

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: P834678

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834678
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-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

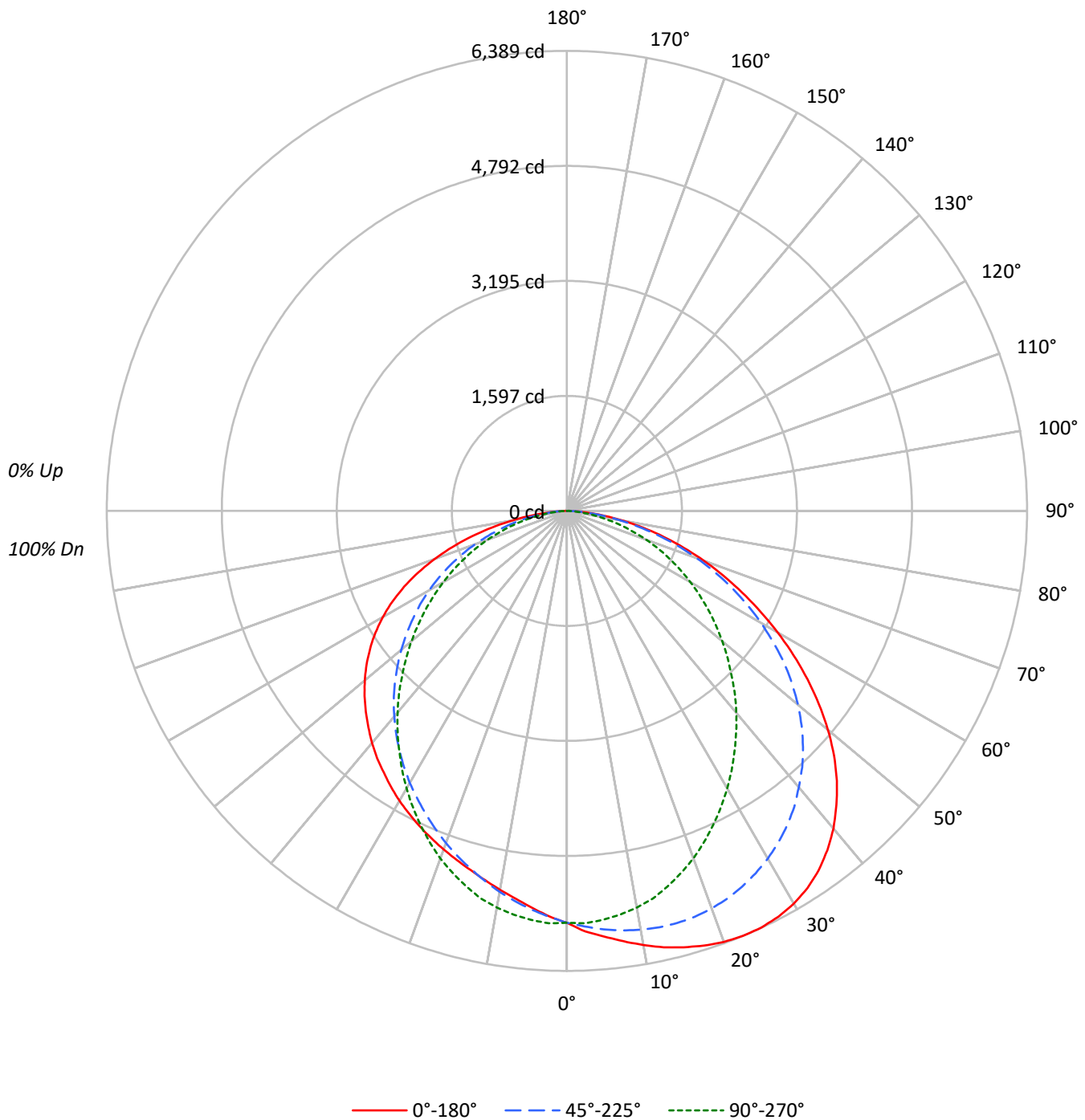
Lumens per Lamp: N/A
Luminaire Lumens: 16826.2 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	7696	7696	7696
5°	8013	7701	7473
10°	8364	7643	7299
15°	8740	7520	7195
20°	9121	7354	7165
25°	9480	7141	7176
30°	9789	6917	7222
35°	10012	6670	7282
40°	10113	6424	7390
45°	10085	6152	7511
50°	9906	5894	7666
55°	9567	5623	7825
60°	9101	5333	7944
65°	8546	5008	7933
70°	7954	4619	7698
75°	7221	4056	7098
80°	6200	3333	5987
85°	4729	2277	4111

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	542.5	3.2
10°-20°	1566.7	9.3
20°-30°	2400.2	14.3
30°-40°	2929.1	17.4
40°-50°	3063.2	18.2
50°-60°	2772.4	16.5
60°-70°	2099.7	12.5
70°-80°	1170.1	7.0
80°-90°	282.2	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°	4509.4	26.8
0°-40°	7438.5	44.2
0°-60°	13274.2	78.9
0°-90°	16826.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16826.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5720	5720	5720	5720	5720	
5°	5933	5834	5702	5561	5533	572
15°	6274	5925	5399	5148	5165	1779
25°	6385	5758	4810	4640	4834	2946
35°	6095	5331	4061	4056	4434	3806
45°	5300	4636	3233	3376	3947	4078
55°	4078	3682	2397	2608	3336	3639
65°	2684	2524	1573	1788	2492	2663
75°	1389	1312	780	932	1365	1473
85°	306	270	148	198	266	369
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°	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2
2.5°	5846.5	5819.0	5796.5	5805.2	5810.2	5792.7	5777.7	5780.2	5765.2	5794.0	5726.5
5°	5932.8	5907.8	5881.5	5891.5	5881.5	5855.3	5834.0	5827.7	5787.7	5804.0	5735.2
7.5°	6029.0	6001.5	5962.8	5974.0	5952.8	5904.0	5876.5	5860.3	5799.0	5800.2	5724.0
10°	6121.6	6097.8	6045.3	6052.8	6014.0	5949.0	5905.3	5882.8	5796.5	5784.0	5705.2
12.5°	6207.8	6175.3	6119.1	6122.8	6066.6	5980.3	5924.0	5891.5	5779.0	5741.5	5664.0
15°	6274.1	6242.9	6175.3	6174.1	6101.6	5989.0	5925.3	5880.3	5737.7	5679.0	5597.7
17.5°	6330.4	6301.6	6217.8	6215.3	6127.8	5985.3	5909.0	5852.8	5677.7	5605.2	5515.2
20°	6370.4	6341.6	6247.9	6239.1	6134.1	5966.5	5875.3	5804.0	5598.9	5512.7	5412.6
22.5°	6389.1	6360.4	6254.1	6241.6	6119.1	5929.0	5826.5	5742.7	5508.9	5396.4	5292.6
25°	6385.4	6357.9	6237.8	6225.3	6090.3	5872.8	5757.7	5661.5	5395.1	5262.6	5160.1
27.5°	6354.1	6332.9	6206.6	6190.3	6037.8	5796.5	5674.0	5567.7	5268.9	5121.3	5010.0
30°	6300.4	6284.1	6150.3	6135.3	5972.8	5712.7	5576.4	5453.9	5132.6	4966.3	4853.7
32.5°	6214.1	6199.1	6064.1	6050.3	5885.3	5605.2	5462.7	5336.4	4983.8	4800.0	4687.5
35°	6095.3	6086.6	5955.3	5940.3	5772.7	5482.7	5331.4	5192.6	4828.7	4621.2	4513.7
37.5°	5939.0	5939.0	5812.7	5796.5	5632.7	5332.6	5183.8	5036.3	4653.7	4433.6	4327.4
40°	5757.7	5774.0	5645.2	5628.9	5470.2	5171.3	5008.8	4853.7	4464.9	4236.1	4132.3
42.5°	5540.2	5555.2	5447.6	5432.6	5283.9	4985.0	4833.7	4664.9	4267.3	4034.8	3927.3
45°	5300.1	5320.1	5223.8	5212.6	5073.8	4781.2	4636.2	4464.9	4061.0	3824.7	3719.7
47.5°	5032.5	5058.8	4975.0	4968.8	4840.0	4572.4	4421.1	4247.3	3844.7	3605.9	3507.1
50°	4732.5	4770.0	4701.2	4701.2	4586.2	4319.9	4188.6	4014.8	3619.7	3380.9	3283.3
52.5°	4411.1	4458.6	4407.4	4408.6	4314.9	4076.0	3939.8	3769.7	3384.6	3149.6	3059.5
55°	4078.5	4124.8	4092.3	4097.3	4023.5	3806.0	3682.2	3513.4	3144.6	2915.7	2830.7
57.5°	3731.0	3781.0	3759.7	3769.7	3718.5	3523.4	3394.6	3247.1	2897.0	2670.7	2598.2
60°	3382.1	3429.6	3418.4	3432.1	3399.6	3230.8	3113.3	2960.8	2648.2	2430.6	2366.9
62.5°	3029.5	3073.3	3070.8	3085.8	3068.3	2928.3	2823.2	2693.2	2390.6	2190.6	2131.8
65°	2684.4	2721.9	2719.4	2735.7	2732.0	2619.4	2524.4	2405.6	2133.0	1949.2	1898.0
67.5°	2349.4	2380.6	2371.9	2390.6	2395.6	2305.6	2223.1	2116.8	1888.0	1709.2	1665.4
70°	2021.8	2043.0	2031.8	2044.3	2055.5	1988.0	1918.0	1824.2	1626.7	1469.1	1432.9
72.5°	1700.4	1715.4	1697.9	1710.4	1720.4	1671.7	1614.2	1532.9	1369.1	1232.8	1202.8
75°	1389.1	1410.4	1374.1	1386.6	1394.1	1345.3	1311.6	1245.3	1104.0	999.0	979.0
77.5°	1087.8	1100.3	1080.3	1075.3	1080.3	1045.3	1019.0	967.7	861.5	775.2	762.7
80°	800.2	807.7	787.7	782.7	786.5	761.4	741.4	703.9	628.9	563.9	558.9
82.5°	536.4	540.1	522.6	517.6	520.1	512.6	488.9	462.6	427.6	372.6	371.3
85°	306.3	306.3	293.8	288.8	291.3	278.8	270.1	256.3	242.6	205.1	207.6
87.5°	112.5	112.5	106.3	105.0	117.5	103.8	100.0	93.8	97.5	77.5	82.5
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°	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2	5720.2
2.5°	5745.2	5732.7	5721.5	5682.7	5699.0	5659.0	5656.5	5641.4	5630.2	5608.9	5636.4
5°	5726.5	5701.5	5669.0	5622.7	5636.4	5588.9	5578.9	5561.4	5546.4	5518.9	5540.2
7.5°	5696.5	5655.2	5603.9	5545.2	5563.9	5505.2	5490.2	5471.4	5458.9	5426.4	5445.1
10°	5652.7	5593.9	5533.9	5462.7	5476.4	5412.6	5393.9	5373.9	5362.6	5333.9	5352.6
12.5°	5585.2	5513.9	5432.6	5355.1	5370.1	5310.1	5285.1	5263.8	5260.1	5236.3	5258.8
15°	5497.7	5398.9	5315.1	5232.6	5250.1	5180.1	5168.8	5147.6	5153.8	5137.6	5165.1
17.5°	5386.4	5272.6	5181.3	5092.6	5110.1	5051.3	5042.5	5032.5	5038.8	5036.3	5066.3
20°	5261.3	5136.3	5031.3	4943.8	4953.8	4907.5	4911.3	4908.8	4921.3	4935.0	4976.3
22.5°	5120.1	4978.8	4868.7	4778.7	4793.7	4753.7	4771.2	4776.2	4797.5	4828.7	4881.3
25°	4961.3	4810.0	4695.0	4609.9	4623.7	4597.4	4627.4	4639.9	4673.7	4726.2	4780.0
27.5°	4795.0	4634.9	4512.4	4431.1	4457.4	4431.1	4476.1	4501.2	4552.4	4609.9	4676.2
30°	4618.7	4452.4	4326.1	4253.6	4278.6	4254.8	4327.4	4361.1	4412.4	4491.2	4569.9
32.5°	4433.6	4258.6	4134.8	4078.5	4096.1	4092.3	4173.6	4211.1	4279.8	4369.9	4453.6
35°	4243.6	4061.0	3936.0	3888.5	3909.8	3914.8	4012.3	4056.0	4131.1	4239.8	4329.9
37.5°	4047.3	3861.0	3738.5	3699.7	3718.5	3737.2	3851.0	3894.7	3979.8	4098.6	4197.3
40°	3843.5	3657.2	3537.2	3505.9	3524.7	3544.7	3668.4	3728.5	3821.0	3949.8	4057.3
42.5°	3637.2	3450.9	3334.6	3312.1	3330.9	3369.6	3500.9	3557.2	3654.7	3797.2	3916.0
45°	3427.1	3233.3	3132.1	3114.5	3134.6	3179.6	3308.3	3375.9	3479.6	3635.9	3763.5
47.5°	3214.6	3025.8	2929.5	2918.2	2938.3	2988.3	3130.8	3192.1	3302.1	3468.4	3605.9
50°	2999.5	2815.7	2723.2	2719.4	2738.2	2792.0	2928.3	3000.8	3114.5	3300.8	3442.1
52.5°	2782.0	2605.7	2521.9	2521.9	2539.4	2594.4	2732.0	2807.0	2924.5	3120.8	3277.1
55°	2564.4	2396.9	2316.8	2323.1	2348.1	2395.6	2529.4	2608.2	2726.9	2930.8	3095.8
57.5°	2346.9	2188.1	2115.5	2124.3	2148.1	2195.6	2326.8	2415.6	2523.1	2734.5	2903.2
60°	2131.8	1981.8	1918.0	1928.0	1949.2	1996.8	2133.0	2209.3	2316.8	2531.9	2700.7
62.5°	1914.2	1778.0	1717.9	1730.4	1749.2	1796.7	1925.5	1999.3	2105.5	2316.8	2486.9
65°	1699.2	1572.9	1521.6	1534.1	1551.6	1595.4	1716.7	1788.0	1889.2	2095.5	2258.1
67.5°	1486.6	1371.6	1329.1	1341.6	1355.3	1396.6	1496.6	1574.2	1669.2	1865.5	2019.3
70°	1276.6	1174.1	1136.5	1149.0	1161.5	1199.1	1286.6	1357.8	1445.4	1625.4	1768.0
72.5°	1069.0	969.0	950.2	961.5	971.5	1004.0	1087.8	1144.0	1220.3	1380.4	1502.9
75°	866.5	780.2	767.7	778.9	787.7	812.7	882.7	931.5	995.3	1134.0	1234.1
77.5°	671.4	598.9	593.9	602.7	611.4	628.9	683.9	735.2	785.2	887.7	976.5
80°	488.9	430.1	430.1	438.9	436.4	457.6	496.4	537.6	573.9	647.7	712.7
82.5°	322.6	276.3	282.6	288.8	292.6	301.3	325.1	356.3	378.8	423.9	466.4
85°	178.8	147.5	153.8	158.8	156.3	166.3	178.8	197.6	208.8	230.1	252.6
87.5°	66.3	55.0	56.3	60.0	62.5	67.5	67.5	78.8	80.0	82.5	87.5
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):

	160°	170°	180°
0°	5720.2	5720.2	5720.2
2.5°	5583.9	5613.9	5636.4
5°	5487.7	5512.7	5532.7
7.5°	5393.9	5416.4	5433.9
10°	5305.1	5330.1	5342.6
12.5°	5213.8	5242.6	5252.6
15°	5123.8	5152.6	5165.1
17.5°	5031.3	5068.8	5082.6
20°	4945.0	4992.5	5003.8
22.5°	4857.5	4906.3	4920.0
25°	4762.5	4820.0	4833.7
27.5°	4661.2	4730.0	4743.7
30°	4559.9	4634.9	4648.7
32.5°	4451.1	4532.4	4544.9
35°	4337.4	4418.6	4433.6
37.5°	4211.1	4299.9	4329.9
40°	4079.8	4176.1	4207.3
42.5°	3942.3	4047.3	4079.8
45°	3794.7	3909.8	3947.3
47.5°	3645.9	3776.0	3808.5
50°	3484.6	3623.4	3662.2
52.5°	3315.9	3467.1	3505.9
55°	3140.8	3293.3	3335.9
57.5°	2950.8	3108.3	3153.3
60°	2752.0	2909.5	2952.0
62.5°	2548.2	2690.7	2732.0
65°	2320.6	2454.4	2491.9
67.5°	2079.3	2201.8	2233.1
70°	1823.0	1929.2	1956.8
72.5°	1555.4	1629.2	1665.4
75°	1279.1	1337.8	1365.4
77.5°	1001.5	1042.8	1065.3
80°	730.2	753.9	772.7
82.5°	477.6	487.6	501.4
85°	257.6	257.6	266.3
87.5°	87.5	83.8	87.5
90°	0.0	0.0	0.0

(END OF REPORT)