

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: P239255

Luminaire Tested: **HDF-2-LD4-UNV-2-LO-40-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239255
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-13)
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-LO-40-EDC-1
Description: FAILSAFE HDF LED FIXTURE
2FT, 2-ROW LED BOARDS, NON-OVERLAY
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

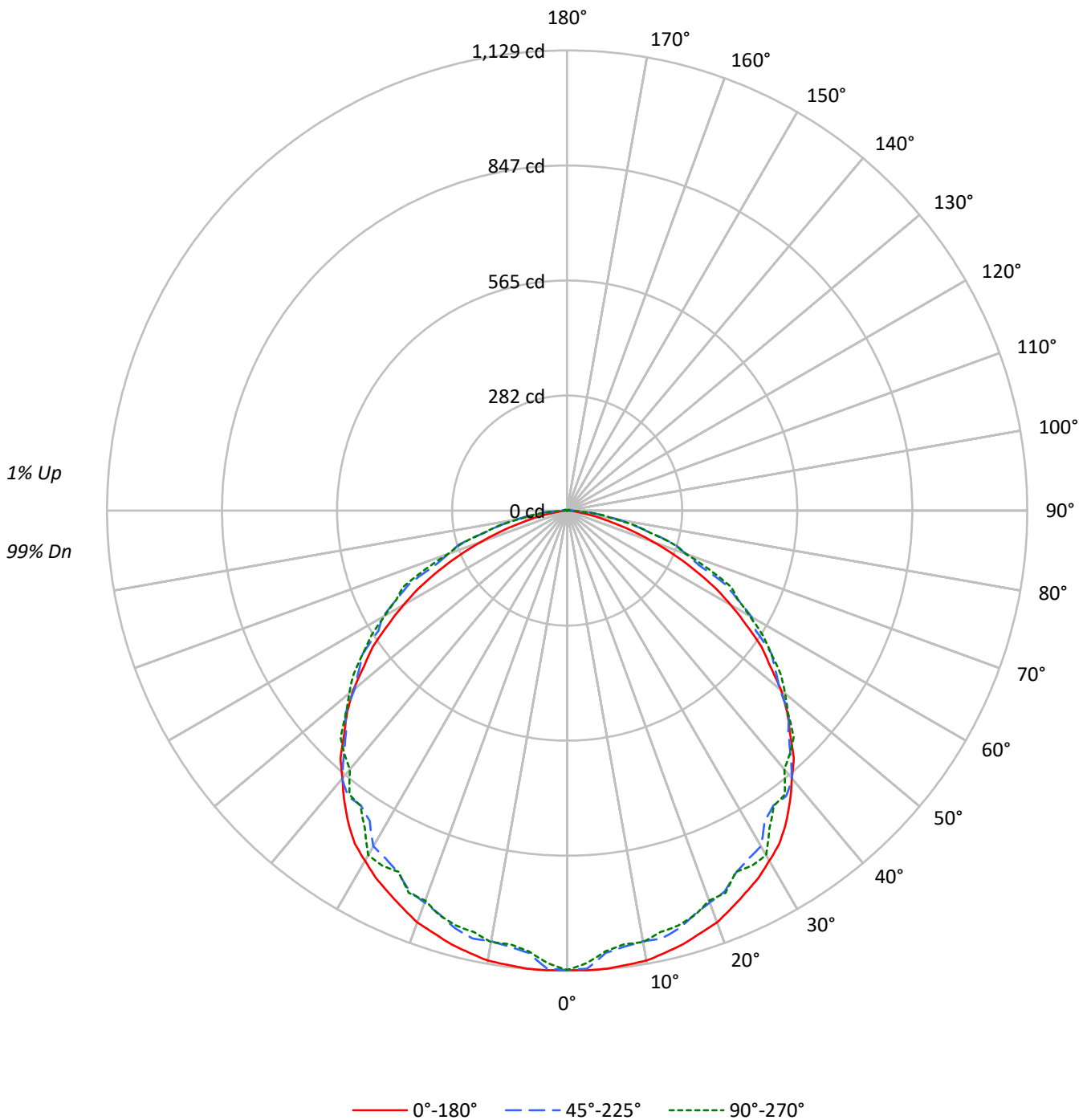
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3225.9 lumens
Efficiency: N/A
Efficacy: 138.5 lumens/watt
Spacing Criteria (0/90/45): 1.31 / 1.26 / 1.39
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.3
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	94	97	94	91	93	91	88	90	87	86	83
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	54	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	55	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	44	37	32	43	36	32	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10399	10399	10399
5°	10448	10087	10050
10°	10503	10053	10072
15°	10517	10135	10068
20°	10556	10045	9996
25°	10537	9977	9957
30°	10569	10133	10399
35°	10543	9945	9957
40°	10334	10346	9984
45°	10086	10008	10256
50°	9832	9760	10019
55°	9362	9844	9828
60°	8562	9651	9540
65°	7532	9344	9715
70°	6096	8309	8362
75°	4242	7557	7557
80°	2391	6748	6376
85°	1164	6034	4870



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.6	3.2
10°-20°	299.6	9.3
20°-30°	458.9	14.2
30°-40°	563.4	17.5
40°-50°	590.6	18.3
50°-60°	532.7	16.5
60°-70°	394.4	12.2
70°-80°	209.2	6.5
80°-90°	54.5	1.7
90°-100°	7.9	0.2
100°-110°	4.6	0.1
110°-120°	2.8	0.1
120°-130°	1.7	0.1
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°	863.2	26.8
0°-40°	1426.6	44.2
0°-60°	2549.9	79.0
0°-90°	3208.0	99.4
90°-120°	15.3	0.5
90°-150°	17.9	0.6
90°-180°	18.0	0.6
0°-180°	3225.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1127	1127	1127	1127	1127	
5°	1128	1124	1089	1075	1085	107
15°	1101	1058	1061	1048	1054	311
25°	1035	1000	980	978	978	478
35°	936	882	883	905	884	584
45°	773	751	767	772	786	598
55°	582	585	612	623	611	515
65°	345	363	428	413	445	342
75°	119	177	212	227	212	132
85°	11	43	57	56	46	16
90°	0	13	13	10	6	1
95°	0	8	10	8	5	0
105°	0	3	6	6	4	1
115°	1	2	4	4	3	1
125°	1	1	2	3	2	1
135°	1	1	2	2	2	0
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°	1127.1	1127.1	1127.1	1127.1	1127.1
2.5°	1129.1	1127.1	1125.1	1117.1	1111.1
5°	1128.1	1124.1	1089.1	1075.1	1085.1
7.5°	1124.1	1108.1	1079.1	1074.1	1073.1
10°	1121.1	1082.1	1073.1	1080.1	1075.1
12.5°	1111.1	1066.1	1075.1	1067.1	1059.1
15°	1101.1	1058.1	1061.1	1048.1	1054.1
17.5°	1087.1	1042.1	1039.1	1050.1	1041.1
20°	1075.1	1023.1	1023.1	1017.1	1018.1
22.5°	1055.1	1017.1	1011.1	1015.1	1015.1
25°	1035.1	1000.1	980.1	978.1	978.1
27.5°	1016.1	969.1	963.1	953.1	982.1
30°	992.1	938.1	951.1	965.1	976.1
32.5°	969.1	908.1	902.1	955.1	924.1
35°	936.1	882.0	883.0	905.1	884.0
37.5°	898.1	859.0	883.0	863.0	878.0
40°	858.0	817.0	859.0	845.0	829.0
42.5°	823.0	773.0	810.0	799.0	809.0
45°	773.0	751.0	767.0	772.0	786.0
47.5°	732.0	705.0	738.0	753.0	735.0
50°	685.0	645.0	680.0	694.0	698.0
52.5°	628.0	609.0	644.0	666.0	661.0
55°	582.0	585.0	612.0	623.0	611.0
57.5°	520.0	539.0	549.0	560.0	569.0
60°	464.0	470.0	523.0	517.0	517.0
62.5°	408.0	425.0	471.0	477.0	472.0
65°	345.0	363.0	428.0	413.0	445.0
67.5°	285.0	310.0	350.0	392.0	376.0
70°	226.0	267.0	308.0	325.0	310.0
72.5°	170.0	218.0	279.0	269.0	274.0
75°	119.0	177.0	212.0	227.0	212.0
77.5°	77.0	131.0	167.0	179.0	172.0
80°	45.0	99.0	127.0	132.0	120.0
82.5°	24.0	67.0	88.0	89.0	88.0
85°	11.0	43.0	57.0	56.0	46.0
87.5°	5.0	26.0	24.0	18.0	13.0
90°	0.0	13.0	13.0	10.0	6.0
92.5°	0.0	10.0	11.0	9.0	5.0
95°	0.0	8.0	10.0	8.0	5.0
97.5°	0.0	6.0	9.0	7.0	5.0
100°	0.0	5.0	8.0	7.0	4.0
102.5°	0.0	4.0	7.0	6.0	4.0
105°	0.0	3.0	6.0	6.0	4.0
107.5°	1.0	2.0	6.0	5.0	4.0
110°	1.0	2.0	5.0	5.0	3.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	2.0	4.0	4.0	3.0
115°	1.0	2.0	4.0	4.0	3.0
117.5°	1.0	1.0	3.0	4.0	3.0
120°	1.0	1.0	3.0	3.0	3.0
122.5°	1.0	1.0	2.0	3.0	3.0
125°	1.0	1.0	2.0	3.0	2.0
127.5°	1.0	1.0	2.0	3.0	2.0
130°	1.0	1.0	2.0	2.0	2.0
132.5°	1.0	1.0	2.0	2.0	2.0
135°	1.0	1.0	2.0	2.0	2.0
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)