

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: P632044

Luminaire Tested: GWS-SA2B-830-U-SLL-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P632044  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-38)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2B-830-U-SLL-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

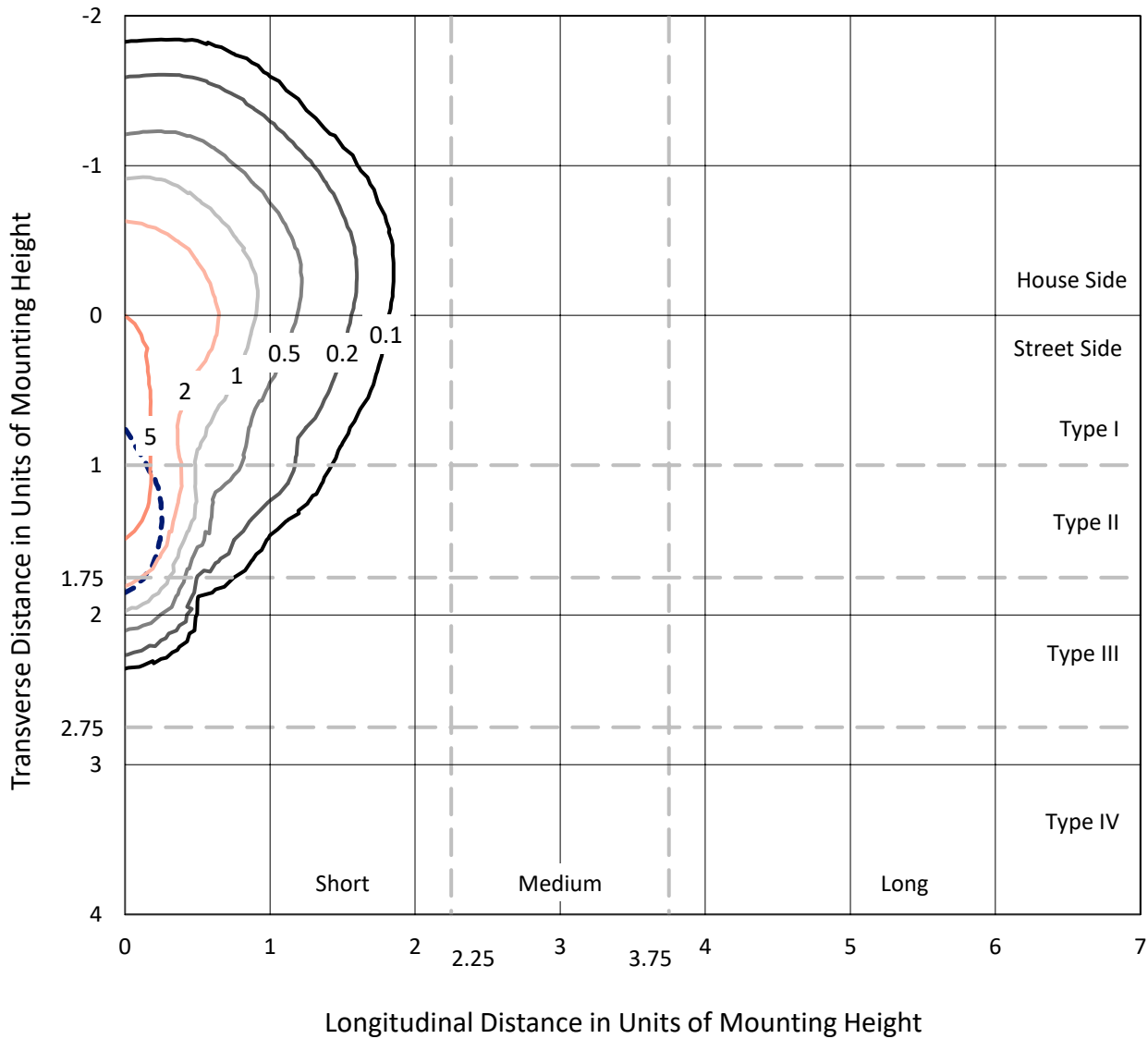
Lumens per Lamp: N/A  
Luminaire Lumens: 2939.7 lumens  
Efficiency: N/A  
Efficacy: 63.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G0  
  
Input Watts (W): 46.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
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

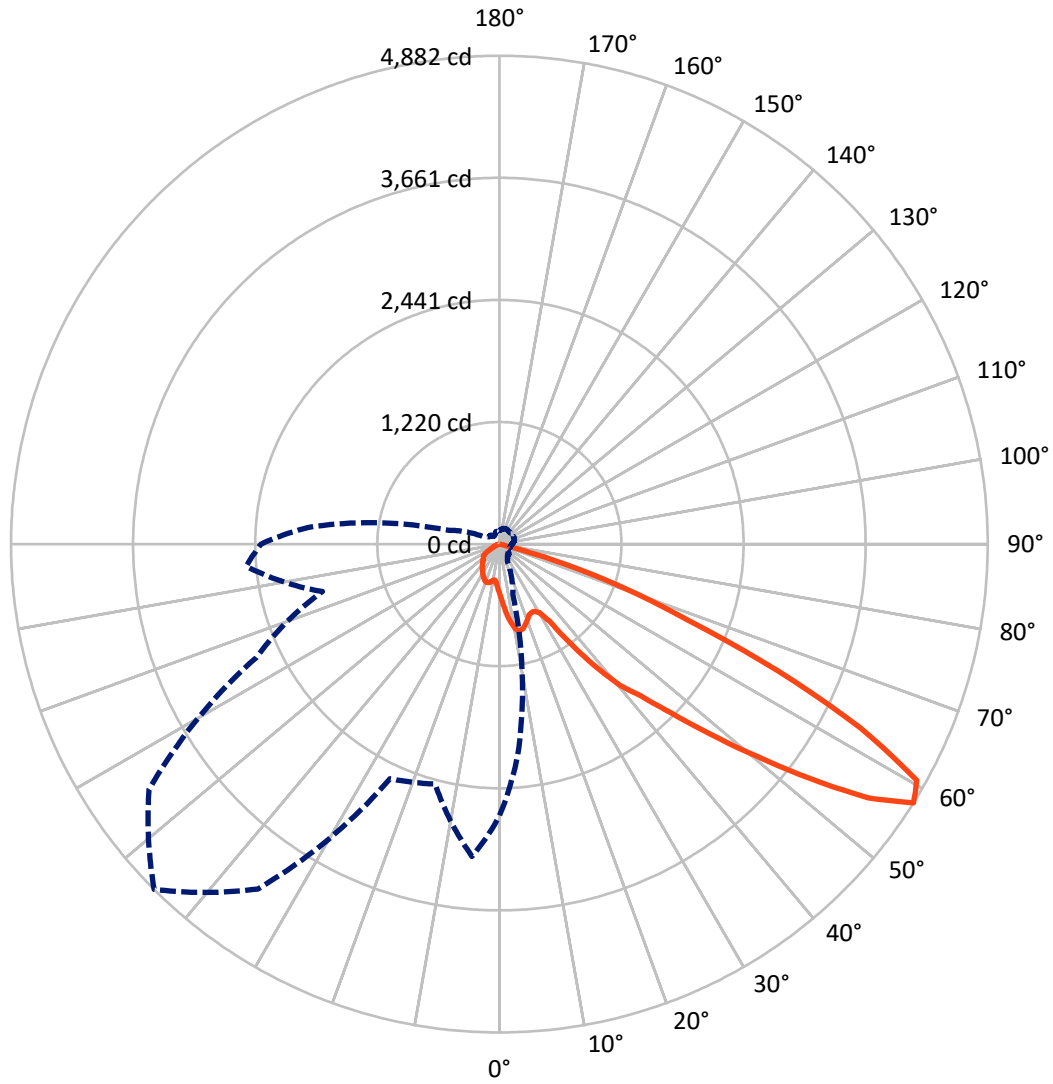
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.8 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 315-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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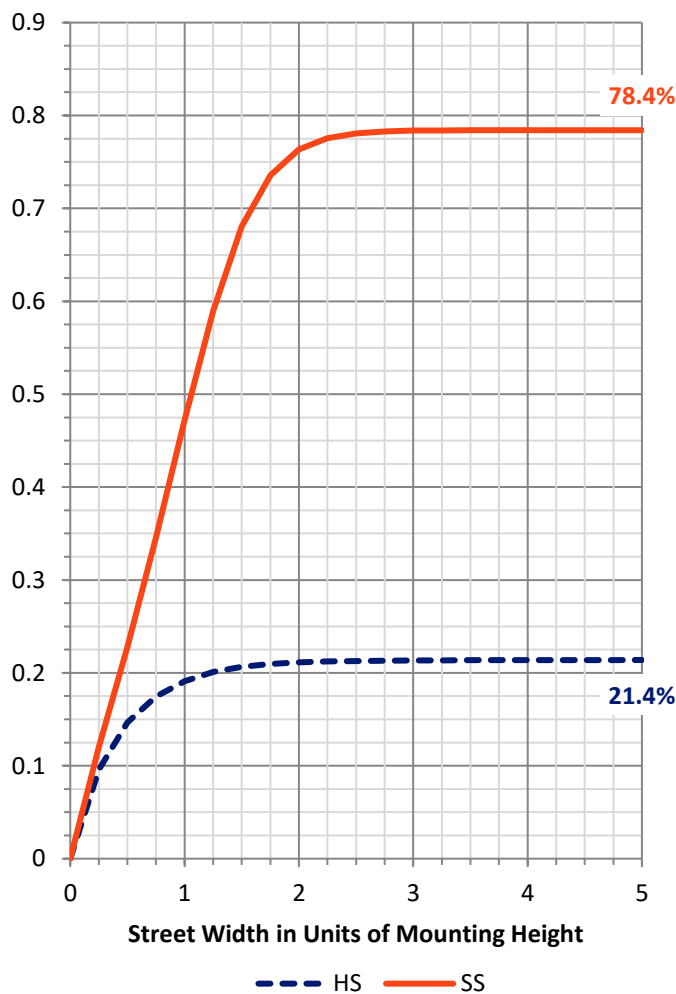
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	633.3	0.0	633.3
	% Fixture	21.5	0.0	21.5
<b>Street Side</b>	Lumens	2306.4	0.0	2306.4
	% Fixture	78.5	0.0	78.5
<b>Total</b>	Lumens	2939.7	0.0	2939.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.4	1.7
10°-20°	162.4	5.5
20°-30°	263.6	9.0
30°-40°	404.6	13.8
40°-50°	646.2	22.0
50°-60°	904.8	30.8
60°-70°	463.9	15.8
70°-80°	44.7	1.5
80°-90°	0.0	0.0
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°	2939.7	100.0
0°-180°	2939.7	100.0

**Coefficient of Utilization**



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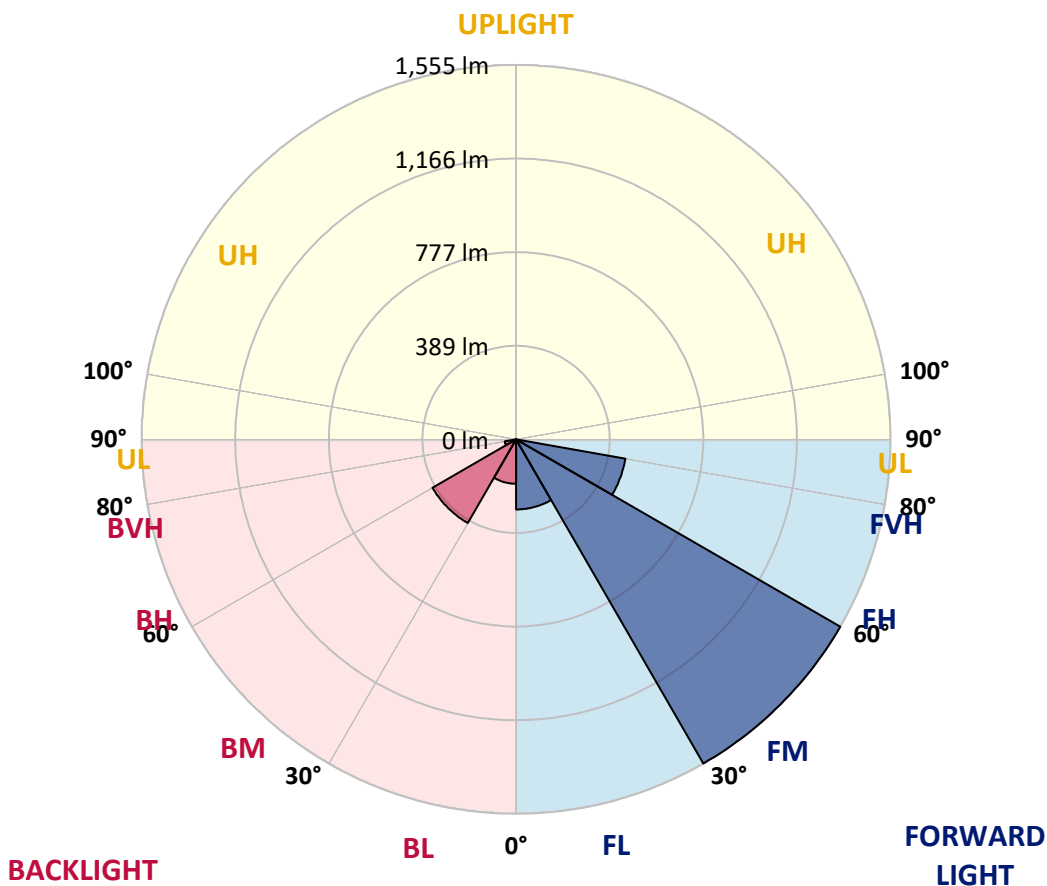
CATALOG NUMBER: GWS-SA2B-830-U-SLL-W-GRSBK

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	291.0	9.9			
FM (30°-60°)	1554.6	52.9			
FH (60°-80°)	460.8	15.7			G0/660
FVH (80°-90°)	0.0	0.0			G0/10
BL (0°-30°)	184.4	6.3	B1/500		
BM (30°-60°)	401.1	13.6	B1/1000		
BH (60°-80°)	47.8	1.6	B0/110		G0/110
BVH (80°-90°)	0.0	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G0**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5
2.5°	554.9	553.7	549.8	536.4	528.2	515.2	505.8	493.6	480.2	472.0	463.7
5°	613.9	610.7	600.1	569.5	545.9	520.3	499.9	477.5	453.5	437.8	423.3
7.5°	670.5	665.7	651.6	599.7	564.0	527.4	498.3	465.7	431.9	408.3	390.2
10°	725.9	715.3	692.9	629.2	580.8	536.8	502.6	465.3	425.6	395.7	375.7
12.5°	771.5	763.6	732.9	657.1	595.0	538.8	496.7	462.2	435.4	415.4	396.9
15°	810.8	802.1	773.0	682.2	607.2	530.9	472.0	441.7	446.1	453.9	438.2
17.5°	846.9	837.9	806.4	703.1	611.9	511.7	437.4	422.9	446.8	476.3	470.4
20°	884.2	874.0	835.5	720.0	610.3	481.4	402.4	406.8	440.5	474.3	477.5
22.5°	927.9	917.3	872.5	741.6	609.1	445.3	372.2	392.6	428.8	457.4	462.9
25°	985.6	973.1	923.9	773.4	612.3	412.3	350.6	378.8	408.7	434.7	437.8
27.5°	1061.9	1045.8	983.3	812.7	619.0	386.3	341.1	360.0	383.2	406.4	409.1
30°	1161.3	1140.9	1051.3	846.9	615.8	368.2	334.8	341.1	354.9	373.7	374.1
32.5°	1277.6	1249.7	1127.5	876.4	588.7	354.9	326.2	321.9	325.0	339.5	342.3
35°	1414.4	1378.2	1211.6	904.3	539.2	328.9	310.5	295.9	294.7	301.8	308.5
37.5°	1571.2	1528.0	1317.7	940.0	480.6	301.8	287.3	272.7	266.5	270.0	280.2
40°	1715.8	1667.9	1428.5	983.3	420.9	277.5	260.2	245.2	237.8	238.9	251.5
42.5°	1885.6	1836.1	1564.1	1039.9	371.4	260.9	231.9	216.5	206.7	212.2	226.8
45°	2143.4	2087.2	1761.8	1089.0	332.1	257.0	207.1	185.5	180.8	190.2	207.5
47.5°	2495.5	2426.8	2033.4	1118.9	298.7	260.6	189.8	160.3	161.5	172.1	189.4
50°	2844.9	2770.6	2347.4	1079.6	271.2	253.5	181.2	140.7	148.2	157.6	173.3
52.5°	3085.0	2988.3	2500.2	966.0	246.0	226.8	180.4	122.2	136.4	139.5	152.9
55°	3094.5	2975.4	2422.0	761.6	211.8	191.4	172.1	106.9	123.4	124.6	136.0
57.5°	2712.5	2604.8	2116.7	523.1	188.2	140.3	137.2	93.5	101.4	111.2	118.3
60°	2063.6	1972.1	1583.0	239.7	143.1	89.2	93.9	80.6	75.8	90.4	97.5
62.5°	1263.9	1205.3	949.5	106.1	91.2	47.6	57.0	64.1	57.0	62.5	68.4
65°	501.9	475.9	360.4	45.2	37.3	24.0	25.9	37.3	40.1	44.0	49.5
67.5°	87.2	82.5	60.5	20.0	15.3	14.5	12.6	17.3	24.4	27.1	31.4
70°	11.4	11.0	9.8	8.3	7.9	7.1	5.5	11.0	16.5	17.3	20.0
72.5°	2.8	2.4	2.4	2.0	2.4	0.8	0.8	5.9	11.8	12.2	14.1
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	7.5	8.3	9.8
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5
2.5°	457.1	449.2	446.4	442.5	437.4	439.0	431.9	429.5	433.1	437.8	436.6
5°	415.4	406.8	400.9	391.8	390.2	386.7	384.4	381.2	385.1	390.6	391.8
7.5°	382.4	374.9	369.0	366.3	364.3	362.7	358.0	355.7	355.7	358.0	360.0
10°	368.2	362.7	361.6	362.3	365.5	365.1	360.8	357.6	353.7	351.7	354.1
12.5°	387.9	378.8	377.3	377.7	381.6	381.2	376.5	372.6	371.8	372.6	380.0
15°	421.3	407.5	397.3	395.4	397.3	396.5	393.0	390.6	391.8	403.2	415.8
17.5°	451.2	429.9	411.5	404.4	404.0	402.8	399.3	398.5	404.4	425.6	444.1
20°	459.8	439.0	412.6	403.6	401.6	400.5	396.5	397.7	405.2	430.7	446.4
22.5°	448.4	428.4	400.9	391.8	390.2	389.9	385.9	387.5	393.8	416.2	429.2
25°	426.8	409.9	381.2	373.3	373.3	372.6	369.0	369.8	373.7	393.4	406.0
27.5°	400.5	384.4	360.4	352.5	353.7	354.9	350.6	349.4	352.5	371.0	378.5
30°	370.2	358.8	339.9	332.9	332.5	337.2	331.3	329.7	334.0	348.6	350.2
32.5°	340.7	335.2	321.9	316.4	316.8	317.5	314.4	314.4	318.3	326.2	325.8
35°	312.0	308.5	306.1	302.2	301.8	300.2	300.2	301.0	305.4	308.1	303.0
37.5°	284.5	288.1	290.8	286.9	283.7	283.7	283.7	287.3	291.2	290.0	281.4
40°	260.2	267.6	276.3	272.0	264.5	264.1	265.7	271.6	277.5	270.4	262.5
42.5°	239.3	248.8	260.9	258.6	250.3	249.2	250.3	257.8	262.5	253.5	244.8
45°	218.9	230.7	245.2	245.2	236.2	235.0	235.4	245.2	248.0	237.4	226.4
47.5°	201.6	214.6	229.9	229.9	222.4	220.1	222.0	232.3	234.2	219.3	209.1
50°	185.1	199.2	216.1	215.0	209.9	207.9	211.4	222.4	220.1	203.6	193.0
52.5°	164.3	179.2	202.4	203.6	200.8	201.2	205.5	212.6	205.9	185.9	176.8
55°	145.4	160.7	183.9	190.2	190.2	189.8	191.8	197.3	191.8	167.8	156.8
57.5°	125.0	137.9	157.2	158.8	159.9	155.6	158.4	165.8	163.1	142.7	136.4
60°	102.6	113.6	124.6	125.8	120.6	111.6	116.7	125.4	127.3	112.0	104.9
62.5°	72.7	83.3	96.3	96.3	91.2	82.1	88.8	96.3	93.5	77.8	73.5
65°	54.2	64.1	73.9	78.2	73.9	67.6	72.7	78.2	73.9	60.9	54.6
67.5°	35.0	41.7	47.6	51.1	51.9	51.1	53.4	51.9	46.8	38.1	34.6
70°	21.2	24.8	27.9	31.0	33.4	34.6	35.8	32.2	27.1	22.4	21.2
72.5°	15.3	18.5	21.2	23.6	26.3	27.1	27.1	24.8	20.0	15.7	14.5
75°	10.6	13.4	15.7	17.3	19.6	20.4	20.4	18.5	14.9	11.4	10.2
77.5°	0.4	2.8	2.8	2.4	3.1	3.9	3.9	4.7	4.3	3.1	2.8
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	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°	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5
2.5°	439.0	453.1	457.1	471.6	484.6	497.5	513.3	522.7	536.8	546.7	552.2
5°	395.7	407.5	421.7	443.3	465.7	490.5	520.3	546.3	578.9	602.9	610.7
7.5°	364.3	379.6	396.1	423.3	453.9	486.9	529.0	571.4	621.3	653.9	674.8
10°	358.4	374.1	396.1	422.9	455.1	492.8	544.3	599.3	661.8	701.5	725.1
12.5°	386.7	403.6	413.0	425.2	449.6	491.6	557.7	627.6	701.1	744.3	769.5
15°	428.4	443.3	428.0	412.6	428.4	479.1	565.1	651.2	735.7	785.6	811.5
17.5°	457.1	458.2	424.8	392.2	396.5	456.3	567.9	674.8	772.6	824.9	852.0
20°	454.3	444.9	411.1	374.9	361.6	426.8	564.7	695.6	810.0	864.6	891.3
22.5°	433.1	422.1	393.4	358.0	332.1	391.8	559.2	714.5	844.2	906.2	931.4
25°	407.5	395.7	372.2	341.1	313.2	358.0	554.9	740.4	887.4	960.5	980.1
27.5°	377.7	367.5	347.4	325.0	305.4	332.5	553.7	774.6	939.7	1026.5	1040.3
30°	348.6	339.2	323.4	310.5	302.2	317.5	549.8	811.1	1002.1	1102.4	1117.3
32.5°	320.7	311.3	301.4	299.5	299.9	312.0	536.4	847.3	1076.4	1212.4	1223.4
35°	296.7	285.7	281.8	286.5	295.1	302.6	498.7	877.2	1156.2	1332.3	1341.3
37.5°	273.9	262.9	262.5	273.9	283.4	288.1	454.3	906.6	1263.9	1454.1	1465.5
40°	253.1	242.1	246.0	259.8	267.2	269.6	400.5	951.4	1377.8	1582.6	1576.3
42.5°	235.4	224.0	226.4	244.1	250.7	257.0	350.9	988.8	1487.5	1704.4	1702.5
45°	218.1	209.5	207.9	227.2	233.0	258.2	314.8	1017.5	1628.6	1859.7	1862.8
47.5°	201.2	194.5	194.9	203.2	217.7	264.1	284.1	1036.3	1833.3	2105.7	2051.0
50°	185.9	180.8	185.1	175.7	207.9	256.6	257.8	1032.4	2062.1	2341.5	2231.8
52.5°	169.0	167.8	169.8	147.0	192.2	226.4	233.0	980.1	2169.3	2502.6	2440.1
55°	151.7	151.3	135.6	117.5	160.7	180.8	199.6	817.8	2165.8	2588.3	2664.1
57.5°	131.3	128.1	103.0	95.9	125.0	125.8	182.0	535.7	1919.4	2383.1	2540.3
60°	99.4	97.1	75.5	77.8	87.2	80.6	145.0	266.8	1434.4	1856.5	2033.8
62.5°	68.8	65.6	56.2	60.1	56.2	46.0	88.8	132.0	868.9	1172.3	1333.0
65°	50.3	46.8	38.5	33.0	26.3	26.3	33.8	50.7	336.4	498.3	600.9
67.5°	31.0	29.5	22.8	16.5	16.1	17.3	17.7	25.2	54.2	86.5	105.7
70°	20.0	18.5	15.3	10.6	9.8	10.2	10.6	11.8	13.8	14.9	18.1
72.5°	13.8	13.0	11.0	5.9	4.7	5.1	5.5	5.5	6.7	6.3	7.5
75°	9.8	9.0	7.9	2.8	1.6	2.0	2.4	2.0	2.4	1.6	2.0
77.5°	2.8	2.8	2.0	0.4	0.0	0.4	0.8	0.8	0.4	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	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):**

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5	499.5
2.5°	566.3	575.3	578.9	573.8	578.1	571.0	568.3	557.7	556.9	554.9
5°	642.5	663.0	675.2	682.6	674.0	664.6	650.4	626.0	618.6	613.9
7.5°	717.6	749.4	770.3	780.1	777.7	758.5	732.9	692.1	677.5	670.5
10°	782.8	821.8	846.9	859.1	854.0	837.1	800.5	749.4	730.2	725.9
12.5°	828.4	864.2	881.5	892.1	892.5	885.8	851.2	799.7	777.0	771.5
15°	857.1	872.5	872.8	879.1	890.1	905.1	889.0	843.4	819.0	810.8
17.5°	875.2	858.3	841.0	842.6	860.7	900.4	916.9	881.9	855.9	846.9
20°	888.2	834.7	802.5	802.9	821.4	881.5	936.1	919.2	892.5	884.2
22.5°	896.4	813.9	767.9	766.7	786.4	859.1	953.8	963.6	937.3	927.9
25°	913.3	804.1	747.1	753.8	771.1	852.0	977.8	1022.6	998.2	985.6
27.5°	943.6	813.9	745.1	760.4	780.1	872.8	1019.4	1101.2	1076.0	1061.9
30°	995.9	850.8	775.4	796.6	820.2	927.5	1089.4	1210.8	1174.7	1161.3
32.5°	1080.0	927.5	868.9	914.5	937.3	1017.1	1194.3	1333.8	1304.4	1277.6
35°	1195.9	1102.4	1095.7	1201.8	1196.3	1186.8	1323.2	1484.7	1440.3	1414.4
37.5°	1355.4	1383.7	1433.3	1538.6	1535.0	1463.1	1492.6	1627.4	1604.6	1571.2
40°	1554.7	1614.8	1698.9	1849.8	1802.7	1712.3	1700.5	1773.6	1755.1	1715.8
42.5°	1672.2	1776.0	1936.3	2071.9	2034.2	1876.2	1862.8	1968.9	1928.4	1885.6
45°	1726.8	1907.2	2221.6	2405.1	2290.8	1985.0	1979.9	2223.6	2200.8	2143.4
47.5°	1752.0	2039.7	2555.7	2833.5	2619.7	2080.5	2062.1	2593.0	2563.1	2495.5
50°	1779.9	2222.4	2958.1	3329.9	3017.0	2188.6	2202.0	2937.3	2924.7	2844.9
52.5°	1841.2	2415.7	3453.7	3897.3	3498.8	2358.0	2442.1	3261.9	3177.0	3085.0
55°	1933.1	2626.4	3969.3	4477.0	3990.5	2585.5	2701.9	3434.4	3196.2	3094.5
57.5°	1831.4	2679.1	4274.6	4881.8	4208.6	2586.3	2482.2	3135.3	2811.1	2712.5
60°	1453.3	2492.4	4157.1	4794.2	4022.7	2296.7	1900.5	2448.0	2129.6	2063.6
62.5°	982.5	2090.3	3659.6	4054.5	3443.0	1806.6	1235.2	1592.0	1318.5	1263.9
65°	538.4	1559.4	2956.9	3067.3	2694.8	1261.9	635.5	690.9	526.2	501.9
67.5°	148.6	1085.5	2175.6	2034.9	1890.7	821.8	164.3	123.4	88.0	87.2
70°	37.3	718.0	1303.6	1343.7	1159.3	526.2	31.4	14.9	11.8	11.4
72.5°	15.7	308.9	618.6	710.9	593.4	243.7	11.4	4.3	3.5	2.8
75°	2.0	24.8	52.7	79.8	54.6	26.3	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	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
87.5°	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

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

REPORT NUMBER: SP1-2408-195-9

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (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

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.27**

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

**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**

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

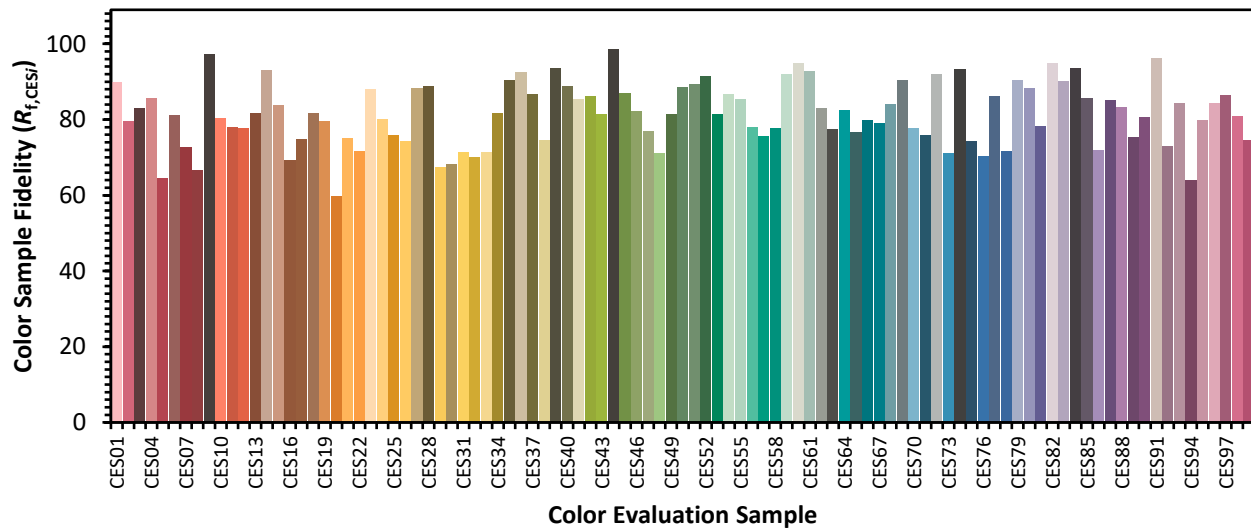


**Color Vector Graphics**

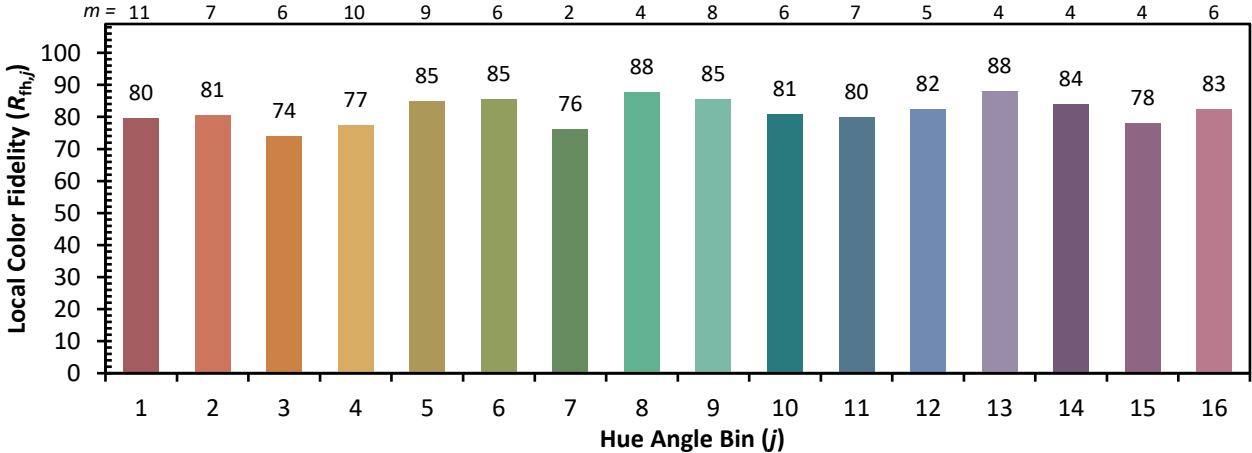


Individual Sample Fidelity Index ( $R_{f,i}$ )

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)