

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: P834607

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5LO-50-120-EDD**

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: P834607
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-LD4-5LO-50-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

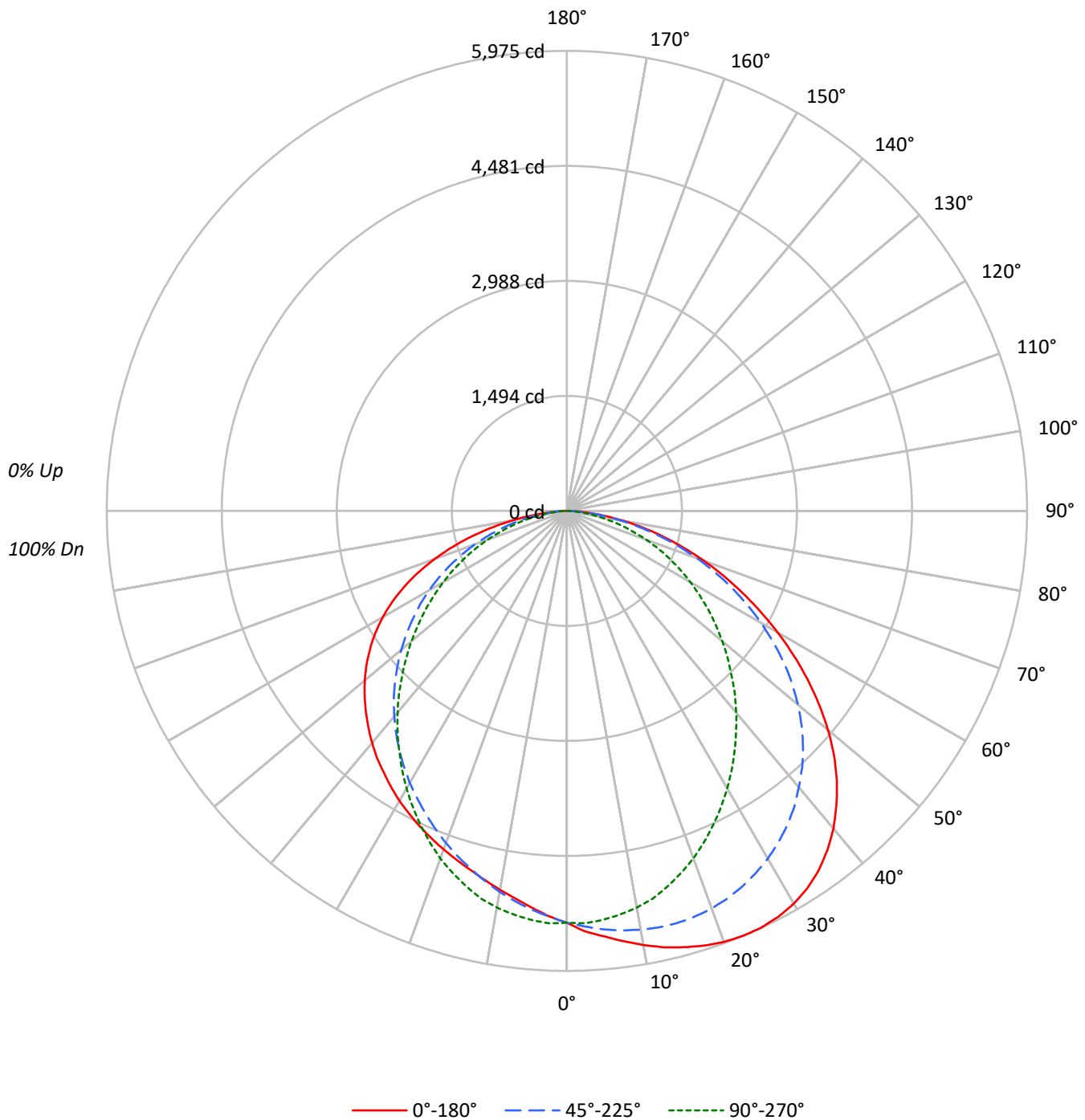
Lumens per Lamp: N/A
Luminaire Lumens: 15735.0 lumens
Efficiency: N/A
Efficacy: 134.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 117
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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7197	7197	7197
5°	7493	7201	6988
10°	7821	7147	6826
15°	8173	7033	6728
20°	8530	6877	6700
25°	8865	6678	6711
30°	9154	6469	6754
35°	9362	6238	6810
40°	9457	6007	6911
45°	9431	5754	7024
50°	9264	5512	7169
55°	8947	5258	7318
60°	8511	4987	7429
65°	7992	4683	7419
70°	7438	4319	7199
75°	6753	3793	6638
80°	5798	3116	5599
85°	4423	2130	3844

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	507.3	3.2
10°-20°	1465.1	9.3
20°-30°	2244.5	14.3
30°-40°	2739.2	17.4
40°-50°	2864.6	18.2
50°-60°	2592.6	16.5
60°-70°	1963.5	12.5
70°-80°	1094.2	7.0
80°-90°	263.9	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°	4217.0	26.8
0°-40°	6956.1	44.2
0°-60°	12413.4	78.9
0°-90°	15735.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15735.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5349	5349	5349	5349	5349	
5°	5548	5456	5332	5201	5174	535
15°	5867	5541	5049	4814	4830	1664
25°	5971	5384	4498	4339	4520	2755
35°	5700	4986	3798	3793	4146	3559
45°	4956	4336	3024	3157	3691	3813
55°	3814	3443	2241	2439	3120	3403
65°	2510	2361	1471	1672	2330	2490
75°	1299	1226	730	871	1277	1378
85°	286	253	138	185	249	345
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°	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3
2.5°	5467.4	5441.6	5420.6	5428.8	5433.5	5417.1	5403.1	5405.4	5391.4	5418.3	5355.1
5°	5548.0	5524.7	5500.1	5509.5	5500.1	5475.5	5455.7	5449.8	5412.4	5427.6	5363.3
7.5°	5638.1	5612.3	5576.1	5586.6	5566.7	5521.1	5495.4	5480.2	5422.9	5424.1	5352.8
10°	5724.6	5702.4	5653.3	5660.3	5624.0	5563.2	5522.3	5501.3	5420.6	5408.9	5335.2
12.5°	5805.3	5774.9	5722.3	5725.8	5673.1	5592.5	5539.9	5509.5	5404.2	5369.1	5296.7
15°	5867.2	5838.0	5774.9	5773.7	5705.9	5600.7	5541.0	5498.9	5365.6	5310.7	5234.7
17.5°	5919.9	5893.0	5814.6	5812.3	5730.4	5597.1	5525.8	5473.2	5309.5	5241.7	5157.5
20°	5957.3	5930.4	5842.7	5834.5	5736.3	5579.6	5494.3	5427.6	5235.8	5155.2	5061.6
22.5°	5974.8	5947.9	5848.5	5836.8	5722.3	5544.5	5448.7	5370.3	5151.7	5046.4	4949.4
25°	5971.3	5945.6	5833.3	5821.6	5695.4	5491.9	5384.3	5294.3	5045.3	4921.3	4825.4
27.5°	5942.1	5922.2	5804.1	5788.9	5646.3	5420.6	5306.0	5206.6	4927.2	4789.2	4685.1
30°	5891.8	5876.6	5751.5	5737.5	5585.5	5342.3	5214.8	5100.2	4799.7	4644.2	4539.0
32.5°	5811.1	5797.1	5670.8	5657.9	5503.6	5241.7	5108.4	4990.3	4660.6	4488.7	4383.5
35°	5700.0	5691.9	5569.1	5555.1	5398.4	5127.1	4985.6	4855.8	4515.6	4321.5	4221.0
37.5°	5553.9	5553.9	5435.8	5420.6	5267.4	4986.8	4847.7	4709.7	4351.9	4146.1	4046.7
40°	5384.3	5399.5	5279.1	5263.9	5115.4	4836.0	4684.0	4539.0	4175.4	3961.4	3864.3
42.5°	5180.9	5194.9	5094.4	5080.3	4941.2	4661.8	4520.3	4362.4	3990.6	3773.1	3672.6
45°	4956.4	4975.1	4885.1	4874.6	4744.8	4471.2	4335.5	4175.4	3797.7	3576.7	3478.5
47.5°	4706.2	4730.7	4652.4	4646.6	4526.1	4275.9	4134.4	3971.9	3595.4	3372.1	3279.7
50°	4425.6	4460.6	4396.3	4396.3	4288.8	4039.7	3916.9	3754.4	3384.9	3161.6	3070.4
52.5°	4125.1	4169.5	4121.6	4122.7	4035.0	3811.7	3684.3	3525.3	3165.1	2945.3	2861.1
55°	3814.1	3857.3	3826.9	3831.6	3762.6	3559.2	3443.4	3285.6	2940.6	2726.7	2647.2
57.5°	3489.0	3535.8	3515.9	3525.3	3477.3	3294.9	3174.5	3036.5	2709.1	2497.5	2429.7
60°	3162.8	3207.2	3196.7	3209.6	3179.2	3021.3	2911.4	2768.8	2476.4	2273.0	2213.4
62.5°	2833.1	2874.0	2871.6	2885.7	2869.3	2738.4	2640.1	2518.5	2235.6	2048.5	1993.6
65°	2510.4	2545.4	2543.1	2558.3	2554.8	2449.6	2360.7	2249.6	1994.7	1822.8	1774.9
67.5°	2197.0	2226.2	2218.0	2235.6	2240.3	2156.1	2078.9	1979.5	1765.6	1598.3	1557.4
70°	1890.7	1910.5	1900.0	1911.7	1922.2	1859.1	1793.6	1705.9	1521.2	1373.9	1339.9
72.5°	1590.2	1604.2	1587.8	1599.5	1608.9	1563.3	1509.5	1433.5	1280.3	1152.9	1124.8
75°	1299.0	1318.9	1285.0	1296.7	1303.7	1258.1	1226.5	1164.6	1032.4	934.2	915.5
77.5°	1017.2	1028.9	1010.2	1005.5	1010.2	977.5	952.9	905.0	805.6	724.9	713.2
80°	748.3	755.3	736.6	731.9	735.5	712.1	693.4	658.3	588.1	527.3	522.6
82.5°	501.6	505.1	488.7	484.1	486.4	479.4	457.2	432.6	399.9	348.4	347.3
85°	286.5	286.5	274.8	270.1	272.4	260.7	252.6	239.7	226.8	191.8	194.1
87.5°	105.2	105.2	99.4	98.2	109.9	97.0	93.5	87.7	91.2	72.5	77.2
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°	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3	5349.3
2.5°	5372.7	5361.0	5350.4	5314.2	5329.4	5292.0	5289.6	5275.6	5265.1	5245.2	5270.9
5°	5355.1	5331.7	5301.3	5258.1	5270.9	5226.5	5217.1	5200.8	5186.7	5161.0	5180.9
7.5°	5327.1	5288.5	5240.5	5185.6	5203.1	5148.2	5134.1	5116.6	5104.9	5074.5	5092.0
10°	5286.1	5231.2	5175.0	5108.4	5121.3	5061.6	5044.1	5025.4	5014.9	4988.0	5005.5
12.5°	5223.0	5156.3	5080.3	5007.8	5021.9	4965.8	4942.4	4922.5	4919.0	4896.8	4917.8
15°	5141.1	5048.8	4970.4	4893.3	4909.6	4844.2	4833.6	4813.8	4819.6	4804.4	4830.1
17.5°	5037.1	4930.7	4845.3	4762.3	4778.7	4723.7	4715.5	4706.2	4712.0	4709.7	4737.8
20°	4920.2	4803.2	4705.0	4623.2	4632.5	4589.3	4592.8	4590.4	4602.1	4615.0	4653.6
22.5°	4788.0	4655.9	4553.0	4468.8	4482.9	4445.4	4461.8	4466.5	4486.4	4515.6	4564.7
25°	4639.5	4498.1	4390.5	4311.0	4323.8	4299.3	4327.4	4339.0	4370.6	4419.7	4470.0
27.5°	4484.0	4334.4	4219.8	4143.8	4168.3	4143.8	4185.9	4209.3	4257.2	4311.0	4373.0
30°	4319.2	4163.7	4045.6	3977.7	4001.1	3978.9	4046.7	4078.3	4126.2	4199.9	4273.6
32.5°	4146.1	3982.4	3866.7	3814.1	3830.4	3826.9	3902.9	3938.0	4002.3	4086.5	4164.8
35°	3968.4	3797.7	3680.8	3636.3	3656.2	3660.9	3752.1	3793.0	3863.2	3964.9	4049.1
37.5°	3784.8	3610.6	3496.0	3459.8	3477.3	3494.9	3601.3	3642.2	3721.7	3832.8	3925.1
40°	3594.2	3420.0	3307.8	3278.5	3296.1	3314.8	3430.5	3486.7	3573.2	3693.6	3794.2
42.5°	3401.3	3227.1	3118.4	3097.3	3114.9	3151.1	3273.9	3326.5	3417.7	3551.0	3662.1
45°	3204.9	3023.7	2928.9	2912.6	2931.3	2973.4	3093.8	3156.9	3254.0	3400.1	3519.4
47.5°	3006.1	2829.6	2739.5	2729.0	2747.7	2794.5	2927.8	2985.1	3088.0	3243.5	3372.1
50°	2805.0	2633.1	2546.6	2543.1	2560.6	2610.9	2738.4	2806.2	2912.6	3086.8	3218.9
52.5°	2601.6	2436.7	2358.4	2358.4	2374.7	2426.2	2554.8	2624.9	2734.8	2918.4	3064.6
55°	2398.1	2241.4	2166.6	2172.4	2195.8	2240.3	2365.4	2439.0	2550.1	2740.7	2895.0
57.5°	2194.7	2046.2	1978.4	1986.5	2008.8	2053.2	2176.0	2259.0	2359.5	2557.1	2715.0
60°	1993.6	1853.2	1793.6	1803.0	1822.8	1867.3	1994.7	2066.0	2166.6	2367.7	2525.6
62.5°	1790.1	1662.7	1606.5	1618.2	1635.8	1680.2	1800.6	1869.6	1969.0	2166.6	2325.6
65°	1589.0	1470.9	1423.0	1434.7	1451.0	1491.9	1605.4	1672.0	1766.7	1959.6	2111.6
67.5°	1390.2	1282.7	1242.9	1254.6	1267.5	1306.0	1399.6	1472.1	1560.9	1744.5	1888.3
70°	1193.8	1097.9	1062.8	1074.5	1086.2	1121.3	1203.1	1269.8	1351.6	1520.0	1653.3
72.5°	999.7	906.2	888.6	899.1	908.5	938.9	1017.2	1069.9	1141.2	1290.8	1405.4
75°	810.3	729.6	717.9	728.4	736.6	760.0	825.5	871.1	930.7	1060.5	1154.0
77.5°	627.9	560.1	555.4	563.6	571.8	588.1	639.6	687.5	734.3	830.2	913.2
80°	457.2	402.2	402.2	410.4	408.1	427.9	464.2	502.8	536.7	605.7	666.5
82.5°	301.7	258.4	264.2	270.1	273.6	281.8	304.0	333.2	354.3	396.4	436.1
85°	167.2	138.0	143.8	148.5	146.2	155.5	167.2	184.7	195.3	215.1	236.2
87.5°	62.0	51.4	52.6	56.1	58.5	63.1	63.1	73.7	74.8	77.2	81.8
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°	5349.3	5349.3	5349.3
2.5°	5221.8	5249.9	5270.9
5°	5131.8	5155.2	5173.9
7.5°	5044.1	5065.1	5081.5
10°	4961.1	4984.5	4996.2
12.5°	4875.7	4902.6	4912.0
15°	4791.5	4818.4	4830.1
17.5°	4705.0	4740.1	4753.0
20°	4624.3	4668.8	4679.3
22.5°	4542.5	4588.1	4601.0
25°	4453.6	4507.4	4520.3
27.5°	4358.9	4423.2	4436.1
30°	4264.2	4334.4	4347.2
32.5°	4162.5	4238.5	4250.2
35°	4056.1	4132.1	4146.1
37.5°	3938.0	4021.0	4049.1
40°	3815.2	3905.3	3934.5
42.5°	3686.6	3784.8	3815.2
45°	3548.6	3656.2	3691.3
47.5°	3409.5	3531.1	3561.5
50°	3258.7	3388.5	3424.7
52.5°	3100.8	3242.3	3278.5
55°	2937.1	3079.8	3119.5
57.5°	2759.4	2906.7	2948.8
60°	2573.5	2720.8	2760.6
62.5°	2382.9	2516.2	2554.8
65°	2170.1	2295.2	2330.3
67.5°	1944.4	2059.0	2088.3
70°	1704.7	1804.1	1829.9
72.5°	1454.5	1523.5	1557.4
75°	1196.1	1251.1	1276.8
77.5°	936.6	975.1	996.2
80°	682.8	705.1	722.6
82.5°	446.6	456.0	468.9
85°	240.9	240.9	249.0
87.5°	81.8	78.3	81.8
90°	0.0	0.0	0.0

(END OF REPORT)