

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: P638976

Luminaire Tested: GWS-SA4F-830-U-SLL-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P638976
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-40)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA4F-830-U-SLL-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: (64) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16365.1 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G4

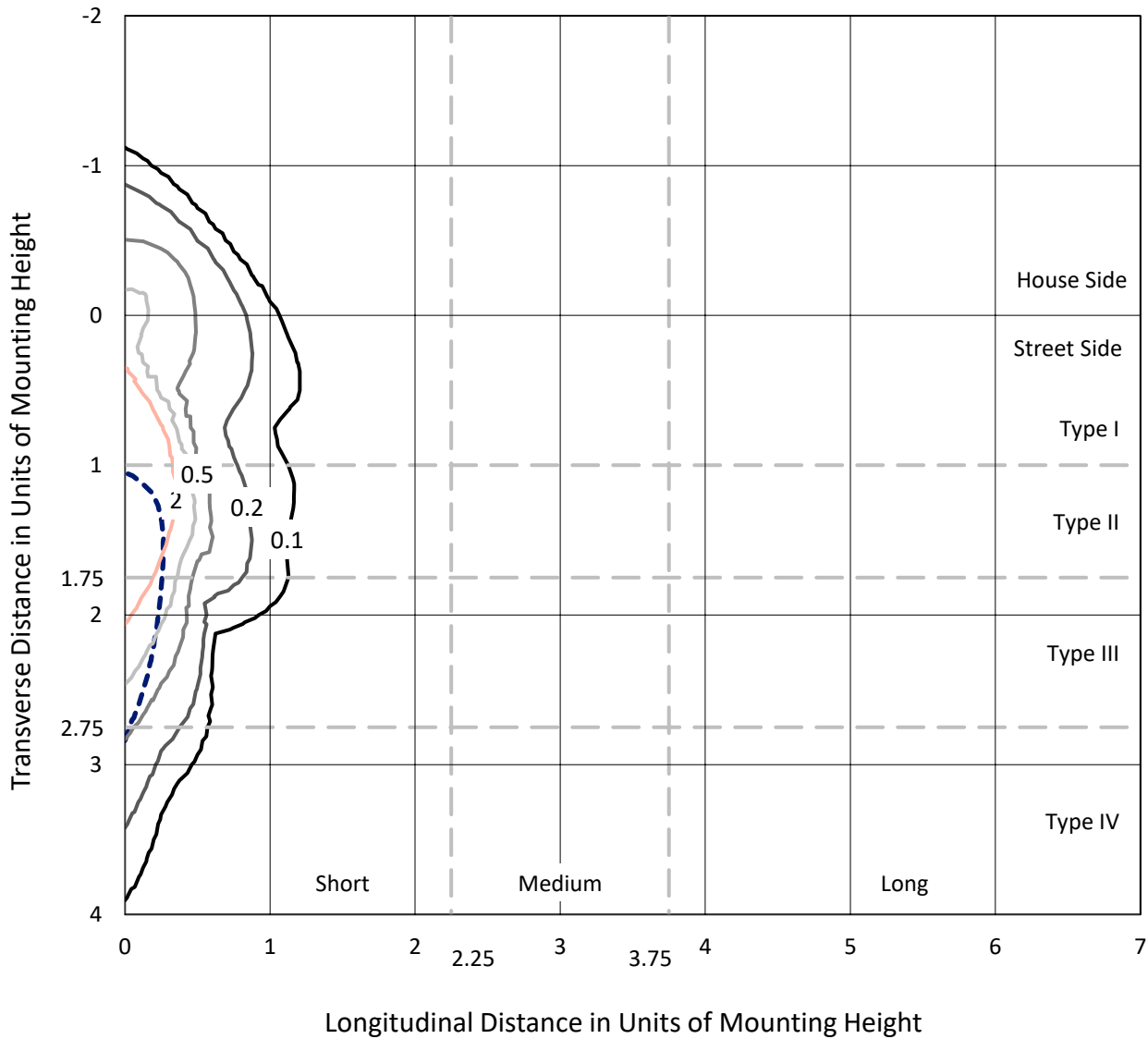
Input Watts (W): 225.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

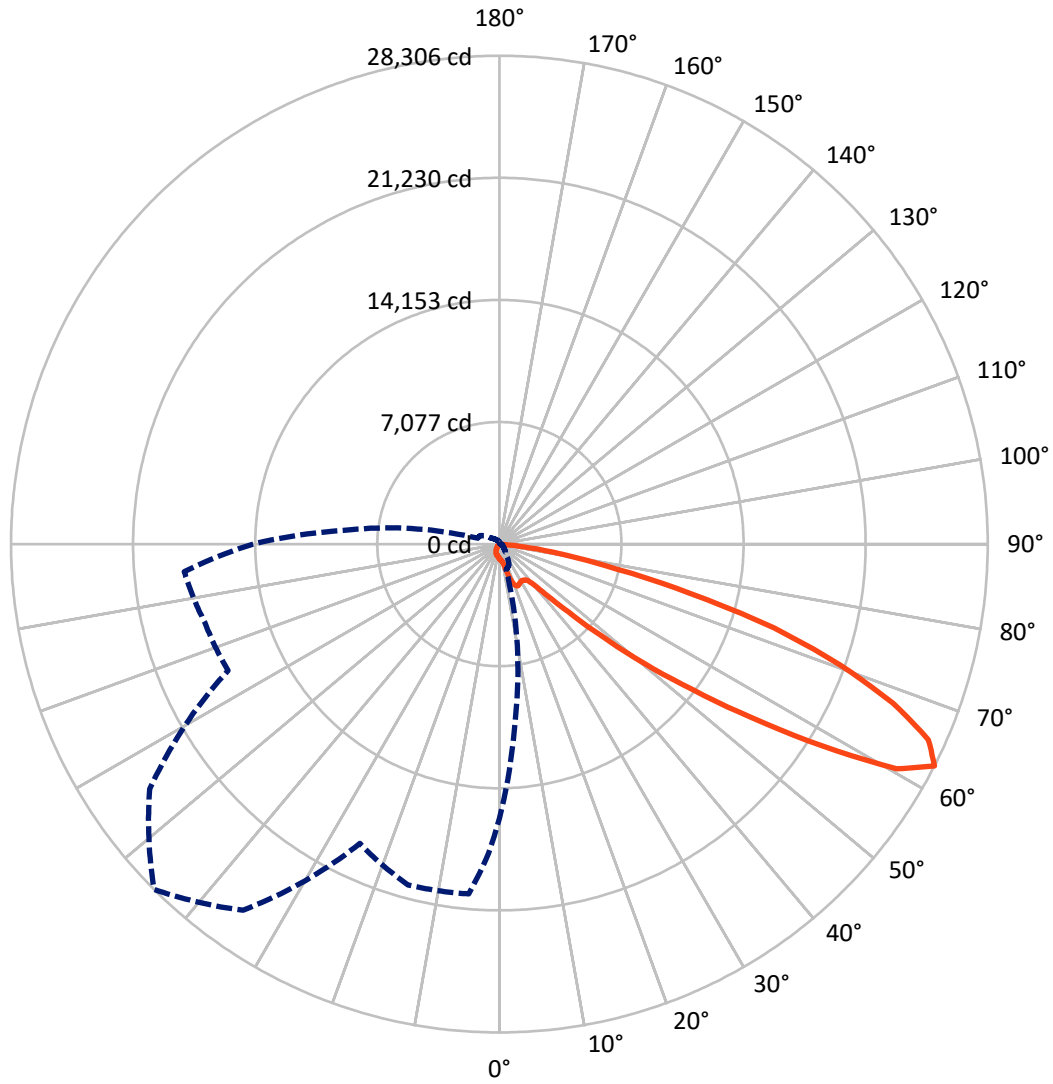
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 315-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1901.4	0.0	1901.4
	% Fixture	11.6	0.0	11.6
Street Side	Lumens	14463.7	0.0	14463.7
	% Fixture	88.4	0.0	88.4
Total	Lumens	16365.1	0.0	16365.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.3	0.4
10°-20°	251.2	1.5
20°-30°	567.5	3.5
30°-40°	977.6	6.0
40°-50°	1844.2	11.3
50°-60°	4117.6	25.2
60°-70°	5507.2	33.7
70°-80°	2761.7	16.9
80°-90°	264.7	1.6
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°	16365.1	100.0
0°-180°	16365.1	100.0

Coefficient of Utilization



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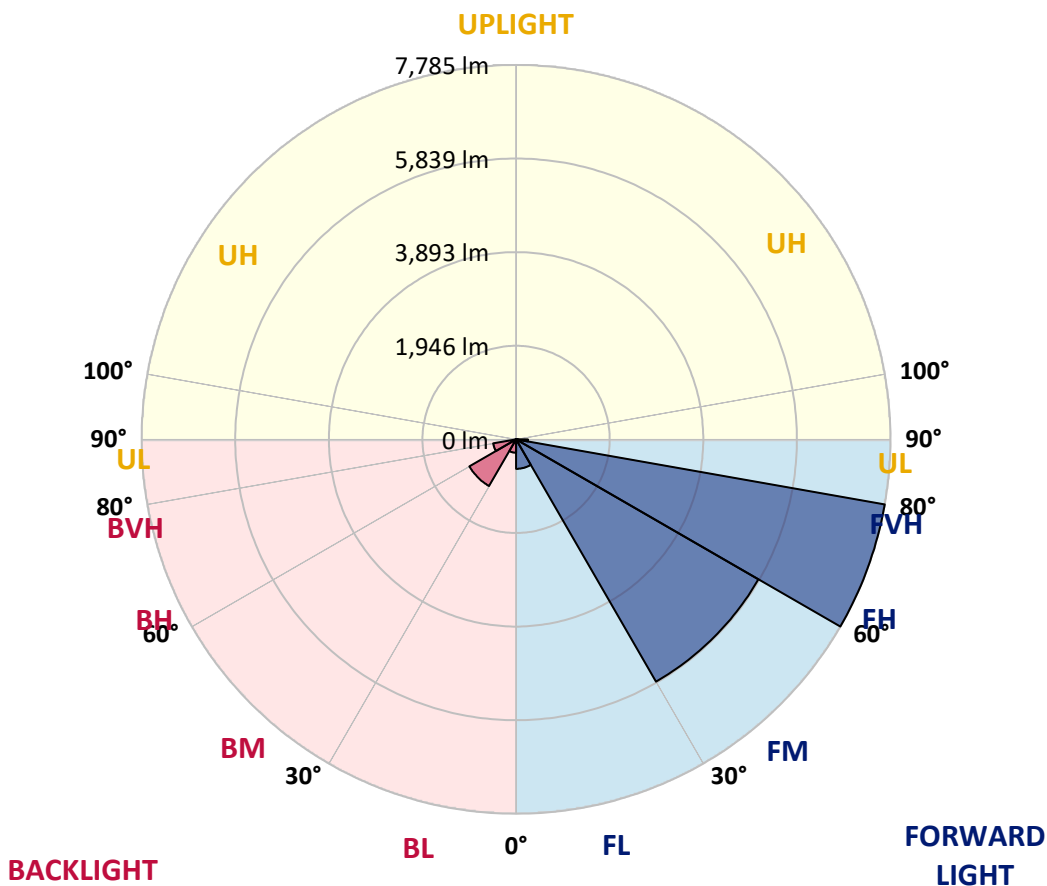
CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	612.9	3.7			
FM (30°-60°)	5818.3	35.6			
FH (60°-80°)	7785.4	47.6			G4/12000
FVH (80°-90°)	247.1	1.5			G3/500
BL (0°-30°)	279.1	1.7	B1/500		
BM (30°-60°)	1121.2	6.9	B2/2500		
BH (60°-80°)	483.5	3.0	B1/500		G1/500
BVH (80°-90°)	17.6	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	2°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7
2.5°	839.0	837.1	833.2	821.6	811.9	806.1	794.5	794.5	792.5	788.6	780.9
5°	811.9	804.2	796.4	775.1	751.8	738.3	722.8	720.8	720.8	717.0	715.0
7.5°	769.3	761.5	751.8	717.0	695.6	682.1	668.5	666.6	660.8	660.8	660.8
10°	746.0	734.4	718.9	680.1	658.8	647.2	637.5	631.7	627.8	622.0	620.1
12.5°	796.4	775.1	742.1	672.4	643.3	627.8	616.2	612.3	600.7	592.9	587.1
15°	953.4	901.0	835.2	689.8	637.5	614.3	598.8	591.0	581.3	567.7	558.1
17.5°	1211.1	1135.5	1025.0	746.0	631.7	602.6	583.3	569.7	556.1	540.6	529.0
20°	1567.6	1455.2	1323.5	848.7	631.7	589.1	565.8	548.4	529.0	511.6	498.0
22.5°	2021.0	1908.6	1683.9	1023.1	639.4	571.6	544.5	521.2	498.0	482.5	467.0
25°	2528.7	2369.8	2160.5	1234.3	660.8	548.4	519.3	496.1	474.7	455.4	437.9
27.5°	3094.5	2922.1	2643.0	1534.7	707.3	525.1	492.2	470.9	451.5	432.1	408.9
30°	3615.8	3513.1	3228.2	1895.1	782.8	509.6	470.9	451.5	432.1	406.9	385.6
32.5°	4241.7	4059.5	3825.0	2305.9	883.6	494.1	453.4	426.3	410.8	387.5	364.3
35°	4871.4	4716.4	4408.3	2811.6	996.0	478.6	432.1	406.9	393.4	366.2	341.0
37.5°	5520.5	5485.7	5181.4	3371.6	1106.4	461.2	406.9	391.4	377.9	346.9	317.8
40°	6160.0	6096.0	5815.1	4011.1	1174.3	441.8	385.6	375.9	360.4	325.5	292.6
42.5°	6772.3	6723.9	6450.6	4623.4	1164.6	424.4	364.3	352.7	341.0	306.2	265.5
45°	7524.1	7444.7	7099.8	5076.8	1065.7	443.7	343.0	323.6	321.7	288.7	238.3
47.5°	8930.9	8669.3	8084.1	5425.6	966.9	494.1	319.7	296.5	310.0	271.3	211.2
50°	10901.6	10593.5	9746.7	5696.9	965.0	560.0	315.8	271.3	300.3	257.7	188.0
52.5°	12881.9	12339.3	11310.4	5842.2	1036.7	608.4	350.7	246.1	288.7	244.2	170.5
55°	14778.9	13653.1	11965.4	5361.6	1092.9	660.8	414.7	232.5	267.4	228.6	160.8
57.5°	16586.8	14709.2	12250.2	4241.7	1280.8	682.1	453.4	238.3	236.4	209.3	153.1
60°	16834.8	14658.8	11674.7	2466.7	1412.6	645.3	437.9	265.5	207.3	186.0	139.5
62.5°	15897.0	13684.1	10362.9	1538.5	1311.8	631.7	389.5	302.3	188.0	164.7	122.1
65°	14472.8	12155.3	8640.3	992.1	994.0	701.5	341.0	296.5	176.3	145.3	104.6
67.5°	12246.3	10173.0	6807.2	664.6	561.9	598.8	298.4	203.5	172.5	124.0	81.4
70°	8938.7	7241.2	4431.5	443.7	335.2	478.6	250.0	145.3	162.8	102.7	58.1
72.5°	6534.0	4865.6	2474.5	290.7	189.9	279.0	184.1	104.6	126.0	75.6	40.7
75°	4702.8	3348.4	1412.6	186.0	126.0	153.1	120.1	71.7	81.4	60.1	36.8
77.5°	2263.2	1631.6	641.4	102.7	85.3	77.5	63.9	44.6	50.4	54.3	32.9
80°	85.3	63.9	48.4	50.4	54.3	34.9	29.1	23.3	29.1	36.8	17.4
82.5°	0.0	0.0	0.0	5.8	7.8	9.7	11.6	9.7	11.6	13.6	1.9
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	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



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7
2.5°	786.7	782.8	786.7	790.6	794.5	798.3	792.5	796.4	800.3	790.6	794.5
5°	724.7	722.8	734.4	740.2	748.0	751.8	748.0	748.0	746.0	734.4	734.4
7.5°	670.4	672.4	682.1	695.6	705.3	711.1	707.3	705.3	699.5	682.1	682.1
10°	629.8	629.8	645.3	656.9	670.4	676.3	672.4	666.6	660.8	643.3	641.4
12.5°	596.8	596.8	608.4	627.8	643.3	651.1	649.1	641.4	631.7	614.3	612.3
15°	565.8	563.9	581.3	598.8	620.1	629.8	625.9	620.1	602.6	587.1	583.3
17.5°	534.8	532.9	548.4	571.6	594.9	608.4	606.5	592.9	577.4	558.1	554.2
20°	503.8	499.9	519.3	542.6	565.8	579.4	575.5	563.9	544.5	525.1	521.2
22.5°	472.8	470.9	484.4	503.8	525.1	536.7	534.8	525.1	505.7	488.3	488.3
25°	437.9	437.9	447.6	461.2	476.7	482.5	484.4	480.6	468.9	459.2	459.2
27.5°	408.9	403.0	406.9	410.8	418.5	428.2	428.2	432.1	434.0	430.2	432.1
30°	385.6	375.9	370.1	362.4	358.5	362.4	366.2	379.8	393.4	401.1	405.0
32.5°	358.5	346.9	331.3	310.0	296.5	292.6	304.2	329.4	354.6	372.0	381.7
35°	331.3	315.8	286.8	255.8	238.3	232.5	246.1	275.2	312.0	343.0	356.5
37.5°	304.2	282.9	242.2	205.4	186.0	182.1	195.7	226.7	269.3	312.0	329.4
40°	273.2	248.0	199.6	160.8	145.3	141.5	153.1	184.1	228.6	277.1	304.2
42.5°	242.2	211.2	160.8	127.9	112.4	112.4	127.9	151.1	191.8	244.2	277.1
45°	211.2	178.3	131.8	102.7	93.0	94.9	104.6	127.9	160.8	215.1	246.1
47.5°	182.1	153.1	108.5	85.3	77.5	79.4	91.1	110.4	137.6	186.0	219.0
50°	157.0	129.8	94.9	71.7	65.9	69.8	81.4	98.8	122.1	164.7	191.8
52.5°	141.5	116.3	87.2	62.0	58.1	62.0	73.6	89.1	110.4	145.3	172.5
55°	133.7	114.3	87.2	56.2	50.4	54.3	65.9	81.4	98.8	131.8	155.0
57.5°	131.8	118.2	93.0	50.4	42.6	46.5	58.1	73.6	91.1	120.1	139.5
60°	124.0	112.4	91.1	40.7	32.9	38.8	48.4	63.9	83.3	112.4	129.8
62.5°	108.5	98.8	79.4	32.9	25.2	29.1	40.7	56.2	75.6	102.7	122.1
65°	89.1	79.4	62.0	21.3	15.5	19.4	31.0	48.4	65.9	93.0	110.4
67.5°	65.9	56.2	42.6	13.6	7.8	13.6	25.2	40.7	60.1	83.3	100.8
70°	40.7	32.9	23.3	7.8	5.8	11.6	23.3	38.8	54.3	77.5	94.9
72.5°	23.3	15.5	9.7	3.9	5.8	11.6	23.3	38.8	52.3	73.6	89.1
75°	17.4	9.7	3.9	1.9	3.9	9.7	21.3	34.9	50.4	69.8	85.3
77.5°	11.6	5.8	1.9	0.0	1.9	7.8	19.4	32.9	46.5	65.9	81.4
80°	1.9	0.0	0.0	0.0	0.0	5.8	17.4	29.1	42.6	58.1	71.7
82.5°	0.0	0.0	0.0	0.0	0.0	1.9	13.6	25.2	36.8	48.4	58.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	7.8	19.4	29.1	36.8	40.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	19.4	23.3	27.1
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7
2.5°	792.5	804.2	804.2	811.9	821.6	839.0	848.7	862.3	872.0	881.7	885.5
5°	732.5	734.4	736.3	740.2	751.8	771.2	788.6	810.0	835.2	854.5	866.2
7.5°	682.1	682.1	682.1	687.9	699.5	713.1	730.5	759.6	788.6	811.9	831.3
10°	639.4	645.3	647.2	656.9	670.4	687.9	707.3	732.5	765.4	796.4	831.3
12.5°	612.3	618.1	627.8	637.5	651.1	670.4	691.8	724.7	792.5	856.5	930.1
15°	587.1	594.9	606.5	620.1	635.6	656.9	680.1	748.0	906.8	1027.0	1143.2
17.5°	560.0	571.6	587.1	600.7	620.1	643.3	672.4	804.2	1116.1	1315.7	1513.4
20°	525.1	540.6	558.1	579.4	602.6	629.8	672.4	920.4	1418.4	1705.2	1966.8
22.5°	492.2	507.7	529.0	556.1	583.3	610.4	682.1	1096.7	1807.9	2170.2	2501.6
25°	465.1	484.4	505.7	529.0	560.0	591.0	705.3	1344.8	2276.8	2743.8	2978.3
27.5°	439.9	463.1	484.4	503.8	530.9	565.8	757.6	1676.1	2831.0	3305.7	3489.8
30°	414.7	441.8	463.1	482.5	509.6	546.4	837.1	2098.5	3447.2	3908.4	3927.7
32.5°	393.4	418.5	443.7	463.1	488.3	530.9	947.5	2592.7	4078.9	4524.6	4342.4
35°	370.1	399.2	422.4	443.7	470.9	517.4	1075.4	3125.5	4716.4	5090.4	4755.1
37.5°	346.9	379.8	408.9	424.4	451.5	503.8	1168.4	3681.7	5367.5	5642.6	5117.5
40°	325.5	362.4	395.3	410.8	424.4	486.4	1182.0	4251.3	6028.2	6187.1	5458.5
42.5°	302.3	343.0	372.0	393.4	405.0	474.7	1100.6	4731.9	6582.4	6729.7	5904.2
45°	277.1	325.5	348.8	364.3	387.5	482.5	996.0	5103.9	7216.0	7469.9	6638.6
47.5°	251.9	306.2	325.5	337.2	368.2	529.0	957.2	5352.0	8260.5	8787.5	7876.8
50°	228.6	288.7	310.0	308.1	364.3	589.1	999.9	5539.9	9830.0	10450.1	9574.2
52.5°	203.5	269.3	294.5	286.8	393.4	635.6	1085.1	5689.1	11037.2	12399.4	11854.9
55°	182.1	248.0	271.3	269.3	447.6	670.4	1151.0	4902.4	11537.1	14211.2	14424.3
57.5°	166.6	224.8	244.2	277.1	482.5	670.4	1331.2	3480.1	11546.8	15544.3	17834.7
60°	153.1	203.5	217.0	304.2	468.9	635.6	1317.6	2131.5	10641.9	15453.2	19648.4
62.5°	141.5	184.1	201.5	312.0	414.7	629.8	1189.8	1321.5	9076.2	14277.1	18332.7
65°	131.8	168.6	193.8	286.8	375.9	674.3	802.2	949.5	7361.4	12936.2	16823.2
67.5°	122.1	155.0	205.4	234.5	341.0	602.6	579.4	674.3	5778.3	11465.4	15437.7
70°	114.3	147.3	217.0	191.8	298.4	470.9	410.8	511.6	4423.8	9566.5	13486.5
72.5°	108.5	137.6	182.1	151.1	242.2	364.3	286.8	372.0	2891.1	7467.9	10994.6
75°	102.7	126.0	133.7	122.1	180.2	238.3	217.0	250.0	1722.6	5458.5	8341.8
77.5°	100.8	118.2	108.5	98.8	122.1	141.5	164.7	168.6	841.0	2730.2	4371.5
80°	89.1	106.6	93.0	81.4	83.3	93.0	122.1	112.4	191.8	693.7	1166.5
82.5°	69.8	83.3	77.5	67.8	67.8	67.8	81.4	75.6	62.0	312.0	527.1
85°	48.4	58.1	58.1	54.3	52.3	52.3	50.4	48.4	17.4	19.4	29.1
87.5°	32.9	40.7	42.6	40.7	34.9	31.0	27.1	23.3	7.8	0.0	3.9
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: P638976

CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	358°	360°
0°	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7	848.7
2.5°	899.1	904.9	904.9	897.2	891.3	875.8	860.3	844.8	841.0	839.0
5°	899.1	922.4	934.0	932.0	918.5	893.3	860.3	825.5	815.8	811.9
7.5°	885.5	930.1	965.0	970.8	945.6	901.0	841.0	788.6	775.1	769.3
10°	916.5	1003.7	1073.5	1083.2	1054.1	966.9	870.0	780.9	759.6	746.0
12.5°	1083.2	1226.6	1311.8	1352.5	1296.3	1185.9	1025.0	866.2	817.7	796.4
15°	1420.3	1623.8	1786.6	1786.6	1734.3	1538.5	1335.1	1077.4	1011.5	953.4
17.5°	1852.5	2108.2	2251.6	2236.1	2156.7	2019.1	1774.9	1404.8	1271.1	1211.1
20°	2344.6	2497.7	2530.7	2521.0	2486.1	2406.6	2238.1	1840.8	1660.6	1567.6
22.5°	2770.9	2730.2	2681.8	2643.0	2633.3	2656.6	2633.3	2327.2	2185.7	2021.0
25°	3059.6	2829.1	2683.7	2614.0	2646.9	2780.6	2925.9	2811.6	2699.2	2528.7
27.5°	3216.6	2817.4	2608.2	2536.5	2592.7	2782.6	3098.4	3292.2	3175.9	3094.5
30°	3301.9	2807.7	2559.7	2490.0	2575.2	2813.6	3218.5	3741.7	3745.6	3615.8
32.5°	3423.9	2869.8	2569.4	2505.5	2619.8	2906.6	3369.7	4199.0	4311.4	4241.7
35°	3561.5	2964.7	2614.0	2555.8	2697.3	3030.6	3538.3	4660.2	4894.7	4871.4
37.5°	3691.3	3071.3	2718.6	2662.4	2815.5	3137.2	3701.0	5113.6	5439.2	5520.5
40°	3827.0	3220.5	3040.3	3094.5	3179.8	3305.7	3846.4	5507.0	6037.9	6160.0
42.5°	4146.7	3737.8	4013.0	4115.7	4127.3	3867.7	4164.1	6010.8	6627.0	6772.3
45°	4859.8	4658.3	5446.9	5592.2	5516.7	4730.0	4929.5	6737.4	7450.5	7524.1
47.5°	5760.8	5853.8	7409.8	7911.7	7458.3	5747.3	5857.7	8266.3	8958.0	8930.9
50°	6811.1	7250.9	9638.2	10822.1	9737.0	7068.8	6927.3	10145.9	10984.9	10901.6
52.5°	8053.1	8874.7	12316.1	13998.0	12971.0	8555.0	8496.9	12635.8	13147.4	12881.9
55°	9616.9	10442.3	15397.1	17747.5	16286.5	10368.7	10568.3	15523.0	15621.8	14778.9
57.5°	11949.9	12486.6	19028.3	22047.3	19747.2	12833.5	14280.9	19365.5	18183.5	16586.8
60°	16185.7	15116.1	22537.5	26445.9	23428.9	16300.0	19177.5	21642.3	19036.1	16834.8
62.5°	17660.3	17348.3	24734.9	28306.1	25905.3	19146.5	20450.6	20351.8	17931.6	15897.0
65°	15426.1	16792.2	24341.5	27323.7	25587.5	18677.6	18352.1	18927.6	16687.6	14472.8
67.5°	14249.9	15486.2	22851.4	24612.8	23826.1	17086.7	16358.2	16201.2	14009.7	12246.3
70°	13064.1	14288.7	20690.9	20909.8	20543.6	14494.1	13536.9	12484.7	10471.4	8938.7
72.5°	11637.9	12312.2	17693.2	16654.6	16240.0	11384.1	11182.5	9401.8	7849.7	6534.0
75°	10149.7	9954.0	13794.6	11430.6	11740.6	8857.3	9444.4	6904.1	5751.1	4702.8
77.5°	7382.7	7237.4	9239.0	6942.8	7688.8	5801.5	5212.4	2755.4	2623.7	2263.2
80°	4119.6	4966.4	4989.6	3890.9	4854.0	3782.4	1304.1	91.1	58.1	85.3
82.5°	1914.5	2135.4	2705.0	1804.0	2769.0	1873.8	269.3	0.0	0.0	0.0
85°	620.1	906.8	759.6	265.5	670.4	633.6	44.6	0.0	0.0	0.0
87.5°	36.8	75.6	19.4	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

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

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)