

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: P239197

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239197
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-5)
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-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 2-ROW LED BOARDS, OPAL LENS
Light Source: (168) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

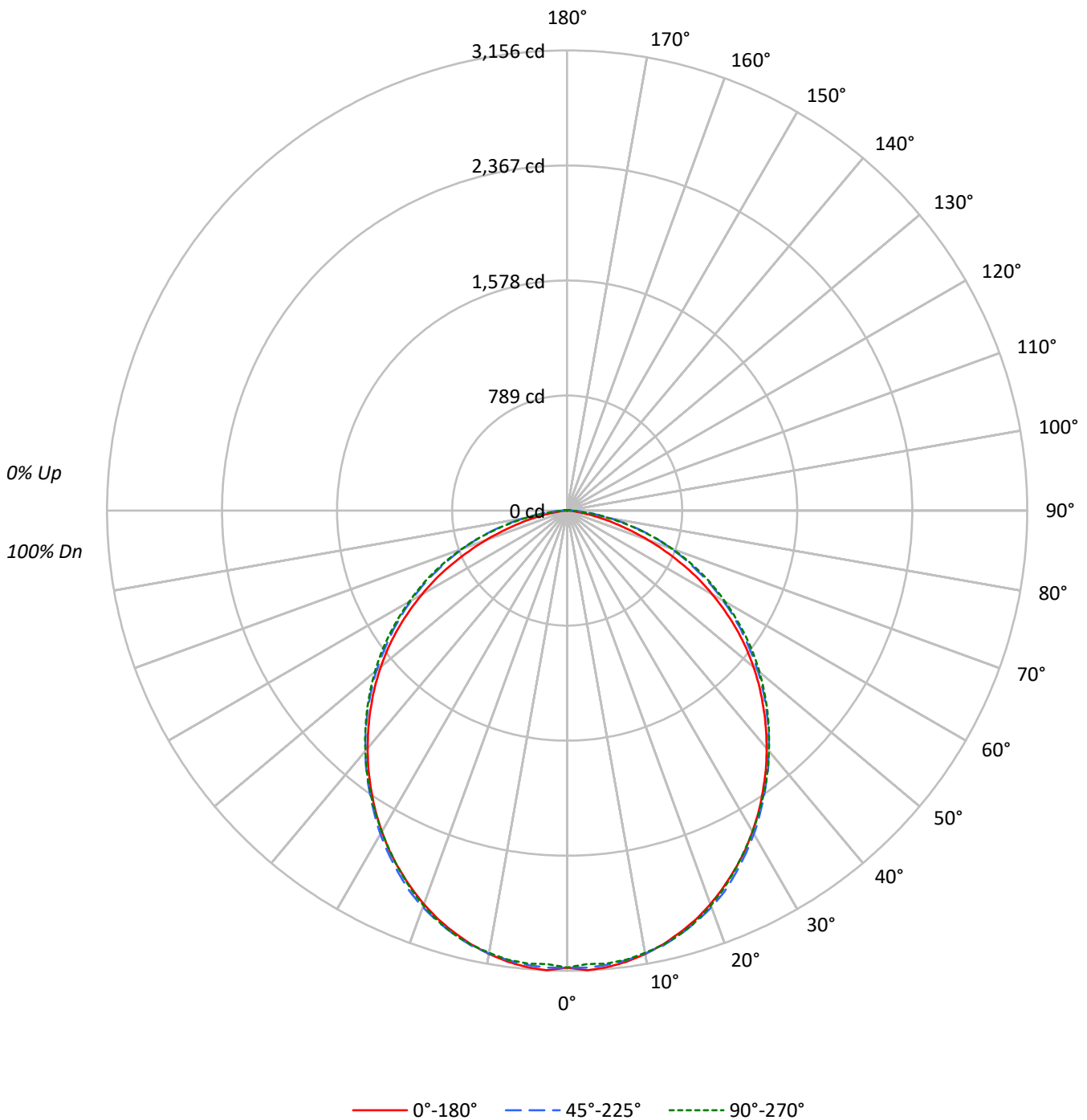
Lumens per Lamp: N/A
Luminaire Lumens: 8287.2 lumens
Efficiency: N/A
Efficacy: 93.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

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	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	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	46	44
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	44	38	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	41	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14458	14458	14458
5°	14556	14485	14442
10°	14464	14450	14428
15°	14303	14362	14362
20°	14103	14209	14148
25°	13835	13945	13850
30°	13539	13646	13547
35°	13190	13294	13268
40°	12818	12958	12968
45°	12414	12615	12666
50°	11979	12246	12357
55°	11409	11832	11994
60°	10618	11404	11560
65°	9524	10824	11077
70°	7992	10245	10349
75°	6039	9347	9181
80°	3740	7890	7438
85°	1800	5976	5076



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	296.6	3.6
10°-20°	844.5	10.2
20°-30°	1253.6	15.1
30°-40°	1470.0	17.7
40°-50°	1484.5	17.9
50°-60°	1304.3	15.7
60°-70°	959.5	11.6
70°-80°	512.1	6.2
80°-90°	123.3	1.5
90°-100°	19.2	0.2
100°-110°	9.8	0.1
110°-120°	4.8	0.1
120°-130°	3.5	0.0
130°-140°	1.6	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°	2394.7	28.9
0°-40°	3864.6	46.6
0°-60°	6653.4	80.3
0°-90°	8248.4	99.5
90°-120°	33.8	0.4
90°-150°	38.9	0.5
90°-180°	39.0	0.5
0°-180°	8287.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3134	3134	3134	3134	3134	
5°	3143	3109	3128	3117	3119	298
15°	2995	2975	3007	3003	3007	844
25°	2718	2712	2740	2716	2721	1252
35°	2342	2345	2361	2344	2356	1465
45°	1903	1910	1934	1931	1941	1468
55°	1419	1429	1471	1484	1491	1265
65°	872	928	992	1012	1015	863
75°	339	450	524	524	515	368
85°	34	102	113	104	96	50
90°	0	26	28	23	20	1
95°	0	16	25	22	20	0
105°	2	5	11	14	14	1
115°	2	3	5	6	6	2
125°	3	3	5	5	5	3
135°	3	3	3	3	5	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°	3134.2	3134.2	3134.2	3134.2	3134.2
2.5°	3155.8	3121.8	3137.3	3128.0	3112.5
5°	3143.4	3109.4	3128.0	3117.1	3118.7
7.5°	3120.2	3090.8	3111.0	3103.2	3106.3
10°	3087.8	3059.9	3084.7	3078.5	3080.0
12.5°	3046.0	3021.2	3053.7	3046.0	3049.1
15°	2994.9	2974.8	3007.3	3002.7	3007.3
17.5°	2939.2	2922.2	2954.7	2947.0	2950.1
20°	2872.7	2858.8	2894.4	2875.8	2882.0
22.5°	2798.5	2789.2	2824.8	2801.6	2806.2
25°	2718.0	2711.8	2739.7	2716.5	2721.1
27.5°	2636.0	2626.8	2653.1	2628.3	2631.4
30°	2541.7	2538.6	2561.8	2535.5	2543.2
32.5°	2445.8	2445.8	2462.8	2441.1	2451.9
35°	2342.1	2345.2	2360.7	2343.7	2356.0
37.5°	2238.5	2241.6	2260.1	2244.7	2257.0
40°	2128.6	2133.3	2151.8	2142.6	2153.4
42.5°	2017.2	2025.0	2045.1	2038.9	2048.2
45°	1902.8	1910.5	1933.7	1930.6	1941.4
47.5°	1788.3	1794.5	1820.8	1823.9	1833.2
50°	1669.2	1673.8	1706.3	1714.0	1721.8
52.5°	1547.0	1553.2	1587.2	1599.6	1608.8
55°	1418.6	1429.4	1471.2	1483.5	1491.3
57.5°	1284.0	1305.6	1353.6	1364.4	1370.6
60°	1150.9	1175.7	1236.0	1250.0	1253.0
62.5°	1016.4	1055.0	1120.0	1132.4	1135.5
65°	872.5	928.2	991.6	1011.7	1014.8
67.5°	730.2	804.4	875.6	891.1	891.1
70°	592.5	682.2	759.6	768.8	767.3
72.5°	462.5	564.6	640.4	648.2	645.1
75°	338.8	450.2	524.4	524.4	515.1
77.5°	229.0	345.0	406.9	403.8	397.6
80°	140.8	252.2	297.0	289.3	280.0
82.5°	75.8	173.3	196.5	187.2	177.9
85°	34.0	102.1	112.9	103.6	95.9
87.5°	9.3	52.6	52.6	46.4	43.3
90°	0.0	26.3	27.8	23.2	20.1
92.5°	0.0	20.1	26.3	21.7	20.1
95°	0.0	15.5	24.8	21.7	20.1
97.5°	0.0	10.8	21.7	20.1	18.6
100°	0.0	7.7	17.0	18.6	17.0
102.5°	0.0	6.2	13.9	15.5	15.5
105°	1.5	4.6	10.8	13.9	13.9
107.5°	1.5	4.6	7.7	10.8	10.8
110°	1.5	3.1	6.2	9.3	9.3



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CANDELA DISTRIBUTION (continued):

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