

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: P437088

Luminaire Tested: **ISS-SA1A-830-U-T2**

Issue Date: 12/9/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P437088  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/9/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISS-SA1A-830-U-T2  
Description: IMPACT ELITE LED QUARTER SPHERE LUMINAIRE  
(1) 80 CRI, 3000K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE II OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

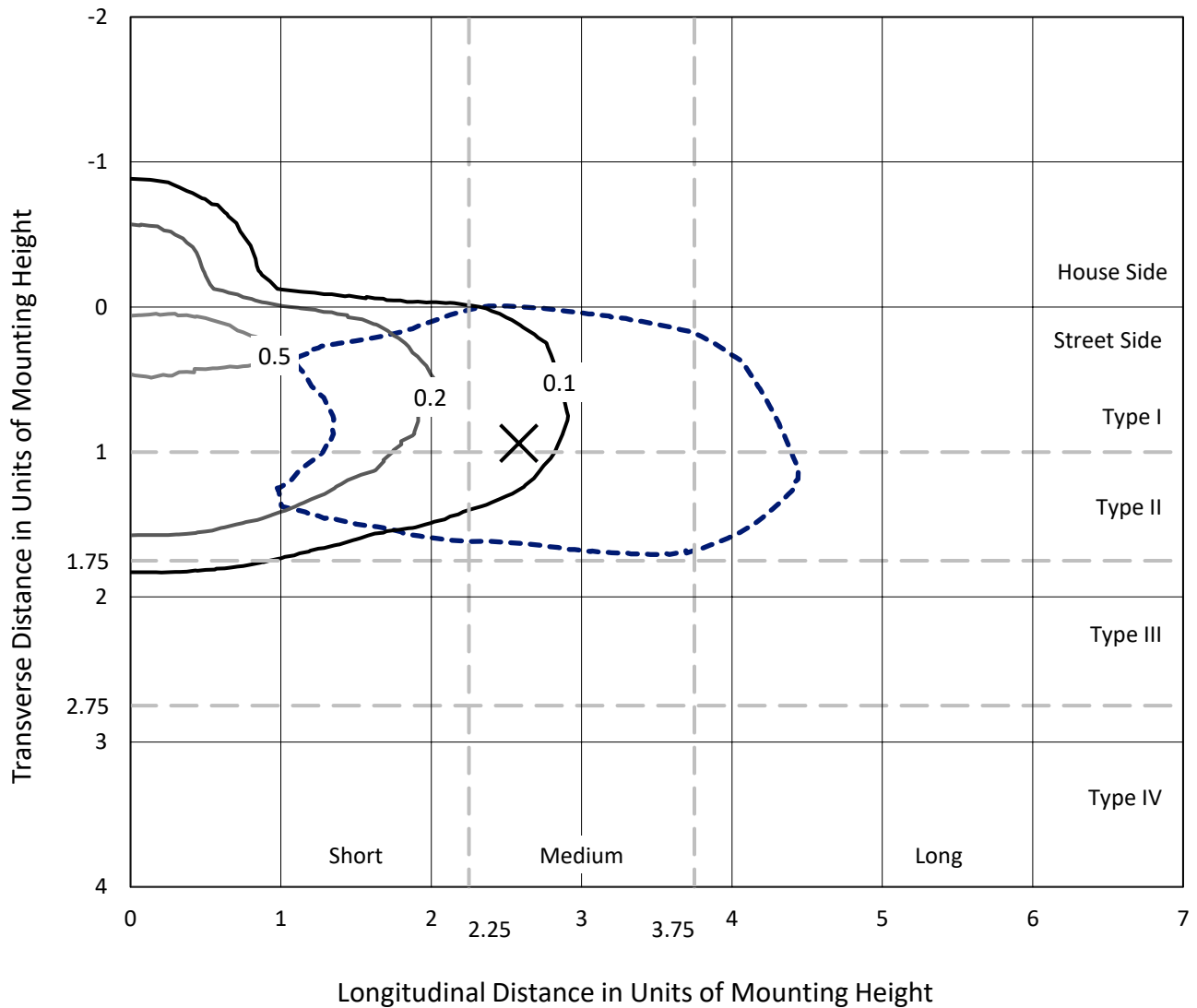
Lumens per Lamp: N/A  
Luminaire Lumens: 2227 lumens  
Efficiency: N/A  
Efficacy: 110.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 20.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P437088  
 CATALOG NUMBER: ISS-SA1A-830-U-T2

### Iso-Footcandle Lines of Horizontal Illumination

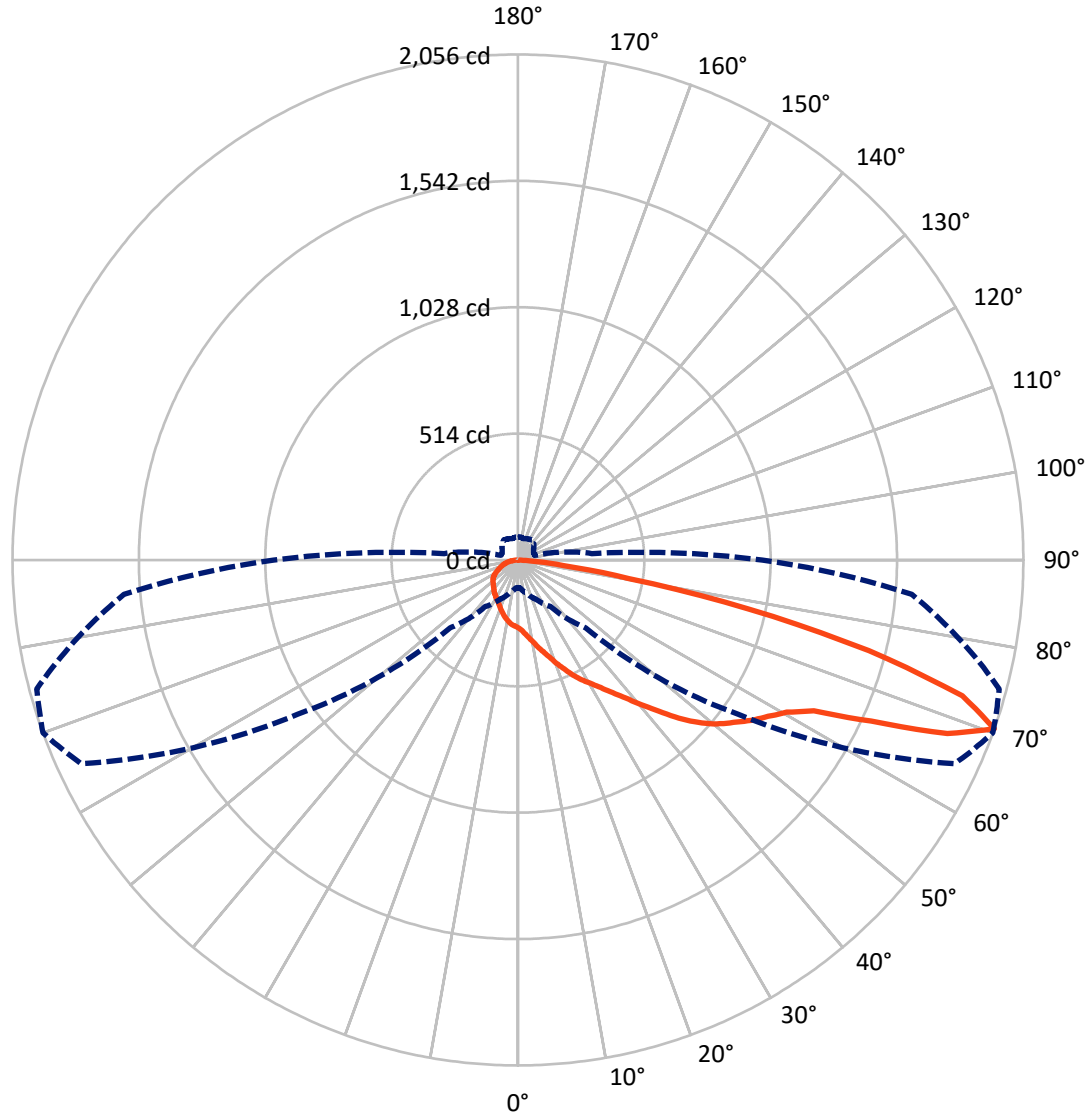
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.6 fc  
 Type II - Medium - N/A

REPORT NUMBER: P437088  
CATALOG NUMBER: ISS-SA1A-830-U-T2

### Luminous Intensity Polar Plot



— Vertical Plane Through 70-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P437088

CATALOG NUMBER: ISS-SA1A-830-U-T2

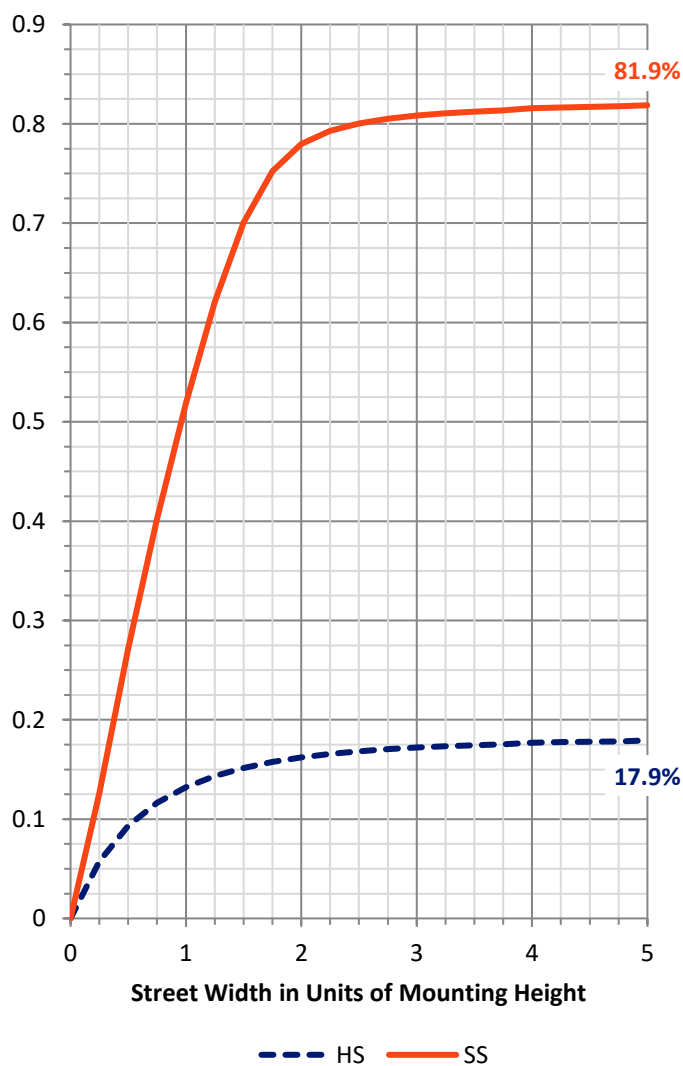
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	402.8	0.0	402.8
	% Fixture	18.1	0.0	18.1
<b>Street Side</b>	Lumens	1824.2	0.0	1824.2
	% Fixture	81.9	0.0	81.9
<b>Total</b>	Lumens	2227.0	0.0	2227.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	27.7	1.2
10°-20°	89.1	4.0
20°-30°	155.8	7.0
30°-40°	231.8	10.4
40°-50°	342.8	15.4
50°-60°	483.1	21.7
60°-70°	537.7	24.1
70°-80°	325.2	14.6
80°-90°	33.8	1.5
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°	2227.0	100.0
0°-180°	2227.0	100.0

**Coefficient of Utilization**



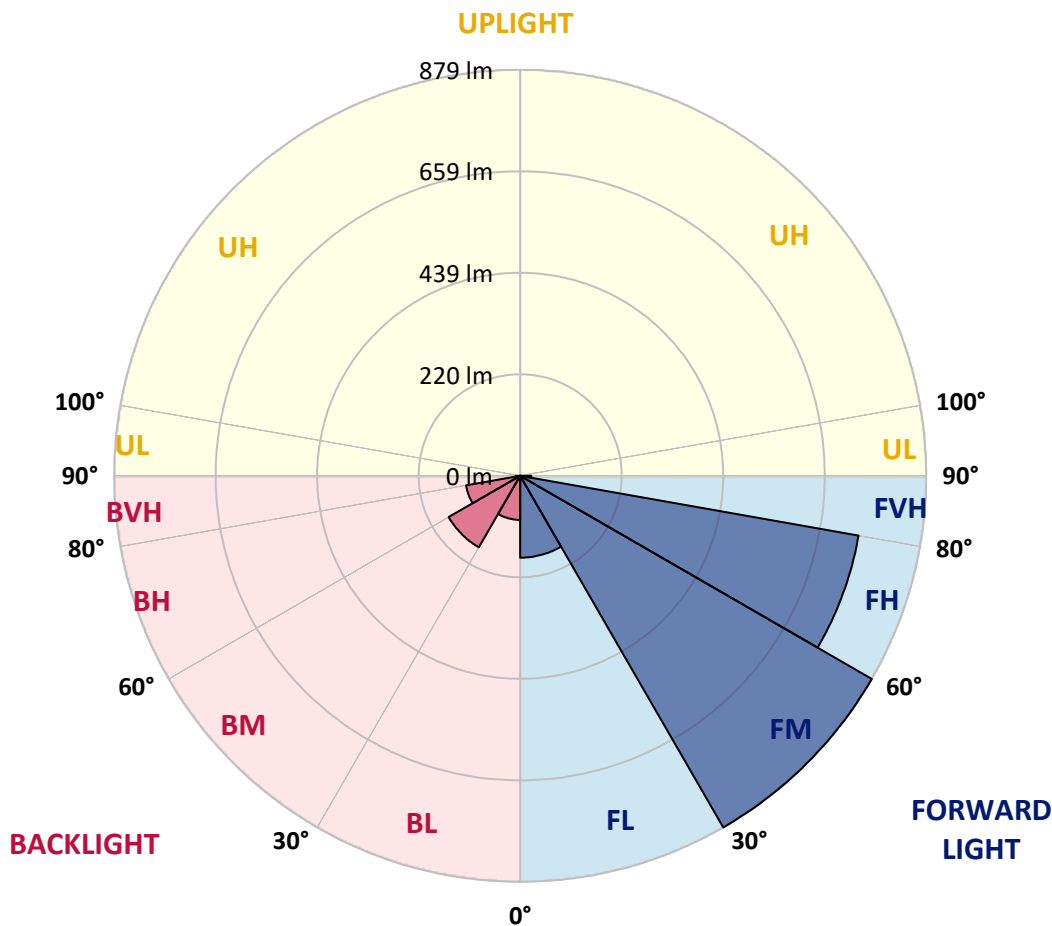
REPORT NUMBER: P437088

CATALOG NUMBER: ISS-SA1A-830-U-T2

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	177.2	8.0			
FM (30°-60°)	879.0	39.5			
FH (60°-80°)	744.0	33.4			G1/1800
FVH (80°-90°)	24.1	1.1			G1/100
BL (0°-30°)	95.4	4.3	B0/110		
BM (30°-60°)	178.8	8.0	B0/220		
BH (60°-80°)	118.9	5.3	B1/500		G1/500
BVH (80°-90°)	9.7	0.4			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 Medium





REPORT NUMBER: P437088

CATALOG NUMBER: ISS-SA1A-830-U-T2

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
0°	275.8	275.8	275.8	275.8	275.8	275.8	275.8	275.8	275.8	275.8	275.8
2.5°	308.4	307.6	303.7	305.3	302.9	298.1	293.3	290.1	286.2	285.4	281.4
5°	340.2	339.4	337.0	333.9	329.1	323.5	314.8	306.8	300.5	294.9	287.8
7.5°	362.5	360.9	360.9	359.3	356.9	350.6	338.6	328.3	318.8	311.6	295.7
10°	375.2	375.2	375.2	378.4	378.4	373.6	364.1	349.8	338.6	329.9	306.8
12.5°	380.8	380.8	382.4	387.1	394.3	394.3	386.3	375.2	364.1	349.0	318.8
15°	384.7	385.5	387.9	395.1	405.4	412.6	412.6	402.2	387.1	372.8	333.9
17.5°	388.7	389.5	394.3	403.0	415.0	428.5	436.4	429.3	415.7	399.8	348.2
20°	389.5	388.7	396.7	408.6	426.1	442.0	461.9	463.4	449.1	426.1	364.9
22.5°	397.5	397.5	400.6	412.6	431.6	454.7	484.9	493.6	480.9	461.1	385.5
25°	413.4	416.5	418.9	422.9	437.2	465.0	504.8	529.4	517.5	495.2	407.0
27.5°	442.8	442.8	445.2	444.4	449.1	473.8	525.4	563.6	551.7	522.3	420.5
30°	471.4	469.8	472.2	472.2	470.6	484.1	540.5	595.4	582.7	554.1	436.4
32.5°	508.8	509.5	508.0	500.8	498.4	503.2	552.5	625.6	618.5	585.1	450.7
35°	559.6	560.4	551.7	536.6	528.6	529.4	568.4	661.4	662.2	627.2	468.2
37.5°	604.1	608.1	607.3	579.5	566.0	562.8	592.2	697.9	712.3	675.7	495.2
40°	645.5	651.0	649.5	626.4	608.9	601.0	629.6	740.1	773.5	736.1	527.8
42.5°	675.7	678.9	680.5	664.6	648.7	652.6	668.5	787.8	840.2	802.9	571.6
45°	708.3	709.9	712.3	703.5	692.4	711.5	717.0	839.4	918.1	888.7	623.2
47.5°	741.7	748.0	750.4	740.9	733.7	764.7	769.5	889.5	987.3	973.0	674.9
50°	795.7	802.1	799.7	788.6	782.2	806.1	816.4	934.8	1048.5	1058.0	725.0
52.5°	865.7	869.6	880.0	860.9	846.6	837.9	855.3	984.9	1097.8	1132.8	778.2
55°	879.2	884.8	922.1	939.6	951.5	885.5	896.7	1029.4	1151.1	1203.5	837.9
57.5°	823.5	826.7	887.1	940.4	1026.2	1003.2	955.5	1086.7	1200.3	1276.6	898.3
60°	685.2	697.1	775.8	869.6	1005.6	1123.2	1108.1	1160.6	1256.0	1349.8	985.7
62.5°	446.7	457.9	541.3	700.3	891.9	1124.8	1326.7	1311.6	1350.6	1438.8	1095.4
65°	228.1	232.1	304.5	424.5	643.1	1005.6	1457.9	1623.2	1578.7	1616.9	1333.1
67.5°	151.8	155.0	187.6	244.8	382.4	696.4	1415.0	1938.0	1884.0	1904.6	1585.9
70°	112.1	115.3	142.3	177.3	231.3	390.3	1094.6	1960.3	2055.7	2026.3	1608.1
72.5°	83.5	84.3	101.0	136.7	170.9	209.9	647.1	1617.7	1889.5	1996.1	1494.5
75°	63.6	63.6	72.3	101.0	133.5	135.1	360.9	1194.8	1473.8	1669.3	1246.4
77.5°	47.7	49.3	53.3	70.0	99.4	97.0	170.1	790.9	958.7	1088.3	767.1
80°	34.2	35.0	37.4	42.9	66.0	62.8	85.9	381.6	457.1	486.5	313.2
82.5°	21.5	21.5	26.2	26.2	37.4	39.0	39.0	154.2	184.4	206.7	104.9
85°	4.0	4.0	7.9	10.3	11.9	13.5	11.9	39.0	53.3	62.8	35.8
87.5°	0.0	0.0	0.0	0.8	0.8	1.6	1.6	1.6	1.6	1.6	1.6
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: P437088  
 CATALOG NUMBER: ISS-SA1A-830-U-T2

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	275.8	275.8	275.8	275.8	275.8	275.8	275.8	275.8	275.8	275.8	275.8
2.5°	278.2	276.6	272.7	267.9	264.7	261.5	259.1	257.6	256.8	256.8	256.0
5°	282.2	277.4	269.5	261.5	254.4	248.8	244.8	242.5	240.9	241.7	240.1
7.5°	288.6	279.8	265.5	252.8	243.2	236.1	232.9	231.3	232.1	232.9	232.9
10°	293.3	281.4	258.4	240.9	232.1	228.1	227.3	228.9	231.3	232.1	231.3
12.5°	298.9	282.2	250.4	230.5	225.0	222.6	226.6	230.5	234.5	237.7	236.1
15°	307.6	282.2	240.9	221.8	217.8	220.2	227.3	232.9	240.1	243.2	244.0
17.5°	314.0	279.8	228.9	212.2	211.4	217.8	228.1	237.7	244.8	250.4	250.4
20°	320.4	275.8	217.0	203.5	206.7	215.4	227.3	238.5	247.2	252.8	254.4
22.5°	328.3	270.3	205.1	195.6	201.1	212.2	225.0	234.5	242.5	247.2	248.0
25°	333.9	260.7	193.2	189.2	197.9	208.3	217.8	224.2	228.1	231.3	231.3
27.5°	337.0	249.6	183.6	184.4	194.0	202.7	207.5	207.5	209.1	209.1	208.3
30°	333.1	237.7	176.5	179.7	188.4	194.8	196.3	193.2	188.4	183.6	182.0
32.5°	331.5	221.8	169.3	174.9	181.2	184.4	183.6	178.9	170.1	163.0	163.0
35°	328.3	206.7	163.0	169.3	173.3	174.1	172.5	165.3	157.4	151.0	150.2
37.5°	325.9	194.8	157.4	163.0	165.3	166.1	163.0	156.6	151.8	147.1	146.3
40°	333.1	184.4	151.8	155.8	157.4	157.4	154.2	149.4	151.8	151.0	151.0
42.5°	346.6	180.4	146.3	148.7	150.2	151.8	149.4	145.5	151.0	146.3	147.9
45°	366.5	180.4	142.3	143.1	144.7	148.7	147.9	142.3	143.1	132.0	129.6
47.5°	395.9	185.2	139.1	136.7	140.7	146.3	143.9	137.5	131.2	122.4	121.6
50°	429.3	194.8	135.9	130.4	136.7	143.1	140.7	132.8	125.6	120.8	120.0
52.5°	462.6	206.7	133.5	124.0	129.6	141.5	140.7	132.0	121.6	118.4	117.6
55°	504.0	217.8	129.6	116.9	124.0	139.9	139.9	127.2	119.2	118.4	117.6
57.5°	550.9	232.1	123.2	107.3	116.9	135.1	134.3	124.0	117.6	116.1	116.9
60°	611.3	249.6	113.7	98.6	110.5	128.0	129.6	120.8	114.5	113.7	113.7
62.5°	713.8	282.2	102.5	90.6	102.5	118.4	122.4	115.3	110.5	111.3	112.1
65°	911.0	343.4	89.8	83.5	94.6	108.1	116.1	109.7	104.9	108.1	108.1
67.5°	1057.2	370.4	79.5	76.3	86.6	100.2	108.9	103.3	98.6	102.5	102.5
70°	993.7	301.3	71.5	70.0	77.9	91.4	99.4	94.6	89.8	93.8	93.0
72.5°	882.4	239.3	62.8	62.8	69.2	81.1	89.8	85.1	78.7	80.3	79.5
75°	772.7	221.8	54.8	54.8	60.4	70.0	77.1	74.7	68.4	67.6	66.0
77.5°	446.0	147.9	46.1	46.9	49.3	58.0	65.2	58.0	53.3	52.5	51.7
80°	175.7	72.3	37.4	36.6	36.6	43.7	46.9	43.7	39.7	39.0	37.4
82.5°	63.6	36.6	28.6	25.4	26.2	31.8	36.6	34.2	31.0	24.6	23.1
85°	24.6	18.3	19.1	15.1	16.7	16.7	19.1	15.9	11.1	7.9	7.9
87.5°	1.6	1.6	1.6	1.6	0.8	0.8	0.0	0.0	0.8	0.8	0.8
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**

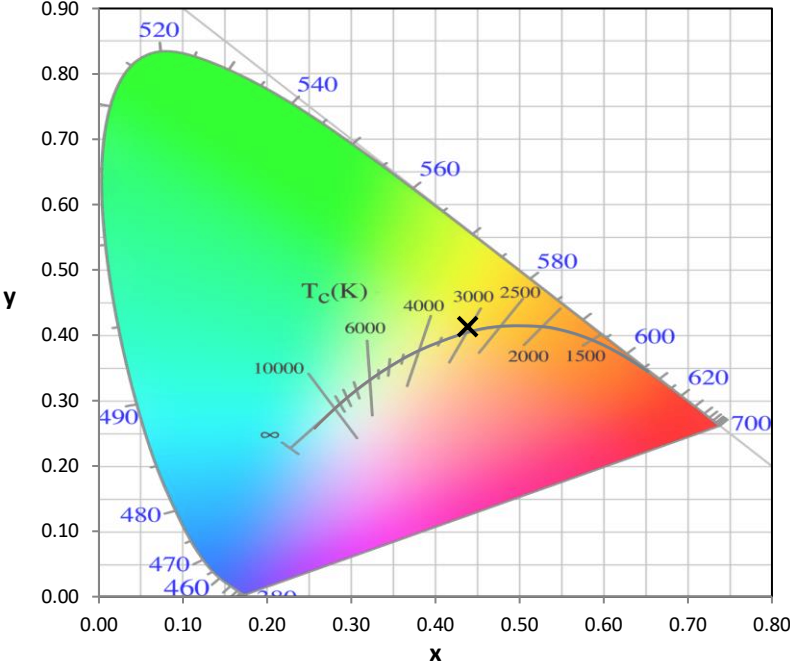
Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

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**

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			

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**

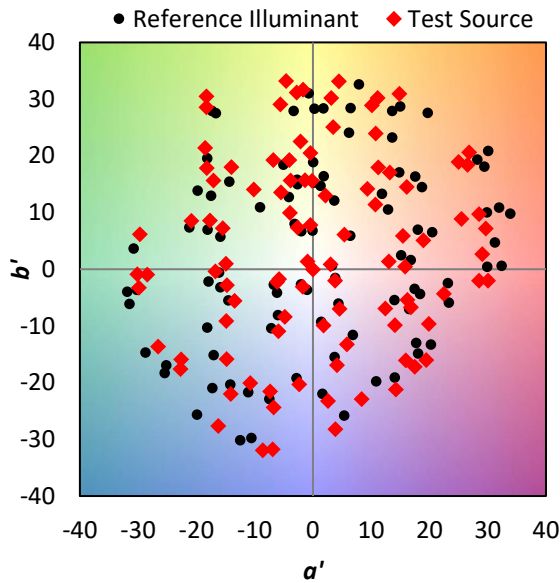
$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
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			

**Summary**

$R_f = 81.5$   
 $R_g = 99.2$   
 $CIE R_a = 81.0$   
 $R_9 = 7.1$



**Color Vector Graphics**



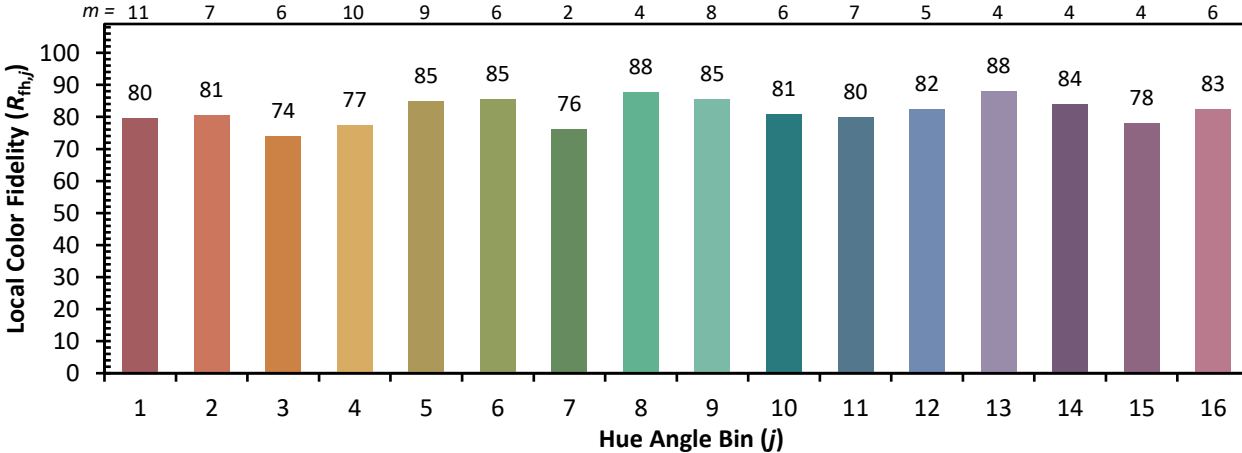


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)