

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: P636998

Luminaire Tested: GWS-SA4B-830-U-SLR-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P636998
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-42)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA4B-830-U-SLR-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND
SPILL LIGHT ELIMINATOR RIGHT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (64) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6134.3 lumens
Efficiency: N/A
Efficacy: 65.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G1

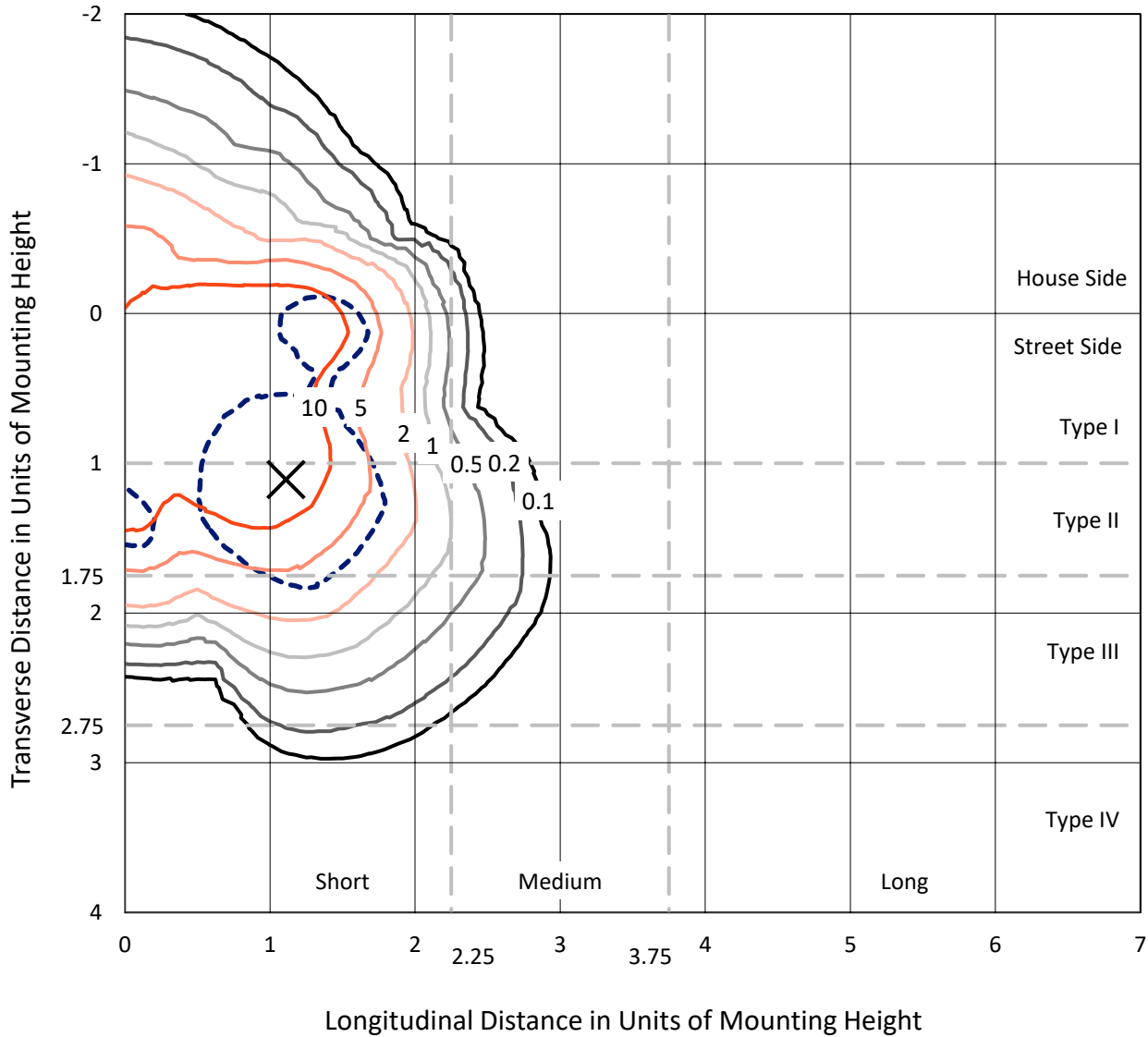
Input Watts (W): 94.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

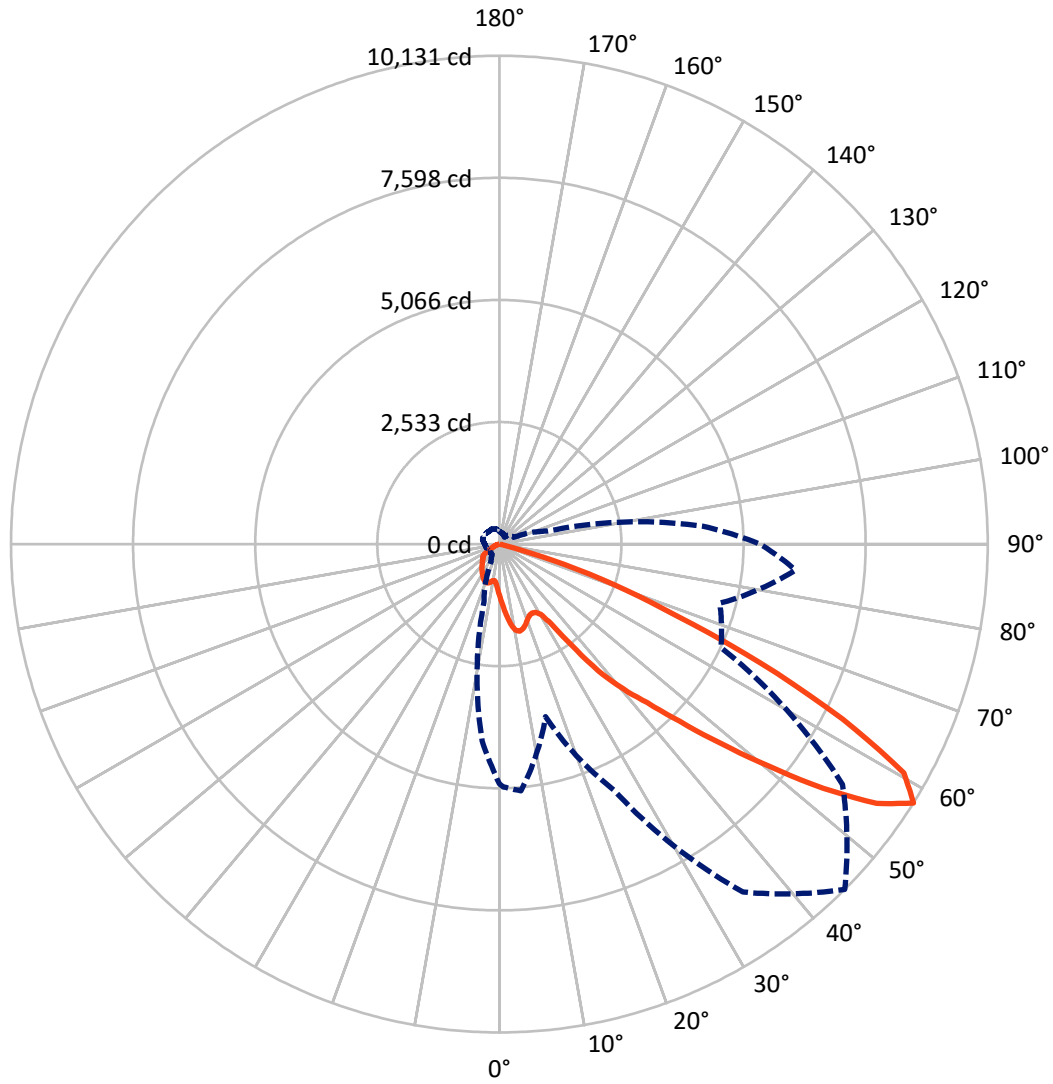
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 19.2 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1373.6	0.0	1373.6
	% Fixture	22.4	0.0	22.4
Street Side	Lumens	4760.7	0.0	4760.7
	% Fixture	77.6	0.0	77.6
Total	Lumens	6134.3	0.0	6134.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.1	1.7
10°-20°	343.1	5.6
20°-30°	557.4	9.1
30°-40°	861.2	14.0
40°-50°	1381.0	22.5
50°-60°	1887.4	30.8
60°-70°	914.1	14.9
70°-80°	83.7	1.4
80°-90°	0.2	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°	6134.3	100.0
0°-180°	6134.3	100.0

Coefficient of Utilization



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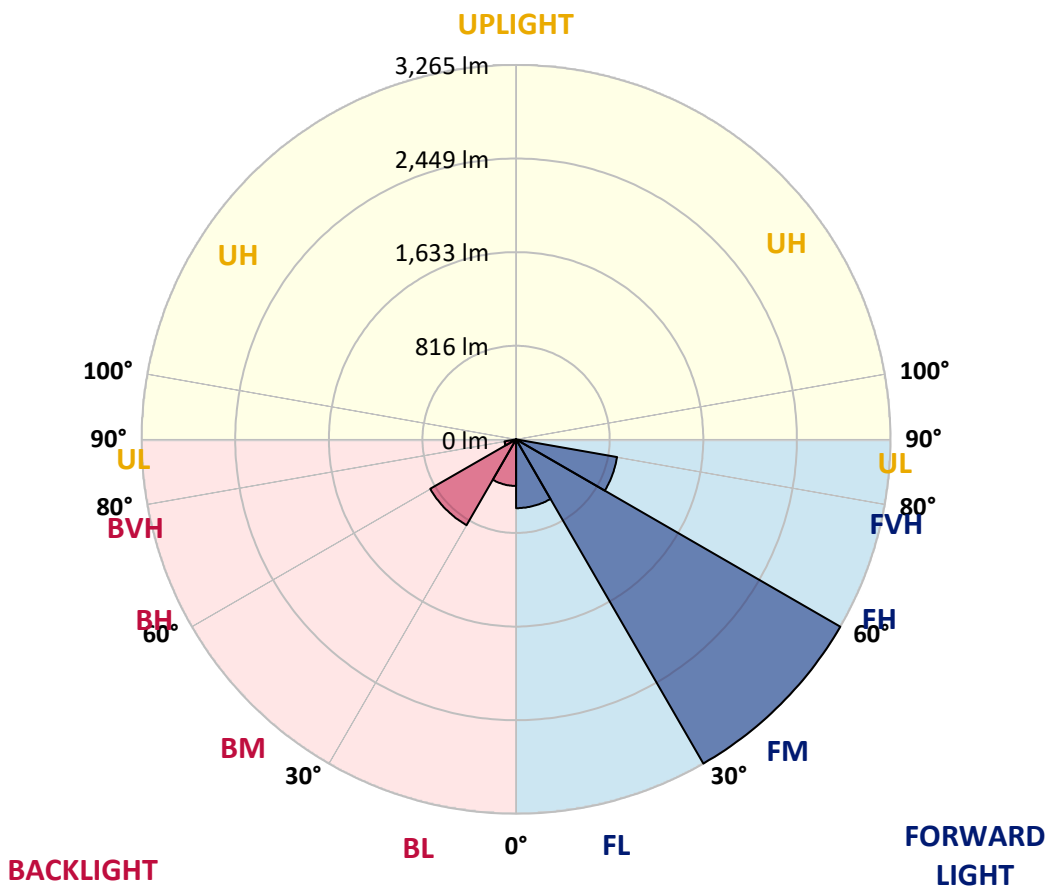
CATALOG NUMBER: GWS-SA4B-830-U-SLR-W-GRSBK

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	600.1	9.8			
FM (30°-60°)	3265.4	53.2			
FH (60°-80°)	894.9	14.6			G1/1800
FVH (80°-90°)	0.2	0.0			G0/10
BL (0°-30°)	406.4	6.6	B1/500		
BM (30°-60°)	864.2	14.1	B1/1000		
BH (60°-80°)	103.0	1.7	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-G1

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2
2.5°	1168.0	1175.4	1187.8	1214.2	1236.4	1251.3	1257.9	1256.2	1247.1	1240.6	1227.4
5°	1293.3	1293.3	1317.2	1377.4	1423.5	1452.4	1467.2	1458.2	1440.0	1411.2	1366.7
7.5°	1402.9	1407.1	1447.5	1533.2	1603.2	1644.5	1668.4	1663.4	1631.3	1576.0	1487.0
10°	1488.7	1493.6	1547.2	1651.9	1734.3	1776.3	1811.8	1815.1	1779.6	1706.3	1604.1
12.5°	1571.9	1576.9	1632.9	1733.5	1806.0	1823.3	1854.6	1867.0	1857.9	1806.0	1699.7
15°	1661.8	1673.3	1721.1	1796.1	1826.6	1806.0	1826.6	1848.9	1879.4	1874.4	1778.8
17.5°	1750.0	1758.2	1806.8	1833.2	1799.4	1745.8	1755.7	1782.1	1851.4	1918.9	1857.1
20°	1831.6	1843.1	1883.5	1848.9	1746.7	1663.4	1664.2	1698.9	1804.4	1946.1	1937.1
22.5°	1917.3	1934.6	1963.5	1866.2	1698.0	1598.3	1602.4	1633.7	1767.3	1971.7	2027.7
25°	2029.4	2045.9	2064.8	1909.1	1682.4	1566.1	1581.8	1610.7	1767.3	2015.4	2139.9
27.5°	2181.1	2192.6	2193.4	1989.0	1709.6	1571.1	1604.1	1637.0	1820.0	2102.8	2289.9
30°	2371.5	2389.6	2365.7	2113.5	1794.5	1637.0	1685.7	1726.9	1933.8	2250.3	2510.8
32.5°	2603.1	2628.7	2596.5	2298.1	1971.7	1864.5	1952.7	1976.6	2115.1	2463.8	2761.4
35°	2875.1	2896.5	2861.9	2553.6	2385.5	2405.3	2565.2	2534.7	2479.5	2726.7	3054.0
37.5°	3173.5	3193.3	3126.5	2941.1	2997.1	3082.8	3338.4	3233.7	3055.6	3065.5	3371.3
40°	3447.2	3468.6	3363.9	3362.3	3477.7	3634.3	3942.6	3798.3	3556.0	3509.0	3668.9
42.5°	3730.7	3745.6	3650.8	3586.5	3848.6	4170.9	4497.3	4302.8	3887.3	3836.2	4041.5
45°	4135.5	4166.8	3997.8	3696.9	4182.4	4788.3	5243.3	4863.3	4113.2	4072.0	4611.9
47.5°	4730.6	4753.7	4409.1	3766.2	4493.2	5557.4	6175.6	5590.3	4311.9	4217.9	5391.7
50°	5222.7	5238.4	4787.5	3842.0	4823.7	6386.6	7238.1	6452.5	4535.2	4459.4	6119.5
52.5°	5585.4	5644.7	5284.5	3997.8	5258.1	7361.7	8414.3	7473.8	4883.9	4925.9	6722.9
55°	5660.4	5741.2	5624.1	4093.4	5640.6	8355.0	9500.7	8388.0	5231.8	5279.6	6925.7
57.5°	4974.6	5038.9	5136.1	3707.6	5631.5	8810.0	10131.3	8691.3	5073.5	4734.7	6166.5
60°	3726.6	3771.1	3947.5	2833.9	5179.0	8407.7	9640.1	8175.3	4436.3	3612.9	4698.4
62.5°	2209.9	2229.7	2453.1	1835.7	4298.7	7240.5	7994.8	7054.3	3505.7	2430.0	2877.6
65°	848.2	839.9	1010.6	905.9	3161.1	5767.5	5946.4	5377.7	2405.3	1113.6	1097.1
67.5°	131.1	125.3	169.0	267.9	2280.0	3997.0	3923.6	3875.8	1506.8	259.7	226.7
70°	29.7	29.7	36.3	79.1	1393.0	2348.4	2513.3	2396.2	964.4	55.2	29.7
72.5°	14.0	14.0	17.3	33.8	504.5	967.7	1127.6	1110.3	313.2	18.1	10.7
75°	4.9	5.8	5.8	7.4	30.5	50.3	115.4	82.4	19.8	0.0	0.0
77.5°	1.6	1.6	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.8	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°	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2
2.5°	1198.5	1192.7	1171.3	1142.5	1114.4	1089.7	1064.2	1033.7	1011.4	985.8	977.6
5°	1332.0	1295.8	1237.3	1176.3	1120.2	1072.4	1026.2	976.8	940.5	904.2	891.9
7.5°	1445.0	1391.4	1296.6	1205.1	1128.5	1060.9	994.1	926.5	873.7	830.9	817.7
10°	1546.4	1484.5	1357.6	1244.7	1148.2	1069.9	989.1	904.2	835.8	784.7	772.4
12.5°	1633.7	1562.0	1409.5	1274.3	1156.5	1066.6	988.3	920.7	858.9	800.4	784.7
15°	1707.1	1628.0	1453.2	1294.1	1144.1	1025.4	957.0	946.3	941.3	877.0	846.5
17.5°	1778.8	1689.8	1488.7	1303.2	1109.5	952.9	903.4	952.1	1004.0	961.9	923.2
20°	1853.8	1752.4	1524.9	1304.8	1051.8	871.3	863.0	939.7	1005.6	992.4	956.2
22.5°	1942.0	1830.7	1570.3	1304.0	979.3	802.0	833.4	915.8	969.4	968.5	939.7
25°	2069.8	1929.7	1631.3	1309.0	900.1	748.5	800.4	875.4	919.1	917.4	893.5
27.5°	2206.6	2047.5	1710.4	1321.3	832.5	717.1	761.6	820.2	858.1	856.4	835.8
30°	2398.7	2183.5	1786.2	1322.2	783.9	700.6	718.8	759.2	795.4	791.3	775.7
32.5°	2632.0	2336.9	1849.7	1275.2	753.4	685.0	674.3	694.9	722.9	717.1	713.0
35°	2913.9	2519.0	1904.1	1172.1	706.4	653.7	624.8	628.9	648.7	652.0	650.4
37.5°	3235.3	2735.8	1971.7	1036.1	642.9	608.3	569.6	566.3	577.8	588.5	596.8
40°	3552.7	2979.8	2063.2	898.5	585.2	550.6	513.5	505.3	510.2	529.2	546.5
42.5°	3909.6	3262.5	2162.1	780.6	545.7	487.2	451.7	436.0	450.1	480.6	501.2
45°	4424.0	3659.0	2258.5	686.6	529.2	431.1	383.3	381.6	397.3	436.9	460.0
47.5°	5146.0	4171.7	2322.0	613.3	528.4	387.4	330.5	340.4	358.6	397.3	423.7
50°	5850.0	4813.8	2252.0	557.2	511.1	358.6	291.0	310.8	328.9	362.7	389.9
52.5°	6274.5	5159.2	1979.1	504.5	457.5	345.4	252.2	286.9	290.1	320.6	349.5
55°	6230.0	4935.8	1515.9	422.9	378.3	326.4	211.8	258.8	260.5	283.6	308.3
57.5°	5407.3	4237.7	1041.1	342.9	284.4	269.5	174.7	218.4	234.1	248.1	266.2
60°	4029.9	3091.9	464.1	278.6	180.5	182.2	149.2	164.9	188.8	205.2	220.9
62.5°	2374.8	1778.8	188.8	167.3	99.7	114.6	120.3	120.3	135.2	147.5	157.4
65°	897.6	622.3	76.7	84.1	51.9	53.6	70.9	87.4	98.9	109.6	122.8
67.5°	157.4	108.8	39.6	31.3	30.5	27.2	36.3	56.9	63.5	71.7	77.5
70°	26.4	22.3	16.5	15.7	14.0	14.8	23.9	40.4	44.5	47.0	49.5
72.5°	7.4	6.6	4.9	4.1	3.3	4.1	14.8	31.3	33.0	34.6	37.1
75°	0.0	0.0	0.0	0.0	0.0	0.0	5.8	22.3	23.9	24.7	27.2
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	6.6	8.2	6.6
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°	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2
2.5°	972.7	956.2	947.1	942.2	942.2	935.6	928.1	925.7	936.4	936.4	954.5
5°	876.2	863.0	848.2	839.1	825.1	827.6	819.3	818.5	829.2	834.2	853.1
7.5°	809.5	793.0	783.9	778.1	770.7	767.4	760.0	757.5	763.3	771.5	789.7
10°	764.9	762.5	761.6	765.8	765.8	761.6	755.0	750.9	752.6	768.2	788.8
12.5°	776.5	781.4	783.1	789.7	793.0	789.7	784.7	786.4	797.1	825.9	856.4
15°	826.8	822.6	821.0	824.3	826.8	823.5	821.8	834.2	871.3	912.5	947.1
17.5°	880.3	854.0	842.4	842.4	844.1	842.4	844.1	868.0	928.1	969.4	994.9
20°	907.5	858.9	840.8	836.7	839.9	840.8	846.5	873.7	939.7	968.5	974.3
22.5°	899.3	838.3	817.7	814.4	817.7	821.0	826.8	849.8	911.7	926.5	924.0
25°	858.1	797.9	781.4	781.4	788.8	788.0	790.5	807.0	858.1	867.2	863.0
27.5°	806.2	749.3	735.3	743.5	750.1	748.5	749.3	763.3	801.2	803.7	799.6
30°	753.4	703.9	690.8	700.6	709.7	708.1	708.9	722.9	746.8	744.3	738.6
32.5°	699.8	663.6	653.7	659.4	673.4	671.8	675.1	689.9	699.0	688.3	681.7
35°	650.4	631.4	624.0	627.3	638.0	640.5	646.2	656.1	656.1	642.9	631.4
37.5°	604.2	601.7	596.8	592.7	602.6	610.0	618.2	629.8	613.3	594.3	583.6
40°	561.3	572.1	565.5	554.7	560.5	571.2	587.7	596.8	577.0	558.0	539.9
42.5°	521.8	539.9	537.4	524.2	529.2	539.1	558.0	565.5	542.4	521.0	503.6
45°	483.9	509.4	511.1	494.6	499.5	509.4	531.7	534.1	504.5	481.4	469.0
47.5°	450.9	478.9	479.7	467.4	469.0	483.0	503.6	504.5	470.7	449.2	433.6
50°	419.6	451.7	454.2	443.5	445.1	461.6	478.9	475.6	439.3	417.1	403.1
52.5°	381.6	425.3	431.1	426.2	432.8	445.9	456.7	445.1	403.1	380.8	368.5
55°	340.4	397.3	409.7	406.4	413.8	424.5	427.0	419.6	366.8	344.6	333.0
57.5°	292.6	327.2	348.7	342.1	347.8	358.6	366.0	360.2	320.6	303.3	293.4
60°	242.3	265.4	270.4	259.7	254.7	273.7	291.0	283.6	249.8	239.0	227.5
62.5°	177.2	203.6	206.9	192.9	187.1	207.7	222.6	215.1	178.0	166.5	157.4
65°	141.8	166.5	173.1	159.9	156.6	172.3	181.3	163.2	136.8	124.5	114.6
67.5°	93.1	112.9	130.2	129.4	122.8	127.8	121.2	106.3	87.4	80.8	74.2
70°	57.7	69.2	80.0	84.1	83.3	81.6	72.5	61.8	56.1	53.6	50.3
72.5°	44.5	56.1	64.3	66.8	67.6	65.1	57.7	47.8	42.0	38.7	36.3
75°	33.0	42.0	48.6	51.9	53.6	51.9	44.5	37.9	32.1	29.7	27.2
77.5°	11.5	14.0	17.3	19.0	18.1	17.3	15.7	15.7	12.4	11.5	9.9
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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CATALOG NUMBER: GWS-SA4B-830-U-SLR-W-GRSBK

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2	1078.2
2.5°	975.1	990.0	1017.2	1041.9	1068.3	1095.5	1125.2	1155.7	1169.7	1168.0
5°	882.0	914.1	958.6	1007.3	1061.7	1120.2	1185.3	1252.1	1280.9	1293.3
7.5°	823.5	868.8	927.3	989.1	1060.9	1144.1	1242.2	1346.9	1388.9	1402.9
10°	830.9	883.6	932.3	992.4	1069.1	1177.1	1299.1	1423.5	1473.0	1488.7
12.5°	891.1	902.6	915.8	965.2	1061.7	1201.8	1351.0	1499.4	1556.3	1571.9
15°	945.5	891.9	867.2	912.5	1035.3	1219.1	1403.8	1581.0	1643.6	1661.8
17.5°	947.9	867.2	811.9	847.4	992.4	1226.5	1455.7	1664.2	1732.7	1750.0
20°	917.4	839.9	769.1	769.9	933.9	1224.9	1498.6	1739.2	1815.9	1831.6
22.5°	872.9	807.8	734.4	708.9	871.3	1221.6	1545.5	1819.2	1902.5	1917.3
25°	823.5	766.6	701.5	662.7	808.6	1224.9	1611.5	1923.9	2015.4	2029.4
27.5°	769.9	721.3	675.9	644.6	755.9	1237.3	1690.6	2057.4	2166.2	2181.1
30°	713.8	677.6	659.4	640.5	722.9	1240.6	1776.3	2213.2	2350.9	2371.5
32.5°	658.6	638.8	639.6	642.9	691.6	1217.5	1854.6	2386.3	2570.1	2603.1
35°	607.5	601.7	618.2	634.7	646.2	1158.1	1923.1	2590.7	2841.3	2875.1
37.5°	563.8	568.8	589.4	605.9	596.8	1074.0	2013.7	2846.3	3144.7	3173.5
40°	521.8	534.1	558.0	565.5	558.9	976.0	2122.5	3092.7	3407.6	3447.2
42.5°	483.0	492.1	525.9	527.5	548.2	876.2	2227.2	3358.2	3710.1	3730.7
45°	451.7	450.1	484.7	495.4	562.2	765.8	2329.4	3711.8	4105.8	4135.5
47.5°	421.2	419.6	427.8	476.4	567.9	663.6	2430.8	4229.4	4679.5	4730.6
50°	392.4	394.8	369.3	467.4	536.6	585.2	2477.0	4708.3	5201.3	5222.7
52.5°	366.8	357.7	313.2	437.7	469.8	511.1	2345.9	4925.9	5524.4	5585.4
55°	330.5	280.3	258.0	355.3	370.9	445.9	1921.4	4799.8	5552.4	5660.4
57.5°	282.7	220.1	219.3	262.1	262.1	413.8	1230.7	4100.8	4785.0	4974.6
60°	217.6	170.6	181.3	182.2	168.2	301.7	690.8	2970.7	3537.8	3726.6
62.5°	155.0	130.2	136.8	108.8	96.4	150.8	331.4	1710.4	2183.5	2209.9
65°	103.9	88.2	71.7	60.2	59.3	64.3	136.8	618.2	751.8	848.2
67.5°	68.4	53.6	37.9	37.9	42.9	42.9	51.9	102.2	143.4	131.1
70°	44.5	37.1	23.9	23.1	28.0	28.0	26.4	28.0	29.7	29.7
72.5°	33.0	28.0	14.0	12.4	15.7	16.5	14.8	14.0	14.0	14.0
75°	24.7	19.8	8.2	5.8	7.4	9.9	8.2	5.8	5.8	4.9
77.5°	9.9	7.4	3.3	2.5	4.1	5.8	4.9	2.5	1.6	1.6
80°	0.8	1.6	1.6	1.6	2.5	3.3	4.1	1.6	0.8	0.8
82.5°	0.0	0.8	0.8	0.8	1.6	2.5	3.3	1.6	0.8	0.8
85°	0.0	0.0	0.0	0.0	1.6	2.5	1.6	0.8	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.8	2.5	1.6	0.8	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

λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)
360	0	NR	490	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 [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)
360	0	NR	490	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 [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	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)