

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: P239216

Luminaire Tested: **HDF-4-LD4-UNV-1-STD-50-EDC-1**

Issue Date: 3/3/2020



**Test Information**

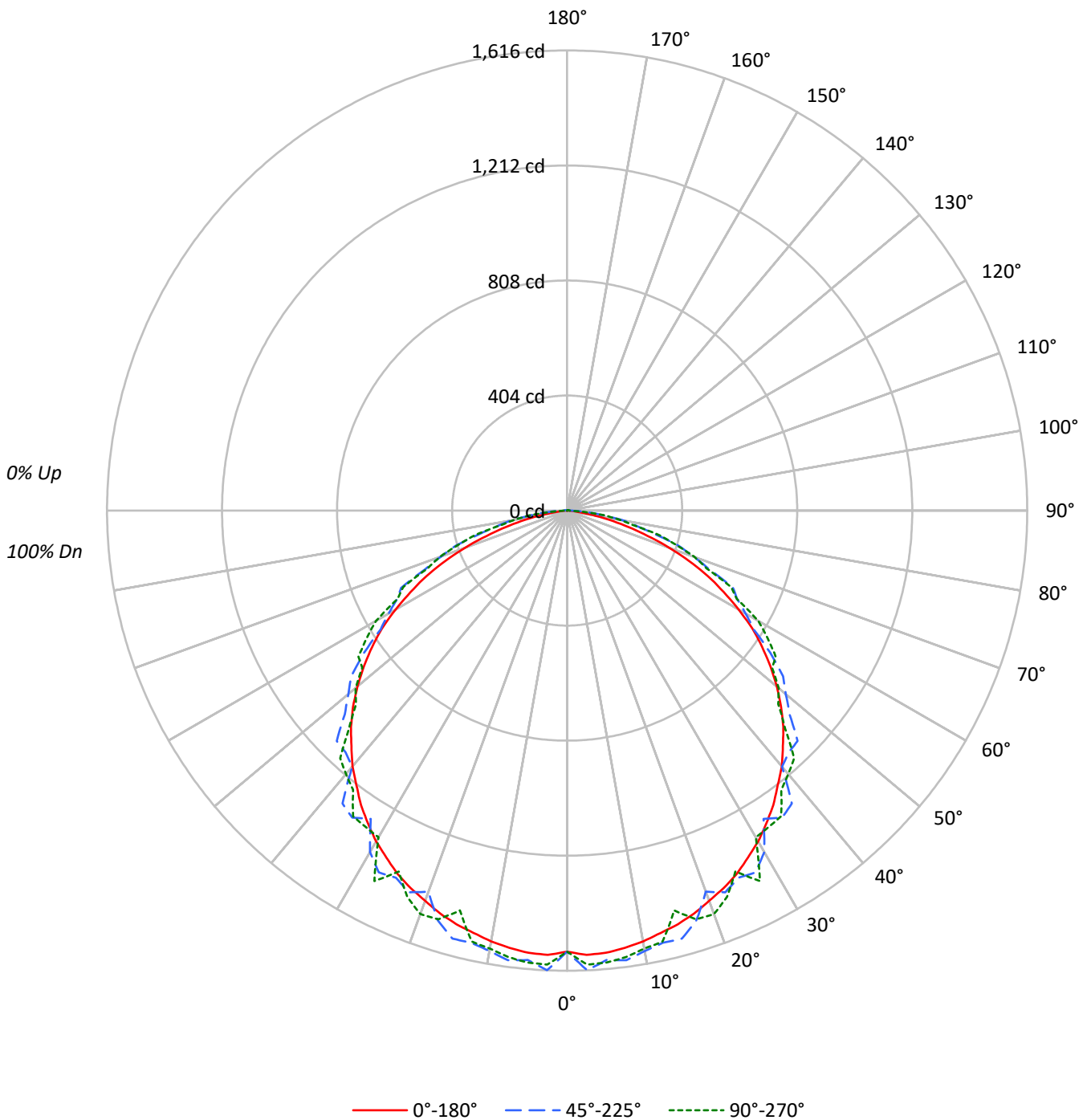
Test Method: LM-79-08  
Report Number: P239216  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-8)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: HDF-4-LD4-UNV-1-STD-50-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
4FT, 1-ROW LED BOARDS, NON-OVERLAY  
Light Source: (84) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4658.7 lumens  
Efficiency: N/A  
Efficacy: 138.2 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.3 / 1.44  
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	96	106	102	98	94	97	94	91	93	91	88	90	87	86	83
2	99	90	83	78	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	50	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	64	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	53	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°	7145	7145	7145
5°	7219	7337	7376
10°	7196	7355	7315
15°	7180	7431	6943
20°	7158	6991	7402
25°	7169	7241	7118
30°	7146	7373	7056
35°	7108	7412	7380
40°	7062	7070	7276
45°	7002	7465	7067
50°	6898	7193	6959
55°	6725	7000	7193
60°	6419	6681	7152
65°	5951	7020	6927
70°	5151	6358	6415
75°	3973	5668	6023
80°	2415	5356	4978
85°	1127	3980	3684



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.5	3.2
10°-20°	429.7	9.2
20°-30°	659.6	14.2
30°-40°	798.2	17.1
40°-50°	846.4	18.2
50°-60°	769.5	16.5
60°-70°	592.8	12.7
70°-80°	318.5	6.8
80°-90°	78.4	1.7
90°-100°	6.6	0.1
100°-110°	3.8	0.1
110°-120°	2.4	0.1
120°-130°	1.4	0.0
130°-140°	0.7	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°	1239.9	26.6
0°-40°	2038.2	43.7
0°-60°	3654.1	78.4
0°-90°	4643.7	99.7
90°-120°	12.9	0.3
90°-150°	15.0	0.3
90°-180°	15.0	0.3
0°-180°	4658.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1549	1549	1549	1549	1549	
5°	1559	1609	1584	1589	1593	148
15°	1504	1540	1556	1468	1454	424
25°	1408	1435	1423	1391	1398	648
35°	1262	1211	1316	1269	1310	789
45°	1073	1126	1144	1127	1083	827
55°	836	879	870	846	894	746
65°	545	565	643	625	635	536
75°	223	274	318	331	338	239
85°	21	65	75	70	70	32
90°	0	13	11	8	7	1
95°	0	7	7	6	6	0
105°	0	3	4	4	4	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



TEST NUMBER: P239216

CATALOG NUMBER: HDF-4-LD4-UNV-1-STD-50-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1548.9	1548.9	1548.9	1548.9	1548.9
2.5°	1561.7	1578.7	1615.7	1607.1	1595.8
5°	1558.9	1608.6	1584.4	1588.7	1592.9
7.5°	1548.9	1561.7	1592.9	1577.3	1581.6
10°	1536.1	1561.7	1570.2	1564.5	1561.7
12.5°	1519.1	1556.0	1554.6	1578.7	1550.3
15°	1503.5	1540.4	1556.0	1468.0	1453.8
17.5°	1483.6	1514.9	1509.2	1486.5	1504.9
20°	1458.1	1500.7	1424.0	1476.5	1507.8
22.5°	1435.3	1463.7	1451.0	1477.9	1468.0
25°	1408.4	1435.3	1422.6	1391.3	1398.4
27.5°	1374.3	1421.1	1432.5	1380.0	1466.6
30°	1341.6	1360.1	1384.2	1428.2	1324.6
32.5°	1301.9	1277.8	1283.4	1284.9	1317.5
35°	1262.1	1211.0	1316.1	1269.2	1310.4
37.5°	1215.3	1212.4	1296.2	1274.9	1235.2
40°	1172.7	1198.3	1174.1	1188.3	1208.2
42.5°	1121.6	1157.1	1151.4	1151.4	1179.8
45°	1073.3	1125.8	1144.3	1127.3	1083.3
47.5°	1019.4	1037.8	1059.1	1040.7	1005.2
50°	961.2	932.8	1002.3	948.4	969.7
52.5°	900.1	954.1	955.5	902.9	907.2
55°	836.2	878.8	870.3	846.2	894.4
57.5°	772.3	768.1	776.6	839.1	834.8
60°	695.7	721.2	724.1	762.4	775.2
62.5°	620.4	677.2	673.0	707.0	671.5
65°	545.2	565.1	643.1	624.7	634.6
67.5°	464.3	501.2	540.9	550.9	529.6
70°	381.9	425.9	471.4	468.5	475.6
72.5°	296.7	330.8	408.9	374.8	400.4
75°	222.9	274.0	318.0	330.8	337.9
77.5°	151.9	217.2	249.9	262.7	238.5
80°	90.9	161.8	201.6	186.0	187.4
82.5°	46.9	96.5	127.8	122.1	134.9
85°	21.3	65.3	75.2	69.6	69.6
87.5°	7.1	29.8	31.2	22.7	19.9
90°	0.0	12.8	11.4	8.5	7.1
92.5°	0.0	8.5	8.5	7.1	5.7
95°	0.0	7.1	7.1	5.7	5.7
97.5°	0.0	5.7	7.1	5.7	4.3
100°	0.0	4.3	5.7	5.7	4.3
102.5°	0.0	2.8	5.7	5.7	4.3
105°	0.0	2.8	4.3	4.3	4.3
107.5°	0.0	2.8	4.3	4.3	4.3
110°	0.0	1.4	4.3	4.3	2.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	1.4	2.8	4.3	2.8
115°	1.4	1.4	2.8	2.8	2.8
117.5°	1.4	1.4	2.8	2.8	2.8
120°	1.4	1.4	1.4	2.8	2.8
122.5°	1.4	1.4	1.4	2.8	2.8
125°	1.4	1.4	1.4	1.4	1.4
127.5°	1.4	1.4	1.4	1.4	1.4
130°	1.4	1.4	1.4	1.4	1.4
132.5°	1.4	1.4	1.4	1.4	1.4
135°	1.4	1.4	1.4	1.4	1.4
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)