

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: P239302

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239302  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-19)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: HDF-2-LD4-UNV-1-LO-35-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 1-ROW LED BOARDS, CLEAR LENS  
Light Source: (42) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

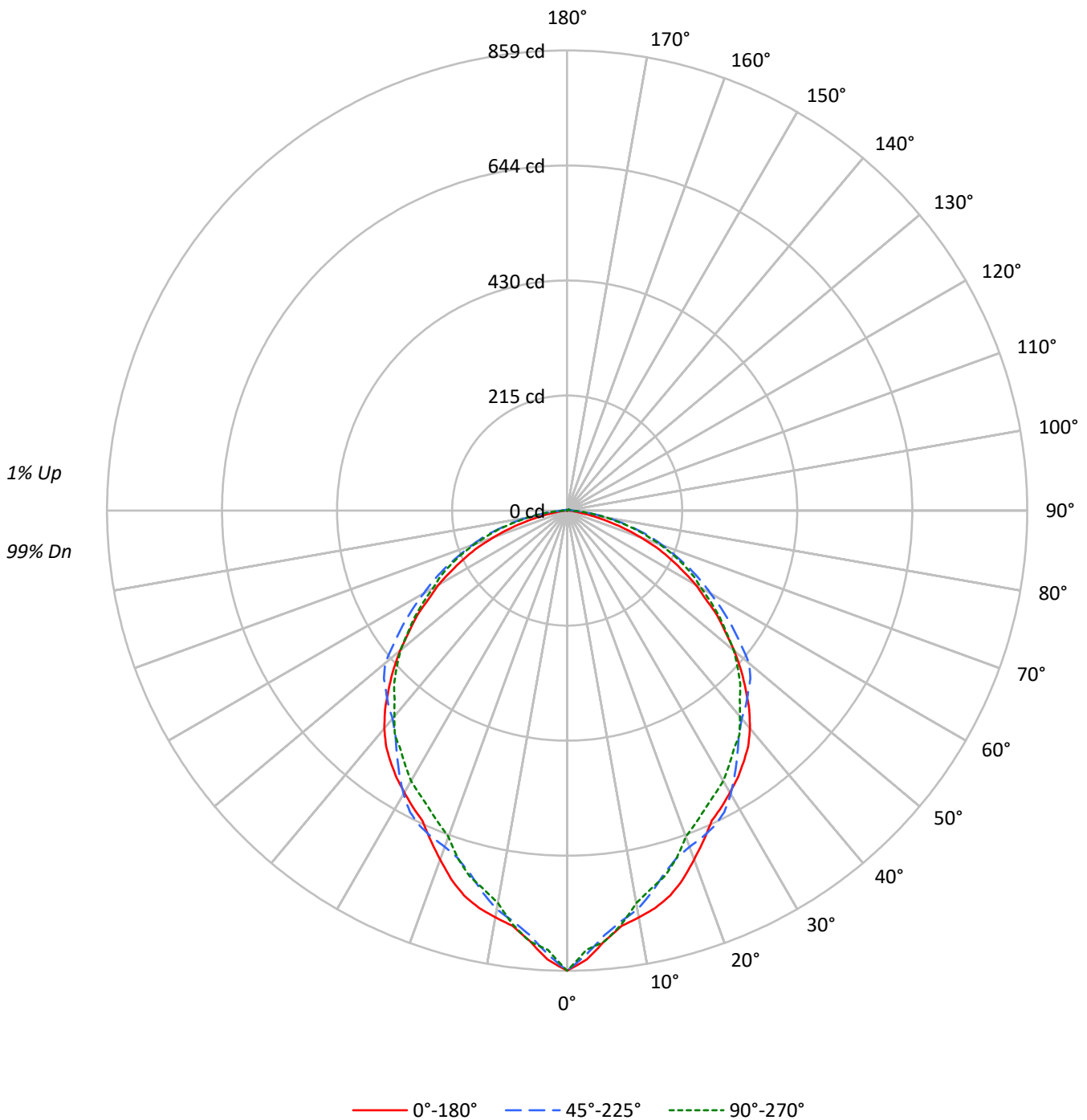
Lumens per Lamp: N/A  
Luminaire Lumens: 2008.0 lumens  
Efficiency: N/A  
Efficacy: 81.3 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1 / 1.23  
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 24.7  
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	101	101	101	99
1	109	104	100	96	106	102	98	95	97	94	91	93	91	89	90	88	86	84
2	99	91	84	79	96	89	83	78	85	80	76	82	78	74	79	75	72	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	65	61	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	62	57	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	38
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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

	0°	45°	90°
0°	7924	7924	7924
5°	7464	7371	7473
10°	7222	7082	6969
15°	7105	6695	6743
20°	6803	6558	6361
25°	6504	6616	6229
30°	6476	6508	6210
35°	6464	6239	6115
40°	6394	6105	6045
45°	6146	6237	5963
50°	5842	6359	5827
55°	5501	6032	5598
60°	5111	5702	5314
65°	4628	5436	5239
70°	3938	5098	4964
75°	2887	4705	4563
80°	1594	3985	3825
85°	847	3070	2964



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.0	3.7
10°-20°	200.3	10.0
20°-30°	294.6	14.7
30°-40°	349.3	17.4
40°-50°	358.5	17.9
50°-60°	324.0	16.1
60°-70°	234.6	11.7
70°-80°	125.5	6.2
80°-90°	31.5	1.6
90°-100°	6.4	0.3
100°-110°	3.8	0.2
110°-120°	2.2	0.1
120°-130°	1.6	0.1
130°-140°	0.8	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°	569.9	28.4
0°-40°	919.2	45.8
0°-60°	1601.7	79.8
0°-90°	1993.3	99.3
90°-120°	12.4	0.6
90°-150°	14.8	0.7
90°-180°	15.0	0.7
0°-180°	2008.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	859	859	859	859	859	
5°	806	796	796	798	807	76
15°	744	712	701	702	706	208
25°	639	649	650	627	612	297
35°	574	565	554	556	543	359
45°	471	460	478	452	457	363
55°	342	363	375	377	348	304
65°	212	222	249	250	240	210
75°	81	106	132	131	128	88
85°	8	23	29	29	28	11
90°	0	8	9	8	6	0
95°	0	5	8	7	6	0
105°	0	2	4	5	5	1
115°	1	1	2	3	3	1
125°	1	1	2	2	3	1
135°	1	1	1	2	3	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: P239302

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	858.9	858.9	858.9	858.9	858.9
2.5°	838.9	833.9	828.9	821.9	820.9
5°	805.9	795.9	795.9	797.9	806.9
7.5°	781.9	773.9	772.9	773.9	778.9
10°	770.9	759.9	755.9	740.9	743.9
12.5°	759.9	739.9	729.9	719.9	722.9
15°	743.9	711.9	700.9	701.9	705.9
17.5°	720.9	690.9	679.9	684.9	679.9
20°	692.9	675.9	667.9	664.9	647.9
22.5°	665.9	661.9	659.9	641.9	629.9
25°	638.9	648.9	649.9	626.9	611.9
27.5°	623.9	636.9	634.9	613.9	596.9
30°	607.9	617.9	610.9	601.9	582.9
32.5°	591.9	593.9	582.9	583.9	562.9
35°	573.9	564.9	553.9	555.9	542.9
37.5°	554.9	538.9	526.9	523.9	527.9
40°	530.9	506.9	506.9	495.9	501.9
42.5°	502.9	484.9	493.9	474.0	477.0
45°	471.0	460.0	478.0	452.0	457.0
47.5°	440.0	438.0	464.0	438.0	431.0
50°	407.0	412.0	443.0	419.0	406.0
52.5°	372.0	390.0	408.0	399.0	375.0
55°	342.0	363.0	375.0	377.0	348.0
57.5°	306.0	326.0	342.0	347.0	318.0
60°	277.0	294.0	309.0	312.0	288.0
62.5°	243.0	259.0	280.0	280.0	267.0
65°	212.0	222.0	249.0	250.0	240.0
67.5°	181.0	189.0	218.0	220.0	213.0
70°	146.0	159.0	189.0	189.0	184.0
72.5°	113.0	133.0	163.0	159.0	155.0
75°	81.0	106.0	132.0	131.0	128.0
77.5°	52.0	81.0	103.0	102.0	99.0
80°	30.0	58.0	75.0	74.0	72.0
82.5°	16.0	39.0	50.0	49.0	48.0
85°	8.0	23.0	29.0	29.0	28.0
87.5°	3.0	13.0	16.0	14.0	13.0
90°	0.0	8.0	9.0	8.0	6.0
92.5°	0.0	6.0	9.0	8.0	6.0
95°	0.0	5.0	8.0	7.0	6.0
97.5°	0.0	4.0	7.0	7.0	6.0
100°	0.0	3.0	6.0	7.0	6.0
102.5°	0.0	2.0	5.0	6.0	5.0
105°	0.0	2.0	4.0	5.0	5.0
107.5°	1.0	2.0	4.0	5.0	5.0
110°	1.0	1.0	3.0	4.0	4.0



TEST NUMBER: P239302

CATALOG NUMBER: HDF-2-LD4-UNV-1-LO-35-IK12-EDC-1

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.0	3.0	3.0	4.0
115°	1.0	1.0	2.0	3.0	3.0
117.5°	1.0	1.0	2.0	3.0	3.0
120°	1.0	1.0	2.0	3.0	3.0
122.5°	1.0	1.0	2.0	2.0	3.0
125°	1.0	1.0	2.0	2.0	3.0
127.5°	1.0	1.0	2.0	2.0	3.0
130°	1.0	1.0	2.0	2.0	3.0
132.5°	1.0	1.0	2.0	2.0	3.0
135°	1.0	1.0	1.0	2.0	3.0
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)