

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: P438456

Luminaire Tested: **IST-SA1C-830-U-T2**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438456  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: IST-SA1C-830-U-T2  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE  
(1) 80 CRI, 3000K, 615mA LIGHTSQUARE WITH 16 LEDS AND TYPE II OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3636 lumens  
Efficiency: N/A  
Efficacy: 106.3 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

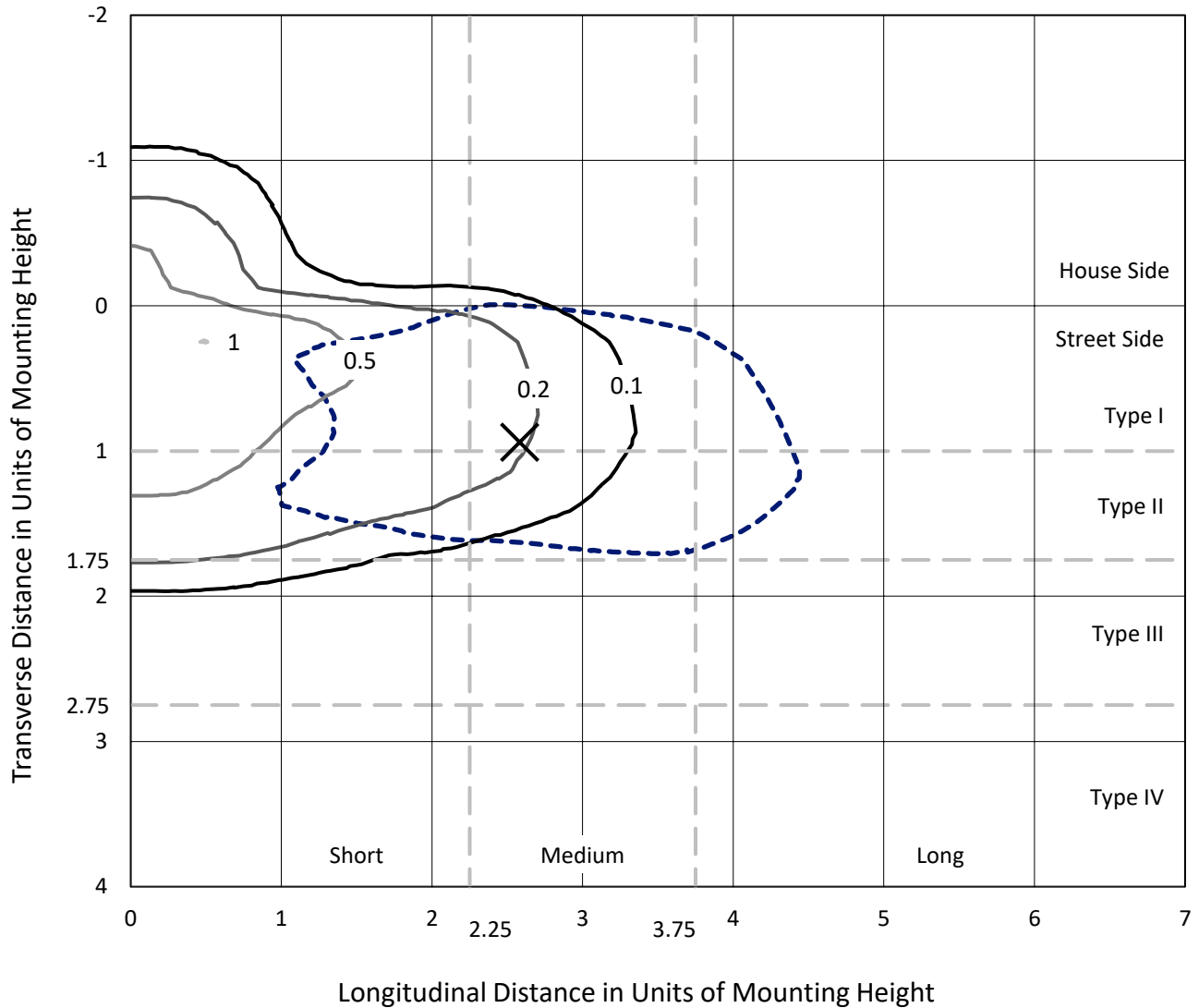
Input Watts (W): 34.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

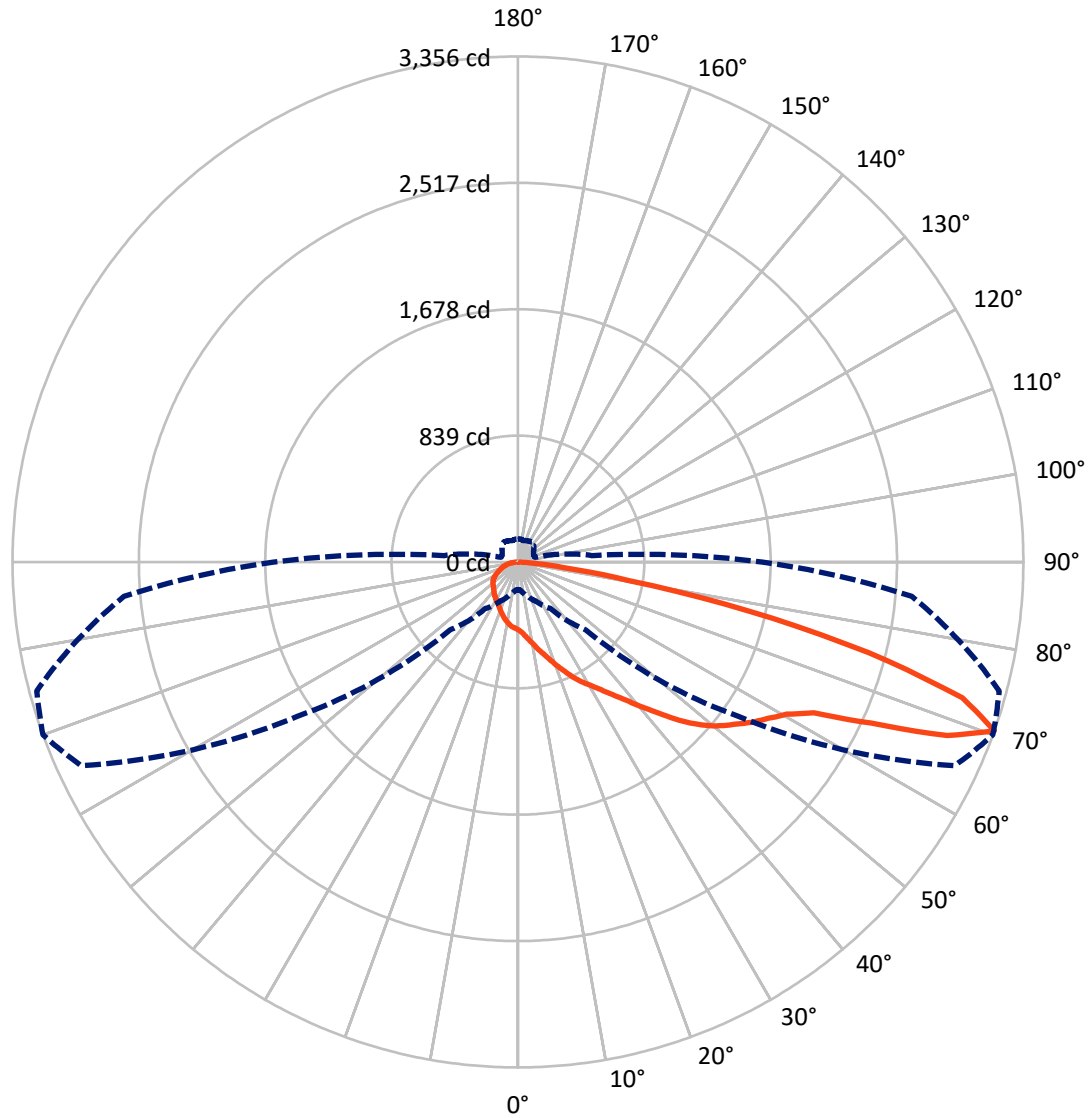
✕ Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



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

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	657.6	0.0	657.6
	% Fixture	18.1	0.0	18.1
<b>Street Side</b>	Lumens	2978.4	0.0	2978.4
	% Fixture	81.9	0.0	81.9
<b>Total</b>	Lumens	3636.0	0.0	3636.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.3	1.2
10°-20°	145.4	4.0
20°-30°	254.4	7.0
30°-40°	378.5	10.4
40°-50°	559.7	15.4
50°-60°	788.7	21.7
60°-70°	877.8	24.1
70°-80°	531.0	14.6
80°-90°	55.1	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°	3636.0	100.0
0°-180°	3636.0	100.0

**Coefficient of Utilization**

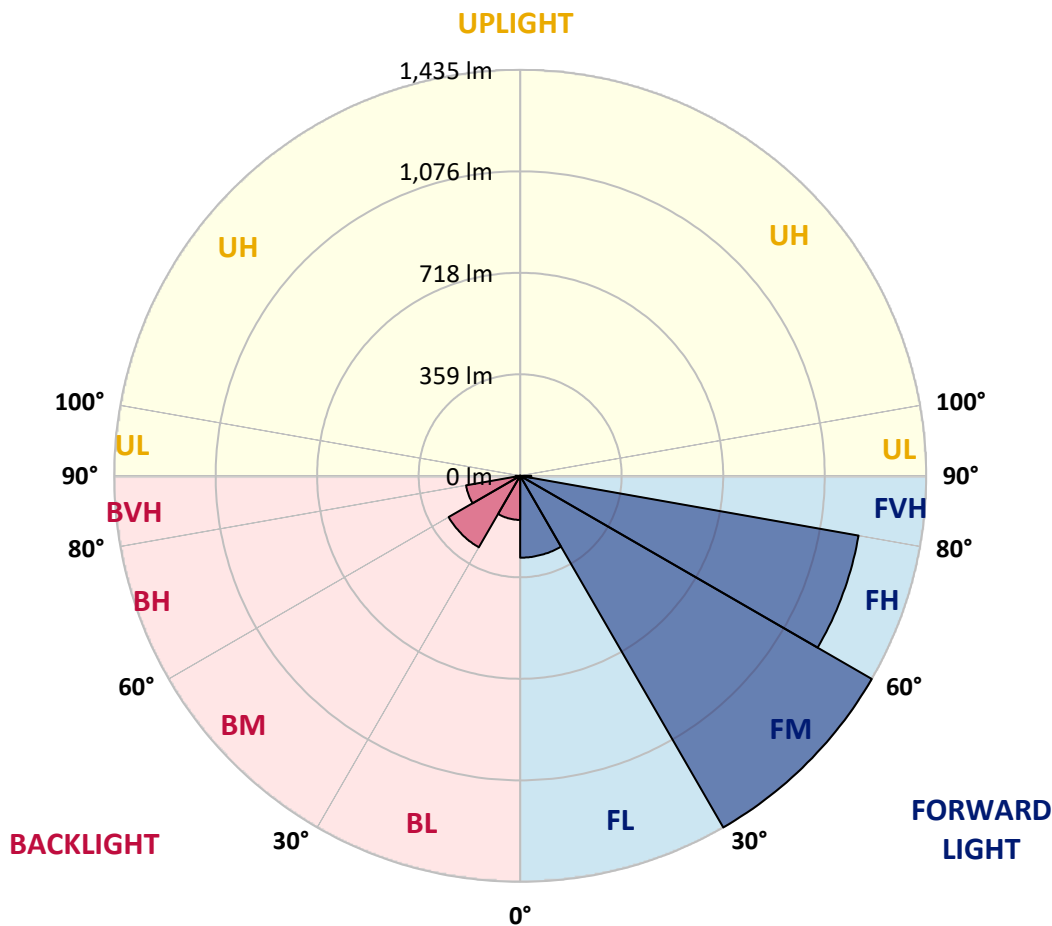


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	289.3	8.0			
FM (30°-60°)	1435.1	39.5			
FH (60°-80°)	1214.6	33.4			G1/1800
FVH (80°-90°)	39.3	1.1			G1/100
BL (0°-30°)	155.8	4.3	B1/500		
BM (30°-60°)	291.9	8.0	B1/1000		
BH (60°-80°)	194.2	5.3	B1/500		G1/500
BVH (80°-90°)	15.8	0.4			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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
0°	450.4	450.4	450.4	450.4	450.4	450.4	450.4	450.4	450.4	450.4	450.4
2.5°	503.6	502.3	495.8	498.4	494.5	486.7	478.9	473.7	467.2	465.9	459.4
5°	555.5	554.2	550.3	545.1	537.3	528.2	514.0	501.0	490.6	481.5	469.8
7.5°	591.8	589.2	589.2	586.6	582.7	572.4	552.9	536.0	520.4	508.8	482.8
10°	612.6	612.6	612.6	617.8	617.8	610.0	594.4	571.1	552.9	538.6	501.0
12.5°	621.7	621.7	624.3	632.1	643.7	643.7	630.8	612.6	594.4	569.8	520.4
15°	628.2	629.5	633.4	645.0	661.9	673.6	673.6	656.7	632.1	608.7	545.1
17.5°	634.7	636.0	643.7	658.0	677.5	699.5	712.5	700.8	678.8	652.8	568.5
20°	636.0	634.7	647.6	667.1	695.7	721.6	754.1	756.7	733.3	695.7	595.7
22.5°	648.9	648.9	654.1	673.6	704.7	742.4	791.7	806.0	785.2	752.8	629.5
25°	674.9	680.1	684.0	690.5	713.8	759.3	824.1	864.4	844.9	808.6	664.5
27.5°	722.9	722.9	726.8	725.5	733.3	773.5	857.9	920.2	900.7	852.7	686.6
30°	769.6	767.0	770.9	770.9	768.3	790.4	882.5	972.1	951.3	904.6	712.5
32.5°	830.6	831.9	829.3	817.7	813.8	821.5	902.0	1021.4	1009.7	955.2	735.9
35°	913.7	915.0	900.7	876.1	863.1	864.4	928.0	1079.8	1081.1	1024.0	764.4
37.5°	986.4	992.9	991.6	946.1	924.1	918.9	966.9	1139.5	1162.9	1103.2	808.6
40°	1053.9	1063.0	1060.4	1022.7	994.2	981.2	1027.9	1208.3	1262.8	1201.8	861.8
42.5°	1103.2	1108.4	1111.0	1085.0	1059.1	1065.5	1091.5	1286.2	1371.8	1310.8	933.2
45°	1156.4	1159.0	1162.9	1148.6	1130.4	1161.6	1170.7	1370.5	1499.0	1451.0	1017.5
47.5°	1210.9	1221.3	1225.2	1209.6	1197.9	1248.5	1256.3	1452.3	1611.9	1588.6	1101.9
50°	1299.2	1309.5	1305.7	1287.5	1277.1	1316.0	1332.9	1526.3	1711.9	1727.5	1183.7
52.5°	1413.4	1419.9	1436.7	1405.6	1382.2	1367.9	1396.5	1608.1	1792.4	1849.5	1270.6
55°	1435.4	1444.5	1505.5	1534.1	1553.5	1445.8	1464.0	1680.7	1879.3	1965.0	1367.9
57.5°	1344.6	1349.8	1448.4	1535.4	1675.5	1637.9	1560.0	1774.2	1959.8	2084.4	1466.6
60°	1118.8	1138.2	1266.7	1419.9	1641.8	1833.9	1809.2	1894.9	2050.6	2203.8	1609.4
62.5°	729.4	747.6	883.8	1143.4	1456.2	1836.5	2166.1	2141.5	2205.1	2349.1	1788.5
65°	372.5	379.0	497.1	693.1	1050.0	1641.8	2380.3	2650.2	2577.6	2639.9	2176.5
67.5°	247.9	253.1	306.3	399.7	624.3	1136.9	2310.2	3164.2	3075.9	3109.7	2589.2
70°	183.0	188.2	232.3	289.4	377.7	637.3	1787.2	3200.5	3356.3	3308.3	2625.6
72.5°	136.3	137.6	164.8	223.2	279.0	342.6	1056.5	2641.2	3085.0	3258.9	2440.0
75°	103.8	103.8	118.1	164.8	218.0	220.6	589.2	1950.7	2406.2	2725.5	2035.1
77.5°	77.9	80.5	87.0	114.2	162.2	158.3	277.7	1291.4	1565.2	1776.8	1252.4
80°	55.8	57.1	61.0	70.1	107.7	102.5	140.2	623.0	746.3	794.3	511.4
82.5°	35.0	35.0	42.8	42.8	61.0	63.6	63.6	251.8	301.1	337.4	171.3
85°	6.5	6.5	13.0	16.9	19.5	22.1	19.5	63.6	87.0	102.5	58.4
87.5°	0.0	0.0	0.0	1.3	1.3	2.6	2.6	2.6	2.6	2.6	2.6
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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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	450.4	450.4	450.4	450.4	450.4	450.4	450.4	450.4	450.4	450.4	450.4
2.5°	454.3	451.7	445.2	437.4	432.2	427.0	423.1	420.5	419.2	419.2	417.9
5°	460.7	453.0	440.0	427.0	415.3	406.2	399.7	395.8	393.3	394.6	392.0
7.5°	471.1	456.8	433.5	412.7	397.1	385.5	380.3	377.7	379.0	380.3	380.3
10°	478.9	459.4	421.8	393.3	379.0	372.5	371.2	373.8	377.7	379.0	377.7
12.5°	488.0	460.7	408.8	376.4	367.3	363.4	369.9	376.4	382.9	388.1	385.5
15°	502.3	460.7	393.3	362.1	355.6	359.5	371.2	380.3	392.0	397.1	398.4
17.5°	512.7	456.8	373.8	346.5	345.2	355.6	372.5	388.1	399.7	408.8	408.8
20°	523.0	450.4	354.3	332.3	337.4	351.7	371.2	389.4	403.6	412.7	415.3
22.5°	536.0	441.3	334.8	319.3	328.4	346.5	367.3	382.9	395.8	403.6	404.9
25°	545.1	425.7	315.4	308.9	323.2	340.0	355.6	366.0	372.5	377.7	377.7
27.5°	550.3	407.5	299.8	301.1	316.7	331.0	338.7	338.7	341.3	341.3	340.0
30°	543.8	388.1	288.1	293.3	307.6	318.0	320.6	315.4	307.6	299.8	297.2
32.5°	541.2	362.1	276.4	285.5	295.9	301.1	299.8	292.0	277.7	266.1	266.1
35°	536.0	337.4	266.1	276.4	282.9	284.2	281.6	270.0	257.0	246.6	245.3
37.5°	532.1	318.0	257.0	266.1	270.0	271.3	266.1	255.7	247.9	240.1	238.8
40°	543.8	301.1	247.9	254.4	257.0	257.0	251.8	244.0	247.9	246.6	246.6
42.5°	565.9	294.6	238.8	242.7	245.3	247.9	244.0	237.5	246.6	238.8	241.4
45°	598.3	294.6	232.3	233.6	236.2	242.7	241.4	232.3	233.6	215.4	211.6
47.5°	646.3	302.4	227.1	223.2	229.7	238.8	234.9	224.5	214.1	199.9	198.6
50°	700.8	318.0	221.9	212.8	223.2	233.6	229.7	216.7	205.1	197.3	196.0
52.5°	755.4	337.4	218.0	202.5	211.6	231.0	229.7	215.4	198.6	193.4	192.1
55°	822.8	355.6	211.6	190.8	202.5	228.4	228.4	207.7	194.7	193.4	192.1
57.5°	899.4	379.0	201.2	175.2	190.8	220.6	219.3	202.5	192.1	189.5	190.8
60°	998.1	407.5	185.6	160.9	180.4	209.0	211.6	197.3	186.9	185.6	185.6
62.5°	1165.5	460.7	167.4	148.0	167.4	193.4	199.9	188.2	180.4	181.7	183.0
65°	1487.4	560.7	146.7	136.3	154.4	176.5	189.5	179.1	171.3	176.5	176.5
67.5°	1726.2	604.8	129.8	124.6	141.5	163.5	177.8	168.7	160.9	167.4	167.4
70°	1622.3	491.9	116.8	114.2	127.2	149.3	162.2	154.4	146.7	153.1	151.9
72.5°	1440.6	390.7	102.5	102.5	112.9	132.4	146.7	138.9	128.5	131.1	129.8
75°	1261.5	362.1	89.6	89.6	98.6	114.2	125.9	122.0	111.6	110.3	107.7
77.5°	728.1	241.4	75.3	76.6	80.5	94.7	106.4	94.7	87.0	85.7	84.4
80°	286.8	118.1	61.0	59.7	59.7	71.4	76.6	71.4	64.9	63.6	61.0
82.5°	103.8	59.7	46.7	41.5	42.8	51.9	59.7	55.8	50.6	40.2	37.6
85°	40.2	29.9	31.1	24.7	27.3	27.3	31.1	26.0	18.2	13.0	13.0
87.5°	2.6	2.6	2.6	2.6	1.3	1.3	0.0	0.0	1.3	1.3	1.3
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**

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



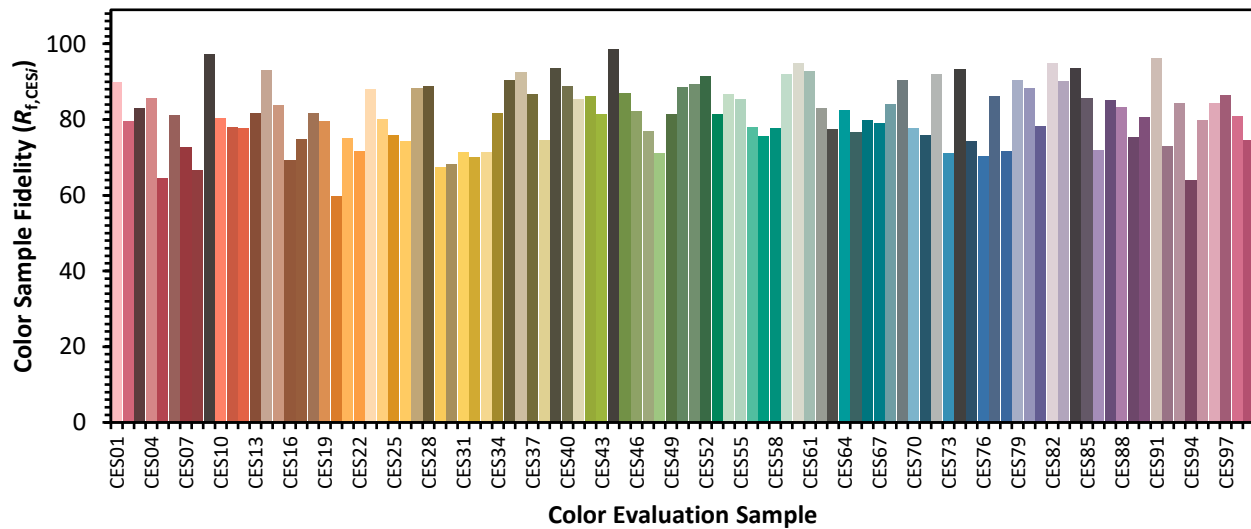
**Color Vector Graphics**





**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)