

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: P636014

Luminaire Tested: GWS-SA3E-830-U-T2-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P636014  
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-SA3E-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**

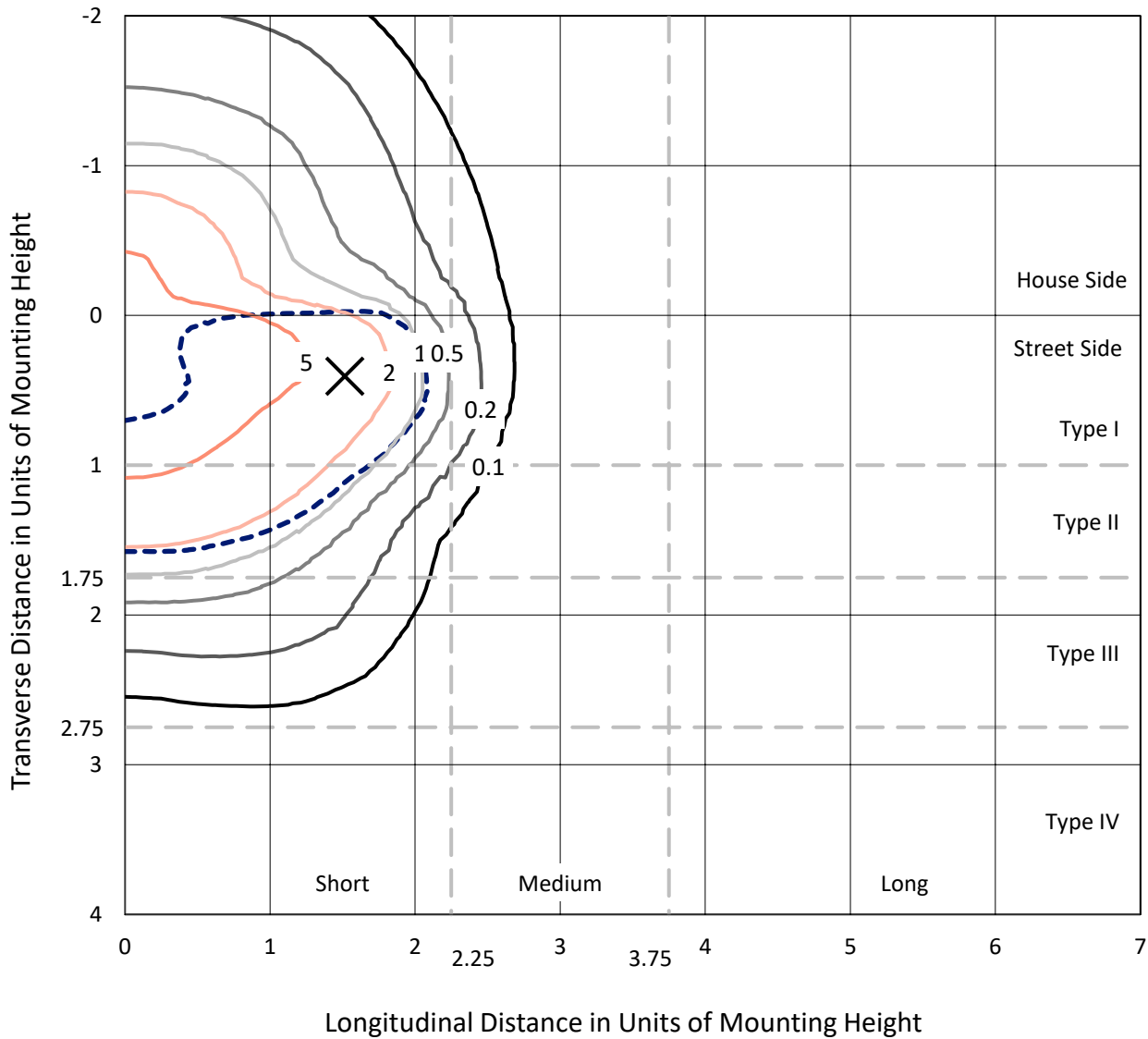
Lumens per Lamp: N/A  
Luminaire Lumens: 14565 lumens  
Efficiency: N/A  
Efficacy: 91.5 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G2  
  
Input Watts (W): 159.2  
Input Voltage (V): 120  
Input Current (Ain): 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



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 CATALOG NUMBER: GWS-SA3E-830-U-T2-W-GRSWH

### Iso-Footcandle Lines of Horizontal Illumination

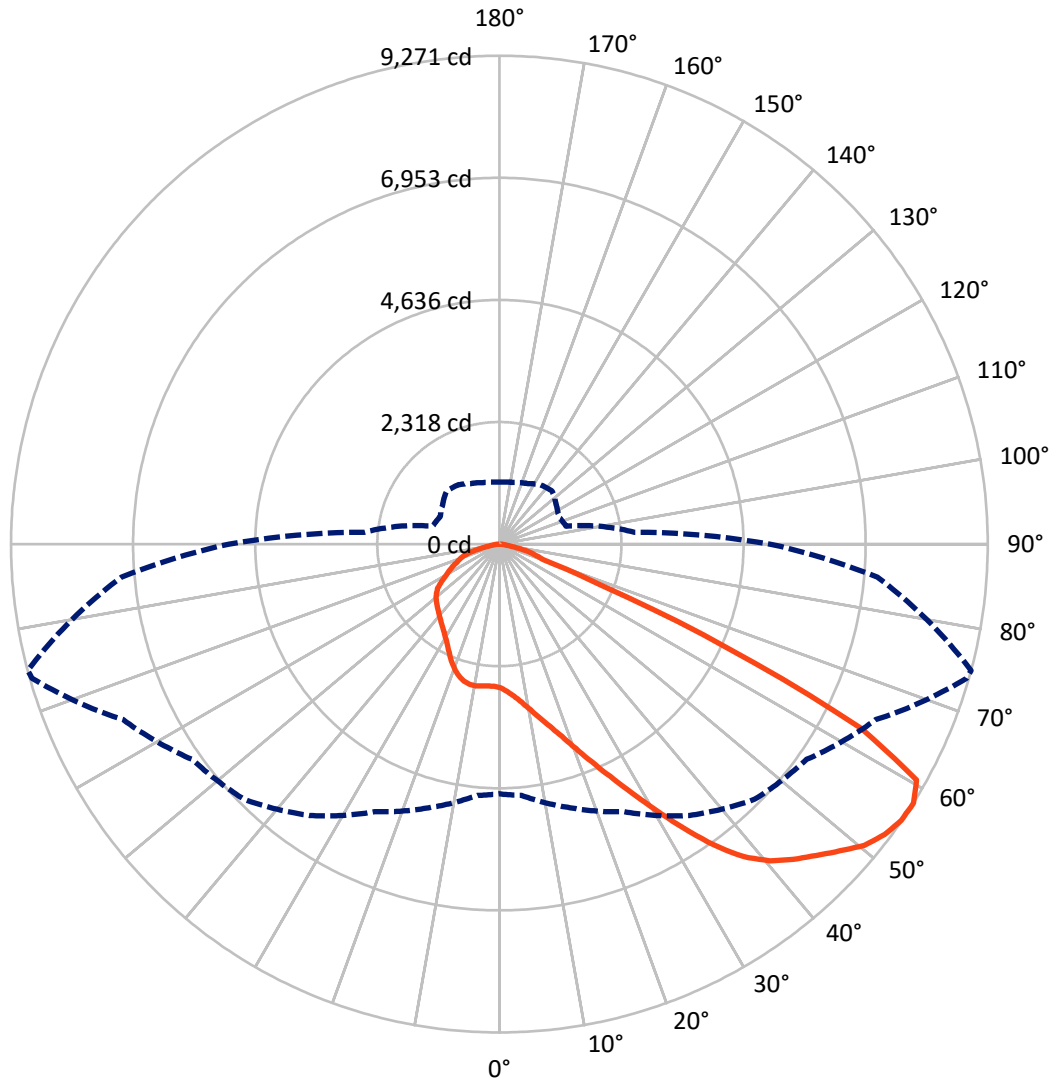
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.7 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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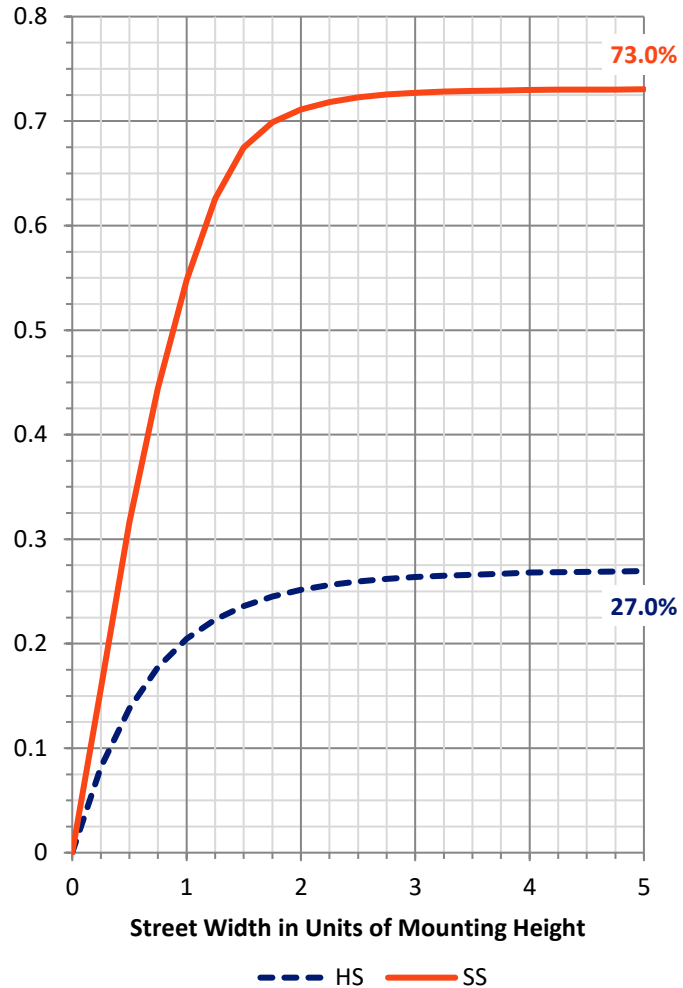
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3940.1	0.0	3940.1
	% Fixture	27.1	0.0	27.1
<b>Street Side</b>	Lumens	10624.9	0.0	10624.9
	% Fixture	72.9	0.0	72.9
<b>Total</b>	Lumens	14565.0	0.0	14565.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.0	1.9
10°-20°	869.0	6.0
20°-30°	1541.2	10.6
30°-40°	2359.3	16.2
40°-50°	3285.2	22.6
50°-60°	3764.2	25.8
60°-70°	1934.1	13.3
70°-80°	486.9	3.3
80°-90°	52.1	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°	14565.0	100.0
0°-180°	14565.0	100.0

**Coefficient of Utilization**



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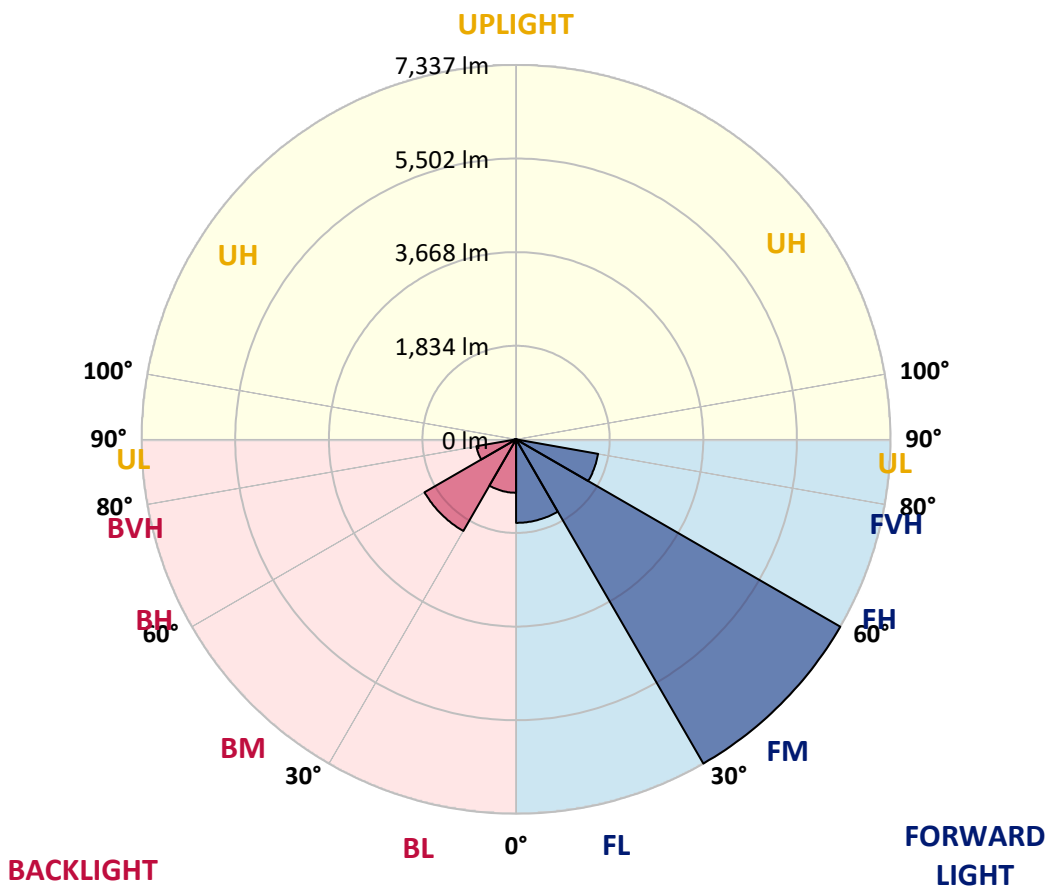
CATALOG NUMBER: GWS-SA3E-830-U-T2-W-GRSWH

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1636.5	11.2			
FM (30°-60°)	7336.6	50.4			
FH (60°-80°)	1632.6	11.2			G1/1800
FVH (80°-90°)	19.3	0.1			G1/100
BL (0°-30°)	1046.7	7.2	B3/2500		
BM (30°-60°)	2072.1	14.2	B2/2500		
BH (60°-80°)	788.4	5.4	B2/1000		G2/1000
BVH (80°-90°)	32.8	0.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	74°	75°	85°
0°	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7
2.5°	2930.6	2938.1	2930.6	2943.1	2918.0	2906.8	2879.2	2837.9	2805.3	2800.3	2764.0
5°	3158.5	3174.8	3164.8	3159.7	3125.9	3100.9	3059.6	2976.9	2909.3	2899.3	2827.9
7.5°	3305.0	3316.3	3316.3	3320.0	3307.5	3278.7	3234.9	3137.2	3042.0	3027.0	2919.3
10°	3353.9	3362.6	3378.9	3410.2	3435.3	3444.0	3415.2	3321.3	3204.8	3189.8	3039.5
12.5°	3365.1	3375.2	3400.2	3457.8	3526.7	3589.3	3594.3	3525.4	3395.2	3378.9	3178.5
15°	3386.4	3396.4	3430.3	3501.6	3603.1	3723.3	3797.2	3749.6	3605.6	3588.1	3336.3
17.5°	3383.9	3395.2	3445.3	3540.5	3677.0	3851.1	3993.8	4013.9	3864.8	3834.8	3515.4
20°	3377.7	3387.7	3441.5	3558.0	3727.1	3966.3	4224.3	4328.2	4167.9	4140.4	3724.6
22.5°	3427.8	3439.0	3480.4	3576.8	3753.4	4055.2	4437.2	4687.6	4527.3	4488.5	3965.0
25°	3540.5	3556.7	3581.8	3648.2	3801.0	4134.1	4655.1	5094.7	4930.6	4884.3	4226.8
27.5°	3714.5	3734.6	3769.7	3801.0	3907.4	4234.3	4871.7	5550.5	5386.5	5337.6	4503.5
30°	3927.5	3953.8	3998.8	4020.1	4092.8	4382.1	5107.2	6020.2	5925.0	5857.4	4815.4
32.5°	4221.8	4258.1	4300.7	4306.9	4350.8	4606.2	5340.1	6486.1	6484.8	6437.2	5169.8
35°	4605.0	4643.8	4652.6	4661.3	4682.6	4914.3	5621.9	6910.6	7074.7	7019.6	5555.5
37.5°	5023.3	5079.6	5093.4	5054.6	5084.6	5285.0	5938.8	7251.3	7588.1	7529.3	5928.7
40°	5470.4	5492.9	5530.5	5469.1	5506.7	5709.6	6249.4	7469.2	7971.4	7908.8	6223.1
42.5°	5791.0	5832.3	5888.7	5866.1	5887.4	6072.8	6467.3	7574.4	8244.4	8181.8	6434.7
45°	6139.1	6151.7	6188.0	6183.0	6195.5	6368.3	6623.8	7620.7	8488.6	8432.2	6615.0
47.5°	6442.2	6461.0	6484.8	6457.3	6429.7	6542.4	6751.6	7660.8	8770.4	8702.8	6804.2
50°	6734.0	6750.3	6779.1	6699.0	6596.3	6625.1	6814.2	7715.9	9034.6	8987.0	6953.2
52.5°	6787.9	6805.4	6940.7	6956.9	6825.4	6724.0	6924.4	7837.4	9189.9	9159.9	7007.0
55°	6110.3	6141.7	6410.9	6720.2	7044.6	7012.1	7101.0	7901.2	9251.3	9258.8	7103.5
57.5°	4742.7	4787.8	5181.1	5605.6	6288.2	6853.0	7123.5	7885.0	9230.0	9271.3	7202.4
60°	3110.9	3137.2	3603.1	4079.0	4786.6	5568.1	6375.8	7591.9	9040.9	9099.8	7177.4
62.5°	1878.6	1908.6	2283.1	2643.8	3060.8	3583.0	4324.5	6101.6	7578.1	7709.6	5748.4
65°	1311.2	1351.3	1679.4	1976.2	2120.3	2012.6	2190.4	3407.7	4721.5	4776.6	3512.9
67.5°	950.6	978.1	1247.4	1600.5	1759.6	1421.4	1083.3	1509.1	2056.4	2076.4	1449.0
70°	622.4	653.7	898.0	1218.6	1436.5	1152.2	810.3	816.5	865.4	875.4	841.6
72.5°	341.9	360.7	554.8	809.0	849.1	688.8	632.4	678.8	712.6	712.6	721.4
75°	176.6	192.9	226.7	266.8	321.9	377.0	455.9	524.7	561.1	563.6	559.8
77.5°	90.2	96.4	121.5	131.5	144.0	167.8	217.9	279.3	311.8	324.4	321.9
80°	42.6	45.1	51.3	60.1	73.9	93.9	117.7	140.3	160.3	162.8	176.6
82.5°	22.5	25.0	27.6	32.6	40.1	50.1	68.9	82.7	95.2	97.7	109.0
85°	8.8	10.0	11.3	12.5	17.5	21.3	28.8	38.8	47.6	47.6	56.4
87.5°	0.0	0.0	0.0	0.0	1.3	2.5	5.0	6.3	8.8	8.8	15.0
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: P636014

CATALOG NUMBER: GWS-SA3E-830-U-T2-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7	2727.7
2.5°	2755.2	2718.9	2702.6	2676.3	2655.0	2631.2	2612.5	2598.7	2589.9	2584.9	2579.9
5°	2800.3	2745.2	2701.4	2648.8	2612.5	2577.4	2548.6	2528.5	2518.5	2511.0	2506.0
7.5°	2870.4	2796.6	2713.9	2632.5	2568.6	2512.3	2475.9	2454.7	2440.9	2435.9	2432.1
10°	2966.9	2864.2	2727.7	2598.7	2503.5	2442.1	2417.1	2407.1	2408.3	2405.8	2404.6
12.5°	3075.8	2935.6	2723.9	2538.6	2433.4	2397.0	2398.3	2414.6	2433.4	2438.4	2439.6
15°	3193.6	3005.7	2687.6	2460.9	2378.3	2382.0	2414.6	2453.4	2488.5	2502.2	2504.8
17.5°	3321.3	3064.6	2621.2	2375.8	2333.2	2373.3	2433.4	2497.2	2548.6	2571.1	2577.4
20°	3464.1	3114.7	2527.3	2291.8	2290.6	2357.0	2444.6	2528.5	2593.7	2623.7	2628.7
22.5°	3615.6	3146.0	2412.1	2214.2	2246.8	2335.7	2435.9	2523.5	2592.4	2622.5	2628.7
25°	3768.4	3156.0	2285.6	2142.8	2201.7	2301.9	2393.3	2463.4	2528.5	2554.8	2559.9
27.5°	3911.2	3127.2	2165.4	2081.4	2160.3	2251.8	2313.1	2350.7	2395.8	2415.8	2419.6
30°	4056.4	3069.6	2063.9	2032.6	2114.0	2182.9	2210.4	2212.9	2230.5	2230.5	2233.0
32.5°	4203.0	2984.4	1975.0	1985.0	2056.4	2101.5	2105.2	2076.4	2055.1	2020.1	2018.8
35°	4372.0	2898.0	1902.4	1931.2	1988.8	2016.3	2005.1	1949.9	1898.6	1841.0	1838.5
37.5°	4528.6	2809.1	1841.0	1876.1	1912.4	1932.4	1906.1	1839.7	1797.2	1738.3	1729.5
40°	4657.6	2728.9	1782.1	1818.4	1836.0	1853.5	1810.9	1757.1	1763.3	1730.8	1729.5
42.5°	4732.7	2651.3	1727.0	1754.6	1765.9	1778.4	1740.8	1700.7	1734.5	1709.5	1710.7
45°	4787.8	2583.7	1676.9	1687.0	1714.5	1733.3	1698.2	1653.1	1660.7	1564.2	1541.7
47.5°	4850.5	2546.1	1629.3	1619.3	1668.2	1700.7	1646.9	1581.8	1536.7	1441.5	1432.7
50°	4916.8	2532.3	1579.2	1551.7	1610.6	1641.9	1579.2	1497.8	1439.0	1387.6	1382.6
52.5°	4939.4	2531.1	1516.6	1470.3	1529.2	1573.0	1520.4	1437.7	1367.6	1317.5	1315.0
55°	5028.3	2567.4	1436.5	1358.8	1413.9	1504.1	1465.3	1346.3	1289.9	1267.4	1264.9
57.5°	5132.2	2573.6	1310.0	1237.3	1313.7	1420.2	1371.4	1268.7	1207.3	1179.7	1177.2
60°	5089.7	2419.6	1174.7	1144.7	1228.6	1341.3	1296.2	1207.3	1135.9	1109.6	1107.1
62.5°	3878.6	1708.2	1075.8	1064.5	1137.2	1227.3	1218.6	1125.9	1058.3	1039.5	1037.0
65°	2333.2	1199.8	980.6	979.4	1030.7	1117.1	1128.4	1053.2	981.9	955.6	955.6
67.5°	1153.4	918.0	872.9	866.6	899.2	960.6	1008.2	946.8	886.7	861.6	857.9
70°	815.3	809.0	794.0	776.5	782.7	807.8	827.8	776.5	712.6	687.6	682.5
72.5°	705.1	706.3	696.3	682.5	677.5	660.0	642.5	604.9	566.1	539.8	542.3
75°	547.3	549.8	556.1	551.0	537.3	518.5	499.7	452.1	420.8	395.8	390.7
77.5°	319.4	331.9	351.9	346.9	349.4	323.1	315.6	269.3	240.5	222.9	219.2
80°	180.3	187.9	196.6	202.9	195.4	184.1	167.8	142.8	134.0	121.5	119.0
82.5°	109.0	116.5	120.2	125.2	122.7	107.7	95.2	78.9	71.4	65.1	63.9
85°	55.1	60.1	63.9	66.4	58.9	48.8	43.8	35.1	30.1	26.3	26.3
87.5°	13.8	15.0	17.5	15.0	13.8	6.3	5.0	1.3	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



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**

$\lambda$ (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			

**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)