

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: P633549

Luminaire Tested: GWS-SA2E-830-U-T3-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633549  
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-SA2E-830-U-T3-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

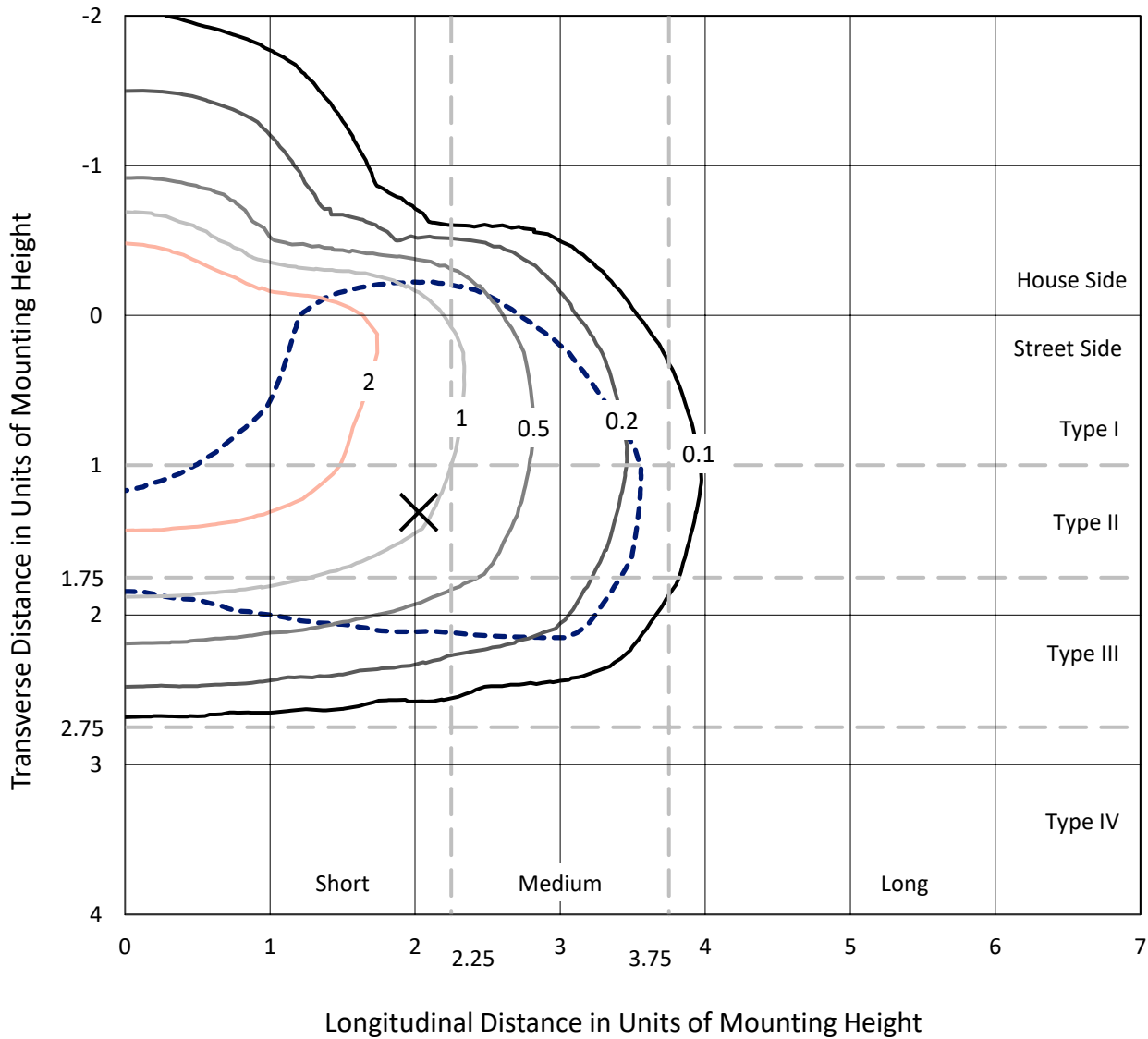
Lumens per Lamp: N/A  
Luminaire Lumens: 11598.8 lumens  
Efficiency: N/A  
Efficacy: 107.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G2  
  
Input Watts (W): 108.2  
Input Voltage (V): 120  
Input Current (Ain): 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



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 CATALOG NUMBER: GWS-SA2E-830-U-T3-W

### Iso-Footcandle Lines of Horizontal Illumination

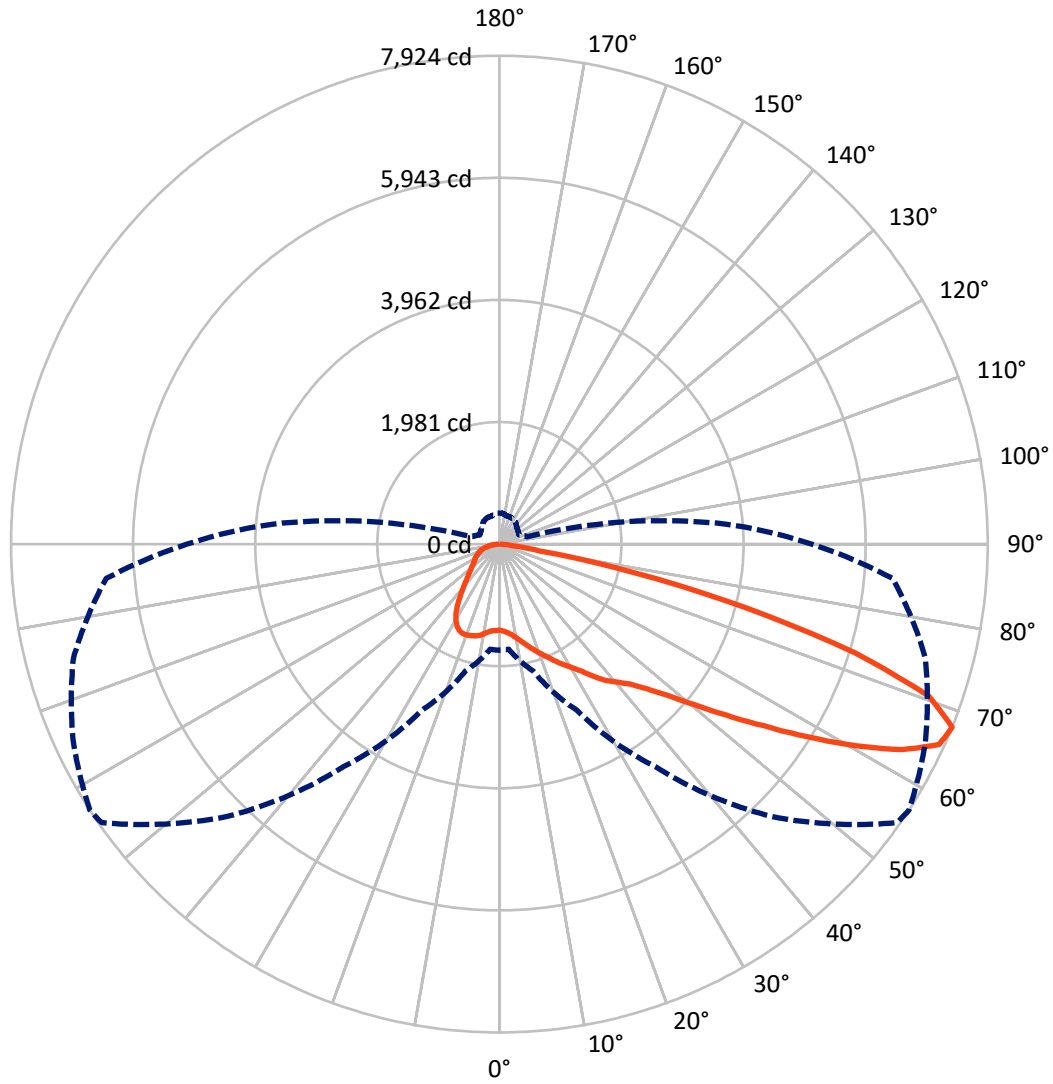
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.1 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	2550.1	0.0	2550.1
	% Fixture	22.0	0.0	22.0
<b>Street Side</b>	Lumens	9048.7	0.0	9048.7
	% Fixture	78.0	0.0	78.0
<b>Total</b>	Lumens	11598.8	0.0	11598.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.6	1.2
10°-20°	458.9	4.0
20°-30°	818.1	7.1
30°-40°	1189.4	10.3
40°-50°	1721.4	14.8
50°-60°	2694.0	23.2
60°-70°	3142.7	27.1
70°-80°	1311.9	11.3
80°-90°	123.8	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°	11598.8	100.0
0°-180°	11598.8	100.0

**Coefficient of Utilization**



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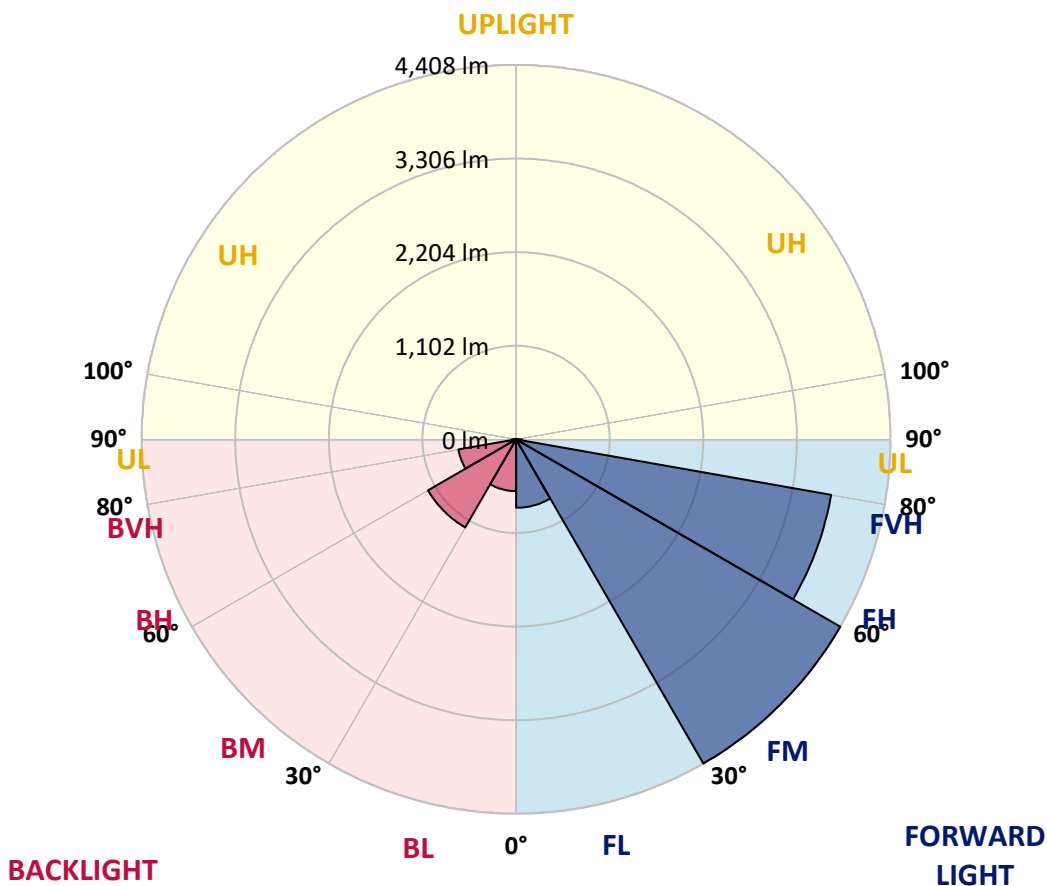
CATALOG NUMBER: GWS-SA2E-830-U-T3-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	805.6	6.9			
FM (30°-60°)	4407.7	38.0			
FH (60°-80°)	3766.3	32.5			G2/5000
FVH (80°-90°)	69.0	0.6			G1/100
BL (0°-30°)	609.9	5.3	B2/1000		
BM (30°-60°)	1197.1	10.3	B2/2500		
BH (60°-80°)	688.3	5.9	B2/1000		G2/1000
BVH (80°-90°)	54.8	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°	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6
2.5°	1417.5	1415.9	1415.0	1420.0	1418.3	1417.5	1417.5	1416.7	1415.0	1408.4	1399.2
5°	1456.6	1453.2	1449.9	1454.1	1450.8	1447.4	1446.6	1444.9	1439.1	1429.2	1415.0
7.5°	1497.3	1494.0	1494.8	1497.3	1494.8	1493.1	1490.6	1489.0	1479.8	1464.0	1444.9
10°	1554.6	1554.6	1556.3	1558.8	1559.6	1557.1	1552.1	1549.6	1538.8	1518.9	1492.3
12.5°	1637.7	1636.0	1636.0	1634.4	1636.9	1634.4	1629.4	1625.2	1611.9	1586.2	1548.0
15°	1747.4	1740.7	1734.9	1724.1	1720.8	1711.7	1713.3	1710.8	1698.4	1663.5	1615.3
17.5°	1864.5	1863.7	1854.6	1833.0	1811.4	1796.4	1799.7	1798.9	1792.3	1744.9	1683.4
20°	1967.6	1971.7	1963.4	1946.8	1917.7	1889.5	1887.8	1892.0	1883.7	1836.3	1750.7
22.5°	2083.1	2079.7	2071.4	2049.8	2028.2	1998.3	1988.3	1985.0	1981.7	1927.7	1819.7
25°	2192.7	2202.7	2191.9	2172.0	2138.7	2106.3	2098.0	2101.4	2092.2	2020.8	1893.6
27.5°	2331.5	2335.7	2329.0	2301.6	2273.3	2227.6	2211.9	2211.9	2208.5	2108.0	1951.8
30°	2479.4	2491.0	2479.4	2457.0	2427.9	2362.3	2328.2	2324.9	2314.9	2197.7	2019.9
32.5°	2628.1	2636.5	2628.1	2606.5	2573.3	2516.0	2466.9	2459.5	2446.2	2295.8	2089.7
35°	2760.3	2767.7	2766.1	2771.1	2743.6	2671.3	2641.4	2638.1	2603.2	2423.7	2184.4
37.5°	2904.8	2914.0	2901.5	2911.5	2900.7	2832.5	2823.4	2806.8	2756.9	2544.2	2284.1
40°	3069.4	3077.7	3057.7	3061.9	3049.4	3011.2	2964.7	2942.2	2868.3	2674.7	2441.2
42.5°	3245.5	3264.6	3273.8	3266.3	3237.2	3215.6	3134.2	3105.9	3044.4	2909.8	2699.6
45°	3500.6	3528.8	3542.1	3523.0	3510.6	3479.8	3380.1	3346.0	3313.6	3241.3	3060.2
47.5°	3775.6	3801.4	3843.8	3852.1	3862.0	3838.8	3698.3	3665.1	3670.9	3662.6	3503.9
50°	3995.0	4016.6	4112.1	4214.3	4299.1	4305.7	4126.3	4090.5	4122.1	4148.7	4038.2
52.5°	4154.5	4173.6	4299.9	4511.0	4702.9	4845.0	4651.4	4610.7	4636.4	4696.3	4645.6
55°	4284.1	4310.7	4442.8	4766.9	5154.9	5379.3	5255.5	5203.9	5193.1	5267.1	5296.2
57.5°	4352.3	4360.6	4545.9	4967.1	5486.4	5903.6	5957.6	5899.4	5796.4	5837.1	5988.3
60°	4196.9	4211.0	4464.4	5018.6	5748.2	6423.7	6694.6	6646.4	6427.0	6449.5	6616.5
62.5°	3767.3	3787.2	4092.2	4773.5	5769.8	6771.0	7375.1	7344.3	7050.2	6928.9	6978.7
65°	3022.0	3028.6	3344.4	4167.0	5340.2	6814.2	7849.5	7842.0	7485.6	7201.4	6987.9
67.5°	1723.3	1711.7	2133.8	2972.1	4407.1	6252.5	7880.3	7924.3	7626.8	7156.6	6406.3
70°	747.0	748.6	943.1	1466.5	2852.5	5053.5	7319.4	7395.0	7218.0	6409.6	5096.8
72.5°	345.7	350.6	434.6	634.8	1218.1	3135.0	5968.4	6036.5	5884.4	5130.0	3708.3
75°	244.3	248.4	290.0	363.9	560.0	1221.4	3992.5	4135.4	4209.3	3837.1	2443.7
77.5°	185.3	191.1	211.9	252.6	345.7	432.9	1910.2	2250.9	2681.3	2387.2	1258.8
80°	118.0	118.0	140.4	168.7	211.0	225.2	551.7	653.9	1312.0	983.8	494.4
82.5°	79.8	82.3	95.6	107.2	121.3	128.0	236.8	252.6	378.9	334.9	203.6
85°	42.4	44.0	49.9	49.0	58.2	50.7	99.7	98.9	138.8	152.1	77.3
87.5°	0.0	0.0	0.8	0.8	1.7	2.5	10.8	11.6	29.1	46.5	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



REPORT NUMBER: P633549  
 CATALOG NUMBER: GWS-SA2E-830-U-T3-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6	1397.6
2.5°	1404.2	1394.3	1399.2	1397.6	1402.6	1402.6	1393.4	1390.9	1391.8	1381.8	1378.5
5°	1416.7	1405.1	1407.5	1404.2	1409.2	1413.4	1409.2	1409.2	1414.2	1406.7	1402.6
7.5°	1444.9	1431.6	1431.6	1427.5	1433.3	1436.6	1433.3	1438.3	1447.4	1440.0	1435.8
10°	1489.8	1474.0	1474.9	1469.9	1472.4	1470.7	1457.4	1453.2	1455.7	1449.1	1445.8
12.5°	1548.0	1526.4	1526.4	1516.4	1510.6	1493.1	1465.7	1455.7	1457.4	1451.6	1449.1
15°	1603.6	1583.7	1579.5	1559.6	1533.0	1500.6	1475.7	1469.0	1470.7	1464.9	1460.7
17.5°	1669.3	1643.5	1628.6	1592.0	1543.0	1509.7	1484.8	1469.0	1455.7	1442.4	1439.1
20°	1729.9	1697.5	1670.1	1613.6	1553.8	1508.1	1461.6	1422.5	1390.1	1372.6	1368.5
22.5°	1792.3	1750.7	1702.5	1628.6	1553.0	1478.2	1392.6	1333.6	1285.4	1259.6	1264.6
25°	1851.2	1798.9	1733.3	1642.7	1526.4	1411.7	1295.4	1207.3	1152.5	1132.5	1126.7
27.5°	1900.3	1835.5	1761.5	1636.0	1471.5	1316.1	1162.4	1064.4	1011.2	988.8	983.0
30°	1955.1	1882.0	1802.2	1605.3	1385.1	1182.4	1012.0	932.3	894.1	872.4	873.3
32.5°	2018.3	1941.8	1859.6	1546.3	1274.6	1037.8	888.2	833.4	802.7	781.0	777.7
35°	2103.0	2027.4	1897.8	1457.4	1134.2	904.9	803.5	758.6	720.4	692.1	686.3
37.5°	2207.7	2156.2	1901.9	1338.6	983.8	813.5	742.8	694.6	648.1	610.7	606.6
40°	2387.2	2328.2	1867.9	1189.9	855.8	754.5	692.1	636.5	582.5	540.9	535.1
42.5°	2643.1	2521.8	1794.7	1022.0	759.4	707.9	643.9	573.3	518.5	489.4	485.2
45°	2968.8	2737.8	1685.1	864.1	688.0	662.2	593.3	519.3	490.2	469.5	465.3
47.5°	3367.6	2989.6	1558.8	741.2	632.3	620.7	541.7	501.0	475.3	457.8	453.7
50°	3844.6	3310.3	1454.9	644.8	582.5	572.5	525.1	490.2	469.5	455.3	452.0
52.5°	4388.8	3666.8	1404.2	575.8	539.3	529.3	519.3	487.7	470.3	459.5	455.3
55°	4953.8	4042.3	1356.9	522.6	502.7	508.5	520.1	496.0	482.8	468.6	464.5
57.5°	5499.7	4394.6	1240.5	481.1	476.1	498.5	524.3	504.4	488.6	474.4	469.5
60°	5876.1	4587.4	1043.6	447.9	456.2	486.1	513.5	491.9	472.0	466.1	463.6
62.5°	5977.5	4564.1	810.1	413.8	432.1	458.7	485.2	471.1	450.3	459.5	460.3
65°	5740.7	4314.9	608.2	380.6	400.5	422.9	456.2	450.3	442.9	467.8	468.6
67.5°	5070.2	3702.5	463.6	351.5	368.1	395.5	447.0	471.1	472.8	504.4	501.0
70°	3836.3	2766.1	363.1	324.1	343.2	395.5	476.1	486.9	467.0	496.0	489.4
72.5°	2652.2	1825.5	309.1	300.0	312.4	377.2	475.3	475.3	453.7	453.7	441.2
75°	1647.7	1073.5	269.2	269.2	269.2	329.9	462.0	437.9	399.7	382.2	372.2
77.5°	813.5	521.8	226.0	234.3	225.2	275.9	377.2	358.1	334.9	316.6	309.9
80°	347.3	260.9	182.8	191.9	181.1	207.7	299.1	295.0	272.5	248.4	241.0
82.5°	159.5	134.6	146.2	150.4	132.1	156.2	218.5	218.5	206.1	172.8	160.4
85°	68.1	71.5	101.4	101.4	83.1	88.1	117.2	111.3	99.7	81.4	74.8
87.5°	23.3	34.9	51.5	44.9	17.4	7.5	4.2	1.7	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



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 $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	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)