

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: P239236

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239236
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-50-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 1-ROW LED BOARDS, OPAL LENS
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

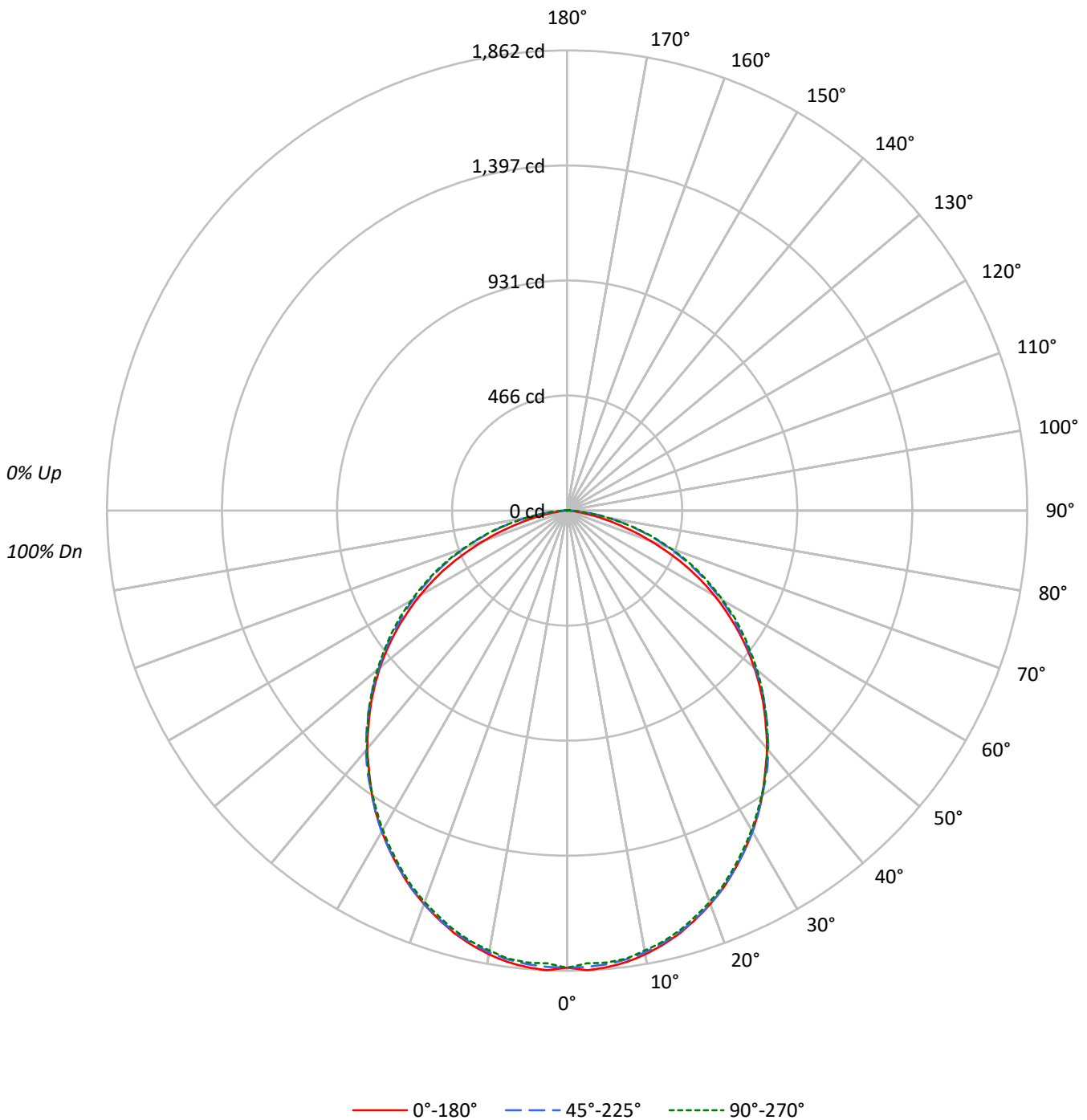
Lumens per Lamp: N/A
Luminaire Lumens: 4848.9 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

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°	8532	8532	8532
5°	8589	8532	8500
10°	8541	8500	8468
15°	8450	8425	8400
20°	8318	8318	8275
25°	8163	8154	8119
30°	7985	7995	7949
35°	7785	7795	7775
40°	7579	7621	7590
45°	7347	7403	7392
50°	7093	7144	7206
55°	6772	6884	6982
60°	6353	6626	6722
65°	5766	6317	6431
70°	4866	5901	5972
75°	3697	5281	5406
80°	2317	4492	4399
85°	1106	3324	3043



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.7	3.6
10°-20°	495.6	10.2
20°-30°	735.2	15.2
30°-40°	862.3	17.8
40°-50°	869.5	17.9
50°-60°	762.9	15.7
60°-70°	559.9	11.5
70°-80°	296.6	6.1
80°-90°	71.2	1.5
90°-100°	10.4	0.2
100°-110°	5.2	0.1
110°-120°	2.8	0.1
120°-130°	1.8	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°	1405.5	29.0
0°-40°	2267.8	46.8
0°-60°	3900.2	80.4
0°-90°	4827.9	99.6
90°-120°	18.4	0.4
90°-150°	21.0	0.4
90°-180°	21.0	0.4
0°-180°	4848.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1850	1850	1850	1850	1850	
5°	1855	1834	1842	1836	1836	176
15°	1769	1750	1764	1757	1759	498
25°	1604	1592	1602	1590	1595	739
35°	1382	1372	1384	1375	1381	864
45°	1126	1117	1135	1130	1133	868
55°	842	837	856	865	868	752
65°	528	542	579	589	589	520
75°	207	260	296	303	303	225
85°	21	58	63	61	58	31
90°	0	16	16	14	14	1
95°	0	9	12	12	10	0
105°	0	4	5	7	7	0
115°	2	2	4	4	4	1
125°	2	2	2	2	2	2
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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1849.5	1849.5	1849.5	1849.5	1849.5
2.5°	1861.7	1840.8	1847.8	1842.5	1833.8
5°	1854.7	1833.8	1842.5	1835.6	1835.6
7.5°	1842.5	1823.4	1832.1	1825.1	1828.6
10°	1823.4	1804.2	1814.6	1807.7	1807.7
12.5°	1799.0	1779.8	1792.0	1783.3	1786.8
15°	1769.3	1750.2	1764.1	1757.1	1758.9
17.5°	1732.7	1717.0	1731.0	1722.3	1722.3
20°	1694.4	1680.4	1694.4	1682.2	1685.7
22.5°	1652.5	1640.3	1650.8	1636.8	1643.8
25°	1603.7	1591.5	1602.0	1589.8	1595.0
27.5°	1553.2	1541.0	1553.2	1542.7	1544.5
30°	1499.1	1488.7	1500.9	1488.7	1492.2
32.5°	1443.4	1431.1	1443.4	1434.6	1436.4
35°	1382.3	1371.9	1384.1	1375.4	1380.6
37.5°	1317.8	1310.9	1328.3	1316.1	1321.3
40°	1258.6	1246.4	1265.5	1253.3	1260.3
42.5°	1190.6	1181.9	1201.0	1192.3	1195.8
45°	1126.1	1117.4	1134.8	1129.6	1133.1
47.5°	1058.1	1049.4	1066.8	1063.3	1068.6
50°	988.4	981.4	995.4	998.8	1004.1
52.5°	916.9	909.9	927.4	932.6	934.3
55°	842.0	836.7	855.9	864.6	868.1
57.5°	765.3	765.3	787.9	796.6	800.1
60°	688.6	690.3	718.2	726.9	728.6
62.5°	610.1	618.8	646.7	658.9	658.9
65°	528.2	542.1	578.7	589.2	589.2
67.5°	442.8	465.4	507.3	516.0	517.7
70°	360.8	390.5	437.5	444.5	442.8
72.5°	280.7	324.2	366.1	374.8	373.0
75°	207.4	259.7	296.3	303.3	303.3
77.5°	142.9	197.0	231.8	235.3	233.6
80°	87.2	144.7	169.1	169.1	165.6
82.5°	47.1	97.6	111.6	108.1	104.6
85°	20.9	57.5	62.8	61.0	57.5
87.5°	7.0	27.9	29.6	27.9	27.9
90°	0.0	15.7	15.7	13.9	13.9
92.5°	0.0	10.5	13.9	12.2	10.5
95°	0.0	8.7	12.2	12.2	10.5
97.5°	0.0	5.2	10.5	10.5	10.5
100°	0.0	5.2	8.7	10.5	8.7
102.5°	0.0	3.5	7.0	8.7	8.7
105°	0.0	3.5	5.2	7.0	7.0
107.5°	0.0	1.7	5.2	5.2	5.2
110°	0.0	1.7	3.5	5.2	5.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	1.7	3.5	3.5	3.5
115°	1.7	1.7	3.5	3.5	3.5
117.5°	1.7	1.7	3.5	3.5	3.5
120°	1.7	1.7	1.7	3.5	3.5
122.5°	1.7	1.7	1.7	3.5	3.5
125°	1.7	1.7	1.7	1.7	1.7
127.5°	1.7	1.7	1.7	1.7	1.7
130°	1.7	1.7	1.7	1.7	1.7
132.5°	1.7	1.7	1.7	1.7	1.7
135°	1.7	1.7	1.7	1.7	1.7
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)