

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: P239180

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239180
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-STD-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

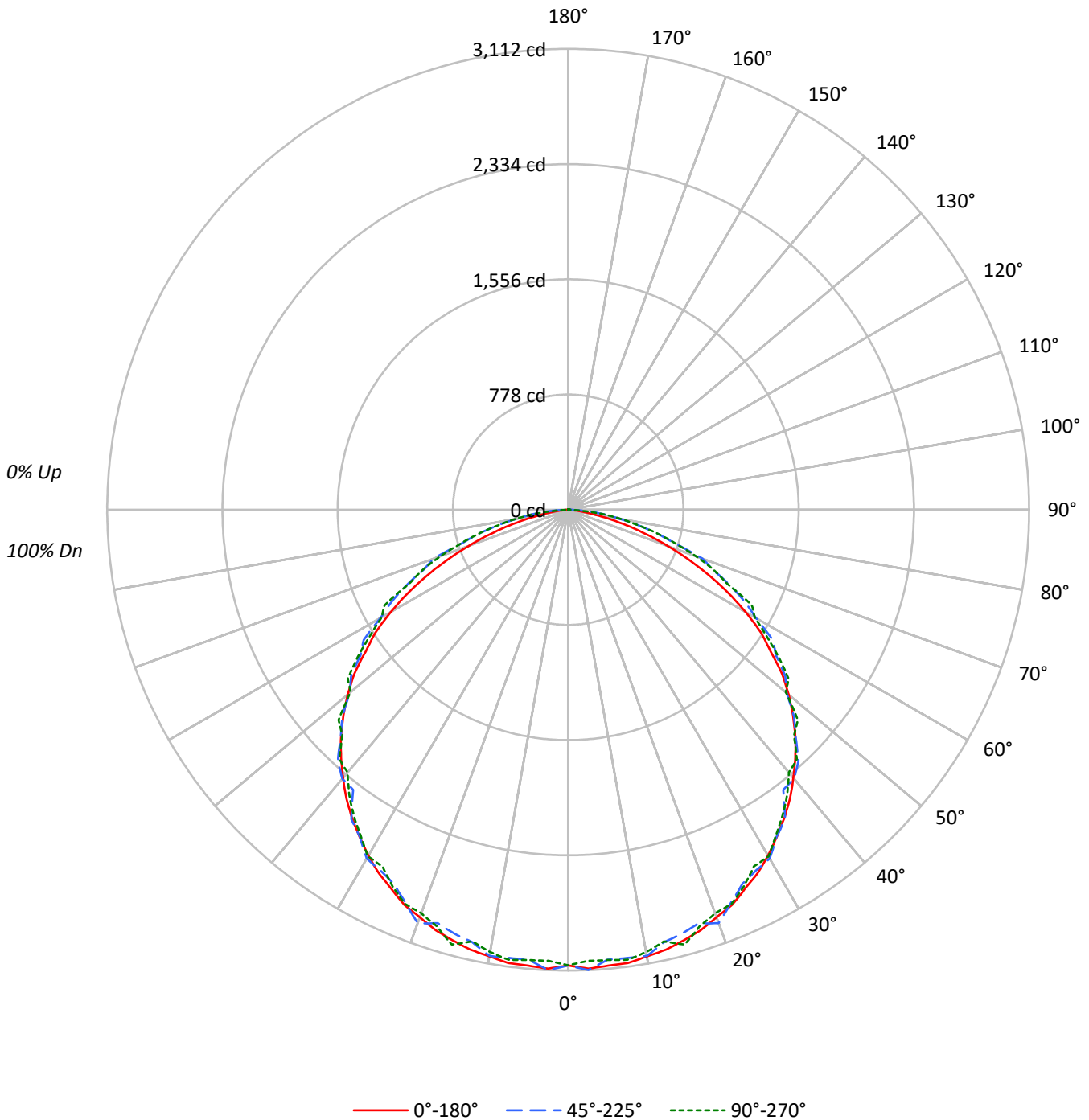
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9139.3 lumens
Efficiency: N/A
Efficacy: 136.0 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): 67.2
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°	14194	14194	14194
5°	14313	14125	14138
10°	14347	14334	14209
15°	14380	14159	14520
20°	14375	14589	14238
25°	14376	14177	14284
30°	14365	14493	14402
35°	14319	14366	14208
40°	14239	14281	13952
45°	14154	14163	14062
50°	13939	13809	13758
55°	13422	13760	13941
60°	12758	13495	13405
65°	11481	13135	12935
70°	9646	13014	12371
75°	7299	11049	11199
80°	4359	9277	9723
85°	1932	7945	6457



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.9	3.2
10°-20°	841.9	9.2
20°-30°	1288.9	14.1
30°-40°	1577.6	17.3
40°-50°	1668.6	18.3
50°-60°	1525.6	16.7
60°-70°	1150.3	12.6
70°-80°	617.6	6.8
80°-90°	148.9	1.6
90°-100°	12.5	0.1
100°-110°	6.9	0.1
110°-120°	4.4	0.0
120°-130°	2.9	0.0
130°-140°	1.4	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°	2422.8	26.5
0°-40°	4000.3	43.8
0°-60°	7194.5	78.7
0°-90°	9111.3	99.7
90°-120°	23.7	0.3
90°-150°	28.0	0.3
90°-180°	28.0	0.3
0°-180°	9139.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3077	3077	3077	3077	3077	
5°	3091	3085	3050	3062	3053	294
15°	3011	2963	2965	3022	3040	850
25°	2824	2784	2785	2792	2806	1304
35°	2543	2554	2551	2524	2523	1590
45°	2170	2178	2171	2185	2156	1670
55°	1669	1639	1711	1740	1733	1496
65°	1052	1105	1203	1234	1185	1038
75°	410	540	620	635	628	442
85°	36	118	150	136	122	57
90°	0	22	20	17	14	2
95°	0	13	14	13	10	0
105°	0	4	8	8	7	0
115°	1	3	6	6	6	1
125°	1	1	4	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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3076.9	3076.9	3076.9	3076.9	3076.9
2.5°	3102.1	3075.5	3111.9	3082.5	3048.8
5°	3090.9	3085.3	3050.2	3061.5	3053.0
7.5°	3088.1	3029.2	3053.0	3068.5	3065.7
10°	3062.9	3020.8	3060.0	3001.1	3033.4
12.5°	3043.2	3001.1	2991.3	2947.9	2985.7
15°	3011.0	2963.3	2964.7	3022.2	3040.4
17.5°	2977.3	2949.3	2928.2	2949.3	2949.3
20°	2928.2	2887.6	2971.7	2866.5	2900.2
22.5°	2889.0	2814.6	2872.1	2849.7	2880.5
25°	2824.4	2783.8	2785.2	2792.2	2806.2
27.5°	2768.3	2687.0	2745.9	2754.3	2715.1
30°	2696.8	2625.3	2720.7	2601.5	2703.8
32.5°	2619.7	2609.9	2618.3	2604.3	2608.5
35°	2542.6	2553.8	2551.0	2524.3	2522.9
37.5°	2459.8	2424.8	2384.1	2416.3	2427.6
40°	2364.5	2316.8	2371.5	2344.8	2316.8
42.5°	2269.1	2227.0	2301.3	2213.0	2285.9
45°	2169.5	2177.9	2170.9	2184.9	2155.5
47.5°	2058.7	2074.2	2067.1	2041.9	2102.2
50°	1942.3	1942.3	1924.1	1987.2	1917.1
52.5°	1818.9	1842.8	1847.0	1800.7	1875.0
55°	1668.9	1639.4	1710.9	1740.4	1733.4
57.5°	1541.2	1546.9	1636.6	1617.0	1587.5
60°	1382.8	1465.5	1462.7	1447.3	1452.9
62.5°	1220.1	1267.8	1343.5	1318.3	1398.2
65°	1051.8	1105.1	1203.3	1234.1	1185.0
67.5°	880.7	967.7	1053.2	1049.0	1064.4
70°	715.2	838.6	964.9	904.6	917.2
72.5°	555.4	683.0	750.3	802.2	758.7
75°	409.5	539.9	619.9	635.3	628.3
77.5°	276.3	409.5	482.4	488.0	481.0
80°	164.1	301.5	349.2	377.2	366.0
82.5°	84.1	199.1	252.4	251.0	244.0
85°	36.5	117.8	150.1	136.0	122.0
87.5°	11.2	63.1	49.1	30.9	25.2
90°	0.0	22.4	19.6	16.8	14.0
92.5°	0.0	15.4	15.4	14.0	11.2
95°	0.0	12.6	14.0	12.6	9.8
97.5°	0.0	9.8	12.6	11.2	9.8
100°	0.0	7.0	11.2	11.2	8.4
102.5°	0.0	5.6	9.8	9.8	8.4
105°	0.0	4.2	8.4	8.4	7.0
107.5°	0.0	4.2	7.0	8.4	7.0
110°	1.4	2.8	7.0	7.0	7.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	2.8	5.6	7.0	5.6
115°	1.4	2.8	5.6	5.6	5.6
117.5°	1.4	2.8	4.2	5.6	5.6
120°	1.4	2.8	4.2	4.2	4.2
122.5°	1.4	2.8	4.2	4.2	4.2
125°	1.4	1.4	4.2	4.2	4.2
127.5°	1.4	1.4	2.8	4.2	4.2
130°	2.8	1.4	2.8	4.2	4.2
132.5°	2.8	1.4	2.8	2.8	4.2
135°	2.8	2.8	2.8	2.8	2.8
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)