

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: P239257

Luminaire Tested: **HDF-2-LD4-UNV-2-HI-30-IK12-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239257  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-14)  
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-2-HI-30-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 2-ROW LED BOARDS, CLEAR LENS  
Light Source: (84) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

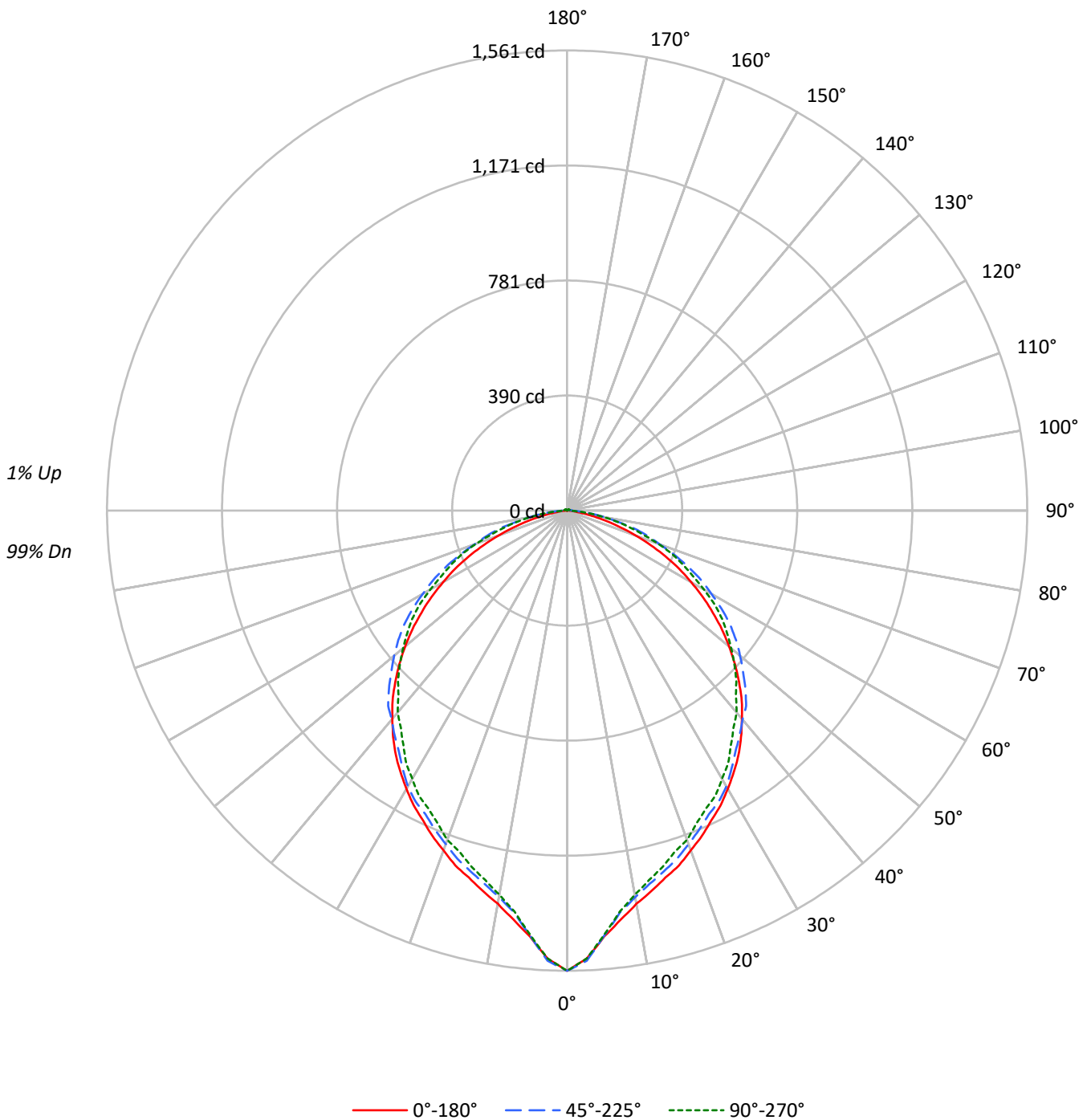
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3588.3 lumens  
Efficiency: N/A  
Efficacy: 81.7 lumens/watt  
Spacing Criteria (0/90/45): 1.05 / 1.01 / 1.23  
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.9  
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	98	94	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	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	55	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	71	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	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°	14403	14403	14403
5°	13429	13399	13371
10°	12690	12470	12396
15°	12309	12100	11950
20°	12038	11822	11669
25°	11796	11573	11350
30°	11610	11510	11194
35°	11411	11217	10917
40°	11108	11145	10769
45°	10767	11155	10583
50°	10294	10990	10429
55°	9696	10856	10327
60°	8957	10431	9881
65°	8034	9948	9468
70°	6717	8996	8829
75°	5023	8427	7871
80°	2997	6737	6572
85°	1493	5304	4478



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.6	3.8
10°-20°	358.6	10.0
20°-30°	525.3	14.6
30°-40°	623.6	17.4
40°-50°	644.1	18.0
50°-60°	578.9	16.1
60°-70°	422.7	11.8
70°-80°	221.7	6.2
80°-90°	52.9	1.5
90°-100°	10.7	0.3
100°-110°	6.7	0.2
110°-120°	4.1	0.1
120°-130°	2.9	0.1
130°-140°	1.5	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°	1018.5	28.4
0°-40°	1642.1	45.8
0°-60°	2865.1	79.8
0°-90°	3562.5	99.3
90°-120°	21.4	0.6
90°-150°	25.8	0.7
90°-180°	26.0	0.7
0°-180°	3588.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1561	1561	1561	1561	1561	
5°	1450	1453	1447	1436	1444	136
15°	1289	1287	1267	1267	1251	364
25°	1159	1145	1137	1130	1115	535
35°	1013	1008	996	986	969	633
45°	825	841	855	828	811	636
55°	603	639	675	661	642	539
65°	368	404	456	446	434	364
75°	141	193	236	229	221	152
85°	14	36	50	47	42	20
90°	0	12	14	12	9	1
95°	0	8	14	12	9	0
105°	2	3	8	9	9	1
115°	2	2	5	5	6	2
125°	2	2	3	5	5	2
135°	3	2	3	3	5	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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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1561.1	1561.1	1561.1	1561.1	1561.1
2.5°	1520.4	1528.3	1528.3	1523.6	1520.4
5°	1450.0	1453.1	1446.8	1435.9	1443.7
7.5°	1398.3	1392.0	1374.8	1363.8	1371.7
10°	1354.5	1348.2	1331.0	1315.3	1323.1
12.5°	1321.6	1318.4	1296.5	1287.1	1284.0
15°	1288.7	1287.1	1266.8	1266.8	1251.1
17.5°	1262.1	1257.4	1238.6	1232.3	1213.5
20°	1226.1	1226.1	1204.1	1191.6	1188.5
22.5°	1194.7	1175.9	1171.2	1163.4	1147.8
25°	1158.7	1144.6	1136.8	1130.5	1114.9
27.5°	1127.4	1111.7	1113.3	1096.1	1089.8
30°	1089.8	1078.9	1080.4	1061.6	1050.7
32.5°	1052.2	1044.4	1038.2	1027.2	1016.2
35°	1013.1	1008.4	995.9	986.5	969.3
37.5°	969.3	969.3	961.4	952.0	927.0
40°	922.3	922.3	925.4	905.1	894.1
42.5°	876.9	881.6	898.8	873.7	847.1
45°	825.2	840.9	854.9	828.3	811.1
47.5°	772.0	792.3	809.5	792.3	768.8
50°	717.2	748.5	765.7	746.9	726.6
52.5°	662.4	693.7	721.9	706.2	684.3
55°	602.8	638.9	674.9	660.8	642.0
57.5°	546.5	587.2	621.6	612.2	593.5
60°	485.4	527.7	565.3	557.4	535.5
62.5°	429.0	466.6	513.6	502.6	480.7
65°	368.0	404.0	455.7	446.3	433.7
67.5°	306.9	346.1	394.6	394.6	386.8
70°	249.0	292.8	333.5	344.5	327.3
72.5°	191.0	241.1	285.0	285.0	269.3
75°	140.9	192.6	236.4	228.6	220.8
77.5°	94.0	144.1	176.9	178.5	172.2
80°	56.4	98.6	126.8	131.5	123.7
82.5°	29.8	65.8	86.1	86.1	81.4
85°	14.1	36.0	50.1	47.0	42.3
87.5°	6.3	20.4	23.5	21.9	17.2
90°	0.0	12.5	14.1	12.5	9.4
92.5°	0.0	11.0	14.1	12.5	9.4
95°	0.0	7.8	14.1	12.5	9.4
97.5°	0.0	6.3	12.5	12.5	11.0
100°	0.0	4.7	11.0	11.0	11.0
102.5°	0.0	3.1	9.4	11.0	9.4
105°	1.6	3.1	7.8	9.4	9.4
107.5°	1.6	3.1	6.3	7.8	7.8
110°	1.6	3.1	4.7	6.3	7.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	3.1	4.7	6.3	6.3
115°	1.6	1.6	4.7	4.7	6.3
117.5°	1.6	3.1	4.7	4.7	6.3
120°	1.6	1.6	3.1	4.7	6.3
122.5°	1.6	1.6	3.1	4.7	6.3
125°	1.6	1.6	3.1	4.7	4.7
127.5°	3.1	1.6	3.1	4.7	4.7
130°	3.1	1.6	3.1	3.1	4.7
132.5°	3.1	1.6	3.1	3.1	4.7
135°	3.1	1.6	3.1	3.1	4.7
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)