

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: P239233

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239233
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-10)
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-1-HI-30-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 1-ROW LED BOARDS, OPAL LENS
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

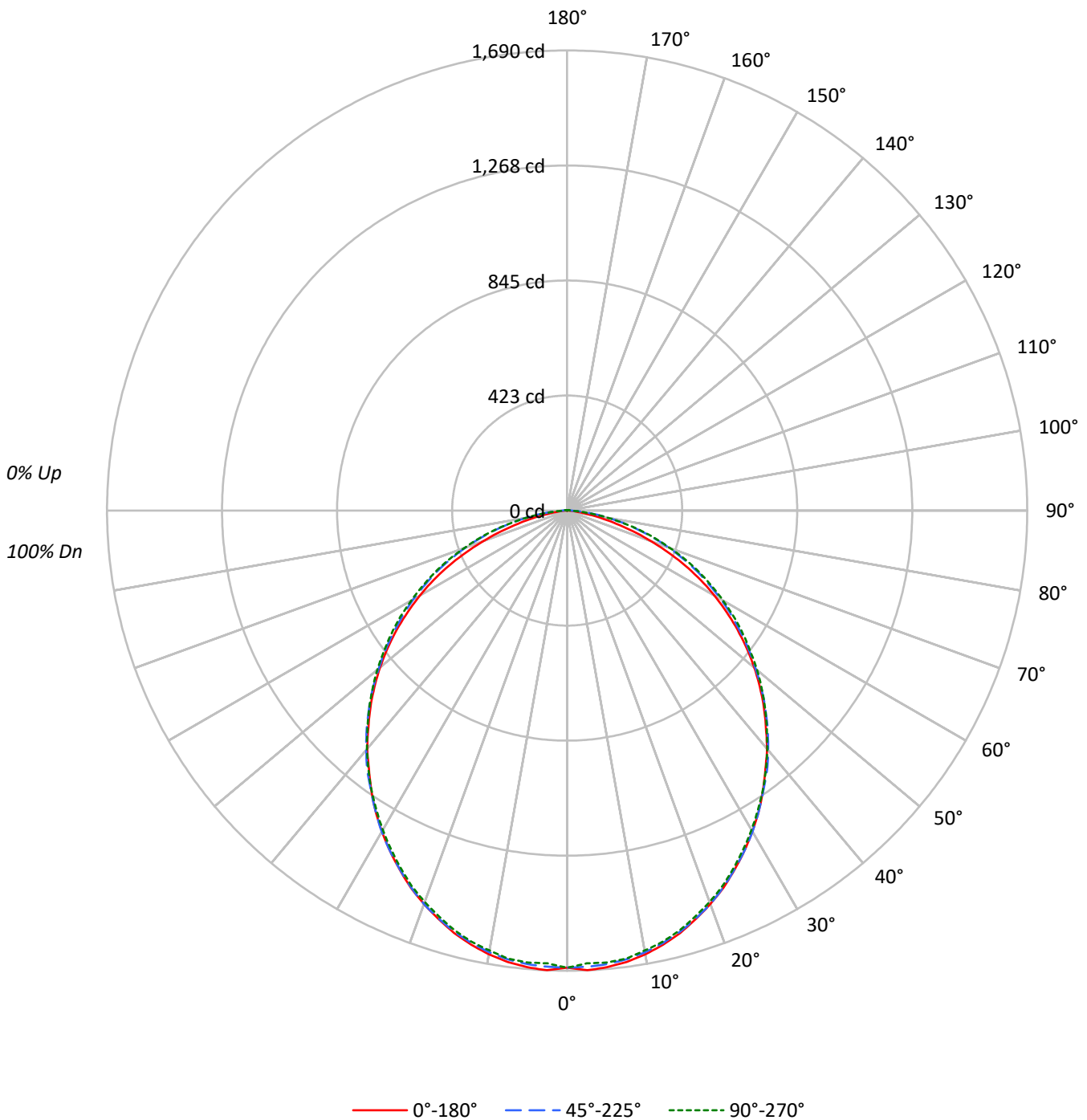
Lumens per Lamp: N/A
Luminaire Lumens: 4400.7 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 44.5
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	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	80	72	66	88	79	71	65	76	69	64		73	68	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	49	74	63	54	48	61	53	48		59	52	47		57	51	47	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	43	37		48	42	37		47	41	37	35
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	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	52	40	33	27	39	32	27		38	32	27		37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7743	7743	7743
5°	7795	7744	7714
10°	7752	7715	7685
15°	7669	7646	7624
20°	7549	7549	7510
25°	7408	7400	7368
30°	7247	7256	7213
35°	7065	7074	7056
40°	6878	6916	6888
45°	6667	6719	6709
50°	6438	6483	6539
55°	6145	6248	6336
60°	5765	6014	6101
65°	5233	5733	5837
70°	4417	5356	5419
75°	3356	4793	4907
80°	2101	4078	3993
85°	1006	3017	2763



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.5	3.6
10°-20°	449.8	10.2
20°-30°	667.2	15.2
30°-40°	782.6	17.8
40°-50°	789.1	17.9
50°-60°	692.3	15.7
60°-70°	508.2	11.5
70°-80°	269.1	6.1
80°-90°	64.6	1.5
90°-100°	9.4	0.2
100°-110°	4.7	0.1
110°-120°	2.6	0.1
120°-130°	1.6	0.0
130°-140°	0.8	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°	1275.6	29.0
0°-40°	2058.1	46.8
0°-60°	3539.6	80.4
0°-90°	4381.5	99.6
90°-120°	16.7	0.4
90°-150°	19.2	0.4
90°-180°	19.0	0.4
0°-180°	4400.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1678	1678	1678	1678	1678	
5°	1683	1664	1672	1666	1666	160
15°	1606	1588	1601	1595	1596	452
25°	1456	1444	1454	1443	1448	670
35°	1254	1245	1256	1248	1253	784
45°	1022	1014	1030	1025	1028	788
55°	764	759	777	785	788	682
65°	479	492	525	535	535	472
75°	188	236	269	275	275	204
85°	19	52	57	55	52	28
90°	0	14	14	13	13	1
95°	0	8	11	11	10	0
105°	0	3	5	6	6	0
115°	2	2	3	3	3	1
125°	2	2	2	2	2	1
135°	2	2	2	2	2	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



TEST NUMBER: P239233

CATALOG NUMBER: HDF-4-LD4-UNV-1-HI-30-OPL-EDC-1

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1678.5	1678.5	1678.5	1678.5	1678.5
2.5°	1689.6	1670.6	1676.9	1672.2	1664.3
5°	1683.3	1664.3	1672.2	1665.9	1665.9
7.5°	1672.2	1654.8	1662.7	1656.4	1659.5
10°	1654.8	1637.4	1646.9	1640.6	1640.6
12.5°	1632.6	1615.2	1626.3	1618.4	1621.6
15°	1605.7	1588.3	1601.0	1594.7	1596.3
17.5°	1572.5	1558.3	1570.9	1563.0	1563.0
20°	1537.7	1525.1	1537.7	1526.6	1529.8
22.5°	1499.8	1488.7	1498.2	1485.5	1491.8
25°	1455.5	1444.4	1453.9	1442.8	1447.5
27.5°	1409.6	1398.5	1409.6	1400.1	1401.7
30°	1360.5	1351.0	1362.1	1351.0	1354.2
32.5°	1309.9	1298.8	1309.9	1302.0	1303.6
35°	1254.5	1245.0	1256.1	1248.2	1253.0
37.5°	1196.0	1189.7	1205.5	1194.4	1199.2
40°	1142.2	1131.1	1148.5	1137.5	1143.8
42.5°	1080.5	1072.6	1090.0	1082.1	1085.3
45°	1022.0	1014.1	1029.9	1025.1	1028.3
47.5°	960.3	952.4	968.2	965.0	969.8
50°	897.0	890.7	903.3	906.5	911.2
52.5°	832.1	825.8	841.6	846.4	848.0
55°	764.1	759.4	776.8	784.7	787.8
57.5°	694.5	694.5	715.1	723.0	726.1
60°	624.9	626.5	651.8	659.7	661.3
62.5°	553.7	561.6	586.9	598.0	598.0
65°	479.4	492.0	525.2	534.7	534.7
67.5°	401.8	422.4	460.4	468.3	469.9
70°	327.5	354.4	397.1	403.4	401.8
72.5°	254.7	294.3	332.2	340.1	338.6
75°	188.3	235.7	268.9	275.3	275.3
77.5°	129.7	178.8	210.4	213.6	212.0
80°	79.1	131.3	153.5	153.5	150.3
82.5°	42.7	88.6	101.2	98.1	94.9
85°	19.0	52.2	57.0	55.4	52.2
87.5°	6.3	25.3	26.9	25.3	25.3
90°	0.0	14.2	14.2	12.7	12.7
92.5°	0.0	9.5	12.7	11.1	9.5
95°	0.0	7.9	11.1	11.1	9.5
97.5°	0.0	4.7	9.5	9.5	9.5
100°	0.0	4.7	7.9	9.5	7.9
102.5°	0.0	3.2	6.3	7.9	7.9
105°	0.0	3.2	4.7	6.3	6.3
107.5°	0.0	1.6	4.7	4.7	4.7
110°	0.0	1.6	3.2	4.7	4.7



TEST NUMBER: P239233

CATALOG NUMBER: HDF-4-LD4-UNV-1-HI-30-OPL-EDC-1

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	1.6	3.2	3.2	3.2
115°	1.6	1.6	3.2	3.2	3.2
117.5°	1.6	1.6	3.2	3.2	3.2
120°	1.6	1.6	1.6	3.2	3.2
122.5°	1.6	1.6	1.6	3.2	3.2
125°	1.6	1.6	1.6	1.6	1.6
127.5°	1.6	1.6	1.6	1.6	1.6
130°	1.6	1.6	1.6	1.6	1.6
132.5°	1.6	1.6	1.6	1.6	1.6
135°	1.6	1.6	1.6	1.6	1.6
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)