

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: P634016

Luminaire Tested: GWS-SA2F-830-U-SL2-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634016  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-30)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2F-830-U-SL2-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

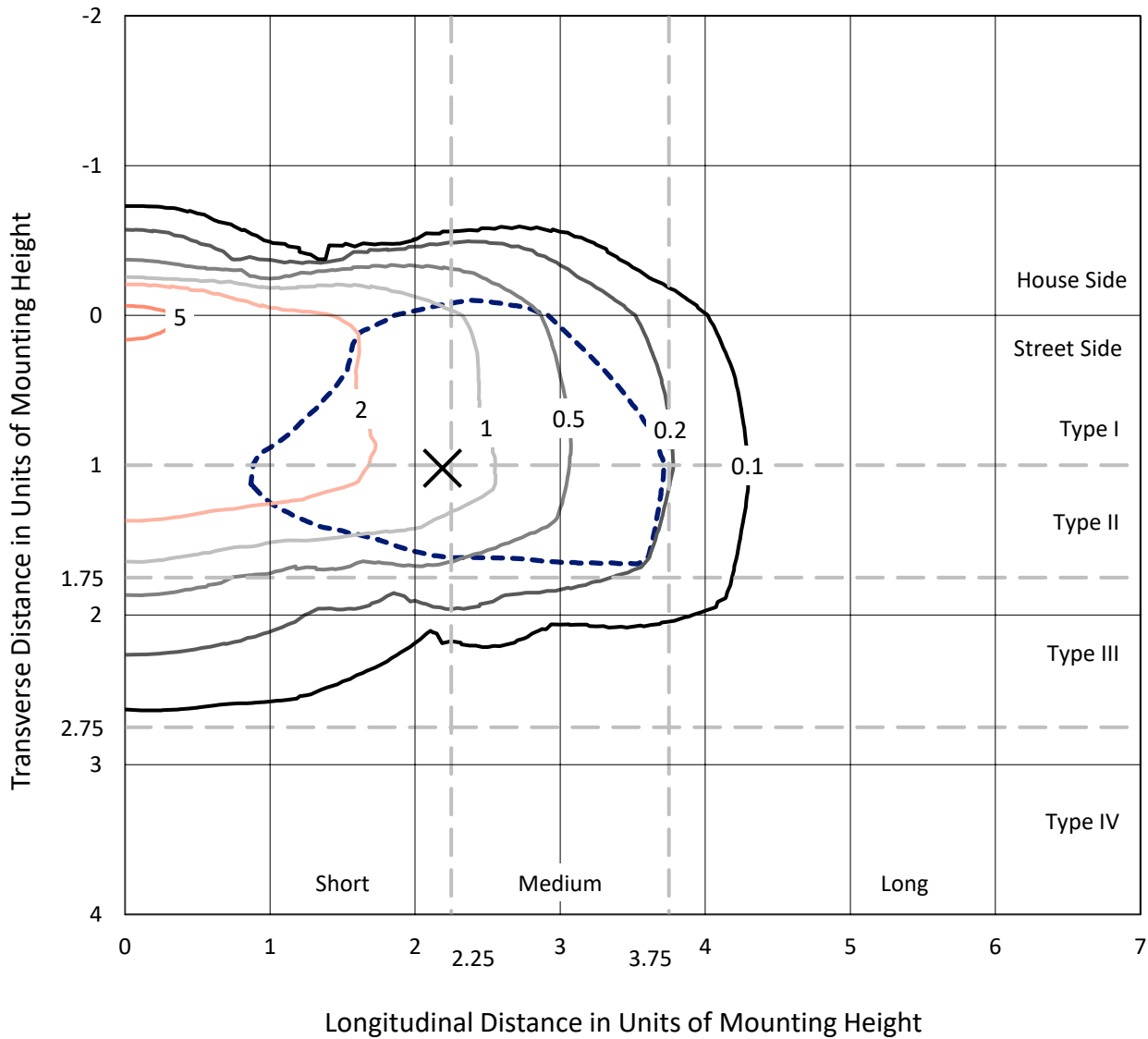
Lumens per Lamp: N/A  
Luminaire Lumens: 10215.8 lumens  
Efficiency: N/A  
Efficacy: 82.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 124.5  
Input Voltage (V): 120  
Input Current (Ain): 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: P634016  
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### Iso-Footcandle Lines of Horizontal Illumination

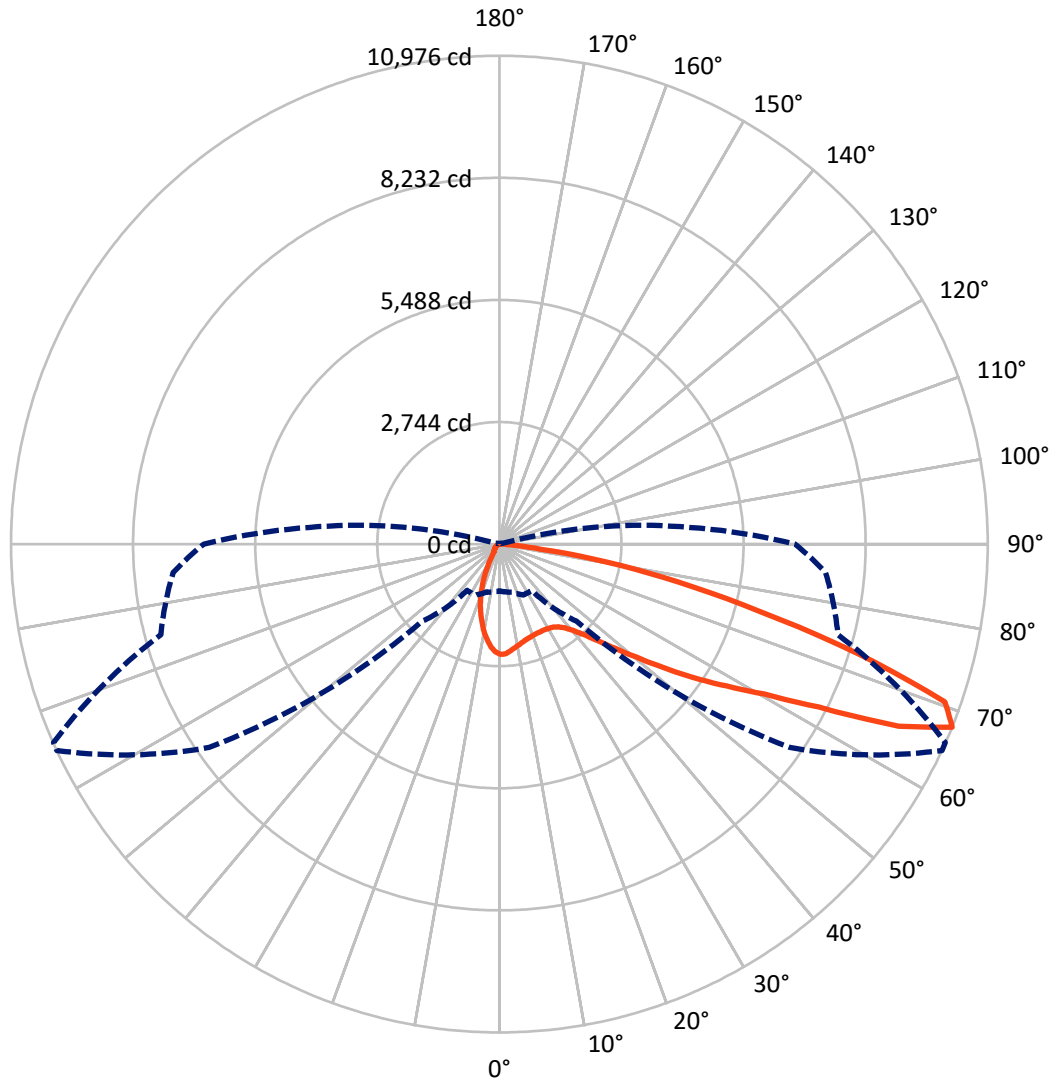
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.2 fc  
 Type II - Short - N/A

REPORT NUMBER: P634016  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1275.6	0.0	1275.6
	% Fixture	12.5	0.0	12.5
<b>Street Side</b>	Lumens	8940.2	0.0	8940.2
	% Fixture	87.5	0.0	87.5
<b>Total</b>	Lumens	10215.8	0.0	10215.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	205.8	2.0
10°-20°	462.6	4.5
20°-30°	661.0	6.5
30°-40°	961.7	9.4
40°-50°	1506.2	14.7
50°-60°	2349.7	23.0
60°-70°	2581.0	25.3
70°-80°	1373.6	13.4
80°-90°	114.4	1.1
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°	10215.8	100.0
0°-180°	10215.8	100.0

**Coefficient of Utilization**



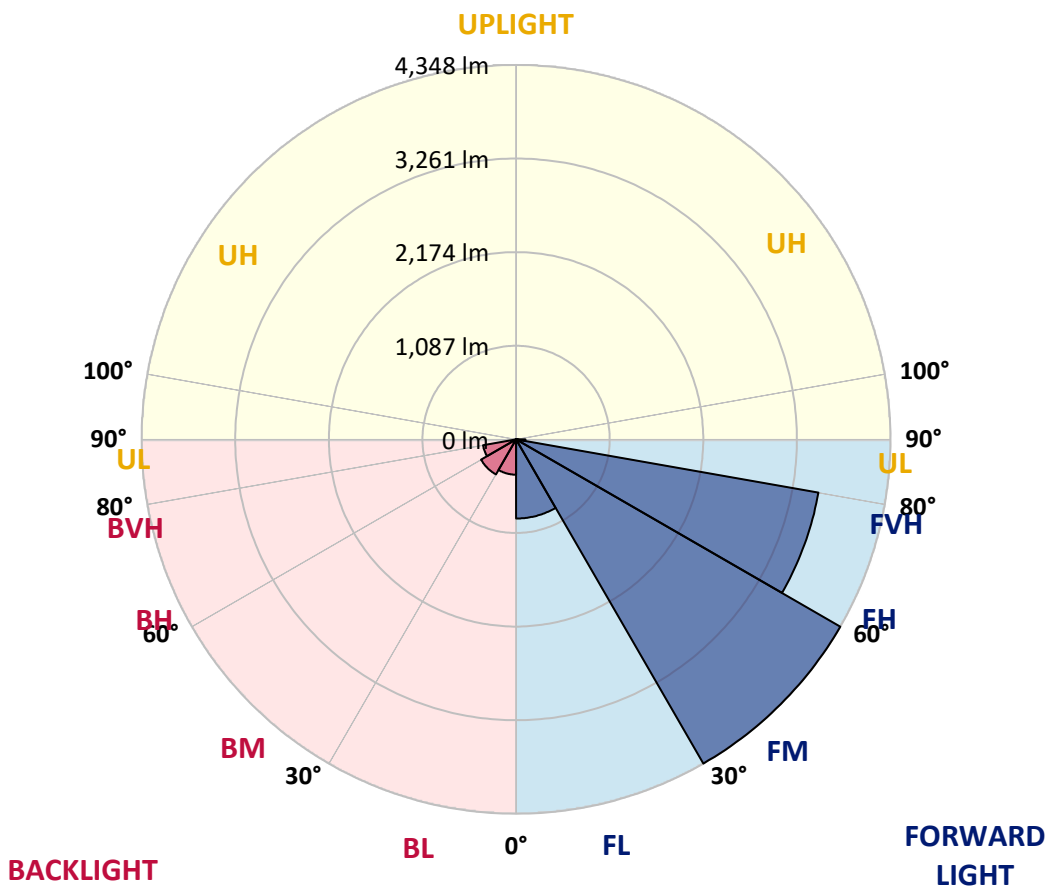
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	919.4	9.0			
FM (30°-60°)	4347.6	42.6			
FH (60°-80°)	3564.9	34.9			G2/5000
FVH (80°-90°)	108.2	1.1			G2/225
BL (0°-30°)	410.0	4.0	B1/500		
BM (30°-60°)	469.9	4.6	B1/1000		
BH (60°-80°)	389.6	3.8	B1/500		G1/500
BVH (80°-90°)	6.1	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7
2.5°	2391.7	2399.1	2389.0	2413.9	2418.5	2446.2	2461.9	2473.0	2472.1	2486.0	2486.0
5°	2251.3	2258.7	2253.2	2280.0	2301.2	2344.6	2380.7	2422.2	2424.1	2466.6	2482.3
7.5°	2132.1	2133.1	2133.1	2166.3	2194.0	2247.6	2301.2	2364.9	2372.3	2437.9	2479.5
10°	2034.2	2037.0	2037.9	2075.8	2106.3	2170.9	2239.3	2316.0	2324.3	2413.0	2477.7
12.5°	1966.8	1967.7	1971.4	2011.1	2044.4	2111.8	2181.1	2268.9	2280.0	2384.3	2469.3
15°	1934.5	1932.6	1934.5	1967.7	2001.0	2065.6	2136.8	2231.0	2243.0	2360.3	2470.3
17.5°	1932.6	1929.8	1928.0	1952.9	1974.2	2031.5	2103.5	2206.1	2219.0	2349.2	2480.4
20°	1959.4	1957.5	1948.3	1959.4	1964.0	2011.1	2082.3	2186.7	2199.6	2347.4	2502.6
22.5°	2029.6	2025.0	2011.1	2001.0	1976.0	2003.7	2067.5	2172.8	2187.6	2352.0	2531.2
25°	2134.0	2132.1	2114.6	2089.7	2025.9	2014.8	2068.4	2172.8	2186.7	2357.6	2561.7
27.5°	2291.0	2280.0	2257.8	2214.4	2122.9	2058.2	2086.9	2178.3	2192.2	2364.9	2586.7
30°	2450.9	2449.9	2442.5	2398.2	2262.4	2141.4	2125.7	2193.1	2206.1	2371.4	2609.8
32.5°	2616.2	2619.0	2637.5	2603.3	2454.6	2265.2	2195.9	2223.6	2232.8	2384.3	2630.1
35°	2773.3	2778.8	2827.8	2839.8	2688.3	2452.7	2310.4	2284.6	2285.5	2413.0	2656.9
37.5°	2923.9	2942.3	3020.9	3079.1	2979.3	2680.0	2475.8	2388.0	2380.7	2470.3	2697.5
40°	3094.8	3129.9	3228.7	3327.6	3296.1	2980.2	2701.2	2546.9	2531.2	2575.6	2770.5
42.5°	3284.1	3322.0	3453.2	3591.8	3606.5	3343.3	2983.0	2778.8	2752.0	2752.9	2907.2
45°	3487.4	3538.2	3690.6	3890.2	3979.8	3747.9	3330.3	3092.0	3065.2	3025.5	3127.1
47.5°	3754.4	3798.7	3945.6	4175.6	4347.4	4182.1	3785.8	3494.8	3445.8	3387.6	3468.9
50°	3984.4	4023.2	4149.7	4438.0	4795.5	4741.9	4302.2	3998.2	3951.1	3852.3	3919.7
52.5°	4035.2	4065.7	4182.1	4506.3	5138.2	5448.6	4935.0	4607.0	4573.8	4390.9	4416.7
55°	3807.0	3853.2	3957.6	4317.9	5227.8	6139.6	5756.2	5293.4	5224.1	4932.2	4978.4
57.5°	3230.6	3312.8	3410.7	3879.1	4984.9	6507.3	6903.6	6020.5	5957.6	5453.2	5454.2
60°	2367.7	2434.2	2499.8	2928.5	4408.4	6482.4	7944.7	6837.1	6722.6	5879.1	5863.4
62.5°	1722.0	1756.2	1755.2	1907.7	3027.3	6055.6	8491.6	8067.6	7800.6	6334.6	6244.9
65°	1354.3	1353.4	1393.1	1443.0	1690.6	4674.5	8559.1	9864.4	9576.2	6945.2	6758.6
67.5°	1054.1	1074.4	1114.1	1261.0	1270.2	2446.2	7966.0	10975.8	10970.2	7877.3	7360.0
70°	813.0	840.7	897.0	1111.3	1173.2	1369.1	5960.4	10623.8	10713.4	8293.9	6934.1
72.5°	522.0	520.1	603.2	897.9	1127.0	1140.9	3296.1	8439.0	8540.6	7512.4	5606.6
75°	291.9	293.8	340.9	549.7	1050.4	1073.5	1632.4	6017.7	6098.1	5856.9	4307.7
77.5°	114.6	118.2	159.8	289.2	692.9	958.9	970.0	4103.6	4115.6	3629.6	2642.1
80°	46.2	49.0	81.3	179.2	422.2	645.7	692.9	2417.6	2368.6	1405.1	768.6
82.5°	13.9	14.8	32.3	101.6	220.8	459.1	467.4	927.5	875.8	302.1	195.8
85°	0.9	0.9	7.4	31.4	78.5	115.5	311.3	302.1	267.9	75.8	86.8
87.5°	0.0	0.0	0.9	0.9	1.8	3.7	33.3	55.4	56.4	13.9	38.8
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: P634016

CATALOG NUMBER: GWS-SA2F-830-U-SL2-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7	2477.7
2.5°	2486.0	2452.7	2449.9	2424.1	2398.2	2365.9	2328.0	2300.3	2280.9	2246.7	2240.2
5°	2482.3	2437.9	2396.4	2322.5	2240.2	2151.5	2073.9	2001.9	1956.6	1926.1	1913.2
7.5°	2474.9	2418.5	2322.5	2183.0	2045.3	1890.1	1769.1	1658.2	1582.5	1538.1	1518.7
10°	2469.3	2393.6	2237.5	2025.9	1812.5	1598.2	1414.4	1249.9	1158.5	1086.4	1074.4
12.5°	2458.3	2357.6	2128.5	1842.1	1566.8	1282.2	1047.6	846.2	706.7	643.9	621.7
15°	2447.2	2319.7	2019.4	1648.1	1298.9	947.8	663.3	469.3	373.2	343.7	341.8
17.5°	2445.3	2285.5	1901.2	1464.2	1018.0	620.8	377.8	303.9	283.6	276.2	276.2
20°	2450.9	2256.9	1784.8	1252.7	741.8	377.8	281.8	263.3	251.3	244.8	244.8
22.5°	2456.4	2227.3	1673.0	1039.3	492.4	276.2	248.5	232.8	218.9	211.6	207.9
25°	2460.1	2195.0	1549.2	825.0	321.5	240.2	218.0	197.7	181.1	171.8	171.8
27.5°	2459.2	2156.2	1424.5	615.3	249.4	213.4	186.6	165.4	148.7	138.6	139.5
30°	2451.8	2113.7	1295.2	429.6	218.0	186.6	159.8	137.6	121.0	112.7	111.8
32.5°	2446.2	2068.4	1145.5	302.1	195.8	163.5	135.8	114.6	100.7	94.2	93.3
35°	2439.8	2024.1	1003.3	230.0	176.4	141.3	114.6	97.0	85.9	80.4	80.4
37.5°	2441.6	1977.9	849.0	197.7	157.0	122.9	97.9	83.1	73.9	68.4	67.4
40°	2470.3	1950.2	697.5	179.2	139.5	106.2	85.0	72.1	62.8	57.3	56.4
42.5°	2541.4	1951.1	552.4	165.4	123.8	90.5	73.9	61.9	53.6	47.1	46.2
45°	2683.7	1989.9	424.0	150.6	107.2	78.5	63.7	52.7	44.3	38.8	37.9
47.5°	2916.5	2105.4	321.5	137.6	93.3	68.4	54.5	44.3	37.0	32.3	31.4
50°	3286.9	2314.1	253.1	121.9	78.5	59.1	46.2	37.0	30.5	25.9	24.9
52.5°	3732.2	2627.3	217.1	108.1	67.4	51.7	39.7	30.5	24.9	21.2	20.3
55°	4244.0	3001.5	200.5	94.2	57.3	44.3	32.3	24.9	20.3	17.6	15.7
57.5°	4713.3	3338.6	199.5	80.4	49.0	37.9	26.8	21.2	17.6	13.9	12.9
60°	5170.6	3620.4	187.5	66.5	42.5	31.4	23.1	17.6	14.8	12.0	11.1
62.5°	5585.3	3849.5	157.0	53.6	36.0	25.9	19.4	15.7	12.9	10.2	10.2
65°	6106.4	4141.4	120.1	43.4	29.6	21.2	16.6	13.9	12.0	9.2	9.2
67.5°	6645.0	4295.7	85.9	36.0	24.0	18.5	14.8	12.9	10.2	8.3	8.3
70°	6018.6	3629.6	61.9	29.6	20.3	15.7	12.9	12.0	10.2	8.3	7.4
72.5°	4700.3	2617.1	46.2	23.1	17.6	14.8	12.0	11.1	9.2	7.4	7.4
75°	3485.5	1526.1	35.1	18.5	13.9	12.0	12.0	11.1	9.2	7.4	6.5
77.5°	1894.7	532.1	26.8	14.8	11.1	9.2	10.2	10.2	8.3	6.5	5.5
80°	501.6	146.0	18.5	11.1	9.2	7.4	7.4	9.2	7.4	5.5	5.5
82.5°	146.0	42.5	12.9	9.2	7.4	6.5	6.5	6.5	5.5	4.6	3.7
85°	71.1	15.7	9.2	7.4	6.5	5.5	4.6	4.6	3.7	2.8	2.8
87.5°	31.4	6.5	7.4	6.5	6.5	4.6	3.7	2.8	2.8	1.8	0.9
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

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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**

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)