

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: P639492

Luminaire Tested: GWS-SA5B-830-U-T3R-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P639492  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5B-830-U-T3R-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

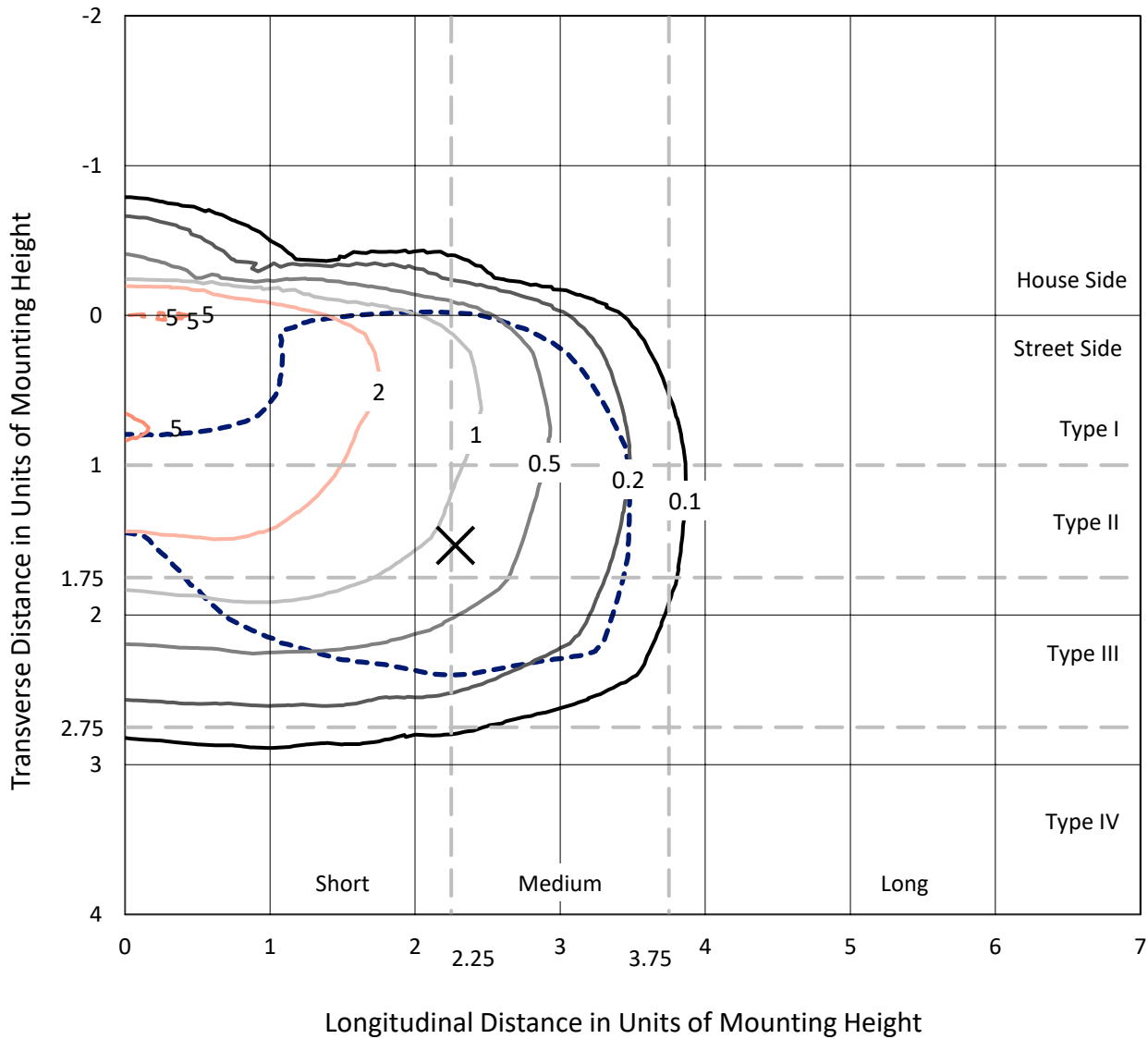
Lumens per Lamp: N/A  
Luminaire Lumens: 11041.7 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 115.7  
Input Voltage (V): 120  
Input Current (Ain): 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: P639492  
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### Iso-Footcandle Lines of Horizontal Illumination

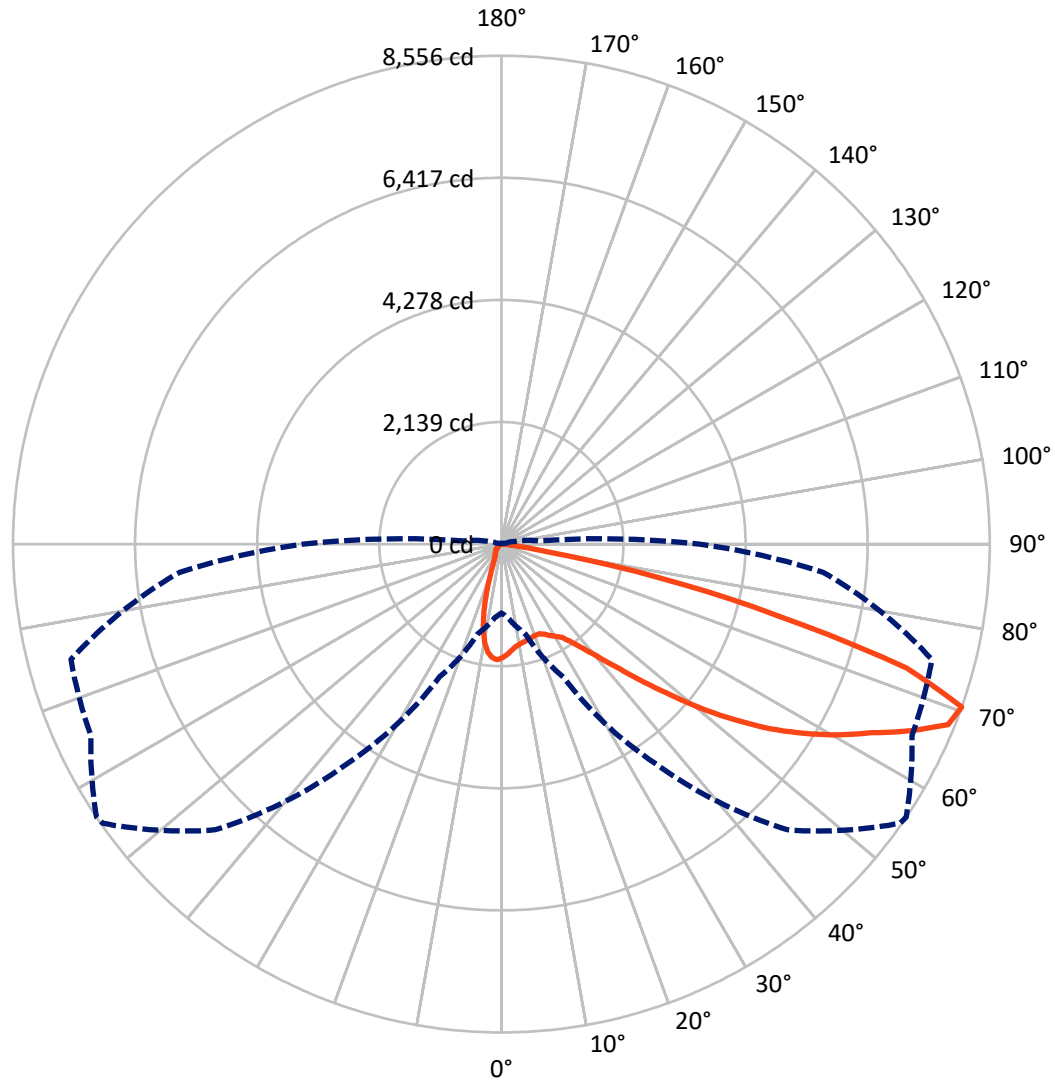
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.2 fc  
 Type III - Medium - N/A

REPORT NUMBER: P639492  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 56-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	991.8	0.0	991.8
	% Fixture	9.0	0.0	9.0
<b>Street Side</b>	Lumens	10049.9	0.0	10049.9
	% Fixture	91.0	0.0	91.0
<b>Total</b>	Lumens	11041.7	0.0	11041.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	170.9	1.5
10°-20°	384.5	3.5
20°-30°	609.0	5.5
30°-40°	1050.2	9.5
40°-50°	1773.4	16.1
50°-60°	2605.7	23.6
60°-70°	3089.2	28.0
70°-80°	1317.4	11.9
80°-90°	41.4	0.4
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°	11041.7	100.0
0°-180°	11041.7	100.0

**Coefficient of Utilization**



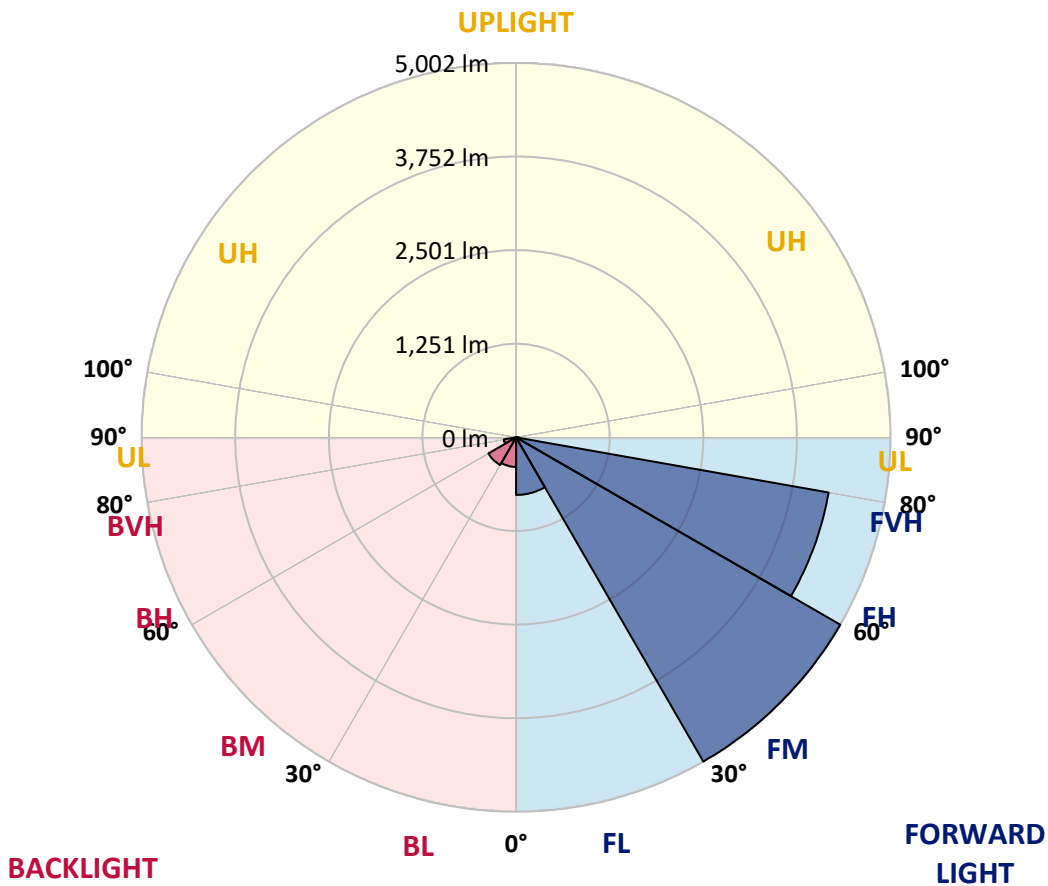
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	769.4	7.0			
FM (30°-60°)	5002.2	45.3			
FH (60°-80°)	4241.2	38.4			G2/5000
FVH (80°-90°)	37.2	0.3			G1/100
BL (0°-30°)	395.0	3.6	B1/500		
BM (30°-60°)	427.2	3.9	B1/1000		
BH (60°-80°)	165.4	1.5	B1/500		G1/500
BVH (80°-90°)	4.2	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-G2**  
 Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	56°	65°	75°	85°
0°	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9
2.5°	1853.4	1850.4	1852.4	1867.6	1895.9	1909.0	1931.3	1935.3	1953.5	1976.8	1985.9
5°	1733.1	1723.0	1728.0	1749.3	1781.6	1818.0	1859.5	1870.6	1916.1	1967.7	2006.1
7.5°	1622.9	1611.8	1623.9	1657.3	1702.8	1742.2	1803.9	1810.9	1883.7	1974.8	2044.5
10°	1450.0	1453.0	1477.3	1535.9	1605.7	1687.6	1770.5	1780.6	1870.6	1998.0	2106.2
12.5°	1317.5	1310.4	1336.7	1403.5	1501.5	1620.9	1745.2	1758.4	1871.6	2033.4	2185.1
15°	1255.8	1253.8	1264.9	1313.5	1408.5	1549.1	1722.0	1739.2	1884.8	2065.8	2259.9
17.5°	1257.9	1254.8	1253.8	1282.1	1352.9	1495.5	1696.7	1718.9	1895.9	2101.1	2338.8
20°	1345.8	1331.7	1306.4	1293.2	1335.7	1461.1	1679.5	1704.8	1912.1	2138.6	2422.7
22.5°	1529.9	1534.9	1467.2	1396.4	1376.2	1465.1	1677.5	1706.8	1947.5	2197.2	2525.8
25°	1897.9	1889.8	1764.4	1605.7	1495.5	1511.7	1712.9	1748.3	2017.2	2281.1	2622.9
27.5°	2359.0	2366.1	2194.2	1941.4	1710.8	1607.7	1777.6	1813.0	2098.1	2333.7	2687.6
30°	2861.5	2854.4	2670.4	2390.3	2016.2	1767.5	1842.3	1873.6	2138.6	2362.0	2754.3
32.5°	3336.8	3320.6	3138.6	2845.3	2405.5	2019.2	1931.3	1949.5	2192.1	2423.7	2844.3
35°	3742.2	3741.2	3582.5	3270.0	2805.9	2334.7	2084.0	2099.1	2292.2	2521.8	2976.8
37.5°	4160.8	4146.7	3968.7	3683.6	3217.4	2680.5	2317.5	2311.5	2450.0	2666.4	3139.6
40°	4504.6	4495.5	4359.0	4085.0	3645.2	3062.7	2600.6	2582.4	2637.0	2866.6	3366.1
42.5°	4759.4	4760.4	4718.0	4551.1	4098.1	3504.6	2956.6	2928.3	2927.2	3168.9	3665.4
45°	4952.6	4965.7	5029.4	5004.1	4633.0	4019.3	3412.6	3383.3	3333.7	3561.2	4008.1
47.5°	5042.5	5059.7	5251.8	5353.0	5101.2	4529.9	3955.6	3893.9	3796.8	4083.0	4391.4
50°	5033.4	5063.8	5331.7	5639.1	5525.9	5047.6	4547.1	4517.8	4359.0	4635.1	4770.5
52.5°	4827.2	4891.9	5336.8	5813.0	5852.5	5524.9	5158.8	5104.2	5027.4	5211.4	5126.5
55°	4267.0	4345.9	5123.4	5868.6	6107.3	5941.4	5757.4	5712.9	5585.5	5755.4	5436.9
57.5°	3962.6	4030.4	4674.5	5841.3	6323.7	6326.7	6290.3	6253.9	6148.7	6293.3	5800.9
60°	3779.6	3847.4	4434.8	5741.2	6519.8	6733.2	6790.8	6786.8	6635.1	6905.1	6227.6
62.5°	3511.7	3604.7	4185.1	5481.4	6659.4	7133.6	7307.5	7280.2	7111.3	7542.1	6650.3
65°	2970.7	3051.6	3673.5	5052.7	6577.4	7465.2	7867.7	7881.8	7686.7	8141.7	6983.9
67.5°	2082.9	2142.6	2760.4	4152.7	6021.3	7574.4	8441.0	8440.0	8107.3	8449.1	6836.3
70°	1207.3	1289.2	1631.0	2567.3	4684.6	7078.0	8526.9	8556.2	7936.4	7807.0	5657.3
72.5°	467.1	534.9	924.2	1364.0	2442.9	5421.7	7334.8	7420.7	6642.2	6022.3	3937.4
75°	139.5	155.7	434.8	726.0	980.8	2618.8	4965.7	4990.0	4556.2	3756.4	2018.2
77.5°	104.1	115.3	190.1	367.0	343.8	793.7	2569.3	2805.9	2418.6	1341.8	556.1
80°	70.8	83.9	135.5	179.0	127.4	211.3	722.0	792.7	738.1	301.3	139.5
82.5°	31.3	40.4	96.1	90.0	46.5	60.7	222.5	236.6	152.7	91.0	48.5
85°	3.0	4.0	36.4	39.4	17.2	14.2	46.5	46.5	33.4	31.3	20.2
87.5°	0.0	0.0	1.0	2.0	2.0	3.0	4.0	5.1	6.1	8.1	10.1
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-SA5B-830-U-T3R-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9	1990.9
2.5°	2009.1	1997.0	2012.2	2024.3	2027.3	2005.1	1991.9	1972.7	1968.7	1969.7	1964.6
5°	2036.4	2030.4	2041.5	2028.3	1994.0	1929.3	1873.6	1812.0	1778.6	1759.4	1757.4
7.5°	2087.0	2084.0	2071.8	2012.2	1905.0	1761.4	1622.9	1487.4	1403.5	1373.1	1368.1
10°	2161.8	2155.7	2106.2	1964.6	1736.1	1460.1	1227.5	1033.4	915.1	880.7	838.2
12.5°	2247.8	2235.6	2127.4	1862.5	1481.3	1099.1	808.9	591.5	489.4	459.1	459.1
15°	2330.7	2304.4	2115.3	1693.7	1167.9	714.9	452.0	341.8	310.4	302.3	302.3
17.5°	2415.6	2365.1	2067.8	1463.1	806.9	422.7	301.3	280.1	276.0	277.1	278.1
20°	2495.5	2416.6	1983.9	1186.1	514.7	295.3	270.0	264.9	262.9	264.9	263.9
22.5°	2582.4	2464.1	1856.4	883.7	334.7	265.9	256.8	252.8	250.8	253.8	253.8
25°	2668.4	2498.5	1687.6	594.5	265.9	247.7	242.7	238.6	236.6	237.6	237.6
27.5°	2712.9	2485.4	1466.1	379.2	238.6	229.5	224.5	219.4	216.4	215.4	216.4
30°	2743.2	2444.9	1195.2	270.0	216.4	205.3	200.2	196.2	188.1	183.0	185.0
32.5°	2790.7	2404.5	900.9	226.5	198.2	181.0	172.9	162.8	151.7	146.6	146.6
35°	2847.4	2348.9	632.0	204.2	179.0	160.8	145.6	128.4	115.3	111.2	111.2
37.5°	2922.2	2296.3	420.6	189.1	162.8	143.6	122.3	102.1	88.0	85.9	84.9
40°	3034.4	2251.8	296.3	178.0	148.6	125.4	100.1	78.9	68.8	65.7	65.7
42.5°	3180.0	2206.3	234.6	166.8	136.5	108.2	79.9	62.7	54.6	52.6	51.6
45°	3360.0	2152.7	204.2	156.7	124.4	90.0	63.7	52.6	46.5	44.5	44.5
47.5°	3555.2	2079.9	190.1	143.6	110.2	72.8	53.6	45.5	42.5	41.5	40.4
50°	3747.3	1981.8	178.0	131.4	94.0	59.7	46.5	41.5	39.4	38.4	38.4
52.5°	3915.1	1867.6	162.8	117.3	76.8	51.6	41.5	38.4	36.4	34.4	33.4
55°	4058.7	1743.2	143.6	101.1	62.7	45.5	38.4	35.4	33.4	31.3	30.3
57.5°	4243.7	1672.4	115.3	81.9	51.6	40.4	35.4	32.4	30.3	27.3	27.3
60°	4449.0	1620.9	85.9	64.7	44.5	37.4	32.4	29.3	27.3	24.3	24.3
62.5°	4613.8	1544.0	67.7	52.6	38.4	33.4	29.3	26.3	24.3	21.2	21.2
65°	4676.5	1385.3	55.6	41.5	31.3	29.3	26.3	24.3	21.2	18.2	18.2
67.5°	4393.4	1067.8	46.5	33.4	26.3	25.3	23.3	22.2	18.2	16.2	15.2
70°	3479.3	651.2	38.4	27.3	22.2	21.2	21.2	19.2	16.2	15.2	14.2
72.5°	2384.3	335.7	31.3	22.2	19.2	19.2	18.2	17.2	15.2	14.2	14.2
75°	1238.6	112.2	24.3	17.2	15.2	16.2	16.2	15.2	14.2	14.2	13.1
77.5°	354.9	50.6	18.2	13.1	12.1	12.1	13.1	13.1	13.1	12.1	12.1
80°	92.0	29.3	13.1	10.1	10.1	10.1	10.1	11.1	12.1	11.1	11.1
82.5°	37.4	16.2	9.1	8.1	8.1	8.1	8.1	9.1	10.1	10.1	10.1
85°	23.3	8.1	7.1	7.1	7.1	6.1	6.1	7.1	7.1	8.1	8.1
87.5°	14.2	6.1	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1	5.1
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  
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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**

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)