

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: P239240

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239240
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-STD-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

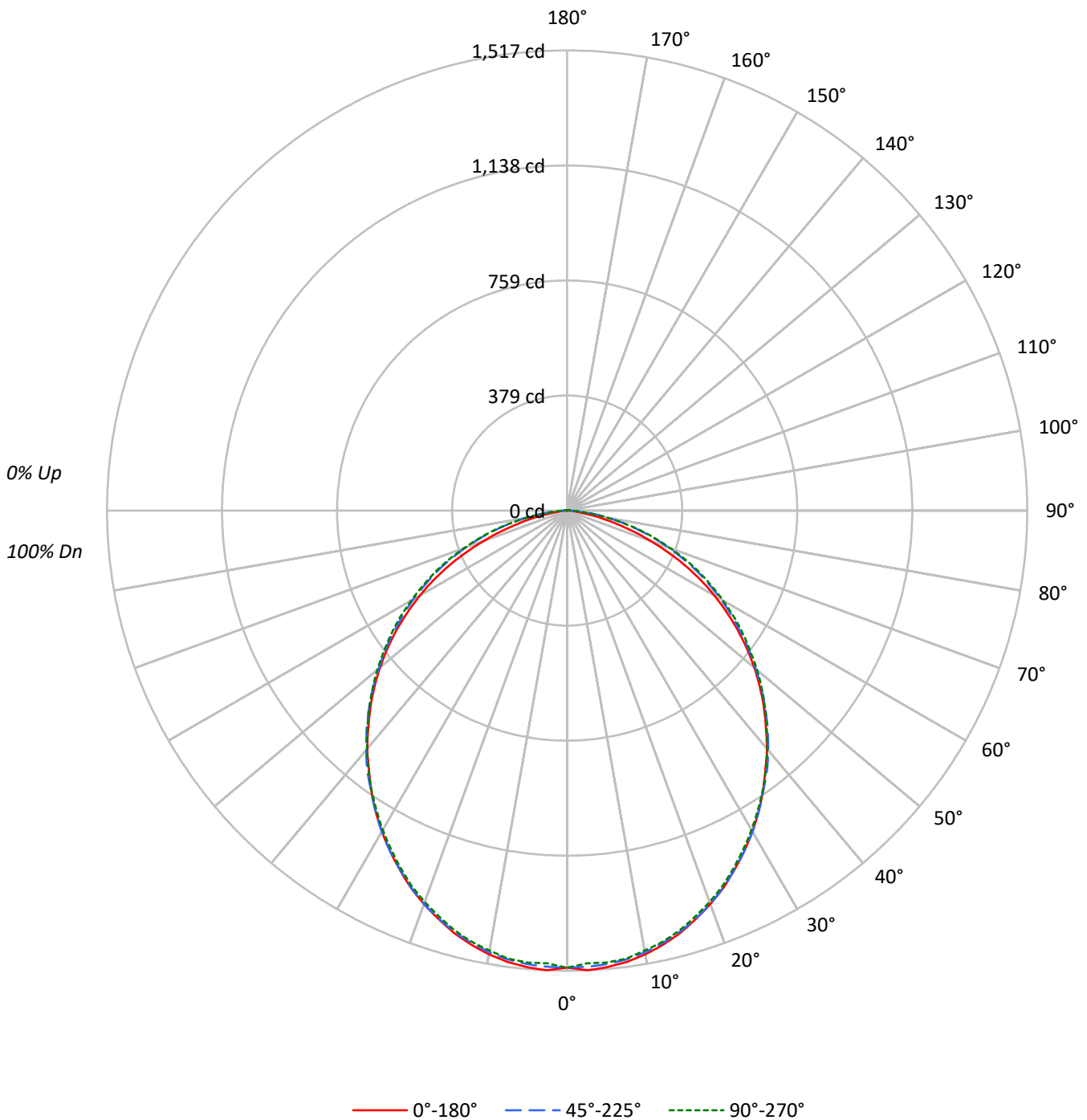
Lumens per Lamp: N/A
Luminaire Lumens: 3950.1 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.7
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

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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°	6951	6951	6951
5°	6997	6951	6924
10°	6958	6925	6898
15°	6884	6863	6843
20°	6776	6776	6741
25°	6650	6642	6614
30°	6506	6513	6475
35°	6342	6350	6334
40°	6174	6209	6183
45°	5985	6031	6022
50°	5779	5820	5871
55°	5516	5608	5688
60°	5175	5398	5477
65°	4697	5147	5239
70°	3965	4807	4865
75°	3012	4303	4404
80°	1886	3658	3584
85°	900	2705	2482



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.3	3.6
10°-20°	403.7	10.2
20°-30°	598.9	15.2
30°-40°	702.5	17.8
40°-50°	708.3	17.9
50°-60°	621.5	15.7
60°-70°	456.2	11.5
70°-80°	241.6	6.1
80°-90°	58.0	1.5
90°-100°	8.4	0.2
100°-110°	4.2	0.1
110°-120°	2.3	0.1
120°-130°	1.4	0.0
130°-140°	0.7	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°	1145.0	29.0
0°-40°	1847.4	46.8
0°-60°	3177.2	80.4
0°-90°	3933.0	99.6
90°-120°	15.0	0.4
90°-150°	17.1	0.4
90°-180°	17.0	0.4
0°-180°	3950.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1507	1507	1507	1507	1507	
5°	1511	1494	1501	1495	1495	143
15°	1441	1426	1437	1431	1433	406
25°	1306	1296	1305	1295	1299	602
35°	1126	1118	1128	1120	1125	704
45°	917	910	924	920	923	707
55°	686	682	697	704	707	612
65°	430	442	472	480	480	424
75°	169	212	241	247	247	183
85°	17	47	51	50	47	25
90°	0	13	13	11	11	1
95°	0	7	10	10	8	0
105°	0	3	4	6	6	0
115°	1	1	3	3	3	1
125°	1	1	1	1	1	1
135°	1	1	1	1	1	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°	1506.7	1506.7	1506.7	1506.7	1506.7
2.5°	1516.6	1499.6	1505.3	1501.0	1493.9
5°	1511.0	1493.9	1501.0	1495.3	1495.3
7.5°	1501.0	1485.4	1492.5	1486.8	1489.7
10°	1485.4	1469.8	1478.3	1472.6	1472.6
12.5°	1465.5	1449.9	1459.8	1452.7	1455.6
15°	1441.4	1425.7	1437.1	1431.4	1432.8
17.5°	1411.5	1398.8	1410.1	1403.0	1403.0
20°	1380.3	1368.9	1380.3	1370.4	1373.2
22.5°	1346.2	1336.3	1344.8	1333.4	1339.1
25°	1306.5	1296.5	1305.0	1295.1	1299.4
27.5°	1265.3	1255.3	1265.3	1256.8	1258.2
30°	1221.3	1212.7	1222.7	1212.7	1215.6
32.5°	1175.8	1165.9	1175.8	1168.7	1170.1
35°	1126.1	1117.6	1127.5	1120.4	1124.7
37.5°	1073.6	1067.9	1082.1	1072.2	1076.4
40°	1025.3	1015.3	1031.0	1021.0	1026.7
42.5°	969.9	962.8	978.4	971.3	974.2
45°	917.4	910.3	924.5	920.2	923.0
47.5°	862.0	854.9	869.1	866.2	870.5
50°	805.2	799.5	810.9	813.7	818.0
52.5°	747.0	741.3	755.5	759.7	761.2
55°	685.9	681.6	697.3	704.4	707.2
57.5°	623.4	623.4	641.9	649.0	651.8
60°	560.9	562.3	585.1	592.2	593.6
62.5°	497.0	504.1	526.8	536.8	536.8
65°	430.3	441.6	471.5	480.0	480.0
67.5°	360.7	379.2	413.2	420.3	421.8
70°	294.0	318.1	356.4	362.1	360.7
72.5°	228.6	264.1	298.2	305.3	303.9
75°	169.0	211.6	241.4	247.1	247.1
77.5°	116.4	160.5	188.9	191.7	190.3
80°	71.0	117.9	137.7	137.7	134.9
82.5°	38.3	79.5	90.9	88.0	85.2
85°	17.0	46.9	51.1	49.7	46.9
87.5°	5.7	22.7	24.1	22.7	22.7
90°	0.0	12.8	12.8	11.4	11.4
92.5°	0.0	8.5	11.4	9.9	8.5
95°	0.0	7.1	9.9	9.9	8.5
97.5°	0.0	4.3	8.5	8.5	8.5
100°	0.0	4.3	7.1	8.5	7.1
102.5°	0.0	2.8	5.7	7.1	7.1
105°	0.0	2.8	4.3	5.7	5.7
107.5°	0.0	1.4	4.3	4.3	4.3
110°	0.0	1.4	2.8	4.3	4.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	1.4	2.8	2.8	2.8
115°	1.4	1.4	2.8	2.8	2.8
117.5°	1.4	1.4	2.8	2.8	2.8
120°	1.4	1.4	1.4	2.8	2.8
122.5°	1.4	1.4	1.4	2.8	2.8
125°	1.4	1.4	1.4	1.4	1.4
127.5°	1.4	1.4	1.4	1.4	1.4
130°	1.4	1.4	1.4	1.4	1.4
132.5°	1.4	1.4	1.4	1.4	1.4
135°	1.4	1.4	1.4	1.4	1.4
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)