

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: P643422

Luminaire Tested: GWS-SA6E-830-U-SL2-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P643422  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-27)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SAGE-830-U-SL2-W  
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS  
Light Source: (96) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 34944.8 lumens  
Efficiency: N/A  
Efficacy: 107.9 lumens/watt  
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B4 - U0 - G4  
  
Input Watts (W): 323.8  
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

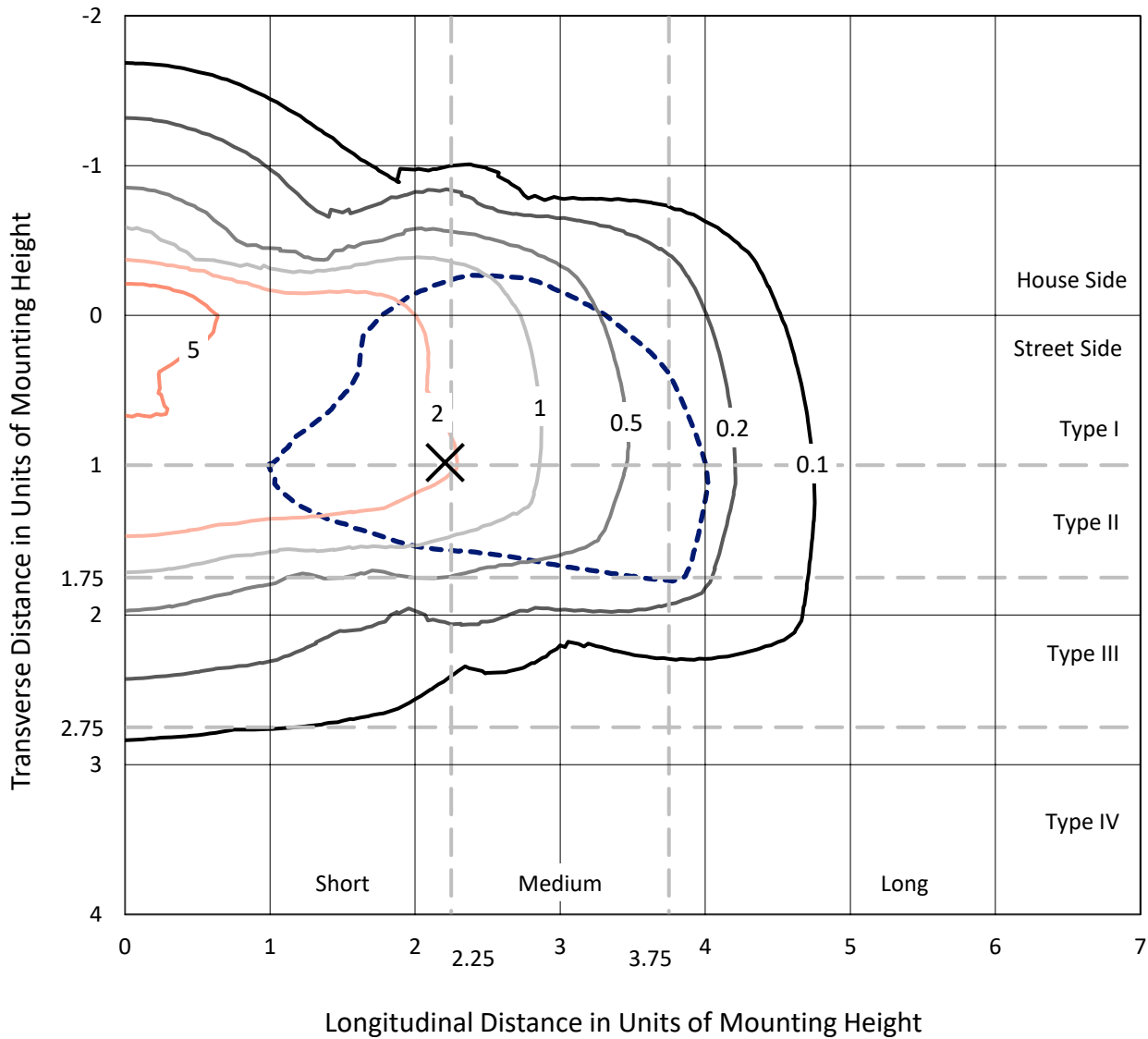


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### Iso-Footcandle Lines of Horizontal Illumination

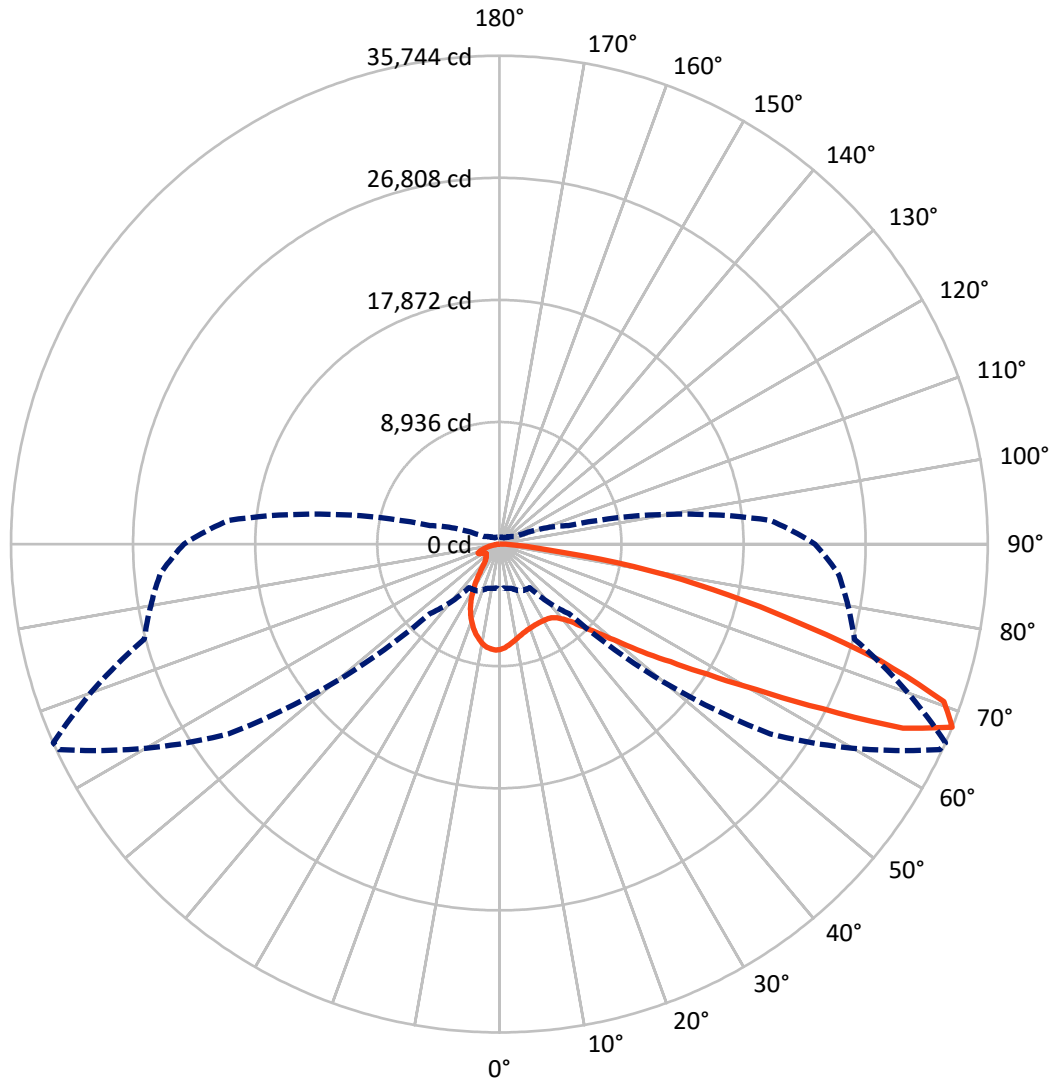
✕ Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 8.6 fc  
 Type II - Short - N/A

REPORT NUMBER: P643422  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	7091.1	0.0	7091.1
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	27853.7	0.0	27853.7
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	34944.8	0.0	34944.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	677.7	1.9
10°-20°	1665.5	4.8
20°-30°	2289.3	6.6
30°-40°	3129.8	9.0
40°-50°	4742.5	13.6
50°-60°	7372.3	21.1
60°-70°	8975.7	25.7
70°-80°	5467.5	15.6
80°-90°	624.5	1.8
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°	34944.8	100.0
0°-180°	34944.8	100.0

**Coefficient of Utilization**



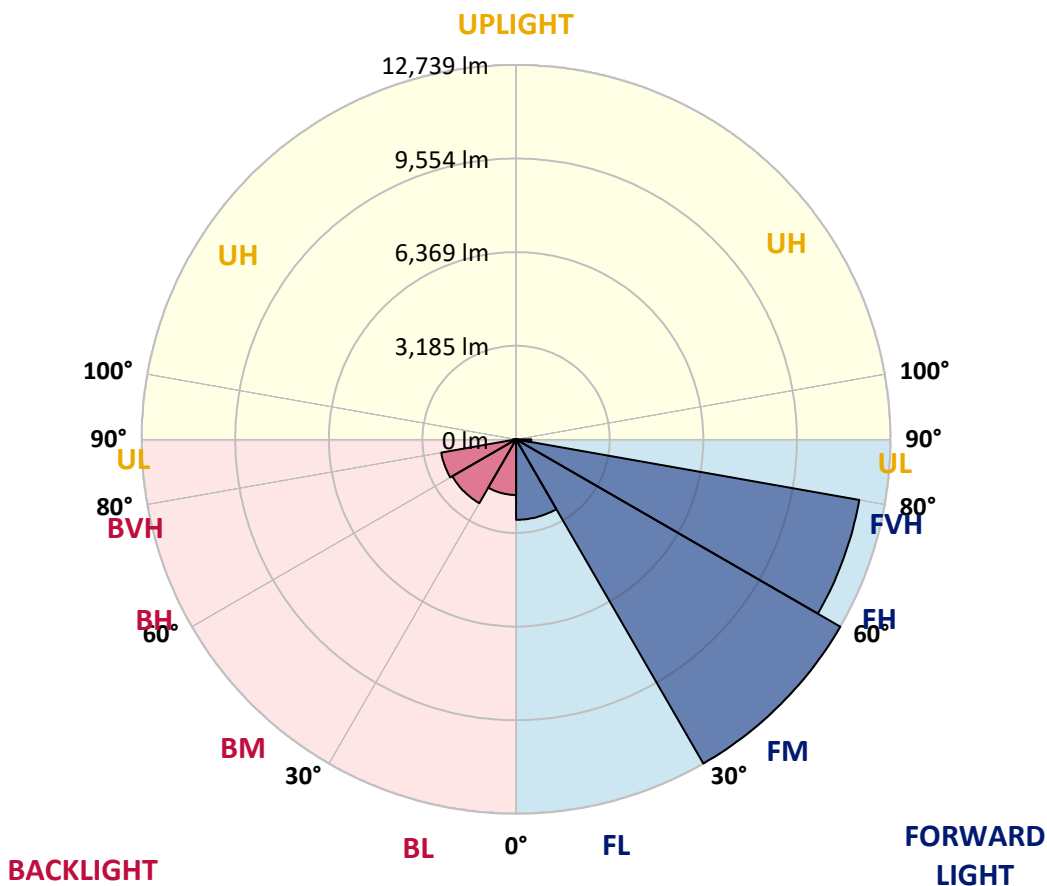
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2738.1	7.8			
FM (30°-60°)	12738.7	36.5			
FH (60°-80°)	11857.7	33.9			G4/12000
FVH (80°-90°)	519.2	1.5			G4/750
BL (0°-30°)	1894.4	5.4	B3/2500		
BM (30°-60°)	2505.9	7.2	B3/5000		
BH (60°-80°)	2585.5	7.4	B4/5000		G4/5000
BVH (80°-90°)	105.3	0.3			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G4**  
 Type II Short





REPORT NUMBER: P643422  
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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8
2.5°	7232.3	7257.8	7242.5	7339.4	7344.5	7466.9	7535.7	7594.3	7599.4	7675.9	7726.9
5°	6737.8	6753.1	6753.1	6844.9	6906.0	7069.2	7227.2	7395.5	7408.2	7591.8	7732.0
7.5°	6337.5	6352.8	6342.6	6465.0	6544.0	6725.0	6926.4	7183.9	7209.4	7505.1	7749.9
10°	6024.0	6018.9	6044.4	6156.5	6258.5	6475.2	6699.5	6992.7	7031.0	7405.7	7770.2
12.5°	5809.8	5814.9	5830.2	5947.5	6057.1	6271.3	6503.2	6821.9	6862.7	7291.0	7760.0
15°	5707.9	5697.7	5710.4	5817.5	5922.0	6110.7	6350.3	6679.1	6719.9	7189.0	7762.6
17.5°	5684.9	5677.3	5674.7	5751.2	5830.2	6006.1	6235.6	6569.5	6612.9	7122.7	7777.9
20°	5756.3	5746.1	5718.1	5751.2	5784.3	5932.2	6154.0	6490.5	6538.9	7079.4	7808.5
22.5°	5952.6	5934.8	5891.4	5850.6	5807.3	5896.5	6103.0	6431.9	6480.3	7051.3	7839.1
25°	6250.9	6235.6	6189.7	6097.9	5939.9	5924.6	6092.8	6406.4	6454.8	7031.0	7851.8
27.5°	6661.3	6638.4	6592.5	6459.9	6202.4	6029.1	6131.0	6403.8	6449.7	7008.0	7839.1
30°	7148.2	7132.9	7107.4	6946.8	6602.7	6250.9	6217.7	6424.2	6459.9	6995.3	7813.6
32.5°	7642.8	7627.5	7647.9	7571.4	7148.2	6618.0	6406.4	6480.3	6505.8	6992.7	7790.6
35°	8078.7	8096.6	8244.4	8257.2	7841.6	7115.1	6704.6	6610.3	6615.4	7043.7	7800.8
37.5°	8535.0	8603.9	8797.6	8963.3	8616.6	7772.8	7148.2	6855.0	6850.0	7173.7	7864.6
40°	9139.2	9169.8	9417.1	9728.1	9511.4	8675.2	7777.9	7255.3	7219.6	7438.8	8035.4
42.5°	9728.1	9802.0	10197.2	10554.1	10482.7	9692.4	8570.7	7854.4	7790.6	7907.9	8387.2
45°	10477.6	10549.0	10992.6	11451.4	11581.4	10842.1	9585.3	8705.8	8642.1	8614.1	9032.1
47.5°	11227.1	11301.0	11698.7	12361.5	12817.8	12279.9	10905.9	9830.1	9725.6	9615.9	10006.0
50°	11731.8	11818.5	12198.4	12993.7	14064.4	14074.6	12471.1	11303.6	11171.0	10997.7	11377.5
52.5°	11714.0	11770.1	12132.1	13049.8	14961.8	16137.0	14566.7	13179.8	13072.8	12695.5	13026.9
55°	10793.7	10877.8	11242.4	12389.6	15058.7	18092.3	17646.2	15392.6	15201.4	14525.9	14890.4
57.5°	8945.5	9016.8	9383.9	10798.8	14199.6	19094.2	21556.8	18212.1	17949.6	16519.4	16940.1
60°	6753.1	6666.4	6839.8	8078.7	12144.8	19119.7	25008.6	22036.1	21597.6	18650.6	19002.4
62.5°	5068.0	4981.3	5019.6	5368.8	8234.2	17574.8	26976.6	27267.2	26543.2	21057.2	20988.3
65°	4004.9	3956.5	4066.1	4305.8	4800.3	13383.8	26991.9	32924.1	32467.8	23846.1	23025.2
67.5°	3263.1	3232.5	3344.7	3788.2	3892.8	7191.6	24203.0	35565.2	35743.6	26900.1	24914.2
70°	2628.3	2582.4	2758.3	3342.1	3620.0	4351.6	17337.7	34219.2	34507.2	28720.3	24381.4
72.5°	1815.1	1817.6	1906.9	2707.3	3495.1	3757.7	9807.1	28493.4	29118.0	27070.9	21434.5
75°	1223.7	1233.9	1259.4	1787.1	3219.8	3645.5	5226.1	21572.1	22013.1	22375.1	17717.6
77.5°	739.3	744.4	803.0	1080.9	2220.4	3403.3	3541.0	15637.4	15984.1	14750.2	10982.4
80°	428.3	446.1	499.7	724.0	1499.0	2556.9	2740.5	9587.9	9980.5	6556.8	3490.0
82.5°	188.6	201.4	272.8	420.6	874.4	2174.5	2138.9	3788.2	3732.2	1827.8	1210.9
85°	33.1	40.8	58.6	132.6	321.2	1147.2	1659.6	1672.3	1572.9	693.4	502.2
87.5°	0.0	0.0	0.0	0.0	0.0	7.6	249.8	448.7	446.1	196.3	173.4
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: P643422  
 CATALOG NUMBER: GWS-SA6E-830-U-SL2-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8	7721.8
2.5°	7760.0	7691.2	7752.4	7760.0	7747.3	7737.1	7660.6	7594.3	7586.7	7515.3	7515.3
5°	7788.1	7724.4	7754.9	7696.3	7604.5	7510.2	7347.1	7234.9	7183.9	7092.1	7092.1
7.5°	7826.3	7760.0	7724.4	7579.0	7364.9	7158.4	6895.8	6676.6	6587.4	6457.4	6452.3
10°	7862.0	7777.9	7655.5	7372.6	7031.0	6702.1	6319.7	6008.7	5797.1	5641.6	5641.6
12.5°	7859.5	7749.9	7507.7	7089.6	6618.0	6141.2	5631.4	5162.3	4881.9	4639.7	4624.4
15°	7854.4	7704.0	7319.0	6760.7	6136.1	5475.9	4782.5	4170.6	3755.1	3518.0	3497.6
17.5°	7849.3	7645.3	7107.4	6386.0	5549.8	4649.9	3734.7	3071.9	2725.2	2579.9	2585.0
20°	7849.3	7579.0	6880.5	5955.1	4874.2	3660.8	2740.5	2258.7	2172.0	2179.6	2187.3
22.5°	7826.3	7497.5	6628.2	5486.1	4122.2	2692.1	2021.6	1858.4	1904.3	1975.7	1985.9
25°	7772.8	7362.4	6335.0	4966.0	3227.4	1960.4	1649.4	1618.8	1702.9	1792.2	1817.6
27.5°	7688.7	7206.9	6006.1	4356.7	2375.9	1575.5	1450.5	1448.0	1514.3	1580.6	1603.5
30°	7599.4	7033.5	5659.4	3678.6	1720.8	1371.5	1323.1	1323.1	1356.2	1397.0	1391.9
32.5°	7494.9	6857.6	5287.2	2972.5	1402.1	1256.8	1241.5	1233.9	1239.0	1254.3	1254.3
35°	7405.7	6702.1	4904.8	2225.5	1256.8	1193.1	1177.8	1159.9	1152.3	1142.1	1147.2
37.5°	7372.6	6579.7	4509.7	1677.4	1185.4	1147.2	1121.7	1096.2	1078.4	1073.3	1070.7
40°	7426.1	6528.7	4114.6	1381.7	1134.4	1098.7	1070.7	1037.6	1022.3	1022.3	1022.3
42.5°	7635.1	6567.0	3711.8	1249.2	1098.7	1058.0	1017.2	986.6	981.5	986.6	989.1
45°	8017.5	6714.8	3293.7	1182.9	1068.2	1017.2	968.7	945.8	945.8	950.9	950.9
47.5°	8700.7	7102.3	2880.7	1142.1	1037.6	984.0	933.0	910.1	907.5	912.6	912.6
50°	9883.6	7800.8	2508.5	1114.0	1014.6	958.5	907.5	877.0	869.3	866.8	866.8
52.5°	11374.9	9011.8	2271.4	1093.6	986.6	930.5	879.5	838.7	823.4	815.8	815.8
55°	13177.3	10625.5	2271.4	1078.4	950.9	897.4	838.7	797.9	775.0	764.8	764.8
57.5°	15219.3	12504.3	2664.0	1065.6	922.8	859.1	795.4	754.6	729.1	713.8	713.8
60°	17297.0	14490.2	3635.3	1047.8	897.4	810.7	746.9	708.7	675.6	657.7	655.2
62.5°	19451.1	16677.5	4915.0	1058.0	879.5	764.8	696.0	652.6	624.6	606.7	604.2
65°	21424.3	18760.2	6034.2	1137.0	882.1	724.0	637.3	599.1	576.1	553.2	550.6
67.5°	23099.1	19910.0	5249.0	1297.6	935.6	675.6	578.7	540.5	520.1	504.8	502.2
70°	21926.5	18156.1	2977.6	1397.0	1009.5	624.6	512.4	486.9	466.5	456.3	453.8
72.5°	18750.1	15372.2	1991.0	1233.9	920.3	558.3	451.2	430.8	415.5	402.8	400.2
75°	15188.7	12190.7	1521.9	1012.1	716.4	453.8	387.5	372.2	356.9	344.2	341.6
77.5°	8986.3	7043.7	1121.7	800.5	504.8	354.4	321.2	308.5	293.2	283.0	280.4
80°	2868.0	2447.3	711.3	550.6	334.0	272.8	247.3	237.1	221.8	209.0	206.5
82.5°	1093.6	945.8	377.3	280.4	221.8	186.1	165.7	155.5	145.3	132.6	130.0
85°	484.4	453.8	209.0	150.4	119.8	91.8	81.6	76.5	63.7	53.5	51.0
87.5°	170.8	170.8	89.2	43.3	25.5	12.7	7.6	2.5	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**

$\lambda$ (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)