

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: P834570

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4HI-35-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834570
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-35-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

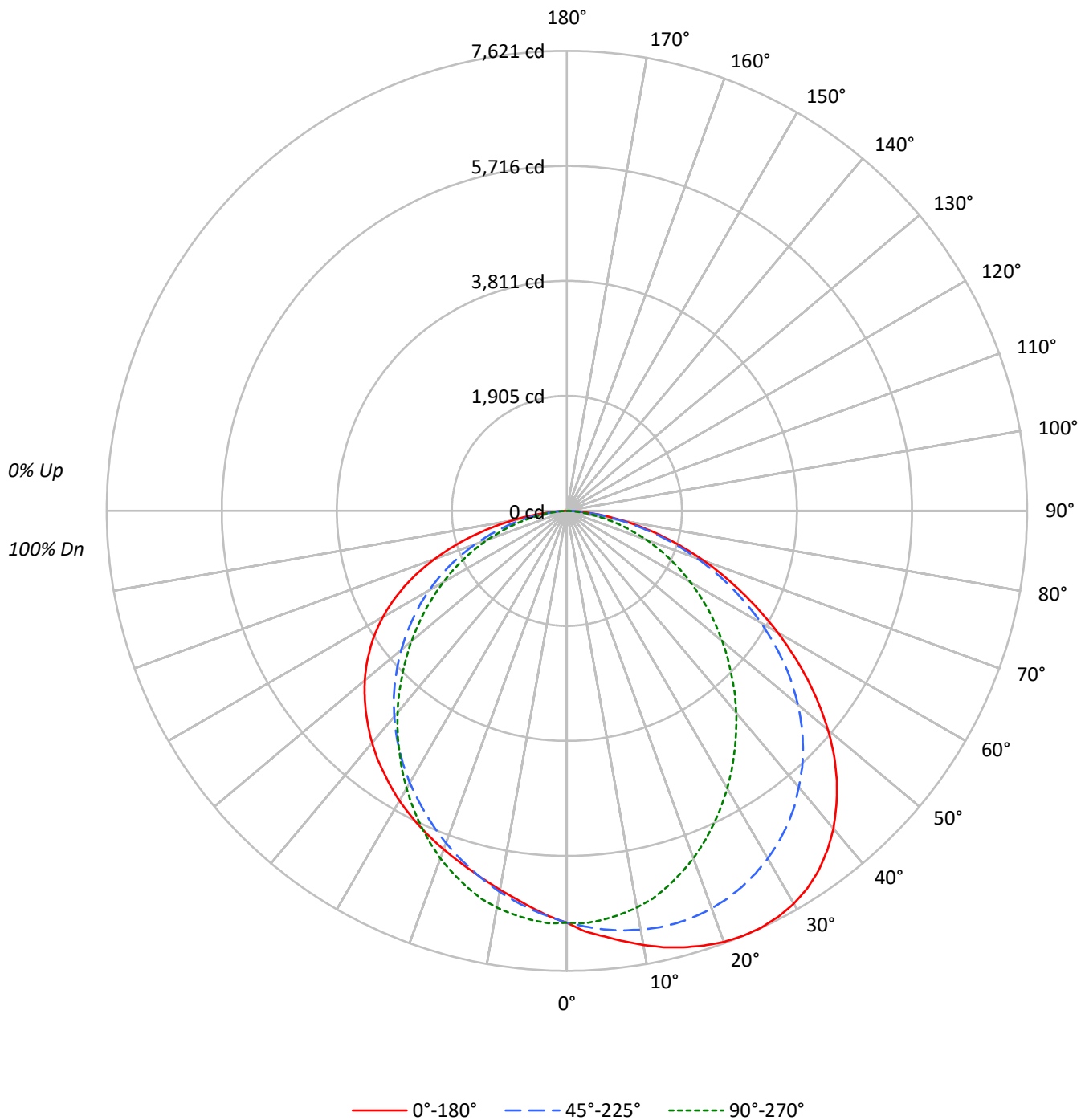
Lumens per Lamp: N/A
Luminaire Lumens: 20069.8 lumens
Efficiency: N/A
Efficacy: 114.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P834570

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4HI-35-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834570

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4HI-35-120-EDD

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°	9180	9180	9180
5°	9558	9185	8913
10°	9976	9116	8706
15°	10424	8970	8582
20°	10880	8772	8546
25°	11307	8517	8559
30°	11675	8251	8615
35°	11942	7956	8686
40°	12062	7662	8814
45°	12029	7338	8959
50°	11816	7030	9144
55°	11412	6706	9334
60°	10856	6361	9475
65°	10194	5973	9463
70°	9487	5509	9182
75°	8614	4838	8466
80°	7396	3975	7142
85°	5641	2717	4905

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834570

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4HI-35-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	647.1	3.2
10°-20°	1868.7	9.3
20°-30°	2862.9	14.3
30°-40°	3493.8	17.4
40°-50°	3653.7	18.2
50°-60°	3306.9	16.5
60°-70°	2504.4	12.5
70°-80°	1395.7	7.0
80°-90°	336.6	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°	5378.7	26.8
0°-40°	8872.5	44.2
0°-60°	15833.1	78.9
0°-90°	20069.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	20069.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6823	6823	6823	6823	6823	
5°	7076	6959	6800	6634	6599	682
15°	7484	7068	6440	6140	6161	2122
25°	7616	6868	5737	5534	5766	3513
35°	7270	6359	4844	4838	5288	4540
45°	6322	5530	3857	4027	4708	4864
55°	4865	4392	2859	3111	3979	4341
65°	3202	3011	1876	2133	2972	3176
75°	1657	1564	931	1111	1629	1757
85°	365	322	176	236	318	440
90°	0	0	0	0	0	

TEST NUMBER: P834570

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4HI-35-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9
2.5°	6973.5	6940.7	6913.9	6924.3	6930.3	6909.4	6891.5	6894.5	6876.6	6910.9	6830.4
5°	7076.4	7046.6	7015.3	7027.2	7015.3	6984.0	6958.6	6951.2	6903.4	6922.8	6840.8
7.5°	7191.3	7158.5	7112.2	7125.7	7100.3	7042.1	7009.3	6989.9	6916.9	6918.4	6827.4
10°	7301.6	7273.3	7210.7	7219.6	7173.4	7095.8	7043.6	7016.8	6913.9	6899.0	6805.0
12.5°	7404.5	7365.8	7298.6	7303.1	7236.0	7133.1	7066.0	7027.2	6893.0	6848.3	6755.8
15°	7483.6	7446.3	7365.8	7364.3	7277.8	7143.5	7067.5	7013.8	6843.8	6773.7	6676.8
17.5°	7550.7	7516.4	7416.5	7413.5	7309.1	7139.1	7048.1	6981.0	6772.2	6685.7	6578.3
20°	7598.4	7564.1	7452.3	7441.8	7316.5	7116.7	7007.8	6922.8	6678.2	6575.3	6456.0
22.5°	7620.8	7586.5	7459.7	7444.8	7298.6	7072.0	6949.7	6849.8	6570.9	6436.7	6312.9
25°	7616.3	7583.5	7440.3	7425.4	7264.3	7004.9	6867.6	6752.8	6435.2	6277.1	6154.8
27.5°	7579.0	7553.7	7403.0	7383.7	7201.7	6913.9	6767.7	6641.0	6284.5	6108.6	5975.8
30°	7514.9	7495.5	7335.9	7318.0	7124.2	6814.0	6651.4	6505.3	6122.0	5923.6	5789.4
32.5°	7412.0	7394.1	7233.0	7216.6	7019.8	6685.7	6515.7	6365.1	5944.5	5725.3	5591.1
35°	7270.3	7259.9	7103.3	7085.4	6885.5	6539.6	6359.1	6193.6	5759.6	5512.0	5383.8
37.5°	7083.9	7083.9	6933.3	6913.9	6718.5	6360.6	6183.1	6007.1	5550.8	5288.3	5161.5
40°	6867.6	6887.0	6733.4	6714.0	6524.6	6168.2	5974.3	5789.4	5325.6	5052.7	4928.9
42.5°	6608.2	6626.1	6497.8	6479.9	6302.4	5946.0	5765.5	5564.2	5090.0	4812.6	4684.3
45°	6321.8	6345.7	6230.8	6217.4	6051.9	5702.9	5529.9	5325.6	4843.9	4562.0	4436.8
47.5°	6002.7	6034.0	5934.1	5926.6	5773.0	5453.9	5273.4	5066.1	4585.9	4301.0	4183.2
50°	5644.7	5689.5	5607.5	5607.5	5470.3	5152.6	4996.0	4788.7	4317.4	4032.6	3916.3
52.5°	5261.5	5318.1	5257.0	5258.5	5146.6	4861.8	4699.2	4496.4	4037.1	3756.7	3649.3
55°	4864.8	4920.0	4881.2	4887.1	4799.2	4539.7	4392.0	4190.7	3750.7	3477.8	3376.4
57.5°	4450.2	4509.8	4484.5	4496.4	4435.3	4202.6	4049.0	3873.0	3455.4	3185.5	3099.0
60°	4034.1	4090.8	4077.3	4093.7	4055.0	3853.6	3713.5	3531.5	3158.7	2899.2	2823.1
62.5°	3613.5	3665.7	3662.7	3680.6	3659.8	3492.7	3367.5	3212.4	2851.5	2612.8	2542.7
65°	3201.9	3246.7	3243.7	3263.1	3258.6	3124.4	3011.0	2869.4	2544.2	2325.0	2263.9
67.5°	2802.2	2839.5	2829.1	2851.5	2857.4	2750.0	2651.6	2524.8	2251.9	2038.7	1986.5
70°	2411.5	2436.9	2423.4	2438.4	2451.8	2371.2	2287.7	2175.9	1940.2	1752.3	1709.1
72.5°	2028.2	2046.1	2025.2	2040.2	2052.1	1993.9	1925.3	1828.4	1633.0	1470.5	1434.7
75°	1656.9	1682.2	1639.0	1653.9	1662.9	1604.7	1564.4	1485.4	1316.9	1191.6	1167.7
77.5°	1297.5	1312.4	1288.5	1282.6	1288.5	1246.8	1215.4	1154.3	1027.5	924.6	909.7
80°	954.5	963.4	939.5	933.6	938.1	908.2	884.4	839.6	750.1	672.6	666.6
82.5°	639.8	644.3	623.4	617.4	620.4	611.5	583.1	551.8	510.0	444.4	442.9
85°	365.4	365.4	350.5	344.5	347.5	332.6	322.1	305.7	289.3	244.6	247.6
87.5°	134.2	134.2	126.8	125.3	140.2	123.8	119.3	111.9	116.3	92.5	98.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834570

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4HI-35-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9	6822.9
2.5°	6852.7	6837.8	6824.4	6778.2	6797.6	6749.8	6746.9	6729.0	6715.5	6690.2	6723.0
5°	6830.4	6800.5	6761.8	6706.6	6723.0	6666.3	6654.4	6633.5	6615.6	6582.8	6608.2
7.5°	6794.6	6745.4	6684.2	6614.1	6636.5	6566.4	6548.5	6526.1	6511.2	6472.4	6494.8
10°	6742.4	6672.3	6600.7	6515.7	6532.1	6456.0	6433.7	6409.8	6396.4	6362.1	6384.5
12.5°	6661.8	6576.8	6479.9	6387.4	6405.3	6333.7	6303.9	6278.6	6274.1	6245.8	6272.6
15°	6557.4	6439.6	6339.7	6241.3	6262.2	6178.6	6165.2	6139.9	6147.3	6127.9	6160.8
17.5°	6424.7	6289.0	6180.1	6074.3	6095.1	6025.0	6014.6	6002.7	6010.1	6007.1	6042.9
20°	6275.6	6126.5	6001.2	5896.8	5908.7	5853.5	5858.0	5855.0	5869.9	5886.3	5935.6
22.5°	6107.1	5938.5	5807.3	5699.9	5717.8	5670.1	5691.0	5696.9	5722.3	5759.6	5822.2
25°	5917.7	5737.2	5600.0	5498.6	5515.0	5483.7	5519.5	5534.4	5574.7	5637.3	5701.4
27.5°	5719.3	5528.4	5382.3	5285.3	5316.6	5285.3	5339.0	5368.8	5430.0	5498.6	5577.6
30°	5509.0	5310.7	5160.1	5073.6	5103.4	5075.1	5161.5	5201.8	5263.0	5356.9	5450.9
32.5°	5288.3	5079.5	4931.9	4864.8	4885.7	4881.2	4978.1	5022.9	5104.9	5212.3	5312.2
35°	5061.6	4843.9	4694.8	4638.1	4663.4	4669.4	4785.7	4837.9	4927.4	5057.2	5164.5
37.5°	4827.5	4605.3	4459.1	4412.9	4435.3	4457.6	4593.3	4645.5	4747.0	4888.6	5006.4
40°	4584.4	4362.2	4219.0	4181.7	4204.1	4228.0	4375.6	4447.2	4557.6	4711.2	4839.4
42.5°	4338.3	4116.1	3977.4	3950.6	3972.9	4019.2	4175.8	4242.9	4359.2	4529.2	4670.9
45°	4087.8	3856.6	3735.8	3714.9	3738.8	3792.5	3946.1	4026.6	4150.4	4336.8	4489.0
47.5°	3834.3	3609.1	3494.2	3480.8	3504.7	3564.3	3734.3	3807.4	3938.6	4137.0	4301.0
50°	3577.7	3358.5	3248.2	3243.7	3266.0	3330.2	3492.7	3579.2	3714.9	3937.2	4105.7
52.5°	3318.2	3108.0	3008.0	3008.0	3028.9	3094.5	3258.6	3348.1	3488.3	3722.4	3908.8
55°	3058.8	2858.9	2763.5	2770.9	2800.7	2857.4	3017.0	3110.9	3252.6	3495.7	3692.6
57.5°	2799.3	2609.9	2523.4	2533.8	2562.1	2618.8	2775.4	2881.3	3009.5	3261.6	3462.9
60°	2542.7	2363.8	2287.7	2299.7	2325.0	2381.7	2544.2	2635.2	2763.5	3020.0	3221.3
62.5°	2283.3	2120.7	2049.1	2064.0	2086.4	2143.1	2296.7	2384.7	2511.4	2763.5	2966.3
65°	2026.7	1876.1	1815.0	1829.9	1850.8	1903.0	2047.6	2132.6	2253.4	2499.5	2693.4
67.5°	1773.2	1636.0	1585.3	1600.2	1616.6	1665.8	1785.1	1877.6	1990.9	2225.1	2408.5
70°	1522.7	1400.4	1355.6	1370.5	1385.5	1430.2	1534.6	1619.6	1724.0	1938.8	2108.8
72.5°	1275.1	1155.8	1133.4	1146.8	1158.8	1197.6	1297.5	1364.6	1455.6	1646.4	1792.6
75°	1033.5	930.6	915.7	929.1	939.5	969.4	1052.9	1111.1	1187.1	1352.7	1472.0
77.5°	800.9	714.4	708.4	718.8	729.3	750.1	815.8	876.9	936.6	1058.9	1164.7
80°	583.1	513.0	513.0	523.5	520.5	545.8	592.1	641.3	684.5	772.5	850.1
82.5°	384.8	329.6	337.0	344.5	349.0	359.4	387.8	425.0	451.9	505.6	556.3
85°	213.3	176.0	183.4	189.4	186.4	198.3	213.3	235.6	249.1	274.4	301.3
87.5°	79.0	65.6	67.1	71.6	74.6	80.5	80.5	94.0	95.4	98.4	104.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834570

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4HI-35-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	6822.9	6822.9	6822.9
2.5°	6660.4	6696.1	6723.0
5°	6545.5	6575.3	6599.2
7.5°	6433.7	6460.5	6481.4
10°	6327.8	6357.6	6372.5
12.5°	6218.9	6253.2	6265.1
15°	6111.5	6145.8	6160.8
17.5°	6001.2	6045.9	6062.3
20°	5898.3	5954.9	5968.4
22.5°	5793.9	5852.0	5868.4
25°	5680.5	5749.1	5765.5
27.5°	5559.7	5641.8	5658.2
30°	5438.9	5528.4	5544.8
32.5°	5309.2	5406.1	5421.0
35°	5173.5	5270.4	5288.3
37.5°	5022.9	5128.7	5164.5
40°	4866.3	4981.1	5018.4
42.5°	4702.2	4827.5	4866.3
45°	4526.2	4663.4	4708.2
47.5°	4348.8	4503.9	4542.6
50°	4156.4	4321.9	4368.2
52.5°	3955.1	4135.5	4181.7
55°	3746.3	3928.2	3978.9
57.5°	3519.6	3707.5	3761.2
60°	3282.5	3470.4	3521.1
62.5°	3039.4	3209.4	3258.6
65°	2767.9	2927.5	2972.3
67.5°	2480.1	2626.3	2663.5
70°	2174.4	2301.1	2334.0
72.5°	1855.2	1943.2	1986.5
75°	1525.6	1595.7	1628.6
77.5°	1194.6	1243.8	1270.6
80°	870.9	899.3	921.7
82.5°	569.7	581.6	598.0
85°	307.2	307.2	317.7
87.5°	104.4	99.9	104.4
90°	0.0	0.0	0.0

(END OF REPORT)