

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: P635519

Luminaire Tested: GWS-SA3D-830-U-T2-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635519  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-21)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3D-830-U-T2-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS W/ FACTORY INSALLED GLARE SHIELD, WH  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

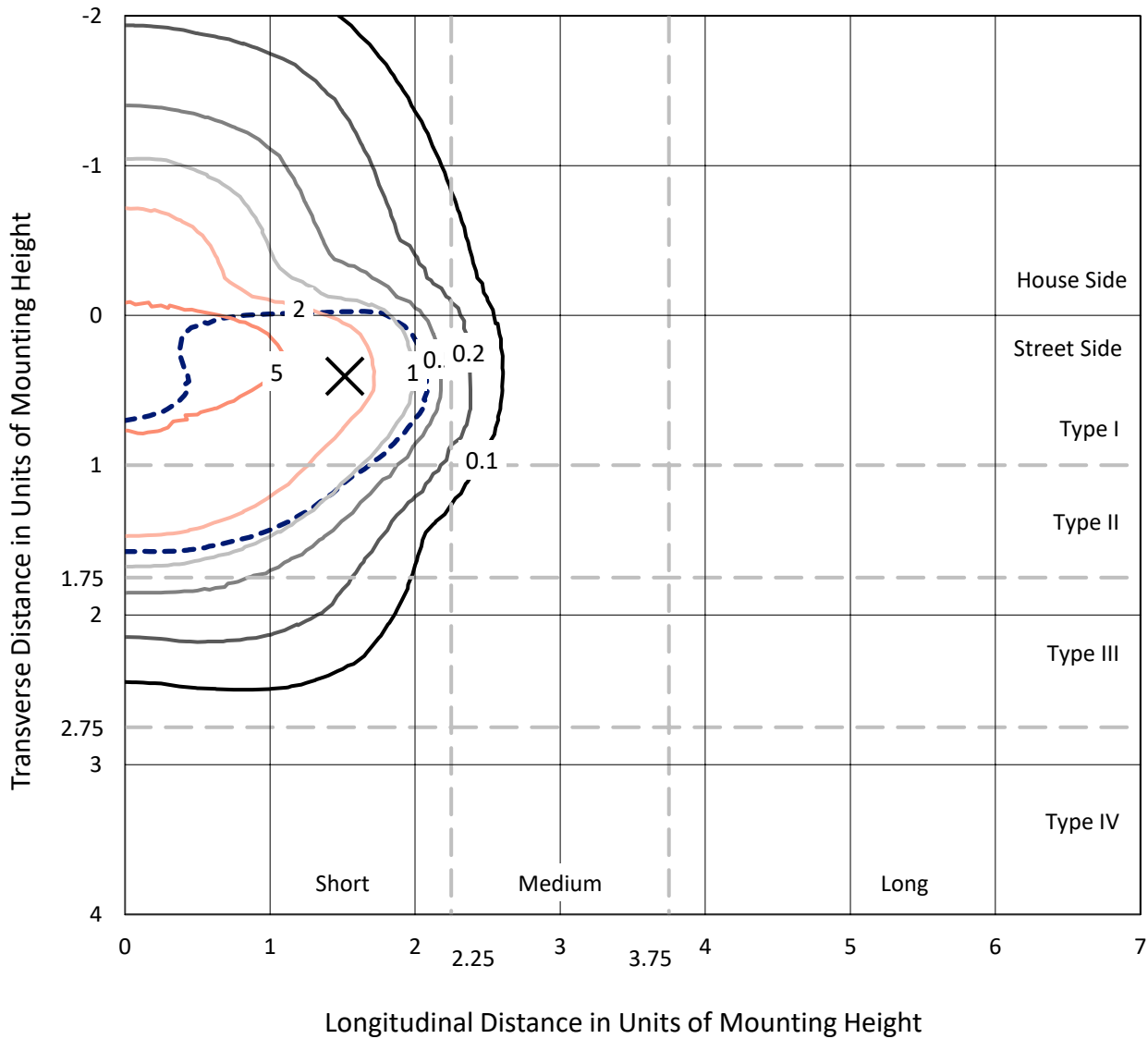
Lumens per Lamp: N/A  
Luminaire Lumens: 11655.2 lumens  
Efficiency: N/A  
Efficacy: 96.5 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G2  
  
Input Watts (W): 120.8  
Input Voltage (V): 120  
Input Current (Ain): 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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 CATALOG NUMBER: GWS-SA3D-830-U-T2-W-GRSWH

### Iso-Footcandle Lines of Horizontal Illumination

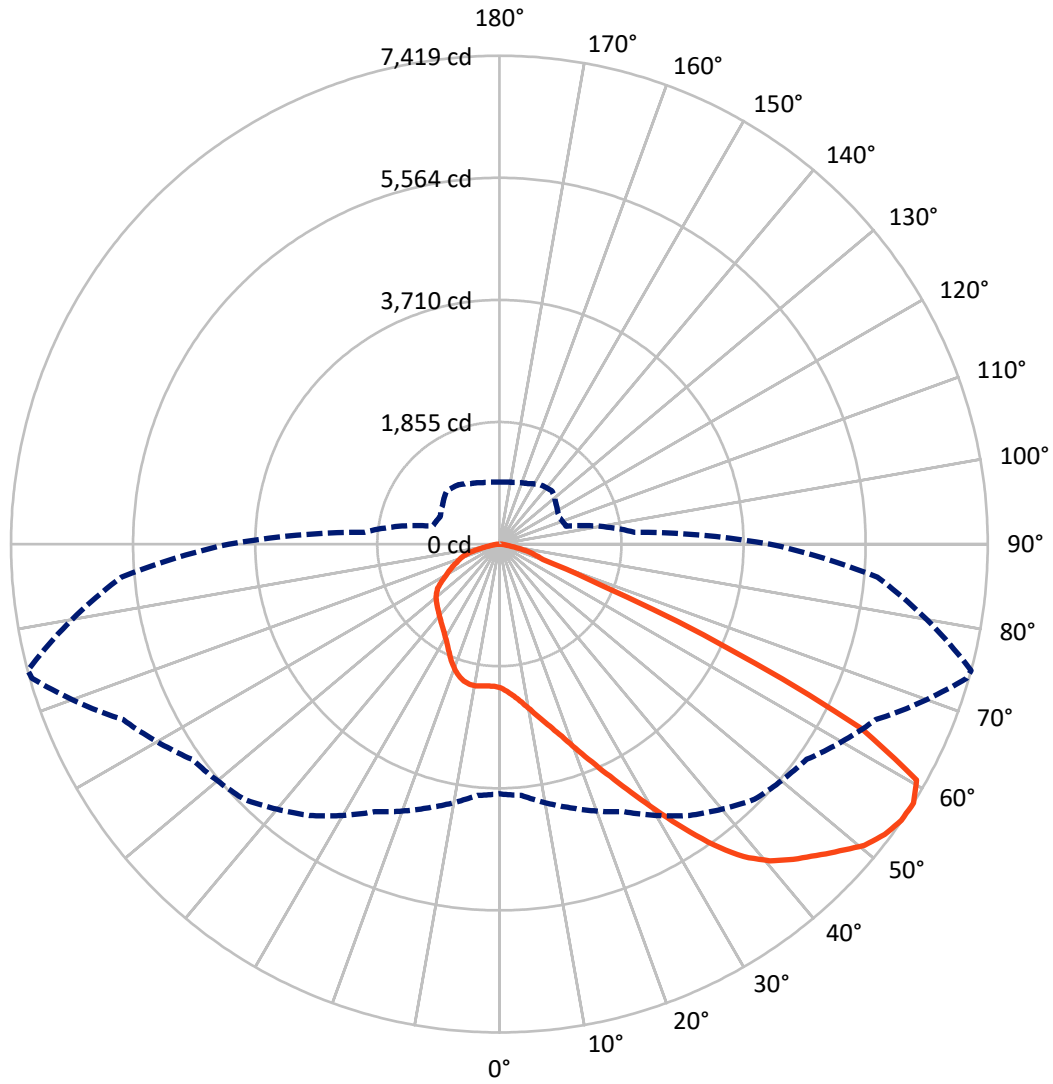
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.7 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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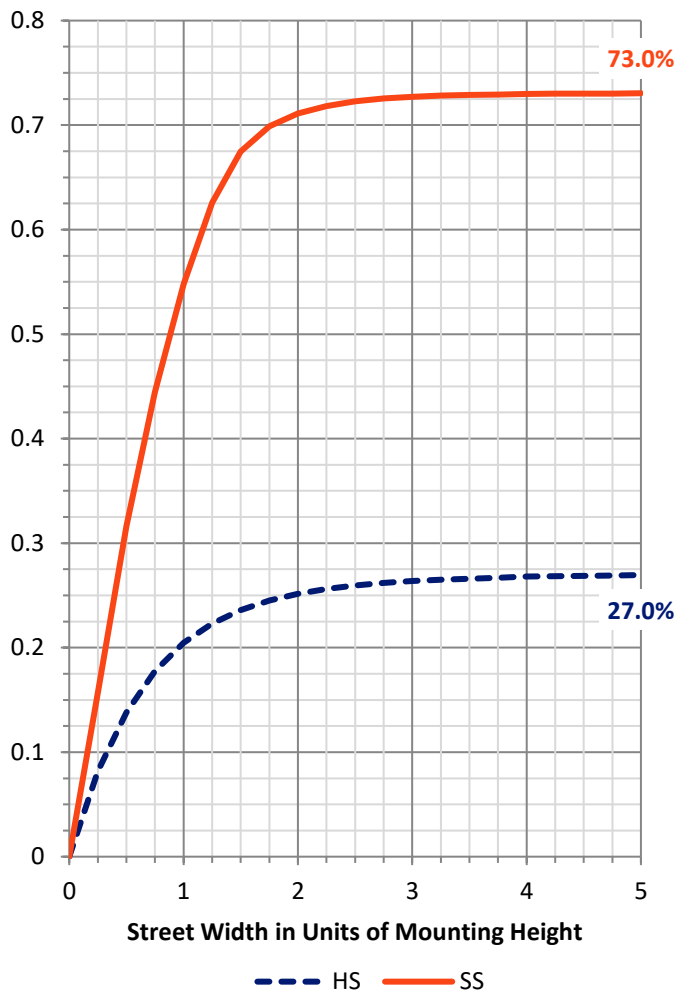
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3153.0	0.0	3153.0
	% Fixture	27.1	0.0	27.1
<b>Street Side</b>	Lumens	8502.2	0.0	8502.2
	% Fixture	72.9	0.0	72.9
<b>Total</b>	Lumens	11655.2	0.0	11655.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	218.4	1.9
10°-20°	695.4	6.0
20°-30°	1233.3	10.6
30°-40°	1888.0	16.2
40°-50°	2628.9	22.6
50°-60°	3012.2	25.8
60°-70°	1547.7	13.3
70°-80°	389.7	3.3
80°-90°	41.6	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°	11655.2	100.0
0°-180°	11655.2	100.0

**Coefficient of Utilization**



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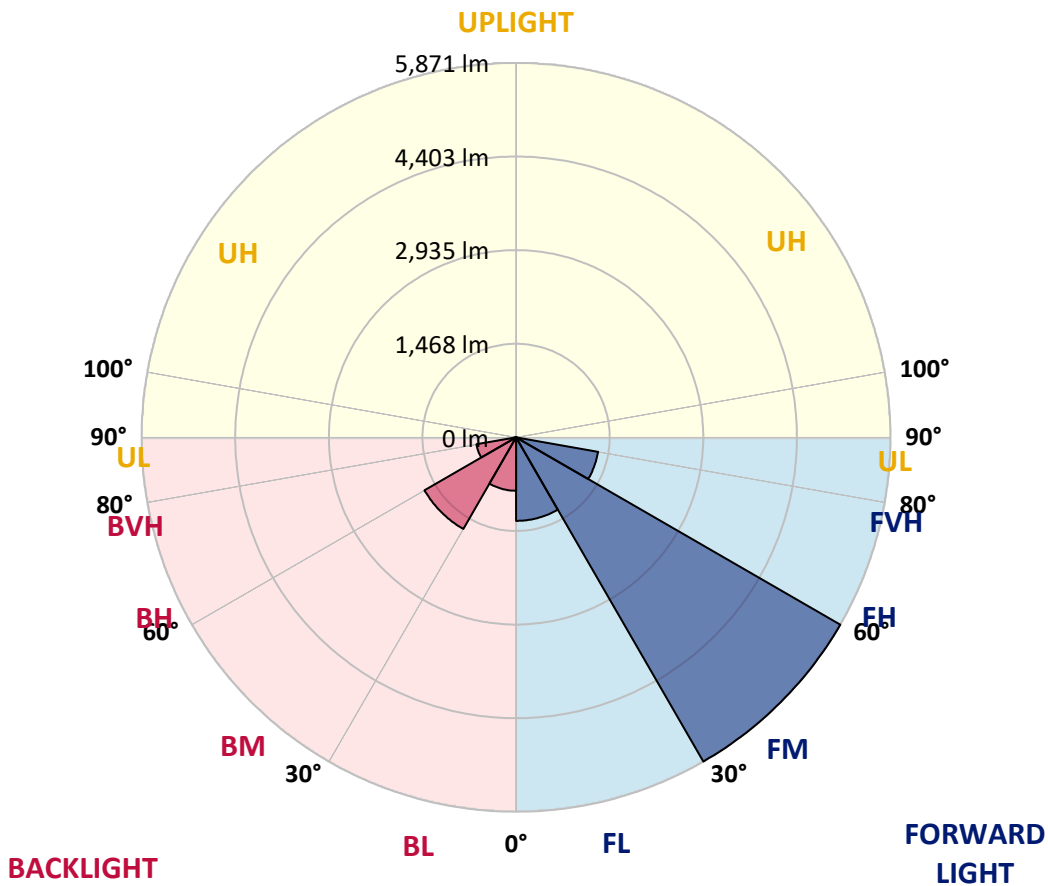
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1309.5	11.2			
FM (30°-60°)	5870.9	50.4			
FH (60°-80°)	1306.4	11.2			G1/1800
FVH (80°-90°)	15.4	0.1			G1/100
BL (0°-30°)	837.6	7.2	B2/1000		
BM (30°-60°)	1658.2	14.2	B2/2500		
BH (60°-80°)	630.9	5.4	B2/1000		G2/1000
BVH (80°-90°)	26.2	0.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	74°	75°	85°
0°	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7
2.5°	2345.1	2351.1	2345.1	2355.1	2335.1	2326.1	2304.0	2270.9	2244.9	2240.9	2211.8
5°	2527.5	2540.5	2532.5	2528.5	2501.4	2481.4	2448.3	2382.2	2328.1	2320.0	2262.9
7.5°	2644.7	2653.8	2653.8	2656.8	2646.7	2623.7	2588.6	2510.5	2434.3	2422.3	2336.1
10°	2683.8	2690.8	2703.9	2728.9	2749.0	2756.0	2732.9	2657.8	2564.6	2552.5	2432.3
12.5°	2692.8	2700.9	2720.9	2767.0	2822.1	2872.2	2876.2	2821.1	2716.9	2703.9	2543.5
15°	2709.9	2717.9	2745.0	2802.1	2883.3	2979.5	3038.6	3000.5	2885.3	2871.2	2669.8
17.5°	2707.9	2716.9	2757.0	2833.2	2942.4	3081.7	3195.9	3212.0	3092.7	3068.7	2813.1
20°	2702.9	2710.9	2754.0	2847.2	2982.5	3173.9	3380.3	3463.5	3335.2	3313.2	2980.5
22.5°	2743.0	2752.0	2785.0	2862.2	3003.5	3245.0	3550.7	3751.1	3622.9	3591.8	3172.9
25°	2833.2	2846.2	2866.2	2919.3	3041.6	3308.2	3725.1	4076.9	3945.6	3908.5	3382.3
27.5°	2972.5	2988.5	3016.5	3041.6	3126.8	3388.4	3898.5	4441.6	4310.4	4271.3	3603.8
30°	3142.8	3163.9	3199.9	3217.0	3275.1	3506.6	4086.9	4817.5	4741.3	4687.2	3853.4
32.5°	3378.3	3407.4	3441.5	3446.5	3481.6	3686.0	4273.3	5190.3	5189.3	5151.2	4137.0
35°	3685.0	3716.1	3723.1	3730.1	3747.1	3932.5	4498.8	5530.0	5661.3	5617.2	4445.7
37.5°	4019.7	4064.8	4075.8	4044.8	4068.8	4229.2	4752.3	5802.6	6072.2	6025.1	4744.3
40°	4377.5	4395.5	4425.6	4376.5	4406.6	4568.9	5000.9	5977.0	6378.8	6328.7	4979.8
42.5°	4634.1	4667.1	4712.2	4694.2	4711.2	4859.6	5175.2	6061.2	6597.3	6547.2	5149.2
45°	4912.7	4922.7	4951.8	4947.7	4957.8	5096.1	5300.5	6098.2	6792.7	6747.7	5293.5
47.5°	5155.2	5170.2	5189.3	5167.2	5145.2	5235.4	5402.7	6130.3	7018.2	6964.1	5444.8
50°	5388.7	5401.7	5424.8	5360.6	5278.5	5301.5	5452.8	6174.4	7229.7	7191.6	5564.1
52.5°	5431.8	5445.8	5554.1	5567.1	5461.9	5380.7	5541.0	6271.6	7354.0	7329.9	5607.2
55°	4889.6	4914.7	5130.1	5377.7	5637.2	5611.2	5682.3	6322.7	7403.1	7409.1	5684.3
57.5°	3795.2	3831.3	4146.0	4485.7	5031.9	5483.9	5700.4	6309.7	7386.0	7419.1	5763.5
60°	2489.4	2510.5	2883.3	3264.1	3830.3	4455.7	5102.1	6075.2	7234.7	7281.8	5743.5
62.5°	1503.3	1527.3	1827.0	2115.6	2449.3	2867.2	3460.5	4882.6	6064.2	6169.4	4600.0
65°	1049.3	1081.3	1343.9	1581.4	1696.7	1610.5	1752.8	2726.9	3778.2	3822.3	2811.1
67.5°	760.7	782.7	998.2	1280.8	1408.1	1137.5	866.9	1207.6	1645.6	1661.6	1159.5
70°	498.1	523.1	718.6	975.1	1149.5	922.0	648.4	653.4	692.5	700.5	673.5
72.5°	273.6	288.6	444.0	647.4	679.5	551.2	506.1	543.2	570.2	570.2	577.3
75°	141.3	154.3	181.4	213.5	257.6	301.7	364.8	419.9	449.0	451.0	448.0
77.5°	72.2	77.2	97.2	105.2	115.3	134.3	174.4	223.5	249.5	259.6	257.6
80°	34.1	36.1	41.1	48.1	59.1	75.2	94.2	112.2	128.3	130.3	141.3
82.5°	18.0	20.0	22.0	26.1	32.1	40.1	55.1	66.1	76.2	78.2	87.2
85°	7.0	8.0	9.0	10.0	14.0	17.0	23.1	31.1	38.1	38.1	45.1
87.5°	0.0	0.0	0.0	0.0	1.0	2.0	4.0	5.0	7.0	7.0	12.0
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-SA3D-830-U-T2-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7	2182.7
2.5°	2204.8	2175.7	2162.7	2141.6	2124.6	2105.6	2090.5	2079.5	2072.5	2068.5	2064.5
5°	2240.9	2196.8	2161.7	2119.6	2090.5	2062.5	2039.4	2023.4	2015.4	2009.4	2005.4
7.5°	2297.0	2237.9	2171.7	2106.6	2055.5	2010.4	1981.3	1964.3	1953.2	1949.2	1946.2
10°	2374.2	2292.0	2182.7	2079.5	2003.3	1954.2	1934.2	1926.2	1927.2	1925.2	1924.2
12.5°	2461.3	2349.1	2179.7	2031.4	1947.2	1918.2	1919.2	1932.2	1947.2	1951.2	1952.2
15°	2555.5	2405.2	2150.7	1969.3	1903.1	1906.1	1932.2	1963.3	1991.3	2002.3	2004.4
17.5°	2657.8	2452.3	2097.6	1901.1	1867.1	1899.1	1947.2	1998.3	2039.4	2057.5	2062.5
20°	2772.0	2492.4	2022.4	1834.0	1833.0	1886.1	1956.2	2023.4	2075.5	2099.6	2103.6
22.5°	2893.3	2517.5	1930.2	1771.8	1797.9	1869.1	1949.2	2019.4	2074.5	2098.6	2103.6
25°	3015.5	2525.5	1829.0	1714.7	1761.8	1842.0	1915.2	1971.3	2023.4	2044.4	2048.4
27.5°	3129.8	2502.4	1732.8	1665.6	1728.8	1801.9	1851.0	1881.1	1917.2	1933.2	1936.2
30°	3246.0	2456.3	1651.6	1626.5	1691.7	1746.8	1768.8	1770.8	1784.9	1784.9	1786.9
32.5°	3363.3	2388.2	1580.4	1588.4	1645.6	1681.7	1684.7	1661.6	1644.6	1616.5	1615.5
35°	3498.6	2319.0	1522.3	1545.4	1591.5	1613.5	1604.5	1560.4	1519.3	1473.2	1471.2
37.5°	3623.9	2247.9	1473.2	1501.3	1530.3	1546.4	1525.3	1472.2	1438.1	1391.0	1384.0
40°	3727.1	2183.7	1426.1	1455.2	1469.2	1483.2	1449.1	1406.1	1411.1	1385.0	1384.0
42.5°	3787.2	2121.6	1382.0	1404.0	1413.1	1423.1	1393.0	1361.0	1388.0	1368.0	1369.0
45°	3831.3	2067.5	1341.9	1349.9	1372.0	1387.0	1359.0	1322.9	1328.9	1251.7	1233.7
47.5°	3881.4	2037.4	1303.8	1295.8	1334.9	1361.0	1317.9	1265.7	1229.7	1153.5	1146.5
50°	3934.5	2026.4	1263.7	1241.7	1288.8	1313.9	1263.7	1198.6	1151.5	1110.4	1106.4
52.5°	3952.6	2025.4	1213.6	1176.6	1223.7	1258.7	1216.6	1150.5	1094.4	1054.3	1052.3
55°	4023.7	2054.5	1149.5	1087.4	1131.5	1203.6	1172.5	1077.3	1032.2	1014.2	1012.2
57.5°	4106.9	2059.5	1048.3	990.1	1051.3	1136.5	1097.4	1015.2	966.1	944.0	942.0
60°	4072.8	1936.2	940.0	916.0	983.1	1073.3	1037.3	966.1	909.0	887.9	885.9
62.5°	3103.7	1367.0	860.9	851.8	910.0	982.1	975.1	901.0	846.8	831.8	829.8
65°	1867.1	960.1	784.7	783.7	824.8	893.9	903.0	842.8	785.7	764.7	764.7
67.5°	923.0	734.6	698.5	693.5	719.6	768.7	806.8	757.6	709.5	689.5	686.5
70°	652.4	647.4	635.4	621.3	626.4	646.4	662.4	621.3	570.2	550.2	546.2
72.5°	564.2	565.2	557.2	546.2	542.2	528.1	514.1	484.1	453.0	431.9	433.9
75°	438.0	440.0	445.0	441.0	429.9	414.9	399.9	361.8	336.7	316.7	312.7
77.5°	255.6	265.6	281.6	277.6	279.6	258.6	252.5	215.5	192.4	178.4	175.4
80°	144.3	150.3	157.3	162.4	156.3	147.3	134.3	114.2	107.2	97.2	95.2
82.5°	87.2	93.2	96.2	100.2	98.2	86.2	76.2	63.1	57.1	52.1	51.1
85°	44.1	48.1	51.1	53.1	47.1	39.1	35.1	28.1	24.1	21.0	21.0
87.5°	11.0	12.0	14.0	12.0	11.0	5.0	4.0	1.0	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)