

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: P239278

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239278
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-15)
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-35-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
2FT, 2-ROW LED BOARDS, OPAL LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

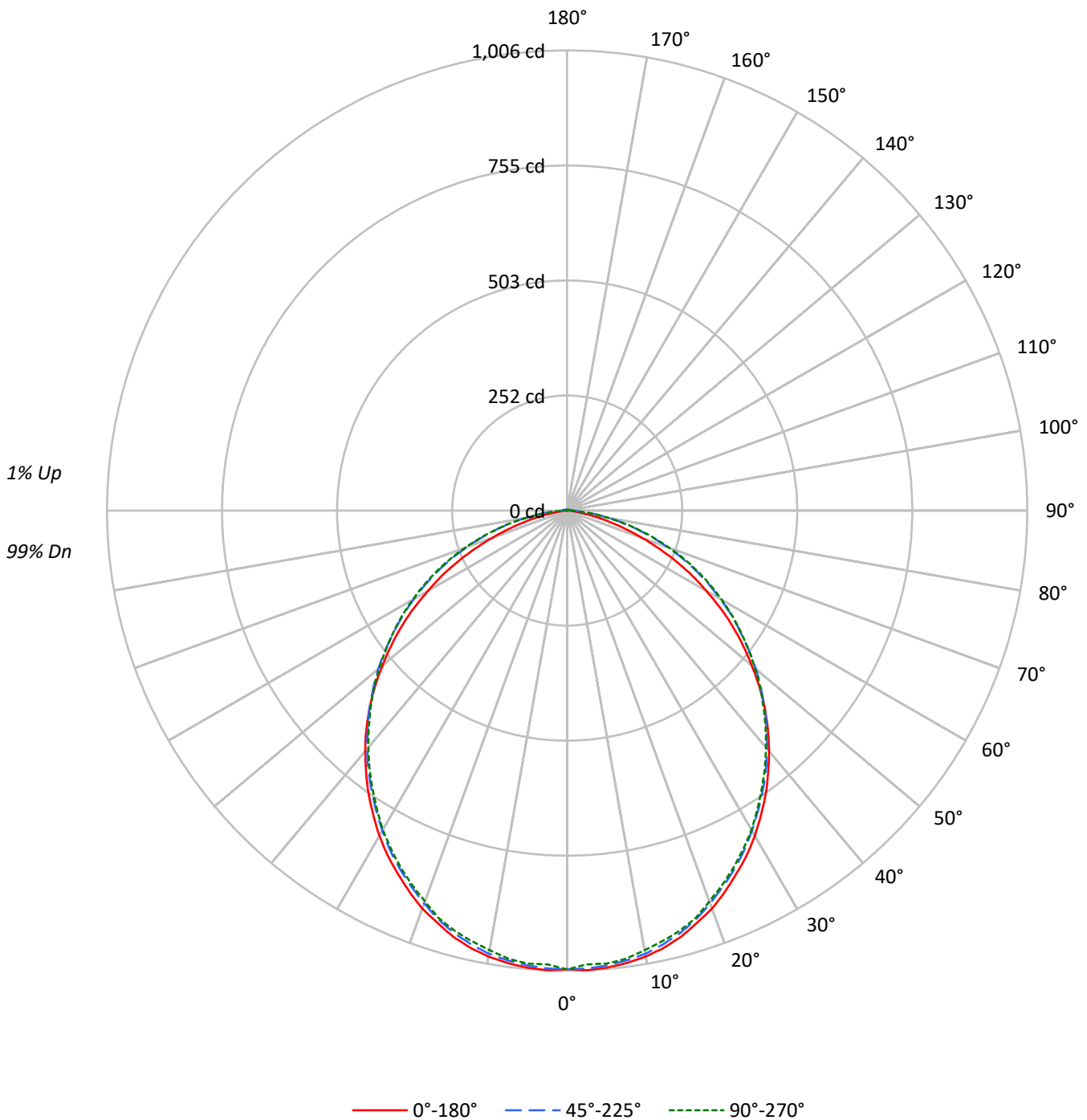
Lumens per Lamp: N/A
Luminaire Lumens: 2620.0 lumens
Efficiency: N/A
Efficacy: 112.4 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')
CIE Type: Direct

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	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	71
3	91	81	73	66	88	79	72	66	76	70	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°	9253	9253	9253
5°	9288	9242	9205
10°	9274	9218	9143
15°	9207	9130	9083
20°	9091	8973	8924
25°	8917	8805	8764
30°	8745	8607	8586
35°	8525	8401	8356
40°	8273	8189	8141
45°	7971	7971	7919
50°	7563	7735	7692
55°	7108	7430	7462
60°	6477	7139	7195
65°	5742	6789	6877
70°	4721	6285	6393
75°	3458	5704	5775
80°	2019	4835	4835
85°	1059	3917	3599



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.8	3.6
10°-20°	269.4	10.3
20°-30°	398.9	15.2
30°-40°	467.3	17.8
40°-50°	470.1	17.9
50°-60°	409.3	15.6
60°-70°	297.2	11.3
70°-80°	156.4	6.0
80°-90°	39.2	1.5
90°-100°	7.7	0.3
100°-110°	4.4	0.2
110°-120°	2.5	0.1
120°-130°	1.8	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°	763.2	29.1
0°-40°	1230.5	47.0
0°-60°	2110.0	80.5
0°-90°	2602.7	99.3
90°-120°	14.6	0.6
90°-150°	17.4	0.7
90°-180°	17.0	0.6
0°-180°	2620.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1003	1003	1003	1003	1003	
5°	1003	1001	998	994	994	95
15°	964	961	956	953	951	272
25°	876	870	865	862	861	404
35°	757	750	746	744	742	473
45°	611	608	611	610	607	470
55°	442	449	462	467	464	394
65°	263	285	311	317	315	260
75°	97	134	160	164	162	106
85°	10	29	37	37	34	14
90°	0	9	11	9	7	1
95°	0	6	10	9	7	0
105°	1	2	5	6	5	1
115°	1	2	3	3	3	1
125°	1	2	2	3	3	1
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°	1002.9	1002.9	1002.9	1002.9	1002.9
2.5°	1005.9	1005.9	1001.9	995.9	992.9
5°	1002.9	1000.9	997.9	993.9	993.9
7.5°	997.9	995.9	991.9	987.9	987.9
10°	989.9	987.9	983.9	977.9	975.9
12.5°	978.9	976.9	970.9	965.9	963.9
15°	963.9	960.9	955.9	952.9	950.9
17.5°	944.9	942.9	936.9	933.9	933.9
20°	925.9	920.9	913.9	910.9	908.9
22.5°	901.9	896.9	889.9	885.9	885.9
25°	875.9	869.9	864.9	861.9	860.9
27.5°	849.9	841.9	837.9	834.9	833.9
30°	820.9	812.9	807.9	805.9	805.9
32.5°	788.9	781.9	776.9	774.9	773.9
35°	756.9	749.9	745.9	743.9	741.9
37.5°	721.9	715.9	713.9	712.9	709.9
40°	686.9	680.9	679.9	678.9	675.9
42.5°	649.9	645.9	644.9	645.9	641.9
45°	610.9	607.9	610.9	609.9	606.9
47.5°	569.9	569.9	574.9	575.9	572.9
50°	526.9	530.9	538.9	540.9	535.9
52.5°	484.9	489.9	499.9	503.9	499.9
55°	441.9	448.9	461.9	466.9	463.9
57.5°	397.9	407.9	425.9	430.9	427.9
60°	351.0	365.9	386.9	393.9	389.9
62.5°	309.0	326.0	349.0	355.0	353.0
65°	263.0	285.0	311.0	317.0	315.0
67.5°	218.0	244.0	272.0	279.0	277.0
70°	175.0	205.0	233.0	240.0	237.0
72.5°	134.0	168.0	196.0	202.0	199.0
75°	97.0	134.0	160.0	164.0	162.0
77.5°	64.0	102.0	124.0	129.0	126.0
80°	38.0	73.0	91.0	94.0	91.0
82.5°	20.0	49.0	62.0	63.0	60.0
85°	10.0	29.0	37.0	37.0	34.0
87.5°	4.0	15.0	18.0	17.0	15.0
90°	0.0	9.0	11.0	9.0	7.0
92.5°	0.0	8.0	10.0	9.0	6.0
95°	0.0	6.0	10.0	9.0	7.0
97.5°	0.0	5.0	9.0	9.0	7.0
100°	0.0	3.0	8.0	8.0	7.0
102.5°	0.0	3.0	6.0	7.0	6.0
105°	1.0	2.0	5.0	6.0	5.0
107.5°	1.0	2.0	4.0	5.0	5.0
110°	1.0	2.0	4.0	4.0	4.0



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CANDELA DISTRIBUTION (continued):

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