

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: P632051

Luminaire Tested: GWS-SA2B-830-U-SLR-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P632051  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-41)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2B-830-U-SLR-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR RIGHT OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

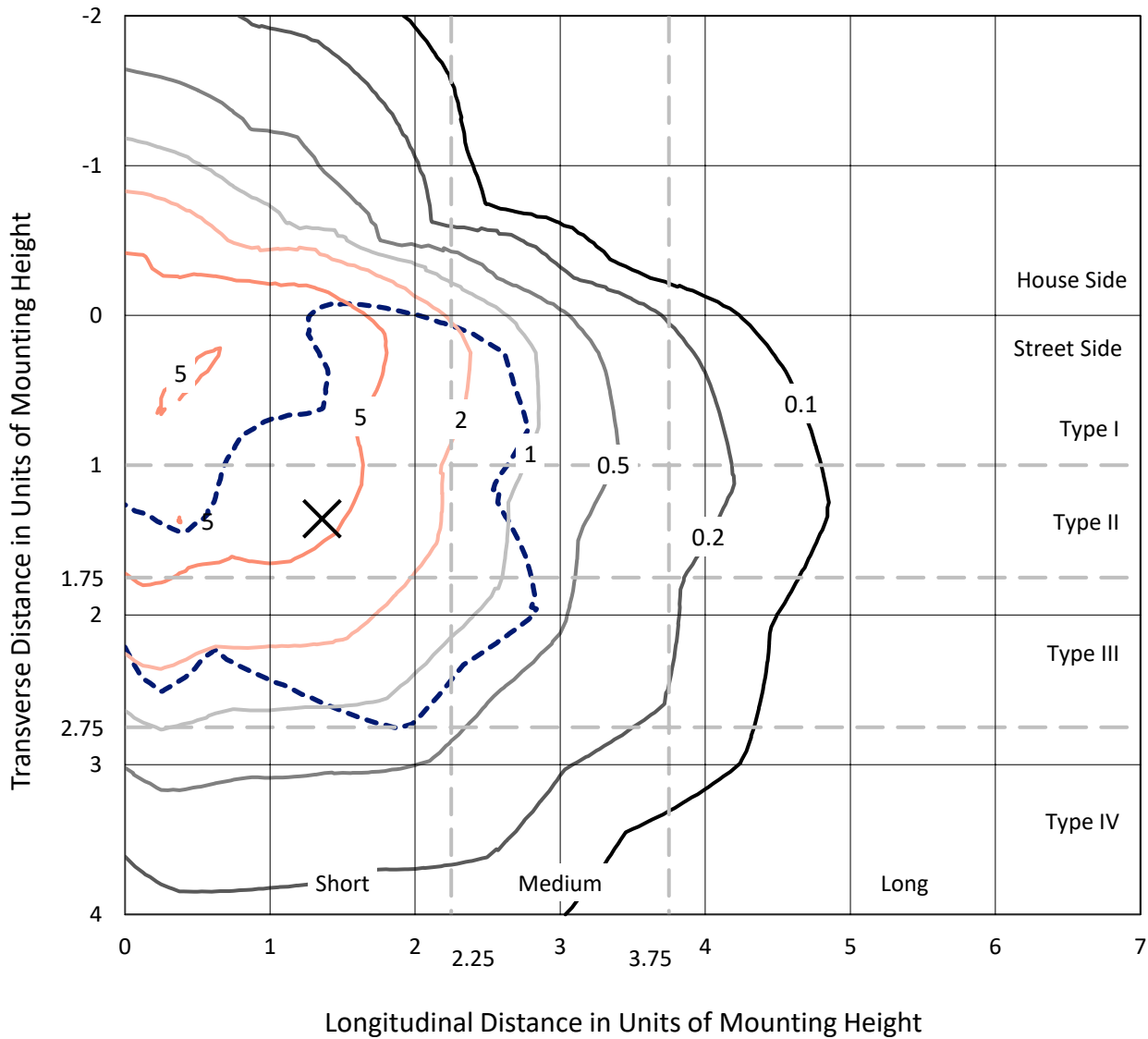
Lumens per Lamp: N/A  
Luminaire Lumens: 5190.8 lumens  
Efficiency: N/A  
Efficacy: 111.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 46.4  
Input Voltage (V): 120  
Input Current (Ain): 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

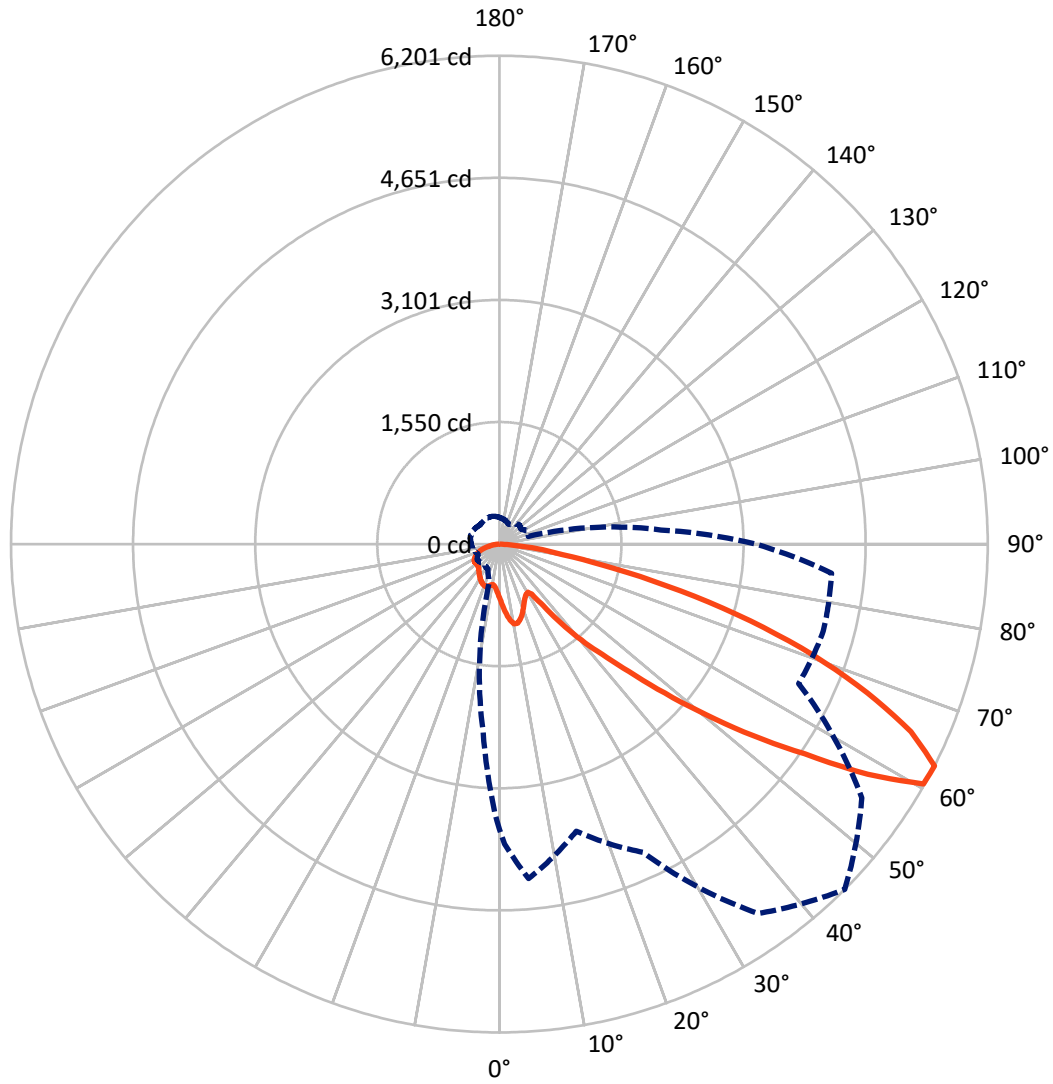
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.8 fc  
 Type III - 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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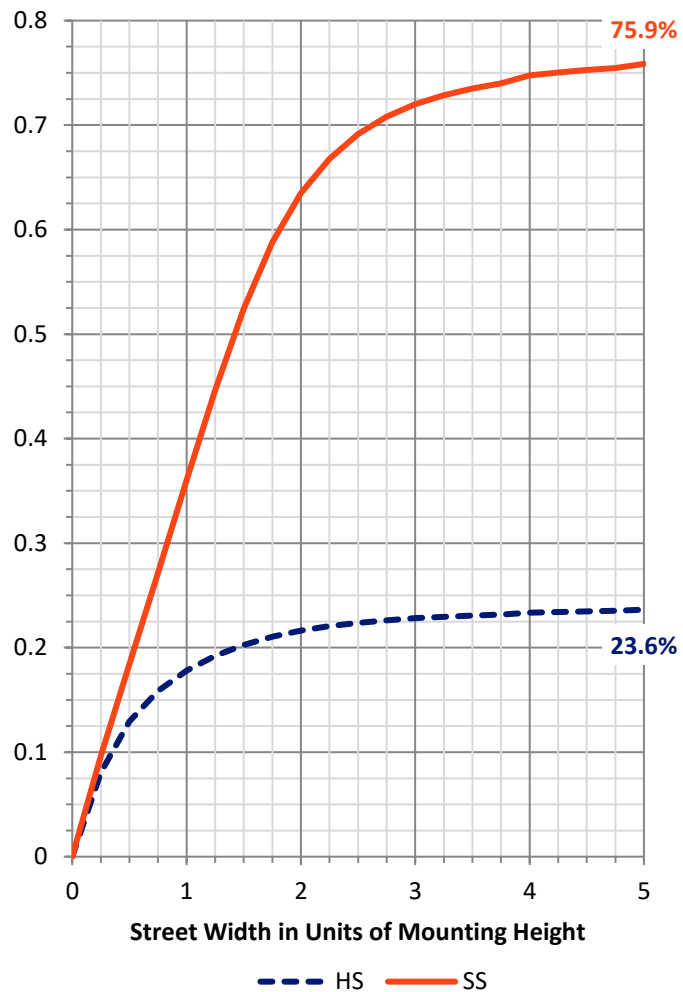
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1238.6	0.0	1238.6
	% Fixture	23.9	0.0	23.9
<b>Street Side</b>	Lumens	3952.2	0.0	3952.2
	% Fixture	76.1	0.0	76.1
<b>Total</b>	Lumens	5190.8	0.0	5190.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.3	1.3
10°-20°	210.9	4.1
20°-30°	327.6	6.3
30°-40°	444.8	8.6
40°-50°	705.0	13.6
50°-60°	1243.6	24.0
60°-70°	1383.7	26.7
70°-80°	701.7	13.5
80°-90°	106.3	2.0
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°	5190.8	100.0
0°-180°	5190.8	100.0

**Coefficient of Utilization**



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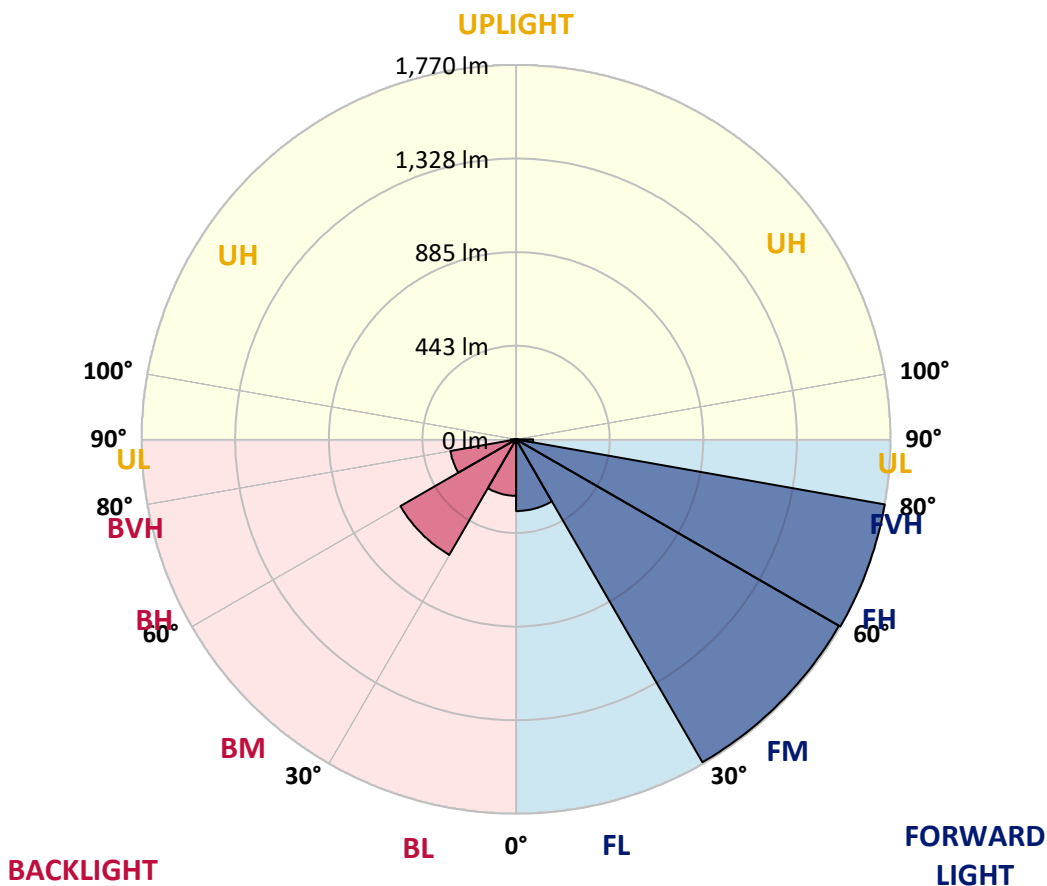
CATALOG NUMBER: GWS-SA2B-830-U-SLR-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	338.9	6.5			
FM (30°-60°)	1762.5	34.0			
FH (60°-80°)	1770.1	34.1			G1/1800
FVH (80°-90°)	80.7	1.6			G1/100
BL (0°-30°)	266.9	5.1	B1/500		
BM (30°-60°)	630.8	12.2	B1/1000		
BH (60°-80°)	315.3	6.1	B1/500		G1/500
BVH (80°-90°)	25.6	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9
2.5°	740.4	740.0	747.5	758.9	769.5	774.2	782.1	781.3	775.0	766.7	764.0
5°	798.6	800.1	813.1	838.3	866.2	878.0	883.1	881.1	869.7	855.2	829.6
7.5°	851.2	854.0	874.0	911.8	946.3	962.1	974.6	972.3	955.8	928.7	890.9
10°	889.7	892.9	916.9	961.3	999.8	1013.5	1029.7	1030.4	1015.9	979.4	940.8
12.5°	928.3	931.4	953.8	994.3	1019.4	1019.8	1029.3	1034.4	1035.2	1018.3	979.7
15°	968.3	971.1	991.5	1014.3	1013.1	991.1	991.1	1001.0	1022.6	1034.8	1008.0
17.5°	1002.5	1006.1	1021.8	1014.3	979.4	939.7	934.9	947.5	985.2	1032.0	1029.3
20°	1030.8	1033.6	1042.2	992.7	929.0	877.2	868.1	882.7	933.8	1015.1	1045.4
22.5°	1058.0	1059.5	1054.8	964.4	874.8	815.5	804.5	819.8	874.8	985.2	1059.1
25°	1090.2	1088.6	1066.2	934.9	825.3	766.7	755.3	772.6	830.0	945.6	1074.1
27.5°	1127.5	1121.6	1076.0	903.1	787.2	730.6	722.7	741.2	794.6	909.0	1085.9
30°	1159.3	1147.9	1077.6	874.8	767.5	715.3	710.5	727.8	777.3	884.2	1100.8
32.5°	1194.7	1179.0	1086.6	867.3	778.5	752.2	758.5	759.7	782.1	877.2	1123.2
35°	1245.4	1225.0	1111.4	889.0	891.7	936.1	958.9	928.3	853.2	892.9	1165.6
37.5°	1322.0	1296.1	1161.7	982.5	1125.5	1225.0	1280.0	1210.0	1069.3	952.2	1229.7
40°	1415.2	1382.2	1226.2	1155.4	1344.1	1503.2	1601.1	1498.5	1291.8	1100.4	1319.7
42.5°	1545.3	1510.7	1351.1	1325.2	1546.4	1783.4	1911.1	1758.3	1487.9	1291.8	1463.9
45°	1772.0	1738.6	1580.2	1495.4	1783.4	2128.5	2307.7	2095.1	1687.1	1484.0	1733.5
47.5°	2191.0	2151.7	1920.6	1684.0	2053.8	2576.5	2827.2	2517.5	1894.2	1704.0	2186.2
50°	2694.0	2656.3	2347.8	1907.2	2352.5	3055.6	3404.1	3013.9	2132.8	1971.7	2727.4
52.5°	3299.2	3292.1	2957.3	2189.4	2663.3	3566.5	4044.3	3563.7	2394.1	2332.0	3340.5
55°	3844.7	3913.9	3731.5	2619.7	3065.0	4208.2	4702.6	4163.4	2748.6	2927.8	4058.5
57.5°	4138.7	4324.5	4604.8	3497.7	3649.0	4975.4	5514.9	4895.6	3357.8	3919.8	4724.2
60°	3944.5	4155.2	4662.9	4158.7	4228.3	5590.0	6185.4	5511.0	3955.9	4608.3	4686.5
62.5°	3621.5	3810.5	4262.1	3772.8	4317.9	5725.2	6201.1	5618.3	4193.7	4258.9	4233.4
65°	3238.3	3428.9	3907.2	3293.3	4032.9	5404.1	5743.7	5302.7	3766.5	3847.8	3857.3
67.5°	2729.4	2905.4	3392.4	2928.2	3676.1	4932.9	5041.4	4853.1	3468.6	3598.3	3462.7
70°	2039.3	2198.0	2628.0	2379.6	3098.8	4319.0	4231.4	4259.3	3134.2	3263.1	2892.5
72.5°	1393.6	1513.0	1881.7	1869.9	2372.9	3457.6	3335.4	3599.9	2617.8	2788.7	2205.1
75°	974.6	1067.8	1360.2	1477.3	1793.6	2562.7	2375.3	2694.4	2044.4	2288.4	1608.9
77.5°	598.1	659.8	859.1	1094.5	1153.8	1753.9	1475.3	2027.5	1435.6	1669.1	1073.3
80°	299.1	328.9	417.4	688.1	765.2	1033.6	814.7	1177.0	971.5	1033.6	593.8
82.5°	90.4	99.8	122.2	261.3	396.5	595.0	481.4	683.8	530.5	484.6	233.8
85°	24.0	27.1	33.8	77.4	139.1	213.4	162.7	331.3	254.3	178.8	88.0
87.5°	2.0	2.0	1.6	1.6	0.8	0.0	0.0	23.6	47.6	27.1	15.3
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9
2.5°	750.2	748.7	732.5	720.8	707.0	693.6	679.9	667.7	653.9	640.2	636.3
5°	810.8	799.8	765.6	736.9	708.6	683.8	662.2	639.8	621.7	604.0	597.4
7.5°	864.2	844.9	795.4	751.8	712.5	681.9	650.0	617.4	591.9	566.7	560.4
10°	912.5	887.0	824.5	769.5	725.9	690.9	653.6	609.9	573.0	542.3	534.1
12.5°	948.3	920.4	849.7	786.4	736.9	697.6	660.6	622.1	583.2	543.5	534.5
15°	976.6	947.5	870.5	799.4	737.3	686.6	650.8	637.4	625.3	586.4	569.8
17.5°	999.4	968.7	888.6	807.2	726.7	653.2	622.1	641.8	672.8	648.4	617.4
20°	1020.2	989.2	902.3	812.7	703.1	607.2	589.9	631.5	678.3	677.5	649.6
22.5°	1043.0	1012.8	922.4	815.9	670.1	560.4	570.6	616.6	654.7	666.1	648.8
25°	1072.1	1045.4	950.3	822.9	632.7	528.2	556.5	597.4	629.2	631.9	621.7
27.5°	1105.9	1085.9	991.9	839.4	596.6	511.7	540.0	570.2	599.3	600.5	588.3
30°	1142.8	1129.5	1030.4	853.2	569.5	506.6	518.8	543.1	561.6	564.7	554.1
32.5°	1190.0	1178.2	1064.6	844.2	553.3	505.4	499.1	511.7	527.0	527.0	518.8
35°	1254.8	1238.3	1100.8	809.6	533.7	500.7	478.3	481.8	488.5	489.7	485.0
37.5°	1346.8	1319.7	1137.3	741.2	501.5	483.8	454.3	450.0	452.3	455.5	454.3
40°	1460.8	1416.4	1190.8	659.1	463.0	451.2	429.5	421.3	419.3	425.6	428.0
42.5°	1604.2	1536.2	1248.2	582.4	428.0	413.8	400.5	393.4	390.2	400.9	407.1
45°	1833.3	1721.3	1303.2	506.6	408.3	382.0	373.0	367.8	369.4	382.0	389.9
47.5°	2229.1	2003.9	1355.4	458.6	406.8	359.2	348.2	349.4	353.7	367.1	376.5
50°	2729.8	2382.4	1390.4	438.6	411.5	345.4	330.9	337.2	343.9	356.8	367.8
52.5°	3239.5	2734.9	1348.8	427.6	411.1	345.8	314.8	333.7	336.8	349.8	361.6
55°	3590.0	2774.2	1165.2	410.7	404.8	361.6	302.2	332.1	334.0	345.8	356.4
57.5°	3723.7	2639.8	888.6	415.4	385.9	373.7	296.7	321.1	335.2	345.4	356.4
60°	3562.1	2386.3	540.0	427.6	355.7	373.0	300.3	301.0	325.4	342.7	353.7
62.5°	3257.6	2060.9	379.2	393.0	333.7	352.1	308.5	277.5	308.1	328.9	338.8
65°	2908.6	1678.1	289.2	338.4	323.0	319.9	311.3	256.6	284.5	305.0	313.6
67.5°	2545.1	1304.4	235.0	252.3	292.0	289.2	284.5	238.2	256.6	271.2	281.0
70°	2087.2	912.5	198.5	189.4	250.3	259.4	248.8	215.0	220.9	235.8	243.7
72.5°	1526.8	568.7	163.1	156.4	201.2	226.8	221.3	189.4	192.2	206.3	212.6
75°	1098.0	325.4	130.9	128.9	153.7	194.1	183.1	163.1	166.2	176.8	181.2
77.5°	698.0	181.2	101.0	103.8	110.0	145.0	156.4	139.5	139.5	145.8	149.3
80°	373.7	103.8	73.9	75.1	77.0	110.8	123.4	108.1	108.1	103.8	108.1
82.5°	152.5	59.7	50.7	47.2	51.5	75.8	86.5	68.8	71.9	64.8	66.4
85°	50.3	29.9	25.2	24.8	24.4	33.4	41.7	34.2	40.9	25.9	27.1
87.5°	6.7	5.5	3.1	2.4	2.8	1.2	2.4	2.8	2.8	2.0	2.0
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°	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9
2.5°	633.5	630.4	619.0	621.7	619.8	616.6	619.8	613.9	618.6	620.2	630.0
5°	592.2	584.8	573.8	568.3	567.1	564.0	564.3	561.6	562.4	569.1	580.1
7.5°	555.3	548.2	539.6	535.7	532.1	528.6	528.2	527.8	530.9	536.8	547.4
10°	528.6	524.7	521.1	522.7	521.1	519.5	516.8	516.8	521.9	532.5	545.5
12.5°	528.6	527.8	528.6	533.3	532.9	533.3	529.8	531.7	545.9	564.0	582.4
15°	556.9	550.6	550.6	552.9	552.2	552.2	552.2	560.4	592.6	620.5	640.2
17.5°	591.5	573.0	565.1	564.0	563.6	563.6	565.1	582.8	633.1	662.6	674.0
20°	615.4	580.5	567.5	562.4	562.8	563.6	568.3	592.6	648.1	663.0	660.2
22.5°	619.8	574.6	558.8	551.4	552.6	553.3	560.4	586.4	627.6	630.0	624.5
25°	599.7	558.1	541.2	535.3	536.8	536.4	542.7	561.6	591.1	590.3	587.1
27.5°	569.8	531.7	519.2	515.2	518.0	514.8	516.8	531.3	554.1	553.3	552.2
30°	539.2	506.2	494.8	492.8	496.4	491.6	492.0	504.2	519.9	519.2	518.8
32.5°	508.5	480.6	470.4	470.4	474.0	468.8	469.6	480.2	490.9	487.7	487.7
35°	479.5	459.8	451.6	450.0	452.7	449.2	450.8	460.6	464.5	460.2	457.4
37.5°	453.9	445.3	437.0	431.5	431.9	432.3	437.0	444.5	442.1	435.8	432.3
40°	430.3	430.3	422.5	412.3	411.1	413.8	421.7	429.9	423.3	416.2	411.9
42.5°	413.4	417.0	409.5	399.3	396.9	401.6	410.3	416.2	408.3	400.5	394.6
45°	397.7	406.4	401.3	389.9	386.7	392.2	403.2	405.6	395.0	387.5	383.2
47.5°	386.7	398.5	395.0	384.0	379.2	387.1	398.5	398.1	384.7	376.9	373.3
50°	378.8	393.8	393.4	384.0	378.8	388.7	398.9	393.8	379.2	371.0	367.5
52.5°	372.6	393.4	396.1	390.6	387.1	395.7	402.0	392.2	375.3	366.7	363.9
55°	369.8	395.0	396.9	391.8	388.7	396.5	402.0	395.4	375.3	367.5	365.1
57.5°	370.6	393.0	393.4	386.3	380.8	390.6	399.3	397.3	379.6	370.6	367.8
60°	365.9	382.4	383.2	372.2	365.9	377.7	393.0	391.8	377.7	368.2	363.1
62.5°	350.2	364.7	365.1	354.9	345.8	362.7	379.6	379.2	366.3	356.8	350.9
65°	323.8	339.2	343.1	333.3	326.2	344.3	362.0	361.2	348.2	339.6	333.7
67.5°	291.2	307.7	315.2	308.5	305.8	322.3	338.8	338.4	327.8	319.5	314.4
70°	251.5	265.3	277.8	277.8	275.9	294.7	312.4	310.9	301.0	294.7	290.8
72.5°	218.5	229.1	233.0	237.0	242.9	262.5	277.5	278.6	271.6	268.4	271.6
75°	185.9	192.6	196.1	193.0	203.2	223.6	243.3	245.2	237.8	232.7	233.8
77.5°	152.9	160.3	163.9	156.8	156.0	182.0	205.9	210.3	204.0	196.1	198.5
80°	110.4	120.3	126.2	121.4	119.9	131.3	164.3	169.0	163.1	156.8	160.3
82.5°	67.6	73.1	74.7	79.4	89.2	93.9	105.7	121.4	117.1	111.6	121.4
85°	26.7	31.8	35.4	40.1	46.8	55.4	65.2	77.8	70.7	68.4	80.6
87.5°	1.6	0.4	0.0	0.8	6.7	13.0	27.9	38.5	32.2	34.6	41.7
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°	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9	688.9
2.5°	637.8	648.1	661.8	673.2	687.7	701.5	715.6	729.8	737.3	740.4
5°	592.6	611.5	633.5	657.9	686.2	716.0	746.3	777.3	797.0	798.6
7.5°	565.5	592.6	622.9	653.6	688.5	729.8	777.7	825.7	845.7	851.2
10°	574.2	604.4	628.4	657.1	695.6	747.1	803.7	859.9	883.1	889.7
12.5°	608.8	614.6	622.1	648.4	695.6	762.0	830.4	897.2	922.0	928.3
15°	637.4	609.1	595.8	623.7	686.2	775.0	858.7	932.6	962.5	968.3
17.5°	639.8	591.1	562.0	587.1	669.7	784.0	885.8	971.9	997.0	1002.5
20°	615.8	571.8	534.1	549.4	647.3	788.0	905.5	1000.6	1025.3	1030.8
22.5°	588.7	556.1	515.2	514.4	620.2	792.3	929.0	1027.7	1054.4	1058.0
25°	563.2	534.5	499.9	488.9	588.7	800.5	960.9	1068.6	1089.0	1090.2
27.5°	533.3	511.3	487.7	477.1	561.2	816.3	1008.0	1117.3	1129.5	1127.5
30°	506.2	489.7	479.1	475.9	543.9	828.0	1052.8	1165.2	1166.0	1159.3
32.5°	477.5	471.2	471.2	481.4	529.8	825.3	1089.4	1212.0	1204.5	1194.7
35°	451.9	453.1	461.4	485.4	506.2	797.8	1124.4	1270.6	1259.6	1245.4
37.5°	427.6	436.6	448.4	471.6	475.1	756.9	1165.2	1353.5	1339.7	1322.0
40°	406.8	420.5	434.3	445.7	442.1	698.8	1222.2	1450.9	1435.6	1415.2
42.5°	390.2	403.6	418.9	420.1	421.3	638.2	1282.7	1570.4	1567.7	1545.3
45°	379.6	388.3	402.8	400.9	420.1	571.4	1338.6	1752.8	1788.9	1772.0
47.5°	372.6	379.2	380.8	389.1	430.3	511.7	1410.5	2109.6	2210.2	2191.0
50°	368.6	375.3	357.6	389.9	431.9	473.2	1509.9	2557.6	2719.5	2694.0
52.5°	368.2	366.7	339.9	398.1	423.3	449.6	1561.8	2884.6	3243.8	3299.2
55°	369.0	349.4	330.9	400.5	406.0	440.9	1388.1	3041.8	3727.6	3844.7
57.5°	362.0	330.5	336.0	391.0	373.3	464.1	1026.1	2985.6	3920.9	4138.7
60°	348.6	312.4	345.4	365.5	339.9	424.4	706.6	2734.9	3720.5	3944.5
62.5°	329.3	299.9	344.3	332.5	327.8	347.4	485.7	2383.9	3402.6	3621.5
65°	307.7	289.6	325.8	300.6	303.4	267.2	343.5	1987.8	3022.9	3238.3
67.5°	284.5	283.4	298.7	267.6	256.2	211.8	250.3	1593.2	2535.2	2729.4
70°	258.2	266.8	271.6	237.8	207.9	166.2	185.9	1114.1	1870.3	2039.3
72.5°	231.9	232.7	239.3	206.7	155.6	133.2	139.5	674.8	1270.6	1393.6
75°	205.1	197.7	204.0	168.2	115.9	109.3	107.7	417.0	877.6	974.6
77.5°	176.5	168.2	160.0	126.5	93.1	84.5	82.5	233.8	538.4	598.1
80°	143.4	132.4	119.5	92.7	68.0	60.5	60.1	114.0	268.4	299.1
82.5°	111.6	90.8	87.2	57.8	42.1	36.9	39.3	43.6	81.0	90.4
85°	78.2	66.0	46.4	23.2	18.9	15.3	14.9	13.0	21.6	24.0
87.5°	43.6	28.7	14.9	2.8	3.1	3.5	2.8	2.0	2.0	2.0
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**

$\lambda$ (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**

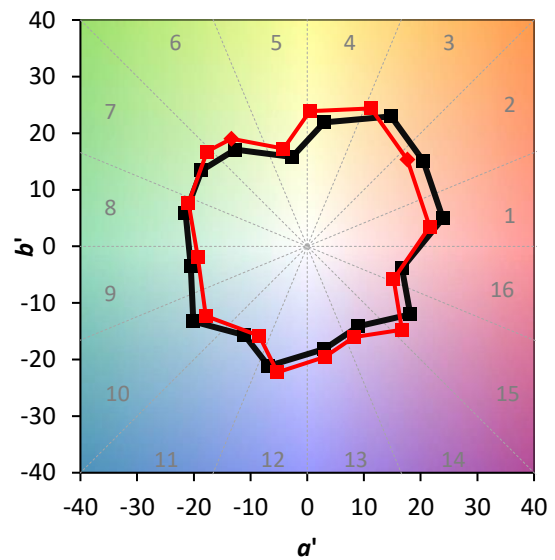
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	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)