

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: P635518

Luminaire Tested: GWS-SA3D-830-U-T2-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635518  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-20)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3D-830-U-T2-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

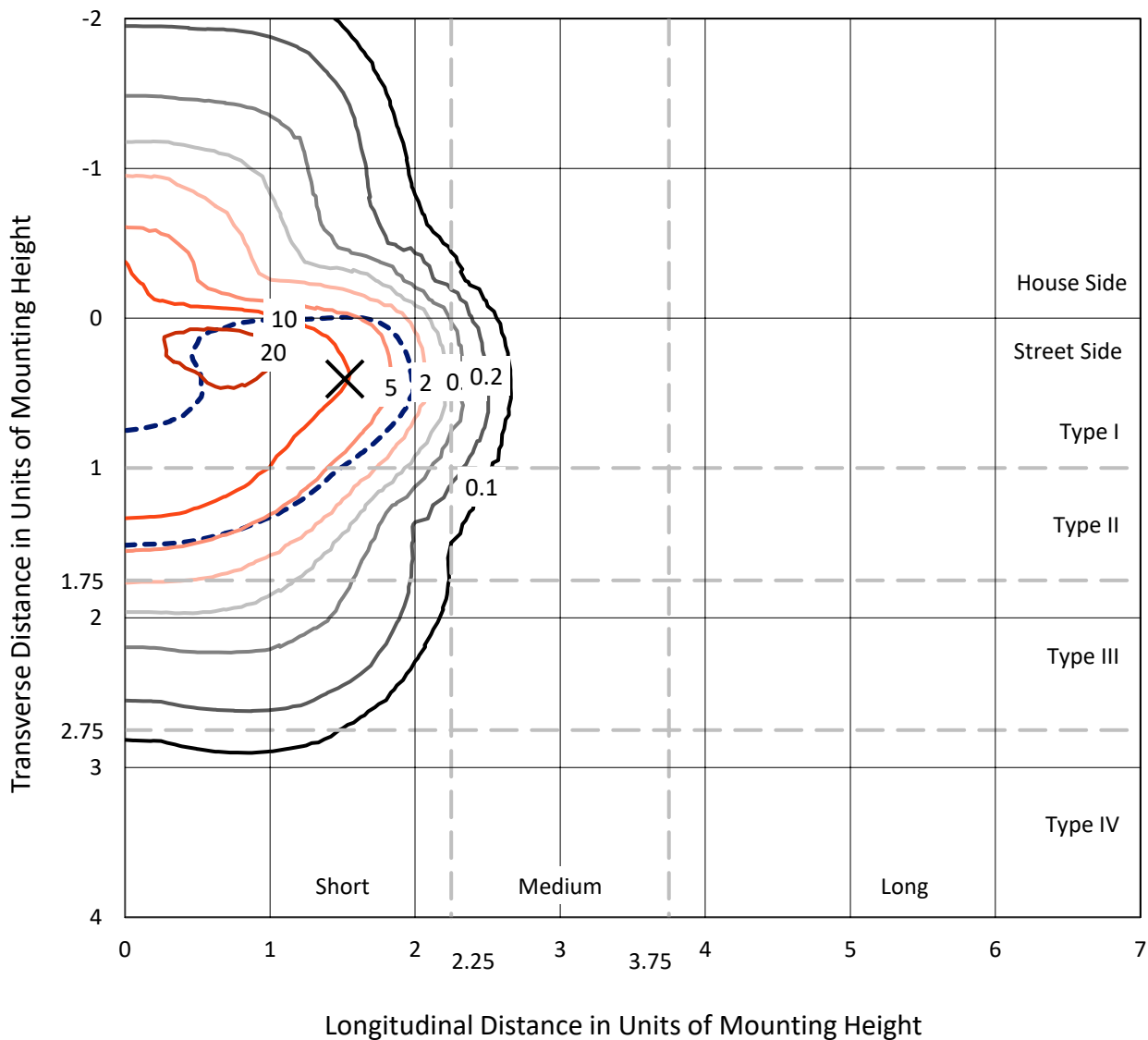
Lumens per Lamp: N/A  
Luminaire Lumens: 8304 lumens  
Efficiency: N/A  
Efficacy: 68.7 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 120.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
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



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### Iso-Footcandle Lines of Horizontal Illumination

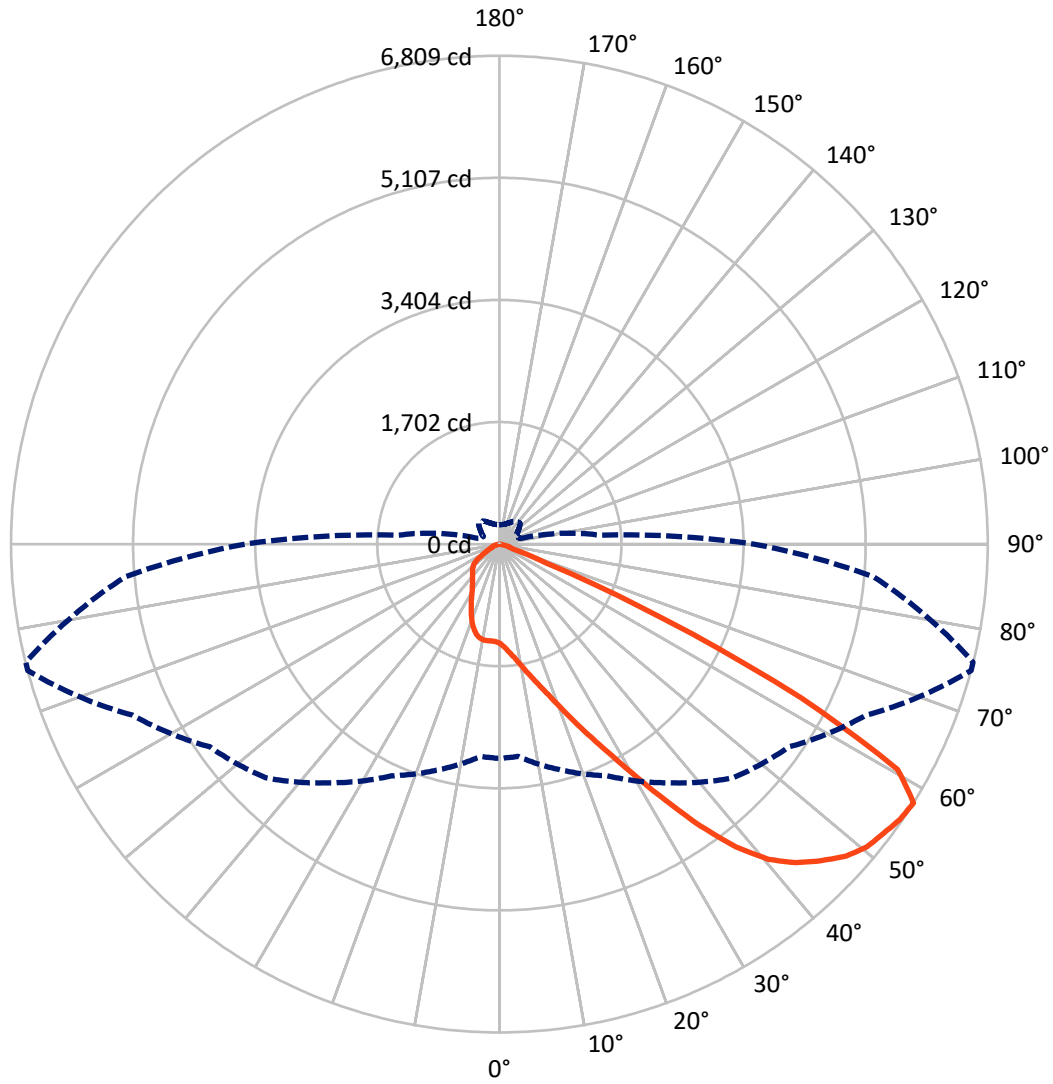
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 25.9 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1356.4	0.0	1356.4
	% Fixture	16.3	0.0	16.3
<b>Street Side</b>	Lumens	6947.6	0.0	6947.6
	% Fixture	83.7	0.0	83.7
<b>Total</b>	Lumens	8304.0	0.0	8304.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.9	1.7
10°-20°	457.8	5.5
20°-30°	838.4	10.1
30°-40°	1390.9	16.8
40°-50°	2124.3	25.6
50°-60°	2387.0	28.7
60°-70°	880.4	10.6
70°-80°	84.2	1.0
80°-90°	0.1	0.0
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°	8304.0	100.0
0°-180°	8304.0	100.0

**Coefficient of Utilization**



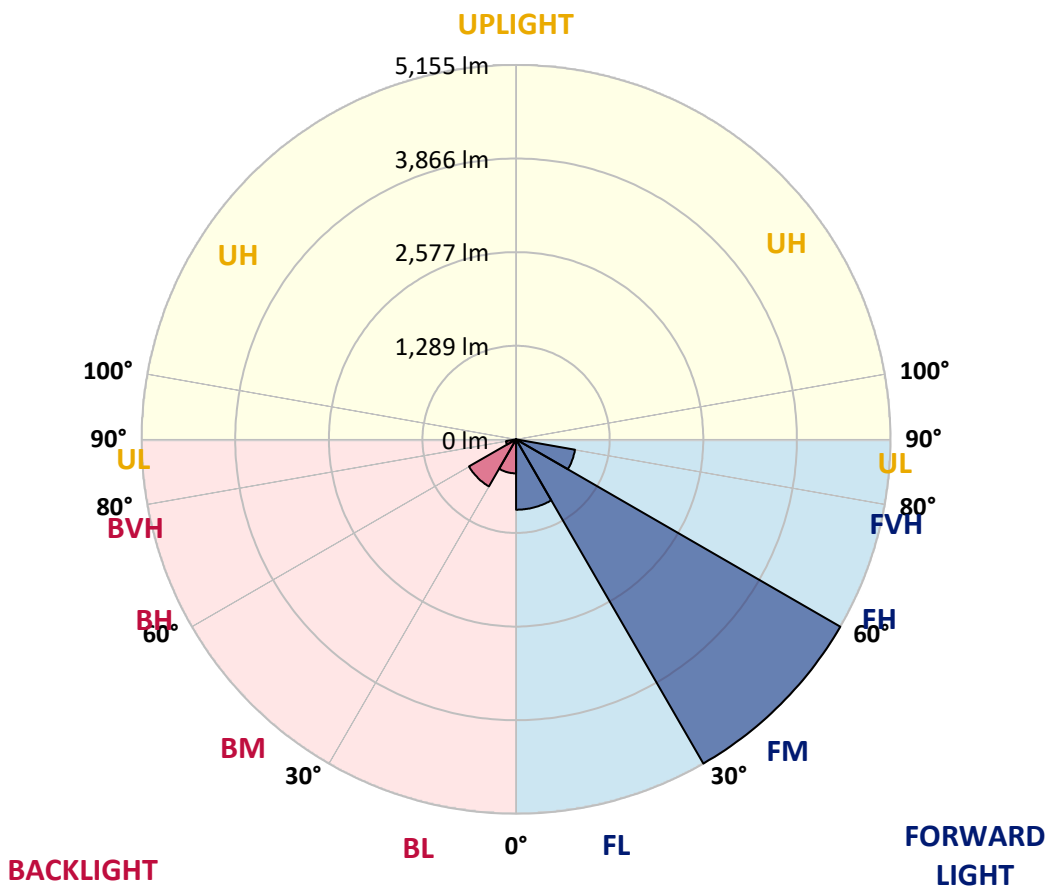
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	969.1	11.7			
FM (30°-60°)	5154.7	62.1			
FH (60°-80°)	823.7	9.9			G1/1800
FVH (80°-90°)	0.0	0.0			G0/10
BL (0°-30°)	468.1	5.6	B1/500		
BM (30°-60°)	747.5	9.0	B1/1000		
BH (60°-80°)	140.9	1.7	B1/500		G1/500
BVH (80°-90°)	0.0	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-G1**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	76°	85°
0°	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0
2.5°	1547.3	1563.4	1558.4	1548.3	1542.3	1521.3	1508.3	1470.2	1443.1	1440.1	1415.1
5°	1742.8	1739.8	1735.7	1723.7	1713.7	1680.6	1641.5	1577.4	1520.3	1513.3	1460.2
7.5°	1850.0	1852.0	1854.0	1852.0	1845.0	1819.9	1776.8	1701.7	1614.5	1608.5	1524.3
10°	1894.1	1898.1	1908.1	1927.2	1944.2	1942.2	1917.1	1840.0	1732.7	1722.7	1609.5
12.5°	1915.1	1920.1	1936.2	1972.3	2018.4	2054.4	2058.4	1989.3	1871.0	1855.0	1710.7
15°	1944.2	1949.2	1969.3	2016.4	2083.5	2154.7	2200.8	2156.7	2024.4	2007.3	1821.9
17.5°	1957.2	1964.2	1993.3	2055.4	2142.6	2251.9	2356.1	2352.1	2205.8	2192.7	1951.2
20°	1982.3	1987.3	2013.3	2080.5	2185.7	2343.1	2518.4	2581.6	2427.2	2408.2	2107.6
22.5°	2061.5	2063.5	2075.5	2117.6	2215.8	2409.2	2683.8	2849.2	2688.8	2663.8	2282.9
25°	2190.7	2189.7	2194.7	2201.8	2273.9	2476.3	2843.1	3150.8	2988.5	2961.4	2481.4
27.5°	2355.1	2355.1	2367.1	2347.1	2376.1	2559.5	3000.5	3497.6	3337.2	3299.1	2698.8
30°	2548.5	2547.5	2575.6	2543.5	2552.5	2690.8	3169.8	3875.4	3758.1	3711.0	2949.4
32.5°	2811.1	2805.1	2837.1	2793.0	2763.0	2889.2	3376.3	4270.2	4262.2	4190.1	3264.1
35°	3142.8	3132.8	3142.8	3099.7	3045.6	3166.8	3646.9	4664.1	4821.4	4745.2	3638.9
37.5°	3472.5	3504.6	3515.6	3441.4	3397.3	3518.6	3972.6	5016.8	5355.6	5276.4	4028.7
40°	3861.3	3851.3	3889.4	3806.2	3778.2	3912.5	4291.3	5279.4	5778.5	5703.3	4375.5
42.5°	4148.0	4166.0	4213.1	4167.0	4145.0	4271.2	4558.8	5432.7	6072.1	5998.0	4623.0
45°	4491.7	4504.7	4522.8	4484.7	4461.6	4585.9	4752.3	5499.9	6295.6	6215.4	4789.3
47.5°	4863.5	4873.5	4873.5	4795.4	4721.2	4772.3	4881.5	5538.0	6501.0	6423.9	4912.6
50°	5130.1	5135.1	5179.2	5124.1	4962.7	4883.5	4940.7	5575.0	6637.3	6565.2	4952.7
52.5°	4893.6	4887.6	5032.9	5147.1	5190.2	5032.9	5042.9	5629.2	6703.5	6641.3	4984.8
55°	4120.9	4110.9	4315.3	4592.9	4972.7	5174.2	5166.2	5661.2	6776.6	6738.6	5101.0
57.5°	2987.5	2970.4	3255.0	3563.7	4061.8	4608.0	4928.6	5643.2	6808.7	6805.7	5236.3
60°	1795.9	1781.8	2050.4	2375.1	2760.0	3309.1	3841.3	5054.9	6379.8	6385.8	4884.6
62.5°	1105.4	1118.4	1360.9	1526.3	1669.6	1835.0	2142.6	3400.3	4726.2	4765.3	3432.4
65°	743.6	753.6	978.1	1186.6	1186.6	970.1	832.8	1625.5	2521.4	2455.3	1623.5
67.5°	499.1	510.1	687.5	931.0	966.1	676.5	337.7	485.0	702.5	681.5	401.9
70°	293.6	305.7	458.0	638.4	703.5	471.0	225.5	205.4	199.4	193.4	156.3
72.5°	131.3	136.3	233.5	324.7	296.6	198.4	159.3	164.4	155.3	152.3	127.3
75°	40.1	42.1	60.1	70.2	71.2	71.2	96.2	129.3	122.3	123.3	98.2
77.5°	10.0	10.0	16.0	15.0	8.0	7.0	18.0	29.1	30.1	27.1	20.0
80°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	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



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0
2.5°	1404.0	1378.0	1360.9	1336.9	1319.9	1301.8	1285.8	1272.7	1265.7	1263.7	1264.7
5°	1436.1	1395.0	1354.9	1308.8	1276.8	1246.7	1222.6	1203.6	1194.6	1191.6	1191.6
7.5°	1485.2	1428.1	1356.9	1284.8	1230.7	1183.6	1155.5	1134.5	1126.4	1124.4	1118.4
10°	1549.3	1471.2	1353.9	1241.7	1165.5	1116.4	1096.4	1090.4	1093.4	1094.4	1093.4
12.5°	1626.5	1516.3	1334.9	1178.5	1096.4	1066.3	1068.3	1084.3	1102.4	1111.4	1113.4
15°	1708.7	1557.4	1291.8	1103.4	1037.2	1036.2	1065.3	1102.4	1137.5	1152.5	1156.5
17.5°	1800.9	1590.4	1225.6	1023.2	986.1	1015.2	1067.3	1124.4	1171.5	1196.6	1201.6
20°	1902.1	1617.5	1141.5	948.0	941.0	993.1	1065.3	1135.5	1193.6	1221.6	1226.6
22.5°	2007.3	1636.5	1044.3	878.9	899.9	968.1	1046.3	1114.4	1169.5	1201.6	1205.6
25°	2127.6	1638.5	945.0	820.8	861.9	934.0	1000.2	1056.3	1102.4	1130.4	1133.4
27.5°	2232.8	1614.5	856.9	773.7	826.8	891.9	936.0	967.1	999.2	1015.2	1016.2
30°	2354.1	1572.4	773.7	735.6	790.7	839.8	861.9	868.9	871.9	874.9	870.9
32.5°	2498.4	1521.3	711.5	698.5	749.6	782.7	788.7	774.7	757.6	733.6	727.6
35°	2675.8	1475.2	660.4	662.4	704.5	724.6	719.6	689.5	656.4	627.4	622.3
37.5°	2868.2	1436.1	621.3	627.4	655.4	669.4	654.4	621.3	606.3	581.3	582.3
40°	3038.6	1404.0	586.3	592.3	605.3	618.3	594.3	572.2	600.3	598.3	600.3
42.5°	3159.8	1377.0	556.2	553.2	562.2	571.2	553.2	542.2	589.3	576.2	583.3
45°	3231.0	1351.9	531.1	513.1	527.1	543.2	531.1	517.1	533.2	473.0	468.0
47.5°	3279.1	1337.9	509.1	474.0	499.1	527.1	502.1	468.0	445.0	392.8	388.8
50°	3284.1	1330.9	483.0	433.9	466.0	496.1	467.0	419.9	386.8	363.8	360.8
52.5°	3310.1	1344.9	447.0	382.8	417.9	466.0	446.0	398.9	353.8	333.7	329.7
55°	3426.4	1404.0	386.8	312.7	363.8	443.0	428.9	355.8	312.7	300.6	297.6
57.5°	3546.7	1416.1	304.7	247.5	316.7	409.9	391.8	327.7	285.6	271.6	268.6
60°	3243.0	1166.5	228.5	204.4	279.6	378.8	362.8	310.7	261.6	244.5	241.5
62.5°	2130.6	630.4	181.4	173.4	235.5	320.7	330.7	280.6	233.5	215.5	214.5
65°	982.1	292.6	139.3	137.3	184.4	255.6	284.6	245.5	197.4	181.4	181.4
67.5°	267.6	145.3	109.2	101.2	125.3	171.4	207.4	183.4	140.3	121.3	120.3
70°	133.3	117.3	98.2	87.2	90.2	106.2	122.3	102.2	71.2	58.1	57.1
72.5°	109.2	96.2	83.2	74.2	68.1	65.1	63.1	51.1	33.1	25.1	24.1
75°	81.2	69.1	59.1	48.1	41.1	38.1	34.1	25.1	14.0	8.0	7.0
77.5°	18.0	17.0	16.0	12.0	11.0	9.0	7.0	5.0	2.0	0.0	0.0
80°	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	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)