

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: P834719

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6STD-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834719
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-LD4-6STD-50-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

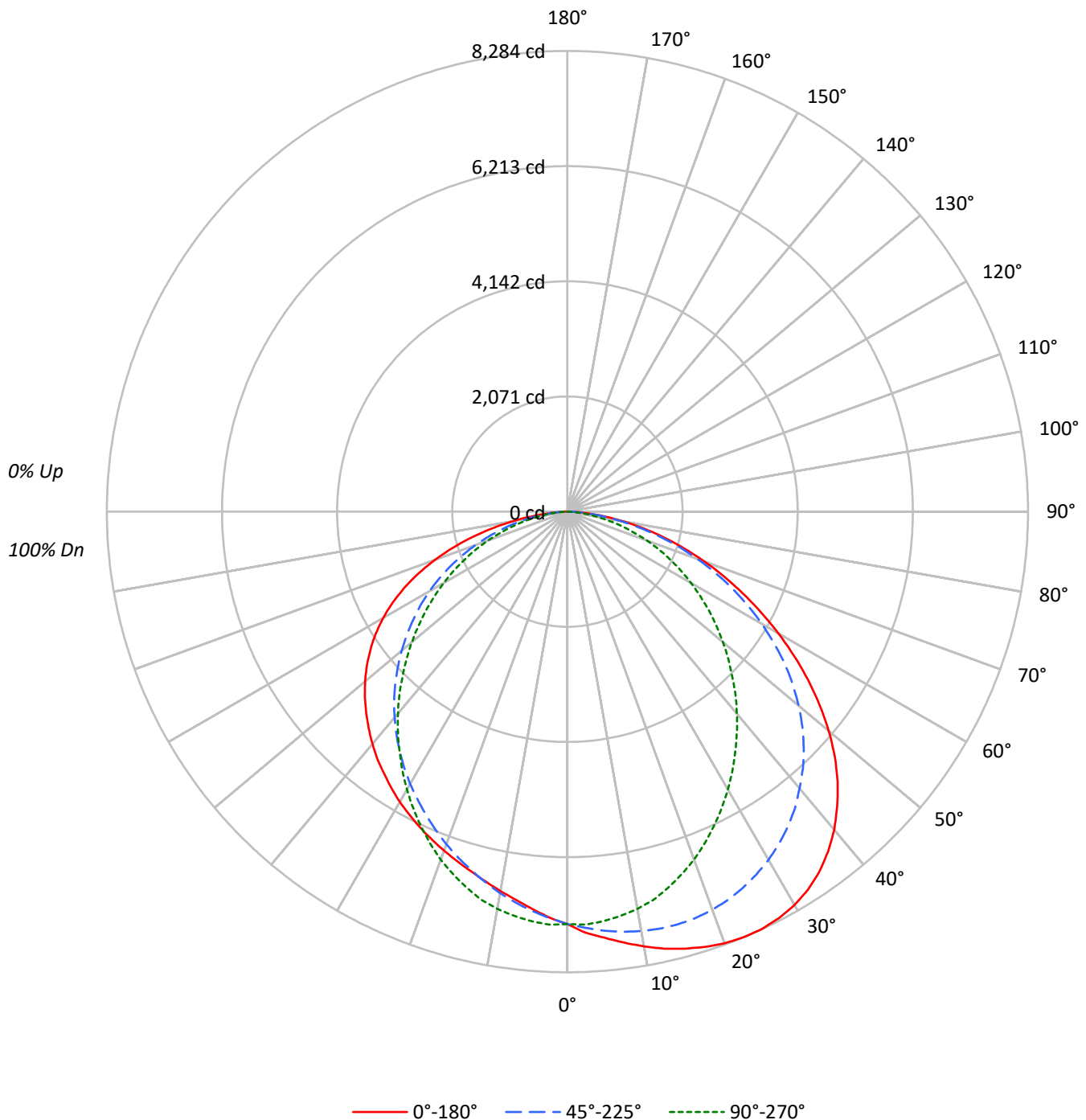
Lumens per Lamp: N/A
Luminaire Lumens: 21816.6 lumens
Efficiency: N/A
Efficacy: 109.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 199.8
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: P834719

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6STD-50-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834719

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6STD-50-120-EDD-90

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°	9979	9979	9979
5°	10389	9984	9689
10°	10844	9909	9464
15°	11332	9751	9328
20°	11827	9536	9289
25°	12291	9259	9304
30°	12692	8969	9364
35°	12981	8649	9442
40°	13112	8329	9581
45°	13076	7977	9739
50°	12844	7642	9939
55°	12405	7290	10146
60°	11800	6914	10300
65°	11081	6493	10286
70°	10312	5989	9981
75°	9363	5259	9203
80°	8039	4321	7763
85°	6132	2953	5331

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834719

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6STD-50-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	703.4	3.2
10°-20°	2031.4	9.3
20°-30°	3112.0	14.3
30°-40°	3797.8	17.4
40°-50°	3971.7	18.2
50°-60°	3594.7	16.5
60°-70°	2722.4	12.5
70°-80°	1517.2	7.0
80°-90°	365.9	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°	5846.8	26.8
0°-40°	9644.7	44.2
0°-60°	17211.1	78.9
0°-90°	21816.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	21816.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	7417	7417	7417	7417	7417	
5°	7692	7564	7392	7211	7174	742
15°	8135	7683	7000	6674	6697	2307
25°	8279	7465	6236	6016	6267	3819
35°	7903	6913	5266	5259	5749	4935
45°	6872	6011	4192	4377	5118	5287
55°	5288	4774	3108	3382	4325	4719
65°	3481	3273	2039	2318	3231	3453
75°	1801	1701	1012	1208	1770	1910
85°	397	350	191	256	345	478
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834719

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6STD-50-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7
2.5°	7580.5	7544.8	7515.6	7527.0	7533.5	7510.8	7491.3	7494.5	7475.1	7512.4	7424.8
5°	7692.3	7659.9	7625.9	7638.8	7625.9	7591.8	7564.3	7556.2	7504.3	7525.4	7436.2
7.5°	7817.2	7781.5	7731.2	7745.8	7718.3	7655.0	7619.4	7598.3	7518.9	7520.5	7421.6
10°	7937.1	7906.3	7838.2	7848.0	7797.7	7713.4	7656.7	7627.5	7515.6	7499.4	7397.3
12.5°	8049.0	8006.8	7933.9	7938.7	7865.8	7753.9	7681.0	7638.8	7492.9	7444.3	7343.8
15°	8134.9	8094.4	8006.8	8005.2	7911.2	7765.3	7682.6	7624.2	7439.4	7363.2	7257.9
17.5°	8207.9	8170.6	8061.9	8058.7	7945.2	7760.4	7661.5	7588.6	7361.6	7267.6	7150.9
20°	8259.7	8222.4	8100.9	8089.5	7953.3	7736.1	7617.8	7525.4	7259.5	7147.6	7017.9
22.5°	8284.0	8246.8	8109.0	8092.8	7933.9	7687.5	7554.5	7445.9	7142.8	6996.9	6862.3
25°	8279.2	8243.5	8087.9	8071.7	7896.6	7614.5	7465.4	7340.5	6995.2	6823.4	6690.5
27.5°	8238.7	8211.1	8047.4	8026.3	7828.5	7515.6	7356.8	7219.0	6831.5	6640.2	6495.9
30°	8168.9	8147.9	7974.4	7955.0	7744.2	7407.0	7230.3	7071.4	6654.8	6439.2	6293.3
32.5°	8057.1	8037.6	7862.5	7844.7	7630.7	7267.6	7082.8	6919.0	6461.9	6223.6	6077.7
35°	7903.1	7891.7	7721.5	7702.1	7484.8	7108.7	6912.6	6732.6	6260.9	5991.7	5852.3
37.5°	7700.4	7700.4	7536.7	7515.6	7303.3	6914.2	6721.3	6530.0	6033.9	5748.6	5610.8
40°	7465.4	7486.4	7319.5	7298.4	7092.5	6705.1	6494.3	6293.3	5789.1	5492.4	5357.9
42.5°	7183.3	7202.7	7063.3	7043.9	6851.0	6463.5	6267.3	6048.5	5533.0	5231.4	5092.0
45°	6872.0	6898.0	6773.1	6758.5	6578.6	6199.3	6011.2	5789.1	5265.5	4959.1	4822.9
47.5°	6525.1	6559.1	6450.5	6442.4	6275.4	5928.5	5732.4	5507.0	4985.0	4675.4	4547.3
50°	6136.0	6184.7	6095.5	6095.5	5946.4	5601.1	5430.8	5205.5	4693.2	4383.6	4257.1
52.5°	5719.4	5781.0	5714.5	5716.2	5594.6	5284.9	5108.2	4887.7	4388.4	4083.7	3966.9
55°	5288.2	5348.2	5306.0	5312.5	5216.8	4934.8	4774.3	4555.4	4077.2	3780.5	3670.3
57.5°	4837.5	4902.3	4874.8	4887.7	4821.3	4568.4	4401.4	4210.1	3756.2	3462.8	3368.7
60°	4385.2	4446.8	4432.2	4450.0	4407.9	4189.0	4036.6	3838.9	3433.6	3151.5	3068.8
62.5°	3928.0	3984.8	3981.5	4001.0	3978.3	3796.7	3660.5	3491.9	3099.6	2840.2	2764.1
65°	3480.6	3529.2	3526.0	3547.1	3542.2	3396.3	3273.1	3119.1	2765.7	2527.4	2460.9
67.5°	3046.1	3086.7	3075.3	3099.6	3106.1	2989.4	2882.4	2744.6	2447.9	2216.1	2159.4
70°	2621.4	2648.9	2634.4	2650.6	2665.2	2577.6	2486.8	2365.2	2109.1	1904.8	1857.8
72.5°	2204.8	2224.2	2201.5	2217.7	2230.7	2167.5	2092.9	1987.5	1775.2	1598.4	1559.5
75°	1801.1	1828.7	1781.6	1797.8	1807.6	1744.4	1700.6	1614.7	1431.5	1295.3	1269.4
77.5°	1410.4	1426.6	1400.7	1394.2	1400.7	1355.3	1321.2	1254.8	1117.0	1005.1	988.9
80°	1037.5	1047.3	1021.3	1014.8	1019.7	987.3	961.3	912.7	815.4	731.1	724.7
82.5°	695.5	700.3	677.6	671.2	674.4	664.7	633.9	599.8	554.4	483.1	481.5
85°	397.2	397.2	381.0	374.5	377.7	361.5	350.2	332.3	314.5	265.9	269.1
87.5°	145.9	145.9	137.8	136.2	152.4	134.6	129.7	121.6	126.4	100.5	107.0
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: P834719

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6STD-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7	7416.7
2.5°	7449.2	7432.9	7418.4	7368.1	7389.2	7337.3	7334.1	7314.6	7300.0	7272.5	7308.1
5°	7424.8	7392.4	7350.3	7290.3	7308.1	7246.5	7233.5	7210.8	7191.4	7155.7	7183.3
7.5°	7385.9	7332.4	7266.0	7189.8	7214.1	7137.9	7118.4	7094.1	7077.9	7035.8	7060.1
10°	7329.2	7253.0	7175.2	7082.8	7100.6	7017.9	6993.6	6967.7	6953.1	6915.8	6940.1
12.5°	7241.7	7149.2	7043.9	6943.4	6962.8	6885.0	6852.6	6825.0	6820.2	6789.4	6818.5
15°	7128.2	7000.1	6891.5	6784.5	6807.2	6716.4	6701.8	6674.2	6682.4	6661.3	6696.9
17.5°	6983.9	6836.4	6718.0	6602.9	6625.6	6549.4	6538.1	6525.1	6533.2	6530.0	6568.9
20°	6821.8	6659.7	6523.5	6410.0	6423.0	6363.0	6367.9	6364.6	6380.8	6398.7	6452.2
22.5°	6638.6	6455.4	6312.7	6196.0	6215.5	6163.6	6186.3	6192.8	6220.3	6260.9	6328.9
25°	6432.7	6236.5	6087.4	5977.2	5995.0	5960.9	5999.9	6016.1	6059.8	6127.9	6197.6
27.5°	6217.1	6009.6	5850.7	5745.3	5779.4	5745.3	5803.7	5836.1	5902.6	5977.2	6063.1
30°	5988.5	5772.9	5609.2	5515.1	5547.6	5516.8	5610.8	5654.6	5721.0	5823.1	5925.3
32.5°	5748.6	5521.6	5361.1	5288.2	5310.9	5306.0	5411.4	5460.0	5549.2	5665.9	5774.5
35°	5502.2	5265.5	5103.4	5041.8	5069.3	5075.8	5202.3	5259.0	5356.3	5497.3	5614.0
37.5°	5247.6	5006.1	4847.2	4797.0	4821.3	4845.6	4993.1	5049.9	5160.1	5314.1	5442.2
40°	4983.4	4741.8	4586.2	4545.7	4570.0	4595.9	4756.4	4834.3	4954.2	5121.2	5260.6
42.5°	4715.9	4474.4	4323.6	4294.4	4318.7	4369.0	4539.2	4612.2	4738.6	4923.4	5077.4
45°	4443.6	4192.3	4061.0	4038.3	4064.2	4122.6	4289.5	4377.1	4511.6	4714.3	4879.6
47.5°	4168.0	3923.2	3798.3	3783.8	3809.7	3874.5	4059.3	4138.8	4281.4	4497.1	4675.4
50°	3889.1	3650.8	3530.9	3526.0	3550.3	3620.0	3796.7	3890.7	4038.3	4279.8	4463.0
52.5°	3607.0	3378.5	3269.8	3269.8	3292.5	3363.9	3542.2	3639.5	3791.9	4046.4	4249.0
55°	3325.0	3107.7	3004.0	3012.1	3044.5	3106.1	3279.6	3381.7	3535.7	3800.0	4014.0
57.5°	3042.9	2837.0	2743.0	2754.3	2785.1	2846.7	3016.9	3132.1	3271.5	3545.4	3764.3
60°	2764.1	2569.5	2486.8	2499.8	2527.4	2589.0	2765.7	2864.6	3004.0	3282.8	3501.7
62.5°	2482.0	2305.3	2227.5	2243.7	2268.0	2329.6	2496.6	2592.2	2730.0	3004.0	3224.5
65°	2203.1	2039.4	1972.9	1989.1	2011.8	2068.6	2225.8	2318.2	2449.5	2717.0	2927.8
67.5°	1927.5	1778.4	1723.3	1739.5	1757.3	1810.8	1940.5	2041.0	2164.2	2418.7	2618.1
70°	1655.2	1522.3	1473.6	1489.8	1506.0	1554.7	1668.2	1760.6	1874.0	2107.5	2292.3
72.5°	1386.1	1256.4	1232.1	1246.7	1259.6	1301.8	1410.4	1483.3	1582.2	1789.7	1948.6
75°	1123.5	1011.6	995.4	1010.0	1021.3	1053.7	1144.5	1207.8	1290.4	1470.4	1600.1
77.5°	870.6	776.5	770.0	781.4	792.7	815.4	886.8	953.2	1018.1	1151.0	1266.1
80°	633.9	557.7	557.7	569.0	565.8	593.3	643.6	697.1	744.1	839.8	924.1
82.5°	418.3	358.3	366.4	374.5	379.3	390.7	421.5	462.0	491.2	549.6	604.7
85°	231.8	191.3	199.4	205.9	202.6	215.6	231.8	256.1	270.7	298.3	327.5
87.5°	85.9	71.3	73.0	77.8	81.1	87.5	87.5	102.1	103.8	107.0	113.5
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: P834719

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6STD-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	7416.7	7416.7	7416.7
2.5°	7240.0	7278.9	7308.1
5°	7115.2	7147.6	7173.6
7.5°	6993.6	7022.8	7045.5
10°	6878.5	6910.9	6927.1
12.5°	6760.2	6797.5	6810.4
15°	6643.4	6680.7	6696.9
17.5°	6523.5	6572.1	6590.0
20°	6411.6	6473.2	6487.8
22.5°	6298.1	6361.4	6379.2
25°	6174.9	6249.5	6267.3
27.5°	6043.6	6132.8	6150.6
30°	5912.3	6009.6	6027.4
32.5°	5771.3	5876.6	5892.9
35°	5623.7	5729.1	5748.6
37.5°	5460.0	5575.1	5614.0
40°	5289.8	5414.6	5455.1
42.5°	5111.5	5247.6	5289.8
45°	4920.2	5069.3	5118.0
47.5°	4727.3	4895.9	4938.0
50°	4518.1	4698.1	4748.3
52.5°	4299.3	4495.4	4545.7
55°	4072.3	4270.1	4325.2
57.5°	3825.9	4030.2	4088.5
60°	3568.1	3772.4	3827.5
62.5°	3303.9	3488.7	3542.2
65°	3008.8	3182.3	3230.9
67.5°	2696.0	2854.8	2895.4
70°	2363.6	2501.4	2537.1
72.5°	2016.7	2112.4	2159.4
75°	1658.4	1734.6	1770.3
77.5°	1298.5	1352.0	1381.2
80°	946.7	977.5	1001.9
82.5°	619.3	632.2	650.1
85°	334.0	334.0	345.3
87.5°	113.5	108.6	113.5
90°	0.0	0.0	0.0

(END OF REPORT)