

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: P239260

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239260  
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-50-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 2-ROW LED BOARDS, CLEAR LENS  
Light Source: (84) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

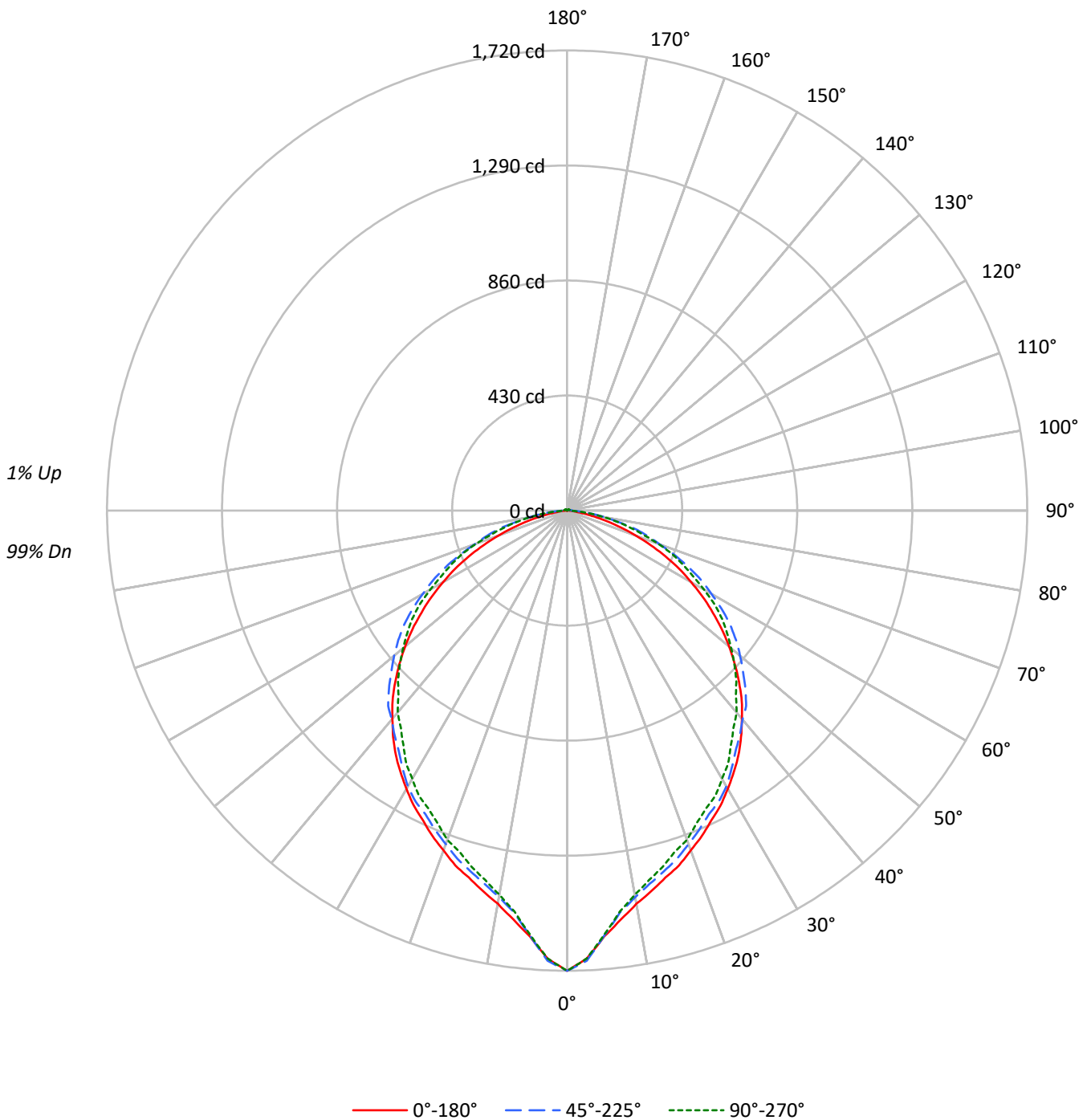
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3953.9 lumens  
Efficiency: N/A  
Efficacy: 90.1 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	96	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°	15871	15871	15871
5°	14797	14765	14733
10°	13982	13740	13658
15°	13563	13332	13168
20°	13265	13027	12857
25°	12998	12751	12506
30°	12793	12683	12334
35°	12573	12359	12029
40°	12239	12281	11866
45°	11864	12291	11661
50°	11342	12110	11491
55°	10686	11961	11379
60°	9870	11494	10889
65°	8853	10961	10433
70°	7399	9914	9727
75°	5536	9286	8673
80°	3299	7428	7242
85°	1641	5843	4933



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.3	3.8
10°-20°	395.2	10.0
20°-30°	578.8	14.6
30°-40°	687.2	17.4
40°-50°	709.7	18.0
50°-60°	637.8	16.1
60°-70°	465.8	11.8
70°-80°	244.3	6.2
80°-90°	58.3	1.5
90°-100°	11.7	0.3
100°-110°	7.4	0.2
110°-120°	4.5	0.1
120°-130°	3.2	0.1
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°	1122.3	28.4
0°-40°	1809.4	45.8
0°-60°	3157.0	79.8
0°-90°	3925.4	99.3
90°-120°	23.6	0.6
90°-150°	28.5	0.7
90°-180°	28.0	0.7
0°-180°	3953.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1720	1720	1720	1720	1720	
5°	1598	1601	1594	1582	1591	150
15°	1420	1418	1396	1396	1379	401
25°	1277	1261	1253	1246	1228	589
35°	1116	1111	1097	1087	1068	697
45°	909	926	942	913	894	700
55°	664	704	744	728	707	594
65°	406	445	502	492	478	401
75°	155	212	260	252	243	168
85°	16	40	55	52	47	23
90°	0	14	16	14	10	1
95°	0	9	16	14	10	0
105°	2	4	9	10	10	1
115°	2	2	5	5	7	2
125°	2	2	4	5	5	2
135°	4	2	4	4	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°	1720.2	1720.2	1720.2	1720.2	1720.2
2.5°	1675.3	1683.9	1683.9	1678.8	1675.3
5°	1597.7	1601.1	1594.2	1582.2	1590.8
7.5°	1540.7	1533.8	1514.9	1502.8	1511.4
10°	1492.4	1485.5	1466.6	1449.3	1457.9
12.5°	1456.2	1452.7	1428.6	1418.2	1414.8
15°	1420.0	1418.2	1395.8	1395.8	1378.6
17.5°	1390.6	1385.5	1364.8	1357.9	1337.2
20°	1351.0	1351.0	1326.8	1313.0	1309.5
22.5°	1316.4	1295.7	1290.6	1281.9	1264.7
25°	1276.8	1261.2	1252.6	1245.7	1228.5
27.5°	1242.3	1225.0	1226.7	1207.7	1200.8
30°	1200.8	1188.8	1190.5	1169.8	1157.7
32.5°	1159.4	1150.8	1143.9	1131.8	1119.8
35°	1116.3	1111.1	1097.3	1087.0	1068.0
37.5°	1068.0	1068.0	1059.4	1049.0	1021.4
40°	1016.2	1016.2	1019.7	997.3	985.2
42.5°	966.2	971.4	990.4	962.7	933.4
45°	909.3	926.5	942.0	912.7	893.7
47.5°	850.6	873.0	892.0	873.0	847.1
50°	790.2	824.7	843.7	823.0	800.6
52.5°	729.8	764.3	795.4	778.1	754.0
55°	664.3	703.9	743.6	728.1	707.4
57.5°	602.1	647.0	685.0	674.6	653.9
60°	534.9	581.4	622.9	614.2	590.1
62.5°	472.7	514.2	565.9	553.8	529.7
65°	405.5	445.1	502.1	491.7	477.9
67.5°	338.2	381.3	434.8	434.8	426.2
70°	274.3	322.6	367.5	379.6	360.6
72.5°	210.5	265.7	314.0	314.0	296.8
75°	155.3	212.2	260.5	251.9	243.3
77.5°	103.5	158.7	195.0	196.7	189.8
80°	62.1	108.7	139.8	144.9	136.3
82.5°	32.8	72.5	94.9	94.9	89.7
85°	15.5	39.7	55.2	51.8	46.6
87.5°	6.9	22.4	25.9	24.2	19.0
90°	0.0	13.8	15.5	13.8	10.4
92.5°	0.0	12.1	15.5	13.8	10.4
95°	0.0	8.6	15.5	13.8	10.4
97.5°	0.0	6.9	13.8	13.8	12.1
100°	0.0	5.2	12.1	12.1	12.1
102.5°	0.0	3.5	10.4	12.1	10.4
105°	1.7	3.5	8.6	10.4	10.4
107.5°	1.7	3.5	6.9	8.6	8.6
110°	1.7	3.5	5.2	6.9	8.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	3.5	5.2	6.9	6.9
115°	1.7	1.7	5.2	5.2	6.9
117.5°	1.7	3.5	5.2	5.2	6.9
120°	1.7	1.7	3.5	5.2	6.9
122.5°	1.7	1.7	3.5	5.2	6.9
125°	1.7	1.7	3.5	5.2	5.2
127.5°	3.5	1.7	3.5	5.2	5.2
130°	3.5	1.7	3.5	3.5	5.2
132.5°	3.5	1.7	3.5	3.5	5.2
135°	3.5	1.7	3.5	3.5	5.2
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)