

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: P834716

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5STD-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834716
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-LD4-5STD-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

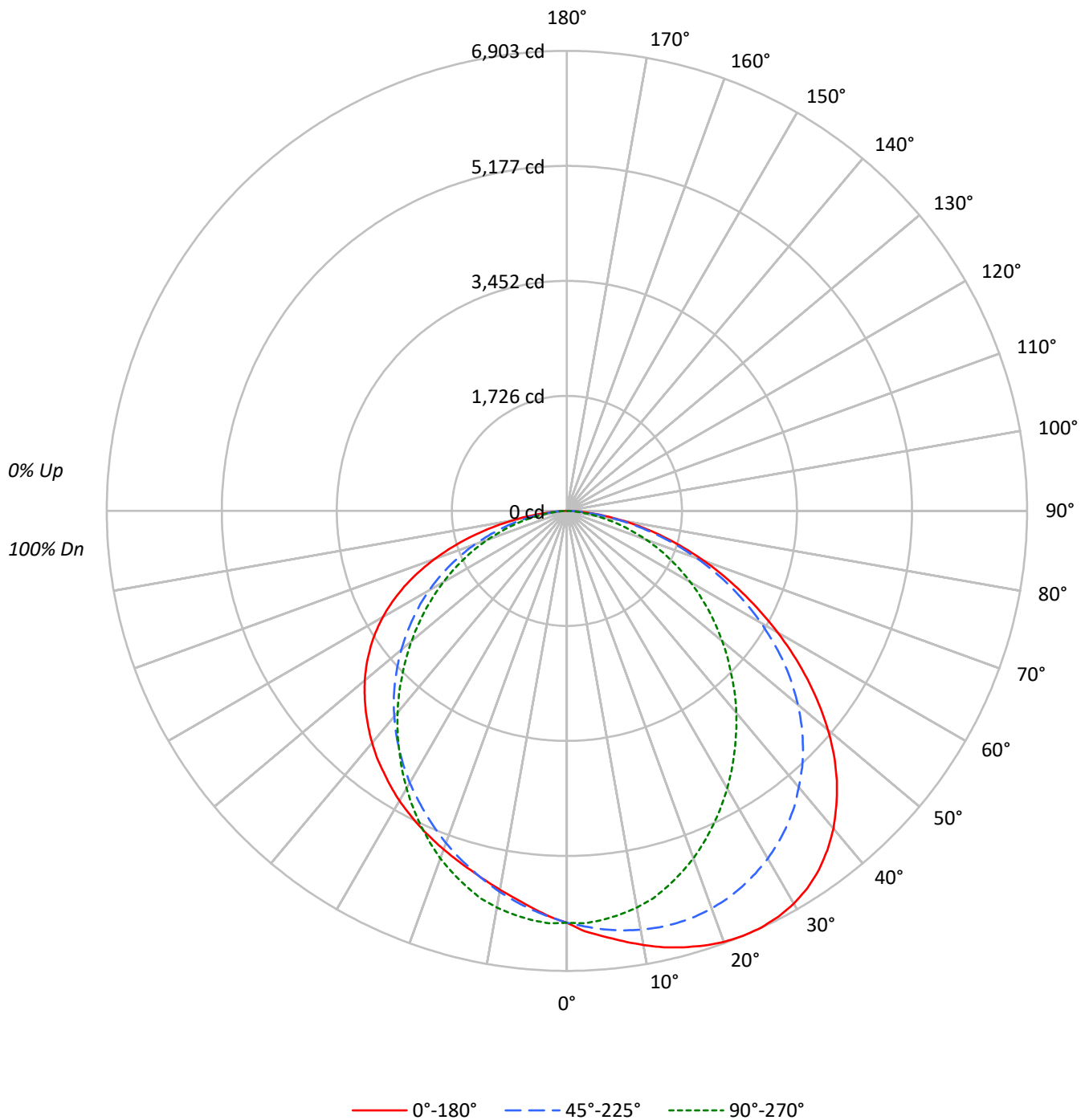
Lumens per Lamp: N/A
Luminaire Lumens: 18179.6 lumens
Efficiency: N/A
Efficacy: 109.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 166.5
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°	8316	8316	8316
5°	8658	8320	8074
10°	9036	8257	7886
15°	9443	8125	7773
20°	9855	7946	7741
25°	10242	7715	7753
30°	10576	7474	7803
35°	10817	7207	7868
40°	10926	6940	7984
45°	10896	6647	8115
50°	10703	6368	8282
55°	10337	6075	8455
60°	9833	5762	8583
65°	9234	5410	8571
70°	8593	4990	8317
75°	7802	4382	7669
80°	6699	3601	6468
85°	5110	2461	4441

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	586.2	3.2
10°-20°	1692.7	9.3
20°-30°	2593.2	14.3
30°-40°	3164.7	17.4
40°-50°	3309.6	18.2
50°-60°	2995.4	16.5
60°-70°	2268.5	12.5
70°-80°	1264.2	7.0
80°-90°	304.9	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°	4872.1	26.8
0°-40°	8036.8	44.2
0°-60°	14341.9	78.9
0°-90°	18179.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18179.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6180	6180	6180	6180	6180	
5°	6410	6303	6160	6009	5978	618
15°	6779	6402	5833	5562	5580	1923
25°	6899	6221	5197	5013	5222	3183
35°	6586	5760	4388	4382	4790	4112
45°	5726	5009	3493	3647	4265	4406
55°	4407	3978	2590	2818	3604	3932
65°	2900	2727	1699	1932	2692	2877
75°	1501	1417	843	1006	1475	1592
85°	331	292	159	213	288	398
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°	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3
2.5°	6316.8	6287.0	6262.7	6272.2	6277.6	6258.7	6242.5	6245.2	6228.9	6260.0	6187.1
5°	6410.0	6383.0	6354.6	6365.4	6354.6	6326.2	6303.2	6296.5	6253.3	6270.8	6196.5
7.5°	6514.0	6484.3	6442.4	6454.5	6431.6	6378.9	6349.2	6331.6	6265.4	6266.8	6184.4
10°	6614.0	6588.3	6531.5	6539.7	6497.8	6427.5	6380.2	6355.9	6262.7	6249.2	6164.1
12.5°	6707.2	6672.0	6611.3	6615.3	6554.5	6461.3	6400.5	6365.4	6243.8	6203.3	6119.5
15°	6778.8	6745.0	6672.0	6670.7	6592.3	6470.8	6401.9	6353.2	6199.2	6135.7	6047.9
17.5°	6839.6	6808.5	6718.0	6715.3	6620.7	6466.7	6384.3	6323.5	6134.4	6056.0	5958.8
20°	6882.8	6851.7	6750.4	6740.9	6627.5	6446.4	6347.8	6270.8	6049.3	5956.1	5848.0
22.5°	6903.0	6872.0	6757.1	6743.6	6611.3	6405.9	6295.1	6204.6	5952.0	5830.4	5718.3
25°	6899.0	6869.3	6739.6	6726.1	6580.2	6345.1	6220.8	6116.8	5829.1	5685.9	5575.1
27.5°	6865.2	6842.3	6705.8	6688.3	6523.4	6262.7	6130.3	6015.5	5692.6	5533.2	5413.0
30°	6807.1	6789.6	6645.0	6628.8	6453.2	6172.2	6025.0	5892.6	5545.4	5365.7	5244.2
32.5°	6713.9	6697.7	6551.8	6537.0	6358.6	6056.0	5902.0	5765.6	5384.6	5186.1	5064.5
35°	6585.6	6576.1	6434.3	6418.1	6237.1	5923.6	5760.2	5610.2	5217.1	4992.9	4876.7
37.5°	6416.7	6416.7	6280.3	6262.7	6085.8	5761.5	5600.8	5441.4	5028.0	4790.3	4675.4
40°	6220.8	6238.4	6099.3	6081.7	5910.1	5587.3	5411.7	5244.2	4824.0	4576.8	4464.7
42.5°	5985.8	6002.0	5885.8	5869.6	5708.9	5386.0	5222.5	5040.2	4610.6	4359.3	4243.1
45°	5726.4	5748.0	5644.0	5631.9	5481.9	5165.8	5009.1	4824.0	4387.7	4132.4	4018.9
47.5°	5437.3	5465.7	5375.2	5368.4	5229.3	4940.2	4776.7	4589.0	4154.0	3896.0	3789.2
50°	5113.1	5153.6	5079.3	5079.3	4955.1	4667.3	4525.5	4337.7	3910.8	3652.8	3547.4
52.5°	4765.9	4817.3	4761.9	4763.2	4661.9	4403.9	4256.7	4072.9	3656.9	3402.9	3305.6
55°	4406.6	4456.6	4421.5	4426.9	4347.2	4112.1	3978.4	3796.0	3397.5	3150.3	3058.4
57.5°	4031.1	4085.1	4062.1	4072.9	4017.5	3806.8	3667.7	3508.3	3130.0	2885.5	2807.1
60°	3654.2	3705.5	3693.3	3708.2	3673.1	3490.7	3363.7	3198.9	2861.2	2626.1	2557.2
62.5°	3273.2	3320.5	3317.8	3334.0	3315.1	3163.8	3050.3	2909.8	2582.9	2366.8	2303.3
65°	2900.4	2940.9	2938.2	2955.7	2951.7	2830.1	2727.4	2599.1	2304.6	2106.0	2050.6
67.5°	2538.3	2572.1	2562.6	2582.9	2588.3	2491.0	2401.9	2287.1	2039.8	1846.7	1799.4
70°	2184.4	2207.4	2195.2	2208.7	2220.9	2147.9	2072.3	1970.9	1757.5	1587.3	1548.1
72.5°	1837.2	1853.4	1834.5	1848.0	1858.8	1806.1	1744.0	1656.2	1479.2	1332.0	1299.6
75°	1500.8	1523.8	1484.6	1498.1	1506.2	1453.6	1417.1	1345.5	1192.8	1079.4	1057.7
77.5°	1175.3	1188.8	1167.2	1161.8	1167.2	1129.3	1101.0	1045.6	930.8	837.6	824.0
80°	864.6	872.7	851.1	845.7	849.7	822.7	801.1	760.6	679.5	609.3	603.8
82.5°	579.5	583.6	564.7	559.3	562.0	553.9	528.2	499.8	462.0	402.6	401.2
85°	331.0	331.0	317.5	312.1	314.8	301.2	291.8	276.9	262.1	221.5	224.2
87.5°	121.6	121.6	114.8	113.5	127.0	112.1	108.1	101.3	105.4	83.8	89.2
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°	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3	6180.3
2.5°	6207.3	6193.8	6181.7	6139.8	6157.4	6114.1	6111.4	6095.2	6083.1	6060.1	6089.8
5°	6187.1	6160.1	6124.9	6074.9	6089.8	6038.5	6027.7	6008.8	5992.5	5962.8	5985.8
7.5°	6154.6	6110.1	6054.7	5991.2	6011.5	5948.0	5931.8	5911.5	5898.0	5862.9	5883.1
10°	6107.4	6043.9	5979.0	5902.0	5916.9	5848.0	5827.7	5806.1	5794.0	5762.9	5783.2
12.5°	6034.4	5957.4	5869.6	5785.9	5802.1	5737.2	5710.2	5687.2	5683.2	5657.5	5681.8
15°	5939.9	5833.1	5742.6	5653.5	5672.4	5596.7	5584.6	5561.6	5568.4	5550.8	5580.5
17.5°	5819.6	5696.7	5598.1	5502.2	5521.1	5457.6	5448.1	5437.3	5444.1	5441.4	5473.8
20°	5684.5	5549.5	5436.0	5341.4	5352.2	5302.2	5306.3	5303.6	5317.1	5332.0	5376.5
22.5°	5531.9	5379.2	5260.4	5163.1	5179.3	5136.1	5155.0	5160.4	5183.4	5217.1	5273.9
25°	5360.3	5196.9	5072.6	4980.7	4995.6	4967.2	4999.6	5013.1	5049.6	5106.4	5164.4
27.5°	5180.7	5007.7	4875.4	4787.6	4815.9	4787.6	4836.2	4863.2	4918.6	4980.7	5052.3
30°	4990.2	4810.5	4674.1	4595.7	4622.7	4597.1	4675.4	4711.9	4767.3	4852.4	4937.5
32.5°	4790.3	4601.1	4467.4	4406.6	4425.5	4421.5	4509.3	4549.8	4624.1	4721.4	4811.9
35°	4584.9	4387.7	4252.6	4201.3	4224.2	4229.6	4335.0	4382.3	4463.3	4580.9	4678.1
37.5°	4372.8	4171.5	4039.2	3997.3	4017.5	4037.8	4160.7	4208.0	4299.9	4428.2	4534.9
40°	4152.6	3951.4	3821.7	3787.9	3808.2	3829.8	3963.5	4028.4	4128.3	4267.5	4383.6
42.5°	3929.7	3728.5	3602.8	3578.5	3598.8	3640.6	3782.5	3843.3	3948.6	4102.6	4231.0
45°	3702.8	3493.4	3384.0	3365.1	3386.7	3435.3	3574.5	3647.4	3759.5	3928.4	4066.2
47.5°	3473.1	3269.2	3165.1	3153.0	3174.6	3228.6	3382.6	3448.8	3567.7	3747.4	3896.0
50°	3240.8	3042.2	2942.2	2938.2	2958.4	3016.5	3163.8	3242.1	3365.1	3566.3	3719.0
52.5°	3005.7	2815.3	2724.7	2724.7	2743.7	2803.1	2951.7	3032.7	3159.7	3371.8	3540.7
55°	2770.7	2589.7	2503.2	2510.0	2537.0	2588.3	2732.8	2818.0	2946.3	3166.5	3344.8
57.5°	2535.6	2364.1	2285.7	2295.2	2320.8	2372.2	2514.0	2609.9	2726.1	2954.4	3136.8
60°	2303.3	2141.2	2072.3	2083.1	2106.0	2157.4	2304.6	2387.0	2503.2	2735.6	2917.9
62.5°	2068.2	1921.0	1856.1	1869.6	1889.9	1941.2	2080.4	2160.1	2274.9	2503.2	2686.9
65°	1835.9	1699.4	1644.0	1657.5	1676.5	1723.7	1854.8	1931.8	2041.2	2264.1	2439.7
67.5°	1606.2	1481.9	1436.0	1449.5	1464.4	1508.9	1617.0	1700.8	1803.4	2015.5	2181.7
70°	1379.3	1268.5	1228.0	1241.5	1255.0	1295.5	1390.1	1467.1	1561.6	1756.2	1910.2
72.5°	1155.0	1046.9	1026.7	1038.8	1049.6	1084.8	1175.3	1236.1	1318.5	1491.4	1623.8
75°	936.2	843.0	829.4	841.6	851.1	878.1	953.7	1006.4	1075.3	1225.3	1333.3
77.5°	725.4	647.1	641.7	651.1	660.6	679.5	738.9	794.3	848.4	959.1	1055.0
80°	528.2	464.7	464.7	474.2	471.5	494.4	536.3	580.9	620.1	699.8	770.0
82.5°	348.5	298.5	305.3	312.1	316.1	325.6	351.2	385.0	409.3	458.0	503.9
85°	193.2	159.4	166.2	171.6	168.9	179.7	193.2	213.4	225.6	248.6	272.9
87.5°	71.6	59.4	60.8	64.8	67.5	72.9	72.9	85.1	86.5	89.2	94.6
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°	6180.3	6180.3	6180.3
2.5°	6033.1	6065.5	6089.8
5°	5929.1	5956.1	5977.7
7.5°	5827.7	5852.1	5871.0
10°	5731.8	5758.8	5772.3
12.5°	5633.2	5664.3	5675.1
15°	5535.9	5567.0	5580.5
17.5°	5436.0	5476.5	5491.4
20°	5342.8	5394.1	5406.3
22.5°	5248.2	5300.9	5315.7
25°	5145.5	5207.7	5222.5
27.5°	5036.1	5110.4	5125.3
30°	4926.7	5007.7	5022.6
32.5°	4809.2	4897.0	4910.5
35°	4686.2	4774.0	4790.3
37.5°	4549.8	4645.7	4678.1
40°	4408.0	4512.0	4545.7
42.5°	4259.4	4372.8	4408.0
45°	4099.9	4224.2	4264.8
47.5°	3939.2	4079.7	4114.8
50°	3764.9	3914.9	3956.8
52.5°	3582.6	3746.0	3787.9
55°	3393.4	3558.2	3604.2
57.5°	3188.1	3358.3	3406.9
60°	2973.3	3143.5	3189.4
62.5°	2753.1	2907.1	2951.7
65°	2507.2	2651.8	2692.3
67.5°	2246.5	2378.9	2412.7
70°	1969.6	2084.4	2114.1
72.5°	1680.5	1760.2	1799.4
75°	1382.0	1445.5	1475.2
77.5°	1082.1	1126.6	1151.0
80°	788.9	814.6	834.8
82.5°	516.0	526.8	541.7
85°	278.3	278.3	287.7
87.5°	94.6	90.5	94.6
90°	0.0	0.0	0.0

(END OF REPORT)