

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: P437252

Luminaire Tested: **ISS-SA1B-830-U-SL4-HSS**

Issue Date: 12/9/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P437252  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/9/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISS-SA1B-830-U-SL4-HSS  
Description: IMPACT ELITE LED QUARTER SPHERE LUMINAIRE  
(1) 80 CRI, 3000K, 450mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL LIGHT  
ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

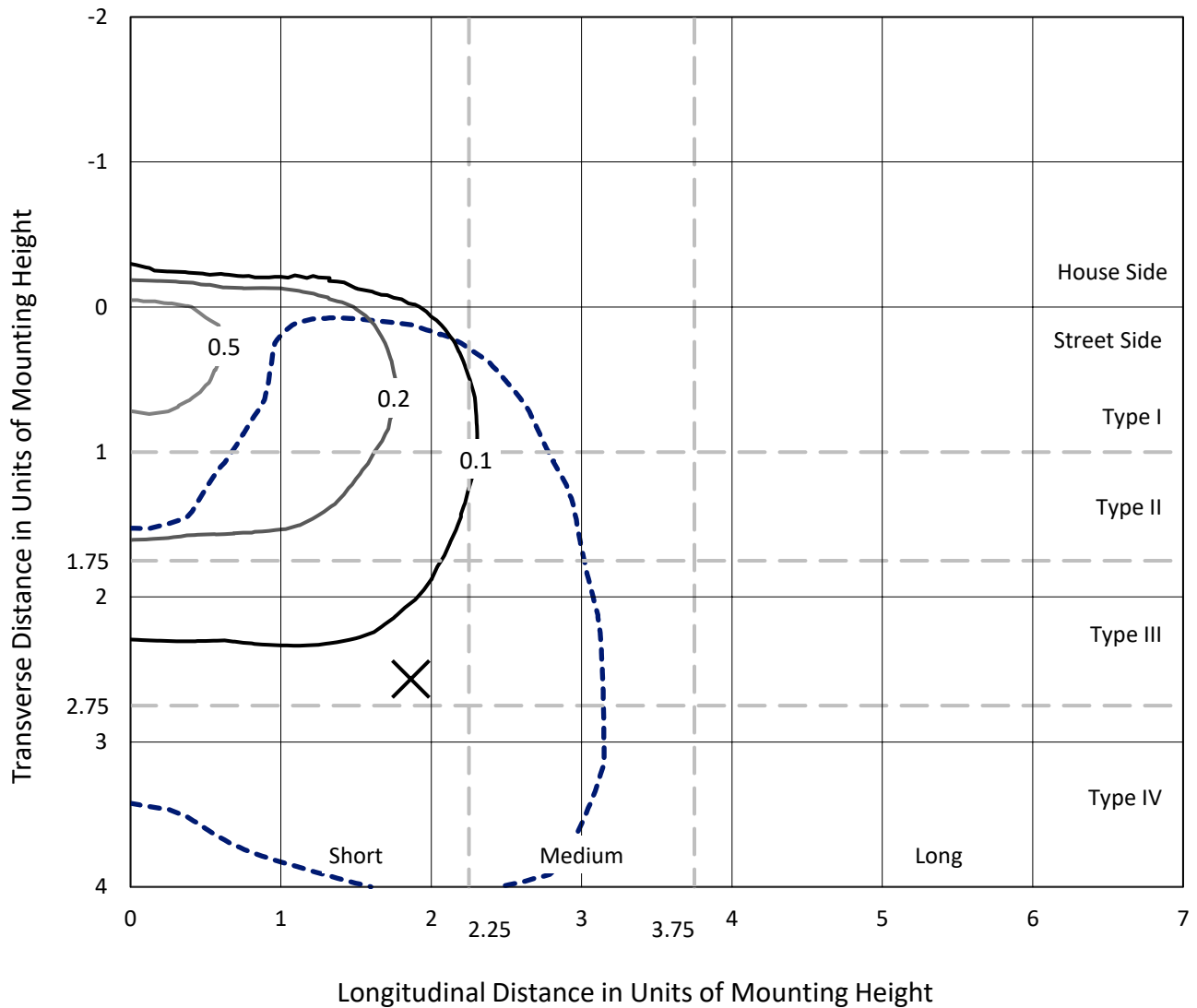
Lumens per Lamp: N/A  
Luminaire Lumens: 2255 lumens  
Efficiency: N/A  
Efficacy: 88.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 25.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

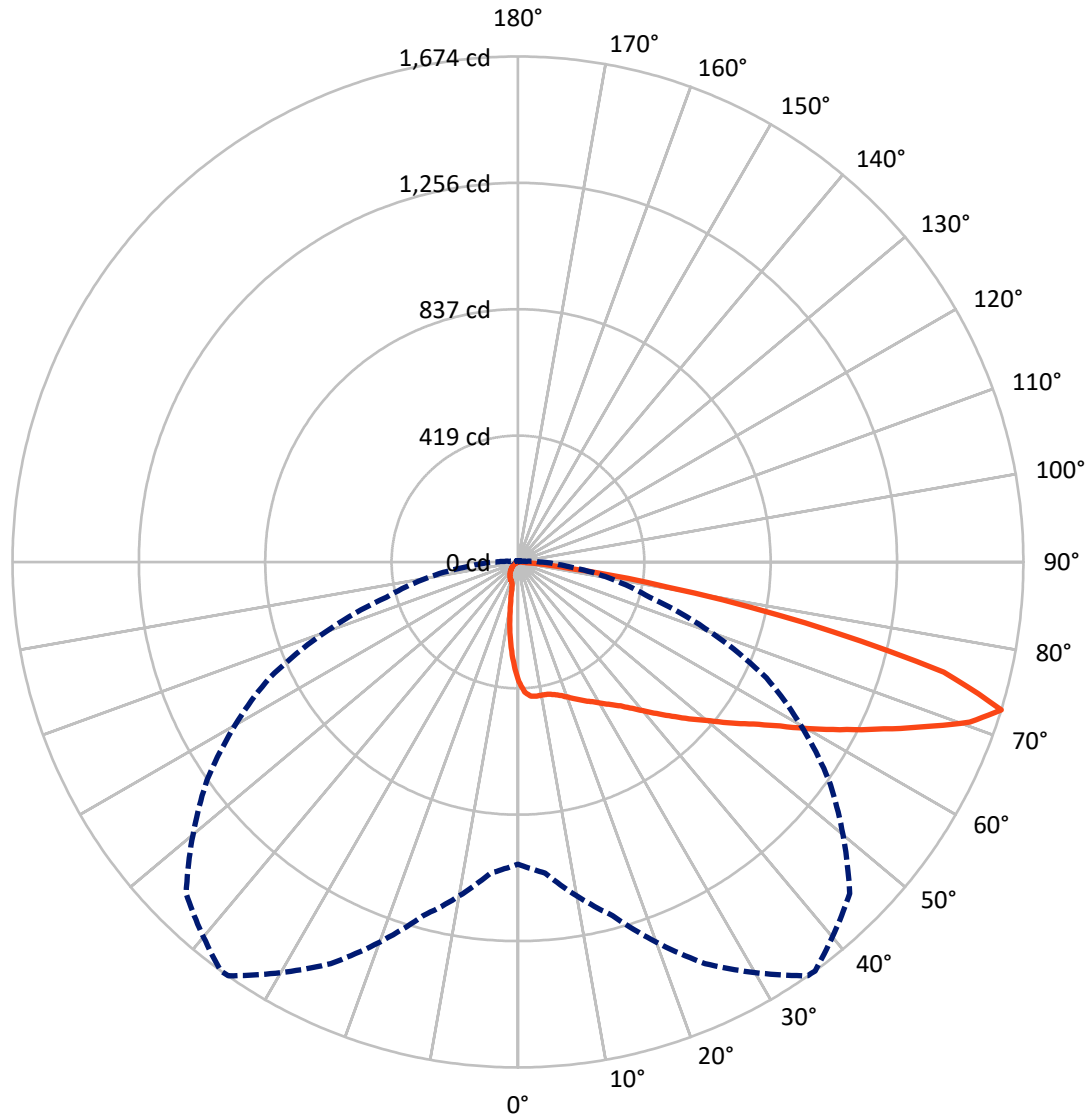
✕ Max cd  
 - - - 1/2 Max cd



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 36-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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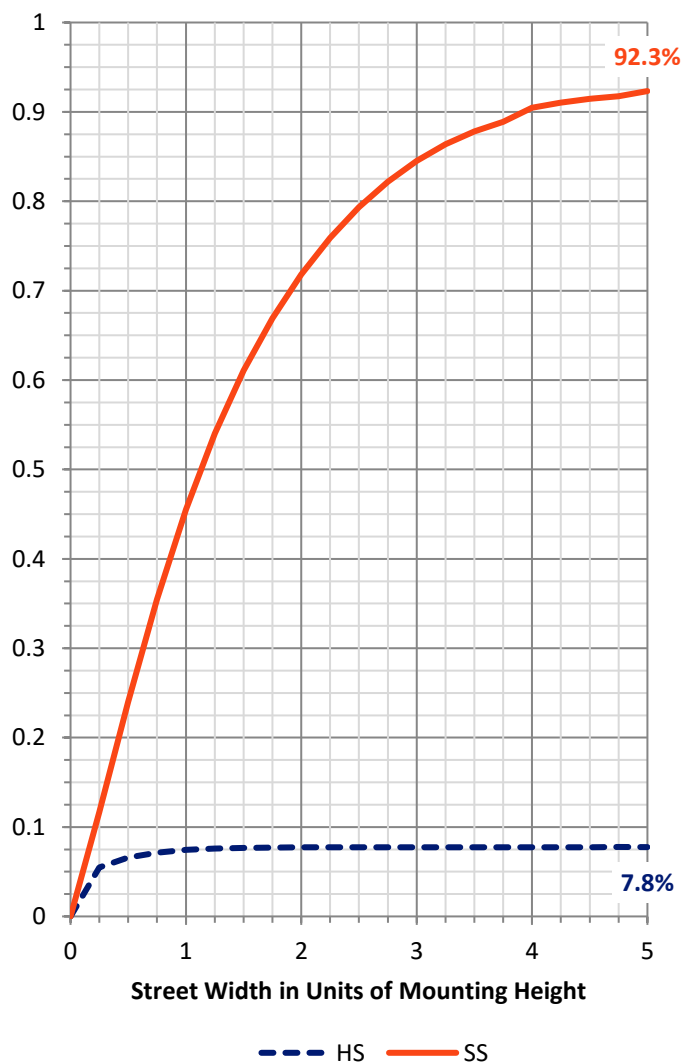
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	175.9	0.0	175.9
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	2079.1	0.0	2079.1
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	2255.0	0.0	2255.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.8	1.5
10°-20°	84.9	3.8
20°-30°	138.7	6.1
30°-40°	210.8	9.3
40°-50°	322.4	14.3
50°-60°	458.4	20.3
60°-70°	581.3	25.8
70°-80°	398.0	17.7
80°-90°	26.7	1.2
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°	2255.0	100.0
0°-180°	2255.0	100.0

**Coefficient of Utilization**



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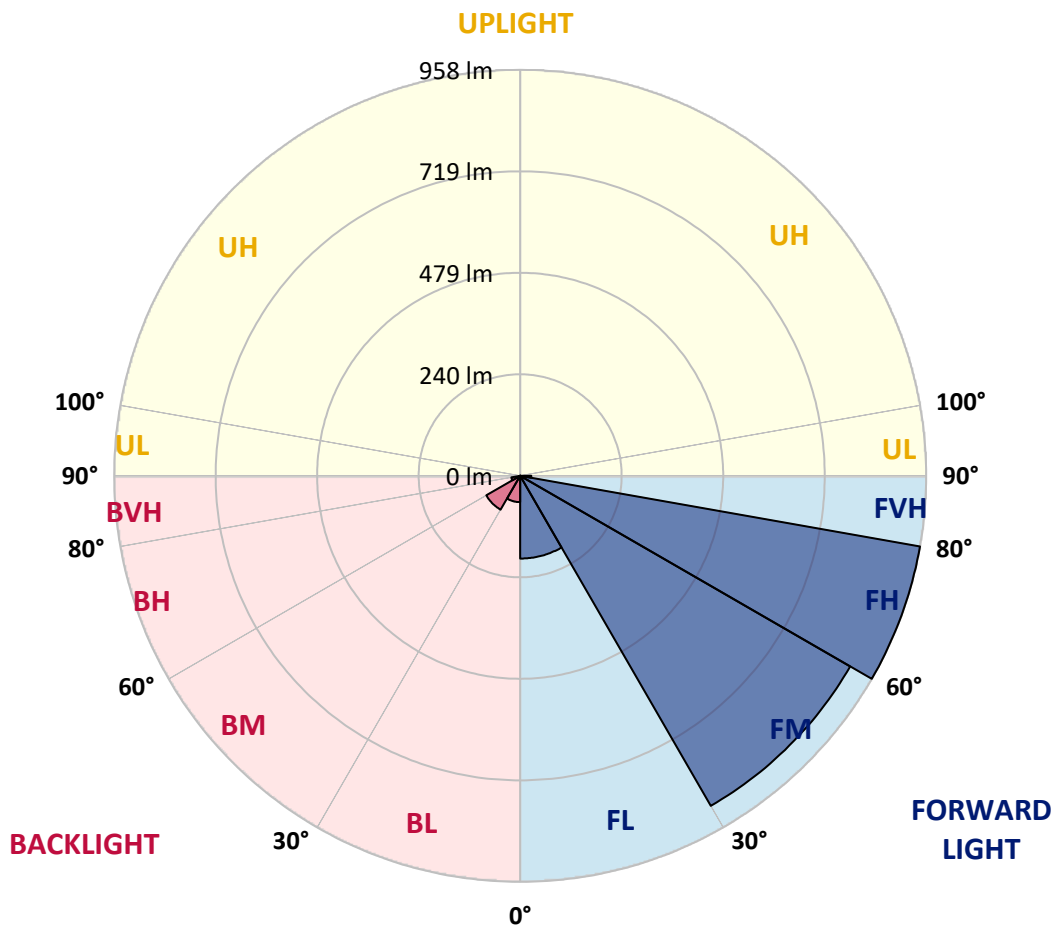
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	195.3	8.7			
FM (30°-60°)	899.4	39.9			
FH (60°-80°)	958.1	42.5			G1/1800
FVH (80°-90°)	26.3	1.2			G1/100
BL (0°-30°)	62.1	2.8	B0/110		
BM (30°-60°)	92.3	4.1	B0/220		
BH (60°-80°)	21.2	0.9	B0/110		G0/110
BVH (80°-90°)	0.4	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	396.0	396.0	396.0	396.0	396.0	396.0	396.0	396.0	396.0	396.0	396.0
2.5°	443.7	440.7	438.7	436.7	430.7	431.7	425.8	419.8	410.9	406.9	401.0
5°	454.6	453.6	452.6	449.6	444.6	446.6	440.7	434.7	421.8	409.9	397.0
7.5°	452.6	454.6	453.6	451.6	447.6	448.6	443.7	437.7	426.8	410.9	393.0
10°	448.6	449.6	449.6	448.6	447.6	447.6	443.7	438.7	428.8	414.9	392.0
12.5°	440.7	442.7	445.6	447.6	448.6	449.6	446.6	442.7	433.7	418.8	395.0
15°	437.7	439.7	445.6	451.6	454.6	455.6	452.6	447.6	439.7	426.8	400.0
17.5°	437.7	439.7	449.6	458.5	464.5	465.5	461.5	456.6	446.6	433.7	405.9
20°	443.7	445.6	457.5	473.4	476.4	478.4	472.4	465.5	454.6	441.7	412.9
22.5°	453.6	456.6	471.4	486.3	492.3	493.3	486.3	473.4	463.5	450.6	418.8
25°	470.4	477.4	491.3	507.2	508.2	509.2	498.2	485.3	473.4	460.5	425.8
27.5°	494.3	500.2	512.1	530.0	524.0	524.0	515.1	498.2	486.3	474.4	437.7
30°	525.0	529.0	542.9	549.9	541.9	542.9	532.0	516.1	506.2	494.3	455.6
32.5°	553.8	556.8	571.7	572.7	563.7	562.8	554.8	536.0	528.0	524.0	480.4
35°	580.6	584.6	596.5	595.5	586.6	585.6	581.6	564.7	564.7	568.7	517.1
37.5°	600.5	610.4	625.3	621.3	615.4	615.4	612.4	599.5	609.4	624.3	565.7
40°	626.3	632.2	652.1	649.1	650.1	650.1	651.1	643.1	661.0	685.8	622.3
42.5°	640.2	652.1	675.9	679.9	688.8	688.8	696.7	694.8	728.5	760.3	687.8
45°	662.0	674.9	700.7	715.6	726.5	731.5	745.4	756.3	803.9	843.6	757.3
47.5°	689.8	700.7	722.5	750.3	770.2	778.1	805.9	823.8	887.3	928.0	822.8
50°	727.5	729.5	745.4	787.1	821.8	826.8	870.4	900.2	971.7	1009.4	869.4
52.5°	768.2	764.2	773.2	829.7	878.4	887.3	936.9	982.6	1054.0	1062.0	888.3
55°	800.0	800.0	806.9	876.4	941.9	946.9	1016.3	1065.0	1129.5	1092.8	900.2
57.5°	840.7	836.7	847.6	924.0	1021.3	1025.3	1105.7	1143.4	1171.2	1112.6	898.2
60°	870.4	875.4	892.3	985.6	1103.7	1121.5	1189.0	1200.9	1214.8	1119.6	892.3
62.5°	912.1	911.1	943.9	1054.0	1210.9	1222.8	1269.4	1249.6	1248.6	1131.5	884.3
65°	946.9	954.8	1004.4	1136.4	1325.0	1332.9	1348.8	1323.0	1295.2	1144.4	814.9
67.5°	1000.5	1016.3	1078.9	1244.6	1447.1	1456.0	1469.9	1413.3	1308.1	1053.1	678.9
70°	1061.0	1081.8	1183.1	1388.5	1578.1	1588.0	1591.0	1422.3	1185.1	826.8	460.5
72.5°	1000.5	1034.2	1212.8	1467.9	1673.4	1674.4	1554.3	1256.5	908.1	451.6	162.8
75°	644.1	686.8	1004.4	1302.2	1441.1	1457.0	1218.8	878.4	423.8	101.2	45.7
77.5°	218.4	233.2	493.3	821.8	966.7	972.7	801.9	444.6	134.0	40.7	24.8
80°	126.0	125.1	172.7	359.3	482.4	501.2	404.0	177.7	62.5	20.8	16.9
82.5°	29.8	30.8	90.3	131.0	191.6	172.7	85.4	107.2	28.8	11.9	14.9
85°	0.0	0.0	14.9	31.8	22.8	26.8	7.9	32.8	5.0	5.0	9.9
87.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	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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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	396.0	396.0	396.0	396.0	396.0	396.0	396.0	396.0	396.0	396.0	396.0
2.5°	395.0	390.1	380.1	372.2	361.3	352.3	343.4	339.4	332.5	330.5	331.5
5°	389.1	381.1	362.3	343.4	322.6	302.7	281.9	270.0	265.0	256.1	254.1
7.5°	382.1	370.2	343.4	312.6	276.9	248.1	219.3	199.5	181.6	174.7	171.7
10°	379.1	364.3	326.5	279.9	231.3	184.6	148.9	123.1	107.2	101.2	99.3
12.5°	379.1	361.3	310.7	248.1	183.6	130.0	97.3	82.4	77.4	76.4	75.4
15°	383.1	360.3	295.8	214.4	139.0	90.3	74.4	72.5	71.5	71.5	72.5
17.5°	385.1	358.3	279.9	181.6	102.2	72.5	69.5	69.5	69.5	69.5	69.5
20°	390.1	357.3	262.0	146.9	77.4	67.5	66.5	66.5	66.5	66.5	67.5
22.5°	391.0	357.3	240.2	113.1	68.5	64.5	63.5	63.5	63.5	64.5	64.5
25°	397.0	355.3	219.3	86.3	64.5	60.5	60.5	59.6	60.5	60.5	60.5
27.5°	404.9	356.3	193.5	71.5	60.5	57.6	56.6	56.6	56.6	56.6	56.6
30°	413.9	358.3	166.7	63.5	56.6	54.6	53.6	52.6	52.6	52.6	52.6
32.5°	430.7	360.3	138.0	57.6	52.6	50.6	49.6	48.6	48.6	48.6	48.6
35°	456.6	371.2	113.1	53.6	48.6	46.6	45.7	44.7	44.7	44.7	43.7
37.5°	491.3	388.1	89.3	49.6	44.7	42.7	41.7	40.7	39.7	39.7	39.7
40°	533.0	405.9	74.4	44.7	40.7	38.7	37.7	36.7	35.7	34.7	34.7
42.5°	582.6	427.8	59.6	40.7	36.7	34.7	33.7	32.8	30.8	29.8	30.8
45°	638.2	448.6	50.6	37.7	33.7	31.8	30.8	28.8	26.8	25.8	25.8
47.5°	686.8	453.6	44.7	33.7	30.8	28.8	27.8	24.8	22.8	20.8	20.8
50°	719.6	444.6	39.7	30.8	27.8	26.8	24.8	20.8	17.9	16.9	15.9
52.5°	723.5	420.8	34.7	27.8	25.8	23.8	20.8	17.9	14.9	12.9	12.9
55°	719.6	381.1	30.8	25.8	22.8	20.8	17.9	13.9	10.9	9.9	8.9
57.5°	706.7	339.4	27.8	22.8	20.8	17.9	13.9	10.9	7.9	6.9	6.0
60°	682.8	288.8	24.8	20.8	17.9	14.9	10.9	7.9	5.0	4.0	4.0
62.5°	638.2	233.2	21.8	17.9	14.9	11.9	8.9	5.0	3.0	2.0	2.0
65°	549.9	174.7	18.9	14.9	11.9	9.9	6.0	3.0	1.0	0.0	0.0
67.5°	427.8	118.1	14.9	11.9	9.9	7.9	5.0	1.0	0.0	0.0	0.0
70°	252.1	62.5	11.9	8.9	7.9	6.0	3.0	1.0	0.0	0.0	0.0
72.5°	72.5	24.8	8.9	6.9	6.0	4.0	2.0	1.0	0.0	0.0	0.0
75°	29.8	14.9	6.0	5.0	5.0	3.0	1.0	1.0	0.0	0.0	0.0
77.5°	19.9	10.9	4.0	3.0	3.0	2.0	1.0	0.0	0.0	0.0	0.0
80°	15.9	6.0	2.0	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0
82.5°	13.9	4.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
85°	6.9	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	1.0	1.0	1.0	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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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**

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)