

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: P641446

Luminaire Tested: GWS-SA5F-830-U-SL3-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P641446  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-31)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5F-830-U-SL3-W  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

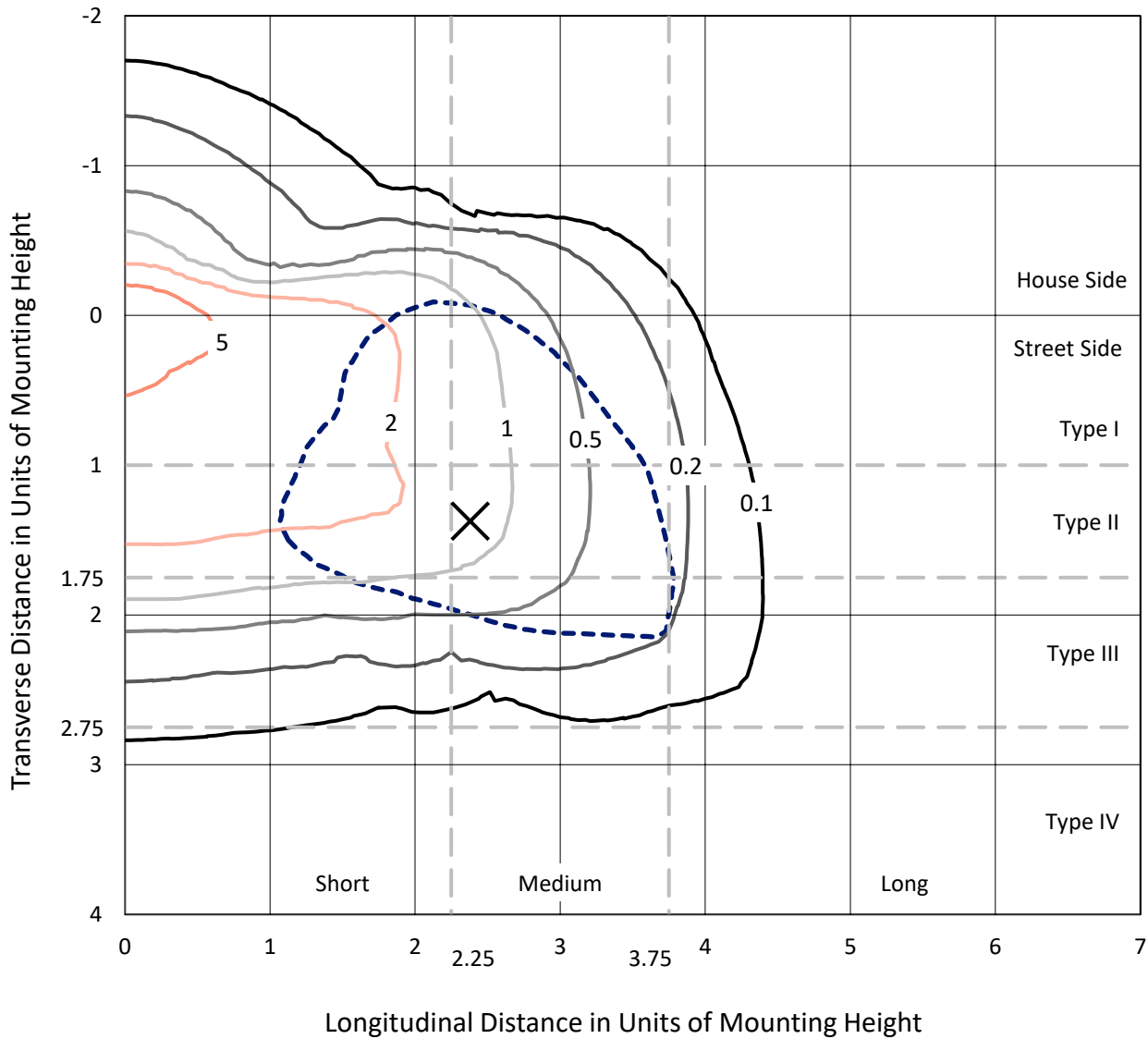
Lumens per Lamp: N/A  
Luminaire Lumens: 32487.4 lumens  
Efficiency: N/A  
Efficacy: 104.7 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B3 - U0 - G4  
  
Input Watts (W): 310.3  
Input Voltage (V): 120  
Input Current (Ain): 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: P641446  
 CATALOG NUMBER: GWS-SA5F-830-U-SL3-W

### Iso-Footcandle Lines of Horizontal Illumination

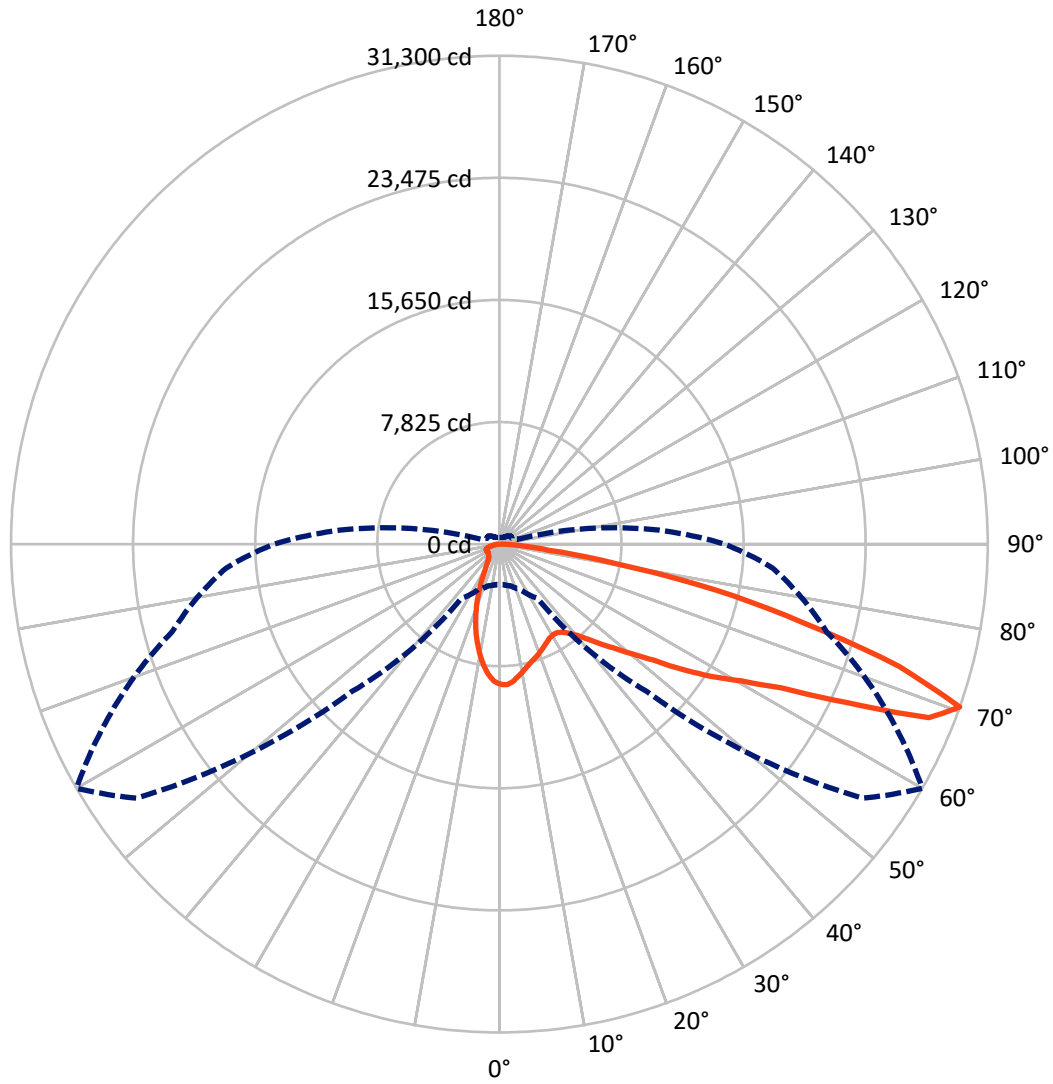
✕ Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 10 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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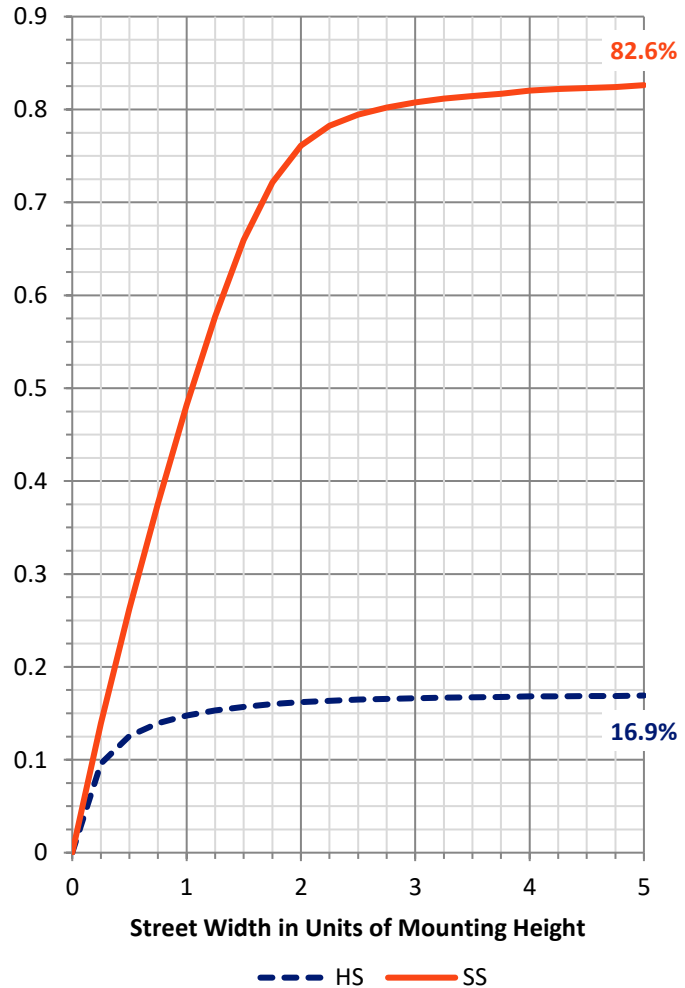
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	5556.1	0.0	5556.1
	% Fixture	17.1	0.0	17.1
<b>Street Side</b>	Lumens	26931.3	0.0	26931.3
	% Fixture	82.9	0.0	82.9
<b>Total</b>	Lumens	32487.4	0.0	32487.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	774.9	2.4
10°-20°	1736.0	5.3
20°-30°	2223.2	6.8
30°-40°	2921.8	9.0
40°-50°	4239.1	13.0
50°-60°	6614.0	20.4
60°-70°	8659.0	26.7
70°-80°	4788.1	14.7
80°-90°	531.4	1.6
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°	32487.4	100.0
0°-180°	32487.4	100.0

**Coefficient of Utilization**



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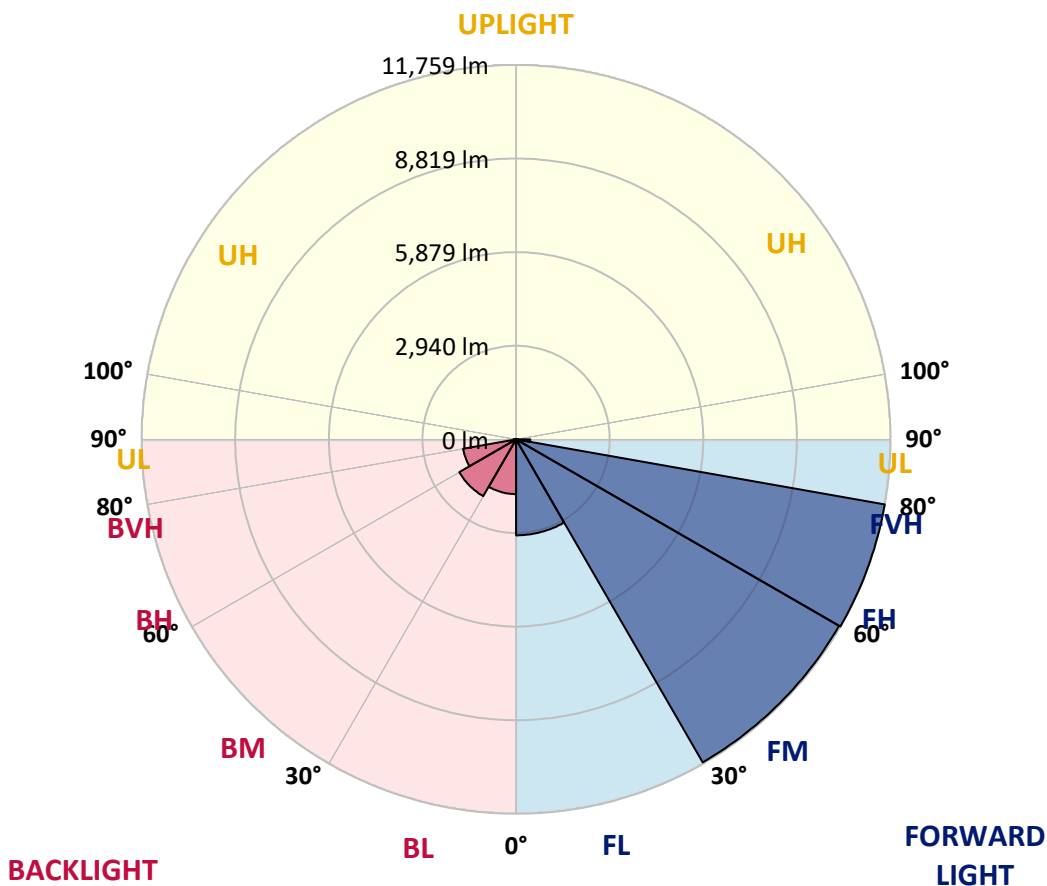
CATALOG NUMBER: GWS-SA5F-830-U-SL3-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3015.0	9.3			
FM (30°-60°)	11714.8	36.1			
FH (60°-80°)	11758.6	36.2			G4/12000
FVH (80°-90°)	442.8	1.4			G3/500
BL (0°-30°)	1719.0	5.3	B3/2500		
BM (30°-60°)	2060.0	6.3	B2/2500		
BH (60°-80°)	1688.5	5.2	B3/2500		G3/2500
BVH (80°-90°)	88.6	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7
2.5°	8863.7	8873.2	8899.4	8937.4	8975.4	8994.4	9042.0	9027.7	9018.2	8999.2	8975.4
5°	8471.5	8490.5	8514.3	8588.0	8671.2	8737.7	8844.7	8856.6	8861.3	8870.8	8832.8
7.5°	7972.3	7977.1	8034.1	8131.6	8240.9	8355.0	8533.3	8583.2	8626.0	8673.5	8642.6
10°	7420.9	7432.8	7475.6	7615.8	7803.6	7972.3	8212.4	8295.6	8385.9	8490.5	8447.7
12.5°	6969.3	6971.6	7040.6	7190.3	7394.7	7622.9	7922.4	8022.3	8141.1	8305.1	8267.1
15°	6610.3	6610.3	6674.5	6802.9	7038.2	7306.8	7663.3	7791.7	7953.3	8174.4	8107.8
17.5°	6325.1	6327.5	6367.9	6503.4	6712.6	7009.7	7432.8	7606.3	7784.6	8076.9	7977.1
20°	6175.4	6163.5	6170.6	6253.8	6432.1	6719.7	7202.2	7404.2	7644.3	8010.4	7858.2
22.5°	6168.2	6146.8	6115.9	6123.1	6227.6	6465.3	6955.0	7199.8	7501.7	7955.7	7737.0
25°	6289.5	6265.7	6211.0	6149.2	6139.7	6282.3	6722.1	7000.2	7354.3	7931.9	7620.6
27.5°	6493.9	6477.2	6405.9	6313.2	6215.8	6211.0	6546.2	6836.2	7247.4	7955.7	7537.4
30°	6764.8	6736.3	6691.2	6572.3	6424.9	6272.8	6477.2	6748.2	7176.1	8031.8	7501.7
32.5°	7071.5	7054.8	7012.0	6893.2	6736.3	6493.9	6531.9	6767.2	7176.1	8164.9	7508.8
35°	7397.1	7394.7	7394.7	7316.3	7142.8	6840.9	6748.2	6928.9	7285.4	8378.8	7584.9
37.5°	7713.3	7710.9	7786.9	7815.5	7618.2	7292.5	7116.6	7252.1	7525.5	8694.9	7772.7
40°	7970.0	7979.5	8145.9	8288.5	8179.1	7877.3	7630.1	7699.0	7915.3	9144.2	8100.7
42.5°	8229.1	8255.2	8504.8	8756.7	8799.5	8538.1	8288.5	8328.9	8473.9	9738.4	8590.4
45°	8511.9	8523.8	8873.2	9225.0	9431.8	9277.3	9072.9	9127.5	9160.8	10472.9	9320.1
47.5°	8785.3	8816.2	9267.8	9750.3	10142.5	10128.3	10014.2	9997.5	10004.6	11366.6	10182.9
50°	9158.4	9203.6	9733.7	10316.0	10891.3	11155.1	11188.4	11062.4	11010.1	12360.2	11257.3
52.5°	9866.8	9866.8	10342.2	10915.0	11687.5	12341.2	12564.6	12357.8	12191.5	13410.8	12398.3
55°	10753.4	10791.4	11169.4	11632.9	12612.2	13589.1	14345.0	14116.8	13646.2	14554.2	13593.9
57.5°	11148.0	11195.5	11794.5	12514.7	13822.1	15008.2	16056.4	15975.6	15288.6	15742.6	14834.6
60°	10434.9	10534.7	11359.5	12567.0	14917.8	17297.2	18036.4	17801.1	16819.4	16990.6	16180.0
62.5°	8704.4	8813.8	9728.9	11414.2	14765.7	19771.6	21157.4	20289.8	18730.5	18566.5	17972.2
65°	5193.7	5188.9	6289.5	8523.8	12890.3	20458.5	26096.7	24478.0	21682.7	20729.5	19816.8
67.5°	3301.6	3294.5	3525.0	4516.2	8578.5	18775.7	29272.3	29693.1	25692.6	22319.7	19968.9
70°	2605.2	2602.8	2769.2	3220.8	4242.9	13360.9	28388.1	31299.9	28114.7	21713.6	17582.4
72.5°	1899.2	1903.9	2160.7	2697.9	3273.1	6707.8	22987.6	26781.3	25859.0	19167.9	14273.7
75°	1364.4	1371.5	1526.0	2065.6	3018.7	3667.7	15286.3	20137.7	19674.1	15364.7	9819.2
77.5°	867.6	877.1	1012.6	1447.6	2438.8	2961.7	9267.8	14216.6	13089.9	8656.9	3491.8
80°	530.1	561.0	675.1	1079.1	1949.1	2222.5	4632.7	7489.8	6555.7	2374.6	1174.2
82.5°	273.4	297.1	406.5	667.9	1343.0	1951.5	2621.8	3147.1	2029.9	993.6	625.1
85°	85.6	99.8	142.6	271.0	639.4	1209.9	1735.2	1564.0	931.8	468.3	290.0
87.5°	21.4	21.4	23.8	23.8	26.1	54.7	335.2	354.2	247.2	147.4	118.8
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: P641446  
 CATALOG NUMBER: GWS-SA5F-830-U-SL3-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7	8989.7
2.5°	8927.9	8870.8	8847.1	8844.7	8785.3	8699.7	8642.6	8602.2	8578.5	8573.7	8573.7
5°	8768.6	8694.9	8597.5	8523.8	8364.5	8202.9	8067.4	7991.4	7903.4	7891.5	7889.1
7.5°	8557.1	8450.1	8264.7	8057.9	7779.8	7511.2	7283.0	7128.5	6974.0	6945.5	6936.0
10°	8328.9	8183.9	7867.8	7504.1	7088.1	6686.4	6337.0	6063.6	5883.0	5754.6	5730.9
12.5°	8103.1	7910.5	7447.0	6905.1	6334.6	5785.5	5260.2	4813.4	4490.1	4302.3	4269.0
15°	7891.5	7622.9	6988.3	6296.6	5555.0	4803.8	4059.9	3479.9	3025.9	2864.2	2826.2
17.5°	7699.0	7363.8	6543.8	5666.7	4742.0	3760.4	2914.2	2398.4	2132.1	2051.3	2032.3
20°	7506.5	7097.6	6092.2	5003.5	3879.2	2778.7	2129.8	1887.3	1787.5	1756.6	1747.1
22.5°	7299.7	6805.3	5600.1	4349.8	3006.9	2079.8	1742.3	1635.4	1604.5	1606.8	1604.5
25°	7092.9	6508.1	5084.3	3639.1	2239.1	1687.6	1521.3	1480.8	1488.0	1509.4	1514.1
27.5°	6921.7	6244.3	4578.0	2859.5	1749.4	1452.3	1373.9	1371.5	1397.7	1426.2	1430.9
30°	6798.1	6009.0	4078.9	2198.7	1440.4	1290.7	1259.8	1274.1	1305.0	1326.3	1333.5
32.5°	6710.2	5806.9	3546.4	1728.1	1262.2	1176.6	1162.3	1176.6	1195.6	1217.0	1221.8
35°	6679.3	5659.6	3023.5	1409.5	1140.9	1093.4	1083.9	1091.0	1100.5	1112.4	1117.2
37.5°	6748.2	5585.9	2476.8	1226.5	1067.3	1038.7	1024.5	1019.7	1022.1	1026.8	1029.2
40°	6952.6	5619.1	2029.9	1119.6	1019.7	993.6	969.8	960.3	957.9	962.7	960.3
42.5°	7304.4	5759.4	1706.7	1057.7	981.7	943.7	917.5	908.0	908.0	919.9	919.9
45°	7820.2	6035.1	1473.7	1012.6	948.4	900.9	872.3	867.6	877.1	896.1	898.5
47.5°	8576.1	6439.2	1333.5	979.3	917.5	862.8	834.3	831.9	851.0	881.9	884.2
50°	9472.2	7021.6	1257.4	955.5	896.1	831.9	803.4	805.8	827.2	860.5	867.6
52.5°	10551.4	7815.5	1262.2	946.0	884.2	812.9	784.4	779.6	801.0	834.3	841.4
55°	11666.1	8780.5	1354.9	948.4	867.6	803.4	765.4	748.7	767.8	791.5	793.9
57.5°	12892.7	9869.2	1585.4	943.7	846.2	793.9	748.7	710.7	722.6	736.9	744.0
60°	14276.1	11150.3	2082.2	953.2	836.7	772.5	715.5	665.6	663.2	672.7	675.1
62.5°	16125.3	12892.7	2640.8	969.8	858.1	746.4	665.6	613.3	603.7	608.5	610.9
65°	17539.6	13724.6	2464.9	955.5	903.2	727.4	618.0	563.3	544.3	539.6	539.6
67.5°	16964.4	12624.1	1716.2	917.5	924.6	729.7	580.0	511.0	487.3	475.4	473.0
70°	14435.3	10254.2	1193.2	879.5	900.9	725.0	539.6	468.3	437.4	420.7	418.3
72.5°	11404.7	7829.7	965.0	803.4	817.7	653.7	480.1	420.7	394.6	373.2	373.2
75°	7340.1	4777.7	805.8	715.5	667.9	508.7	416.0	375.6	349.4	328.0	328.0
77.5°	2469.7	1773.2	625.1	606.1	499.2	382.7	349.4	323.3	301.9	282.9	280.5
80°	1003.1	841.4	458.8	458.8	349.4	292.4	273.4	261.5	247.2	223.4	223.4
82.5°	582.4	511.0	320.9	278.1	232.9	202.0	190.2	178.3	178.3	161.6	161.6
85°	280.5	282.9	192.5	171.1	133.1	116.5	111.7	104.6	102.2	92.7	90.3
87.5°	152.1	154.5	97.5	76.1	52.3	45.2	38.0	35.7	33.3	30.9	30.9
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 ( $\phi$ /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**

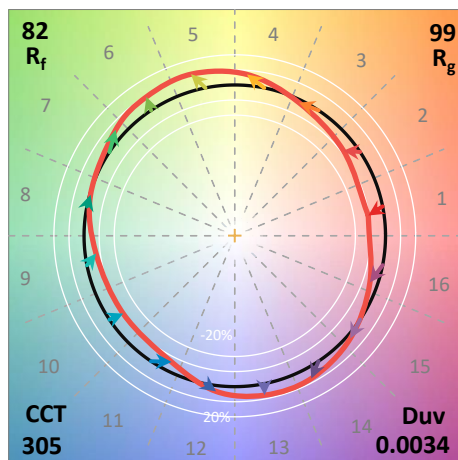
$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)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