

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: P239175

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239175  
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-HI-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

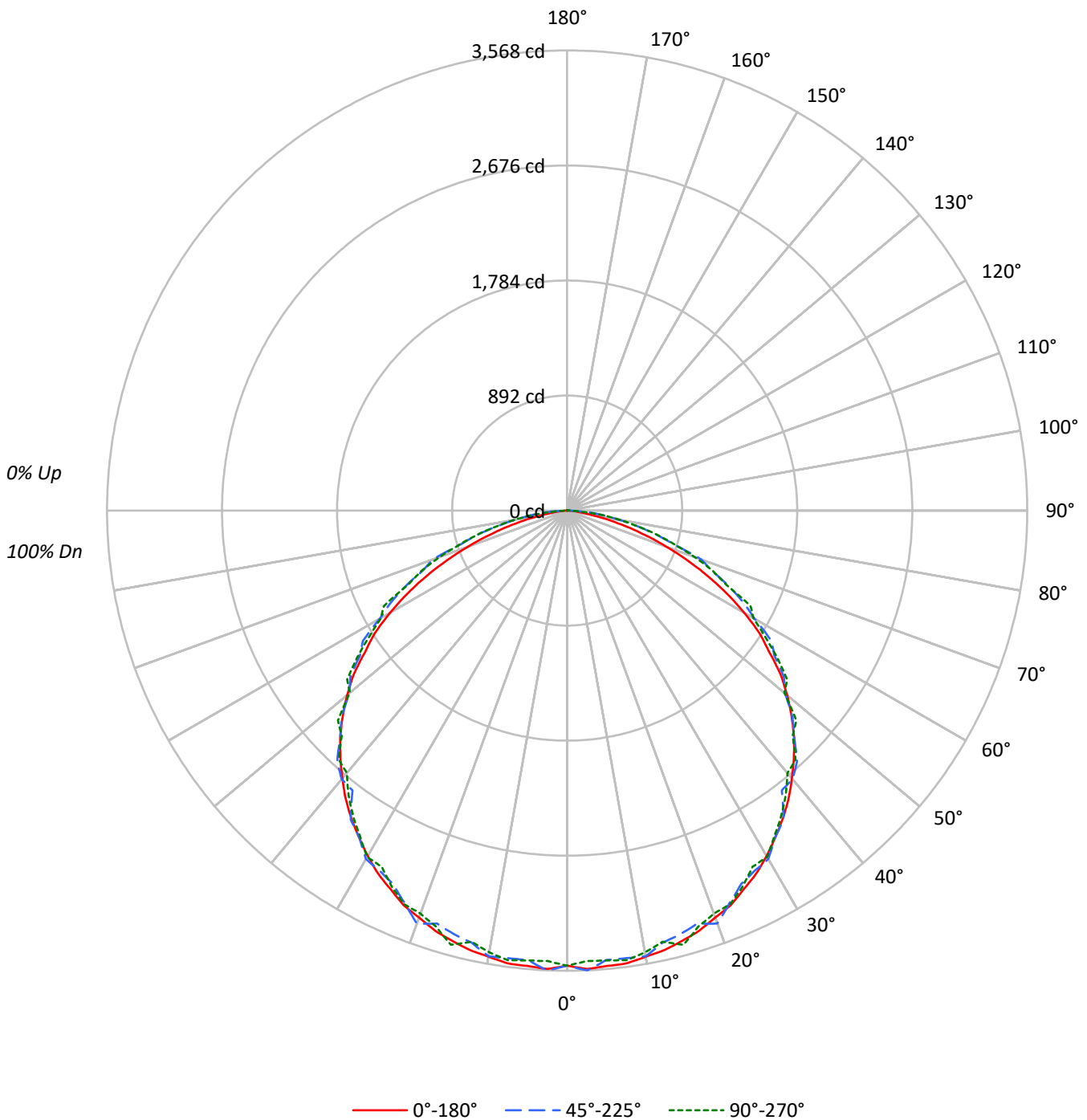
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10480.0 lumens  
Efficiency: N/A  
Efficacy: 118.2 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): 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	100
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	83
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	78	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	49	45	43
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	42	34	29	55	42	34	29	41	33	28	40	33	28	39	32	28	26
10	52	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24

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

	0°	45°	90°
0°	16276	16276	16276
5°	16413	16197	16212
10°	16452	16437	16294
15°	16490	16236	16650
20°	16484	16728	16326
25°	16486	16256	16379
30°	16472	16618	16516
35°	16419	16473	16292
40°	16327	16376	15998
45°	16230	16241	16125
50°	15985	15835	15777
55°	15391	15779	15986
60°	14629	15475	15371
65°	13165	15061	14833
70°	11061	14923	14185
75°	8370	12669	12840
80°	5000	10637	11150
85°	2212	9109	7405



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	334.8	3.2
10°-20°	965.4	9.2
20°-30°	1478.0	14.1
30°-40°	1809.0	17.3
40°-50°	1913.3	18.3
50°-60°	1749.4	16.7
60°-70°	1319.1	12.6
70°-80°	708.2	6.8
80°-90°	170.8	1.6
90°-100°	14.3	0.1
100°-110°	7.9	0.1
110°-120°	5.0	0.0
120°-130°	3.3	0.0
130°-140°	1.6	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°	2778.2	26.5
0°-40°	4587.1	43.8
0°-60°	8249.8	78.7
0°-90°	10447.9	99.7
90°-120°	27.2	0.3
90°-150°	32.1	0.3
90°-180°	32.0	0.3
0°-180°	10480.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3528	3528	3528	3528	3528	
5°	3544	3538	3498	3510	3501	338
15°	3453	3398	3400	3466	3486	975
25°	3239	3192	3194	3202	3218	1495
35°	2916	2928	2925	2895	2893	1824
45°	2488	2497	2489	2506	2472	1915
55°	1914	1880	1962	1996	1988	1716
65°	1206	1267	1380	1415	1359	1191
75°	470	619	711	728	720	507
85°	42	135	172	156	140	65
90°	0	26	22	19	16	2
95°	0	14	16	14	11	0
105°	0	5	10	10	8	0
115°	2	3	6	6	6	2
125°	2	2	5	5	5	2
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-40-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3528.2	3528.2	3528.2	3528.2	3528.2
2.5°	3557.2	3526.6	3568.4	3534.7	3496.1
5°	3544.3	3537.9	3497.7	3510.5	3500.9
7.5°	3541.1	3473.6	3500.9	3518.6	3515.4
10°	3512.2	3463.9	3508.9	3441.4	3478.4
12.5°	3489.6	3441.4	3430.1	3380.3	3423.7
15°	3452.7	3398.0	3399.6	3465.5	3486.4
17.5°	3414.1	3381.9	3357.8	3381.9	3381.9
20°	3357.8	3311.1	3407.6	3287.0	3325.6
22.5°	3312.7	3227.5	3293.5	3267.7	3303.1
25°	3238.8	3192.1	3193.7	3201.8	3217.9
27.5°	3174.4	3081.2	3148.7	3158.4	3113.3
30°	3092.4	3010.4	3119.8	2983.1	3100.5
32.5°	3004.0	2992.7	3002.4	2986.3	2991.1
35°	2915.5	2928.4	2925.2	2894.6	2893.0
37.5°	2820.7	2780.5	2733.8	2770.8	2783.7
40°	2711.3	2656.6	2719.3	2688.8	2656.6
42.5°	2602.0	2553.7	2638.9	2537.6	2621.3
45°	2487.8	2497.4	2489.4	2505.5	2471.7
47.5°	2360.7	2378.4	2370.4	2341.4	2410.6
50°	2227.3	2227.3	2206.4	2278.7	2198.3
52.5°	2085.7	2113.1	2117.9	2064.8	2150.1
55°	1913.7	1879.9	1961.9	1995.7	1987.6
57.5°	1767.3	1773.8	1876.7	1854.2	1820.4
60°	1585.6	1680.5	1677.3	1659.6	1666.0
62.5°	1399.1	1453.7	1540.6	1511.6	1603.3
65°	1206.1	1267.2	1379.8	1415.2	1358.9
67.5°	1009.9	1109.6	1207.7	1202.9	1220.6
70°	820.1	961.7	1106.4	1037.2	1051.7
72.5°	636.8	783.2	860.3	919.9	870.0
75°	469.6	619.1	710.8	728.5	720.4
77.5°	316.8	469.6	553.2	559.6	551.6
80°	188.2	345.7	400.4	432.6	419.7
82.5°	96.5	228.4	289.5	287.9	279.8
85°	41.8	135.1	172.1	156.0	139.9
87.5°	12.9	72.4	56.3	35.4	28.9
90°	0.0	25.7	22.5	19.3	16.1
92.5°	0.0	17.7	17.7	16.1	12.9
95°	0.0	14.5	16.1	14.5	11.3
97.5°	0.0	11.3	14.5	12.9	11.3
100°	0.0	8.0	12.9	12.9	9.6
102.5°	0.0	6.4	11.3	11.3	9.6
105°	0.0	4.8	9.6	9.6	8.0
107.5°	0.0	4.8	8.0	9.6	8.0
110°	1.6	3.2	8.0	8.0	8.0



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**CANDELA DISTRIBUTION (continued):**

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