

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: P632062

Luminaire Tested: GWS-SA2B-830-U-T3-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P632062  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-25)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2B-830-U-T3-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

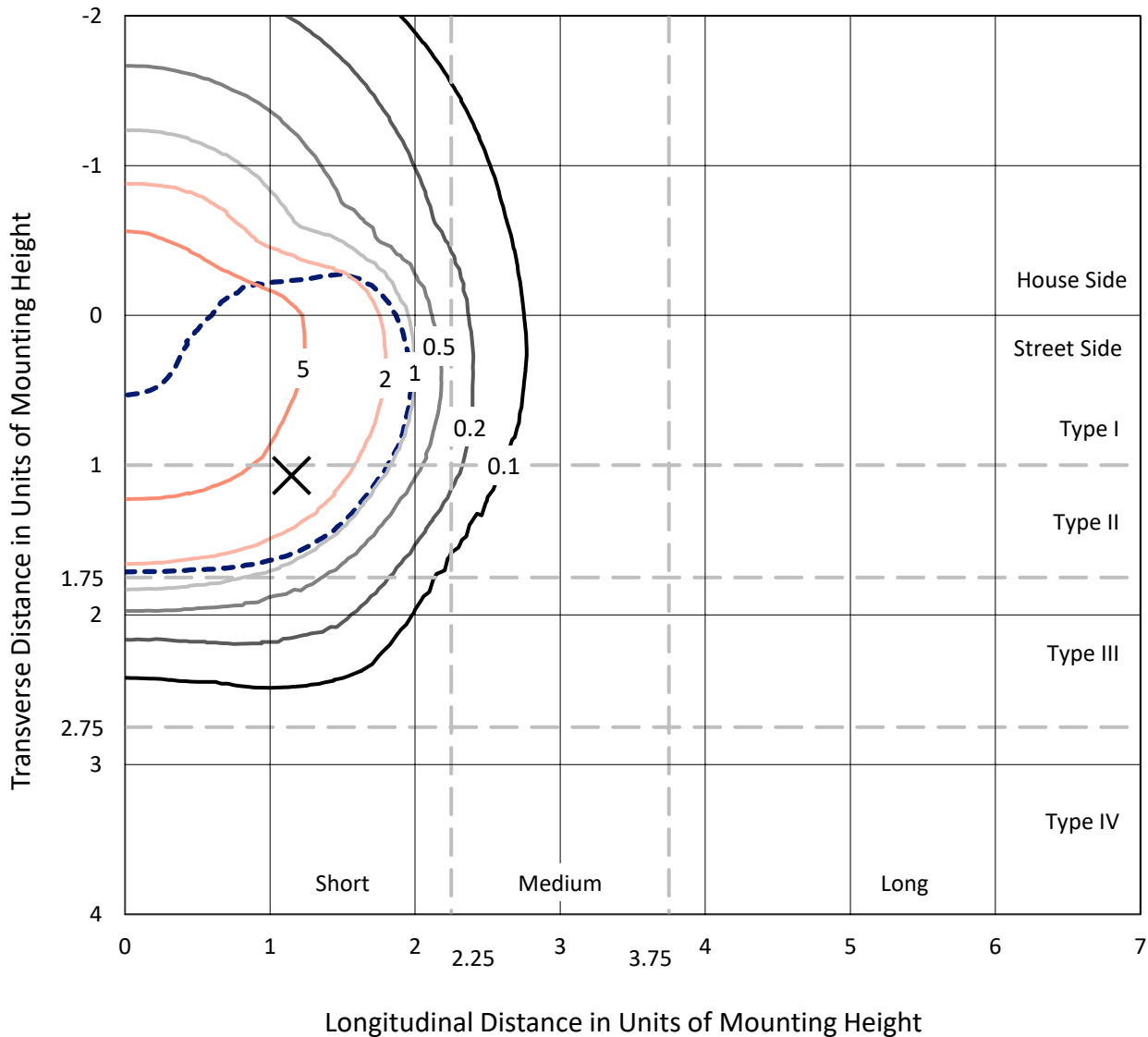
Lumens per Lamp: N/A  
Luminaire Lumens: 4679.1 lumens  
Efficiency: N/A  
Efficacy: 100.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 46.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
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



REPORT NUMBER: P632062  
 CATALOG NUMBER: GWS-SA2B-830-U-T3-W-GRSWH

### Iso-Footcandle Lines of Horizontal Illumination

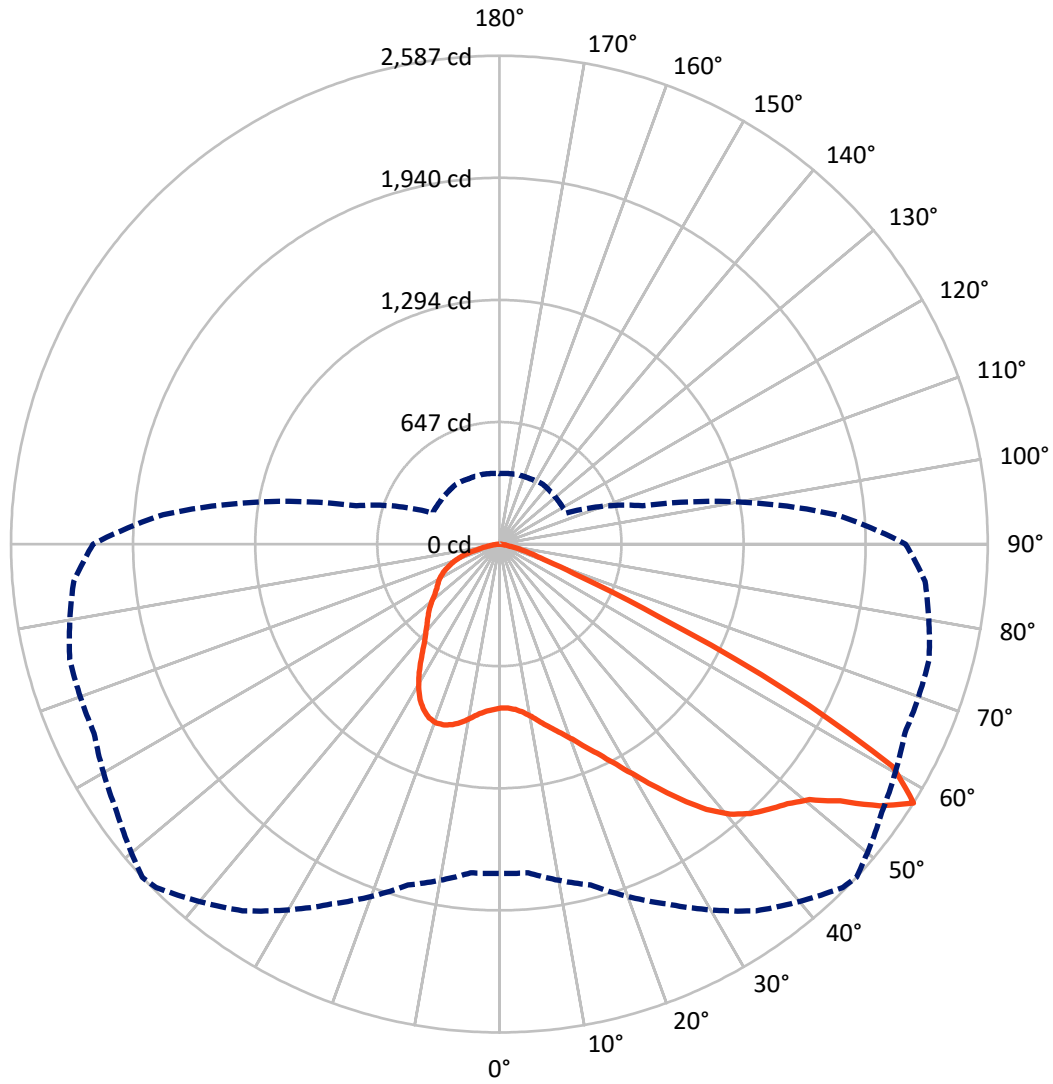
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.7 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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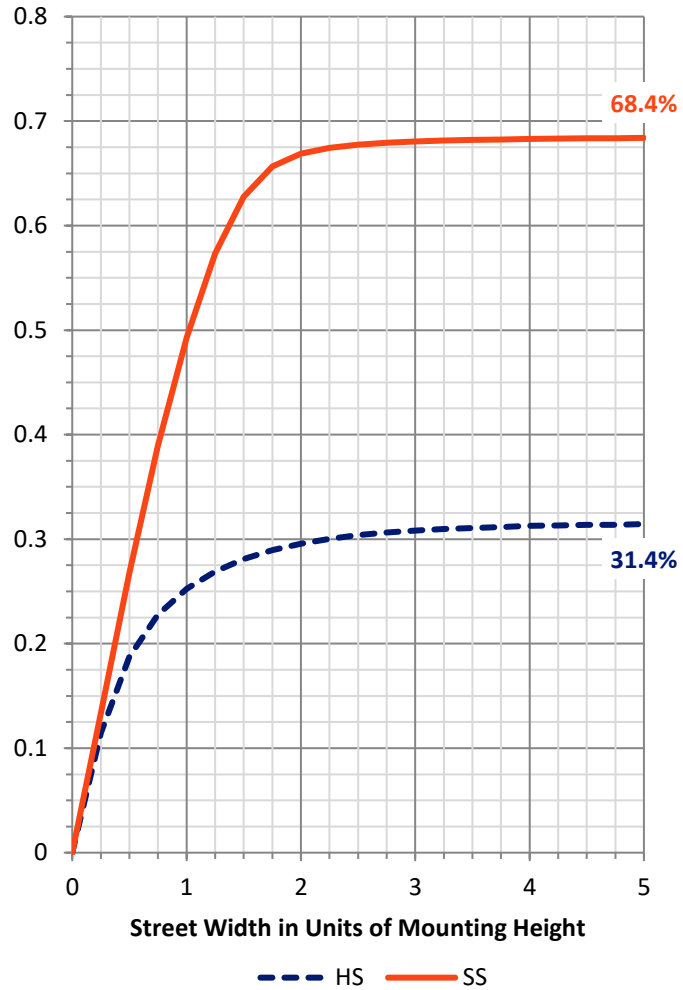
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1480.9	0.0	1480.9
	% Fixture	31.6	0.0	31.6
<b>Street Side</b>	Lumens	3198.2	0.0	3198.2
	% Fixture	68.4	0.0	68.4
<b>Total</b>	Lumens	4679.1	0.0	4679.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.6	1.8
10°-20°	281.5	6.0
20°-30°	506.9	10.8
30°-40°	765.6	16.4
40°-50°	1030.9	22.0
50°-60°	1238.8	26.5
60°-70°	603.3	12.9
70°-80°	148.6	3.2
80°-90°	17.9	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°	4679.1	100.0
0°-180°	4679.1	100.0

**Coefficient of Utilization**



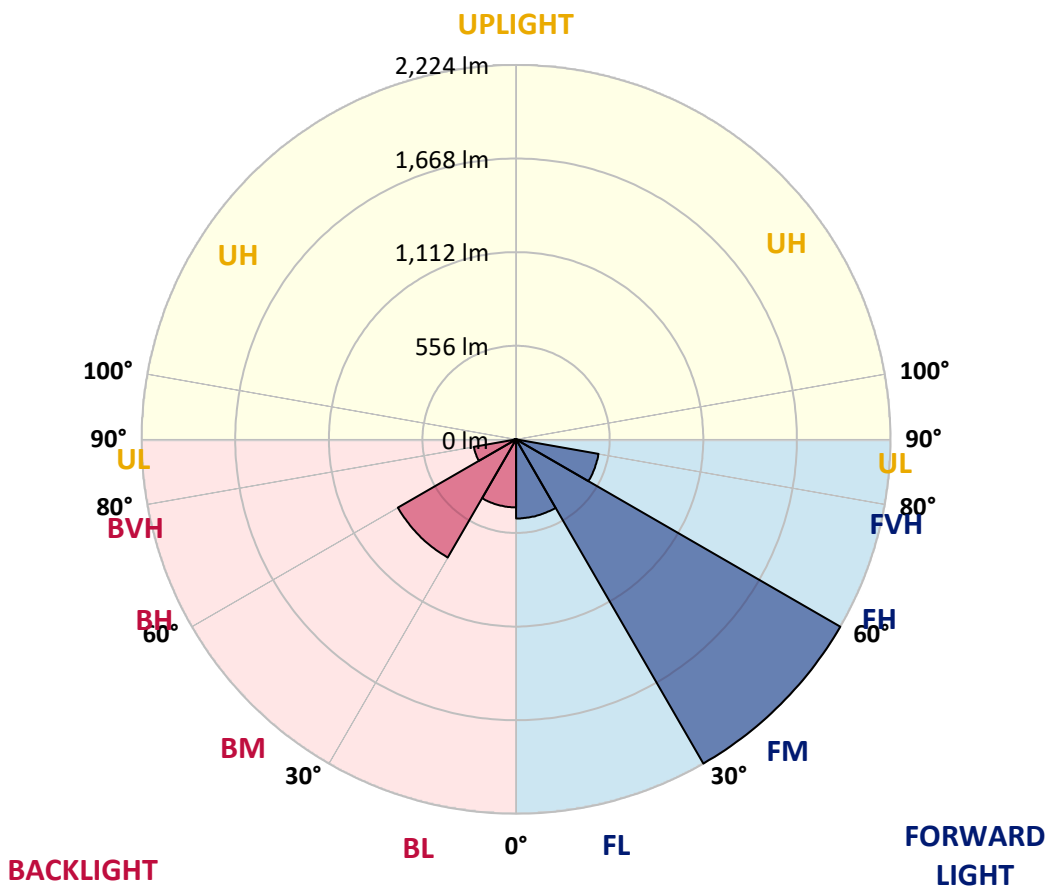
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	470.0	10.0			
FM (30°-60°)	2224.2	47.5			
FH (60°-80°)	497.2	10.6			G0/660
FVH (80°-90°)	6.7	0.1			G0/10
BL (0°-30°)	404.0	8.6	B1/500		
BM (30°-60°)	811.1	17.3	B1/1000		
BH (60°-80°)	254.7	5.4	B1/500		G1/500
BVH (80°-90°)	11.1	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





REPORT NUMBER: P632062

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	867.7	867.7	867.7	867.7	867.7	867.7	867.7	867.7	867.7	867.7	867.7
2.5°	866.2	865.8	865.8	868.1	868.1	868.9	870.1	871.3	871.7	869.7	865.4
5°	875.6	875.6	875.6	877.6	877.6	878.4	879.9	880.3	879.9	876.8	872.5
7.5°	890.5	890.5	890.9	893.3	895.3	896.4	899.2	898.8	897.6	892.5	887.0
10°	914.9	916.1	917.3	920.0	923.9	926.7	928.7	928.7	927.1	919.2	912.2
12.5°	949.5	951.1	952.2	954.6	957.7	962.5	966.8	966.8	964.8	955.0	944.4
15°	990.0	991.5	991.1	991.9	997.8	1004.5	1008.0	1010.4	1011.2	997.4	980.9
17.5°	1036.3	1037.9	1036.3	1034.0	1034.8	1045.4	1051.7	1060.3	1065.4	1047.0	1020.6
20°	1078.4	1076.8	1076.8	1078.4	1080.8	1093.7	1103.2	1117.3	1123.6	1101.2	1060.3
22.5°	1122.8	1126.3	1124.8	1124.8	1134.2	1155.8	1167.2	1185.7	1192.4	1163.3	1108.3
25°	1180.2	1183.3	1182.5	1183.3	1194.3	1225.0	1236.4	1270.6	1277.3	1235.6	1161.3
27.5°	1243.1	1248.2	1250.5	1249.7	1267.4	1307.5	1321.7	1369.2	1381.4	1316.6	1217.9
30°	1324.8	1330.3	1332.3	1331.5	1352.3	1406.9	1423.1	1477.3	1494.6	1412.4	1289.8
32.5°	1419.5	1425.0	1430.9	1433.3	1460.0	1515.8	1539.0	1595.2	1619.9	1523.3	1376.7
35°	1513.4	1518.2	1529.6	1548.0	1584.6	1641.6	1662.0	1717.4	1741.4	1638.4	1481.6
37.5°	1617.2	1620.3	1630.2	1655.7	1708.4	1762.6	1783.0	1836.1	1838.9	1749.6	1600.3
40°	1730.8	1730.8	1728.8	1754.0	1809.0	1863.6	1881.3	1911.9	1895.8	1835.3	1715.8
42.5°	1827.1	1825.5	1827.1	1850.6	1891.5	1935.9	1951.2	1945.4	1924.9	1900.9	1820.4
45°	1913.9	1915.1	1929.2	1947.3	1968.5	1994.9	2003.9	1970.5	1952.0	1953.6	1904.1
47.5°	1972.9	1974.0	2007.1	2037.3	2050.3	2058.5	2054.6	2008.2	1998.8	2016.5	1968.5
50°	1980.7	1987.0	2044.0	2106.1	2138.3	2139.5	2128.5	2071.9	2069.1	2089.2	2003.1
52.5°	1982.3	1988.6	2059.7	2171.7	2255.4	2273.1	2260.5	2201.6	2172.9	2152.9	2045.6
55°	1976.4	1983.5	2062.1	2215.7	2376.1	2446.8	2448.0	2364.7	2273.1	2259.8	2166.6
57.5°	1744.9	1747.7	1869.5	2103.7	2371.4	2571.8	2587.1	2473.9	2369.4	2356.8	2263.7
60°	1215.6	1226.6	1359.0	1668.3	1992.1	2345.4	2394.9	2361.9	2292.0	2200.4	1942.2
62.5°	608.8	618.2	751.0	1043.4	1373.9	1653.0	1706.0	1741.0	1757.5	1659.2	1322.4
65°	262.1	269.2	351.7	545.1	777.7	912.5	931.0	973.1	1076.0	960.1	712.5
67.5°	175.3	180.0	222.0	332.5	458.2	466.9	464.1	473.2	495.6	409.1	321.9
70°	134.4	138.3	166.6	243.7	329.3	281.8	266.8	242.1	262.9	268.0	261.0
72.5°	97.5	100.6	121.8	166.2	206.3	180.0	177.6	190.2	218.5	226.4	222.0
75°	62.9	64.5	77.4	91.2	106.5	115.5	120.3	143.1	171.7	177.6	172.5
77.5°	42.1	43.2	50.7	58.6	60.5	60.9	62.5	72.7	92.4	103.4	102.2
80°	22.0	22.0	24.8	24.8	28.3	33.8	35.4	42.1	51.1	56.6	57.0
82.5°	8.6	9.0	10.6	11.8	14.1	17.3	18.5	22.0	26.7	30.7	34.2
85°	3.5	3.9	4.3	5.1	6.3	7.9	8.3	9.4	12.6	15.7	17.7
87.5°	0.0	0.0	0.4	0.4	0.8	1.2	1.2	1.6	2.0	3.5	4.7
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: P632062  
 CATALOG NUMBER: GWS-SA2B-830-U-T3-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	867.7	867.7	867.7	867.7	867.7	867.7	867.7	867.7	867.7	867.7	867.7
2.5°	870.5	865.4	870.5	872.1	876.4	878.0	875.2	874.8	874.8	870.9	869.7
5°	876.4	871.7	876.8	879.1	885.4	889.4	890.1	893.3	895.3	893.7	893.3
7.5°	890.9	885.0	890.5	894.1	902.3	908.6	911.4	918.4	923.6	922.8	922.4
10°	916.5	908.6	914.9	920.8	929.8	937.3	937.7	941.6	946.7	945.2	944.4
12.5°	946.0	938.5	945.6	951.5	962.1	965.2	960.1	958.5	959.3	957.4	955.8
15°	982.1	971.5	977.8	984.5	990.4	986.8	975.8	971.5	971.1	968.4	966.8
17.5°	1018.3	1004.9	1009.6	1013.2	1010.4	999.4	985.6	978.2	974.6	969.1	967.6
20°	1054.0	1037.1	1036.3	1033.6	1021.0	1001.0	982.5	967.6	958.5	951.1	948.3
22.5°	1094.9	1071.3	1059.5	1047.0	1019.4	986.8	958.9	937.7	923.2	913.7	910.6
25°	1138.9	1105.5	1081.1	1056.0	1003.7	956.6	917.7	888.6	871.3	861.1	857.5
27.5°	1182.5	1136.6	1100.0	1057.2	972.3	912.9	860.7	821.4	804.1	795.8	793.1
30°	1241.5	1177.8	1122.4	1041.8	931.0	852.4	787.2	747.5	736.1	730.2	727.8
32.5°	1309.5	1230.1	1152.3	1009.6	878.4	781.7	712.9	685.4	677.5	666.1	665.7
35°	1399.1	1304.8	1180.6	962.1	811.9	705.8	655.9	636.3	622.1	604.0	602.5
37.5°	1503.6	1397.9	1195.9	901.5	734.5	643.3	613.5	591.5	568.7	544.7	541.6
40°	1611.7	1506.8	1197.1	830.0	658.7	602.1	576.9	548.2	519.9	493.2	489.7
42.5°	1725.3	1608.2	1176.3	747.5	596.6	566.3	540.8	504.6	472.8	454.7	452.7
45°	1826.7	1689.9	1129.1	660.6	550.6	536.4	503.8	464.9	448.0	435.1	432.3
47.5°	1906.4	1744.1	1065.4	582.8	513.3	505.8	463.3	443.3	430.3	418.5	415.8
50°	1945.7	1756.3	982.5	519.5	478.7	469.6	440.6	425.2	416.6	407.1	404.8
52.5°	1994.5	1770.1	911.0	466.5	444.9	432.7	421.7	409.5	403.2	397.3	395.4
55°	2106.5	1822.0	873.2	424.0	412.7	407.1	405.6	395.4	393.4	389.5	385.9
57.5°	2152.1	1788.5	784.0	389.5	387.1	387.9	391.8	382.4	380.4	375.7	373.4
60°	1730.8	1351.9	530.9	359.6	365.9	371.0	374.9	365.5	362.7	362.0	358.8
62.5°	1109.0	831.6	370.6	331.7	341.1	347.4	349.8	340.7	338.8	345.1	345.4
65°	577.3	453.1	300.6	301.8	309.7	319.1	323.8	320.7	319.9	326.6	327.0
67.5°	294.8	277.1	262.1	266.5	272.7	284.9	295.9	309.7	314.4	315.2	315.6
70°	251.1	243.3	235.8	238.6	245.2	251.9	262.5	269.2	261.3	259.4	258.6
72.5°	213.8	207.9	204.4	207.5	211.0	209.9	206.7	209.9	211.0	211.4	211.8
75°	166.2	161.9	159.2	159.6	159.6	155.2	149.3	145.8	141.9	138.7	138.7
77.5°	101.8	102.6	105.3	104.9	104.5	103.0	97.1	93.9	84.5	81.7	81.7
80°	58.2	59.3	62.1	62.9	62.9	60.9	55.0	51.5	47.2	45.2	44.8
82.5°	35.4	36.9	38.5	39.3	39.7	37.3	32.2	29.5	27.1	25.2	25.2
85°	18.5	19.3	20.8	21.2	20.0	17.7	14.9	13.8	11.4	11.0	11.0
87.5°	5.1	5.5	6.3	5.1	4.7	3.5	2.0	1.6	0.8	0.4	0.4
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



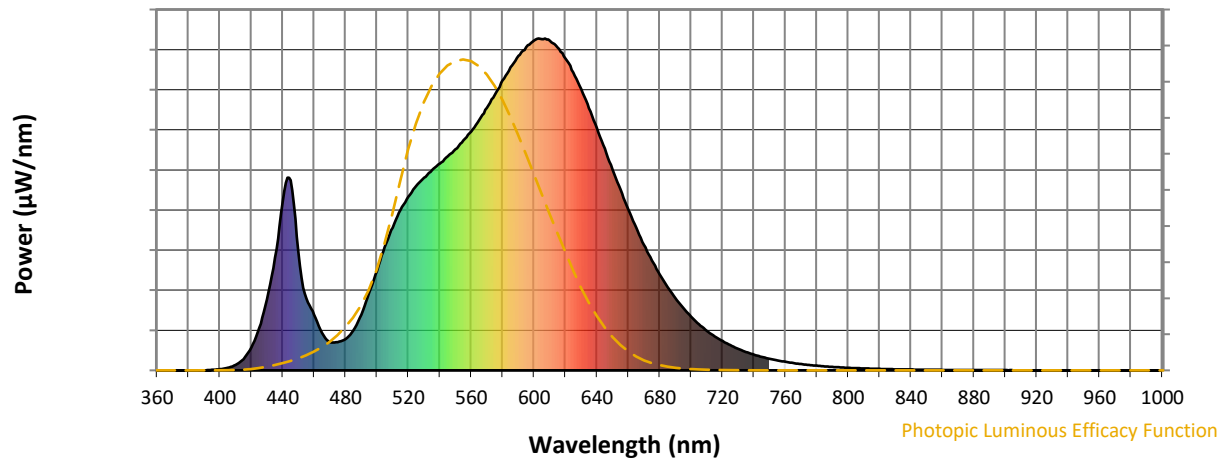
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



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 ( $\phi$ /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)