

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: P239310

Luminaire Tested: **HDF-2-LD4-UNV-1-STD-35-OPL-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239310
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-20)
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-1-STD-35-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
2FT, 1-ROW LED BOARDS, OPAL LENS
Light Source: (42) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

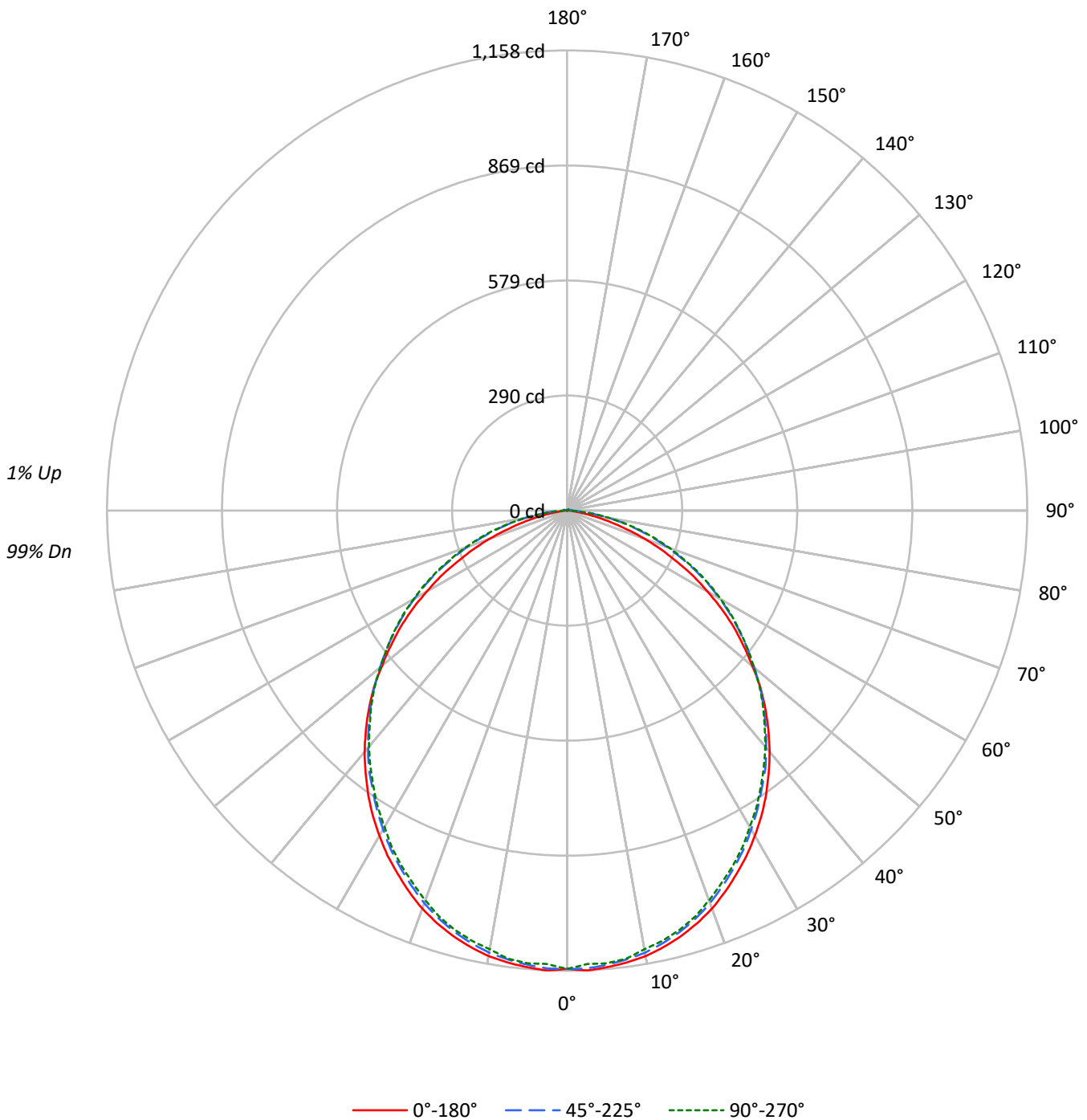
Lumens per Lamp: N/A
Luminaire Lumens: 3006.9 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.19 / 1.31
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 35.7
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	101	101	101	99
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	70
3	91	80	73	66	88	79	71	66	76	69	64	73	68	63	70	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	53	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	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	28	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10642	10642	10642
5°	10682	10624	10590
10°	10665	10584	10501
15°	10588	10481	10433
20°	10467	10320	10246
25°	10269	10104	10041
30°	10069	9869	9791
35°	9830	9620	9564
40°	9551	9386	9341
45°	9208	9127	9094
50°	8734	8823	8806
55°	8244	8524	8545
60°	7523	8191	8237
65°	6669	7759	7866
70°	5584	7197	7367
75°	4089	6534	6712
80°	2386	5632	5765
85°	1186	4753	4488



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.0	3.6
10°-20°	309.5	10.3
20°-30°	458.0	15.2
30°-40°	536.2	17.8
40°-50°	538.9	17.9
50°-60°	468.6	15.6
60°-70°	340.1	11.3
70°-80°	180.2	6.0
80°-90°	46.7	1.6
90°-100°	8.7	0.3
100°-110°	5.3	0.2
110°-120°	2.8	0.1
120°-130°	2.0	0.1
130°-140°	1.0	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°	876.4	29.1
0°-40°	1412.6	47.0
0°-60°	2420.1	80.5
0°-90°	2987.1	99.3
90°-120°	16.8	0.6
90°-150°	19.8	0.7
90°-180°	20.0	0.7
0°-180°	3006.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1153	1153	1153	1153	1153	
5°	1153	1152	1147	1142	1143	110
15°	1108	1104	1097	1094	1092	312
25°	1009	1001	992	988	986	465
35°	873	862	854	850	849	545
45°	706	697	700	698	697	543
55°	512	512	530	534	531	456
65°	306	323	355	363	360	303
75°	115	151	183	191	188	125
85°	11	35	45	45	42	16
90°	0	11	12	11	8	1
95°	0	8	11	10	8	0
105°	0	2	6	8	6	1
115°	1	1	4	4	4	1
125°	1	1	2	2	4	1
135°	1	1	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°	1153.4	1153.4	1153.4	1153.4	1153.4
2.5°	1158.4	1157.1	1153.4	1145.9	1142.1
5°	1153.4	1152.1	1147.1	1142.1	1143.4
7.5°	1147.1	1144.6	1139.6	1135.9	1137.2
10°	1138.4	1134.7	1129.7	1123.4	1120.9
12.5°	1124.7	1122.2	1114.7	1108.5	1108.5
15°	1108.5	1103.5	1097.3	1093.5	1092.3
17.5°	1088.5	1082.3	1076.1	1071.1	1071.1
20°	1066.1	1058.6	1051.1	1044.9	1043.6
22.5°	1038.7	1031.2	1022.4	1016.2	1015.0
25°	1008.7	1001.2	992.5	987.5	986.3
27.5°	978.8	968.8	961.3	955.1	955.1
30°	945.1	935.2	926.4	921.4	919.0
32.5°	910.2	899.0	891.5	886.5	886.5
35°	872.8	861.6	854.1	850.4	849.1
37.5°	832.9	822.9	819.2	815.5	813.0
40°	793.0	783.0	779.3	776.8	775.6
42.5°	749.4	740.6	739.4	736.9	735.7
45°	705.7	697.0	699.5	698.3	697.0
47.5°	659.6	653.4	658.4	658.4	657.1
50°	608.5	606.0	614.7	617.2	613.5
52.5°	559.8	558.6	572.3	574.8	572.3
55°	512.5	512.5	529.9	533.7	531.2
57.5°	461.3	465.1	487.5	492.5	490.0
60°	407.7	417.7	443.9	448.9	446.4
62.5°	359.1	370.3	400.2	407.7	404.0
65°	305.5	322.9	355.4	362.8	360.3
67.5°	255.6	276.8	310.5	319.2	315.5
70°	207.0	231.9	266.8	274.3	273.1
72.5°	158.4	190.8	224.4	231.9	230.7
75°	114.7	150.9	183.3	190.8	188.3
77.5°	76.1	116.0	144.6	149.6	147.1
80°	44.9	84.8	106.0	109.7	108.5
82.5°	23.7	57.4	72.3	74.8	72.3
85°	11.2	34.9	44.9	44.9	42.4
87.5°	5.0	18.7	22.4	21.2	18.7
90°	0.0	11.2	12.5	11.2	7.5
92.5°	0.0	8.7	11.2	10.0	7.5
95°	0.0	7.5	11.2	10.0	7.5
97.5°	0.0	5.0	10.0	10.0	7.5
100°	0.0	3.7	8.7	10.0	7.5
102.5°	0.0	3.7	7.5	8.7	7.5
105°	0.0	2.5	6.2	7.5	6.2
107.5°	1.2	2.5	5.0	6.2	5.0
110°	1.2	2.5	3.7	5.0	5.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	1.2	3.7	5.0	3.7
115°	1.2	1.2	3.7	3.7	3.7
117.5°	1.2	1.2	2.5	3.7	3.7
120°	1.2	1.2	2.5	3.7	3.7
122.5°	1.2	1.2	2.5	3.7	3.7
125°	1.2	1.2	2.5	2.5	3.7
127.5°	1.2	1.2	2.5	2.5	2.5
130°	1.2	1.2	2.5	2.5	2.5
132.5°	1.2	1.2	2.5	2.5	2.5
135°	1.2	1.2	2.5	2.5	2.5
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)