

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: P641444

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

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P641444  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-33)  
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-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

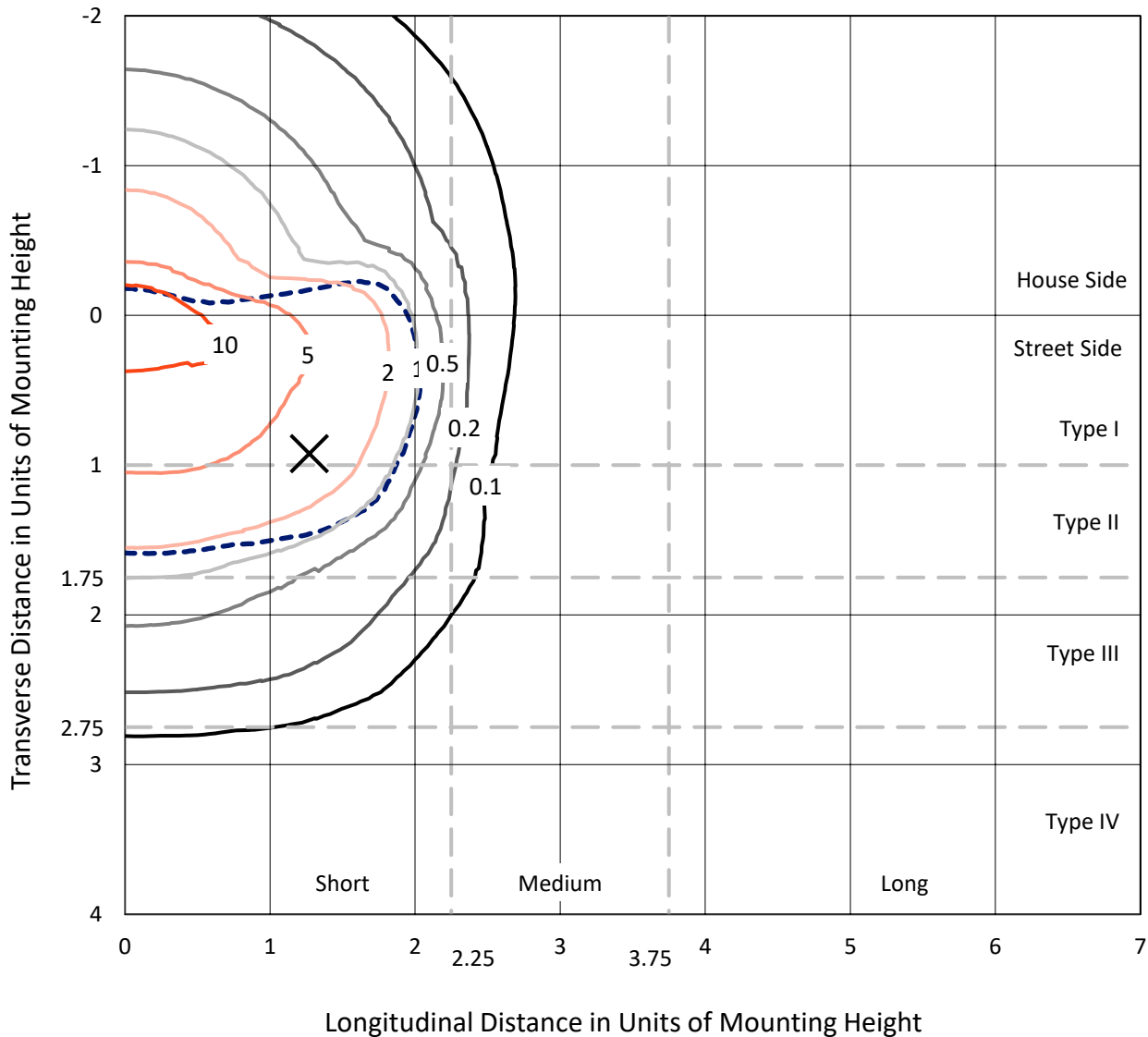
Lumens per Lamp: N/A  
Luminaire Lumens: 27766.9 lumens  
Efficiency: N/A  
Efficacy: 89.5 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 310.3  
Input Voltage (V): 120  
Input Current (Ain): 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



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

### Iso-Footcandle Lines of Horizontal Illumination

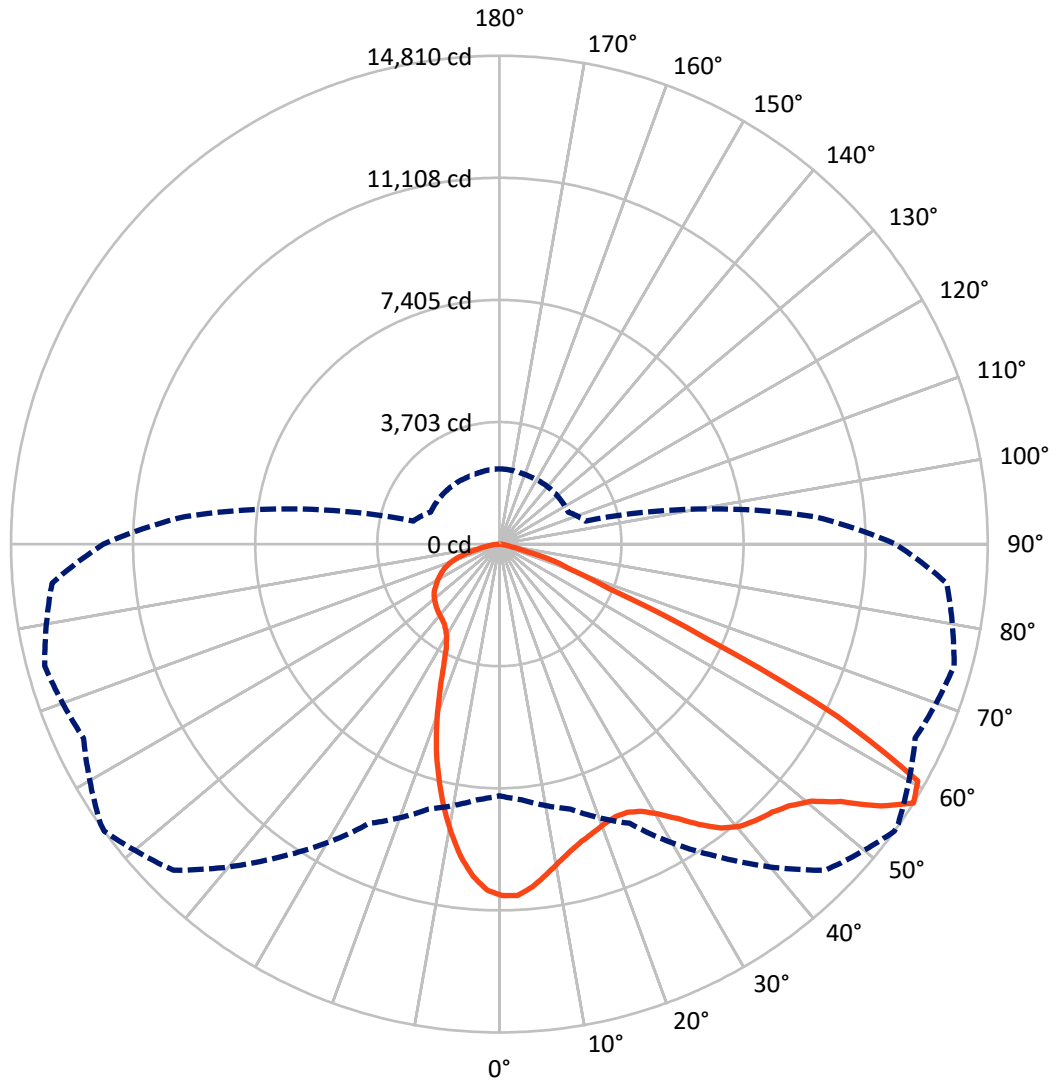
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 17.1 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 54-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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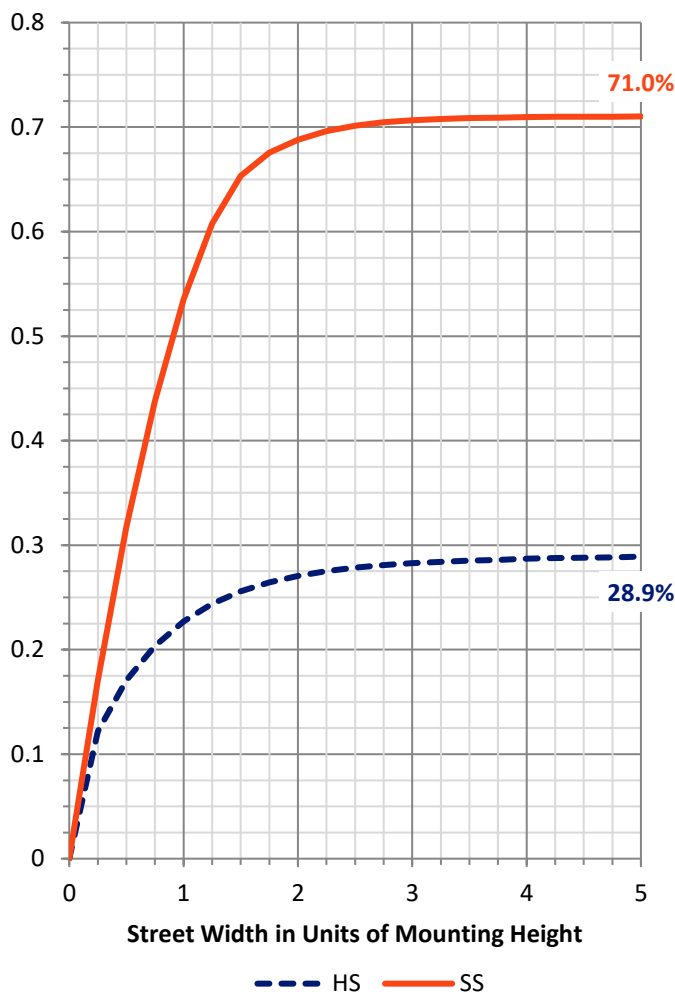
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	8072.2	0.0	8072.2
	% Fixture	29.1	0.0	29.1
<b>Street Side</b>	Lumens	19694.7	0.0	19694.7
	% Fixture	70.9	0.0	70.9
<b>Total</b>	Lumens	27766.9	0.0	27766.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	937.0	3.4
10°-20°	2235.9	8.1
20°-30°	3094.1	11.1
30°-40°	4299.3	15.5
40°-50°	5678.1	20.4
50°-60°	6747.5	24.3
60°-70°	3738.2	13.5
70°-80°	930.9	3.4
80°-90°	105.9	0.4
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°	27766.9	100.0
0°-180°	27766.9	100.0

**Coefficient of Utilization**



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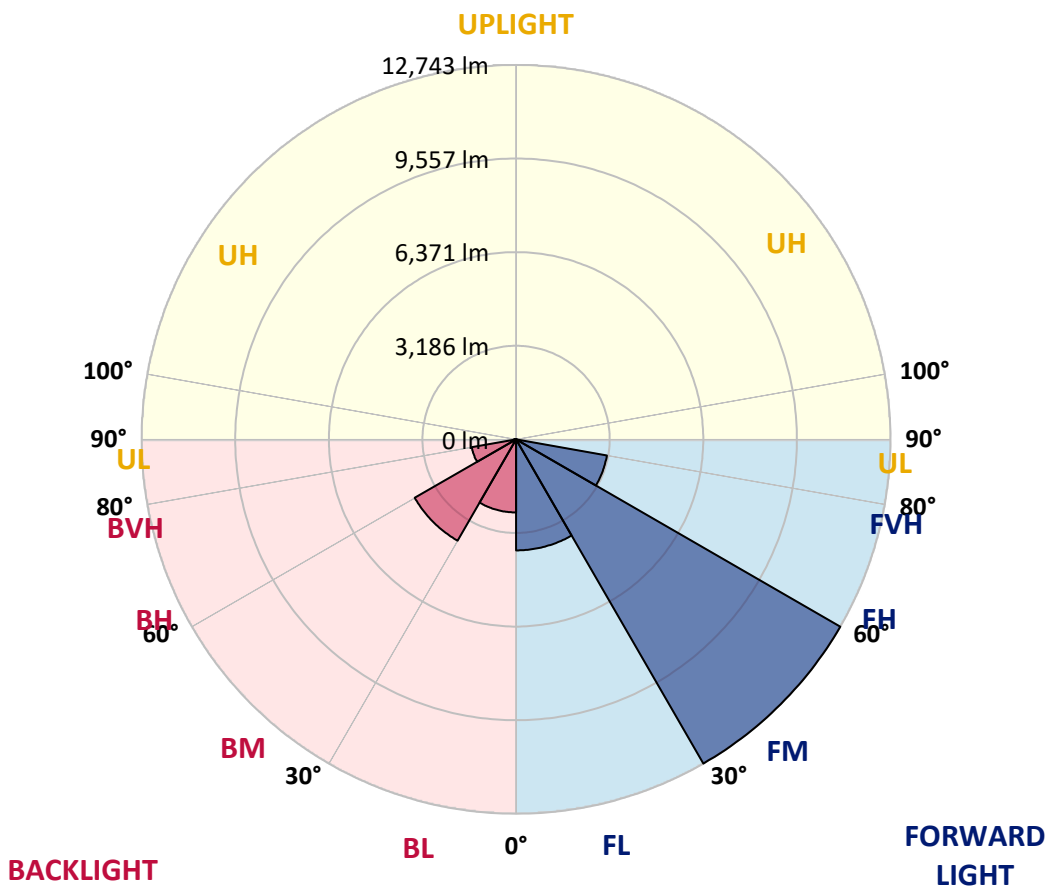
CATALOG NUMBER: GWS-SA5F-830-U-SL3-W-GRSWH

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3779.5	13.6			
FM (30°-60°)	12742.7	45.9			
FH (60°-80°)	3139.4	11.3			G2/5000
FVH (80°-90°)	33.1	0.1			G1/100
BL (0°-30°)	2487.5	9.0	B3/2500		
BM (30°-60°)	3982.2	14.3	B3/5000		
BH (60°-80°)	1529.7	5.5	B3/2500		G3/2500
BVH (80°-90°)	72.7	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°	54°	55°	65°	75°	85°
0°	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3
2.5°	10460.7	10482.1	10496.3	10546.3	10589.0	10627.1	10667.5	10667.5	10665.1	10658.0	10643.7
5°	10047.1	10070.9	10104.2	10173.1	10265.8	10332.3	10441.7	10451.2	10498.7	10517.7	10508.2
7.5°	9567.0	9574.1	9616.9	9707.2	9854.6	9973.4	10130.3	10149.3	10263.4	10330.0	10318.1
10°	9041.7	9017.9	9094.0	9227.1	9419.6	9619.3	9821.3	9837.9	10021.0	10146.9	10137.4
12.5°	8561.6	8563.9	8640.0	8801.6	9041.7	9288.9	9559.8	9597.9	9823.7	9985.3	9968.7
15°	8159.9	8169.4	8262.1	8445.1	8718.4	9013.2	9350.7	9386.3	9671.6	9885.5	9837.9
17.5°	7839.0	7848.5	7929.3	8138.5	8430.8	8787.4	9198.6	9234.2	9588.4	9842.7	9745.2
20°	7617.9	7613.2	7691.6	7891.3	8193.1	8580.6	9065.5	9117.7	9562.2	9859.3	9683.4
22.5°	7527.6	7525.2	7582.3	7746.3	8029.1	8421.3	8984.6	9055.9	9590.7	9933.0	9645.4
25°	7572.8	7563.3	7613.2	7734.4	7960.2	8359.5	9008.4	9084.5	9712.0	10085.1	9652.5
27.5°	7713.0	7701.1	7743.9	7853.2	8024.4	8423.7	9174.8	9262.7	9968.7	10363.2	9747.6
30°	7926.9	7919.8	7962.6	8067.2	8216.9	8637.6	9493.3	9593.1	10365.6	10795.8	9954.4
32.5°	8176.5	8164.6	8240.7	8361.9	8535.4	9027.4	9921.1	10051.9	10836.2	11352.0	10301.4
35°	8457.0	8447.5	8552.0	8727.9	8977.5	9569.4	10439.3	10581.9	11316.4	11981.9	10762.5
37.5°	8730.3	8730.3	8932.3	9193.8	9507.6	10158.8	10926.6	11016.9	11649.1	12540.5	11256.9
40°	8972.8	8987.0	9291.3	9683.4	10082.8	10691.2	11247.4	11323.5	11796.5	12925.5	11687.2
42.5°	9241.3	9253.2	9607.4	10120.8	10596.2	11121.5	11442.3	11480.4	11825.0	13118.0	11991.4
45°	9455.3	9471.9	9911.6	10460.7	11043.0	11444.7	11596.8	11630.1	11865.4	13222.6	12212.5
47.5°	9567.0	9590.7	10094.6	10734.0	11344.9	11734.7	11851.2	11865.4	12031.8	13405.6	12478.7
50°	9548.0	9595.5	10163.6	10869.5	11568.3	12027.1	12260.0	12283.8	12371.7	13674.2	12790.0
52.5°	9716.7	9738.1	10310.9	11031.1	11886.8	12566.6	12970.7	13004.0	12963.5	13876.3	12975.4
55°	9436.2	9538.5	10127.9	11007.4	12371.7	13400.9	14023.6	14007.0	13500.7	14102.1	13284.4
57.5°	7632.2	7781.9	8321.5	9343.5	11573.1	13985.6	14810.4	14770.0	13916.7	14275.6	13619.6
60°	5283.8	5307.6	5794.9	6519.8	8932.3	12355.1	14579.8	14667.8	13992.7	14056.9	12999.2
62.5°	4226.1	4219.0	4264.1	4283.2	5680.8	8685.1	11508.9	11829.8	11625.4	10952.7	9212.8
65°	3608.1	3634.3	3767.4	3698.4	3707.9	4891.6	6876.3	6921.5	6778.9	6536.4	4872.6
67.5°	2823.7	2868.9	3104.2	3372.8	3287.2	3149.4	3567.7	3546.3	2795.2	2163.0	1787.4
70°	1768.4	1796.9	2048.9	2647.9	2861.8	2586.1	2293.7	2284.2	1497.4	1231.2	1350.1
72.5°	1031.6	1036.3	1107.6	1476.0	1899.1	1768.4	1687.6	1625.8	962.6	981.7	1076.7
75°	568.1	568.1	565.7	637.0	748.7	663.2	641.8	625.1	644.1	729.7	801.0
77.5°	118.8	121.2	128.4	168.8	218.7	266.2	335.1	337.5	420.7	487.3	544.3
80°	54.7	57.0	71.3	90.3	116.5	154.5	204.4	206.8	254.3	306.6	344.6
82.5°	28.5	30.9	38.0	47.5	61.8	80.8	114.1	114.1	152.1	180.6	204.4
85°	9.5	9.5	14.3	19.0	26.1	33.3	45.2	45.2	66.6	87.9	102.2
87.5°	0.0	0.0	0.0	0.0	2.4	4.8	9.5	9.5	11.9	14.3	23.8
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: P641444

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

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3	10660.3
2.5°	10612.8	10539.1	10541.5	10555.8	10510.6	10441.7	10396.5	10339.5	10303.8	10296.7	10322.8
5°	10460.7	10375.1	10315.7	10253.9	10125.5	9973.4	9854.6	9757.1	9692.9	9669.2	9640.7
7.5°	10251.5	10139.8	9990.1	9816.5	9583.6	9312.6	9122.5	8944.2	8820.6	8785.0	8768.3
10°	10042.4	9880.7	9614.5	9291.3	8903.8	8537.8	8193.1	7929.3	7720.1	7601.3	7639.3
12.5°	9826.1	9626.4	9210.4	8713.7	8174.1	7622.7	7171.1	6733.7	6396.2	6227.4	6177.5
15°	9635.9	9364.9	8785.0	8112.3	7394.5	6700.4	6046.8	5390.8	4962.9	4730.0	4665.8
17.5°	9474.3	9122.5	8335.7	7499.1	6641.0	5652.2	4848.9	4240.4	3948.0	3819.7	3810.2
20°	9315.0	8884.8	7891.3	6838.3	5771.1	4663.5	3945.6	3660.4	3555.8	3510.7	3508.3
22.5°	9172.4	8635.2	7423.0	6177.5	4905.9	3919.5	3524.9	3401.3	3372.8	3372.8	3368.1
25°	9051.2	8385.7	6942.9	5476.4	4123.9	3489.3	3306.3	3254.0	3265.8	3287.2	3289.6
27.5°	9001.3	8190.8	6479.4	4756.2	3584.3	3239.7	3156.5	3149.4	3182.7	3215.9	3220.7
30°	9053.6	8057.7	6004.0	4066.9	3261.1	3087.6	3049.5	3063.8	3104.2	3137.5	3137.5
32.5°	9215.2	7991.1	5519.1	3563.0	3073.3	2980.6	2968.7	2983.0	3013.9	3032.9	3035.3
35°	9488.5	8017.2	5017.6	3223.1	2952.1	2902.2	2899.8	2909.3	2921.2	2933.1	2935.5
37.5°	9833.2	8133.7	4480.4	3025.8	2873.7	2845.1	2840.4	2838.0	2840.4	2840.4	2842.8
40°	10170.7	8309.6	4000.3	2909.3	2819.0	2795.2	2783.3	2766.7	2764.3	2759.6	2757.2
42.5°	10420.3	8445.1	3617.6	2826.1	2769.1	2740.6	2726.3	2700.1	2697.8	2695.4	2693.0
45°	10608.1	8559.2	3299.1	2745.3	2716.8	2690.6	2659.7	2636.0	2640.7	2645.5	2645.5
47.5°	10819.6	8659.0	3066.2	2669.2	2652.6	2626.5	2588.4	2571.8	2588.4	2605.1	2605.1
50°	11076.3	8799.2	2876.0	2593.2	2586.1	2555.2	2521.9	2514.7	2533.8	2557.5	2557.5
52.5°	11264.1	8920.5	2740.6	2517.1	2517.1	2476.7	2448.2	2445.8	2467.2	2491.0	2493.4
55°	11615.9	9203.3	2693.0	2429.2	2419.7	2388.8	2367.4	2350.7	2376.9	2398.3	2398.3
57.5°	12012.8	9578.9	2704.9	2303.2	2291.3	2281.8	2265.2	2246.2	2253.3	2277.1	2279.4
60°	11171.4	8851.5	2574.2	2177.2	2170.1	2165.3	2144.0	2110.7	2120.2	2139.2	2141.6
62.5°	7803.3	5882.8	2082.2	2020.4	2044.1	2041.7	2013.2	1975.2	1977.6	2003.7	2003.7
65°	4050.2	3182.7	1827.8	1877.7	1913.4	1899.1	1851.6	1818.3	1813.6	1846.8	1839.7
67.5°	1747.0	1737.5	1663.8	1728.0	1766.0	1735.1	1685.2	1630.5	1635.3	1647.2	1637.7
70°	1407.1	1449.9	1480.8	1549.7	1580.6	1523.6	1468.9	1438.0	1411.9	1409.5	1392.9
72.5°	1124.3	1183.7	1252.6	1323.9	1333.4	1276.4	1207.5	1178.9	1138.5	1136.2	1119.5
75°	846.2	896.1	950.8	1007.8	1007.8	953.1	908.0	893.7	846.2	831.9	817.6
77.5°	577.6	608.5	651.3	665.5	679.8	658.4	613.2	589.5	534.8	520.5	501.5
80°	363.7	385.1	411.2	420.7	435.0	408.8	373.2	347.0	309.0	297.1	287.6
82.5°	218.7	232.9	249.6	254.3	266.2	247.2	213.9	194.9	173.5	164.0	156.9
85°	111.7	118.8	128.4	130.7	128.4	109.3	97.5	87.9	73.7	71.3	66.6
87.5°	28.5	33.3	35.7	33.3	30.9	23.8	16.6	11.9	4.8	4.8	2.4
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 $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	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**

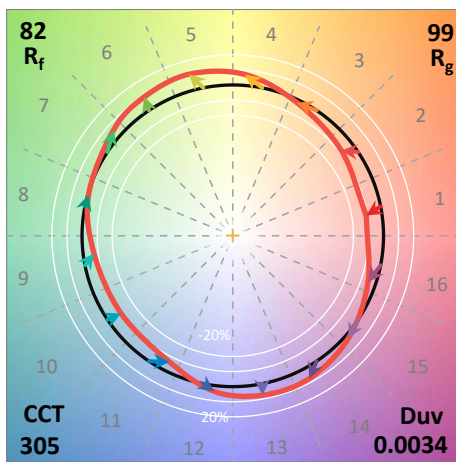
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	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**



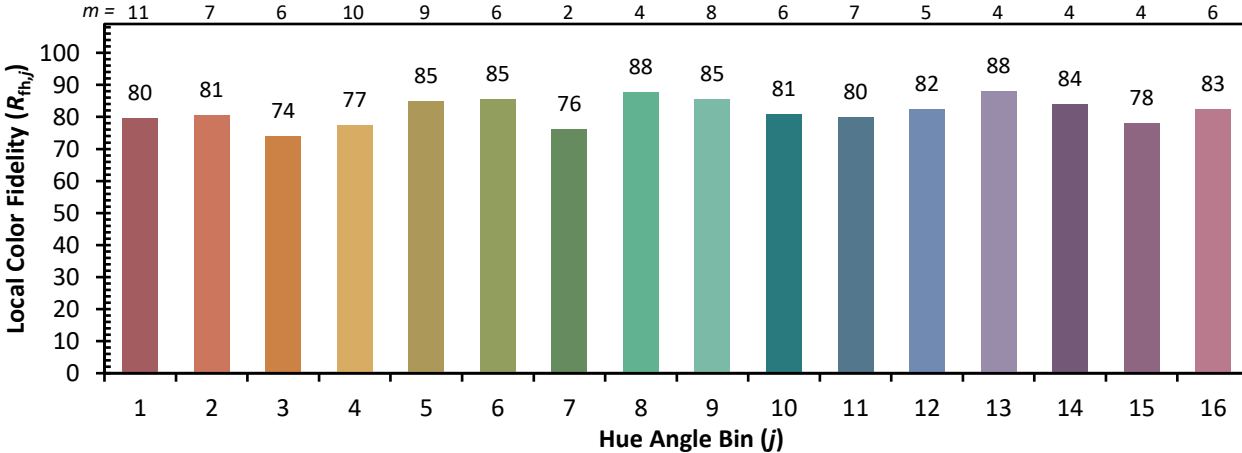


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)