

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: P629572

Luminaire Tested: GWS-SA1B-830-U-SLL-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P629572  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-39)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA1B-830-U-SLL-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH  
Light Source: (16) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2216.1 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1

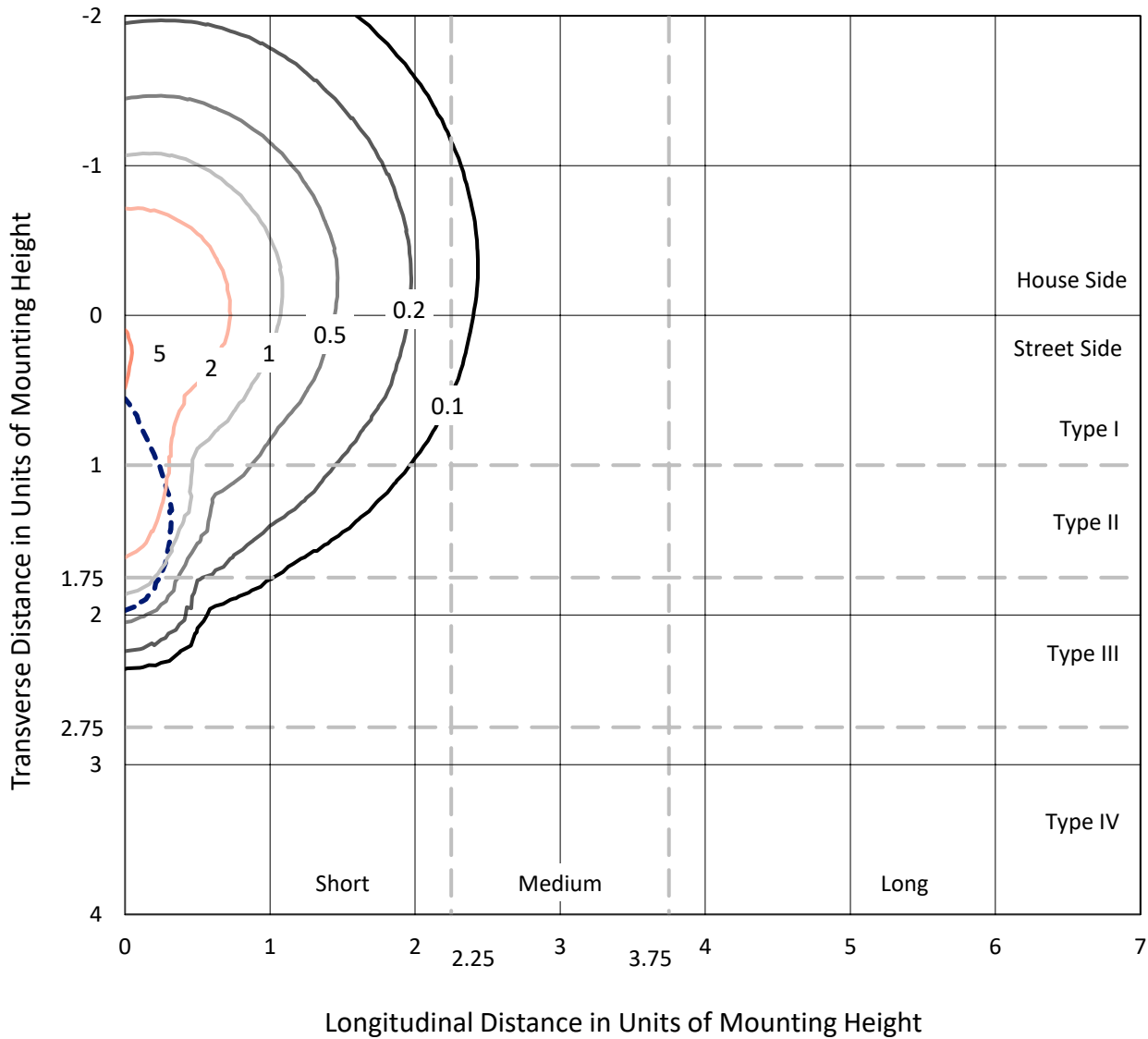
Input Watts (W): 25  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

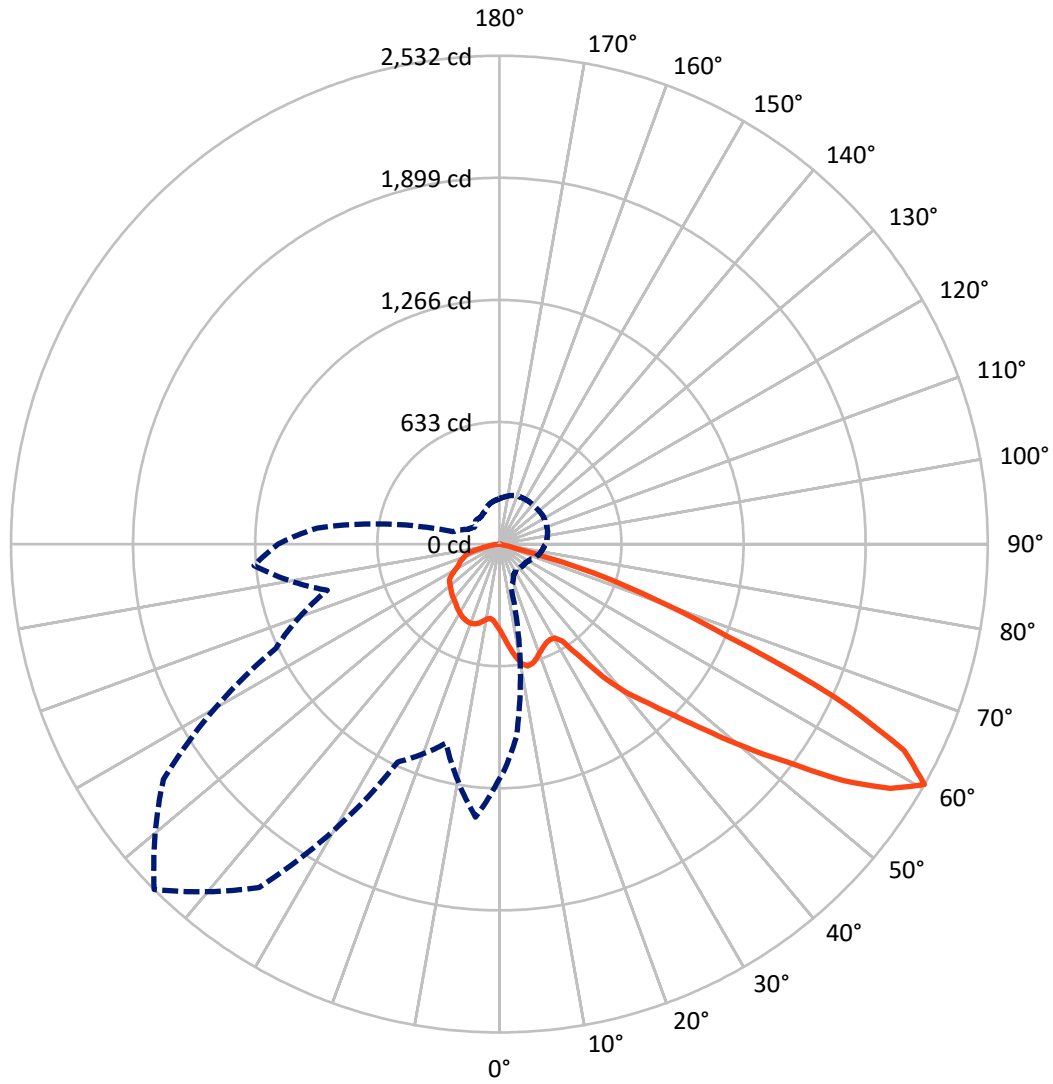
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.4 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 315-Deg Lateral    - - - Horizontal Cone Through 60-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	758.1	0.0	758.1
	% Fixture	34.2	0.0	34.2
<b>Street Side</b>	Lumens	1458.0	0.0	1458.0
	% Fixture	65.8	0.0	65.8
<b>Total</b>	Lumens	2216.1	0.0	2216.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.7	2.0
10°-20°	140.1	6.3
20°-30°	228.1	10.3
30°-40°	320.4	14.5
40°-50°	438.5	19.8
50°-60°	562.6	25.4
60°-70°	378.8	17.1
70°-80°	94.7	4.3
80°-90°	9.2	0.4
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°	2216.1	100.0
0°-180°	2216.1	100.0

**Coefficient of Utilization**



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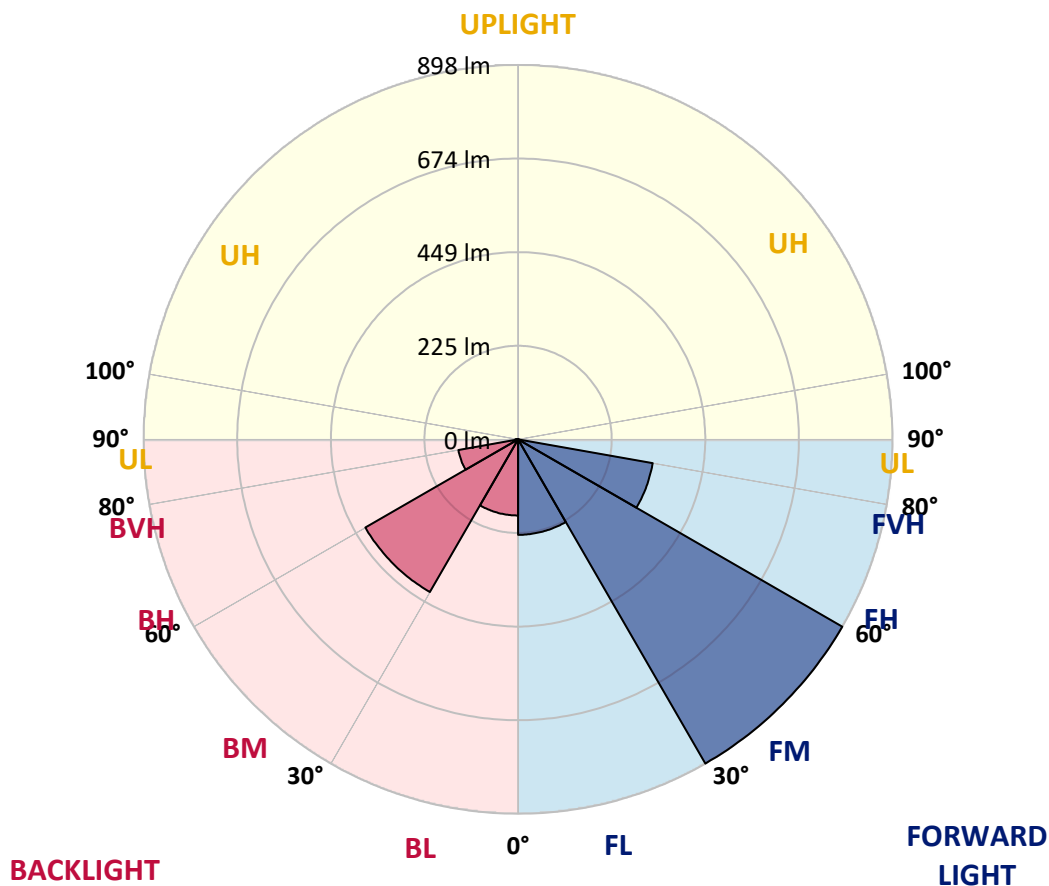
CATALOG NUMBER: GWS-SA1B-830-U-SLL-W-GRSWH

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	229.1	10.3			
FM (30°-60°)	898.4	40.5			
FH (60°-80°)	328.1	14.8			G0/660
FVH (80°-90°)	2.4	0.1			G0/10
BL (0°-30°)	182.8	8.2	B1/500		
BM (30°-60°)	423.1	19.1	B1/1000		
BH (60°-80°)	145.4	6.6	B1/500		G1/500
BVH (80°-90°)	6.8	0.3			G0/10
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°	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0
2.5°	472.9	471.9	470.8	462.9	460.8	455.1	451.0	445.9	438.6	434.5	431.0
5°	502.5	500.8	495.3	479.0	468.4	456.8	447.2	436.6	425.3	418.0	412.3
7.5°	530.4	530.0	520.6	493.7	476.6	459.8	446.8	431.2	415.1	404.1	396.8
10°	556.4	553.3	542.1	507.0	484.5	465.3	451.2	434.1	415.3	400.4	390.6
12.5°	579.2	575.3	559.8	519.2	491.5	467.8	452.5	438.4	425.9	413.5	402.3
15°	598.0	593.3	577.6	530.6	497.6	466.4	444.9	433.9	438.2	443.7	431.2
17.5°	615.5	610.6	591.5	539.0	499.4	457.6	426.4	421.7	443.3	468.4	462.7
20°	630.2	624.7	602.5	543.1	496.2	440.8	402.3	410.4	439.0	469.0	478.2
22.5°	646.2	641.7	614.9	549.0	492.1	417.8	382.1	402.1	431.7	458.0	471.9
25°	671.7	666.2	634.3	559.4	490.0	396.1	367.6	393.9	421.5	445.3	456.1
27.5°	708.6	698.4	660.9	577.6	492.3	375.7	358.4	383.9	409.6	430.0	438.8
30°	748.8	736.6	690.2	596.4	495.5	363.3	353.5	372.5	391.5	411.9	421.5
32.5°	796.4	785.6	721.7	610.4	488.6	357.6	349.8	360.0	375.1	391.5	399.4
35°	853.1	833.7	756.0	621.9	466.1	349.2	346.6	346.3	354.3	370.2	379.2
37.5°	914.1	893.3	798.2	634.1	431.2	335.9	338.8	330.2	337.6	350.2	360.4
40°	964.1	942.3	840.9	650.9	387.6	315.1	321.7	312.5	317.0	330.0	341.4
42.5°	1013.1	989.9	880.7	669.8	345.3	294.7	298.0	294.5	295.9	309.6	325.5
45°	1077.4	1051.3	929.6	683.3	307.4	278.6	275.5	269.6	277.2	294.9	311.9
47.5°	1184.8	1153.5	1009.9	692.1	279.8	269.4	255.3	251.9	261.2	281.0	298.6
50°	1310.3	1283.3	1138.0	691.7	259.2	261.6	235.7	232.7	248.2	268.2	286.8
52.5°	1413.1	1385.8	1247.6	671.3	242.3	245.1	224.3	215.7	237.0	255.5	274.1
55°	1496.2	1465.4	1298.0	586.0	220.8	218.8	211.8	196.1	222.9	242.9	260.2
57.5°	1451.5	1414.8	1237.0	445.5	198.8	185.9	190.4	178.8	203.7	228.8	245.5
60°	1217.0	1183.9	1005.0	237.2	174.9	155.3	164.7	166.5	182.7	211.8	229.0
62.5°	836.0	811.9	681.1	143.9	138.0	124.7	139.4	152.7	164.7	189.4	204.3
65°	409.0	401.9	340.6	92.3	96.5	100.8	115.5	131.6	149.4	171.0	186.7
67.5°	112.7	113.5	103.3	72.0	76.1	88.0	99.6	112.5	130.2	150.2	166.1
70°	49.6	50.4	52.0	55.5	63.3	74.1	86.1	99.4	115.7	132.5	147.8
72.5°	34.5	35.3	37.8	42.2	49.2	59.4	70.8	83.5	100.4	114.5	127.1
75°	21.2	21.8	24.1	28.0	32.7	40.4	51.6	63.3	78.2	91.0	102.3
77.5°	11.2	10.8	12.2	14.9	19.0	23.1	30.6	38.0	48.6	59.0	68.4
80°	6.1	5.9	6.7	8.2	9.4	12.7	17.8	22.7	28.8	34.7	39.8
82.5°	2.7	2.4	2.7	3.5	4.3	6.1	9.0	12.4	15.9	20.0	23.3
85°	0.0	0.0	0.0	0.2	1.0	1.6	3.1	4.5	6.5	9.0	11.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.8
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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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0
2.5°	429.0	423.9	423.5	419.4	419.8	420.0	415.9	414.3	415.7	417.4	416.6
5°	410.2	404.9	402.7	398.8	398.4	396.6	394.9	392.9	394.3	395.7	396.6
7.5°	393.9	390.4	389.0	388.0	388.4	387.6	384.3	382.5	382.3	382.9	383.7
10°	388.6	385.7	387.6	390.4	392.5	393.9	390.4	387.4	384.5	383.3	383.3
12.5°	400.0	396.3	400.0	403.1	407.2	408.2	404.3	401.0	400.0	401.2	403.7
15°	425.3	416.8	416.6	418.4	421.7	423.3	419.6	418.0	418.0	425.7	431.9
17.5°	450.6	436.6	430.6	429.6	431.7	432.3	429.2	427.8	431.5	446.6	458.0
20°	468.4	451.2	438.4	435.9	436.6	436.8	434.3	433.3	438.6	457.0	466.6
22.5°	466.6	453.9	438.2	435.1	436.1	435.7	433.5	433.1	437.4	453.3	457.8
25°	453.9	444.1	430.8	428.8	430.4	430.2	428.0	427.0	428.8	439.4	439.8
27.5°	439.4	430.8	419.4	418.8	421.5	422.9	419.0	415.9	415.3	422.5	420.8
30°	422.1	415.7	406.6	407.0	411.9	412.7	408.0	403.5	402.3	406.1	403.9
32.5°	401.5	399.4	394.5	395.5	400.2	401.9	397.0	392.3	390.8	392.1	387.4
35°	383.9	383.1	383.5	385.3	389.4	390.6	386.6	382.9	380.8	376.6	370.4
37.5°	365.7	368.0	373.9	377.4	379.6	379.2	377.0	374.3	371.0	363.1	355.5
40°	348.8	354.5	365.1	369.0	369.8	370.0	368.4	366.1	362.1	351.4	342.9
42.5°	335.7	342.1	356.1	362.1	362.5	362.9	361.2	359.4	353.7	339.6	331.2
45°	322.1	330.4	347.0	354.1	353.7	353.5	352.1	351.2	344.5	328.2	319.0
47.5°	310.4	320.2	338.0	344.1	343.9	343.7	342.7	342.7	335.9	318.2	307.8
50°	299.0	310.2	328.8	333.9	334.3	333.9	333.5	334.1	326.1	307.2	297.0
52.5°	286.5	299.2	318.6	323.3	325.7	326.8	326.8	325.3	315.9	296.1	284.9
55°	272.9	284.9	307.4	313.7	315.7	317.6	317.6	314.7	305.9	285.9	273.9
57.5°	255.9	266.5	284.3	290.6	295.5	296.8	296.8	292.1	284.9	265.7	255.9
60°	237.6	246.7	258.8	265.5	269.2	266.7	268.6	267.4	261.6	243.9	235.7
62.5°	213.1	222.5	235.7	242.7	244.3	241.9	244.3	244.1	236.3	220.4	210.6
65°	195.5	204.7	217.8	226.7	229.4	228.8	230.4	228.0	218.4	203.3	193.9
67.5°	174.7	184.5	199.6	209.6	215.1	215.7	218.0	212.9	203.1	186.5	174.7
70°	154.9	163.3	174.9	184.3	192.1	195.9	196.3	189.0	176.7	163.1	154.5
72.5°	134.1	142.7	156.7	166.9	176.7	181.2	181.2	172.3	159.0	143.9	134.7
75°	108.8	116.7	129.6	140.6	151.8	157.6	157.4	149.6	134.9	120.6	111.0
77.5°	73.7	79.6	87.8	96.1	97.8	102.3	104.5	94.7	86.5	78.8	70.2
80°	42.9	46.5	51.0	55.7	56.7	58.2	54.5	50.8	46.5	41.4	37.6
82.5°	25.1	27.6	29.8	33.5	34.1	34.5	31.2	29.6	26.1	23.1	20.6
85°	12.2	13.1	15.1	16.9	16.1	15.7	14.3	12.7	11.2	10.0	8.8
87.5°	2.4	2.4	3.7	3.5	2.9	2.4	1.4	1.8	0.4	0.4	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°	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0
2.5°	419.2	422.7	427.0	432.7	439.2	446.1	452.9	458.0	463.1	470.6	469.4
5°	397.8	403.7	410.4	419.2	429.8	441.9	455.3	468.8	483.3	495.5	500.8
7.5°	385.3	391.9	399.8	411.2	424.9	439.6	458.6	480.4	503.9	520.0	530.0
10°	385.3	393.7	404.1	415.1	427.2	442.3	465.7	493.1	523.3	544.5	556.2
12.5°	407.6	415.9	418.2	417.8	424.5	441.2	471.5	506.4	542.5	564.9	579.2
15°	442.3	445.1	428.2	412.7	413.7	433.9	474.1	517.0	559.0	586.0	601.5
17.5°	465.5	458.0	427.8	400.6	394.9	421.5	474.1	527.2	576.6	607.0	621.5
20°	467.4	448.6	417.4	389.0	374.3	404.9	470.8	534.9	593.5	627.2	642.7
22.5°	451.2	432.7	406.3	379.0	357.4	384.9	465.5	540.8	608.0	646.2	665.3
25°	432.9	417.4	395.1	368.8	345.7	364.7	460.6	550.8	628.2	671.9	691.3
27.5°	414.9	401.9	381.7	360.2	339.2	347.2	457.6	565.5	652.3	708.4	725.1
30°	397.4	385.5	367.2	352.1	335.7	335.7	454.9	582.5	684.1	749.4	766.2
32.5°	379.6	368.4	353.5	344.1	333.7	331.2	447.6	598.4	717.0	794.3	811.5
35°	363.1	351.9	340.4	336.5	332.7	327.8	429.4	610.9	749.0	846.8	861.5
37.5°	347.6	336.8	328.2	327.2	327.6	318.4	400.8	621.3	789.0	900.5	908.2
40°	334.1	322.1	315.3	315.1	317.2	303.3	364.7	636.2	834.7	946.0	942.7
42.5°	322.1	309.4	301.2	303.1	301.9	288.2	329.4	649.8	874.5	988.6	982.1
45°	310.2	298.0	286.5	289.2	287.8	278.8	299.4	659.8	918.6	1039.9	1040.7
47.5°	298.8	286.8	275.3	272.1	271.9	275.9	276.3	663.1	990.5	1122.3	1103.7
50°	288.2	276.1	264.3	253.3	257.6	270.2	259.2	660.6	1098.0	1213.3	1161.5
52.5°	277.2	265.7	252.7	232.9	244.1	256.5	243.9	651.9	1163.7	1293.7	1262.7
55°	264.5	253.7	235.9	211.8	225.5	228.2	228.2	567.0	1191.7	1373.3	1392.5
57.5°	247.6	233.3	205.1	185.7	198.0	187.8	211.4	396.8	1145.6	1348.2	1422.7
60°	228.4	213.1	183.3	169.4	173.1	155.1	180.2	248.8	949.4	1147.2	1276.2
62.5°	203.1	189.0	164.3	153.5	145.9	126.5	145.1	157.4	650.9	851.9	939.8
65°	186.1	170.6	148.6	134.3	118.8	101.8	96.3	103.3	350.0	476.8	536.2
67.5°	166.1	150.8	130.0	112.0	99.6	87.4	77.8	75.3	120.0	158.8	171.8
70°	147.2	132.5	115.1	98.4	85.9	73.9	64.5	57.8	55.5	55.1	54.3
72.5°	127.8	114.1	99.6	84.1	70.4	59.4	51.0	43.3	40.0	39.0	38.0
75°	104.7	93.9	79.4	62.7	51.6	41.4	34.9	29.8	26.9	25.9	24.7
77.5°	67.4	62.5	49.8	40.4	31.2	24.7	21.2	18.0	16.1	15.7	14.7
80°	35.9	33.5	27.6	23.3	18.6	15.1	13.3	11.4	10.4	10.0	9.6
82.5°	20.0	18.2	15.3	13.5	10.8	9.2	8.2	7.3	6.7	6.5	6.3
85°	9.0	7.8	6.1	5.7	5.1	4.7	4.5	4.1	3.9	3.7	3.5
87.5°	0.4	0.8	1.0	0.8	0.8	1.2	1.4	1.4	1.2	1.2	1.0
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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CATALOG NUMBER: GWS-SA1B-830-U-SLL-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0	447.0
2.5°	477.0	483.1	483.7	485.7	483.1	482.5	478.2	475.7	473.5	472.9
5°	514.1	526.4	531.3	534.7	531.5	529.8	520.4	510.6	505.1	502.5
7.5°	552.3	570.6	580.2	584.5	584.9	577.6	561.5	543.1	533.9	530.4
10°	586.4	609.0	621.7	629.8	627.0	618.0	596.0	571.1	559.4	556.4
12.5°	611.7	633.3	643.1	648.4	648.2	643.3	622.5	595.5	582.3	579.2
15°	628.0	640.9	641.5	642.7	646.2	652.7	641.9	617.0	602.3	598.0
17.5°	640.9	635.7	626.2	622.9	630.6	648.8	655.3	635.1	619.2	615.5
20°	649.0	623.3	606.4	600.0	609.0	638.6	663.5	651.5	634.9	630.2
22.5°	655.3	611.7	584.3	580.0	589.4	627.6	671.9	670.9	652.7	646.2
25°	665.3	603.9	568.8	565.7	574.5	622.3	683.1	697.2	681.1	671.7
27.5°	681.1	603.1	560.8	559.8	571.9	627.0	699.2	735.8	715.6	708.6
30°	702.9	610.9	562.7	564.7	579.4	643.9	724.3	779.8	759.6	748.8
32.5°	734.3	631.7	590.6	599.4	610.2	671.1	761.1	827.6	812.3	796.4
35°	775.8	688.8	673.3	710.7	700.4	730.4	805.4	885.6	867.0	853.1
37.5°	831.1	806.0	820.3	871.7	847.0	842.7	859.4	938.2	928.0	914.1
40°	908.6	913.7	940.1	1007.6	971.9	944.3	925.8	977.8	981.3	964.1
42.5°	960.1	983.5	1047.0	1123.7	1074.5	1008.6	981.3	1028.4	1028.6	1013.1
45°	979.2	1040.7	1173.3	1261.7	1179.5	1045.4	1011.9	1097.2	1095.2	1077.4
47.5°	972.3	1088.8	1304.6	1439.7	1314.2	1071.5	1007.6	1195.2	1211.7	1184.8
50°	957.8	1137.2	1457.8	1657.6	1479.5	1099.2	1001.1	1303.7	1331.1	1310.3
52.5°	972.5	1191.1	1639.1	1883.0	1686.8	1143.5	1045.2	1443.1	1438.2	1413.1
55°	1019.0	1254.8	1859.3	2166.0	1914.6	1218.4	1158.4	1576.0	1526.2	1496.2
57.5°	1016.8	1300.3	2052.4	2389.9	2112.8	1279.9	1197.8	1590.1	1489.5	1451.5
60°	922.9	1279.5	2125.8	2531.6	2172.6	1246.0	1068.2	1420.3	1256.8	1217.0
62.5°	688.8	1135.4	1983.4	2354.2	2003.4	1076.2	803.3	1019.4	903.1	836.0
65°	440.6	888.2	1667.4	1907.2	1651.3	823.1	478.4	546.6	428.2	409.0
67.5°	187.6	627.0	1296.2	1274.8	1235.4	533.3	184.7	153.9	114.7	112.7
70°	62.0	426.6	799.0	850.3	737.8	367.4	61.0	51.6	51.4	49.6
72.5°	40.6	229.0	449.8	500.8	474.7	211.4	36.9	34.5	35.3	34.5
75°	24.3	49.8	75.7	98.4	75.7	35.5	22.2	21.8	22.2	21.2
77.5°	14.3	13.9	13.5	13.5	13.3	12.2	11.2	10.8	11.0	11.2
80°	9.2	8.8	8.4	8.2	7.1	6.7	6.3	5.9	5.9	6.1
82.5°	5.9	5.5	5.1	4.5	3.7	3.1	2.9	2.4	2.4	2.7
85°	3.1	2.4	1.8	1.4	0.8	0.4	0.0	0.0	0.0	0.0
87.5°	0.6	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

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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 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)