

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: P633552

Luminaire Tested: GWS-SA2E-830-U-T3R-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633552  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2E-830-U-T3R-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

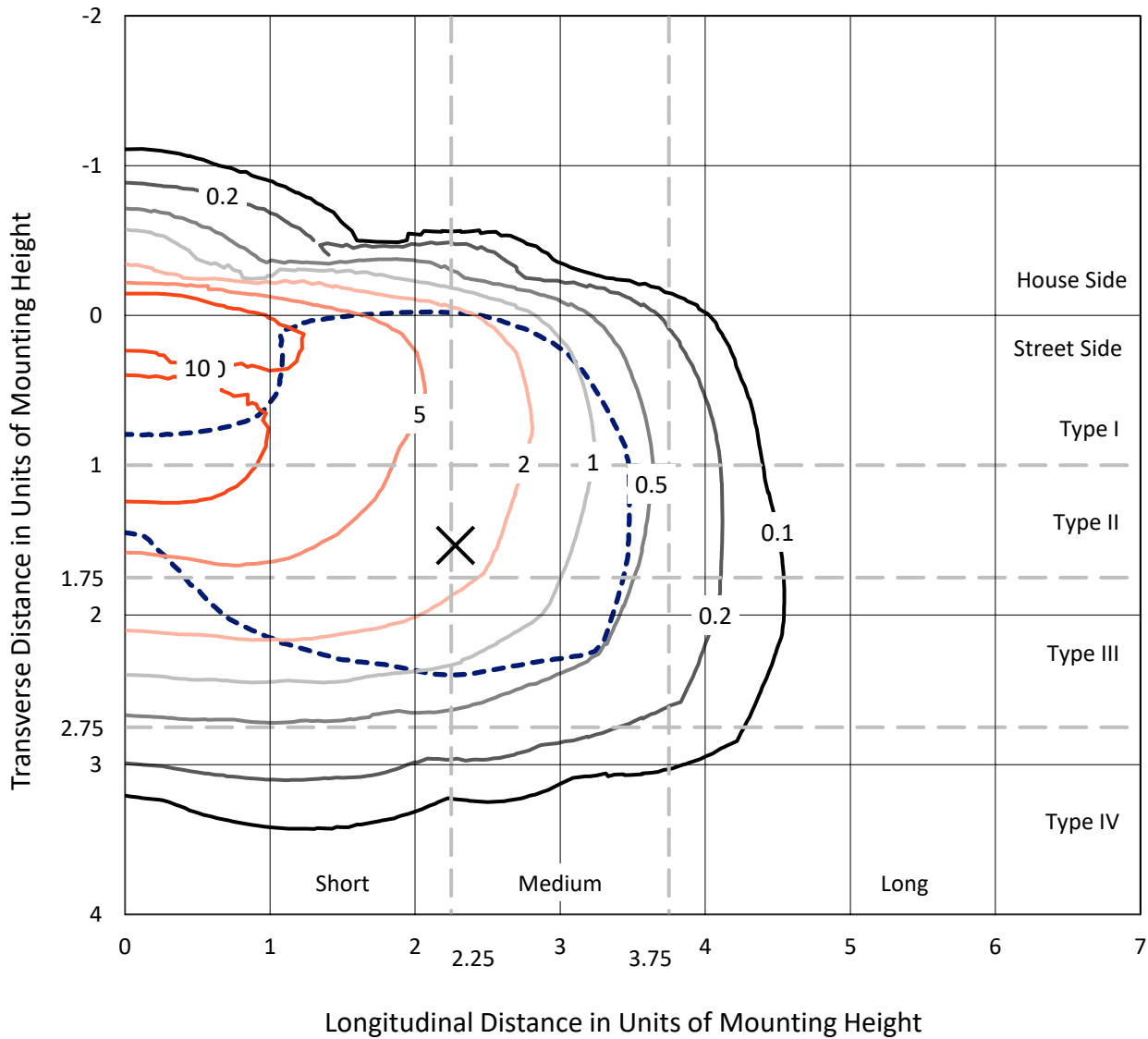
Lumens per Lamp: N/A  
Luminaire Lumens: 9073.7 lumens  
Efficiency: N/A  
Efficacy: 83.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 108.2  
Input Voltage (V): 120  
Input Current (Ain): 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



REPORT NUMBER: P633552  
 CATALOG NUMBER: GWS-SA2E-830-U-T3R-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

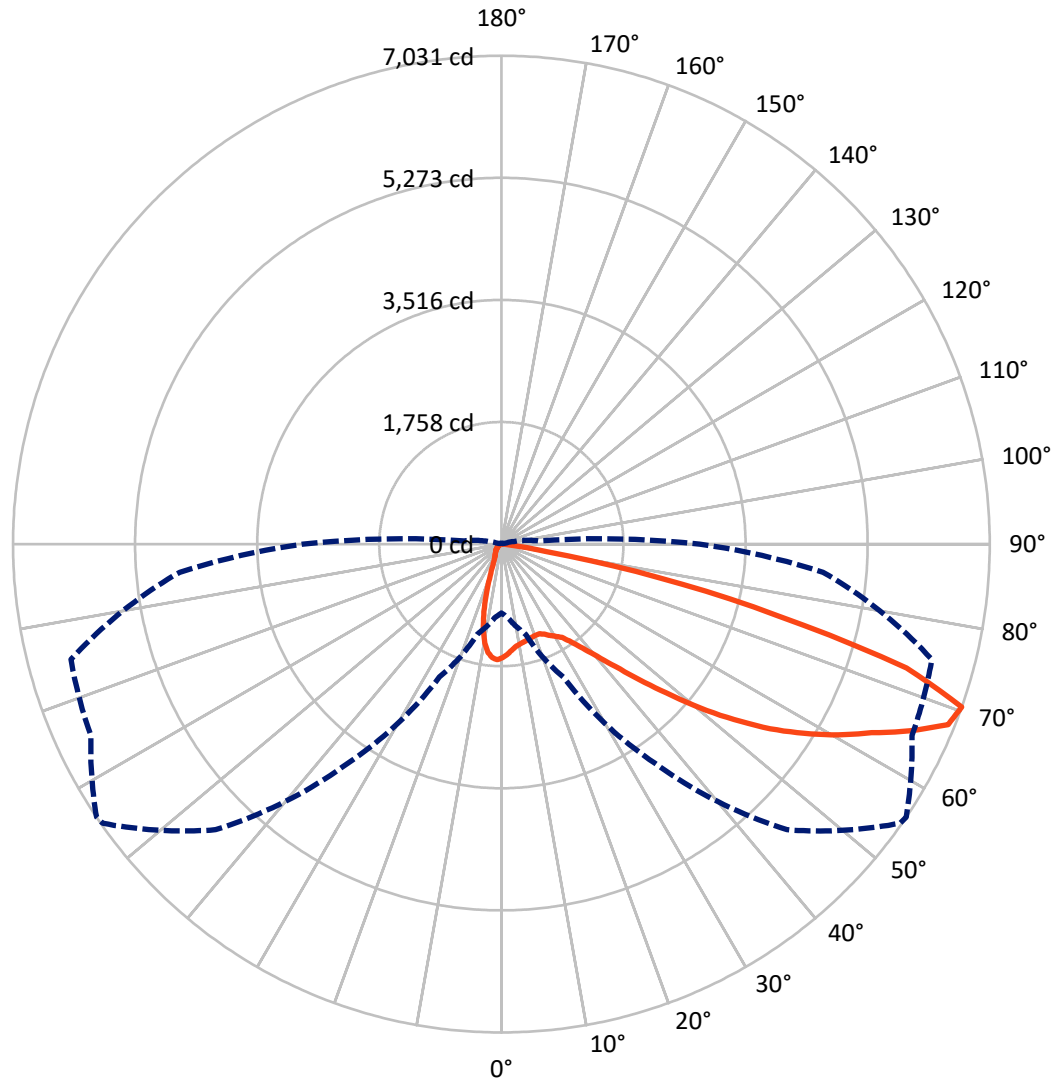
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.2 fc  
 Type III - Medium - N/A

REPORT NUMBER: P633552  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 56-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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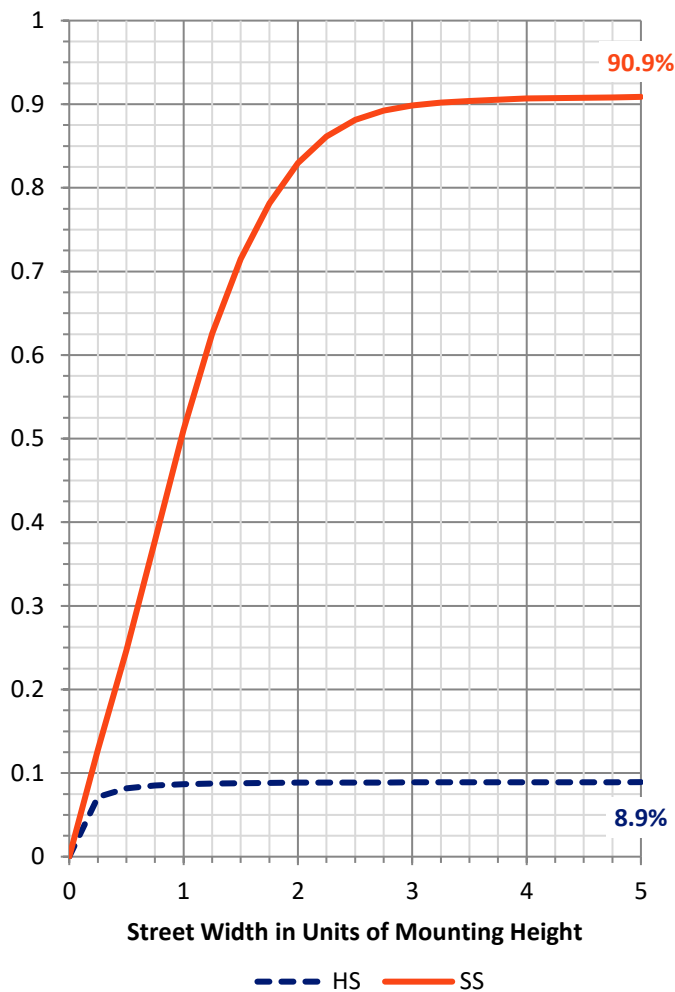
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	815.0	0.0	815.0
	% Fixture	9.0	0.0	9.0
<b>Street Side</b>	Lumens	8258.7	0.0	8258.7
	% Fixture	91.0	0.0	91.0
<b>Total</b>	Lumens	9073.7	0.0	9073.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.5	1.5
10°-20°	315.9	3.5
20°-30°	500.4	5.5
30°-40°	863.0	9.5
40°-50°	1457.3	16.1
50°-60°	2141.3	23.6
60°-70°	2538.6	28.0
70°-80°	1082.6	11.9
80°-90°	34.0	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°	9073.7	100.0
0°-180°	9073.7	100.0

**Coefficient of Utilization**



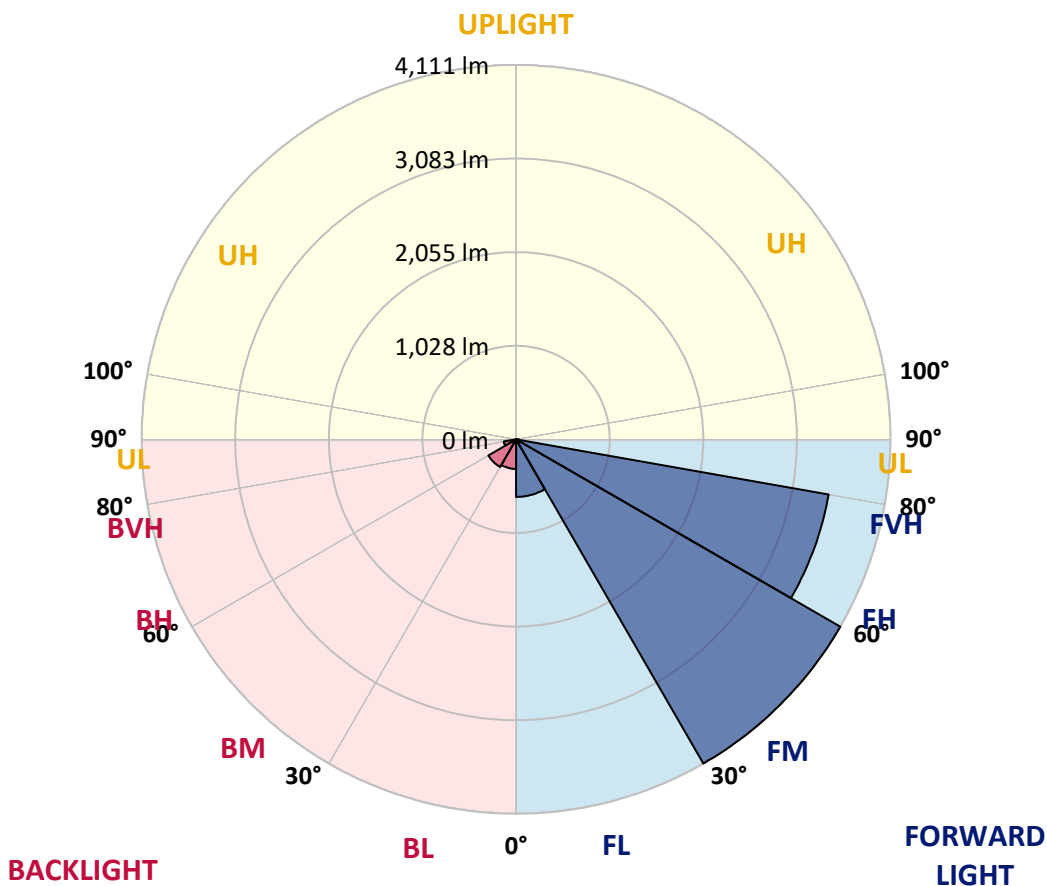
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	632.3	7.0			
FM (30°-60°)	4110.6	45.3			
FH (60°-80°)	3485.3	38.4			G2/5000
FVH (80°-90°)	30.5	0.3			G1/100
BL (0°-30°)	324.6	3.6	B1/500		
BM (30°-60°)	351.0	3.9	B1/1000		
BH (60°-80°)	135.9	1.5	B1/500		G1/500
BVH (80°-90°)	3.5	0.0			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 III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	56°	65°	75°	85°
0°	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1
2.5°	1523.1	1520.6	1522.2	1534.7	1558.0	1568.8	1587.1	1590.4	1605.3	1624.4	1631.9
5°	1424.2	1415.9	1420.0	1437.5	1464.1	1494.0	1528.1	1537.2	1574.6	1617.0	1648.5
7.5°	1333.6	1324.5	1334.5	1361.9	1399.3	1431.7	1482.4	1488.2	1548.0	1622.8	1680.1
10°	1191.5	1194.0	1214.0	1262.2	1319.5	1386.8	1454.9	1463.2	1537.2	1641.9	1730.8
12.5°	1082.7	1076.9	1098.5	1153.3	1233.9	1332.0	1434.2	1445.0	1538.0	1671.0	1795.6
15°	1032.0	1030.3	1039.5	1079.4	1157.5	1273.0	1415.1	1429.2	1548.8	1697.6	1857.1
17.5°	1033.7	1031.2	1030.3	1053.6	1111.8	1228.9	1394.3	1412.6	1558.0	1726.6	1921.9
20°	1106.0	1094.3	1073.5	1062.7	1097.6	1200.7	1380.2	1400.9	1571.3	1757.4	1990.9
22.5°	1257.2	1261.3	1205.7	1147.5	1130.9	1204.0	1378.5	1402.6	1600.3	1805.6	2075.6
25°	1559.6	1553.0	1450.0	1319.5	1228.9	1242.2	1407.6	1436.7	1657.7	1874.6	2155.4
27.5°	1938.5	1944.4	1803.1	1595.4	1405.9	1321.2	1460.8	1489.8	1724.2	1917.8	2208.6
30°	2351.5	2345.7	2194.5	1964.3	1656.9	1452.4	1513.9	1539.7	1757.4	1941.0	2263.4
32.5°	2742.0	2728.7	2579.2	2338.2	1976.8	1659.3	1587.1	1602.0	1801.4	1991.7	2337.4
35°	3075.2	3074.4	2943.9	2687.2	2305.8	1918.6	1712.5	1725.0	1883.7	2072.3	2446.2
37.5°	3419.2	3407.6	3261.4	3027.0	2644.0	2202.8	1904.5	1899.5	2013.3	2191.1	2580.0
40°	3701.7	3694.3	3582.1	3356.9	2995.5	2516.9	2137.1	2122.2	2167.0	2355.7	2766.1
42.5°	3911.1	3912.0	3877.1	3740.0	3367.7	2880.0	2429.6	2406.3	2405.5	2604.1	3012.1
45°	4069.8	4080.6	4133.0	4112.2	3807.3	3302.9	2804.4	2780.3	2739.5	2926.5	3293.8
47.5°	4143.8	4157.9	4315.8	4398.9	4192.0	3722.5	3250.6	3199.9	3120.1	3355.3	3608.7
50°	4136.3	4161.2	4381.4	4634.0	4541.0	4147.9	3736.6	3712.5	3582.1	3808.9	3920.3
52.5°	3966.8	4020.0	4385.6	4777.0	4809.4	4540.1	4239.3	4194.5	4131.3	4282.6	4212.8
55°	3506.5	3571.3	4210.3	4822.7	5018.8	4882.5	4731.3	4694.7	4590.0	4729.6	4467.9
57.5°	3256.4	3312.0	3841.3	4800.2	5196.6	5199.1	5169.1	5139.2	5052.8	5171.6	4767.0
60°	3106.0	3161.6	3644.4	4718.0	5357.8	5533.1	5580.5	5577.1	5452.5	5674.3	5117.6
62.5°	2885.8	2962.2	3439.2	4504.4	5472.4	5862.1	6005.1	5982.6	5843.9	6197.8	5465.0
65°	2441.2	2507.7	3018.7	4152.1	5405.1	6134.7	6465.4	6477.0	6316.6	6690.6	5739.2
67.5°	1711.7	1760.7	2268.4	3412.6	4948.1	6224.4	6936.5	6935.7	6662.3	6943.2	5617.8
70°	992.1	1059.4	1340.3	2109.7	3849.6	5816.4	7007.1	7031.2	6521.9	6415.5	4649.0
72.5°	383.9	439.6	759.5	1120.9	2007.5	4455.4	6027.5	6098.1	5458.3	4949.0	3235.6
75°	114.7	128.0	357.3	596.6	806.0	2152.1	4080.6	4100.6	3744.1	3086.9	1658.5
77.5°	85.6	94.7	156.2	301.6	282.5	652.3	2111.4	2305.8	1987.6	1102.6	457.0
80°	58.2	69.0	111.3	147.1	104.7	173.7	593.3	651.4	606.6	247.6	114.7
82.5°	25.8	33.2	78.9	74.0	38.2	49.9	182.8	194.4	125.5	74.8	39.9
85°	2.5	3.3	29.9	32.4	14.1	11.6	38.2	38.2	27.4	25.8	16.6
87.5°	0.0	0.0	0.8	1.7	1.7	2.5	3.3	4.2	5.0	6.6	8.3
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: P633552

CATALOG NUMBER: GWS-SA2E-830-U-T3R-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1
2.5°	1651.0	1641.1	1653.5	1663.5	1666.0	1647.7	1636.9	1621.1	1617.8	1618.6	1614.5
5°	1673.5	1668.5	1677.6	1666.8	1638.6	1585.4	1539.7	1489.0	1461.6	1445.8	1444.1
7.5°	1715.0	1712.5	1702.6	1653.5	1565.5	1447.5	1333.6	1222.3	1153.3	1128.4	1124.2
10°	1776.5	1771.5	1730.8	1614.5	1426.7	1199.8	1008.7	849.2	752.0	723.7	688.8
12.5°	1847.1	1837.2	1748.3	1530.6	1217.3	903.2	664.7	486.1	402.2	377.2	377.2
15°	1915.3	1893.7	1738.3	1391.8	959.7	587.5	371.4	280.9	255.1	248.4	248.4
17.5°	1985.1	1943.5	1699.2	1202.3	663.1	347.3	247.6	230.2	226.8	227.7	228.5
20°	2050.7	1985.9	1630.3	974.7	422.9	242.6	221.9	217.7	216.0	217.7	216.9
22.5°	2122.2	2024.9	1525.6	726.2	275.0	218.5	211.1	207.7	206.1	208.6	208.6
25°	2192.8	2053.2	1386.8	488.6	218.5	203.6	199.4	196.1	194.4	195.3	195.3
27.5°	2229.4	2042.4	1204.8	311.6	196.1	188.6	184.5	180.3	177.8	177.0	177.8
30°	2254.3	2009.2	982.1	221.9	177.8	168.7	164.5	161.2	154.6	150.4	152.1
32.5°	2293.3	1975.9	740.3	186.1	162.9	148.7	142.1	133.8	124.6	120.5	120.5
35°	2339.9	1930.2	519.3	167.8	147.1	132.1	119.7	105.5	94.7	91.4	91.4
37.5°	2401.4	1887.0	345.7	155.4	133.8	118.0	100.5	83.9	72.3	70.6	69.8
40°	2493.6	1850.5	243.5	146.2	122.1	103.0	82.3	64.8	56.5	54.0	54.0
42.5°	2613.2	1813.1	192.8	137.1	112.2	88.9	65.6	51.5	44.9	43.2	42.4
45°	2761.1	1769.0	167.8	128.8	102.2	74.0	52.3	43.2	38.2	36.6	36.6
47.5°	2921.5	1709.2	156.2	118.0	90.6	59.8	44.0	37.4	34.9	34.1	33.2
50°	3079.4	1628.6	146.2	108.0	77.3	49.0	38.2	34.1	32.4	31.6	31.6
52.5°	3217.3	1534.7	133.8	96.4	63.1	42.4	34.1	31.6	29.9	28.3	27.4
55°	3335.3	1432.5	118.0	83.1	51.5	37.4	31.6	29.1	27.4	25.8	24.9
57.5°	3487.4	1374.3	94.7	67.3	42.4	33.2	29.1	26.6	24.9	22.4	22.4
60°	3656.0	1332.0	70.6	53.2	36.6	30.7	26.6	24.1	22.4	19.9	19.9
62.5°	3791.5	1268.8	55.7	43.2	31.6	27.4	24.1	21.6	19.9	17.4	17.4
65°	3843.0	1138.4	45.7	34.1	25.8	24.1	21.6	19.9	17.4	15.0	15.0
67.5°	3610.3	877.5	38.2	27.4	21.6	20.8	19.1	18.3	15.0	13.3	12.5
70°	2859.2	535.1	31.6	22.4	18.3	17.4	17.4	15.8	13.3	12.5	11.6
72.5°	1959.3	275.9	25.8	18.3	15.8	15.8	15.0	14.1	12.5	11.6	11.6
75°	1017.9	92.2	19.9	14.1	12.5	13.3	13.3	12.5	11.6	11.6	10.8
77.5°	291.7	41.5	15.0	10.8	10.0	10.0	10.8	10.8	10.8	10.0	10.0
80°	75.6	24.1	10.8	8.3	8.3	8.3	8.3	9.1	10.0	9.1	9.1
82.5°	30.7	13.3	7.5	6.6	6.6	6.6	6.6	7.5	8.3	8.3	8.3
85°	19.1	6.6	5.8	5.8	5.8	5.0	5.0	5.8	5.8	6.6	6.6
87.5°	11.6	5.0	5.0	5.0	5.0	4.2	4.2	4.2	4.2	4.2	4.2
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**

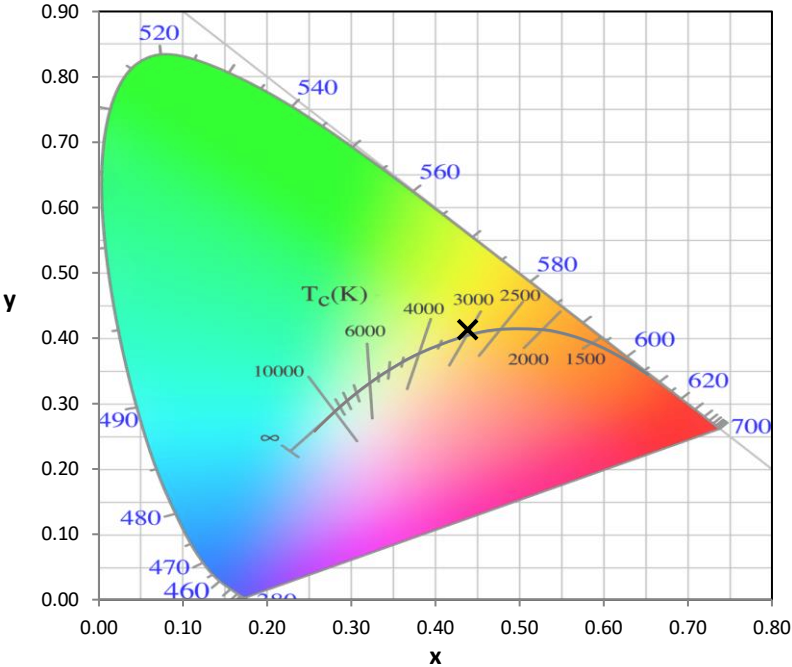
Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

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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			

REPORT NUMBER: SP1-2408-195-9

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.27**

$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	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**

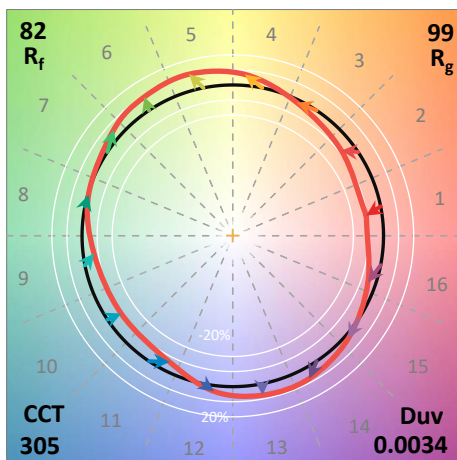
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625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