

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: FAIL-SAFE

Report Number: P834662

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5STD-30-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834662
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-5STD-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

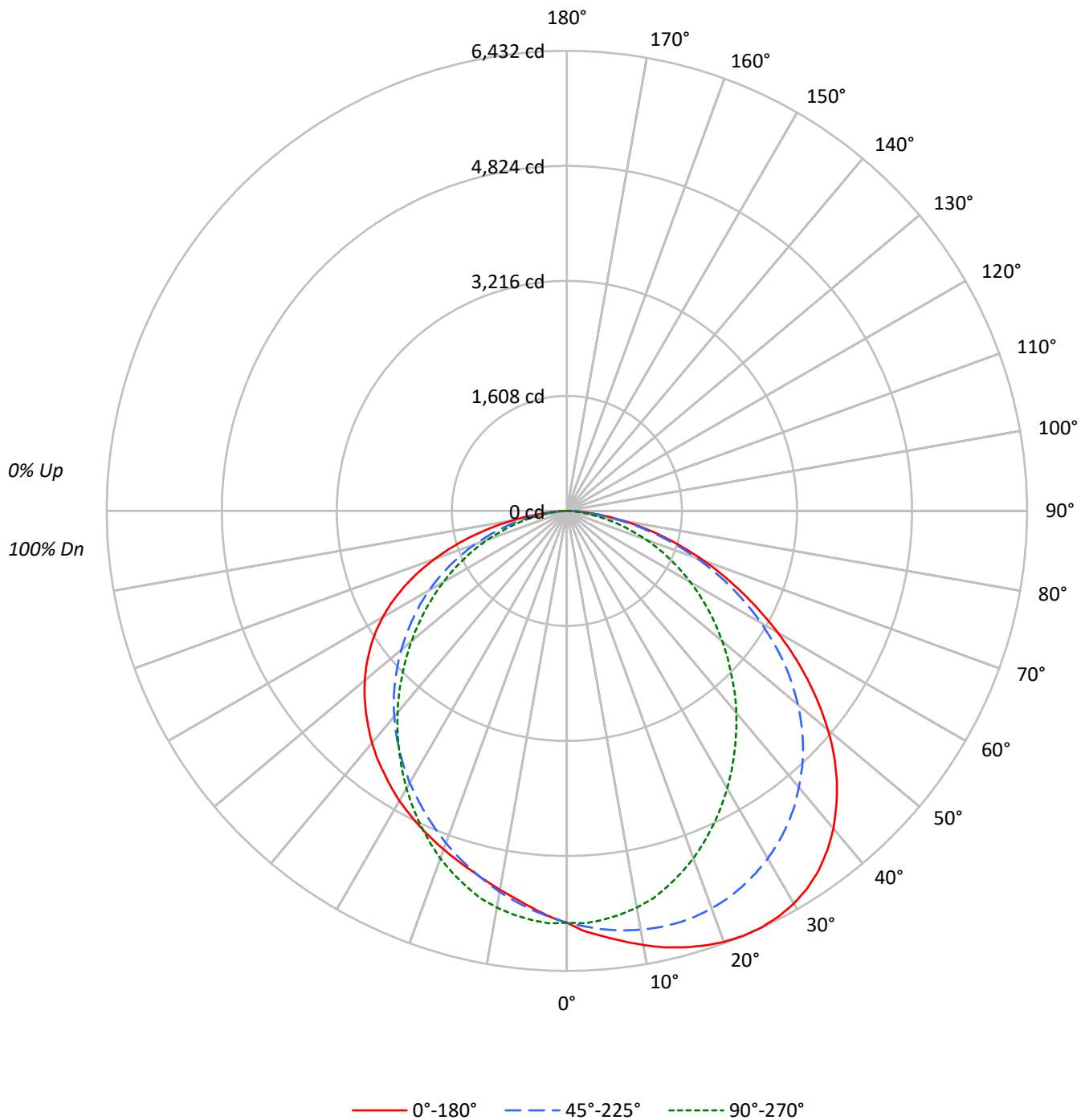
Lumens per Lamp: N/A
Luminaire Lumens: 16940.1 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 166.5
Input Voltage (V): 120
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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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	86	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	61	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7749	7749	7749
5°	8067	7753	7523
10°	8420	7694	7349
15°	8799	7571	7243
20°	9183	7404	7213
25°	9544	7189	7225
30°	9855	6964	7271
35°	10080	6716	7332
40°	10181	6467	7440
45°	10153	6194	7562
50°	9973	5934	7718
55°	9632	5661	7878
60°	9163	5369	7998
65°	8604	5041	7987
70°	8008	4650	7750
75°	7270	4083	7146
80°	6242	3355	6027
85°	4761	2293	4139

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	546.2	3.2
10°-20°	1577.3	9.3
20°-30°	2416.4	14.3
30°-40°	2948.9	17.4
40°-50°	3084.0	18.2
50°-60°	2791.2	16.5
60°-70°	2113.9	12.5
70°-80°	1178.0	7.0
80°-90°	284.1	1.7
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°-30°	4539.9	26.8
0°-40°	7488.9	44.2
0°-60°	13364.0	78.9
0°-90°	16940.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16940.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5759	5759	5759	5759	5759	
5°	5973	5874	5740	5599	5570	576
15°	6317	5965	5435	5182	5200	1791
25°	6429	5797	4842	4671	4866	2966
35°	6137	5368	4088	4084	4464	3832
45°	5336	4668	3255	3399	3974	4105
55°	4106	3707	2413	2626	3358	3664
65°	2703	2542	1584	1800	2509	2681
75°	1398	1320	786	938	1375	1483
85°	308	272	148	199	268	371
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9
2.5°	5886.1	5858.4	5835.7	5844.5	5849.6	5831.9	5816.8	5819.4	5804.2	5833.2	5765.2
5°	5972.9	5947.7	5921.3	5931.4	5921.3	5894.9	5873.5	5867.2	5826.9	5843.3	5774.0
7.5°	6069.9	6042.2	6003.1	6014.5	5993.1	5944.0	5916.3	5899.9	5838.2	5839.5	5762.7
10°	6163.0	6139.1	6086.2	6093.8	6054.7	5989.3	5945.2	5922.6	5835.7	5823.1	5743.8
12.5°	6249.9	6217.1	6160.5	6164.3	6107.6	6020.8	5964.1	5931.4	5818.1	5780.3	5702.3
15°	6316.6	6285.1	6217.1	6215.9	6142.9	6029.6	5965.4	5920.1	5776.6	5717.4	5635.6
17.5°	6373.2	6344.3	6259.9	6257.4	6169.3	6025.8	5949.0	5892.4	5716.1	5643.1	5552.5
20°	6413.5	6384.5	6290.1	6281.3	6175.6	6006.9	5915.0	5843.3	5636.8	5550.0	5449.3
22.5°	6432.4	6403.4	6296.4	6283.8	6160.5	5969.1	5865.9	5781.6	5546.2	5432.9	5328.4
25°	6428.6	6400.9	6280.1	6267.5	6131.5	5912.5	5796.7	5699.8	5431.6	5298.2	5195.0
27.5°	6397.1	6375.7	6248.6	6232.2	6078.7	5835.7	5712.4	5605.4	5304.5	5156.0	5043.9
30°	6343.0	6326.6	6192.0	6176.8	6013.2	5751.4	5614.2	5490.8	5167.3	4999.9	4886.6
32.5°	6256.2	6241.0	6105.1	6091.3	5925.1	5643.1	5499.6	5372.5	5017.5	4832.5	4719.2
35°	6136.6	6127.8	5995.6	5980.5	5811.8	5519.8	5367.5	5227.7	4861.4	4652.5	4544.2
37.5°	5979.2	5979.2	5852.1	5835.7	5670.8	5368.7	5218.9	5070.4	4685.2	4463.6	4356.6
40°	5796.7	5813.1	5683.4	5667.0	5507.2	5206.3	5042.7	4886.6	4495.1	4264.8	4160.3
42.5°	5577.7	5592.8	5484.5	5469.4	5319.6	5018.8	4866.5	4696.5	4296.2	4062.1	3953.8
45°	5336.0	5356.1	5259.2	5247.9	5108.1	4813.6	4667.6	4495.1	4088.5	3850.6	3744.9
47.5°	5066.6	5093.0	5008.7	5002.4	4872.7	4603.4	4451.1	4276.1	3870.8	3630.3	3530.9
50°	4764.5	4802.3	4733.0	4733.0	4617.2	4349.1	4216.9	4042.0	3644.2	3403.7	3305.6
52.5°	4441.0	4488.8	4437.2	4438.5	4344.1	4103.6	3966.4	3795.2	3407.5	3170.9	3080.2
55°	4106.1	4152.7	4120.0	4125.0	4050.8	3831.7	3707.1	3537.2	3165.8	2935.5	2849.9
57.5°	3756.2	3806.6	3785.2	3795.2	3743.6	3547.3	3417.6	3269.1	2916.6	2688.8	2615.8
60°	3405.0	3452.8	3441.5	3455.4	3422.6	3252.7	3134.4	2980.8	2666.1	2447.1	2382.9
62.5°	3050.0	3094.1	3091.6	3106.7	3089.1	2948.1	2842.3	2711.4	2406.8	2205.4	2146.2
65°	2702.6	2740.4	2737.9	2754.2	2750.4	2637.2	2541.5	2421.9	2147.5	1962.4	1910.8
67.5°	2365.3	2396.7	2387.9	2406.8	2411.8	2321.2	2238.1	2131.1	1900.8	1720.8	1676.7
70°	2035.5	2056.9	2045.5	2058.1	2069.4	2001.5	1931.0	1836.6	1637.7	1479.1	1442.6
72.5°	1711.9	1727.1	1709.4	1722.0	1732.1	1683.0	1625.1	1543.3	1378.4	1241.2	1210.9
75°	1398.5	1419.9	1383.4	1396.0	1403.5	1354.5	1320.5	1253.7	1111.5	1005.8	985.6
77.5°	1095.1	1107.7	1087.6	1082.6	1087.6	1052.3	1025.9	974.3	867.3	780.4	767.9
80°	805.6	813.2	793.0	788.0	791.8	766.6	746.5	708.7	633.2	567.7	562.7
82.5°	540.0	543.8	526.2	521.1	523.7	516.1	492.2	465.7	430.5	375.1	373.9
85°	308.4	308.4	295.8	290.8	293.3	280.7	271.9	258.1	244.2	206.4	209.0
87.5°	113.3	113.3	107.0	105.7	118.3	104.5	100.7	94.4	98.2	78.0	83.1
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9	5758.9
2.5°	5784.1	5771.5	5760.2	5721.2	5737.5	5697.3	5694.7	5679.6	5668.3	5646.9	5674.6
5°	5765.2	5740.0	5707.3	5660.7	5674.6	5626.8	5616.7	5599.1	5584.0	5556.3	5577.7
7.5°	5735.0	5693.5	5641.9	5582.7	5601.6	5542.4	5527.3	5508.4	5495.8	5463.1	5482.0
10°	5691.0	5631.8	5571.4	5499.6	5513.5	5449.3	5430.4	5410.2	5398.9	5370.0	5388.8
12.5°	5623.0	5551.2	5469.4	5391.4	5406.5	5346.1	5320.9	5299.5	5295.7	5271.8	5294.4
15°	5534.9	5435.4	5351.1	5268.0	5285.6	5215.1	5203.8	5182.4	5188.7	5172.3	5200.0
17.5°	5422.8	5308.3	5216.4	5127.0	5144.6	5085.5	5076.7	5066.6	5072.9	5070.4	5100.6
20°	5297.0	5171.1	5065.3	4977.2	4987.3	4940.7	4944.5	4942.0	4954.6	4968.4	5010.0
22.5°	5154.7	5012.5	4901.7	4811.1	4826.2	4785.9	4803.5	4808.6	4829.9	4861.4	4914.3
25°	4994.9	4842.5	4726.7	4641.1	4655.0	4628.5	4658.8	4671.3	4705.3	4758.2	4812.3
27.5°	4827.4	4666.3	4542.9	4461.1	4487.6	4461.1	4506.4	4531.6	4583.2	4641.1	4707.8
30°	4649.9	4482.5	4355.4	4282.4	4307.6	4283.6	4356.6	4390.6	4442.2	4521.5	4600.9
32.5°	4463.6	4287.4	4162.8	4106.1	4123.8	4120.0	4201.8	4239.6	4308.8	4399.4	4483.8
35°	4272.3	4088.5	3962.6	3914.8	3936.2	3941.2	4039.4	4083.5	4159.0	4268.5	4359.2
37.5°	4074.7	3887.1	3763.8	3724.7	3743.6	3762.5	3877.1	3921.1	4006.7	4126.3	4225.7
40°	3869.5	3681.9	3561.1	3529.6	3548.5	3568.6	3693.3	3753.7	3846.8	3976.5	4084.8
42.5°	3661.8	3474.2	3357.2	3334.5	3353.4	3392.4	3524.6	3581.2	3679.4	3822.9	3942.5
45°	3450.3	3255.2	3153.3	3135.6	3155.8	3201.1	3330.7	3398.7	3503.2	3660.5	3788.9
47.5°	3236.3	3046.3	2949.3	2938.0	2958.1	3008.5	3152.0	3213.7	3324.4	3491.9	3630.3
50°	3019.8	2834.8	2741.6	2737.9	2756.7	2810.9	2948.1	3021.1	3135.6	3323.2	3465.4
52.5°	2800.8	2623.3	2539.0	2539.0	2556.6	2612.0	2750.4	2826.0	2944.3	3141.9	3299.3
55°	2581.8	2413.1	2332.5	2338.8	2364.0	2411.8	2546.5	2625.8	2745.4	2950.6	3116.7
57.5°	2362.7	2202.9	2129.9	2138.7	2162.6	2210.4	2342.6	2432.0	2540.2	2753.0	2922.9
60°	2146.2	1995.2	1931.0	1941.0	1962.4	2010.3	2147.5	2224.3	2332.5	2549.0	2719.0
62.5°	1927.2	1790.0	1729.6	1742.2	1761.0	1808.9	1938.5	2012.8	2119.8	2332.5	2503.7
65°	1710.7	1583.5	1531.9	1544.5	1562.1	1606.2	1728.3	1800.1	1902.0	2109.7	2273.4
67.5°	1496.7	1380.9	1338.1	1350.7	1364.5	1406.1	1506.8	1584.8	1680.5	1878.1	2032.9
70°	1285.2	1182.0	1144.2	1156.8	1169.4	1207.2	1295.3	1367.0	1455.2	1636.4	1779.9
72.5°	1076.3	975.6	956.7	968.0	978.1	1010.8	1095.1	1151.8	1228.6	1389.7	1513.1
75°	872.3	785.5	772.9	784.2	793.0	818.2	888.7	937.8	1002.0	1141.7	1242.4
77.5°	676.0	603.0	597.9	606.7	615.5	633.2	688.6	740.2	790.5	893.7	983.1
80°	492.2	433.0	433.0	441.8	439.3	460.7	499.7	541.3	577.8	652.0	717.5
82.5°	324.8	278.2	284.5	290.8	294.6	303.4	327.3	358.8	381.4	426.7	469.5
85°	180.0	148.5	154.8	159.9	157.3	167.4	180.0	198.9	210.2	231.6	254.3
87.5°	66.7	55.4	56.6	60.4	62.9	68.0	68.0	79.3	80.6	83.1	88.1
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):

	160°	170°	180°
0°	5758.9	5758.9	5758.9
2.5°	5621.7	5651.9	5674.6
5°	5524.8	5550.0	5570.1
7.5°	5430.4	5453.0	5470.7
10°	5341.0	5366.2	5378.8
12.5°	5249.1	5278.1	5288.1
15°	5158.5	5187.4	5200.0
17.5°	5065.3	5103.1	5117.0
20°	4978.5	5026.3	5037.6
22.5°	4890.4	4939.5	4953.3
25°	4794.7	4852.6	4866.5
27.5°	4692.7	4762.0	4775.8
30°	4590.8	4666.3	4680.2
32.5°	4481.3	4563.1	4575.7
35°	4366.7	4448.5	4463.6
37.5°	4239.6	4329.0	4359.2
40°	4107.4	4204.3	4235.8
42.5°	3968.9	4074.7	4107.4
45°	3820.4	3936.2	3974.0
47.5°	3670.6	3801.5	3834.3
50°	3508.2	3648.0	3687.0
52.5°	3338.3	3490.6	3529.6
55°	3162.1	3315.6	3358.4
57.5°	2970.7	3129.3	3174.7
60°	2770.6	2929.2	2972.0
62.5°	2565.4	2708.9	2750.4
65°	2336.3	2471.0	2508.8
67.5°	2093.4	2216.7	2248.2
70°	1835.3	1942.3	1970.0
72.5°	1565.9	1640.2	1676.7
75°	1287.7	1346.9	1374.6
77.5°	1008.3	1049.8	1072.5
80°	735.1	759.0	777.9
82.5°	480.9	490.9	504.8
85°	259.3	259.3	268.1
87.5°	88.1	84.3	88.1
90°	0.0	0.0	0.0

(END OF REPORT)