

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: P632559

Luminaire Tested: GWS-SA2C-830-U-T3-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P632559  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-23)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2C-830-U-T3-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

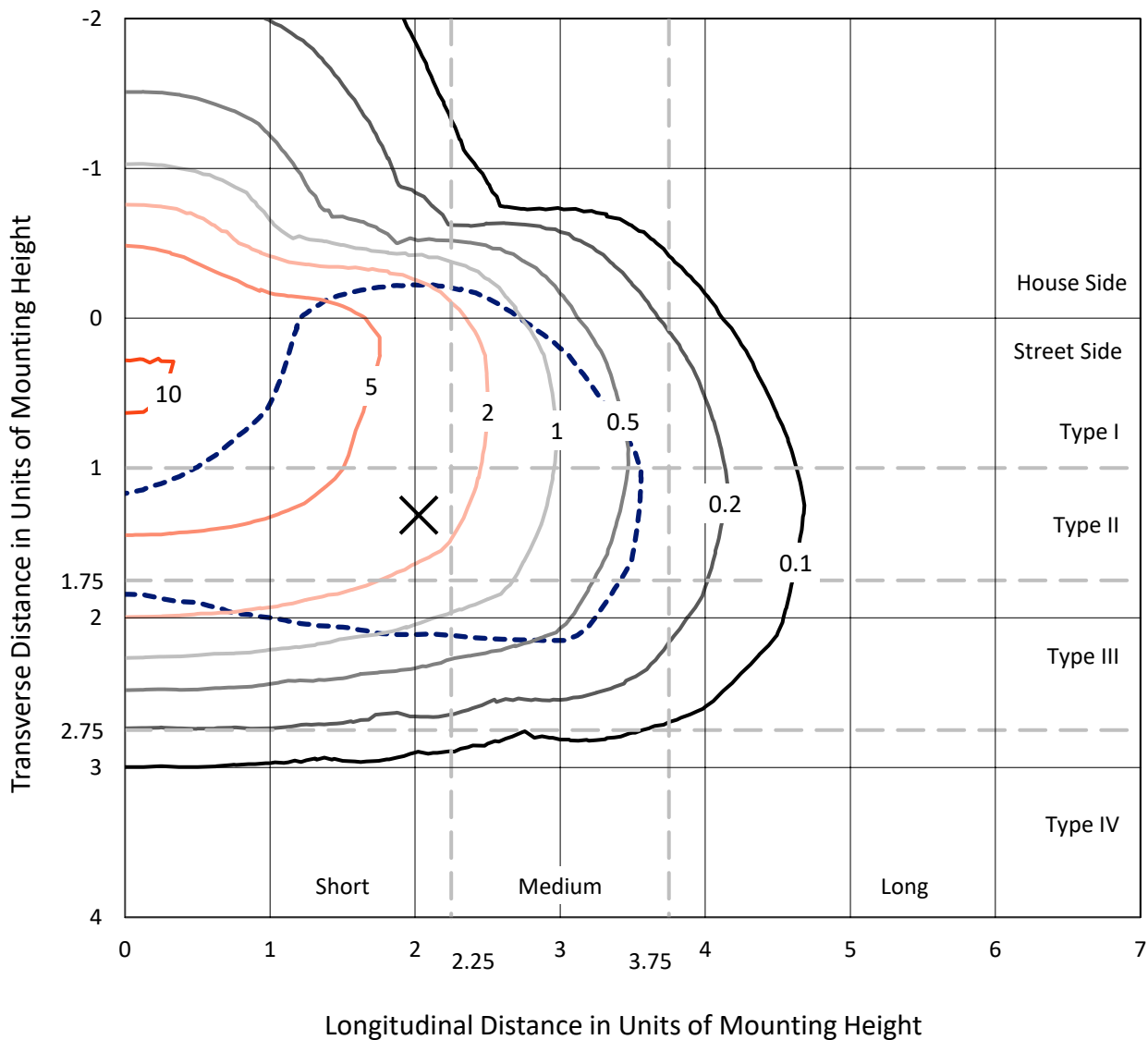
Lumens per Lamp: N/A  
Luminaire Lumens: 7357.3 lumens  
Efficiency: N/A  
Efficacy: 116.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 63.2  
Input Voltage (V): 120  
Input Current (Ain): 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: P632559  
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### Iso-Footcandle Lines of Horizontal Illumination

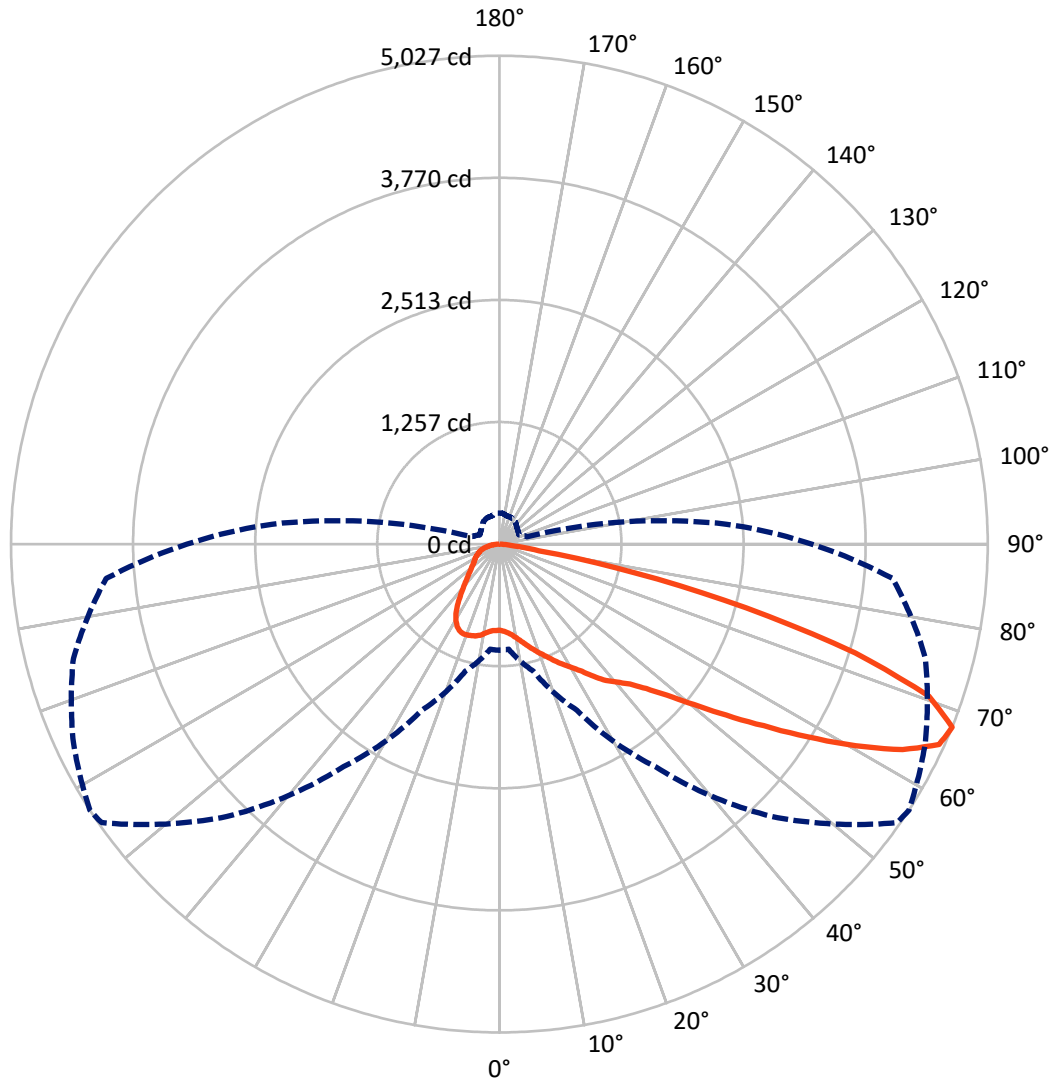
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.4 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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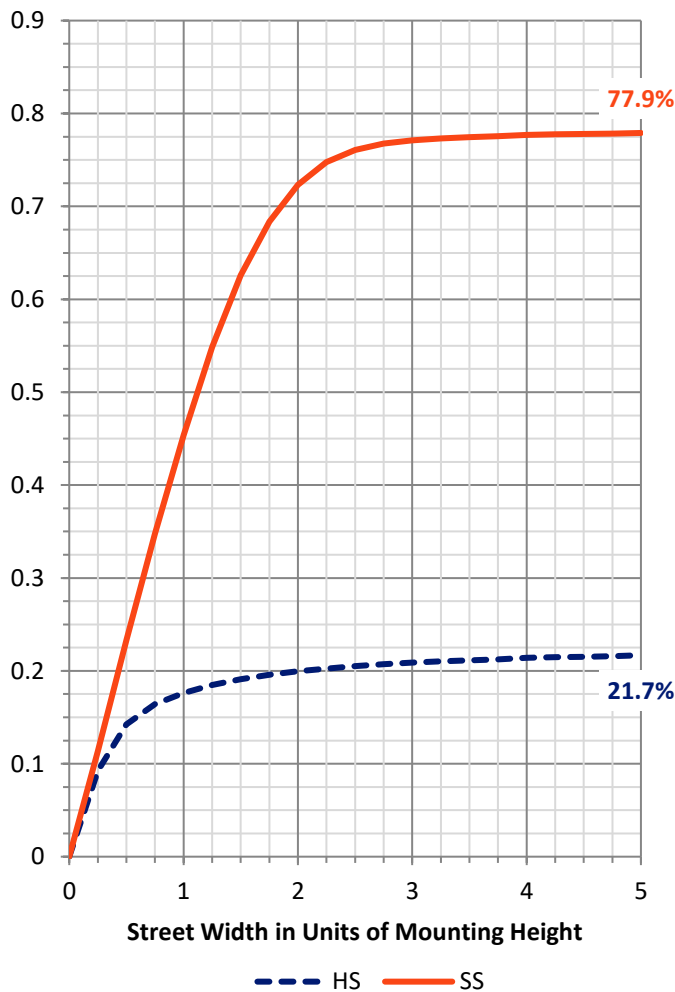
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1617.6	0.0	1617.6
	% Fixture	22.0	0.0	22.0
<b>Street Side</b>	Lumens	5739.7	0.0	5739.7
	% Fixture	78.0	0.0	78.0
<b>Total</b>	Lumens	7357.3	0.0	7357.3
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.9	1.2
10°-20°	291.1	4.0
20°-30°	518.9	7.1
30°-40°	754.4	10.3
40°-50°	1091.9	14.8
50°-60°	1708.8	23.2
60°-70°	1993.5	27.1
70°-80°	832.2	11.3
80°-90°	78.5	1.1
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°	7357.3	100.0
0°-180°	7357.3	100.0

**Coefficient of Utilization**



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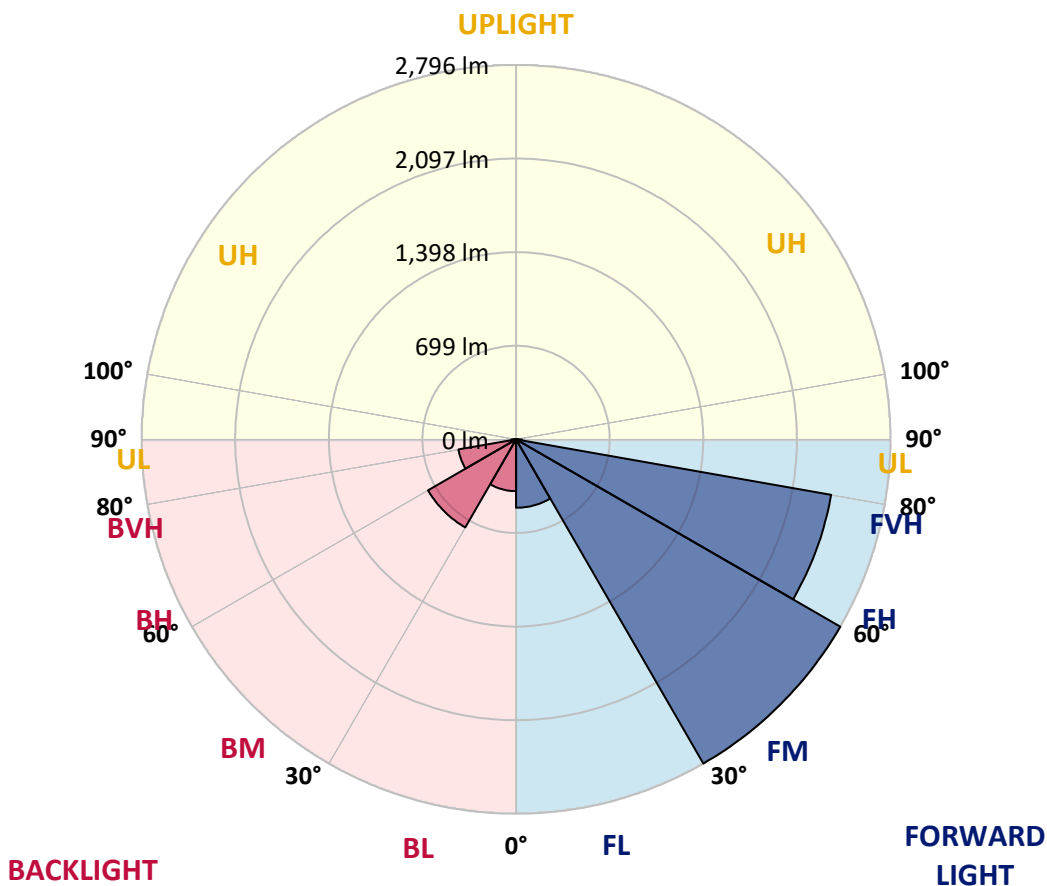
CATALOG NUMBER: GWS-SA2C-830-U-T3-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	511.0	6.9			
FM (30°-60°)	2795.9	38.0			
FH (60°-80°)	2389.0	32.5			G2/5000
FVH (80°-90°)	43.7	0.6			G1/100
BL (0°-30°)	386.9	5.3	B1/500		
BM (30°-60°)	759.3	10.3	B1/1000		
BH (60°-80°)	436.6	5.9	B1/500		G1/500
BVH (80°-90°)	34.8	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type III Short





REPORT NUMBER: P632559  
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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	886.5	886.5	886.5	886.5	886.5	886.5	886.5	886.5	886.5	886.5	886.5
2.5°	899.2	898.1	897.6	900.7	899.7	899.2	899.2	898.6	897.6	893.4	887.6
5°	923.9	921.8	919.7	922.3	920.2	918.1	917.6	916.5	912.9	906.5	897.6
7.5°	949.8	947.6	948.2	949.8	948.2	947.1	945.5	944.5	938.7	928.7	916.5
10°	986.1	986.1	987.2	988.8	989.3	987.7	984.5	983.0	976.1	963.5	946.6
12.5°	1038.8	1037.8	1037.8	1036.7	1038.3	1036.7	1033.6	1030.9	1022.5	1006.1	981.9
15°	1108.4	1104.2	1100.5	1093.6	1091.5	1085.7	1086.8	1085.2	1077.3	1055.2	1024.6
17.5°	1182.7	1182.2	1176.4	1162.7	1149.0	1139.5	1141.6	1141.1	1136.9	1106.8	1067.8
20°	1248.1	1250.7	1245.4	1234.9	1216.4	1198.5	1197.5	1200.1	1194.8	1164.8	1110.5
22.5°	1321.3	1319.2	1313.9	1300.2	1286.5	1267.6	1261.2	1259.1	1257.0	1222.8	1154.2
25°	1390.9	1397.2	1390.4	1377.7	1356.6	1336.1	1330.8	1332.9	1327.1	1281.8	1201.2
27.5°	1478.9	1481.5	1477.3	1459.9	1442.0	1413.0	1403.0	1403.0	1400.9	1337.1	1238.0
30°	1572.7	1580.1	1572.7	1558.5	1540.1	1498.4	1476.8	1474.7	1468.4	1394.1	1281.3
32.5°	1667.1	1672.3	1667.1	1653.4	1632.3	1595.9	1564.8	1560.1	1551.6	1456.2	1325.5
35°	1750.9	1755.6	1754.6	1757.7	1740.3	1694.5	1675.5	1673.4	1651.3	1537.4	1385.6
37.5°	1842.6	1848.4	1840.5	1846.8	1839.9	1796.7	1790.9	1780.4	1748.8	1613.8	1448.9
40°	1946.9	1952.2	1939.6	1942.2	1934.3	1910.0	1880.5	1866.3	1819.4	1696.6	1548.5
42.5°	2058.7	2070.8	2076.6	2071.8	2053.4	2039.7	1988.0	1970.1	1931.1	1845.7	1712.4
45°	2220.5	2238.4	2246.8	2234.7	2226.8	2207.3	2144.1	2122.4	2101.9	2056.0	1941.1
47.5°	2394.9	2411.3	2438.2	2443.4	2449.7	2435.0	2345.9	2324.8	2328.5	2323.3	2222.6
50°	2534.1	2547.8	2608.4	2673.2	2727.0	2731.2	2617.3	2594.7	2614.7	2631.6	2561.5
52.5°	2635.3	2647.4	2727.5	2861.4	2983.1	3073.3	2950.4	2924.6	2941.0	2978.9	2946.8
55°	2717.5	2734.4	2818.2	3023.7	3269.8	3412.1	3333.6	3300.9	3294.1	3341.0	3359.4
57.5°	2760.7	2766.0	2883.5	3150.7	3480.1	3744.7	3779.0	3742.1	3676.7	3702.6	3798.5
60°	2662.1	2671.1	2831.9	3183.4	3646.2	4074.7	4246.5	4215.9	4076.8	4091.0	4196.9
62.5°	2389.7	2402.3	2595.7	3027.9	3659.9	4295.0	4678.1	4658.6	4472.1	4395.1	4426.7
65°	1916.9	1921.1	2121.4	2643.2	3387.4	4322.4	4979.1	4974.3	4748.2	4568.0	4432.5
67.5°	1093.1	1085.7	1353.5	1885.3	2795.5	3966.1	4998.6	5026.5	4837.8	4539.5	4063.6
70°	473.8	474.9	598.2	930.3	1809.4	3205.5	4642.8	4690.8	4578.5	4065.7	3232.9
72.5°	219.3	222.4	275.6	402.7	772.7	1988.6	3785.8	3829.0	3732.6	3254.0	2352.2
75°	155.0	157.6	183.9	230.8	355.2	774.8	2532.5	2623.1	2670.1	2433.9	1550.1
77.5°	117.5	121.2	134.4	160.2	219.3	274.6	1211.7	1427.8	1700.8	1514.2	798.5
80°	74.8	74.8	89.1	107.0	133.9	142.8	350.0	414.8	832.2	624.0	313.6
82.5°	50.6	52.2	60.6	68.0	76.9	81.2	150.2	160.2	240.3	212.4	129.1
85°	26.9	27.9	31.6	31.1	36.9	32.2	63.2	62.7	88.0	96.5	49.0
87.5°	0.0	0.0	0.5	0.5	1.1	1.6	6.9	7.4	18.4	29.5	16.3
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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 CATALOG NUMBER: GWS-SA2C-830-U-T3-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	886.5	886.5	886.5	886.5	886.5	886.5	886.5	886.5	886.5	886.5	886.5
2.5°	890.7	884.4	887.6	886.5	889.7	889.7	883.9	882.3	882.8	876.5	874.4
5°	898.6	891.2	892.8	890.7	893.9	896.5	893.9	893.9	897.0	892.3	889.7
7.5°	916.5	908.1	908.1	905.5	909.2	911.3	909.2	912.3	918.1	913.4	910.7
10°	945.0	935.0	935.5	932.4	933.9	932.9	924.5	921.8	923.4	919.2	917.1
12.5°	981.9	968.2	968.2	961.9	958.2	947.1	929.7	923.4	924.5	920.8	919.2
15°	1017.2	1004.6	1001.9	989.3	972.4	951.9	936.0	931.8	932.9	929.2	926.6
17.5°	1058.9	1042.5	1033.0	1009.8	978.7	957.7	941.8	931.8	923.4	915.0	912.9
20°	1097.3	1076.8	1059.4	1023.5	985.6	956.6	927.1	902.3	881.8	870.7	868.1
22.5°	1136.9	1110.5	1079.9	1033.0	985.1	937.6	883.3	845.9	815.4	799.0	802.2
25°	1174.3	1141.1	1099.4	1042.0	968.2	895.5	821.7	765.8	731.0	718.4	714.7
27.5°	1205.4	1164.3	1117.4	1037.8	933.4	834.9	737.3	675.2	641.4	627.2	623.5
30°	1240.2	1193.8	1143.2	1018.3	878.6	750.0	642.0	591.4	567.1	553.4	553.9
32.5°	1280.2	1231.7	1179.5	980.8	808.5	658.3	563.4	528.6	509.1	495.4	493.3
35°	1334.0	1286.0	1203.8	924.5	719.4	574.0	509.7	481.2	457.0	439.0	435.3
37.5°	1400.4	1367.7	1206.4	849.1	624.0	516.0	471.2	440.6	411.1	387.4	384.7
40°	1514.2	1476.8	1184.8	754.7	542.9	478.6	439.0	403.7	369.5	343.1	339.4
42.5°	1676.6	1599.6	1138.4	648.3	481.7	449.0	408.5	363.7	328.9	310.4	307.8
45°	1883.2	1736.6	1068.9	548.1	436.4	420.1	376.3	329.4	311.0	297.8	295.2
47.5°	2136.1	1896.3	988.8	470.1	401.1	393.7	343.6	317.8	301.5	290.4	287.8
50°	2438.7	2099.8	922.9	409.0	369.5	363.1	333.1	311.0	297.8	288.8	286.7
52.5°	2783.9	2325.9	890.7	365.2	342.1	335.7	329.4	309.4	298.3	291.5	288.8
55°	3142.3	2564.1	860.7	331.5	318.9	322.6	329.9	314.7	306.2	297.3	294.6
57.5°	3488.6	2787.6	786.9	305.2	302.0	316.2	332.6	319.9	309.9	300.9	297.8
60°	3727.3	2909.9	662.0	284.1	289.4	308.3	325.7	312.0	299.4	295.7	294.1
62.5°	3791.6	2895.1	513.9	262.5	274.1	290.9	307.8	298.8	285.7	291.5	292.0
65°	3641.4	2737.0	385.8	241.4	254.0	268.3	289.4	285.7	280.9	296.7	297.3
67.5°	3216.1	2348.6	294.1	222.9	233.5	250.9	283.6	298.8	299.9	319.9	317.8
70°	2433.4	1754.6	230.3	205.6	217.7	250.9	302.0	308.9	296.2	314.7	310.4
72.5°	1682.4	1157.9	196.1	190.3	198.2	239.3	301.5	301.5	287.8	287.8	279.9
75°	1045.1	681.0	170.8	170.8	170.8	209.2	293.0	277.8	253.5	242.4	236.1
77.5°	516.0	331.0	143.4	148.6	142.8	175.0	239.3	227.2	212.4	200.8	196.6
80°	220.3	165.5	116.0	121.7	114.9	131.8	189.7	187.1	172.9	157.6	152.8
82.5°	101.2	85.4	92.8	95.4	83.8	99.1	138.6	138.6	130.7	109.6	101.7
85°	43.2	45.3	64.3	64.3	52.7	55.9	74.3	70.6	63.2	51.7	47.4
87.5°	14.8	22.1	32.7	28.5	11.1	4.7	2.6	1.1	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**



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

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**

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			

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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)