

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: P632033

Luminaire Tested: GWS-SA2B-830-U-RW-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P632033  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-49)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2B-830-U-RW-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

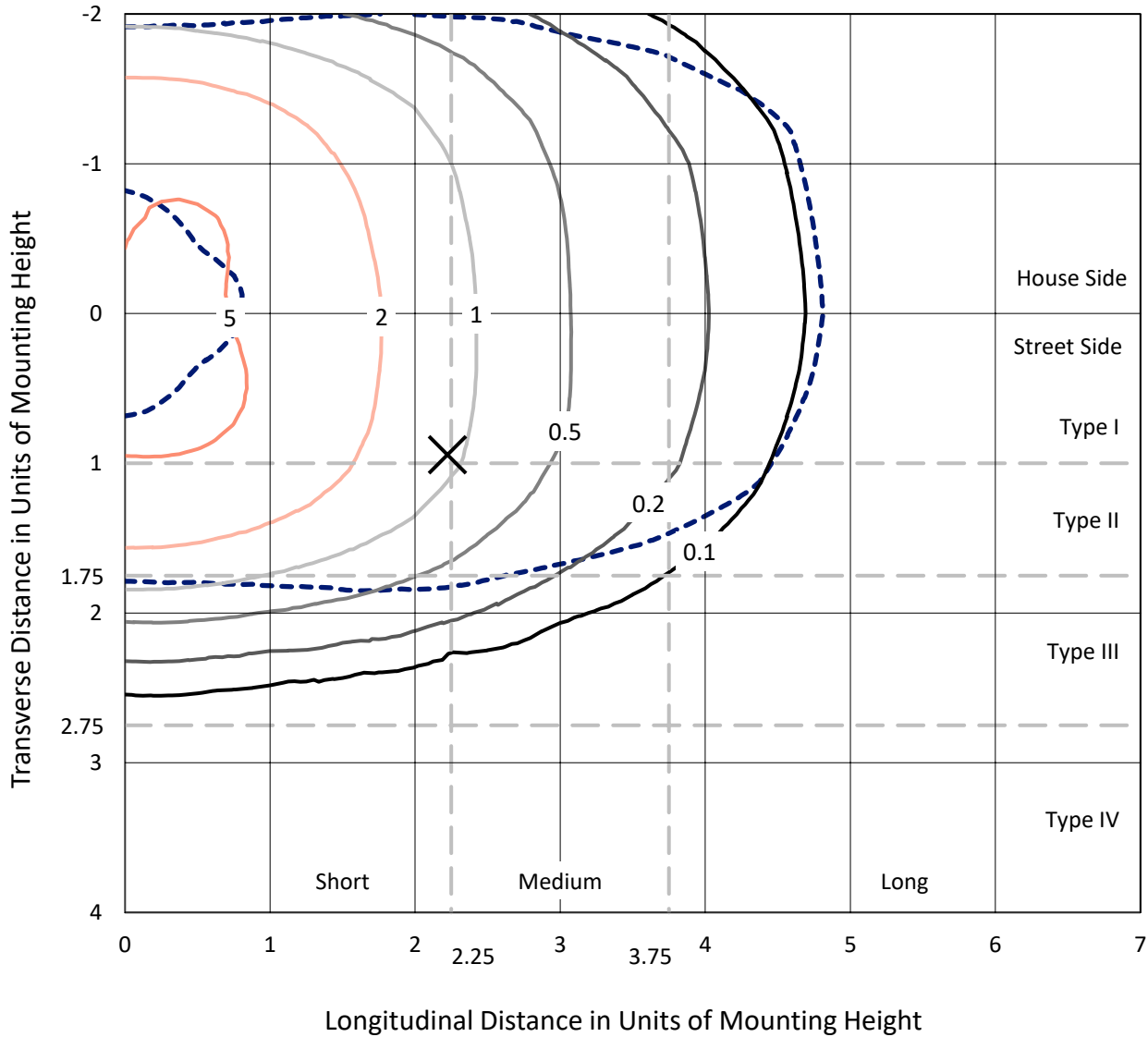
Lumens per Lamp: N/A  
Luminaire Lumens: 5643.6 lumens  
Efficiency: N/A  
Efficacy: 121.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 46.4  
Input Voltage (V): 120  
Input Current (Ain): 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



REPORT NUMBER: P632033  
 CATALOG NUMBER: GWS-SA2B-830-U-RW-W

### Iso-Footcandle Lines of Horizontal Illumination

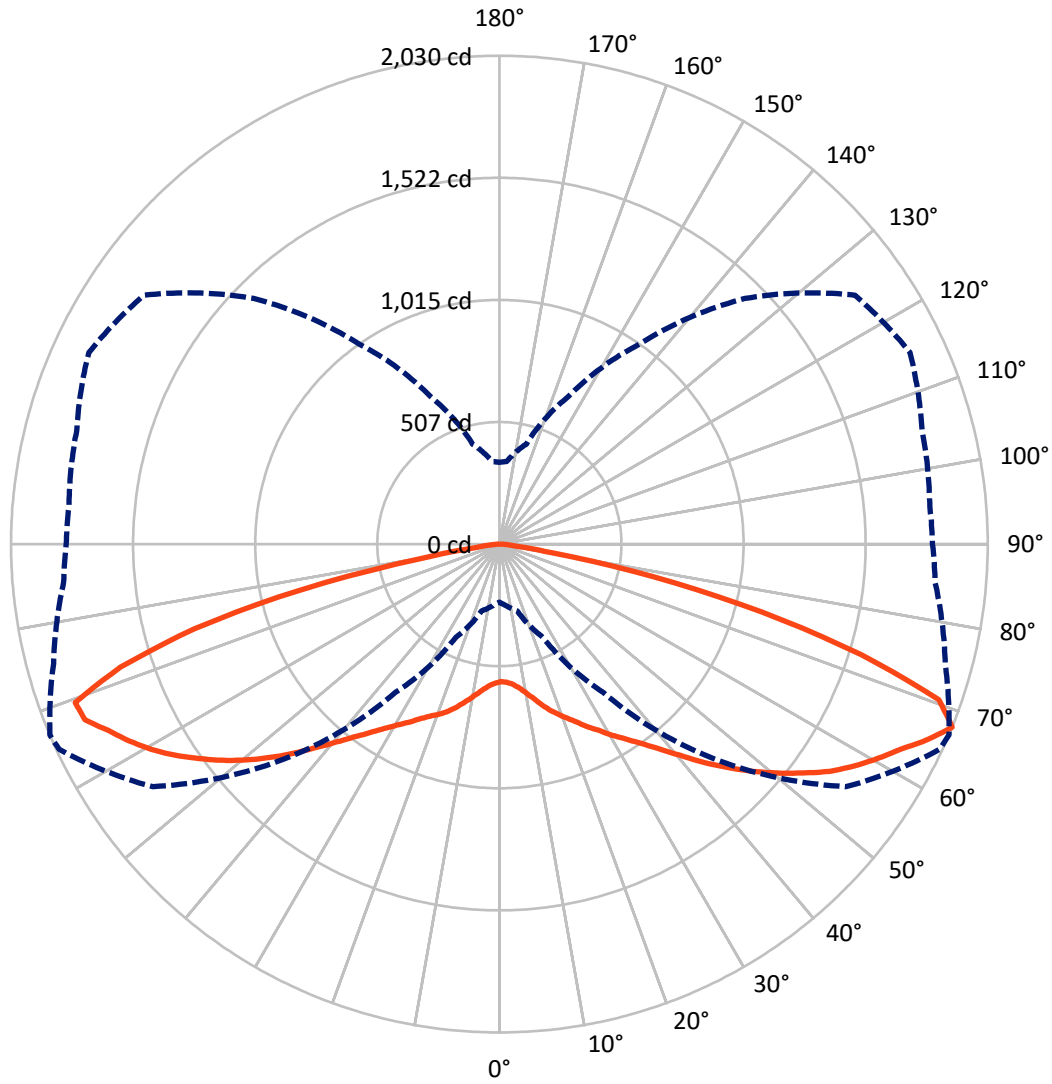
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.6 fc  
 Type III - Short - N/A

REPORT NUMBER: P632033  
CATALOG NUMBER: GWS-SA2B-830-U-RW-W

### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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CATALOG NUMBER: GWS-SA2B-830-U-RW-W

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2790.7	0.0	2790.7
	% Fixture	49.4	0.0	49.4
<b>Street Side</b>	Lumens	2852.9	0.0	2852.9
	% Fixture	50.6	0.0	50.6
<b>Total</b>	Lumens	5643.6	0.0	5643.6
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.1	1.0
10°-20°	189.4	3.4
20°-30°	371.6	6.6
30°-40°	633.1	11.2
40°-50°	1016.7	18.0
50°-60°	1381.5	24.5
60°-70°	1321.5	23.4
70°-80°	628.3	11.1
80°-90°	45.5	0.8
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°	5643.6	100.0
0°-180°	5643.6	100.0

**Coefficient of Utilization**



REPORT NUMBER: P632033

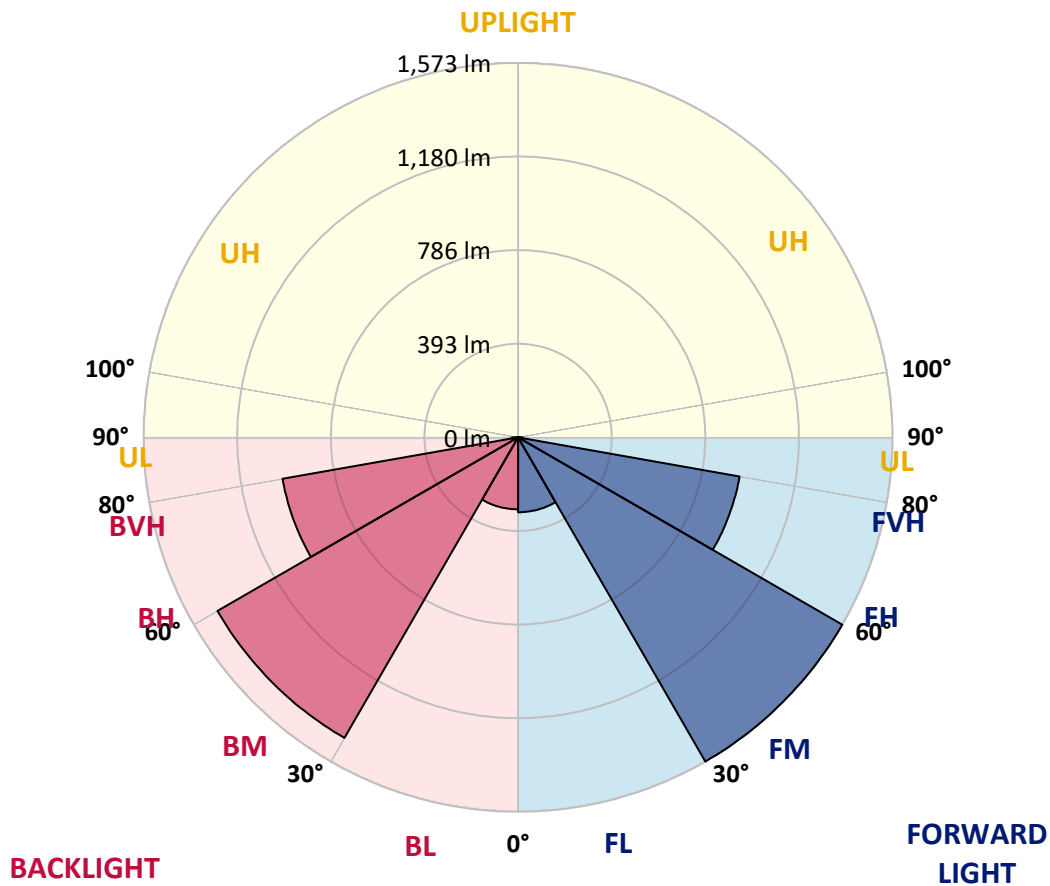
CATALOG NUMBER: GWS-SA2B-830-U-RW-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	314.7	5.6			
FM (30°-60°)	1572.9	27.9			
FH (60°-80°)	944.9	16.7			G1/1800
FVH (80°-90°)	20.5	0.4			G1/100
BL (0°-30°)	302.4	5.4	B1/500		
BM (30°-60°)	1458.3	25.8	B2/2500		
BH (60°-80°)	1004.8	17.8	B3/2500		G3/2500
BVH (80°-90°)	25.1	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type III Short





REPORT NUMBER: P632033  
 CATALOG NUMBER: GWS-SA2B-830-U-RW-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	571.4	571.4	571.4	571.4	571.4	571.4	571.4	571.4	571.4	571.4	571.4
2.5°	559.7	560.4	561.6	564.0	566.3	569.9	573.4	573.0	574.6	575.8	576.9
5°	556.5	557.3	559.3	562.4	565.9	571.8	579.3	582.5	584.8	589.1	593.1
7.5°	563.2	564.8	567.5	571.8	577.3	584.8	595.0	600.5	604.1	611.9	618.6
10°	572.2	574.2	579.7	588.0	596.2	607.6	620.6	628.8	631.2	641.4	654.0
12.5°	580.9	583.2	592.3	607.2	622.1	637.5	652.8	663.0	663.8	677.6	691.7
15°	594.6	596.6	608.8	628.0	650.8	672.1	690.9	698.0	701.1	711.0	728.7
17.5°	624.9	627.3	643.0	663.8	687.8	710.2	729.0	734.9	734.9	743.2	757.7
20°	657.5	659.9	680.7	707.4	736.5	759.3	773.8	768.3	766.4	768.7	779.0
22.5°	694.1	698.4	718.4	749.5	785.2	813.2	820.6	804.1	798.6	793.1	795.5
25°	740.8	745.9	765.6	798.6	833.6	863.1	867.4	841.8	838.7	819.4	812.4
27.5°	794.7	798.6	823.0	855.6	888.2	913.0	917.7	886.3	875.6	848.9	832.4
30°	864.2	867.8	889.0	921.2	949.5	966.8	972.7	929.5	921.2	880.4	854.8
32.5°	940.1	941.7	963.3	994.3	1019.5	1036.0	1027.7	977.4	965.2	919.3	884.3
35°	1027.0	1027.0	1054.9	1080.0	1100.1	1104.8	1089.0	1031.7	1017.5	967.6	924.0
37.5°	1112.2	1114.6	1140.5	1170.4	1188.1	1187.3	1158.6	1095.7	1079.6	1025.4	977.0
40°	1204.6	1209.7	1235.6	1269.1	1285.9	1283.6	1239.6	1169.6	1153.1	1089.0	1041.9
42.5°	1289.5	1297.7	1328.0	1362.2	1380.7	1379.1	1333.1	1254.5	1238.4	1166.1	1118.9
45°	1357.1	1365.7	1403.5	1451.0	1480.5	1477.7	1431.4	1342.5	1322.9	1247.0	1195.2
47.5°	1416.4	1425.5	1467.5	1517.8	1564.6	1569.3	1526.9	1431.4	1410.5	1333.9	1275.3
50°	1462.0	1466.3	1513.5	1568.5	1622.8	1649.1	1612.2	1520.6	1495.4	1419.6	1353.5
52.5°	1458.5	1464.4	1522.5	1597.2	1669.9	1713.2	1687.6	1604.7	1580.3	1497.8	1433.3
55°	1386.6	1392.5	1461.6	1570.5	1696.3	1759.9	1757.2	1684.9	1667.2	1577.6	1516.3
57.5°	1281.6	1294.6	1363.4	1480.9	1661.7	1797.3	1808.3	1758.0	1739.5	1655.8	1598.4
60°	1093.8	1111.1	1190.4	1342.9	1550.8	1784.7	1862.9	1819.7	1808.3	1728.5	1672.7
62.5°	794.7	807.3	913.0	1113.0	1386.6	1695.1	1908.9	1883.3	1874.7	1793.7	1739.9
65°	475.9	504.6	589.5	787.2	1118.5	1526.1	1883.7	1966.7	1957.6	1860.9	1797.3
67.5°	240.9	253.9	287.3	426.8	752.2	1262.8	1757.6	2018.5	2029.5	1918.3	1817.7
70°	149.3	152.9	162.3	210.7	375.7	829.7	1437.3	1883.3	1937.2	1909.3	1764.6
72.5°	119.9	120.7	122.2	131.3	180.4	387.9	908.7	1475.0	1572.1	1783.1	1688.8
75°	99.4	99.8	100.2	103.0	112.4	158.4	442.1	1013.6	1127.2	1515.5	1565.8
77.5°	79.8	77.8	79.4	80.6	82.9	88.4	152.5	540.8	655.9	994.7	1210.9
80°	51.9	51.1	54.2	55.4	57.8	61.3	81.4	183.5	222.8	362.0	385.2
82.5°	27.9	26.3	33.0	31.8	33.0	35.8	47.9	67.2	75.5	109.3	92.4
85°	8.6	8.6	9.0	10.6	13.0	12.6	20.8	33.0	36.6	46.8	34.6
87.5°	1.6	1.6	1.6	1.6	1.6	2.0	4.3	6.7	9.0	16.1	12.2
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: P632033  
 CATALOG NUMBER: GWS-SA2B-830-U-RW-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	571.4	571.4	571.4	571.4	571.4	571.4	571.4	571.4	571.4	571.4	571.4
2.5°	579.3	575.8	577.7	578.9	578.5	577.7	573.8	573.0	571.1	567.9	567.1
5°	596.6	592.7	593.1	591.9	588.0	582.8	574.2	569.9	566.3	562.4	562.0
7.5°	623.7	619.4	618.2	612.7	601.7	589.9	576.2	568.3	562.4	557.3	556.5
10°	658.3	654.0	650.0	637.1	619.0	603.3	585.2	573.8	565.2	558.9	557.7
12.5°	696.8	693.3	683.5	664.6	643.0	624.5	606.0	591.9	579.3	569.9	568.7
15°	739.7	731.8	716.9	692.5	672.1	657.1	634.7	615.5	595.4	582.8	580.1
17.5°	769.5	762.8	745.2	721.6	705.5	692.5	666.2	638.7	611.5	593.1	589.1
20°	790.7	783.7	763.6	746.3	741.2	730.2	699.6	667.7	636.3	613.5	608.4
22.5°	806.1	798.6	778.2	769.5	776.6	774.6	744.8	708.6	671.3	644.2	637.9
25°	820.6	813.5	795.5	798.6	817.5	823.4	791.1	749.1	706.6	674.8	667.3
27.5°	834.4	825.3	817.1	834.4	861.1	872.1	837.9	790.4	744.4	711.8	705.9
30°	855.6	845.0	843.8	869.0	911.4	920.8	883.1	835.6	790.0	756.9	749.5
32.5°	882.3	872.5	873.3	911.0	960.1	968.0	935.8	891.4	845.8	812.8	802.5
35°	918.5	906.3	913.0	959.4	1008.9	1023.4	997.5	960.5	916.1	882.3	870.9
37.5°	968.4	950.7	964.5	1013.2	1063.1	1084.7	1064.7	1037.2	993.2	959.0	948.3
40°	1032.1	1017.5	1023.0	1076.9	1128.4	1154.3	1141.7	1114.6	1071.0	1035.2	1023.0
42.5°	1107.5	1093.0	1091.0	1148.4	1199.9	1239.2	1227.0	1202.2	1157.0	1116.2	1104.4
45°	1181.4	1168.0	1170.8	1229.4	1287.1	1330.0	1317.8	1288.7	1239.6	1192.4	1183.0
47.5°	1258.4	1247.4	1249.8	1311.9	1375.6	1418.4	1403.1	1367.7	1310.3	1260.0	1248.6
50°	1337.4	1324.9	1328.4	1393.6	1462.4	1502.9	1479.3	1427.0	1363.8	1314.6	1304.8
52.5°	1416.0	1401.1	1410.1	1471.8	1543.0	1575.2	1531.6	1468.3	1407.0	1358.3	1347.3
55°	1506.4	1490.7	1480.9	1546.9	1617.3	1630.6	1570.9	1497.0	1424.3	1368.9	1362.2
57.5°	1589.0	1575.6	1557.1	1623.2	1675.0	1665.2	1601.1	1489.1	1382.2	1311.1	1301.7
60°	1662.9	1651.5	1635.3	1691.5	1715.1	1693.1	1576.8	1396.0	1278.5	1204.2	1199.9
62.5°	1730.8	1718.7	1703.7	1751.7	1748.5	1697.4	1466.0	1252.9	1095.7	1015.9	1008.9
65°	1784.7	1773.7	1769.4	1807.1	1802.0	1612.9	1293.4	1018.7	800.6	710.6	707.8
67.5°	1800.0	1795.7	1818.9	1882.9	1803.2	1443.2	1014.4	675.6	430.0	344.7	339.6
70°	1742.6	1742.2	1808.7	1900.2	1639.7	1102.4	598.6	304.6	216.2	191.8	188.6
72.5°	1668.0	1666.8	1719.4	1639.3	1216.0	603.3	251.9	163.1	135.2	128.5	128.5
75°	1545.3	1542.2	1581.9	1247.0	683.8	227.2	133.6	112.0	106.1	104.9	104.9
77.5°	1259.6	1233.3	1170.8	770.7	238.6	111.6	88.4	88.0	84.5	84.1	84.1
80°	414.2	414.2	481.4	294.0	105.3	68.8	62.5	65.6	62.1	59.7	59.3
82.5°	67.6	93.1	132.4	84.1	57.0	42.8	38.5	40.9	42.8	34.2	34.2
85°	26.7	35.0	51.1	39.3	26.3	17.3	18.5	20.4	18.1	15.7	15.3
87.5°	10.2	12.6	18.1	9.4	5.5	3.1	2.0	2.0	1.6	1.6	1.6
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

REPORT NUMBER: SP1-2408-195-9

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

REPORT NUMBER: SP1-2408-195-9

CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



CCT = 3050K  
 CIE x = 0.4383  
 CIE y = 0.4131  
 Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.27**

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			

REPORT NUMBER: SP1-2408-195-9

**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)