

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: P239184

Luminaire Tested: **HDF-4-LD4-UNV-2-LO-50-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239184
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-3)
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-2-LO-50-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 2-ROW LED BOARDS, NON-OVERLAY
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

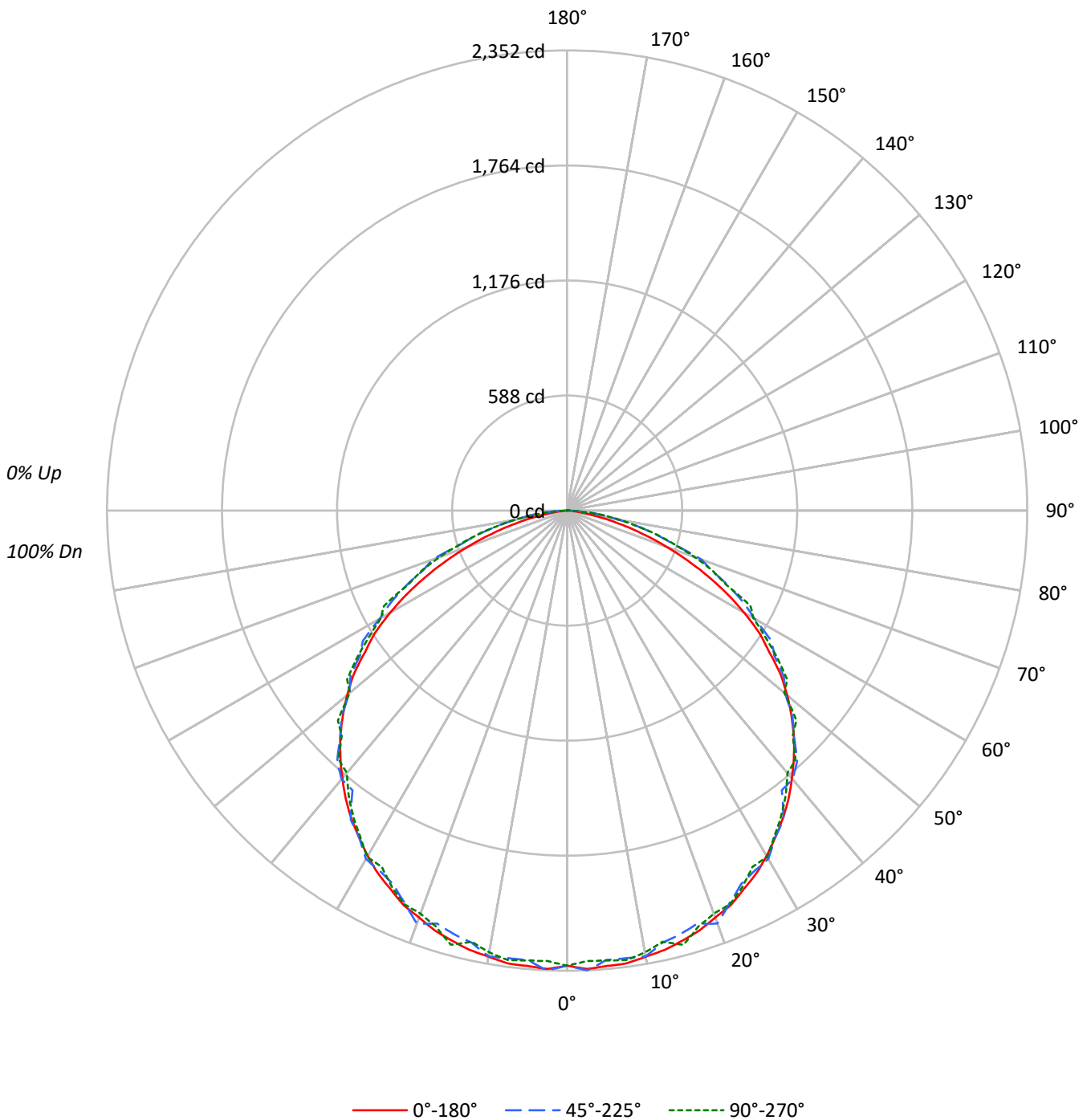
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6908.0 lumens
Efficiency: N/A
Efficacy: 146.4 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.29 / 1.41
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 47.2
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	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	88	86	83
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	78	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	75	62	53	47	73	61	53	46	59	52	46	57	51	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	65	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	52	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°	10729	10729	10729
5°	10819	10676	10686
10°	10845	10835	10740
15°	10869	10702	10975
20°	10865	11027	10761
25°	10867	10715	10796
30°	10858	10954	10886
35°	10823	10859	10739
40°	10762	10794	10546
45°	10698	10705	10629
50°	10536	10437	10399
55°	10145	10401	10538
60°	9643	10201	10132
65°	8678	9928	9777
70°	7292	9837	9351
75°	5516	8350	8464
80°	3294	7011	7351
85°	1461	6002	4880



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.7	3.2
10°-20°	636.3	9.2
20°-30°	974.2	14.1
30°-40°	1192.4	17.3
40°-50°	1261.2	18.3
50°-60°	1153.1	16.7
60°-70°	869.5	12.6
70°-80°	466.8	6.8
80°-90°	112.6	1.6
90°-100°	9.4	0.1
100°-110°	5.2	0.1
110°-120°	3.3	0.0
120°-130°	2.2	0.0
130°-140°	1.0	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°	1831.3	26.5
0°-40°	3023.7	43.8
0°-60°	5438.0	78.7
0°-90°	6886.8	99.7
90°-120°	18.0	0.3
90°-150°	21.2	0.3
90°-180°	21.0	0.3
0°-180°	6908.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2326	2326	2326	2326	2326	
5°	2336	2332	2306	2314	2308	223
15°	2276	2240	2241	2284	2298	643
25°	2135	2104	2105	2110	2121	985
35°	1922	1930	1928	1908	1907	1202
45°	1640	1646	1641	1652	1629	1263
55°	1261	1239	1293	1316	1310	1131
65°	795	835	910	933	896	785
75°	310	408	468	480	475	334
85°	28	89	113	103	92	43
90°	0	17	15	13	11	1
95°	0	10	11	10	7	0
105°	0	3	6	6	5	0
115°	1	2	4	4	4	1
125°	1	1	3	3	3	1
135°	2	2	2	2	2	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°	2325.7	2325.7	2325.7	2325.7	2325.7
2.5°	2344.8	2324.6	2352.2	2329.9	2304.5
5°	2336.3	2332.0	2305.5	2314.0	2307.7
7.5°	2334.2	2289.6	2307.7	2319.3	2317.2
10°	2315.1	2283.3	2313.0	2268.4	2292.8
12.5°	2300.2	2268.4	2261.0	2228.2	2256.8
15°	2275.9	2239.8	2240.9	2284.3	2298.1
17.5°	2250.4	2229.2	2213.3	2229.2	2229.2
20°	2213.3	2182.6	2246.2	2166.7	2192.1
22.5°	2183.6	2127.5	2170.9	2154.0	2177.3
25°	2134.9	2104.1	2105.2	2110.5	2121.1
27.5°	2092.5	2031.0	2075.5	2081.9	2052.2
30°	2038.4	1984.4	2056.4	1966.3	2043.7
32.5°	1980.1	1972.7	1979.1	1968.5	1971.6
35°	1921.8	1930.3	1928.2	1908.0	1907.0
37.5°	1859.3	1832.8	1802.0	1826.4	1834.9
40°	1787.2	1751.2	1792.5	1772.4	1751.2
42.5°	1715.1	1683.3	1739.5	1672.7	1727.8
45°	1639.8	1646.2	1640.9	1651.5	1629.2
47.5°	1556.1	1567.8	1562.5	1543.4	1589.0
50°	1468.1	1468.1	1454.3	1502.0	1449.0
52.5°	1374.8	1392.9	1396.0	1361.1	1417.2
55°	1261.4	1239.2	1293.2	1315.5	1310.2
57.5°	1165.0	1169.2	1237.0	1222.2	1199.9
60°	1045.2	1107.7	1105.6	1093.9	1098.2
62.5°	922.2	958.3	1015.5	996.4	1056.8
65°	795.0	835.3	909.5	932.8	895.7
67.5°	665.7	731.4	796.1	792.9	804.6
70°	540.6	633.9	729.3	683.7	693.3
72.5°	419.8	516.2	567.1	606.3	573.5
75°	309.5	408.1	468.5	480.2	474.9
77.5°	208.8	309.5	364.6	368.9	363.6
80°	124.0	227.9	263.9	285.1	276.7
82.5°	63.6	150.5	190.8	189.7	184.4
85°	27.6	89.0	113.4	102.8	92.2
87.5°	8.5	47.7	37.1	23.3	19.1
90°	0.0	17.0	14.8	12.7	10.6
92.5°	0.0	11.7	11.7	10.6	8.5
95°	0.0	9.5	10.6	9.5	7.4
97.5°	0.0	7.4	9.5	8.5	7.4
100°	0.0	5.3	8.5	8.5	6.4
102.5°	0.0	4.2	7.4	7.4	6.4
105°	0.0	3.2	6.4	6.4	5.3
107.5°	0.0	3.2	5.3	6.4	5.3
110°	1.1	2.1	5.3	5.3	5.3



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CATALOG NUMBER: HDF-4-LD4-UNV-2-LO-50-EDC-1

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	2.1	4.2	5.3	4.2
115°	1.1	2.1	4.2	4.2	4.2
117.5°	1.1	2.1	3.2	4.2	4.2
120°	1.1	2.1	3.2	3.2	3.2
122.5°	1.1	2.1	3.2	3.2	3.2
125°	1.1	1.1	3.2	3.2	3.2
127.5°	1.1	1.1	2.1	3.2	3.2
130°	2.1	1.1	2.1	3.2	3.2
132.5°	2.1	1.1	2.1	2.1	3.2
135°	2.1	2.1	2.1	2.1	2.1
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)