

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: P633553

Luminaire Tested: GWS-SA2E-830-U-T3R-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633553  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2E-830-U-T3R-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

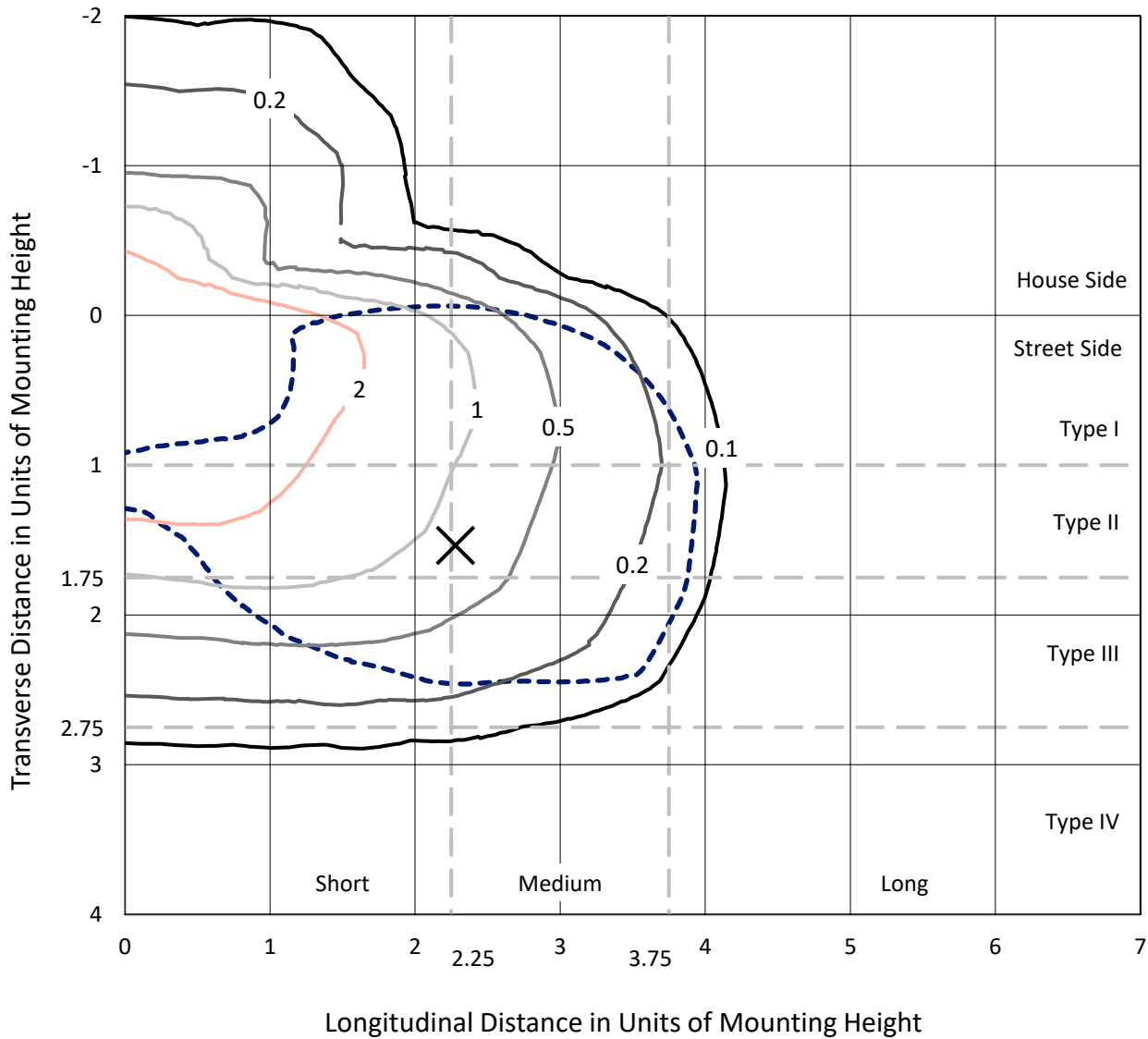
Lumens per Lamp: N/A  
Luminaire Lumens: 11783.3 lumens  
Efficiency: N/A  
Efficacy: 108.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B2 - U0 - G2  
  
Input Watts (W): 108.2  
Input Voltage (V): 120  
Input Current (Ain): 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



REPORT NUMBER: P633553  
 CATALOG NUMBER: GWS-SA2E-830-U-T3R-W

### Iso-Footcandle Lines of Horizontal Illumination

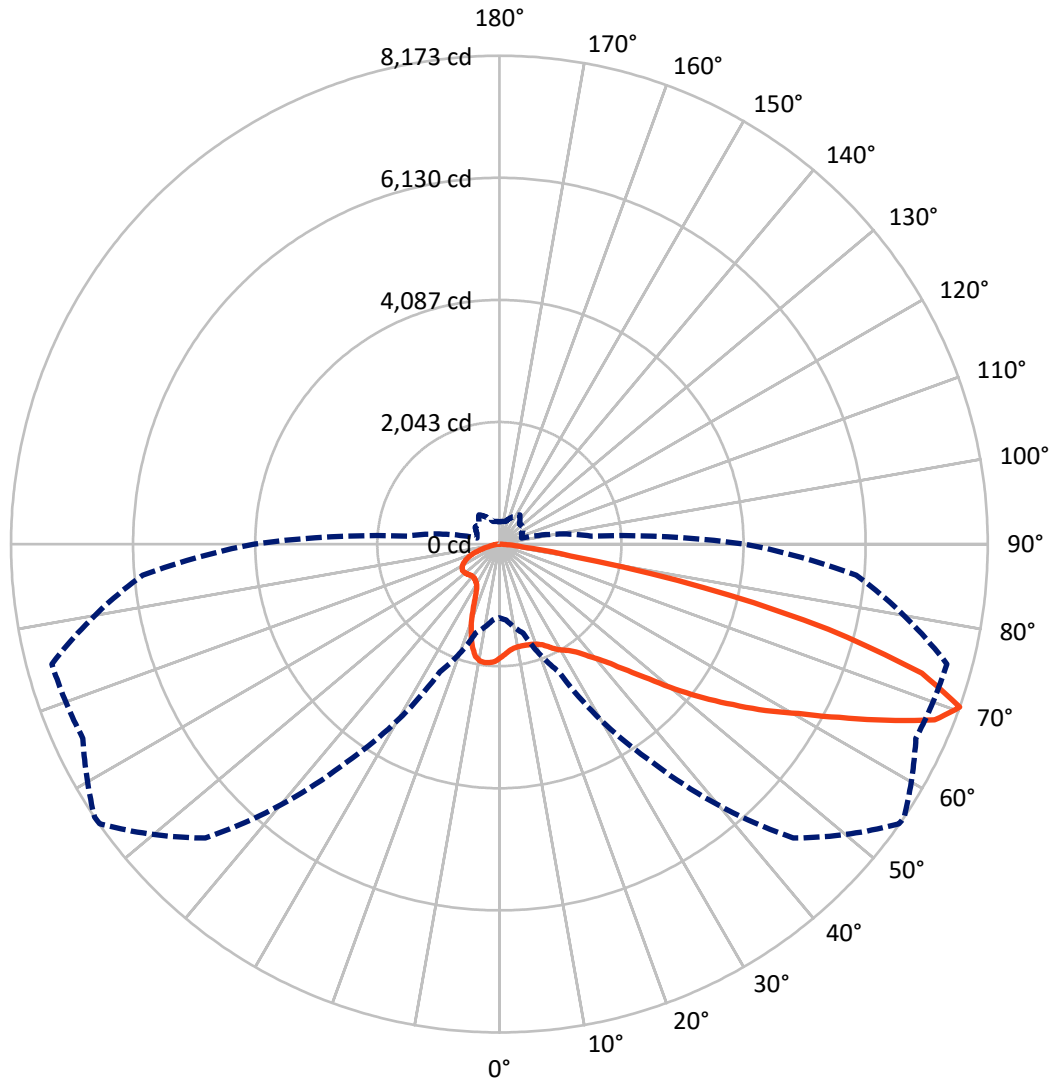
✕ Max cd  
 - - - 1/2 Max cd



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

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CATALOG NUMBER: GWS-SA2E-830-U-T3R-W

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P633553

CATALOG NUMBER: GWS-SA2E-830-U-T3R-W

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2265.4	0.0	2265.4
	% Fixture	19.2	0.0	19.2
<b>Street Side</b>	Lumens	9517.9	0.0	9517.9
	% Fixture	80.8	0.0	80.8
<b>Total</b>	Lumens	11783.3	0.0	11783.3
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	176.0	1.5
10°-20°	476.9	4.0
20°-30°	788.5	6.7
30°-40°	1178.8	10.0
40°-50°	1754.3	14.9
50°-60°	2494.1	21.2
60°-70°	3089.0	26.2
70°-80°	1705.6	14.5
80°-90°	120.1	1.0
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°	11783.3	100.0
0°-180°	11783.3	100.0

**Coefficient of Utilization**



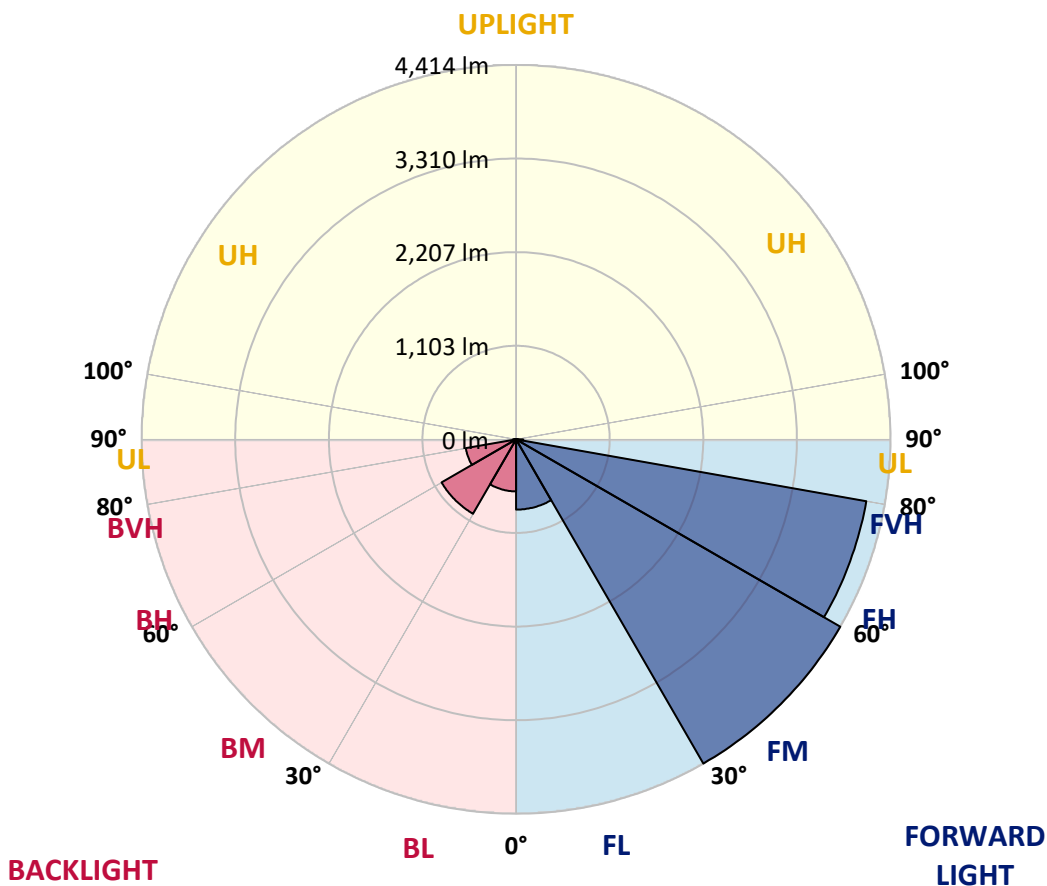
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CATALOG NUMBER: GWS-SA2E-830-U-T3R-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	828.1	7.0			
FM (30°-60°)	4413.8	37.5			
FH (60°-80°)	4192.5	35.6			G2/5000
FVH (80°-90°)	83.5	0.7			G1/100
BL (0°-30°)	613.2	5.2	B2/1000		
BM (30°-60°)	1013.3	8.6	B2/2500		
BH (60°-80°)	602.1	5.1	B2/1000		G2/1000
BVH (80°-90°)	36.6	0.3			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 Medium





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CATALOG NUMBER: GWS-SA2E-830-U-T3R-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	56°	65°	75°	85°
0°	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0
2.5°	1779.9	1769.9	1781.5	1787.3	1802.3	1823.9	1843.0	1843.8	1853.8	1877.9	1901.2
5°	1699.3	1694.3	1697.6	1715.0	1730.8	1758.3	1787.3	1789.8	1818.1	1865.4	1912.0
7.5°	1636.9	1630.3	1642.8	1665.2	1685.1	1715.9	1754.1	1757.4	1797.3	1868.8	1940.2
10°	1547.2	1542.2	1565.5	1595.4	1638.6	1689.3	1740.0	1744.1	1796.5	1890.4	1990.1
12.5°	1508.1	1508.1	1518.1	1546.4	1593.7	1661.0	1737.5	1744.1	1809.8	1923.6	2054.1
15°	1568.8	1573.0	1564.6	1563.0	1582.1	1646.1	1740.8	1750.8	1834.7	1957.7	2117.2
17.5°	1690.9	1695.1	1673.5	1639.4	1620.3	1660.2	1753.3	1764.1	1861.3	1995.1	2185.4
20°	1862.1	1867.1	1819.7	1767.4	1701.8	1700.9	1777.4	1787.3	1895.4	2035.8	2257.6
22.5°	2062.4	2065.7	2005.9	1922.8	1822.2	1776.5	1818.9	1828.9	1939.4	2092.3	2335.8
25°	2294.2	2304.2	2231.9	2111.4	1975.1	1880.4	1887.9	1899.5	2018.3	2167.9	2428.0
27.5°	2541.8	2554.3	2471.2	2338.2	2150.5	1995.1	1976.8	1986.8	2102.3	2214.4	2477.0
30°	2795.3	2804.4	2721.3	2569.2	2339.1	2124.7	2051.6	2057.4	2138.8	2236.9	2526.9
32.5°	3076.9	3069.5	2989.7	2814.4	2556.8	2280.1	2121.4	2119.7	2179.5	2281.7	2598.3
35°	3341.2	3352.0	3267.2	3073.6	2796.1	2472.0	2226.1	2219.4	2266.0	2354.9	2698.9
37.5°	3661.1	3657.8	3556.4	3347.0	3036.2	2655.7	2373.1	2361.5	2378.1	2468.7	2839.3
40°	3889.6	3912.9	3847.2	3652.0	3317.1	2881.7	2545.1	2519.4	2523.5	2609.1	3027.1
42.5°	4076.6	4098.2	4104.8	3980.2	3638.7	3160.9	2759.5	2733.8	2736.3	2857.6	3258.1
45°	4220.3	4249.4	4343.3	4306.7	4000.9	3483.3	3049.5	3022.9	3024.6	3159.2	3537.3
47.5°	4279.3	4310.9	4501.2	4588.4	4385.7	3868.8	3410.1	3371.1	3376.9	3525.6	3856.4
50°	4260.2	4302.6	4560.2	4805.3	4708.1	4261.0	3841.4	3814.0	3791.5	4007.6	4202.9
52.5°	4095.7	4142.2	4554.3	4943.2	4971.5	4631.6	4286.8	4271.0	4266.0	4519.4	4590.1
55°	3611.2	3689.3	4354.1	4979.8	5177.5	4980.6	4769.6	4743.0	4768.7	5067.9	4981.4
57.5°	3342.8	3401.0	3961.9	4939.1	5346.2	5313.0	5251.5	5254.0	5283.1	5663.6	5455.9
60°	3190.0	3258.1	3744.2	4827.7	5508.3	5716.8	5755.9	5755.9	5808.2	6306.0	5937.8
62.5°	2987.2	3056.2	3540.6	4613.3	5657.8	6192.1	6389.9	6387.4	6408.2	6994.8	6409.0
65°	2575.9	2639.9	3131.8	4275.2	5730.9	6715.6	7110.3	7102.8	7061.3	7608.0	6720.6
67.5°	1870.4	1931.1	2398.9	3632.0	5467.5	7137.7	7852.3	7855.6	7607.2	7994.4	6737.2
70°	1233.1	1274.7	1542.2	2359.0	4446.3	6955.7	8163.1	8173.1	7691.1	7753.4	5996.0
72.5°	769.4	798.5	963.1	1406.8	2627.4	5505.8	7365.4	7392.8	6919.2	6813.7	4926.6
75°	511.0	531.0	640.6	820.1	1215.7	2979.7	5598.8	5686.9	5545.6	5341.2	3432.6
77.5°	307.4	324.1	408.0	521.0	538.4	1164.1	3268.1	3495.7	3515.7	2788.6	1437.5
80°	140.4	159.5	225.2	297.5	286.7	405.5	1152.5	1205.7	1422.6	885.8	453.7
82.5°	83.1	91.4	149.6	147.9	122.1	196.9	414.6	425.4	361.5	324.1	193.6
85°	33.2	39.1	63.2	55.7	44.9	64.0	156.2	163.7	157.0	141.3	71.5
87.5°	0.0	0.0	0.0	0.0	0.8	1.7	14.1	15.0	21.6	39.1	21.6
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: P633553  
 CATALOG NUMBER: GWS-SA2E-830-U-T3R-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0	1902.0
2.5°	1916.1	1911.1	1936.1	1955.2	1963.5	1971.8	1964.3	1961.8	1961.8	1945.2	1936.9
5°	1936.9	1939.4	1973.5	1989.3	1989.3	1982.6	1962.7	1948.5	1943.6	1921.9	1916.1
7.5°	1976.0	1986.8	2018.3	2017.5	1994.2	1957.7	1907.8	1869.6	1834.7	1819.7	1810.6
10°	2039.9	2054.1	2075.7	2040.8	1976.0	1879.6	1774.0	1690.9	1641.1	1601.2	1601.2
12.5°	2113.1	2126.4	2122.2	2041.6	1907.8	1727.5	1575.4	1479.9	1410.1	1373.5	1373.5
15°	2186.2	2197.0	2152.1	2003.4	1765.7	1525.6	1359.4	1244.7	1184.1	1150.0	1150.0
17.5°	2260.1	2259.3	2164.6	1915.3	1580.4	1302.1	1139.2	1050.3	1029.5	1023.7	1022.9
20°	2331.6	2312.5	2148.8	1768.2	1365.2	1076.9	973.9	979.7	1010.4	1023.7	1025.4
22.5°	2412.2	2364.8	2102.3	1580.4	1120.9	920.7	927.3	975.5	1020.4	1040.3	1042.8
25°	2494.5	2409.7	2024.2	1360.2	916.5	863.3	914.9	968.9	1019.6	1045.3	1047.8
27.5°	2527.7	2409.7	1891.2	1105.1	807.7	839.2	895.7	948.1	1001.3	1031.2	1037.0
30°	2555.1	2388.9	1705.1	875.0	762.8	816.0	865.0	913.2	965.5	1002.1	1008.8
32.5°	2593.3	2370.7	1479.9	735.4	742.0	793.5	827.6	868.3	915.7	939.8	937.3
35°	2638.2	2342.4	1208.2	668.9	724.6	774.4	798.5	822.6	801.0	800.2	802.7
37.5°	2702.2	2317.5	971.4	639.0	712.9	761.1	781.1	729.6	699.6	687.2	682.2
40°	2794.4	2307.5	766.1	621.5	711.3	760.3	746.2	666.4	625.7	582.5	581.7
42.5°	2910.8	2300.0	633.2	613.2	717.1	779.4	698.0	624.9	540.9	521.8	520.2
45°	3060.3	2288.4	566.7	611.6	731.2	794.4	693.0	567.5	510.2	501.9	501.9
47.5°	3240.6	2270.1	536.8	611.6	747.0	787.7	678.0	555.1	496.1	505.2	511.0
50°	3447.5	2246.8	521.0	609.9	762.8	787.7	646.5	552.6	492.7	540.1	559.2
52.5°	3668.6	2220.3	510.2	603.3	773.6	788.6	648.1	560.9	496.1	548.4	564.2
55°	3912.9	2216.1	495.2	589.1	776.9	767.0	652.3	579.2	501.1	496.9	497.7
57.5°	4221.1	2266.0	484.4	568.4	763.6	722.9	660.6	592.5	495.2	496.1	501.9
60°	4543.5	2359.8	493.6	548.4	736.2	681.4	666.4	585.8	467.0	453.7	455.4
62.5°	4817.8	2431.3	501.1	539.3	696.3	644.8	660.6	570.9	451.2	447.9	455.4
65°	4932.4	2372.3	482.8	520.2	638.2	599.9	648.1	551.7	437.9	425.4	426.3
67.5°	4805.3	2095.6	447.0	477.8	572.5	542.6	628.2	526.8	419.6	404.7	401.3
70°	4104.8	1539.7	385.6	410.5	492.7	475.3	597.4	494.4	390.5	379.7	372.3
72.5°	3307.9	1090.2	319.9	326.6	386.4	400.5	544.3	453.7	357.3	326.6	315.8
75°	2302.5	684.7	266.7	260.1	279.2	305.8	424.6	376.4	308.3	275.9	265.9
77.5°	990.5	351.5	208.6	205.2	186.1	211.9	325.7	314.1	258.4	221.0	215.2
80°	331.5	203.6	150.4	144.6	123.8	148.7	229.3	250.9	202.7	163.7	153.7
82.5°	166.2	118.0	95.6	86.4	83.1	93.9	135.4	156.2	140.4	113.0	95.6
85°	81.4	67.3	52.3	51.5	43.2	40.7	56.5	66.5	63.2	46.5	44.0
87.5°	29.9	26.6	16.6	13.3	8.3	5.8	3.3	3.3	2.5	2.5	2.5
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

REPORT NUMBER: SP1-2408-195-9

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

REPORT NUMBER: SP1-2408-195-9

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

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

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)