

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: P635013

Luminaire Tested: GWS-SA3C-830-U-SL4-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635013  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-35)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3C-830-U-SL4-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

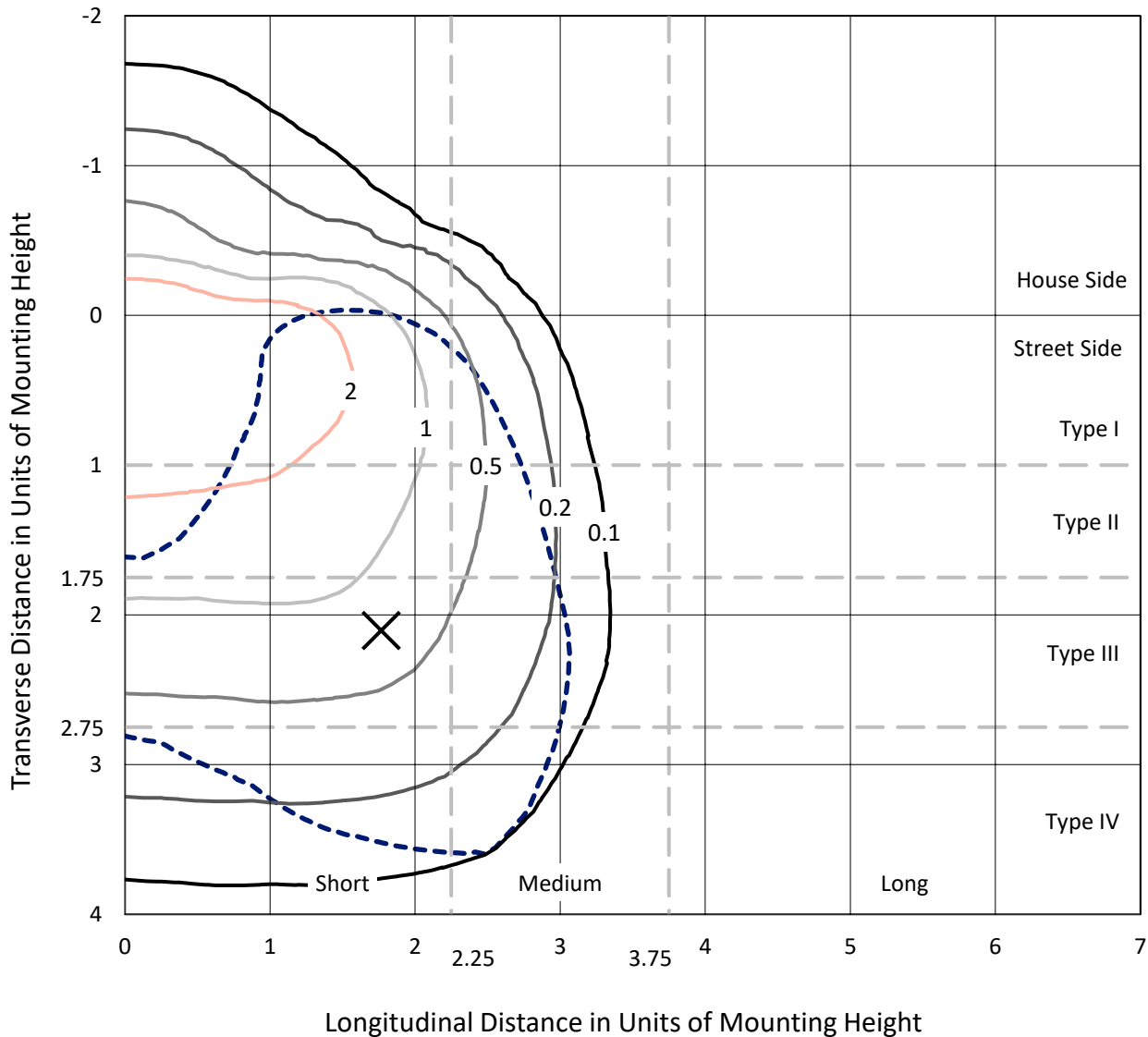
Lumens per Lamp: N/A  
Luminaire Lumens: 10642.4 lumens  
Efficiency: N/A  
Efficacy: 114.4 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 93  
Input Voltage (V): 120  
Input Current (Ain): 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: P635013  
 CATALOG NUMBER: GWS-SA3C-830-U-SL4-W

### Iso-Footcandle Lines of Horizontal Illumination

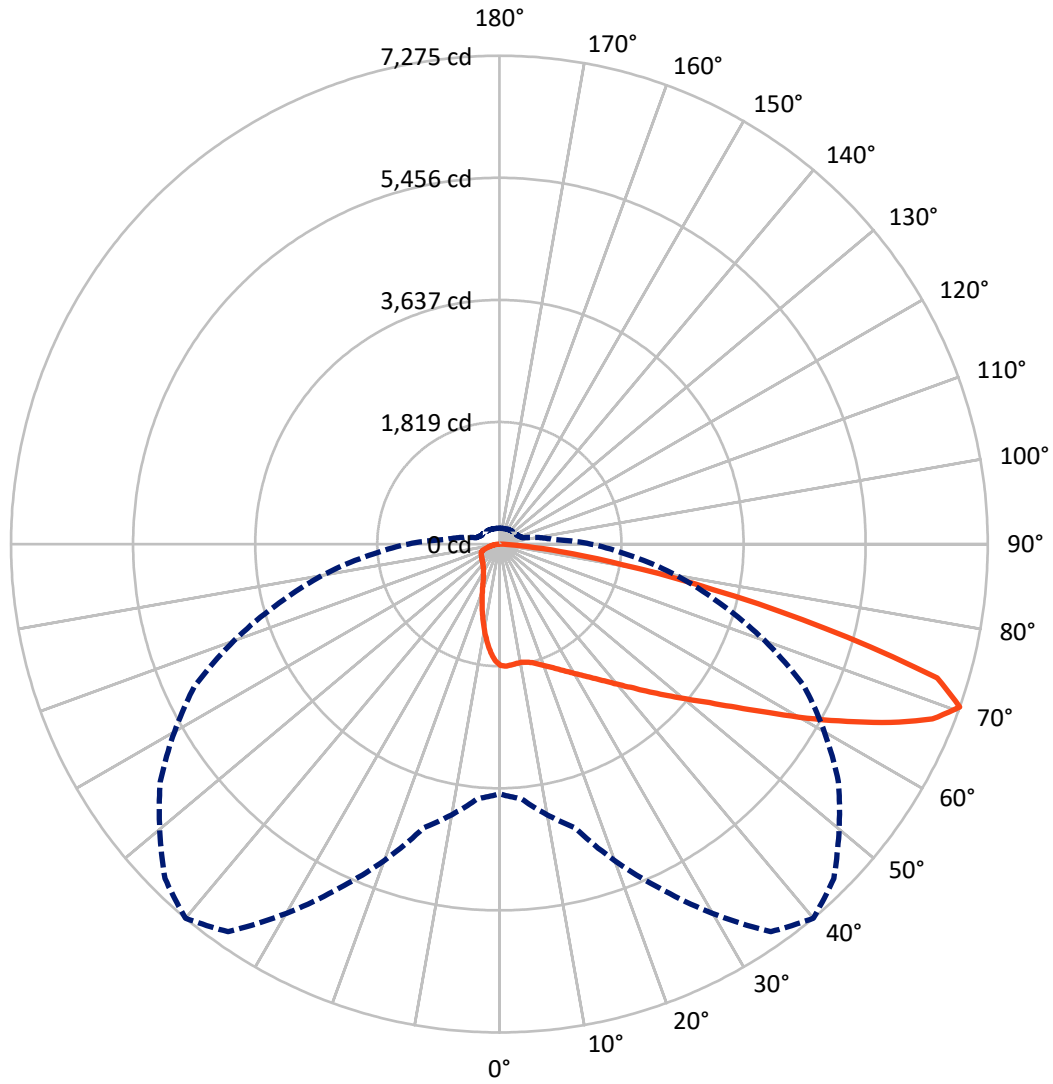
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.5 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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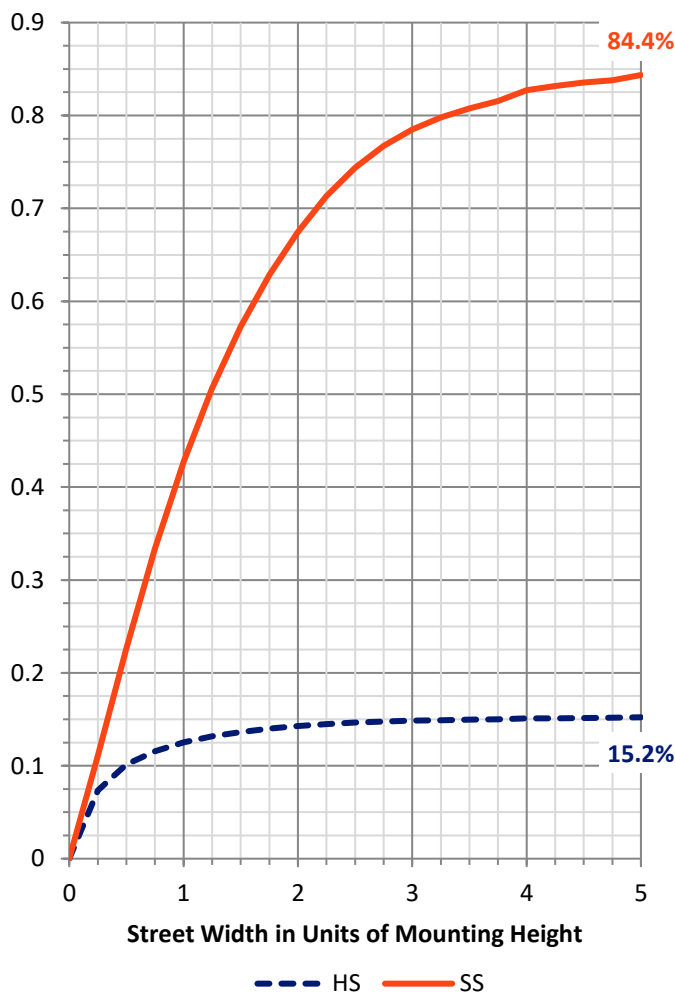
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1639.2	0.0	1639.2
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	9003.2	0.0	9003.2
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	10642.4	0.0	10642.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	159.6	1.5
10°-20°	416.1	3.9
20°-30°	653.4	6.1
30°-40°	982.4	9.2
40°-50°	1516.4	14.2
50°-60°	2252.0	21.2
60°-70°	2838.6	26.7
70°-80°	1641.5	15.4
80°-90°	182.2	1.7
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°	10642.4	100.0
0°-180°	10642.4	100.0

**Coefficient of Utilization**



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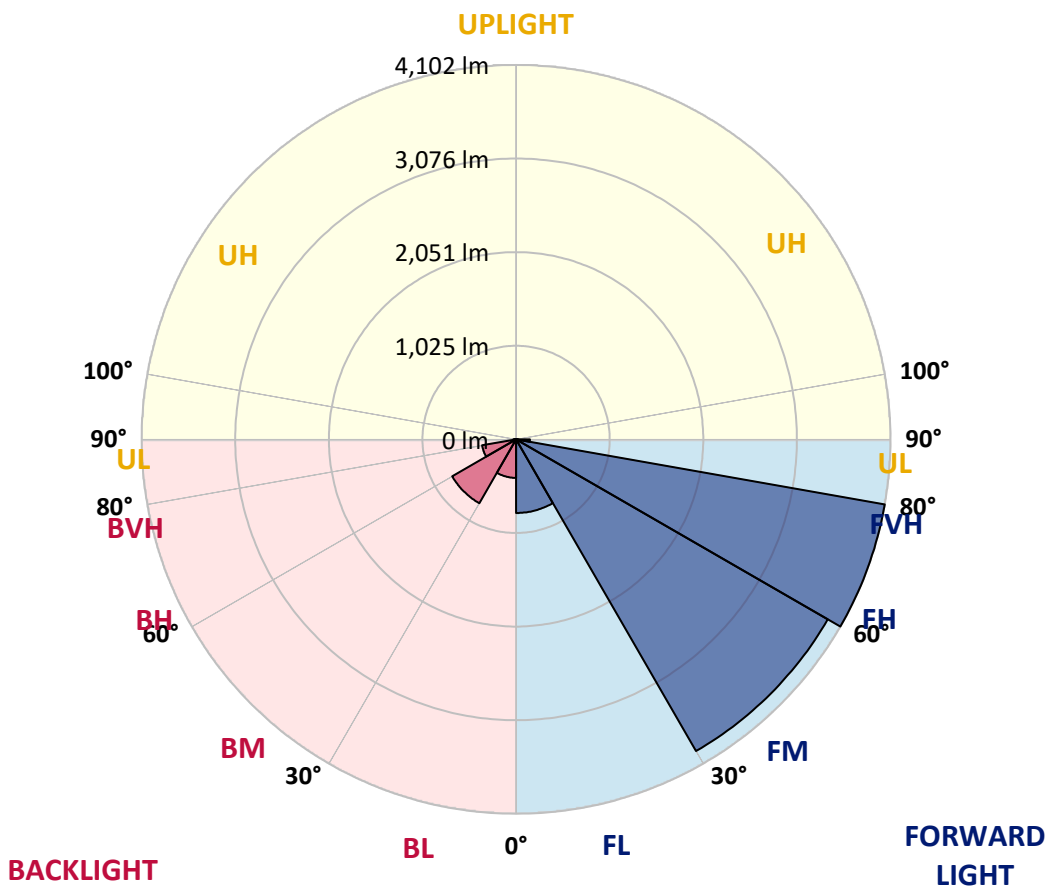
CATALOG NUMBER: GWS-SA3C-830-U-SL4-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	806.8	7.6			
FM (30°-60°)	3942.9	37.0			
FH (60°-80°)	4101.8	38.5			G2/5000
FVH (80°-90°)	151.7	1.4			G2/225
BL (0°-30°)	422.4	4.0	B1/500		
BM (30°-60°)	808.0	7.6	B1/1000		
BH (60°-80°)	378.3	3.6	B1/500		G1/500
BVH (80°-90°)	30.5	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
0°	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2
2.5°	1818.3	1821.5	1823.9	1827.1	1825.5	1820.7	1824.7	1824.7	1815.9	1806.4	1797.7
5°	1820.7	1824.7	1823.9	1823.1	1816.7	1808.8	1808.8	1804.0	1788.9	1773.8	1759.5
7.5°	1815.9	1815.1	1814.4	1812.0	1804.8	1796.1	1794.5	1785.0	1765.1	1744.4	1723.8
10°	1794.5	1793.7	1796.1	1801.6	1800.1	1792.1	1792.1	1783.4	1760.3	1734.9	1707.9
12.5°	1777.0	1777.0	1786.5	1801.6	1807.2	1804.0	1804.8	1798.5	1772.2	1742.1	1710.3
15°	1779.4	1780.2	1800.8	1825.5	1835.8	1833.4	1834.2	1827.1	1797.7	1767.5	1724.6
17.5°	1795.3	1799.3	1835.0	1869.2	1882.7	1879.5	1873.9	1862.0	1828.6	1794.5	1742.1
20°	1828.6	1835.0	1881.1	1924.0	1939.9	1932.7	1923.2	1899.3	1862.8	1825.5	1761.1
22.5°	1894.6	1898.6	1949.4	1991.5	2004.2	1995.5	1976.4	1942.2	1900.1	1861.2	1784.2
25°	1987.5	1992.3	2040.7	2079.7	2076.5	2066.2	2040.0	1997.9	1947.8	1906.5	1817.5
27.5°	2097.9	2105.9	2153.5	2184.5	2163.9	2148.8	2119.4	2068.6	2012.2	1974.8	1868.4
30°	2218.7	2221.9	2262.4	2293.4	2261.6	2240.9	2205.2	2150.4	2099.5	2071.7	1944.6
32.5°	2335.5	2338.6	2373.6	2391.1	2357.7	2342.6	2311.6	2253.6	2217.9	2202.8	2058.2
35°	2458.6	2457.8	2486.4	2501.5	2467.3	2461.0	2429.2	2384.7	2378.4	2398.2	2224.2
37.5°	2581.7	2574.6	2589.7	2609.5	2590.5	2596.8	2576.2	2561.1	2585.7	2637.3	2445.1
40°	2680.2	2680.2	2696.1	2720.7	2727.1	2754.9	2743.0	2762.8	2842.3	2965.4	2718.3
42.5°	2767.6	2768.4	2801.8	2839.9	2886.0	2928.9	2938.4	2990.0	3154.5	3347.5	3061.5
45°	2859.0	2859.7	2905.0	2960.6	3058.3	3140.2	3159.2	3275.2	3510.3	3745.5	3434.1
47.5°	2964.6	2955.9	3018.6	3111.6	3250.6	3368.1	3417.4	3581.8	3878.9	4168.1	3785.2
50°	3083.8	3065.5	3135.4	3295.9	3467.4	3628.7	3711.3	3899.6	4274.5	4558.1	4115.7
52.5°	3218.0	3207.7	3280.8	3476.2	3738.3	3924.2	4036.2	4283.3	4659.0	4946.6	4377.8
55°	3384.8	3360.2	3465.9	3714.5	4056.1	4292.8	4425.5	4663.0	5079.2	5299.3	4578.0
57.5°	3567.5	3540.5	3681.9	4012.4	4469.1	4728.9	4894.9	5090.4	5474.8	5569.4	4695.5
60°	3764.5	3755.8	3923.4	4361.9	4961.7	5263.5	5383.5	5560.6	5818.8	5725.9	4666.2
62.5°	3944.9	3941.7	4185.6	4740.8	5483.6	5815.6	5910.9	5957.8	6066.6	5715.5	4432.6
65°	4134.7	4161.7	4491.4	5180.1	6081.7	6407.4	6447.1	6328.0	6150.0	5444.6	3954.4
67.5°	4158.5	4211.0	4683.6	5591.6	6648.9	6956.3	6924.6	6468.6	5903.8	4690.8	3099.6
70°	3719.3	3810.6	4377.0	5654.4	7048.5	7274.9	7045.3	6165.9	5010.1	3398.3	1949.4
72.5°	3107.6	3186.2	3686.7	4821.9	6532.9	6821.3	6510.7	5219.0	3540.5	1949.4	993.0
75°	2418.9	2510.2	2971.8	3832.9	4891.0	5006.1	4850.4	3639.8	1946.2	803.9	451.2
77.5°	1475.9	1541.9	1900.9	2596.8	3422.2	3249.8	2754.1	2040.7	854.0	385.3	278.8
80°	653.0	693.5	936.6	1394.9	1977.2	1869.2	1473.6	871.4	467.1	244.7	194.6
82.5°	350.3	376.5	461.5	552.1	868.3	908.0	736.4	502.0	251.0	139.8	111.2
85°	154.1	169.2	209.7	200.2	285.2	280.4	282.8	344.8	120.0	64.3	72.3
87.5°	0.0	0.0	0.0	0.0	0.8	0.8	8.7	46.1	11.9	19.1	16.7
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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 CATALOG NUMBER: GWS-SA3C-830-U-SL4-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2	1807.2
2.5°	1788.1	1773.8	1769.9	1765.1	1756.4	1741.3	1730.1	1717.4	1711.9	1705.5	1706.3
5°	1743.7	1726.2	1709.5	1688.0	1661.0	1630.9	1610.2	1586.4	1573.7	1561.7	1564.9
7.5°	1705.5	1678.5	1644.4	1599.1	1550.6	1496.6	1452.9	1418.8	1395.7	1379.8	1387.8
10°	1681.7	1649.9	1590.3	1516.5	1434.6	1352.0	1289.3	1230.5	1193.9	1165.3	1163.8
12.5°	1676.9	1635.6	1549.0	1441.8	1323.4	1213.0	1120.9	1041.4	993.0	957.2	970.7
15°	1681.7	1629.3	1513.3	1372.7	1223.3	1074.0	959.6	868.3	810.3	777.7	775.3
17.5°	1687.3	1622.9	1472.8	1298.0	1118.5	947.7	815.0	718.1	658.5	626.0	626.8
20°	1692.0	1613.4	1425.1	1216.2	1012.0	830.1	692.7	600.5	547.3	523.5	527.5
22.5°	1700.0	1603.8	1374.3	1128.8	903.2	716.5	595.8	521.1	489.3	473.4	474.2
25°	1715.1	1598.3	1321.8	1033.5	796.0	626.0	529.1	479.0	459.1	449.6	448.8
27.5°	1746.0	1603.0	1267.0	941.3	699.0	556.9	486.2	453.6	440.1	433.7	432.9
30°	1797.7	1622.1	1219.4	847.6	615.6	502.8	456.8	436.9	429.0	423.4	422.6
32.5°	1876.3	1657.9	1167.7	760.2	548.1	463.1	433.7	423.4	417.8	414.7	414.7
35°	1995.5	1723.0	1116.9	684.0	495.7	432.1	415.5	411.5	406.7	405.1	406.7
37.5°	2167.1	1827.1	1070.8	617.2	458.4	408.3	395.6	397.2	393.2	395.6	398.0
40°	2384.7	1966.1	1031.9	562.4	430.6	390.8	378.1	383.7	381.3	383.7	387.7
42.5°	2660.4	2138.5	1002.5	519.5	410.7	376.5	364.6	370.2	368.6	371.8	375.7
45°	2967.8	2365.6	989.0	489.3	396.4	366.2	353.5	357.5	355.9	358.3	362.2
47.5°	3262.5	2572.2	1000.9	471.9	384.5	357.5	344.0	345.6	344.8	344.0	346.3
50°	3516.7	2736.6	1035.1	466.3	376.5	348.7	336.0	336.8	334.4	329.7	331.3
52.5°	3724.0	2868.5	1055.7	466.3	372.6	339.2	327.3	328.1	323.3	317.0	317.7
55°	3860.7	2921.7	1039.0	465.5	371.0	331.3	318.5	319.3	314.6	306.6	307.4
57.5°	3899.6	2870.1	969.1	456.8	369.4	324.9	309.8	311.4	308.2	299.5	299.5
60°	3790.8	2681.0	841.2	436.9	365.4	320.9	303.5	305.8	304.2	295.5	295.5
62.5°	3505.6	2345.0	688.7	406.7	354.3	316.2	297.9	302.7	306.6	301.9	301.1
65°	2971.8	1878.7	560.0	373.4	340.0	308.2	289.9	301.9	310.6	317.0	317.0
67.5°	2229.8	1344.9	456.8	338.4	318.5	292.3	279.6	290.7	297.1	301.1	303.5
70°	1359.2	791.2	359.9	297.9	287.6	268.5	259.0	247.8	239.1	237.5	238.3
72.5°	664.9	452.8	292.3	253.4	245.5	228.0	206.5	201.8	197.8	195.4	194.6
75°	366.2	315.4	241.5	210.5	196.2	174.8	170.0	162.1	160.5	157.3	158.1
77.5°	259.0	248.6	199.4	170.8	149.3	138.2	140.6	135.0	135.0	132.7	131.9
80°	194.6	195.4	153.3	124.7	110.4	106.4	108.8	108.8	107.2	106.4	105.7
82.5°	123.1	139.0	103.3	80.2	78.6	79.4	78.6	77.8	79.4	77.1	76.3
85°	85.0	100.1	62.8	47.7	47.7	46.9	48.5	47.7	49.3	46.9	46.9
87.5°	19.1	44.5	23.0	14.3	15.1	14.3	15.1	15.9	17.5	18.3	18.3
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**

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			

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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)