

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: P632066

Luminaire Tested: GWS-SA2B-830-U-T3R-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P632066  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2B-830-U-T3R-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

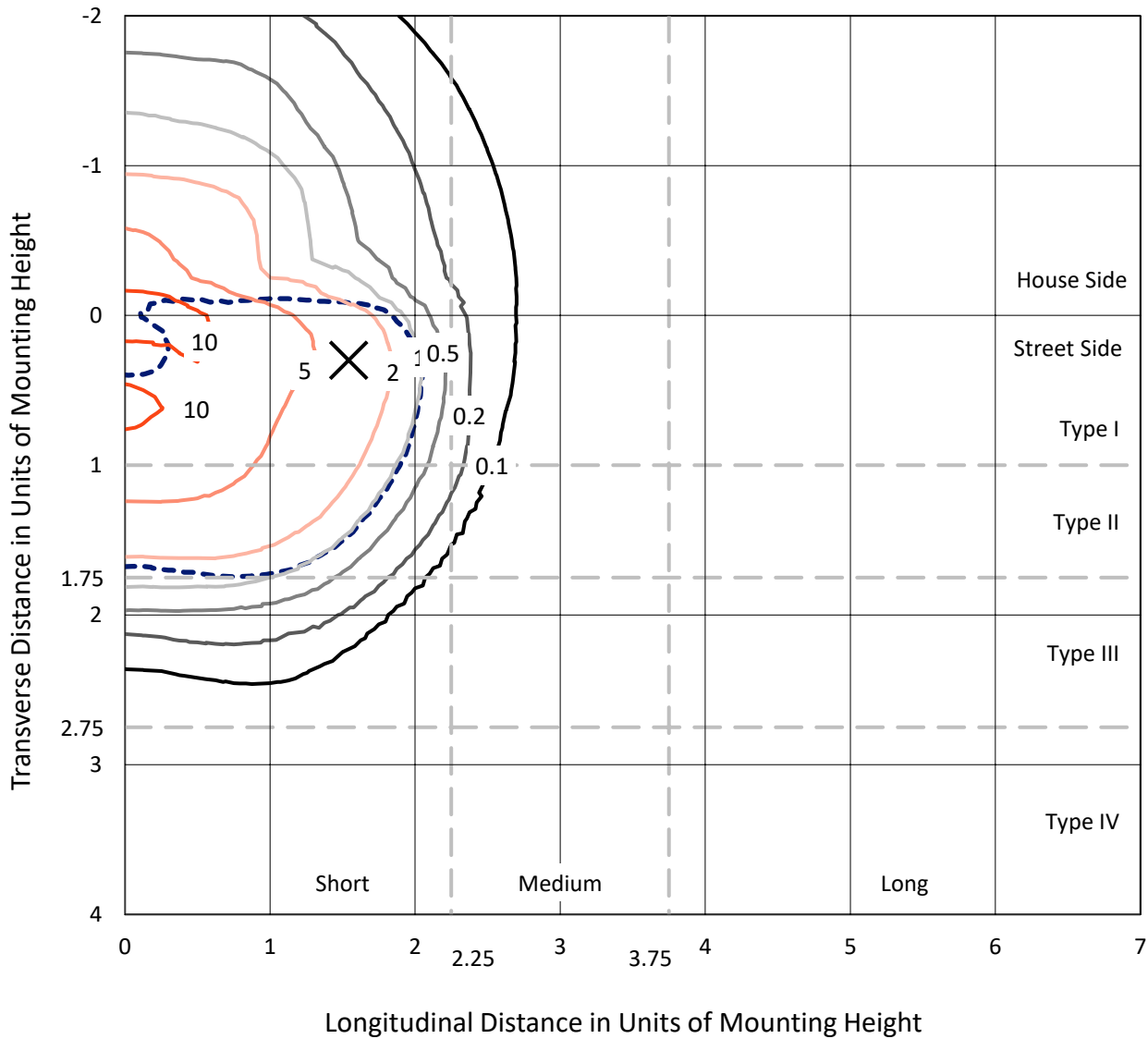
Lumens per Lamp: N/A  
Luminaire Lumens: 4806.5 lumens  
Efficiency: N/A  
Efficacy: 103.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 46.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
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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### Iso-Footcandle Lines of Horizontal Illumination

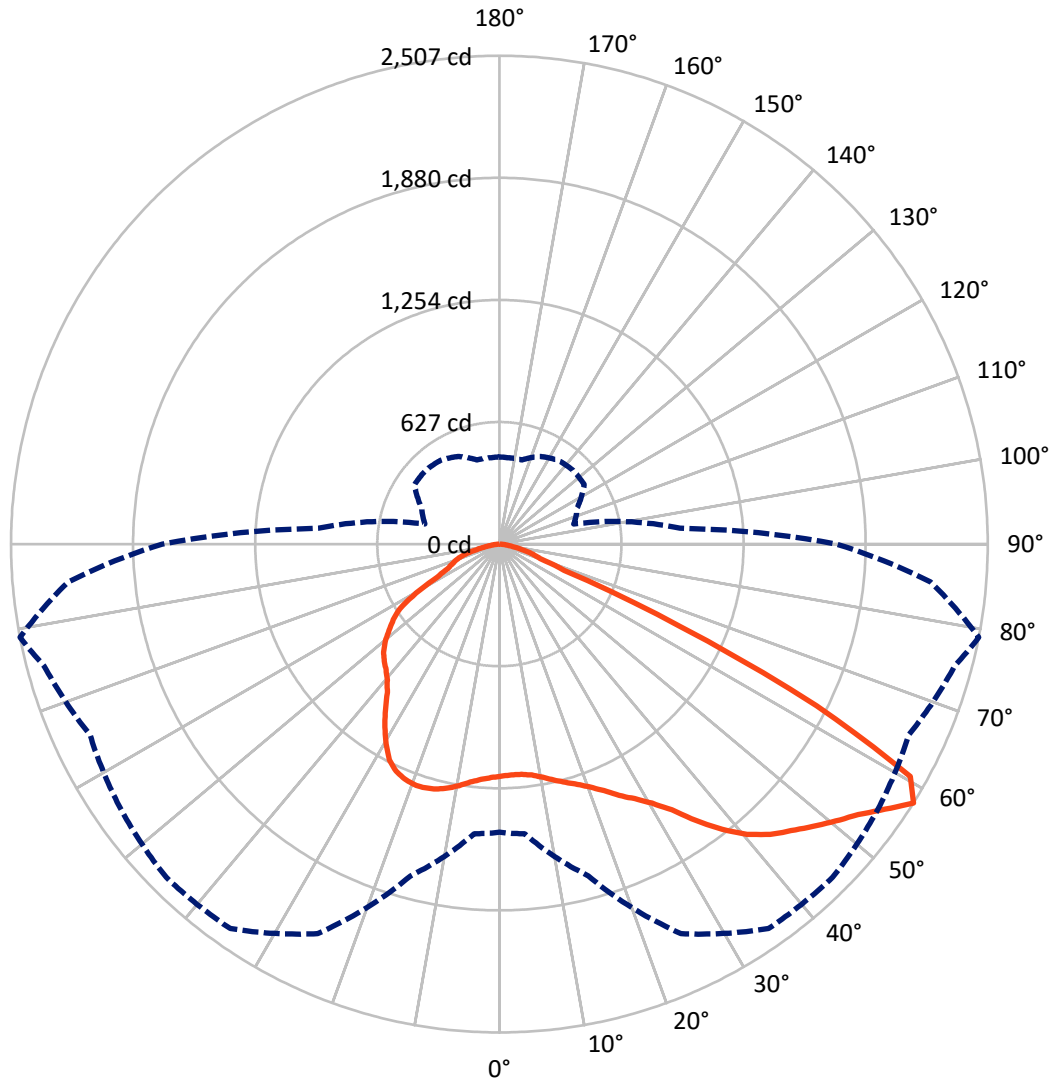
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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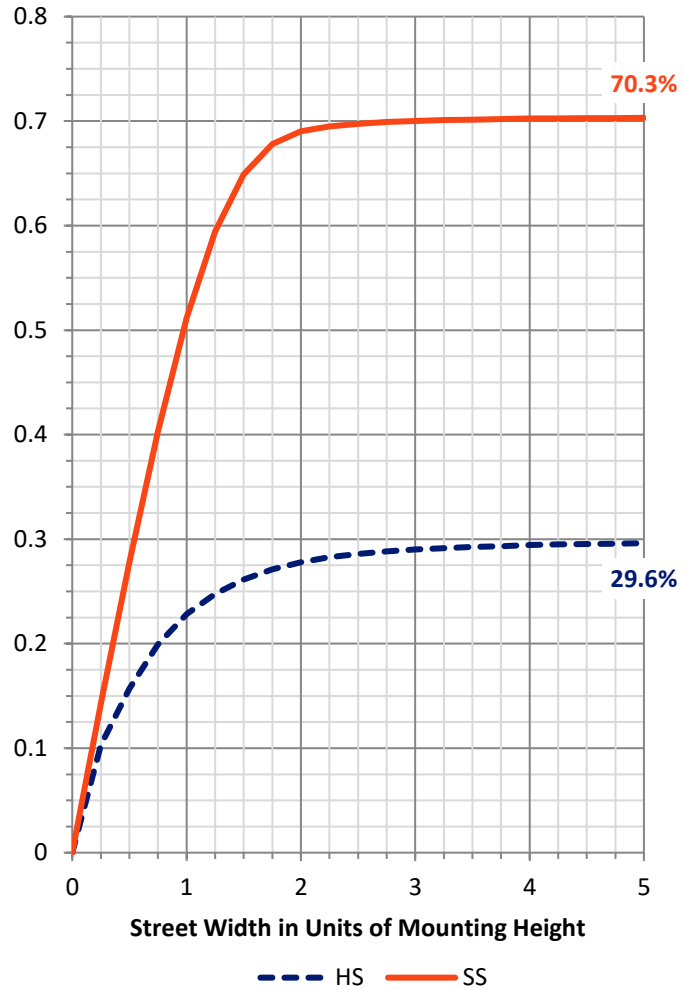
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1428.7	0.0	1428.7
	% Fixture	29.7	0.0	29.7
<b>Street Side</b>	Lumens	3377.7	0.0	3377.7
	% Fixture	70.3	0.0	70.3
<b>Total</b>	Lumens	4806.5	0.0	4806.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.3	2.3
10°-20°	306.6	6.4
20°-30°	519.6	10.8
30°-40°	795.4	16.5
40°-50°	1060.5	22.1
50°-60°	1224.8	25.5
60°-70°	636.5	13.2
70°-80°	135.3	2.8
80°-90°	17.5	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°	4806.5	100.0
0°-180°	4806.5	100.0

**Coefficient of Utilization**



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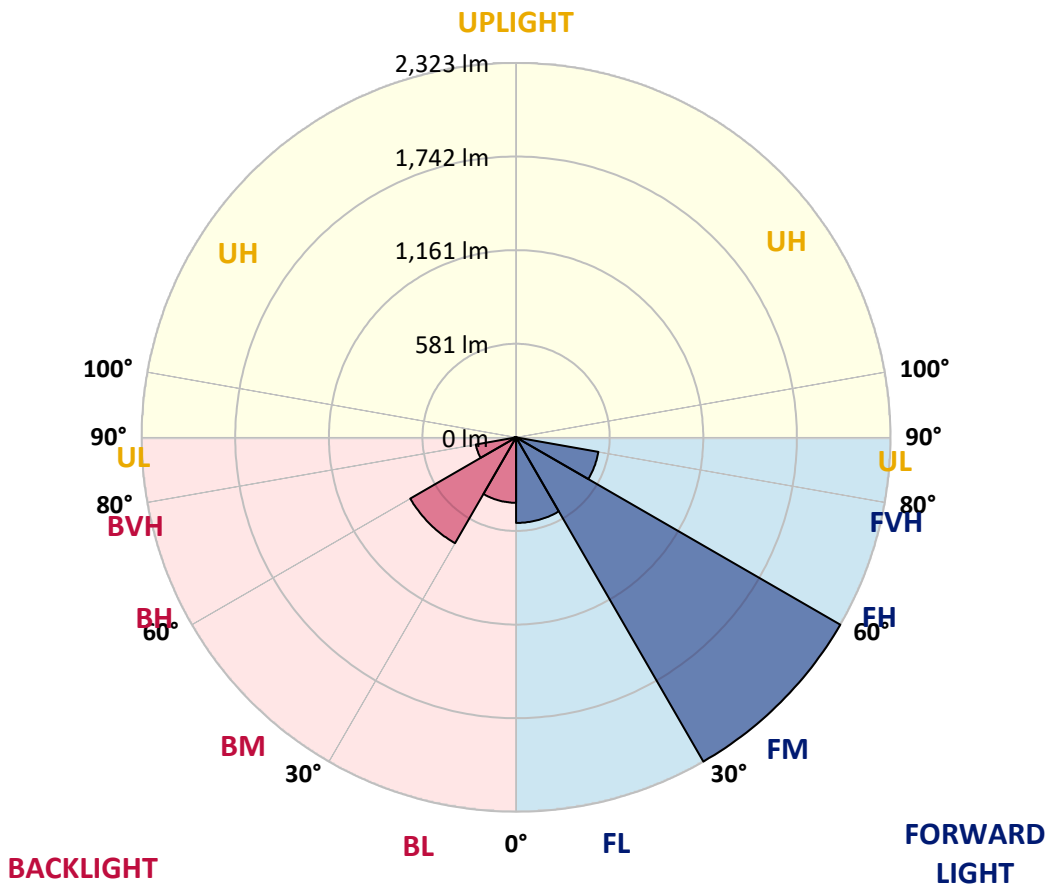
CATALOG NUMBER: GWS-SA2B-830-U-T3R-W-GRSWH

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	530.7	11.0			
FM (30°-60°)	2322.6	48.3			
FH (60°-80°)	518.3	10.8			G0/660
FVH (80°-90°)	6.1	0.1			G0/10
BL (0°-30°)	405.7	8.4	B1/500		
BM (30°-60°)	758.1	15.8	B1/1000		
BH (60°-80°)	253.5	5.3	B1/500		G1/500
BVH (80°-90°)	11.4	0.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type II Short





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CATALOG NUMBER: GWS-SA2B-830-U-T3R-W-GRSWH

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2
2.5°	1136.9	1134.6	1135.4	1138.5	1150.3	1158.9	1168.0	1176.2	1184.1	1186.4	1188.4
5°	1096.5	1092.1	1093.3	1098.4	1112.2	1126.7	1142.8	1162.5	1181.3	1187.6	1195.9
7.5°	1067.8	1067.0	1068.9	1076.8	1091.3	1105.1	1125.9	1153.8	1186.4	1197.1	1211.6
10°	1029.6	1028.1	1035.9	1052.0	1076.0	1098.0	1122.8	1155.8	1201.4	1217.1	1239.5
12.5°	999.4	998.6	1006.8	1029.2	1059.9	1094.9	1129.1	1166.0	1221.4	1243.0	1270.5
15°	1017.1	1013.5	1013.9	1029.6	1057.2	1098.4	1144.8	1184.5	1241.5	1269.0	1304.3
17.5°	1068.5	1062.3	1057.5	1060.3	1076.0	1118.9	1168.8	1209.2	1264.7	1296.9	1340.1
20°	1139.7	1136.1	1123.2	1114.5	1118.1	1155.8	1206.5	1244.2	1294.9	1331.1	1377.4
22.5°	1235.2	1226.5	1208.8	1195.1	1184.5	1214.0	1260.7	1293.3	1337.0	1374.7	1423.0
25°	1353.5	1340.9	1313.0	1291.4	1268.6	1298.8	1340.5	1365.3	1394.7	1429.7	1475.7
27.5°	1474.1	1463.5	1432.5	1403.4	1375.1	1393.9	1443.5	1457.6	1454.5	1480.0	1519.3
30°	1602.6	1589.3	1559.8	1528.3	1491.8	1504.0	1548.4	1555.5	1522.1	1543.3	1570.0
32.5°	1738.2	1725.2	1699.7	1663.1	1621.9	1626.6	1638.8	1645.5	1613.6	1625.8	1646.2
35°	1876.1	1864.0	1838.0	1801.9	1771.6	1742.9	1712.3	1739.0	1720.5	1744.1	1742.5
37.5°	2002.3	1990.1	1974.0	1946.1	1894.2	1837.6	1766.9	1799.9	1828.6	1858.5	1853.4
40°	2087.6	2079.3	2083.3	2078.9	2012.1	1900.1	1793.6	1829.8	1908.0	1959.1	1956.3
42.5°	2161.1	2152.8	2175.6	2192.1	2113.5	1957.9	1806.6	1841.2	1958.7	2038.5	2034.5
45°	2193.7	2191.3	2229.1	2281.3	2206.3	2019.2	1840.0	1864.8	1997.2	2099.4	2084.4
47.5°	2154.8	2163.0	2237.3	2325.7	2283.3	2091.9	1908.4	1914.7	2047.5	2165.4	2123.3
50°	2077.4	2095.4	2195.7	2326.9	2339.5	2174.0	2003.1	1987.4	2115.1	2235.7	2143.8
52.5°	1964.6	1983.4	2146.9	2317.9	2371.7	2269.1	2129.2	2106.8	2200.4	2306.1	2147.3
55°	1705.6	1731.1	2035.3	2297.4	2403.2	2355.6	2271.5	2225.9	2310.4	2402.8	2182.3
57.5°	1479.6	1493.0	1763.4	2206.7	2409.4	2419.3	2372.9	2318.7	2419.7	2507.3	2221.6
60°	1085.8	1089.0	1332.2	1825.8	2216.5	2382.3	2364.6	2284.1	2367.8	2423.6	2041.6
62.5°	613.5	613.9	808.0	1218.7	1655.7	1941.8	1952.8	1881.7	1811.3	1827.8	1421.1
65°	230.3	251.9	369.0	598.9	954.6	1146.4	1191.9	1208.5	1091.3	1018.6	762.0
67.5°	154.1	159.2	215.4	308.1	424.8	490.5	548.6	550.2	402.4	358.8	300.2
70°	117.5	122.6	169.4	220.5	215.4	198.9	215.0	209.1	216.1	222.0	228.3
72.5°	87.6	92.7	131.3	155.6	129.3	127.3	144.2	160.3	175.3	181.6	191.4
75°	58.2	62.1	88.4	83.3	71.5	84.5	105.3	121.4	130.1	137.5	145.0
77.5°	36.9	39.7	47.2	38.1	39.7	49.5	61.3	75.8	84.1	91.6	95.5
80°	16.9	16.5	16.1	18.1	22.4	29.1	36.9	45.6	51.9	55.0	57.4
82.5°	6.7	7.5	8.3	9.8	12.2	15.7	20.8	26.7	31.8	32.6	34.6
85°	2.8	3.1	3.5	4.3	5.5	7.1	8.6	12.2	15.3	16.5	17.7
87.5°	0.0	0.0	0.0	0.0	0.4	0.8	1.2	2.0	3.5	3.9	4.3
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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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2	1191.2
2.5°	1199.0	1193.9	1202.6	1208.5	1214.0	1208.1	1206.1	1201.0	1200.2	1200.2	1203.0
5°	1210.0	1206.5	1215.5	1219.1	1218.7	1205.7	1197.8	1187.6	1182.5	1182.5	1183.3
7.5°	1229.7	1227.7	1232.8	1227.3	1214.7	1188.4	1162.5	1140.9	1126.3	1118.9	1121.2
10°	1262.3	1259.9	1255.6	1235.2	1199.0	1144.4	1091.3	1052.0	1028.5	1015.1	1015.9
12.5°	1294.1	1290.2	1274.9	1229.7	1155.4	1068.5	999.0	955.0	929.0	913.3	909.8
15°	1329.1	1318.9	1285.9	1201.4	1084.3	975.8	903.1	855.5	827.6	818.2	817.8
17.5°	1362.5	1344.4	1284.7	1151.1	999.0	878.7	805.6	776.2	771.4	775.8	776.9
20°	1396.3	1367.2	1271.7	1081.5	897.6	782.1	744.3	756.5	774.2	786.0	788.7
22.5°	1431.3	1386.1	1242.3	991.9	790.7	716.8	732.5	759.3	781.3	797.0	798.6
25°	1470.6	1403.8	1198.2	882.3	705.0	698.7	729.8	758.1	781.7	799.7	802.9
27.5°	1493.0	1404.2	1136.5	769.5	665.7	691.7	723.1	749.8	773.4	793.1	796.6
30°	1515.0	1393.6	1038.7	677.9	654.3	683.4	711.7	736.5	758.9	778.1	782.4
32.5°	1546.0	1383.7	925.9	625.3	647.7	675.6	698.7	720.7	738.0	746.7	749.0
35°	1584.5	1371.2	806.0	602.5	643.3	669.3	689.7	701.5	679.1	674.4	679.5
37.5°	1638.4	1359.4	686.6	592.6	640.6	666.9	685.0	654.7	627.2	616.2	620.1
40°	1696.6	1352.7	605.6	584.8	641.8	669.3	665.3	620.5	580.8	557.7	556.9
42.5°	1746.1	1342.5	553.7	579.7	644.9	678.3	638.6	590.3	531.3	517.6	518.0
45°	1779.5	1316.5	526.2	574.2	647.7	680.3	626.0	548.6	506.6	497.9	497.5
47.5°	1793.2	1269.4	508.5	565.5	647.3	664.2	600.5	531.3	489.3	486.9	488.5
50°	1784.2	1191.9	490.5	548.6	637.8	647.3	571.0	516.0	477.5	490.5	499.9
52.5°	1750.8	1091.7	468.8	525.4	620.9	628.0	556.1	506.6	468.8	486.1	493.6
55°	1742.1	1010.4	441.3	495.2	595.8	593.8	540.4	501.9	462.9	456.3	457.4
57.5°	1730.7	931.0	395.7	440.9	532.1	535.3	525.4	496.4	447.6	445.7	447.6
60°	1503.6	713.7	352.9	380.4	437.0	453.9	508.5	486.1	422.9	414.6	414.2
62.5°	982.1	432.3	314.0	331.7	356.1	375.7	463.7	456.7	395.7	390.6	394.2
65°	528.2	308.1	285.7	296.3	309.7	324.6	384.3	406.7	357.6	339.5	339.9
67.5°	270.0	262.1	264.5	272.0	282.2	289.6	310.1	329.7	305.0	289.6	289.2
70°	231.1	237.4	240.9	245.2	251.9	250.7	252.7	256.2	254.3	246.8	246.4
72.5°	196.9	206.7	207.5	208.3	210.6	205.1	201.6	195.7	196.1	197.3	197.7
75°	149.7	159.2	161.5	160.3	162.7	155.6	150.9	145.0	137.9	136.8	137.5
77.5°	97.5	104.9	108.5	107.7	108.9	103.4	101.0	94.7	86.5	83.3	83.3
80°	58.9	63.3	66.0	66.8	68.0	64.1	60.1	54.6	51.1	47.6	47.6
82.5°	35.8	38.5	40.5	40.5	41.7	37.3	34.2	30.3	28.7	25.5	25.5
85°	18.1	20.0	20.8	20.4	19.6	16.1	14.9	13.0	12.2	10.6	10.6
87.5°	4.3	5.5	5.5	3.9	3.9	2.0	1.2	0.4	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**

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)