

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: P239203

Luminaire Tested: **HDF-4-LD4-UNV-2-STD-40-OPL-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239203  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-5)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: HDF-4-LD4-UNV-2-STD-40-OPL-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 2-ROW LED BOARDS, OPAL LENS  
Light Source: (168) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

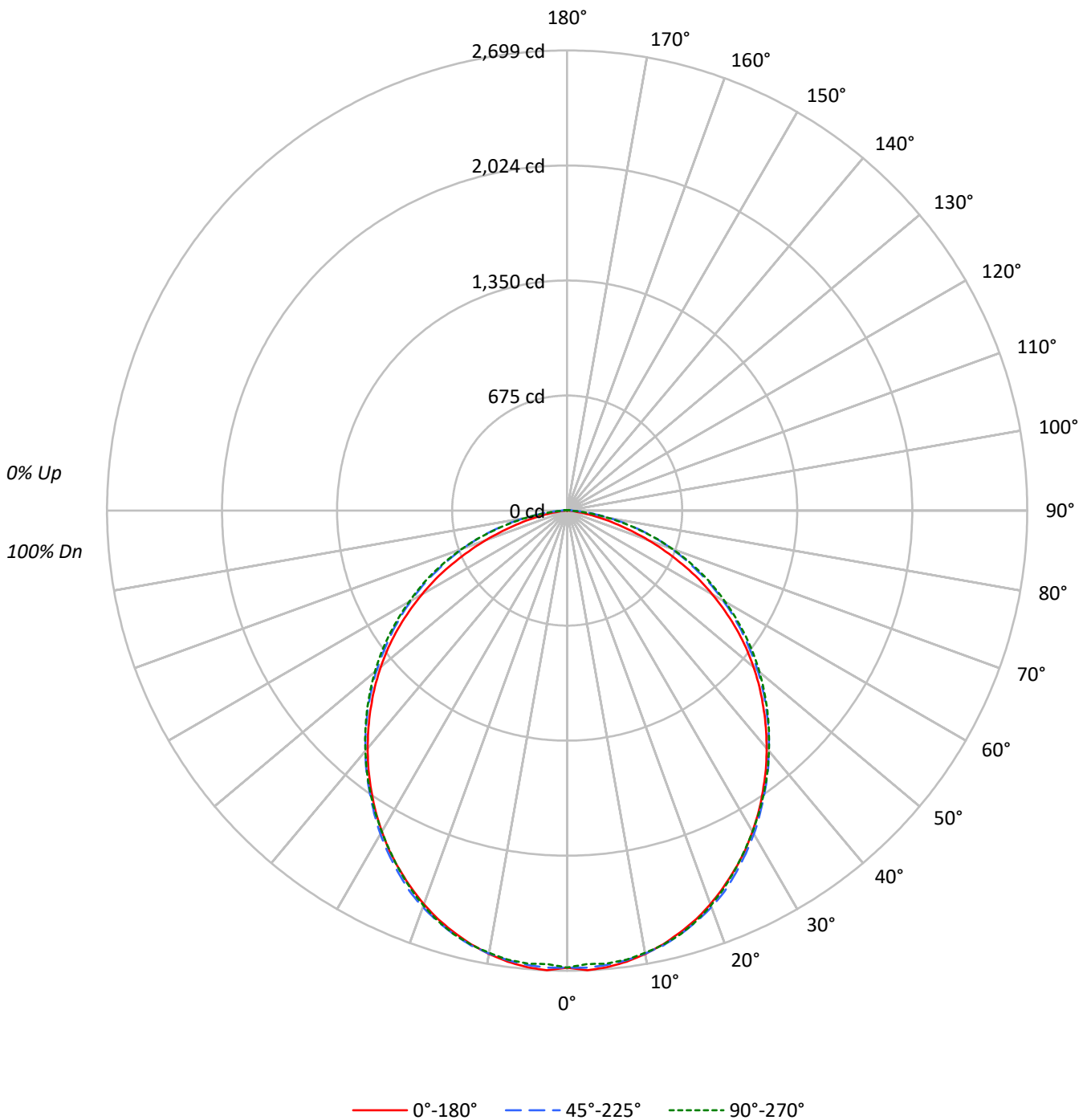
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7087.3 lumens  
Efficiency: N/A  
Efficacy: 105.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.32  
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 67.2  
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	102	102	102	100
1	109	104	100	96	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	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	46	44
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	44	38	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	41	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

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

	0°	45°	90°
0°	12365	12365	12365
5°	12449	12388	12351
10°	12370	12357	12339
15°	12232	12283	12283
20°	12061	12152	12100
25°	11832	11926	11845
30°	11579	11670	11586
35°	11280	11370	11347
40°	10962	11082	11090
45°	10616	10789	10832
50°	10245	10472	10568
55°	9757	10119	10258
60°	9081	9753	9887
65°	8145	9256	9474
70°	6834	8762	8851
75°	5164	7994	7853
80°	3199	6748	6363
85°	1540	5113	4340



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	253.6	3.6
10°-20°	722.2	10.2
20°-30°	1072.1	15.1
30°-40°	1257.1	17.7
40°-50°	1269.6	17.9
50°-60°	1115.5	15.7
60°-70°	820.6	11.6
70°-80°	437.9	6.2
80°-90°	105.5	1.5
90°-100°	16.4	0.2
100°-110°	8.4	0.1
110°-120°	4.1	0.1
120°-130°	3.0	0.0
130°-140°	1.3	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°	2047.9	28.9
0°-40°	3305.0	46.6
0°-60°	5690.1	80.3
0°-90°	7054.1	99.5
90°-120°	28.9	0.4
90°-150°	33.2	0.5
90°-180°	33.0	0.5
0°-180°	7087.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2680	2680	2680	2680	2680	
5°	2688	2659	2675	2666	2667	255
15°	2561	2544	2572	2568	2572	722
25°	2324	2319	2343	2323	2327	1071
35°	2003	2006	2019	2004	2015	1253
45°	1627	1634	1654	1651	1660	1255
55°	1213	1222	1258	1269	1275	1082
65°	746	794	848	865	868	738
75°	290	385	448	448	441	314
85°	29	87	97	89	82	43
90°	0	22	24	20	17	1
95°	0	13	21	18	17	0
105°	1	4	9	12	12	1
115°	1	3	4	5	5	1
125°	3	3	4	4	4	2
135°	3	3	3	3	4	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



TEST NUMBER: P239203

CATALOG NUMBER: HDF-4-LD4-UNV-2-STD-40-OPL-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2680.4	2680.4	2680.4	2680.4	2680.4
2.5°	2698.9	2669.8	2683.0	2675.1	2661.8
5°	2688.3	2659.2	2675.1	2665.8	2667.1
7.5°	2668.5	2643.3	2660.5	2653.9	2656.5
10°	2640.7	2616.9	2638.0	2632.7	2634.1
12.5°	2604.9	2583.8	2611.6	2604.9	2607.6
15°	2561.3	2544.1	2571.9	2567.9	2571.9
17.5°	2513.7	2499.1	2526.9	2520.3	2522.9
20°	2456.8	2444.9	2475.3	2459.4	2464.7
22.5°	2393.3	2385.3	2415.8	2395.9	2399.9
25°	2324.5	2319.2	2343.0	2323.2	2327.1
27.5°	2254.4	2246.4	2268.9	2247.7	2250.4
30°	2173.7	2171.0	2190.9	2168.4	2175.0
32.5°	2091.6	2091.6	2106.2	2087.7	2096.9
35°	2003.0	2005.6	2018.9	2004.3	2014.9
37.5°	1914.4	1917.0	1932.9	1919.6	1930.2
40°	1820.4	1824.4	1840.3	1832.3	1841.6
42.5°	1725.2	1731.8	1749.0	1743.7	1751.6
45°	1627.3	1633.9	1653.7	1651.1	1660.3
47.5°	1529.4	1534.7	1557.1	1559.8	1567.7
50°	1427.5	1431.5	1459.2	1465.9	1472.5
52.5°	1323.0	1328.3	1357.4	1368.0	1375.9
55°	1213.2	1222.4	1258.2	1268.7	1275.4
57.5°	1098.1	1116.6	1157.6	1166.9	1172.2
60°	984.3	1005.5	1057.1	1069.0	1071.6
62.5°	869.2	902.3	957.8	968.4	971.1
65°	746.2	793.8	848.0	865.2	867.9
67.5°	624.4	687.9	748.8	762.0	762.0
70°	506.7	583.4	649.6	657.5	656.2
72.5°	395.6	482.9	547.7	554.3	551.7
75°	289.7	385.0	448.5	448.5	440.6
77.5°	195.8	295.0	347.9	345.3	340.0
80°	120.4	215.6	254.0	247.4	239.5
82.5°	64.8	148.2	168.0	160.1	152.1
85°	29.1	87.3	96.6	88.6	82.0
87.5°	7.9	45.0	45.0	39.7	37.0
90°	0.0	22.5	23.8	19.8	17.2
92.5°	0.0	17.2	22.5	18.5	17.2
95°	0.0	13.2	21.2	18.5	17.2
97.5°	0.0	9.3	18.5	17.2	15.9
100°	0.0	6.6	14.6	15.9	14.6
102.5°	0.0	5.3	11.9	13.2	13.2
105°	1.3	4.0	9.3	11.9	11.9
107.5°	1.3	4.0	6.6	9.3	9.3
110°	1.3	2.6	5.3	7.9	7.9



TEST NUMBER: P239203

CATALOG NUMBER: HDF-4-LD4-UNV-2-STD-40-OPL-EDC-1

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	2.6	5.3	6.6	6.6
115°	1.3	2.6	4.0	5.3	5.3
117.5°	1.3	2.6	4.0	5.3	5.3
120°	2.6	2.6	4.0	4.0	4.0
122.5°	2.6	2.6	4.0	4.0	4.0
125°	2.6	2.6	4.0	4.0	4.0
127.5°	2.6	2.6	2.6	4.0	4.0
130°	2.6	2.6	2.6	2.6	4.0
132.5°	2.6	2.6	2.6	2.6	2.6
135°	2.6	2.6	2.6	2.6	4.0
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)