

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: P635535

Luminaire Tested: GWS-SA3D-830-U-T4FT-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635535  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-54)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3D-830-U-T4FT-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

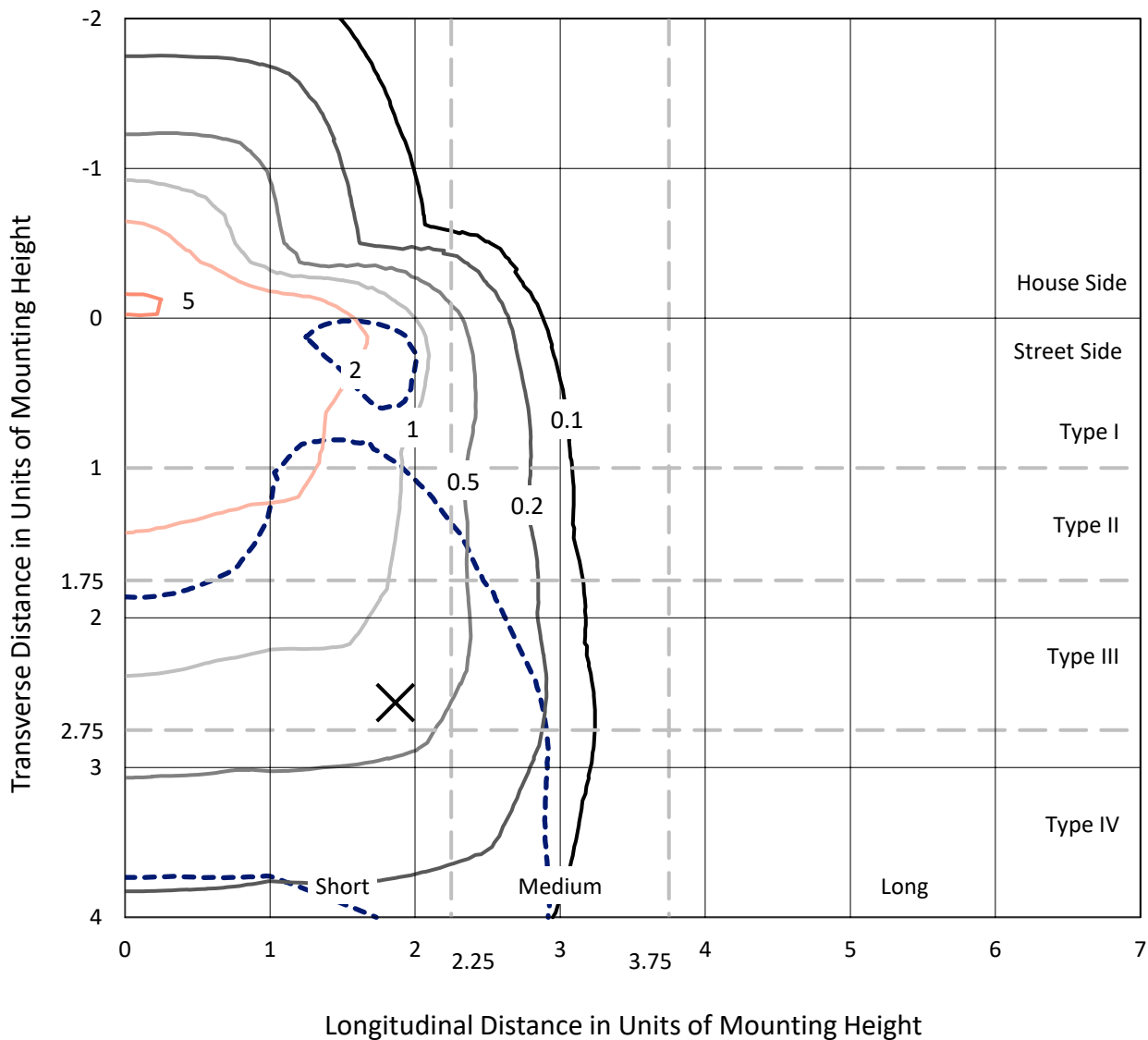
Lumens per Lamp: N/A  
Luminaire Lumens: 13503.2 lumens  
Efficiency: N/A  
Efficacy: 111.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3  
  
Input Watts (W): 120.8  
Input Voltage (V): 120  
Input Current (Ain): 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



REPORT NUMBER: P635535  
 CATALOG NUMBER: GWS-SA3D-830-U-T4FT-W

### Iso-Footcandle Lines of Horizontal Illumination

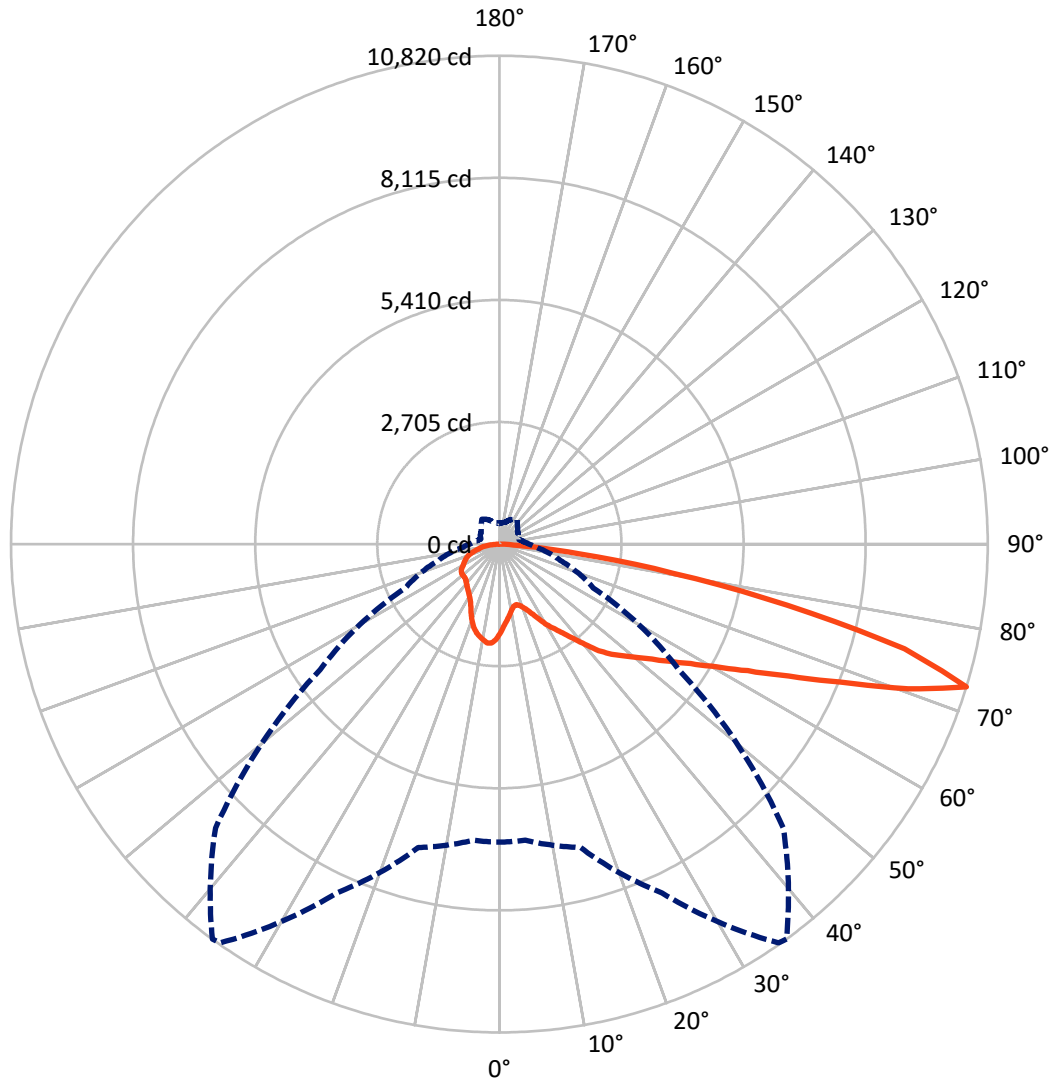
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.3 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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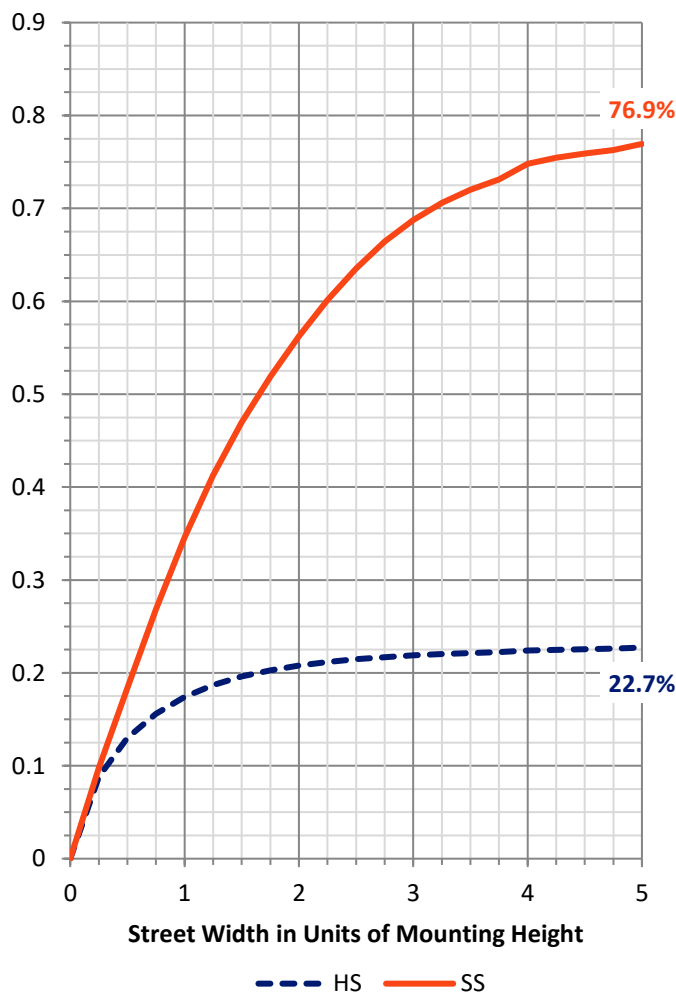
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3113.1	0.0	3113.1
	% Fixture	23.1	0.0	23.1
<b>Street Side</b>	Lumens	10390.1	0.0	10390.1
	% Fixture	76.9	0.0	76.9
<b>Total</b>	Lumens	13503.2	0.0	13503.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	184.7	1.4
10°-20°	521.2	3.9
20°-30°	863.1	6.4
30°-40°	1292.6	9.6
40°-50°	1885.9	14.0
50°-60°	2684.1	19.9
60°-70°	3391.2	25.1
70°-80°	2416.5	17.9
80°-90°	263.8	2.0
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°	13503.2	100.0
0°-180°	13503.2	100.0

**Coefficient of Utilization**



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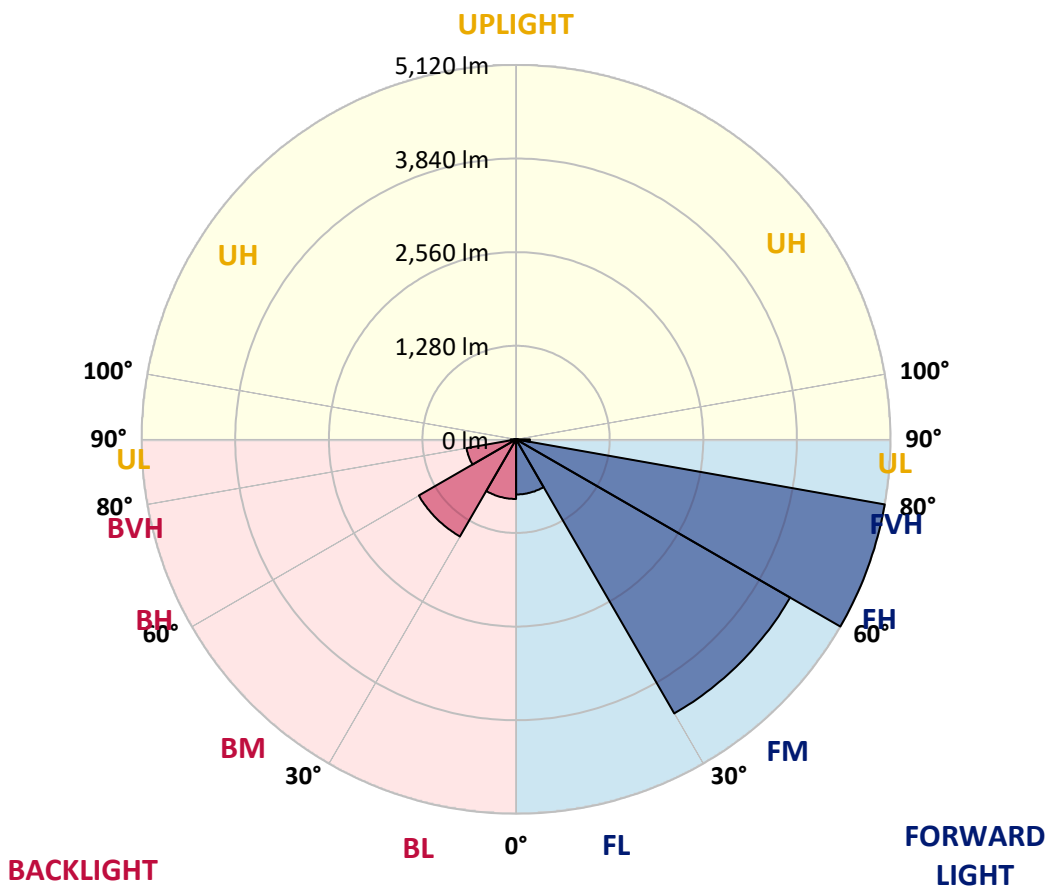
CATALOG NUMBER: GWS-SA3D-830-U-T4FT-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	753.8	5.6			
FM (30°-60°)	4327.4	32.0			
FH (60°-80°)	5119.5	37.9			G3/7500
FVH (80°-90°)	189.3	1.4			G2/225
BL (0°-30°)	815.2	6.0	B2/1000		
BM (30°-60°)	1535.2	11.4	B2/2500		
BH (60°-80°)	688.2	5.1	B2/1000		G2/1000
BVH (80°-90°)	74.5	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





REPORT NUMBER: P635535  
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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3
2.5°	1802.9	1799.9	1793.9	1811.9	1829.9	1827.9	1853.0	1877.0	1903.1	1930.2	1966.2
5°	1658.6	1656.6	1651.6	1678.6	1705.7	1704.7	1745.8	1784.8	1838.0	1896.1	1968.2
7.5°	1514.3	1509.2	1516.3	1550.3	1588.4	1592.4	1648.5	1712.7	1789.9	1877.0	1979.3
10°	1387.0	1386.0	1389.0	1427.1	1484.2	1488.2	1560.4	1649.6	1751.8	1868.0	2004.3
12.5°	1353.9	1351.9	1343.9	1362.9	1406.0	1412.0	1491.2	1600.4	1725.7	1873.0	2038.4
15°	1408.0	1403.0	1375.0	1365.9	1387.0	1392.0	1459.1	1571.4	1710.7	1882.1	2081.5
17.5°	1501.2	1498.2	1445.1	1408.0	1422.1	1426.1	1476.2	1566.4	1706.7	1900.1	2134.6
20°	1637.5	1624.5	1541.3	1485.2	1485.2	1491.2	1521.3	1588.4	1711.7	1922.1	2194.7
22.5°	1817.9	1791.9	1674.6	1598.4	1578.4	1586.4	1599.4	1643.5	1732.7	1959.2	2269.9
25°	2020.3	1996.3	1857.0	1749.8	1721.7	1724.7	1713.7	1721.7	1778.8	2010.3	2363.1
27.5°	2235.8	2219.8	2071.5	1935.2	1891.1	1891.1	1852.0	1832.9	1843.0	2068.5	2467.3
30°	2428.2	2406.2	2280.9	2131.6	2073.5	2073.5	1999.3	1958.2	1934.2	2139.6	2606.6
32.5°	2529.4	2516.4	2433.2	2319.0	2247.8	2236.8	2172.7	2124.6	2068.5	2244.8	2795.0
35°	2661.7	2658.7	2608.6	2519.4	2429.2	2413.2	2369.1	2331.0	2233.8	2376.1	3045.6
37.5°	2828.1	2823.1	2815.1	2761.9	2653.7	2650.7	2611.6	2565.5	2439.3	2565.5	3349.2
40°	3014.5	3005.5	2995.4	2994.4	2929.3	2918.3	2915.3	2863.2	2686.8	2794.0	3665.9
42.5°	3271.0	3240.0	3145.8	3187.9	3236.0	3225.9	3264.0	3185.9	2995.4	3065.6	3965.5
45°	3586.7	3510.6	3324.2	3336.2	3457.4	3477.5	3609.8	3590.7	3335.2	3379.3	4281.2
47.5°	3776.1	3710.0	3536.6	3526.6	3677.9	3703.0	3990.6	4026.7	3701.0	3757.1	4671.1
50°	3931.5	3885.4	3743.1	3757.1	3917.4	3942.5	4368.4	4445.6	4045.7	4143.9	5124.0
52.5°	4118.9	4052.7	3942.5	4008.6	4205.1	4235.1	4788.3	4871.5	4356.4	4568.8	5593.0
55°	4224.1	4197.0	4199.0	4300.3	4546.8	4587.9	5228.3	5214.2	4641.0	4932.6	5945.8
57.5°	4466.6	4456.6	4548.8	4586.9	4945.6	4998.8	5668.2	5547.9	4899.5	5214.2	6115.2
60°	4894.5	4869.5	4949.7	5007.8	5438.7	5513.9	6159.3	5874.6	5074.9	5423.7	6058.0
62.5°	5495.8	5464.8	5467.8	5560.0	6099.1	6178.3	6705.4	6147.2	5129.0	5455.7	5696.3
65°	6243.4	6198.3	6147.2	6272.5	6976.0	7042.2	7299.7	6345.7	4999.8	5147.1	4940.6
67.5°	7032.1	6995.1	6934.9	7197.5	8111.5	8151.5	7966.1	6328.6	4589.9	4321.3	3465.5
70°	7078.2	7087.3	7371.9	8321.9	9593.6	9603.7	8596.5	5985.9	3717.0	2801.0	1726.7
72.5°	6603.2	6588.2	6959.0	8527.4	10786.2	10820.3	8894.1	4849.4	2296.9	1397.0	809.7
75°	5363.5	5389.6	5779.4	7461.1	9244.9	9275.0	7250.6	2859.2	1091.3	683.5	518.1
77.5°	2309.0	2454.3	3222.9	5256.3	6621.3	6528.1	3737.0	1158.5	582.3	487.0	396.9
80°	666.4	723.6	1148.5	2499.4	3967.5	3897.4	1479.2	433.9	405.9	365.8	284.6
82.5°	215.5	238.5	420.9	995.1	1777.8	1775.8	561.2	256.6	265.6	248.5	183.4
85°	60.1	69.1	129.3	301.6	550.2	539.2	162.3	121.3	141.3	143.3	91.2
87.5°	0.0	0.0	1.0	2.0	2.0	2.0	4.0	18.0	41.1	52.1	37.1
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-T4FT-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3	1976.3
2.5°	1988.3	1985.3	2026.4	2058.4	2088.5	2108.5	2114.6	2118.6	2126.6	2130.6	2126.6
5°	2002.3	2017.3	2085.5	2135.6	2175.7	2199.7	2200.7	2198.7	2204.7	2199.7	2196.7
7.5°	2032.4	2061.4	2147.6	2200.7	2226.8	2227.8	2203.7	2175.7	2161.7	2149.6	2145.6
10°	2072.5	2115.6	2209.8	2244.8	2236.8	2199.7	2146.6	2102.5	2077.5	2059.4	2055.4
12.5°	2127.6	2175.7	2264.9	2263.9	2213.8	2147.6	2085.5	2032.4	1996.3	1975.3	1968.2
15°	2179.7	2240.8	2305.0	2257.9	2178.7	2098.5	2018.3	1947.2	1899.1	1866.0	1860.0
17.5°	2243.8	2309.0	2334.0	2238.8	2134.6	2031.4	1924.1	1830.9	1765.8	1726.7	1723.7
20°	2318.0	2376.1	2348.1	2205.7	2077.5	1942.2	1796.9	1692.6	1622.5	1584.4	1587.4
22.5°	2404.2	2446.3	2352.1	2160.7	1998.3	1815.9	1653.6	1553.3	1506.2	1486.2	1487.2
25°	2496.4	2523.4	2345.0	2099.5	1877.0	1661.6	1506.2	1460.1	1456.1	1451.1	1453.1
27.5°	2605.6	2599.6	2324.0	2013.3	1713.7	1482.2	1403.0	1415.0	1431.1	1429.1	1431.1
30°	2751.9	2694.8	2296.9	1894.1	1519.3	1331.9	1341.9	1376.0	1397.0	1399.0	1405.0
32.5°	2919.3	2800.0	2253.9	1731.7	1333.9	1247.7	1284.8	1325.9	1350.9	1355.9	1363.9
35°	3118.7	2920.3	2177.7	1529.3	1200.6	1197.6	1231.7	1259.7	1286.8	1288.8	1288.8
37.5°	3348.2	3040.5	2056.4	1305.8	1118.4	1154.5	1186.6	1192.6	1199.6	1193.6	1196.6
40°	3558.7	3156.8	1884.1	1102.4	1051.3	1116.4	1143.5	1123.4	1101.4	1086.3	1089.3
42.5°	3735.0	3236.0	1655.6	960.1	983.1	1082.3	1103.4	1062.3	1019.2	991.1	995.1
45°	3933.5	3309.1	1387.0	863.9	925.0	1058.3	1072.3	1019.2	964.1	922.0	916.0
47.5°	4207.1	3458.4	1148.5	796.7	883.9	1045.2	1068.3	996.1	924.0	860.9	853.8
50°	4544.8	3669.9	949.0	752.6	864.9	1038.2	1067.3	971.1	884.9	810.7	805.7
52.5°	4913.6	3876.3	801.7	718.5	845.8	1017.2	1062.3	943.0	843.8	763.6	757.6
55°	5159.1	3957.5	702.5	686.5	814.8	984.1	1042.2	916.0	781.7	708.5	699.5
57.5°	5231.3	3853.3	633.4	657.4	774.7	938.0	1004.2	858.8	743.6	685.5	678.5
60°	5107.0	3590.7	590.3	633.4	730.6	878.9	938.0	825.8	713.5	661.4	656.4
62.5°	4756.2	3185.9	557.2	608.3	685.5	816.8	895.9	785.7	680.5	639.4	632.4
65°	4050.7	2612.6	530.1	582.3	642.4	757.6	849.8	745.6	644.4	613.3	605.3
67.5°	2833.1	1834.9	501.1	551.2	599.3	700.5	801.7	708.5	607.3	584.3	576.2
70°	1385.0	973.1	466.0	515.1	553.2	642.4	753.6	663.4	558.2	545.2	534.1
72.5°	659.4	544.2	424.9	466.0	490.1	565.2	673.4	598.3	500.1	472.0	453.0
75°	442.0	386.8	370.8	407.9	413.9	474.0	577.2	516.1	440.9	408.9	392.8
77.5°	334.7	295.6	311.7	344.7	332.7	389.8	475.0	460.0	397.9	368.8	360.8
80°	235.5	215.5	247.5	267.6	258.6	331.7	427.9	393.8	327.7	295.6	289.6
82.5°	148.3	144.3	182.4	185.4	188.4	262.6	351.8	309.7	254.5	209.5	194.4
85°	74.2	82.2	109.2	109.2	108.2	135.3	200.4	174.4	137.3	109.2	106.2
87.5°	25.1	35.1	47.1	38.1	29.1	23.0	26.1	32.1	34.1	33.1	33.1
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**

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			

REPORT NUMBER: SP1-2408-195-9

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 2.32**

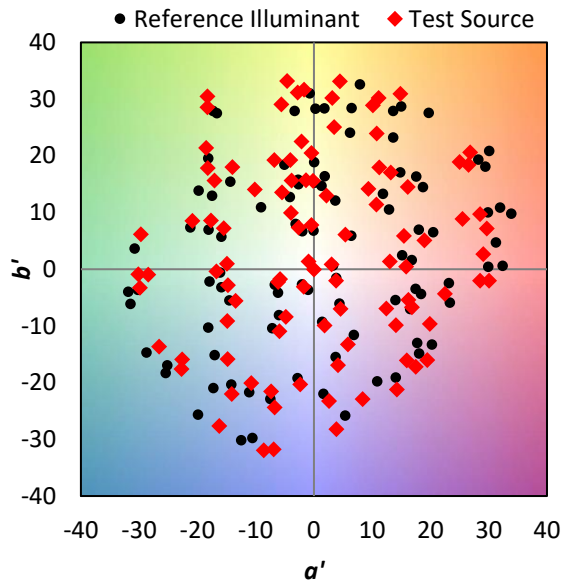
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	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**



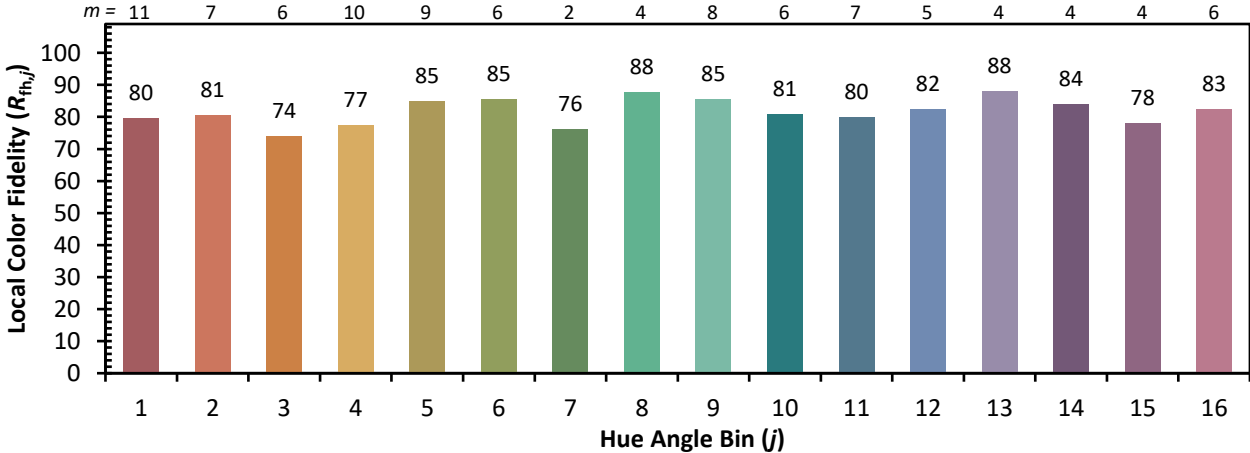


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)