

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: P834558

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6HI-30-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834558
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-30-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

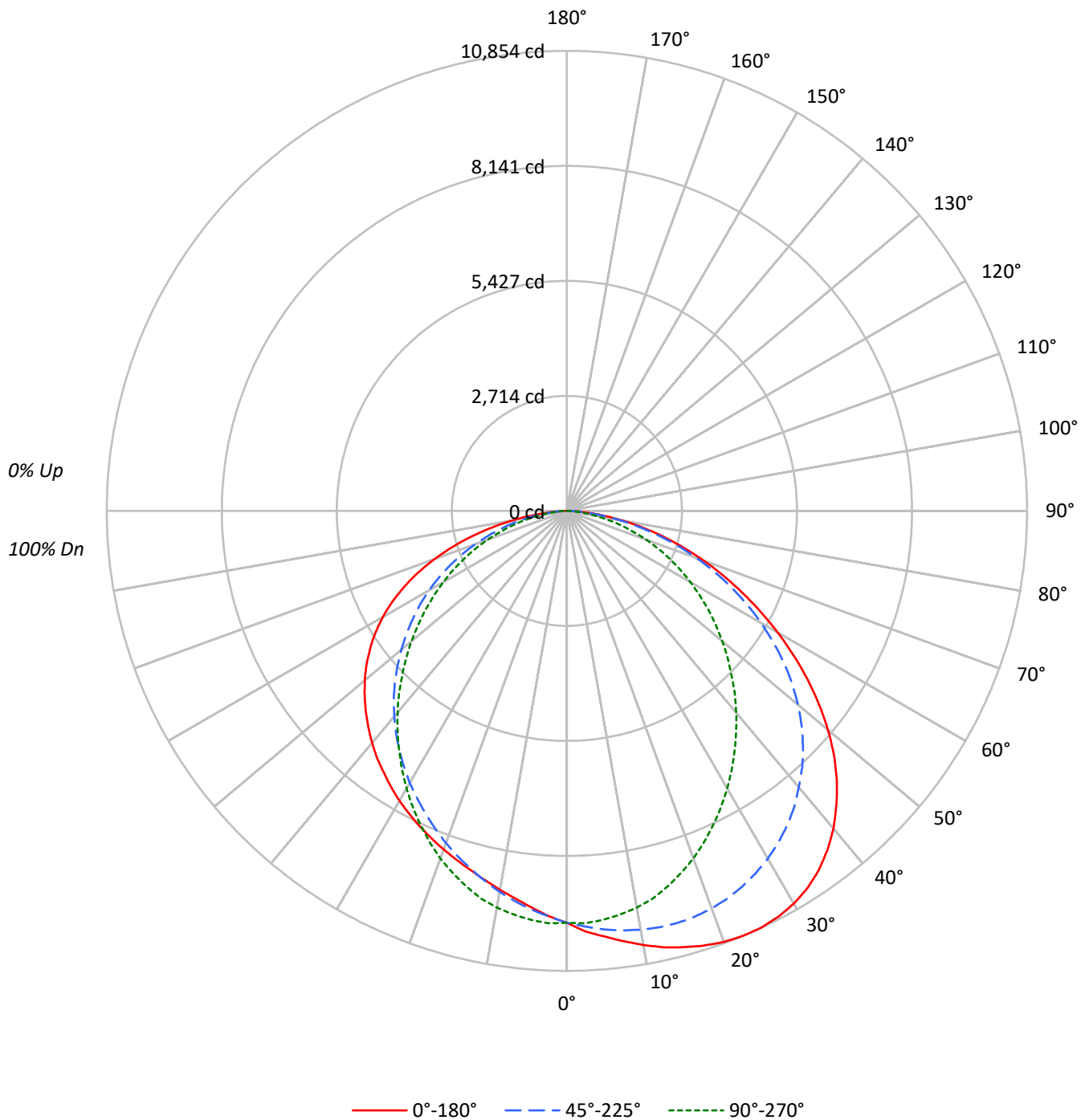
Lumens per Lamp: N/A
Luminaire Lumens: 28583.4 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	13074	13074	13074
5°	13612	13081	12694
10°	14208	12983	12400
15°	14846	12775	12222
20°	15495	12493	12171
25°	16103	12130	12190
30°	16628	11751	12269
35°	17008	11331	12371
40°	17179	10912	12553
45°	17132	10451	12759
50°	16828	10012	13022
55°	16253	9551	13293
60°	15460	9059	13494
65°	14518	8507	13477
70°	13511	7846	13076
75°	12267	6890	12058
80°	10532	5661	10171
85°	8034	3869	6984



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	921.6	3.2
10°-20°	2661.4	9.3
20°-30°	4077.3	14.3
30°-40°	4975.8	17.4
40°-50°	5203.6	18.2
50°-60°	4709.6	16.5
60°-70°	3566.8	12.5
70°-80°	1987.7	7.0
80°-90°	479.5	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°	7660.3	26.8
0°-40°	12636.1	44.2
0°-60°	22549.4	78.9
0°-90°	28583.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	28583.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	9717	9717	9717	9717	9717	
5°	10078	9910	9685	9447	9399	972
15°	10658	10066	9171	8744	8774	3023
25°	10847	9781	8171	7882	8211	5004
35°	10354	9057	6899	6890	7532	6466
45°	9004	7876	5493	5735	6705	6927
55°	6928	6255	4072	4431	5667	6182
65°	4560	4288	2672	3037	4233	4523
75°	2360	2228	1325	1582	2319	2503
85°	520	459	251	336	452	626
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°	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2
2.5°	9931.7	9885.0	9846.7	9861.6	9870.1	9840.4	9814.9	9819.1	9793.6	9842.5	9727.8
5°	10078.2	10035.8	9991.2	10008.1	9991.2	9946.6	9910.4	9899.8	9831.9	9859.5	9742.6
7.5°	10241.8	10195.1	10129.2	10148.3	10112.2	10029.4	9982.7	9955.0	9851.0	9853.1	9723.5
10°	10399.0	10358.6	10269.4	10282.1	10216.3	10105.8	10031.5	9993.3	9846.7	9825.5	9691.7
12.5°	10545.5	10490.3	10394.7	10401.1	10305.5	10158.9	10063.4	10008.1	9817.0	9753.3	9621.6
15°	10658.1	10605.0	10490.3	10488.2	10365.0	10173.8	10065.5	9989.0	9746.9	9647.1	9509.0
17.5°	10753.7	10704.8	10562.5	10558.3	10409.6	10167.4	10037.9	9942.3	9644.9	9521.8	9368.8
20°	10821.6	10772.8	10613.5	10598.6	10420.2	10135.6	9980.5	9859.5	9511.1	9364.6	9194.7
22.5°	10853.5	10804.6	10624.1	10602.9	10394.7	10071.9	9897.7	9755.4	9358.2	9167.1	8990.8
25°	10847.1	10800.4	10596.5	10575.2	10345.9	9976.3	9780.9	9617.3	9164.9	8939.8	8765.6
27.5°	10794.0	10757.9	10543.4	10515.8	10256.6	9846.7	9638.6	9458.0	8950.4	8699.8	8510.7
30°	10702.7	10675.1	10447.8	10422.3	10146.2	9704.4	9472.9	9264.8	8718.9	8436.4	8245.3
32.5°	10556.1	10530.6	10301.3	10277.9	9997.5	9521.8	9279.6	9065.1	8466.1	8153.9	7962.8
35°	10354.4	10339.5	10116.5	10091.0	9806.4	9313.6	9056.6	8820.8	8202.8	7850.2	7667.5
37.5°	10088.9	10088.9	9874.3	9846.7	9568.5	9058.7	8806.0	8555.4	7905.4	7531.6	7351.1
40°	9780.9	9808.5	9589.7	9562.1	9292.4	8784.7	8508.6	8245.3	7584.7	7196.0	7019.7
42.5°	9411.3	9436.8	9254.1	9228.6	8975.9	8468.3	8211.3	7924.5	7249.1	6854.1	6671.4
45°	9003.5	9037.5	8873.9	8854.8	8619.1	8122.1	7875.7	7584.7	6898.7	6497.2	6318.8
47.5°	8549.0	8593.6	8451.3	8440.7	8221.9	7767.4	7510.4	7215.1	6531.2	6125.5	5957.7
50°	8039.2	8102.9	7986.1	7986.1	7790.7	7338.3	7115.3	6820.1	6148.9	5743.2	5577.5
52.5°	7493.4	7574.1	7487.0	7489.1	7329.8	6924.1	6692.6	6403.8	5749.6	5350.3	5197.4
55°	6928.4	7007.0	6951.8	6960.2	6834.9	6465.4	6255.1	5968.4	5341.8	4953.1	4808.7
57.5°	6337.9	6422.9	6386.8	6403.8	6316.7	5985.3	5766.6	5515.9	4921.2	4536.8	4413.6
60°	5745.3	5826.0	5806.9	5830.3	5775.1	5488.3	5288.7	5029.6	4498.6	4129.0	4020.7
62.5°	5146.4	5220.7	5216.5	5242.0	5212.2	4974.3	4795.9	4575.0	4061.0	3721.2	3621.4
65°	4560.2	4623.9	4619.6	4647.2	4640.9	4449.7	4288.3	4086.5	3623.5	3311.3	3224.2
67.5°	3990.9	4044.0	4029.2	4061.0	4069.5	3916.6	3776.4	3595.9	3207.2	2903.5	2829.1
70°	3434.5	3470.6	3451.5	3472.7	3491.8	3377.1	3258.2	3098.9	2763.3	2495.7	2434.1
72.5°	2888.6	2914.1	2884.4	2905.6	2922.6	2839.7	2742.0	2604.0	2325.7	2094.2	2043.3
75°	2359.7	2395.8	2334.2	2355.5	2368.2	2285.4	2228.0	2115.5	1875.5	1697.1	1663.1
77.5°	1847.9	1869.1	1835.1	1826.6	1835.1	1775.6	1731.0	1644.0	1463.4	1316.9	1295.6
80°	1359.3	1372.1	1338.1	1329.6	1336.0	1293.5	1259.5	1195.8	1068.4	957.9	949.4
82.5°	911.2	917.6	887.8	879.3	883.6	870.8	830.5	785.9	726.4	632.9	630.8
85°	520.4	520.4	499.1	490.6	494.9	473.6	458.8	435.4	412.1	348.3	352.6
87.5°	191.2	191.2	180.5	178.4	199.7	176.3	169.9	159.3	165.7	131.7	140.2
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°	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2	9717.2
2.5°	9759.6	9738.4	9719.3	9653.4	9681.1	9613.1	9608.8	9583.4	9564.2	9528.1	9574.9
5°	9727.8	9685.3	9630.1	9551.5	9574.9	9494.1	9477.2	9447.4	9421.9	9375.2	9411.3
7.5°	9676.8	9606.7	9519.6	9419.8	9451.7	9351.8	9326.4	9294.5	9273.3	9218.0	9249.9
10°	9602.5	9502.6	9400.7	9279.6	9303.0	9194.7	9162.8	9128.8	9109.7	9060.9	9092.7
12.5°	9487.8	9366.7	9228.6	9097.0	9122.5	9020.5	8978.0	8941.9	8935.5	8895.2	8933.4
15°	9339.1	9171.3	9029.0	8888.8	8918.5	8799.6	8780.5	8744.4	8755.0	8727.4	8774.1
17.5°	9150.1	8956.8	8801.7	8650.9	8680.7	8580.8	8566.0	8549.0	8559.6	8555.4	8606.3
20°	8937.7	8725.3	8546.9	8398.2	8415.2	8336.6	8343.0	8338.7	8359.9	8383.3	8453.4
22.5°	8697.7	8457.6	8270.7	8117.8	8143.3	8075.3	8105.1	8113.6	8149.7	8202.8	8292.0
25°	8427.9	8170.9	7975.5	7831.1	7854.4	7809.8	7860.8	7882.1	7939.4	8028.6	8119.9
27.5°	8145.4	7873.6	7665.4	7527.3	7572.0	7527.3	7603.8	7646.3	7733.4	7831.1	7943.6
30°	7845.9	7563.5	7348.9	7225.7	7268.2	7227.9	7351.1	7408.4	7495.5	7629.3	7763.1
32.5°	7531.6	7234.2	7024.0	6928.4	6958.1	6951.8	7089.8	7153.5	7270.3	7423.3	7565.6
35°	7208.8	6898.7	6686.3	6605.5	6641.7	6650.1	6815.8	6890.2	7017.6	7202.4	7355.3
37.5°	6875.3	6558.8	6350.7	6284.8	6316.7	6348.5	6541.8	6616.2	6760.6	6962.4	7130.2
40°	6529.1	6212.6	6008.7	5955.6	5987.5	6021.5	6231.7	6333.7	6490.9	6709.6	6892.3
42.5°	6178.6	5862.2	5664.6	5626.4	5658.3	5724.1	5947.1	6042.7	6208.4	6450.5	6652.3
45°	5821.8	5492.6	5320.5	5290.8	5324.8	5401.3	5620.0	5734.7	5911.0	6176.5	6393.1
47.5°	5460.7	5140.0	4976.5	4957.3	4991.3	5076.3	5318.4	5422.5	5609.4	5891.9	6125.5
50°	5095.4	4783.2	4626.0	4619.6	4651.5	4742.8	4974.3	5097.5	5290.8	5607.3	5847.3
52.5°	4725.8	4426.4	4284.0	4284.0	4313.8	4407.2	4640.9	4768.3	4968.0	5301.4	5566.9
55°	4356.3	4071.6	3935.7	3946.3	3988.8	4069.5	4296.8	4430.6	4632.4	4978.6	5258.9
57.5°	3986.7	3716.9	3593.8	3608.6	3649.0	3729.7	3952.7	4103.5	4286.2	4645.1	4931.9
60°	3621.4	3366.5	3258.2	3275.2	3311.3	3392.0	3623.5	3753.1	3935.7	4301.0	4587.8
62.5°	3251.8	3020.3	2918.3	2939.6	2971.4	3052.1	3270.9	3396.2	3576.8	3935.7	4224.6
65°	2886.5	2672.0	2584.9	2606.1	2635.8	2710.2	2916.2	3037.3	3209.3	3559.8	3835.9
67.5°	2525.4	2330.0	2257.8	2279.0	2302.4	2372.5	2542.4	2674.1	2835.5	3169.0	3430.2
70°	2168.6	1994.4	1930.7	1951.9	1973.2	2036.9	2185.6	2306.6	2455.3	2761.2	3003.3
72.5°	1816.0	1646.1	1614.2	1633.3	1650.3	1705.5	1847.9	1943.4	2073.0	2344.9	2553.0
75°	1471.9	1325.4	1304.1	1323.2	1338.1	1380.6	1499.5	1582.4	1690.7	1926.4	2096.4
77.5°	1140.6	1017.4	1008.9	1023.8	1038.6	1068.4	1161.8	1248.9	1333.9	1508.0	1658.8
80°	830.5	730.6	730.6	745.5	741.3	777.4	843.2	913.3	974.9	1100.2	1210.7
82.5°	548.0	469.4	480.0	490.6	497.0	511.9	552.2	605.3	643.6	720.0	792.2
85°	303.7	250.6	261.2	269.7	265.5	282.5	303.7	335.6	354.7	390.8	429.0
87.5°	112.6	93.5	95.6	102.0	106.2	114.7	114.7	133.8	135.9	140.2	148.7
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°	9717.2	9717.2	9717.2
2.5°	9485.6	9536.6	9574.9
5°	9322.1	9364.6	9398.6
7.5°	9162.8	9201.0	9230.8
10°	9012.0	9054.5	9075.7
12.5°	8857.0	8905.8	8922.8
15°	8704.0	8752.9	8774.1
17.5°	8546.9	8610.6	8633.9
20°	8400.3	8481.0	8500.1
22.5°	8251.6	8334.5	8357.8
25°	8090.2	8187.9	8211.3
27.5°	7918.2	8035.0	8058.3
30°	7746.1	7873.6	7896.9
32.5°	7561.3	7699.4	7720.6
35°	7368.1	7506.1	7531.6
37.5°	7153.5	7304.3	7355.3
40°	6930.5	7094.1	7147.2
42.5°	6696.9	6875.3	6930.5
45°	6446.2	6641.7	6705.4
47.5°	6193.5	6414.4	6469.6
50°	5919.5	6155.3	6221.1
52.5°	5632.8	5889.8	5955.6
55°	5335.4	5594.5	5666.8
57.5°	5012.6	5280.2	5356.7
60°	4674.9	4942.5	5014.7
62.5°	4328.7	4570.8	4640.9
65°	3942.1	4169.4	4233.1
67.5°	3532.2	3740.3	3793.4
70°	3096.7	3277.3	3324.0
72.5°	2642.2	2767.5	2829.1
75°	2172.8	2272.6	2319.4
77.5°	1701.3	1771.4	1809.6
80°	1240.4	1280.8	1312.6
82.5°	811.4	828.3	851.7
85°	437.5	437.5	452.4
87.5°	148.7	142.3	148.7
90°	0.0	0.0	0.0

(END OF REPORT)