

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: P239295

Luminaire Tested: **HDF-2-LD4-UNV-1-HI-40-IK12-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239295  
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-HI-40-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 1-ROW LED BOARDS, CLEAR LENS  
Light Source: (42) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

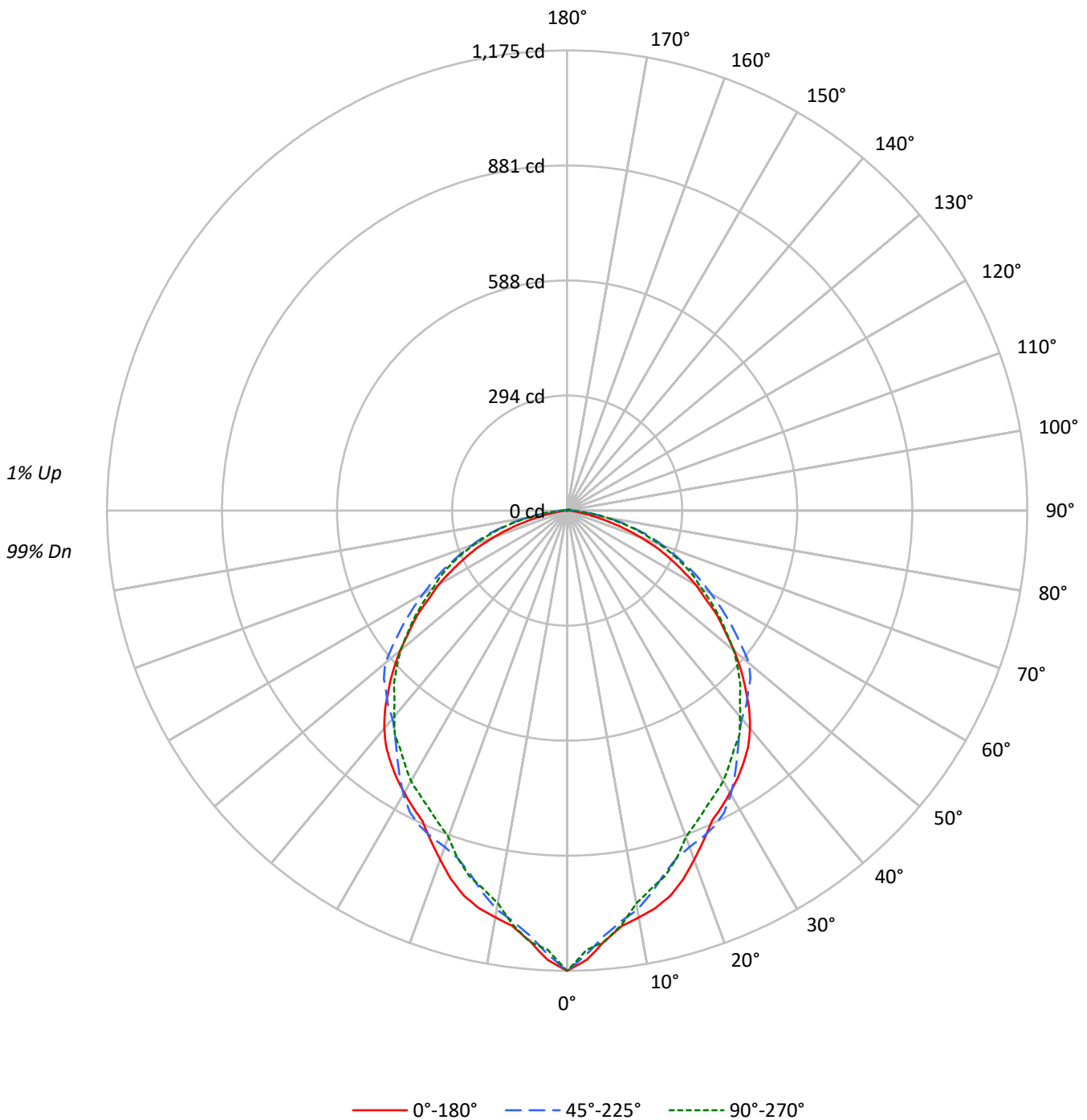
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2747.5 lumens  
Efficiency: N/A  
Efficacy: 57.6 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): 47.7  
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°	10843	10843	10843
5°	10213	10086	10226
10°	9882	9690	9536
15°	9723	9161	9226
20°	9309	8973	8704
25°	8899	9053	8524
30°	8862	8905	8497
35°	8845	8536	8367
40°	8750	8354	8272
45°	8408	8533	8158
50°	7992	8700	7973
55°	7526	8252	7658
60°	6993	7802	7270
65°	6331	7438	7169
70°	5387	6976	6790
75°	3950	6438	6242
80°	2178	5451	5233
85°	1154	4203	4054



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.6	3.7
10°-20°	274.0	10.0
20°-30°	403.1	14.7
30°-40°	478.0	17.4
40°-50°	490.5	17.9
50°-60°	443.3	16.1
60°-70°	321.0	11.7
70°-80°	171.6	6.2
80°-90°	43.1	1.6
90°-100°	8.7	0.3
100°-110°	5.2	0.2
110°-120°	3.0	0.1
120°-130°	2.2	0.1
130°-140°	1.1	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°	779.7	28.4
0°-40°	1257.7	45.8
0°-60°	2191.5	79.8
0°-90°	2727.2	99.3
90°-120°	16.9	0.6
90°-150°	20.2	0.7
90°-180°	20.0	0.7
0°-180°	2747.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1175	1175	1175	1175	1175	
5°	1103	1089	1089	1092	1104	104
15°	1018	974	959	960	966	285
25°	874	888	889	858	837	407
35°	785	773	758	761	743	491
45°	644	629	654	618	625	497
55°	468	497	513	516	476	416
65°	290	304	341	342	328	287
75°	111	145	181	179	175	120
85°	11	32	40	40	38	15
90°	0	11	12	11	8	1
95°	0	7	11	10	8	0
105°	0	3	6	7	7	1
115°	1	1	3	4	4	1
125°	1	1	3	3	4	1
135°	1	1	1	3	4	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°	1175.2	1175.2	1175.2	1175.2	1175.2
2.5°	1147.9	1141.0	1134.2	1124.6	1123.2
5°	1102.7	1089.0	1089.0	1091.8	1104.1
7.5°	1069.9	1058.9	1057.6	1058.9	1065.8
10°	1054.8	1039.8	1034.3	1013.8	1017.9
12.5°	1039.8	1012.4	998.7	985.1	989.2
15°	1017.9	974.1	959.1	960.4	965.9
17.5°	986.4	945.4	930.3	937.2	930.3
20°	948.1	924.9	913.9	909.8	886.5
22.5°	911.2	905.7	903.0	878.3	861.9
25°	874.2	887.9	889.3	857.8	837.3
27.5°	853.7	871.5	868.8	840.0	816.8
30°	831.8	845.5	835.9	823.6	797.6
32.5°	809.9	812.7	797.6	799.0	770.3
35°	785.3	773.0	757.9	760.7	742.9
37.5°	759.3	737.4	721.0	716.9	722.4
40°	726.5	693.6	693.6	678.6	686.8
42.5°	688.2	663.5	675.9	648.5	652.6
45°	644.4	629.3	654.0	618.4	625.2
47.5°	602.0	599.2	634.8	599.2	589.7
50°	556.8	563.7	606.1	573.2	555.5
52.5°	508.9	533.6	558.2	545.9	513.0
55°	467.9	496.6	513.0	515.8	476.1
57.5°	418.6	446.0	467.9	474.7	435.1
60°	379.0	402.2	422.8	426.9	394.0
62.5°	332.5	354.3	383.1	383.1	365.3
65°	290.0	303.7	340.7	342.0	328.4
67.5°	247.6	258.6	298.3	301.0	291.4
70°	199.7	217.5	258.6	258.6	251.7
72.5°	154.6	182.0	223.0	217.5	212.1
75°	110.8	145.0	180.6	179.2	175.1
77.5°	71.1	110.8	140.9	139.5	135.4
80°	41.0	79.4	102.6	101.2	98.5
82.5°	21.9	53.4	68.4	67.0	65.7
85°	10.9	31.5	39.7	39.7	38.3
87.5°	4.1	17.8	21.9	19.2	17.8
90°	0.0	10.9	12.3	10.9	8.2
92.5°	0.0	8.2	12.3	10.9	8.2
95°	0.0	6.8	10.9	9.6	8.2
97.5°	0.0	5.5	9.6	9.6	8.2
100°	0.0	4.1	8.2	9.6	8.2
102.5°	0.0	2.7	6.8	8.2	6.8
105°	0.0	2.7	5.5	6.8	6.8
107.5°	1.4	2.7	5.5	6.8	6.8
110°	1.4	1.4	4.1	5.5	5.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	1.4	4.1	4.1	5.5
115°	1.4	1.4	2.7	4.1	4.1
117.5°	1.4	1.4	2.7	4.1	4.1
120°	1.4	1.4	2.7	4.1	4.1
122.5°	1.4	1.4	2.7	2.7	4.1
125°	1.4	1.4	2.7	2.7	4.1
127.5°	1.4	1.4	2.7	2.7	4.1
130°	1.4	1.4	2.7	2.7	4.1
132.5°	1.4	1.4	2.7	2.7	4.1
135°	1.4	1.4	1.4	2.7	4.1
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)