

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: P641435

Luminaire Tested: GWS-SA5F-830-U-AFL-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P641435  
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-SA5F-830-U-AFL-W  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND  
AUTOMOTIVE FRONTLINE OPTICS  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

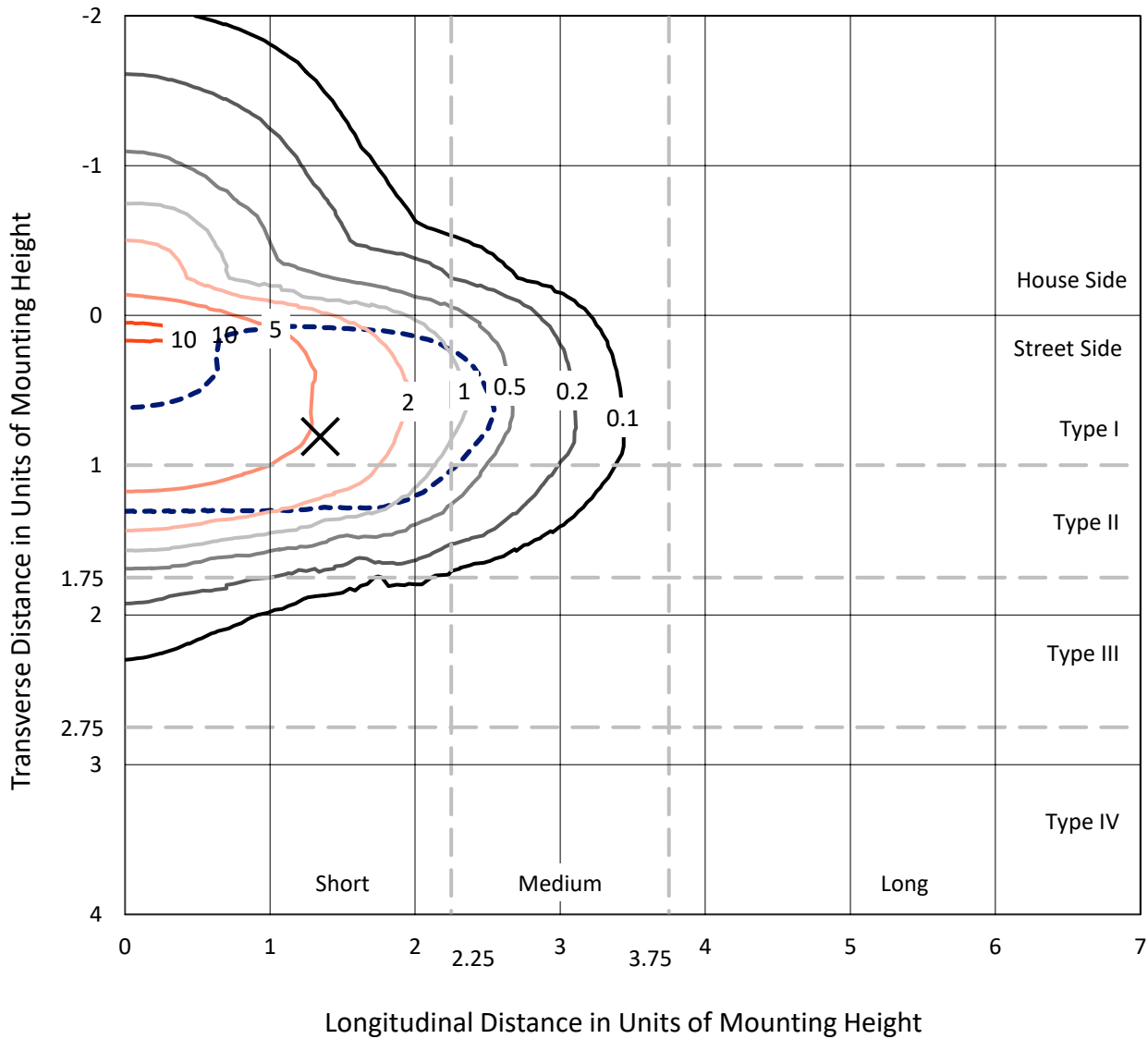
Lumens per Lamp: N/A  
Luminaire Lumens: 33763.8 lumens  
Efficiency: N/A  
Efficacy: 108.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 310.3  
Input Voltage (V): 120  
Input Current (Ain): 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



REPORT NUMBER: P641435  
 CATALOG NUMBER: GWS-SA5F-830-U-AFL-W

### Iso-Footcandle Lines of Horizontal Illumination

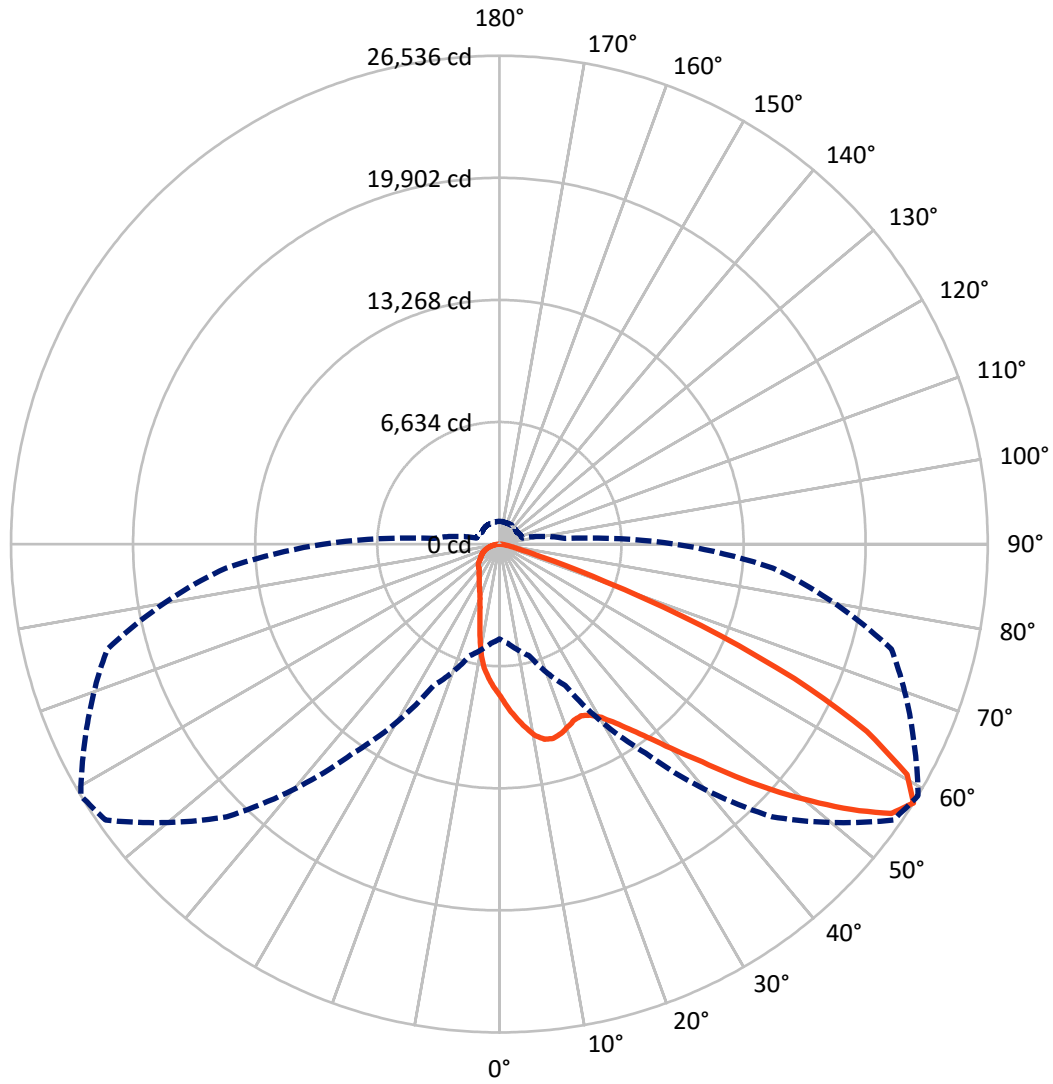
✕ Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 11.3 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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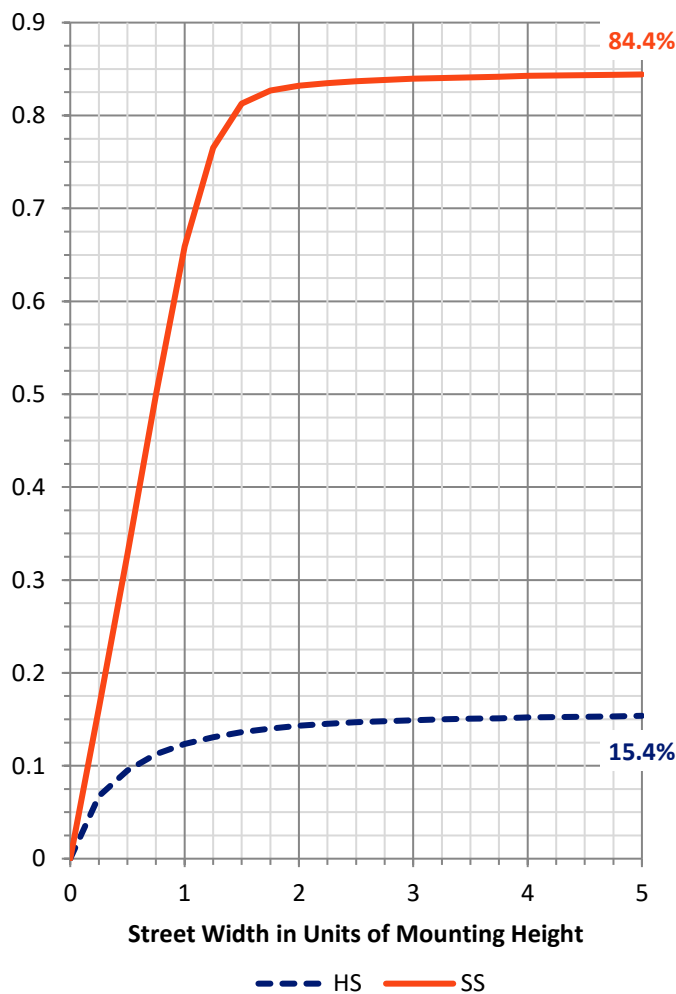
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	5240.0	0.0	5240.0
	% Fixture	15.5	0.0	15.5
<b>Street Side</b>	Lumens	28523.8	0.0	28523.8
	% Fixture	84.5	0.0	84.5
<b>Total</b>	Lumens	33763.8	0.0	33763.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	769.6	2.3
10°-20°	1950.1	5.8
20°-30°	3161.2	9.4
30°-40°	5085.2	15.1
40°-50°	7896.8	23.4
50°-60°	8505.9	25.2
60°-70°	4936.5	14.6
70°-80°	1288.7	3.8
80°-90°	169.8	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°	33763.8	100.0
0°-180°	33763.8	100.0

**Coefficient of Utilization**



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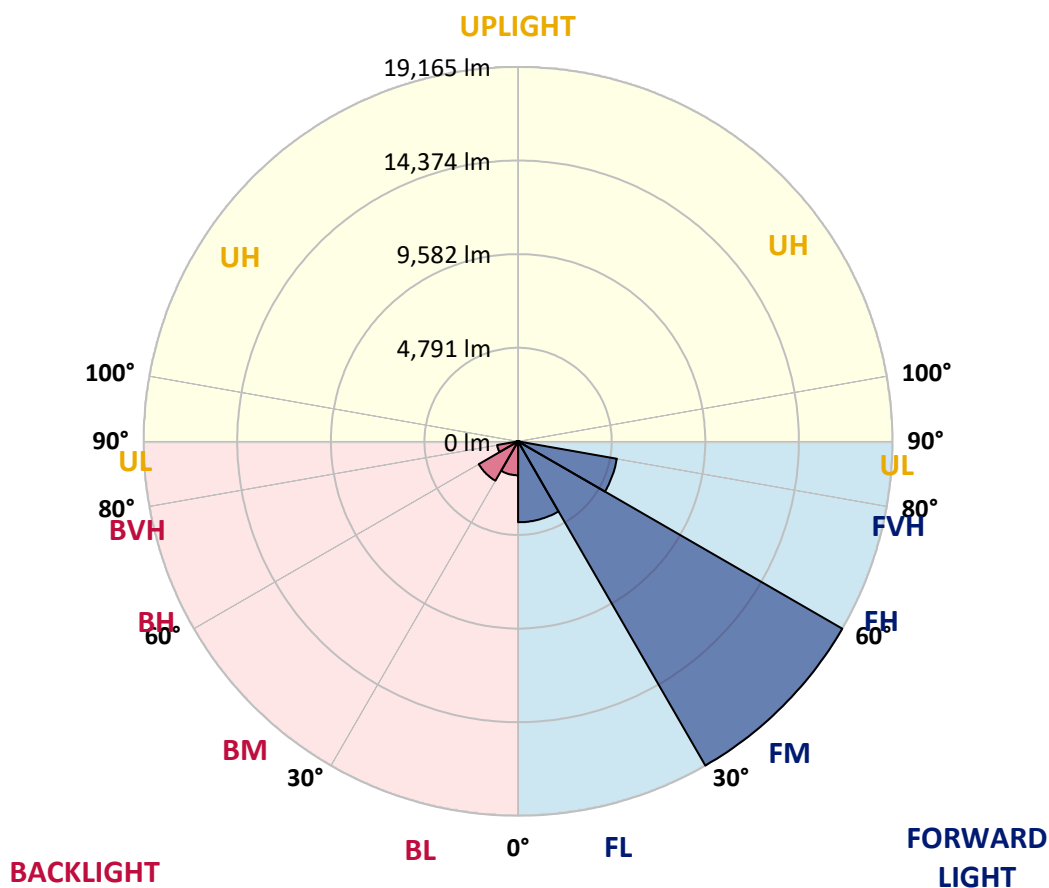
CATALOG NUMBER: GWS-SA5F-830-U-AFL-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	4142.5	12.3			
FM (30°-60°)	19164.7	56.8			
FH (60°-80°)	5135.3	15.2			G3/7500
FVH (80°-90°)	81.3	0.2			G1/100
BL (0°-30°)	1738.4	5.1	B3/2500		
BM (30°-60°)	2323.2	6.9	B2/2500		
BH (60°-80°)	1089.9	3.2	B3/2500		G3/2500
BVH (80°-90°)	88.5	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3
2.5°	9400.7	9322.3	9377.0	9279.5	9239.1	9132.1	8994.3	8901.6	8759.0	8573.6	8411.9
5°	10334.9	10280.2	10292.1	10187.5	10094.8	9916.5	9633.7	9476.8	9234.4	8861.2	8514.1
7.5°	10306.3	10370.5	10406.2	10496.5	10522.6	10506.0	10251.7	10033.0	9766.8	9205.8	8682.9
10°	9239.1	9360.3	9469.7	9778.7	10154.2	10629.6	10689.0	10558.3	10289.7	9645.6	8884.9
12.5°	8076.8	8169.5	8266.9	8637.7	9213.0	10163.7	10807.9	10888.7	10781.7	10080.5	9113.1
15°	7506.3	7549.1	7641.8	7886.6	8345.4	9400.7	10601.1	10955.2	11147.8	10541.7	9369.8
17.5°	7482.6	7501.6	7546.7	7677.5	7996.0	8811.3	10227.9	10822.1	11435.4	11028.9	9669.3
20°	7974.6	7924.7	7896.1	7893.8	8050.6	8614.0	9866.6	10608.2	11570.9	11528.1	9990.2
22.5°	8656.8	8673.4	8611.6	8459.5	8440.5	8754.2	9686.0	10391.9	11611.3	11970.2	10287.3
25°	9624.2	9707.4	9524.3	9234.4	9091.7	9160.7	9797.7	10325.4	11606.5	12338.6	10472.7
27.5°	10753.2	10817.4	10632.0	10251.7	9956.9	9790.6	10130.5	10522.6	11646.9	12657.1	10584.4
30°	12039.1	12060.5	11806.2	11406.9	10976.6	10620.1	10684.3	10929.1	11853.7	13075.5	10715.2
32.5°	13610.3	13700.6	13315.5	12683.3	12081.9	11625.5	11428.3	11585.1	12300.6	13569.9	10917.2
35°	15604.5	15635.4	15145.8	14240.2	13389.2	12757.0	12343.4	12426.6	12980.4	14261.6	11221.5
37.5°	17484.7	17515.6	16995.0	16153.6	14936.6	14071.4	13472.4	13434.4	13850.3	15238.5	11718.2
40°	18677.9	18765.8	18532.9	18005.2	16842.9	15675.8	14862.9	14732.2	14991.3	16434.1	12409.9
42.5°	19319.6	19357.7	19352.9	19421.9	18730.2	17570.2	16431.7	16170.2	16343.7	17724.7	13108.7
45°	19324.4	19419.5	19673.8	20337.0	20367.9	19645.3	18414.0	18005.2	17846.0	19024.9	13838.5
47.5°	18459.2	18561.4	19260.2	20565.2	21527.8	21691.8	20788.6	19968.5	19298.3	20144.4	14437.4
50°	15839.8	16096.5	17427.6	19735.6	21756.0	23331.9	23053.8	21941.4	20588.9	21009.6	14813.0
52.5°	13565.1	13555.6	14375.6	17392.0	20802.8	24054.5	25245.3	23971.3	21865.3	21558.7	14908.1
55°	9933.2	9987.8	10826.9	13301.3	18259.5	23355.7	26450.4	25839.6	23329.5	21851.1	14870.0
57.5°	5150.8	5421.8	6282.2	8488.0	13874.1	20950.2	26129.5	26536.0	24817.5	22057.9	14920.0
60°	2602.7	2550.4	2859.4	4052.7	8038.8	16362.8	24151.9	25447.4	25086.1	22219.5	14950.9
62.5°	1737.5	1723.3	1637.7	1877.8	3284.9	9690.7	20588.9	22404.9	23220.2	21839.2	14556.3
65°	1504.6	1476.1	1319.2	1309.7	1594.9	4019.4	15091.1	17613.0	19191.3	20149.2	13612.6
67.5°	1354.8	1312.1	1152.8	1074.4	1145.7	1766.1	8504.6	11813.3	14171.2	17040.2	11544.7
70°	1209.9	1188.5	1029.2	915.1	908.0	1076.7	3132.8	6096.8	8671.0	11625.5	8440.5
72.5°	1083.9	1045.8	910.4	801.0	746.4	763.0	1359.6	2348.4	4487.6	7252.0	5048.6
75°	938.9	910.4	791.5	682.2	615.6	558.6	829.5	1086.3	2046.5	3446.5	2384.1
77.5°	725.0	705.9	625.1	541.9	503.9	416.0	503.9	684.6	946.0	1452.3	1240.8
80°	420.7	432.6	465.9	423.1	370.8	297.1	328.0	394.6	568.1	786.8	703.6
82.5°	211.5	225.8	301.9	244.8	221.1	173.5	194.9	232.9	297.1	435.0	275.7
85°	16.6	16.6	54.7	61.8	76.1	61.8	78.4	95.1	135.5	173.5	92.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	7.1	11.9	21.4	40.4	26.1
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: P641435  
 CATALOG NUMBER: GWS-SA5F-830-U-AFL-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3	8288.3
2.5°	8302.6	8181.4	8036.4	7917.5	7734.5	7637.1	7513.5	7361.3	7299.5	7271.0	7254.4
5°	8319.2	8105.3	7796.3	7511.1	7195.0	6945.4	6667.3	6377.3	6210.9	6170.5	6142.0
7.5°	8381.0	8081.5	7589.5	7118.9	6531.8	5987.5	5457.4	4932.1	4663.5	4561.3	4551.8
10°	8466.6	8072.0	7380.4	6598.3	5607.2	4746.7	4126.3	3715.1	3541.6	3484.6	3465.6
12.5°	8573.6	8064.9	7104.6	5875.8	4539.9	3727.0	3372.9	3306.3	3330.1	3325.3	3325.3
15°	8709.1	8074.4	6771.9	5058.1	3672.3	3235.0	3242.1	3320.6	3394.2	3406.1	3406.1
17.5°	8856.4	8064.9	6289.3	4238.1	3151.8	3118.5	3227.9	3337.2	3403.8	3413.3	3413.3
20°	9015.7	8019.7	5680.9	3465.6	2923.6	3044.8	3163.7	3249.3	3289.7	3299.2	3299.2
22.5°	9110.8	7891.4	5020.1	2933.1	2778.6	2928.4	3006.8	3094.8	3099.5	3023.4	3021.1
25°	9096.5	7651.3	4266.6	2590.8	2624.1	2754.9	2854.7	2792.9	2716.8	2674.0	2666.9
27.5°	9006.2	7290.0	3498.8	2331.8	2441.1	2588.5	2557.6	2505.3	2486.3	2438.7	2434.0
30°	8892.1	6845.5	2809.5	2129.7	2250.9	2386.4	2338.9	2334.1	2315.1	2262.8	2262.8
32.5°	8782.7	6386.8	2289.0	1980.0	2129.7	2139.2	2205.8	2210.5	2201.0	2110.7	2101.2
35°	8751.8	5928.1	1937.2	1861.1	2010.9	2006.1	2101.2	2098.8	1934.8	1808.8	1806.5
37.5°	8844.5	5462.2	1728.0	1763.7	1846.9	1908.7	1984.7	1846.9	1792.2	1716.1	1711.4
40°	9041.8	5032.0	1621.1	1706.6	1742.3	1832.6	1713.8	1723.3	1709.0	1652.0	1644.8
42.5°	9303.3	4665.9	1561.6	1687.6	1682.9	1706.6	1575.9	1613.9	1635.3	1592.5	1585.4
45°	9555.2	4347.4	1530.7	1616.3	1640.1	1502.2	1476.1	1511.7	1545.0	1528.4	1521.2
47.5°	9740.6	4071.7	1514.1	1518.9	1585.4	1433.3	1390.5	1407.1	1447.5	1454.7	1452.3
50°	9797.7	3836.4	1495.1	1438.0	1423.8	1364.4	1331.1	1326.3	1373.9	1407.1	1411.9
52.5°	9688.3	3627.2	1445.2	1366.7	1297.8	1307.3	1295.4	1271.7	1319.2	1364.4	1369.1
55°	9526.7	3508.3	1366.7	1297.8	1217.0	1255.0	1259.8	1238.4	1269.3	1300.2	1300.2
57.5°	9538.6	3577.3	1290.7	1233.6	1145.7	1195.6	1221.7	1212.2	1212.2	1236.0	1238.4
60°	9617.0	3677.1	1240.8	1152.8	1074.4	1126.7	1186.1	1176.6	1155.2	1186.1	1186.1
62.5°	9391.2	3544.0	1207.5	1074.4	998.3	1060.1	1131.4	1126.7	1102.9	1152.8	1157.6
65°	8725.7	3187.5	1169.4	976.9	922.2	993.6	1055.4	1072.0	1050.6	1117.2	1129.0
67.5°	7313.8	2681.2	1095.8	884.2	846.2	912.7	972.2	995.9	979.3	1057.7	1067.2
70°	5452.7	2170.1	979.3	782.0	753.5	812.9	867.6	877.1	879.5	972.2	981.7
72.5°	3477.4	1687.6	824.8	667.9	646.5	691.7	732.1	770.1	786.8	874.7	872.3
75°	1939.6	1255.0	663.2	565.7	527.7	563.3	610.9	656.0	703.6	831.9	846.2
77.5°	1117.2	881.8	525.3	454.0	408.8	446.9	487.3	551.4	694.1	805.8	791.5
80°	629.9	572.8	396.9	332.8	304.2	332.8	363.7	484.9	546.7	594.2	601.4
82.5°	294.7	320.9	271.0	204.4	204.4	223.4	252.0	375.6	413.6	337.5	294.7
85°	107.0	145.0	133.1	104.6	92.7	90.3	156.9	213.9	133.1	118.8	102.2
87.5°	28.5	40.4	38.0	26.1	14.3	11.9	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

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

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**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)