

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: P645947

Luminaire Tested: **FLDSQ4C30D010 FEU4C309030 F4LC-CSSQ-MMS-D2W**

Issue Date: 12/13/2022

**Test Information**

Test Method: LM-79-08  
Report Number: P645947  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P209253)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/13/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FLDSQ4C30D010 FEU4C309030 F4LC-CSSQ-MMS-D2W  
Description: 4 INCH 3000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-CSSQ TRIM WITH MMS FINISH, DIM TO WARM  
Light Source: -  
Ballast/Driver: -

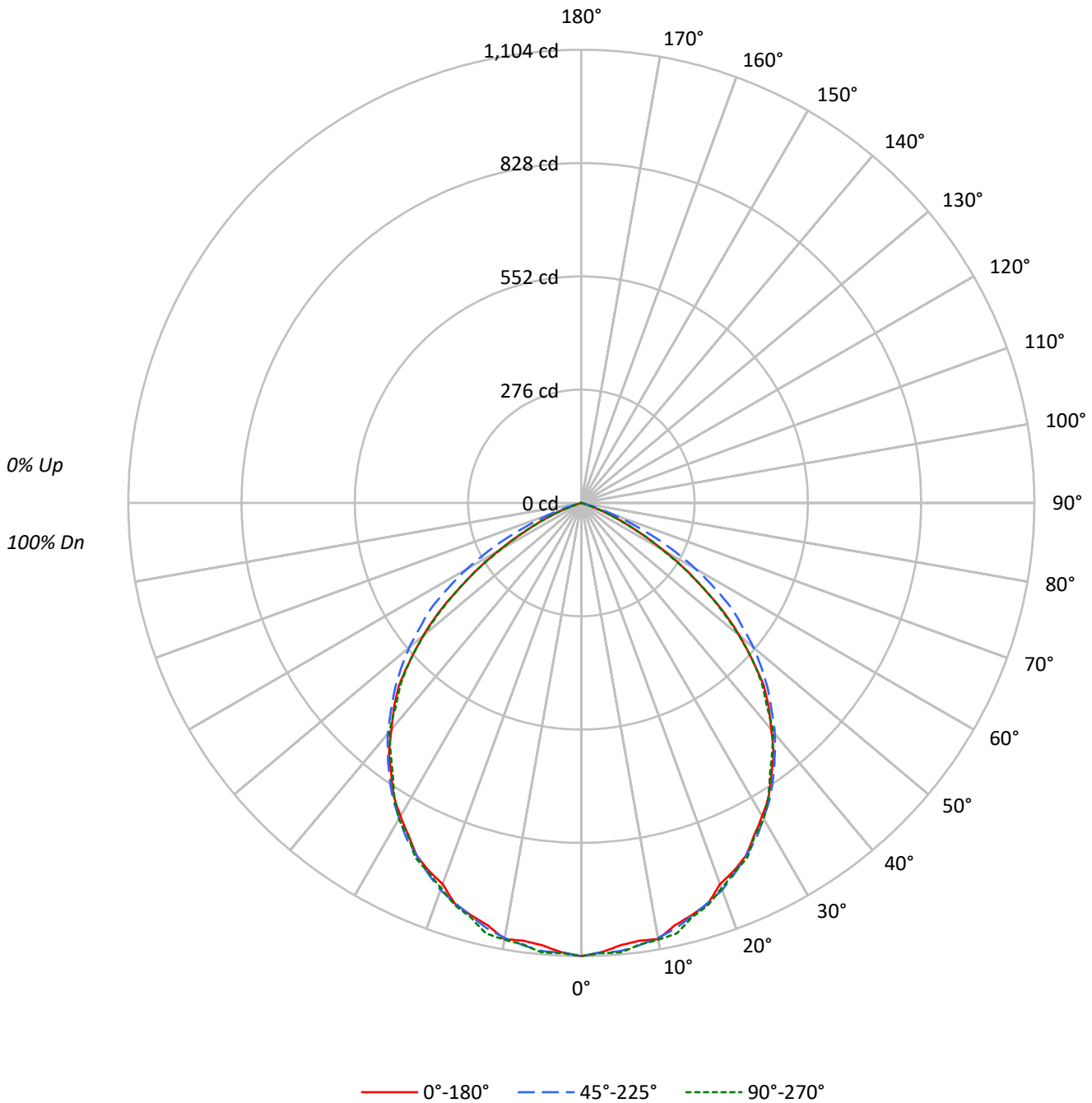
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2358.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.6  
Input Voltage (V):  
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: 25 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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	106514	106514	106514
5°	104790	106156	106456
10°	105698	105384	105845
15°	103848	103998	104308
20°	101429	103041	102558
25°	100991	100991	101662
30°	98180	98870	99049
35°	95116	96035	94374
40°	90651	92427	91634
45°	85790	87727	84944
50°	75550	82140	75085
55°	61200	75179	61452
60°	44771	62332	43883
65°	27215	44384	26484
70°	10608	23895	10184
75°	1156	6450	1156
80°	889	889	889
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.2	4.4
10°-20°	294.8	12.5
20°-30°	437.5	18.6
30°-40°	506.9	21.5
40°-50°	486.0	20.6
50°-60°	357.3	15.2
60°-70°	154.3	6.5
70°-80°	16.7	0.7
80°-90°	0.2	0.0
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°	836.5	35.5
0°-40°	1343.4	57.0
0°-60°	2186.8	92.7
0°-90°	2358.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2358.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1104	1104	1104	1104	1104	
5°	1082	1093	1096	1098	1099	103
15°	1040	1046	1041	1043	1044	293
25°	949	947	949	950	955	434
35°	808	812	815	814	801	505
45°	629	630	643	634	622	478
55°	364	401	447	400	365	327
65°	119	149	194	147	116	122
75°	3	5	17	3	3	10
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9
2.5°	1096.0	1108.5	1110.1	1102.3	1099.1	1094.4	1105.4	1097.6	1100.7	1097.6	1096.0
5°	1081.9	1096.0	1097.6	1097.6	1094.4	1092.9	1097.6	1096.0	1094.4	1091.3	1096.0
7.5°	1075.6	1083.4	1091.3	1081.9	1086.6	1085.0	1096.0	1091.3	1089.7	1089.7	1086.6
10°	1078.8	1077.2	1083.4	1074.0	1077.2	1074.0	1083.4	1083.4	1080.3	1077.2	1075.6
12.5°	1053.6	1066.2	1066.2	1064.6	1061.5	1056.8	1066.2	1072.5	1063.0	1063.0	1061.5
15°	1039.6	1042.7	1044.2	1044.2	1042.7	1045.8	1050.5	1044.2	1045.8	1038.0	1041.1
17.5°	1023.9	1017.6	1022.3	1019.2	1020.8	1023.9	1030.2	1030.2	1020.8	1019.2	1022.3
20°	987.8	1006.6	1008.2	998.8	1000.3	1000.3	1011.3	1001.9	1008.2	1000.3	1003.5
22.5°	970.5	983.1	984.7	972.1	979.9	970.5	981.5	967.4	983.1	972.1	976.8
25°	948.6	947.1	951.7	945.5	947.1	947.1	954.9	948.6	953.3	947.1	948.6
27.5°	912.6	925.1	923.5	917.2	920.4	918.8	934.5	917.2	926.6	918.8	922.0
30°	881.2	892.2	889.0	882.8	882.8	878.0	895.3	890.6	889.0	889.0	887.4
32.5°	849.8	851.4	848.3	849.8	851.4	845.1	859.2	853.0	851.4	853.0	854.6
35°	807.5	807.5	810.6	805.9	812.2	812.2	824.7	816.9	815.3	810.6	815.3
37.5°	769.9	765.2	766.7	766.7	769.9	773.0	779.3	776.1	776.1	771.4	774.6
40°	719.7	716.6	721.2	721.2	726.0	726.0	732.2	729.1	733.8	733.8	733.8
42.5°	675.8	675.8	672.7	677.3	678.9	677.3	688.3	686.8	688.3	685.2	686.8
45°	628.7	628.7	625.6	624.1	631.9	630.3	642.9	638.1	644.4	641.3	642.9
47.5°	564.4	572.3	567.6	572.3	581.7	583.3	591.1	588.0	594.2	589.6	595.8
50°	503.3	503.3	508.0	514.3	523.7	525.3	534.7	541.0	544.1	545.6	547.2
52.5°	439.0	437.4	442.2	450.0	457.9	464.1	473.5	482.9	489.2	498.6	493.9
55°	363.8	366.9	371.6	381.0	393.6	401.4	409.2	421.8	432.8	437.4	446.9
57.5°	299.5	296.3	299.5	312.0	326.1	332.4	343.4	355.9	371.6	381.0	384.2
60°	232.0	233.6	236.8	247.8	258.7	268.1	272.8	293.2	307.3	316.7	323.0
62.5°	170.9	174.1	177.2	186.6	197.5	205.4	213.2	230.5	243.0	252.4	258.7
65°	119.2	120.7	125.5	130.1	141.1	148.9	155.2	169.3	181.9	189.7	194.4
67.5°	73.7	75.2	78.4	84.7	92.5	98.8	105.0	114.4	125.5	133.3	134.9
70°	37.6	39.2	40.8	45.5	51.8	54.9	59.6	67.4	75.2	81.5	84.7
72.5°	12.5	12.5	14.1	17.3	20.4	23.5	25.1	32.9	39.2	42.3	43.9
75°	3.1	3.1	3.1	3.1	3.1	4.7	4.7	9.4	12.5	15.7	17.3
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.1	3.1
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9	1103.9
2.5°	1103.9	1100.7	1099.1	1100.7	1100.7	1099.1	1103.9	1110.1	1117.9	1097.6
5°	1102.3	1099.1	1102.3	1092.9	1097.6	1094.4	1100.7	1099.1	1105.4	1099.1
7.5°	1097.6	1091.3	1092.9	1088.2	1094.4	1086.6	1091.3	1100.7	1094.4	1085.0
10°	1081.9	1078.8	1089.7	1074.0	1070.9	1077.2	1089.7	1080.3	1077.2	1080.3
12.5°	1066.2	1066.2	1070.9	1058.4	1059.9	1063.0	1069.3	1063.0	1066.2	1074.0
15°	1049.0	1045.8	1053.6	1044.2	1042.7	1039.6	1045.8	1045.8	1049.0	1044.2
17.5°	1028.6	1023.9	1023.9	1020.8	1019.2	1027.0	1030.2	1031.7	1033.3	1027.0
20°	1003.5	1001.9	1006.6	1001.9	1003.5	1005.1	1005.1	1001.9	1016.0	998.8
22.5°	976.8	981.5	975.3	972.1	975.3	978.4	978.4	979.9	976.8	973.7
25°	950.2	953.3	954.9	945.5	950.2	945.5	956.5	958.0	951.7	954.9
27.5°	926.6	922.0	920.4	914.1	917.2	915.7	917.2	917.2	926.6	914.1
30°	890.6	885.9	887.4	882.8	884.3	882.8	884.3	884.3	890.6	889.0
32.5°	856.1	851.4	853.0	848.3	848.3	849.8	846.7	846.7	851.4	848.3
35°	823.1	812.2	813.7	812.2	813.7	807.5	807.5	805.9	809.1	801.2
37.5°	776.1	771.4	769.9	768.3	769.9	766.7	769.9	765.2	769.9	763.6
40°	733.8	730.6	732.2	722.8	722.8	724.4	721.2	719.7	721.2	727.5
42.5°	691.5	685.2	682.1	678.9	680.5	675.8	674.2	671.1	674.2	667.9
45°	641.3	641.3	639.7	631.9	633.5	633.5	627.2	620.9	622.5	622.5
47.5°	595.8	592.7	591.1	583.3	581.7	580.2	573.8	569.2	569.2	564.4
50°	545.6	542.5	537.8	530.0	526.8	517.4	512.7	506.5	500.2	500.2
52.5°	498.6	487.6	481.3	468.8	464.1	459.4	446.9	442.2	437.4	432.8
55°	442.2	432.8	420.2	406.1	399.8	392.0	379.4	370.0	363.8	365.3
57.5°	387.3	371.6	359.1	340.3	332.4	327.7	315.1	302.6	296.3	296.3
60°	319.9	307.3	291.7	274.4	268.1	260.3	244.6	236.8	232.0	227.4
62.5°	255.6	246.2	232.0	210.1	205.4	197.5	186.6	177.2	172.5	172.5
65°	191.3	181.9	169.3	153.7	147.4	141.1	131.7	122.3	117.6	116.0
67.5°	134.9	123.9	112.9	100.4	95.6	92.5	83.1	76.8	73.7	72.1
70°	81.5	75.2	67.4	58.0	53.3	50.2	43.9	39.2	37.6	36.1
72.5°	42.3	37.6	31.3	25.1	21.9	18.8	15.7	12.5	11.0	11.0
75°	15.7	12.5	7.9	4.7	3.1	3.1	3.1	3.1	3.1	3.1
77.5°	3.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)