

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: P834696

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4HI-40-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834696
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-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

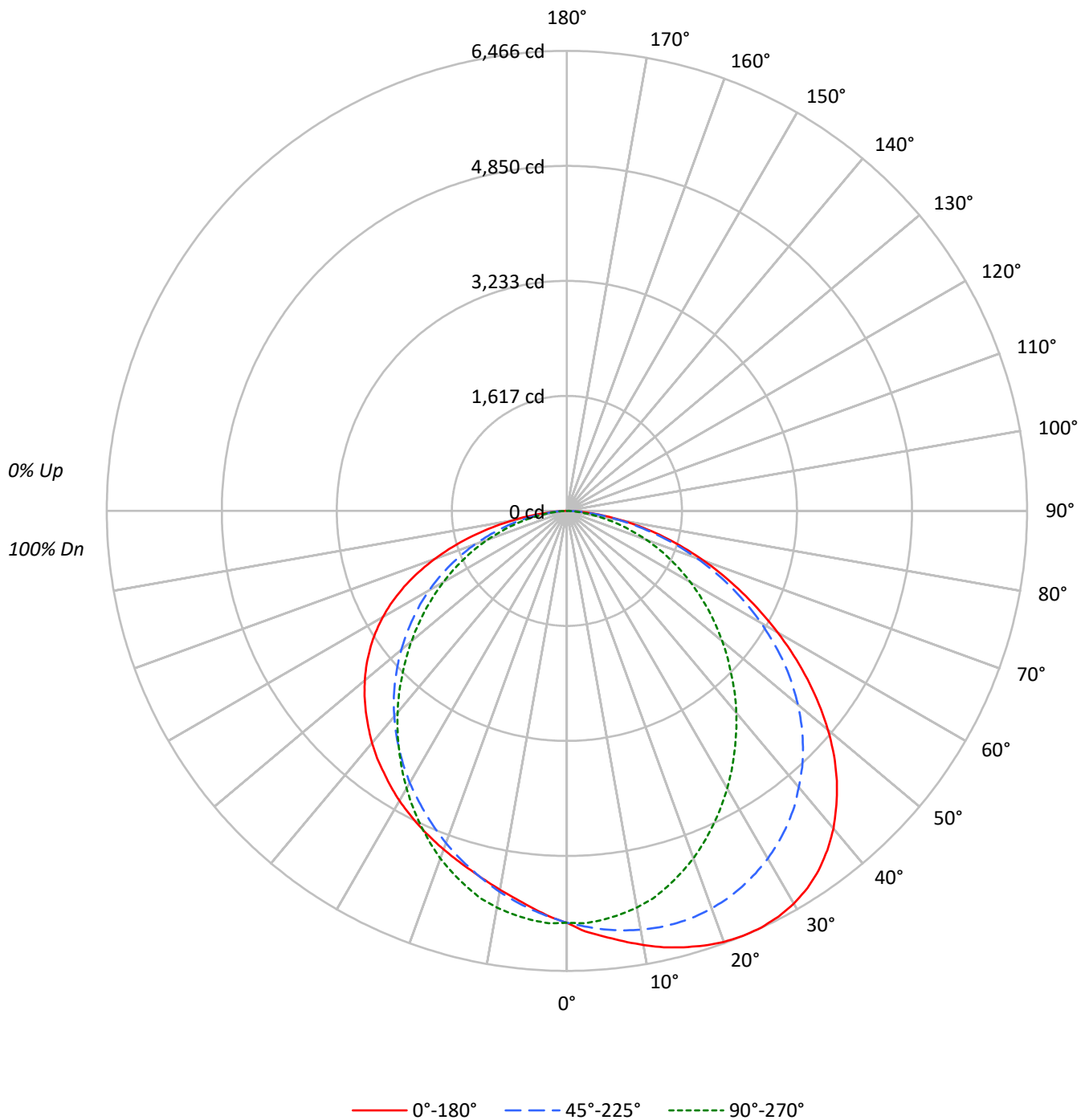
Lumens per Lamp: N/A
Luminaire Lumens: 17028.9 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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
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°	7789	7789	7789
5°	8110	7793	7563
10°	8464	7735	7387
15°	8845	7611	7281
20°	9231	7443	7251
25°	9594	7227	7263
30°	9906	7001	7309
35°	10132	6751	7370
40°	10235	6501	7479
45°	10207	6227	7601
50°	10025	5965	7758
55°	9683	5690	7919
60°	9211	5397	8040
65°	8649	5068	8029
70°	8049	4674	7790
75°	7308	4105	7183
80°	6275	3373	6059
85°	4786	2305	4160

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	549.1	3.2
10°-20°	1585.6	9.3
20°-30°	2429.1	14.3
30°-40°	2964.4	17.4
40°-50°	3100.1	18.2
50°-60°	2805.8	16.5
60°-70°	2125.0	12.5
70°-80°	1184.2	7.0
80°-90°	285.6	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°	4563.7	26.8
0°-40°	7528.2	44.2
0°-60°	13434.1	78.9
0°-90°	17028.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17028.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5789	5789	5789	5789	5789	
5°	6004	5904	5770	5628	5599	579
15°	6350	5997	5464	5210	5227	1801
25°	6462	5827	4868	4696	4892	2981
35°	6169	5396	4110	4105	4487	3852
45°	5364	4692	3272	3416	3995	4127
55°	4128	3727	2426	2640	3376	3683
65°	2717	2555	1592	1810	2522	2695
75°	1406	1327	790	943	1382	1491
85°	310	273	149	200	270	373
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°	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1
2.5°	5916.9	5889.1	5866.3	5875.2	5880.2	5862.5	5847.3	5849.9	5834.7	5863.8	5795.5
5°	6004.3	5978.9	5952.4	5962.5	5952.4	5925.8	5904.3	5898.0	5857.5	5873.9	5804.3
7.5°	6101.7	6073.8	6034.6	6046.0	6024.5	5975.1	5947.3	5930.9	5868.9	5870.1	5792.9
10°	6195.3	6171.3	6118.1	6125.7	6086.5	6020.7	5976.4	5953.6	5866.3	5853.7	5774.0
12.5°	6282.6	6249.7	6192.8	6196.6	6139.6	6052.3	5995.4	5962.5	5848.6	5810.6	5732.2
15°	6349.7	6318.1	6249.7	6248.5	6175.1	6061.2	5996.7	5951.1	5806.9	5747.4	5665.1
17.5°	6406.6	6377.5	6292.8	6290.2	6201.7	6057.4	5980.2	5923.3	5746.1	5672.7	5581.6
20°	6447.1	6418.0	6323.1	6314.3	6208.0	6038.4	5946.0	5873.9	5666.4	5579.1	5477.9
22.5°	6466.1	6437.0	6329.5	6316.8	6192.8	6000.5	5896.7	5811.9	5575.3	5461.4	5356.4
25°	6462.3	6434.5	6313.0	6300.4	6163.7	5943.5	5827.1	5729.7	5460.1	5326.0	5222.2
27.5°	6430.7	6409.2	6281.4	6264.9	6110.5	5866.3	5742.3	5634.8	5332.3	5183.0	5070.4
30°	6376.3	6359.8	6224.4	6209.2	6044.7	5781.5	5643.6	5519.6	5194.4	5026.1	4912.2
32.5°	6289.0	6273.8	6137.1	6123.2	5956.2	5672.7	5528.5	5400.7	5043.8	4857.8	4743.9
35°	6168.8	6159.9	6027.0	6011.8	5842.3	5548.7	5395.6	5255.1	4886.9	4676.9	4568.0
37.5°	6010.6	6010.6	5882.8	5866.3	5700.6	5396.9	5246.3	5097.0	4709.8	4487.1	4379.5
40°	5827.1	5843.5	5713.2	5696.8	5536.1	5233.6	5069.1	4912.2	4518.7	4287.1	4182.1
42.5°	5606.9	5622.1	5513.3	5498.1	5347.5	5045.1	4892.0	4721.2	4318.8	4083.4	3974.6
45°	5364.0	5384.2	5286.8	5275.4	5134.9	4838.8	4692.0	4518.7	4110.0	3870.8	3764.5
47.5°	5093.2	5119.7	5035.0	5028.6	4898.3	4627.5	4474.4	4298.5	3891.1	3649.4	3549.4
50°	4789.5	4827.4	4757.8	4757.8	4641.4	4371.9	4239.0	4063.2	3663.3	3421.6	3322.9
52.5°	4464.3	4512.4	4460.5	4461.7	4366.8	4125.2	3987.2	3815.1	3425.4	3187.5	3096.4
55°	4127.7	4174.5	4141.6	4146.7	4072.0	3851.8	3726.6	3555.7	3182.4	2950.9	2864.8
57.5°	3775.9	3826.5	3805.0	3815.1	3763.3	3565.9	3435.5	3286.2	2931.9	2702.9	2629.5
60°	3422.9	3471.0	3459.6	3473.5	3440.6	3269.8	3150.8	2996.4	2680.1	2459.9	2395.4
62.5°	3066.0	3110.3	3107.8	3123.0	3105.3	2963.5	2857.2	2725.6	2419.4	2217.0	2157.5
65°	2716.8	2754.7	2752.2	2768.7	2764.9	2651.0	2554.8	2434.6	2158.7	1972.7	1920.9
67.5°	2377.7	2409.3	2400.4	2419.4	2424.5	2333.4	2249.9	2142.3	1910.7	1729.8	1685.5
70°	2046.1	2067.6	2056.3	2068.9	2080.3	2012.0	1941.1	1846.2	1646.3	1486.8	1450.1
72.5°	1720.9	1736.1	1718.4	1731.0	1741.2	1691.8	1633.6	1551.4	1385.6	1247.7	1217.3
75°	1405.8	1427.4	1390.7	1403.3	1410.9	1361.6	1327.4	1260.3	1117.3	1011.0	990.8
77.5°	1100.9	1113.5	1093.3	1088.2	1093.3	1057.9	1031.3	979.4	871.9	784.5	771.9
80°	809.8	817.4	797.2	792.1	795.9	770.6	750.4	712.4	636.5	570.7	565.6
82.5°	542.9	546.6	528.9	523.9	526.4	518.8	494.8	468.2	432.8	377.1	375.8
85°	310.0	310.0	297.4	292.3	294.8	282.2	273.3	259.4	245.5	207.5	210.1
87.5°	113.9	113.9	107.6	106.3	118.9	105.0	101.2	94.9	98.7	78.5	83.5
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°	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1	5789.1
2.5°	5814.4	5801.8	5790.4	5751.2	5767.6	5727.1	5724.6	5709.4	5698.0	5676.5	5704.4
5°	5795.5	5770.2	5737.3	5690.4	5704.4	5656.3	5646.1	5628.4	5613.2	5585.4	5606.9
7.5°	5765.1	5723.3	5671.5	5612.0	5631.0	5571.5	5556.3	5537.3	5524.7	5491.8	5510.8
10°	5720.8	5661.3	5600.6	5528.5	5542.4	5477.9	5458.9	5438.6	5427.2	5398.1	5417.1
12.5°	5652.5	5580.3	5498.1	5419.6	5434.8	5374.1	5348.8	5327.3	5323.5	5299.4	5322.2
15°	5563.9	5463.9	5379.2	5295.6	5313.4	5242.5	5231.1	5209.6	5215.9	5199.5	5227.3
17.5°	5451.3	5336.1	5243.8	5153.9	5171.6	5112.2	5103.3	5093.2	5099.5	5097.0	5127.3
20°	5324.7	5198.2	5091.9	5003.3	5013.5	4966.6	4970.4	4967.9	4980.6	4994.5	5036.2
22.5°	5181.8	5038.8	4927.4	4836.3	4851.5	4811.0	4828.7	4833.8	4855.3	4886.9	4940.1
25°	5021.0	4867.9	4751.5	4665.5	4679.4	4652.8	4683.2	4695.8	4730.0	4783.2	4837.6
27.5°	4852.8	4690.8	4566.8	4484.5	4511.1	4484.5	4530.1	4555.4	4607.3	4665.5	4732.5
30°	4674.3	4506.0	4378.2	4304.8	4330.1	4306.1	4379.5	4413.7	4465.5	4545.3	4625.0
32.5°	4487.1	4309.9	4184.6	4127.7	4145.4	4141.6	4223.9	4261.8	4331.4	4422.5	4507.3
35°	4294.7	4110.0	3983.4	3935.3	3956.9	3961.9	4060.6	4104.9	4180.8	4290.9	4382.0
37.5°	4096.1	3907.5	3783.5	3744.3	3763.3	3782.2	3897.4	3941.7	4027.7	4147.9	4247.9
40°	3889.8	3701.3	3579.8	3548.1	3567.1	3587.4	3712.6	3773.4	3867.0	3997.4	4106.2
42.5°	3681.0	3492.5	3374.8	3352.0	3371.0	3410.2	3543.1	3600.0	3698.7	3843.0	3963.2
45°	3468.4	3272.3	3169.8	3152.1	3172.3	3217.9	3348.2	3416.5	3521.6	3679.7	3808.8
47.5°	3253.3	3062.2	2964.8	2953.4	2973.7	3024.3	3168.5	3230.5	3341.9	3510.2	3649.4
50°	3035.7	2849.6	2756.0	2752.2	2771.2	2825.6	2963.5	3036.9	3152.1	3340.6	3483.6
52.5°	2815.5	2637.1	2552.3	2552.3	2570.0	2625.7	2764.9	2840.8	2959.7	3158.4	3316.6
55°	2595.3	2425.7	2344.8	2351.1	2376.4	2424.5	2559.9	2639.6	2759.8	2966.1	3133.1
57.5°	2375.1	2214.4	2141.0	2149.9	2173.9	2222.0	2354.9	2444.7	2553.5	2767.4	2938.2
60°	2157.5	2005.6	1941.1	1951.2	1972.7	2020.8	2158.7	2235.9	2344.8	2562.4	2733.2
62.5°	1937.3	1799.4	1738.6	1751.3	1770.3	1818.4	1948.7	2023.4	2130.9	2344.8	2516.9
65°	1719.7	1591.9	1540.0	1552.6	1570.3	1614.6	1737.4	1809.5	1912.0	2120.8	2285.3
67.5°	1504.5	1388.1	1345.1	1357.8	1371.7	1413.4	1514.7	1593.1	1689.3	1888.0	2043.6
70°	1292.0	1188.2	1150.2	1162.9	1175.5	1213.5	1302.1	1374.2	1462.8	1645.0	1789.3
72.5°	1081.9	980.7	961.7	973.1	983.2	1016.1	1100.9	1157.8	1235.0	1397.0	1521.0
75°	876.9	789.6	776.9	788.3	797.2	822.5	893.4	942.7	1007.2	1147.7	1248.9
77.5°	679.5	606.1	601.1	609.9	618.8	636.5	692.2	744.0	794.7	898.4	988.3
80°	494.8	435.3	435.3	444.2	441.6	463.1	502.4	544.1	580.8	655.5	721.3
82.5°	326.5	279.7	286.0	292.3	296.1	305.0	329.0	360.6	383.4	429.0	472.0
85°	181.0	149.3	155.6	160.7	158.2	168.3	181.0	199.9	211.3	232.8	255.6
87.5°	67.1	55.7	56.9	60.7	63.3	68.3	68.3	79.7	81.0	83.5	88.6
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°	5789.1	5789.1	5789.1
2.5°	5651.2	5681.6	5704.4
5°	5553.8	5579.1	5599.3
7.5°	5458.9	5481.6	5499.4
10°	5369.0	5394.3	5407.0
12.5°	5276.7	5305.8	5315.9
15°	5185.5	5214.7	5227.3
17.5°	5091.9	5129.9	5143.8
20°	5004.6	5052.7	5064.1
22.5°	4916.0	4965.4	4979.3
25°	4819.9	4878.1	4892.0
27.5°	4717.4	4787.0	4800.9
30°	4614.9	4690.8	4704.7
32.5°	4504.8	4587.0	4599.7
35°	4389.6	4471.9	4487.1
37.5°	4261.8	4351.7	4382.0
40°	4129.0	4226.4	4258.0
42.5°	3989.8	4096.1	4129.0
45°	3840.4	3956.9	3994.8
47.5°	3689.9	3821.5	3854.4
50°	3526.6	3667.1	3706.3
52.5°	3355.8	3508.9	3548.1
55°	3178.6	3333.0	3376.0
57.5°	2986.3	3145.7	3191.3
60°	2785.1	2944.6	2987.6
62.5°	2578.9	2723.1	2764.9
65°	2348.6	2484.0	2521.9
67.5°	2104.3	2228.3	2260.0
70°	1844.9	1952.5	1980.3
72.5°	1574.1	1648.8	1685.5
75°	1294.5	1354.0	1381.8
77.5°	1013.6	1055.3	1078.1
80°	739.0	763.0	782.0
82.5°	483.4	493.5	507.4
85°	260.7	260.7	269.5
87.5°	88.6	84.8	88.6
90°	0.0	0.0	0.0

(END OF REPORT)