

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: P239200

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239200
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-50-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 2-ROW LED BOARDS, OPAL LENS
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

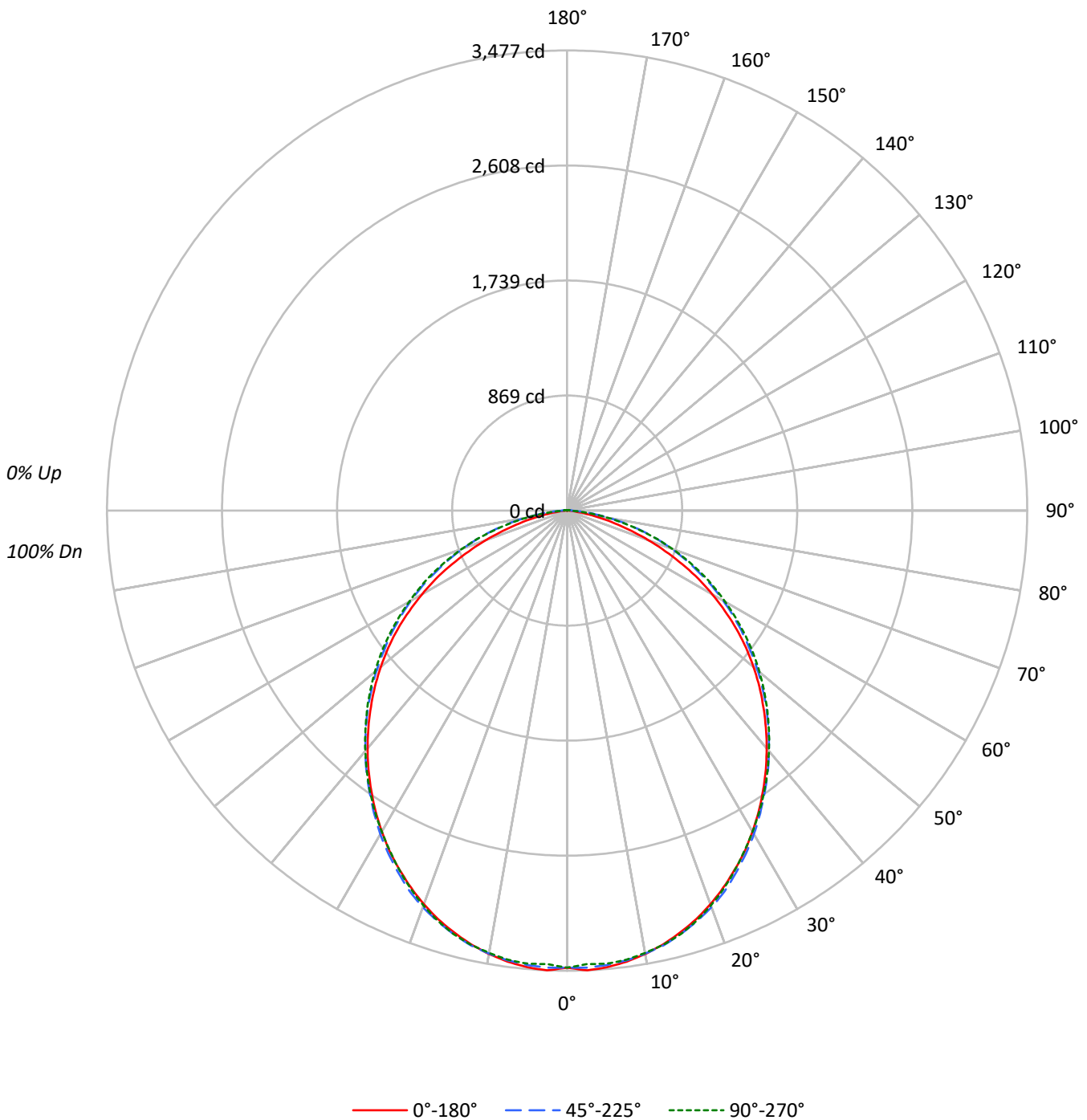
Lumens per Lamp: N/A
Luminaire Lumens: 9131.4 lumens
Efficiency: N/A
Efficacy: 102.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P239200

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

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°	15931	15931	15931
5°	16039	15960	15913
10°	15937	15921	15897
15°	15760	15826	15826
20°	15539	15656	15590
25°	15244	15366	15261
30°	14918	15036	14927
35°	14533	14649	14620
40°	14125	14278	14288
45°	13678	13901	13956
50°	13199	13493	13616
55°	12572	13037	13216
60°	11701	12565	12739
65°	10494	11926	12206
70°	8805	11288	11404
75°	6654	10299	10117
80°	4120	8695	8196
85°	1985	6584	5595



TEST NUMBER: P239200

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	326.8	3.6
10°-20°	930.5	10.2
20°-30°	1381.3	15.1
30°-40°	1619.7	17.7
40°-50°	1635.8	17.9
50°-60°	1437.2	15.7
60°-70°	1057.3	11.6
70°-80°	564.2	6.2
80°-90°	135.9	1.5
90°-100°	21.2	0.2
100°-110°	10.8	0.1
110°-120°	5.3	0.1
120°-130°	3.8	0.0
130°-140°	1.8	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°	2638.6	28.9
0°-40°	4258.3	46.6
0°-60°	7331.2	80.3
0°-90°	9088.6	99.5
90°-120°	37.2	0.4
90°-150°	42.8	0.5
90°-180°	43.0	0.5
0°-180°	9131.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3453	3453	3453	3453	3453	
5°	3464	3426	3447	3435	3436	329
15°	3300	3278	3314	3309	3314	931
25°	2995	2988	3019	2993	2998	1380
35°	2581	2584	2601	2582	2596	1614
45°	2097	2105	2131	2127	2139	1618
55°	1563	1575	1621	1635	1643	1394
65°	961	1023	1093	1115	1118	951
75°	373	496	578	578	568	405
85°	38	112	124	114	106	55
90°	0	29	31	26	22	1
95°	0	17	27	24	22	0
105°	2	5	12	15	15	1
115°	2	3	5	7	7	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



TEST NUMBER: P239200

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3453.4	3453.4	3453.4	3453.4	3453.4
2.5°	3477.3	3439.8	3456.8	3446.6	3429.6
5°	3463.7	3426.2	3446.6	3434.7	3436.4
7.5°	3438.1	3405.7	3427.9	3419.3	3422.8
10°	3402.3	3371.6	3398.9	3392.1	3393.8
12.5°	3356.3	3329.0	3364.8	3356.3	3359.7
15°	3300.0	3277.9	3313.7	3308.6	3313.7
17.5°	3238.7	3219.9	3255.7	3247.2	3250.6
20°	3165.4	3150.0	3189.2	3168.8	3175.6
22.5°	3083.6	3073.3	3112.5	3087.0	3092.1
25°	2994.9	2988.1	3018.8	2993.2	2998.3
27.5°	2904.6	2894.3	2923.3	2896.0	2899.5
30°	2800.6	2797.2	2822.8	2793.8	2802.3
32.5°	2694.9	2694.9	2713.7	2689.8	2701.7
35°	2580.7	2584.1	2601.2	2582.4	2596.0
37.5°	2466.5	2469.9	2490.4	2473.3	2487.0
40°	2345.5	2350.6	2371.0	2360.8	2372.7
42.5°	2222.7	2231.3	2253.4	2246.6	2256.8
45°	2096.6	2105.1	2130.7	2127.3	2139.2
47.5°	1970.5	1977.3	2006.3	2009.7	2019.9
50°	1839.2	1844.3	1880.1	1888.7	1897.2
52.5°	1704.6	1711.4	1748.9	1762.5	1772.7
55°	1563.1	1575.0	1621.0	1634.7	1643.2
57.5°	1414.8	1438.6	1491.5	1503.4	1510.2
60°	1268.2	1295.5	1361.9	1377.3	1380.7
62.5°	1119.9	1162.5	1234.1	1247.7	1251.1
65°	961.4	1022.7	1092.6	1114.8	1118.2
67.5°	804.6	886.4	964.8	981.8	981.8
70°	652.8	751.7	836.9	847.2	845.5
72.5°	509.7	622.2	705.7	714.2	710.8
75°	373.3	496.0	577.8	577.8	567.6
77.5°	252.3	380.1	448.3	444.9	438.1
80°	155.1	277.8	327.3	318.8	308.5
82.5°	83.5	190.9	216.5	206.3	196.0
85°	37.5	112.5	124.4	114.2	105.7
87.5°	10.2	58.0	58.0	51.1	47.7
90°	0.0	29.0	30.7	25.6	22.2
92.5°	0.0	22.2	29.0	23.9	22.2
95°	0.0	17.0	27.3	23.9	22.2
97.5°	0.0	11.9	23.9	22.2	20.5
100°	0.0	8.5	18.8	20.5	18.8
102.5°	0.0	6.8	15.3	17.0	17.0
105°	1.7	5.1	11.9	15.3	15.3
107.5°	1.7	5.1	8.5	11.9	11.9
110°	1.7	3.4	6.8	10.2	10.2



TEST NUMBER: P239200

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	3.4	6.8	8.5	8.5
115°	1.7	3.4	5.1	6.8	6.8
117.5°	1.7	3.4	5.1	6.8	6.8
120°	3.4	3.4	5.1	5.1	5.1
122.5°	3.4	3.4	5.1	5.1	5.1
125°	3.4	3.4	5.1	5.1	5.1
127.5°	3.4	3.4	3.4	5.1	5.1
130°	3.4	3.4	3.4	3.4	5.1
132.5°	3.4	3.4	3.4	3.4	3.4
135°	3.4	3.4	3.4	3.4	5.1
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)