

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: P635525

Luminaire Tested: GWS-SA3D-830-U-T2R-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635525  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-11)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3D-830-U-T2R-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14254.9 lumens  
Efficiency: N/A  
Efficacy: 118.0 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G2

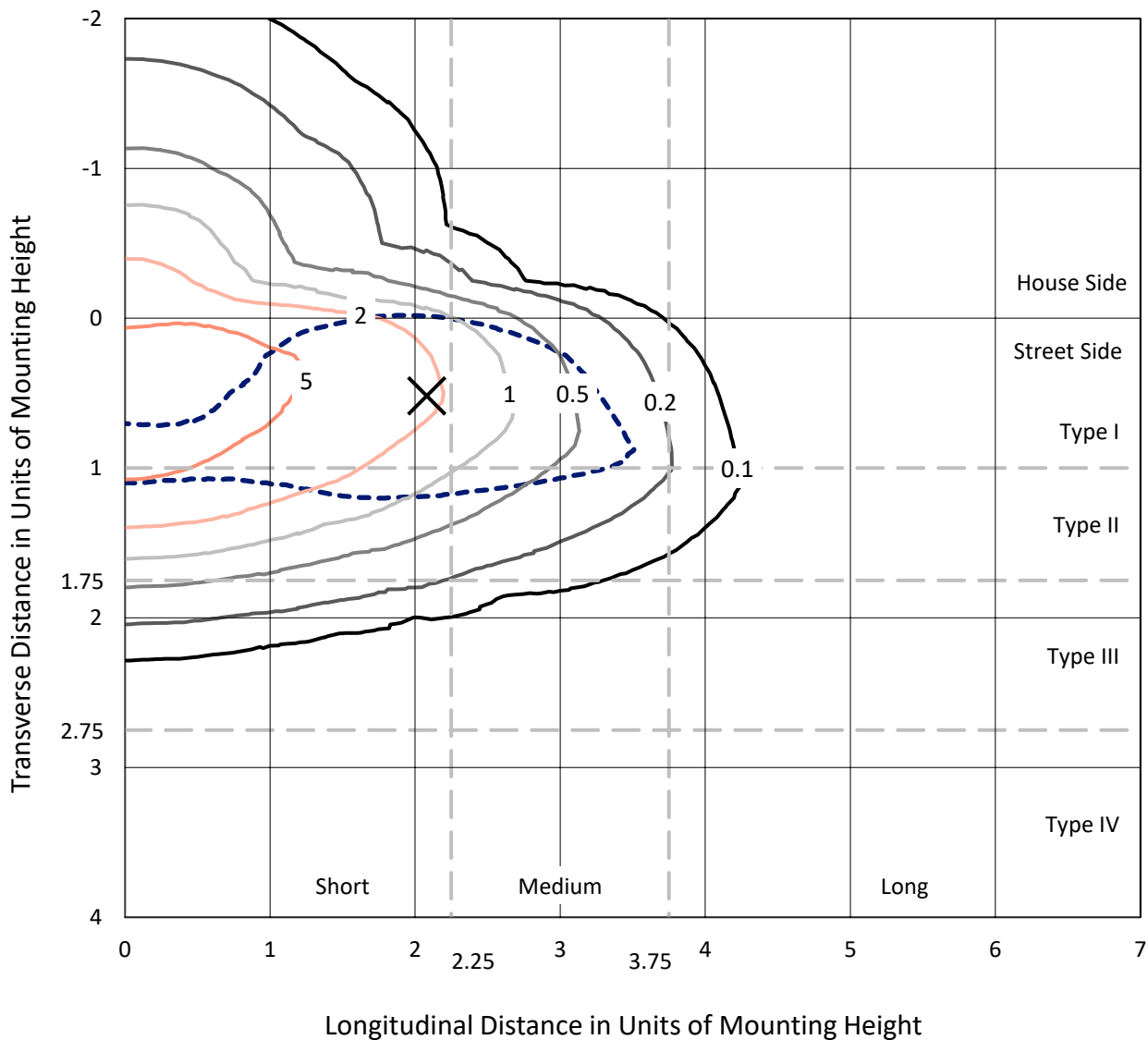
Input Watts (W): 120.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P635525  
 CATALOG NUMBER: GWS-SA3D-830-U-T2R-W

### Iso-Footcandle Lines of Horizontal Illumination

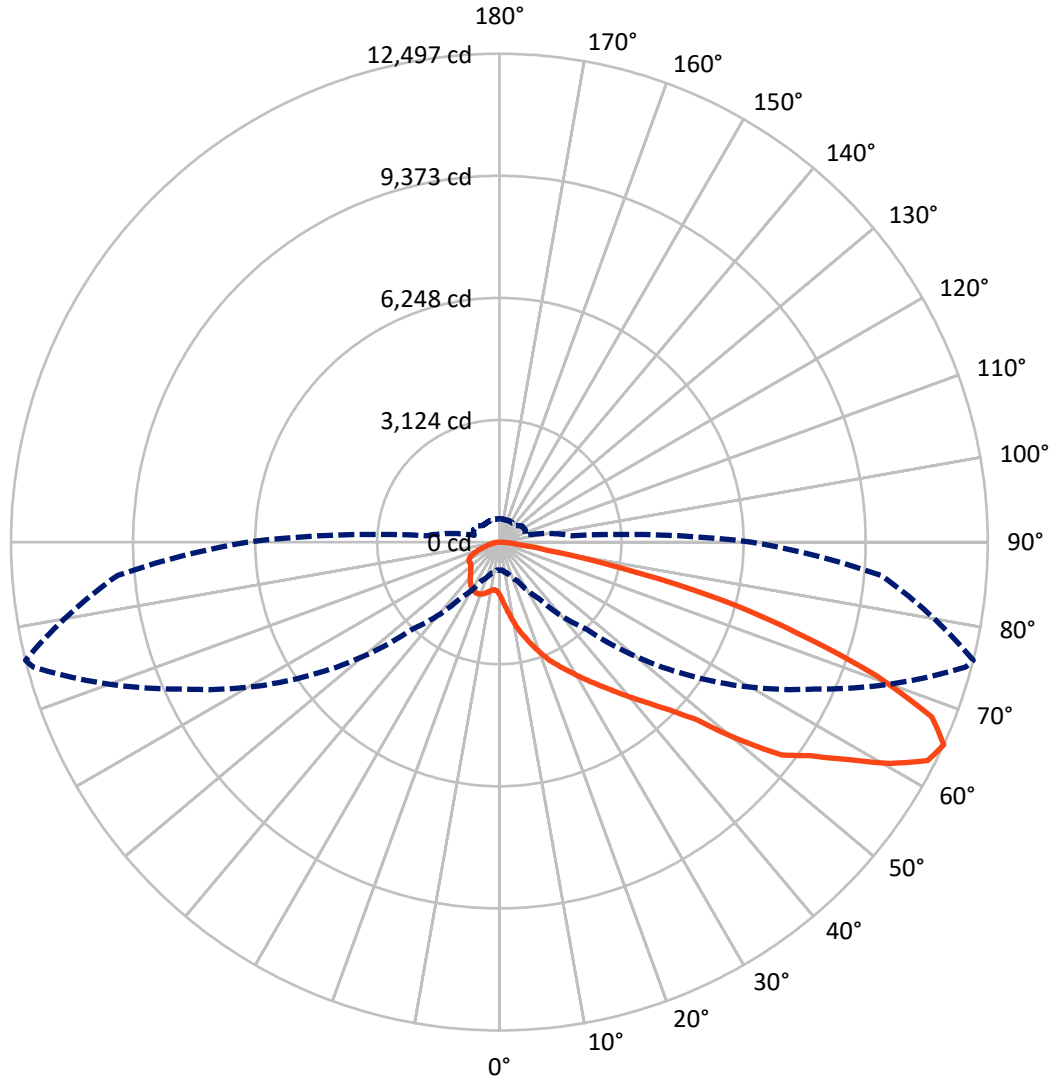
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.8 fc  
 Type II - Short - N/A

REPORT NUMBER: P635525  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2382.7	0.0	2382.7
	% Fixture	16.7	0.0	16.7
<b>Street Side</b>	Lumens	11872.2	0.0	11872.2
	% Fixture	83.3	0.0	83.3
<b>Total</b>	Lumens	14254.9	0.0	14254.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.4	1.1
10°-20°	610.8	4.3
20°-30°	1190.5	8.4
30°-40°	1991.0	14.0
40°-50°	2850.7	20.0
50°-60°	3374.8	23.7
60°-70°	2806.2	19.7
70°-80°	1148.4	8.1
80°-90°	122.3	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°	14254.9	100.0
0°-180°	14254.9	100.0

**Coefficient of Utilization**



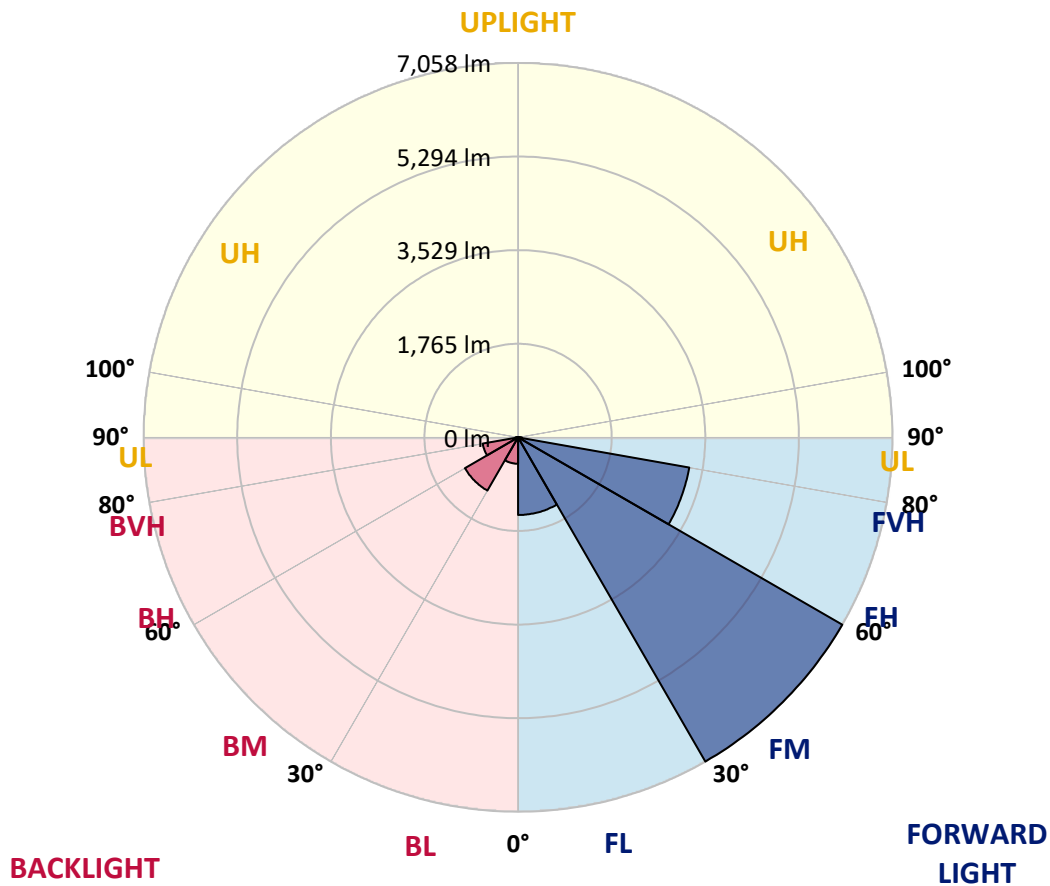
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1463.2	10.3			
FM (30°-60°)	7058.5	49.5			
FH (60°-80°)	3277.6	23.0			G2/5000
FVH (80°-90°)	72.9	0.5			G1/100
BL (0°-30°)	498.5	3.5	B1/500		
BM (30°-60°)	1157.9	8.1	B2/2500		
BH (60°-80°)	677.0	4.7	B2/1000		G2/1000
BVH (80°-90°)	49.3	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	76°	85°
0°	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9
2.5°	1892.0	1899.1	1876.0	1868.0	1813.9	1740.7	1679.6	1587.4	1502.2	1489.2	1413.0
5°	2403.1	2373.1	2347.0	2330.0	2254.8	2171.6	2042.4	1869.0	1687.6	1665.6	1501.2
7.5°	2706.8	2701.8	2669.7	2659.7	2601.6	2518.4	2385.1	2169.6	1906.1	1870.0	1620.5
10°	2950.3	2947.3	2931.3	2940.3	2887.2	2806.0	2676.7	2454.2	2145.6	2109.5	1753.7
12.5°	3162.8	3167.8	3164.8	3197.8	3170.8	3107.6	2973.4	2728.8	2385.1	2346.0	1916.1
15°	3318.1	3322.1	3337.1	3409.3	3424.3	3411.3	3275.0	2998.4	2621.6	2565.5	2083.5
17.5°	3362.2	3370.2	3406.3	3522.5	3603.7	3657.8	3556.6	3273.0	2854.1	2793.0	2253.8
20°	3421.3	3430.3	3466.4	3587.7	3706.9	3830.2	3812.2	3551.6	3088.6	3038.5	2426.2
22.5°	3694.9	3687.9	3671.9	3730.0	3815.2	3968.5	4013.6	3819.2	3331.1	3283.0	2616.6
25°	4222.0	4209.0	4106.8	4053.7	4025.6	4118.8	4199.0	4062.7	3567.6	3495.5	2794.0
27.5°	4803.3	4796.3	4666.0	4539.7	4367.3	4327.3	4374.4	4275.1	3797.1	3724.0	2948.3
30°	5353.4	5332.4	5196.1	5037.8	4807.3	4634.9	4565.8	4483.6	4048.7	3972.5	3128.7
32.5°	5845.5	5818.4	5658.1	5482.7	5241.2	5037.8	4831.3	4705.1	4333.3	4245.1	3313.1
35°	6249.4	6222.3	6058.0	5871.6	5606.0	5455.7	5173.1	4945.6	4622.9	4533.7	3530.5
37.5°	6562.0	6537.0	6365.6	6182.2	5950.7	5831.5	5585.9	5216.2	4956.6	4863.4	3761.0
40°	6737.4	6719.4	6582.1	6436.8	6242.3	6139.1	6028.9	5557.9	5330.4	5237.2	4032.6
42.5°	6790.5	6778.5	6682.3	6607.1	6475.8	6397.7	6460.8	5959.7	5729.3	5648.1	4338.3
45°	6657.2	6657.2	6629.2	6667.3	6673.3	6672.3	6893.7	6413.7	6219.3	6130.1	4769.2
47.5°	6316.5	6338.6	6379.6	6567.0	6764.5	6929.8	7399.8	7019.0	6849.6	6776.5	5379.5
50°	5693.2	5753.3	5893.6	6259.4	6679.3	7100.2	7878.8	7913.9	8075.3	7946.0	6277.4
52.5°	4780.2	4771.2	5129.0	5650.1	6290.5	7107.2	8142.4	8703.6	9137.5	9048.3	6944.8
55°	3799.1	3784.1	4117.8	4836.3	5694.2	6838.6	8300.7	9065.4	9726.8	9646.6	7545.1
57.5°	2909.2	2890.2	3186.8	3835.2	4852.4	6268.4	8270.7	9496.3	10537.5	10496.4	8360.9
60°	2002.3	1979.2	2256.8	2824.0	3856.2	5396.5	7938.0	9717.8	11486.6	11500.6	9233.7
62.5°	1202.6	1189.5	1391.0	1830.9	2773.9	4316.2	7159.3	9583.5	12242.2	12305.3	9794.9
65°	725.6	716.5	834.8	1092.3	1759.8	3149.7	5958.7	8897.0	12351.4	12496.7	9808.0
67.5°	528.1	529.1	563.2	665.4	1026.2	2034.3	4471.6	7666.4	11782.2	11932.5	9189.6
70°	459.0	461.0	479.0	502.1	620.3	1164.5	2907.2	6051.9	10099.6	10215.8	7707.5
72.5°	407.9	407.9	419.9	431.9	485.0	709.5	1557.3	4230.0	7971.0	8002.1	5882.6
75°	358.8	355.8	361.8	367.8	420.9	496.1	757.6	2947.3	5887.6	5815.4	3802.1
77.5°	285.6	282.6	283.6	289.6	337.7	354.8	383.8	1840.9	3318.1	3131.7	1679.6
80°	203.4	201.4	212.5	227.5	249.5	217.5	240.5	890.9	1315.8	1224.6	651.4
82.5°	121.3	125.3	142.3	154.3	172.4	136.3	155.3	297.6	466.0	454.0	264.6
85°	17.0	18.0	51.1	59.1	74.2	53.1	82.2	134.3	186.4	199.4	93.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	7.0	24.1	53.1	54.1	23.0
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: P635525  
 CATALOG NUMBER: GWS-SA3D-830-U-T2R-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9	1349.9
2.5°	1373.9	1326.8	1259.7	1203.6	1156.5	1118.4	1086.3	1062.3	1055.3	1045.2	1045.2
5°	1424.0	1338.9	1218.6	1133.4	1084.3	1055.3	1035.2	1025.2	1020.2	1014.2	1011.2
7.5°	1493.2	1373.9	1211.6	1125.4	1087.3	1069.3	1056.3	1050.2	1046.2	1040.2	1040.2
10°	1588.4	1426.0	1233.6	1153.5	1123.4	1105.4	1090.3	1080.3	1071.3	1062.3	1060.3
12.5°	1691.6	1494.2	1273.7	1191.5	1159.5	1137.4	1116.4	1101.4	1090.3	1079.3	1076.3
15°	1805.9	1564.3	1316.8	1228.6	1188.5	1158.5	1133.4	1110.4	1095.3	1079.3	1077.3
17.5°	1918.1	1635.5	1352.9	1253.7	1202.6	1165.5	1129.4	1099.4	1080.3	1062.3	1057.3
20°	2052.4	1706.6	1377.9	1260.7	1199.6	1150.5	1107.4	1069.3	1048.2	1027.2	1024.2
22.5°	2175.7	1772.8	1390.0	1250.7	1176.5	1118.4	1068.3	1027.2	1004.1	983.1	979.1
25°	2294.9	1830.9	1385.0	1226.6	1141.4	1074.3	1022.2	981.1	959.1	937.0	931.0
27.5°	2410.2	1870.0	1364.9	1189.5	1097.3	1025.2	975.1	938.0	919.0	899.9	891.9
30°	2523.4	1906.1	1333.9	1141.4	1041.2	974.1	933.0	906.9	887.9	867.9	861.8
32.5°	2637.6	1932.1	1286.8	1085.3	984.1	929.0	903.9	884.9	864.8	844.8	838.8
35°	2752.9	1943.2	1229.6	1021.2	936.0	899.9	890.9	868.9	841.8	817.7	809.7
37.5°	2890.2	1953.2	1158.5	958.0	893.9	885.9	883.9	850.8	818.8	785.7	776.7
40°	3055.5	1966.2	1085.3	900.9	859.8	880.9	872.9	827.8	763.6	731.6	721.5
42.5°	3258.0	1990.3	1009.2	848.8	834.8	861.8	852.8	771.6	728.6	710.5	705.5
45°	3555.6	2078.4	933.0	807.7	815.7	834.8	820.8	738.6	721.5	709.5	703.5
47.5°	4085.7	2213.7	866.9	776.7	800.7	810.7	756.6	729.6	716.5	700.5	693.5
50°	4636.9	2272.9	813.7	757.6	783.7	788.7	721.5	717.5	708.5	691.5	684.5
52.5°	5009.7	2264.8	781.7	750.6	769.6	750.6	705.5	704.5	698.5	678.5	670.4
55°	5430.6	2278.9	767.6	752.6	763.6	686.5	685.5	688.5	685.5	663.4	659.4
57.5°	5998.8	2322.0	760.6	759.6	759.6	655.4	666.4	670.4	664.4	654.4	651.4
60°	6545.0	2325.0	747.6	767.6	756.6	636.4	644.4	648.4	641.4	639.4	638.4
62.5°	6750.4	2180.7	718.5	761.6	744.6	615.3	621.3	623.3	616.3	621.3	620.3
65°	6444.8	1874.0	670.4	732.6	707.5	596.3	592.3	597.3	585.3	598.3	599.3
67.5°	5722.2	1489.2	597.3	677.4	655.4	575.2	567.2	567.2	547.2	567.2	566.2
70°	4613.9	1052.2	490.0	589.3	598.3	550.2	546.2	523.1	491.0	521.1	518.1
72.5°	3497.5	755.6	385.8	466.0	515.1	515.1	516.1	477.0	439.9	454.0	441.9
75°	2215.7	532.1	308.7	356.8	403.9	452.0	475.0	402.9	369.8	363.8	357.8
77.5°	998.1	349.7	240.5	273.6	286.6	356.8	433.9	346.7	301.6	288.6	284.6
80°	417.9	217.5	171.4	193.4	176.4	299.6	382.8	269.6	221.5	203.4	190.4
82.5°	183.4	129.3	109.2	104.2	110.2	222.5	285.6	179.4	138.3	187.4	189.4
85°	77.2	68.1	56.1	51.1	45.1	85.2	134.3	70.1	86.2	49.1	40.1
87.5°	18.0	20.0	15.0	10.0	6.0	1.0	0.0	0.0	0.0	0.0	0.0
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

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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			

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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)