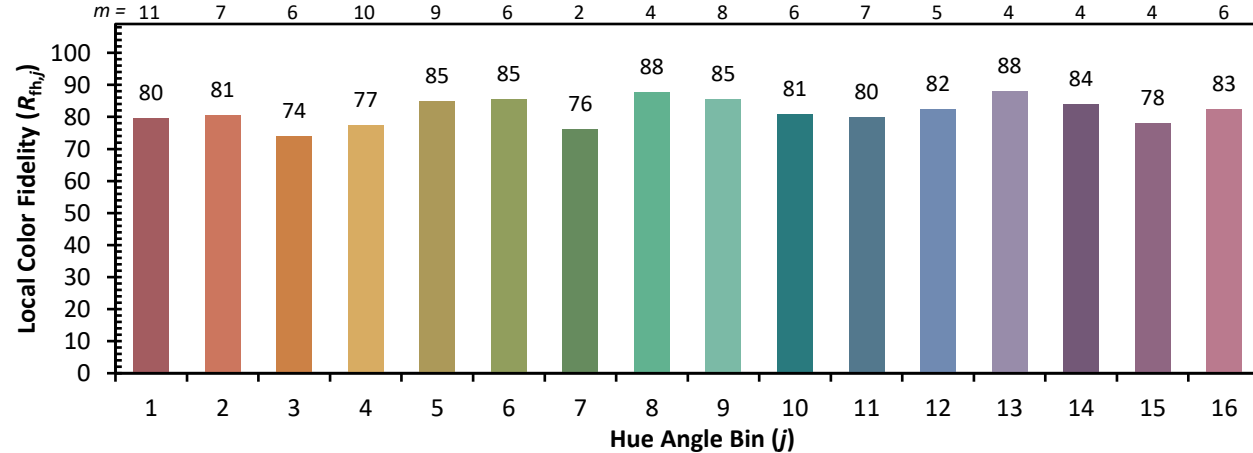
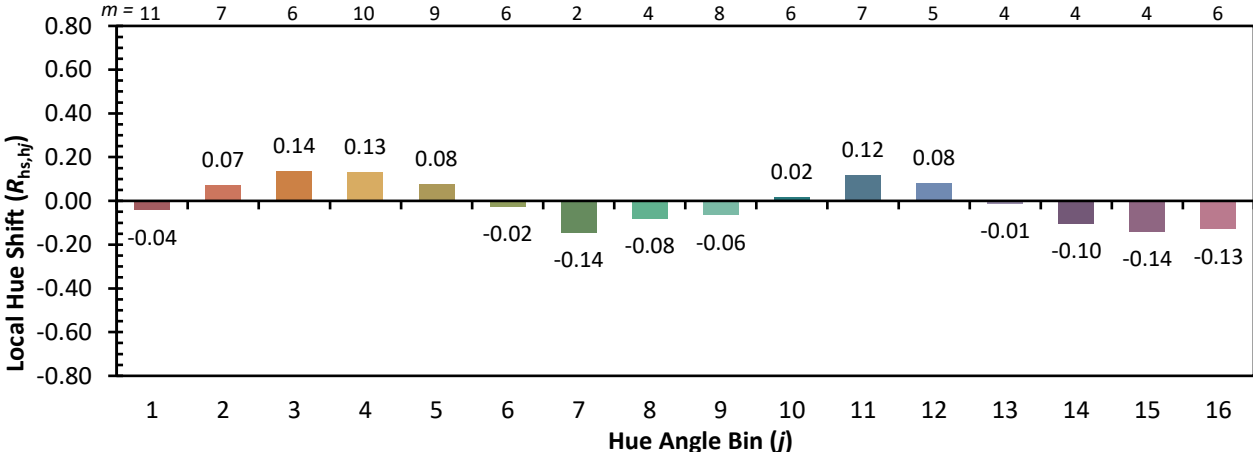
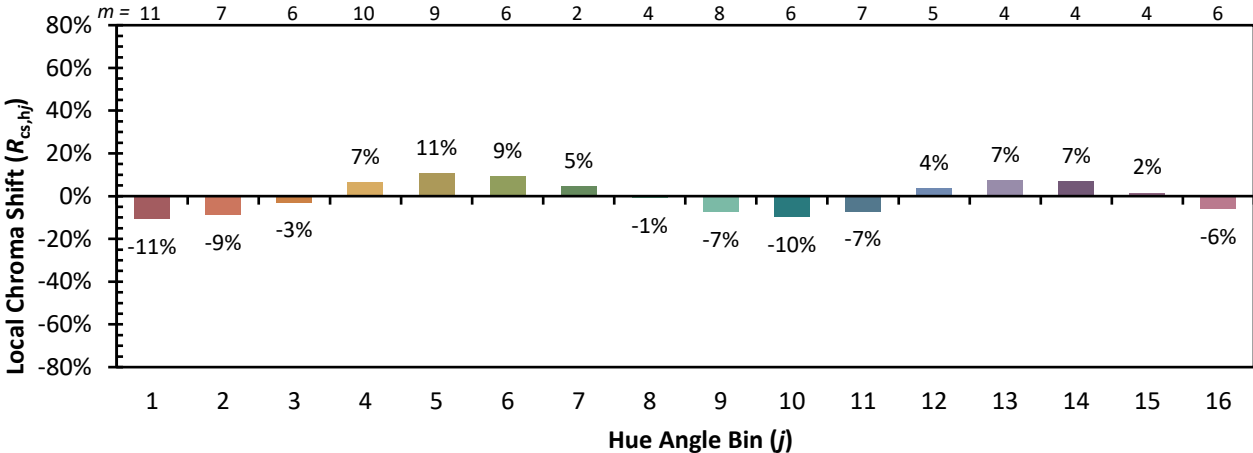


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

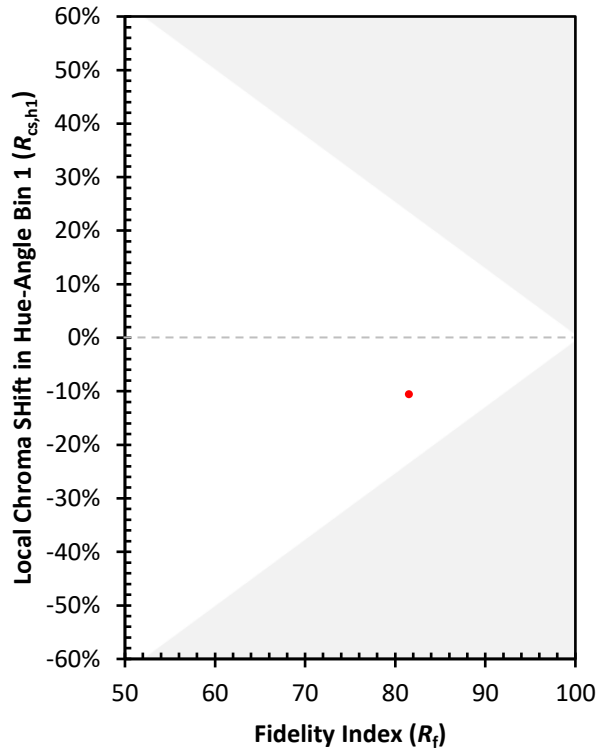
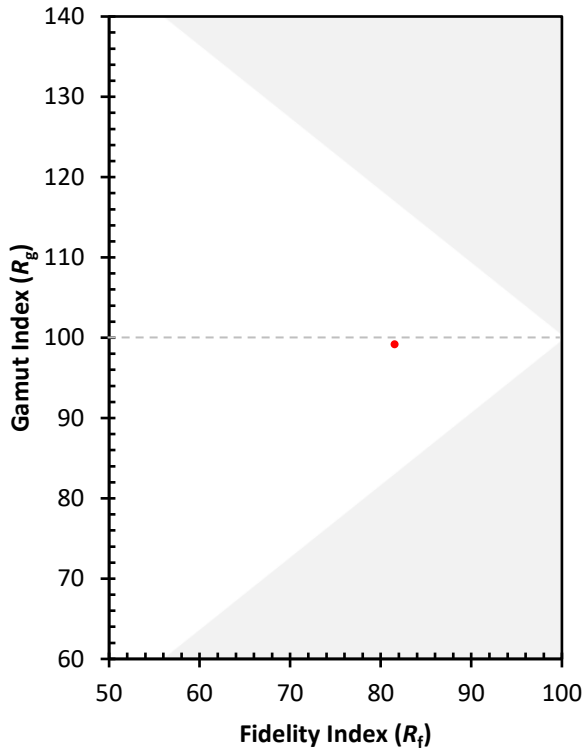
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 95
CES08 = 41	CES33 = 71	CES58 = 78	CES83 = 90
CES09 = 29	CES34 = 82	CES59 = 92	CES84 = 94
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 = 91	CES94 = 64
CES20 = 66	CES45 = 87	CES70 = 78	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)