

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: P834181

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-1LO-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834181
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2-LD4-1LO-20-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

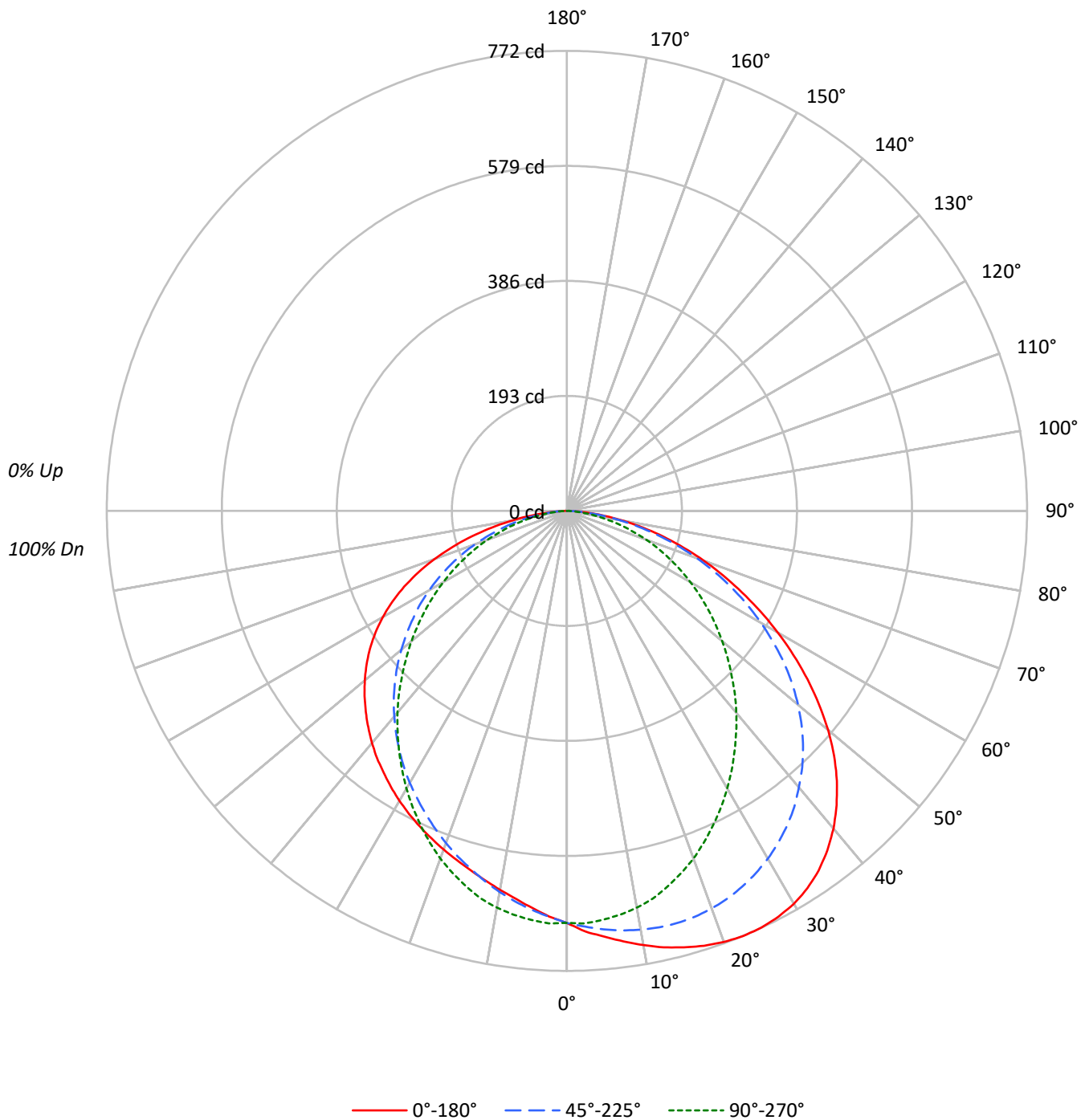
Lumens per Lamp: N/A
Luminaire Lumens: 2033.6 lumens
Efficiency: N/A
Efficacy: 86.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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

Peachtree City, GA 30269



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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°	1860	1860	1860
5°	1937	1861	1806
10°	2022	1847	1764
15°	2113	1818	1739
20°	2205	1778	1732
25°	2291	1726	1735
30°	2366	1672	1746
35°	2420	1612	1760
40°	2445	1553	1786
45°	2438	1487	1816
50°	2395	1425	1853
55°	2312	1359	1892
60°	2200	1289	1920
65°	2066	1210	1918
70°	1923	1116	1861
75°	1746	980	1716
80°	1499	806	1447
85°	1142	550	994



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.6	3.2
10°-20°	189.4	9.3
20°-30°	290.1	14.3
30°-40°	354.0	17.4
40°-50°	370.2	18.2
50°-60°	335.1	16.5
60°-70°	253.8	12.5
70°-80°	141.4	7.0
80°-90°	34.1	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°	545.0	26.8
0°-40°	899.0	44.2
0°-60°	1604.3	78.9
0°-90°	2033.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2033.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	691	691	691	691	691	
5°	717	705	689	672	669	69
15°	758	716	652	622	624	215
25°	772	696	581	561	584	356
35°	737	644	491	490	536	460
45°	641	560	391	408	477	493
55°	493	445	290	315	403	440
65°	324	305	190	216	301	322
75°	168	158	94	113	165	178
85°	37	33	18	24	32	45
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°	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3
2.5°	706.6	703.3	700.6	701.6	702.2	700.1	698.3	698.6	696.8	700.3	692.1
5°	717.0	714.0	710.8	712.1	710.8	707.7	705.1	704.3	699.5	701.5	693.2
7.5°	728.7	725.4	720.7	722.0	719.5	713.6	710.2	708.3	700.9	701.0	691.8
10°	739.9	737.0	730.6	731.5	726.9	719.0	713.7	711.0	700.6	699.1	689.5
12.5°	750.3	746.4	739.6	740.0	733.2	722.8	716.0	712.1	698.5	693.9	684.5
15°	758.3	754.5	746.4	746.2	737.4	723.8	716.1	710.7	693.5	686.4	676.5
17.5°	765.1	761.6	751.5	751.2	740.6	723.4	714.2	707.4	686.2	677.4	666.6
20°	769.9	766.5	755.1	754.1	741.4	721.1	710.1	701.5	676.7	666.3	654.2
22.5°	772.2	768.7	755.9	754.4	739.6	716.6	704.2	694.1	665.8	652.2	639.7
25°	771.7	768.4	753.9	752.4	736.1	709.8	695.9	684.2	652.1	636.0	623.7
27.5°	768.0	765.4	750.1	748.2	729.7	700.6	685.8	672.9	636.8	619.0	605.5
30°	761.5	759.5	743.3	741.5	721.9	690.4	674.0	659.2	620.3	600.2	586.6
32.5°	751.0	749.2	732.9	731.2	711.3	677.4	660.2	645.0	602.3	580.1	566.5
35°	736.7	735.6	719.8	717.9	697.7	662.6	644.4	627.6	583.6	558.5	545.5
37.5°	717.8	717.8	702.5	700.6	680.8	644.5	626.5	608.7	562.4	535.9	523.0
40°	695.9	697.8	682.3	680.3	661.1	625.0	605.4	586.6	539.6	512.0	499.4
42.5°	669.6	671.4	658.4	656.6	638.6	602.5	584.2	563.8	515.8	487.6	474.7
45°	640.6	643.0	631.4	630.0	613.2	577.9	560.3	539.6	490.8	462.3	449.6
47.5°	608.2	611.4	601.3	600.5	585.0	552.6	534.3	513.3	464.7	435.8	423.9
50°	572.0	576.5	568.2	568.2	554.3	522.1	506.2	485.2	437.5	408.6	396.8
52.5°	533.1	538.9	532.7	532.8	521.5	492.6	476.2	455.6	409.1	380.7	369.8
55°	492.9	498.5	494.6	495.2	486.3	460.0	445.0	424.6	380.1	352.4	342.1
57.5°	450.9	457.0	454.4	455.6	449.4	425.8	410.3	392.4	350.1	322.8	314.0
60°	408.8	414.5	413.1	414.8	410.9	390.5	376.3	357.8	320.1	293.8	286.1
62.5°	366.2	371.4	371.1	373.0	370.8	353.9	341.2	325.5	288.9	264.8	257.7
65°	324.4	329.0	328.7	330.6	330.2	316.6	305.1	290.7	257.8	235.6	229.4
67.5°	283.9	287.7	286.7	288.9	289.5	278.7	268.7	255.8	228.2	206.6	201.3
70°	244.4	246.9	245.6	247.1	248.4	240.3	231.8	220.5	196.6	177.6	173.2
72.5°	205.5	207.3	205.2	206.7	207.9	202.0	195.1	185.3	165.5	149.0	145.4
75°	167.9	170.5	166.1	167.6	168.5	162.6	158.5	150.5	133.4	120.7	118.3
77.5°	131.5	133.0	130.6	130.0	130.6	126.3	123.2	117.0	104.1	93.7	92.2
80°	96.7	97.6	95.2	94.6	95.1	92.0	89.6	85.1	76.0	68.2	67.5
82.5°	64.8	65.3	63.2	62.6	62.9	62.0	59.1	55.9	51.7	45.0	44.9
85°	37.0	37.0	35.5	34.9	35.2	33.7	32.6	31.0	29.3	24.8	25.1
87.5°	13.6	13.6	12.8	12.7	14.2	12.5	12.1	11.3	11.8	9.4	10.0
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°	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3	691.3
2.5°	694.4	692.9	691.5	686.8	688.8	683.9	683.6	681.8	680.5	677.9	681.2
5°	692.1	689.1	685.2	679.6	681.2	675.5	674.3	672.2	670.3	667.0	669.6
7.5°	688.5	683.5	677.3	670.2	672.5	665.4	663.5	661.3	659.8	655.8	658.1
10°	683.2	676.1	668.8	660.2	661.9	654.2	651.9	649.5	648.1	644.7	646.9
12.5°	675.0	666.4	656.6	647.2	649.0	641.8	638.8	636.2	635.7	632.9	635.6
15°	664.5	652.5	642.4	632.4	634.5	626.1	624.7	622.1	622.9	620.9	624.3
17.5°	651.0	637.3	626.2	615.5	617.6	610.5	609.4	608.2	609.0	608.7	612.3
20°	635.9	620.8	608.1	597.5	598.7	593.1	593.6	593.3	594.8	596.4	601.4
22.5°	618.8	601.7	588.4	577.6	579.4	574.5	576.7	577.3	579.8	583.6	590.0
25°	599.6	581.3	567.4	557.2	558.8	555.6	559.3	560.8	564.9	571.2	577.7
27.5°	579.5	560.2	545.4	535.6	538.7	535.6	541.0	544.0	550.2	557.2	565.2
30°	558.2	538.1	522.9	514.1	517.1	514.2	523.0	527.1	533.3	542.8	552.3
32.5°	535.9	514.7	499.7	492.9	495.1	494.6	504.4	509.0	517.3	528.1	538.3
35°	512.9	490.8	475.7	470.0	472.5	473.1	484.9	490.2	499.3	512.4	523.3
37.5°	489.2	466.6	451.8	447.1	449.4	451.7	465.4	470.7	481.0	495.4	507.3
40°	464.5	442.0	427.5	423.7	426.0	428.4	443.4	450.6	461.8	477.4	490.4
42.5°	439.6	417.1	403.0	400.3	402.6	407.3	423.1	429.9	441.7	458.9	473.3
45°	414.2	390.8	378.5	376.4	378.8	384.3	399.8	408.0	420.6	439.4	454.9
47.5°	388.5	365.7	354.1	352.7	355.1	361.2	378.4	385.8	399.1	419.2	435.8
50°	362.5	340.3	329.1	328.7	330.9	337.4	353.9	362.7	376.4	398.9	416.0
52.5°	336.2	314.9	304.8	304.8	306.9	313.6	330.2	339.3	353.5	377.2	396.1
55°	309.9	289.7	280.0	280.8	283.8	289.5	305.7	315.2	329.6	354.2	374.2
57.5°	283.6	264.5	255.7	256.7	259.6	265.4	281.2	292.0	304.9	330.5	350.9
60°	257.7	239.5	231.8	233.0	235.6	241.3	257.8	267.0	280.0	306.0	326.4
62.5°	231.4	214.9	207.6	209.1	211.4	217.2	232.7	241.6	254.5	280.0	300.6
65°	205.4	190.1	183.9	185.4	187.5	192.8	207.5	216.1	228.3	253.3	272.9
67.5°	179.7	165.8	160.6	162.1	163.8	168.8	180.9	190.3	201.7	225.5	244.1
70°	154.3	141.9	137.4	138.9	140.4	144.9	155.5	164.1	174.7	196.4	213.7
72.5°	129.2	117.1	114.8	116.2	117.4	121.3	131.5	138.3	147.5	166.8	181.6
75°	104.7	94.3	92.8	94.1	95.2	98.2	106.7	112.6	120.3	137.1	149.2
77.5°	81.1	72.4	71.8	72.8	73.9	76.0	82.7	88.9	94.9	107.3	118.0
80°	59.1	52.0	52.0	53.0	52.7	55.3	60.0	65.0	69.4	78.3	86.1
82.5°	39.0	33.4	34.2	34.9	35.4	36.4	39.3	43.1	45.8	51.2	56.4
85°	21.6	17.8	18.6	19.2	18.9	20.1	21.6	23.9	25.2	27.8	30.5
87.5°	8.0	6.6	6.8	7.3	7.6	8.2	8.2	9.5	9.7	10.0	10.6
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°	691.3	691.3	691.3
2.5°	674.9	678.5	681.2
5°	663.2	666.3	668.7
7.5°	651.9	654.6	656.7
10°	641.2	644.2	645.7
12.5°	630.1	633.6	634.8
15°	619.3	622.7	624.3
17.5°	608.1	612.6	614.3
20°	597.7	603.4	604.8
22.5°	587.1	593.0	594.6
25°	575.6	582.5	584.2
27.5°	563.4	571.7	573.3
30°	551.1	560.2	561.8
32.5°	538.0	547.8	549.3
35°	524.2	534.0	535.9
37.5°	509.0	519.7	523.3
40°	493.1	504.7	508.5
42.5°	476.5	489.2	493.1
45°	458.6	472.5	477.1
47.5°	440.7	456.4	460.3
50°	421.2	437.9	442.6
52.5°	400.8	419.0	423.7
55°	379.6	398.0	403.2
57.5°	356.6	375.7	381.1
60°	332.6	351.6	356.8
62.5°	308.0	325.2	330.2
65°	280.5	296.6	301.2
67.5°	251.3	266.1	269.9
70°	220.3	233.2	236.5
72.5°	188.0	196.9	201.3
75°	154.6	161.7	165.0
77.5°	121.0	126.0	128.7
80°	88.3	91.1	93.4
82.5°	57.7	58.9	60.6
85°	31.1	31.1	32.2
87.5°	10.6	10.1	10.6
90°	0.0	0.0	0.0

(END OF REPORT)