

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: P239196

Luminaire Tested: **HDF-4-LD4-UNV-2-LO-50-IK12-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239196
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-4)
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-LO-50-IK12-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 2-ROW LED BOARDS, CLEAR LENS
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

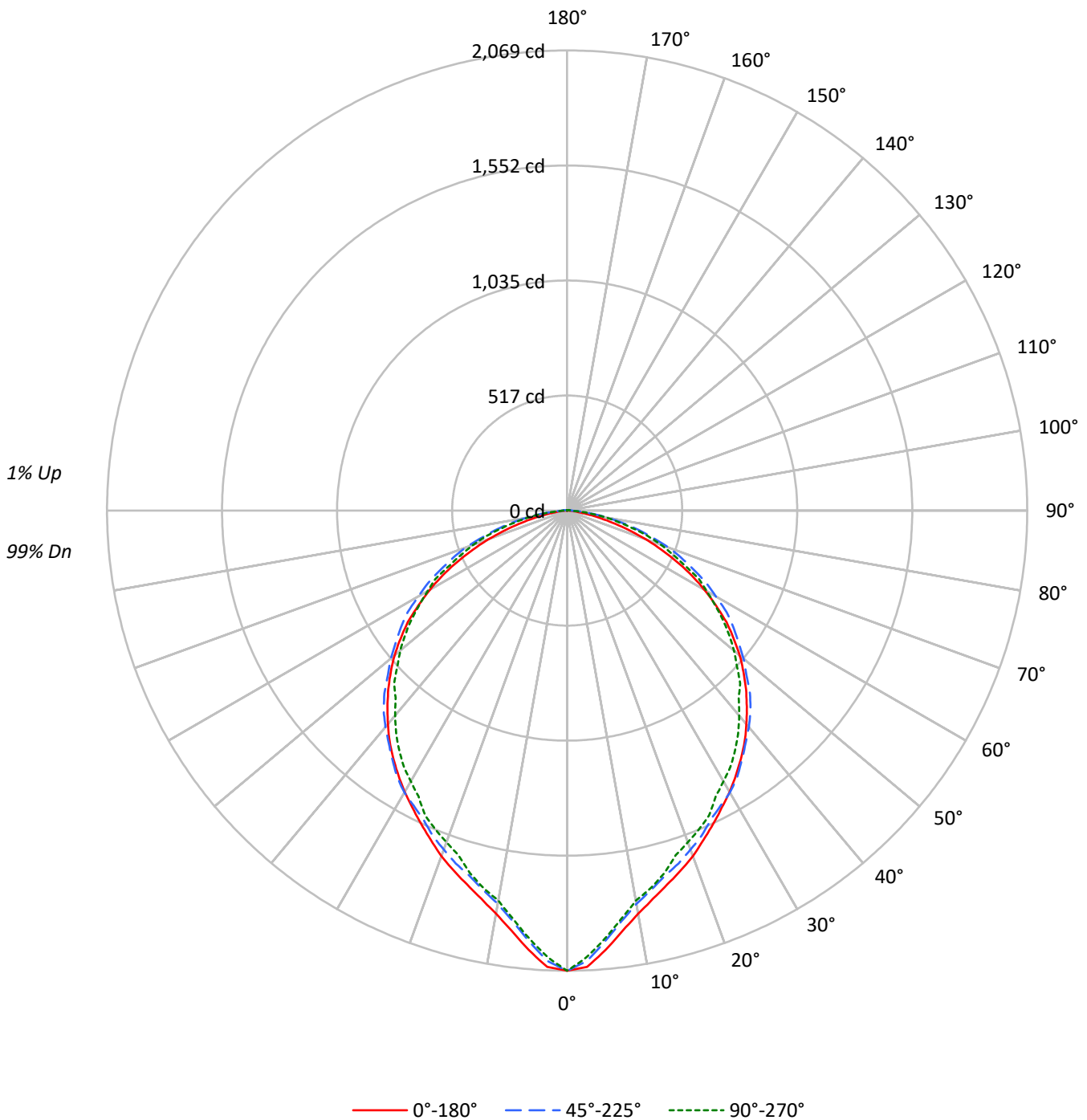
Lumens per Lamp: N/A
Luminaire Lumens: 4877.0 lumens
Efficiency: N/A
Efficacy: 103.3 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.02 / 1.25
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 47.2
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	99
1	109	104	100	96	106	102	98	95	97	94	91	93	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	64	58	53	62	57	53	50
5	76	63	54	48	74	62	54	47	60	53	47	58	51	46	56	50	46	44
6	70	57	48	42	68	56	48	42	54	47	41	52	46	41	51	45	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9545	9545	9545
5°	9183	9007	8953
10°	8619	8411	8341
15°	8312	8115	8059
20°	8117	7961	7789
25°	7909	7790	7693
30°	7780	7797	7487
35°	7670	7712	7413
40°	7551	7653	7244
45°	7420	7579	7178
50°	7272	7431	7029
55°	7033	7331	6871
60°	6581	7119	6689
65°	5935	6837	6352
70°	5032	6534	6033
75°	3741	5837	5385
80°	2338	4843	4617
85°	1064	3647	3366



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.0	3.7
10°-20°	480.3	9.8
20°-30°	706.0	14.5
30°-40°	843.6	17.3
40°-50°	871.5	17.9
50°-60°	789.3	16.2
60°-70°	589.8	12.1
70°-80°	314.9	6.5
80°-90°	75.7	1.6
90°-100°	12.3	0.3
100°-110°	6.2	0.1
110°-120°	3.1	0.1
120°-130°	2.2	0.0
130°-140°	1.1	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°	1367.2	28.0
0°-40°	2210.8	45.3
0°-60°	3871.7	79.4
0°-90°	4852.2	99.5
90°-120°	21.6	0.4
90°-150°	24.9	0.5
90°-180°	25.0	0.5
0°-180°	4877.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2069	2069	2069	2069	2069	
5°	1983	1943	1945	1932	1933	185
15°	1740	1708	1699	1685	1687	491
25°	1554	1542	1530	1518	1511	717
35°	1362	1357	1369	1337	1316	852
45°	1137	1137	1162	1103	1100	877
55°	874	884	912	879	854	776
65°	544	583	626	613	582	538
75°	210	281	328	324	302	230
85°	20	58	69	67	64	31
90°	0	17	18	16	15	1
95°	0	10	15	14	13	0
105°	1	3	6	8	8	1
115°	1	2	3	4	4	1
125°	2	2	2	2	3	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°	2069.0	2069.0	2069.0	2069.0	2069.0
2.5°	2053.1	2023.4	2026.6	2020.2	2009.6
5°	1983.1	1942.8	1945.0	1932.2	1933.3
7.5°	1905.7	1864.4	1863.3	1843.2	1852.7
10°	1840.0	1808.2	1795.5	1777.5	1780.7
12.5°	1787.0	1751.0	1745.7	1723.4	1738.3
15°	1740.4	1707.5	1699.1	1685.3	1687.4
17.5°	1696.9	1670.4	1664.1	1646.1	1624.9
20°	1653.5	1624.9	1621.7	1589.9	1586.7
22.5°	1602.6	1588.8	1581.4	1560.2	1550.7
25°	1553.8	1542.2	1530.5	1517.8	1511.4
27.5°	1506.1	1493.4	1495.5	1477.5	1447.9
30°	1460.6	1448.9	1463.8	1423.5	1405.5
32.5°	1411.8	1404.4	1421.4	1384.3	1366.2
35°	1362.0	1356.7	1369.4	1336.6	1316.4
37.5°	1311.1	1300.5	1317.5	1276.1	1263.4
40°	1253.9	1248.6	1270.8	1217.8	1203.0
42.5°	1195.6	1189.2	1221.0	1157.4	1141.5
45°	1137.3	1137.3	1161.7	1103.4	1100.2
47.5°	1075.8	1077.9	1092.8	1065.2	1034.5
50°	1013.3	1015.4	1035.5	1000.6	979.4
52.5°	943.3	949.7	969.8	943.3	917.9
55°	874.4	884.0	911.5	878.7	854.3
57.5°	791.8	815.1	850.1	816.1	786.5
60°	713.3	743.0	771.6	748.3	725.0
62.5°	630.7	665.6	703.8	680.5	668.8
65°	543.7	583.0	626.4	612.6	581.9
67.5°	457.9	497.1	555.4	535.3	511.9
70°	373.1	424.0	484.4	461.1	447.3
72.5°	289.4	351.9	399.6	394.3	378.4
75°	209.9	280.9	327.5	324.3	302.1
77.5°	145.2	215.2	254.4	242.7	231.1
80°	88.0	154.7	182.3	174.9	173.8
82.5°	46.6	99.6	119.8	116.6	112.4
85°	20.1	58.3	68.9	66.8	63.6
87.5°	6.4	29.7	33.9	30.7	28.6
90°	0.0	17.0	18.0	15.9	14.8
92.5°	0.0	12.7	15.9	13.8	12.7
95°	0.0	9.5	14.8	13.8	12.7
97.5°	1.1	7.4	13.8	12.7	12.7
100°	0.0	5.3	10.6	11.7	10.6
102.5°	1.1	4.2	8.5	9.5	9.5
105°	1.1	3.2	6.4	8.5	8.5
107.5°	1.1	2.1	5.3	7.4	7.4
110°	1.1	2.1	4.2	5.3	6.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	2.1	4.2	4.2	5.3
115°	1.1	2.1	3.2	4.2	4.2
117.5°	1.1	2.1	3.2	3.2	4.2
120°	2.1	2.1	3.2	3.2	3.2
122.5°	2.1	2.1	3.2	3.2	3.2
125°	2.1	2.1	2.1	2.1	3.2
127.5°	2.1	2.1	2.1	2.1	3.2
130°	2.1	2.1	2.1	2.1	3.2
132.5°	2.1	2.1	2.1	2.1	3.2
135°	2.1	2.1	2.1	2.1	2.1
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)