

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: P633518

Luminaire Tested: GWS-SA2E-830-U-RW-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633518  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-49)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2E-830-U-RW-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

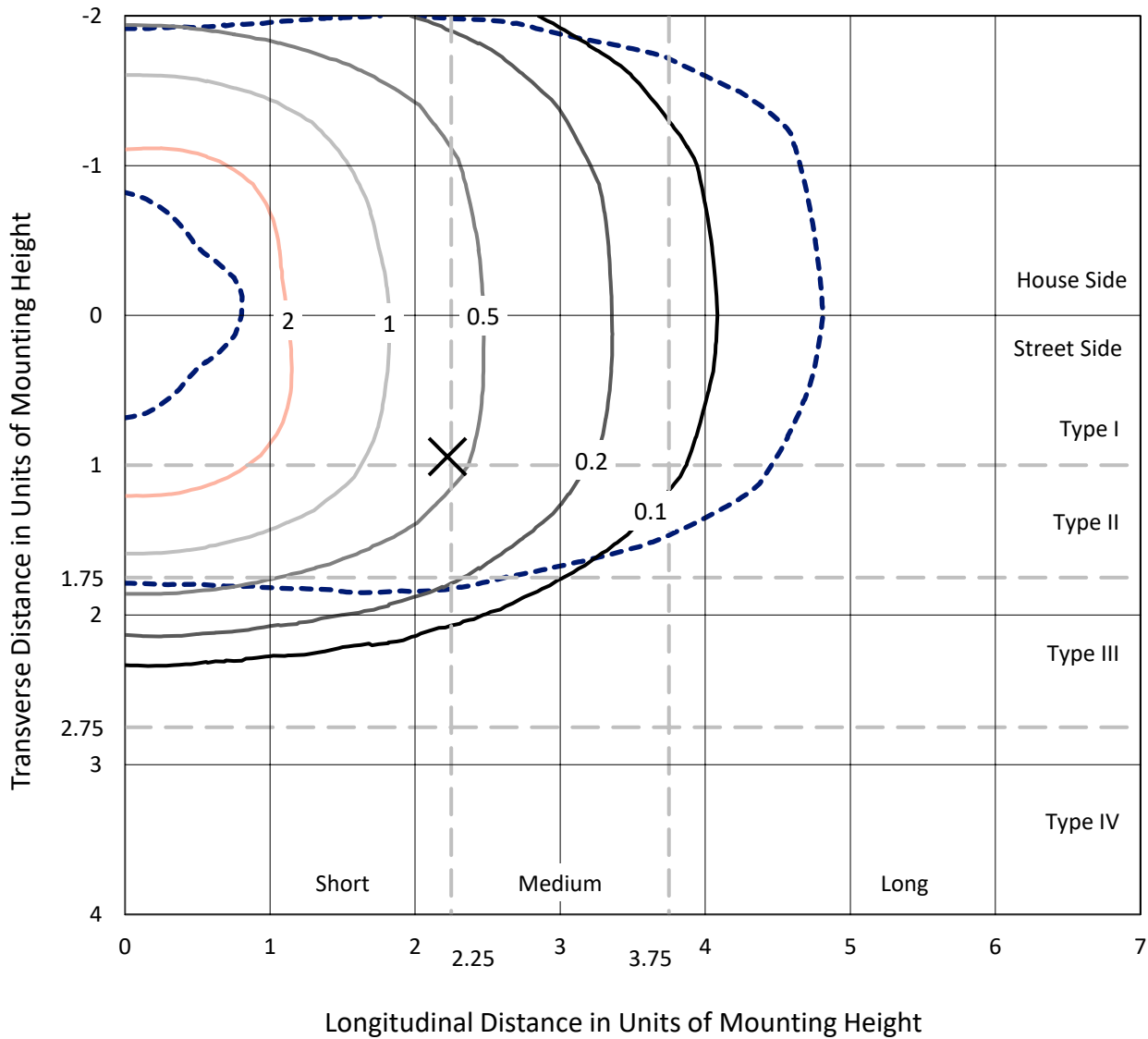
Lumens per Lamp: N/A  
Luminaire Lumens: 11932 lumens  
Efficiency: N/A  
Efficacy: 110.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 108.2  
Input Voltage (V): 120  
Input Current (Ain): 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



REPORT NUMBER: P633518  
 CATALOG NUMBER: GWS-SA2E-830-U-RW-W

### Iso-Footcandle Lines of Horizontal Illumination

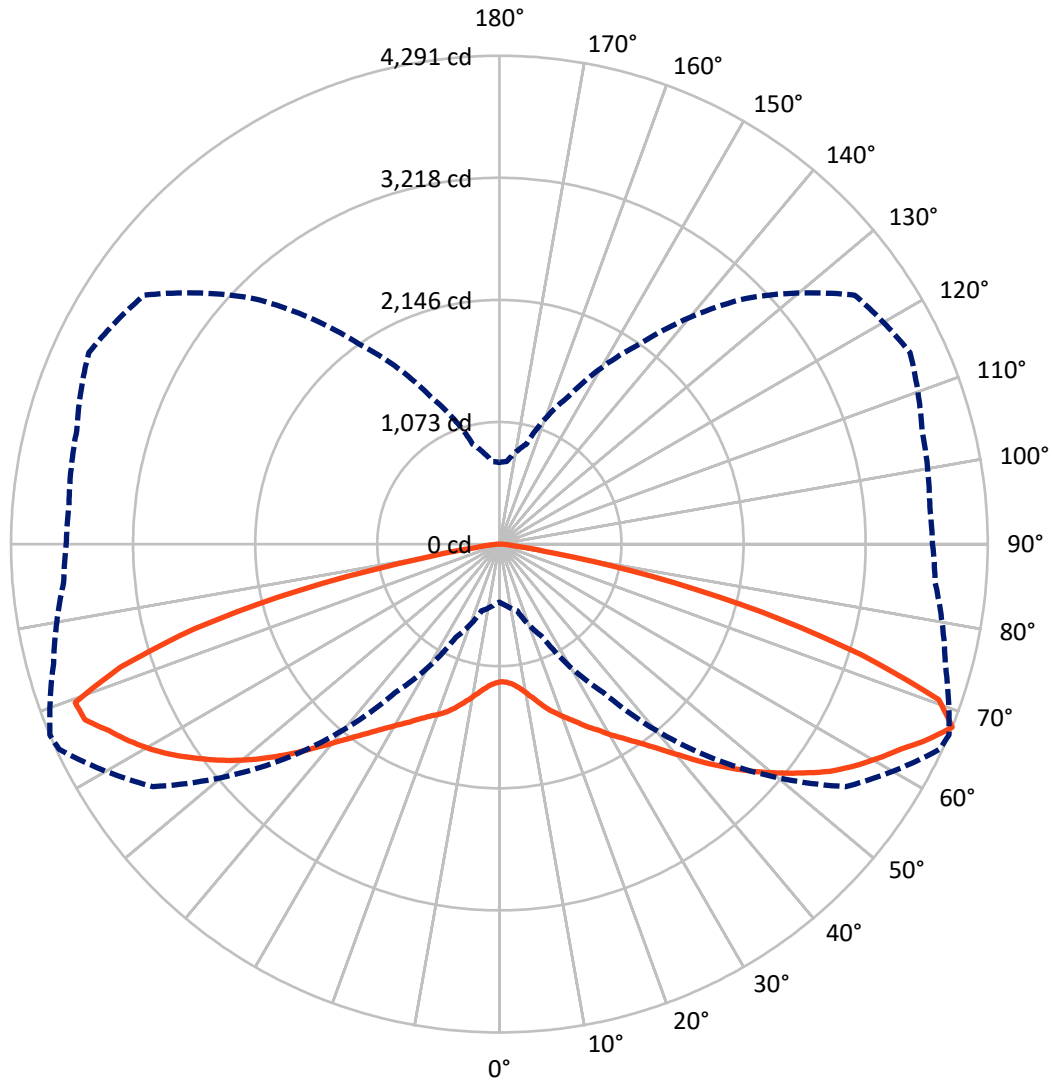
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.5 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	5900.2	0.0	5900.2
	% Fixture	49.4	0.0	49.4
<b>Street Side</b>	Lumens	6031.8	0.0	6031.8
	% Fixture	50.6	0.0	50.6
<b>Total</b>	Lumens	11932.0	0.0	11932.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.5	1.0
10°-20°	400.5	3.4
20°-30°	785.7	6.6
30°-40°	1338.6	11.2
40°-50°	2149.5	18.0
50°-60°	2920.7	24.5
60°-70°	2793.9	23.4
70°-80°	1328.3	11.1
80°-90°	96.3	0.8
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°	11932.0	100.0
0°-180°	11932.0	100.0

**Coefficient of Utilization**



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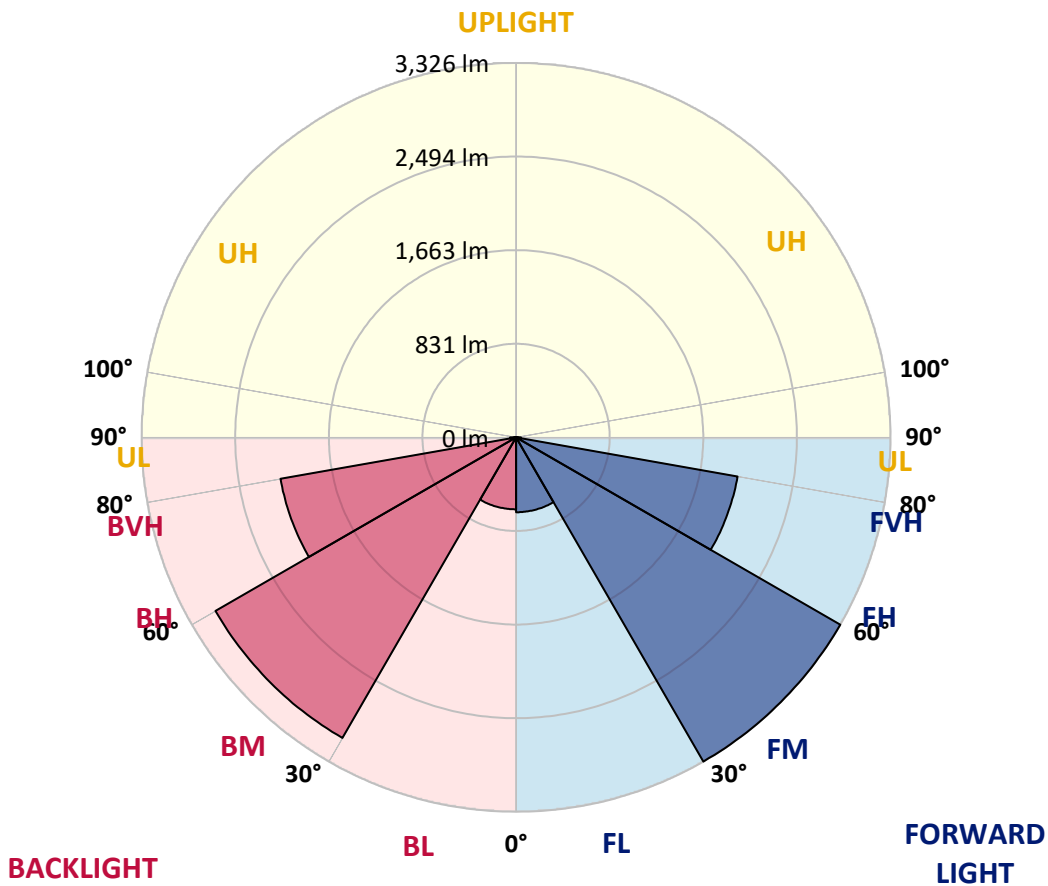
CATALOG NUMBER: GWS-SA2E-830-U-RW-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	665.3	5.6			
FM (30°-60°)	3325.5	27.9			
FH (60°-80°)	1997.7	16.7			G2/5000
FVH (80°-90°)	43.3	0.4			G1/100
BL (0°-30°)	639.4	5.4	B2/1000		
BM (30°-60°)	3083.3	25.8	B3/5000		
BH (60°-80°)	2124.5	17.8	B3/2500		G3/2500
BVH (80°-90°)	53.0	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2
2.5°	1183.3	1184.9	1187.4	1192.4	1197.4	1204.9	1212.3	1211.5	1214.8	1217.3	1219.8
5°	1176.6	1178.3	1182.4	1189.1	1196.5	1209.0	1224.8	1231.4	1236.4	1245.6	1253.9
7.5°	1190.7	1194.1	1199.9	1209.0	1220.6	1236.4	1258.0	1269.7	1277.1	1293.8	1307.9
10°	1209.8	1214.0	1225.6	1243.1	1260.5	1284.6	1312.0	1329.5	1334.5	1356.1	1382.7
12.5°	1228.1	1233.1	1252.2	1283.8	1315.4	1347.8	1380.2	1401.8	1403.5	1432.5	1462.4
15°	1257.2	1261.4	1287.1	1327.8	1376.0	1420.9	1460.8	1475.7	1482.4	1503.2	1540.6
17.5°	1321.2	1326.2	1359.4	1403.5	1454.1	1501.5	1541.4	1553.9	1553.9	1571.3	1602.0
20°	1390.2	1395.1	1439.2	1495.7	1557.2	1605.4	1636.1	1624.5	1620.3	1625.3	1646.9
22.5°	1467.4	1476.6	1519.0	1584.6	1660.2	1719.2	1735.0	1700.1	1688.5	1676.8	1681.8
25°	1566.3	1577.1	1618.7	1688.5	1762.4	1824.7	1833.9	1779.9	1773.2	1732.5	1717.5
27.5°	1680.2	1688.5	1740.0	1808.9	1877.9	1930.3	1940.2	1873.8	1851.3	1794.8	1759.9
30°	1827.2	1834.7	1879.6	1947.7	2007.5	2044.1	2056.6	1965.2	1947.7	1861.3	1807.3
32.5°	1987.6	1990.9	2036.6	2102.3	2155.4	2190.3	2172.9	2066.5	2040.8	1943.6	1869.6
35°	2171.2	2171.2	2230.2	2283.4	2325.8	2335.8	2302.5	2181.2	2151.3	2045.8	1953.5
37.5°	2351.5	2356.5	2411.4	2474.5	2511.9	2510.3	2449.6	2316.7	2282.6	2167.9	2065.7
40°	2546.8	2557.6	2612.5	2683.1	2718.8	2713.8	2620.8	2472.9	2438.0	2302.5	2202.8
42.5°	2726.3	2743.8	2807.7	2880.0	2919.1	2915.8	2818.5	2652.3	2618.3	2465.4	2365.7
45°	2869.2	2887.5	2967.3	3067.8	3130.1	3124.3	3026.3	2838.5	2796.9	2636.6	2526.9
47.5°	2994.7	3013.8	3102.7	3209.1	3308.0	3317.9	3228.2	3026.3	2982.2	2820.2	2696.4
50°	3091.1	3100.2	3199.9	3316.3	3430.9	3486.6	3408.5	3214.9	3161.7	3001.3	2861.7
52.5°	3083.6	3096.1	3219.0	3376.9	3530.6	3622.1	3568.0	3392.7	3341.2	3166.7	3030.4
55°	2931.5	2944.0	3090.3	3320.4	3586.3	3720.9	3715.1	3562.2	3524.8	3335.4	3205.8
57.5°	2709.7	2737.1	2882.5	3131.0	3513.2	3799.9	3823.1	3716.8	3677.7	3500.7	3379.4
60°	2312.5	2349.1	2516.9	2839.3	3278.9	3773.3	3938.6	3847.2	3823.1	3654.5	3536.5
62.5°	1680.2	1706.7	1930.3	2353.2	2931.5	3583.8	4035.9	3981.8	3963.6	3792.4	3678.6
65°	1006.3	1066.9	1246.4	1664.4	2364.8	3226.5	3982.7	4158.0	4138.9	3934.5	3799.9
67.5°	509.4	536.8	607.4	902.4	1590.4	2669.8	3715.9	4267.7	4291.0	4055.8	3843.1
70°	315.8	323.2	343.2	445.4	794.4	1754.1	3038.7	3981.8	4095.7	4036.7	3730.9
72.5°	253.4	255.1	258.4	277.5	381.4	820.1	1921.1	3118.5	3323.7	3770.0	3570.5
75°	210.2	211.1	211.9	217.7	237.6	334.9	934.8	2143.0	2383.1	3204.1	3310.5
77.5°	168.7	164.5	167.8	170.3	175.3	187.0	322.4	1143.4	1386.8	2103.1	2560.1
80°	109.7	108.0	114.7	117.2	122.1	129.6	172.0	388.0	471.1	765.3	814.3
82.5°	59.0	55.7	69.8	67.3	69.8	75.6	101.4	142.1	159.5	231.0	195.3
85°	18.3	18.3	19.1	22.4	27.4	26.6	44.0	69.8	77.3	98.9	73.1
87.5°	3.3	3.3	3.3	3.3	3.3	4.2	9.1	14.1	19.1	34.1	25.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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 CATALOG NUMBER: GWS-SA2E-830-U-RW-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2
2.5°	1224.8	1217.3	1221.5	1224.0	1223.1	1221.5	1213.2	1211.5	1207.4	1200.7	1199.0
5°	1261.4	1253.1	1253.9	1251.4	1243.1	1232.3	1214.0	1204.9	1197.4	1189.1	1188.2
7.5°	1318.7	1309.6	1307.1	1295.4	1272.2	1247.2	1218.2	1201.5	1189.1	1178.3	1176.6
10°	1391.8	1382.7	1374.4	1346.9	1308.7	1275.5	1237.3	1213.2	1194.9	1181.6	1179.1
12.5°	1473.3	1465.8	1445.0	1405.1	1359.4	1320.4	1281.3	1251.4	1224.8	1204.9	1202.4
15°	1563.8	1547.2	1515.6	1464.1	1420.9	1389.3	1342.0	1301.2	1258.9	1232.3	1226.5
17.5°	1627.0	1612.8	1575.5	1525.6	1491.5	1464.1	1408.4	1350.3	1292.9	1253.9	1245.6
20°	1671.8	1656.9	1614.5	1577.9	1567.1	1543.9	1479.1	1411.8	1345.3	1297.1	1286.3
22.5°	1704.3	1688.5	1645.3	1627.0	1641.9	1637.8	1574.6	1498.2	1419.2	1361.9	1348.6
25°	1735.0	1720.0	1681.8	1688.5	1728.3	1740.8	1672.7	1583.8	1494.0	1426.7	1410.9
27.5°	1764.1	1745.0	1727.5	1764.1	1820.6	1843.8	1771.6	1671.0	1573.8	1504.8	1492.4
30°	1808.9	1786.5	1784.0	1837.2	1926.9	1946.9	1867.1	1766.6	1670.2	1600.4	1584.6
32.5°	1865.5	1844.7	1846.3	1926.1	2030.0	2046.6	1978.5	1884.6	1788.2	1718.4	1696.8
35°	1941.9	1916.1	1930.3	2028.3	2133.0	2163.8	2108.9	2030.8	1936.9	1865.5	1841.4
37.5°	2047.4	2010.0	2039.1	2142.2	2247.7	2293.4	2251.0	2192.8	2099.8	2027.5	2005.0
40°	2182.0	2151.3	2162.9	2276.8	2385.6	2440.5	2413.9	2356.5	2264.3	2188.7	2162.9
42.5°	2341.6	2310.8	2306.7	2428.0	2536.8	2619.9	2594.2	2541.8	2446.3	2359.9	2334.9
45°	2497.8	2469.5	2475.4	2599.2	2721.3	2811.9	2786.1	2724.6	2620.8	2521.1	2501.1
47.5°	2660.7	2637.4	2642.4	2773.7	2908.3	2998.8	2966.4	2891.7	2770.3	2664.0	2639.9
50°	2827.7	2801.1	2808.6	2946.5	3091.9	3177.5	3127.6	3017.1	2883.3	2779.5	2758.7
52.5°	2993.9	2962.3	2981.4	3111.9	3262.3	3330.4	3238.2	3104.4	2974.8	2871.7	2848.4
55°	3185.0	3151.7	3131.0	3270.6	3419.3	3447.6	3321.3	3165.0	3011.3	2894.2	2880.0
57.5°	3359.5	3331.2	3292.2	3431.8	3541.5	3520.7	3385.2	3148.4	2922.4	2772.0	2752.1
60°	3515.7	3491.6	3457.5	3576.4	3626.2	3579.7	3333.7	2951.5	2703.0	2546.0	2536.8
62.5°	3659.4	3633.7	3602.1	3703.5	3696.8	3588.8	3099.4	2649.0	2316.7	2148.0	2133.0
65°	3773.3	3750.0	3740.9	3820.6	3809.8	3410.2	2734.6	2153.8	1692.6	1502.3	1496.5
67.5°	3805.7	3796.5	3845.6	3981.0	3812.3	3051.2	2144.6	1428.4	909.0	728.7	717.9
70°	3684.4	3683.5	3824.0	4017.6	3466.7	2330.8	1265.5	644.0	457.0	405.5	398.8
72.5°	3526.5	3524.0	3635.3	3465.8	2570.9	1275.5	532.6	344.8	285.8	271.7	271.7
75°	3267.2	3260.6	3344.5	2636.6	1445.8	480.3	282.5	236.8	224.4	221.9	221.9
77.5°	2663.2	2607.5	2475.4	1629.5	504.4	236.0	187.0	186.1	178.7	177.8	177.8
80°	875.8	875.8	1017.9	621.5	222.7	145.4	132.1	138.8	131.3	126.3	125.5
82.5°	142.9	196.9	280.0	177.8	120.5	90.6	81.4	86.4	90.6	72.3	72.3
85°	56.5	74.0	108.0	83.1	55.7	36.6	39.1	43.2	38.2	33.2	32.4
87.5°	21.6	26.6	38.2	19.9	11.6	6.6	4.2	4.2	3.3	3.3	3.3
90°	0.0	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

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**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			

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**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			

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**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)