

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: P239237

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239237  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-10)  
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-1-STD-30-OPL-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 1-ROW LED BOARDS, OPAL LENS  
Light Source: (84) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

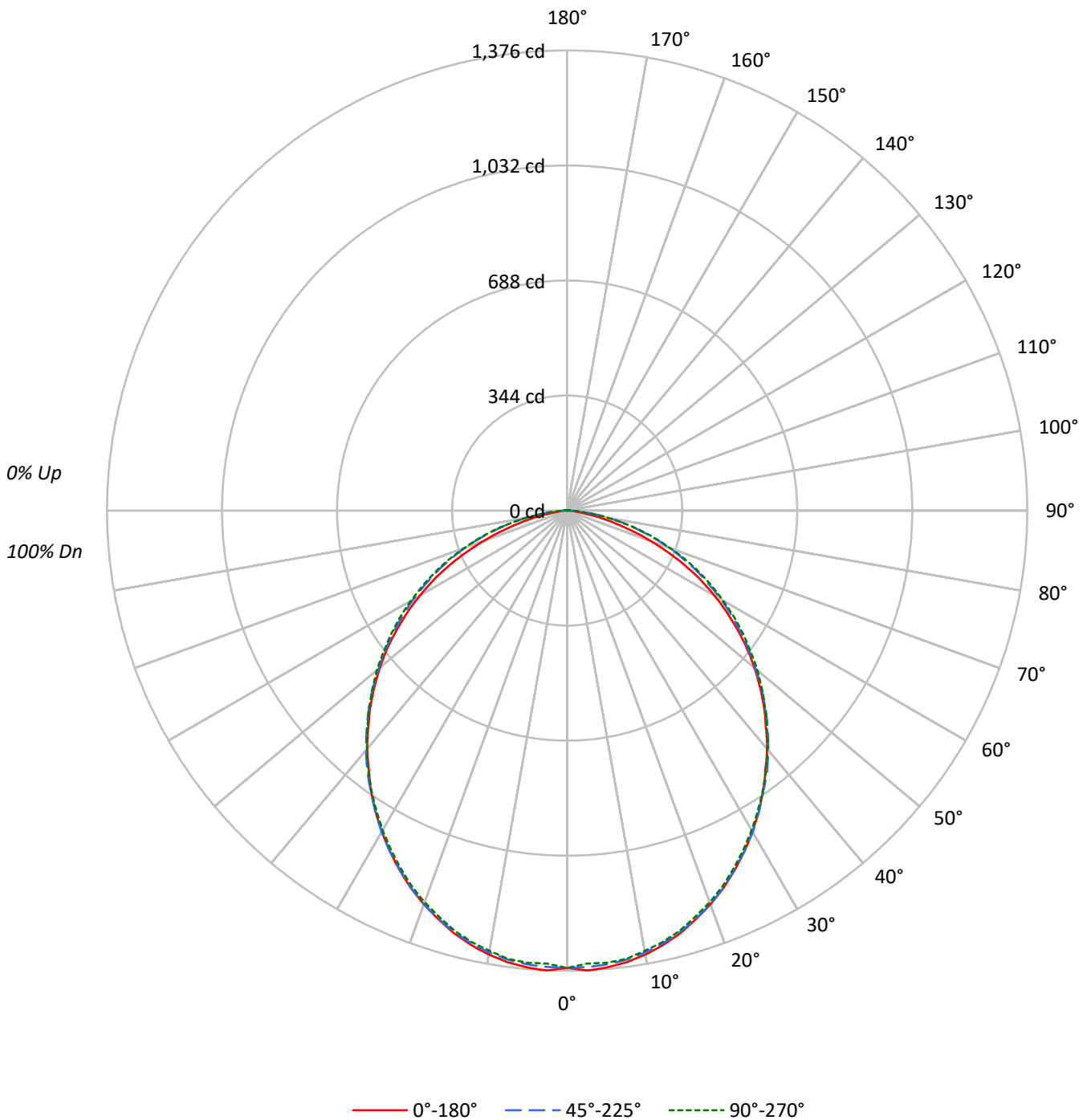
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3585.0 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32  
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.7  
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		102	102	102	100
1	109	104	100	97	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		82	78	74		79	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55		65	59	54		63	58	53	51
5	77	64	55	49	74	63	54	48	61	53	48		59	52	47		57	51	47	44
6	71	58	49	42	69	57	48	42	55	47	42		53	46	41		51	46	41	39
7	66	52	44	38	64	51	43	37	50	43	37		48	42	37		47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33		44	38	33		43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	52	40	33	27	39	32	27		38	32	27		37	31	27	25

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

	0°	45°	90°
0°	6308	6308	6308
5°	6350	6308	6284
10°	6315	6284	6261
15°	6247	6229	6211
20°	6150	6150	6118
25°	6035	6029	6002
30°	5904	5911	5876
35°	5755	5763	5748
40°	5603	5635	5611
45°	5432	5474	5465
50°	5244	5281	5327
55°	5007	5089	5162
60°	4697	4899	4970
65°	4263	4671	4755
70°	3599	4363	4415
75°	2734	3905	3996
80°	1711	3321	3252
85°	820	2456	2250



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.2	3.6
10°-20°	366.4	10.2
20°-30°	543.6	15.2
30°-40°	637.5	17.8
40°-50°	642.8	17.9
50°-60°	564.0	15.7
60°-70°	414.0	11.5
70°-80°	219.2	6.1
80°-90°	52.7	1.5
90°-100°	7.7	0.2
100°-110°	3.9	0.1
110°-120°	2.1	0.1
120°-130°	1.3	0.0
130°-140°	0.6	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°	1039.1	29.0
0°-40°	1676.6	46.8
0°-60°	2883.5	80.4
0°-90°	3569.4	99.6
90°-120°	13.6	0.4
90°-150°	15.6	0.4
90°-180°	16.0	0.4
0°-180°	3585.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1371	1356	1362	1357	1357	130
15°	1308	1294	1304	1299	1300	368
25°	1186	1177	1184	1175	1179	546
35°	1022	1014	1023	1017	1021	639
45°	833	826	839	835	838	642
55°	622	619	633	639	642	556
65°	390	401	428	436	436	385
75°	153	192	219	224	224	166
85°	16	42	46	45	42	23
90°	0	12	12	10	10	1
95°	0	6	9	9	8	0
105°	0	3	4	5	5	0
115°	1	1	3	3	3	1
125°	1	1	1	1	1	1
135°	1	1	1	1	1	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-1-STD-30-OPL-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1367.4	1367.4	1367.4	1367.4	1367.4
2.5°	1376.4	1361.0	1366.1	1362.2	1355.8
5°	1371.3	1355.8	1362.2	1357.1	1357.1
7.5°	1362.2	1348.1	1354.5	1349.4	1351.9
10°	1348.1	1333.9	1341.6	1336.5	1336.5
12.5°	1330.0	1315.8	1324.9	1318.4	1321.0
15°	1308.1	1293.9	1304.2	1299.1	1300.4
17.5°	1281.0	1269.4	1279.8	1273.3	1273.3
20°	1252.7	1242.4	1252.7	1243.7	1246.2
22.5°	1221.8	1212.7	1220.5	1210.2	1215.3
25°	1185.7	1176.7	1184.4	1175.4	1179.2
27.5°	1148.3	1139.3	1148.3	1140.6	1141.9
30°	1108.3	1100.6	1109.6	1100.6	1103.2
32.5°	1067.1	1058.1	1067.1	1060.7	1062.0
35°	1022.0	1014.3	1023.3	1016.8	1020.7
37.5°	974.3	969.2	982.0	973.0	976.9
40°	930.5	921.5	935.7	926.6	931.8
42.5°	880.2	873.8	888.0	881.5	884.1
45°	832.6	826.1	839.0	835.1	837.7
47.5°	782.3	775.8	788.7	786.2	790.0
50°	730.7	725.6	735.9	738.5	742.3
52.5°	677.9	672.7	685.6	689.5	690.8
55°	622.5	618.6	632.8	639.2	641.8
57.5°	565.8	565.8	582.5	589.0	591.5
60°	509.1	510.4	531.0	537.4	538.7
62.5°	451.1	457.5	478.1	487.2	487.2
65°	390.5	400.8	427.9	435.6	435.6
67.5°	327.3	344.1	375.0	381.5	382.8
70°	266.8	288.7	323.5	328.6	327.3
72.5°	207.5	239.7	270.6	277.1	275.8
75°	153.4	192.0	219.1	224.2	224.2
77.5°	105.7	145.6	171.4	174.0	172.7
80°	64.4	107.0	125.0	125.0	122.4
82.5°	34.8	72.2	82.5	79.9	77.3
85°	15.5	42.5	46.4	45.1	42.5
87.5°	5.2	20.6	21.9	20.6	20.6
90°	0.0	11.6	11.6	10.3	10.3
92.5°	0.0	7.7	10.3	9.0	7.7
95°	0.0	6.4	9.0	9.0	7.7
97.5°	0.0	3.9	7.7	7.7	7.7
100°	0.0	3.9	6.4	7.7	6.4
102.5°	0.0	2.6	5.2	6.4	6.4
105°	0.0	2.6	3.9	5.2	5.2
107.5°	0.0	1.3	3.9	3.9	3.9
110°	0.0	1.3	2.6	3.9	3.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	1.3	2.6	2.6	2.6
115°	1.3	1.3	2.6	2.6	2.6
117.5°	1.3	1.3	2.6	2.6	2.6
120°	1.3	1.3	1.3	2.6	2.6
122.5°	1.3	1.3	1.3	2.6	2.6
125°	1.3	1.3	1.3	1.3	1.3
127.5°	1.3	1.3	1.3	1.3	1.3
130°	1.3	1.3	1.3	1.3	1.3
132.5°	1.3	1.3	1.3	1.3	1.3
135°	1.3	1.3	1.3	1.3	1.3
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)