

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: P239181

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

Issue Date: 3/3/2020



**Test Information**

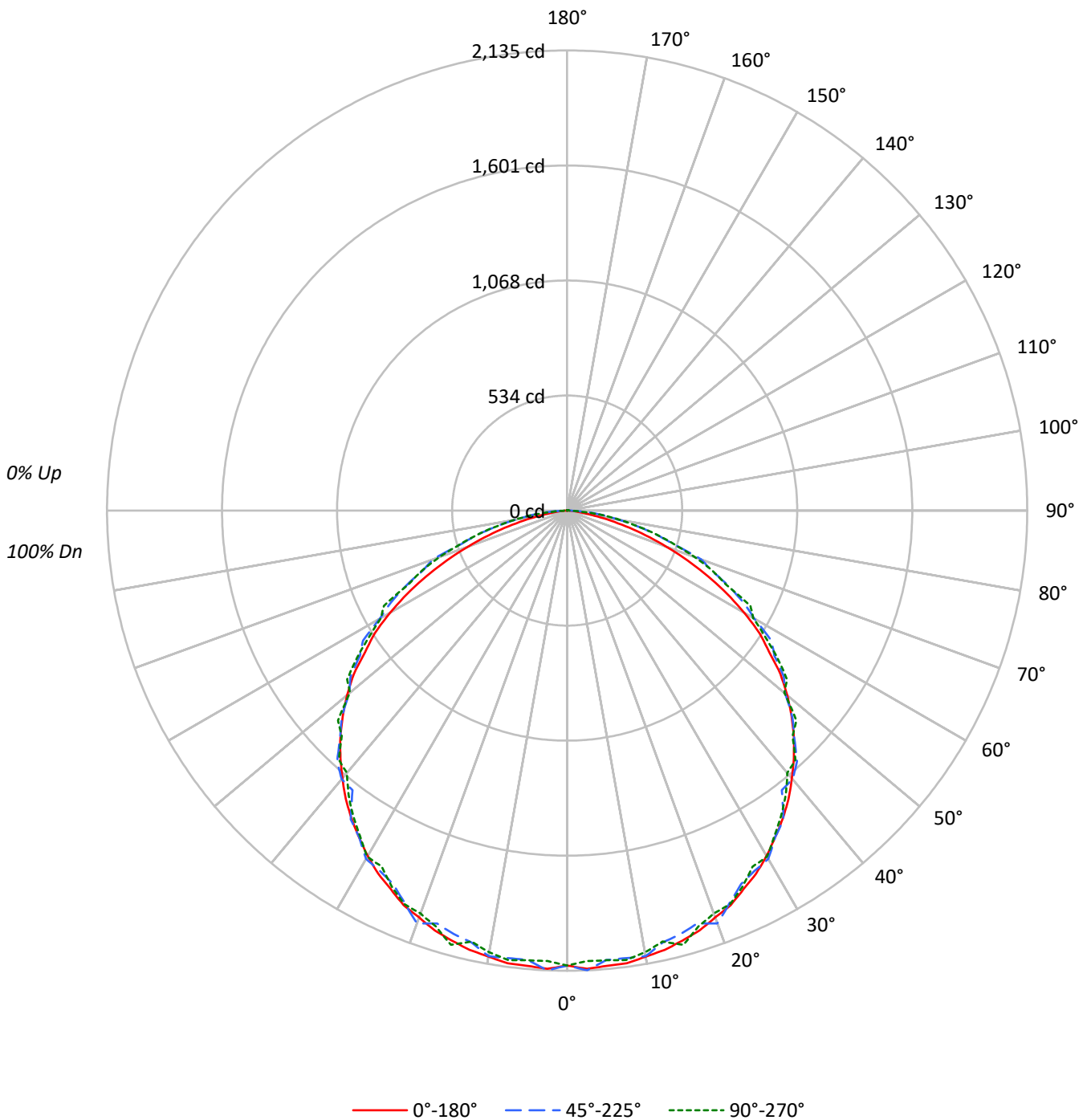
Test Method: LM-79-08  
Report Number: P239181  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-3)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: HDF-4-LD4-UNV-2-LO-30-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 2-ROW LED BOARDS, NON-OVERLAY  
Light Source: (168) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6269.4 lumens  
Efficiency: N/A  
Efficacy: 132.8 lumens/watt  
Spacing Criteria (0/90/45): 1.3 / 1.29 / 1.41  
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: P239181  
CATALOG NUMBER: HDF-4-LD4-UNV-2-LO-30-EDC-1

### 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	94	97	94	91	93	91	88	90	88	86	83
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	78	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	49	45	43
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	42	34	29	55	42	34	29	41	33	28	40	33	28	39	32	28	26
10	52	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24

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

	0°	45°	90°
0°	9737	9737	9737
5°	9819	9689	9698
10°	9842	9833	9747
15°	9865	9713	9961
20°	9861	10007	9767
25°	9862	9725	9798
30°	9855	9941	9880
35°	9822	9855	9747
40°	9768	9797	9571
45°	9709	9715	9646
50°	9562	9473	9438
55°	9207	9440	9564
60°	8751	9258	9195
65°	7876	9010	8873
70°	6617	8928	8487
75°	5007	7579	7682
80°	2991	6363	6671
85°	1323	5446	4430



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	200.3	3.2
10°-20°	577.5	9.2
20°-30°	884.2	14.1
30°-40°	1082.2	17.3
40°-50°	1144.6	18.3
50°-60°	1046.5	16.7
60°-70°	789.1	12.6
70°-80°	423.7	6.8
80°-90°	102.2	1.6
90°-100°	8.6	0.1
100°-110°	4.7	0.1
110°-120°	3.0	0.0
120°-130°	2.0	0.0
130°-140°	0.9	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°	1662.0	26.5
0°-40°	2744.1	43.8
0°-60°	4935.2	78.7
0°-90°	6250.2	99.7
90°-120°	16.3	0.3
90°-150°	19.2	0.3
90°-180°	19.0	0.3
0°-180°	6269.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2111	2111	2111	2111	2111	
5°	2120	2116	2092	2100	2094	202
15°	2066	2033	2034	2073	2086	583
25°	1938	1910	1911	1915	1925	894
35°	1744	1752	1750	1732	1731	1091
45°	1488	1494	1489	1499	1479	1146
55°	1145	1125	1174	1194	1189	1026
65°	722	758	825	847	813	712
75°	281	370	425	436	431	303
85°	25	81	103	93	84	39
90°	0	15	14	12	10	1
95°	0	9	10	9	7	0
105°	0	3	6	6	5	0
115°	1	2	4	4	4	1
125°	1	1	3	3	3	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



TEST NUMBER: P239181

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

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2110.7	2110.7	2110.7	2110.7	2110.7
2.5°	2128.0	2109.7	2134.7	2114.5	2091.4
5°	2120.3	2116.4	2092.4	2100.1	2094.3
7.5°	2118.4	2078.0	2094.3	2104.9	2103.0
10°	2101.0	2072.2	2099.1	2058.7	2080.8
12.5°	2087.6	2058.7	2052.0	2022.2	2048.1
15°	2065.5	2032.7	2033.7	2073.1	2085.7
17.5°	2042.4	2023.1	2008.7	2023.1	2023.1
20°	2008.7	1980.8	2038.5	1966.4	1989.5
22.5°	1981.8	1930.8	1970.2	1954.8	1976.0
25°	1937.5	1909.6	1910.6	1915.4	1925.0
27.5°	1899.0	1843.2	1883.6	1889.4	1862.5
30°	1850.0	1800.9	1866.3	1784.5	1854.8
32.5°	1797.0	1790.3	1796.1	1786.5	1789.4
35°	1744.1	1751.8	1749.9	1731.6	1730.7
37.5°	1687.4	1663.3	1635.4	1657.6	1665.3
40°	1622.0	1589.3	1626.8	1608.5	1589.3
42.5°	1556.5	1527.7	1578.7	1518.1	1568.1
45°	1488.2	1494.0	1489.2	1498.8	1478.6
47.5°	1412.2	1422.8	1418.0	1400.7	1442.1
50°	1332.4	1332.4	1319.9	1363.2	1315.1
52.5°	1247.7	1264.1	1267.0	1235.2	1286.2
55°	1144.8	1124.6	1173.7	1193.9	1189.1
57.5°	1057.3	1061.1	1122.7	1109.2	1089.0
60°	948.5	1005.3	1003.4	992.8	996.6
62.5°	837.0	869.7	921.6	904.3	959.1
65°	721.5	758.1	825.4	846.6	812.9
67.5°	604.1	663.8	722.5	719.6	730.2
70°	490.6	575.3	661.9	620.5	629.2
72.5°	381.0	468.5	514.7	550.3	520.5
75°	280.9	370.4	425.2	435.8	431.0
77.5°	189.5	280.9	330.9	334.8	330.0
80°	112.6	206.8	239.5	258.8	251.1
82.5°	57.7	136.6	173.2	172.2	167.4
85°	25.0	80.8	102.9	93.3	83.7
87.5°	7.7	43.3	33.7	21.2	17.3
90°	0.0	15.4	13.5	11.5	9.6
92.5°	0.0	10.6	10.6	9.6	7.7
95°	0.0	8.7	9.6	8.7	6.7
97.5°	0.0	6.7	8.7	7.7	6.7
100°	0.0	4.8	7.7	7.7	5.8
102.5°	0.0	3.8	6.7	6.7	5.8
105°	0.0	2.9	5.8	5.8	4.8
107.5°	0.0	2.9	4.8	5.8	4.8
110°	1.0	1.9	4.8	4.8	4.8



TEST NUMBER: P239181

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

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.9	3.8	4.8	3.8
115°	1.0	1.9	3.8	3.8	3.8
117.5°	1.0	1.9	2.9	3.8	3.8
120°	1.0	1.9	2.9	2.9	2.9
122.5°	1.0	1.9	2.9	2.9	2.9
125°	1.0	1.0	2.9	2.9	2.9
127.5°	1.0	1.0	1.9	2.9	2.9
130°	1.9	1.0	1.9	2.9	2.9
132.5°	1.9	1.0	1.9	1.9	2.9
135°	1.9	1.9	1.9	1.9	1.9
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)