

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: P239201

Luminaire Tested: **HDF-4-LD4-UNV-2-STD-30-OPL-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239201  
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-30-OPL-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 2-ROW LED BOARDS, OPAL LENS  
Light Source: (168) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

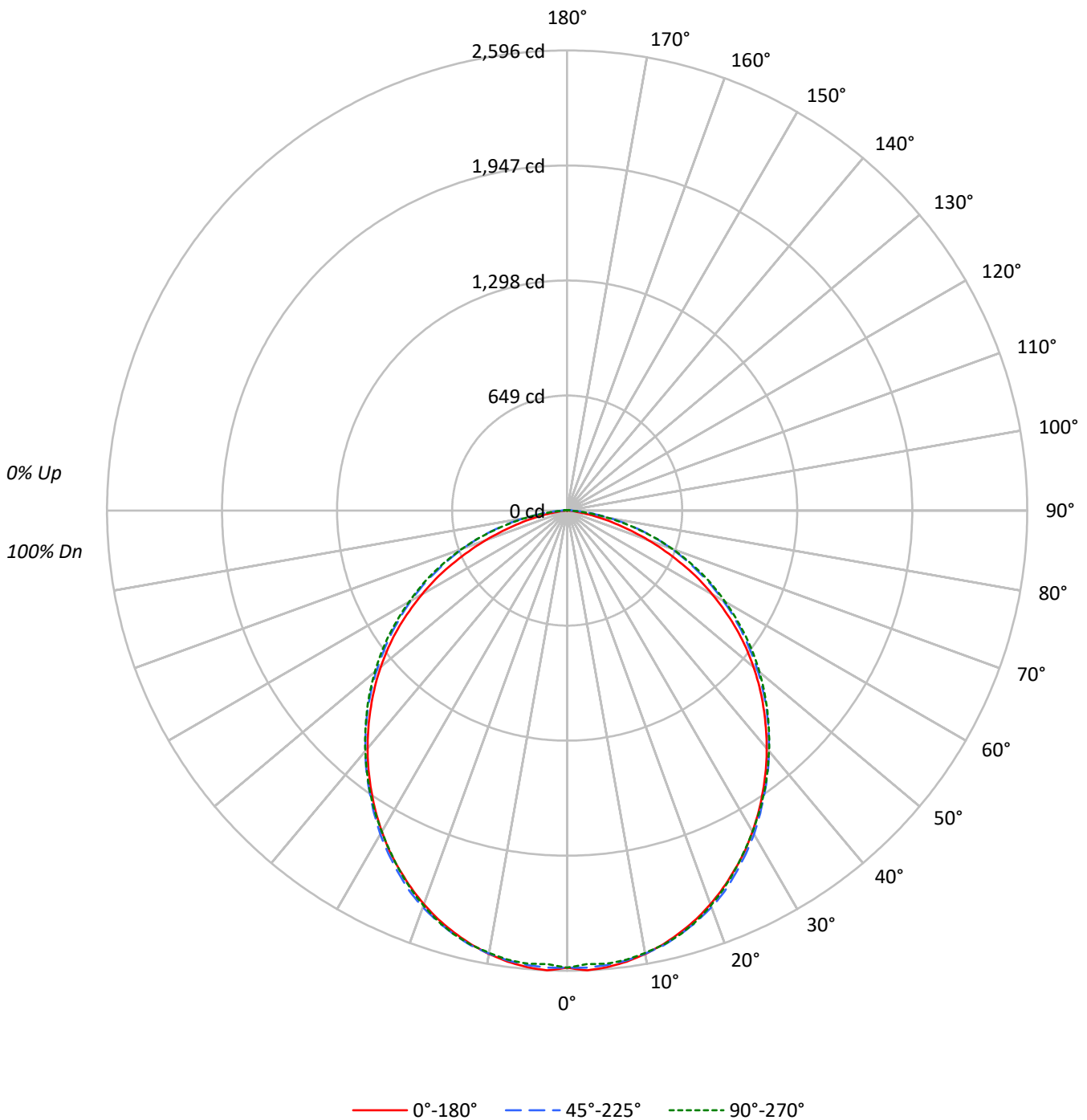
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6817.9 lumens  
Efficiency: N/A  
Efficacy: 101.5 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°	11895	11895	11895
5°	11976	11917	11882
10°	11899	11888	11870
15°	11768	11816	11816
20°	11602	11690	11640
25°	11382	11473	11395
30°	11139	11227	11145
35°	10851	10938	10916
40°	10546	10661	10669
45°	10213	10379	10420
50°	9856	10075	10166
55°	9387	9734	9868
60°	8736	9382	9511
65°	7835	8905	9113
70°	6574	8429	8515
75°	4967	7689	7554
80°	3076	6493	6121
85°	1482	4917	4176



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	244.0	3.6
10°-20°	694.8	10.2
20°-30°	1031.3	15.1
30°-40°	1209.3	17.7
40°-50°	1221.3	17.9
50°-60°	1073.1	15.7
60°-70°	789.4	11.6
70°-80°	421.3	6.2
80°-90°	101.5	1.5
90°-100°	15.8	0.2
100°-110°	8.1	0.1
110°-120°	3.9	0.1
120°-130°	2.8	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°	1970.1	28.9
0°-40°	3179.4	46.6
0°-60°	5473.8	80.3
0°-90°	6786.0	99.5
90°-120°	27.8	0.4
90°-150°	31.9	0.5
90°-180°	32.0	0.5
0°-180°	6817.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2578	2578	2578	2578	2578	
5°	2586	2558	2573	2564	2566	245
15°	2464	2447	2474	2470	2474	695
25°	2236	2231	2254	2235	2239	1030
35°	1927	1929	1942	1928	1938	1205
45°	1565	1572	1591	1588	1597	1208
55°	1167	1176	1210	1220	1227	1041
65°	718	764	816	832	835	710
75°	279	370	431	431	424	302
85°	28	84	93	85	79	41
90°	0	22	23	19	16	1
95°	0	13	20	18	16	0
105°	1	4	9	12	12	1
115°	1	2	4	5	5	1
125°	2	2	4	4	4	2
135°	2	2	2	2	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



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CATALOG NUMBER: HDF-4-LD4-UNV-2-STD-30-OPL-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2578.5	2578.5	2578.5	2578.5	2578.5
2.5°	2596.3	2568.3	2581.0	2573.4	2560.7
5°	2586.1	2558.1	2573.4	2564.5	2565.8
7.5°	2567.0	2542.9	2559.4	2553.0	2555.6
10°	2540.3	2517.4	2537.8	2532.7	2534.0
12.5°	2506.0	2485.6	2512.3	2506.0	2508.5
15°	2464.0	2447.4	2474.1	2470.3	2474.1
17.5°	2418.1	2404.1	2430.9	2424.5	2427.1
20°	2363.4	2352.0	2381.2	2366.0	2371.1
22.5°	2302.3	2294.7	2324.0	2304.9	2308.7
25°	2236.1	2231.1	2254.0	2234.9	2238.7
27.5°	2168.7	2161.1	2182.7	2162.3	2164.9
30°	2091.1	2088.5	2107.6	2086.0	2092.3
32.5°	2012.1	2012.1	2026.1	2008.3	2017.2
35°	1926.9	1929.4	1942.2	1928.2	1938.3
37.5°	1841.6	1844.2	1859.4	1846.7	1856.9
40°	1751.2	1755.1	1770.3	1762.7	1771.6
42.5°	1659.6	1666.0	1682.5	1677.4	1685.1
45°	1565.4	1571.8	1590.9	1588.3	1597.2
47.5°	1471.2	1476.3	1498.0	1500.5	1508.2
50°	1373.3	1377.1	1403.8	1410.2	1416.5
52.5°	1272.7	1277.8	1305.8	1316.0	1323.6
55°	1167.1	1176.0	1210.3	1220.5	1226.9
57.5°	1056.3	1074.2	1113.6	1122.5	1127.6
60°	946.9	967.3	1016.9	1028.3	1030.9
62.5°	836.2	868.0	921.4	931.6	934.2
65°	717.8	763.6	815.8	832.4	834.9
67.5°	600.7	661.8	720.4	733.1	733.1
70°	487.4	561.3	624.9	632.5	631.3
72.5°	380.5	464.5	526.9	533.3	530.7
75°	278.7	370.4	431.4	431.4	423.8
77.5°	188.4	283.8	334.7	332.2	327.1
80°	115.8	207.5	244.4	238.0	230.4
82.5°	62.4	142.5	161.6	154.0	146.4
85°	28.0	84.0	92.9	85.3	78.9
87.5°	7.6	43.3	43.3	38.2	35.6
90°	0.0	21.6	22.9	19.1	16.5
92.5°	0.0	16.5	21.6	17.8	16.5
95°	0.0	12.7	20.4	17.8	16.5
97.5°	0.0	8.9	17.8	16.5	15.3
100°	0.0	6.4	14.0	15.3	14.0
102.5°	0.0	5.1	11.5	12.7	12.7
105°	1.3	3.8	8.9	11.5	11.5
107.5°	1.3	3.8	6.4	8.9	8.9
110°	1.3	2.5	5.1	7.6	7.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	2.5	5.1	6.4	6.4
115°	1.3	2.5	3.8	5.1	5.1
117.5°	1.3	2.5	3.8	5.1	5.1
120°	2.5	2.5	3.8	3.8	3.8
122.5°	2.5	2.5	3.8	3.8	3.8
125°	2.5	2.5	3.8	3.8	3.8
127.5°	2.5	2.5	2.5	3.8	3.8
130°	2.5	2.5	2.5	2.5	3.8
132.5°	2.5	2.5	2.5	2.5	2.5
135°	2.5	2.5	2.5	2.5	3.8
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)