

Classified  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P835317

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-1HI-35-120-EDD-90**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P835317  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 5/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: ORLG-24-2-INS-ASY2-LD4-1HI-35-120-EDD-90  
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

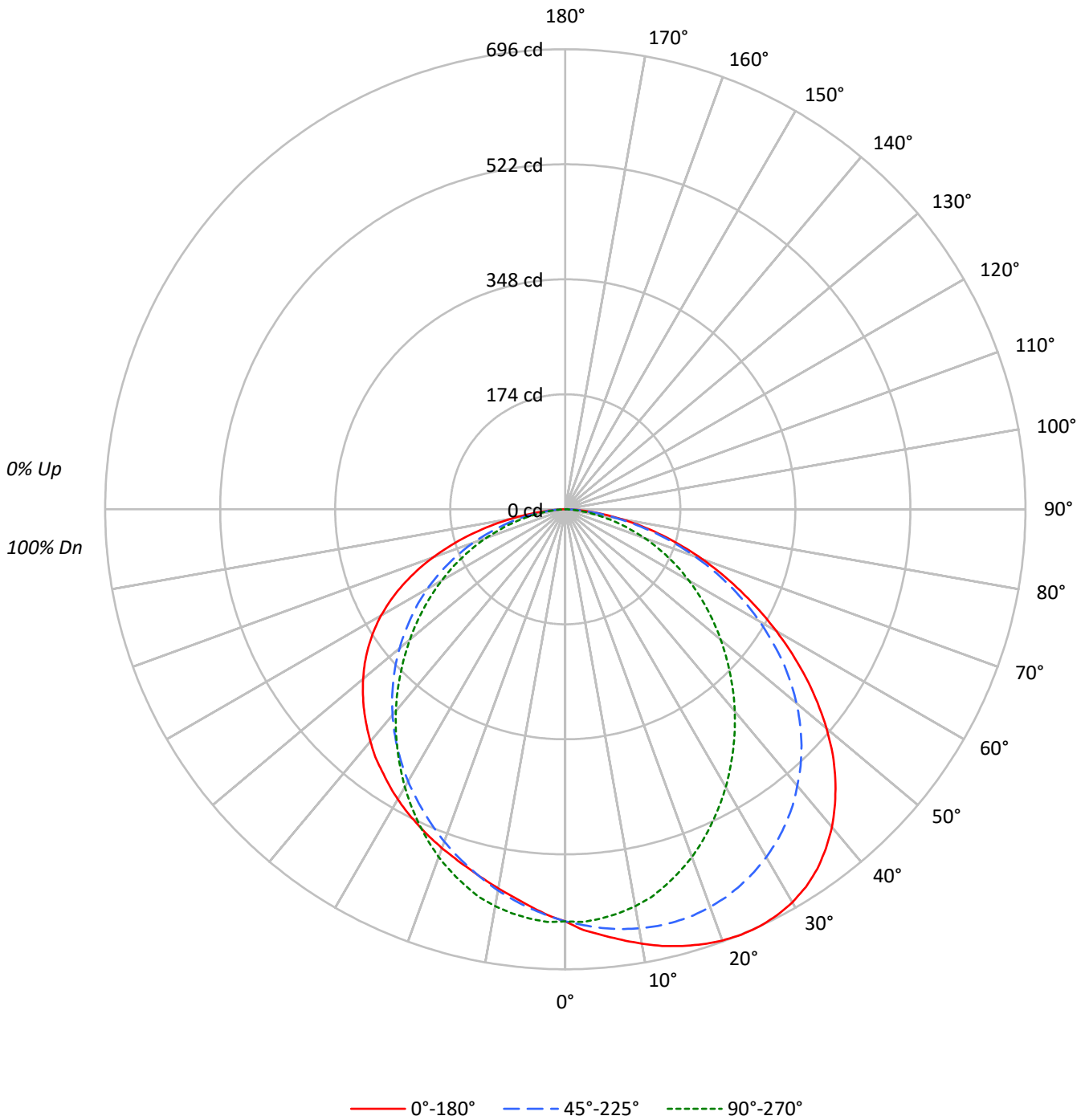
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1834.2 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 22  
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



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
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°	1678	1678	1678
5°	1747	1679	1629
10°	1823	1666	1591
15°	1905	1640	1568
20°	1989	1603	1562
25°	2067	1557	1564
30°	2134	1508	1574
35°	2183	1454	1588
40°	2205	1401	1611
45°	2199	1341	1638
50°	2160	1285	1671
55°	2086	1226	1706
60°	1984	1163	1732
65°	1863	1092	1729
70°	1734	1007	1678
75°	1574	884	1547
80°	1351	727	1305
85°	1031	497	895



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.1	3.2
10°-20°	170.8	9.3
20°-30°	261.6	14.3
30°-40°	319.3	17.4
40°-50°	333.9	18.2
50°-60°	302.2	16.5
60°-70°	228.9	12.5
70°-80°	127.5	7.0
80°-90°	30.8	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°	491.6	26.8
0°-40°	810.9	44.2
0°-60°	1447.0	78.9
0°-90°	1834.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1834.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	624	624	624	624	624	
5°	647	636	622	606	603	62
15°	684	646	588	561	563	194
25°	696	628	524	506	527	321
35°	664	581	443	442	483	415
45°	578	505	352	368	430	445
55°	445	401	261	284	364	397
65°	293	275	172	195	272	290
75°	151	143	85	102	149	161
85°	33	29	16	22	29	40
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°	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5
2.5°	637.3	634.3	631.9	632.8	633.4	631.5	629.8	630.1	628.5	631.6	624.2
5°	646.7	644.0	641.1	642.2	641.1	638.3	636.0	635.3	630.9	632.7	625.2
7.5°	657.2	654.2	650.0	651.2	648.9	643.6	640.6	638.8	632.1	632.3	624.0
10°	667.3	664.7	659.0	659.8	655.6	648.5	643.7	641.3	631.9	630.5	621.9
12.5°	676.7	673.2	667.0	667.4	661.3	651.9	645.8	642.2	630.0	625.9	617.4
15°	683.9	680.5	673.2	673.0	665.1	652.9	645.9	641.0	625.5	619.1	610.2
17.5°	690.1	686.9	677.8	677.5	668.0	652.4	644.1	638.0	618.9	611.0	601.2
20°	694.4	691.3	681.1	680.1	668.7	650.4	640.4	632.7	610.3	600.9	590.0
22.5°	696.5	693.3	681.7	680.4	667.0	646.3	635.1	626.0	600.5	588.2	576.9
25°	696.1	693.1	680.0	678.6	663.9	640.2	627.6	617.1	588.1	573.7	562.5
27.5°	692.7	690.3	676.6	674.8	658.2	631.9	618.5	606.9	574.3	558.3	546.1
30°	686.8	685.0	670.4	668.8	651.1	622.7	607.9	594.5	559.5	541.4	529.1
32.5°	677.4	675.7	661.0	659.5	641.5	611.0	595.5	581.7	543.3	523.2	511.0
35°	664.4	663.5	649.2	647.5	629.3	597.7	581.2	566.0	526.4	503.7	492.0
37.5°	647.4	647.4	633.6	631.9	614.0	581.3	565.1	549.0	507.3	483.3	471.7
40°	627.6	629.4	615.4	613.6	596.3	563.7	546.0	529.1	486.7	461.8	450.5
42.5°	603.9	605.6	593.8	592.2	576.0	543.4	526.9	508.5	465.2	439.8	428.1
45°	577.8	579.9	569.4	568.2	553.1	521.2	505.4	486.7	442.7	416.9	405.5
47.5°	548.6	551.4	542.3	541.6	527.6	498.4	481.9	463.0	419.1	393.1	382.3
50°	515.9	520.0	512.5	512.5	499.9	470.9	456.6	437.6	394.6	368.5	357.9
52.5°	480.8	486.0	480.4	480.6	470.4	444.3	429.5	410.9	368.9	343.3	333.5
55°	444.6	449.6	446.1	446.6	438.6	414.9	401.4	383.0	342.8	317.8	308.6
57.5°	406.7	412.2	409.8	410.9	405.3	384.1	370.0	354.0	315.8	291.1	283.2
60°	368.7	373.9	372.6	374.1	370.6	352.2	339.4	322.7	288.7	265.0	258.0
62.5°	330.2	335.0	334.7	336.4	334.5	319.2	307.8	293.6	260.6	238.8	232.4
65°	292.6	296.7	296.4	298.2	297.8	285.5	275.2	262.2	232.5	212.5	206.9
67.5°	256.1	259.5	258.6	260.6	261.1	251.3	242.3	230.7	205.8	186.3	181.5
70°	220.4	222.7	221.5	222.8	224.1	216.7	209.1	198.9	177.3	160.1	156.2
72.5°	185.4	187.0	185.1	186.5	187.5	182.2	176.0	167.1	149.2	134.4	131.1
75°	151.4	153.7	149.8	151.2	152.0	146.7	143.0	135.7	120.3	108.9	106.7
77.5°	118.6	119.9	117.8	117.2	117.8	113.9	111.1	105.5	93.9	84.5	83.1
80°	87.2	88.0	85.9	85.3	85.7	83.0	80.8	76.7	68.6	61.5	60.9
82.5°	58.5	58.9	57.0	56.4	56.7	55.9	53.3	50.4	46.6	40.6	40.5
85°	33.4	33.4	32.0	31.5	31.8	30.4	29.4	27.9	26.4	22.4	22.6
87.5°	12.3	12.3	11.6	11.4	12.8	11.3	10.9	10.2	10.6	8.5	9.0
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°	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5
2.5°	626.3	624.9	623.7	619.5	621.2	616.9	616.6	615.0	613.7	611.4	614.4
5°	624.2	621.5	618.0	612.9	614.4	609.2	608.1	606.2	604.6	601.6	603.9
7.5°	621.0	616.5	610.9	604.5	606.5	600.1	598.5	596.4	595.1	591.5	593.6
10°	616.2	609.8	603.2	595.5	597.0	590.0	588.0	585.8	584.6	581.4	583.5
12.5°	608.8	601.1	592.2	583.8	585.4	578.8	576.1	573.8	573.4	570.8	573.3
15°	599.3	588.5	579.4	570.4	572.3	564.7	563.4	561.1	561.8	560.0	563.0
17.5°	587.2	574.8	564.8	555.1	557.0	550.6	549.7	548.6	549.3	549.0	552.3
20°	573.5	559.9	548.5	538.9	540.0	535.0	535.4	535.1	536.5	538.0	542.5
22.5°	558.1	542.7	530.7	520.9	522.6	518.2	520.1	520.6	523.0	526.4	532.1
25°	540.8	524.3	511.8	502.5	504.0	501.2	504.4	505.8	509.5	515.2	521.1
27.5°	522.7	505.2	491.9	483.0	485.9	483.0	487.9	490.7	496.2	502.5	509.7
30°	503.5	485.3	471.6	463.7	466.4	463.8	471.7	475.4	481.0	489.6	498.2
32.5°	483.3	464.2	450.7	444.6	446.5	446.1	455.0	459.0	466.5	476.4	485.5
35°	462.6	442.7	429.1	423.9	426.2	426.7	437.4	442.1	450.3	462.2	472.0
37.5°	441.2	420.9	407.5	403.3	405.3	407.4	419.8	424.6	433.8	446.8	457.5
40°	419.0	398.7	385.6	382.2	384.2	386.4	399.9	406.4	416.5	430.6	442.3
42.5°	396.5	376.2	363.5	361.0	363.1	367.3	381.6	387.8	398.4	413.9	426.9
45°	373.6	352.5	341.4	339.5	341.7	346.6	360.6	368.0	379.3	396.3	410.2
47.5°	350.4	329.8	319.3	318.1	320.3	325.7	341.3	348.0	360.0	378.1	393.1
50°	327.0	306.9	296.9	296.4	298.5	304.3	319.2	327.1	339.5	359.8	375.2
52.5°	303.3	284.0	274.9	274.9	276.8	282.8	297.8	306.0	318.8	340.2	357.2
55°	279.5	261.3	252.6	253.2	256.0	261.1	275.7	284.3	297.3	319.5	337.5
57.5°	255.8	238.5	230.6	231.6	234.2	239.3	253.6	263.3	275.0	298.1	316.5
60°	232.4	216.0	209.1	210.2	212.5	217.7	232.5	240.8	252.6	276.0	294.4
62.5°	208.7	193.8	187.3	188.6	190.7	195.9	209.9	217.9	229.5	252.6	271.1
65°	185.2	171.5	165.9	167.2	169.1	173.9	187.1	194.9	205.9	228.4	246.1
67.5°	162.1	149.5	144.9	146.2	147.7	152.2	163.1	171.6	182.0	203.4	220.1
70°	139.2	128.0	123.9	125.3	126.6	130.7	140.2	148.0	157.6	177.2	192.7
72.5°	116.5	105.6	103.6	104.8	105.9	109.4	118.6	124.7	133.0	150.5	163.8
75°	94.5	85.0	83.7	84.9	85.9	88.6	96.2	101.5	108.5	123.6	134.5
77.5°	73.2	65.3	64.7	65.7	66.6	68.6	74.6	80.1	85.6	96.8	106.4
80°	53.3	46.9	46.9	47.8	47.6	49.9	54.1	58.6	62.6	70.6	77.7
82.5°	35.2	30.1	30.8	31.5	31.9	32.8	35.4	38.8	41.3	46.2	50.8
85°	19.5	16.1	16.8	17.3	17.0	18.1	19.5	21.5	22.8	25.1	27.5
87.5°	7.2	6.0	6.1	6.5	6.8	7.4	7.4	8.6	8.7	9.0	9.5
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°	623.5	623.5	623.5
2.5°	608.7	612.0	614.4
5°	598.2	600.9	603.1
7.5°	588.0	590.4	592.3
10°	578.3	581.0	582.4
12.5°	568.3	571.5	572.6
15°	558.5	561.7	563.0
17.5°	548.5	552.5	554.0
20°	539.0	544.2	545.5
22.5°	529.5	534.8	536.3
25°	519.1	525.4	526.9
27.5°	508.1	515.6	517.1
30°	497.1	505.2	506.7
32.5°	485.2	494.1	495.4
35°	472.8	481.7	483.3
37.5°	459.0	468.7	472.0
40°	444.7	455.2	458.6
42.5°	429.7	441.2	444.7
45°	413.7	426.2	430.3
47.5°	397.4	411.6	415.2
50°	379.9	395.0	399.2
52.5°	361.5	377.9	382.2
55°	342.4	359.0	363.6
57.5°	321.7	338.8	343.7
60°	300.0	317.2	321.8
62.5°	277.8	293.3	297.8
65°	253.0	267.5	271.6
67.5°	226.7	240.0	243.4
70°	198.7	210.3	213.3
72.5°	169.6	177.6	181.5
75°	139.4	145.8	148.8
77.5°	109.2	113.7	116.1
80°	79.6	82.2	84.2
82.5°	52.1	53.2	54.7
85°	28.1	28.1	29.0
87.5°	9.5	9.1	9.5
90°	0.0	0.0	0.0

(END OF REPORT)