

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: P834615

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1HI-20-120-EDD-90**

Issue Date: 5/16/2024

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

**Test Information**

Test Method: LM-79-08
Report Number: P834615
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-LD4-1HI-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

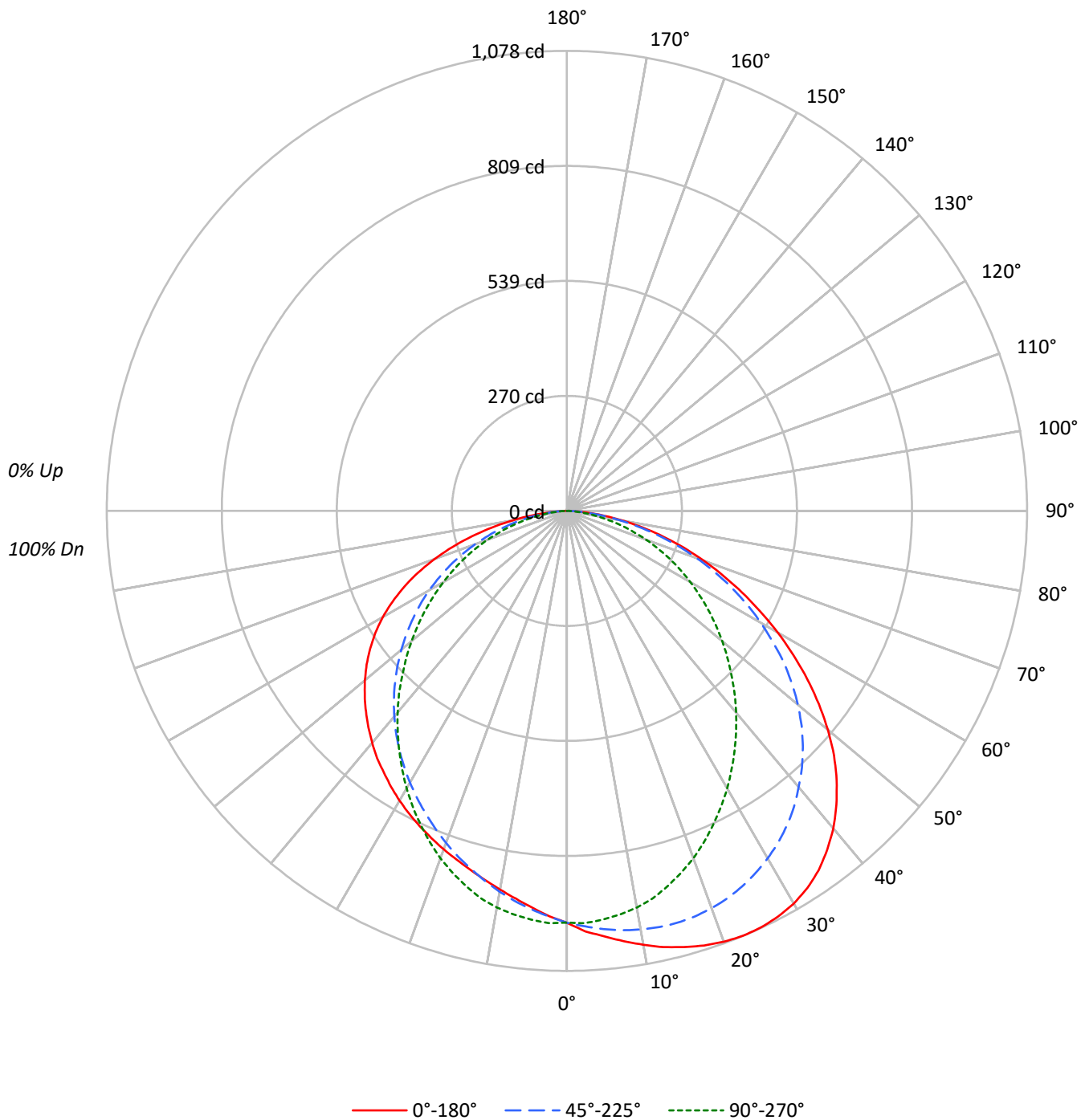
Lumens per Lamp: N/A
Luminaire Lumens: 2837.9 lumens
Efficiency: N/A
Efficacy: 64.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 44
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
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°	1298	1298	1298
5°	1351	1299	1260
10°	1411	1289	1231
15°	1474	1268	1213
20°	1538	1240	1208
25°	1599	1204	1210
30°	1651	1167	1218
35°	1689	1125	1228
40°	1706	1083	1246
45°	1701	1038	1267
50°	1671	994	1293
55°	1614	948	1320
60°	1535	899	1340
65°	1442	845	1338
70°	1341	779	1298
75°	1218	684	1197
80°	1046	562	1010
85°	798	384	693

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.5	3.2
10°-20°	264.2	9.3
20°-30°	404.8	14.3
30°-40°	494.0	17.4
40°-50°	516.6	18.2
50°-60°	467.6	16.5
60°-70°	354.1	12.5
70°-80°	197.4	7.0
80°-90°	47.6	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°	760.6	26.8
0°-40°	1254.6	44.2
0°-60°	2238.8	78.9
0°-90°	2837.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2837.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	965	965	965	965	965	
5°	1001	984	962	938	933	96
15°	1058	999	911	868	871	300
25°	1077	971	811	783	815	497
35°	1028	899	685	684	748	642
45°	894	782	545	569	666	688
55°	688	621	404	440	563	614
65°	453	426	265	302	420	449
75°	234	221	132	157	230	248
85°	52	46	25	33	45	62
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°	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8
2.5°	986.1	981.4	977.6	979.1	979.9	977.0	974.5	974.9	972.4	977.2	965.8
5°	1000.6	996.4	992.0	993.7	992.0	987.5	984.0	982.9	976.1	978.9	967.3
7.5°	1016.8	1012.2	1005.7	1007.6	1004.0	995.8	991.1	988.4	978.0	978.3	965.4
10°	1032.5	1028.4	1019.6	1020.9	1014.3	1003.4	996.0	992.2	977.6	975.5	962.2
12.5°	1047.0	1041.5	1032.0	1032.7	1023.2	1008.6	999.1	993.7	974.7	968.3	955.3
15°	1058.2	1052.9	1041.5	1041.3	1029.1	1010.1	999.3	991.8	967.7	957.8	944.1
17.5°	1067.7	1062.8	1048.7	1048.3	1033.5	1009.5	996.6	987.1	957.6	945.4	930.2
20°	1074.4	1069.6	1053.8	1052.3	1034.6	1006.3	990.9	978.9	944.3	929.8	912.9
22.5°	1077.6	1072.7	1054.8	1052.7	1032.0	1000.0	982.7	968.6	929.1	910.1	892.6
25°	1076.9	1072.3	1052.1	1050.0	1027.2	990.5	971.1	954.9	909.9	887.6	870.3
27.5°	1071.7	1068.1	1046.8	1044.1	1018.3	977.6	957.0	939.0	888.6	863.8	845.0
30°	1062.6	1059.9	1037.3	1034.8	1007.4	963.5	940.5	919.8	865.6	837.6	818.6
32.5°	1048.1	1045.5	1022.8	1020.4	992.6	945.4	921.3	900.0	840.6	809.6	790.6
35°	1028.0	1026.5	1004.4	1001.9	973.6	924.7	899.2	875.8	814.4	779.4	761.3
37.5°	1001.7	1001.7	980.4	977.6	950.0	899.4	874.3	849.4	784.9	747.8	729.8
40°	971.1	973.8	952.1	949.4	922.6	872.2	844.8	818.6	753.0	714.5	696.9
42.5°	934.4	936.9	918.8	916.3	891.2	840.8	815.3	786.8	719.7	680.5	662.4
45°	893.9	897.3	881.0	879.1	855.7	806.4	781.9	753.0	684.9	645.1	627.4
47.5°	848.8	853.2	839.1	838.0	816.3	771.2	745.7	716.3	648.4	608.2	591.5
50°	798.2	804.5	792.9	792.9	773.5	728.6	706.4	677.1	610.5	570.2	553.8
52.5°	744.0	752.0	743.3	743.6	727.7	687.5	664.5	635.8	570.8	531.2	516.0
55°	687.9	695.7	690.2	691.0	678.6	641.9	621.0	592.6	530.4	491.8	477.4
57.5°	629.3	637.7	634.1	635.8	627.1	594.3	572.5	547.6	488.6	450.4	438.2
60°	570.4	578.4	576.5	578.9	573.4	544.9	525.1	499.4	446.6	409.9	399.2
62.5°	511.0	518.3	517.9	520.4	517.5	493.9	476.2	454.2	403.2	369.5	359.5
65°	452.8	459.1	458.7	461.4	460.8	441.8	425.8	405.7	359.8	328.8	320.1
67.5°	396.2	401.5	400.0	403.2	404.0	388.9	374.9	357.0	318.4	288.3	280.9
70°	341.0	344.6	342.7	344.8	346.7	335.3	323.5	307.7	274.4	247.8	241.7
72.5°	286.8	289.3	286.4	288.5	290.2	281.9	272.2	258.5	230.9	207.9	202.9
75°	234.3	237.9	231.8	233.9	235.1	226.9	221.2	210.0	186.2	168.5	165.1
77.5°	183.5	185.6	182.2	181.4	182.2	176.3	171.9	163.2	145.3	130.7	128.6
80°	135.0	136.2	132.9	132.0	132.6	128.4	125.1	118.7	106.1	95.1	94.3
82.5°	90.5	91.1	88.1	87.3	87.7	86.5	82.5	78.0	72.1	62.8	62.6
85°	51.7	51.7	49.6	48.7	49.1	47.0	45.5	43.2	40.9	34.6	35.0
87.5°	19.0	19.0	17.9	17.7	19.8	17.5	16.9	15.8	16.4	13.1	13.9
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°	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8
2.5°	969.0	966.9	965.0	958.4	961.2	954.4	954.0	951.5	949.6	946.0	950.6
5°	965.8	961.6	956.1	948.3	950.6	942.6	940.9	938.0	935.5	930.8	934.4
7.5°	960.8	953.8	945.2	935.2	938.4	928.5	926.0	922.8	920.7	915.2	918.4
10°	953.4	943.5	933.3	921.3	923.6	912.9	909.7	906.3	904.5	899.6	902.8
12.5°	942.0	930.0	916.3	903.2	905.7	895.6	891.4	887.8	887.2	883.2	886.9
15°	927.2	910.6	896.4	882.5	885.5	873.7	871.8	868.2	869.2	866.5	871.1
17.5°	908.5	889.3	873.9	858.9	861.9	851.9	850.5	848.8	849.8	849.4	854.5
20°	887.4	866.3	848.6	833.8	835.5	827.7	828.3	827.9	830.0	832.3	839.3
22.5°	863.5	839.7	821.2	806.0	808.5	801.8	804.7	805.5	809.1	814.4	823.3
25°	836.8	811.2	791.8	777.5	779.8	775.4	780.5	782.6	788.3	797.1	806.2
27.5°	808.7	781.7	761.1	747.3	751.8	747.3	754.9	759.2	767.8	777.5	788.7
30°	779.0	750.9	729.6	717.4	721.6	717.6	729.8	735.5	744.2	757.5	770.8
32.5°	747.8	718.2	697.4	687.9	690.8	690.2	703.9	710.2	721.8	737.0	751.1
35°	715.7	684.9	663.8	655.8	659.4	660.3	676.7	684.1	696.7	715.1	730.3
37.5°	682.6	651.2	630.5	624.0	627.1	630.3	649.5	656.9	671.2	691.3	707.9
40°	648.2	616.8	596.6	591.3	594.5	597.8	618.7	628.8	644.4	666.2	684.3
42.5°	613.4	582.0	562.4	558.6	561.8	568.3	590.5	599.9	616.4	640.4	660.5
45°	578.0	545.3	528.2	525.3	528.7	536.3	558.0	569.4	586.9	613.2	634.7
47.5°	542.2	510.3	494.1	492.2	495.6	504.0	528.0	538.4	556.9	585.0	608.2
50°	505.9	474.9	459.3	458.7	461.8	470.9	493.9	506.1	525.3	556.7	580.5
52.5°	469.2	439.5	425.3	425.3	428.3	437.6	460.8	473.4	493.2	526.3	552.7
55°	432.5	404.3	390.8	391.8	396.0	404.0	426.6	439.9	459.9	494.3	522.1
57.5°	395.8	369.0	356.8	358.3	362.3	370.3	392.4	407.4	425.5	461.2	489.7
60°	359.5	334.2	323.5	325.2	328.8	336.8	359.8	372.6	390.8	427.0	455.5
62.5°	322.9	299.9	289.7	291.9	295.0	303.0	324.8	337.2	355.1	390.8	419.4
65°	286.6	265.3	256.6	258.7	261.7	269.1	289.5	301.6	318.6	353.4	380.8
67.5°	250.7	231.3	224.2	226.3	228.6	235.5	252.4	265.5	281.5	314.6	340.6
70°	215.3	198.0	191.7	193.8	195.9	202.2	217.0	229.0	243.8	274.1	298.2
72.5°	180.3	163.4	160.3	162.2	163.9	169.3	183.5	193.0	205.8	232.8	253.5
75°	146.1	131.6	129.5	131.4	132.9	137.1	148.9	157.1	167.9	191.3	208.1
77.5°	113.2	101.0	100.2	101.6	103.1	106.1	115.3	124.0	132.4	149.7	164.7
80°	82.5	72.5	72.5	74.0	73.6	77.2	83.7	90.7	96.8	109.2	120.2
82.5°	54.4	46.6	47.7	48.7	49.3	50.8	54.8	60.1	63.9	71.5	78.7
85°	30.2	24.9	25.9	26.8	26.4	28.0	30.2	33.3	35.2	38.8	42.6
87.5°	11.2	9.3	9.5	10.1	10.5	11.4	11.4	13.3	13.5	13.9	14.8
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°	964.8	964.8	964.8
2.5°	941.8	946.8	950.6
5°	925.5	929.8	933.1
7.5°	909.7	913.5	916.5
10°	894.8	899.0	901.1
12.5°	879.4	884.2	885.9
15°	864.2	869.0	871.1
17.5°	848.6	854.9	857.2
20°	834.0	842.0	843.9
22.5°	819.3	827.5	829.8
25°	803.2	812.9	815.3
27.5°	786.1	797.7	800.1
30°	769.1	781.7	784.0
32.5°	750.7	764.4	766.5
35°	731.5	745.2	747.8
37.5°	710.2	725.2	730.3
40°	688.1	704.3	709.6
42.5°	664.9	682.6	688.1
45°	640.0	659.4	665.7
47.5°	614.9	636.8	642.3
50°	587.7	611.1	617.7
52.5°	559.2	584.8	591.3
55°	529.7	555.4	562.6
57.5°	497.7	524.2	531.8
60°	464.1	490.7	497.9
62.5°	429.8	453.8	460.8
65°	391.4	414.0	420.3
67.5°	350.7	371.4	376.6
70°	307.5	325.4	330.0
72.5°	262.3	274.8	280.9
75°	215.7	225.6	230.3
77.5°	168.9	175.9	179.7
80°	123.2	127.2	130.3
82.5°	80.6	82.2	84.6
85°	43.4	43.4	44.9
87.5°	14.8	14.1	14.8
90°	0.0	0.0	0.0

(END OF REPORT)