

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: P635012

Luminaire Tested: GWS-SA3C-830-U-SL4-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635012  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-36)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3C-830-U-SL4-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

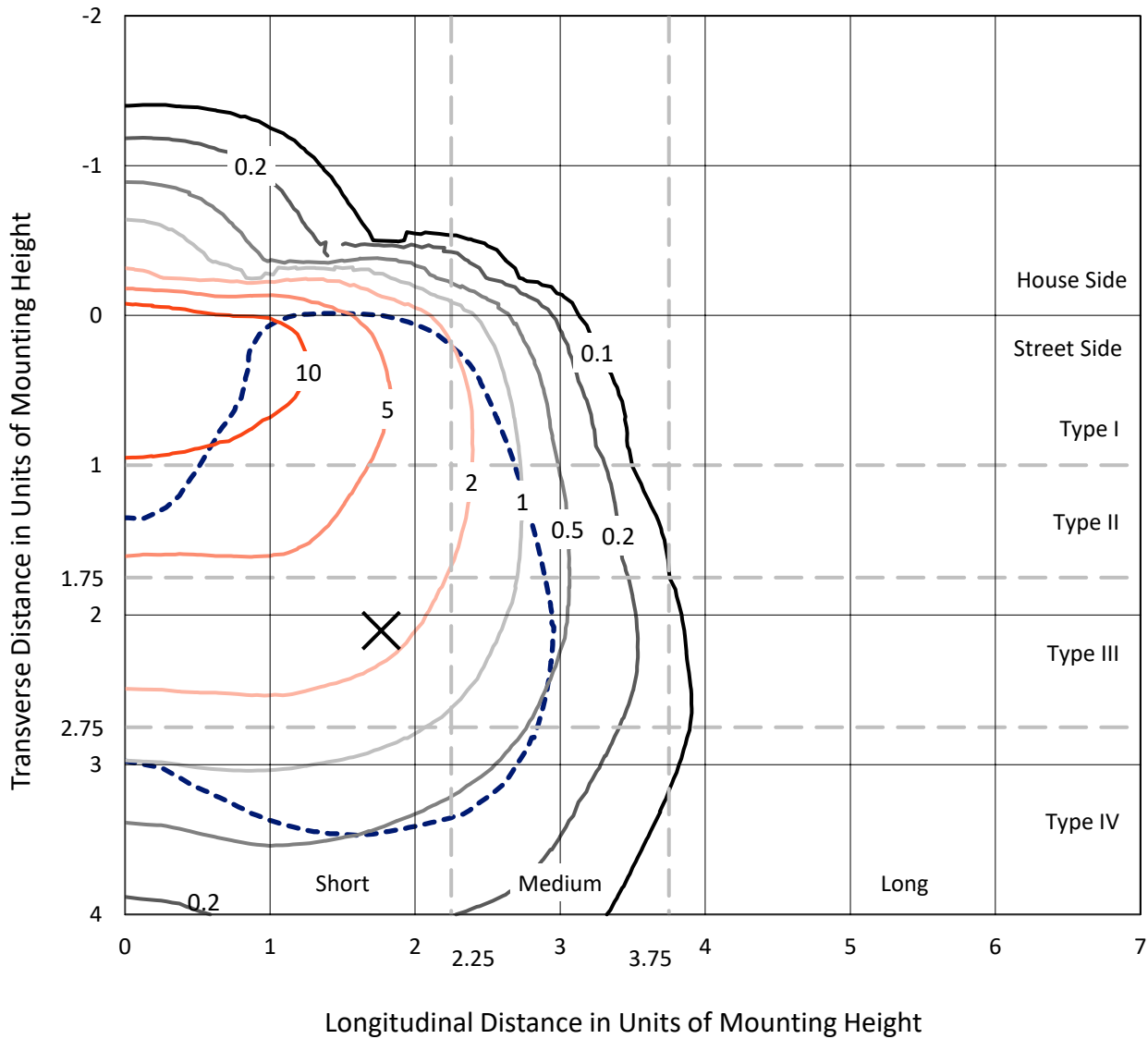
Lumens per Lamp: N/A  
Luminaire Lumens: 8731.1 lumens  
Efficiency: N/A  
Efficacy: 93.9 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 93  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P635012  
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### Iso-Footcandle Lines of Horizontal Illumination

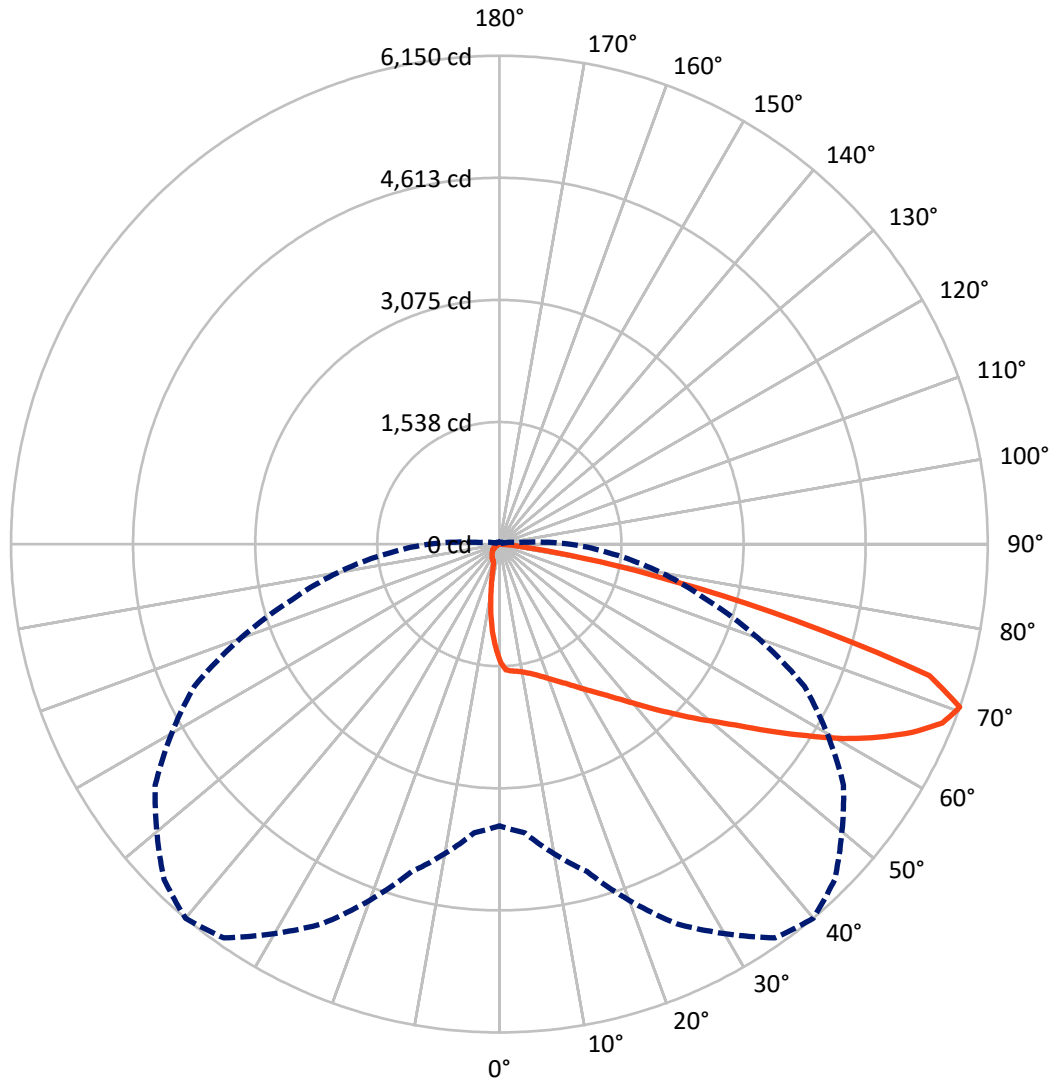
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.1 fc  
 Type IV - Short - N/A

REPORT NUMBER: P635012  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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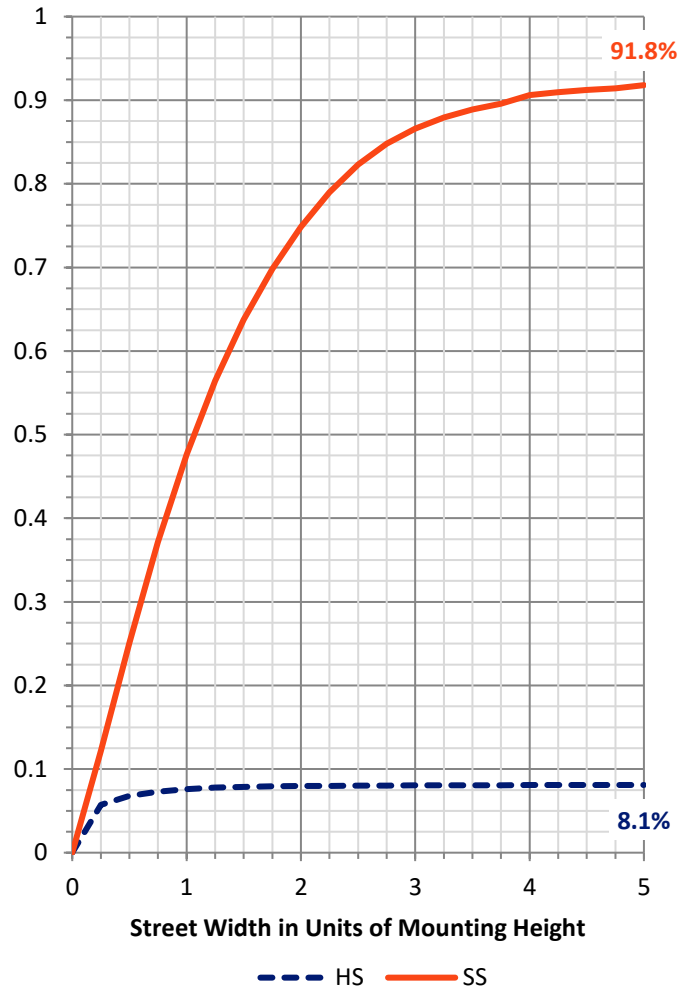
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	714.0	0.0	714.0
	% Fixture	8.2	0.0	8.2
<b>Street Side</b>	Lumens	8017.1	0.0	8017.1
	% Fixture	91.8	0.0	91.8
<b>Total</b>	Lumens	8731.1	0.0	8731.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.2	1.4
10°-20°	317.6	3.6
20°-30°	531.5	6.1
30°-40°	834.9	9.6
40°-50°	1320.5	15.1
50°-60°	1926.3	22.1
60°-70°	2388.0	27.4
70°-80°	1208.2	13.8
80°-90°	78.9	0.9
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°	8731.1	100.0
0°-180°	8731.1	100.0

**Coefficient of Utilization**



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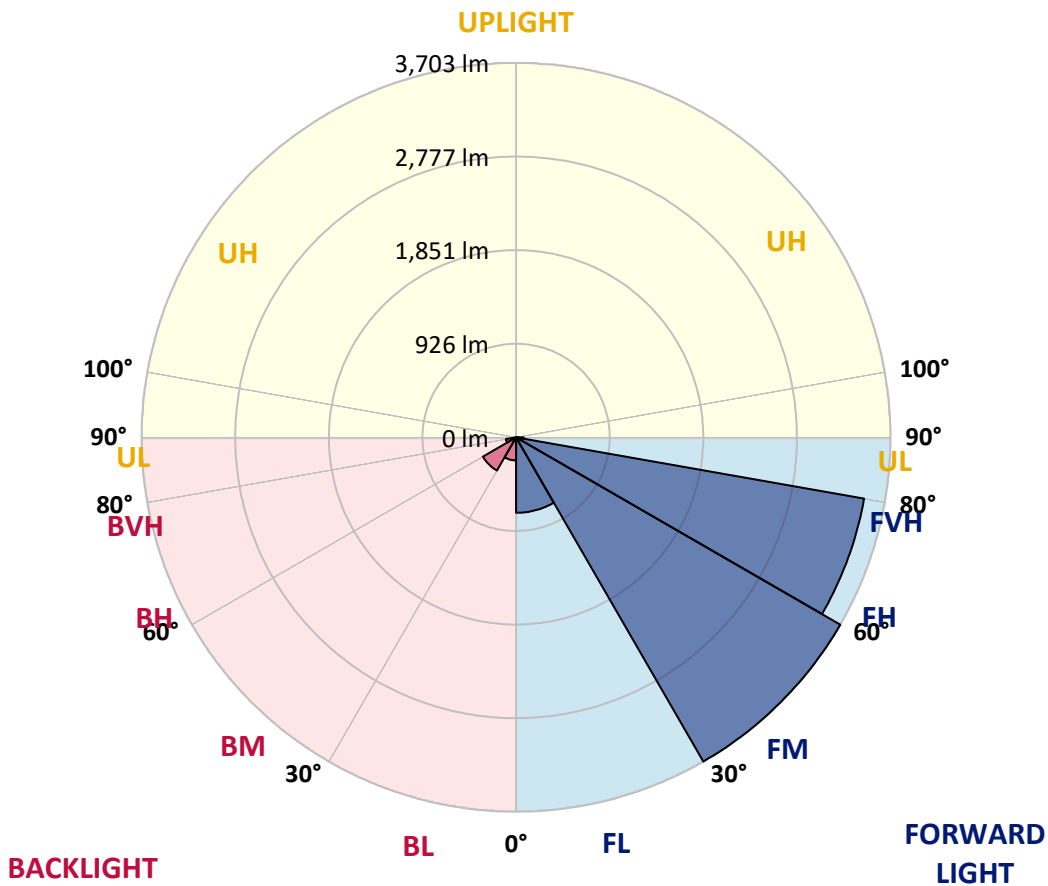
CATALOG NUMBER: GWS-SA3C-830-U-SL4-W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	746.4	8.5			
FM (30°-60°)	3702.8	42.4			
FH (60°-80°)	3494.3	40.0			G2/5000
FVH (80°-90°)	73.7	0.8			G1/100
BL (0°-30°)	228.0	2.6	B1/500		
BM (30°-60°)	379.0	4.3	B1/1000		
BH (60°-80°)	101.8	1.2	B0/110		G0/110
BVH (80°-90°)	5.2	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-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
0°	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6
2.5°	1592.8	1598.3	1597.5	1599.9	1594.4	1585.6	1584.0	1572.1	1550.7	1523.7	1493.5
5°	1625.4	1631.7	1626.9	1624.6	1614.2	1604.7	1602.3	1589.6	1565.0	1528.4	1476.0
7.5°	1653.2	1654.7	1651.6	1646.0	1630.9	1618.2	1609.5	1592.0	1562.6	1526.0	1465.7
10°	1657.9	1657.1	1658.7	1659.5	1650.0	1638.9	1631.7	1607.9	1570.5	1531.6	1466.5
12.5°	1652.4	1652.4	1662.7	1674.6	1674.6	1669.0	1661.9	1640.4	1596.8	1550.7	1482.4
15°	1659.5	1661.9	1681.8	1704.0	1711.1	1705.6	1702.4	1680.2	1634.9	1584.0	1511.0
17.5°	1684.9	1687.3	1719.1	1752.5	1761.2	1754.8	1748.5	1726.2	1677.8	1622.2	1543.5
20°	1722.3	1728.6	1769.1	1812.0	1820.0	1812.0	1799.3	1768.3	1719.9	1663.5	1574.5
22.5°	1790.6	1794.6	1838.3	1883.5	1887.5	1874.8	1855.7	1812.8	1762.0	1707.2	1609.5
25°	1881.1	1886.7	1930.4	1974.1	1963.8	1944.7	1918.5	1870.0	1812.0	1758.8	1653.9
27.5°	1989.2	1995.5	2038.4	2076.6	2049.6	2027.3	1997.9	1937.6	1878.8	1830.3	1711.1
30°	2106.0	2111.5	2149.7	2183.8	2148.1	2121.9	2086.9	2024.9	1965.4	1928.8	1792.2
32.5°	2218.8	2218.0	2254.5	2282.3	2245.8	2225.1	2193.3	2130.6	2082.9	2067.0	1912.9
35°	2323.6	2323.6	2353.8	2381.6	2355.4	2344.3	2314.9	2264.8	2237.8	2256.9	2074.2
37.5°	2429.3	2423.7	2452.3	2483.3	2480.9	2481.7	2465.0	2441.2	2442.8	2510.3	2295.8
40°	2516.7	2514.3	2547.7	2588.2	2619.9	2645.4	2635.0	2643.8	2693.8	2820.1	2579.4
42.5°	2586.6	2592.1	2635.0	2699.4	2779.6	2831.3	2838.4	2874.2	3002.8	3198.3	2899.6
45°	2666.8	2667.6	2727.2	2825.7	2953.6	3035.4	3064.0	3156.2	3338.9	3590.7	3250.7
47.5°	2765.3	2755.8	2822.5	2960.7	3145.8	3266.6	3317.4	3432.6	3715.4	3973.6	3536.7
50°	2874.2	2856.7	2932.1	3120.4	3361.1	3512.1	3615.3	3783.7	4088.8	4288.2	3749.6
52.5°	3000.5	2983.8	3069.6	3303.9	3619.3	3802.8	3935.5	4105.5	4408.9	4528.1	3876.7
55°	3160.9	3144.3	3234.8	3524.0	3924.4	4162.7	4301.7	4444.7	4706.8	4705.3	3968.8
57.5°	3338.9	3315.8	3441.4	3802.0	4304.9	4552.7	4694.1	4764.0	4933.2	4842.7	4030.8
60°	3543.0	3522.4	3696.4	4133.3	4744.2	4973.8	5062.7	5034.1	5119.1	4923.7	4009.4
62.5°	3727.3	3717.8	3933.9	4484.4	5162.8	5356.7	5381.3	5256.6	5255.8	4925.3	3864.8
65°	3918.8	3937.1	4258.0	4888.8	5583.9	5714.1	5672.0	5477.4	5310.6	4730.7	3437.4
67.5°	3990.3	4043.5	4471.7	5254.2	5915.9	6017.6	5943.7	5587.8	5082.6	4076.1	2617.6
70°	3548.6	3648.7	4269.9	5274.8	6053.4	6150.3	5973.1	5290.7	4237.3	2700.2	1433.9
72.5°	2698.6	2815.4	3558.1	4319.2	5444.0	5664.9	5362.2	4310.4	2731.2	1182.9	481.4
75°	1510.2	1636.5	2650.1	3252.3	3655.1	3856.8	3745.6	2765.3	1209.9	309.0	143.8
77.5°	510.8	552.9	1232.9	2012.2	2412.6	2231.5	1889.1	1373.5	444.9	117.6	76.3
80°	302.7	318.6	459.2	1001.7	1269.5	1052.6	830.9	507.6	226.4	62.8	53.2
82.5°	90.6	107.2	253.4	371.8	497.3	309.8	262.2	290.0	117.6	34.2	44.5
85°	0.0	0.0	54.0	115.2	130.3	50.8	50.8	164.4	21.4	14.3	32.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	4.0	2.4	3.2	7.1
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-SA3C-830-U-SL4-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6	1481.6
2.5°	1472.0	1444.2	1411.7	1380.7	1351.3	1313.1	1294.9	1272.6	1253.6	1243.2	1248.8
5°	1442.6	1398.9	1332.2	1264.7	1196.4	1132.0	1074.0	1035.1	1000.2	981.9	985.9
7.5°	1417.2	1358.4	1254.4	1143.9	1034.3	923.9	834.1	764.2	710.2	688.0	684.0
10°	1406.1	1332.2	1185.3	1026.4	858.0	709.4	582.3	505.2	450.4	423.4	428.2
12.5°	1411.7	1318.7	1126.5	911.2	692.7	519.5	398.0	325.7	286.8	270.9	266.9
15°	1427.5	1315.5	1074.0	793.6	534.6	363.0	274.9	245.5	237.5	235.9	235.9
17.5°	1445.8	1316.3	1020.0	674.4	405.9	269.3	235.1	229.6	227.2	225.6	226.4
20°	1464.1	1316.3	958.1	553.7	305.1	232.8	224.0	220.0	217.7	216.9	216.9
22.5°	1486.3	1316.3	888.9	441.7	244.7	220.8	213.7	211.3	208.9	208.1	207.3
25°	1513.3	1317.1	812.7	345.6	222.4	210.5	205.0	202.6	200.2	198.6	198.6
27.5°	1552.3	1323.5	728.5	269.3	209.7	201.0	196.2	193.8	191.5	189.1	189.1
30°	1608.7	1339.4	633.9	222.4	197.8	190.7	185.9	184.3	181.9	179.5	178.7
32.5°	1692.9	1367.2	536.2	199.4	186.7	179.5	174.0	172.4	170.0	167.6	166.8
35°	1810.4	1418.0	440.9	185.1	172.4	165.2	162.1	161.3	158.1	155.7	155.7
37.5°	1982.8	1500.6	349.5	170.8	160.5	154.9	150.9	149.3	146.2	143.8	143.0
40°	2193.3	1607.9	271.7	159.7	149.3	143.8	139.8	137.4	133.5	130.3	128.7
42.5°	2461.9	1738.9	214.5	147.8	139.0	133.5	130.3	125.5	120.0	115.2	114.4
45°	2741.5	1874.0	177.2	136.6	129.5	124.7	120.7	114.4	106.5	100.9	99.3
47.5°	2956.0	1958.2	154.9	124.7	119.2	115.2	110.4	102.5	92.9	86.6	85.0
50°	3109.3	1970.9	138.2	113.6	110.4	106.5	99.3	89.8	79.4	73.1	71.5
52.5°	3184.8	1913.7	124.7	103.3	100.9	96.9	88.2	77.9	66.7	60.4	58.8
55°	3218.9	1805.7	112.0	94.5	91.4	86.6	77.1	65.9	54.8	49.3	47.7
57.5°	3205.4	1646.0	100.9	85.8	81.8	76.3	65.9	54.0	45.3	39.7	38.9
60°	3105.3	1422.0	89.8	77.1	72.3	65.9	55.6	44.5	36.5	32.6	31.8
62.5°	2889.2	1143.9	78.6	66.7	63.6	57.2	47.7	36.5	30.2	27.8	27.0
65°	2446.8	808.7	67.5	56.4	54.8	48.5	39.7	30.2	26.2	24.6	23.8
67.5°	1758.8	491.7	57.2	48.5	46.9	41.3	33.4	26.2	23.8	23.0	23.0
70°	884.2	232.8	45.3	39.7	39.7	34.2	28.6	23.8	23.0	22.2	22.2
72.5°	300.3	99.3	34.2	31.0	32.6	29.4	24.6	22.2	22.2	22.2	22.2
75°	102.5	52.4	23.8	22.2	23.8	23.8	21.4	21.4	22.2	22.2	22.2
77.5°	66.7	35.0	16.7	15.1	18.3	18.3	18.3	19.9	21.4	21.4	21.4
80°	54.8	19.1	11.1	10.3	13.5	13.5	15.1	18.3	19.9	19.9	19.9
82.5°	46.9	11.9	6.4	7.1	9.5	10.3	12.7	15.1	17.5	18.3	18.3
85°	31.8	6.4	4.8	5.6	6.4	7.9	10.3	12.7	14.3	15.9	15.9
87.5°	8.7	2.4	3.2	4.0	4.0	5.6	7.9	9.5	11.1	11.9	11.9
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**

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			

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 2.32**

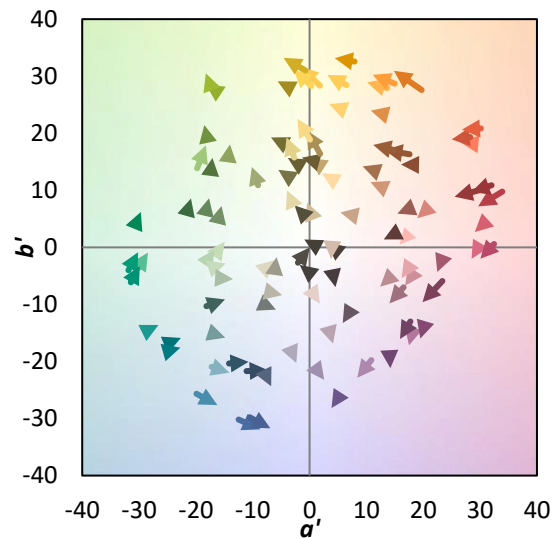
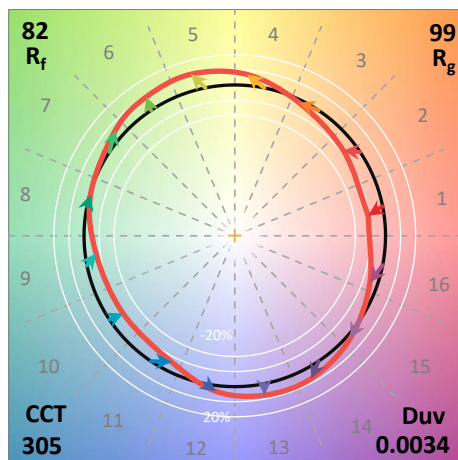
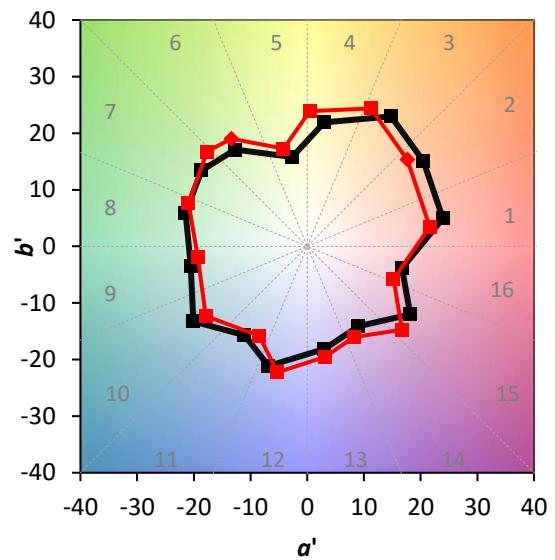
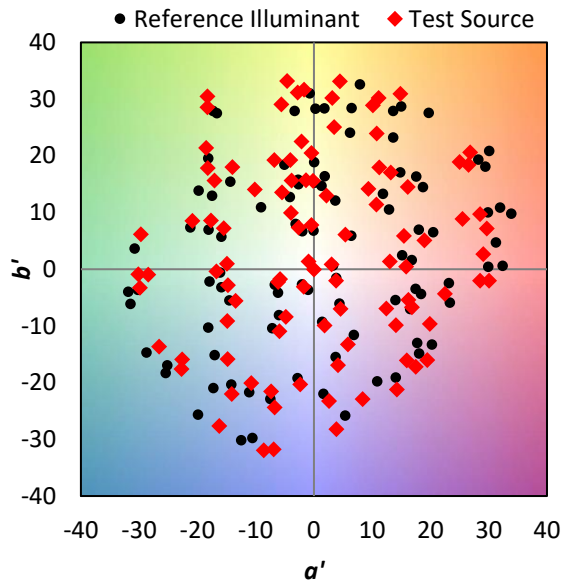
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625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



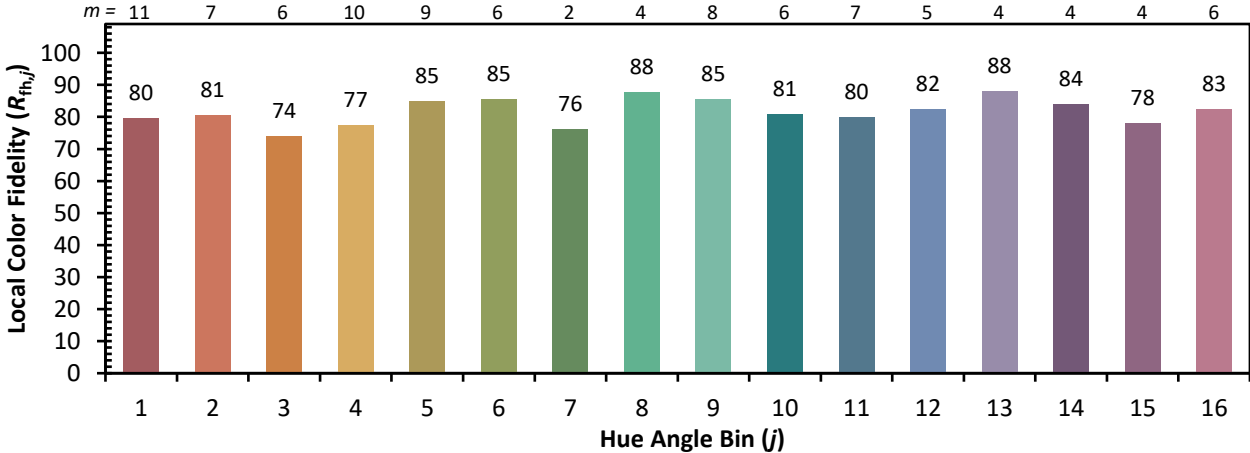


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)