

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: P633521

Luminaire Tested: GWS-SA2E-830-U-SL2-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633521  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-30)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2E-830-U-SL2-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

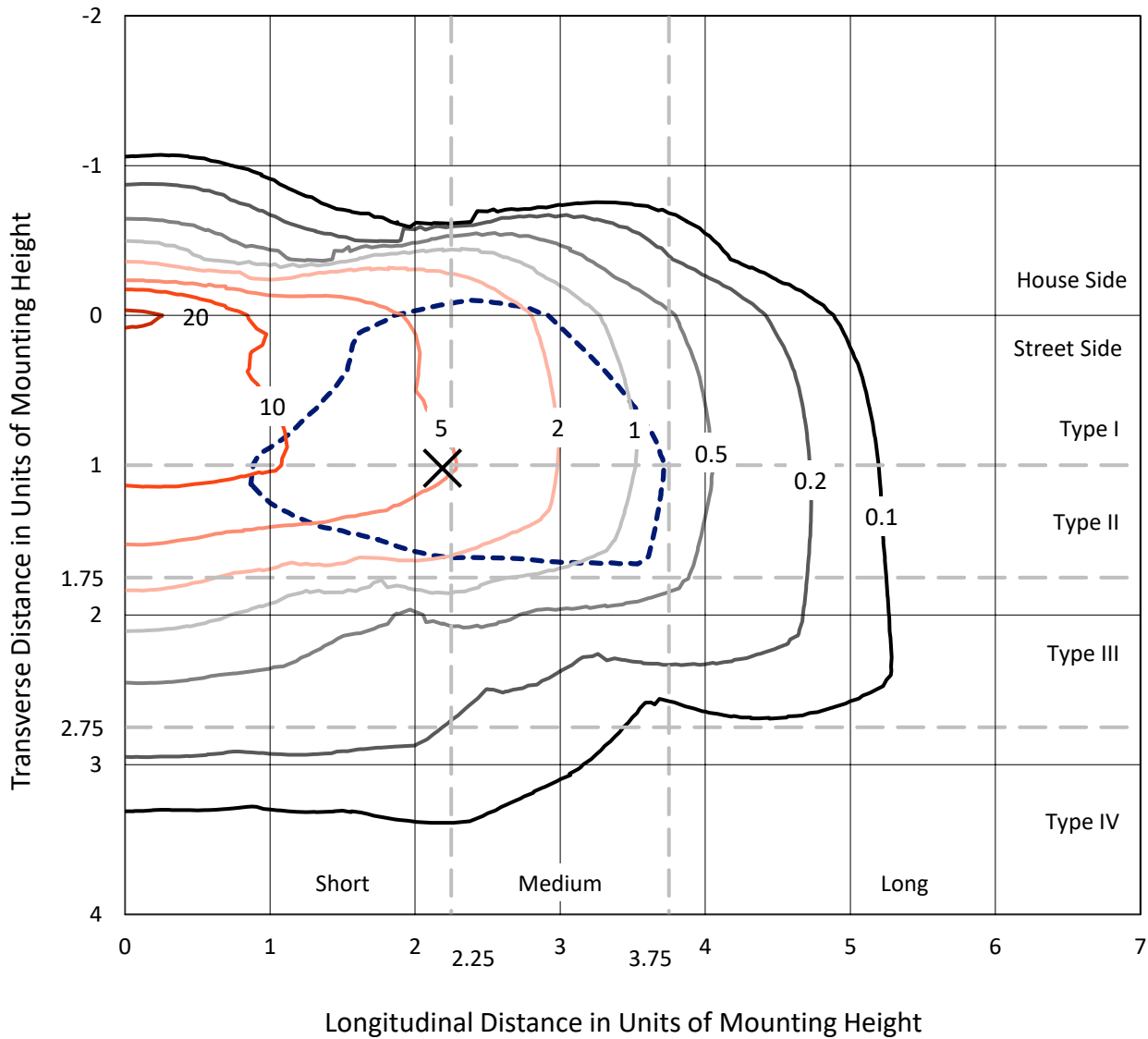
Lumens per Lamp: N/A  
Luminaire Lumens: 9188.3 lumens  
Efficiency: N/A  
Efficacy: 84.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 108.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
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



REPORT NUMBER: P633521  
 CATALOG NUMBER: GWS-SA2E-830-U-SL2-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

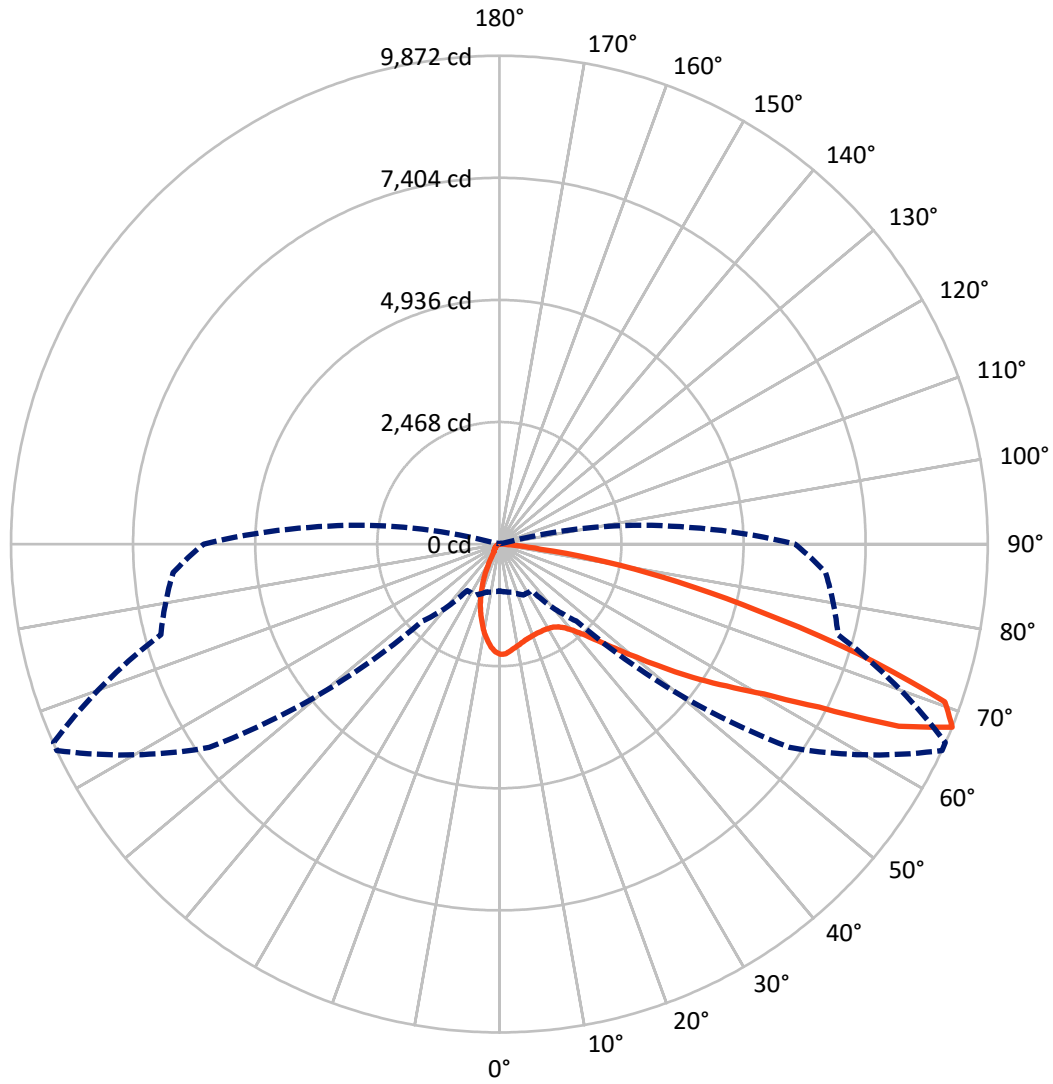
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 22.3 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1147.3	0.0	1147.3
	% Fixture	12.5	0.0	12.5
<b>Street Side</b>	Lumens	8041.0	0.0	8041.0
	% Fixture	87.5	0.0	87.5
<b>Total</b>	Lumens	9188.3	0.0	9188.3
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.1	2.0
10°-20°	416.1	4.5
20°-30°	594.5	6.5
30°-40°	865.0	9.4
40°-50°	1354.7	14.7
50°-60°	2113.3	23.0
60°-70°	2321.4	25.3
70°-80°	1235.4	13.4
80°-90°	102.9	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°	9188.3	100.0
0°-180°	9188.3	100.0

**Coefficient of Utilization**



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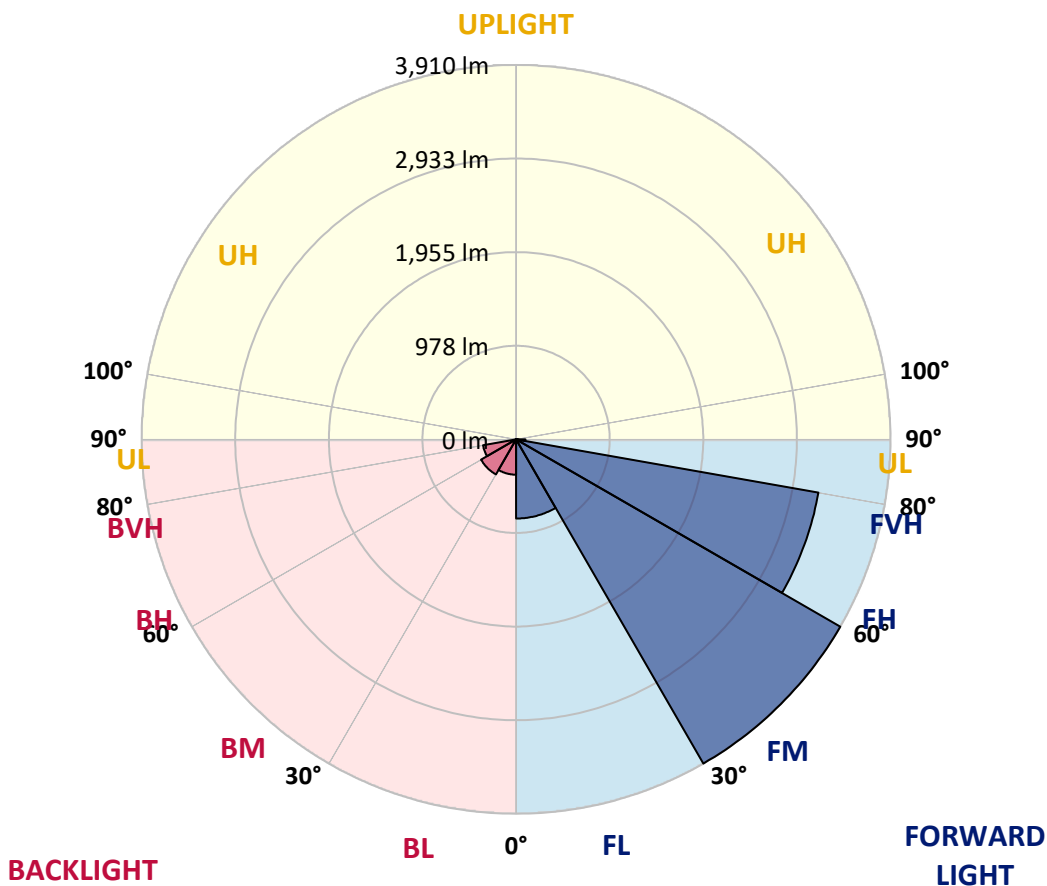
CATALOG NUMBER: GWS-SA2E-830-U-SL2-W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	826.9	9.0			
FM (30°-60°)	3910.3	42.6			
FH (60°-80°)	3206.4	34.9			G2/5000
FVH (80°-90°)	97.4	1.1			G1/100
BL (0°-30°)	368.8	4.0	B1/500		
BM (30°-60°)	422.6	4.6	B1/1000		
BH (60°-80°)	350.4	3.8	B1/500		G1/500
BVH (80°-90°)	5.5	0.1			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 II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5
2.5°	2151.2	2157.8	2148.7	2171.1	2175.3	2200.2	2214.3	2224.3	2223.5	2235.9	2235.9
5°	2024.9	2031.5	2026.5	2050.6	2069.8	2108.8	2141.2	2178.6	2180.3	2218.5	2232.6
7.5°	1917.7	1918.5	1918.5	1948.4	1973.4	2021.6	2069.8	2127.1	2133.7	2192.7	2230.1
10°	1829.6	1832.1	1832.9	1867.0	1894.4	1952.6	2014.1	2083.0	2090.5	2170.3	2228.5
12.5°	1769.0	1769.8	1773.1	1808.9	1838.8	1899.4	1961.7	2040.7	2050.6	2144.5	2221.0
15°	1739.9	1738.2	1739.9	1769.8	1799.7	1857.9	1921.9	2006.6	2017.4	2122.9	2221.8
17.5°	1738.2	1735.7	1734.1	1756.5	1775.6	1827.1	1891.9	1984.2	1995.8	2113.0	2230.9
20°	1762.3	1760.7	1752.4	1762.3	1766.5	1808.9	1872.8	1966.7	1978.4	2111.3	2250.9
22.5°	1825.5	1821.3	1808.9	1799.7	1777.3	1802.2	1859.5	1954.3	1967.6	2115.5	2276.6
25°	1919.4	1917.7	1901.9	1879.5	1822.1	1812.2	1860.4	1954.3	1966.7	2120.4	2304.1
27.5°	2060.6	2050.6	2030.7	1991.6	1909.4	1851.2	1877.0	1959.2	1971.7	2127.1	2326.5
30°	2204.4	2203.5	2196.9	2157.0	2034.9	1926.0	1911.9	1972.5	1984.2	2132.9	2347.3
32.5°	2353.1	2355.6	2372.2	2341.5	2207.7	2037.3	1975.0	2000.0	2008.3	2144.5	2365.5
35°	2494.3	2499.3	2543.4	2554.2	2417.9	2206.0	2078.1	2054.8	2055.6	2170.3	2389.6
37.5°	2629.8	2646.4	2717.0	2769.4	2679.6	2410.4	2226.8	2147.9	2141.2	2221.8	2426.2
40°	2783.5	2815.1	2904.0	2992.9	2964.6	2680.5	2429.5	2290.8	2276.6	2316.5	2491.8
42.5°	2953.8	2987.9	3105.9	3230.5	3243.8	3007.0	2683.0	2499.3	2475.2	2476.1	2614.8
45°	3136.6	3182.3	3319.4	3498.9	3579.5	3370.9	2995.4	2781.0	2756.9	2721.2	2812.6
47.5°	3376.7	3416.6	3548.7	3755.6	3910.2	3761.4	3405.0	3143.3	3099.2	3046.9	3120.0
50°	3583.6	3618.5	3732.4	3991.6	4313.2	4265.0	3869.5	3596.1	3553.7	3464.8	3525.5
52.5°	3629.3	3656.8	3761.4	4053.1	4621.4	4900.6	4438.6	4143.7	4113.7	3949.2	3972.5
55°	3424.1	3465.7	3559.5	3883.6	4702.0	5522.1	5177.3	4761.0	4698.7	4436.1	4477.7
57.5°	2905.6	2979.6	3067.7	3488.9	4483.5	5852.8	6209.3	5414.9	5358.4	4904.8	4905.6
60°	2129.6	2189.4	2248.4	2633.9	3965.0	5830.4	7145.7	6149.4	6046.4	5287.8	5273.7
62.5°	1548.8	1579.5	1578.7	1715.8	2722.8	5446.5	7637.6	7256.2	7016.1	5697.4	5616.8
65°	1218.1	1217.3	1253.0	1297.9	1520.5	4204.3	7698.2	8872.3	8613.0	6246.6	6078.8
67.5°	948.0	966.3	1002.1	1134.2	1142.5	2200.2	7164.8	9871.8	9866.8	7085.0	6619.7
70°	731.2	756.1	806.8	999.6	1055.2	1231.4	5360.9	9555.3	9635.9	7459.7	6236.7
72.5°	469.5	467.8	542.6	807.6	1013.7	1026.2	2964.6	7590.2	7681.6	6756.8	5042.7
75°	262.6	264.2	306.6	494.4	944.7	965.5	1468.2	5412.4	5484.7	5267.9	3874.4
77.5°	103.0	106.4	143.7	260.1	623.2	862.5	872.4	3690.8	3701.6	3264.6	2376.4
80°	41.5	44.0	73.1	161.2	379.7	580.8	623.2	2174.4	2130.4	1263.8	691.3
82.5°	12.5	13.3	29.1	91.4	198.6	413.0	420.4	834.2	787.7	271.7	176.1
85°	0.8	0.8	6.6	28.3	70.6	103.9	280.0	271.7	241.0	68.1	78.1
87.5°	0.0	0.0	0.8	0.8	1.7	3.3	29.9	49.9	50.7	12.5	34.9
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: P633521

CATALOG NUMBER: GWS-SA2E-830-U-SL2-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5	2228.5
2.5°	2235.9	2206.0	2203.5	2180.3	2157.0	2127.9	2093.8	2068.9	2051.5	2020.7	2014.9
5°	2232.6	2192.7	2155.3	2088.9	2014.9	1935.1	1865.4	1800.5	1759.8	1732.4	1720.8
7.5°	2226.0	2175.3	2088.9	1963.4	1839.6	1700.0	1591.2	1491.5	1423.3	1383.4	1366.0
10°	2221.0	2152.8	2012.4	1822.1	1630.2	1437.4	1272.1	1124.2	1041.9	977.1	966.3
12.5°	2211.0	2120.4	1914.4	1656.8	1409.2	1153.3	942.2	761.1	635.6	579.1	559.2
15°	2201.0	2086.4	1816.3	1482.3	1168.2	852.5	596.6	422.1	335.7	309.1	307.4
17.5°	2199.4	2055.6	1710.0	1317.0	915.6	558.4	339.8	273.4	255.1	248.4	248.4
20°	2204.4	2029.9	1605.3	1126.7	667.2	339.8	253.4	236.8	226.0	220.2	220.2
22.5°	2209.3	2003.3	1504.7	934.8	442.9	248.4	223.5	209.4	196.9	190.3	187.0
25°	2212.7	1974.2	1393.4	742.0	289.2	216.0	196.1	177.8	162.9	154.5	154.5
27.5°	2211.8	1939.3	1281.2	553.4	224.3	191.9	167.8	148.7	133.8	124.6	125.5
30°	2205.2	1901.1	1164.9	386.4	196.1	167.8	143.7	123.8	108.8	101.4	100.5
32.5°	2200.2	1860.4	1030.3	271.7	176.1	147.1	122.1	103.0	90.6	84.8	83.9
35°	2194.4	1820.5	902.3	206.9	158.7	127.1	103.0	87.2	77.3	72.3	72.3
37.5°	2196.0	1778.9	763.6	177.8	141.3	110.5	88.1	74.8	66.5	61.5	60.7
40°	2221.8	1754.0	627.3	161.2	125.5	95.6	76.4	64.8	56.5	51.5	50.7
42.5°	2285.8	1754.8	496.9	148.7	111.3	81.4	66.5	55.7	48.2	42.4	41.5
45°	2413.7	1789.7	381.4	135.4	96.4	70.6	57.3	47.4	39.9	34.9	34.1
47.5°	2623.1	1893.6	289.2	123.8	83.9	61.5	49.0	39.9	33.2	29.1	28.3
50°	2956.3	2081.4	227.7	109.7	70.6	53.2	41.5	33.2	27.4	23.3	22.4
52.5°	3356.8	2363.1	195.3	97.2	60.7	46.5	35.7	27.4	22.4	19.1	18.3
55°	3817.1	2699.6	180.3	84.8	51.5	39.9	29.1	22.4	18.3	15.8	14.1
57.5°	4239.2	3002.8	179.5	72.3	44.0	34.1	24.1	19.1	15.8	12.5	11.6
60°	4650.5	3256.3	168.7	59.8	38.2	28.3	20.8	15.8	13.3	10.8	10.0
62.5°	5023.6	3462.3	141.3	48.2	32.4	23.3	17.4	14.1	11.6	9.1	9.1
65°	5492.2	3724.9	108.0	39.1	26.6	19.1	15.0	12.5	10.8	8.3	8.3
67.5°	5976.6	3863.6	77.3	32.4	21.6	16.6	13.3	11.6	9.1	7.5	7.5
70°	5413.3	3264.6	55.7	26.6	18.3	14.1	11.6	10.8	9.1	7.5	6.6
72.5°	4227.6	2353.9	41.5	20.8	15.8	13.3	10.8	10.0	8.3	6.6	6.6
75°	3135.0	1372.6	31.6	16.6	12.5	10.8	10.8	10.0	8.3	6.6	5.8
77.5°	1704.2	478.6	24.1	13.3	10.0	8.3	9.1	9.1	7.5	5.8	5.0
80°	451.2	131.3	16.6	10.0	8.3	6.6	6.6	8.3	6.6	5.0	5.0
82.5°	131.3	38.2	11.6	8.3	6.6	5.8	5.8	5.8	5.0	4.2	3.3
85°	64.0	14.1	8.3	6.6	5.8	5.0	4.2	4.2	3.3	2.5	2.5
87.5°	28.3	5.8	6.6	5.8	5.8	4.2	3.3	2.5	2.5	1.7	0.8
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**

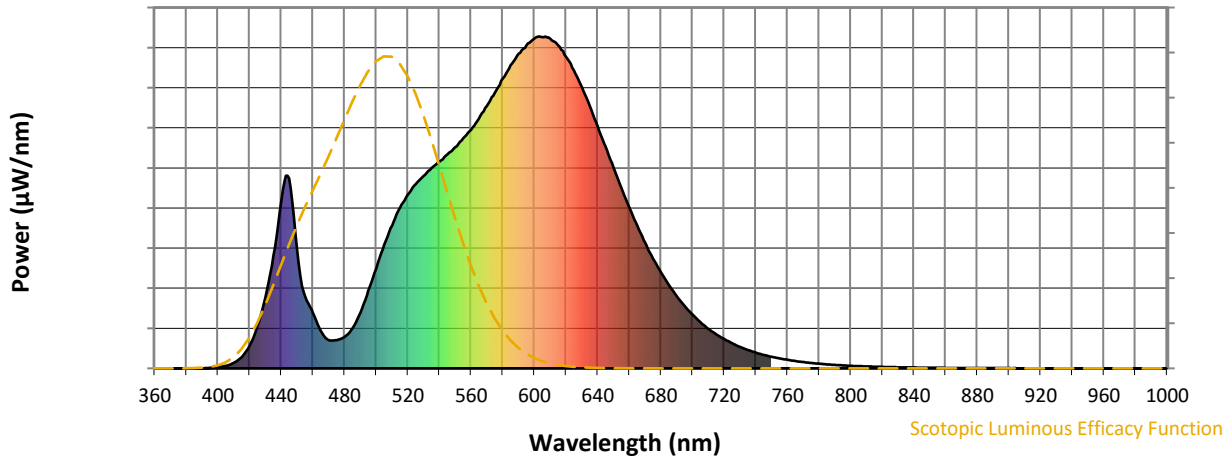


**Photopic Lumens: NR**

$\lambda$ (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)