

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: P834680

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5STD-35-120-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: P834680
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-35-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

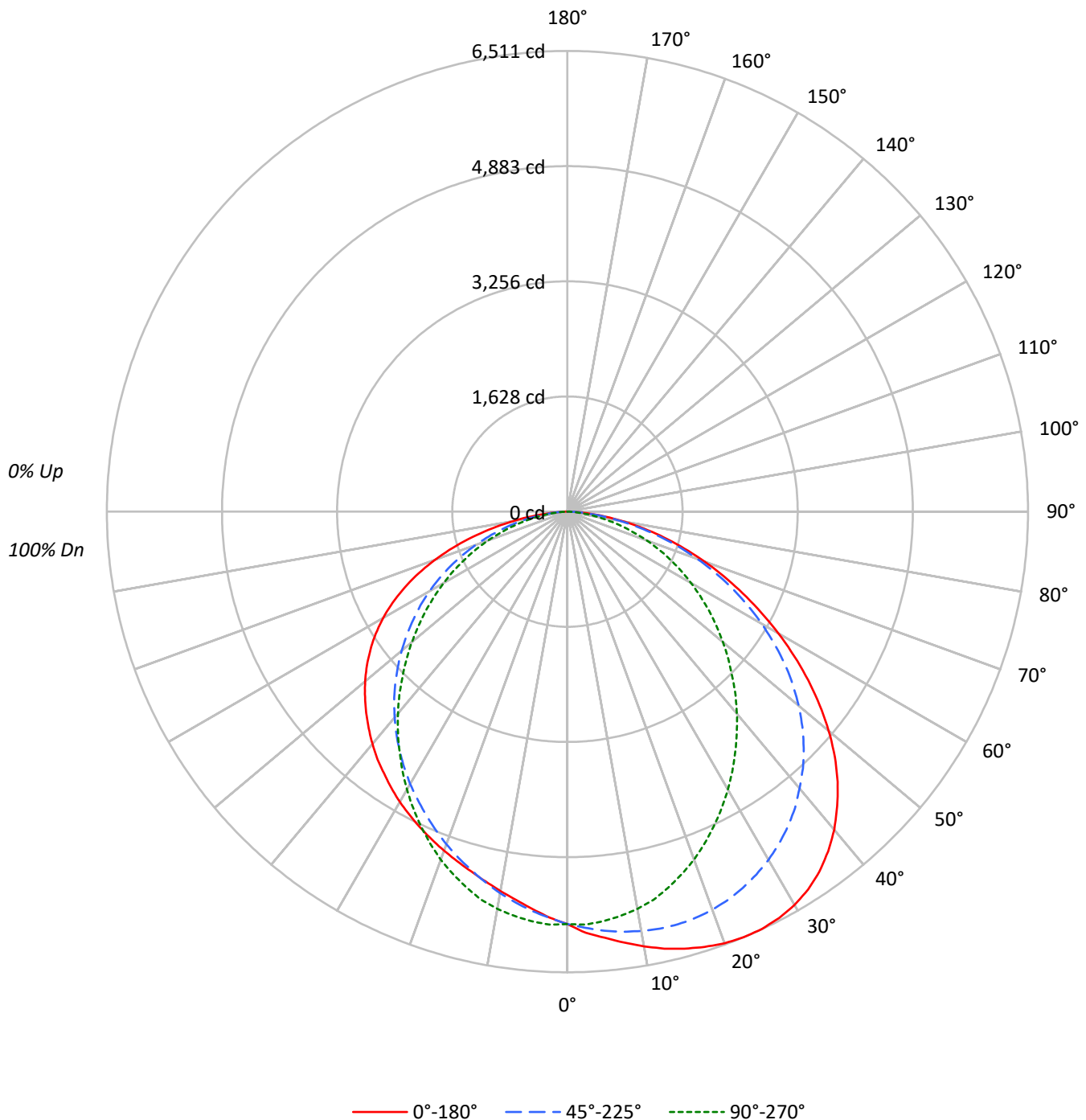
Lumens per Lamp: N/A
Luminaire Lumens: 17146.7 lumens
Efficiency: N/A
Efficacy: 103.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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
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°	7843	7843	7843
5°	8166	7847	7615
10°	8523	7788	7438
15°	8906	7664	7332
20°	9295	7494	7301
25°	9660	7277	7313
30°	9975	7049	7360
35°	10202	6797	7421
40°	10306	6546	7531
45°	10277	6270	7654
50°	10095	6006	7812
55°	9750	5730	7974
60°	9274	5434	8095
65°	8709	5103	8084
70°	8105	4707	7844
75°	7359	4133	7233
80°	6318	3396	6101
85°	4820	2320	4190

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	552.9	3.2
10°-20°	1596.5	9.3
20°-30°	2445.9	14.3
30°-40°	2984.9	17.4
40°-50°	3121.6	18.2
50°-60°	2825.2	16.5
60°-70°	2139.6	12.5
70°-80°	1192.4	7.0
80°-90°	287.6	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°	4595.3	26.8
0°-40°	7580.2	44.2
0°-60°	13527.0	78.9
0°-90°	17146.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17146.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5829	5829	5829	5829	5829	
5°	6046	5945	5810	5667	5638	583
15°	6394	6038	5502	5246	5263	1813
25°	6507	5867	4902	4728	4926	3002
35°	6211	5433	4138	4133	4518	3879
45°	5401	4724	3295	3440	4022	4156
55°	4156	3752	2442	2658	3399	3709
65°	2736	2572	1603	1822	2539	2714
75°	1416	1337	795	949	1391	1501
85°	312	275	150	201	271	376
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°	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2
2.5°	5957.9	5929.8	5906.9	5915.8	5920.9	5903.1	5887.8	5890.3	5875.0	5904.3	5835.5
5°	6045.8	6020.3	5993.5	6003.7	5993.5	5966.8	5945.1	5938.7	5898.0	5914.5	5844.5
7.5°	6143.9	6115.8	6076.3	6087.8	6066.2	6016.5	5988.4	5971.9	5909.4	5910.7	5833.0
10°	6238.2	6214.0	6160.4	6168.1	6128.6	6062.3	6017.7	5994.8	5906.9	5894.1	5813.9
12.5°	6326.1	6292.9	6235.6	6239.4	6182.1	6094.2	6036.8	6003.7	5889.0	5850.8	5771.8
15°	6393.6	6361.8	6292.9	6291.7	6217.8	6103.1	6038.1	5992.3	5847.0	5787.1	5704.3
17.5°	6450.9	6421.6	6336.3	6333.7	6244.5	6099.3	6021.6	5964.2	5785.8	5711.9	5620.2
20°	6491.7	6462.4	6366.8	6357.9	6250.9	6080.2	5987.2	5914.5	5705.6	5617.7	5515.7
22.5°	6510.8	6481.5	6373.2	6360.5	6235.6	6041.9	5937.5	5852.1	5613.8	5499.2	5393.4
25°	6507.0	6479.0	6356.7	6343.9	6206.3	5984.6	5867.4	5769.3	5497.9	5362.8	5258.4
27.5°	6475.1	6453.5	6324.8	6308.2	6152.8	5906.9	5782.0	5673.7	5369.2	5218.9	5105.5
30°	6420.4	6403.8	6267.5	6252.2	6086.5	5821.5	5682.6	5557.8	5230.3	5060.9	4946.2
32.5°	6332.4	6317.2	6179.5	6165.5	5997.3	5711.9	5566.7	5438.0	5078.7	4891.4	4776.7
35°	6211.4	6202.5	6068.7	6053.4	5882.7	5587.1	5432.9	5291.5	4920.7	4709.2	4599.6
37.5°	6052.1	6052.1	5923.4	5906.9	5740.0	5434.2	5282.6	5132.2	4742.3	4518.1	4409.8
40°	5867.4	5884.0	5752.7	5736.2	5574.3	5269.8	5104.2	4946.2	4549.9	4316.8	4211.0
42.5°	5645.7	5661.0	5551.4	5536.1	5384.5	5080.0	4925.8	4753.8	4348.6	4111.6	4002.1
45°	5401.1	5421.4	5323.3	5311.9	5170.4	4872.3	4724.5	4549.9	4138.4	3897.6	3790.5
47.5°	5128.4	5155.1	5069.8	5063.4	4932.2	4659.5	4505.3	4328.2	3918.0	3674.6	3573.9
50°	4822.6	4860.8	4790.7	4790.7	4673.5	4402.1	4268.3	4091.2	3688.6	3445.3	3345.9
52.5°	4495.1	4543.6	4491.3	4492.6	4397.0	4153.7	4014.8	3841.5	3449.1	3209.5	3117.8
55°	4156.2	4203.4	4170.2	4175.3	4100.2	3878.5	3752.3	3580.3	3204.4	2971.3	2884.6
57.5°	3802.0	3853.0	3831.3	3841.5	3789.3	3590.5	3459.3	3308.9	2952.2	2721.5	2647.7
60°	3446.5	3494.9	3483.5	3497.5	3464.4	3292.4	3172.6	3017.1	2698.6	2476.9	2411.9
62.5°	3087.2	3131.8	3129.3	3144.6	3126.7	2984.0	2877.0	2744.5	2436.1	2232.3	2172.4
65°	2735.6	2773.8	2771.2	2787.8	2784.0	2669.3	2572.5	2451.4	2173.7	1986.4	1934.1
67.5°	2394.1	2426.0	2417.0	2436.1	2441.2	2349.5	2265.4	2157.1	1923.9	1741.7	1697.1
70°	2060.3	2081.9	2070.5	2083.2	2094.7	2025.9	1954.5	1859.0	1657.6	1497.1	1460.2
72.5°	1732.8	1748.1	1730.3	1743.0	1753.2	1703.5	1644.9	1562.1	1395.2	1256.3	1225.7
75°	1415.6	1437.2	1400.3	1413.0	1420.7	1371.0	1336.6	1269.0	1125.1	1018.0	997.6
77.5°	1108.5	1121.2	1100.9	1095.8	1100.9	1065.2	1038.4	986.2	877.9	790.0	777.2
80°	815.4	823.1	802.7	797.6	801.4	775.9	755.6	717.3	640.9	574.6	569.5
82.5°	546.6	550.4	532.6	527.5	530.0	522.4	498.2	471.4	435.8	379.7	378.4
85°	312.2	312.2	299.4	294.3	296.9	284.1	275.2	261.2	247.2	209.0	211.5
87.5°	114.7	114.7	108.3	107.0	119.8	105.8	101.9	95.6	99.4	79.0	84.1
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°	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2	5829.2
2.5°	5854.6	5841.9	5830.4	5790.9	5807.5	5766.7	5764.2	5748.9	5737.4	5715.8	5743.8
5°	5835.5	5810.1	5776.9	5729.8	5743.8	5695.4	5685.2	5667.3	5652.1	5624.0	5645.7
7.5°	5805.0	5762.9	5710.7	5650.8	5669.9	5610.0	5594.7	5575.6	5562.9	5529.7	5548.9
10°	5760.4	5700.5	5639.3	5566.7	5580.7	5515.7	5496.6	5476.2	5464.8	5435.5	5454.6
12.5°	5691.6	5618.9	5536.1	5457.1	5472.4	5411.2	5385.8	5364.1	5360.3	5336.1	5359.0
15°	5602.4	5501.7	5416.3	5332.3	5350.1	5278.7	5267.3	5245.6	5252.0	5235.4	5263.4
17.5°	5489.0	5373.0	5280.0	5189.5	5207.4	5147.5	5138.6	5128.4	5134.8	5132.2	5162.8
20°	5361.6	5234.1	5127.1	5037.9	5048.1	5001.0	5004.8	5002.2	5015.0	5029.0	5071.1
22.5°	5217.6	5073.6	4961.5	4869.7	4885.0	4844.3	4862.1	4867.2	4888.9	4920.7	4974.2
25°	5055.8	4901.6	4784.4	4697.7	4711.7	4685.0	4715.6	4728.3	4762.7	4816.2	4871.0
27.5°	4886.3	4723.2	4598.3	4515.5	4542.3	4515.5	4561.4	4586.9	4639.1	4697.7	4765.3
30°	4706.7	4537.2	4408.5	4334.6	4360.1	4335.9	4409.8	4444.2	4496.4	4576.7	4657.0
32.5°	4518.1	4339.7	4213.6	4156.2	4174.1	4170.2	4253.1	4291.3	4361.4	4453.1	4538.5
35°	4324.4	4138.4	4011.0	3962.6	3984.2	3989.3	4088.7	4133.3	4209.7	4320.6	4412.3
37.5°	4124.4	3934.5	3809.7	3770.2	3789.3	3808.4	3924.3	3968.9	4055.6	4176.6	4277.3
40°	3916.7	3726.8	3604.5	3572.7	3591.8	3612.2	3738.3	3799.5	3893.8	4025.0	4134.6
42.5°	3706.5	3516.6	3398.1	3375.2	3394.3	3433.8	3567.6	3624.9	3724.3	3869.5	3990.6
45°	3492.4	3294.9	3191.7	3173.9	3194.3	3240.1	3371.4	3440.2	3545.9	3705.2	3835.1
47.5°	3275.8	3083.4	2985.3	2973.8	2994.2	3045.2	3190.4	3252.9	3365.0	3534.4	3674.6
50°	3056.6	2869.3	2775.1	2771.2	2790.4	2845.1	2984.0	3057.9	3173.9	3363.7	3507.7
52.5°	2834.9	2655.3	2569.9	2569.9	2587.8	2643.8	2784.0	2860.4	2980.2	3180.2	3339.5
55°	2613.2	2442.5	2361.0	2367.3	2392.8	2441.2	2577.6	2657.8	2778.9	2986.6	3154.8
57.5°	2391.5	2229.7	2155.8	2164.8	2189.0	2237.4	2371.2	2461.6	2571.2	2786.5	2958.5
60°	2172.4	2019.5	1954.5	1964.7	1986.4	2034.8	2173.7	2251.4	2361.0	2580.1	2752.1
62.5°	1950.7	1811.8	1750.7	1763.4	1782.5	1830.9	1962.2	2037.3	2145.6	2361.0	2534.3
65°	1731.5	1602.9	1550.6	1563.4	1581.2	1625.8	1749.4	1822.0	1925.2	2135.4	2301.1
67.5°	1514.9	1397.7	1354.4	1367.1	1381.2	1423.2	1525.1	1604.1	1701.0	1901.0	2057.7
70°	1300.9	1196.4	1158.2	1170.9	1183.7	1221.9	1311.1	1383.7	1472.9	1656.4	1801.6
72.5°	1089.4	987.5	968.3	979.8	990.0	1023.1	1108.5	1165.8	1243.6	1406.6	1531.5
75°	883.0	795.1	782.3	793.8	802.7	828.2	899.5	949.2	1014.2	1155.6	1257.6
77.5°	684.2	610.3	605.2	614.1	623.1	640.9	697.0	749.2	800.2	904.6	995.1
80°	498.2	438.3	438.3	447.2	444.7	466.3	505.8	547.9	584.8	660.0	726.3
82.5°	328.7	281.6	288.0	294.3	298.1	307.1	331.3	363.1	386.1	431.9	475.3
85°	182.2	150.3	156.7	161.8	159.3	169.5	182.2	201.3	212.8	234.4	257.4
87.5°	67.5	56.1	57.3	61.2	63.7	68.8	68.8	80.3	81.5	84.1	89.2
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):

	160°	170°	180°
0°	5829.2	5829.2	5829.2
2.5°	5690.3	5720.9	5743.8
5°	5592.2	5617.7	5638.0
7.5°	5496.6	5519.5	5537.4
10°	5406.2	5431.6	5444.4
12.5°	5313.1	5342.4	5352.6
15°	5221.4	5250.7	5263.4
17.5°	5127.1	5165.3	5179.4
20°	5039.2	5087.6	5099.1
22.5°	4950.0	4999.7	5013.7
25°	4853.2	4911.8	4925.8
27.5°	4750.0	4820.0	4834.1
30°	4646.8	4723.2	4737.2
32.5°	4535.9	4618.7	4631.5
35°	4420.0	4502.8	4518.1
37.5°	4291.3	4381.7	4412.3
40°	4157.5	4255.6	4287.5
42.5°	4017.3	4124.4	4157.5
45°	3867.0	3984.2	4022.4
47.5°	3715.4	3847.9	3881.0
50°	3551.0	3692.4	3731.9
52.5°	3379.0	3533.2	3572.7
55°	3200.6	3356.1	3399.4
57.5°	3007.0	3167.5	3213.4
60°	2804.4	2964.9	3008.2
62.5°	2596.7	2741.9	2784.0
65°	2364.8	2501.1	2539.3
67.5°	2118.9	2243.7	2275.6
70°	1857.7	1966.0	1994.0
72.5°	1585.0	1660.2	1697.1
75°	1303.4	1363.3	1391.4
77.5°	1020.6	1062.6	1085.6
80°	744.1	768.3	787.4
82.5°	486.7	496.9	510.9
85°	262.5	262.5	271.4
87.5°	89.2	85.4	89.2
90°	0.0	0.0	0.0

(END OF REPORT)