

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: P639951

Luminaire Tested: GWS-SA5C-830-U-RW-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P639951  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-50)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5C-830-U-RW-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

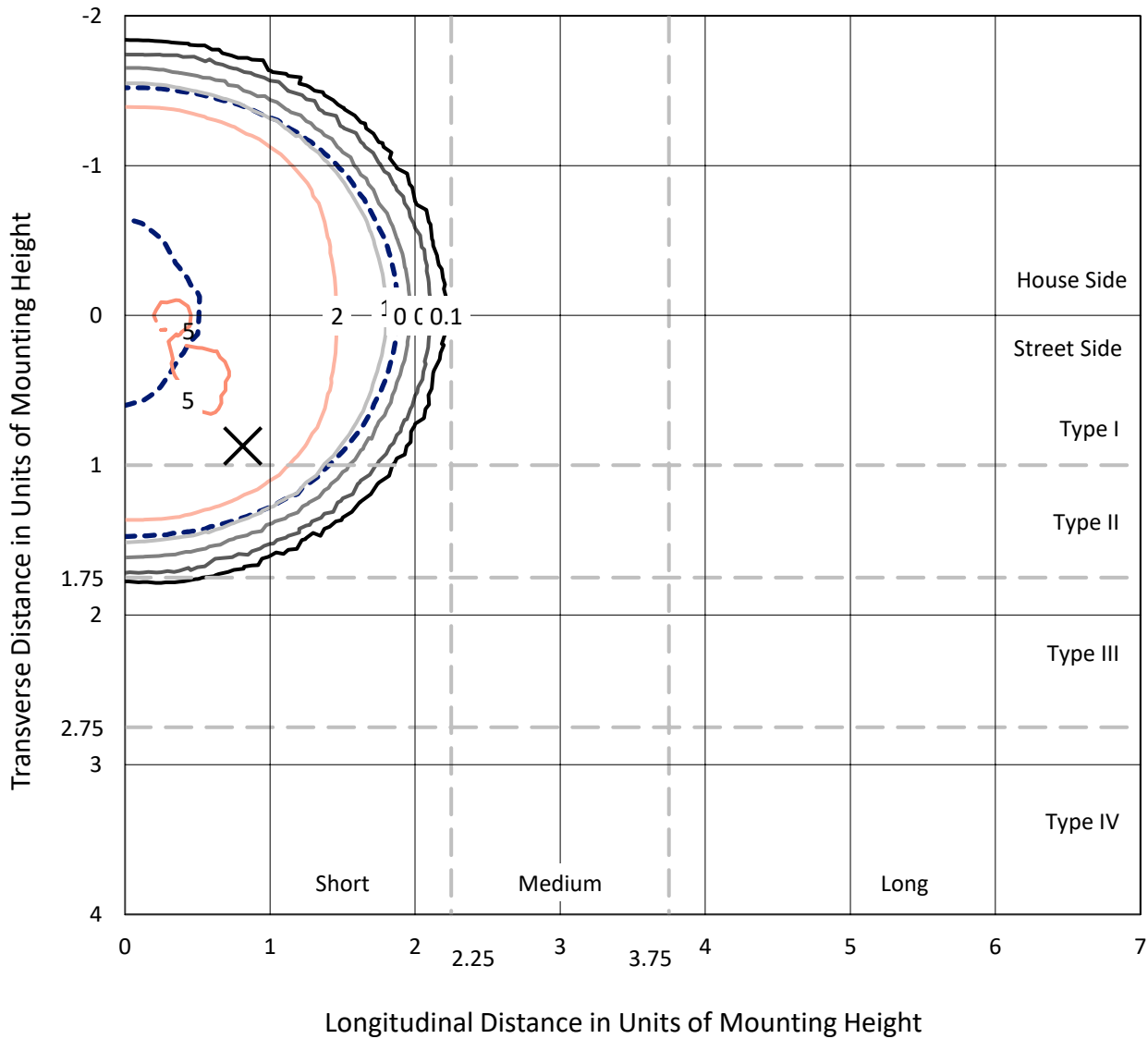
Lumens per Lamp: N/A  
Luminaire Lumens: 12260.1 lumens  
Efficiency: N/A  
Efficacy: 77.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B3 - U0 - G0  
  
Input Watts (W): 157.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P639951  
 CATALOG NUMBER: GWS-SA5C-830-U-RW-W-GRSBK

### Iso-Footcandle Lines of Horizontal Illumination

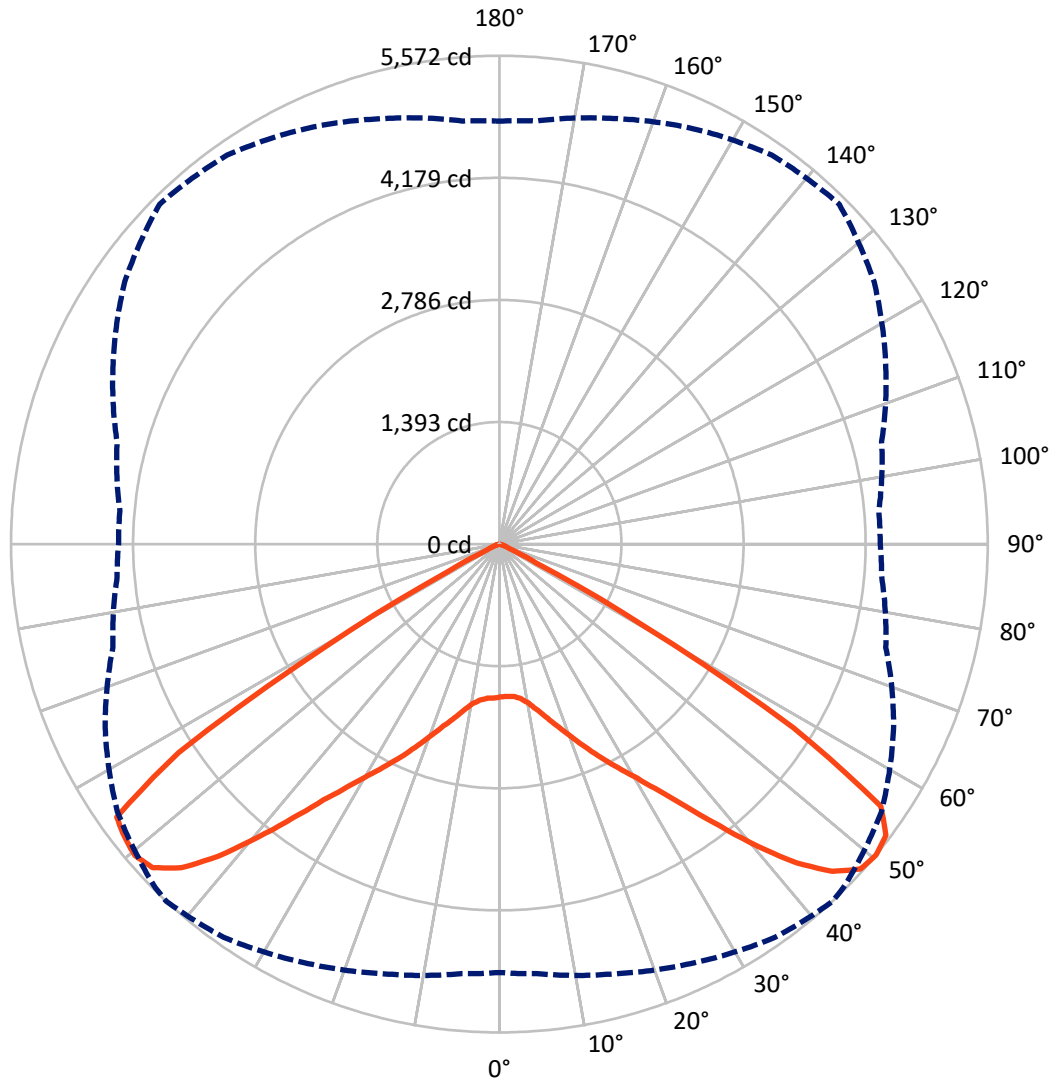
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.2 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 43-Deg Lateral    - - - Horizontal Cone Through 50-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6129.9	0.0	6129.9
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	6130.2	0.0	6130.2
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	12260.1	0.0	12260.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	171.7	1.4
10°-20°	591.0	4.8
20°-30°	1195.6	9.8
30°-40°	2218.3	18.1
40°-50°	3682.2	30.0
50°-60°	3757.8	30.7
60°-70°	616.2	5.0
70°-80°	27.0	0.2
80°-90°	0.4	0.0
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°	12260.1	100.0
0°-180°	12260.1	100.0

**Coefficient of Utilization**



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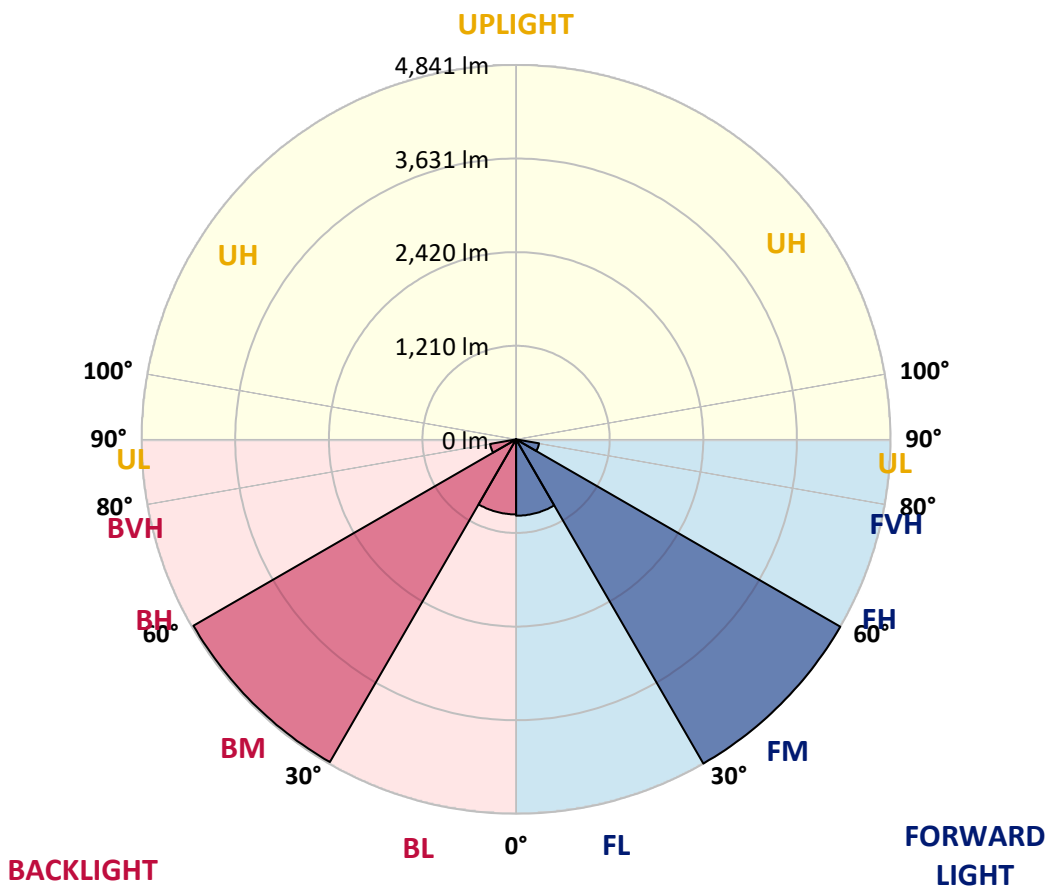
CATALOG NUMBER: GWS-SA5C-830-U-RW-W-GRSBK

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	987.7	8.1			
FM (30°-60°)	4840.9	39.5			
FH (60°-80°)	301.5	2.5			G0/660
FVH (80°-90°)	0.1	0.0			G0/10
BL (0°-30°)	970.6	7.9	B2/1000		
BM (30°-60°)	4817.4	39.3	B3/5000		
BH (60°-80°)	341.7	2.8	B1/500		G0/660
BVH (80°-90°)	0.2	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G0**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	43°	45°	55°	65°	75°	85°
0°	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8
2.5°	1711.3	1715.3	1720.8	1726.2	1733.0	1739.7	1743.8	1756.0	1753.3	1764.1	1764.1
5°	1692.3	1696.3	1703.1	1715.3	1730.2	1745.2	1756.0	1780.4	1794.0	1815.7	1823.8
7.5°	1701.8	1707.2	1715.3	1734.3	1757.4	1780.4	1792.6	1831.9	1859.1	1899.7	1922.8
10°	1733.0	1738.4	1751.9	1784.5	1814.3	1846.9	1861.8	1911.9	1955.3	2010.9	2043.5
12.5°	1768.2	1775.0	1802.1	1850.9	1902.5	1945.8	1966.2	2021.8	2066.5	2128.9	2180.4
15°	1804.8	1815.7	1857.7	1929.6	2002.8	2061.1	2082.8	2142.5	2187.2	2253.7	2312.0
17.5°	1890.3	1902.5	1949.9	2027.2	2127.6	2195.4	2214.3	2276.7	2310.6	2355.4	2416.4
20°	1997.4	2020.4	2078.7	2172.3	2282.1	2347.2	2360.8	2421.8	2419.1	2438.1	2491.0
22.5°	2130.3	2146.5	2210.3	2321.5	2444.9	2516.7	2547.9	2573.7	2539.8	2523.5	2557.4
25°	2268.6	2287.6	2356.7	2478.8	2617.1	2699.8	2725.5	2745.9	2691.6	2630.6	2634.7
27.5°	2447.6	2461.1	2528.9	2659.1	2797.4	2891.0	2914.0	2949.3	2877.4	2779.8	2752.7
30°	2660.5	2674.0	2745.9	2882.8	3019.8	3099.8	3135.1	3178.4	3099.8	2977.8	2946.6
32.5°	2910.0	2923.5	3015.7	3156.7	3269.3	3356.1	3390.0	3436.1	3373.7	3236.8	3201.5
35°	3208.3	3216.4	3324.9	3478.1	3597.4	3681.5	3704.6	3758.8	3689.7	3552.7	3533.7
37.5°	3554.1	3563.5	3681.5	3859.2	3981.2	4074.8	4111.4	4126.3	4042.2	3889.0	3874.1
40°	3933.7	3964.9	4080.2	4271.4	4408.3	4526.3	4558.8	4508.7	4390.7	4181.9	4154.8
42.5°	4329.7	4356.8	4485.6	4693.1	4851.7	4972.4	4973.8	4865.3	4664.6	4375.8	4335.1
45°	4659.2	4670.0	4836.8	5045.6	5240.9	5326.3	5334.5	5137.9	4835.5	4488.3	4401.5
47.5°	4885.6	4903.3	5048.4	5249.0	5464.6	5541.9	5525.7	5280.2	4916.8	4561.6	4417.8
50°	4888.4	4918.2	5075.5	5269.4	5478.2	5571.8	5548.7	5320.9	4962.9	4564.3	4378.5
52.5°	4455.8	4504.6	4760.9	5041.6	5361.6	5521.6	5527.0	5373.8	4945.3	4520.9	4343.2
55°	3361.5	3414.4	3737.1	4215.8	4834.1	5280.2	5357.5	5311.4	4925.0	4539.9	4405.6
57.5°	1779.1	1738.4	1917.4	2392.0	3169.0	3958.1	4184.6	4553.4	4698.5	4562.9	4520.9
60°	387.8	413.6	550.5	741.7	1236.7	1861.8	2082.8	2714.7	3465.9	3799.5	4040.9
62.5°	166.8	164.1	170.9	193.9	283.4	471.9	576.3	941.1	1484.8	2039.4	2415.0
65°	137.0	138.3	143.7	143.7	134.2	135.6	142.4	215.6	347.1	486.8	653.6
67.5°	103.1	104.4	113.9	116.6	109.8	97.6	96.3	81.4	85.4	107.1	111.2
70°	65.1	65.1	70.5	73.2	73.2	67.8	66.4	58.3	57.0	65.1	73.2
72.5°	35.3	35.3	38.0	39.3	38.0	36.6	36.6	35.3	33.9	39.3	50.2
75°	14.9	14.9	16.3	16.3	14.9	14.9	14.9	14.9	14.9	17.6	27.1
77.5°	2.7	4.1	5.4	4.1	2.7	2.7	2.7	4.1	4.1	5.4	8.1
80°	1.4	1.4	2.7	1.4	0.0	0.0	0.0	0.0	1.4	1.4	1.4
82.5°	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	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



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CATALOG NUMBER: GWS-SA5C-830-U-RW-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8	1743.8
2.5°	1773.6	1758.7	1764.1	1766.9	1762.8	1760.1	1745.2	1741.1	1734.3	1723.5	1720.8
5°	1833.3	1821.1	1819.7	1811.6	1792.6	1769.6	1741.1	1728.9	1715.3	1701.8	1699.1
7.5°	1933.6	1918.7	1909.2	1882.1	1838.7	1802.1	1754.7	1728.9	1711.3	1693.6	1689.6
10°	2062.5	2044.8	2017.7	1967.5	1909.2	1856.4	1800.8	1766.9	1739.7	1715.3	1714.0
12.5°	2199.4	2180.4	2131.6	2067.9	1997.4	1948.6	1878.0	1830.6	1789.9	1753.3	1749.2
15°	2343.2	2320.1	2253.7	2177.7	2112.6	2062.5	1985.2	1909.2	1846.9	1794.0	1788.6
17.5°	2453.0	2424.5	2345.9	2288.9	2236.0	2184.5	2097.7	1997.4	1914.7	1850.9	1836.0
20°	2522.1	2495.0	2420.4	2389.3	2364.8	2328.2	2225.2	2120.8	2028.6	1949.9	1936.4
22.5°	2588.6	2556.0	2491.0	2491.0	2509.9	2495.0	2383.8	2264.5	2156.0	2065.2	2044.8
25°	2663.2	2637.4	2591.3	2629.3	2676.7	2675.4	2561.5	2412.3	2287.6	2185.9	2165.5
27.5°	2771.6	2745.9	2729.6	2801.5	2861.1	2857.1	2732.3	2571.0	2439.4	2339.1	2320.1
30°	2962.8	2938.4	2920.8	3007.6	3083.5	3055.0	2918.1	2762.2	2629.3	2515.4	2501.8
32.5°	3217.8	3192.0	3169.0	3255.7	3323.5	3286.9	3156.7	3010.3	2857.1	2745.9	2718.8
35°	3552.7	3498.5	3475.4	3578.5	3606.9	3566.3	3441.5	3312.7	3150.0	3022.5	3004.9
37.5°	3898.5	3834.7	3818.5	3908.0	3954.1	3939.2	3792.7	3658.5	3482.2	3341.2	3320.8
40°	4194.1	4135.8	4107.3	4247.0	4351.4	4360.9	4229.3	4065.3	3857.8	3711.3	3674.7
42.5°	4367.6	4317.5	4310.7	4527.7	4698.5	4820.6	4663.3	4493.8	4275.4	4110.0	4080.2
45°	4407.0	4374.4	4431.4	4716.1	4981.9	5204.3	5070.1	4891.1	4655.1	4480.2	4451.7
47.5°	4402.9	4392.1	4493.8	4813.8	5150.1	5424.0	5357.5	5155.5	4927.7	4744.6	4717.5
50°	4344.6	4346.0	4515.5	4862.6	5217.9	5483.6	5417.2	5230.1	5026.7	4846.3	4824.6
52.5°	4321.5	4313.4	4474.8	4847.7	5287.0	5456.5	5307.4	5097.2	4870.7	4648.3	4615.8
55°	4402.9	4382.6	4480.2	4835.5	5295.1	5441.6	5048.4	4592.7	4129.0	3865.9	3844.2
57.5°	4524.9	4503.2	4549.4	4746.0	4870.7	4524.9	3715.4	2980.5	2503.2	2301.1	2213.0
60°	4040.9	4025.9	3990.7	3753.4	3219.1	2428.6	1654.3	1055.0	758.0	612.9	612.9
62.5°	2507.2	2486.9	2295.7	1705.8	1239.4	717.3	394.6	246.8	187.1	174.9	173.6
65°	703.8	699.7	579.0	409.5	260.4	161.4	142.4	145.1	142.4	138.3	137.0
67.5°	105.8	116.6	116.6	94.9	90.9	101.7	119.3	127.5	120.7	113.9	111.2
70°	67.8	73.2	70.5	61.0	65.1	75.9	85.4	86.8	82.7	75.9	74.6
72.5°	47.5	52.9	43.4	39.3	40.7	44.7	48.8	48.8	47.5	44.7	42.0
75°	28.5	28.5	20.3	19.0	19.0	20.3	20.3	23.1	23.1	21.7	20.3
77.5°	9.5	10.8	6.8	5.4	5.4	5.4	6.8	8.1	8.1	6.8	5.4
80°	1.4	2.7	1.4	1.4	1.4	1.4	1.4	1.4	2.7	2.7	1.4
82.5°	1.4	1.4	1.4	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	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**

$\lambda$ (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**



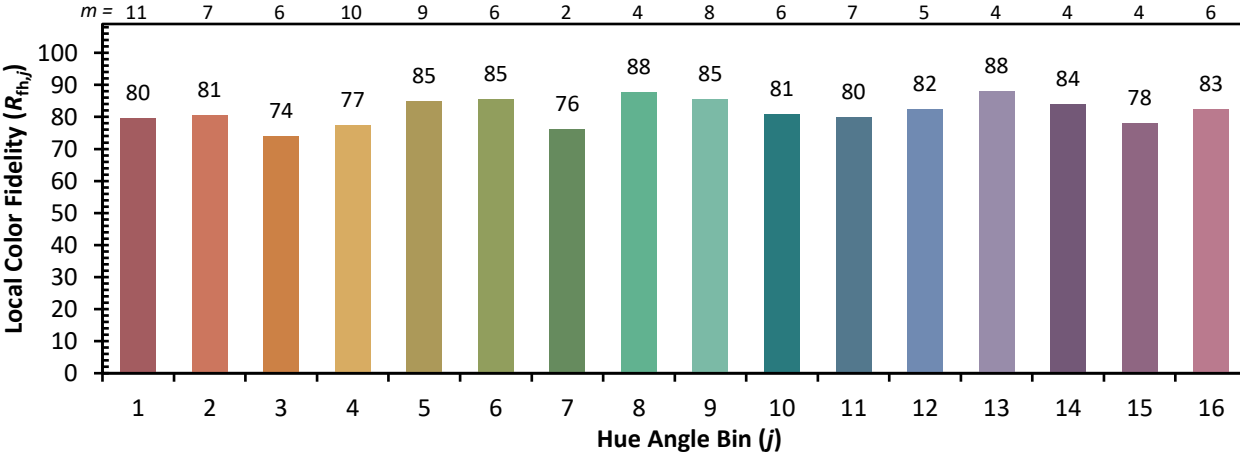


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)