

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: P239293

Luminaire Tested: **HDF-2-LD4-UNV-1-HI-30-IK12-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239293  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-19)  
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-30-IK12-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 1-ROW LED BOARDS, CLEAR LENS  
Light Source: (42) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

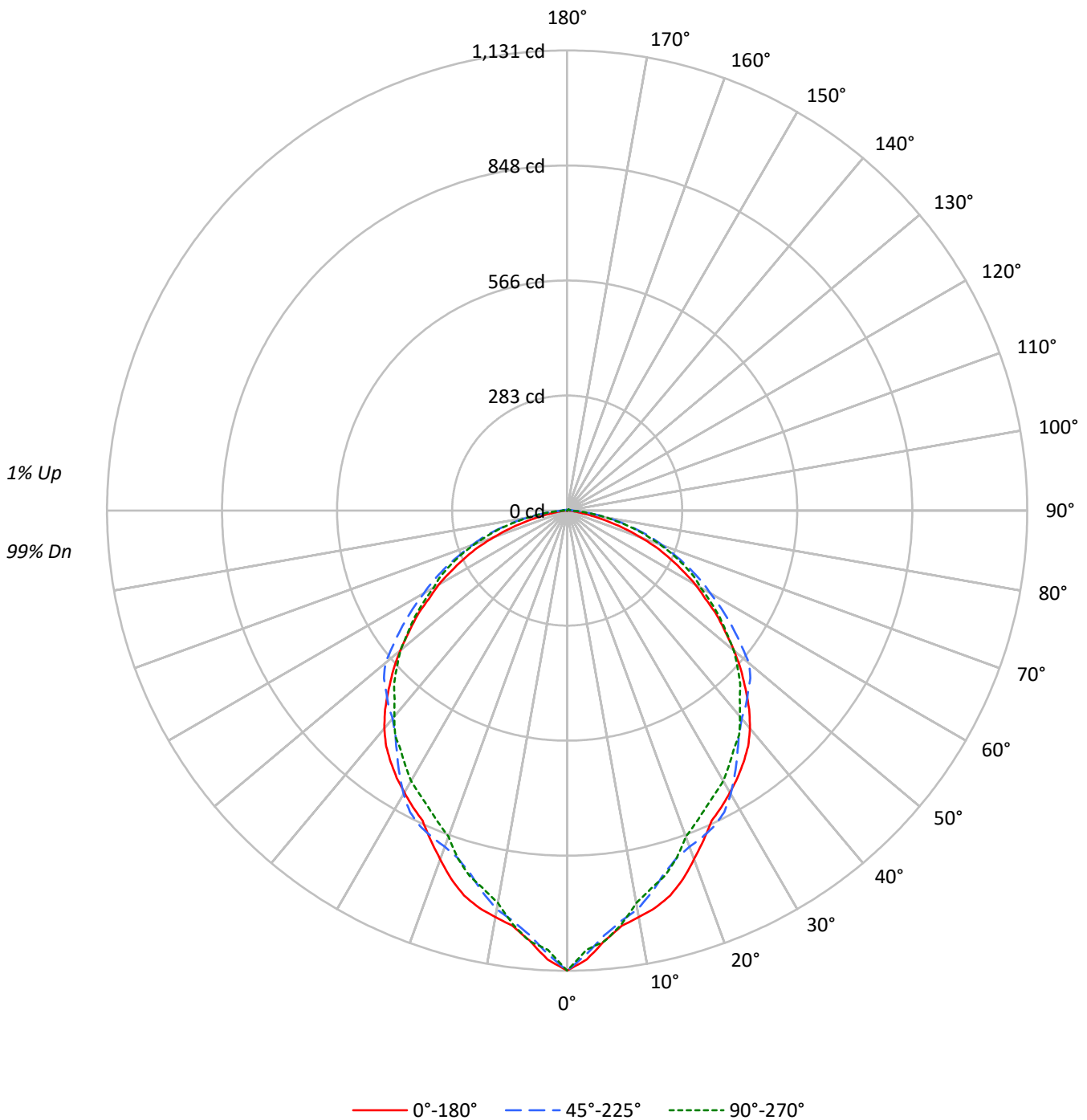
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2643.0 lumens  
Efficiency: N/A  
Efficacy: 55.4 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1 / 1.23  
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	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	96	106	102	98	95	97	94	91	93	91	89	90	88	86	84
2	99	91	84	79	96	89	83	78	85	80	76	82	78	74	79	75	72	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	65	61	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	62	57	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	38
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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

	0°	45°	90°
0°	10431	10431	10431
5°	9825	9702	9837
10°	9506	9322	9174
15°	9353	8812	8875
20°	8955	8632	8374
25°	8561	8709	8200
30°	8525	8568	8174
35°	8509	8212	8050
40°	8418	8037	7957
45°	8088	8208	7848
50°	7689	8369	7670
55°	7240	7940	7367
60°	6728	7505	6993
65°	6091	7154	6896
70°	5185	6712	6534
75°	3800	6192	6007
80°	2099	5244	5037
85°	1112	4044	3906



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.7	3.7
10°-20°	263.6	10.0
20°-30°	387.8	14.7
30°-40°	459.8	17.4
40°-50°	471.9	17.9
50°-60°	426.4	16.1
60°-70°	308.8	11.7
70°-80°	165.1	6.2
80°-90°	41.5	1.6
90°-100°	8.4	0.3
100°-110°	5.0	0.2
110°-120°	2.8	0.1
120°-130°	2.1	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°	750.1	28.4
0°-40°	1210.0	45.8
0°-60°	2108.3	79.8
0°-90°	2623.7	99.3
90°-120°	16.2	0.6
90°-150°	19.4	0.7
90°-180°	19.0	0.7
0°-180°	2643.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1131	1131	1131	1131	1131	
5°	1061	1048	1048	1050	1062	100
15°	979	937	923	924	929	274
25°	841	854	856	825	806	391
35°	756	744	729	732	715	472
45°	620	605	629	595	602	478
55°	450	478	494	496	458	401
65°	279	292	328	329	316	276
75°	107	140	174	172	168	116
85°	10	30	38	38	37	14
90°	0	10	12	10	8	1
95°	0	7	10	9	8	0
105°	0	3	5	7	7	1
115°	1	1	3	4	4	1
125°	1	1	3	3	4	1
135°	1	1	1	3	4	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°	1130.6	1130.6	1130.6	1130.6	1130.6
2.5°	1104.2	1097.7	1091.1	1081.9	1080.6
5°	1060.8	1047.6	1047.6	1050.3	1062.1
7.5°	1029.2	1018.7	1017.4	1018.7	1025.3
10°	1014.7	1000.3	995.0	975.3	979.2
12.5°	1000.3	973.9	960.8	947.6	951.6
15°	979.2	937.1	922.6	923.9	929.2
17.5°	948.9	909.5	895.0	901.6	895.0
20°	912.1	889.7	879.2	875.2	852.9
22.5°	876.6	871.3	868.7	845.0	829.2
25°	841.0	854.2	855.5	825.2	805.5
27.5°	821.3	838.4	835.8	808.1	785.7
30°	800.2	813.4	804.2	792.3	767.3
32.5°	779.2	781.8	767.3	768.6	741.0
35°	755.5	743.6	729.1	731.8	714.7
37.5°	730.5	709.4	693.6	689.7	694.9
40°	698.9	667.3	667.3	652.8	660.7
42.5°	662.0	638.3	650.2	623.9	627.8
45°	619.9	605.4	629.1	594.9	601.5
47.5°	579.1	576.5	610.7	576.5	567.3
50°	535.7	542.3	583.1	551.5	534.4
52.5°	489.6	513.3	537.0	525.1	493.6
55°	450.1	477.8	493.6	496.2	458.0
57.5°	402.7	429.1	450.1	456.7	418.5
60°	364.6	386.9	406.7	410.6	379.0
62.5°	319.8	340.9	368.5	368.5	351.4
65°	279.0	292.2	327.7	329.0	315.9
67.5°	238.2	248.8	286.9	289.6	280.3
70°	192.2	209.3	248.8	248.8	242.2
72.5°	148.7	175.0	214.5	209.3	204.0
75°	106.6	139.5	173.7	172.4	168.5
77.5°	68.4	106.6	135.6	134.2	130.3
80°	39.5	76.3	98.7	97.4	94.8
82.5°	21.1	51.3	65.8	64.5	63.2
85°	10.5	30.3	38.2	38.2	36.9
87.5°	3.9	17.1	21.1	18.4	17.1
90°	0.0	10.5	11.8	10.5	7.9
92.5°	0.0	7.9	11.8	10.5	7.9
95°	0.0	6.6	10.5	9.2	7.9
97.5°	0.0	5.3	9.2	9.2	7.9
100°	0.0	3.9	7.9	9.2	7.9
102.5°	0.0	2.6	6.6	7.9	6.6
105°	0.0	2.6	5.3	6.6	6.6
107.5°	1.3	2.6	5.3	6.6	6.6
110°	1.3	1.3	3.9	5.3	5.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	1.3	3.9	3.9	5.3
115°	1.3	1.3	2.6	3.9	3.9
117.5°	1.3	1.3	2.6	3.9	3.9
120°	1.3	1.3	2.6	3.9	3.9
122.5°	1.3	1.3	2.6	2.6	3.9
125°	1.3	1.3	2.6	2.6	3.9
127.5°	1.3	1.3	2.6	2.6	3.9
130°	1.3	1.3	2.6	2.6	3.9
132.5°	1.3	1.3	2.6	2.6	3.9
135°	1.3	1.3	1.3	2.6	3.9
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)