

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: P239243

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239243  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-10)  
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-1-LO-40-OPL-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 1-ROW LED BOARDS, OPAL LENS  
Light Source: (84) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

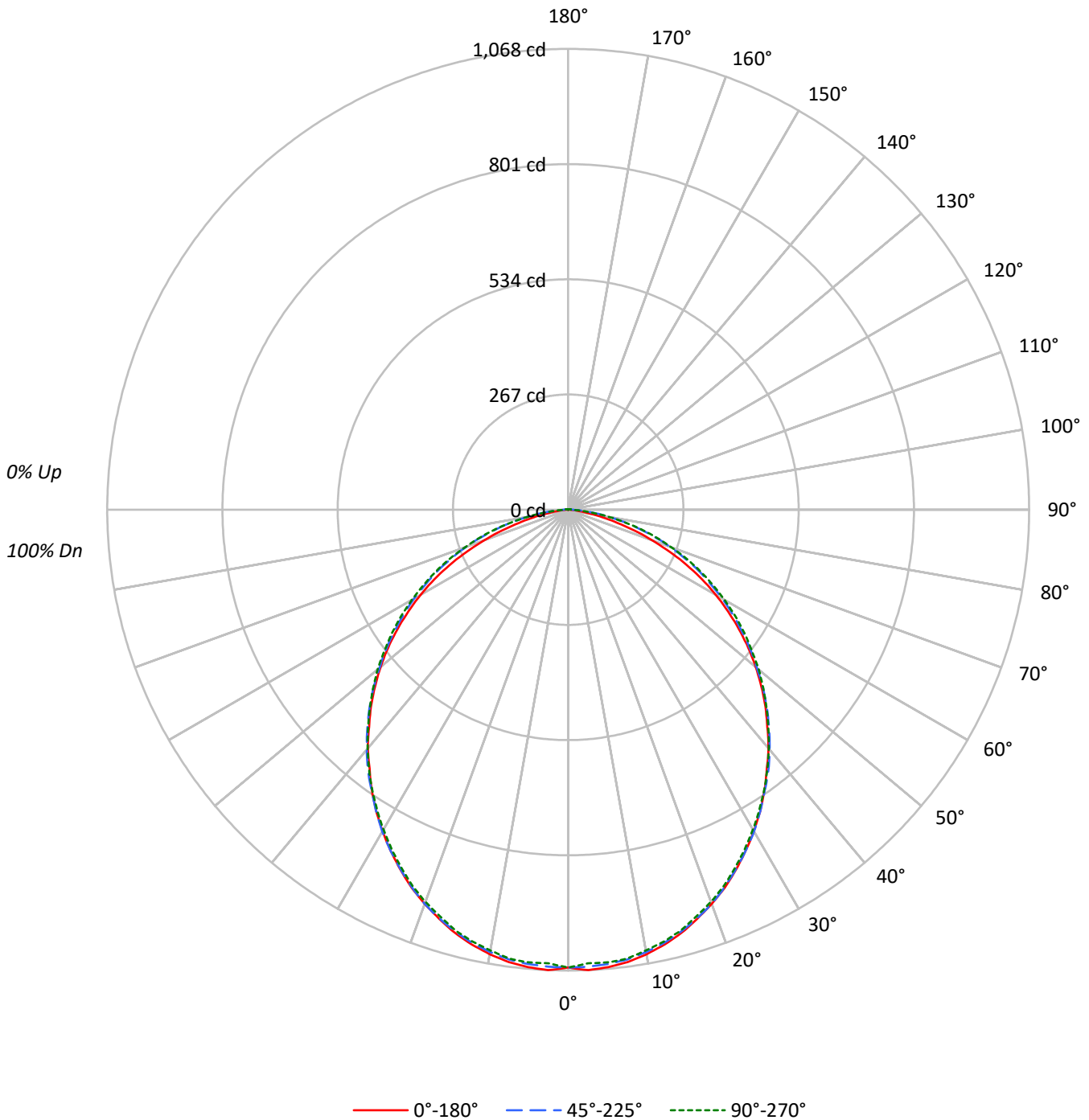
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2782.0 lumens  
Efficiency: N/A  
Efficacy: 117.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32  
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
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	97	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	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	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	49	74	63	54	48	61	53	48	59	52	47	57	51	47	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	43	37	48	42	37	47	41	37	35
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	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	27	39	32	27	38	32	27	37	31	27	25

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

	0°	45°	90°
0°	4895	4895	4895
5°	4928	4895	4877
10°	4900	4877	4858
15°	4848	4834	4819
20°	4772	4772	4748
25°	4683	4678	4658
30°	4582	4587	4560
35°	4466	4472	4461
40°	4348	4373	4354
45°	4215	4248	4241
50°	4070	4099	4135
55°	3885	3950	4006
60°	3644	3801	3857
65°	3307	3624	3689
70°	2792	3385	3426
75°	2121	3030	3101
80°	1328	2577	2524
85°	635	1905	1747



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.2	3.6
10°-20°	284.3	10.2
20°-30°	421.8	15.2
30°-40°	494.7	17.8
40°-50°	498.9	17.9
50°-60°	437.7	15.7
60°-70°	321.2	11.5
70°-80°	170.1	6.1
80°-90°	40.9	1.5
90°-100°	6.0	0.2
100°-110°	3.0	0.1
110°-120°	1.6	0.1
120°-130°	1.0	0.0
130°-140°	0.5	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°	806.4	29.0
0°-40°	1301.1	46.8
0°-60°	2237.7	80.4
0°-90°	2769.9	99.6
90°-120°	10.6	0.4
90°-150°	12.1	0.4
90°-180°	12.0	0.4
0°-180°	2782.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1061	1061	1061	1061	1061	
5°	1064	1052	1057	1053	1053	101
15°	1015	1004	1012	1008	1009	286
25°	920	913	919	912	915	424
35°	793	787	794	789	792	496
45°	646	641	651	648	650	498
55°	483	480	491	496	498	431
65°	303	311	332	338	338	299
75°	119	149	170	174	174	129
85°	12	33	36	35	33	18
90°	0	9	9	8	8	1
95°	0	5	7	7	6	0
105°	0	2	3	4	4	0
115°	1	1	2	2	2	1
125°	1	1	1	1	1	1
135°	1	1	1	1	1	0
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: P239243

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

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1061.1	1061.1	1061.1	1061.1	1061.1
2.5°	1068.1	1056.1	1060.1	1057.1	1052.1
5°	1064.1	1052.1	1057.1	1053.1	1053.1
7.5°	1057.1	1046.1	1051.1	1047.1	1049.1
10°	1046.1	1035.1	1041.1	1037.1	1037.1
12.5°	1032.1	1021.1	1028.1	1023.1	1025.1
15°	1015.1	1004.1	1012.1	1008.1	1009.1
17.5°	994.1	985.1	993.1	988.1	988.1
20°	972.1	964.1	972.1	965.1	967.1
22.5°	948.1	941.1	947.1	939.1	943.1
25°	920.1	913.1	919.1	912.1	915.1
27.5°	891.1	884.1	891.1	885.1	886.1
30°	860.1	854.1	861.1	854.1	856.1
32.5°	828.1	821.1	828.1	823.1	824.1
35°	793.1	787.1	794.1	789.1	792.1
37.5°	756.1	752.1	762.1	755.1	758.1
40°	722.1	715.1	726.1	719.1	723.1
42.5°	683.1	678.1	689.1	684.1	686.1
45°	646.1	641.1	651.1	648.1	650.1
47.5°	607.1	602.1	612.1	610.1	613.1
50°	567.1	563.1	571.1	573.1	576.1
52.5°	526.1	522.1	532.1	535.1	536.1
55°	483.1	480.1	491.1	496.1	498.1
57.5°	439.1	439.1	452.1	457.1	459.1
60°	395.0	396.0	412.0	417.0	418.0
62.5°	350.0	355.0	371.0	378.0	378.0
65°	303.0	311.0	332.0	338.0	338.0
67.5°	254.0	267.0	291.0	296.0	297.0
70°	207.0	224.0	251.0	255.0	254.0
72.5°	161.0	186.0	210.0	215.0	214.0
75°	119.0	149.0	170.0	174.0	174.0
77.5°	82.0	113.0	133.0	135.0	134.0
80°	50.0	83.0	97.0	97.0	95.0
82.5°	27.0	56.0	64.0	62.0	60.0
85°	12.0	33.0	36.0	35.0	33.0
87.5°	4.0	16.0	17.0	16.0	16.0
90°	0.0	9.0	9.0	8.0	8.0
92.5°	0.0	6.0	8.0	7.0	6.0
95°	0.0	5.0	7.0	7.0	6.0
97.5°	0.0	3.0	6.0	6.0	6.0
100°	0.0	3.0	5.0	6.0	5.0
102.5°	0.0	2.0	4.0	5.0	5.0
105°	0.0	2.0	3.0	4.0	4.0
107.5°	0.0	1.0	3.0	3.0	3.0
110°	0.0	1.0	2.0	3.0	3.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.0	2.0	2.0	2.0
115°	1.0	1.0	2.0	2.0	2.0
117.5°	1.0	1.0	2.0	2.0	2.0
120°	1.0	1.0	1.0	2.0	2.0
122.5°	1.0	1.0	1.0	2.0	2.0
125°	1.0	1.0	1.0	1.0	1.0
127.5°	1.0	1.0	1.0	1.0	1.0
130°	1.0	1.0	1.0	1.0	1.0
132.5°	1.0	1.0	1.0	1.0	1.0
135°	1.0	1.0	1.0	1.0	1.0
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)