

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: P637484

Luminaire Tested: GWS-SA4C-830-U-SL3-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P637484  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-33)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA4C-830-U-SL3-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH  
Light Source: (64) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

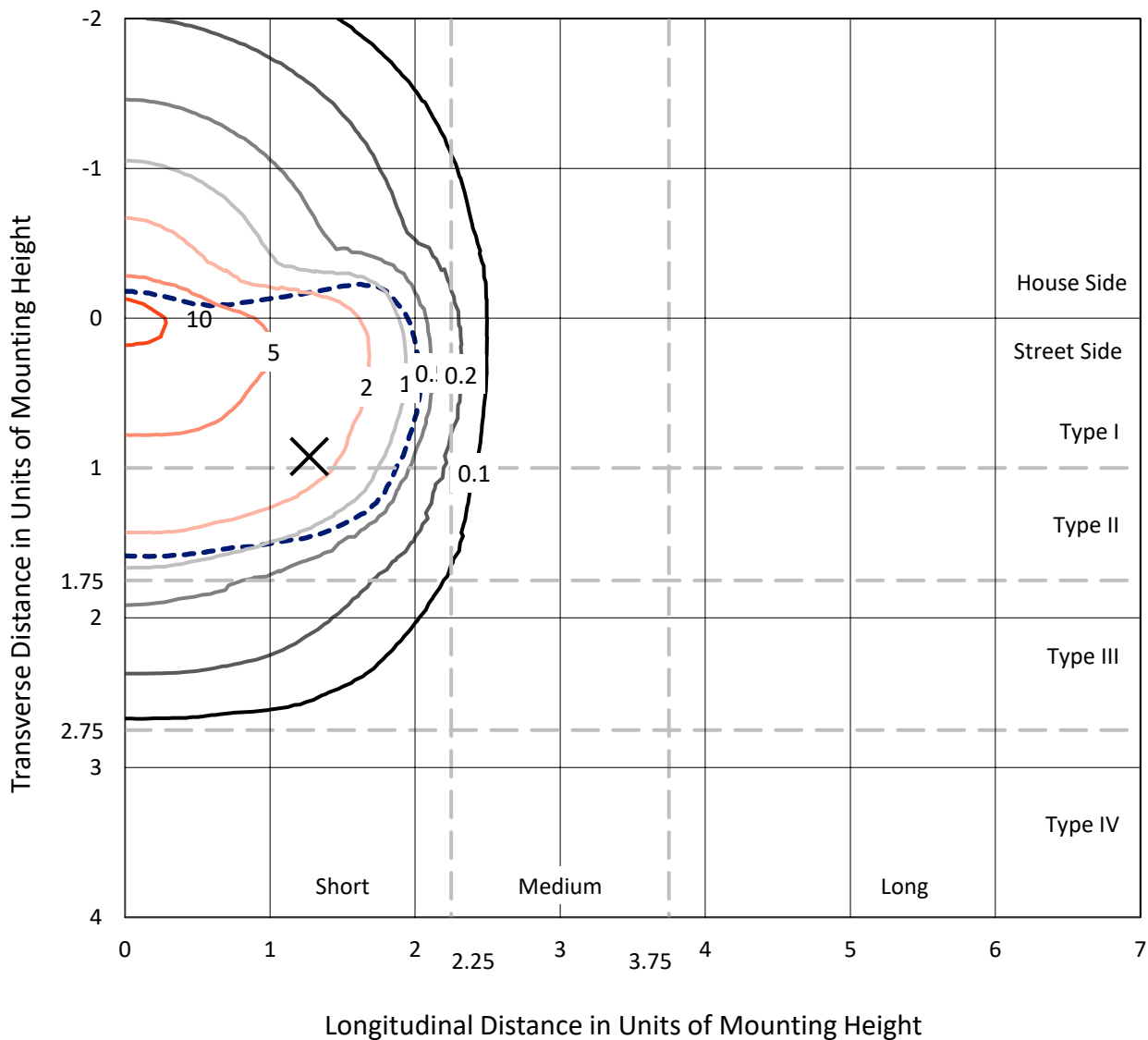
Lumens per Lamp: N/A  
Luminaire Lumens: 12913.8 lumens  
Efficiency: N/A  
Efficacy: 100.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G2  
  
Input Watts (W): 128.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P637484  
 CATALOG NUMBER: GWS-SA4C-830-U-SL3-W-GRSWH

### Iso-Footcandle Lines of Horizontal Illumination

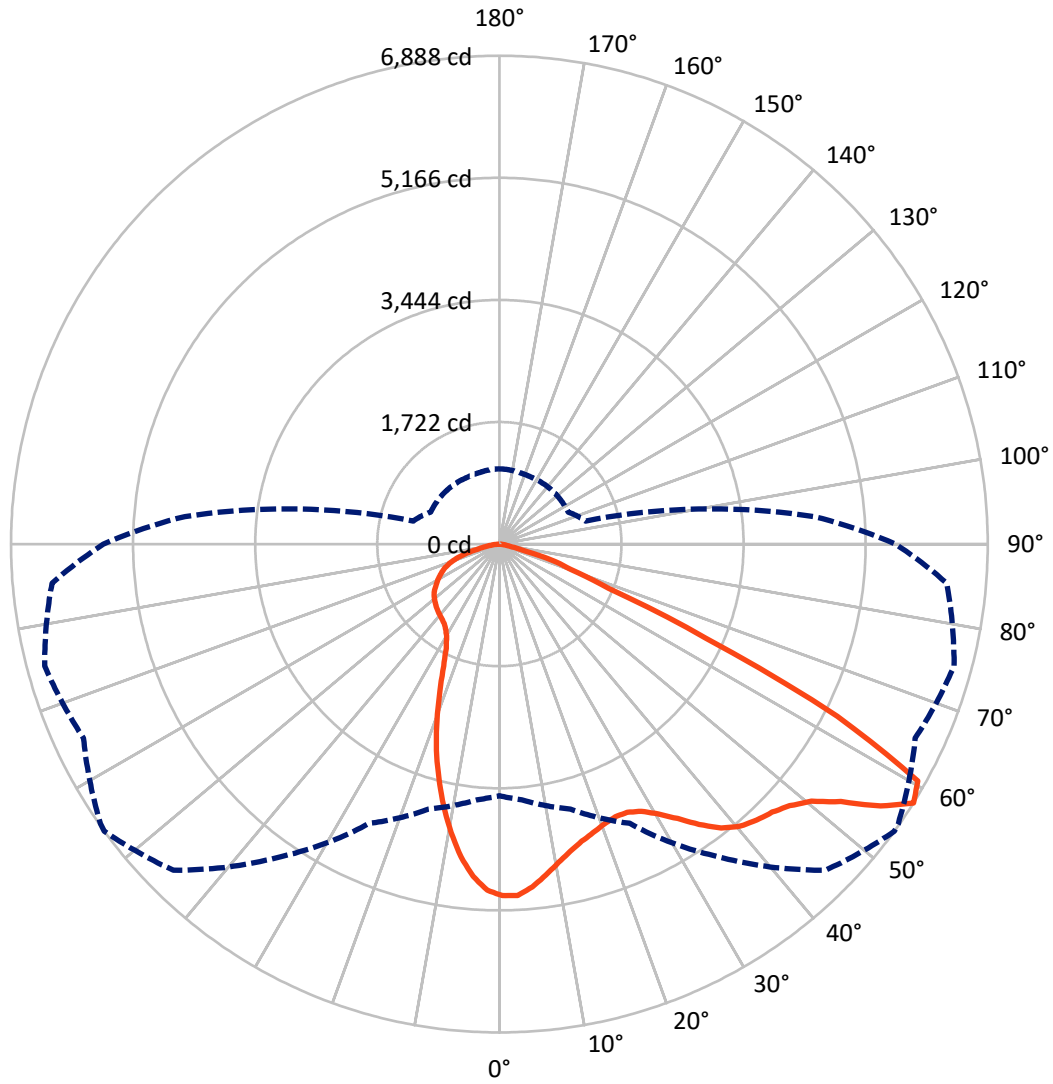
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 12.4 fc  
 Type II - Short - N/A

REPORT NUMBER: P637484  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 54-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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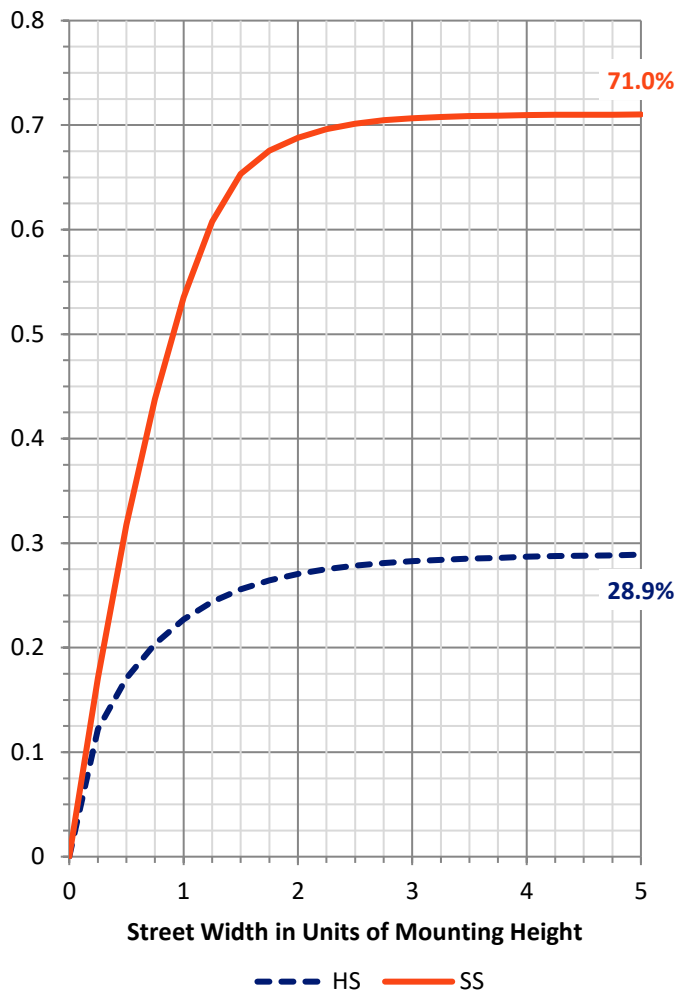
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3754.2	0.0	3754.2
	% Fixture	29.1	0.0	29.1
<b>Street Side</b>	Lumens	9159.6	0.0	9159.6
	% Fixture	70.9	0.0	70.9
<b>Total</b>	Lumens	12913.8	0.0	12913.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	435.8	3.4
10°-20°	1039.9	8.1
20°-30°	1439.0	11.1
30°-40°	1999.5	15.5
40°-50°	2640.8	20.4
50°-60°	3138.1	24.3
60°-70°	1738.6	13.5
70°-80°	432.9	3.4
80°-90°	49.2	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°	12913.8	100.0
0°-180°	12913.8	100.0

**Coefficient of Utilization**



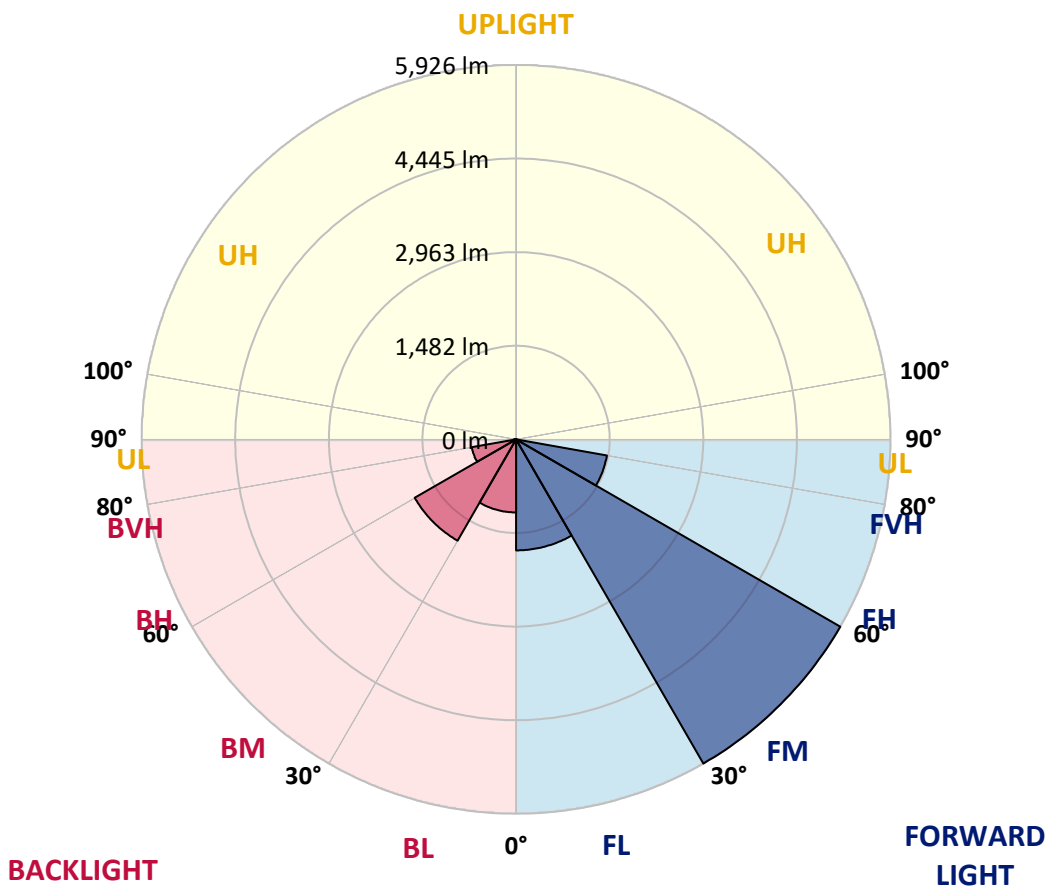
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1757.8	13.6			
FM (30°-60°)	5926.4	45.9			
FH (60°-80°)	1460.1	11.3			G1/1800
FVH (80°-90°)	15.4	0.1			G1/100
BL (0°-30°)	1156.9	9.0	B3/2500		
BM (30°-60°)	1852.0	14.3	B2/2500		
BH (60°-80°)	711.4	5.5	B2/1000		G2/1000
BVH (80°-90°)	33.8	0.3			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°	54°	55°	65°	75°	85°
0°	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9
2.5°	4865.0	4875.0	4881.6	4904.8	4924.7	4942.4	4961.2	4961.2	4960.1	4956.8	4950.2
5°	4672.7	4683.8	4699.2	4731.3	4774.4	4805.4	4856.2	4860.6	4882.7	4891.6	4887.2
7.5°	4449.4	4452.7	4472.6	4514.6	4583.2	4638.4	4711.4	4720.2	4773.3	4804.2	4798.7
10°	4205.1	4194.0	4229.4	4291.3	4380.9	4473.7	4567.7	4575.4	4660.5	4719.1	4714.7
12.5°	3981.8	3982.9	4018.3	4093.4	4205.1	4320.1	4446.1	4463.8	4568.8	4644.0	4636.2
15°	3795.0	3799.4	3842.5	3927.6	4054.8	4191.8	4348.8	4365.4	4498.0	4597.5	4575.4
17.5°	3645.7	3650.2	3687.7	3785.0	3921.0	4086.8	4278.1	4294.6	4459.3	4577.6	4532.3
20°	3542.9	3540.7	3577.2	3670.1	3810.5	3990.6	4216.2	4240.5	4447.2	4585.4	4503.6
22.5°	3500.9	3499.8	3526.4	3602.6	3734.2	3916.6	4178.6	4211.7	4460.5	4619.6	4485.9
25°	3521.9	3517.5	3540.7	3597.1	3702.1	3887.8	4189.6	4225.0	4516.8	4690.4	4489.2
27.5°	3587.2	3581.6	3601.5	3652.4	3732.0	3917.7	4267.0	4307.9	4636.2	4819.7	4533.4
30°	3686.6	3683.3	3703.2	3751.9	3821.5	4017.2	4415.1	4461.6	4820.8	5020.9	4629.6
32.5°	3802.7	3797.2	3832.6	3888.9	3969.6	4198.5	4614.1	4674.9	5039.7	5279.6	4791.0
35°	3933.2	3928.7	3977.4	4059.2	4175.2	4450.5	4855.1	4921.4	5263.0	5572.5	5005.4
37.5°	4060.3	4060.3	4154.2	4275.8	4421.8	4724.7	5081.7	5123.7	5417.8	5832.3	5235.4
40°	4173.0	4179.7	4321.2	4503.6	4689.3	4972.3	5230.9	5266.3	5486.3	6011.4	5435.5
42.5°	4298.0	4303.5	4468.2	4707.0	4928.1	5172.4	5321.6	5339.3	5499.6	6100.9	5576.9
45°	4397.4	4405.2	4609.7	4865.0	5135.9	5322.7	5393.4	5408.9	5518.4	6149.6	5679.8
47.5°	4449.4	4460.5	4694.8	4992.2	5276.3	5457.6	5511.7	5518.4	5595.7	6234.7	5803.6
50°	4440.6	4462.7	4726.9	5055.2	5380.2	5593.5	5701.9	5712.9	5753.8	6359.6	5948.4
52.5°	4519.0	4529.0	4795.4	5130.3	5528.3	5844.5	6032.4	6047.9	6029.1	6453.6	6034.6
55°	4388.6	4436.1	4710.3	5119.3	5753.8	6232.5	6522.1	6514.4	6278.9	6558.6	6178.3
57.5°	3549.6	3619.2	3870.1	4345.5	5382.4	6504.4	6888.0	6869.2	6472.4	6639.3	6334.2
60°	2457.4	2468.4	2695.1	3032.2	4154.2	5746.1	6780.8	6821.7	6507.7	6537.6	6045.7
62.5°	1965.5	1962.2	1983.2	1992.0	2642.0	4039.3	5352.5	5501.8	5406.7	5093.9	4284.7
65°	1678.1	1690.2	1752.1	1720.1	1724.5	2275.0	3198.0	3219.0	3152.7	3040.0	2266.2
67.5°	1313.3	1334.3	1443.7	1568.6	1528.8	1464.7	1659.3	1649.3	1300.0	1006.0	831.3
70°	822.4	835.7	952.9	1231.5	1331.0	1202.7	1066.8	1062.3	696.4	572.6	627.9
72.5°	479.8	482.0	515.1	686.5	883.2	822.4	784.9	756.1	447.7	456.5	500.8
75°	264.2	264.2	263.1	296.3	348.2	308.4	298.5	290.7	299.6	339.4	372.5
77.5°	55.3	56.4	59.7	78.5	101.7	123.8	155.9	157.0	195.7	226.6	253.1
80°	25.4	26.5	33.2	42.0	54.2	71.9	95.1	96.2	118.3	142.6	160.3
82.5°	13.3	14.4	17.7	22.1	28.7	37.6	53.1	53.1	70.7	84.0	95.1
85°	4.4	4.4	6.6	8.8	12.2	15.5	21.0	21.0	31.0	40.9	47.5
87.5°	0.0	0.0	0.0	0.0	1.1	2.2	4.4	4.4	5.5	6.6	11.1
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-SA4C-830-U-SL3-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9	4957.9
2.5°	4935.8	4901.5	4902.6	4909.3	4888.3	4856.2	4835.2	4808.7	4792.1	4788.8	4800.9
5°	4865.0	4825.2	4797.6	4768.9	4709.2	4638.4	4583.2	4537.8	4508.0	4496.9	4483.7
7.5°	4767.8	4715.8	4646.2	4565.5	4457.1	4331.1	4242.7	4159.8	4102.3	4085.7	4078.0
10°	4670.5	4595.3	4471.5	4321.2	4141.0	3970.7	3810.5	3687.7	3590.5	3535.2	3552.9
12.5°	4569.9	4477.0	4283.6	4052.5	3801.6	3545.1	3335.1	3131.7	2974.7	2896.3	2873.0
15°	4481.5	4355.4	4085.7	3772.9	3439.0	3116.2	2812.2	2507.1	2308.2	2199.8	2170.0
17.5°	4406.3	4242.7	3876.8	3487.7	3088.6	2628.7	2255.1	1972.1	1836.1	1776.4	1772.0
20°	4332.2	4132.1	3670.1	3180.4	2684.0	2168.9	1835.0	1702.4	1653.7	1632.7	1631.6
22.5°	4265.9	4016.1	3452.3	2873.0	2281.6	1822.9	1639.4	1581.9	1568.6	1568.6	1566.4
25°	4209.5	3900.0	3229.0	2546.9	1917.9	1622.8	1537.7	1513.3	1518.9	1528.8	1529.9
27.5°	4186.3	3809.3	3013.4	2212.0	1667.0	1506.7	1468.0	1464.7	1480.2	1495.7	1497.9
30°	4210.6	3747.4	2792.3	1891.4	1516.7	1436.0	1418.3	1424.9	1443.7	1459.2	1459.2
32.5°	4285.8	3716.5	2566.8	1657.1	1429.3	1386.2	1380.7	1387.3	1401.7	1410.5	1411.6
35°	4412.9	3728.7	2333.6	1499.0	1373.0	1349.7	1348.6	1353.1	1358.6	1364.1	1365.2
37.5°	4573.2	3782.8	2083.8	1407.2	1336.5	1323.2	1321.0	1319.9	1321.0	1321.0	1322.1
40°	4730.2	3864.6	1860.5	1353.1	1311.1	1300.0	1294.5	1286.7	1285.6	1283.4	1282.3
42.5°	4846.3	3927.6	1682.5	1314.4	1287.8	1274.6	1267.9	1255.8	1254.7	1253.6	1252.5
45°	4933.6	3980.7	1534.4	1276.8	1263.5	1251.4	1237.0	1225.9	1228.1	1230.4	1230.4
47.5°	5032.0	4027.1	1426.0	1241.4	1233.7	1221.5	1203.8	1196.1	1203.8	1211.6	1211.6
50°	5151.4	4092.3	1337.6	1206.0	1202.7	1188.3	1172.9	1169.6	1178.4	1189.5	1189.5
52.5°	5238.7	4148.7	1274.6	1170.7	1170.7	1151.9	1138.6	1137.5	1147.4	1158.5	1159.6
55°	5402.3	4280.3	1252.5	1129.8	1125.3	1111.0	1101.0	1093.3	1105.4	1115.4	1115.4
57.5°	5586.9	4454.9	1258.0	1071.2	1065.6	1061.2	1053.5	1044.6	1048.0	1059.0	1060.1
60°	5195.6	4116.7	1197.2	1012.6	1009.3	1007.1	997.1	981.6	986.1	994.9	996.0
62.5°	3629.2	2736.0	968.4	939.6	950.7	949.6	936.3	918.6	919.7	931.9	931.9
65°	1883.7	1480.2	850.1	873.3	889.9	883.2	861.1	845.7	843.5	858.9	855.6
67.5°	812.5	808.1	773.8	803.7	821.3	807.0	783.8	758.3	760.5	766.1	761.6
70°	654.4	674.3	688.7	720.7	735.1	708.6	683.2	668.8	656.6	655.5	647.8
72.5°	522.9	550.5	582.6	615.7	620.2	593.6	561.6	548.3	529.5	528.4	520.7
75°	393.5	416.8	442.2	468.7	468.7	443.3	422.3	415.6	393.5	386.9	380.3
77.5°	268.6	283.0	302.9	309.5	316.2	306.2	285.2	274.1	248.7	242.1	233.2
80°	169.1	179.1	191.2	195.7	202.3	190.1	173.6	161.4	143.7	138.2	133.8
82.5°	101.7	108.3	116.1	118.3	123.8	115.0	99.5	90.6	80.7	76.3	73.0
85°	52.0	55.3	59.7	60.8	59.7	50.9	45.3	40.9	34.3	33.2	31.0
87.5°	13.3	15.5	16.6	15.5	14.4	11.1	7.7	5.5	2.2	2.2	1.1
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



CCT = 3050K  
 CIE x = 0.4383  
 CIE y = 0.4131  
 Duv = 0.0034

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)