

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: P239189

Luminaire Tested: **HDF-4-LD4-UNV-2-STD-30-IK12-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239189  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-4)  
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-2-STD-30-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 2-ROW LED BOARDS, CLEAR LENS  
Light Source: (168) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

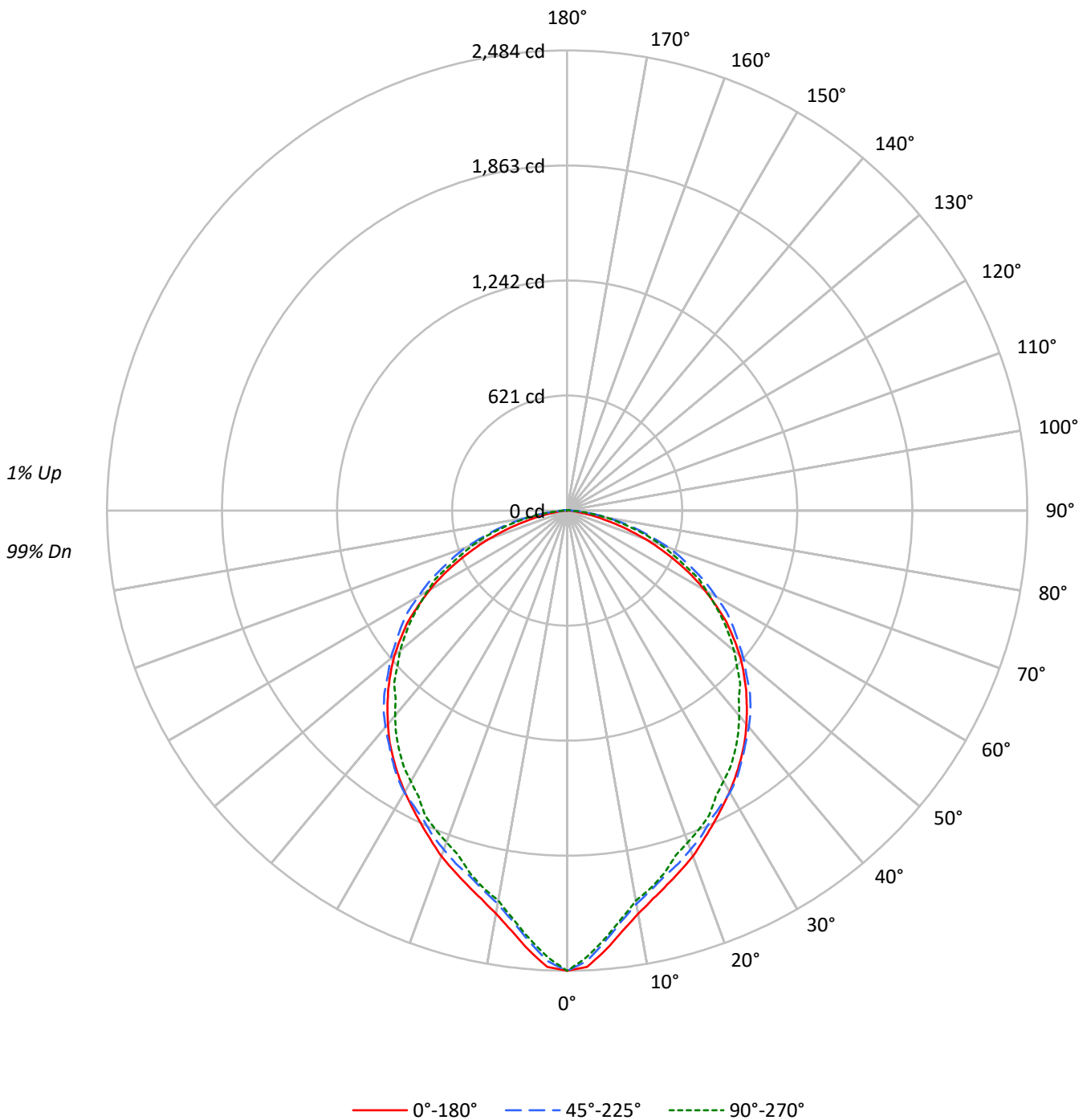
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5855.8 lumens  
Efficiency: N/A  
Efficacy: 87.1 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.02 / 1.25  
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 67.2  
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	99
1	109	104	100	96	106	102	98	95	97	94	91	93	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	64	58	53	62	57	53	50
5	76	63	54	48	74	62	54	47	60	53	47	58	51	46	56	50	46	44
6	70	57	48	42	68	56	48	42	54	47	41	52	46	41	51	45	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	25

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

	0°	45°	90°
0°	11460	11460	11460
5°	11026	10814	10749
10°	10349	10098	10015
15°	9980	9743	9676
20°	9746	9559	9352
25°	9496	9354	9237
30°	9342	9362	8989
35°	9209	9259	8901
40°	9066	9189	8698
45°	8908	9100	8618
50°	8731	8924	8439
55°	8444	8803	8249
60°	7902	8548	8031
65°	7127	8210	7627
70°	6043	7845	7244
75°	4492	7008	6465
80°	2805	5815	5544
85°	1281	4377	4044



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.3	3.7
10°-20°	576.7	9.8
20°-30°	847.7	14.5
30°-40°	1012.9	17.3
40°-50°	1046.4	17.9
50°-60°	947.7	16.2
60°-70°	708.2	12.1
70°-80°	378.1	6.5
80°-90°	90.9	1.6
90°-100°	14.7	0.3
100°-110°	7.5	0.1
110°-120°	3.7	0.1
120°-130°	2.6	0.0
130°-140°	1.3	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°	1641.6	28.0
0°-40°	2654.5	45.3
0°-60°	4648.7	79.4
0°-90°	5825.9	99.5
90°-120°	25.9	0.4
90°-150°	29.8	0.5
90°-180°	30.0	0.5
0°-180°	5855.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2484	2484	2484	2484	2484	
5°	2381	2333	2335	2320	2321	222
15°	2090	2050	2040	2024	2026	590
25°	1866	1852	1838	1822	1815	861
35°	1635	1629	1644	1605	1581	1023
45°	1366	1366	1395	1325	1321	1053
55°	1050	1061	1094	1055	1026	932
65°	653	700	752	736	699	646
75°	252	337	393	389	363	277
85°	24	70	83	80	76	37
90°	0	20	22	19	18	1
95°	0	12	18	16	15	0
105°	1	4	8	10	10	1
115°	1	2	4	5	5	1
125°	2	2	2	2	4	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



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CATALOG NUMBER: HDF-4-LD4-UNV-2-STD-30-IK12-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2484.2	2484.2	2484.2	2484.2	2484.2
2.5°	2465.1	2429.5	2433.3	2425.6	2412.9
5°	2381.1	2332.7	2335.3	2320.0	2321.3
7.5°	2288.2	2238.6	2237.3	2213.1	2224.6
10°	2209.3	2171.1	2155.8	2134.2	2138.0
12.5°	2145.7	2102.4	2096.0	2069.3	2087.1
15°	2089.7	2050.2	2040.0	2023.5	2026.0
17.5°	2037.5	2005.7	1998.0	1976.4	1950.9
20°	1985.3	1950.9	1947.1	1908.9	1905.1
22.5°	1924.2	1907.7	1898.8	1873.3	1861.9
25°	1865.7	1851.7	1837.7	1822.4	1814.8
27.5°	1808.4	1793.1	1795.7	1774.0	1738.4
30°	1753.7	1739.7	1757.5	1709.1	1687.5
32.5°	1695.1	1686.2	1706.6	1662.1	1640.4
35°	1635.3	1629.0	1644.2	1604.8	1580.6
37.5°	1574.2	1561.5	1581.9	1532.2	1517.0
40°	1505.5	1499.2	1525.9	1462.3	1444.4
42.5°	1435.5	1427.9	1466.1	1389.7	1370.6
45°	1365.5	1365.5	1394.8	1324.8	1321.0
47.5°	1291.7	1294.3	1312.1	1279.0	1242.1
50°	1216.6	1219.2	1243.4	1201.4	1175.9
52.5°	1132.6	1140.3	1164.5	1132.6	1102.1
55°	1049.9	1061.4	1094.5	1055.0	1025.7
57.5°	950.7	978.7	1020.7	979.9	944.3
60°	856.5	892.1	926.5	898.5	870.5
62.5°	757.2	799.2	845.0	817.0	803.0
65°	652.9	699.9	752.1	735.6	698.7
67.5°	549.8	596.9	666.9	642.7	614.7
70°	448.0	509.1	581.6	553.6	537.1
72.5°	347.4	422.5	479.8	473.4	454.3
75°	252.0	337.2	393.2	389.4	362.7
77.5°	174.4	258.3	305.4	291.4	277.4
80°	105.6	185.8	218.9	210.0	208.7
82.5°	56.0	119.6	143.8	140.0	134.9
85°	24.2	70.0	82.7	80.2	76.4
87.5°	7.6	35.6	40.7	36.9	34.4
90°	0.0	20.4	21.6	19.1	17.8
92.5°	0.0	15.3	19.1	16.5	15.3
95°	0.0	11.5	17.8	16.5	15.3
97.5°	1.3	8.9	16.5	15.3	15.3
100°	0.0	6.4	12.7	14.0	12.7
102.5°	1.3	5.1	10.2	11.5	11.5
105°	1.3	3.8	7.6	10.2	10.2
107.5°	1.3	2.5	6.4	8.9	8.9
110°	1.3	2.5	5.1	6.4	7.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	2.5	5.1	5.1	6.4
115°	1.3	2.5	3.8	5.1	5.1
117.5°	1.3	2.5	3.8	3.8	5.1
120°	2.5	2.5	3.8	3.8	3.8
122.5°	2.5	2.5	3.8	3.8	3.8
125°	2.5	2.5	2.5	2.5	3.8
127.5°	2.5	2.5	2.5	2.5	3.8
130°	2.5	2.5	2.5	2.5	3.8
132.5°	2.5	2.5	2.5	2.5	3.8
135°	2.5	2.5	2.5	2.5	2.5
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)