

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: P239179

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239179  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-3)  
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-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 2-ROW LED BOARDS, NON-OVERLAY  
Light Source: (168) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

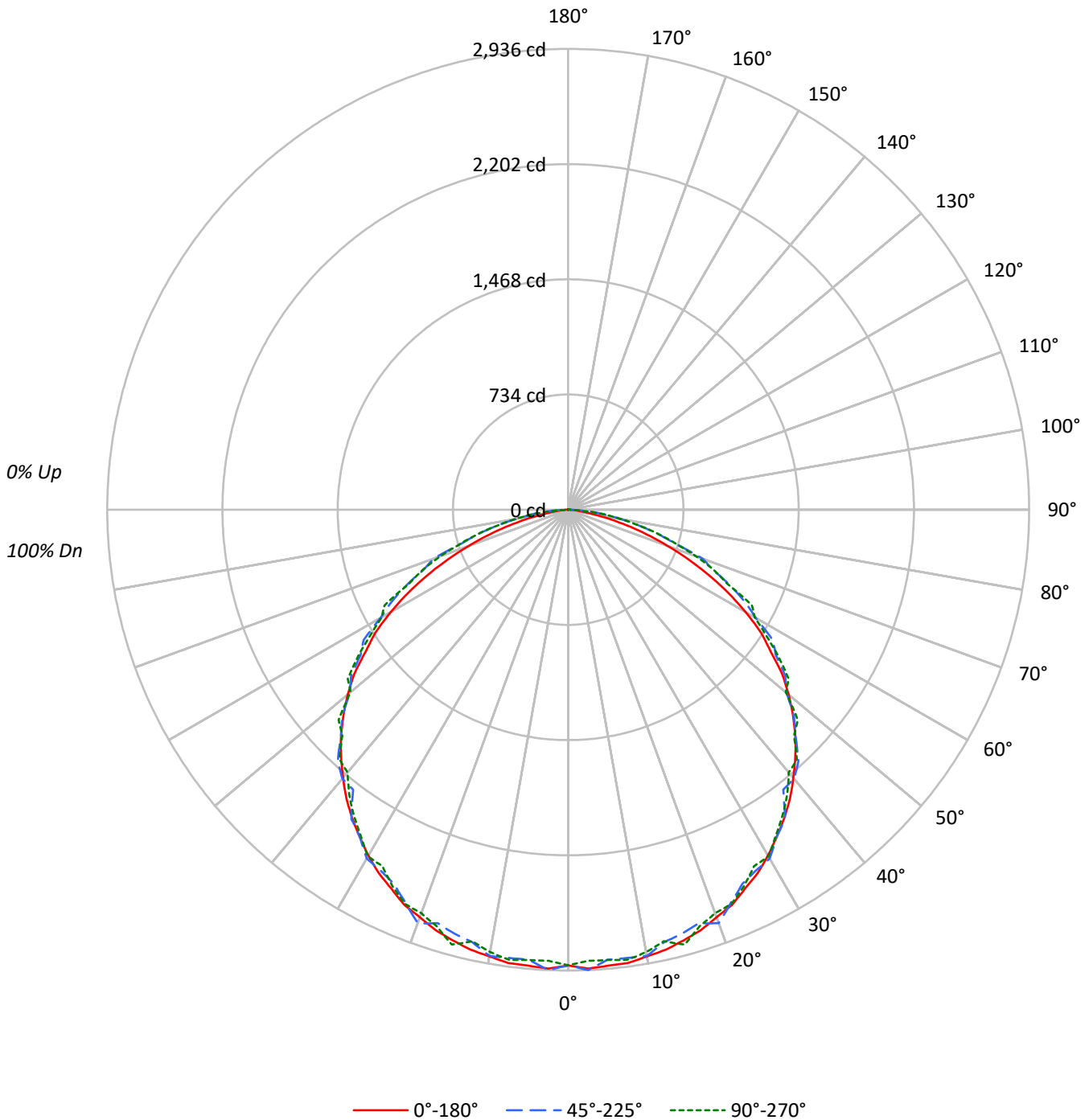
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8622.0 lumens  
Efficiency: N/A  
Efficacy: 128.3 lumens/watt  
Spacing Criteria (0/90/45): 1.3 / 1.29 / 1.41  
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	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					100			
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	83					83			
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	78	75	72	69					69			
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	64	60	58					58			
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50					50			
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	49	45	43					43			
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37					37			
7	65	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33					33			
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29					29			
9	56	42	34	29	55	42	34	29	41	33	28	40	33	28	39	32	28	26					26			
10	52	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24					24			

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

	0°	45°	90°
0°	13390	13390	13390
5°	13503	13325	13337
10°	13535	13523	13405
15°	13566	13358	13699
20°	13562	13763	13431
25°	13563	13374	13475
30°	13552	13672	13587
35°	13508	13553	13404
40°	13433	13472	13162
45°	13353	13361	13266
50°	13151	13027	12980
55°	12662	12982	13152
60°	12036	12731	12646
65°	10831	12391	12204
70°	9100	12277	11671
75°	6885	10423	10564
80°	4112	8751	9173
85°	1821	7495	6092



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	275.4	3.2
10°-20°	794.2	9.2
20°-30°	1216.0	14.1
30°-40°	1488.3	17.3
40°-50°	1574.1	18.3
50°-60°	1439.2	16.7
60°-70°	1085.2	12.6
70°-80°	582.6	6.8
80°-90°	140.5	1.6
90°-100°	11.8	0.1
100°-110°	6.5	0.1
110°-120°	4.1	0.0
120°-130°	2.7	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°	2285.6	26.5
0°-40°	3773.9	43.8
0°-60°	6787.2	78.7
0°-90°	8595.6	99.7
90°-120°	22.4	0.3
90°-150°	26.4	0.3
90°-180°	26.0	0.3
0°-180°	8622.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2903	2903	2903	2903	2903	
5°	2916	2911	2878	2888	2880	278
15°	2840	2796	2797	2851	2868	802
25°	2665	2626	2628	2634	2647	1230
35°	2399	2409	2407	2381	2380	1500
45°	2047	2055	2048	2061	2034	1576
55°	1574	1547	1614	1642	1635	1411
65°	992	1042	1135	1164	1118	980
75°	386	509	585	599	593	417
85°	34	111	142	128	115	53
90°	0	21	18	16	13	1
95°	0	12	13	12	9	0
105°	0	4	8	8	7	0
115°	1	3	5	5	5	1
125°	1	1	4	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°	2902.7	2902.7	2902.7	2902.7	2902.7
2.5°	2926.5	2901.4	2935.8	2908.0	2876.3
5°	2915.9	2910.7	2877.6	2888.2	2880.2
7.5°	2913.3	2857.7	2880.2	2894.8	2892.1
10°	2889.5	2849.8	2886.8	2831.3	2861.7
12.5°	2871.0	2831.3	2822.0	2781.0	2816.7
15°	2840.5	2795.6	2796.9	2851.1	2868.3
17.5°	2808.8	2782.3	2762.5	2782.3	2782.3
20°	2762.5	2724.1	2803.5	2704.3	2736.0
22.5°	2725.4	2655.3	2709.6	2688.4	2717.5
25°	2664.6	2626.2	2627.5	2634.1	2647.4
27.5°	2611.7	2534.9	2590.5	2598.4	2561.4
30°	2544.2	2476.7	2566.7	2454.2	2550.8
32.5°	2471.4	2462.1	2470.1	2456.9	2460.8
35°	2398.6	2409.2	2406.6	2381.4	2380.1
37.5°	2320.6	2287.5	2249.1	2279.6	2290.2
40°	2230.6	2185.6	2237.2	2212.1	2185.6
42.5°	2140.7	2101.0	2171.1	2087.7	2156.5
45°	2046.7	2054.7	2048.0	2061.3	2033.5
47.5°	1942.2	1956.8	1950.1	1926.3	1983.2
50°	1832.4	1832.4	1815.2	1874.7	1808.6
52.5°	1716.0	1738.5	1742.4	1698.8	1768.9
55°	1574.4	1546.6	1614.1	1641.9	1635.3
57.5°	1454.0	1459.3	1544.0	1525.4	1497.7
60°	1304.5	1382.6	1379.9	1365.4	1370.7
62.5°	1151.0	1196.0	1267.5	1243.6	1319.1
65°	992.3	1042.5	1135.2	1164.3	1118.0
67.5°	830.9	912.9	993.6	989.6	1004.2
70°	674.7	791.2	910.2	853.4	865.3
72.5°	523.9	644.3	707.8	756.8	715.8
75°	386.3	509.4	584.8	599.3	592.7
77.5°	260.6	386.3	455.1	460.4	453.8
80°	154.8	284.5	329.4	355.9	345.3
82.5°	79.4	187.9	238.1	236.8	230.2
85°	34.4	111.1	141.6	128.3	115.1
87.5°	10.6	59.5	46.3	29.1	23.8
90°	0.0	21.2	18.5	15.9	13.2
92.5°	0.0	14.6	14.6	13.2	10.6
95°	0.0	11.9	13.2	11.9	9.3
97.5°	0.0	9.3	11.9	10.6	9.3
100°	0.0	6.6	10.6	10.6	7.9
102.5°	0.0	5.3	9.3	9.3	7.9
105°	0.0	4.0	7.9	7.9	6.6
107.5°	0.0	4.0	6.6	7.9	6.6
110°	1.3	2.6	6.6	6.6	6.6



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**CANDELA DISTRIBUTION (continued):**

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