

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: P239304

Luminaire Tested: **HDF-2-LD4-UNV-1-LO-50-IK12-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239304  
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-50-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 1-ROW LED BOARDS, CLEAR LENS  
Light Source: (42) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

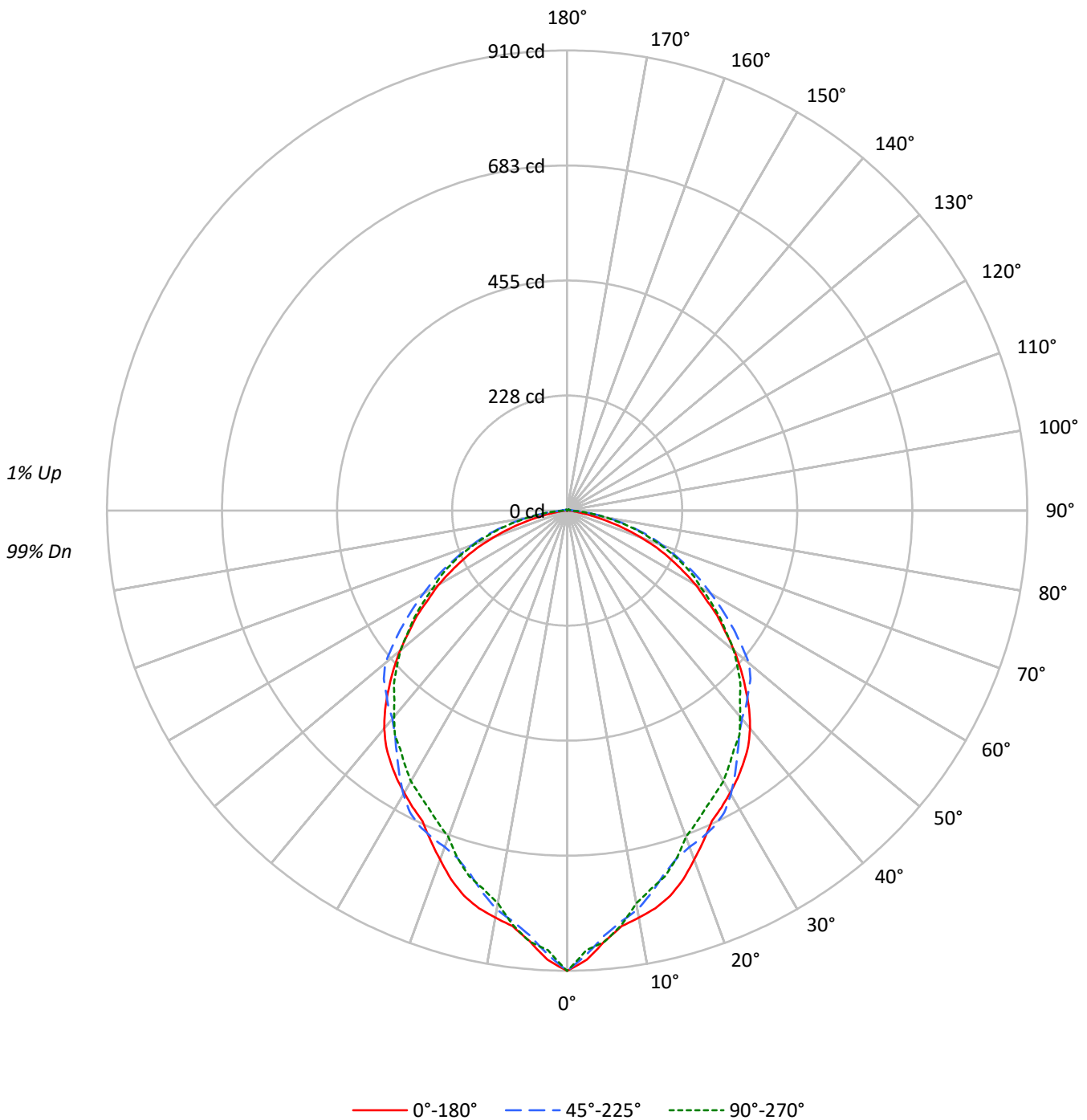
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2128.5 lumens  
Efficiency: N/A  
Efficacy: 86.2 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°	8400	8400	8400
5°	7912	7814	7921
10°	7656	7507	7388
15°	7532	7097	7148
20°	7212	6951	6743
25°	6895	7013	6604
30°	6865	6899	6583
35°	6852	6614	6482
40°	6778	6472	6409
45°	6513	6610	6320
50°	6192	6739	6176
55°	5831	6394	5932
60°	5418	6043	5632
65°	4905	5761	5554
70°	4173	5403	5260
75°	3062	4987	4837
80°	1690	4224	4054
85°	900	3250	3144



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.5	3.7
10°-20°	212.3	10.0
20°-30°	312.3	14.7
30°-40°	370.3	17.4
40°-50°	380.0	17.9
50°-60°	343.4	16.1
60°-70°	248.7	11.7
70°-80°	133.0	6.2
80°-90°	33.4	1.6
90°-100°	6.8	0.3
100°-110°	4.1	0.2
110°-120°	2.3	0.1
120°-130°	1.7	0.1
130°-140°	0.9	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°	604.1	28.4
0°-40°	974.4	45.8
0°-60°	1697.8	79.8
0°-90°	2112.8	99.3
90°-120°	13.1	0.6
90°-150°	15.7	0.7
90°-180°	16.0	0.8
0°-180°	2128.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	854	844	844	846	855	80
15°	789	755	743	744	748	221
25°	677	688	689	665	649	315
35°	608	599	587	589	576	380
45°	499	488	507	479	484	385
55°	362	385	398	400	369	323
65°	225	235	264	265	254	222
75°	86	112	140	139	136	93
85°	8	24	31	31	30	12
90°	0	8	10	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	1
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: P239304

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	910.4	910.4	910.4	910.4	910.4
2.5°	889.2	883.9	878.6	871.2	870.2
5°	854.3	843.7	843.7	845.8	855.3
7.5°	828.8	820.4	819.3	820.4	825.7
10°	817.2	805.5	801.3	785.4	788.6
12.5°	805.5	784.3	773.7	763.1	766.3
15°	788.6	754.6	743.0	744.0	748.3
17.5°	764.2	732.4	720.7	726.0	720.7
20°	734.5	716.5	708.0	704.8	686.8
22.5°	705.9	701.6	699.5	680.4	667.7
25°	677.3	687.9	688.9	664.6	648.7
27.5°	661.4	675.1	673.0	650.8	632.8
30°	644.4	655.0	647.6	638.1	617.9
32.5°	627.5	629.6	617.9	619.0	596.7
35°	608.4	598.8	587.2	589.3	575.5
37.5°	588.2	571.3	558.6	555.4	559.6
40°	562.8	537.4	537.4	525.7	532.1
42.5°	533.1	514.0	523.6	502.4	505.6
45°	499.2	487.5	506.6	479.1	484.4
47.5°	466.4	464.2	491.8	464.2	456.8
50°	431.4	436.7	469.5	444.1	430.3
52.5°	394.3	413.4	432.4	422.9	397.5
55°	362.5	384.7	397.5	399.6	368.8
57.5°	324.3	345.5	362.5	367.8	337.0
60°	293.6	311.6	327.5	330.7	305.2
62.5°	257.6	274.5	296.8	296.8	283.0
65°	224.7	235.3	263.9	265.0	254.4
67.5°	191.8	200.3	231.1	233.2	225.8
70°	154.7	168.5	200.3	200.3	195.0
72.5°	119.8	141.0	172.8	168.5	164.3
75°	85.9	112.3	139.9	138.8	135.7
77.5°	55.1	85.9	109.2	108.1	104.9
80°	31.8	61.5	79.5	78.4	76.3
82.5°	17.0	41.3	53.0	51.9	50.9
85°	8.5	24.4	30.7	30.7	29.7
87.5°	3.2	13.8	17.0	14.8	13.8
90°	0.0	8.5	9.5	8.5	6.4
92.5°	0.0	6.4	9.5	8.5	6.4
95°	0.0	5.3	8.5	7.4	6.4
97.5°	0.0	4.2	7.4	7.4	6.4
100°	0.0	3.2	6.4	7.4	6.4
102.5°	0.0	2.1	5.3	6.4	5.3
105°	0.0	2.1	4.2	5.3	5.3
107.5°	1.1	2.1	4.2	5.3	5.3
110°	1.1	1.1	3.2	4.2	4.2



TEST NUMBER: P239304

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	1.1	3.2	3.2	4.2
115°	1.1	1.1	2.1	3.2	3.2
117.5°	1.1	1.1	2.1	3.2	3.2
120°	1.1	1.1	2.1	3.2	3.2
122.5°	1.1	1.1	2.1	2.1	3.2
125°	1.1	1.1	2.1	2.1	3.2
127.5°	1.1	1.1	2.1	2.1	3.2
130°	1.1	1.1	2.1	2.1	3.2
132.5°	1.1	1.1	2.1	2.1	3.2
135°	1.1	1.1	1.1	2.1	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)