

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: P438620

Luminaire Tested: **IST-SA1D-830-U-SL4-HSS**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438620  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: IST-SA1D-830-U-SL4-HSS  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE  
(1) 80 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL LIGHT  
ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

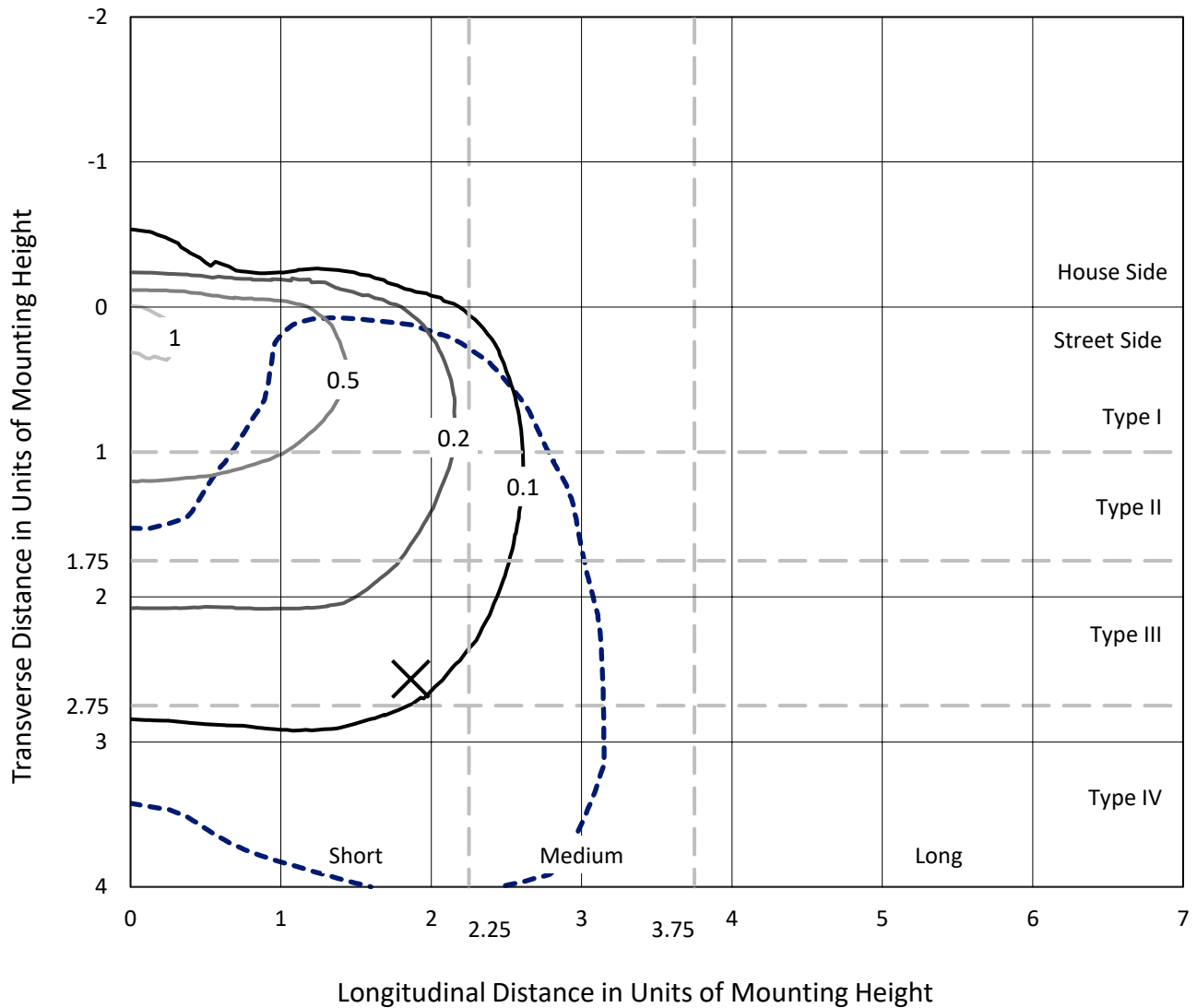
Lumens per Lamp: N/A  
Luminaire Lumens: 3678 lumens  
Efficiency: N/A  
Efficacy: 81.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 45.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
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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 CATALOG NUMBER: IST-SA1D-830-U-SL4-HSS

### Iso-Footcandle Lines of Horizontal Illumination

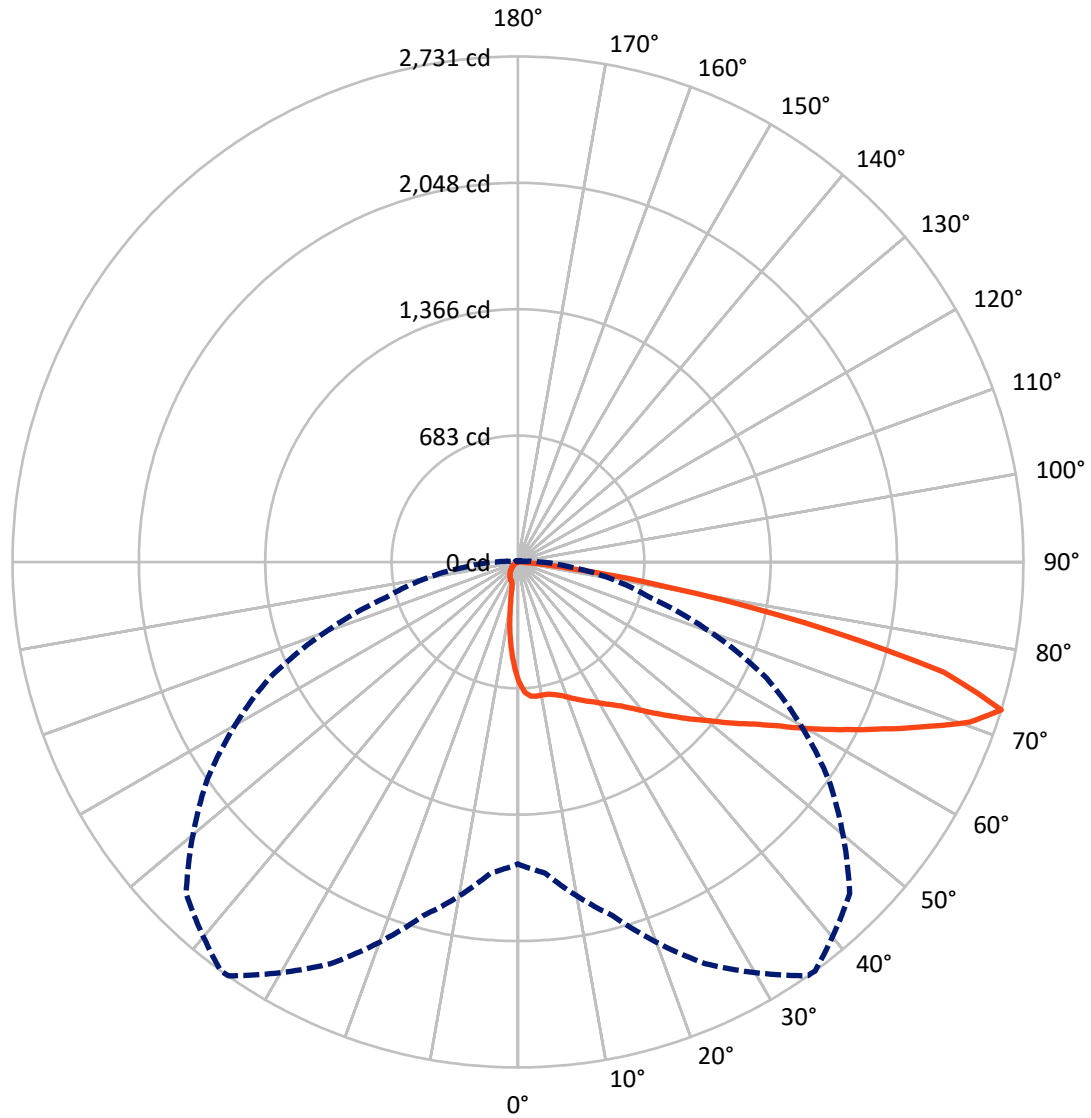
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 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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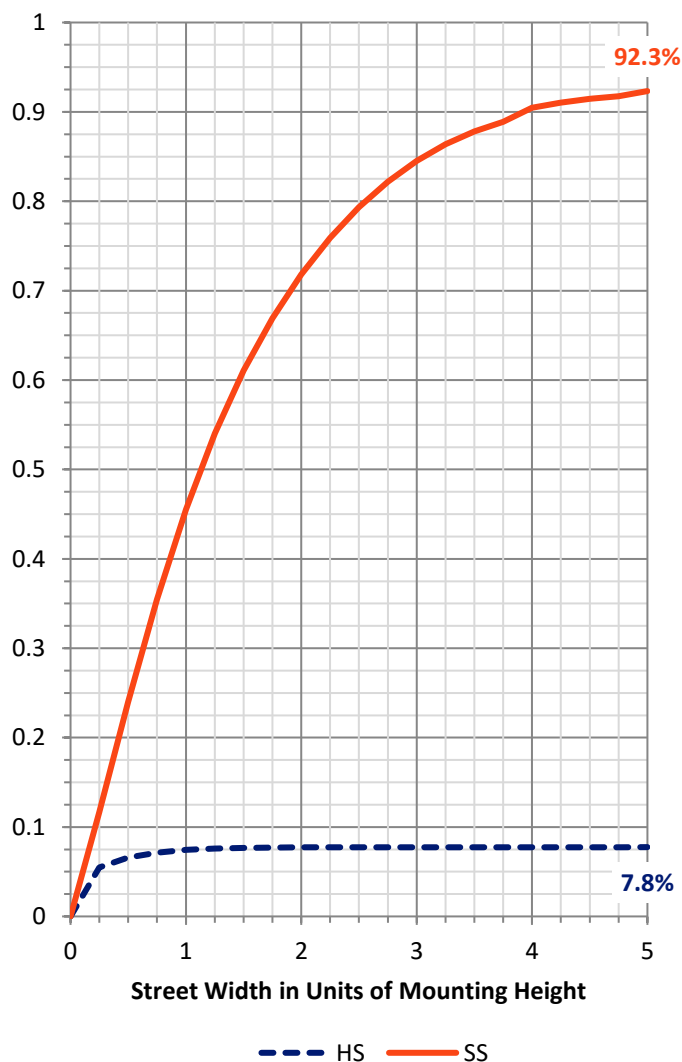
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	287.0	0.0	287.0
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	3391.0	0.0	3391.0
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	3678.0	0.0	3678.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.2	1.5
10°-20°	138.5	3.8
20°-30°	226.2	6.1
30°-40°	343.9	9.3
40°-50°	525.8	14.3
50°-60°	747.7	20.3
60°-70°	948.1	25.8
70°-80°	649.2	17.7
80°-90°	43.5	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°	3678.0	100.0
0°-180°	3678.0	100.0

**Coefficient of Utilization**



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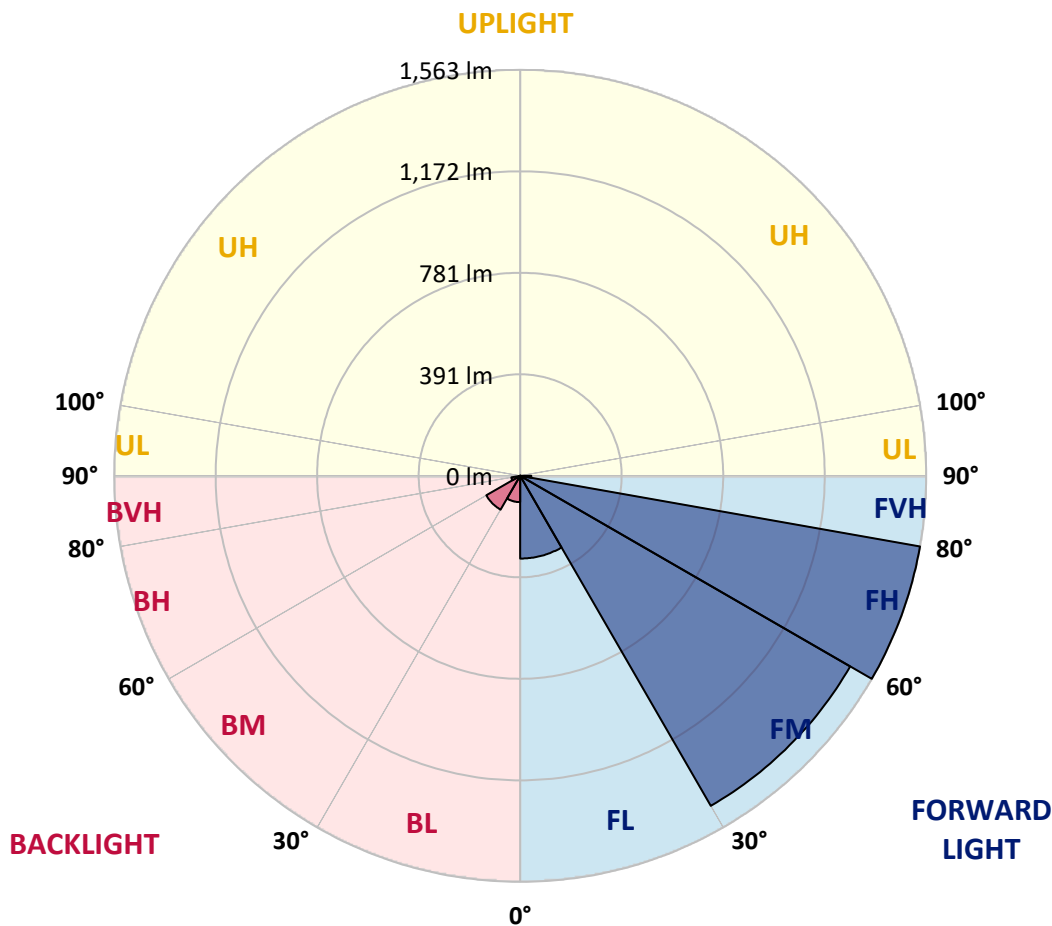
CATALOG NUMBER: IST-SA1D-830-U-SL4-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	318.6	8.7			
FM (30°-60°)	1466.9	39.9			
FH (60°-80°)	1562.7	42.5			G1/1800
FVH (80°-90°)	42.9	1.2			G1/100
BL (0°-30°)	101.3	2.8	B0/110		
BM (30°-60°)	150.5	4.1	B0/220		
BH (60°-80°)	34.6	0.9	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: B0-U0-G1**

Type IV Short





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CATALOG NUMBER: IST-SA1D-830-U-SL4-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9
2.5°	723.6	718.8	715.5	712.3	702.6	704.2	694.5	684.8	670.2	663.7	654.0
5°	741.4	739.8	738.2	733.3	725.2	728.5	718.8	709.0	688.0	668.6	647.5
7.5°	738.2	741.4	739.8	736.6	730.1	731.7	723.6	713.9	696.1	670.2	641.1
10°	731.7	733.3	733.3	731.7	730.1	730.1	723.6	715.5	699.3	676.7	639.4
12.5°	718.8	722.0	726.9	730.1	731.7	733.3	728.5	722.0	707.4	683.1	644.3
15°	713.9	717.1	726.9	736.6	741.4	743.0	738.2	730.1	717.1	696.1	652.4
17.5°	713.9	717.1	733.3	747.9	757.6	759.2	752.8	744.7	728.5	707.4	662.1
20°	723.6	726.9	746.3	772.2	777.0	780.3	770.6	759.2	741.4	720.4	673.4
22.5°	739.8	744.7	768.9	793.2	802.9	804.6	793.2	772.2	756.0	734.9	683.1
25°	767.3	778.7	801.3	827.2	828.8	830.5	812.7	791.6	772.2	751.1	694.5
27.5°	806.2	815.9	835.3	864.5	854.7	854.7	840.2	812.7	793.2	773.8	713.9
30°	856.4	862.8	885.5	896.8	883.9	885.5	867.7	841.8	825.6	806.2	743.0
32.5°	903.3	908.2	932.4	934.1	919.5	917.9	904.9	874.2	861.2	854.7	783.5
35°	947.0	953.5	972.9	971.3	956.7	955.1	948.6	921.1	921.1	927.6	843.4
37.5°	979.4	995.6	1019.9	1013.4	1003.7	1003.7	998.8	977.8	994.0	1018.2	922.7
40°	1021.5	1031.2	1063.6	1058.7	1060.3	1060.3	1061.9	1049.0	1078.1	1118.6	1015.0
42.5°	1044.1	1063.6	1102.4	1108.9	1123.5	1123.5	1136.4	1133.2	1188.2	1240.0	1121.8
45°	1079.8	1100.8	1142.9	1167.2	1185.0	1193.1	1215.7	1233.5	1311.2	1376.0	1235.2
47.5°	1125.1	1142.9	1178.5	1223.8	1256.2	1269.2	1314.5	1343.6	1447.2	1513.6	1342.0
50°	1186.6	1189.8	1215.7	1283.7	1340.4	1348.5	1419.7	1468.3	1584.8	1646.3	1418.1
52.5°	1253.0	1246.5	1261.1	1353.3	1432.7	1447.2	1528.2	1602.6	1719.2	1732.1	1448.8
55°	1304.8	1304.8	1316.1	1429.4	1536.3	1544.4	1657.7	1737.0	1842.2	1782.3	1468.3
57.5°	1371.1	1364.7	1382.5	1507.1	1665.8	1672.2	1803.4	1864.9	1910.2	1814.7	1465.0
60°	1419.7	1427.8	1455.3	1607.5	1800.1	1829.3	1939.4	1958.8	1981.4	1826.0	1455.3
62.5°	1487.7	1486.1	1539.5	1719.2	1975.0	1994.4	2070.5	2038.1	2036.5	1845.5	1442.4
65°	1544.4	1557.3	1638.3	1853.6	2161.1	2174.1	2200.0	2157.9	2112.6	1866.5	1329.1
67.5°	1631.8	1657.7	1759.7	2030.0	2360.2	2374.8	2397.5	2305.2	2133.6	1717.6	1107.3
70°	1730.5	1764.5	1929.6	2264.7	2573.9	2590.1	2595.0	2319.8	1932.9	1348.5	751.1
72.5°	1631.8	1686.8	1978.2	2394.2	2729.3	2731.0	2535.1	2049.4	1481.2	736.6	265.5
75°	1050.6	1120.2	1638.3	2123.9	2350.5	2376.4	1987.9	1432.7	691.2	165.1	74.5
77.5°	356.1	380.4	804.6	1340.4	1576.7	1586.4	1308.0	725.2	218.5	66.4	40.5
80°	205.6	204.0	281.7	586.0	786.7	817.5	658.9	289.8	102.0	34.0	27.5
82.5°	48.6	50.2	147.3	213.7	312.4	281.7	139.2	174.8	46.9	19.4	24.3
85°	0.0	0.0	24.3	51.8	37.2	43.7	13.0	53.4	8.1	8.1	16.2
87.5°	0.0	0.0	0.0	0.0	1.6	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



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 CATALOG NUMBER: IST-SA1D-830-U-SL4-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9
2.5°	644.3	636.2	620.0	607.1	589.3	574.7	560.1	553.6	542.3	539.1	540.7
5°	634.6	621.6	590.9	560.1	526.1	493.7	459.7	440.3	432.2	417.7	414.4
7.5°	623.2	603.8	560.1	509.9	451.7	404.7	357.8	325.4	296.2	284.9	280.1
10°	618.4	594.1	532.6	456.5	377.2	301.1	242.8	200.7	174.8	165.1	161.9
12.5°	618.4	589.3	506.7	404.7	299.5	212.1	158.6	134.4	126.3	124.6	123.0
15°	624.9	587.6	482.4	349.7	226.6	147.3	121.4	118.2	116.6	116.6	118.2
17.5°	628.1	584.4	456.5	296.2	166.7	118.2	113.3	113.3	113.3	113.3	113.3
20°	636.2	582.8	427.4	239.6	126.3	110.1	108.5	108.5	108.5	108.5	110.1
22.5°	637.8	582.8	391.8	184.5	111.7	105.2	103.6	103.6	103.6	105.2	105.2
25°	647.5	579.5	357.8	140.8	105.2	98.7	98.7	97.1	98.7	98.7	98.7
27.5°	660.5	581.2	315.7	116.6	98.7	93.9	92.3	92.3	92.3	92.3	92.3
30°	675.1	584.4	272.0	103.6	92.3	89.0	87.4	85.8	85.8	85.8	85.8
32.5°	702.6	587.6	225.0	93.9	85.8	82.6	80.9	79.3	79.3	79.3	79.3
35°	744.7	605.4	184.5	87.4	79.3	76.1	74.5	72.8	72.8	72.8	71.2
37.5°	801.3	633.0	145.7	80.9	72.8	69.6	68.0	66.4	64.8	64.8	64.8
40°	869.3	662.1	121.4	72.8	66.4	63.1	61.5	59.9	58.3	56.7	56.7
42.5°	950.3	697.7	97.1	66.4	59.9	56.7	55.0	53.4	50.2	48.6	50.2
45°	1040.9	731.7	82.6	61.5	55.0	51.8	50.2	46.9	43.7	42.1	42.1
47.5°	1120.2	739.8	72.8	55.0	50.2	46.9	45.3	40.5	37.2	34.0	34.0
50°	1173.6	725.2	64.8	50.2	45.3	43.7	40.5	34.0	29.1	27.5	25.9
52.5°	1180.1	686.4	56.7	45.3	42.1	38.9	34.0	29.1	24.3	21.0	21.0
55°	1173.6	621.6	50.2	42.1	37.2	34.0	29.1	22.7	17.8	16.2	14.6
57.5°	1152.6	553.6	45.3	37.2	34.0	29.1	22.7	17.8	13.0	11.3	9.7
60°	1113.8	471.1	40.5	34.0	29.1	24.3	17.8	13.0	8.1	6.5	6.5
62.5°	1040.9	380.4	35.6	29.1	24.3	19.4	14.6	8.1	4.9	3.2	3.2
65°	896.8	284.9	30.8	24.3	19.4	16.2	9.7	4.9	1.6	0.0	0.0
67.5°	697.7	192.6	24.3	19.4	16.2	13.0	8.1	1.6	0.0	0.0	0.0
70°	411.2	102.0	19.4	14.6	13.0	9.7	4.9	1.6	0.0	0.0	0.0
72.5°	118.2	40.5	14.6	11.3	9.7	6.5	3.2	1.6	0.0	0.0	0.0
75°	48.6	24.3	9.7	8.1	8.1	4.9	1.6	1.6	0.0	0.0	0.0
77.5°	32.4	17.8	6.5	4.9	4.9	3.2	1.6	0.0	0.0	0.0	0.0
80°	25.9	9.7	3.2	3.2	3.2	1.6	1.6	0.0	0.0	0.0	0.0
82.5°	22.7	6.5	1.6	1.6	1.6	1.6	0.0	0.0	0.0	0.0	0.0
85°	11.3	3.2	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	1.6	1.6	1.6	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**

$\lambda$ (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)