

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: P635527

Luminaire Tested: GWS-SA3D-830-U-T3-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635527  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-25)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3D-830-U-T3-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11931.8 lumens  
Efficiency: N/A  
Efficacy: 98.8 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

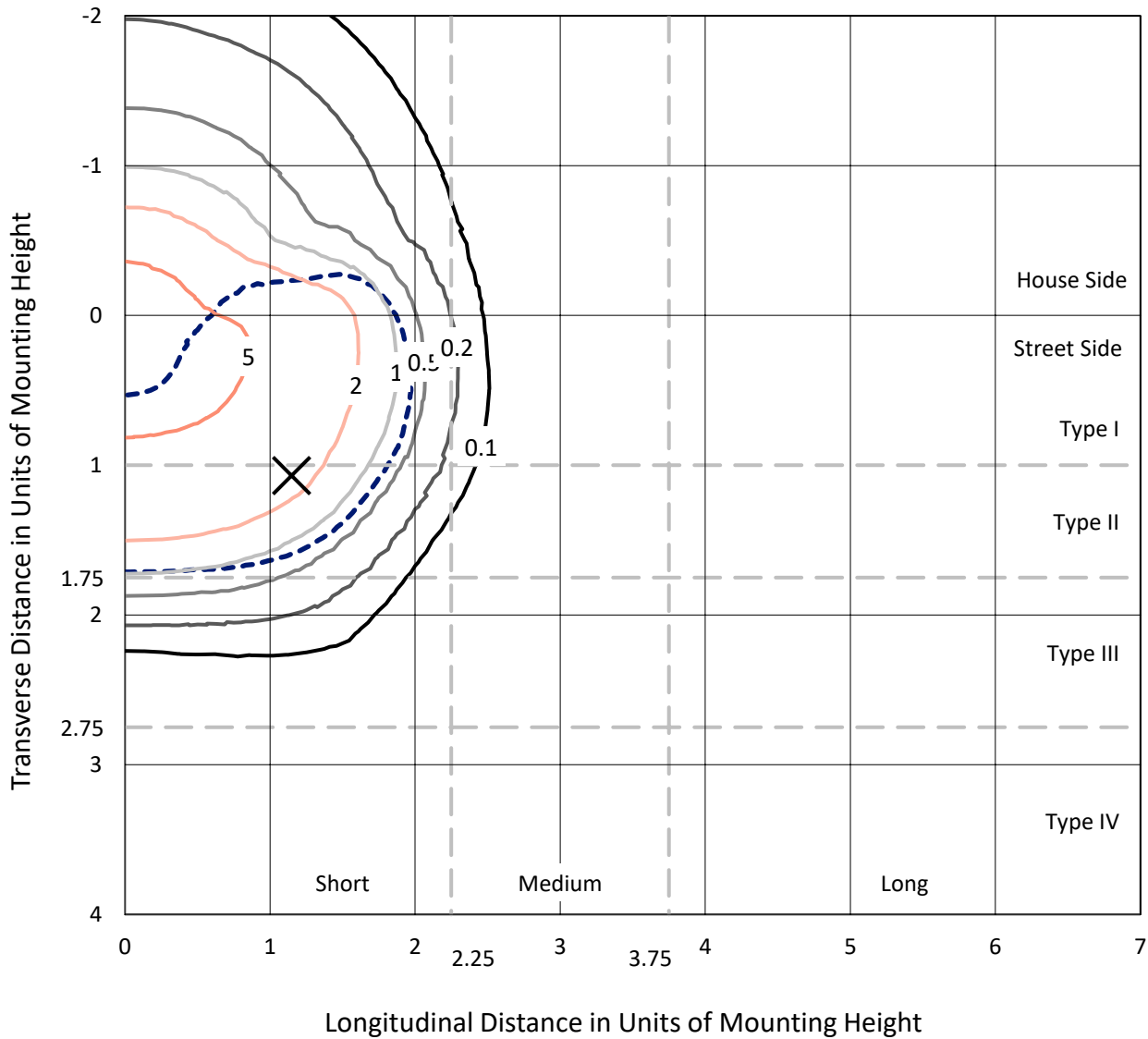
Input Watts (W): 120.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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 CATALOG NUMBER: GWS-SA3D-830-U-T3-W-GRSWH

### Iso-Footcandle Lines of Horizontal Illumination

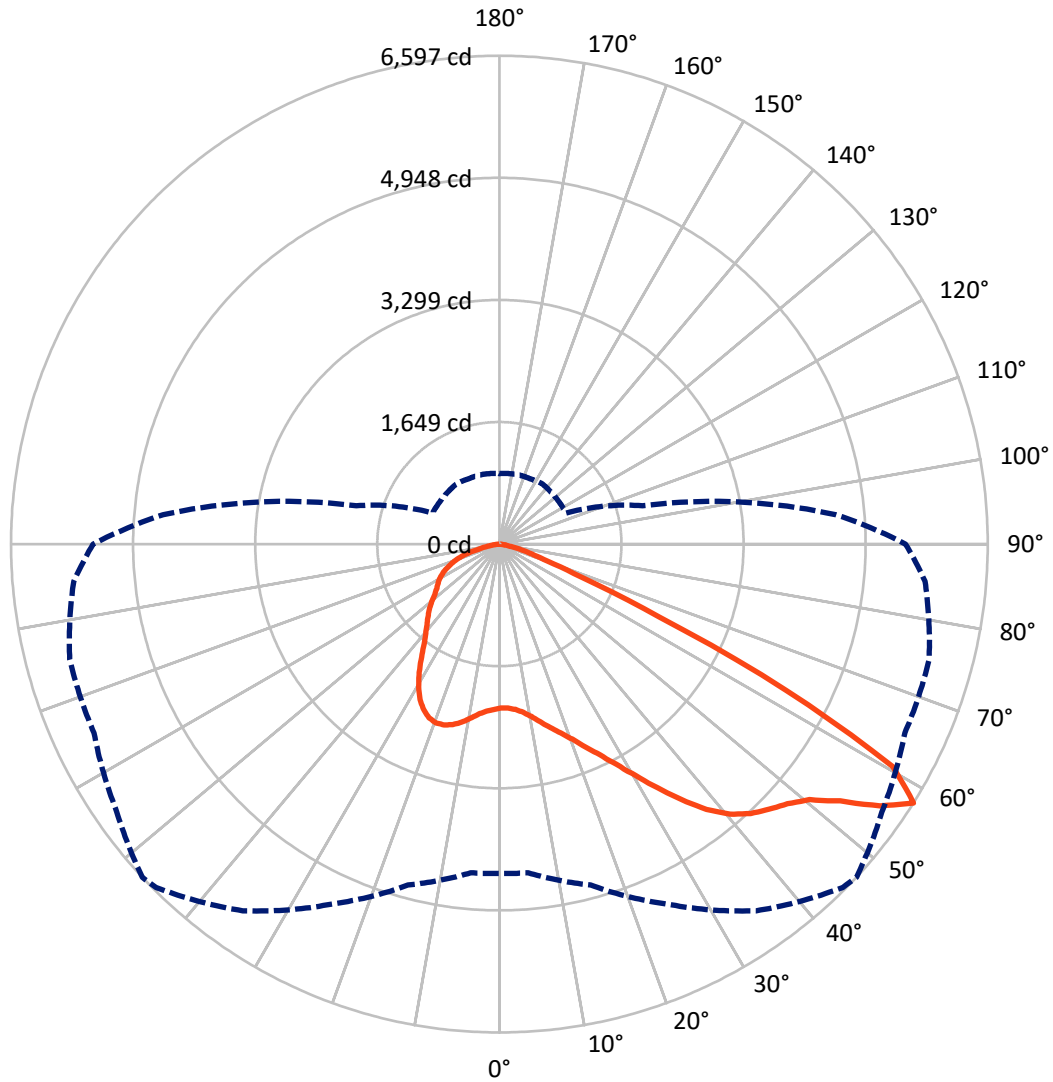
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.2 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical



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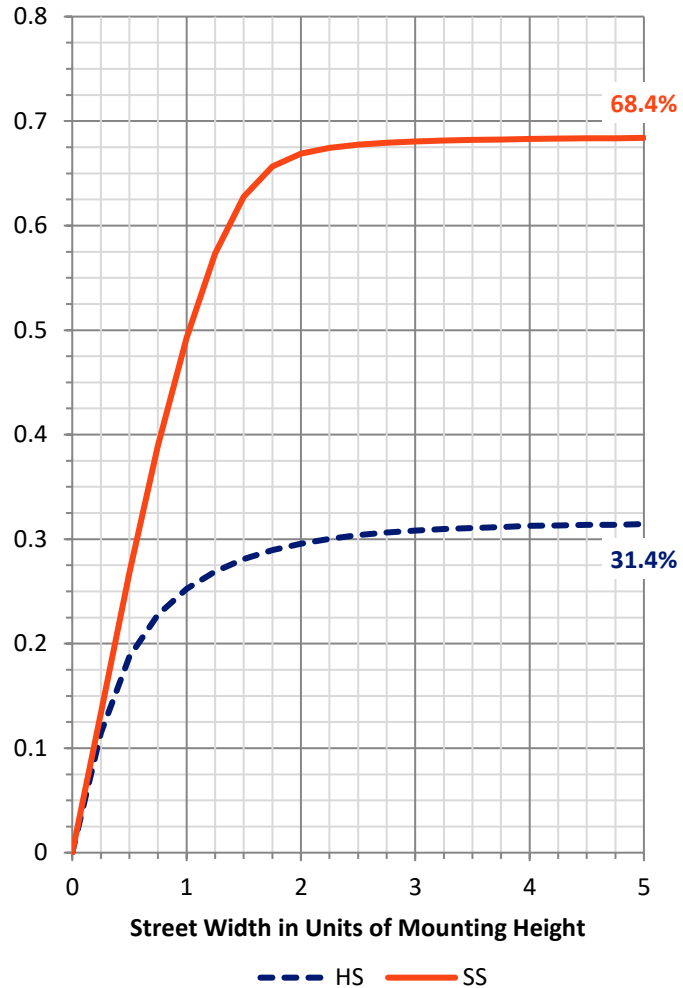
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3776.4	0.0	3776.4
	% Fixture	31.6	0.0	31.6
<b>Street Side</b>	Lumens	8155.4	0.0	8155.4
	% Fixture	68.4	0.0	68.4
<b>Total</b>	Lumens	11931.8	0.0	11931.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	218.3	1.8
10°-20°	717.8	6.0
20°-30°	1292.5	10.8
30°-40°	1952.2	16.4
40°-50°	2628.9	22.0
50°-60°	3159.0	26.5
60°-70°	1538.5	12.9
70°-80°	379.0	3.2
80°-90°	45.5	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°	11931.8	100.0
0°-180°	11931.8	100.0

**Coefficient of Utilization**

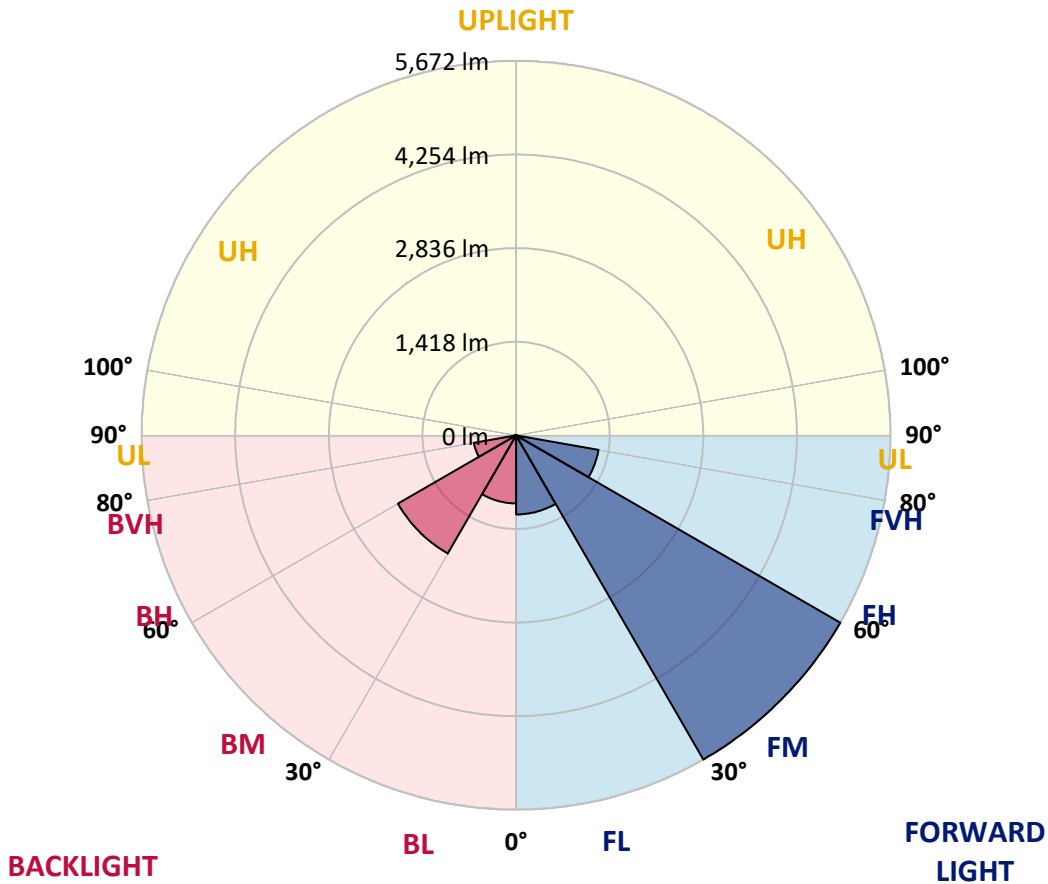


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1198.5	10.0			
FM (30°-60°)	5671.8	47.5			
FH (60°-80°)	1268.0	10.6			G1/1800
FVH (80°-90°)	17.1	0.1			G1/100
BL (0°-30°)	1030.1	8.6	B3/2500		
BM (30°-60°)	2068.3	17.3	B2/2500		
BH (60°-80°)	649.5	5.4	B2/1000		G2/1000
BVH (80°-90°)	28.4	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°	47°	55°	65°	75°	85°
0°	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8
2.5°	2208.8	2207.8	2207.8	2213.8	2213.8	2215.8	2218.8	2221.8	2222.8	2217.8	2206.8
5°	2232.8	2232.8	2232.8	2237.8	2237.8	2239.8	2243.8	2244.8	2243.8	2235.8	2224.8
7.5°	2270.9	2270.9	2271.9	2277.9	2282.9	2285.9	2292.9	2291.9	2288.9	2275.9	2261.9
10°	2333.0	2336.0	2339.0	2346.1	2356.1	2363.1	2368.1	2368.1	2364.1	2344.1	2326.0
12.5°	2421.2	2425.2	2428.2	2434.2	2442.3	2454.3	2465.3	2465.3	2460.3	2435.2	2408.2
15°	2524.4	2528.4	2527.4	2529.5	2544.5	2561.5	2570.5	2576.6	2578.6	2543.5	2501.4
17.5°	2642.7	2646.7	2642.7	2636.7	2638.7	2665.7	2681.8	2703.8	2716.9	2669.8	2602.6
20°	2749.9	2745.9	2745.9	2749.9	2755.9	2789.0	2813.1	2849.1	2865.2	2808.1	2703.8
22.5°	2863.2	2872.2	2868.2	2868.2	2892.2	2947.4	2976.4	3023.5	3040.6	2966.4	2826.1
25°	3009.5	3017.5	3015.5	3017.5	3045.6	3123.7	3152.8	3240.0	3257.0	3150.8	2961.4
27.5°	3169.8	3182.9	3188.9	3186.9	3232.0	3334.2	3370.3	3491.5	3522.6	3357.2	3105.7
30°	3378.3	3392.3	3397.3	3395.3	3448.4	3587.7	3628.8	3767.1	3811.2	3601.8	3289.1
32.5°	3619.8	3633.8	3648.9	3654.9	3723.0	3865.3	3924.5	4067.8	4130.9	3884.4	3510.6
35°	3859.3	3871.3	3900.4	3947.5	4040.7	4186.0	4238.1	4379.4	4440.6	4178.0	3778.1
37.5°	4123.9	4131.9	4157.0	4222.1	4356.4	4494.7	4546.8	4682.1	4689.1	4461.6	4080.8
40°	4413.5	4413.5	4408.5	4472.6	4612.9	4752.2	4797.3	4875.5	4834.4	4680.1	4375.4
42.5°	4659.0	4655.0	4659.0	4719.2	4823.4	4936.6	4975.7	4960.7	4908.6	4847.4	4642.0
45°	4880.5	4883.5	4919.6	4965.7	5019.8	5087.0	5110.0	5024.8	4977.7	4981.7	4855.5
47.5°	5030.8	5033.9	5118.0	5195.2	5228.3	5249.3	5239.3	5121.0	5097.0	5142.1	5019.8
50°	5050.9	5066.9	5212.2	5370.6	5452.8	5455.8	5427.7	5283.4	5276.4	5327.5	5108.0
52.5°	5054.9	5070.9	5252.3	5537.9	5751.4	5796.5	5764.4	5614.1	5540.9	5489.8	5216.2
55°	5039.9	5057.9	5258.3	5650.2	6059.1	6239.4	6242.5	6030.0	5796.5	5762.4	5524.9
57.5°	4449.6	4456.6	4767.3	5364.6	6047.0	6558.1	6597.2	6308.6	6042.0	6010.0	5772.4
60°	3099.7	3127.7	3465.5	4254.2	5079.9	5980.9	6107.2	6023.0	5844.6	5611.1	4952.7
62.5°	1552.3	1576.4	1915.1	2660.7	3503.6	4215.1	4350.4	4439.6	4481.7	4231.1	3372.3
65°	668.4	686.5	896.9	1390.0	1983.3	2327.0	2374.1	2481.3	2743.9	2448.3	1816.9
67.5°	447.0	459.0	566.2	847.8	1168.5	1190.6	1183.6	1206.6	1263.7	1043.2	820.8
70°	342.7	352.8	424.9	621.3	839.8	718.5	680.5	617.3	670.4	683.5	665.4
72.5°	248.5	256.6	310.7	423.9	526.1	459.0	453.0	485.0	557.2	577.2	566.2
75°	160.3	164.4	197.4	232.5	271.6	294.6	306.7	364.8	437.9	453.0	439.9
77.5°	107.2	110.2	129.3	149.3	154.3	155.3	159.3	185.4	235.5	263.6	260.6
80°	56.1	56.1	63.1	63.1	72.2	86.2	90.2	107.2	130.3	144.3	145.3
82.5°	22.0	23.0	27.1	30.1	36.1	44.1	47.1	56.1	68.1	78.2	87.2
85°	9.0	10.0	11.0	13.0	16.0	20.0	21.0	24.1	32.1	40.1	45.1
87.5°	0.0	0.0	1.0	1.0	2.0	3.0	3.0	4.0	5.0	9.0	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



REPORT NUMBER: P635527

CATALOG NUMBER: GWS-SA3D-830-U-T3-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8	2212.8
2.5°	2219.8	2206.8	2219.8	2223.8	2234.8	2238.8	2231.8	2230.8	2230.8	2220.8	2217.8
5°	2234.8	2222.8	2235.8	2241.8	2257.9	2267.9	2269.9	2277.9	2282.9	2278.9	2277.9
7.5°	2271.9	2256.9	2270.9	2279.9	2301.0	2317.0	2324.0	2342.0	2355.1	2353.1	2352.1
10°	2337.0	2317.0	2333.0	2348.1	2371.1	2390.2	2391.2	2401.2	2414.2	2410.2	2408.2
12.5°	2412.2	2393.2	2411.2	2426.2	2453.3	2461.3	2448.3	2444.3	2446.3	2441.3	2437.3
15°	2504.4	2477.3	2493.4	2510.4	2525.4	2516.4	2488.4	2477.3	2476.3	2469.3	2465.3
17.5°	2596.6	2562.5	2574.5	2583.6	2576.6	2548.5	2513.4	2494.4	2485.4	2471.3	2467.3
20°	2687.8	2644.7	2642.7	2635.7	2603.6	2552.5	2505.4	2467.3	2444.3	2425.2	2418.2
22.5°	2792.0	2731.9	2701.8	2669.8	2599.6	2516.4	2445.3	2391.2	2354.1	2330.0	2322.0
25°	2904.3	2819.1	2756.9	2692.8	2559.5	2439.3	2340.0	2265.9	2221.8	2195.7	2186.7
27.5°	3015.5	2898.2	2805.0	2695.8	2479.3	2328.0	2194.7	2094.5	2050.4	2029.4	2022.4
30°	3165.8	3003.5	2862.2	2656.7	2374.1	2173.7	2007.3	1906.1	1877.0	1862.0	1856.0
32.5°	3339.2	3136.8	2938.3	2574.5	2239.8	1993.3	1817.9	1747.8	1727.7	1698.7	1697.7
35°	3567.7	3327.2	3010.5	2453.3	2070.5	1799.9	1672.6	1622.5	1586.4	1540.3	1536.3
37.5°	3834.3	3564.7	3049.6	2299.0	1873.0	1640.5	1564.4	1508.3	1450.1	1389.0	1381.0
40°	4109.9	3842.3	3052.6	2116.6	1679.6	1535.3	1471.2	1398.0	1325.9	1257.7	1248.7
42.5°	4399.5	4100.8	2999.5	1906.1	1521.3	1444.1	1379.0	1286.8	1205.6	1159.5	1154.5
45°	4658.0	4309.3	2879.2	1684.6	1404.0	1367.9	1284.8	1185.6	1142.5	1109.4	1102.4
47.5°	4861.5	4447.6	2716.9	1486.2	1308.8	1289.8	1181.5	1130.4	1097.4	1067.3	1060.3
50°	4961.7	4478.7	2505.4	1324.9	1220.6	1197.6	1123.4	1084.3	1062.3	1038.2	1032.2
52.5°	5086.0	4513.7	2323.0	1189.6	1134.4	1103.4	1075.3	1044.3	1028.2	1013.2	1008.2
55°	5371.6	4646.0	2226.8	1081.3	1052.3	1038.2	1034.2	1008.2	1003.2	993.1	984.1
57.5°	5487.8	4560.8	1999.3	993.1	987.1	989.1	999.2	975.1	970.1	958.1	952.1
60°	4413.5	3447.4	1353.9	917.0	933.0	946.0	956.1	932.0	925.0	923.0	915.0
62.5°	2828.1	2120.6	945.0	845.8	869.9	885.9	891.9	868.9	863.9	879.9	880.9
65°	1472.2	1155.5	766.7	769.7	789.7	813.8	825.8	817.8	815.8	832.8	833.8
67.5°	751.6	706.5	668.4	679.5	695.5	726.6	754.6	789.7	801.7	803.7	804.7
70°	640.4	620.3	601.3	608.3	625.3	642.4	669.4	686.5	666.4	661.4	659.4
72.5°	545.2	530.1	521.1	529.1	538.2	535.2	527.1	535.2	538.2	539.2	540.2
75°	423.9	412.9	405.9	406.9	406.9	395.9	380.8	371.8	361.8	353.8	353.8
77.5°	259.6	261.6	268.6	267.6	266.6	262.6	247.5	239.5	215.5	208.4	208.4
80°	148.3	151.3	158.3	160.3	160.3	155.3	140.3	131.3	120.3	115.2	114.2
82.5°	90.2	94.2	98.2	100.2	101.2	95.2	82.2	75.2	69.1	64.1	64.1
85°	47.1	49.1	53.1	54.1	51.1	45.1	38.1	35.1	29.1	28.1	28.1
87.5°	13.0	14.0	16.0	13.0	12.0	9.0	5.0	4.0	2.0	1.0	1.0
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

REPORT NUMBER: SP1-2408-195-9

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**

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**

$R_f = 81.5$   
 $R_g = 99.2$   
 $CIE R_a = 81.0$   
 $R_9 = 7.1$



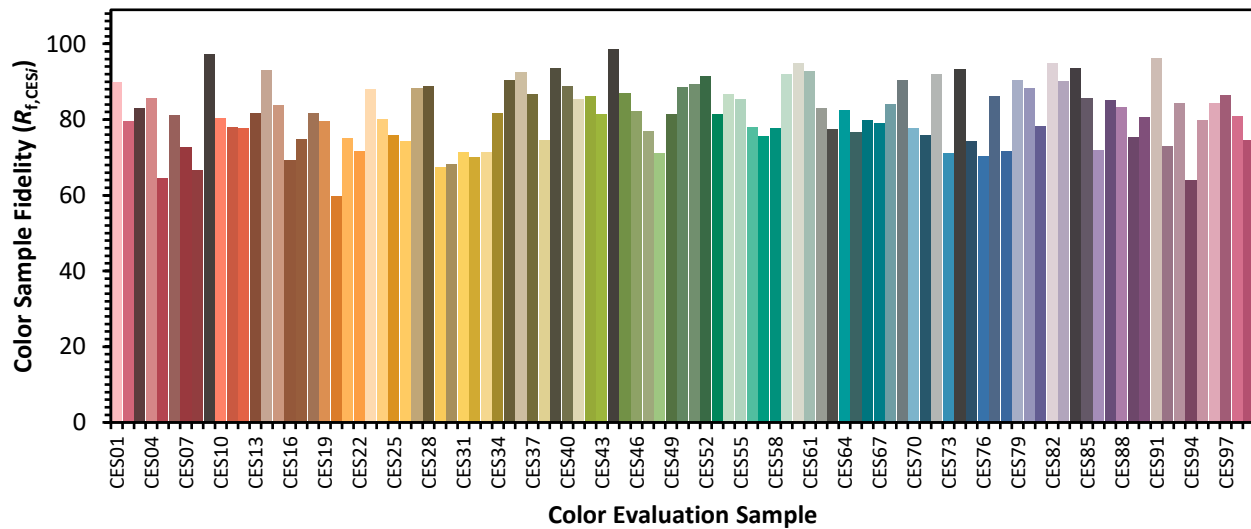
**Color Vector Graphics**





**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)