

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: P834681

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5HI-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834681
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-LD4-5HI-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

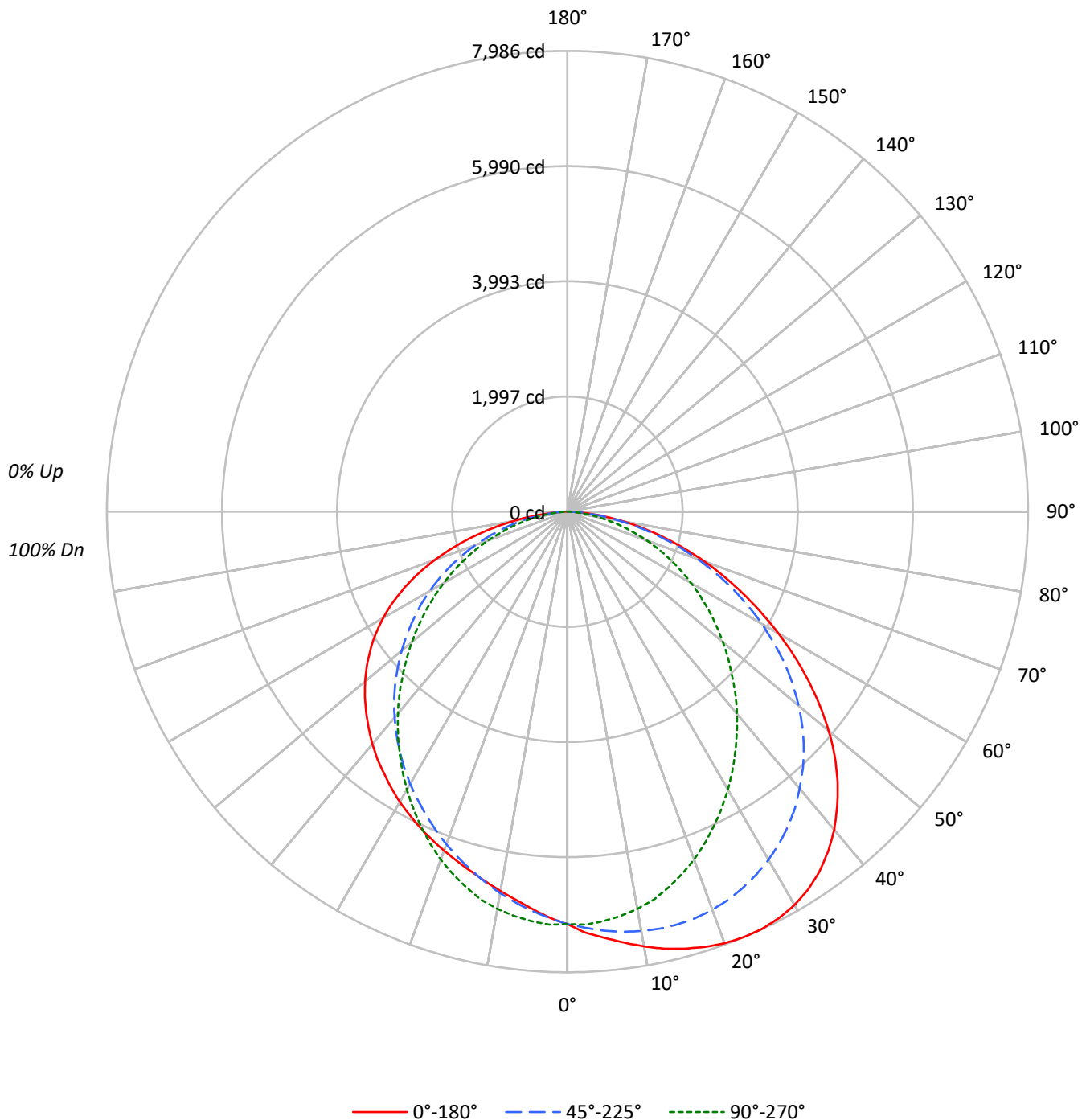
Lumens per Lamp: N/A
Luminaire Lumens: 21032.3 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 220
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°	9620	9620	9620
5°	10016	9626	9341
10°	10454	9553	9124
15°	10924	9400	8993
20°	11401	9193	8956
25°	11849	8926	8970
30°	12235	8647	9028
35°	12515	8338	9103
40°	12641	8029	9237
45°	12606	7690	9388
50°	12382	7367	9582
55°	11959	7028	9781
60°	11376	6666	9929
65°	10683	6259	9917
70°	9942	5773	9622
75°	9026	5070	8872
80°	7750	4166	7484
85°	5911	2847	5139

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	678.1	3.2
10°-20°	1958.3	9.3
20°-30°	3000.2	14.3
30°-40°	3661.3	17.4
40°-50°	3829.0	18.2
50°-60°	3465.5	16.5
60°-70°	2624.5	12.5
70°-80°	1462.6	7.0
80°-90°	352.8	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°	5636.7	26.8
0°-40°	9298.0	44.2
0°-60°	16592.4	78.9
0°-90°	21032.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	21032.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	7150	7150	7150	7150	7150	
5°	7416	7292	7127	6952	6916	715
15°	7842	7406	6748	6434	6456	2224
25°	7982	7197	6012	5800	6042	3682
35°	7619	6664	5076	5070	5542	4758
45°	6625	5795	4042	4220	4934	5097
55°	5098	4603	2996	3260	4170	4549
65°	3356	3155	1966	2235	3115	3328
75°	1736	1640	975	1164	1707	1842
85°	383	338	184	247	333	461
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°	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1
2.5°	7308.0	7273.6	7245.5	7256.4	7262.7	7240.8	7222.0	7225.1	7206.4	7242.3	7157.9
5°	7415.8	7384.6	7351.7	7364.2	7351.7	7318.9	7292.4	7284.5	7234.5	7254.8	7168.9
7.5°	7536.2	7501.8	7453.3	7467.4	7440.8	7379.9	7345.5	7325.2	7248.6	7250.2	7154.8
10°	7651.8	7622.1	7556.5	7565.9	7517.4	7436.1	7381.4	7353.3	7245.5	7229.8	7131.4
12.5°	7759.7	7719.0	7648.7	7653.4	7583.0	7475.2	7404.9	7364.2	7223.6	7176.7	7079.8
15°	7842.5	7803.4	7719.0	7717.5	7626.8	7486.1	7406.4	7350.2	7172.0	7098.6	6997.0
17.5°	7912.8	7876.9	7772.2	7769.0	7659.6	7481.5	7386.1	7315.8	7097.0	7006.3	6893.8
20°	7962.8	7926.9	7809.7	7798.7	7667.4	7458.0	7343.9	7254.8	6998.5	6890.7	6765.7
22.5°	7986.3	7950.3	7817.5	7801.8	7648.7	7411.1	7283.0	7178.3	6886.0	6745.3	6615.6
25°	7981.6	7947.2	7797.2	7781.5	7612.7	7340.8	7197.0	7076.7	6743.8	6578.1	6450.0
27.5°	7942.5	7915.9	7758.1	7737.8	7547.1	7245.5	7092.3	6959.5	6585.9	6401.5	6262.4
30°	7875.3	7855.0	7687.8	7669.0	7465.8	7140.8	6970.4	6817.2	6415.6	6207.7	6067.1
32.5°	7767.5	7748.7	7579.9	7562.7	7356.4	7006.3	6828.2	6670.3	6229.6	5999.9	5859.2
35°	7619.0	7608.1	7444.0	7425.2	7215.8	6853.2	6664.1	6490.6	6035.8	5776.4	5642.0
37.5°	7423.6	7423.6	7265.8	7245.5	7040.7	6665.6	6479.7	6295.2	5817.0	5541.9	5409.1
40°	7197.0	7217.3	7056.4	7036.0	6837.6	6464.0	6260.9	6067.1	5581.0	5295.0	5165.3
42.5°	6925.1	6943.8	6809.4	6790.7	6604.7	6231.2	6042.1	5831.1	5334.1	5043.4	4909.0
45°	6625.0	6650.0	6529.7	6515.6	6342.1	5976.4	5795.1	5581.0	5076.2	4780.8	4649.5
47.5°	6290.6	6323.4	6218.7	6210.8	6049.9	5715.4	5526.3	5309.1	4805.8	4507.3	4383.9
50°	5915.5	5962.4	5876.4	5876.4	5732.6	5399.7	5235.6	5018.4	4524.5	4226.0	4104.1
52.5°	5513.8	5573.2	5509.1	5510.7	5393.5	5095.0	4924.6	4712.1	4230.7	3936.9	3824.3
55°	5098.1	5155.9	5115.3	5121.5	5029.3	4757.4	4602.7	4391.7	3930.6	3644.6	3538.3
57.5°	4663.6	4726.1	4699.6	4712.1	4648.0	4404.2	4243.2	4058.8	3621.2	3338.3	3247.6
60°	4227.6	4287.0	4272.9	4290.1	4249.4	4038.5	3891.5	3700.9	3310.2	3038.2	2958.5
62.5°	3786.8	3841.5	3838.4	3857.2	3835.3	3660.2	3529.0	3366.4	2988.2	2738.1	2664.7
65°	3355.5	3402.4	3399.2	3419.6	3414.9	3274.2	3155.4	3007.0	2666.3	2436.5	2372.4
67.5°	2936.6	2975.7	2964.8	2988.2	2994.5	2881.9	2778.8	2645.9	2359.9	2136.4	2081.7
70°	2527.2	2553.7	2539.7	2555.3	2569.4	2485.0	2397.4	2280.2	2033.3	1836.4	1791.0
72.5°	2125.5	2144.3	2122.4	2138.0	2150.5	2089.6	2017.7	1916.1	1711.3	1541.0	1503.5
75°	1736.3	1762.9	1717.6	1733.2	1742.6	1681.6	1639.5	1556.6	1380.0	1248.7	1223.7
77.5°	1359.7	1375.3	1350.3	1344.1	1350.3	1306.6	1273.7	1209.7	1076.8	969.0	953.4
80°	1000.2	1009.6	984.6	978.4	983.0	951.8	926.8	879.9	786.1	704.9	698.6
82.5°	670.5	675.2	653.3	647.0	650.2	640.8	611.1	578.3	534.5	465.7	464.2
85°	382.9	382.9	367.3	361.0	364.1	348.5	337.6	320.4	303.2	256.3	259.4
87.5°	140.7	140.7	132.8	131.3	146.9	129.7	125.0	117.2	121.9	96.9	103.1
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°	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1	7150.1
2.5°	7181.4	7165.8	7151.7	7103.2	7123.6	7073.6	7070.4	7051.7	7037.6	7011.0	7045.4
5°	7157.9	7126.7	7086.1	7028.2	7045.4	6986.0	6973.5	6951.6	6932.9	6898.5	6925.1
7.5°	7120.4	7068.9	7004.8	6931.3	6954.8	6881.3	6862.6	6839.1	6823.5	6782.9	6806.3
10°	7065.7	6992.3	6917.3	6828.2	6845.4	6765.7	6742.2	6717.2	6703.2	6667.2	6690.6
12.5°	6981.3	6892.3	6790.7	6693.8	6712.5	6637.5	6606.3	6579.7	6575.0	6545.3	6573.4
15°	6871.9	6748.5	6643.8	6540.6	6562.5	6475.0	6460.9	6434.3	6442.2	6421.8	6456.2
17.5°	6732.8	6590.6	6476.5	6365.6	6387.5	6314.0	6303.1	6290.6	6298.4	6295.2	6332.8
20°	6576.6	6420.3	6289.0	6179.6	6192.1	6134.3	6139.0	6135.8	6151.5	6168.6	6220.2
22.5°	6400.0	6223.3	6085.8	5973.3	5992.0	5942.0	5963.9	5970.2	5996.7	6035.8	6101.4
25°	6201.5	6012.4	5868.6	5762.3	5779.5	5746.7	5784.2	5799.8	5842.0	5907.6	5974.9
27.5°	5993.6	5793.6	5640.4	5538.8	5571.6	5538.8	5595.1	5626.3	5690.4	5762.3	5845.1
30°	5773.2	5565.4	5407.5	5316.9	5348.1	5318.4	5409.1	5451.3	5515.4	5613.8	5712.3
32.5°	5541.9	5323.1	5168.4	5098.1	5120.0	5115.3	5216.9	5263.7	5349.7	5462.2	5566.9
35°	5304.4	5076.2	4919.9	4860.5	4887.1	4893.3	5015.3	5070.0	5163.7	5299.7	5412.2
37.5°	5059.0	4826.1	4673.0	4624.5	4648.0	4671.4	4813.6	4868.3	4974.6	5123.1	5246.6
40°	4804.3	4571.4	4421.4	4382.3	4405.7	4430.7	4585.5	4660.5	4776.1	4937.1	5071.5
42.5°	4546.4	4313.5	4168.2	4140.0	4163.5	4211.9	4376.0	4446.4	4568.3	4746.4	4894.9
45°	4283.8	4041.6	3915.0	3893.1	3918.1	3974.4	4135.4	4219.7	4349.5	4544.8	4704.2
47.5°	4018.1	3782.1	3661.8	3647.7	3672.7	3735.3	3913.4	3990.0	4127.5	4335.4	4507.3
50°	3749.3	3519.6	3403.9	3399.2	3422.7	3489.9	3660.2	3750.9	3893.1	4126.0	4302.6
52.5°	3477.4	3257.0	3152.3	3152.3	3174.2	3243.0	3414.9	3508.6	3655.6	3900.9	4096.3
55°	3205.4	2996.0	2896.0	2903.8	2935.1	2994.5	3161.7	3260.1	3408.6	3663.4	3869.7
57.5°	2933.5	2735.0	2644.4	2655.3	2685.0	2744.4	2908.5	3019.5	3153.9	3418.0	3629.0
60°	2664.7	2477.1	2397.4	2409.9	2436.5	2495.9	2666.3	2761.6	2896.0	3164.8	3375.8
62.5°	2392.8	2222.4	2147.4	2163.0	2186.5	2245.8	2406.8	2499.0	2631.9	2896.0	3108.5
65°	2123.9	1966.1	1902.0	1917.6	1939.5	1994.2	2145.8	2234.9	2361.5	2619.4	2822.5
67.5°	1858.3	1714.5	1661.3	1677.0	1694.2	1745.7	1870.8	1967.7	2086.4	2331.8	2524.0
70°	1595.7	1467.5	1420.6	1436.3	1451.9	1498.8	1608.2	1697.3	1806.7	2031.7	2209.9
72.5°	1336.3	1211.2	1187.8	1201.8	1214.4	1255.0	1359.7	1430.0	1525.4	1725.4	1878.6
75°	1083.1	975.2	959.6	973.7	984.6	1015.9	1103.4	1164.3	1244.0	1417.5	1542.6
77.5°	839.3	748.6	742.4	753.3	764.2	786.1	854.9	919.0	981.5	1109.6	1220.6
80°	611.1	537.6	537.6	548.6	545.4	572.0	620.5	672.0	717.4	809.6	890.8
82.5°	403.2	345.4	353.2	361.0	365.7	376.7	406.3	445.4	473.5	529.8	583.0
85°	223.5	184.4	192.2	198.5	195.4	207.9	223.5	246.9	261.0	287.6	315.7
87.5°	82.8	68.8	70.3	75.0	78.1	84.4	84.4	98.5	100.0	103.1	109.4
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°	7150.1	7150.1	7150.1
2.5°	6979.8	7017.3	7045.4
5°	6859.4	6890.7	6915.7
7.5°	6742.2	6770.4	6792.2
10°	6631.3	6662.5	6678.1
12.5°	6517.2	6553.1	6565.6
15°	6404.6	6440.6	6456.2
17.5°	6289.0	6335.9	6353.1
20°	6181.2	6240.5	6254.6
22.5°	6071.8	6132.7	6149.9
25°	5953.0	6024.9	6042.1
27.5°	5826.4	5912.3	5929.5
30°	5699.8	5793.6	5810.8
32.5°	5563.8	5665.4	5681.0
35°	5421.6	5523.2	5541.9
37.5°	5263.7	5374.7	5412.2
40°	5099.6	5220.0	5259.1
42.5°	4927.7	5059.0	5099.6
45°	4743.3	4887.1	4934.0
47.5°	4557.3	4719.9	4760.5
50°	4355.7	4529.2	4577.6
52.5°	4144.7	4333.8	4382.3
55°	3925.9	4116.6	4169.7
57.5°	3688.4	3885.3	3941.6
60°	3439.9	3636.8	3689.9
62.5°	3185.1	3363.3	3414.9
65°	2900.7	3067.9	3114.8
67.5°	2599.1	2752.2	2791.3
70°	2278.7	2411.5	2445.9
72.5°	1944.2	2036.4	2081.7
75°	1598.8	1672.3	1706.7
77.5°	1251.9	1303.4	1331.6
80°	912.7	942.4	965.9
82.5°	597.0	609.5	626.7
85°	322.0	322.0	332.9
87.5°	109.4	104.7	109.4
90°	0.0	0.0	0.0

(END OF REPORT)