

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: P634513

Luminaire Tested: GWS-SA3B-830-U-SL3-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634513  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-32)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3B-830-U-SL3-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

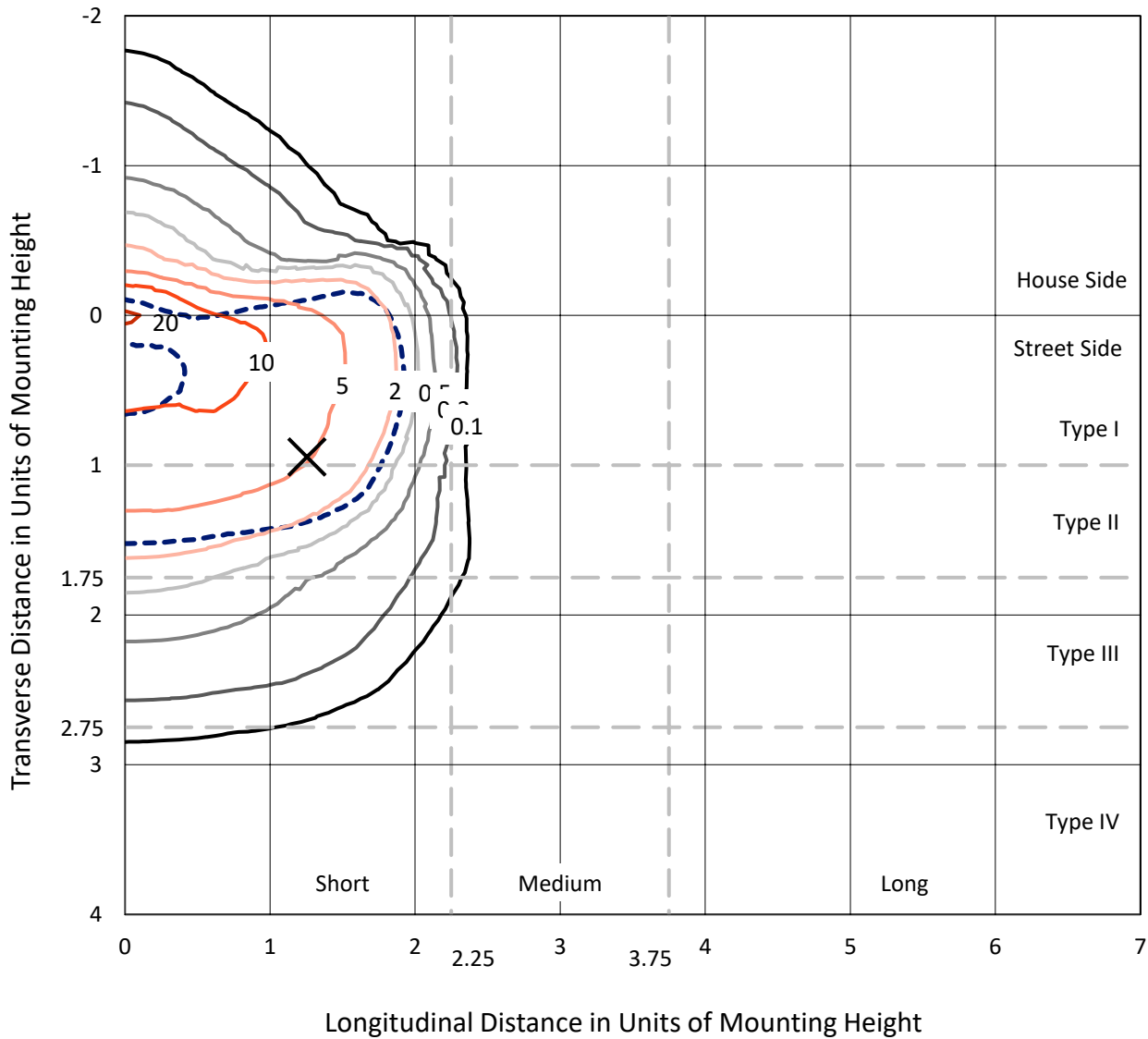
Lumens per Lamp: N/A  
Luminaire Lumens: 4832.9 lumens  
Efficiency: N/A  
Efficacy: 70.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G0  
  
Input Watts (W): 68.3  
Input Voltage (V): 120  
Input Current (Ain): 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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### Iso-Footcandle Lines of Horizontal Illumination

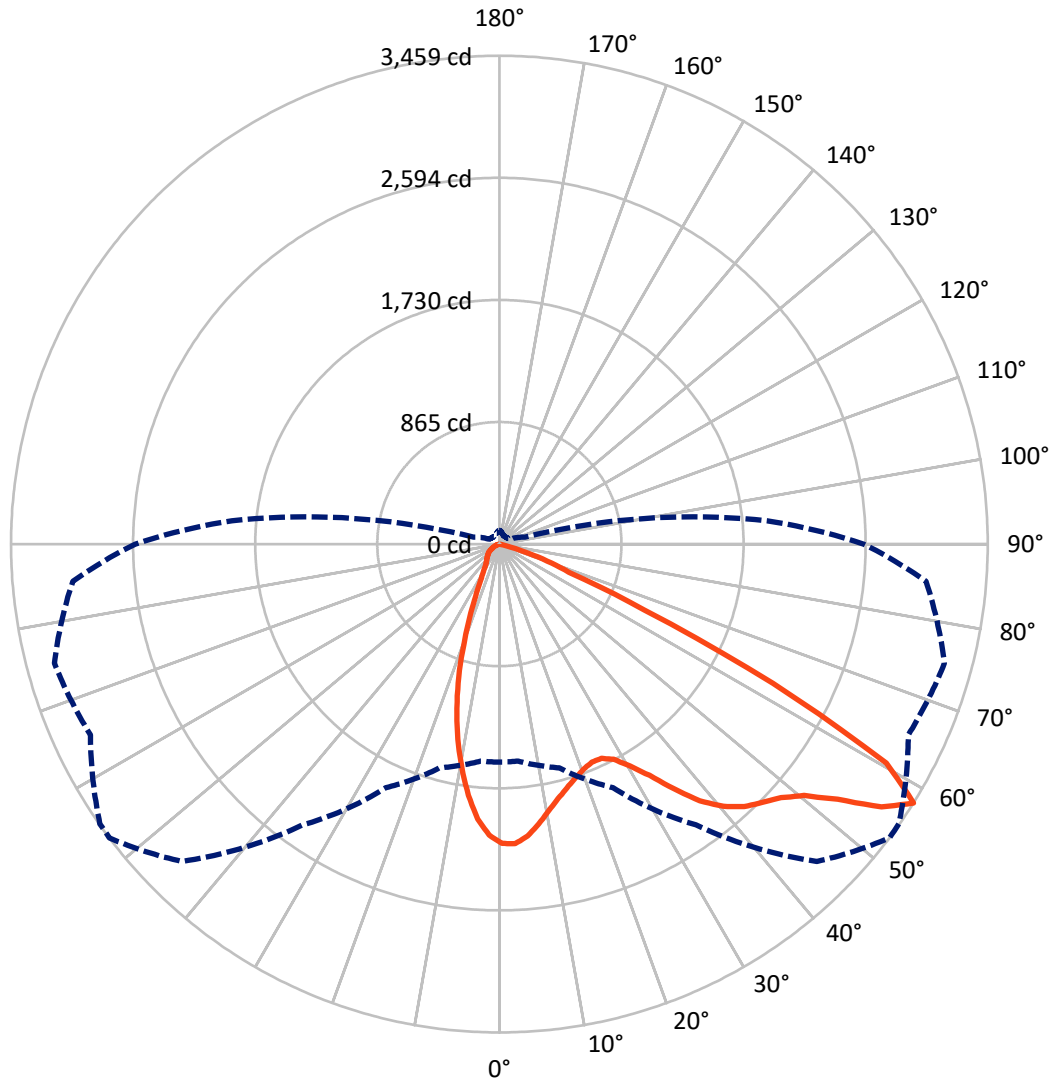
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21.2 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 53-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	798.3	0.0	798.3
	% Fixture	16.5	0.0	16.5
<b>Street Side</b>	Lumens	4034.6	0.0	4034.6
	% Fixture	83.5	0.0	83.5
<b>Total</b>	Lumens	4832.9	0.0	4832.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	181.4	3.8
10°-20°	398.2	8.2
20°-30°	518.8	10.7
30°-40°	752.5	15.6
40°-50°	1085.7	22.5
50°-60°	1313.1	27.2
60°-70°	535.2	11.1
70°-80°	48.1	1.0
80°-90°	0.0	0.0
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°	4832.9	100.0
0°-180°	4832.9	100.0

**Coefficient of Utilization**



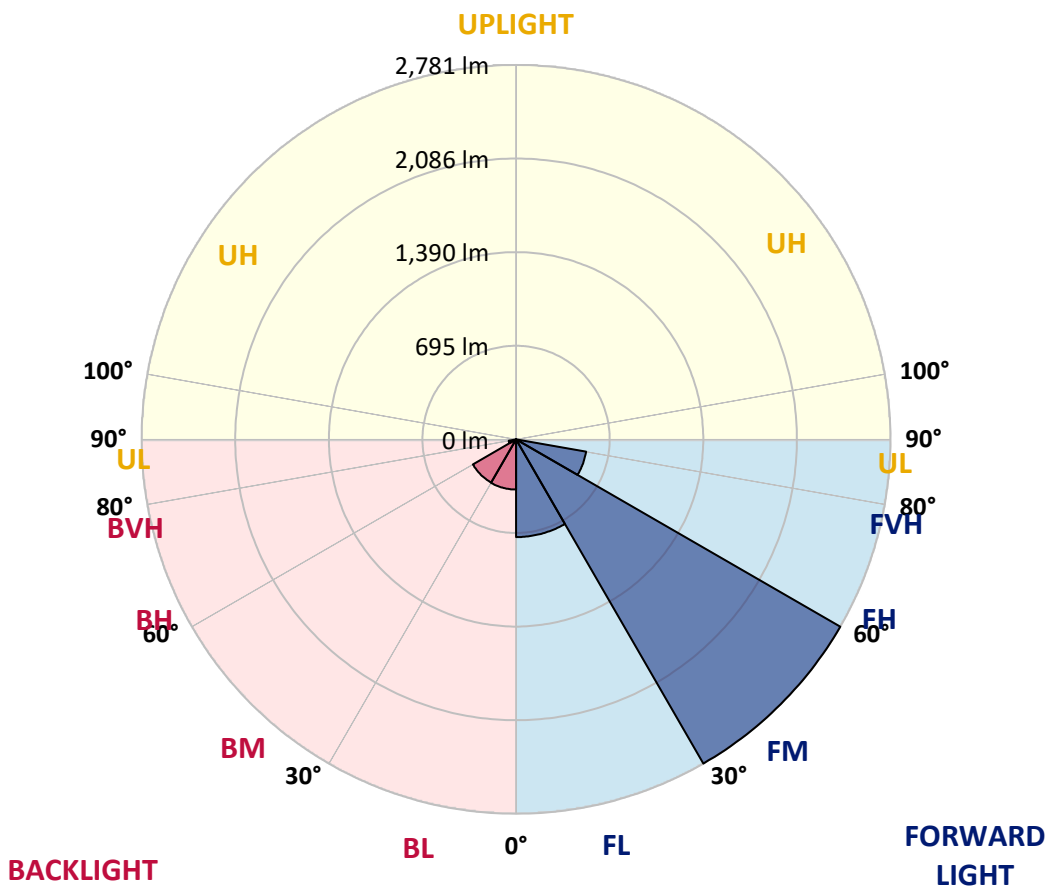
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CATALOG NUMBER: GWS-SA3B-830-U-SL3-W-GRSBK

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	725.7	15.0			
FM (30°-60°)	2780.8	57.5			
FH (60°-80°)	528.1	10.9			G0/660
FVH (80°-90°)	0.0	0.0			G0/10
BL (0°-30°)	372.6	7.7	B1/500		
BM (30°-60°)	370.5	7.7	B1/1000		
BH (60°-80°)	55.2	1.1	B0/110		G0/110
BVH (80°-90°)	0.0	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-G0**  
 Type II Short





REPORT NUMBER: P634513

CATALOG NUMBER: GWS-SA3B-830-U-SL3-W-GRSBK

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	53°	55°	65°	75°	85°
0°	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0
2.5°	2090.4	2095.1	2103.4	2114.1	2121.2	2124.7	2124.7	2134.8	2128.3	2122.9	2117.0
5°	2000.9	2005.7	2016.9	2034.1	2051.3	2063.7	2077.9	2088.6	2092.7	2092.7	2082.7
7.5°	1874.8	1881.3	1888.4	1912.1	1949.4	1977.2	2001.5	2016.9	2039.4	2046.5	2032.3
10°	1739.1	1745.6	1761.6	1794.2	1836.8	1878.3	1919.8	1939.3	1977.8	1998.0	1982.0
12.5°	1624.2	1627.2	1648.5	1687.6	1742.1	1798.9	1849.3	1869.4	1923.9	1954.1	1935.2
15°	1529.4	1531.2	1552.5	1595.8	1658.6	1728.4	1791.8	1812.6	1879.5	1925.1	1896.7
17.5°	1457.7	1458.3	1476.7	1523.5	1589.2	1666.8	1742.1	1767.5	1854.0	1909.1	1866.5
20°	1421.6	1419.8	1432.9	1473.7	1535.9	1613.5	1702.4	1733.8	1839.8	1906.7	1843.4
22.5°	1422.2	1418.1	1423.4	1452.4	1505.1	1578.0	1677.5	1713.0	1841.0	1916.8	1823.8
25°	1456.0	1450.0	1451.2	1466.6	1504.0	1570.3	1681.1	1719.0	1864.7	1950.6	1816.7
27.5°	1512.8	1506.3	1506.3	1514.0	1534.2	1594.6	1725.5	1768.7	1928.1	2016.3	1831.5
30°	1586.3	1579.8	1577.4	1585.1	1601.7	1657.4	1824.4	1869.4	2036.5	2124.1	1878.9
32.5°	1670.4	1662.7	1666.8	1677.5	1693.5	1770.5	1951.8	2011.6	2172.1	2269.3	1964.2
35°	1759.3	1752.7	1771.7	1794.8	1819.7	1927.5	2127.7	2179.8	2338.6	2449.9	2094.5
37.5°	1844.0	1841.0	1880.7	1929.3	1980.8	2115.8	2306.6	2346.9	2481.3	2646.6	2253.9
40°	1928.7	1928.1	1996.2	2081.5	2163.8	2303.6	2442.2	2475.4	2568.4	2799.4	2406.7
42.5°	2023.4	2023.4	2117.6	2231.3	2340.9	2462.4	2541.7	2556.5	2607.5	2887.7	2521.6
45°	2114.1	2119.4	2228.4	2360.5	2490.2	2586.2	2610.4	2611.6	2623.5	2939.8	2617.0
47.5°	2185.7	2190.5	2320.8	2473.0	2612.8	2680.3	2683.9	2678.6	2665.5	2989.5	2690.4
50°	2243.8	2250.9	2387.1	2548.2	2696.9	2771.0	2798.2	2792.9	2759.7	3042.9	2741.9
52.5°	2272.2	2282.3	2410.2	2585.6	2790.5	2926.2	3002.0	3014.4	2900.7	3072.5	2791.1
55°	2044.8	2059.6	2177.4	2417.3	2842.6	3166.1	3285.1	3282.7	3053.5	3160.7	2910.8
57.5°	1544.2	1543.0	1640.8	1903.2	2428.0	3179.7	3459.3	3454.5	3196.3	3263.2	3033.4
60°	1051.4	1044.3	1070.4	1197.1	1697.6	2590.3	3148.3	3212.3	3095.0	3014.4	2575.5
62.5°	865.4	858.9	850.6	815.7	975.0	1613.5	2175.1	2272.2	2256.8	2095.1	1615.3
65°	708.4	713.8	736.9	722.1	678.2	827.5	1129.0	1186.5	1084.6	912.8	564.5
67.5°	522.4	524.8	555.0	633.2	609.5	550.9	531.3	540.8	316.9	145.7	94.2
70°	308.6	310.4	338.2	443.1	494.6	422.9	359.0	353.6	125.6	39.1	42.6
72.5°	174.7	171.2	176.5	210.9	269.5	224.5	184.8	168.2	37.9	21.9	21.9
75°	82.9	80.6	69.3	65.2	59.2	37.9	23.7	20.1	9.5	8.9	8.9
77.5°	0.6	1.8	1.2	1.8	1.8	1.2	0.6	0.6	1.8	1.8	2.4
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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



REPORT NUMBER: P634513

CATALOG NUMBER: GWS-SA3B-830-U-SL3-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0	2120.0
2.5°	2106.4	2088.6	2084.4	2083.3	2066.7	2048.9	2030.5	2023.4	2012.8	2006.3	2011.6
5°	2066.7	2041.2	2018.7	1998.0	1961.2	1921.0	1886.0	1863.5	1842.2	1828.0	1831.5
7.5°	2010.4	1977.2	1925.7	1873.0	1805.5	1745.0	1677.5	1636.0	1597.5	1576.2	1586.3
10°	1950.6	1906.7	1824.4	1735.0	1628.9	1534.2	1437.6	1358.8	1313.2	1270.0	1274.7
12.5°	1891.9	1833.9	1710.7	1575.0	1441.2	1301.4	1155.7	1046.7	972.0	918.1	909.8
15°	1837.4	1762.8	1599.9	1421.0	1238.6	1052.6	866.6	710.8	624.3	571.0	567.5
17.5°	1788.9	1696.5	1485.0	1259.9	1031.3	793.1	579.3	462.6	412.9	389.8	387.4
20°	1742.1	1629.5	1367.7	1096.4	805.0	556.8	399.8	345.9	329.9	320.5	321.6
22.5°	1697.1	1556.7	1244.5	915.2	603.6	390.9	309.8	289.1	287.3	288.5	289.1
25°	1659.1	1489.7	1117.7	740.4	430.6	297.9	258.9	252.9	258.3	266.0	267.1
27.5°	1639.6	1435.2	993.9	564.5	311.6	242.3	224.5	226.9	236.3	244.6	245.8
30°	1644.9	1394.4	866.0	409.3	239.9	204.4	198.4	203.2	212.7	220.4	221.5
32.5°	1682.8	1373.6	735.1	297.9	197.2	178.3	175.9	179.5	187.8	193.7	194.3
35°	1758.1	1378.4	610.7	228.1	169.4	158.7	158.2	160.5	164.7	168.8	169.4
37.5°	1868.8	1416.9	488.1	189.5	153.4	145.7	143.3	143.3	146.3	148.1	149.3
40°	1987.9	1474.9	390.9	167.6	142.2	133.9	129.1	127.4	129.7	132.1	132.7
42.5°	2086.2	1533.0	317.5	152.2	133.3	122.0	116.1	114.9	117.9	122.0	123.2
45°	2161.4	1578.0	264.8	139.8	123.2	110.8	104.3	104.3	109.6	116.7	117.9
47.5°	2230.2	1614.1	225.7	128.5	113.7	100.7	94.2	95.4	104.3	113.7	115.5
50°	2277.0	1643.2	196.7	118.5	106.0	92.4	86.5	88.9	99.5	110.8	112.5
52.5°	2327.3	1678.7	177.7	109.6	98.9	85.9	80.6	82.3	94.2	106.6	109.0
55°	2466.5	1797.8	177.1	97.7	86.5	77.0	74.6	75.2	87.1	101.3	104.3
57.5°	2580.2	1902.6	189.0	82.3	72.3	67.5	66.3	66.9	77.6	93.6	97.1
60°	2134.8	1478.5	156.4	68.1	60.4	59.2	57.5	58.6	68.7	82.9	85.9
62.5°	1263.5	845.3	74.6	52.1	51.5	50.3	48.6	50.9	60.4	72.9	74.6
65°	431.8	250.6	47.4	42.6	43.8	42.1	40.3	42.6	50.9	58.0	58.6
67.5°	82.9	66.3	37.9	35.5	36.1	32.6	32.0	34.4	39.1	40.3	39.7
70°	43.2	38.5	29.0	29.0	27.8	23.1	23.1	25.5	25.5	23.7	23.1
72.5°	22.5	21.3	19.0	21.3	17.8	14.2	14.2	15.4	14.2	11.8	11.8
75°	8.9	8.9	8.3	10.7	7.7	6.5	5.9	7.1	5.3	4.1	4.1
77.5°	2.4	2.4	2.4	3.0	1.8	1.8	1.2	1.2	0.6	0.0	0.0
80°	0.0	0.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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  
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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

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**

$\lambda$ (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

**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)