

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: P633044

Luminaire Tested: GWS-SA2D-830-U-T2-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633044  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-21)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2D-830-U-T2-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS W/ FACTORY INSALLED GLARE SHIELD, WH  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

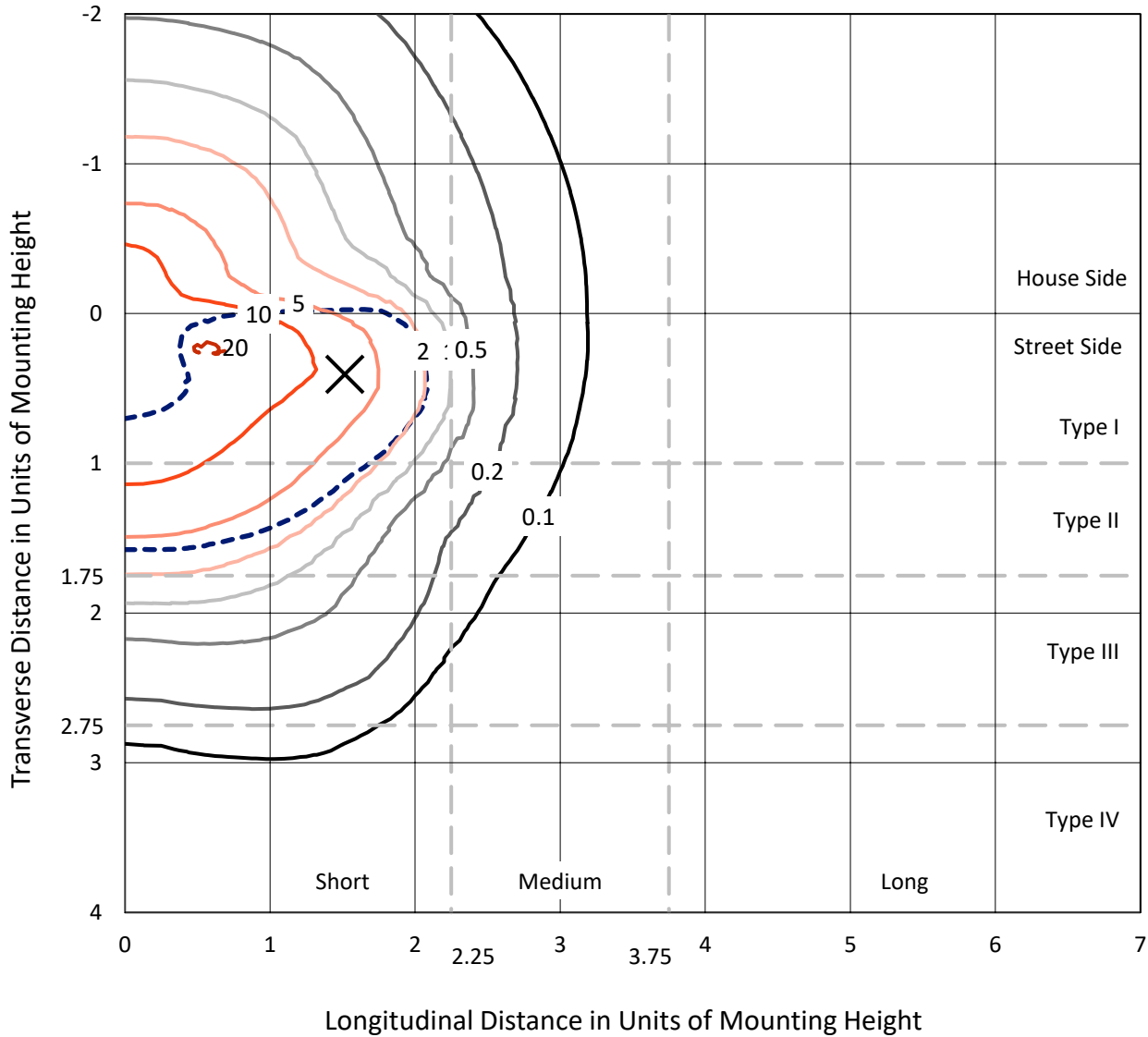
Lumens per Lamp: N/A  
Luminaire Lumens: 7733.1 lumens  
Efficiency: N/A  
Efficacy: 94.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G1  
  
Input Watts (W): 82.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P633044  
 CATALOG NUMBER: GWS-SA2D-830-U-T2-W-GRSWH

### Iso-Footcandle Lines of Horizontal Illumination

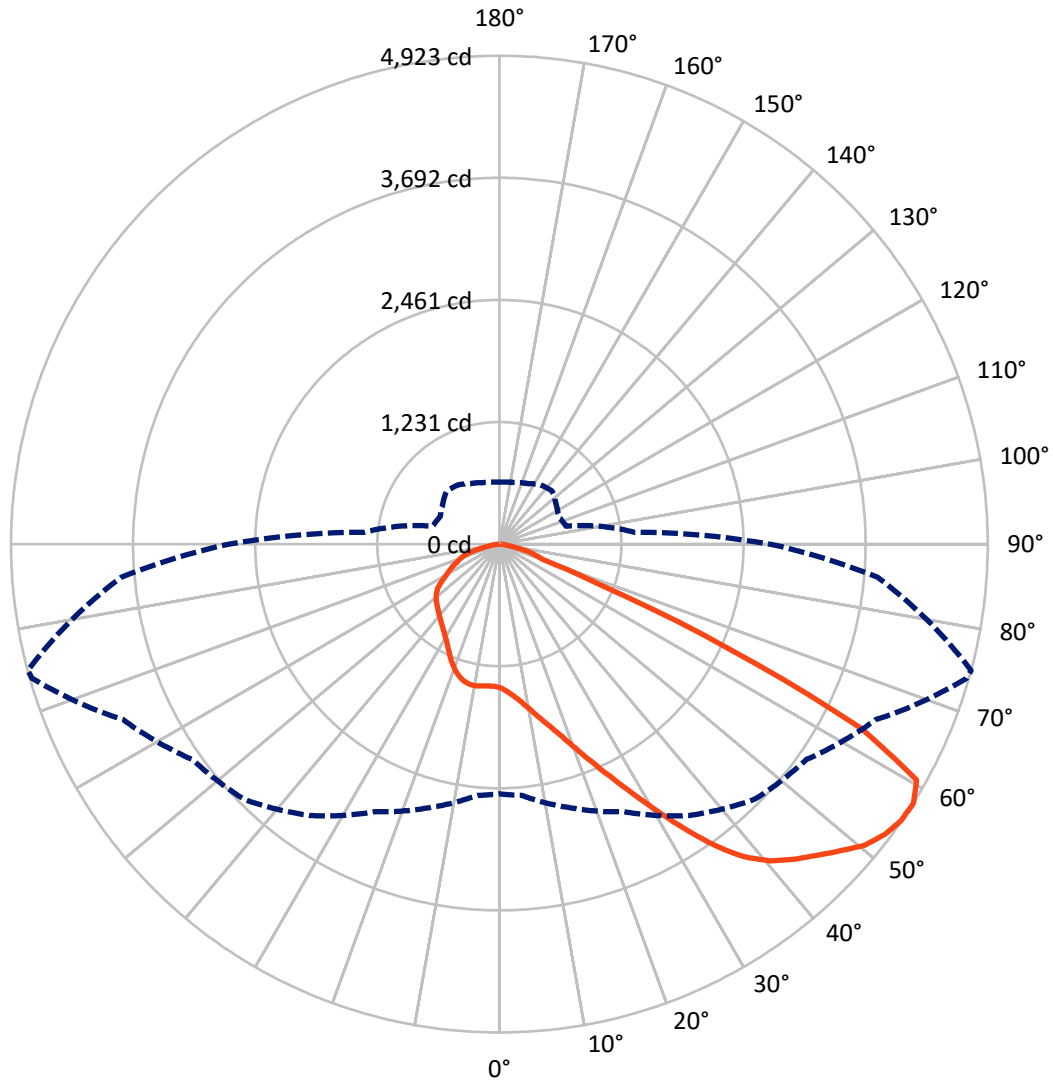
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20.5 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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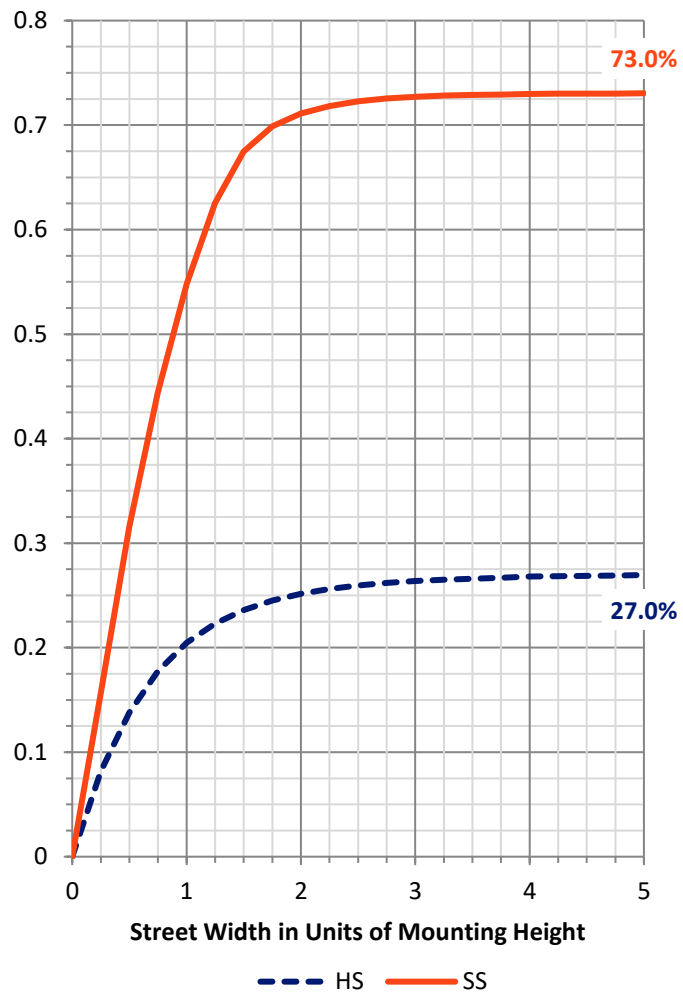
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2092.0	0.0	2092.0
	% Fixture	27.1	0.0	27.1
<b>Street Side</b>	Lumens	5641.1	0.0	5641.1
	% Fixture	72.9	0.0	72.9
<b>Total</b>	Lumens	7733.1	0.0	7733.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.9	1.9
10°-20°	461.4	6.0
20°-30°	818.3	10.6
30°-40°	1252.7	16.2
40°-50°	1744.2	22.6
50°-60°	1998.5	25.8
60°-70°	1026.9	13.3
70°-80°	258.5	3.3
80°-90°	27.6	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°	7733.1	100.0
0°-180°	7733.1	100.0

**Coefficient of Utilization**



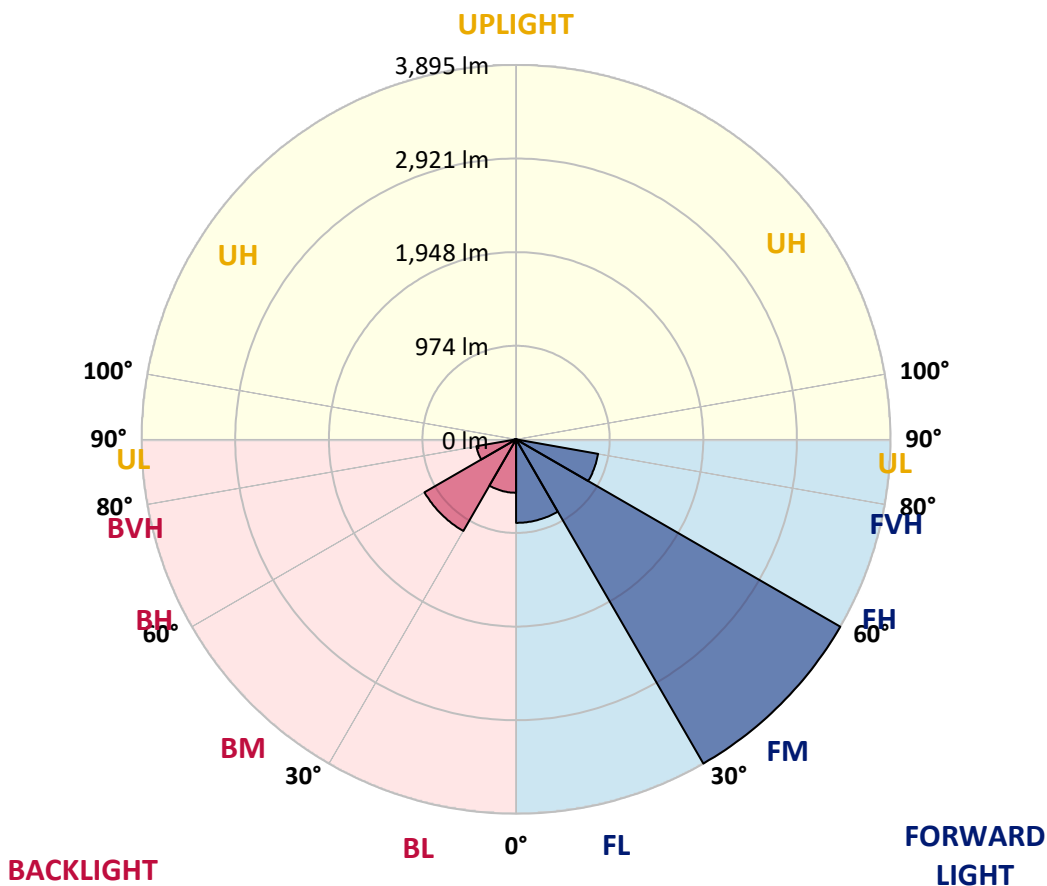
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	868.9	11.2			
FM (30°-60°)	3895.2	50.4			
FH (60°-80°)	866.8	11.2			G1/1800
FVH (80°-90°)	10.2	0.1			G1/100
BL (0°-30°)	555.8	7.2	B2/1000		
BM (30°-60°)	1100.2	14.2	B2/2500		
BH (60°-80°)	418.6	5.4	B1/500		G1/500
BVH (80°-90°)	17.4	0.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G1**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	74°	75°	85°
0°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2
2.5°	1555.9	1559.9	1555.9	1562.6	1549.3	1543.3	1528.7	1506.7	1489.4	1486.8	1467.5
5°	1677.0	1685.6	1680.3	1677.6	1659.7	1646.4	1624.4	1580.5	1544.6	1539.3	1501.4
7.5°	1754.8	1760.7	1760.7	1762.7	1756.1	1740.8	1717.5	1665.7	1615.1	1607.1	1550.0
10°	1780.7	1785.3	1794.0	1810.6	1823.9	1828.6	1813.3	1763.4	1701.6	1693.6	1613.8
12.5°	1786.7	1792.0	1805.3	1835.9	1872.5	1905.7	1908.4	1871.8	1802.6	1794.0	1687.6
15°	1798.0	1803.3	1821.3	1859.2	1913.0	1976.8	2016.1	1990.8	1914.3	1905.0	1771.4
17.5°	1796.6	1802.6	1829.2	1879.8	1952.2	2044.7	2120.5	2131.1	2052.0	2036.0	1866.5
20°	1793.3	1798.6	1827.2	1889.1	1978.8	2105.8	2242.8	2298.0	2212.9	2198.3	1977.5
22.5°	1819.9	1825.9	1847.8	1899.0	1992.8	2153.1	2355.9	2488.8	2403.7	2383.1	2105.2
25°	1879.8	1888.4	1901.7	1936.9	2018.1	2194.9	2471.6	2704.9	2617.8	2593.2	2244.1
27.5°	1972.2	1982.8	2001.4	2018.1	2074.6	2248.1	2586.6	2947.0	2859.9	2833.9	2391.1
30°	2085.2	2099.2	2123.1	2134.4	2173.0	2326.6	2711.6	3196.3	3145.8	3109.9	2556.7
32.5°	2241.5	2260.8	2283.4	2286.7	2310.0	2445.6	2835.3	3443.7	3443.0	3417.8	2744.8
35°	2445.0	2465.6	2470.2	2474.9	2486.2	2609.2	2984.9	3669.1	3756.2	3726.9	2949.6
37.5°	2667.0	2697.0	2704.3	2683.7	2699.6	2806.0	3153.1	3850.0	4028.8	3997.6	3147.8
40°	2904.4	2916.4	2936.3	2903.8	2923.7	3031.4	3318.0	3965.7	4232.3	4199.1	3304.1
42.5°	3074.6	3096.6	3126.5	3114.5	3125.8	3224.3	3433.7	4021.5	4377.3	4344.0	3416.4
45°	3259.5	3266.2	3285.4	3282.8	3289.4	3381.2	3516.8	4046.1	4506.9	4477.0	3512.2
47.5°	3420.4	3430.4	3443.0	3428.4	3413.8	3473.6	3584.7	4067.4	4656.5	4620.6	3612.6
50°	3575.3	3584.0	3599.3	3556.7	3502.2	3517.5	3617.9	4096.7	4796.8	4771.6	3691.7
52.5°	3603.9	3613.2	3685.1	3693.7	3623.9	3570.0	3676.4	4161.2	4879.3	4863.3	3720.3
55°	3244.2	3260.8	3403.8	3568.0	3740.2	3723.0	3770.2	4195.1	4911.9	4915.8	3771.5
57.5°	2518.1	2542.0	2750.8	2976.2	3338.6	3638.5	3782.1	4186.4	4900.6	4922.5	3824.0
60°	1651.7	1665.7	1913.0	2165.7	2541.4	2956.3	3385.2	4030.8	4800.2	4831.4	3810.7
62.5°	997.4	1013.4	1212.2	1403.7	1625.1	1902.4	2296.0	3239.6	4023.5	4093.3	3052.0
65°	696.2	717.5	891.7	1049.3	1125.7	1068.5	1163.0	1809.3	2506.8	2536.1	1865.1
67.5°	504.7	519.3	662.3	849.8	934.2	754.7	575.2	801.2	1091.8	1102.5	769.3
70°	330.5	347.1	476.8	647.0	762.7	611.7	430.2	433.5	459.5	464.8	446.8
72.5°	181.5	191.5	294.6	429.5	450.8	365.7	335.8	360.4	378.3	378.3	383.0
75°	93.8	102.4	120.4	141.6	170.9	200.1	242.0	278.6	297.9	299.2	297.2
77.5°	47.9	51.2	64.5	69.8	76.5	89.1	115.7	148.3	165.6	172.2	170.9
80°	22.6	23.9	27.3	31.9	39.2	49.9	62.5	74.5	85.1	86.4	93.8
82.5°	12.0	13.3	14.6	17.3	21.3	26.6	36.6	43.9	50.5	51.9	57.8
85°	4.7	5.3	6.0	6.6	9.3	11.3	15.3	20.6	25.3	25.3	29.9
87.5°	0.0	0.0	0.0	0.0	0.7	1.3	2.7	3.3	4.7	4.7	8.0
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: P633044

CATALOG NUMBER: GWS-SA2D-830-U-T2-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2
2.5°	1462.9	1443.6	1434.9	1421.0	1409.7	1397.0	1387.1	1379.7	1375.1	1372.4	1369.8
5°	1486.8	1457.5	1434.3	1406.3	1387.1	1368.4	1353.1	1342.5	1337.2	1333.2	1330.5
7.5°	1524.0	1484.8	1440.9	1397.7	1363.8	1333.9	1314.6	1303.3	1296.0	1293.3	1291.3
10°	1575.2	1520.7	1448.2	1379.7	1329.2	1296.6	1283.3	1278.0	1278.7	1277.3	1276.7
12.5°	1633.1	1558.6	1446.2	1347.8	1292.0	1272.7	1273.3	1282.0	1292.0	1294.6	1295.3
15°	1695.6	1595.8	1426.9	1306.6	1262.7	1264.7	1282.0	1302.6	1321.2	1328.5	1329.9
17.5°	1763.4	1627.1	1391.7	1261.4	1238.8	1260.0	1292.0	1325.9	1353.1	1365.1	1368.4
20°	1839.2	1653.7	1341.8	1216.8	1216.2	1251.4	1297.9	1342.5	1377.1	1393.0	1395.7
22.5°	1919.7	1670.3	1280.7	1175.6	1192.9	1240.1	1293.3	1339.8	1376.4	1392.4	1395.7
25°	2000.8	1675.6	1213.5	1137.7	1169.0	1222.1	1270.7	1307.9	1342.5	1356.5	1359.1
27.5°	2076.6	1660.3	1149.7	1105.1	1147.0	1195.5	1228.1	1248.1	1272.0	1282.7	1284.7
30°	2153.7	1629.8	1095.8	1079.2	1122.4	1159.0	1173.6	1174.9	1184.2	1184.2	1185.6
32.5°	2231.5	1584.5	1048.6	1053.9	1091.8	1115.8	1117.8	1102.5	1091.2	1072.5	1071.9
35°	2321.3	1538.7	1010.0	1025.3	1055.9	1070.5	1064.6	1035.3	1008.0	977.5	976.1
37.5°	2404.4	1491.4	977.5	996.1	1015.4	1026.0	1012.0	976.8	954.2	922.9	918.3
40°	2472.9	1448.9	946.2	965.5	974.8	984.1	961.5	932.9	936.2	918.9	918.3
42.5°	2512.8	1407.7	916.9	931.6	937.6	944.2	924.3	903.0	920.9	907.6	908.3
45°	2542.0	1371.8	890.3	895.7	910.3	920.3	901.6	877.7	881.7	830.5	818.5
47.5°	2575.3	1351.8	865.1	859.8	885.7	903.0	874.4	839.8	815.9	765.3	760.7
50°	2610.5	1344.5	838.5	823.9	855.1	871.7	838.5	795.3	764.0	736.7	734.1
52.5°	2622.5	1343.8	805.2	780.6	811.9	835.2	807.2	763.3	726.1	699.5	698.2
55°	2669.7	1363.1	762.7	721.5	750.7	798.6	778.0	714.8	684.9	672.9	671.6
57.5°	2724.9	1366.4	695.5	657.0	697.5	754.0	728.1	673.6	641.0	626.4	625.0
60°	2702.3	1284.7	623.7	607.7	652.3	712.1	688.2	641.0	603.1	589.1	587.8
62.5°	2059.3	907.0	571.2	565.2	603.8	651.6	647.0	597.8	561.9	551.9	550.6
65°	1238.8	637.0	520.6	520.0	547.2	593.1	599.1	559.2	521.3	507.3	507.3
67.5°	612.4	487.4	463.5	460.1	477.4	510.0	535.3	502.7	470.8	457.5	455.5
70°	432.9	429.5	421.6	412.3	415.6	428.9	439.5	412.3	378.3	365.0	362.4
72.5°	374.4	375.0	369.7	362.4	359.7	350.4	341.1	321.2	300.5	286.6	287.9
75°	290.6	291.9	295.2	292.6	285.3	275.3	265.3	240.0	223.4	210.1	207.5
77.5°	169.6	176.2	186.8	184.2	185.5	171.6	167.6	143.0	127.7	118.4	116.4
80°	95.8	99.7	104.4	107.7	103.7	97.7	89.1	75.8	71.1	64.5	63.2
82.5°	57.8	61.8	63.8	66.5	65.2	57.2	50.5	41.9	37.9	34.6	33.9
85°	29.3	31.9	33.9	35.2	31.3	25.9	23.3	18.6	16.0	14.0	14.0
87.5°	7.3	8.0	9.3	8.0	7.3	3.3	2.7	0.7	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**

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**

$\lambda$ (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			

**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)