

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: P834630

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6HI-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834630
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-LD4-6HI-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

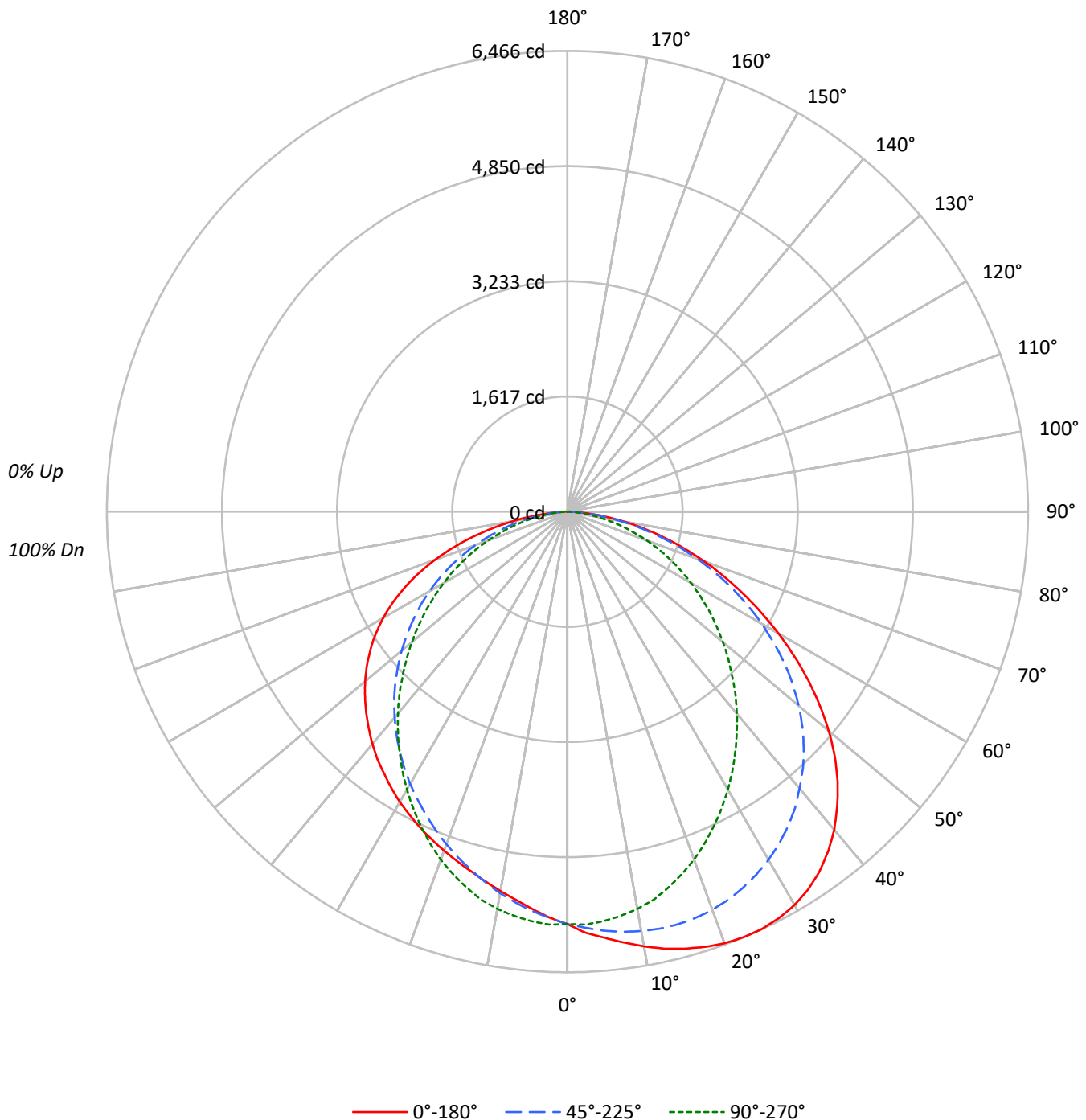
Lumens per Lamp: N/A
Luminaire Lumens: 17028.4 lumens
Efficiency: N/A
Efficacy: 64.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 264
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°	7789	7789	7789
5°	8109	7793	7562
10°	8464	7734	7387
15°	8845	7611	7281
20°	9231	7443	7251
25°	9594	7227	7262
30°	9906	7001	7309
35°	10132	6751	7370
40°	10234	6501	7479
45°	10206	6226	7601
50°	10025	5965	7758
55°	9682	5690	7919
60°	9211	5397	8039
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°	549.0	3.2
10°-20°	1585.5	9.3
20°-30°	2429.0	14.3
30°-40°	2964.3	17.4
40°-50°	3100.0	18.2
50°-60°	2805.7	16.5
60°-70°	2124.9	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°	4563.6	26.8
0°-40°	7527.9	44.2
0°-60°	13433.7	78.9
0°-90°	17028.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17028.4	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	5996	5464	5209	5227	1801
25°	6462	5827	4868	4696	4892	2981
35°	6169	5395	4110	4105	4487	3852
45°	5364	4692	3272	3416	3995	4127
55°	4128	3726	2426	2640	3376	3683
65°	2717	2555	1592	1809	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°	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9
2.5°	5916.7	5888.9	5866.1	5875.0	5880.1	5862.3	5847.2	5849.7	5834.5	5863.6	5795.3
5°	6004.1	5978.7	5952.2	5962.3	5952.2	5925.6	5904.1	5897.8	5857.3	5873.7	5804.1
7.5°	6101.5	6073.6	6034.4	6045.8	6024.3	5975.0	5947.1	5930.7	5868.7	5869.9	5792.7
10°	6195.1	6171.1	6117.9	6125.5	6086.3	6020.5	5976.2	5953.4	5866.1	5853.5	5773.8
12.5°	6282.4	6249.5	6192.6	6196.4	6139.4	6052.1	5995.2	5962.3	5848.4	5810.5	5732.0
15°	6349.5	6317.9	6249.5	6248.3	6174.9	6061.0	5996.5	5950.9	5806.7	5747.2	5664.9
17.5°	6406.4	6377.3	6292.6	6290.0	6201.4	6057.2	5980.0	5923.1	5745.9	5672.5	5581.4
20°	6446.9	6417.8	6322.9	6314.1	6207.8	6038.2	5945.8	5873.7	5666.2	5578.9	5477.7
22.5°	6465.9	6436.8	6329.2	6316.6	6192.6	6000.3	5896.5	5811.7	5575.1	5461.2	5356.2
25°	6462.1	6434.3	6312.8	6300.1	6163.5	5943.3	5826.9	5729.5	5460.0	5325.8	5222.1
27.5°	6430.5	6409.0	6281.2	6264.7	6110.3	5866.1	5742.1	5634.6	5332.2	5182.8	5070.2
30°	6376.1	6359.6	6224.2	6209.0	6044.5	5781.4	5643.4	5519.4	5194.2	5025.9	4912.1
32.5°	6288.8	6273.6	6136.9	6123.0	5956.0	5672.5	5528.3	5400.5	5043.7	4857.7	4743.8
35°	6168.6	6159.7	6026.8	6011.6	5842.1	5548.5	5395.4	5255.0	4886.8	4676.7	4567.9
37.5°	6010.4	6010.4	5882.6	5866.1	5700.4	5396.7	5246.1	5096.8	4709.6	4486.9	4379.4
40°	5826.9	5843.4	5713.0	5696.6	5535.9	5233.5	5069.0	4912.1	4518.5	4287.0	4182.0
42.5°	5606.7	5621.9	5513.1	5497.9	5347.3	5044.9	4891.8	4721.0	4318.6	4083.3	3974.4
45°	5363.8	5384.0	5286.6	5275.2	5134.8	4838.7	4691.9	4518.5	4109.8	3870.7	3764.4
47.5°	5093.0	5119.6	5034.8	5028.5	4898.1	4627.4	4474.3	4298.4	3890.9	3649.3	3549.3
50°	4789.3	4827.3	4757.7	4757.7	4641.3	4371.8	4238.9	4063.0	3663.2	3421.5	3322.8
52.5°	4464.1	4512.2	4460.3	4461.6	4366.7	4125.0	3987.1	3815.0	3425.3	3187.4	3096.3
55°	4127.6	4174.4	4141.5	4146.5	4071.9	3851.7	3726.4	3555.6	3182.3	2950.8	2864.7
57.5°	3775.8	3826.4	3804.9	3815.0	3763.1	3565.7	3435.4	3286.1	2931.8	2702.8	2629.4
60°	3422.8	3470.8	3459.4	3473.4	3440.5	3269.6	3150.7	2996.3	2680.0	2459.8	2395.3
62.5°	3065.9	3110.2	3107.7	3122.9	3105.2	2963.4	2857.1	2725.6	2419.3	2216.9	2157.4
65°	2716.7	2754.7	2752.1	2768.6	2764.8	2650.9	2554.7	2434.5	2158.7	1972.7	1920.8
67.5°	2377.6	2409.2	2400.4	2419.3	2424.4	2333.3	2249.8	2142.2	1910.7	1729.7	1685.4
70°	2046.1	2067.6	2056.2	2068.8	2080.2	2011.9	1941.0	1846.1	1646.2	1486.8	1450.1
72.5°	1720.9	1736.1	1718.3	1731.0	1741.1	1691.8	1633.6	1551.3	1385.6	1247.6	1217.3
75°	1405.8	1427.3	1390.6	1403.3	1410.9	1361.5	1327.3	1260.3	1117.3	1011.0	990.8
77.5°	1100.8	1113.5	1093.3	1088.2	1093.3	1057.8	1031.3	979.4	871.8	784.5	771.9
80°	809.8	817.4	797.2	792.1	795.9	770.6	750.3	712.4	636.5	570.7	565.6
82.5°	542.8	546.6	528.9	523.9	526.4	518.8	494.7	468.2	432.7	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	210.0
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°	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9	5788.9
2.5°	5814.3	5801.6	5790.2	5751.0	5767.4	5726.9	5724.4	5709.2	5697.8	5676.3	5704.2
5°	5795.3	5770.0	5737.1	5690.3	5704.2	5656.1	5646.0	5628.2	5613.1	5585.2	5606.7
7.5°	5764.9	5723.1	5671.3	5611.8	5630.8	5571.3	5556.1	5537.1	5524.5	5491.6	5510.6
10°	5720.6	5661.1	5600.4	5528.3	5542.2	5477.7	5458.7	5438.4	5427.1	5398.0	5416.9
12.5°	5652.3	5580.2	5497.9	5419.5	5434.7	5373.9	5348.6	5327.1	5323.3	5299.3	5322.0
15°	5563.7	5463.8	5379.0	5295.5	5313.2	5242.3	5230.9	5209.4	5215.7	5199.3	5227.1
17.5°	5451.1	5336.0	5243.6	5153.7	5171.5	5112.0	5103.1	5093.0	5099.3	5096.8	5127.2
20°	5324.6	5198.0	5091.7	5003.2	5013.3	4966.5	4970.3	4967.7	4980.4	4994.3	5036.1
22.5°	5181.6	5038.6	4927.2	4836.1	4851.3	4810.8	4828.6	4833.6	4855.1	4886.8	4939.9
25°	5020.9	4867.8	4751.4	4665.3	4679.2	4652.7	4683.0	4695.7	4729.9	4783.0	4837.4
27.5°	4852.6	4690.6	4566.6	4484.4	4511.0	4484.4	4529.9	4555.2	4607.1	4665.3	4732.4
30°	4674.2	4505.9	4378.1	4304.7	4330.0	4306.0	4379.4	4413.5	4465.4	4545.1	4624.8
32.5°	4486.9	4309.8	4184.5	4127.6	4145.3	4141.5	4223.7	4261.7	4331.3	4422.4	4507.2
35°	4294.6	4109.8	3983.3	3935.2	3956.7	3961.8	4060.5	4104.8	4180.7	4290.8	4381.9
37.5°	4095.9	3907.4	3783.4	3744.2	3763.1	3782.1	3897.3	3941.5	4027.6	4147.8	4247.8
40°	3889.7	3701.1	3579.7	3548.0	3567.0	3587.2	3712.5	3773.3	3866.9	3997.2	4106.0
42.5°	3680.9	3492.3	3374.7	3351.9	3370.9	3410.1	3543.0	3599.9	3698.6	3842.8	3963.1
45°	3468.3	3272.2	3169.7	3152.0	3172.2	3217.8	3348.1	3416.4	3521.5	3679.6	3808.7
47.5°	3253.2	3062.1	2964.7	2953.3	2973.6	3024.2	3168.4	3230.4	3341.8	3510.1	3649.3
50°	3035.6	2849.6	2755.9	2752.1	2771.1	2825.5	2963.4	3036.8	3152.0	3340.5	3483.5
52.5°	2815.4	2637.0	2552.2	2552.2	2569.9	2625.6	2764.8	2840.7	2959.6	3158.3	3316.5
55°	2595.2	2425.7	2344.7	2351.0	2376.3	2424.4	2559.8	2639.5	2759.7	2966.0	3133.0
57.5°	2375.1	2214.4	2141.0	2149.8	2173.9	2221.9	2354.8	2444.6	2553.5	2767.3	2938.1
60°	2157.4	2005.6	1941.0	1951.2	1972.7	2020.8	2158.7	2235.9	2344.7	2562.3	2733.1
62.5°	1937.2	1799.3	1738.6	1751.2	1770.2	1818.3	1948.6	2023.3	2130.8	2344.7	2516.8
65°	1719.6	1591.8	1539.9	1552.6	1570.3	1614.6	1737.3	1809.4	1911.9	2120.7	2285.2
67.5°	1504.5	1388.1	1345.1	1357.7	1371.6	1413.4	1514.6	1593.1	1689.2	1887.9	2043.5
70°	1291.9	1188.2	1150.2	1162.9	1175.5	1213.5	1302.0	1374.2	1462.7	1644.9	1789.2
72.5°	1081.9	980.6	961.7	973.0	983.2	1016.1	1100.8	1157.8	1235.0	1396.9	1520.9
75°	876.9	789.6	776.9	788.3	797.2	822.5	893.3	942.7	1007.2	1147.7	1248.9
77.5°	679.5	606.1	601.0	609.9	618.8	636.5	692.1	744.0	794.6	898.4	988.2
80°	494.7	435.3	435.3	444.1	441.6	463.1	502.3	544.1	580.8	655.4	721.2
82.5°	326.5	279.6	286.0	292.3	296.1	304.9	329.0	360.6	383.4	429.0	472.0
85°	180.9	149.3	155.6	160.7	158.2	168.3	180.9	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°	5788.9	5788.9	5788.9
2.5°	5651.0	5681.4	5704.2
5°	5553.6	5578.9	5599.1
7.5°	5458.7	5481.5	5499.2
10°	5368.9	5394.2	5406.8
12.5°	5276.5	5305.6	5315.7
15°	5185.4	5214.5	5227.1
17.5°	5091.7	5129.7	5143.6
20°	5004.4	5052.5	5063.9
22.5°	4915.9	4965.2	4979.1
25°	4819.7	4877.9	4891.8
27.5°	4717.2	4786.8	4800.7
30°	4614.7	4690.6	4704.5
32.5°	4504.6	4586.9	4599.5
35°	4389.5	4471.7	4486.9
37.5°	4261.7	4351.5	4381.9
40°	4128.8	4226.2	4257.9
42.5°	3989.6	4095.9	4128.8
45°	3840.3	3956.7	3994.7
47.5°	3689.7	3821.3	3854.2
50°	3526.5	3667.0	3706.2
52.5°	3355.7	3508.8	3548.0
55°	3178.5	3332.9	3375.9
57.5°	2986.2	3145.6	3191.2
60°	2785.0	2944.5	2987.5
62.5°	2578.8	2723.0	2764.8
65°	2348.5	2483.9	2521.8
67.5°	2104.3	2228.3	2259.9
70°	1844.9	1952.4	1980.3
72.5°	1574.1	1648.7	1685.4
75°	1294.4	1353.9	1381.8
77.5°	1013.5	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)