

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: P239252

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239252  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-13)  
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-STD-50-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 2-ROW LED BOARDS, NON-OVERLAY  
Light Source: (84) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

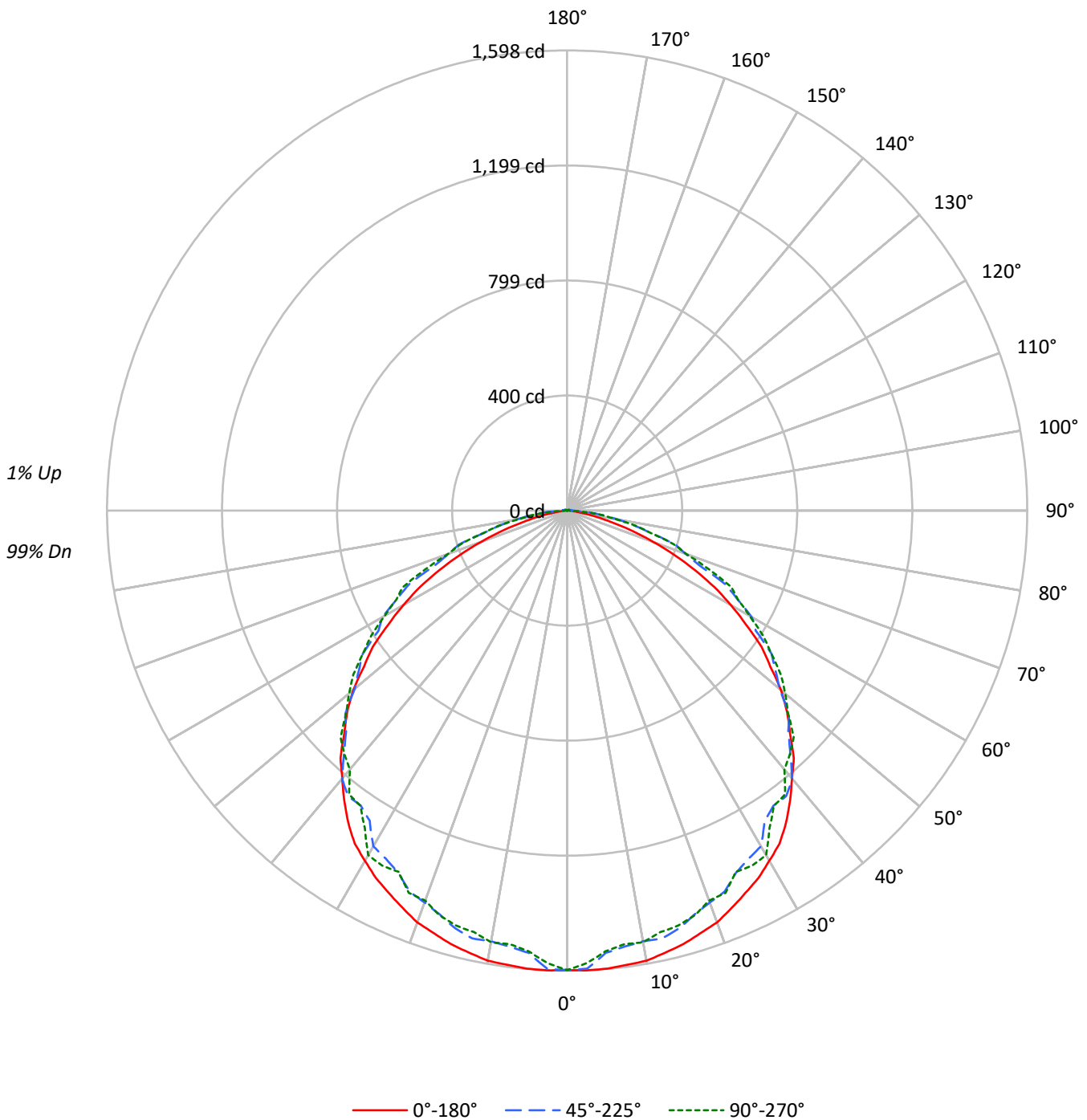
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4566.4 lumens  
Efficiency: N/A  
Efficacy: 137.5 lumens/watt  
Spacing Criteria (0/90/45): 1.31 / 1.26 / 1.39  
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.2  
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	94	97	94	91	93	91	88	90	87	86	83
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	54	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	55	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	44	37	32	43	36	32	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	14720	14720	14720
5°	14789	14277	14225
10°	14867	14230	14257
15°	14887	14347	14251
20°	14942	14219	14149
25°	14915	14123	14094
30°	14961	14342	14719
35°	14924	14079	14095
40°	14629	14645	14134
45°	14278	14167	14518
50°	13919	13817	14183
55°	13253	13935	13912
60°	12120	13662	13505
65°	10662	13227	13751
70°	8630	11761	11837
75°	6007	10698	10698
80°	3384	9553	9027
85°	1651	8543	6891



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.1	3.2
10°-20°	424.1	9.3
20°-30°	649.6	14.2
30°-40°	797.6	17.5
40°-50°	836.0	18.3
50°-60°	754.1	16.5
60°-70°	558.3	12.2
70°-80°	296.2	6.5
80°-90°	77.2	1.7
90°-100°	11.2	0.2
100°-110°	6.5	0.1
110°-120°	4.0	0.1
120°-130°	2.4	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°	1221.8	26.8
0°-40°	2019.4	44.2
0°-60°	3609.5	79.0
0°-90°	4541.2	99.4
90°-120°	21.7	0.5
90°-150°	25.3	0.6
90°-180°	25.0	0.5
0°-180°	4566.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1595	1595	1595	1595	1595	
5°	1597	1591	1542	1522	1536	152
15°	1559	1498	1502	1484	1492	440
25°	1465	1416	1387	1384	1384	677
35°	1325	1249	1250	1281	1251	826
45°	1094	1063	1086	1093	1113	847
55°	824	828	866	882	865	729
65°	488	514	606	585	630	484
75°	168	251	300	321	300	187
85°	16	61	81	79	65	23
90°	0	18	18	14	8	1
95°	0	11	14	11	7	0
105°	0	4	8	8	6	1
115°	1	3	6	6	4	1
125°	1	1	3	4	3	1
135°	1	1	3	3	3	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°	1595.4	1595.4	1595.4	1595.4	1595.4
2.5°	1598.2	1595.4	1592.6	1581.2	1572.7
5°	1596.8	1591.1	1541.6	1521.8	1535.9
7.5°	1591.1	1568.5	1527.4	1520.4	1518.9
10°	1586.9	1531.7	1518.9	1528.9	1521.8
12.5°	1572.7	1509.0	1521.8	1510.4	1499.1
15°	1558.6	1497.7	1502.0	1483.6	1492.0
17.5°	1538.8	1475.1	1470.8	1486.4	1473.6
20°	1521.8	1448.2	1448.2	1439.7	1441.1
22.5°	1493.5	1439.7	1431.2	1436.8	1436.8
25°	1465.1	1415.6	1387.3	1384.5	1384.5
27.5°	1438.3	1371.7	1363.2	1349.1	1390.1
30°	1404.3	1327.8	1346.2	1366.1	1381.6
32.5°	1371.7	1285.4	1276.9	1351.9	1308.0
35°	1325.0	1248.6	1250.0	1281.1	1251.4
37.5°	1271.2	1216.0	1250.0	1221.7	1242.9
40°	1214.6	1156.5	1216.0	1196.2	1173.5
42.5°	1165.0	1094.3	1146.6	1131.1	1145.2
45°	1094.3	1063.1	1085.8	1092.8	1112.7
47.5°	1036.2	998.0	1044.7	1065.9	1040.5
50°	969.7	913.1	962.6	982.4	988.1
52.5°	889.0	862.1	911.6	942.8	935.7
55°	823.9	828.1	866.3	881.9	864.9
57.5°	736.1	763.0	777.2	792.7	805.5
60°	656.8	665.3	740.4	731.9	731.9
62.5°	577.6	601.6	666.7	675.2	668.2
65°	488.4	513.9	605.9	584.6	629.9
67.5°	403.4	438.8	495.5	554.9	532.3
70°	319.9	378.0	436.0	460.1	438.8
72.5°	240.7	308.6	395.0	380.8	387.9
75°	168.5	250.6	300.1	321.3	300.1
77.5°	109.0	185.4	236.4	253.4	243.5
80°	63.7	140.1	179.8	186.9	169.9
82.5°	34.0	94.8	124.6	126.0	124.6
85°	15.6	60.9	80.7	79.3	65.1
87.5°	7.1	36.8	34.0	25.5	18.4
90°	0.0	18.4	18.4	14.2	8.5
92.5°	0.0	14.2	15.6	12.7	7.1
95°	0.0	11.3	14.2	11.3	7.1
97.5°	0.0	8.5	12.7	9.9	7.1
100°	0.0	7.1	11.3	9.9	5.7
102.5°	0.0	5.7	9.9	8.5	5.7
105°	0.0	4.2	8.5	8.5	5.7
107.5°	1.4	2.8	8.5	7.1	5.7
110°	1.4	2.8	7.1	7.1	4.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	2.8	5.7	5.7	4.2
115°	1.4	2.8	5.7	5.7	4.2
117.5°	1.4	1.4	4.2	5.7	4.2
120°	1.4	1.4	4.2	4.2	4.2
122.5°	1.4	1.4	2.8	4.2	4.2
125°	1.4	1.4	2.8	4.2	2.8
127.5°	1.4	1.4	2.8	4.2	2.8
130°	1.4	1.4	2.8	2.8	2.8
132.5°	1.4	1.4	2.8	2.8	2.8
135°	1.4	1.4	2.8	2.8	2.8
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)