

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: P834606

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834606
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-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

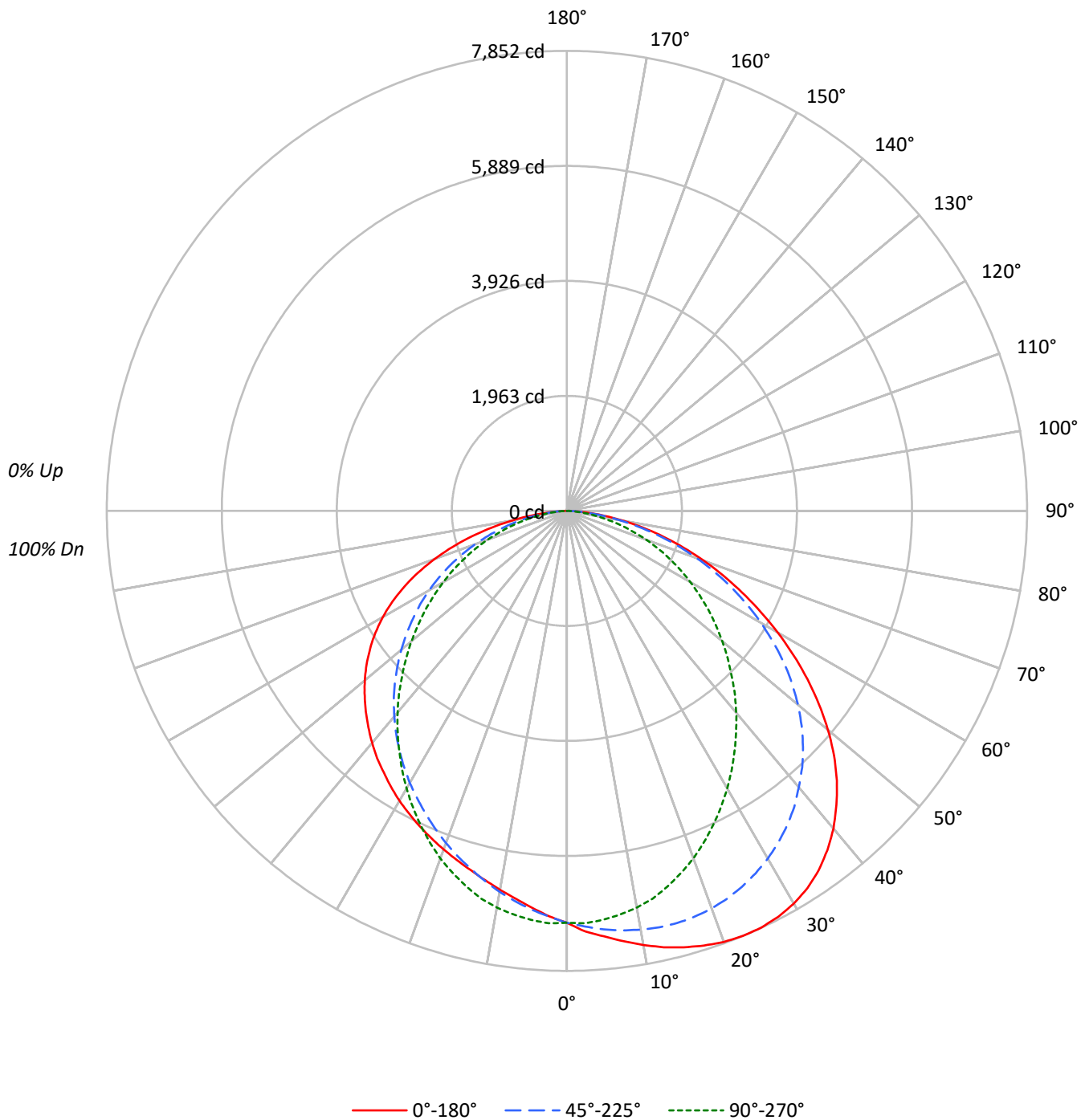
Lumens per Lamp: N/A
Luminaire Lumens: 20678.0 lumens
Efficiency: N/A
Efficacy: 117.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	9458	9458	9458
5°	9847	9463	9183
10°	10278	9392	8970
15°	10740	9242	8842
20°	11209	9038	8805
25°	11650	8776	8819
30°	12029	8501	8876
35°	12304	8197	8950
40°	12428	7894	9082
45°	12394	7561	9230
50°	12174	7243	9420
55°	11758	6910	9617
60°	11185	6554	9762
65°	10503	6154	9749
70°	9774	5676	9460
75°	8874	4984	8723
80°	7620	4096	7358
85°	5812	2799	5053

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	666.7	3.2
10°-20°	1925.3	9.3
20°-30°	2949.6	14.3
30°-40°	3599.6	17.4
40°-50°	3764.4	18.2
50°-60°	3407.1	16.5
60°-70°	2580.3	12.5
70°-80°	1438.0	7.0
80°-90°	346.9	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°	5541.7	26.8
0°-40°	9141.3	44.2
0°-60°	16312.8	78.9
0°-90°	20678.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	20678.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	7030	7030	7030	7030	7030	
5°	7291	7170	7007	6834	6799	703
15°	7710	7282	6635	6326	6347	2187
25°	7847	7076	5911	5702	5940	3620
35°	7491	6552	4991	4984	5449	4677
45°	6513	5698	3974	4149	4851	5011
55°	5012	4525	2946	3205	4100	4472
65°	3299	3102	1933	2197	3062	3272
75°	1707	1612	959	1145	1678	1811
85°	376	332	181	243	327	453
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°	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7
2.5°	7184.9	7151.1	7123.4	7134.1	7140.3	7118.8	7100.3	7103.4	7085.0	7120.3	7037.3
5°	7290.9	7260.1	7227.9	7240.2	7227.9	7195.6	7169.5	7161.8	7112.6	7132.6	7048.1
7.5°	7409.2	7375.4	7327.8	7341.6	7315.5	7255.5	7221.7	7201.8	7126.5	7128.0	7034.3
10°	7522.9	7493.7	7429.2	7438.4	7390.8	7310.9	7257.1	7229.4	7123.4	7108.0	7011.2
12.5°	7628.9	7589.0	7519.8	7524.4	7455.3	7349.3	7280.1	7240.2	7101.9	7055.8	6960.5
15°	7710.4	7671.9	7589.0	7587.4	7498.3	7360.0	7281.7	7226.3	7051.2	6979.0	6879.1
17.5°	7779.5	7744.2	7641.2	7638.1	7530.6	7355.4	7261.7	7192.5	6977.4	6888.3	6777.7
20°	7828.7	7793.3	7678.1	7667.3	7538.3	7332.4	7220.2	7132.6	6880.6	6774.6	6651.7
22.5°	7851.7	7816.4	7685.8	7670.4	7519.8	7286.3	7160.3	7057.3	6770.0	6631.7	6504.2
25°	7847.1	7813.3	7665.8	7650.4	7484.5	7217.1	7075.8	6957.4	6630.2	6467.3	6341.3
27.5°	7808.7	7782.6	7627.4	7607.4	7419.9	7123.4	6972.8	6842.2	6475.0	6293.7	6156.9
30°	7742.6	7722.6	7558.2	7539.8	7340.0	7020.4	6853.0	6702.4	6307.5	6103.1	5964.8
32.5°	7636.6	7618.2	7452.2	7435.3	7232.5	6888.3	6713.1	6557.9	6124.6	5898.8	5760.5
35°	7490.6	7479.9	7318.5	7300.1	7094.2	6737.7	6551.8	6381.2	5934.1	5679.0	5546.9
37.5°	7298.6	7298.6	7143.4	7123.4	6922.1	6553.3	6370.5	6189.2	5719.0	5448.6	5318.0
40°	7075.8	7095.7	6937.5	6917.5	6722.4	6355.1	6155.4	5964.8	5487.0	5205.8	5078.3
42.5°	6808.4	6826.8	6694.7	6676.3	6493.4	6126.2	5940.3	5732.8	5244.2	4958.4	4826.3
45°	6513.4	6538.0	6419.7	6405.8	6235.3	5875.7	5697.5	5487.0	4990.7	4700.3	4571.2
47.5°	6184.6	6216.8	6113.9	6106.2	5947.9	5619.1	5433.2	5219.6	4724.9	4431.4	4310.0
50°	5815.8	5861.9	5777.4	5777.4	5636.0	5308.7	5147.4	4933.8	4448.3	4154.8	4035.0
52.5°	5420.9	5479.3	5416.3	5417.8	5302.6	5009.1	4841.6	4632.7	4159.4	3870.5	3759.9
55°	5012.2	5069.0	5029.1	5035.2	4944.6	4677.2	4525.1	4317.7	3864.4	3583.2	3478.7
57.5°	4585.0	4646.5	4620.4	4632.7	4569.7	4330.0	4171.7	3990.4	3560.2	3282.0	3192.9
60°	4156.3	4214.7	4200.9	4217.8	4177.8	3970.4	3826.0	3638.5	3254.4	2987.0	2908.7
62.5°	3723.0	3776.8	3773.7	3792.2	3770.7	3598.6	3469.5	3309.7	2937.9	2692.0	2619.8
65°	3298.9	3345.0	3342.0	3361.9	3357.3	3219.0	3102.3	2956.3	2621.3	2395.5	2332.5
67.5°	2887.2	2925.6	2914.8	2937.9	2944.0	2833.4	2732.0	2601.4	2320.2	2100.4	2046.7
70°	2484.6	2510.7	2496.9	2512.2	2526.1	2443.1	2357.1	2241.8	1999.0	1805.4	1760.9
72.5°	2089.7	2108.1	2086.6	2102.0	2114.3	2054.4	1983.7	1883.8	1682.5	1515.0	1478.2
75°	1707.1	1733.2	1688.7	1704.0	1713.2	1653.3	1611.8	1530.4	1356.8	1227.7	1203.1
77.5°	1336.8	1352.2	1327.6	1321.4	1327.6	1284.5	1252.3	1189.3	1058.7	952.7	937.3
80°	983.4	992.6	968.0	961.9	966.5	935.8	911.2	865.1	772.9	693.0	686.8
82.5°	659.2	663.8	642.3	636.1	639.2	630.0	600.8	568.5	525.5	457.9	456.4
85°	376.5	376.5	361.1	354.9	358.0	342.6	331.9	315.0	298.1	252.0	255.1
87.5°	138.3	138.3	130.6	129.1	144.4	127.5	122.9	115.2	119.9	95.3	101.4
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°	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7	7029.7
2.5°	7060.4	7045.0	7031.2	6983.6	7003.5	6954.4	6951.3	6932.9	6919.0	6892.9	6926.7
5°	7037.3	7006.6	6966.7	6909.8	6926.7	6868.3	6856.0	6834.5	6816.1	6782.3	6808.4
7.5°	7000.5	6949.8	6886.8	6814.5	6837.6	6765.4	6746.9	6723.9	6708.5	6668.6	6691.6
10°	6946.7	6874.5	6800.7	6713.1	6730.0	6651.7	6628.6	6604.0	6590.2	6554.9	6577.9
12.5°	6863.7	6776.1	6676.3	6581.0	6599.4	6525.7	6494.9	6468.8	6464.2	6435.0	6462.7
15°	6756.2	6634.8	6531.8	6430.4	6451.9	6365.9	6352.1	6325.9	6333.6	6313.6	6347.4
17.5°	6619.4	6479.6	6367.4	6258.3	6279.8	6207.6	6196.9	6184.6	6192.3	6189.2	6226.1
20°	6465.8	6312.1	6183.0	6075.5	6087.8	6030.9	6035.5	6032.5	6047.8	6064.7	6115.4
22.5°	6292.1	6118.5	5983.3	5872.7	5891.1	5841.9	5863.4	5869.6	5895.7	5934.1	5998.6
25°	6097.0	5911.1	5769.7	5665.2	5682.1	5649.9	5686.7	5702.1	5743.6	5808.1	5874.2
27.5°	5892.6	5695.9	5545.4	5445.5	5477.8	5445.5	5500.8	5531.5	5594.5	5665.2	5746.7
30°	5676.0	5471.6	5316.4	5227.3	5258.0	5228.8	5318.0	5359.4	5422.4	5519.2	5616.0
32.5°	5448.6	5233.5	5081.3	5012.2	5033.7	5029.1	5129.0	5175.1	5259.6	5370.2	5473.2
35°	5215.0	4990.7	4837.0	4778.6	4804.8	4810.9	4930.8	4984.5	5076.7	5210.4	5321.0
37.5°	4973.8	4744.8	4594.3	4546.6	4569.7	4592.7	4732.5	4786.3	4890.8	5036.8	5158.2
40°	4723.3	4494.4	4346.9	4308.5	4331.5	4356.1	4508.2	4582.0	4695.7	4853.9	4986.1
42.5°	4469.8	4240.8	4097.9	4070.3	4093.3	4141.0	4302.3	4371.5	4491.3	4666.5	4812.4
45°	4211.7	3973.5	3849.0	3827.5	3852.1	3907.4	4065.7	4148.7	4276.2	4468.3	4625.0
47.5°	3950.4	3718.4	3600.1	3586.3	3610.9	3672.3	3847.5	3922.8	4058.0	4262.4	4431.4
50°	3686.2	3460.3	3346.6	3342.0	3365.0	3431.1	3598.6	3687.7	3827.5	4056.5	4230.1
52.5°	3418.8	3202.1	3099.2	3099.2	3120.7	3188.3	3357.3	3449.5	3594.0	3835.2	4027.3
55°	3151.4	2945.5	2847.2	2854.9	2885.6	2944.0	3108.4	3205.2	3351.2	3601.6	3804.5
57.5°	2884.1	2688.9	2599.8	2610.6	2639.8	2698.2	2859.5	2968.6	3100.7	3360.4	3567.8
60°	2619.8	2435.4	2357.1	2369.3	2395.5	2453.9	2621.3	2715.1	2847.2	3111.5	3318.9
62.5°	2352.4	2185.0	2111.2	2126.6	2149.6	2208.0	2366.3	2456.9	2587.5	2847.2	3056.2
65°	2088.2	1933.0	1870.0	1885.3	1906.8	1960.6	2109.7	2197.3	2321.7	2575.2	2775.0
67.5°	1826.9	1685.6	1633.3	1648.7	1665.6	1716.3	1839.2	1934.5	2051.3	2292.5	2481.5
70°	1568.8	1442.8	1396.7	1412.1	1427.4	1473.5	1581.1	1668.7	1776.2	1997.5	2172.7
72.5°	1313.7	1190.8	1167.8	1181.6	1193.9	1233.8	1336.8	1405.9	1499.7	1696.3	1846.9
75°	1064.8	958.8	943.4	957.3	968.0	998.8	1084.8	1144.7	1223.1	1393.6	1516.6
77.5°	825.1	736.0	729.9	740.6	751.4	772.9	840.5	903.5	964.9	1090.9	1200.0
80°	600.8	528.6	528.6	539.3	536.3	562.4	610.0	660.7	705.3	795.9	875.8
82.5°	396.4	339.6	347.3	354.9	359.6	370.3	399.5	437.9	465.6	520.9	573.1
85°	219.7	181.3	189.0	195.1	192.1	204.4	219.7	242.8	256.6	282.7	310.4
87.5°	81.4	67.6	69.1	73.8	76.8	83.0	83.0	96.8	98.3	101.4	107.6
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°	7029.7	7029.7	7029.7
2.5°	6862.2	6899.1	6926.7
5°	6743.9	6774.6	6799.2
7.5°	6628.6	6656.3	6677.8
10°	6519.5	6550.3	6565.6
12.5°	6407.4	6442.7	6455.0
15°	6296.7	6332.1	6347.4
17.5°	6183.0	6229.1	6246.0
20°	6077.0	6135.4	6149.2
22.5°	5969.5	6029.4	6046.3
25°	5852.7	5923.4	5940.3
27.5°	5728.2	5812.7	5829.6
30°	5603.8	5695.9	5712.9
32.5°	5470.1	5570.0	5585.3
35°	5330.3	5430.1	5448.6
37.5°	5175.1	5284.2	5321.0
40°	5013.7	5132.0	5170.5
42.5°	4844.7	4973.8	5013.7
45°	4663.4	4804.8	4850.9
47.5°	4480.5	4640.3	4680.3
50°	4282.3	4452.9	4500.5
52.5°	4074.9	4260.8	4308.5
55°	3859.8	4047.2	4099.5
57.5°	3626.2	3819.8	3875.2
60°	3381.9	3575.5	3627.8
62.5°	3131.5	3306.6	3357.3
65°	2851.8	3016.2	3062.3
67.5°	2555.3	2705.8	2744.3
70°	2240.3	2370.9	2404.7
72.5°	1911.5	2002.1	2046.7
75°	1571.9	1644.1	1677.9
77.5°	1230.8	1281.5	1309.1
80°	897.3	926.5	949.6
82.5°	587.0	599.3	616.2
85°	316.5	316.5	327.3
87.5°	107.6	102.9	107.6
90°	0.0	0.0	0.0

(END OF REPORT)