

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: P239186

Luminaire Tested: **HDF-4-LD4-UNV-2-HI-35-IK12-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239186  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-4)  
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-HI-35-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 2-ROW LED BOARDS, CLEAR LENS  
Light Source: (168) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

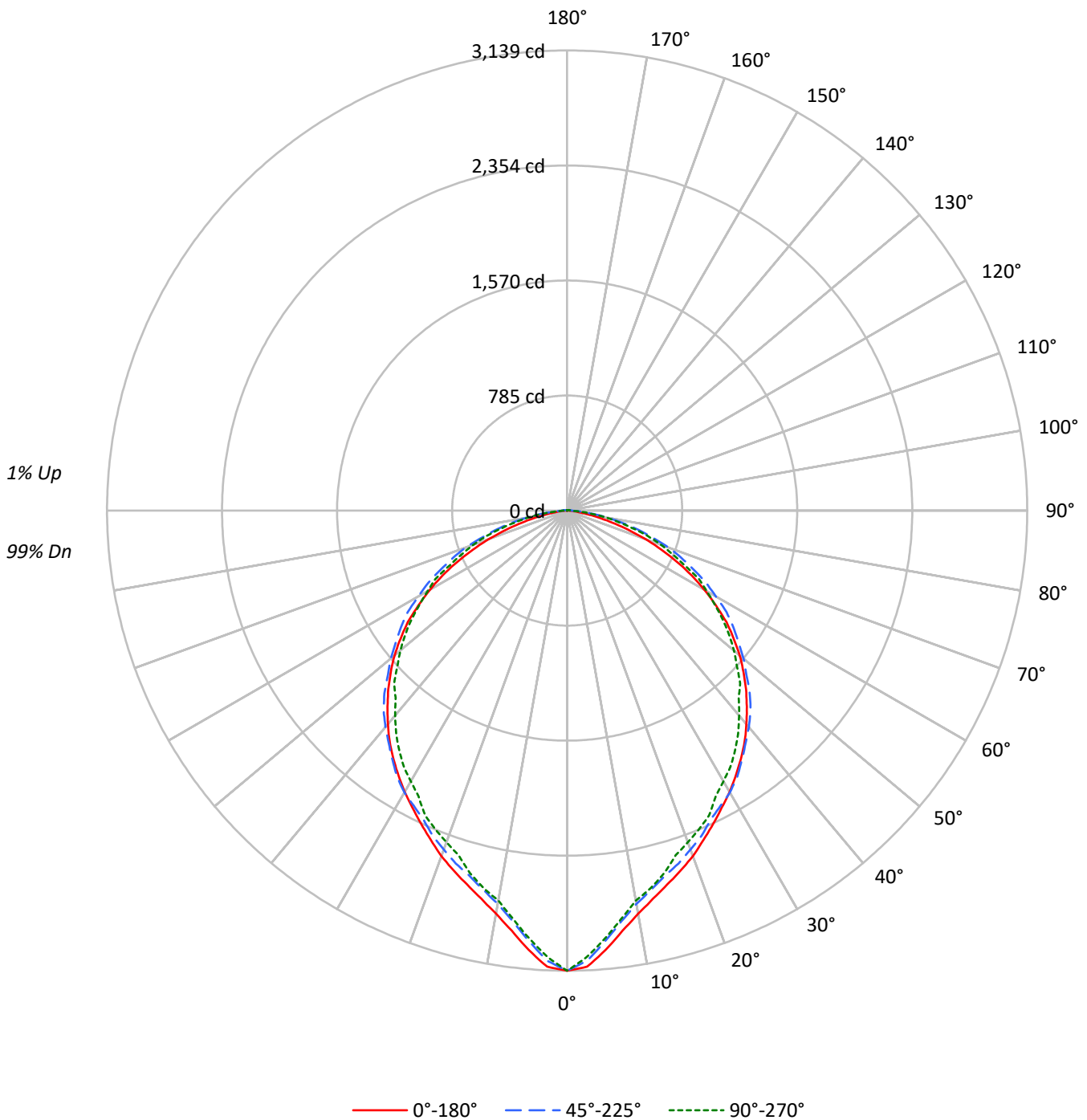
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7398.8 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.02 / 1.25  
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 88.7  
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	99
1	109	104	100	96	106	102	98	95	97	94	91	93	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	64	58	53	62	57	53	50
5	76	63	54	48	74	62	54	47	60	53	47	58	51	46	56	50	46	44
6	70	57	48	42	68	56	48	42	54	47	41	52	46	41	51	45	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	25

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

	0°	45°	90°
0°	14480	14480	14480
5°	13932	13663	13582
10°	13076	12759	12654
15°	12610	12310	12226
20°	12315	12078	11817
25°	11999	11818	11671
30°	11803	11829	11358
35°	11637	11700	11247
40°	11455	11610	10991
45°	11256	11497	10889
50°	11032	11275	10663
55°	10669	11122	10423
60°	9985	10800	10148
65°	9004	10373	9636
70°	7634	9911	9153
75°	5675	8857	8169
80°	3547	7348	7005
85°	1620	5531	5108



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	274.5	3.7
10°-20°	728.6	9.8
20°-30°	1071.0	14.5
30°-40°	1279.8	17.3
40°-50°	1322.2	17.9
50°-60°	1197.5	16.2
60°-70°	894.7	12.1
70°-80°	477.8	6.5
80°-90°	114.9	1.6
90°-100°	18.6	0.3
100°-110°	9.4	0.1
110°-120°	4.7	0.1
120°-130°	3.3	0.0
130°-140°	1.7	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°	2074.2	28.0
0°-40°	3354.0	45.3
0°-60°	5873.6	79.4
0°-90°	7361.1	99.5
90°-120°	32.7	0.4
90°-150°	37.7	0.5
90°-180°	38.0	0.5
0°-180°	7398.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3139	3139	3139	3139	3139	
5°	3008	2947	2951	2931	2933	280
15°	2640	2590	2578	2557	2560	745
25°	2357	2340	2322	2303	2293	1088
35°	2066	2058	2078	2028	1997	1293
45°	1725	1725	1762	1674	1669	1330
55°	1327	1341	1383	1333	1296	1178
65°	825	884	950	929	883	816
75°	318	426	497	492	458	349
85°	31	88	104	101	96	47
90°	0	26	27	24	22	1
95°	0	14	22	21	19	0
105°	2	5	10	13	13	1
115°	2	3	5	6	6	2
125°	3	3	3	3	5	3
135°	3	3	3	3	3	2
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-HI-35-IK12-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3138.8	3138.8	3138.8	3138.8	3138.8
2.5°	3114.7	3069.6	3074.5	3064.8	3048.7
5°	3008.5	2947.4	2950.6	2931.3	2933.0
7.5°	2891.2	2828.4	2826.8	2796.3	2810.8
10°	2791.5	2743.2	2723.9	2696.6	2701.4
12.5°	2711.1	2656.4	2648.3	2614.6	2637.1
15°	2640.3	2590.5	2577.6	2556.7	2559.9
17.5°	2574.4	2534.2	2524.5	2497.2	2465.0
20°	2508.5	2465.0	2460.2	2412.0	2407.1
22.5°	2431.3	2410.4	2399.1	2366.9	2352.5
25°	2357.3	2339.6	2321.9	2302.6	2293.0
27.5°	2284.9	2265.6	2268.9	2241.5	2196.5
30°	2215.8	2198.1	2220.6	2159.5	2132.2
32.5°	2141.8	2130.6	2156.3	2100.0	2072.7
35°	2066.3	2058.2	2077.5	2027.7	1997.1
37.5°	1989.1	1973.0	1998.7	1936.0	1916.7
40°	1902.2	1894.2	1928.0	1847.6	1825.1
42.5°	1813.8	1804.2	1852.4	1755.9	1731.8
45°	1725.4	1725.4	1762.3	1673.9	1669.1
47.5°	1632.1	1635.3	1657.8	1616.0	1569.4
50°	1537.2	1540.4	1571.0	1517.9	1485.8
52.5°	1431.1	1440.8	1471.3	1431.1	1392.5
55°	1326.6	1341.1	1382.9	1333.0	1296.0
57.5°	1201.2	1236.5	1289.6	1238.1	1193.1
60°	1082.2	1127.2	1170.6	1135.2	1099.9
62.5°	956.7	1009.8	1067.7	1032.3	1014.6
65°	824.9	884.4	950.3	929.4	882.8
67.5°	694.6	754.1	842.6	812.0	776.7
70°	566.0	643.2	734.8	699.5	678.6
72.5°	439.0	533.8	606.2	598.2	574.0
75°	318.4	426.1	496.9	492.0	458.3
77.5°	220.3	326.4	385.9	368.2	350.5
80°	133.5	234.8	276.6	265.3	263.7
82.5°	70.8	151.2	181.7	176.9	170.4
85°	30.6	88.4	104.5	101.3	96.5
87.5°	9.6	45.0	51.5	46.6	43.4
90°	0.0	25.7	27.3	24.1	22.5
92.5°	0.0	19.3	24.1	20.9	19.3
95°	0.0	14.5	22.5	20.9	19.3
97.5°	1.6	11.3	20.9	19.3	19.3
100°	0.0	8.0	16.1	17.7	16.1
102.5°	1.6	6.4	12.9	14.5	14.5
105°	1.6	4.8	9.6	12.9	12.9
107.5°	1.6	3.2	8.0	11.3	11.3
110°	1.6	3.2	6.4	8.0	9.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	3.2	6.4	6.4	8.0
115°	1.6	3.2	4.8	6.4	6.4
117.5°	1.6	3.2	4.8	4.8	6.4
120°	3.2	3.2	4.8	4.8	4.8
122.5°	3.2	3.2	4.8	4.8	4.8
125°	3.2	3.2	3.2	3.2	4.8
127.5°	3.2	3.2	3.2	3.2	4.8
130°	3.2	3.2	3.2	3.2	4.8
132.5°	3.2	3.2	3.2	3.2	4.8
135°	3.2	3.2	3.2	3.2	3.2
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)