

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: P633555

Luminaire Tested: GWS-SA2E-830-U-T4FT-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633555  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-54)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2E-830-U-T4FT-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

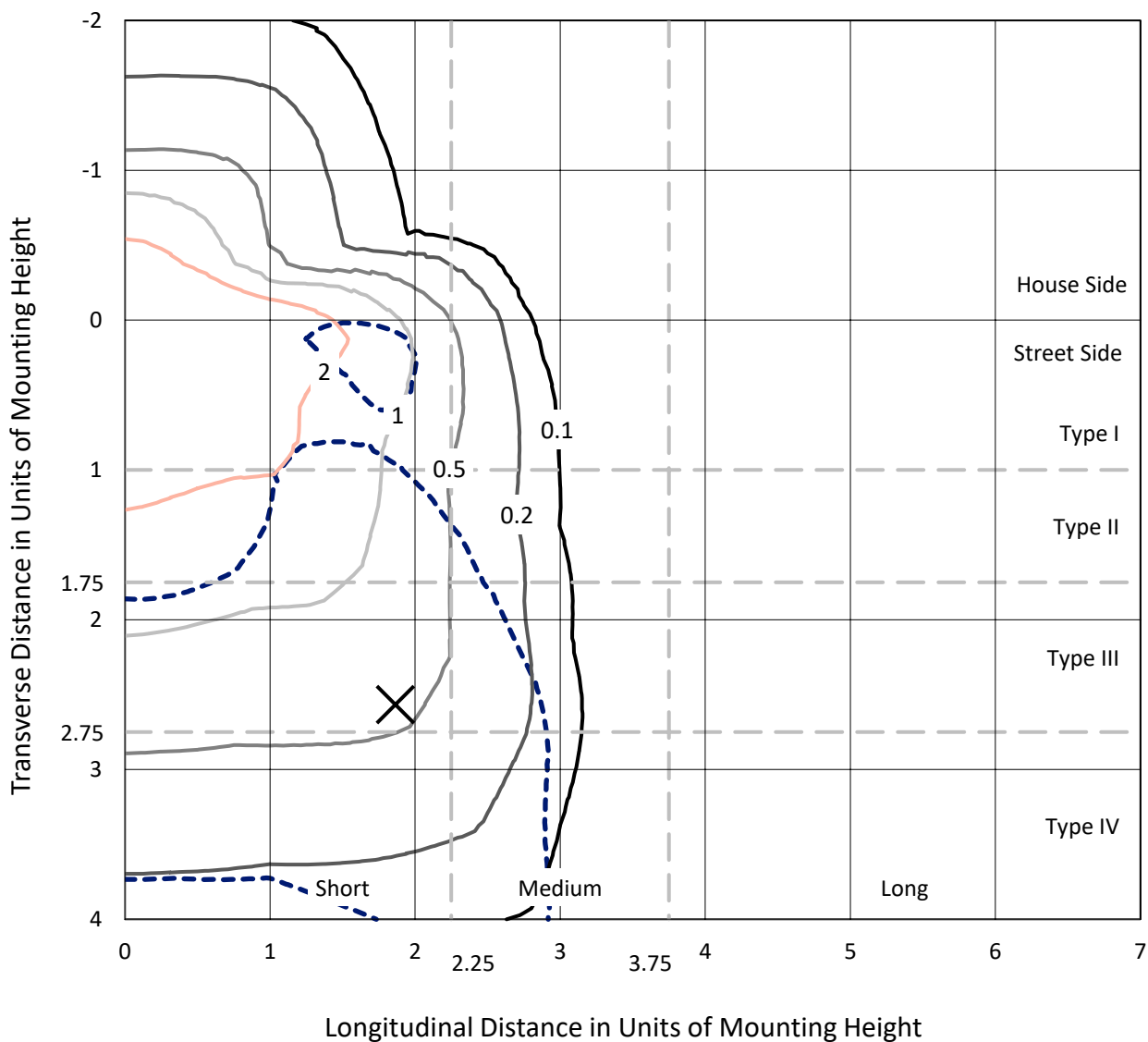
Lumens per Lamp: N/A  
Luminaire Lumens: 11195.8 lumens  
Efficiency: N/A  
Efficacy: 103.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G2  
  
Input Watts (W): 108.2  
Input Voltage (V): 120  
Input Current (Ain): 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: P633555  
 CATALOG NUMBER: GWS-SA2E-830-U-T4FT-W

### Iso-Footcandle Lines of Horizontal Illumination

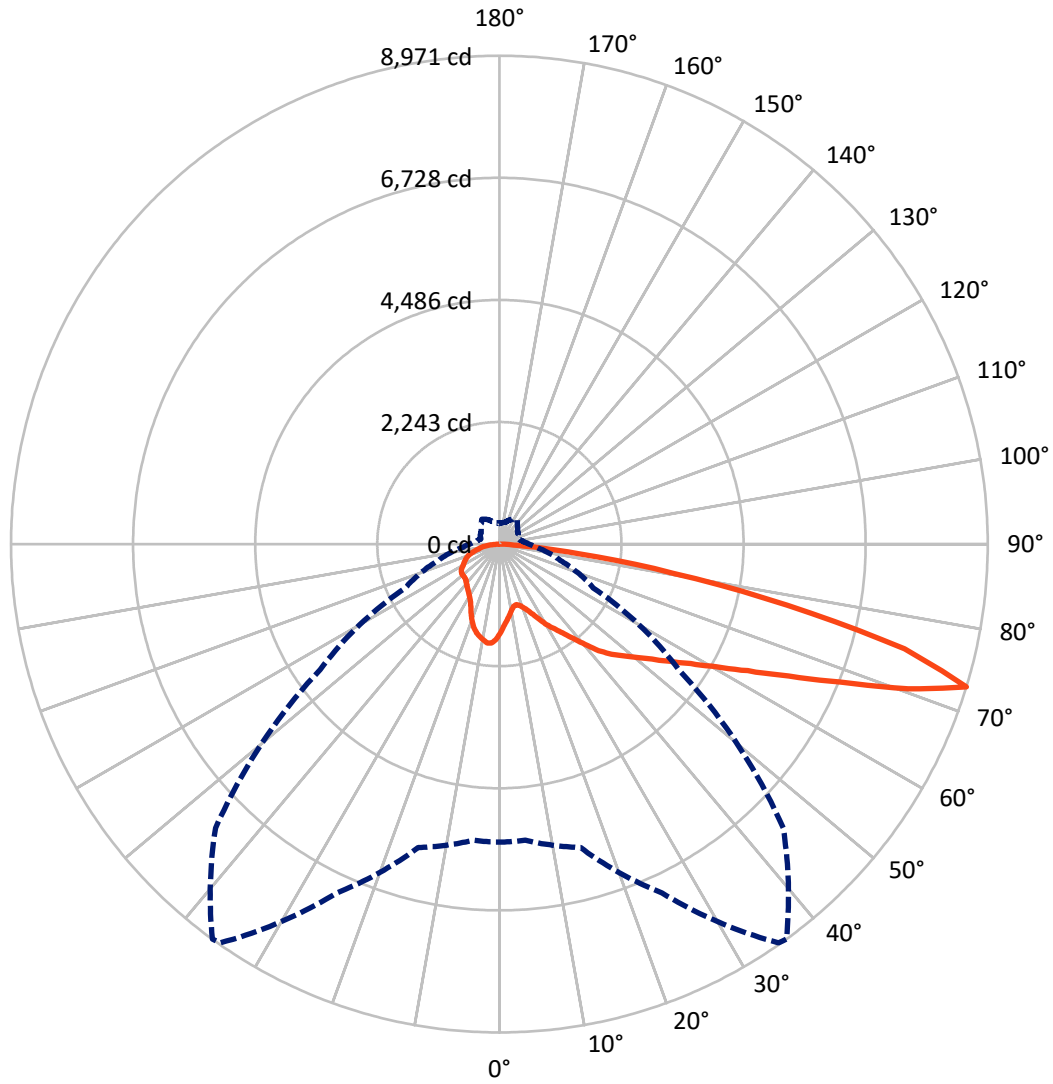
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.4 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2581.1	0.0	2581.1
	% Fixture	23.1	0.0	23.1
<b>Street Side</b>	Lumens	8614.7	0.0	8614.7
	% Fixture	76.9	0.0	76.9
<b>Total</b>	Lumens	11195.8	0.0	11195.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.2	1.4
10°-20°	432.1	3.9
20°-30°	715.7	6.4
30°-40°	1071.8	9.6
40°-50°	1563.6	14.0
50°-60°	2225.5	19.9
60°-70°	2811.7	25.1
70°-80°	2003.6	17.9
80°-90°	218.7	2.0
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°	11195.8	100.0
0°-180°	11195.8	100.0

**Coefficient of Utilization**



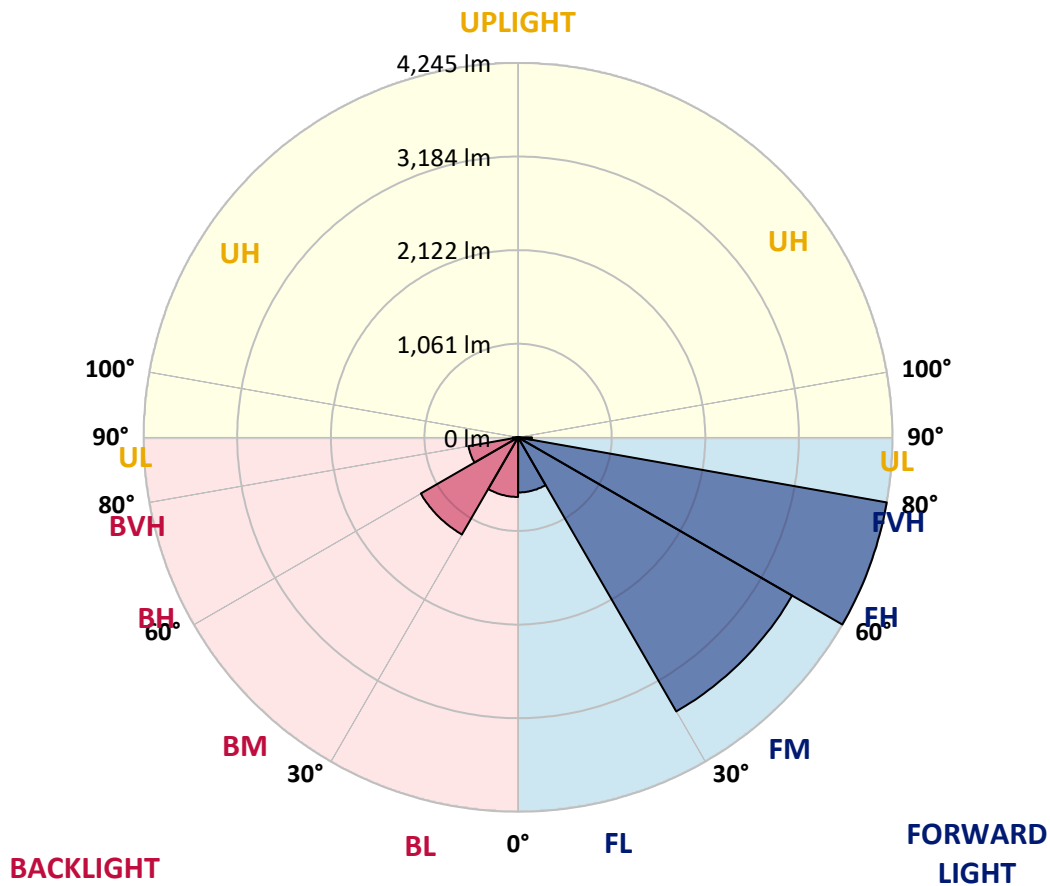
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	625.0	5.6			
FM (30°-60°)	3588.0	32.0			
FH (60°-80°)	4244.7	37.9			G2/5000
FVH (80°-90°)	157.0	1.4			G2/225
BL (0°-30°)	675.9	6.0	B2/1000		
BM (30°-60°)	1272.9	11.4	B2/2500		
BH (60°-80°)	570.6	5.1	B2/1000		G2/1000
BVH (80°-90°)	61.7	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6
2.5°	1494.8	1492.3	1487.3	1502.3	1517.2	1515.6	1536.4	1556.3	1577.9	1600.3	1630.2
5°	1375.2	1373.5	1369.3	1391.8	1414.2	1413.4	1447.4	1479.9	1523.9	1572.1	1631.9
7.5°	1255.5	1251.4	1257.2	1285.4	1317.0	1320.3	1366.8	1420.0	1484.0	1556.3	1641.0
10°	1150.0	1149.1	1151.6	1183.2	1230.6	1233.9	1293.7	1367.7	1452.4	1548.8	1661.8
12.5°	1122.6	1120.9	1114.3	1130.0	1165.8	1170.8	1236.4	1327.0	1430.8	1553.0	1690.1
15°	1167.4	1163.3	1140.0	1132.5	1150.0	1154.1	1209.8	1302.9	1418.4	1560.4	1725.8
17.5°	1244.7	1242.2	1198.2	1167.4	1179.1	1182.4	1223.9	1298.7	1415.0	1575.4	1769.8
20°	1357.7	1346.9	1277.9	1231.4	1231.4	1236.4	1261.3	1317.0	1419.2	1593.7	1819.7
22.5°	1507.3	1485.7	1388.5	1325.3	1308.7	1315.3	1326.1	1362.7	1436.6	1624.4	1882.0
25°	1675.1	1655.2	1539.7	1450.8	1427.5	1430.0	1420.9	1427.5	1474.9	1666.8	1959.3
27.5°	1853.8	1840.5	1717.5	1604.5	1567.9	1567.9	1535.5	1519.7	1528.0	1715.0	2045.7
30°	2013.3	1995.0	1891.2	1767.3	1719.2	1719.2	1657.7	1623.6	1603.7	1774.0	2161.2
32.5°	2097.2	2086.4	2017.5	1922.7	1863.7	1854.6	1801.4	1761.5	1715.0	1861.2	2317.4
35°	2206.9	2204.4	2162.9	2088.9	2014.1	2000.8	1964.3	1932.7	1852.1	1970.1	2525.1
37.5°	2344.8	2340.7	2334.0	2290.0	2200.3	2197.8	2165.4	2127.1	2022.4	2127.1	2776.9
40°	2499.4	2491.9	2483.6	2482.8	2428.8	2419.6	2417.1	2373.9	2227.7	2316.6	3039.5
42.5°	2712.1	2686.3	2608.2	2643.1	2683.0	2674.7	2706.3	2641.5	2483.6	2541.8	3287.9
45°	2973.8	2910.7	2756.1	2766.1	2866.6	2883.3	2992.9	2977.2	2765.3	2801.8	3549.6
47.5°	3130.9	3076.0	2932.3	2924.0	3049.4	3070.2	3308.7	3338.6	3068.6	3115.1	3872.9
50°	3259.7	3221.4	3103.5	3115.1	3248.0	3268.8	3621.9	3685.9	3354.4	3435.8	4248.4
52.5°	3415.0	3360.2	3268.8	3323.6	3486.5	3511.4	3970.1	4039.1	3612.0	3788.1	4637.3
55°	3502.3	3479.9	3481.5	3565.4	3769.8	3803.9	4334.9	4323.2	3847.9	4089.7	4929.8
57.5°	3703.4	3695.1	3771.5	3803.1	4100.5	4144.6	4699.6	4599.9	4062.3	4323.2	5070.2
60°	4058.2	4037.4	4103.9	4152.1	4509.4	4571.7	5106.8	4870.8	4207.7	4496.9	5022.9
62.5°	4556.7	4531.0	4533.4	4609.9	5056.9	5122.6	5559.6	5096.8	4252.6	4523.5	4722.9
65°	5176.6	5139.2	5096.8	5200.7	5784.0	5838.8	6052.4	5261.3	4145.4	4267.6	4096.4
67.5°	5830.5	5799.8	5749.9	5967.6	6725.4	6758.6	6604.9	5247.2	3805.6	3582.9	2873.3
70°	5868.7	5876.2	6112.2	6899.9	7954.3	7962.6	7127.6	4963.0	3081.8	2322.4	1431.7
72.5°	5474.9	5462.4	5769.8	7070.2	8943.1	8971.3	7374.3	4020.8	1904.4	1158.3	671.4
75°	4447.0	4468.6	4791.9	6186.1	7665.1	7690.1	6011.6	2370.6	904.9	566.7	429.6
77.5°	1914.4	2034.9	2672.2	4358.1	5489.8	5412.6	3098.5	960.5	482.8	403.8	329.0
80°	552.6	599.9	952.2	2072.3	3289.6	3231.4	1226.4	359.8	336.5	303.3	236.0
82.5°	178.6	197.8	349.0	825.1	1474.0	1472.4	465.3	212.7	220.2	206.1	152.1
85°	49.9	57.3	107.2	250.1	456.2	447.0	134.6	100.5	117.2	118.8	75.6
87.5°	0.0	0.0	0.8	1.7	1.7	1.7	3.3	15.0	34.1	43.2	30.7
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: P633555  
 CATALOG NUMBER: GWS-SA2E-830-U-T4FT-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6	1638.6
2.5°	1648.5	1646.0	1680.1	1706.7	1731.6	1748.2	1753.2	1756.5	1763.2	1766.5	1763.2
5°	1660.2	1672.6	1729.1	1770.7	1803.9	1823.8	1824.7	1823.0	1828.0	1823.8	1821.4
7.5°	1685.1	1709.2	1780.6	1824.7	1846.3	1847.1	1827.2	1803.9	1792.3	1782.3	1779.0
10°	1718.3	1754.1	1832.2	1861.2	1854.6	1823.8	1779.8	1743.3	1722.5	1707.5	1704.2
12.5°	1764.0	1803.9	1877.9	1877.0	1835.5	1780.6	1729.1	1685.1	1655.2	1637.7	1631.9
15°	1807.2	1857.9	1911.1	1872.0	1806.4	1739.9	1673.5	1614.5	1574.6	1547.2	1542.2
17.5°	1860.4	1914.4	1935.2	1856.3	1769.8	1684.3	1595.3	1518.1	1464.1	1431.7	1429.2
20°	1921.9	1970.1	1946.8	1828.8	1722.5	1610.3	1489.8	1403.4	1345.2	1313.7	1316.2
22.5°	1993.4	2028.3	1950.1	1791.4	1656.8	1505.6	1371.0	1287.9	1248.9	1232.2	1233.1
25°	2069.8	2092.2	1944.3	1740.8	1556.3	1377.6	1248.9	1210.6	1207.3	1203.2	1204.8
27.5°	2160.4	2155.4	1926.9	1669.3	1420.9	1228.9	1163.3	1173.2	1186.5	1184.9	1186.5
30°	2281.7	2234.3	1904.4	1570.4	1259.7	1104.3	1112.6	1140.8	1158.3	1160.0	1164.9
32.5°	2420.4	2321.6	1868.7	1435.8	1105.9	1034.5	1065.2	1099.3	1120.1	1124.2	1130.9
35°	2585.8	2421.3	1805.6	1268.0	995.4	992.9	1021.2	1044.5	1066.9	1068.6	1068.6
37.5°	2776.1	2521.0	1705.0	1082.7	927.3	957.2	983.8	988.8	994.6	989.6	992.1
40°	2950.6	2617.4	1562.1	914.0	871.6	925.6	948.1	931.5	913.2	900.7	903.2
42.5°	3096.8	2683.0	1372.7	796.0	815.1	897.4	914.8	880.8	845.0	821.8	825.1
45°	3261.3	2743.7	1150.0	716.2	766.9	877.4	889.1	845.0	799.3	764.4	759.5
47.5°	3488.2	2867.5	952.2	660.6	732.9	866.6	885.8	825.9	766.1	713.8	707.9
50°	3768.2	3042.8	786.9	624.0	717.1	860.8	884.9	805.2	733.7	672.2	668.1
52.5°	4074.0	3214.0	664.7	595.8	701.3	843.4	880.8	781.9	699.6	633.2	628.2
55°	4277.5	3281.3	582.5	569.2	675.5	816.0	864.1	759.5	648.1	587.5	580.0
57.5°	4337.4	3194.9	525.1	545.1	642.3	777.7	832.6	712.1	616.5	568.3	562.5
60°	4234.3	2977.2	489.4	525.1	605.7	728.7	777.7	684.7	591.6	548.4	544.2
62.5°	3943.5	2641.5	462.0	504.4	568.3	677.2	742.8	651.4	564.2	530.1	524.3
65°	3358.5	2166.2	439.6	482.8	532.6	628.2	704.6	618.2	534.3	508.5	501.9
67.5°	2349.0	1521.4	415.5	457.0	496.9	580.8	664.7	587.5	503.5	484.4	477.8
70°	1148.3	806.8	386.4	427.1	458.7	532.6	624.8	550.1	462.8	452.0	442.9
72.5°	546.7	451.2	352.3	386.4	406.3	468.6	558.4	496.1	414.6	391.4	375.6
75°	366.4	320.7	307.4	338.2	343.2	393.0	478.6	427.9	365.6	339.0	325.7
77.5°	277.5	245.1	258.4	285.8	275.9	323.2	393.9	381.4	329.9	305.8	299.1
80°	195.3	178.6	205.2	221.9	214.4	275.0	354.8	326.5	271.7	245.1	240.1
82.5°	123.0	119.7	151.2	153.7	156.2	217.7	291.6	256.8	211.1	173.7	161.2
85°	61.5	68.1	90.6	90.6	89.7	112.2	166.2	144.6	113.8	90.6	88.1
87.5°	20.8	29.1	39.1	31.6	24.1	19.1	21.6	26.6	28.3	27.4	27.4
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

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

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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)