

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: P834588

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4HI-40-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834588
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-LD4-4HI-40-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

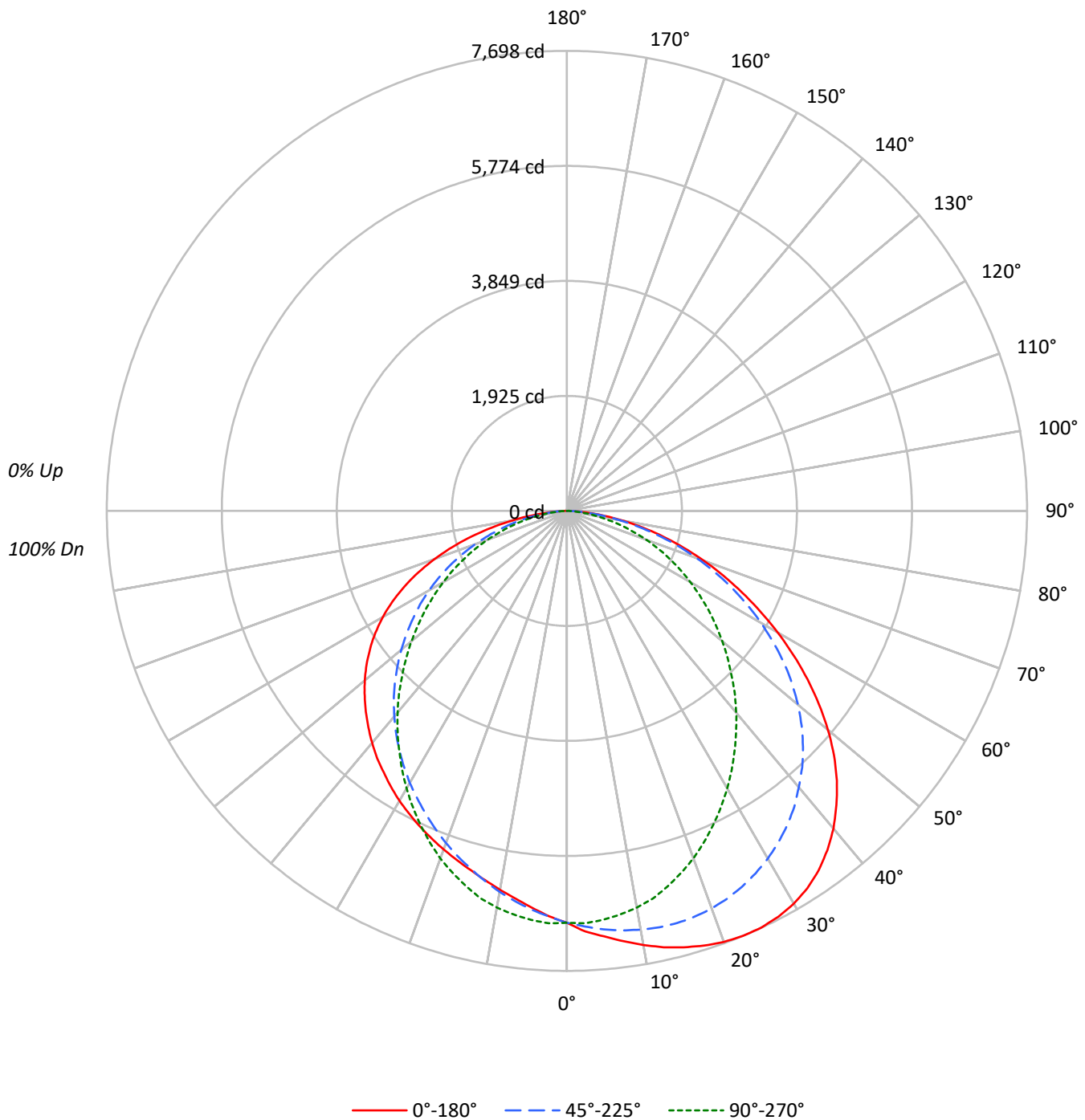
Lumens per Lamp: N/A
Luminaire Lumens: 20272.5 lumens
Efficiency: N/A
Efficacy: 115.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 176
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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9273	9273	9273
5°	9654	9278	9003
10°	10077	9208	8794
15°	10530	9061	8668
20°	10990	8861	8632
25°	11421	8603	8646
30°	11793	8334	8702
35°	12062	8037	8774
40°	12184	7739	8903
45°	12151	7413	9049
50°	11935	7101	9236
55°	11527	6774	9428
60°	10965	6425	9571
65°	10297	6033	9558
70°	9583	5565	9274
75°	8700	4887	8552
80°	7470	4015	7214
85°	5698	2745	4954

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	653.6	3.2
10°-20°	1887.6	9.3
20°-30°	2891.8	14.3
30°-40°	3529.1	17.4
40°-50°	3690.6	18.2
50°-60°	3340.3	16.5
60°-70°	2529.7	12.5
70°-80°	1409.8	7.0
80°-90°	340.0	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°	5433.0	26.8
0°-40°	8962.1	44.2
0°-60°	15993.0	78.9
0°-90°	20272.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	20272.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6892	6892	6892	6892	6892	
5°	7148	7029	6869	6700	6666	689
15°	7559	7139	6505	6202	6223	2144
25°	7693	6937	5795	5590	5824	3549
35°	7344	6423	4893	4887	5342	4586
45°	6386	5586	3896	4067	4756	4913
55°	4914	4436	2888	3142	4019	4385
65°	3234	3041	1895	2154	3002	3208
75°	1674	1580	940	1122	1645	1775
85°	369	325	178	238	321	444
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°	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8
2.5°	7044.0	7010.8	6983.7	6994.3	7000.3	6979.2	6961.1	6964.1	6946.1	6980.7	6899.4
5°	7147.9	7117.8	7086.2	7098.2	7086.2	7054.5	7028.9	7021.4	6973.2	6992.8	6909.9
7.5°	7263.9	7230.8	7184.1	7197.6	7172.0	7113.3	7080.1	7060.5	6986.7	6988.2	6896.3
10°	7375.4	7346.8	7283.5	7292.5	7245.8	7167.5	7114.8	7087.7	6983.7	6968.7	6873.8
12.5°	7479.3	7440.2	7372.4	7376.9	7309.1	7205.2	7137.4	7098.2	6962.6	6917.4	6824.0
15°	7559.2	7521.5	7440.2	7438.7	7351.3	7215.7	7138.9	7084.6	6912.9	6842.1	6744.2
17.5°	7627.0	7592.3	7491.4	7488.4	7382.9	7211.2	7119.3	7051.5	6840.6	6753.2	6644.8
20°	7675.2	7640.5	7527.5	7517.0	7390.4	7188.6	7078.6	6992.8	6745.7	6641.8	6521.3
22.5°	7697.8	7663.1	7535.1	7520.0	7372.4	7143.4	7019.9	6918.9	6637.2	6501.7	6376.6
25°	7693.2	7660.1	7515.5	7500.4	7337.7	7075.6	6937.0	6821.0	6500.2	6340.5	6217.0
27.5°	7655.6	7630.0	7477.8	7458.2	7274.5	6983.7	6836.1	6708.0	6348.0	6170.3	6036.2
30°	7590.8	7571.2	7410.0	7392.0	7196.1	6882.8	6718.6	6571.0	6183.8	5983.5	5847.9
32.5°	7486.9	7468.8	7306.1	7289.5	7090.7	6753.2	6581.5	6429.4	6004.6	5783.1	5647.5
35°	7343.8	7333.2	7175.0	7157.0	6955.1	6605.6	6423.3	6256.1	5817.8	5567.7	5438.1
37.5°	7155.4	7155.4	7003.3	6983.7	6786.4	6424.8	6245.6	6067.8	5606.9	5341.7	5213.7
40°	6937.0	6956.6	6801.4	6781.9	6590.5	6230.5	6034.7	5847.9	5379.4	5103.7	4978.7
42.5°	6674.9	6693.0	6563.4	6545.4	6366.1	6006.1	5823.8	5620.4	5141.4	4861.2	4731.6
45°	6385.7	6409.8	6293.8	6280.2	6113.0	5760.5	5585.8	5379.4	4892.8	4608.1	4481.6
47.5°	6063.3	6094.9	5994.0	5986.5	5831.3	5508.9	5326.7	5117.3	4632.2	4344.5	4225.5
50°	5701.8	5747.0	5664.1	5664.1	5525.5	5204.6	5046.5	4837.1	4361.1	4073.3	3955.8
52.5°	5314.6	5371.9	5310.1	5311.6	5198.6	4910.9	4746.7	4541.8	4077.9	3794.6	3686.2
55°	4913.9	4969.6	4930.5	4936.5	4847.6	4585.5	4436.4	4233.0	3788.6	3512.9	3410.5
57.5°	4495.1	4555.4	4529.8	4541.8	4480.1	4245.1	4089.9	3912.1	3490.4	3217.7	3130.3
60°	4074.8	4132.1	4118.5	4135.1	4095.9	3892.6	3751.0	3567.2	3190.6	2928.5	2851.6
62.5°	3650.0	3702.8	3699.7	3717.8	3696.7	3528.0	3401.5	3244.8	2880.3	2639.2	2568.4
65°	3234.3	3279.5	3276.4	3296.0	3291.5	3155.9	3041.4	2898.3	2569.9	2348.5	2286.7
67.5°	2830.5	2868.2	2857.7	2880.3	2886.3	2777.8	2678.4	2550.4	2274.7	2059.3	2006.5
70°	2435.9	2461.5	2447.9	2463.0	2476.5	2395.2	2310.8	2197.9	1959.8	1770.0	1726.3
72.5°	2048.7	2066.8	2045.7	2060.8	2072.8	2014.1	1944.8	1846.9	1649.5	1485.3	1449.2
75°	1673.6	1699.2	1655.5	1670.6	1679.6	1620.9	1580.2	1500.4	1330.2	1203.6	1179.5
77.5°	1310.6	1325.6	1301.5	1295.5	1301.5	1259.4	1227.7	1166.0	1037.9	934.0	918.9
80°	964.1	973.1	949.0	943.0	947.5	917.4	893.3	848.1	757.7	679.4	673.4
82.5°	646.3	650.8	629.7	623.7	626.7	617.6	589.0	557.4	515.2	448.9	447.4
85°	369.1	369.1	354.0	348.0	351.0	335.9	325.4	308.8	292.2	247.1	250.1
87.5°	135.6	135.6	128.0	126.5	141.6	125.0	120.5	113.0	117.5	93.4	99.4
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°	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8	6891.8
2.5°	6922.0	6906.9	6893.3	6846.6	6866.2	6818.0	6815.0	6796.9	6783.4	6757.8	6790.9
5°	6899.4	6869.2	6830.1	6774.3	6790.9	6733.7	6721.6	6700.5	6682.4	6649.3	6674.9
7.5°	6863.2	6813.5	6751.7	6680.9	6703.5	6632.7	6614.6	6592.1	6577.0	6537.8	6560.4
10°	6810.5	6739.7	6667.4	6581.5	6598.1	6521.3	6498.7	6474.6	6461.0	6426.3	6448.9
12.5°	6729.1	6643.3	6545.4	6452.0	6470.0	6397.7	6367.6	6342.0	6337.5	6308.8	6336.0
15°	6623.7	6504.7	6403.8	6304.3	6325.4	6241.1	6227.5	6201.9	6209.4	6189.8	6223.0
17.5°	6489.6	6352.5	6242.6	6135.6	6156.7	6085.9	6075.4	6063.3	6070.8	6067.8	6104.0
20°	6339.0	6188.3	6061.8	5956.3	5968.4	5912.7	5917.2	5914.2	5929.2	5945.8	5995.5
22.5°	6168.8	5998.5	5866.0	5757.5	5775.6	5727.4	5748.5	5754.5	5780.1	5817.8	5881.0
25°	5977.4	5795.2	5656.6	5554.1	5570.7	5539.1	5575.2	5590.3	5631.0	5694.2	5759.0
27.5°	5777.1	5584.3	5436.6	5338.7	5370.4	5338.7	5392.9	5423.1	5484.8	5554.1	5634.0
30°	5564.7	5364.3	5212.2	5124.8	5154.9	5126.3	5213.7	5254.4	5316.1	5411.0	5505.9
32.5°	5341.7	5130.8	4981.7	4913.9	4935.0	4930.5	5028.4	5073.6	5156.4	5264.9	5365.8
35°	5112.8	4892.8	4742.2	4684.9	4710.5	4716.6	4834.1	4886.8	4977.2	5108.2	5216.7
37.5°	4876.3	4651.8	4504.2	4457.5	4480.1	4502.7	4639.7	4692.5	4794.9	4938.0	5057.0
40°	4630.7	4406.3	4261.6	4224.0	4246.6	4270.7	4419.8	4492.1	4603.6	4758.8	4888.3
42.5°	4382.1	4157.7	4017.6	3990.5	4013.1	4059.8	4217.9	4285.7	4403.2	4575.0	4718.1
45°	4129.1	3895.6	3773.6	3752.5	3776.6	3830.8	3986.0	4067.3	4192.3	4380.6	4534.3
47.5°	3873.0	3645.5	3529.5	3516.0	3540.1	3600.3	3772.1	3845.9	3978.4	4178.8	4344.5
50°	3613.9	3392.4	3281.0	3276.4	3299.0	3363.8	3528.0	3615.4	3752.5	3976.9	4147.1
52.5°	3351.8	3139.4	3038.4	3038.4	3059.5	3125.8	3291.5	3381.9	3523.5	3760.0	3948.3
55°	3089.6	2887.8	2791.4	2798.9	2829.0	2886.3	3047.5	3142.4	3285.5	3531.0	3729.9
57.5°	2827.5	2636.2	2548.8	2559.4	2588.0	2645.3	2803.4	2910.4	3039.9	3294.5	3497.9
60°	2568.4	2387.7	2310.8	2322.9	2348.5	2405.7	2569.9	2661.8	2791.4	3050.5	3253.8
62.5°	2306.3	2142.1	2069.8	2084.9	2107.5	2164.7	2319.9	2408.8	2536.8	2791.4	2996.3
65°	2047.2	1895.1	1833.3	1848.4	1869.5	1922.2	2068.3	2154.2	2276.2	2524.7	2720.6
67.5°	1791.1	1652.5	1601.3	1616.4	1632.9	1682.7	1803.2	1896.6	2011.1	2247.6	2432.9
70°	1538.0	1414.5	1369.3	1384.4	1399.5	1444.6	1550.1	1636.0	1741.4	1958.3	2130.1
72.5°	1288.0	1167.5	1144.9	1158.4	1170.5	1209.6	1310.6	1378.4	1470.3	1663.1	1810.7
75°	1043.9	940.0	924.9	938.5	949.0	979.2	1063.5	1122.3	1199.1	1366.3	1486.8
77.5°	808.9	721.6	715.5	726.1	736.6	757.7	824.0	885.8	946.0	1069.6	1176.5
80°	589.0	518.2	518.2	528.8	525.7	551.3	598.0	647.8	691.4	780.3	858.7
82.5°	388.7	332.9	340.4	348.0	352.5	363.0	391.7	429.3	456.4	510.7	561.9
85°	215.4	177.8	185.3	191.3	188.3	200.4	215.4	238.0	251.6	277.2	304.3
87.5°	79.8	66.3	67.8	72.3	75.3	81.3	81.3	94.9	96.4	99.4	105.4
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°	6891.8	6891.8	6891.8
2.5°	6727.6	6763.8	6790.9
5°	6611.6	6641.8	6665.9
7.5°	6498.7	6525.8	6546.9
10°	6391.7	6421.8	6436.9
12.5°	6281.7	6316.4	6328.4
15°	6173.3	6207.9	6223.0
17.5°	6061.8	6107.0	6123.6
20°	5957.9	6015.1	6028.7
22.5°	5852.4	5911.2	5927.7
25°	5737.9	5807.2	5823.8
27.5°	5615.9	5698.8	5715.3
30°	5493.9	5584.3	5600.8
32.5°	5362.8	5460.7	5475.8
35°	5225.7	5323.7	5341.7
37.5°	5073.6	5180.5	5216.7
40°	4915.4	5031.4	5069.1
42.5°	4749.7	4876.3	4915.4
45°	4572.0	4710.5	4755.7
47.5°	4392.7	4549.4	4588.5
50°	4198.4	4365.6	4412.3
52.5°	3995.0	4177.3	4224.0
55°	3784.1	3967.9	4019.1
57.5°	3555.1	3744.9	3799.2
60°	3315.6	3505.4	3556.6
62.5°	3070.1	3241.8	3291.5
65°	2795.9	2957.1	3002.3
67.5°	2505.2	2652.8	2690.4
70°	2196.3	2324.4	2357.5
72.5°	1874.0	1962.9	2006.5
75°	1541.1	1611.9	1645.0
77.5°	1206.6	1256.3	1283.5
80°	879.7	908.4	931.0
82.5°	575.4	587.5	604.1
85°	310.3	310.3	320.9
87.5°	105.4	100.9	105.4
90°	0.0	0.0	0.0

(END OF REPORT)