

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P638494

Luminaire Tested: GWS-SA4E-830-U-T2R-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P638494
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA4E-830-U-T2R-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS WITH HOUSE SIDE SHIELD
Light Source: (64) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19605.8 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G2

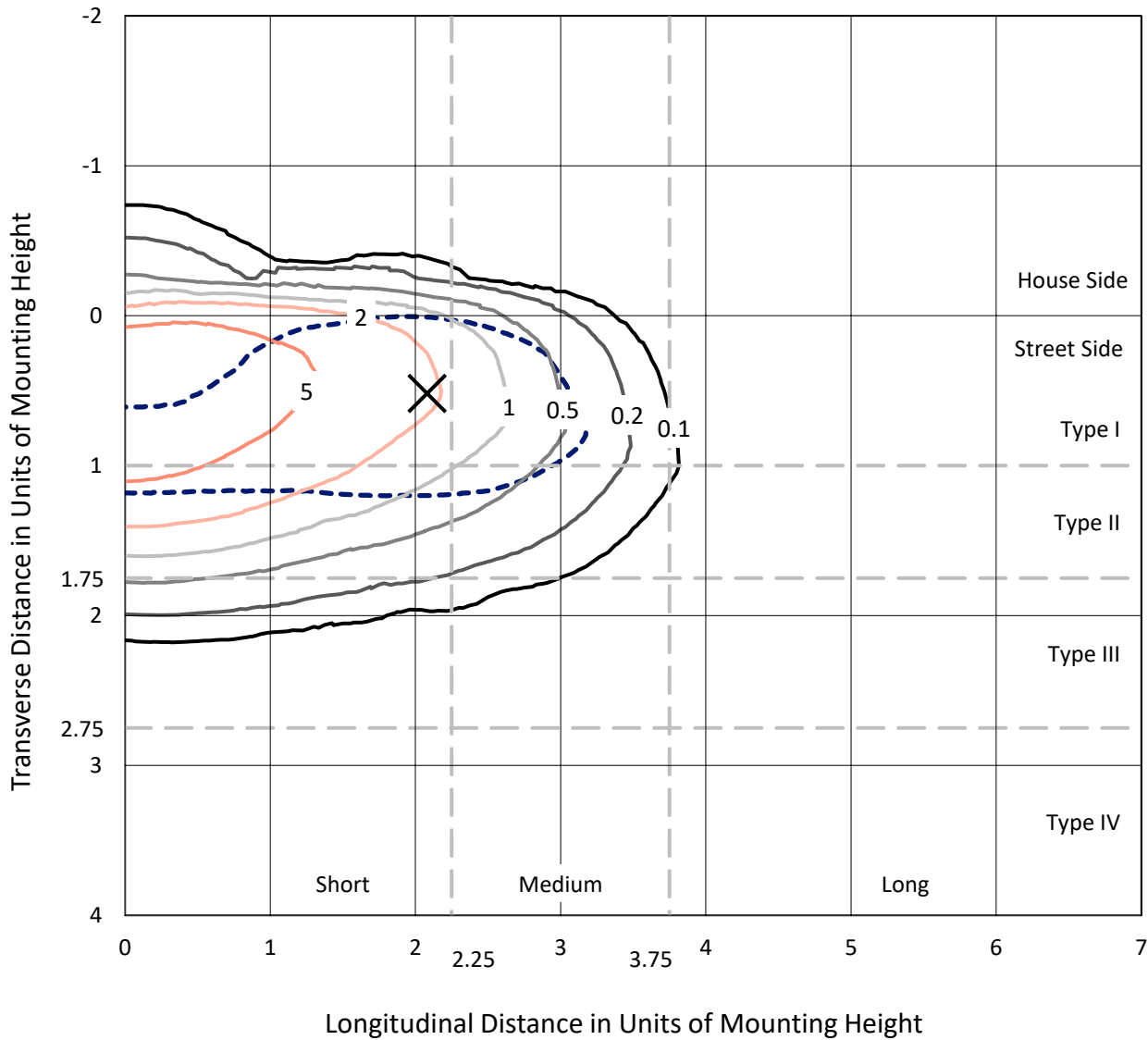
Input Watts (W): 202.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P638494
 CATALOG NUMBER: GWS-SA4E-830-U-T2R-W-HSS

Iso-Footcandle Lines of Horizontal Illumination

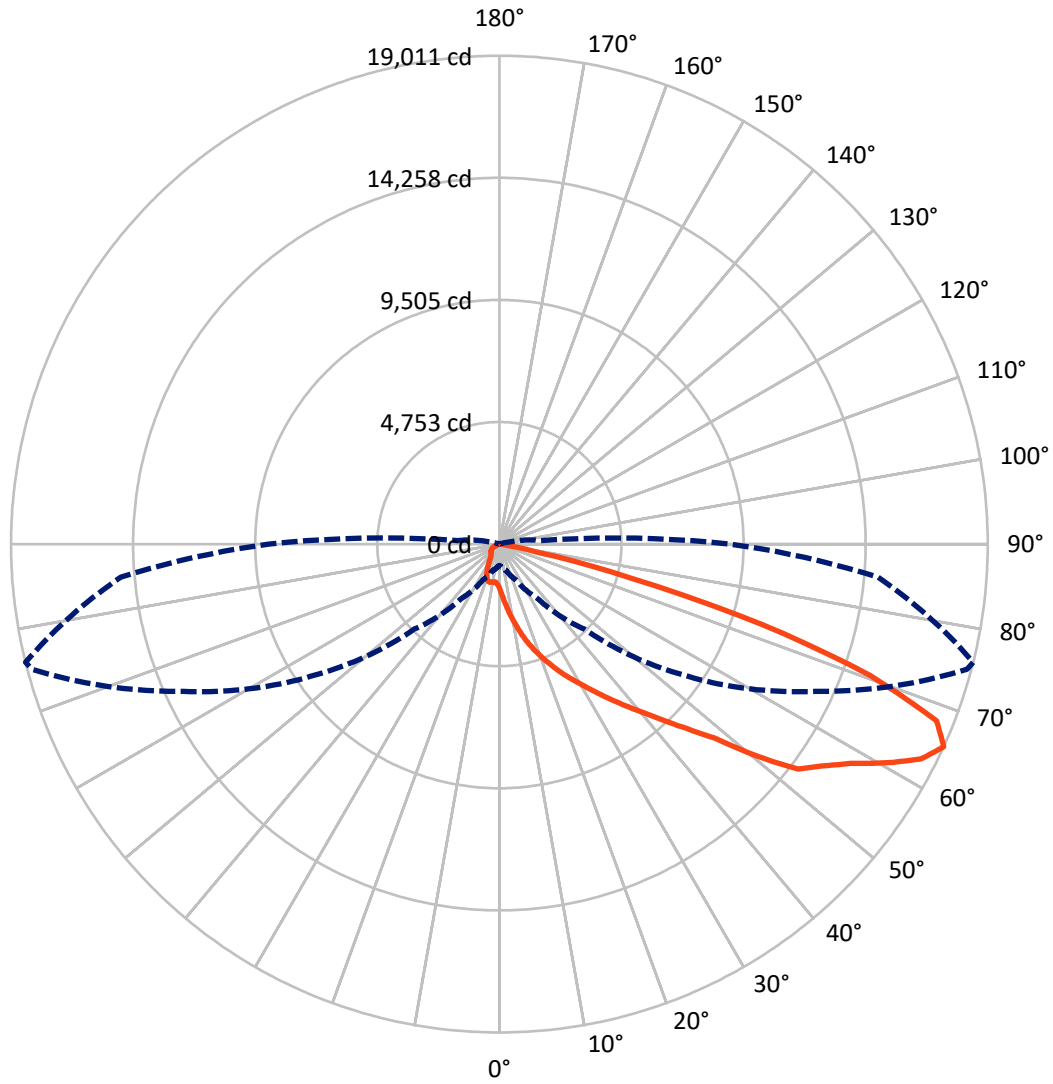
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.4 fc
 Type II - Short - N/A

REPORT NUMBER: P638494
CATALOG NUMBER: GWS-SA4E-830-U-T2R-W-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P638494
 CATALOG NUMBER: GWS-SA4E-830-U-T2R-W-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1084.1	0.0	1084.1
	% Fixture	5.5	0.0	5.5
Street Side	Lumens	18521.7	0.0	18521.7
	% Fixture	94.5	0.0	94.5
Total	Lumens	19605.8	0.0	19605.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.2	1.1
10°-20°	801.3	4.1
20°-30°	1634.7	8.3
30°-40°	2907.5	14.8
40°-50°	4297.9	21.9
50°-60°	4920.8	25.1
60°-70°	3754.3	19.1
70°-80°	1051.7	5.4
80°-90°	26.5	0.1
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°	19605.8	100.0
0°-180°	19605.8	100.0

Coefficient of Utilization



REPORT NUMBER: P638494

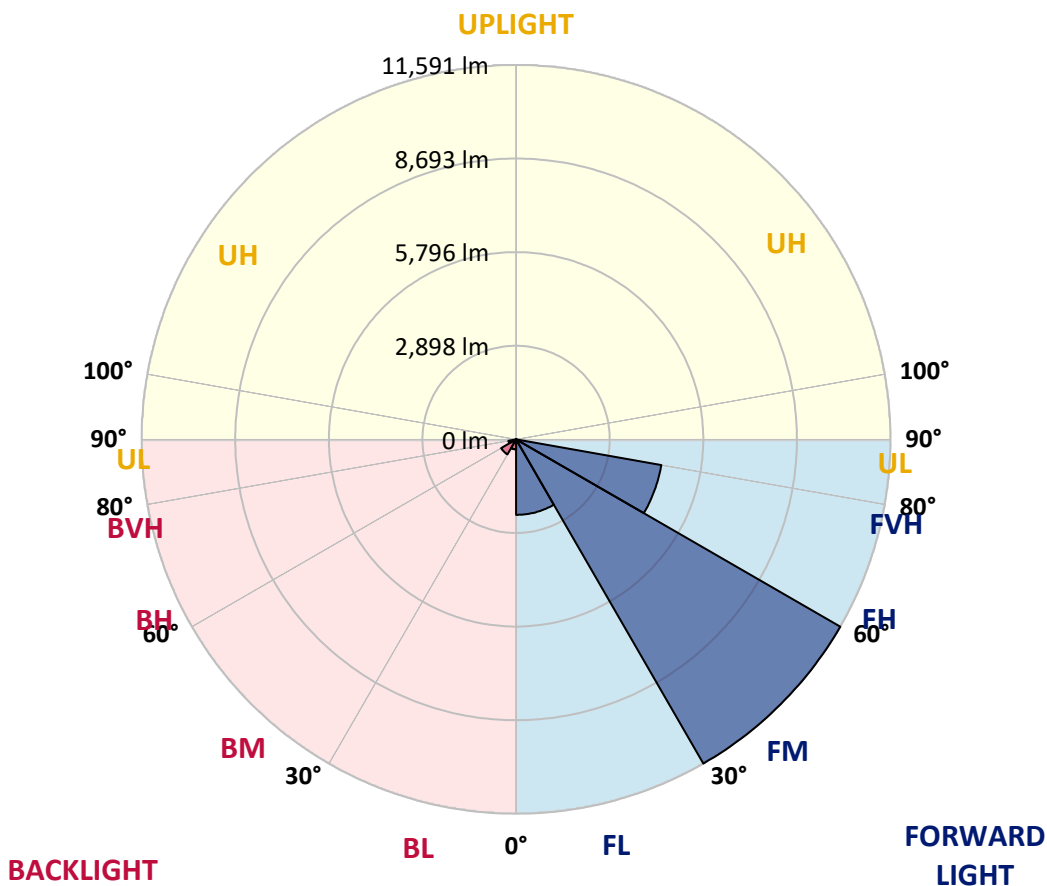
CATALOG NUMBER: GWS-SA4E-830-U-T2R-W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2337.8	11.9			
FM (30°-60°)	11591.3	59.1			
FH (60°-80°)	4567.7	23.3			G2/5000
FVH (80°-90°)	24.9	0.1			G1/100
BL (0°-30°)	309.4	1.6	B1/500		
BM (30°-60°)	534.9	2.7	B1/1000		
BH (60°-80°)	238.3	1.2	B1/500		G1/500
BVH (80°-90°)	1.5	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 II Short





REPORT NUMBER: P638494

CATALOG NUMBER: GWS-SA4E-830-U-T2R-W-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	76°	85°
0°	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8
2.5°	2675.2	2715.3	2683.9	2631.6	2530.5	2432.9	2307.5	2134.9	1997.2	1979.8	1850.9
5°	3612.8	3609.3	3541.4	3473.4	3367.1	3199.8	2947.1	2626.4	2317.9	2291.8	2002.5
7.5°	4170.5	4175.7	4137.4	4085.1	3980.6	3808.0	3544.9	3158.0	2706.6	2654.3	2209.9
10°	4639.3	4637.6	4609.7	4585.3	4491.2	4376.2	4093.8	3668.6	3124.8	3042.9	2441.7
12.5°	4991.4	5003.6	5017.5	5041.9	5001.8	4888.6	4621.9	4158.3	3548.3	3457.7	2706.6
15°	5270.2	5273.7	5326.0	5420.1	5453.2	5394.0	5151.7	4632.4	3966.6	3888.2	3011.6
17.5°	5353.9	5360.9	5449.7	5622.3	5796.6	5829.7	5646.7	5109.9	4377.9	4294.3	3307.8
20°	5529.9	5545.6	5611.8	5763.4	5983.0	6160.8	6089.3	5592.6	4789.2	4679.4	3611.1
22.5°	6084.1	6092.8	6070.2	6089.3	6202.6	6408.3	6451.8	6059.7	5211.0	5094.2	3938.7
25°	7037.4	7040.9	6882.3	6732.4	6647.0	6685.4	6781.2	6490.2	5629.2	5514.2	4243.7
27.5°	8027.3	8039.5	7849.6	7595.1	7290.1	7115.9	7088.0	6884.1	6051.0	5923.8	4545.2
30°	8959.7	8959.7	8759.3	8449.1	8041.3	7701.4	7501.0	7281.4	6502.4	6363.0	4853.7
32.5°	9798.0	9791.0	9534.9	9198.5	8795.9	8423.0	8001.2	7696.2	7004.3	6849.2	5209.2
35°	10489.9	10472.5	10181.4	9859.0	9428.5	9151.4	8680.9	8142.4	7548.1	7393.0	5575.2
37.5°	11012.8	10993.6	10726.9	10385.3	9986.2	9806.7	9412.9	8677.4	8121.4	7980.3	5981.3
40°	11296.8	11258.5	11073.7	10819.3	10484.7	10327.8	10164.0	9341.4	8795.9	8619.9	6460.6
42.5°	11380.5	11335.2	11213.2	11094.7	10892.5	10768.8	10944.8	10090.8	9536.6	9385.0	7007.8
45°	11133.0	11106.9	11096.4	11181.8	11218.4	11253.3	11687.2	10920.4	10354.0	10238.9	7696.2
47.5°	10537.0	10530.0	10622.4	10977.9	11364.8	11732.5	12494.1	11943.4	11413.6	11289.9	8658.2
50°	9435.5	9507.0	9764.9	10388.8	11162.6	12004.4	13248.8	13362.0	13128.5	12947.3	9913.0
52.5°	7713.6	7851.3	8429.9	9378.0	10489.9	11927.7	13597.3	14498.3	14737.1	14548.9	10812.3
55°	6052.7	6181.7	6697.6	7900.1	9383.2	11343.9	13613.0	14890.5	15411.6	15237.3	11420.6
57.5°	4508.6	4627.1	5095.9	6246.2	7877.5	10195.4	13240.0	15108.3	16211.5	16100.0	12380.8
60°	2947.1	3063.8	3487.3	4492.9	6110.3	8522.3	12321.6	15063.0	17300.8	17290.3	13560.7
62.5°	1634.7	1727.1	2033.8	2818.1	4264.6	6600.0	10878.6	14608.1	18355.2	18421.4	14533.2
65°	836.5	895.8	1082.3	1549.3	2581.1	4679.4	8980.6	13566.0	18843.1	19010.5	14789.4
67.5°	547.2	566.4	611.7	805.2	1382.0	2943.6	6758.6	11894.6	18156.5	18351.7	13930.2
70°	444.4	460.1	486.2	536.8	712.8	1563.3	4438.9	9500.0	15171.1	15303.5	11092.9
72.5°	325.9	346.8	397.4	430.5	514.1	857.5	2309.2	6235.7	10418.5	10652.0	6971.2
75°	240.5	252.7	294.5	339.8	420.0	542.0	883.6	3278.2	5380.0	5244.1	2927.9
77.5°	144.7	153.4	188.2	217.8	299.8	338.1	308.5	1211.2	1636.5	1538.9	707.6
80°	71.5	80.2	123.7	163.8	191.7	135.9	129.0	338.1	364.2	364.2	177.8
82.5°	24.4	31.4	66.2	108.1	94.1	52.3	61.0	87.1	97.6	102.8	52.3
85°	0.0	0.0	15.7	31.4	13.9	7.0	15.7	19.2	24.4	26.1	17.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	5.2	7.0	7.0
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: P638494

CATALOG NUMBER: GWS-SA4E-830-U-T2R-W-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8	1735.8
2.5°	1781.1	1699.2	1575.5	1464.0	1378.6	1298.4	1237.4	1188.6	1179.9	1152.0	1155.5
5°	1861.3	1713.2	1484.9	1308.8	1185.1	1101.4	1031.7	979.5	956.8	934.1	916.7
7.5°	1985.0	1770.7	1450.0	1235.6	1091.0	962.0	854.0	766.8	725.0	698.9	681.4
10°	2136.7	1850.9	1451.8	1192.1	977.7	780.8	632.6	536.8	491.5	477.5	475.8
12.5°	2317.9	1951.9	1465.7	1120.6	813.9	580.4	468.8	425.2	411.3	399.1	399.1
15°	2509.6	2065.2	1465.7	989.9	620.4	453.1	406.1	378.2	360.8	353.8	350.3
17.5°	2711.8	2171.5	1430.8	810.4	475.8	399.1	360.8	334.6	320.7	310.2	306.7
20°	2927.9	2272.6	1343.7	620.4	407.8	357.3	320.7	294.5	280.6	270.1	270.1
22.5°	3147.5	2366.7	1202.5	477.5	360.8	317.2	282.3	257.9	244.0	233.5	233.5
25°	3351.4	2429.5	1021.3	393.9	325.9	282.3	251.0	226.6	210.9	203.9	200.4
27.5°	3541.4	2469.5	820.9	346.8	292.8	252.7	219.6	196.9	184.7	179.5	176.0
30°	3738.3	2480.0	627.4	315.4	264.9	223.1	191.7	174.3	163.8	156.9	156.9
32.5°	3930.0	2467.8	479.3	289.3	240.5	196.9	170.8	155.1	146.4	141.2	139.4
35°	4125.2	2412.0	388.6	266.6	216.1	172.5	151.6	139.4	134.2	127.2	127.2
37.5°	4337.8	2337.1	338.1	244.0	191.7	155.1	135.9	127.2	120.3	115.0	113.3
40°	4602.7	2250.0	310.2	224.8	169.1	139.4	122.0	113.3	108.1	102.8	101.1
42.5°	4916.4	2164.6	296.3	203.9	151.6	123.7	109.8	99.3	94.1	87.1	85.4
45°	5360.9	2145.4	280.6	181.3	135.9	111.5	95.9	85.4	78.4	73.2	71.5
47.5°	6075.4	2199.4	254.4	156.9	120.3	97.6	81.9	73.2	64.5	59.3	55.8
50°	6784.7	2185.5	228.3	135.9	106.3	83.7	69.7	61.0	52.3	47.1	45.3
52.5°	7171.6	2119.2	203.9	120.3	92.4	71.5	59.3	48.8	43.6	38.3	36.6
55°	7521.9	2093.1	179.5	104.6	78.4	62.7	48.8	40.1	36.6	31.4	29.6
57.5°	8208.6	2154.1	158.6	90.6	68.0	54.0	41.8	33.1	29.6	24.4	22.7
60°	8926.6	2161.1	135.9	78.4	59.3	45.3	33.1	26.1	22.7	17.4	15.7
62.5°	9301.3	1985.0	111.5	66.2	48.8	38.3	27.9	20.9	17.4	10.5	10.5
65°	8987.6	1605.1	94.1	54.0	38.3	29.6	20.9	15.7	10.5	5.2	1.7
67.5°	7954.1	1141.5	78.4	43.6	27.9	20.9	15.7	10.5	1.7	0.0	0.0
70°	5824.4	651.8	61.0	31.4	20.9	13.9	10.5	5.2	0.0	0.0	0.0
72.5°	3579.7	348.6	45.3	20.9	15.7	10.5	8.7	3.5	0.0	0.0	0.0
75°	1357.6	167.3	27.9	13.9	12.2	8.7	5.2	1.7	0.0	0.0	0.0
77.5°	367.7	81.9	15.7	10.5	8.7	5.2	3.5	0.0	0.0	0.0	0.0
80°	95.9	38.3	10.5	7.0	5.2	3.5	0.0	0.0	0.0	0.0	0.0
82.5°	33.1	17.4	5.2	5.2	3.5	1.7	0.0	0.0	0.0	0.0	0.0
85°	13.9	7.0	3.5	3.5	1.7	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	5.2	1.7	1.7	1.7	1.7	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



CCT = 3050K
 CIE x = 0.4383
 CIE y = 0.4131
 Duv = 0.0034

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 [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /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

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /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

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /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)