

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: P239223

Luminaire Tested: **HDF-4-LD4-UNV-1-HI-40-IK12-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239223  
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-40-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 1-ROW LED BOARDS, CLEAR LENS  
Light Source: (84) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

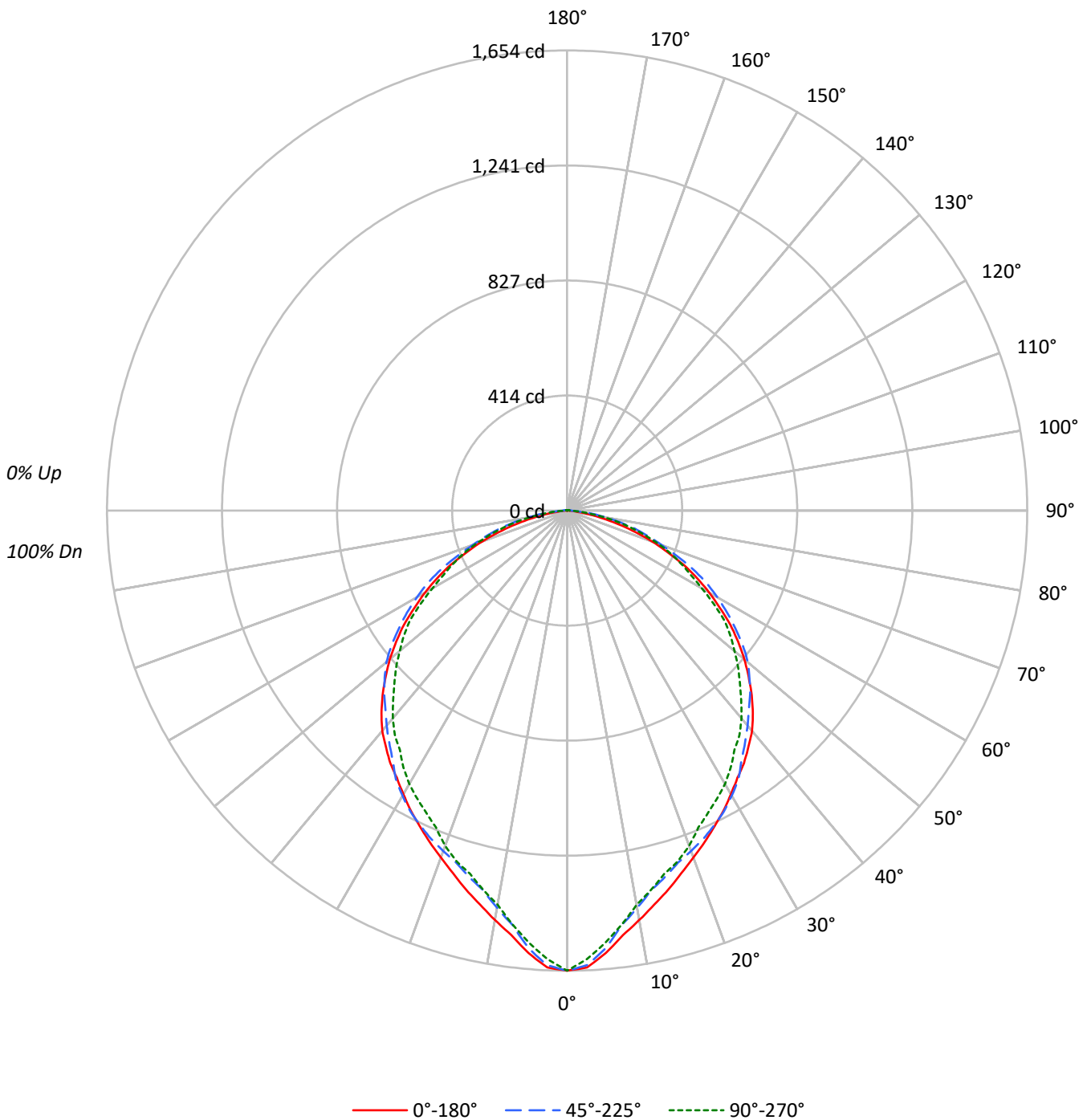
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3911.8 lumens  
Efficiency: N/A  
Efficacy: 87.9 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
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	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	61	55	67	60	54	65	59	54	62	57	53	51
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	32	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°	7629	7629	7629
5°	7392	7316	7224
10°	7000	6792	6738
15°	6728	6509	6454
20°	6513	6392	6295
25°	6376	6359	6100
30°	6270	6305	6042
35°	6240	6156	5906
40°	6227	6078	5870
45°	6124	6070	5727
50°	5970	6087	5639
55°	5764	5936	5553
60°	5445	5748	5157
65°	5042	5454	4935
70°	4390	4856	4679
75°	3427	4483	4219
80°	2184	3711	3406
85°	958	2609	2435



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.2	3.7
10°-20°	386.6	9.9
20°-30°	569.3	14.6
30°-40°	679.0	17.4
40°-50°	699.4	17.9
50°-60°	640.6	16.4
60°-70°	470.0	12.0
70°-80°	246.5	6.3
80°-90°	56.5	1.4
90°-100°	8.6	0.2
100°-110°	4.4	0.1
110°-120°	2.3	0.1
120°-130°	1.5	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°	1102.1	28.2
0°-40°	1781.2	45.5
0°-60°	3121.2	79.8
0°-90°	3894.2	99.6
90°-120°	15.3	0.4
90°-150°	17.5	0.4
90°-180°	18.0	0.5
0°-180°	3911.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1654	1654	1654	1654	1654	
5°	1596	1580	1580	1563	1560	149
15°	1409	1381	1363	1353	1351	397
25°	1253	1240	1249	1216	1198	578
35°	1108	1095	1093	1070	1049	693
45°	939	902	930	878	878	723
55°	717	723	738	718	690	638
65°	462	468	500	475	452	454
75°	192	220	252	247	237	207
85°	18	41	49	49	46	28
90°	0	12	12	10	8	1
95°	0	7	12	10	8	0
105°	0	2	5	7	7	0
115°	2	2	2	3	3	1
125°	2	2	2	2	2	1
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



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1653.7	1653.7	1653.7	1653.7	1653.7
2.5°	1643.9	1632.4	1635.7	1624.2	1614.3
5°	1596.2	1579.8	1579.8	1563.3	1560.0
7.5°	1538.7	1509.1	1502.5	1499.2	1500.9
10°	1494.3	1454.8	1449.9	1430.2	1438.4
12.5°	1449.9	1418.7	1397.3	1379.2	1395.7
15°	1408.8	1380.9	1362.8	1352.9	1351.3
17.5°	1366.1	1343.0	1326.6	1326.6	1321.7
20°	1326.6	1305.2	1302.0	1295.4	1282.2
22.5°	1290.4	1269.1	1277.3	1259.2	1232.9
25°	1252.6	1239.5	1249.3	1216.5	1198.4
27.5°	1216.5	1213.2	1219.8	1181.9	1167.2
30°	1177.0	1178.7	1183.6	1149.1	1134.3
32.5°	1139.2	1140.9	1145.8	1114.6	1094.8
35°	1108.0	1094.8	1093.2	1070.2	1048.8
37.5°	1070.2	1047.2	1050.4	1022.5	1017.6
40°	1034.0	1002.8	1009.3	974.8	974.8
42.5°	988.0	948.5	966.6	930.4	925.5
45°	938.7	902.5	930.4	877.8	877.8
47.5°	884.4	854.8	889.3	835.1	833.4
50°	831.8	813.7	848.2	798.9	785.8
52.5°	774.3	772.6	795.6	752.9	739.7
55°	716.7	723.3	738.1	718.4	690.4
57.5°	651.0	669.1	682.2	669.1	624.7
60°	590.2	606.6	623.0	600.0	558.9
62.5°	527.7	539.2	565.5	537.5	501.4
65°	461.9	468.5	499.7	475.1	452.1
67.5°	389.6	399.5	427.4	420.8	402.8
70°	325.5	332.1	360.0	368.2	346.9
72.5°	258.1	274.5	304.1	300.8	292.6
75°	192.3	220.3	251.5	246.6	236.7
77.5°	133.2	164.4	194.0	190.7	185.8
80°	82.2	111.8	139.7	138.1	128.2
82.5°	41.1	72.3	93.7	88.8	80.6
85°	18.1	41.1	49.3	49.3	46.0
87.5°	4.9	19.7	24.7	21.4	19.7
90°	0.0	11.5	11.5	9.9	8.2
92.5°	0.0	9.9	11.5	9.9	8.2
95°	0.0	6.6	11.5	9.9	8.2
97.5°	0.0	4.9	9.9	9.9	8.2
100°	0.0	3.3	8.2	8.2	8.2
102.5°	0.0	3.3	6.6	6.6	6.6
105°	0.0	1.6	4.9	6.6	6.6
107.5°	0.0	1.6	3.3	4.9	4.9
110°	0.0	1.6	3.3	3.3	4.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.6	3.3	3.3	3.3
115°	1.6	1.6	1.6	3.3	3.3
117.5°	1.6	1.6	1.6	3.3	3.3
120°	1.6	1.6	1.6	1.6	3.3
122.5°	1.6	1.6	1.6	1.6	1.6
125°	1.6	1.6	1.6	1.6	1.6
127.5°	1.6	1.6	1.6	1.6	1.6
130°	1.6	1.6	1.6	1.6	1.6
132.5°	1.6	1.6	1.6	1.6	1.6
135°	1.6	1.6	1.6	1.6	1.6
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)