

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P437263

Luminaire Tested: **ISC-SA1B-830-U-T4FT**

Issue Date: 12/9/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P437263  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/9/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISC-SA1B-830-U-T4FT  
Description: IMPACT ELITE LED CYLINDER LUMINAIRE  
(1) 80 CRI, 3000K, 450mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD  
THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2731 lumens  
Efficiency: N/A  
Efficacy: 107.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1

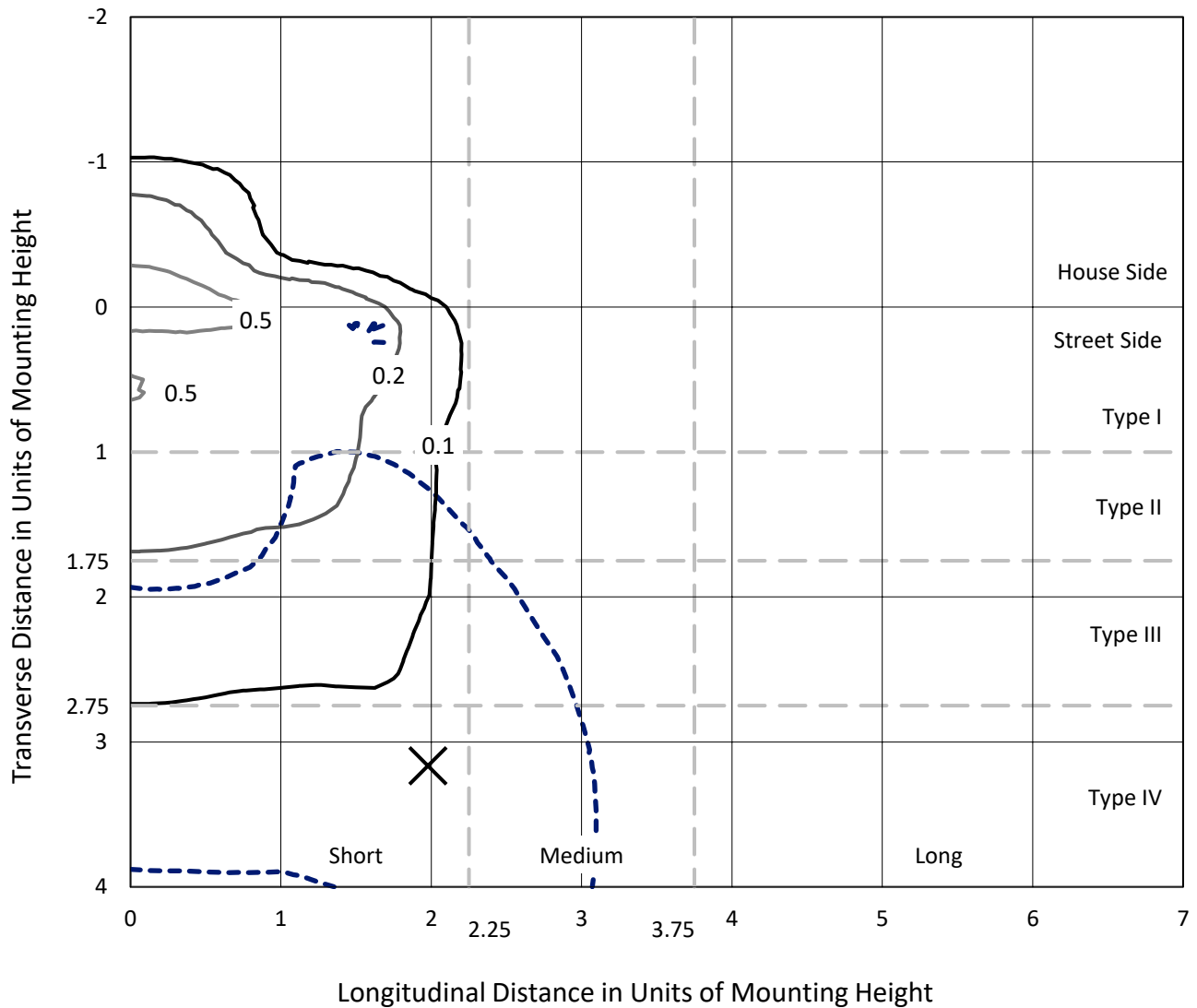
Input Watts (W): 25.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

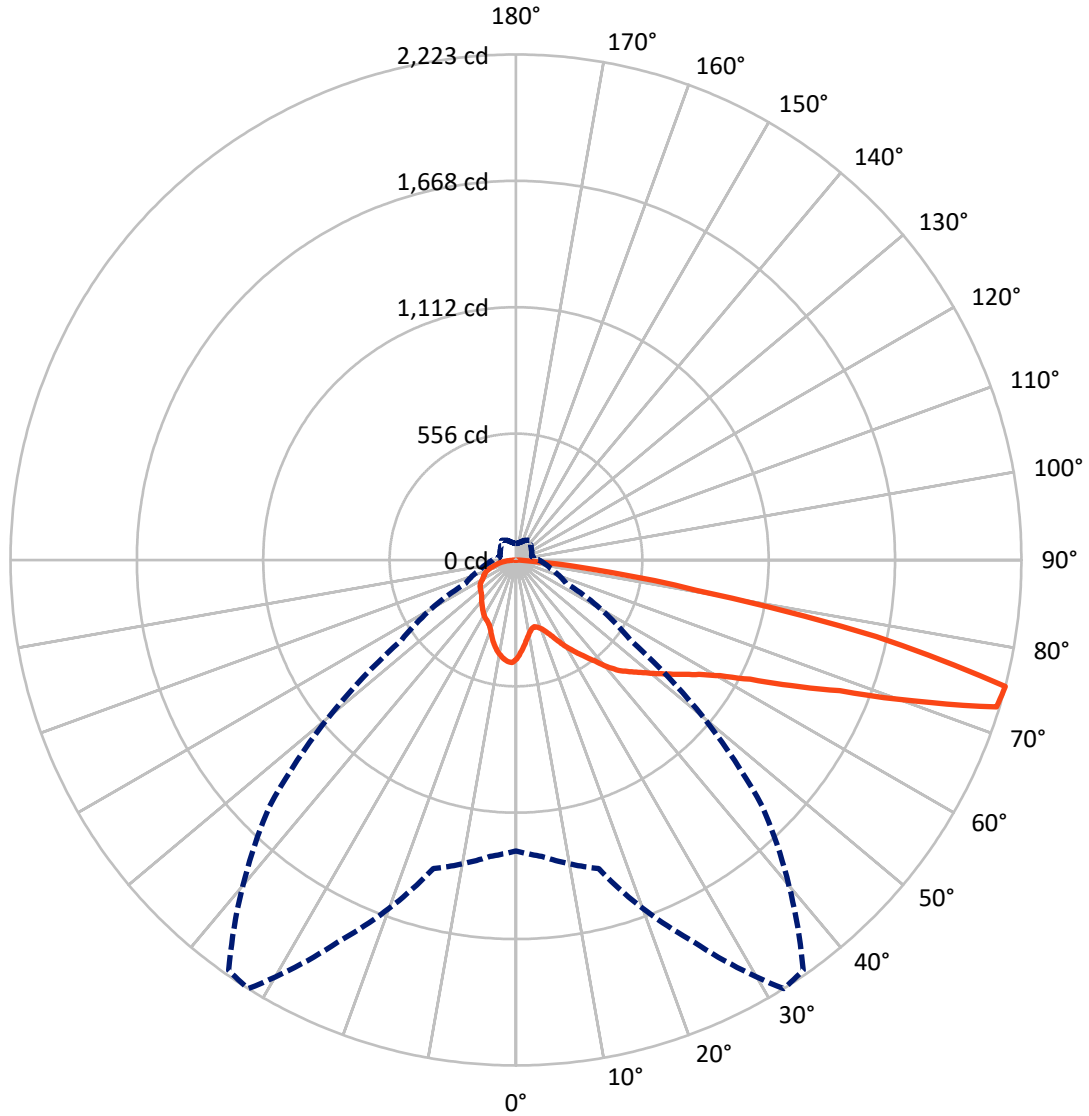
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.7 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 32-Deg Lateral      - - - Horizontal Cone Through 75-Deg Vertical

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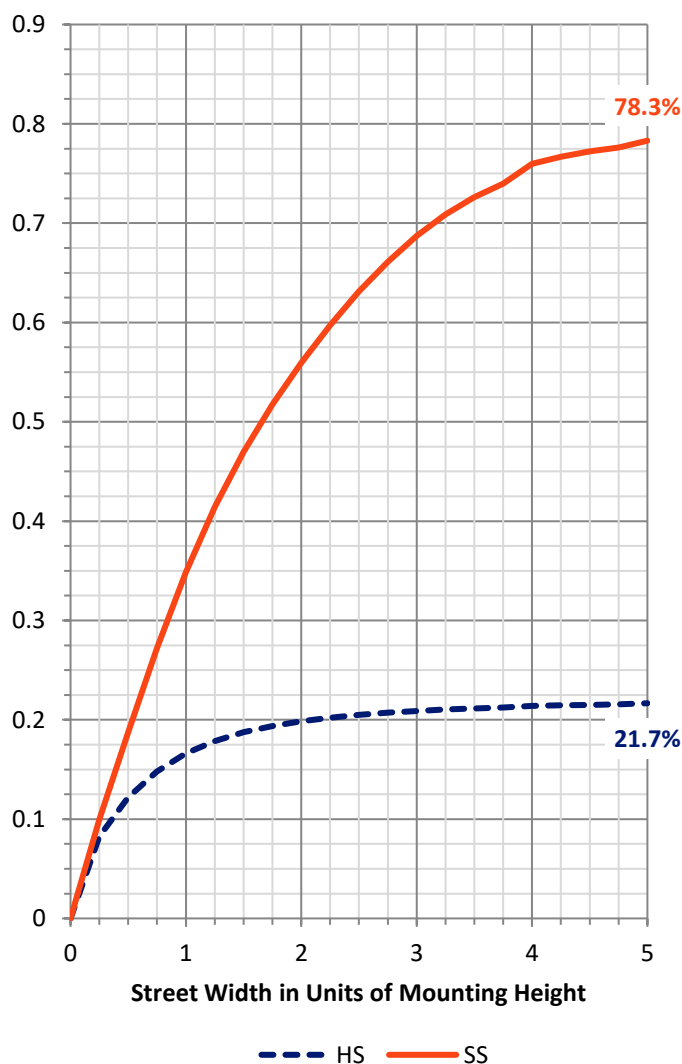
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	598.4	0.0	598.4
	% Fixture	21.9	0.0	21.9
<b>Street Side</b>	Lumens	2132.6	0.0	2132.6
	% Fixture	78.1	0.0	78.1
<b>Total</b>	Lumens	2731.0	0.0	2731.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.5	1.4
10°-20°	107.9	4.0
20°-30°	178.6	6.5
30°-40°	266.2	9.7
40°-50°	379.0	13.9
50°-60°	521.4	19.1
60°-70°	657.1	24.1
70°-80°	531.2	19.5
80°-90°	50.2	1.8
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°	2731.0	100.0
0°-180°	2731.0	100.0

**Coefficient of Utilization**



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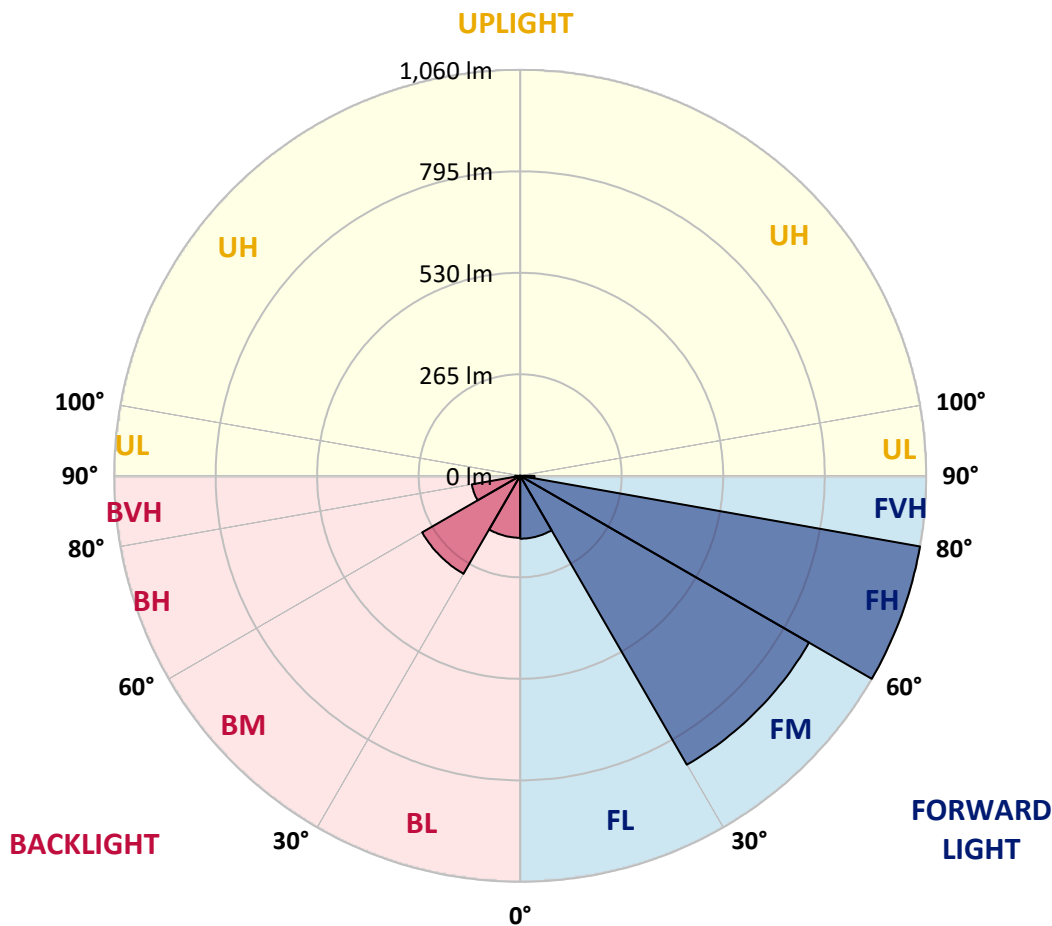
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	164.2	6.0			
FM	(30°-60°)	871.0	31.9			
FH	(60°-80°)	1060.1	38.8			G1/1800
FVH	(80°-90°)	37.3	1.4			G1/100
BL	(0°-30°)	161.8	5.9	B1/500		
BM	(30°-60°)	295.6	10.8	B1/1000		
BH	(60°-80°)	128.1	4.7	B1/500		G1/500
BVH	(80°-90°)	12.9	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	32°	35°	45°	55°	65°	75°	85°
0°	434.7	434.7	434.7	434.7	434.7	434.7	434.7	434.7	434.7	434.7	434.7
2.5°	397.0	400.0	401.0	403.0	407.0	405.0	409.9	415.9	423.8	427.8	435.7
5°	363.3	363.3	366.3	371.2	378.2	378.2	387.1	398.0	411.9	422.8	436.7
7.5°	333.5	333.5	336.5	342.4	349.4	354.3	365.3	382.1	401.0	421.8	439.7
10°	308.7	309.7	311.7	317.6	326.6	331.5	347.4	366.3	391.1	417.9	442.7
12.5°	299.8	298.8	297.8	302.7	309.7	313.7	331.5	355.3	384.1	416.9	448.6
15°	306.7	304.7	301.7	301.7	304.7	306.7	321.6	346.4	378.2	415.9	455.6
17.5°	324.6	322.6	315.6	308.7	310.7	311.7	321.6	341.4	375.2	419.9	465.5
20°	349.4	346.4	334.5	325.6	323.6	323.6	329.5	344.4	377.2	427.8	478.4
22.5°	379.2	376.2	362.3	346.4	344.4	343.4	346.4	356.3	383.1	436.7	498.3
25°	418.9	415.9	399.0	379.2	372.2	371.2	368.2	374.2	393.1	448.6	512.2
27.5°	461.5	462.5	442.7	415.9	408.9	406.0	398.0	397.0	405.0	458.6	536.0
30°	501.2	499.3	478.4	456.6	446.7	442.7	429.8	423.8	418.9	473.5	563.8
32.5°	520.1	523.1	513.2	492.3	484.4	477.4	462.5	452.6	445.7	496.3	597.5
35°	551.9	552.9	548.9	536.0	520.1	515.1	501.2	494.3	479.4	524.1	638.2
37.5°	583.6	586.6	585.6	577.7	563.8	558.8	546.9	543.9	514.2	558.8	688.8
40°	631.3	626.3	619.4	622.3	617.4	614.4	609.4	599.5	562.8	596.5	738.5
42.5°	682.9	674.0	649.1	657.1	664.0	667.0	674.0	663.0	613.4	653.1	779.2
45°	724.6	717.6	684.9	686.9	700.8	710.7	743.4	737.5	678.9	714.7	833.8
47.5°	748.4	742.4	719.6	729.5	738.5	752.4	815.9	810.9	740.5	781.2	899.3
50°	782.1	772.2	750.4	768.3	784.1	795.1	886.4	884.4	793.1	849.6	973.7
52.5°	801.0	791.1	789.1	813.9	832.8	847.7	961.8	955.8	844.7	918.1	1044.2
55°	826.8	828.8	841.7	860.6	887.4	912.2	1035.3	1005.5	892.3	985.6	1113.7
57.5°	883.4	881.4	906.2	915.2	949.9	981.7	1122.6	1058.1	932.0	1034.3	1146.4
60°	958.8	962.8	971.7	994.6	1032.3	1080.9	1207.0	1112.7	957.8	1069.0	1140.5
62.5°	1101.8	1078.9	1075.0	1080.9	1155.4	1211.9	1289.4	1161.3	968.8	1070.0	1077.9
65°	1246.7	1237.7	1207.0	1221.9	1330.0	1381.7	1395.6	1193.1	946.9	1008.5	939.0
67.5°	1396.6	1395.6	1362.8	1405.5	1535.5	1596.1	1513.7	1187.1	875.5	864.5	721.6
70°	1550.4	1557.3	1557.3	1678.4	1856.1	1872.0	1645.7	1130.5	733.5	612.4	421.8
72.5°	1617.9	1621.9	1657.6	1926.6	2210.5	2215.4	1721.1	959.8	500.3	326.6	212.4
75°	1279.4	1309.2	1405.5	1855.1	2223.4	2203.5	1533.5	614.4	244.2	162.8	118.1
77.5°	502.2	513.2	708.7	1181.2	1619.9	1639.7	992.6	245.2	124.1	103.2	85.4
80°	141.9	148.9	251.1	469.5	800.0	884.4	395.0	106.2	83.4	75.4	61.5
82.5°	50.6	57.6	93.3	179.7	341.4	360.3	107.2	52.6	53.6	48.6	37.7
85°	6.9	6.0	12.9	32.8	75.4	63.5	17.9	13.9	21.8	22.8	15.9
87.5°	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0
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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 CATALOG NUMBER: ISC-SA1B-830-U-T4FT

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	434.7	434.7	434.7	434.7	434.7	434.7	434.7	434.7	434.7	434.7	434.7
2.5°	437.7	439.7	443.7	445.7	447.7	451.6	450.6	452.6	452.6	451.6	453.6
5°	441.7	446.7	451.6	453.6	454.6	454.6	449.6	446.7	445.7	444.7	445.7
7.5°	445.7	452.6	457.6	456.6	452.6	445.7	439.7	434.7	429.8	427.8	429.8
10°	452.6	459.6	462.5	455.6	444.7	433.8	424.8	417.9	409.9	408.9	409.9
12.5°	458.6	467.5	467.5	451.6	436.7	421.8	407.9	397.0	387.1	384.1	384.1
15°	468.5	475.4	468.5	446.7	425.8	407.0	387.1	373.2	361.3	356.3	357.3
17.5°	479.4	484.4	466.5	438.7	413.9	389.1	363.3	344.4	335.5	330.5	331.5
20°	492.3	493.3	466.5	428.8	396.0	363.3	335.5	321.6	315.6	312.7	313.7
22.5°	509.2	505.2	463.5	415.9	373.2	337.5	311.7	307.7	307.7	307.7	310.7
25°	527.1	516.1	458.6	399.0	343.4	306.7	296.8	301.7	305.7	305.7	307.7
27.5°	544.9	527.1	448.6	374.2	308.7	284.9	288.8	296.8	300.7	300.7	302.7
30°	566.8	540.0	436.7	340.5	275.9	270.0	279.9	289.8	295.8	295.8	297.8
32.5°	594.6	550.9	418.9	305.7	254.1	257.1	268.0	278.9	285.9	287.8	288.8
35°	625.3	565.8	394.1	267.0	239.2	247.2	256.1	266.0	272.0	274.0	274.0
37.5°	657.1	580.7	361.3	234.2	226.3	237.2	246.2	251.1	255.1	255.1	255.1
40°	688.8	588.6	318.6	208.4	213.4	229.3	237.2	235.2	234.2	231.3	232.3
42.5°	721.6	594.6	273.0	189.6	200.5	220.4	226.3	221.3	213.4	208.4	209.4
45°	757.3	603.5	235.2	175.7	187.6	212.4	218.4	208.4	198.5	190.6	188.6
47.5°	798.0	618.4	201.5	162.8	179.7	207.4	213.4	199.5	186.6	175.7	173.7
50°	853.6	641.2	175.7	153.8	174.7	204.5	209.4	191.6	176.7	162.8	161.8
52.5°	910.2	658.1	157.8	145.9	168.7	198.5	204.5	185.6	167.7	152.9	150.9
55°	951.9	656.1	141.9	138.0	160.8	190.6	199.5	178.7	155.8	141.9	140.0
57.5°	969.7	615.4	129.0	131.0	151.9	180.6	191.6	167.7	146.9	135.0	134.0
60°	939.0	549.9	120.1	123.1	141.9	167.7	176.7	159.8	140.9	130.0	129.0
62.5°	885.4	476.4	113.2	117.1	132.0	155.8	167.7	149.9	133.0	125.1	124.1
65°	758.3	396.0	106.2	110.2	123.1	143.9	159.8	143.9	127.0	119.1	118.1
67.5°	572.7	284.9	99.3	103.2	115.1	135.0	152.9	136.0	118.1	112.2	112.2
70°	341.4	174.7	90.3	96.3	105.2	124.1	141.9	125.1	107.2	105.2	103.2
72.5°	166.8	111.2	82.4	87.3	94.3	110.2	126.1	111.2	93.3	88.3	87.3
75°	100.2	80.4	71.5	77.4	82.4	92.3	106.2	95.3	81.4	73.5	72.5
77.5°	72.5	60.5	60.5	66.5	66.5	76.4	91.3	81.4	68.5	63.5	62.5
80°	51.6	45.7	49.6	53.6	51.6	64.5	77.4	68.5	55.6	51.6	50.6
82.5°	33.7	31.8	37.7	36.7	36.7	49.6	63.5	51.6	40.7	33.7	31.8
85°	13.9	15.9	21.8	20.8	20.8	27.8	32.8	26.8	18.9	14.9	14.9
87.5°	0.0	1.0	3.0	2.0	2.0	3.0	1.0	1.0	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 (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**

$\lambda$ (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)