

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: P239194

Luminaire Tested: **HDF-4-LD4-UNV-2-LO-35-IK12-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239194  
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-LO-35-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 2-ROW LED BOARDS, CLEAR LENS  
Light Source: (168) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

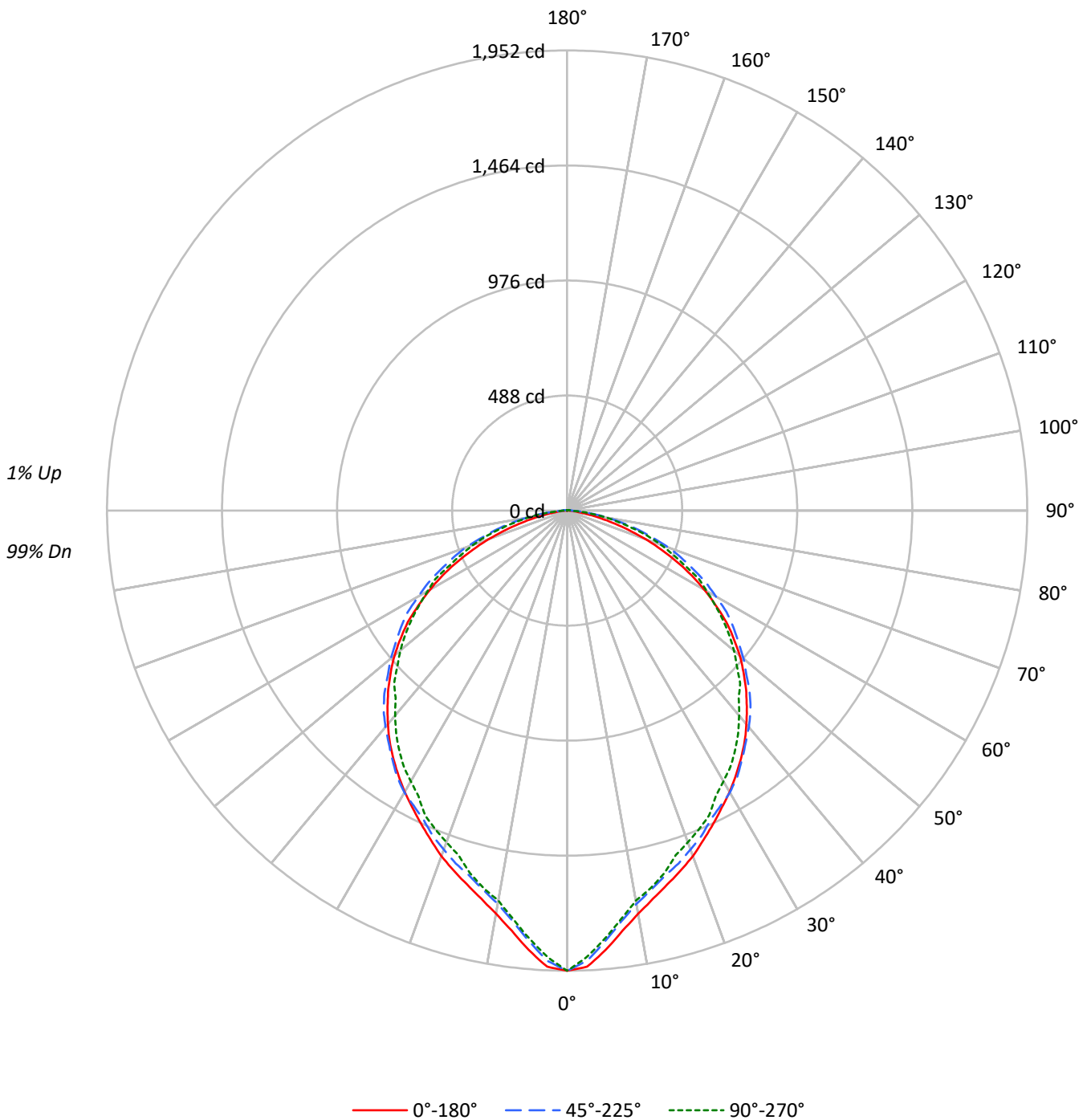
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4601.0 lumens  
Efficiency: N/A  
Efficacy: 97.5 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): 47.2  
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

TEST NUMBER: P239194

CATALOG NUMBER: HDF-4-LD4-UNV-2-LO-35-IK12-EDC-1

### Luminous Intensity Polar Plot





TEST NUMBER: P239194

CATALOG NUMBER: HDF-4-LD4-UNV-2-LO-35-IK12-EDC-1

**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°	9004	9004	9004
5°	8664	8497	8446
10°	8131	7935	7869
15°	7841	7655	7603
20°	7658	7511	7349
25°	7461	7349	7258
30°	7340	7356	7063
35°	7236	7275	6994
40°	7123	7220	6834
45°	7000	7150	6771
50°	6860	7011	6631
55°	6634	6916	6482
60°	6208	6716	6310
65°	5600	6451	5993
70°	4748	6164	5692
75°	3529	5508	5080
80°	2205	4569	4357
85°	1006	3440	3176



TEST NUMBER: P239194

CATALOG NUMBER: HDF-4-LD4-UNV-2-LO-35-IK12-EDC-1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	170.7	3.7
10°-20°	453.1	9.8
20°-30°	666.0	14.5
30°-40°	795.8	17.3
40°-50°	822.2	17.9
50°-60°	744.6	16.2
60°-70°	556.4	12.1
70°-80°	297.1	6.5
80°-90°	71.5	1.6
90°-100°	11.6	0.3
100°-110°	5.9	0.1
110°-120°	3.0	0.1
120°-130°	2.1	0.0
130°-140°	1.0	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°	1289.9	28.0
0°-40°	2085.7	45.3
0°-60°	3652.5	79.4
0°-90°	4577.5	99.5
90°-120°	20.4	0.4
90°-150°	23.5	0.5
90°-180°	23.0	0.5
0°-180°	4601.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1952	1952	1952	1952	1952	
5°	1871	1833	1835	1823	1824	174
15°	1642	1611	1603	1590	1592	464
25°	1466	1455	1444	1432	1426	677
35°	1285	1280	1292	1261	1242	804
45°	1073	1073	1096	1041	1038	827
55°	825	834	860	829	806	732
65°	513	550	591	578	549	507
75°	198	265	309	306	285	217
85°	19	55	65	63	60	29
90°	0	16	17	15	14	1
95°	0	9	14	13	12	0
105°	1	3	6	8	8	1
115°	1	2	3	4	4	1
125°	2	2	2	2	3	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: P239194

CATALOG NUMBER: HDF-4-LD4-UNV-2-LO-35-IK12-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1951.9	1951.9	1951.9	1951.9	1951.9
2.5°	1936.9	1908.9	1911.9	1905.9	1895.9
5°	1870.9	1832.9	1834.9	1822.9	1823.9
7.5°	1797.9	1758.9	1757.9	1738.9	1747.9
10°	1735.9	1705.9	1693.9	1676.9	1679.9
12.5°	1685.9	1651.9	1646.9	1625.9	1639.9
15°	1641.9	1610.9	1602.9	1589.9	1591.9
17.5°	1600.9	1575.9	1569.9	1552.9	1532.9
20°	1559.9	1532.9	1529.9	1499.9	1496.9
22.5°	1511.9	1498.9	1491.9	1471.9	1462.9
25°	1465.9	1454.9	1443.9	1431.9	1425.9
27.5°	1420.9	1408.9	1410.9	1393.9	1365.9
30°	1377.9	1366.9	1380.9	1342.9	1325.9
32.5°	1331.9	1324.9	1340.9	1305.9	1288.9
35°	1284.9	1279.9	1291.9	1260.9	1241.9
37.5°	1236.9	1226.9	1242.9	1203.9	1191.9
40°	1182.9	1177.9	1198.9	1148.9	1134.9
42.5°	1127.9	1121.9	1151.9	1091.9	1076.9
45°	1072.9	1072.9	1095.9	1040.9	1037.9
47.5°	1014.9	1016.9	1030.9	1004.9	975.9
50°	955.9	957.9	976.9	943.9	923.9
52.5°	889.9	895.9	914.9	889.9	865.9
55°	824.9	833.9	859.9	828.9	805.9
57.5°	746.9	768.9	801.9	769.9	741.9
60°	672.9	700.9	727.9	705.9	683.9
62.5°	595.0	628.0	664.0	642.0	631.0
65°	513.0	550.0	591.0	578.0	549.0
67.5°	432.0	469.0	524.0	505.0	483.0
70°	352.0	400.0	457.0	435.0	422.0
72.5°	273.0	332.0	377.0	372.0	357.0
75°	198.0	265.0	309.0	306.0	285.0
77.5°	137.0	203.0	240.0	229.0	218.0
80°	83.0	146.0	172.0	165.0	164.0
82.5°	44.0	94.0	113.0	110.0	106.0
85°	19.0	55.0	65.0	63.0	60.0
87.5°	6.0	28.0	32.0	29.0	27.0
90°	0.0	16.0	17.0	15.0	14.0
92.5°	0.0	12.0	15.0	13.0	12.0
95°	0.0	9.0	14.0	13.0	12.0
97.5°	1.0	7.0	13.0	12.0	12.0
100°	0.0	5.0	10.0	11.0	10.0
102.5°	1.0	4.0	8.0	9.0	9.0
105°	1.0	3.0	6.0	8.0	8.0
107.5°	1.0	2.0	5.0	7.0	7.0
110°	1.0	2.0	4.0	5.0	6.0



TEST NUMBER: P239194

CATALOG NUMBER: HDF-4-LD4-UNV-2-LO-35-IK12-EDC-1

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	2.0	4.0	4.0	5.0
115°	1.0	2.0	3.0	4.0	4.0
117.5°	1.0	2.0	3.0	3.0	4.0
120°	2.0	2.0	3.0	3.0	3.0
122.5°	2.0	2.0	3.0	3.0	3.0
125°	2.0	2.0	2.0	2.0	3.0
127.5°	2.0	2.0	2.0	2.0	3.0
130°	2.0	2.0	2.0	2.0	3.0
132.5°	2.0	2.0	2.0	2.0	3.0
135°	2.0	2.0	2.0	2.0	2.0
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)