

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: P632030

Luminaire Tested: GWS-SA2B-830-U-AFL-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P632030  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-45)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2B-830-U-AFL-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

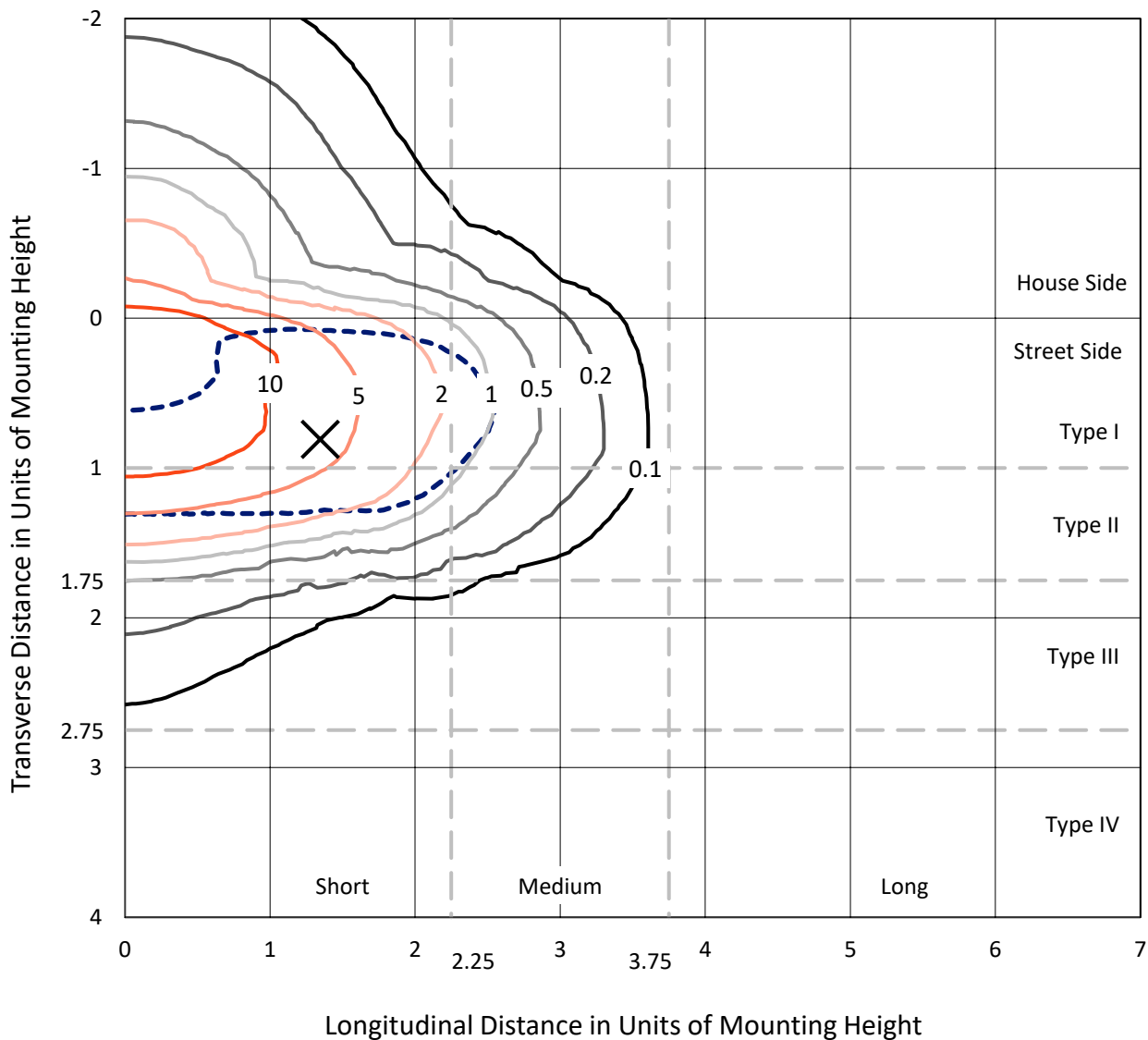
Lumens per Lamp: N/A  
Luminaire Lumens: 5582.7 lumens  
Efficiency: N/A  
Efficacy: 120.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 46.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P632030  
 CATALOG NUMBER: GWS-SA2B-830-U-AFL-W

### Iso-Footcandle Lines of Horizontal Illumination

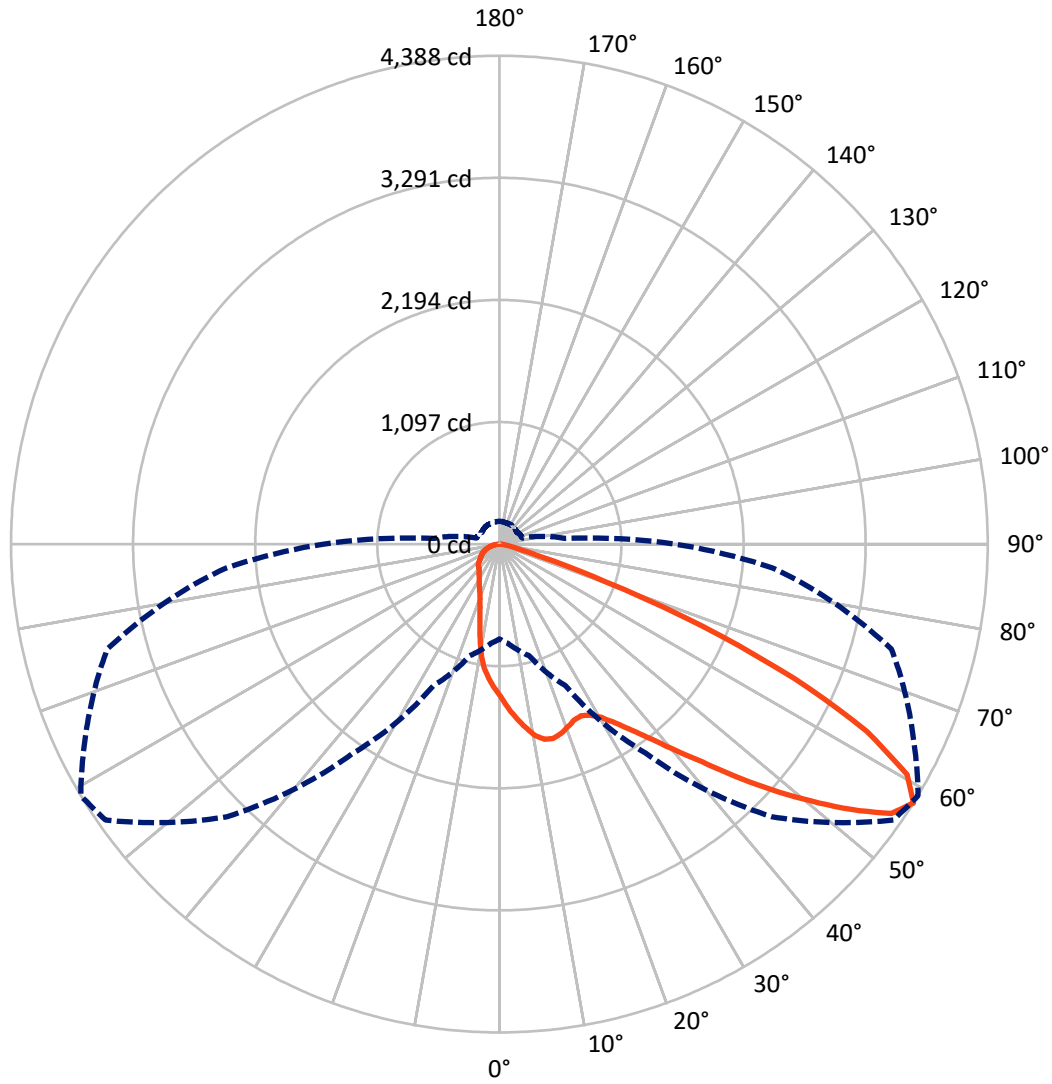
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.8 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	866.4	0.0	866.4
	% Fixture	15.5	0.0	15.5
<b>Street Side</b>	Lumens	4716.3	0.0	4716.3
	% Fixture	84.5	0.0	84.5
<b>Total</b>	Lumens	5582.7	0.0	5582.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.2	2.3
10°-20°	322.4	5.8
20°-30°	522.7	9.4
30°-40°	840.8	15.1
40°-50°	1305.7	23.4
50°-60°	1406.4	25.2
60°-70°	816.2	14.6
70°-80°	213.1	3.8
80°-90°	28.1	0.5
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°	5582.7	100.0
0°-180°	5582.7	100.0

**Coefficient of Utilization**



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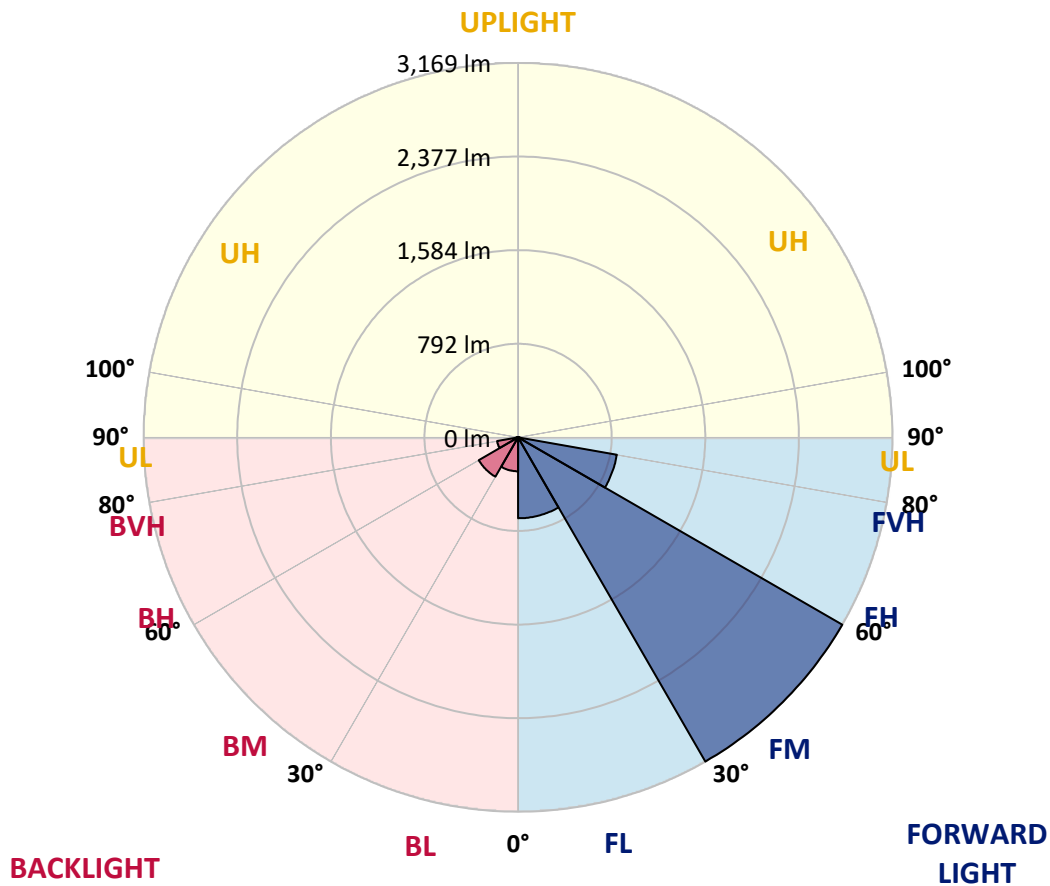
CATALOG NUMBER: GWS-SA2B-830-U-AFL-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	684.9	12.3			
FM (30°-60°)	3168.8	56.8			
FH (60°-80°)	849.1	15.2			G1/1800
FVH (80°-90°)	13.4	0.2			G1/100
BL (0°-30°)	287.4	5.1	B1/500		
BM (30°-60°)	384.1	6.9	B1/1000		
BH (60°-80°)	180.2	3.2	B1/500		G1/500
BVH (80°-90°)	14.6	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4
2.5°	1554.4	1541.4	1550.4	1534.3	1527.6	1510.0	1487.2	1471.8	1448.3	1417.6	1390.9
5°	1708.8	1699.8	1701.8	1684.5	1669.1	1639.7	1592.9	1566.9	1526.9	1465.2	1407.8
7.5°	1704.1	1714.7	1720.6	1735.6	1739.9	1737.1	1695.1	1658.9	1614.9	1522.1	1435.7
10°	1527.6	1547.7	1565.8	1616.9	1679.0	1757.6	1767.4	1745.8	1701.4	1594.9	1469.1
12.5°	1335.5	1350.8	1366.9	1428.2	1523.3	1680.5	1787.0	1800.4	1782.7	1666.8	1506.8
15°	1241.1	1248.2	1263.5	1304.0	1379.9	1554.4	1752.8	1811.4	1843.2	1743.0	1549.3
17.5°	1237.2	1240.4	1247.8	1269.4	1322.1	1456.9	1691.1	1789.4	1890.8	1823.6	1598.8
20°	1318.6	1310.3	1305.6	1305.2	1331.1	1424.3	1631.4	1754.0	1913.2	1906.1	1651.8
22.5°	1431.4	1434.1	1423.9	1398.7	1395.6	1447.5	1601.5	1718.3	1919.9	1979.2	1701.0
25°	1591.3	1605.1	1574.8	1526.9	1503.3	1514.7	1620.0	1707.3	1919.1	2040.1	1731.6
27.5°	1778.0	1788.6	1758.0	1695.1	1646.3	1618.8	1675.0	1739.9	1925.8	2092.8	1750.1
30°	1990.6	1994.2	1952.1	1886.1	1814.9	1756.0	1766.6	1807.1	1960.0	2162.0	1771.7
32.5°	2250.4	2265.3	2201.7	2097.1	1997.7	1922.2	1889.6	1915.6	2033.8	2243.7	1805.1
35°	2580.1	2585.2	2504.3	2354.5	2213.9	2109.3	2040.9	2054.7	2146.3	2358.1	1855.4
37.5°	2891.0	2896.1	2810.1	2670.9	2469.7	2326.6	2227.6	2221.3	2290.1	2519.6	1937.6
40°	3088.3	3102.8	3064.3	2977.1	2784.9	2591.9	2457.5	2435.9	2478.7	2717.3	2051.9
42.5°	3194.4	3200.7	3199.9	3211.3	3097.0	2905.2	2716.9	2673.7	2702.4	2930.7	2167.5
45°	3195.2	3210.9	3253.0	3362.6	3367.7	3248.3	3044.7	2977.1	2950.8	3145.7	2288.1
47.5°	3052.1	3069.0	3184.6	3400.4	3559.5	3586.6	3437.3	3301.7	3190.9	3330.8	2387.2
50°	2619.0	2661.5	2881.6	3263.2	3597.3	3857.8	3811.8	3627.9	3404.3	3473.9	2449.3
52.5°	2242.9	2241.4	2377.0	2875.7	3439.7	3977.3	4174.2	3963.6	3615.3	3564.6	2465.0
55°	1642.4	1651.4	1790.2	2199.3	3019.1	3861.8	4373.5	4272.5	3857.4	3613.0	2458.7
57.5°	851.7	896.5	1038.7	1403.5	2294.0	3464.0	4320.4	4387.6	4103.5	3647.2	2467.0
60°	430.4	421.7	472.8	670.1	1329.2	2705.5	3993.4	4207.6	4147.9	3673.9	2472.1
62.5°	287.3	284.9	270.8	310.5	543.1	1602.3	3404.3	3704.6	3839.4	3611.0	2406.8
65°	248.8	244.1	218.1	216.6	263.7	664.6	2495.2	2912.2	3173.2	3331.6	2250.8
67.5°	224.0	216.9	190.6	177.6	189.4	292.0	1406.2	1953.3	2343.2	2817.5	1908.9
70°	200.0	196.5	170.2	151.3	150.1	178.0	518.0	1008.1	1433.7	1922.2	1395.6
72.5°	179.2	172.9	150.5	132.4	123.4	126.2	224.8	388.3	742.0	1199.1	834.8
75°	155.2	150.5	130.9	112.8	101.8	92.4	137.2	179.6	338.4	569.9	394.2
77.5°	119.9	116.7	103.4	89.6	83.3	68.8	83.3	113.2	156.4	240.1	205.2
80°	69.6	71.5	77.0	70.0	61.3	49.1	54.2	65.2	93.9	130.1	116.3
82.5°	35.0	37.3	49.9	40.5	36.6	28.7	32.2	38.5	49.1	71.9	45.6
85°	2.8	2.8	9.0	10.2	12.6	10.2	13.0	15.7	22.4	28.7	15.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.0	3.5	6.7	4.3
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-SA2B-830-U-AFL-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4	1370.4
2.5°	1372.8	1352.8	1328.8	1309.1	1278.9	1262.8	1242.3	1217.2	1206.9	1202.2	1199.5
5°	1375.6	1340.2	1289.1	1241.9	1189.7	1148.4	1102.4	1054.5	1026.9	1020.3	1015.5
7.5°	1385.8	1336.2	1254.9	1177.1	1080.0	990.0	902.4	815.5	771.1	754.2	752.6
10°	1399.9	1334.7	1220.3	1091.0	927.1	784.8	682.3	614.3	585.6	576.2	573.0
12.5°	1417.6	1333.5	1174.7	971.5	750.7	616.2	557.7	546.7	550.6	549.8	549.8
15°	1440.0	1335.1	1119.7	836.3	607.2	534.9	536.1	549.0	561.2	563.2	563.2
17.5°	1464.4	1333.5	1039.9	700.7	521.1	515.6	533.7	551.8	562.8	564.4	564.4
20°	1490.7	1326.0	939.3	573.0	483.4	503.5	523.1	537.3	543.9	545.5	545.5
22.5°	1506.4	1304.8	830.0	485.0	459.4	484.2	497.2	511.7	512.5	499.9	499.5
25°	1504.1	1265.1	705.5	428.4	433.9	455.5	472.0	461.8	449.2	442.1	441.0
27.5°	1489.1	1205.4	578.5	385.5	403.6	428.0	422.9	414.2	411.1	403.2	402.4
30°	1470.3	1131.9	464.5	352.1	372.2	394.6	386.7	385.9	382.8	374.1	374.1
32.5°	1452.2	1056.0	378.5	327.4	352.1	353.7	364.7	365.5	363.9	349.0	347.4
35°	1447.1	980.2	320.3	307.7	332.5	331.7	347.4	347.0	319.9	299.1	298.7
37.5°	1462.4	903.1	285.7	291.6	305.4	315.6	328.2	305.4	296.3	283.8	283.0
40°	1495.0	832.0	268.0	282.2	288.1	303.0	283.4	284.9	282.6	273.1	272.0
42.5°	1538.3	771.5	258.2	279.0	278.3	282.2	260.6	266.9	270.4	263.3	262.1
45°	1579.9	718.8	253.1	267.2	271.2	248.4	244.1	250.0	255.5	252.7	251.5
47.5°	1610.6	673.2	250.4	251.1	262.1	237.0	229.9	232.7	239.3	240.5	240.1
50°	1620.0	634.3	247.2	237.8	235.4	225.6	220.1	219.3	227.2	232.7	233.5
52.5°	1601.9	599.7	239.0	226.0	214.6	216.2	214.2	210.3	218.1	225.6	226.4
55°	1575.2	580.1	226.0	214.6	201.2	207.5	208.3	204.8	209.9	215.0	215.0
57.5°	1577.2	591.5	213.4	204.0	189.4	197.7	202.0	200.4	200.4	204.4	204.8
60°	1590.1	608.0	205.2	190.6	177.6	186.3	196.1	194.5	191.0	196.1	196.1
62.5°	1552.8	586.0	199.7	177.6	165.1	175.3	187.1	186.3	182.4	190.6	191.4
65°	1442.8	527.0	193.4	161.5	152.5	164.3	174.5	177.2	173.7	184.7	186.7
67.5°	1209.3	443.3	181.2	146.2	139.9	150.9	160.7	164.7	161.9	174.9	176.5
70°	901.6	358.8	161.9	129.3	124.6	134.4	143.5	145.0	145.4	160.7	162.3
72.5°	575.0	279.0	136.4	110.4	106.9	114.4	121.0	127.3	130.1	144.6	144.2
75°	320.7	207.5	109.7	93.5	87.2	93.1	101.0	108.5	116.3	137.6	139.9
77.5°	184.7	145.8	86.9	75.1	67.6	73.9	80.6	91.2	114.8	133.2	130.9
80°	104.1	94.7	65.6	55.0	50.3	55.0	60.1	80.2	90.4	98.3	99.4
82.5°	48.7	53.1	44.8	33.8	33.8	36.9	41.7	62.1	68.4	55.8	48.7
85°	17.7	24.0	22.0	17.3	15.3	14.9	25.9	35.4	22.0	19.7	16.9
87.5°	4.7	6.7	6.3	4.3	2.4	2.0	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  
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)