

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: P239224

Luminaire Tested: **HDF-4-LD4-UNV-1-HI-50-IK12-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239224  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-9)  
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-HI-50-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 1-ROW LED BOARDS, CLEAR LENS  
Light Source: (84) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

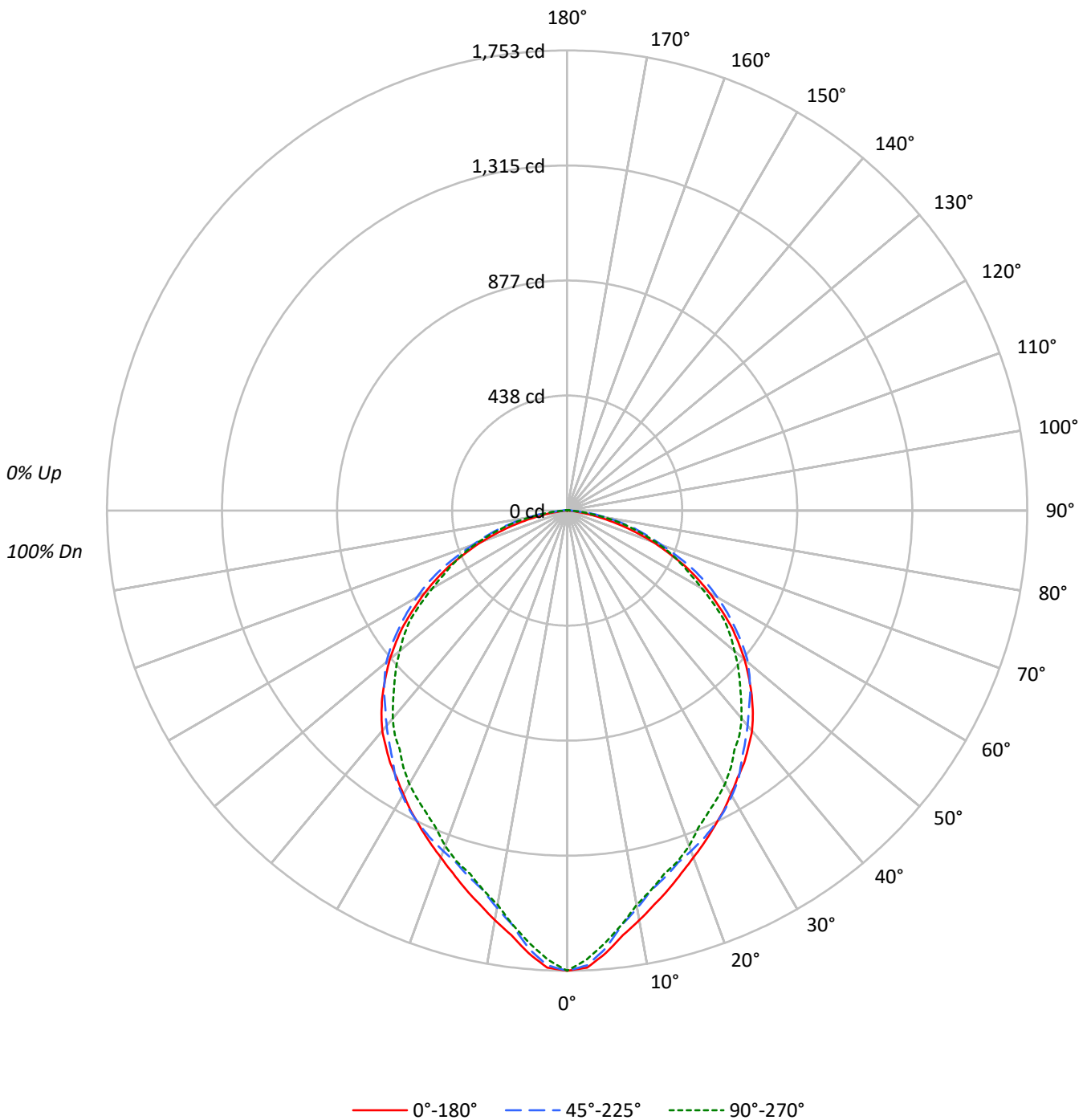
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4146.5 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Spacing Criteria (0/90/45): 1.07 / 1.02 / 1.25  
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 44.5  
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	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					100			
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84					84			
2	99	91	84	79	96	89	83	78	85	80	76	82	78	74	79	75	72	70					70			
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	65	61	59					59			
4	83	71	62	56	81	70	61	55	67	60	54	65	59	54	62	57	53	51					51			
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44					44			
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	40	38					38			
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34					34			
8	61	47	39	33	59	47	39	33	45	38	33	44	37	32	43	37	32	30					30			
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27					27			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

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

	0°	45°	90°
0°	8087	8087	8087
5°	7835	7755	7657
10°	7419	7199	7142
15°	7132	6899	6840
20°	6903	6775	6673
25°	6759	6741	6466
30°	6646	6683	6404
35°	6614	6526	6261
40°	6600	6443	6223
45°	6491	6435	6071
50°	6328	6453	5977
55°	6110	6293	5886
60°	5772	6093	5467
65°	5344	5782	5231
70°	4653	5147	4959
75°	3634	4752	4472
80°	2314	3934	3610
85°	1016	2768	2583



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.0	3.7
10°-20°	409.8	9.9
20°-30°	603.5	14.6
30°-40°	719.8	17.4
40°-50°	741.4	17.9
50°-60°	679.0	16.4
60°-70°	498.2	12.0
70°-80°	261.3	6.3
80°-90°	59.9	1.4
90°-100°	9.2	0.2
100°-110°	4.6	0.1
110°-120°	2.4	0.1
120°-130°	1.6	0.0
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°	1168.3	28.2
0°-40°	1888.0	45.5
0°-60°	3308.4	79.8
0°-90°	4127.9	99.6
90°-120°	16.2	0.4
90°-150°	18.6	0.4
90°-180°	19.0	0.5
0°-180°	4146.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1753	1753	1753	1753	1753	
5°	1692	1675	1675	1657	1654	158
15°	1493	1464	1444	1434	1432	421
25°	1328	1314	1324	1290	1270	613
35°	1174	1160	1159	1134	1112	734
45°	995	957	986	930	930	766
55°	760	767	782	762	732	676
65°	490	497	530	504	479	481
75°	204	234	267	261	251	220
85°	19	44	52	52	49	30
90°	0	12	12	10	9	1
95°	0	7	12	10	9	0
105°	0	2	5	7	7	0
115°	2	2	2	4	4	1
125°	2	2	2	2	2	2
135°	2	2	2	2	2	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: P239224

CATALOG NUMBER: HDF-4-LD4-UNV-1-HI-50-IK12-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1753.0	1753.0	1753.0	1753.0	1753.0
2.5°	1742.5	1730.3	1733.8	1721.6	1711.1
5°	1692.0	1674.6	1674.6	1657.1	1653.6
7.5°	1631.0	1599.6	1592.7	1589.2	1590.9
10°	1583.9	1542.1	1536.9	1516.0	1524.7
12.5°	1536.9	1503.8	1481.1	1462.0	1479.4
15°	1493.3	1463.7	1444.5	1434.1	1432.3
17.5°	1448.0	1423.6	1406.2	1406.2	1401.0
20°	1406.2	1383.6	1380.1	1373.1	1359.2
22.5°	1367.9	1345.2	1353.9	1334.8	1306.9
25°	1327.8	1313.9	1324.3	1289.5	1270.3
27.5°	1289.5	1286.0	1292.9	1252.9	1237.2
30°	1247.6	1249.4	1254.6	1218.0	1202.3
32.5°	1207.6	1209.3	1214.5	1181.4	1160.5
35°	1174.5	1160.5	1158.8	1134.4	1111.7
37.5°	1134.4	1110.0	1113.5	1083.8	1078.6
40°	1096.0	1062.9	1069.9	1033.3	1033.3
42.5°	1047.2	1005.4	1024.6	986.3	981.0
45°	995.0	956.6	986.3	930.5	930.5
47.5°	937.5	906.1	942.7	885.2	883.5
50°	881.7	862.5	899.1	846.9	832.9
52.5°	820.7	819.0	843.4	798.1	784.1
55°	759.7	766.7	782.4	761.5	731.9
57.5°	690.0	709.2	723.1	709.2	662.2
60°	625.6	643.0	660.4	636.0	592.5
62.5°	559.3	571.5	599.4	569.8	531.5
65°	489.6	496.6	529.7	503.6	479.2
67.5°	413.0	423.4	453.1	446.1	426.9
70°	345.0	352.0	381.6	390.3	367.7
72.5°	273.6	291.0	322.4	318.9	310.2
75°	203.9	233.5	266.6	261.4	250.9
77.5°	141.1	174.3	205.6	202.1	196.9
80°	87.1	118.5	148.1	146.4	135.9
82.5°	43.6	76.7	99.3	94.1	85.4
85°	19.2	43.6	52.3	52.3	48.8
87.5°	5.2	20.9	26.1	22.7	20.9
90°	0.0	12.2	12.2	10.5	8.7
92.5°	0.0	10.5	12.2	10.5	8.7
95°	0.0	7.0	12.2	10.5	8.7
97.5°	0.0	5.2	10.5	10.5	8.7
100°	0.0	3.5	8.7	8.7	8.7
102.5°	0.0	3.5	7.0	7.0	7.0
105°	0.0	1.7	5.2	7.0	7.0
107.5°	0.0	1.7	3.5	5.2	5.2
110°	0.0	1.7	3.5	3.5	5.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.7	3.5	3.5	3.5
115°	1.7	1.7	1.7	3.5	3.5
117.5°	1.7	1.7	1.7	3.5	3.5
120°	1.7	1.7	1.7	1.7	3.5
122.5°	1.7	1.7	1.7	1.7	1.7
125°	1.7	1.7	1.7	1.7	1.7
127.5°	1.7	1.7	1.7	1.7	1.7
130°	1.7	1.7	1.7	1.7	1.7
132.5°	1.7	1.7	1.7	1.7	1.7
135°	1.7	1.7	1.7	1.7	1.7
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)