

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: P635529

Luminaire Tested: GWS-SA3D-830-U-T3-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635529  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-23)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3D-830-U-T3-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

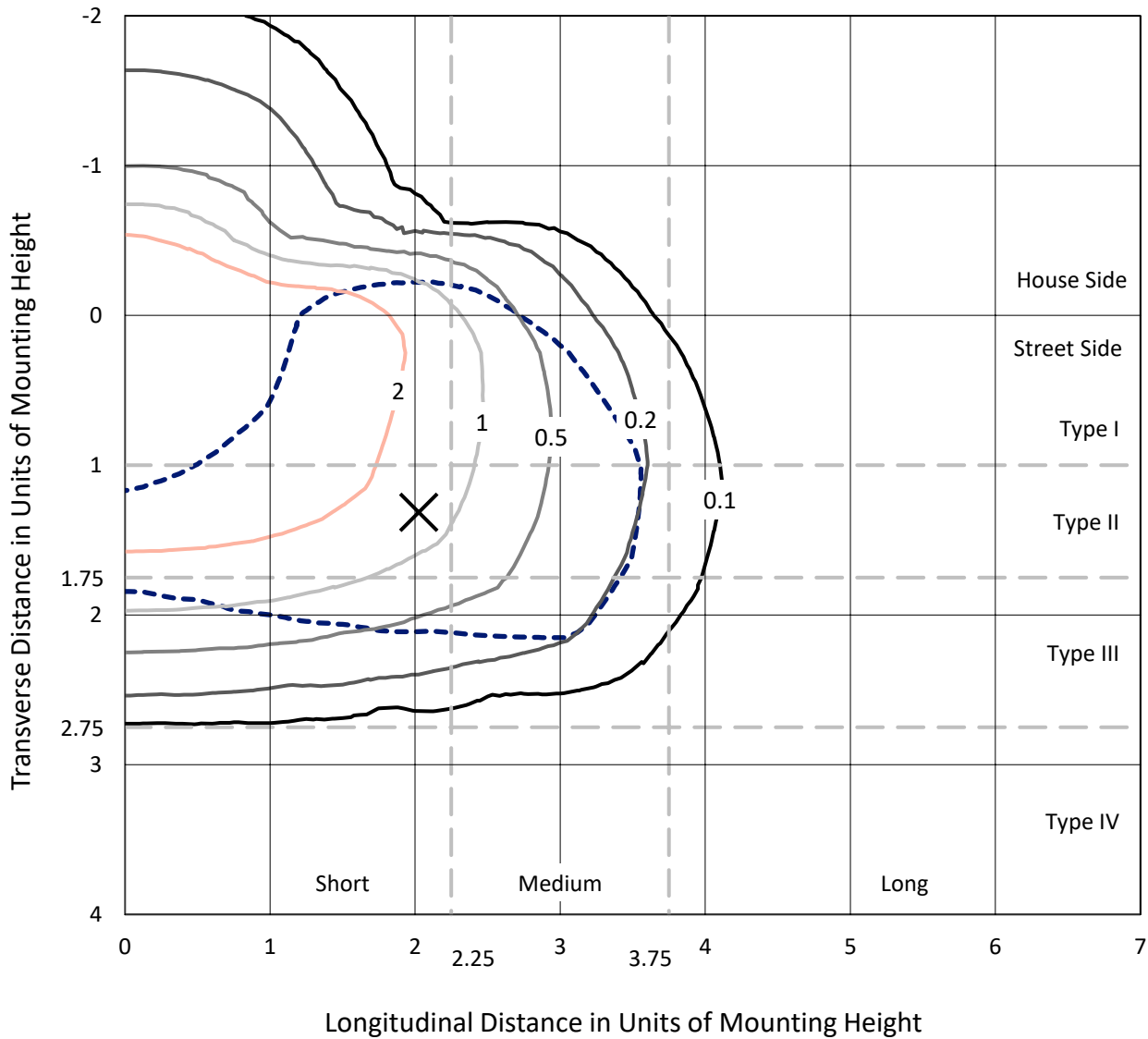
Lumens per Lamp: N/A  
Luminaire Lumens: 13989.3 lumens  
Efficiency: N/A  
Efficacy: 115.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G2  
  
Input Watts (W): 120.8  
Input Voltage (V): 120  
Input Current (Ain): 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: P635529  
 CATALOG NUMBER: GWS-SA3D-830-U-T3-W

### Iso-Footcandle Lines of Horizontal Illumination

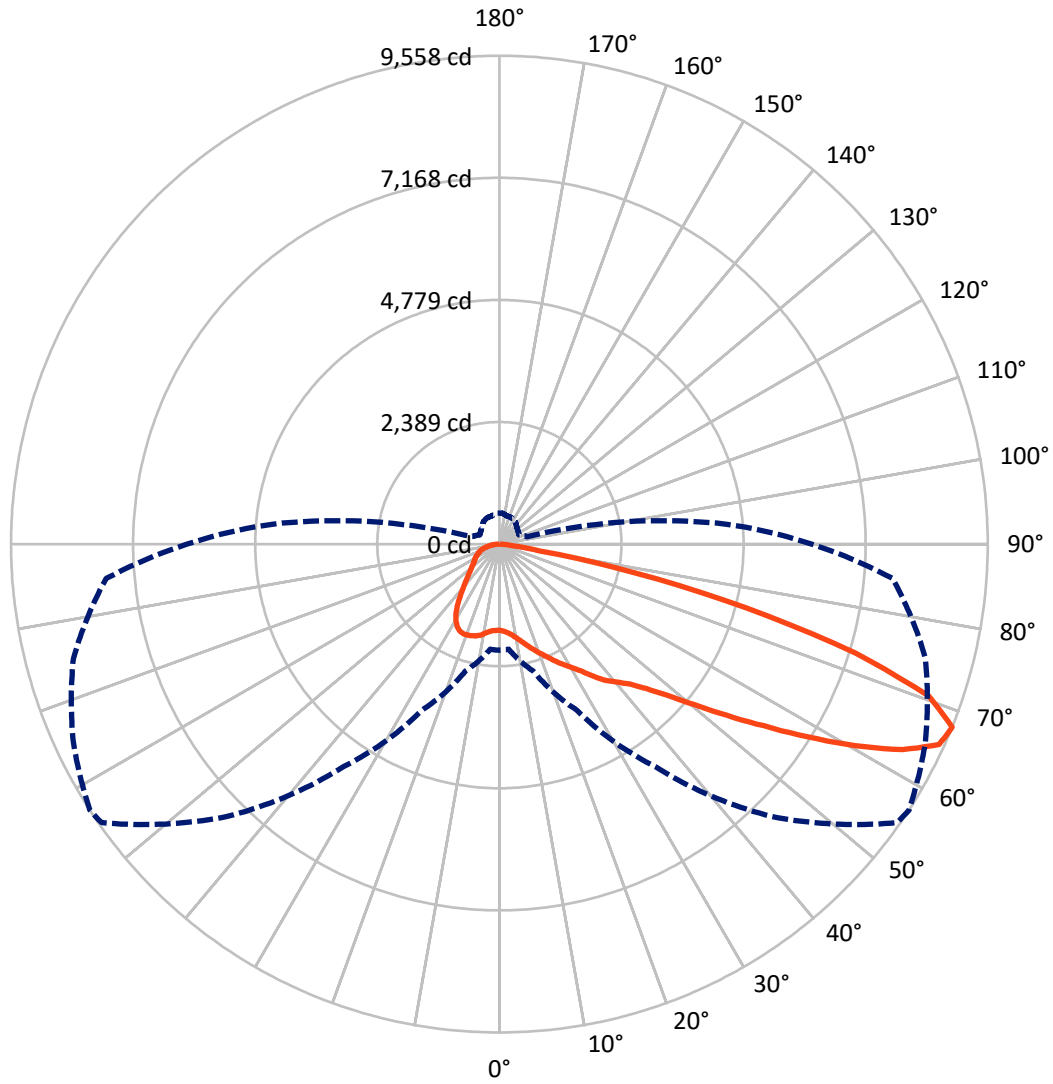
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.9 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3075.7	0.0	3075.7
	% Fixture	22.0	0.0	22.0
<b>Street Side</b>	Lumens	10913.6	0.0	10913.6
	% Fixture	78.0	0.0	78.0
<b>Total</b>	Lumens	13989.3	0.0	13989.3
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.2	1.2
10°-20°	553.4	4.0
20°-30°	986.7	7.1
30°-40°	1434.5	10.3
40°-50°	2076.2	14.8
50°-60°	3249.2	23.2
60°-70°	3790.4	27.1
70°-80°	1582.3	11.3
80°-90°	149.3	1.1
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°	13989.3	100.0
0°-180°	13989.3	100.0

**Coefficient of Utilization**



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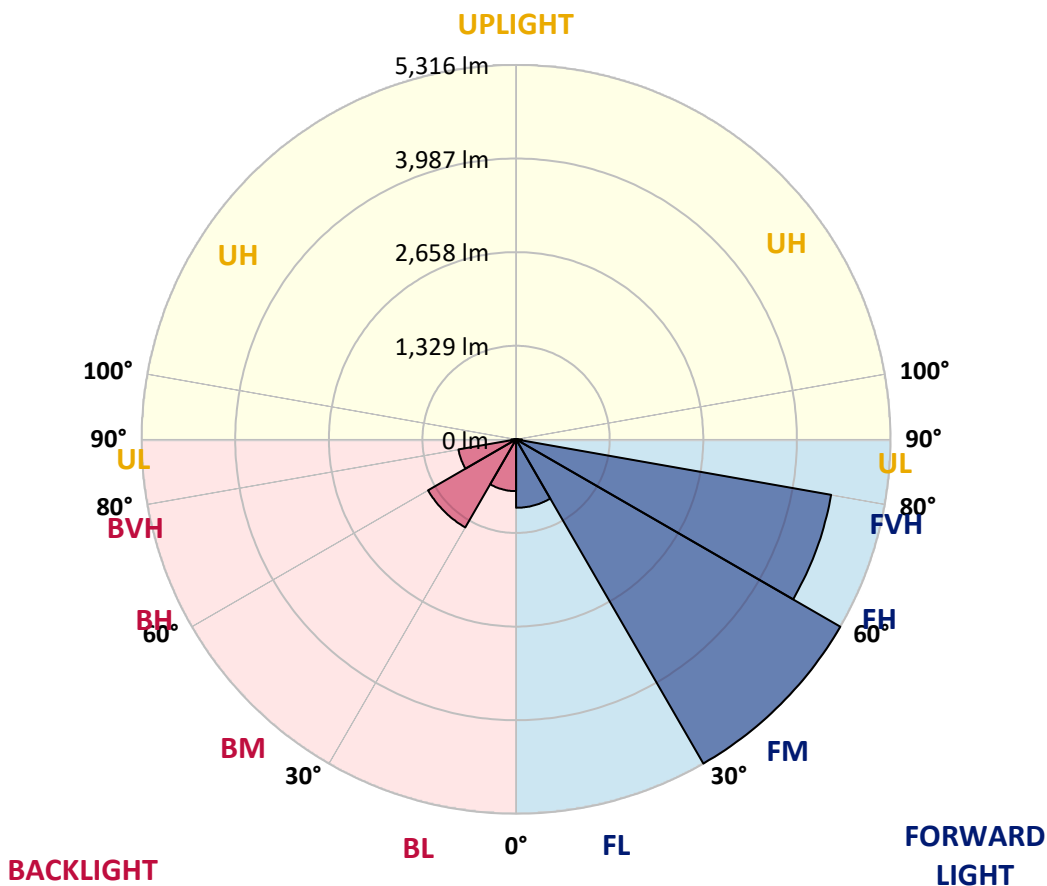
CATALOG NUMBER: GWS-SA3D-830-U-T3-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	971.7	6.9			
FM (30°-60°)	5316.1	38.0			
FH (60°-80°)	4542.6	32.5			G2/5000
FVH (80°-90°)	83.2	0.6			G1/100
BL (0°-30°)	735.6	5.3	B2/1000		
BM (30°-60°)	1443.8	10.3	B2/2500		
BH (60°-80°)	830.1	5.9	B2/1000		G2/1000
BVH (80°-90°)	66.1	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6
2.5°	1709.7	1707.7	1706.7	1712.7	1710.7	1709.7	1709.7	1708.7	1706.7	1698.6	1687.6
5°	1756.8	1752.8	1748.8	1753.8	1749.8	1745.7	1744.7	1742.7	1735.7	1723.7	1706.7
7.5°	1805.9	1801.9	1802.9	1805.9	1802.9	1800.9	1797.9	1795.9	1784.8	1765.8	1742.7
10°	1875.0	1875.0	1877.0	1880.0	1881.0	1878.0	1872.0	1869.0	1856.0	1831.9	1799.9
12.5°	1975.2	1973.2	1973.2	1971.2	1974.2	1971.2	1965.2	1960.2	1944.2	1913.1	1867.0
15°	2107.5	2099.5	2092.5	2079.5	2075.5	2064.4	2066.4	2063.4	2048.4	2006.3	1948.2
17.5°	2248.8	2247.8	2236.8	2210.7	2184.7	2166.6	2170.7	2169.7	2161.6	2104.5	2030.4
20°	2373.1	2378.1	2368.1	2348.0	2313.0	2278.9	2276.9	2281.9	2271.9	2214.8	2111.5
22.5°	2512.4	2508.4	2498.4	2472.3	2446.2	2410.2	2398.1	2394.1	2390.1	2325.0	2194.7
25°	2644.7	2656.7	2643.7	2619.6	2579.5	2540.4	2530.4	2534.4	2523.4	2437.2	2283.9
27.5°	2812.0	2817.0	2809.0	2776.0	2741.9	2686.8	2667.7	2667.7	2663.7	2542.5	2354.0
30°	2990.4	3004.4	2990.4	2963.4	2928.3	2849.1	2808.0	2804.0	2792.0	2650.7	2436.2
32.5°	3169.8	3179.8	3169.8	3143.7	3103.7	3034.5	2975.4	2966.4	2950.3	2768.9	2520.4
35°	3329.1	3338.2	3336.2	3342.2	3309.1	3221.9	3185.8	3181.8	3139.7	2923.3	2634.7
37.5°	3503.5	3514.5	3499.5	3511.5	3498.5	3416.3	3405.3	3385.3	3325.1	3068.6	2754.9
40°	3701.9	3712.0	3687.9	3692.9	3677.9	3631.8	3575.7	3548.6	3459.4	3225.9	2944.3
42.5°	3914.4	3937.4	3948.5	3939.4	3904.4	3878.3	3780.1	3746.0	3671.9	3509.5	3256.0
45°	4222.1	4256.1	4272.2	4249.1	4234.1	4197.0	4076.7	4035.7	3996.6	3909.4	3690.9
47.5°	4553.8	4584.8	4635.9	4646.0	4658.0	4629.9	4460.6	4420.5	4427.5	4417.5	4226.1
50°	4818.3	4844.4	4959.6	5082.9	5185.1	5193.1	4976.7	4933.6	4971.7	5003.7	4870.4
52.5°	5010.7	5033.8	5186.1	5440.7	5672.2	5843.5	5610.0	5560.9	5592.0	5664.1	5603.0
55°	5167.1	5199.2	5358.5	5749.3	6217.3	6487.9	6338.6	6276.5	6263.4	6352.6	6387.7
57.5°	5249.3	5259.3	5482.8	5990.8	6617.2	7120.3	7185.4	7115.3	6991.0	7040.1	7222.5
60°	5061.9	5078.9	5384.5	6053.0	6932.9	7747.6	8074.3	8016.2	7751.6	7778.7	7980.1
62.5°	4543.7	4567.8	4935.6	5757.3	6958.9	8166.5	8895.1	8858.0	8503.2	8356.9	8417.1
65°	3644.8	3652.8	4033.7	5025.8	6440.8	8218.6	9467.3	9458.3	9028.4	8685.6	8428.1
67.5°	2078.5	2064.4	2573.5	3584.7	5315.4	7541.2	9504.4	9557.5	9198.7	8631.5	7726.6
70°	900.9	902.9	1137.4	1768.8	3440.4	6095.1	8827.9	8919.1	8705.7	7730.6	6147.2
72.5°	416.9	422.9	524.1	765.6	1469.2	3781.1	7198.4	7280.6	7097.2	6187.3	4472.6
75°	294.6	299.6	349.8	438.9	675.4	1473.2	4815.3	4987.7	5076.9	4627.9	2947.3
77.5°	223.5	230.5	255.5	304.7	416.9	522.1	2303.9	2714.8	3233.9	2879.2	1518.3
80°	142.3	142.3	169.4	203.4	254.5	271.6	665.4	788.7	1582.4	1186.5	596.3
82.5°	96.2	99.2	115.2	129.3	146.3	154.3	285.6	304.7	457.0	403.9	245.5
85°	51.1	53.1	60.1	59.1	70.2	61.1	120.3	119.3	167.4	183.4	93.2
87.5°	0.0	0.0	1.0	1.0	2.0	3.0	13.0	14.0	35.1	56.1	31.1
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-SA3D-830-U-T3-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6	1685.6
2.5°	1693.6	1681.6	1687.6	1685.6	1691.6	1691.6	1680.6	1677.6	1678.6	1666.6	1662.6
5°	1708.7	1694.6	1697.6	1693.6	1699.6	1704.7	1699.6	1699.6	1705.7	1696.6	1691.6
7.5°	1742.7	1726.7	1726.7	1721.7	1728.7	1732.7	1728.7	1734.7	1745.7	1736.7	1731.7
10°	1796.9	1777.8	1778.8	1772.8	1775.8	1773.8	1757.8	1752.8	1755.8	1747.7	1743.7
12.5°	1867.0	1840.9	1840.9	1828.9	1821.9	1800.9	1767.8	1755.8	1757.8	1750.8	1747.7
15°	1934.1	1910.1	1905.1	1881.0	1849.0	1809.9	1779.8	1771.8	1773.8	1766.8	1761.8
17.5°	2013.3	1982.3	1964.2	1920.1	1861.0	1820.9	1790.8	1771.8	1755.8	1739.7	1735.7
20°	2086.5	2047.4	2014.3	1946.2	1874.0	1818.9	1762.8	1715.7	1676.6	1655.6	1650.5
22.5°	2161.6	2111.5	2053.4	1964.2	1873.0	1782.8	1679.6	1608.4	1550.3	1519.3	1525.3
25°	2232.8	2169.7	2090.5	1981.2	1840.9	1702.7	1562.4	1456.1	1390.0	1365.9	1358.9
27.5°	2291.9	2213.7	2124.6	1973.2	1774.8	1587.4	1402.0	1283.8	1219.6	1192.6	1185.5
30°	2358.1	2269.9	2173.7	1936.2	1670.6	1426.1	1220.6	1124.4	1078.3	1052.3	1053.3
32.5°	2434.2	2342.0	2242.8	1865.0	1537.3	1251.7	1071.3	1005.2	968.1	942.0	938.0
35°	2536.4	2445.2	2288.9	1757.8	1367.9	1091.3	969.1	915.0	868.9	834.8	827.8
37.5°	2662.7	2600.6	2293.9	1614.5	1186.5	981.1	895.9	837.8	781.7	736.6	731.6
40°	2879.2	2808.0	2252.8	1435.1	1032.2	910.0	834.8	767.6	702.5	652.4	645.4
42.5°	3187.8	3041.5	2164.6	1232.6	916.0	853.8	776.7	691.5	625.3	590.3	585.3
45°	3580.7	3302.1	2032.4	1042.2	829.8	798.7	715.5	626.3	591.3	566.2	561.2
47.5°	4061.7	3605.7	1880.0	893.9	762.6	748.6	653.4	604.3	573.2	552.2	547.2
50°	4636.9	3992.6	1754.8	777.7	702.5	690.5	633.4	591.3	566.2	549.2	545.2
52.5°	5293.4	4422.5	1693.6	694.5	650.4	638.4	626.3	588.3	567.2	554.2	549.2
55°	5974.8	4875.5	1636.5	630.4	606.3	613.3	627.3	598.3	582.2	565.2	560.2
57.5°	6633.2	5300.4	1496.2	580.2	574.2	601.3	632.4	608.3	589.3	572.2	566.2
60°	7087.2	5532.9	1258.7	540.2	550.2	586.3	619.3	593.3	569.2	562.2	559.2
62.5°	7209.5	5504.8	977.1	499.1	521.1	553.2	585.3	568.2	543.2	554.2	555.2
65°	6923.9	5204.2	733.6	459.0	483.0	510.1	550.2	543.2	534.1	564.2	565.2
67.5°	6115.1	4465.6	559.2	423.9	444.0	477.0	539.2	568.2	570.2	608.3	604.3
70°	4626.9	3336.2	437.9	390.8	413.9	477.0	574.2	587.3	563.2	598.3	590.3
72.5°	3198.9	2201.7	372.8	361.8	376.8	455.0	573.2	573.2	547.2	547.2	532.1
75°	1987.3	1294.8	324.7	324.7	324.7	397.9	557.2	528.1	482.0	461.0	449.0
77.5°	981.1	629.3	272.6	282.6	271.6	332.7	455.0	431.9	403.9	381.8	373.8
80°	418.9	314.7	220.5	231.5	218.5	250.5	360.8	355.8	328.7	299.6	290.6
82.5°	192.4	162.3	176.4	181.4	159.3	188.4	263.6	263.6	248.5	208.4	193.4
85°	82.2	86.2	122.3	122.3	100.2	106.2	141.3	134.3	120.3	98.2	90.2
87.5°	28.1	42.1	62.1	54.1	21.0	9.0	5.0	2.0	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



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**



CCT = 3050K  
 CIE x = 0.4383  
 CIE y = 0.4131  
 Duv = 0.0034

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)