

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: P239275

Luminaire Tested: **HDF-2-LD4-UNV-2-STD-40-OPL-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239275  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-15)  
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-2-STD-40-OPL-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 2-ROW LED BOARDS, OPAL LENS  
Light Source: (84) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

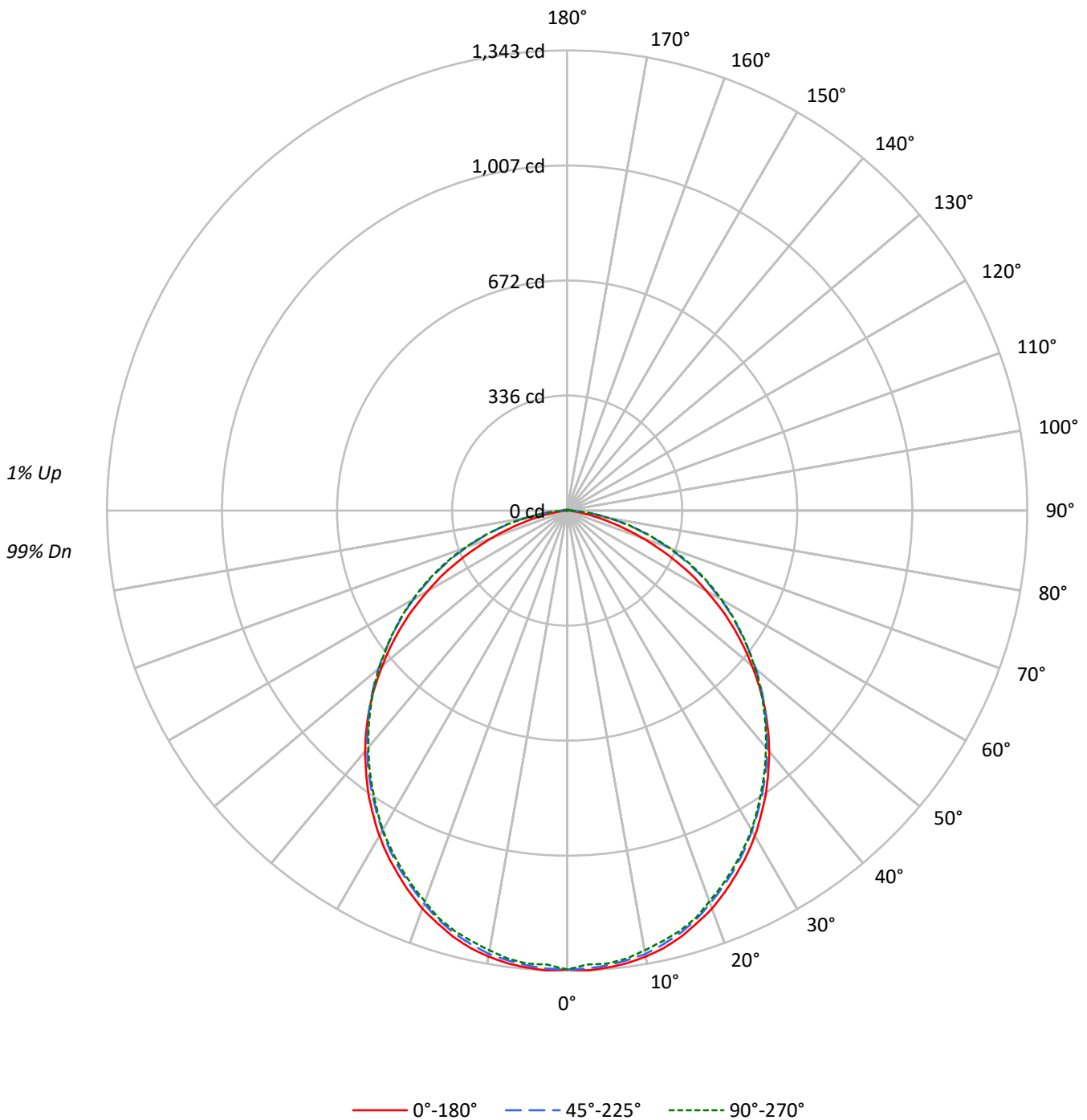
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3498.7 lumens  
Efficiency: N/A  
Efficacy: 105.4 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.2 / 1.32  
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.2  
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

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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	71				
3	91	81	73	66	88	79	72	66	76	70	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°	12356	12356	12356
5°	12403	12341	12292
10°	12384	12309	12209
15°	12294	12193	12129
20°	12139	11982	11917
25°	11907	11758	11703
30°	11678	11494	11465
35°	11385	11219	11158
40°	11048	10935	10871
45°	10644	10644	10575
50°	10101	10330	10273
55°	9494	9923	9965
60°	8649	9534	9608
65°	7667	9066	9182
70°	6304	8392	8535
75°	4616	7614	7711
80°	2694	6455	6455
85°	1419	5229	4806



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.6	3.6
10°-20°	359.8	10.3
20°-30°	532.7	15.2
30°-40°	624.1	17.8
40°-50°	627.8	17.9
50°-60°	546.7	15.6
60°-70°	396.8	11.3
70°-80°	208.8	6.0
80°-90°	52.3	1.5
90°-100°	10.2	0.3
100°-110°	5.9	0.2
110°-120°	3.4	0.1
120°-130°	2.4	0.1
130°-140°	1.3	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°	1019.1	29.1
0°-40°	1643.2	47.0
0°-60°	2817.7	80.5
0°-90°	3475.6	99.3
90°-120°	19.5	0.6
90°-150°	23.2	0.7
90°-180°	23.0	0.7
0°-180°	3498.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1339	1339	1339	1339	1339	
5°	1339	1337	1332	1327	1327	127
15°	1287	1283	1276	1272	1270	363
25°	1170	1162	1155	1151	1150	539
35°	1011	1001	996	993	991	632
45°	816	812	816	814	810	628
55°	590	600	617	624	620	526
65°	351	380	415	423	421	347
75°	130	179	214	219	216	141
85°	13	39	49	49	45	19
90°	0	12	15	12	9	1
95°	0	8	13	12	9	0
105°	1	3	7	8	7	1
115°	1	3	4	4	4	1
125°	1	3	3	4	4	1
135°	3	3	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-2-STD-40-OPL-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1339.2	1339.2	1339.2	1339.2	1339.2
2.5°	1343.2	1343.2	1337.9	1329.9	1325.9
5°	1339.2	1336.6	1332.5	1327.2	1327.2
7.5°	1332.5	1329.9	1324.5	1319.2	1319.2
10°	1321.9	1319.2	1313.9	1305.8	1303.2
12.5°	1307.2	1304.5	1296.5	1289.8	1287.1
15°	1287.1	1283.1	1276.5	1272.5	1269.8
17.5°	1261.8	1259.1	1251.1	1247.1	1247.1
20°	1236.4	1229.7	1220.4	1216.4	1213.7
22.5°	1204.4	1197.7	1188.3	1183.0	1183.0
25°	1169.6	1161.6	1155.0	1151.0	1149.6
27.5°	1134.9	1124.3	1118.9	1114.9	1113.6
30°	1096.2	1085.5	1078.9	1076.2	1076.2
32.5°	1053.5	1044.1	1037.5	1034.8	1033.5
35°	1010.8	1001.4	996.1	993.4	990.7
37.5°	964.0	956.0	953.3	952.0	948.0
40°	917.3	909.3	907.9	906.6	902.6
42.5°	867.9	862.5	861.2	862.5	857.2
45°	815.8	811.8	815.8	814.5	810.5
47.5°	761.1	761.1	767.7	769.1	765.1
50°	703.7	709.0	719.7	722.4	715.7
52.5°	647.6	654.3	667.6	672.9	667.6
55°	590.2	599.5	616.9	623.5	619.5
57.5°	531.4	544.8	568.8	575.5	571.5
60°	468.7	488.7	516.7	526.1	520.7
62.5°	412.6	435.3	466.0	474.0	471.3
65°	351.2	380.5	415.3	423.3	420.6
67.5°	291.1	325.8	363.2	372.5	369.9
70°	233.7	273.7	311.1	320.5	316.4
72.5°	178.9	224.3	261.7	269.7	265.7
75°	129.5	178.9	213.6	219.0	216.3
77.5°	85.5	136.2	165.6	172.2	168.2
80°	50.7	97.5	121.5	125.5	121.5
82.5°	26.7	65.4	82.8	84.1	80.1
85°	13.4	38.7	49.4	49.4	45.4
87.5°	5.3	20.0	24.0	22.7	20.0
90°	0.0	12.0	14.7	12.0	9.3
92.5°	0.0	10.7	13.4	12.0	8.0
95°	0.0	8.0	13.4	12.0	9.3
97.5°	0.0	6.7	12.0	12.0	9.3
100°	0.0	4.0	10.7	10.7	9.3
102.5°	0.0	4.0	8.0	9.3	8.0
105°	1.3	2.7	6.7	8.0	6.7
107.5°	1.3	2.7	5.3	6.7	6.7
110°	1.3	2.7	5.3	5.3	5.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	2.7	4.0	5.3	4.0
115°	1.3	2.7	4.0	4.0	4.0
117.5°	1.3	1.3	4.0	4.0	4.0
120°	1.3	2.7	2.7	4.0	4.0
122.5°	1.3	1.3	2.7	4.0	2.7
125°	1.3	2.7	2.7	4.0	4.0
127.5°	1.3	1.3	2.7	2.7	2.7
130°	2.7	2.7	2.7	2.7	2.7
132.5°	1.3	2.7	2.7	2.7	2.7
135°	2.7	2.7	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)