

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: P239306

Luminaire Tested: **HDF-2-LD4-UNV-1-HI-35-OPL-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239306  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-20)  
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-1-HI-35-OPL-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 1-ROW LED BOARDS, OPAL LENS  
Light Source: (42) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

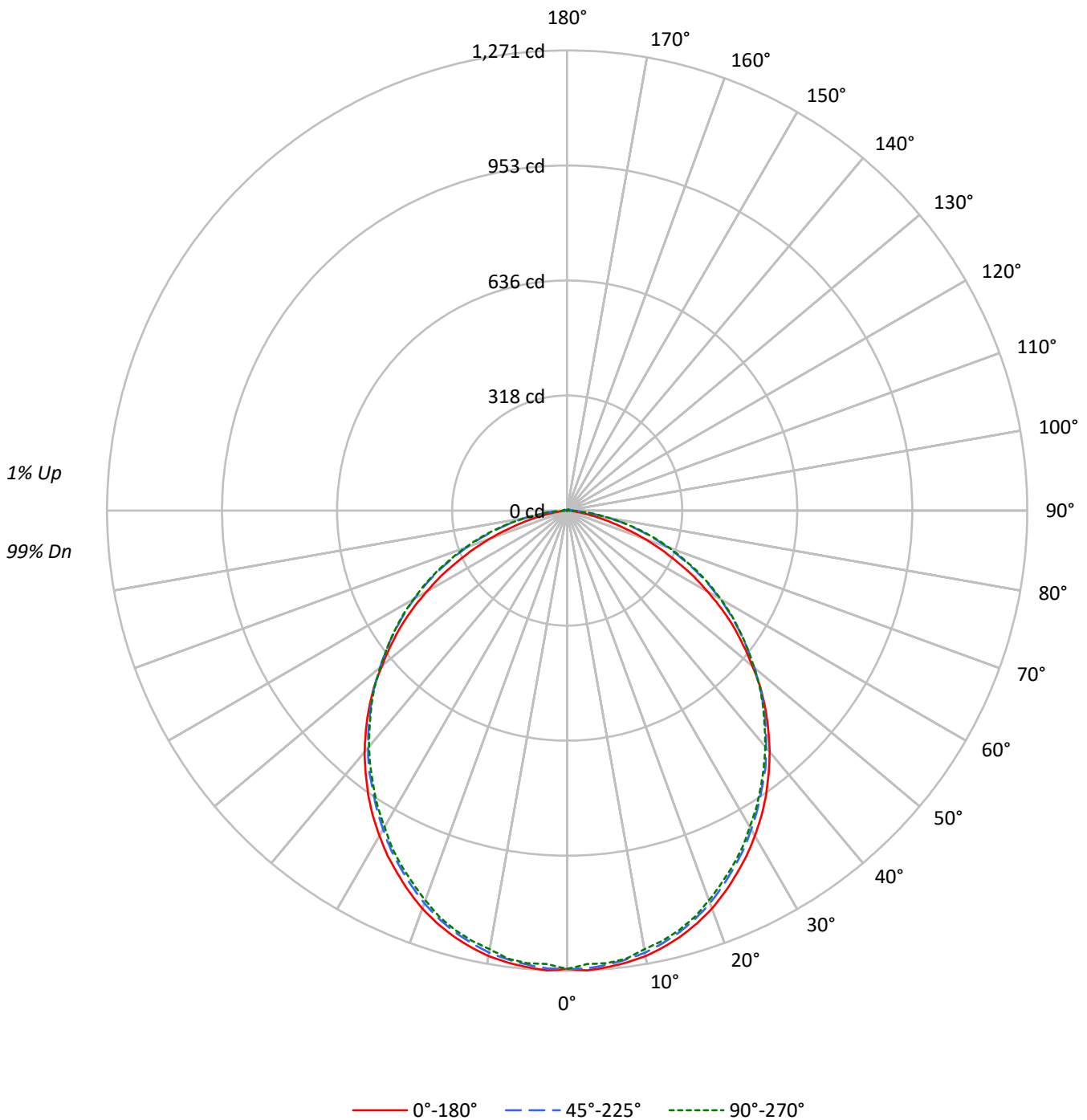
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3300.3 lumens  
Efficiency: N/A  
Efficacy: 69.2 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.19 / 1.31  
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.7  
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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99				
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	70				
3	91	80	73	66	88	79	71	66	76	69	64	73	68	63	70	66	62	60				
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	53	51				
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45				
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39				
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35				
8	61	48	40	34	60	47	39	34	46	39	33	45	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	28	39	32	27	38	32	27	37	31	27	25				

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

	0°	45°	90°
0°	11679	11679	11679
5°	11724	11660	11622
10°	11705	11616	11526
15°	11621	11503	11451
20°	11488	11326	11246
25°	11270	11089	11020
30°	11051	10832	10745
35°	10789	10558	10496
40°	10483	10301	10252
45°	10107	10017	9982
50°	9585	9684	9664
55°	9048	9355	9378
60°	8257	8990	9040
65°	7320	8514	8634
70°	6129	7901	8085
75°	4488	7172	7365
80°	2619	6179	6328
85°	1302	5219	4922



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.6	3.6
10°-20°	339.6	10.3
20°-30°	502.7	15.2
30°-40°	588.5	17.8
40°-50°	591.5	17.9
50°-60°	514.3	15.6
60°-70°	373.3	11.3
70°-80°	197.8	6.0
80°-90°	51.2	1.6
90°-100°	9.5	0.3
100°-110°	5.8	0.2
110°-120°	3.1	0.1
120°-130°	2.2	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°	961.9	29.1
0°-40°	1550.4	47.0
0°-60°	2656.2	80.5
0°-90°	3278.5	99.3
90°-120°	18.5	0.6
90°-150°	21.8	0.7
90°-180°	22.0	0.7
0°-180°	3300.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1266	1266	1266	1266	1266	
5°	1266	1264	1259	1254	1255	120
15°	1217	1211	1204	1200	1199	343
25°	1107	1099	1089	1084	1082	510
35°	958	946	937	933	932	599
45°	775	765	768	766	765	596
55°	562	562	582	586	583	501
65°	335	354	390	398	396	333
75°	126	166	201	209	207	137
85°	12	38	49	49	46	18
90°	0	12	14	12	8	1
95°	0	8	12	11	8	0
105°	0	3	7	8	7	1
115°	1	1	4	4	4	1
125°	1	1	3	3	4	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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CATALOG NUMBER: HDF-2-LD4-UNV-1-HI-35-OPL-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1265.9	1265.9	1265.9	1265.9	1265.9
2.5°	1271.3	1270.0	1265.9	1257.6	1253.5
5°	1265.9	1264.5	1259.0	1253.5	1254.9
7.5°	1259.0	1256.3	1250.8	1246.7	1248.1
10°	1249.4	1245.3	1239.9	1233.0	1230.3
12.5°	1234.4	1231.6	1223.4	1216.6	1216.6
15°	1216.6	1211.1	1204.3	1200.2	1198.8
17.5°	1194.7	1187.9	1181.0	1175.5	1175.5
20°	1170.1	1161.9	1153.6	1146.8	1145.4
22.5°	1140.0	1131.7	1122.2	1115.3	1114.0
25°	1107.1	1098.9	1089.3	1083.8	1082.5
27.5°	1074.3	1063.3	1055.1	1048.3	1048.3
30°	1037.3	1026.4	1016.8	1011.3	1008.6
32.5°	999.0	986.7	978.5	973.0	973.0
35°	957.9	945.6	937.4	933.3	931.9
37.5°	914.2	903.2	899.1	895.0	892.3
40°	870.4	859.4	855.3	852.6	851.2
42.5°	822.5	812.9	811.5	808.8	807.4
45°	774.6	765.0	767.7	766.4	765.0
47.5°	723.9	717.1	722.6	722.6	721.2
50°	667.8	665.1	674.7	677.4	673.3
52.5°	614.5	613.1	628.1	630.9	628.1
55°	562.5	562.5	581.6	585.7	583.0
57.5°	506.3	510.4	535.1	540.6	537.8
60°	447.5	458.4	487.2	492.7	489.9
62.5°	394.1	406.4	439.3	447.5	443.4
65°	335.3	354.4	390.0	398.2	395.5
67.5°	280.5	303.8	340.8	350.3	346.2
70°	227.2	254.5	292.9	301.1	299.7
72.5°	173.8	209.4	246.3	254.5	253.2
75°	125.9	165.6	201.2	209.4	206.6
77.5°	83.5	127.3	158.7	164.2	161.5
80°	49.3	93.1	116.3	120.4	119.1
82.5°	26.0	63.0	79.4	82.1	79.4
85°	12.3	38.3	49.3	49.3	46.5
87.5°	5.5	20.5	24.6	23.3	20.5
90°	0.0	12.3	13.7	12.3	8.2
92.5°	0.0	9.6	12.3	10.9	8.2
95°	0.0	8.2	12.3	10.9	8.2
97.5°	0.0	5.5	10.9	10.9	8.2
100°	0.0	4.1	9.6	10.9	8.2
102.5°	0.0	4.1	8.2	9.6	8.2
105°	0.0	2.7	6.8	8.2	6.8
107.5°	1.4	2.7	5.5	6.8	5.5
110°	1.4	2.7	4.1	5.5	5.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	1.4	4.1	5.5	4.1
115°	1.4	1.4	4.1	4.1	4.1
117.5°	1.4	1.4	2.7	4.1	4.1
120°	1.4	1.4	2.7	4.1	4.1
122.5°	1.4	1.4	2.7	4.1	4.1
125°	1.4	1.4	2.7	2.7	4.1
127.5°	1.4	1.4	2.7	2.7	2.7
130°	1.4	1.4	2.7	2.7	2.7
132.5°	1.4	1.4	2.7	2.7	2.7
135°	1.4	1.4	2.7	2.7	2.7
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)