

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: P638986

Luminaire Tested: GWS-SA4F-830-U-T2-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P638986  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-19)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA4F-830-U-T2-W  
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS  
Light Source: (64) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

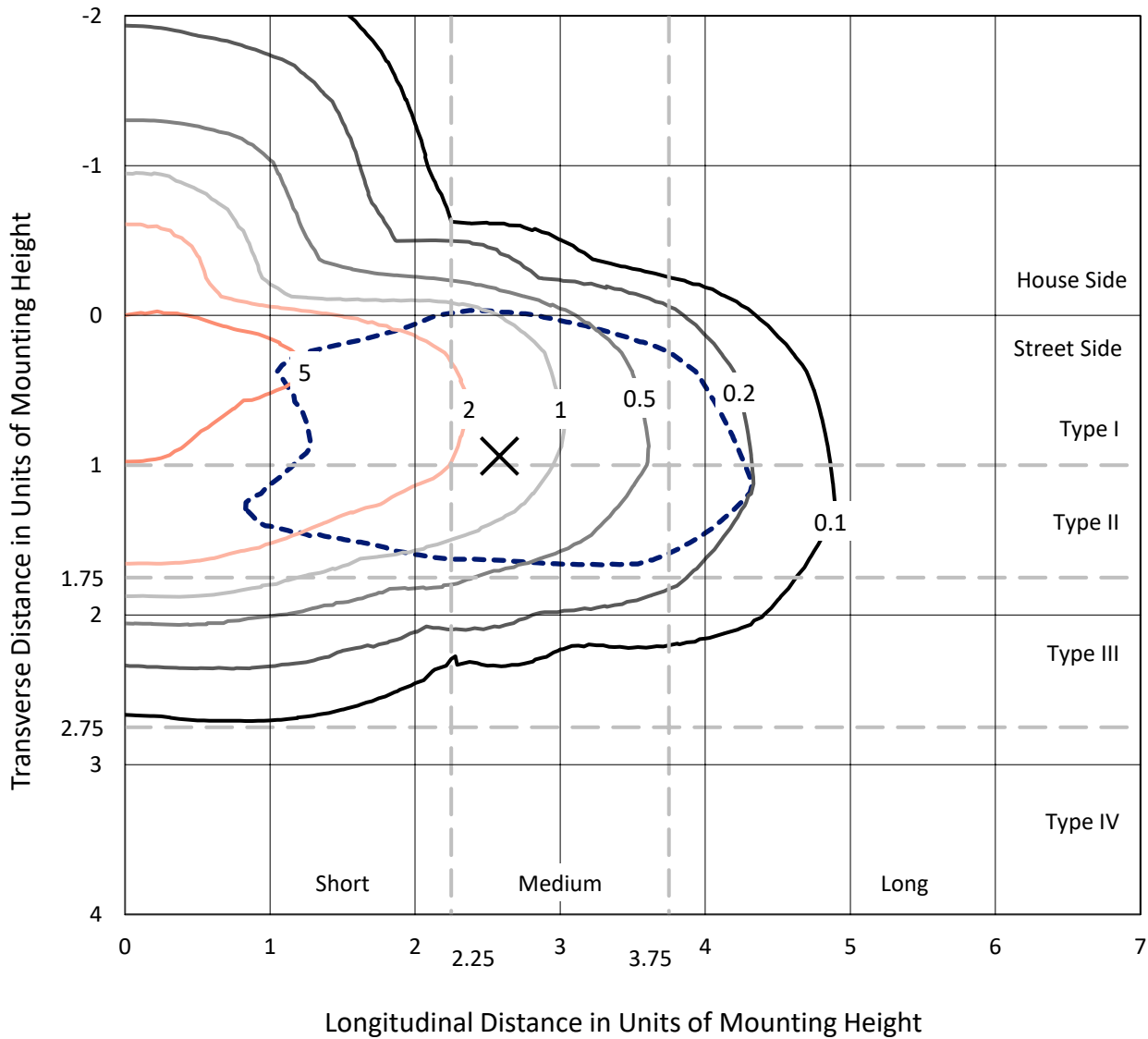
Lumens per Lamp: N/A  
Luminaire Lumens: 26816.5 lumens  
Efficiency: N/A  
Efficacy: 119.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B3 - U0 - G4  
  
Input Watts (W): 225.3  
Input Voltage (V): 120  
Input Current (Ain): 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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 CATALOG NUMBER: GWS-SA4F-830-U-T2-W

### Iso-Footcandle Lines of Horizontal Illumination

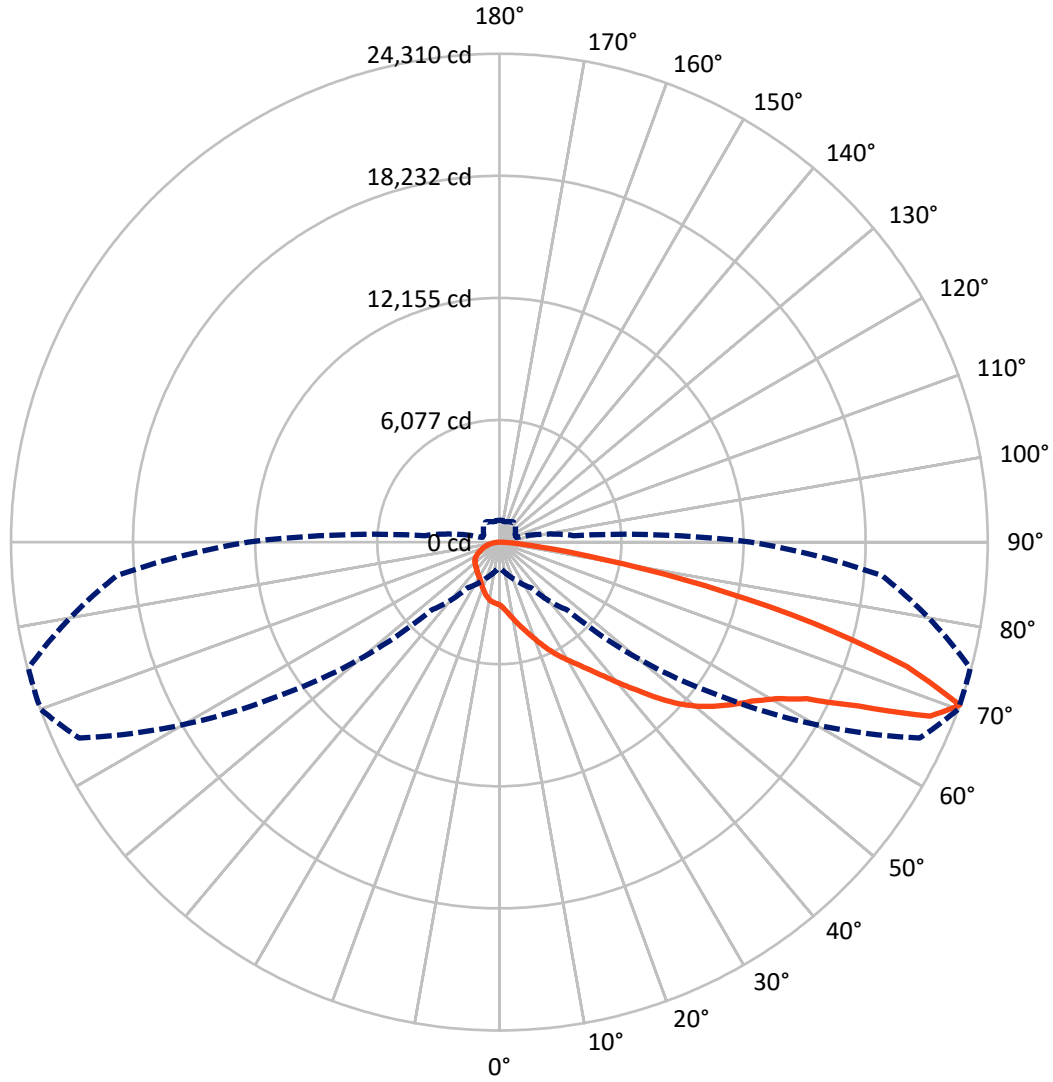
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.2 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



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

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4805.6	0.0	4805.6
	% Fixture	17.9	0.0	17.9
<b>Street Side</b>	Lumens	22010.9	0.0	22010.9
	% Fixture	82.1	0.0	82.1
<b>Total</b>	Lumens	26816.5	0.0	26816.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	317.9	1.2
10°-20°	1034.0	3.9
20°-30°	1831.8	6.8
30°-40°	2756.9	10.3
40°-50°	4170.8	15.6
50°-60°	5974.9	22.3
60°-70°	6604.6	24.6
70°-80°	3727.1	13.9
80°-90°	398.7	1.5
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°	26816.5	100.0
0°-180°	26816.5	100.0

**Coefficient of Utilization**



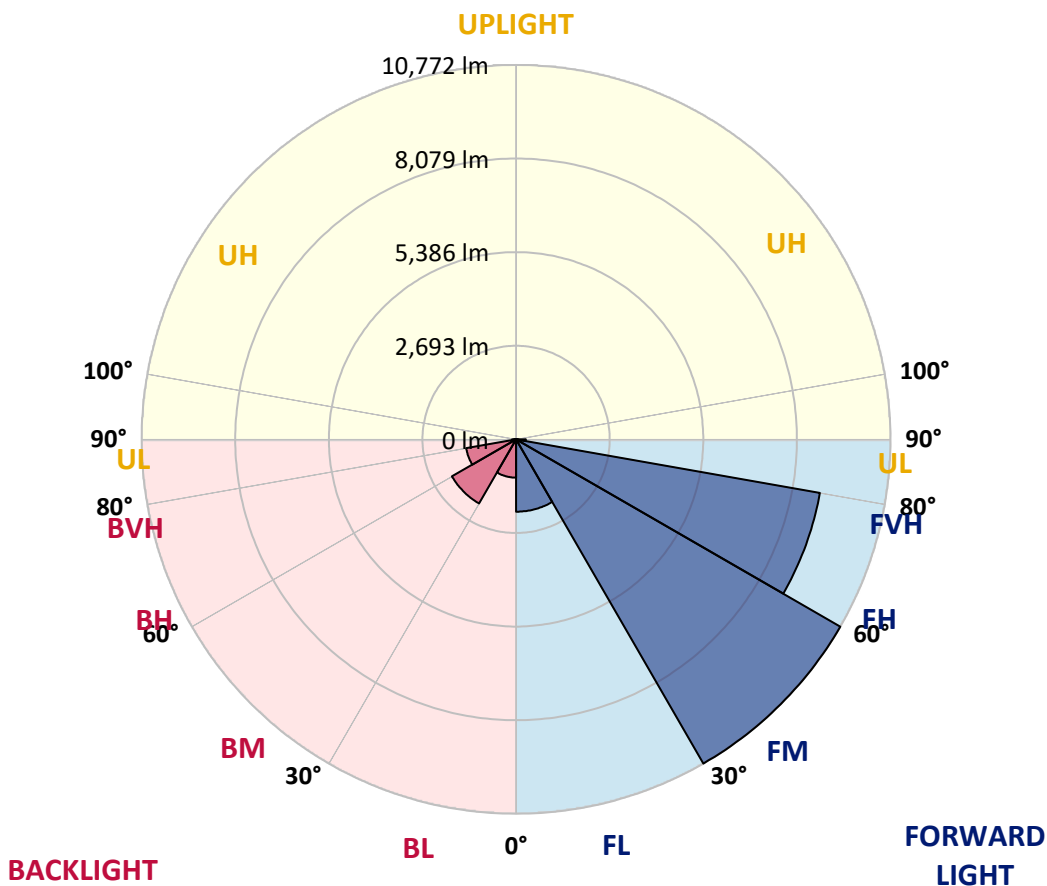
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2081.8	7.8			
FM (30°-60°)	10772.2	40.2			
FH (60°-80°)	8875.2	33.1			G4/12000
FVH (80°-90°)	281.8	1.1			G3/500
BL (0°-30°)	1101.9	4.1	B3/2500		
BM (30°-60°)	2130.3	7.9	B2/2500		
BH (60°-80°)	1456.5	5.4	B3/2500		G3/2500
BVH (80°-90°)	116.8	0.4			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**  
 Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
0°	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4
2.5°	3464.5	3458.7	3462.6	3458.7	3437.4	3385.1	3342.4	3288.2	3251.4	3230.1	3179.7
5°	3871.4	3865.6	3852.0	3832.7	3793.9	3722.2	3615.6	3497.4	3425.8	3371.5	3264.9
7.5°	4164.0	4164.0	4162.1	4138.8	4111.7	4036.1	3910.2	3755.2	3650.5	3557.5	3383.1
10°	4313.2	4322.9	4336.4	4369.4	4363.6	4322.9	4204.7	4038.1	3906.3	3797.8	3538.1
12.5°	4394.6	4400.4	4423.6	4491.5	4561.2	4570.9	4501.1	4326.8	4183.4	4038.1	3710.6
15°	4499.2	4501.1	4532.2	4613.5	4716.2	4818.9	4801.5	4627.1	4479.8	4319.0	3902.4
17.5°	4580.6	4594.2	4650.3	4745.3	4873.2	5014.6	5099.9	4991.4	4809.2	4625.2	4111.7
20°	4609.7	4619.3	4693.0	4838.3	5012.7	5212.3	5402.2	5373.1	5189.0	4972.0	4348.1
22.5°	4714.3	4714.3	4768.5	4890.6	5096.0	5386.7	5694.7	5770.3	5607.5	5353.7	4601.9
25°	4944.9	4937.1	4962.3	5012.7	5167.7	5526.2	5983.4	6210.2	6028.0	5743.2	4855.7
27.5°	5260.7	5256.8	5254.9	5262.6	5315.0	5648.2	6227.6	6620.9	6438.8	6117.1	5082.4
30°	5603.7	5592.0	5617.2	5594.0	5582.4	5793.6	6434.9	6989.1	6847.6	6487.2	5270.4
32.5°	6070.6	6049.3	6043.5	5967.9	5921.4	6020.3	6601.6	7407.6	7295.2	6886.4	5481.6
35°	6686.8	6667.4	6568.6	6448.5	6310.9	6357.4	6808.9	7816.5	7824.2	7386.3	5758.7
37.5°	7308.8	7312.7	7235.2	6952.3	6810.8	6783.7	7124.7	8314.4	8481.1	7983.1	6117.1
40°	7826.1	7849.4	7849.4	7551.0	7339.8	7314.6	7568.4	8905.4	9236.8	8715.5	6570.6
42.5°	8219.5	8240.8	8308.6	8093.5	7870.7	7957.9	8107.1	9498.3	10093.2	9620.4	7144.1
45°	8651.6	8669.0	8705.8	8581.8	8452.0	8684.5	8717.5	10207.5	11073.6	10635.7	7810.6
47.5°	9225.1	9209.6	9213.5	9122.4	9021.7	9397.6	9389.8	10804.3	12021.2	11747.9	8533.4
50°	9938.2	9967.2	9940.1	9759.9	9641.7	9984.7	10029.3	11465.0	12854.3	12848.5	9261.9
52.5°	10624.1	10635.7	10779.1	10786.9	10544.7	10473.0	10589.2	12131.6	13557.7	13856.1	9961.4
55°	10659.0	10703.6	11133.7	11443.7	11835.1	11259.7	11155.0	12767.1	14237.8	14842.4	10688.1
57.5°	9916.9	9988.6	10719.1	11387.5	12476.5	12610.2	12123.8	13588.7	14917.9	15813.1	11529.0
60°	8331.9	8481.1	9473.1	10496.2	12187.8	13581.0	14106.1	14704.8	15811.2	16805.2	12550.1
62.5°	5320.8	5378.9	6770.1	8483.0	10887.6	13486.0	16264.6	16671.5	17171.4	18097.6	14123.5
65°	2664.3	2850.3	3666.0	5063.1	7851.3	11883.6	17355.5	20273.6	19661.3	20310.4	16673.4
67.5°	1807.8	1867.9	2280.6	3042.1	4603.8	8419.1	16679.2	23307.9	23127.7	23234.3	19392.0
70°	1333.1	1371.9	1697.4	2154.7	2784.4	4780.2	13278.7	23079.3	24309.7	24270.9	19107.1
72.5°	972.7	992.1	1238.2	1645.1	2063.6	2472.4	8109.0	18644.0	21221.1	22339.1	16710.3
75°	707.2	730.5	860.3	1230.4	1604.4	1542.4	4003.2	13466.6	16183.2	18334.0	13613.9
77.5°	527.0	556.1	616.2	771.2	1123.8	1104.5	1730.3	8744.6	10467.2	11974.6	8269.9
80°	379.8	385.6	420.5	494.1	713.1	647.2	823.5	4559.3	5227.8	5727.7	3241.7
82.5°	230.6	236.4	281.0	304.2	441.8	406.9	428.2	1476.5	2115.9	2245.7	1211.0
85°	67.8	71.7	127.9	139.5	184.1	174.4	172.5	600.7	716.9	916.5	476.7
87.5°	0.0	0.0	0.0	0.0	1.9	11.6	21.3	106.6	160.8	222.8	116.3
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: P638986  
 CATALOG NUMBER: GWS-SA4F-830-U-T2-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4	3127.4
2.5°	3160.3	3115.7	3092.5	3051.8	3022.7	2993.7	2964.6	2937.5	2925.8	2908.4	2912.3
5°	3216.5	3146.7	3077.0	2997.5	2929.7	2873.5	2823.1	2778.6	2759.2	2741.8	2749.5
7.5°	3301.7	3197.1	3063.4	2918.1	2811.5	2734.0	2681.7	2650.7	2641.0	2627.4	2627.4
10°	3410.3	3253.3	3018.9	2811.5	2683.6	2621.6	2598.4	2596.4	2606.1	2608.1	2604.2
12.5°	3530.4	3307.6	2953.0	2685.6	2577.1	2557.7	2575.1	2608.1	2641.0	2658.4	2654.6
15°	3654.4	3342.4	2840.6	2565.4	2499.6	2524.8	2580.9	2646.8	2710.8	2743.7	2741.8
17.5°	3770.7	3350.2	2695.3	2449.2	2431.7	2495.7	2592.6	2695.3	2782.5	2829.0	2830.9
20°	3900.5	3336.6	2546.1	2344.6	2363.9	2468.6	2596.4	2720.5	2823.1	2869.7	2881.3
22.5°	4018.7	3290.1	2400.7	2245.7	2305.8	2435.6	2565.4	2681.7	2772.8	2817.3	2832.8
25°	4125.2	3201.0	2241.9	2162.4	2261.2	2389.1	2487.9	2569.3	2633.3	2660.4	2681.7
27.5°	4183.4	3067.3	2121.7	2096.5	2218.6	2323.2	2377.5	2402.7	2424.0	2416.2	2431.7
30°	4195.0	2900.7	2017.1	2044.2	2154.7	2232.2	2243.8	2218.6	2181.8	2121.7	2135.3
32.5°	4183.4	2708.8	1929.9	1988.0	2083.0	2129.5	2114.0	2048.1	1959.0	1866.0	1871.8
35°	4187.3	2515.1	1858.2	1926.0	1999.6	2024.8	1986.1	1895.0	1800.1	1714.8	1710.9
37.5°	4229.9	2352.3	1798.1	1866.0	1918.3	1922.1	1879.5	1784.6	1736.1	1672.2	1664.4
40°	4348.1	2232.2	1743.9	1805.9	1838.8	1836.9	1788.4	1720.6	1753.6	1732.3	1726.4
42.5°	4541.8	2158.5	1699.3	1741.9	1765.2	1769.1	1730.3	1687.7	1759.4	1732.3	1722.6
45°	4853.8	2154.7	1668.3	1678.0	1714.8	1741.9	1714.8	1666.4	1693.5	1561.7	1536.6
47.5°	5223.9	2220.5	1645.1	1621.8	1685.8	1734.2	1691.6	1614.1	1557.9	1437.7	1420.3
50°	5669.5	2354.2	1623.7	1561.7	1643.1	1705.1	1662.5	1555.9	1470.7	1406.7	1397.0
52.5°	6198.5	2530.6	1596.6	1493.9	1579.2	1689.6	1662.5	1550.1	1437.7	1379.6	1369.9
55°	6752.7	2734.0	1565.6	1412.5	1507.5	1693.5	1676.1	1509.4	1412.5	1381.5	1373.8
57.5°	7440.6	2978.2	1509.4	1317.6	1443.5	1658.6	1621.8	1486.2	1395.1	1369.9	1362.2
60°	8333.8	3340.5	1402.9	1220.7	1369.9	1596.6	1573.4	1447.4	1348.6	1327.3	1321.5
62.5°	9748.3	3954.7	1273.0	1127.7	1282.7	1466.8	1501.7	1373.8	1290.5	1288.5	1286.6
65°	12054.1	4693.0	1120.0	1044.4	1191.7	1360.2	1406.7	1298.2	1230.4	1251.7	1249.8
67.5°	13670.1	4756.9	994.0	957.2	1085.1	1244.0	1311.8	1220.7	1147.1	1187.8	1185.8
70°	12521.1	3710.6	885.5	866.1	970.8	1118.0	1209.1	1123.8	1050.2	1089.0	1081.2
72.5°	10560.2	2844.5	782.8	771.2	854.5	986.3	1077.3	1027.0	949.4	949.4	932.0
75°	8486.9	2346.5	674.3	668.5	724.7	852.6	955.3	870.0	798.3	794.4	782.8
77.5°	4867.4	1538.5	565.8	561.9	579.4	713.1	742.1	724.7	670.4	645.2	637.5
80°	1939.6	800.2	445.7	420.5	437.9	523.2	585.2	556.1	509.6	478.6	461.2
82.5°	751.8	401.1	313.9	275.1	300.3	377.8	424.3	414.7	383.7	313.9	294.5
85°	306.1	195.7	188.0	158.9	174.4	203.5	244.1	211.2	174.4	124.0	118.2
87.5°	81.4	71.7	69.8	42.6	32.9	9.7	1.9	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

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

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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

REPORT NUMBER: SP1-2408-195-9

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (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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**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)