

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: P632036

Luminaire Tested: GWS-SA2B-830-U-SL2-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P632036  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-30)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2B-830-U-SL2-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

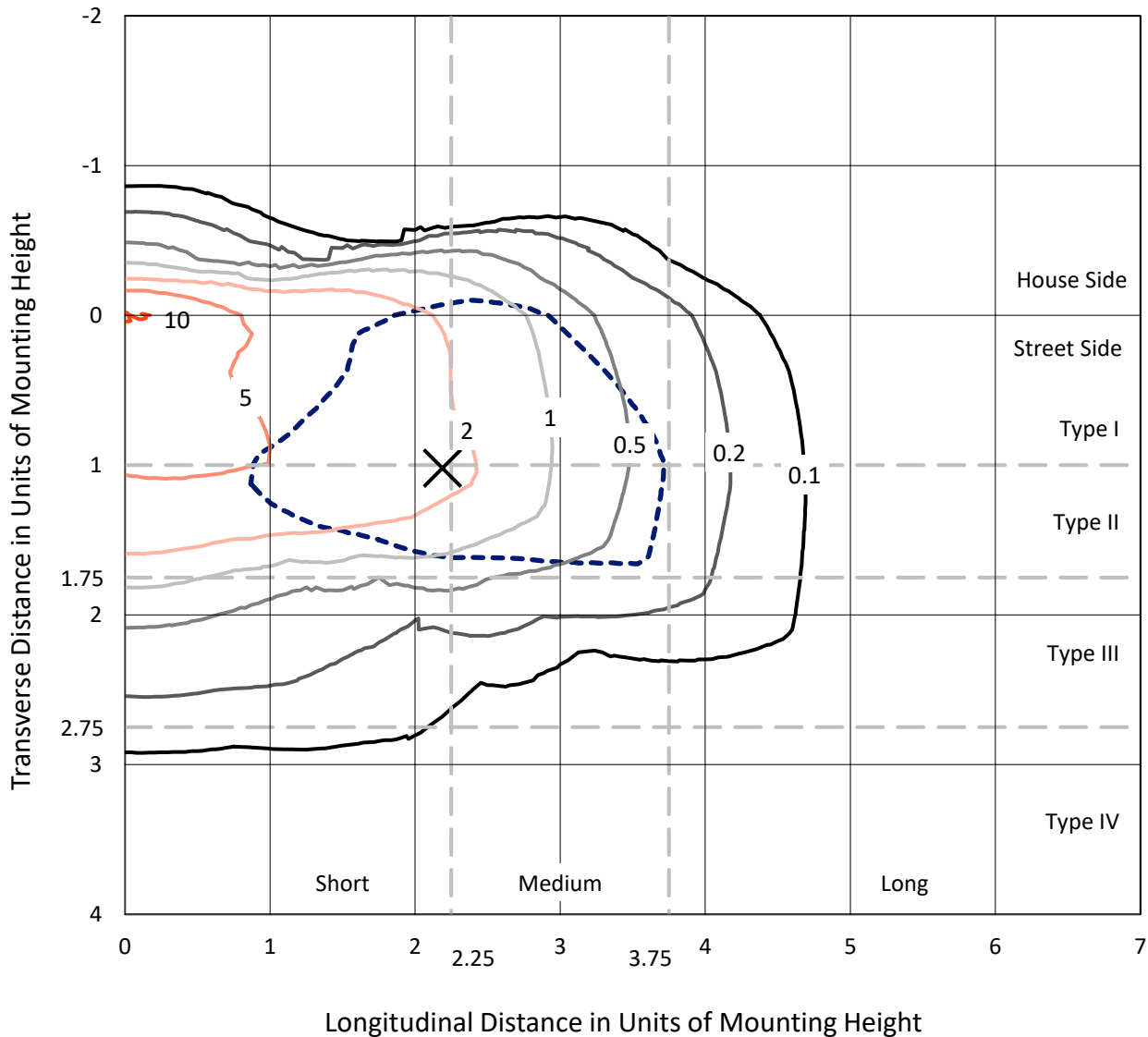
Lumens per Lamp: N/A  
Luminaire Lumens: 4345.9 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 46.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P632036  
 CATALOG NUMBER: GWS-SA2B-830-U-SL2-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

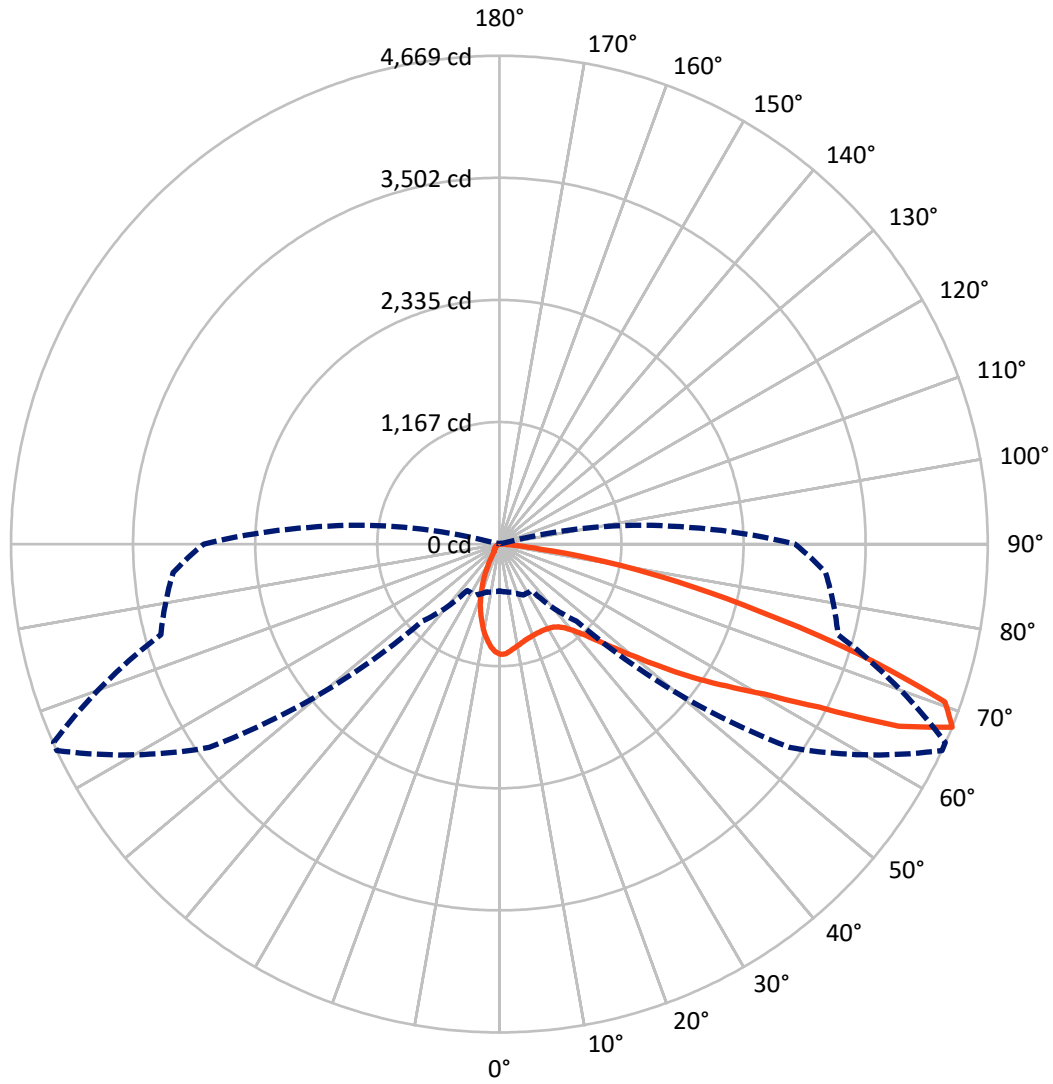
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.5 fc  
 Type II - Short - N/A

REPORT NUMBER: P632036  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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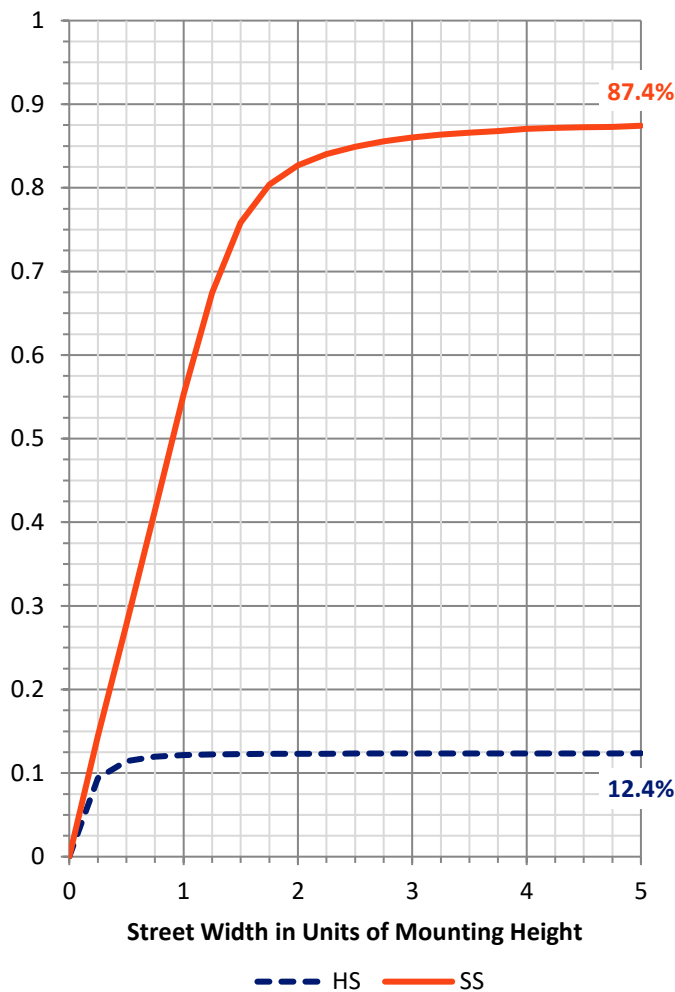
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	542.7	0.0	542.7
	% Fixture	12.5	0.0	12.5
<b>Street Side</b>	Lumens	3803.2	0.0	3803.2
	% Fixture	87.5	0.0	87.5
<b>Total</b>	Lumens	4345.9	0.0	4345.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.5	2.0
10°-20°	196.8	4.5
20°-30°	281.2	6.5
30°-40°	409.1	9.4
40°-50°	640.7	14.7
50°-60°	999.6	23.0
60°-70°	1098.0	25.3
70°-80°	584.3	13.4
80°-90°	48.7	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°	4345.9	100.0
0°-180°	4345.9	100.0

**Coefficient of Utilization**

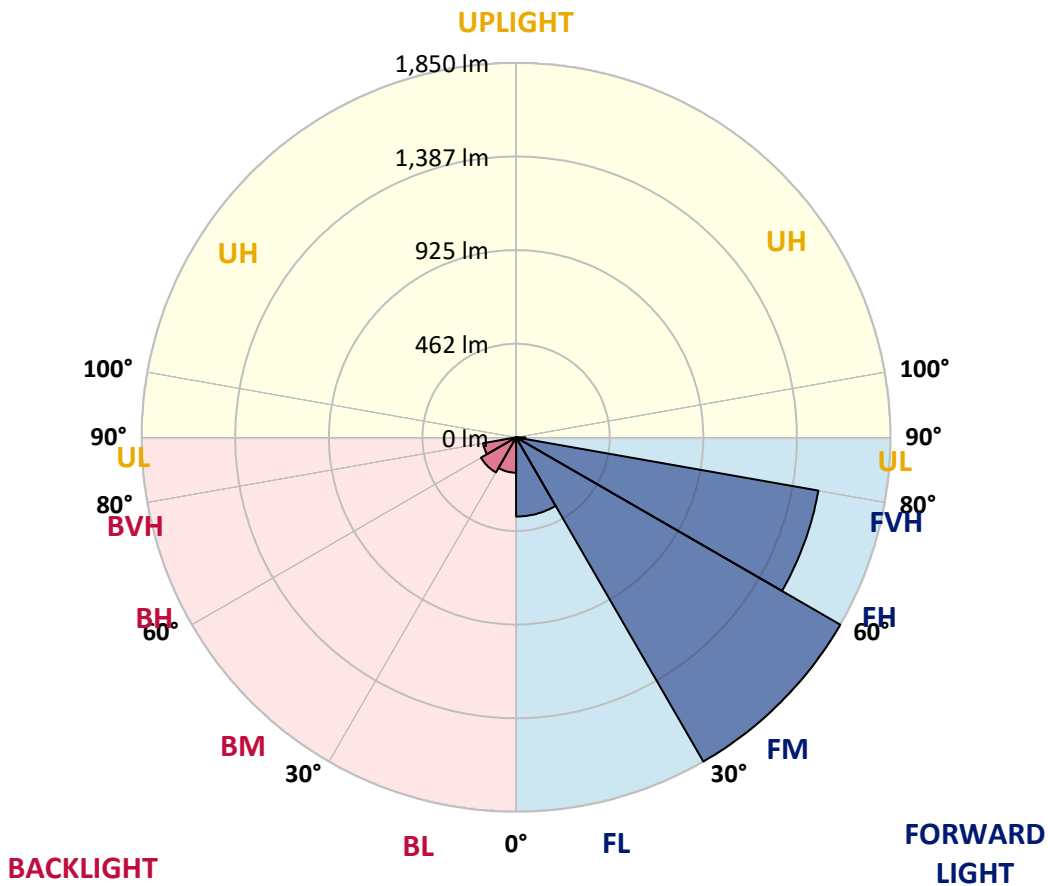


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	391.1	9.0			
FM (30°-60°)	1849.5	42.6			
FH (60°-80°)	1516.6	34.9			G1/1800
FVH (80°-90°)	46.0	1.1			G1/100
BL (0°-30°)	174.4	4.0	B1/500		
BM (30°-60°)	199.9	4.6	B0/220		
BH (60°-80°)	165.7	3.8	B1/500		G1/500
BVH (80°-90°)	2.6	0.1			G0/10
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: P632036

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0
2.5°	1017.5	1020.6	1016.3	1026.9	1028.9	1040.7	1047.3	1052.1	1051.7	1057.6	1057.6
5°	957.7	960.9	958.5	969.9	979.0	997.4	1012.8	1030.4	1031.2	1049.3	1056.0
7.5°	907.0	907.4	907.4	921.6	933.4	956.2	979.0	1006.1	1009.2	1037.1	1054.8
10°	865.4	866.6	867.0	883.1	896.0	923.5	952.6	985.2	988.8	1026.5	1054.0
12.5°	836.7	837.1	838.7	855.6	869.7	898.4	927.9	965.2	969.9	1014.3	1050.5
15°	822.9	822.1	822.9	837.1	851.2	878.7	909.0	949.1	954.2	1004.1	1050.9
17.5°	822.1	821.0	820.2	830.8	839.8	864.2	894.9	938.5	944.0	999.4	1055.2
20°	833.5	832.8	828.8	833.5	835.5	855.6	885.8	930.2	935.7	998.6	1064.6
22.5°	863.4	861.4	855.6	851.2	840.6	852.4	879.5	924.3	930.6	1000.6	1076.8
25°	907.8	907.0	899.6	889.0	861.8	857.1	879.9	924.3	930.2	1002.9	1089.8
27.5°	974.6	969.9	960.5	942.0	903.1	875.6	887.8	926.7	932.6	1006.1	1100.4
30°	1042.6	1042.2	1039.1	1020.2	962.4	911.0	904.3	933.0	938.5	1008.8	1110.2
32.5°	1113.0	1114.1	1122.0	1107.5	1044.2	963.6	934.2	945.9	949.9	1014.3	1118.9
35°	1179.8	1182.1	1203.0	1208.1	1143.6	1043.4	982.9	971.9	972.3	1026.5	1130.3
37.5°	1243.8	1251.7	1285.1	1309.9	1267.4	1140.1	1053.2	1015.9	1012.8	1050.9	1147.6
40°	1316.5	1331.5	1373.5	1415.6	1402.2	1267.8	1149.1	1083.5	1076.8	1095.7	1178.6
42.5°	1397.1	1413.2	1469.0	1528.0	1534.3	1422.3	1269.0	1182.1	1170.7	1171.1	1236.8
45°	1483.6	1505.2	1570.0	1654.9	1693.0	1594.4	1416.8	1315.4	1304.0	1287.1	1330.3
47.5°	1597.1	1616.0	1678.5	1776.3	1849.4	1779.1	1610.5	1486.7	1465.9	1441.1	1475.7
50°	1695.0	1711.5	1765.3	1888.0	2040.0	2017.3	1830.2	1700.9	1680.8	1638.8	1667.5
52.5°	1716.6	1729.6	1779.1	1917.0	2185.8	2317.9	2099.4	1959.9	1945.7	1867.9	1878.9
55°	1619.5	1639.2	1683.6	1836.9	2224.0	2611.9	2448.8	2251.9	2222.4	2098.2	2117.9
57.5°	1374.3	1409.3	1450.9	1650.2	2120.6	2768.3	2936.9	2561.2	2534.4	2319.9	2320.3
60°	1007.3	1035.5	1063.4	1245.8	1875.4	2757.7	3379.8	2908.6	2859.8	2501.0	2494.4
62.5°	732.5	747.1	746.7	811.5	1287.9	2576.1	3612.4	3432.0	3318.5	2694.8	2656.7
65°	576.1	575.7	592.6	613.9	719.2	1988.6	3641.1	4196.4	4073.8	2954.6	2875.2
67.5°	448.4	457.1	474.0	536.4	540.4	1040.7	3388.8	4669.2	4666.8	3351.1	3131.0
70°	345.8	357.6	381.6	472.8	499.1	582.4	2535.6	4519.5	4557.6	3528.3	2949.8
72.5°	222.0	221.3	256.6	382.0	479.5	485.4	1402.2	3590.0	3633.3	3195.9	2385.1
75°	124.2	125.0	145.0	233.8	446.8	456.7	694.4	2560.0	2594.2	2491.6	1832.5
77.5°	48.7	50.3	68.0	123.0	294.7	407.9	412.6	1745.7	1750.8	1544.1	1124.0
80°	19.6	20.8	34.6	76.2	179.6	274.7	294.7	1028.5	1007.6	597.7	327.0
82.5°	5.9	6.3	13.8	43.2	93.9	195.3	198.9	394.6	372.6	128.5	83.3
85°	0.4	0.4	3.1	13.4	33.4	49.1	132.4	128.5	114.0	32.2	36.9
87.5°	0.0	0.0	0.4	0.4	0.8	1.6	14.1	23.6	24.0	5.9	16.5
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-SA2B-830-U-SL2-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0	1054.0
2.5°	1057.6	1043.4	1042.2	1031.2	1020.2	1006.5	990.4	978.6	970.3	955.8	953.0
5°	1056.0	1037.1	1019.4	988.0	953.0	915.3	882.3	851.6	832.4	819.4	813.9
7.5°	1052.8	1028.9	988.0	928.7	870.1	804.1	752.6	705.4	673.2	654.3	646.1
10°	1050.5	1018.3	951.8	861.8	771.1	679.9	601.7	531.7	492.8	462.2	457.1
12.5°	1045.8	1002.9	905.5	783.6	666.5	545.5	445.7	360.0	300.6	273.9	264.5
15°	1041.0	986.8	859.1	701.1	552.6	403.2	282.2	199.6	158.8	146.2	145.4
17.5°	1040.3	972.3	808.8	622.9	433.1	264.1	160.7	129.3	120.7	117.5	117.5
20°	1042.6	960.1	759.3	532.9	315.6	160.7	119.9	112.0	106.9	104.1	104.1
22.5°	1045.0	947.5	711.7	442.1	209.5	117.5	105.7	99.0	93.1	90.0	88.4
25°	1046.6	933.8	659.1	350.9	136.8	102.2	92.7	84.1	77.0	73.1	73.1
27.5°	1046.2	917.3	606.0	261.7	106.1	90.8	79.4	70.3	63.3	58.9	59.3
30°	1043.0	899.2	551.0	182.7	92.7	79.4	68.0	58.6	51.5	47.9	47.6
32.5°	1040.7	879.9	487.3	128.5	83.3	69.6	57.8	48.7	42.8	40.1	39.7
35°	1037.9	861.1	426.8	97.9	75.1	60.1	48.7	41.3	36.5	34.2	34.2
37.5°	1038.7	841.4	361.2	84.1	66.8	52.3	41.7	35.4	31.4	29.1	28.7
40°	1050.9	829.6	296.7	76.2	59.3	45.2	36.2	30.7	26.7	24.4	24.0
42.5°	1081.1	830.0	235.0	70.3	52.7	38.5	31.4	26.3	22.8	20.0	19.6
45°	1141.7	846.5	180.4	64.1	45.6	33.4	27.1	22.4	18.9	16.5	16.1
47.5°	1240.7	895.6	136.8	58.6	39.7	29.1	23.2	18.9	15.7	13.8	13.4
50°	1398.3	984.5	107.7	51.9	33.4	25.2	19.6	15.7	13.0	11.0	10.6
52.5°	1587.7	1117.7	92.4	46.0	28.7	22.0	16.9	13.0	10.6	9.0	8.6
55°	1805.4	1276.8	85.3	40.1	24.4	18.9	13.8	10.6	8.6	7.5	6.7
57.5°	2005.1	1420.3	84.9	34.2	20.8	16.1	11.4	9.0	7.5	5.9	5.5
60°	2199.6	1540.2	79.8	28.3	18.1	13.4	9.8	7.5	6.3	5.1	4.7
62.5°	2376.1	1637.6	66.8	22.8	15.3	11.0	8.3	6.7	5.5	4.3	4.3
65°	2597.7	1761.8	51.1	18.5	12.6	9.0	7.1	5.9	5.1	3.9	3.9
67.5°	2826.8	1827.4	36.5	15.3	10.2	7.9	6.3	5.5	4.3	3.5	3.5
70°	2560.4	1544.1	26.3	12.6	8.6	6.7	5.5	5.1	4.3	3.5	3.1
72.5°	1999.6	1113.4	19.6	9.8	7.5	6.3	5.1	4.7	3.9	3.1	3.1
75°	1482.8	649.2	14.9	7.9	5.9	5.1	5.1	4.7	3.9	3.1	2.8
77.5°	806.0	226.4	11.4	6.3	4.7	3.9	4.3	4.3	3.5	2.8	2.4
80°	213.4	62.1	7.9	4.7	3.9	3.1	3.1	3.9	3.1	2.4	2.4
82.5°	62.1	18.1	5.5	3.9	3.1	2.8	2.8	2.8	2.4	2.0	1.6
85°	30.3	6.7	3.9	3.1	2.8	2.4	2.0	2.0	1.6	1.2	1.2
87.5°	13.4	2.8	3.1	2.8	2.8	2.0	1.6	1.2	1.2	0.8	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



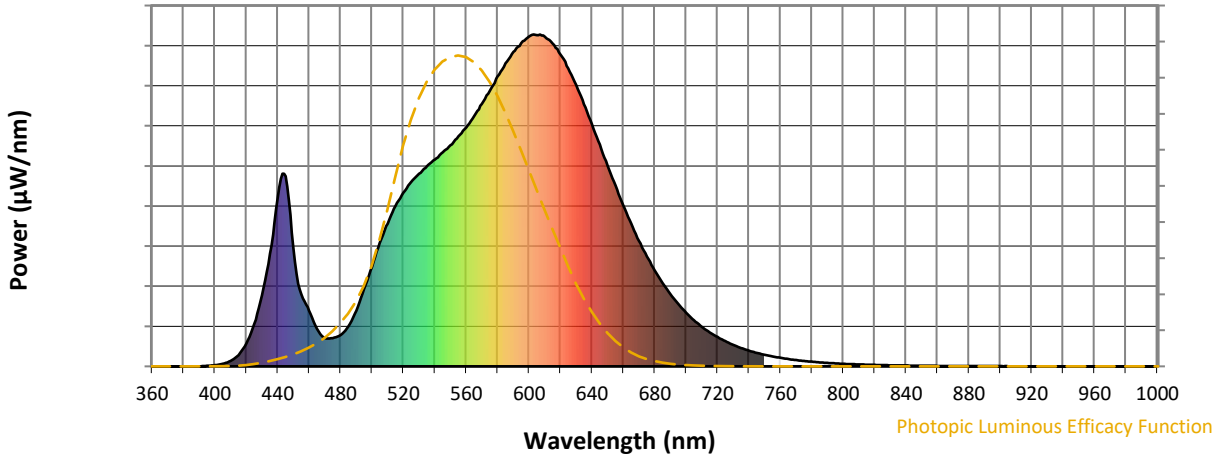
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



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 (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (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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**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)