

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: P239270

Luminaire Tested: **HDF-2-LD4-UNV-2-HI-35-OPL-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239270
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-15)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: HDF-2-LD4-UNV-2-HI-35-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
2FT, 2-ROW LED BOARDS, OPAL LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

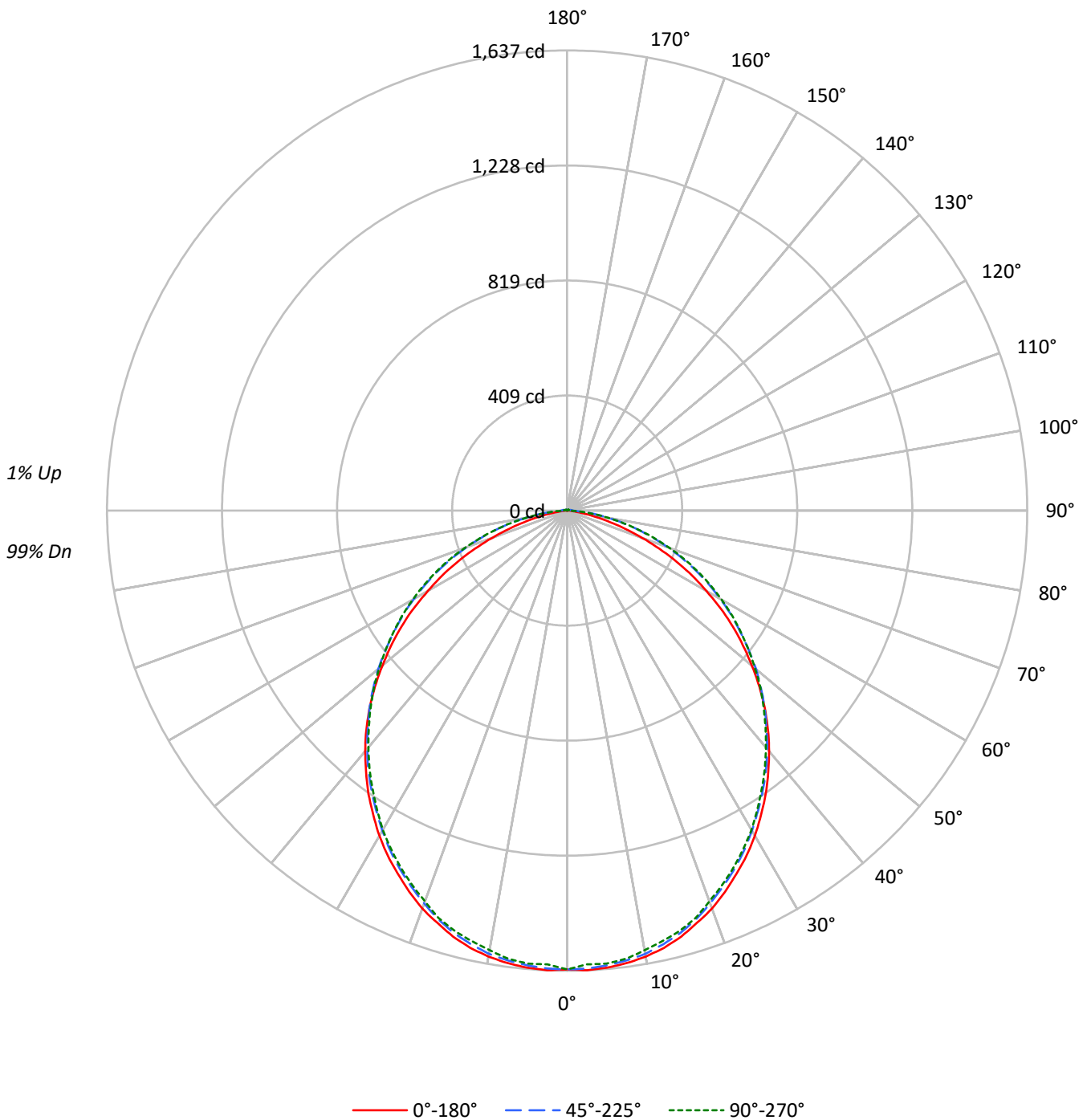
Lumens per Lamp: N/A
Luminaire Lumens: 4263.8 lumens
Efficiency: N/A
Efficacy: 97.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 43.9
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	101	101	101	99
1	109	104	100	97	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	71
3	91	81	73	66	88	79	72	66	76	70	64	73	68	63	70	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	53	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15058	15058	15058
5°	15116	15040	14979
10°	15092	15000	14878
15°	14983	14859	14780
20°	14794	14602	14522
25°	14511	14328	14262
30°	14232	14007	13972
35°	13874	13672	13599
40°	13464	13327	13248
45°	12972	12972	12887
50°	12308	12588	12519
55°	11569	12093	12144
60°	10538	11619	11710
65°	9342	11049	11191
70°	7683	10226	10402
75°	5625	9279	9397
80°	3284	7869	7869
85°	1726	6373	5854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.3	3.6
10°-20°	438.5	10.3
20°-30°	649.2	15.2
30°-40°	760.6	17.8
40°-50°	765.1	17.9
50°-60°	666.2	15.6
60°-70°	483.5	11.3
70°-80°	254.4	6.0
80°-90°	63.7	1.5
90°-100°	12.5	0.3
100°-110°	7.2	0.2
110°-120°	4.1	0.1
120°-130°	2.9	0.1
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°	1242.0	29.1
0°-40°	2002.5	47.0
0°-60°	3433.8	80.5
0°-90°	4235.6	99.3
90°-120°	23.8	0.6
90°-150°	28.3	0.7
90°-180°	28.0	0.7
0°-180°	4263.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1632	1632	1632	1632	1632	
5°	1632	1629	1624	1617	1617	155
15°	1569	1564	1556	1551	1547	442
25°	1425	1416	1408	1403	1401	657
35°	1232	1220	1214	1211	1207	770
45°	994	989	994	993	988	765
55°	719	731	752	760	755	641
65°	428	464	506	516	513	423
75°	158	218	260	267	264	172
85°	16	47	60	60	55	23
90°	0	15	18	15	11	1
95°	0	10	16	15	11	0
105°	2	3	8	10	8	1
115°	2	3	5	5	5	2
125°	2	3	3	5	5	2
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°	1632.1	1632.1	1632.1	1632.1	1632.1
2.5°	1636.9	1636.9	1630.4	1620.7	1615.8
5°	1632.1	1628.8	1623.9	1617.4	1617.4
7.5°	1623.9	1620.7	1614.2	1607.7	1607.7
10°	1610.9	1607.7	1601.1	1591.4	1588.1
12.5°	1593.0	1589.8	1580.0	1571.9	1568.6
15°	1568.6	1563.7	1555.6	1550.7	1547.4
17.5°	1537.7	1534.4	1524.7	1519.8	1519.8
20°	1506.8	1498.6	1487.2	1482.4	1479.1
22.5°	1467.7	1459.6	1448.2	1441.7	1441.7
25°	1425.4	1415.6	1407.5	1402.6	1401.0
27.5°	1383.1	1370.1	1363.6	1358.7	1357.1
30°	1335.9	1322.9	1314.8	1311.5	1311.5
32.5°	1283.8	1272.5	1264.3	1261.1	1259.4
35°	1231.8	1220.4	1213.9	1210.6	1207.4
37.5°	1174.8	1165.1	1161.8	1160.2	1155.3
40°	1117.9	1108.1	1106.5	1104.9	1100.0
42.5°	1057.7	1051.2	1049.5	1051.2	1044.6
45°	994.2	989.3	994.2	992.6	987.7
47.5°	927.5	927.5	935.6	937.3	932.4
50°	857.5	864.0	877.0	880.3	872.2
52.5°	789.2	797.3	813.6	820.1	813.6
55°	719.2	730.6	751.8	759.9	755.0
57.5°	647.6	663.9	693.2	701.3	696.4
60°	571.1	595.5	629.7	641.1	634.6
62.5°	502.8	530.5	567.9	577.6	574.4
65°	427.9	463.7	506.1	515.8	512.6
67.5°	354.7	397.0	442.6	454.0	450.7
70°	284.8	333.6	379.1	390.5	385.6
72.5°	218.0	273.4	318.9	328.7	323.8
75°	157.8	218.0	260.3	266.9	263.6
77.5°	104.1	166.0	201.8	209.9	205.0
80°	61.8	118.8	148.1	153.0	148.1
82.5°	32.5	79.7	100.9	102.5	97.6
85°	16.3	47.2	60.2	60.2	55.3
87.5°	6.5	24.4	29.3	27.7	24.4
90°	0.0	14.6	17.9	14.6	11.4
92.5°	0.0	13.0	16.3	14.6	9.8
95°	0.0	9.8	16.3	14.6	11.4
97.5°	0.0	8.1	14.6	14.6	11.4
100°	0.0	4.9	13.0	13.0	11.4
102.5°	0.0	4.9	9.8	11.4	9.8
105°	1.6	3.3	8.1	9.8	8.1
107.5°	1.6	3.3	6.5	8.1	8.1
110°	1.6	3.3	6.5	6.5	6.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	3.3	4.9	6.5	4.9
115°	1.6	3.3	4.9	4.9	4.9
117.5°	1.6	1.6	4.9	4.9	4.9
120°	1.6	3.3	3.3	4.9	4.9
122.5°	1.6	1.6	3.3	4.9	3.3
125°	1.6	3.3	3.3	4.9	4.9
127.5°	1.6	1.6	3.3	3.3	3.3
130°	3.3	3.3	3.3	3.3	3.3
132.5°	1.6	3.3	3.3	3.3	3.3
135°	3.3	3.3	3.3	3.3	3.3
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)