

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: P437948

Luminaire Tested: **ISS-SA1F-830-U-T4W-HSS**

Issue Date: 12/9/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P437948  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/9/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: ISS-SA1F-830-U-T4W-HSS  
Description: IMPACT ELITE LED QUARTER SPHERE LUMINAIRE  
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4630 lumens  
Efficiency: N/A  
Efficacy: 70.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

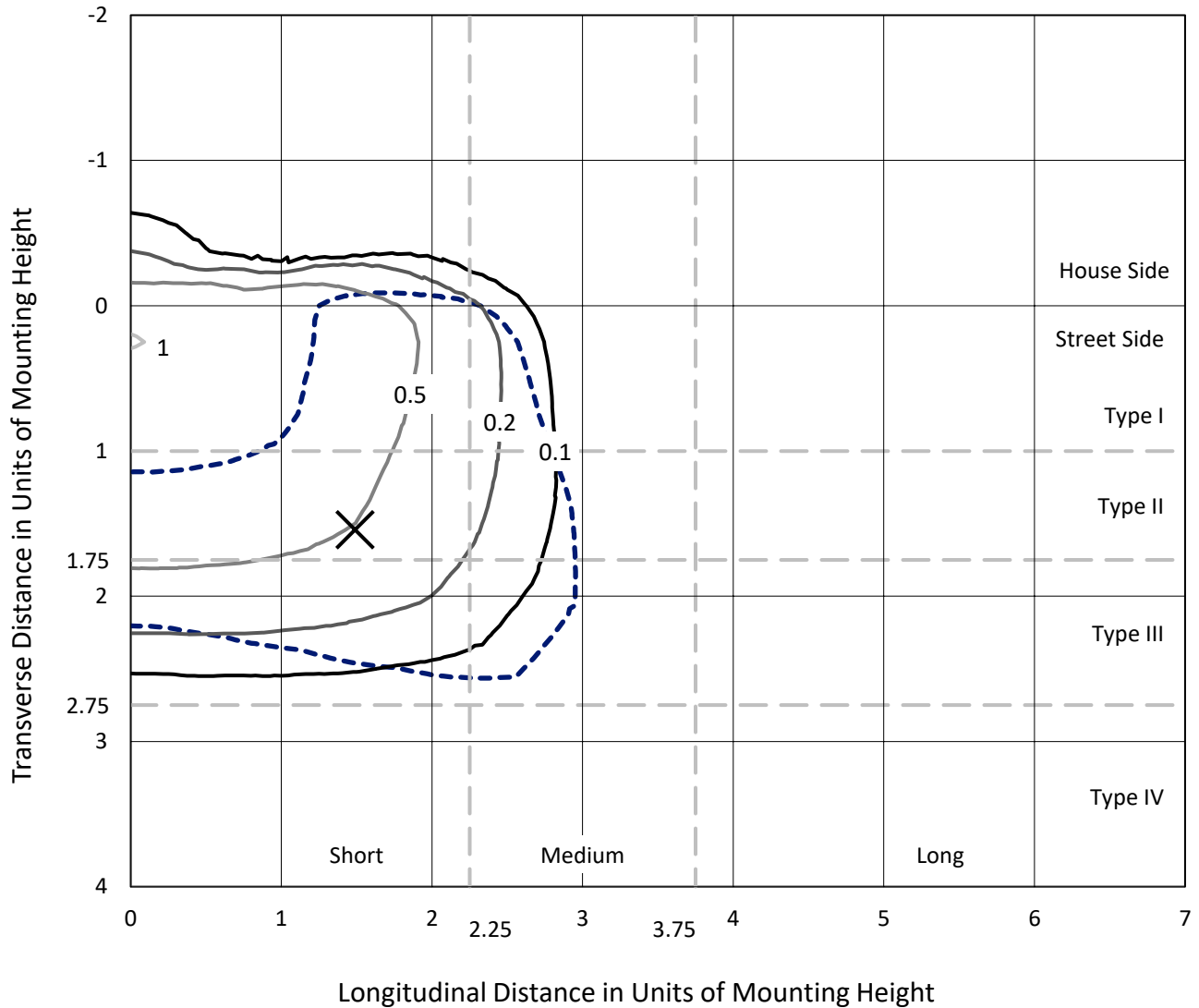
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P437948  
 CATALOG NUMBER: ISS-SA1F-830-U-T4W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

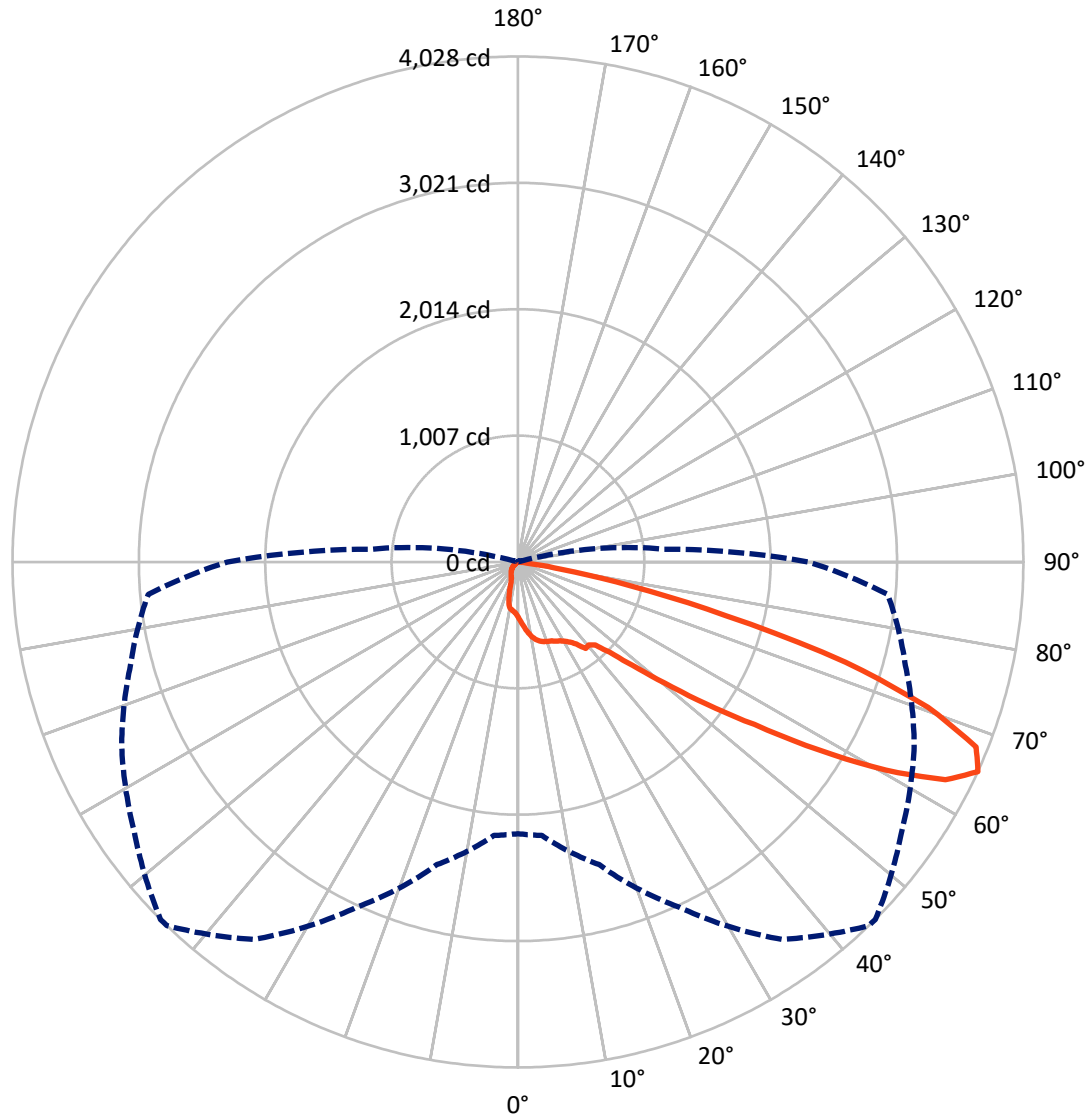
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc  
 Type III - Short - N/A

REPORT NUMBER: P437948  
CATALOG NUMBER: ISS-SA1F-830-U-T4W-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P437948  
 CATALOG NUMBER: ISS-SA1F-830-U-T4W-HSS

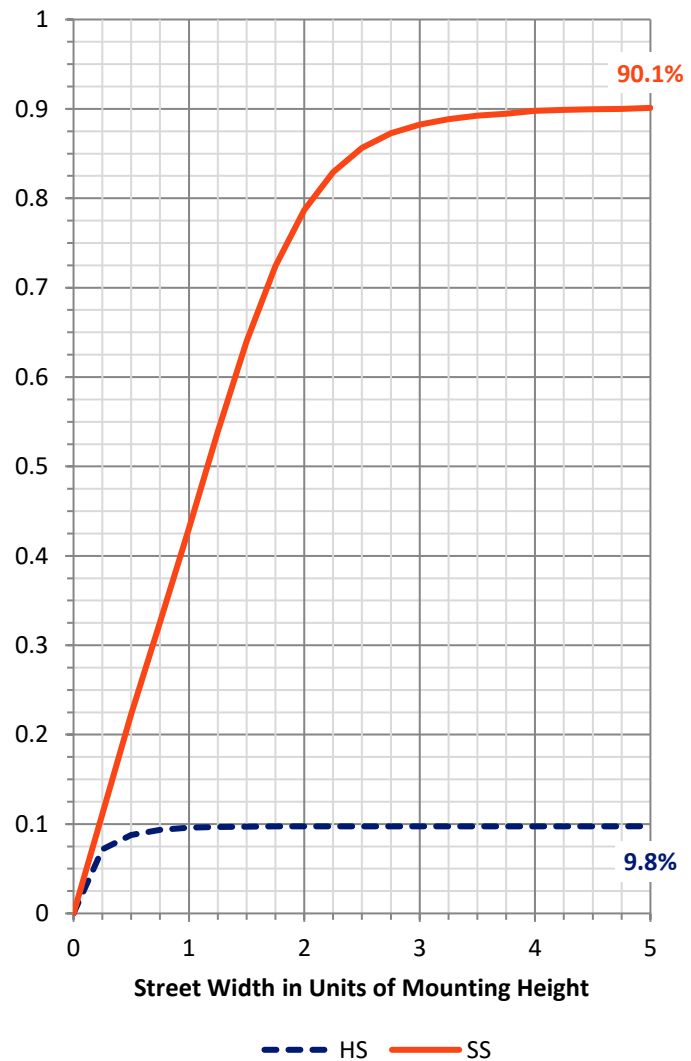
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	455.4	0.0	455.4
	% Fixture	9.8	0.0	9.8
<b>Street Side</b>	Lumens	4174.6	0.0	4174.6
	% Fixture	90.2	0.0	90.2
<b>Total</b>	Lumens	4630.0	0.0	4630.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.7	1.0
10°-20°	134.8	2.9
20°-30°	215.8	4.7
30°-40°	320.4	6.9
40°-50°	584.1	12.6
50°-60°	1224.7	26.5
60°-70°	1558.8	33.7
70°-80°	523.2	11.3
80°-90°	23.4	0.5
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°	4630.0	100.0
0°-180°	4630.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P437948

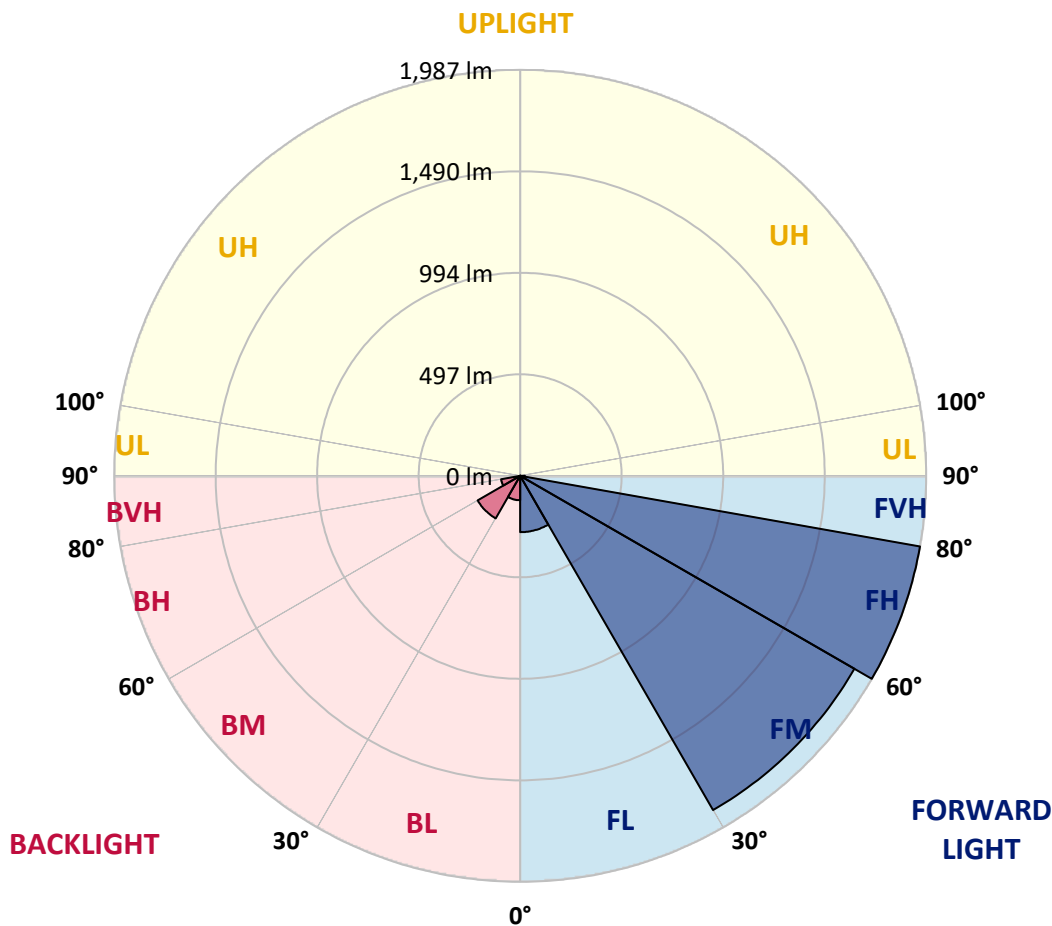
CATALOG NUMBER: ISS-SA1F-830-U-T4W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	275.7	6.0			
FM (30°-60°)	1889.0	40.8			
FH (60°-80°)	1987.1	42.9			G2/5000
FVH (80°-90°)	22.8	0.5			G1/100
BL (0°-30°)	119.6	2.6	B1/500		
BM (30°-60°)	240.3	5.2	B1/1000		
BH (60°-80°)	94.9	2.1	B0/110		G0/110
BVH (80°-90°)	0.6	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-G2**

Type III Short





REPORT NUMBER: P437948  
 CATALOG NUMBER: ISS-SA1F-830-U-T4W-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	441.0	441.0	441.0	441.0	441.0	441.0	441.0	441.0	441.0	441.0	441.0
2.5°	497.0	499.2	490.3	492.5	488.0	479.1	476.8	470.1	461.2	454.5	447.7
5°	561.9	559.7	555.2	546.2	535.1	521.6	517.1	503.7	488.0	470.1	456.7
7.5°	615.7	615.7	608.9	600.0	582.1	564.2	559.7	541.8	519.4	494.8	470.1
10°	662.7	660.4	653.7	642.5	620.1	604.5	597.7	575.4	548.5	521.6	492.5
12.5°	698.5	698.5	689.5	673.9	649.2	633.6	629.1	608.9	582.1	550.7	510.4
15°	718.6	716.4	709.7	689.5	671.6	653.7	651.5	633.6	611.2	577.6	535.1
17.5°	718.6	720.9	709.7	698.5	682.8	667.1	664.9	651.5	629.1	600.0	555.2
20°	709.7	709.7	700.7	691.8	682.8	676.1	673.9	664.9	647.0	622.4	577.6
22.5°	698.5	696.2	694.0	687.3	685.1	682.8	685.1	680.6	669.4	642.5	600.0
25°	696.2	694.0	689.5	685.1	687.3	698.5	698.5	700.7	689.5	667.1	626.8
27.5°	705.2	705.2	698.5	691.8	696.2	711.9	711.9	718.6	711.9	696.2	655.9
30°	743.3	734.3	723.1	709.7	714.2	732.1	734.3	747.7	747.7	736.5	703.0
32.5°	794.7	785.8	756.7	738.8	738.8	761.2	761.2	783.6	803.7	781.3	729.8
35°	835.0	830.6	797.0	774.6	781.3	801.5	808.2	844.0	861.9	805.9	743.3
37.5°	969.4	962.7	897.7	814.9	819.4	875.3	879.8	895.5	879.8	817.1	770.1
40°	1148.5	1152.9	1085.8	949.2	844.0	868.6	868.6	895.5	904.4	866.4	835.0
42.5°	1419.4	1392.5	1325.3	1139.5	953.7	904.4	906.7	944.7	991.8	969.4	973.8
45°	1654.4	1634.3	1562.6	1383.5	1130.6	1023.1	1014.1	1063.4	1155.2	1175.3	1226.8
47.5°	1862.6	1842.5	1811.1	1643.2	1394.7	1231.3	1197.7	1247.0	1405.9	1511.1	1547.0
50°	2113.4	2117.8	2046.2	1949.9	1683.5	1511.1	1502.2	1504.4	1755.2	1842.5	1894.0
52.5°	2431.3	2424.5	2299.2	2247.7	2084.3	1878.3	1826.8	1858.1	2106.6	2169.3	2254.4
55°	2657.4	2650.7	2590.2	2581.3	2527.5	2285.7	2272.3	2270.1	2493.9	2520.8	2621.6
57.5°	2789.5	2800.6	2843.2	2957.4	3002.1	2827.5	2789.5	2715.6	2840.9	2834.2	2943.9
60°	2811.8	2829.8	2950.6	3212.6	3463.3	3369.3	3317.8	3125.3	3158.8	3102.9	3170.0
62.5°	2630.5	2682.0	2896.9	3266.3	3696.1	3821.5	3779.0	3481.2	3402.9	3286.5	3201.4
65°	2164.9	2187.2	2496.2	3033.5	3671.5	4027.5	4027.5	3734.2	3483.5	3196.9	2957.4
67.5°	1495.5	1506.7	1882.8	2446.9	3295.4	3937.9	3971.5	3729.7	3342.4	2845.4	2411.1
70°	848.5	911.2	1139.5	1710.4	2596.9	3467.8	3503.6	3393.9	2798.4	2108.9	1580.5
72.5°	353.7	394.0	555.2	996.2	1766.4	2731.2	2793.9	2691.0	2091.0	1287.3	747.7
75°	109.7	114.2	183.6	434.3	964.9	1714.9	1820.1	1815.6	1249.2	602.2	304.5
77.5°	60.4	62.7	87.3	176.9	423.1	915.6	980.6	926.8	617.9	259.7	94.0
80°	29.1	31.3	47.0	85.1	185.8	342.5	403.0	373.9	214.9	123.1	31.3
82.5°	9.0	11.2	22.4	38.1	73.9	80.6	80.6	143.3	109.7	80.6	15.7
85°	0.0	0.0	6.7	13.4	13.4	13.4	13.4	31.3	51.5	49.3	6.7
87.5°	0.0	0.0	0.0	0.0	2.2	2.2	2.2	2.2	2.2	4.5	2.2
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: P437948  
 CATALOG NUMBER: ISS-SA1F-830-U-T4W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	441.0	441.0	441.0	441.0	441.0	441.0	441.0	441.0	441.0	441.0	441.0
2.5°	443.3	441.0	432.1	423.1	418.6	414.2	409.7	405.2	405.2	407.4	405.2
5°	447.7	441.0	427.6	414.2	405.2	398.5	389.5	387.3	385.1	387.3	387.3
7.5°	458.9	450.0	429.8	409.7	396.3	385.1	378.3	376.1	371.6	371.6	371.6
10°	476.8	461.2	434.3	411.9	394.0	378.3	358.2	335.8	322.4	313.4	306.7
12.5°	494.8	476.8	441.0	414.2	394.0	349.2	300.0	257.5	235.1	223.9	221.6
15°	514.9	492.5	454.5	423.1	369.4	286.6	219.4	183.6	174.6	174.6	172.4
17.5°	530.6	510.4	465.7	425.4	324.6	214.9	165.7	154.5	156.7	161.2	161.2
20°	555.2	530.6	481.3	405.2	250.7	161.2	145.5	147.8	150.0	152.2	154.5
22.5°	577.6	550.7	499.2	360.4	183.6	138.8	138.8	141.0	143.3	145.5	147.8
25°	604.5	579.8	517.1	295.5	141.0	127.6	129.8	134.3	136.6	138.8	138.8
27.5°	635.8	608.9	517.1	232.8	123.1	118.7	118.7	123.1	125.4	129.8	129.8
30°	678.3	649.2	503.7	172.4	114.2	109.7	107.5	111.9	114.2	118.7	118.7
32.5°	705.2	687.3	474.6	129.8	105.2	100.7	98.5	98.5	100.7	105.2	105.2
35°	732.1	723.1	429.8	111.9	98.5	94.0	89.5	85.1	85.1	85.1	85.1
37.5°	774.6	788.0	364.9	103.0	94.0	87.3	80.6	73.9	69.4	67.2	64.9
40°	861.9	873.1	300.0	96.3	87.3	80.6	69.4	60.4	53.7	49.3	49.3
42.5°	998.5	989.5	228.4	91.8	80.6	71.6	58.2	49.3	40.3	35.8	35.8
45°	1235.8	1135.0	167.9	85.1	76.1	64.9	49.3	38.1	29.1	26.9	26.9
47.5°	1526.8	1302.9	127.6	80.6	69.4	56.0	38.1	29.1	22.4	20.1	20.1
50°	1840.2	1475.3	105.2	73.9	62.7	47.0	31.3	20.1	15.7	15.7	15.7
52.5°	2135.7	1591.7	87.3	67.2	53.7	38.1	22.4	15.7	13.4	13.4	13.4
55°	2411.1	1663.4	71.6	58.2	44.8	29.1	17.9	13.4	11.2	9.0	9.0
57.5°	2599.2	1652.2	58.2	47.0	33.6	20.1	13.4	11.2	9.0	6.7	6.7
60°	2664.1	1553.7	44.8	38.1	24.6	15.7	11.2	9.0	6.7	4.5	4.5
62.5°	2572.3	1358.9	35.8	29.1	17.9	13.4	9.0	6.7	4.5	2.2	2.2
65°	2314.8	1168.6	26.9	20.1	13.4	9.0	6.7	4.5	2.2	0.0	0.0
67.5°	1842.5	906.7	22.4	13.4	9.0	6.7	4.5	2.2	0.0	0.0	0.0
70°	1152.9	568.6	17.9	9.0	6.7	4.5	2.2	0.0	0.0	0.0	0.0
72.5°	559.7	279.8	13.4	6.7	4.5	2.2	2.2	0.0	0.0	0.0	0.0
75°	208.2	91.8	11.2	6.7	2.2	2.2	0.0	0.0	0.0	0.0	0.0
77.5°	67.2	31.3	9.0	6.7	4.5	2.2	0.0	0.0	0.0	0.0	0.0
80°	24.6	13.4	4.5	2.2	2.2	2.2	0.0	0.0	0.0	0.0	0.0
82.5°	11.2	6.7	2.2	2.2	2.2	0.0	0.0	0.0	0.0	0.0	0.0
85°	4.5	4.5	2.2	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.2	2.2	2.2	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

REPORT NUMBER: SP1-2408-195-9

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

REPORT NUMBER: SP1-2408-195-9

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

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**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)