

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: P239276

Luminaire Tested: **HDF-2-LD4-UNV-2-STD-50-OPL-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239276  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-15)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: HDF-2-LD4-UNV-2-STD-50-OPL-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 2-ROW LED BOARDS, OPAL LENS  
Light Source: (84) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

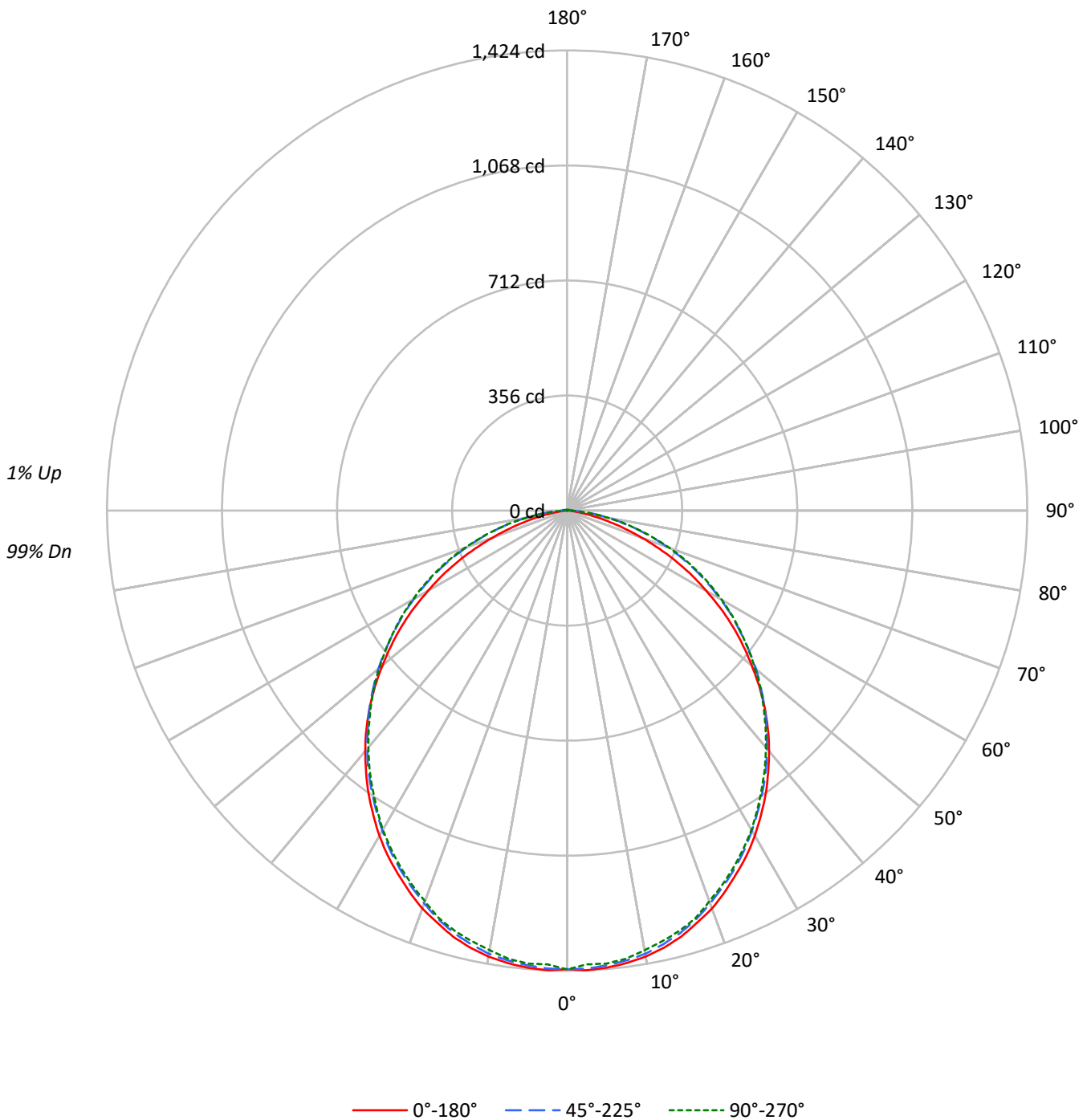
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3708.6 lumens  
Efficiency: N/A  
Efficacy: 111.7 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.2 / 1.32  
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.2  
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: 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	101	101	101	99
1	109	104	100	97	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	82	78	74	79	76	73	71
3	91	81	73	66	88	79	72	66	76	70	64	73	68	63	70	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	53	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25

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

	0°	45°	90°
0°	13098	13098	13098
5°	13148	13082	13029
10°	13127	13048	12942
15°	13032	12924	12857
20°	12868	12701	12631
25°	12621	12463	12405
30°	12379	12183	12154
35°	12067	11892	11829
40°	11710	11591	11524
45°	11284	11284	11209
50°	10706	10950	10889
55°	10063	10518	10563
60°	9167	10106	10186
65°	8126	9610	9732
70°	6682	8897	9048
75°	4894	8074	8174
80°	2858	6843	6843
85°	1503	5547	5092



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.2	3.6
10°-20°	381.4	10.3
20°-30°	564.7	15.2
30°-40°	661.5	17.8
40°-50°	665.5	17.9
50°-60°	579.5	15.6
60°-70°	420.6	11.3
70°-80°	221.3	6.0
80°-90°	55.5	1.5
90°-100°	10.9	0.3
100°-110°	6.2	0.2
110°-120°	3.6	0.1
120°-130°	2.5	0.1
130°-140°	1.4	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°	1080.3	29.1
0°-40°	1741.8	47.0
0°-60°	2986.7	80.5
0°-90°	3684.1	99.3
90°-120°	20.7	0.6
90°-150°	24.5	0.7
90°-180°	24.0	0.6
0°-180°	3708.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1420	1420	1420	1420	1420	
5°	1420	1417	1412	1407	1407	135
15°	1364	1360	1353	1349	1346	384
25°	1240	1231	1224	1220	1219	571
35°	1071	1062	1056	1053	1050	669
45°	865	860	865	863	859	666
55°	626	636	654	661	657	558
65°	372	403	440	449	446	368
75°	137	190	226	232	229	150
85°	14	41	52	52	48	20
90°	0	13	16	13	10	1
95°	0	8	14	13	10	0
105°	1	3	7	8	7	1
115°	1	3	4	4	4	1
125°	1	3	3	4	4	1
135°	3	3	3	3	3	1
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1419.6	1419.6	1419.6	1419.6	1419.6
2.5°	1423.8	1423.8	1418.2	1409.7	1405.4
5°	1419.6	1416.7	1412.5	1406.8	1406.8
7.5°	1412.5	1409.7	1404.0	1398.3	1398.3
10°	1401.2	1398.3	1392.7	1384.2	1381.4
12.5°	1385.6	1382.8	1374.3	1367.2	1364.4
15°	1364.4	1360.1	1353.1	1348.8	1346.0
17.5°	1337.5	1334.7	1326.2	1321.9	1321.9
20°	1310.6	1303.5	1293.6	1289.4	1286.5
22.5°	1276.6	1269.5	1259.6	1254.0	1254.0
25°	1239.8	1231.3	1224.3	1220.0	1218.6
27.5°	1203.0	1191.7	1186.0	1181.8	1180.4
30°	1162.0	1150.7	1143.6	1140.8	1140.8
32.5°	1116.7	1106.8	1099.7	1096.9	1095.5
35°	1071.4	1061.5	1055.8	1053.0	1050.2
37.5°	1021.9	1013.4	1010.5	1009.1	1004.9
40°	972.3	963.8	962.4	961.0	956.8
42.5°	920.0	914.3	912.9	914.3	908.6
45°	864.8	860.5	864.8	863.4	859.1
47.5°	806.7	806.7	813.8	815.2	811.0
50°	745.9	751.5	762.9	765.7	758.6
52.5°	686.4	693.5	707.7	713.3	707.7
55°	625.6	635.5	653.9	661.0	656.7
57.5°	563.3	577.5	602.9	610.0	605.8
60°	496.8	518.0	547.7	557.6	552.0
62.5°	437.3	461.4	493.9	502.4	499.6
65°	372.2	403.4	440.2	448.7	445.8
67.5°	308.5	345.3	385.0	394.9	392.0
70°	247.7	290.1	329.8	339.7	335.4
72.5°	189.7	237.8	277.4	285.9	281.7
75°	137.3	189.7	226.5	232.1	229.3
77.5°	90.6	144.4	175.5	182.6	178.3
80°	53.8	103.3	128.8	133.0	128.8
82.5°	28.3	69.4	87.8	89.2	84.9
85°	14.2	41.0	52.4	52.4	48.1
87.5°	5.7	21.2	25.5	24.1	21.2
90°	0.0	12.7	15.6	12.7	9.9
92.5°	0.0	11.3	14.2	12.7	8.5
95°	0.0	8.5	14.2	12.7	9.9
97.5°	0.0	7.1	12.7	12.7	9.9
100°	0.0	4.2	11.3	11.3	9.9
102.5°	0.0	4.2	8.5	9.9	8.5
105°	1.4	2.8	7.1	8.5	7.1
107.5°	1.4	2.8	5.7	7.1	7.1
110°	1.4	2.8	5.7	5.7	5.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	2.8	4.2	5.7	4.2
115°	1.4	2.8	4.2	4.2	4.2
117.5°	1.4	1.4	4.2	4.2	4.2
120°	1.4	2.8	2.8	4.2	4.2
122.5°	1.4	1.4	2.8	4.2	2.8
125°	1.4	2.8	2.8	4.2	4.2
127.5°	1.4	1.4	2.8	2.8	2.8
130°	2.8	2.8	2.8	2.8	2.8
132.5°	1.4	2.8	2.8	2.8	2.8
135°	2.8	2.8	2.8	2.8	2.8
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)