

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: P239173

Luminaire Tested: **HDF-4-LD4-UNV-2-HI-30-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239173
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-HI-30-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 2-ROW LED BOARDS, NON-OVERLAY
Light Source: (168) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

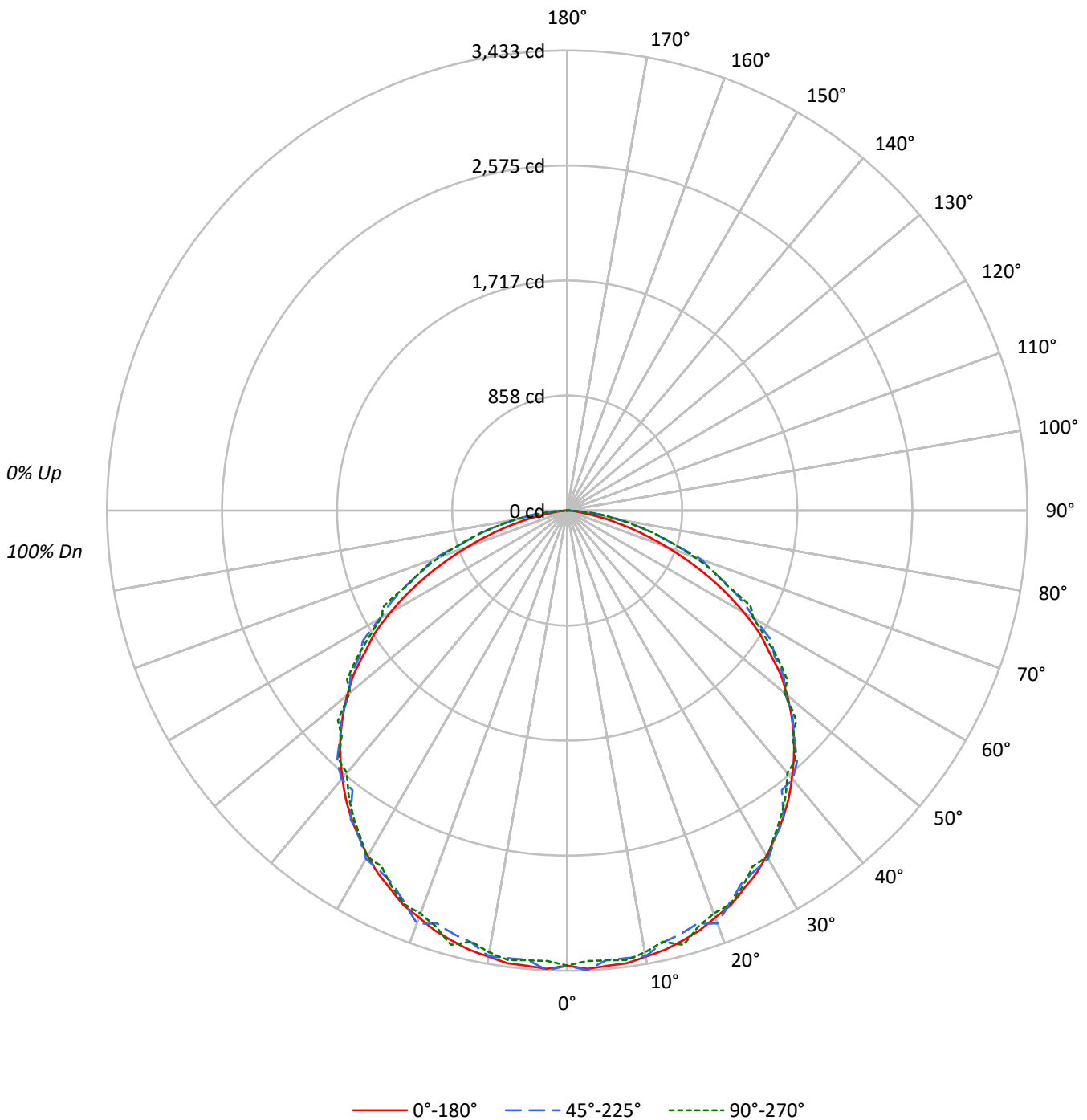
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10081.7 lumens
Efficiency: N/A
Efficacy: 113.7 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): 88.7
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	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°	15658	15658	15658
5°	15789	15581	15596
10°	15827	15812	15675
15°	15863	15619	16018
20°	15858	16093	15705
25°	15859	15639	15757
30°	15847	15987	15888
35°	15795	15847	15673
40°	15707	15754	15390
45°	15613	15623	15513
50°	15377	15233	15177
55°	14807	15180	15378
60°	14074	14887	14787
65°	12665	14488	14269
70°	10642	14356	13647
75°	8051	12188	12354
80°	4808	10233	10727
85°	2128	8760	7124



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	322.1	3.2
10°-20°	928.7	9.2
20°-30°	1421.8	14.1
30°-40°	1740.2	17.3
40°-50°	1840.6	18.3
50°-60°	1682.9	16.7
60°-70°	1268.9	12.6
70°-80°	681.3	6.8
80°-90°	164.3	1.6
90°-100°	13.8	0.1
100°-110°	7.6	0.1
110°-120°	4.8	0.0
120°-130°	3.1	0.0
130°-140°	1.5	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°	2672.6	26.5
0°-40°	4412.8	43.8
0°-60°	7936.3	78.7
0°-90°	10050.9	99.7
90°-120°	26.2	0.3
90°-150°	30.8	0.3
90°-180°	31.0	0.3
0°-180°	10081.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3394	3394	3394	3394	3394	
5°	3410	3403	3365	3377	3368	325
15°	3322	3269	3270	3334	3354	938
25°	3116	3071	3072	3080	3096	1438
35°	2805	2817	2814	2785	2783	1754
45°	2393	2402	2395	2410	2378	1843
55°	1841	1808	1887	1920	1912	1650
65°	1160	1219	1327	1361	1307	1145
75°	452	596	684	701	693	488
85°	40	130	166	150	135	62
90°	0	25	22	19	16	2
95°	0	14	16	14	11	0
105°	0	5	9	9	8	0
115°	2	3	6	6	6	1
125°	2	2	5	5	5	2
135°	3	3	3	3	3	2
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°	3394.2	3394.2	3394.2	3394.2	3394.2
2.5°	3422.0	3392.6	3432.8	3400.4	3363.2
5°	3409.6	3403.4	3364.8	3377.1	3367.9
7.5°	3406.5	3341.6	3367.9	3384.9	3381.8
10°	3378.7	3332.3	3375.6	3310.6	3346.2
12.5°	3357.0	3310.6	3299.8	3251.8	3293.6
15°	3321.5	3268.9	3270.4	3333.8	3353.9
17.5°	3284.3	3253.4	3230.2	3253.4	3253.4
20°	3230.2	3185.3	3278.1	3162.1	3199.2
22.5°	3186.9	3104.9	3168.3	3143.5	3177.6
25°	3115.7	3070.8	3072.4	3080.1	3095.6
27.5°	3053.8	2964.1	3029.1	3038.3	2995.0
30°	2974.9	2896.0	3001.2	2869.7	2982.7
32.5°	2889.8	2879.0	2888.3	2872.8	2877.5
35°	2804.7	2817.1	2814.0	2784.6	2783.1
37.5°	2713.5	2674.8	2629.9	2665.5	2677.9
40°	2608.3	2555.7	2616.0	2586.6	2555.7
42.5°	2503.1	2456.7	2538.7	2441.2	2521.6
45°	2393.2	2402.5	2394.8	2410.3	2377.8
47.5°	2271.0	2288.0	2280.3	2252.5	2319.0
50°	2142.6	2142.6	2122.5	2192.1	2114.8
52.5°	2006.5	2032.8	2037.4	1986.4	2068.4
55°	1841.0	1808.5	1887.4	1919.9	1912.1
57.5°	1700.2	1706.4	1805.4	1783.7	1751.2
60°	1525.4	1616.6	1613.5	1596.5	1602.7
62.5°	1345.9	1398.5	1482.0	1454.2	1542.4
65°	1160.3	1219.1	1327.3	1361.4	1307.2
67.5°	971.5	1067.4	1161.8	1157.2	1174.2
70°	789.0	925.1	1064.4	997.8	1011.8
72.5°	612.6	753.4	827.7	884.9	836.9
75°	451.7	595.6	683.8	700.8	693.1
77.5°	304.8	451.7	532.2	538.4	530.6
80°	181.0	332.6	385.2	416.1	403.8
82.5°	92.8	219.7	278.5	276.9	269.2
85°	40.2	129.9	165.5	150.1	134.6
87.5°	12.4	69.6	54.1	34.0	27.8
90°	0.0	24.8	21.7	18.6	15.5
92.5°	0.0	17.0	17.0	15.5	12.4
95°	0.0	13.9	15.5	13.9	10.8
97.5°	0.0	10.8	13.9	12.4	10.8
100°	0.0	7.7	12.4	12.4	9.3
102.5°	0.0	6.2	10.8	10.8	9.3
105°	0.0	4.6	9.3	9.3	7.7
107.5°	0.0	4.6	7.7	9.3	7.7
110°	1.5	3.1	7.7	7.7	7.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	3.1	6.2	7.7	6.2
115°	1.5	3.1	6.2	6.2	6.2
117.5°	1.5	3.1	4.6	6.2	6.2
120°	1.5	3.1	4.6	4.6	4.6
122.5°	1.5	3.1	4.6	4.6	4.6
125°	1.5	1.5	4.6	4.6	4.6
127.5°	1.5	1.5	3.1	4.6	4.6
130°	3.1	1.5	3.1	4.6	4.6
132.5°	3.1	1.5	3.1	3.1	4.6
135°	3.1	3.1	3.1	3.1	3.1
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)