

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: P634045

Luminaire Tested: GWS-SA2F-830-U-T3R-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634045  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2F-830-U-T3R-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

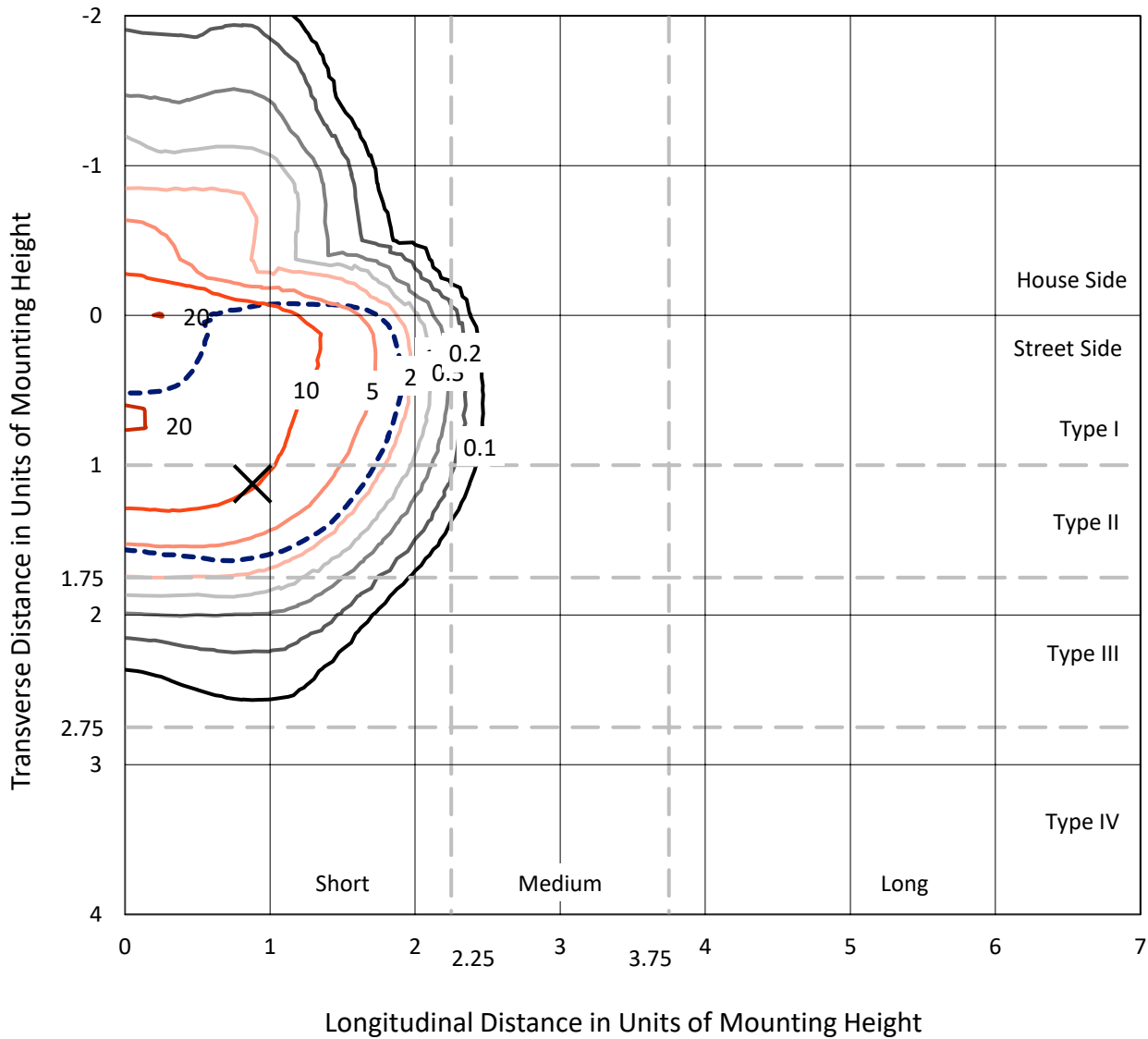
Lumens per Lamp: N/A  
Luminaire Lumens: 8082.6 lumens  
Efficiency: N/A  
Efficacy: 64.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G1  
  
Input Watts (W): 124.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P634045  
 CATALOG NUMBER: GWS-SA2F-830-U-T3R-W-GRSBK

### Iso-Footcandle Lines of Horizontal Illumination

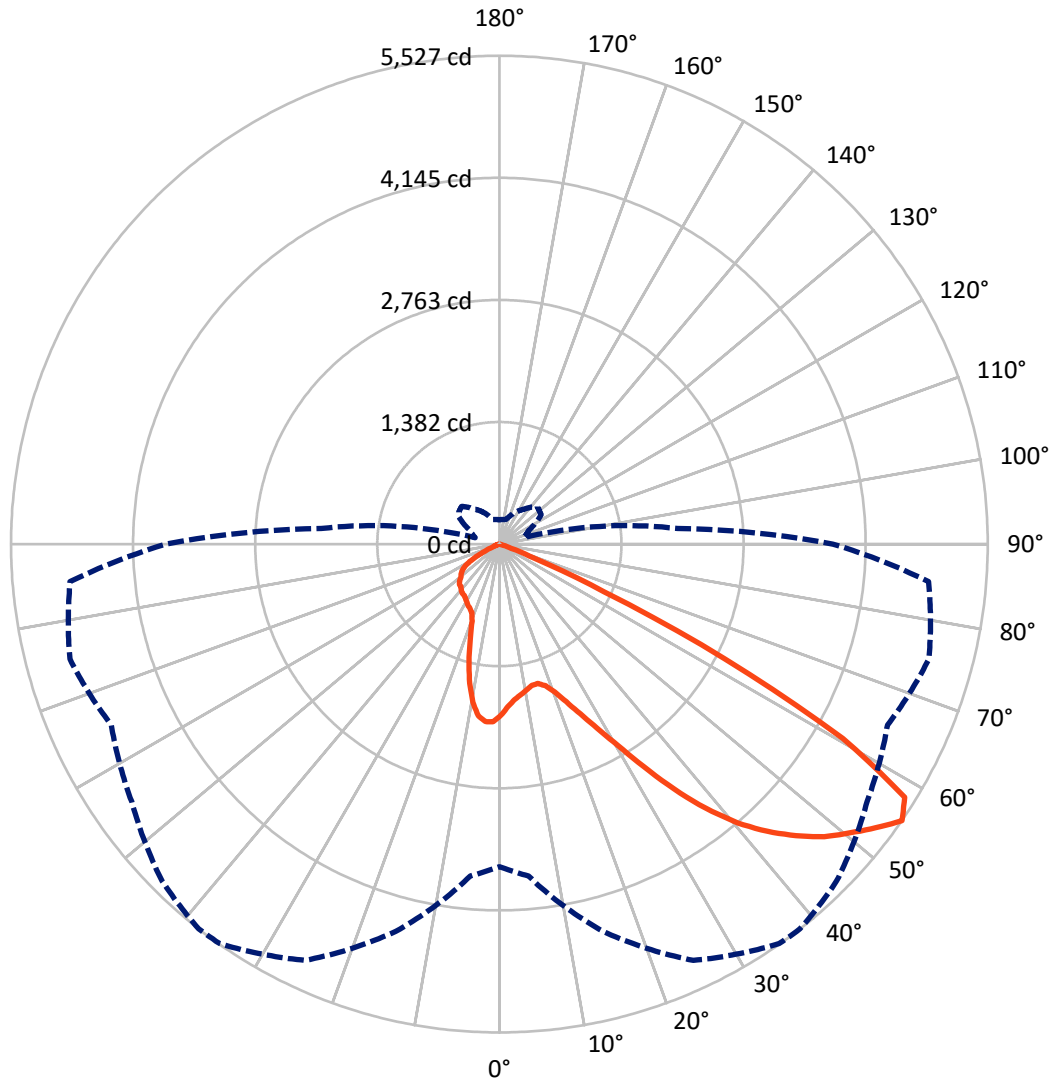
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20.3 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral    - - - Horizontal Cone Through 55-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1574.7	0.0	1574.7
	% Fixture	19.5	0.0	19.5
<b>Street Side</b>	Lumens	6507.8	0.0	6507.8
	% Fixture	80.5	0.0	80.5
<b>Total</b>	Lumens	8082.6	0.0	8082.6
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.2	2.2
10°-20°	482.5	6.0
20°-30°	828.0	10.2
30°-40°	1373.2	17.0
40°-50°	2018.7	25.0
50°-60°	2358.9	29.2
60°-70°	799.6	9.9
70°-80°	40.9	0.5
80°-90°	1.6	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°	8082.6	100.0
0°-180°	8082.6	100.0

**Coefficient of Utilization**



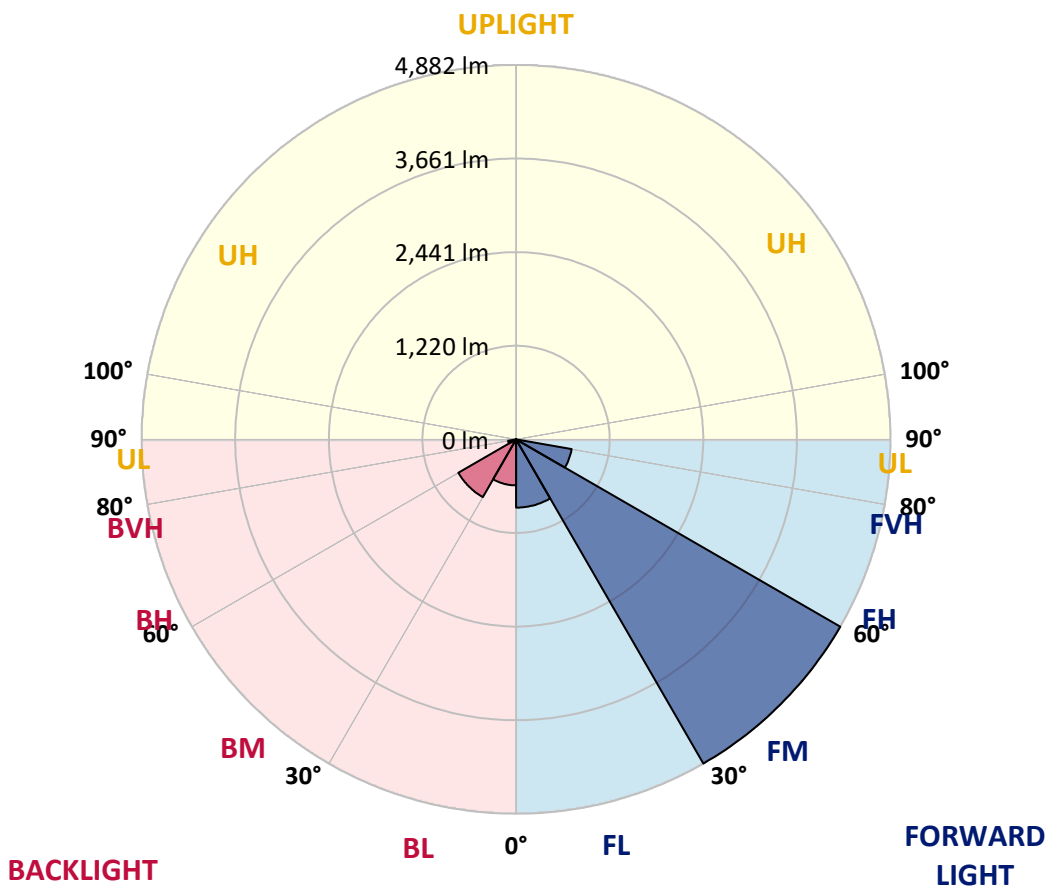
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	889.7	11.0			
FM (30°-60°)	4881.7	60.4			
FH (60°-80°)	735.6	9.1			G1/1800
FVH (80°-90°)	0.8	0.0			G0/10
BL (0°-30°)	600.0	7.4	B2/1000		
BM (30°-60°)	869.2	10.8	B1/1000		
BH (60°-80°)	104.8	1.3	B0/110		G0/110
BVH (80°-90°)	0.8	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G1**  
 Type II Short





REPORT NUMBER: P634045

CATALOG NUMBER: GWS-SA2F-830-U-T3R-W-GRSBK

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	38°	45°	55°	65°	75°	85°
0°	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3
2.5°	1805.2	1801.5	1808.9	1823.7	1837.6	1842.2	1856.0	1875.4	1887.5	1916.1	1939.2
5°	1723.9	1722.1	1729.5	1742.4	1760.9	1767.4	1788.6	1820.9	1853.3	1903.2	1952.1
7.5°	1650.0	1649.1	1660.2	1688.8	1715.6	1723.9	1749.8	1789.5	1832.9	1909.6	1981.7
10°	1553.0	1553.9	1575.2	1615.8	1664.8	1681.4	1723.0	1780.3	1836.6	1935.5	2035.3
12.5°	1521.6	1523.5	1534.5	1566.0	1619.5	1640.8	1699.0	1785.8	1857.9	1972.5	2104.6
15°	1598.3	1598.3	1589.0	1592.7	1616.8	1636.2	1697.1	1804.3	1893.9	2016.8	2172.9
17.5°	1747.0	1741.5	1718.4	1687.0	1678.7	1685.1	1734.1	1844.0	1944.7	2068.5	2250.5
20°	1948.4	1950.3	1905.0	1839.4	1786.8	1785.8	1815.4	1914.2	2017.7	2130.4	2334.6
22.5°	2192.3	2184.9	2124.9	2035.3	1943.8	1936.4	1948.4	2021.4	2123.0	2228.4	2438.1
25°	2475.0	2471.3	2386.3	2266.2	2145.2	2127.7	2127.7	2199.7	2273.6	2367.9	2561.9
27.5°	2770.7	2770.7	2688.4	2549.9	2389.1	2357.7	2353.1	2438.1	2487.0	2505.5	2666.3
30°	3074.6	3070.9	2989.6	2847.4	2675.5	2643.2	2630.2	2693.1	2728.2	2672.7	2796.5
32.5°	3383.2	3389.7	3307.4	3175.3	3022.0	3000.7	2961.0	2961.0	2989.6	2912.0	3001.6
35°	3714.9	3713.0	3648.3	3558.7	3427.5	3403.5	3337.9	3235.4	3278.8	3244.6	3285.3
37.5°	4007.7	4021.6	3990.2	3923.7	3817.4	3793.4	3685.3	3499.6	3532.9	3586.4	3622.5
40°	4305.2	4316.3	4347.7	4326.5	4192.5	4148.2	3956.0	3651.1	3688.1	3871.9	3975.4
42.5°	4597.2	4602.7	4666.4	4701.6	4522.3	4444.7	4161.1	3743.5	3782.3	4095.5	4276.6
45°	4782.9	4794.9	4900.2	5007.3	4813.3	4707.1	4339.4	3861.8	3878.4	4250.7	4499.2
47.5°	4775.5	4803.2	5000.9	5195.8	5063.7	4949.1	4553.7	4051.1	4023.4	4396.7	4646.1
50°	4626.7	4660.0	4943.6	5253.1	5243.9	5137.6	4792.1	4325.5	4238.7	4526.0	4664.6
52.5°	4318.1	4414.2	4842.9	5260.5	5388.9	5335.3	5086.8	4695.1	4529.7	4711.7	4694.2
55°	3651.1	3769.4	4537.1	5197.7	5520.1	5526.6	5396.3	5080.3	4845.7	5031.4	4876.2
57.5°	2771.6	2865.8	3492.2	4626.7	5303.0	5409.2	5516.4	5283.6	5040.6	5249.4	4918.7
60°	1670.3	1779.4	2186.8	3395.2	4283.0	4464.1	4884.5	4839.2	4546.3	4636.0	4033.6
62.5°	677.2	734.5	1009.8	1870.8	2695.8	2864.9	3267.7	3336.1	3264.0	3172.6	2446.4
65°	247.6	270.7	404.7	773.3	1239.8	1301.7	1514.2	1635.2	1735.0	1477.3	910.0
67.5°	153.4	168.1	263.3	397.3	450.8	419.4	426.8	509.0	486.0	300.3	162.6
70°	113.6	125.6	206.0	275.3	182.0	140.4	95.2	101.6	91.5	80.4	79.5
72.5°	78.5	89.6	154.3	162.6	70.2	49.9	35.1	49.0	55.4	54.5	56.4
75°	51.7	60.1	97.0	63.7	17.6	13.9	12.0	25.9	33.3	33.3	34.2
77.5°	30.5	35.1	34.2	12.9	3.7	3.7	2.8	4.6	7.4	8.3	10.2
80°	3.7	2.8	1.8	1.8	1.8	1.8	1.8	1.8	2.8	2.8	2.8
82.5°	0.9	0.9	0.9	1.8	1.8	1.8	1.8	1.8	1.8	2.8	2.8
85°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	1.8	1.8	2.8	2.8
87.5°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	1.8	1.8	2.8	2.8
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: P634045

CATALOG NUMBER: GWS-SA2F-830-U-T3R-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3	1938.3
2.5°	1956.7	1950.3	1977.1	1996.5	2012.2	2019.6	2009.4	2008.5	2008.5	1988.2	1982.6
5°	1979.8	1982.6	2020.5	2037.1	2039.9	2030.7	2007.6	1991.9	1982.6	1961.4	1949.4
7.5°	2024.2	2033.4	2069.5	2066.7	2041.7	1999.2	1938.3	1891.2	1860.7	1827.4	1807.1
10°	2087.9	2105.5	2127.7	2088.9	2009.4	1901.3	1775.7	1686.1	1632.5	1594.6	1571.5
12.5°	2165.5	2183.1	2175.7	2084.2	1918.9	1725.8	1564.1	1434.8	1372.9	1338.7	1314.7
15°	2244.1	2255.2	2207.1	2028.8	1759.0	1499.4	1319.3	1190.9	1115.1	1087.4	1067.1
17.5°	2324.4	2321.7	2212.7	1919.8	1545.6	1244.4	1067.1	979.3	958.0	953.4	951.6
20°	2408.5	2383.6	2190.5	1763.7	1288.8	992.2	891.5	897.1	935.9	954.4	958.0
22.5°	2504.6	2441.8	2135.1	1552.1	1026.4	826.9	837.0	891.5	944.2	969.1	972.8
25°	2607.1	2495.4	2042.7	1280.5	809.3	760.3	820.4	883.2	939.6	970.1	973.8
27.5°	2674.6	2508.3	1891.2	1007.0	694.7	734.5	798.2	858.3	916.5	949.7	954.4
30°	2747.6	2502.8	1685.1	776.0	655.9	712.3	767.7	822.2	875.8	912.8	916.5
32.5°	2854.7	2499.1	1433.8	630.1	640.2	694.7	735.4	780.7	817.6	838.9	836.1
35°	2995.2	2494.4	1141.0	568.2	631.0	680.9	713.2	734.5	693.8	680.9	683.7
37.5°	3175.3	2505.5	894.3	542.3	628.2	677.2	704.9	643.9	581.1	557.1	553.4
40°	3374.9	2534.2	681.8	532.1	637.5	686.4	673.5	572.8	495.2	448.1	437.9
42.5°	3575.4	2565.6	539.5	528.5	653.2	712.3	621.8	521.1	404.7	377.9	374.2
45°	3724.1	2560.0	466.6	522.0	667.0	727.1	607.9	447.2	361.2	349.2	350.1
47.5°	3798.9	2499.1	426.8	507.2	672.6	712.3	573.7	416.7	331.7	344.6	355.7
50°	3759.2	2341.1	389.9	478.6	660.6	692.9	519.2	393.6	316.9	370.5	395.4
52.5°	3711.2	2147.1	349.2	434.2	631.9	666.1	498.0	387.1	307.6	357.5	376.0
55°	3774.9	2024.2	282.7	365.9	575.6	603.3	481.3	386.2	286.4	278.1	275.3
57.5°	3685.3	1779.4	202.3	263.3	441.6	477.6	469.3	379.7	254.1	253.1	256.8
60°	2848.3	1085.5	138.6	167.2	270.7	304.9	425.9	363.1	219.0	201.4	202.3
62.5°	1618.6	461.9	95.2	103.5	138.6	164.4	325.2	329.8	202.3	192.2	202.3
65°	563.6	165.4	73.9	69.3	76.7	87.8	186.6	255.0	183.8	166.3	168.1
67.5°	116.4	82.2	65.6	57.3	57.3	57.3	95.2	158.9	151.5	132.1	134.0
70°	73.9	70.2	57.3	49.0	47.1	43.4	54.5	87.8	104.4	96.1	97.0
72.5°	54.5	53.6	45.3	39.7	35.1	31.4	34.2	43.4	53.6	55.4	56.4
75°	33.3	34.2	29.6	24.9	22.2	19.4	20.3	20.3	20.3	18.5	20.3
77.5°	10.2	11.1	9.2	7.4	6.5	6.5	6.5	5.5	4.6	2.8	2.8
80°	2.8	2.8	2.8	2.8	2.8	1.8	1.8	0.9	0.9	0.0	0.0
82.5°	2.8	2.8	2.8	2.8	1.8	1.8	0.9	0.9	0.0	0.0	0.0
85°	2.8	2.8	2.8	2.8	1.8	1.8	0.9	0.9	0.0	0.0	0.0
87.5°	2.8	2.8	2.8	2.8	1.8	1.8	0.9	0.9	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  
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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 $W^{\wedge}/nm$	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**

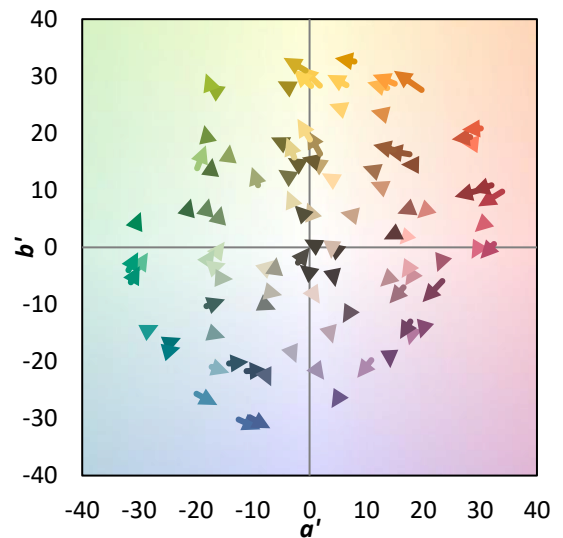
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625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