

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: P239280

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239280
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-50-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
2FT, 2-ROW LED BOARDS, OPAL LENS
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

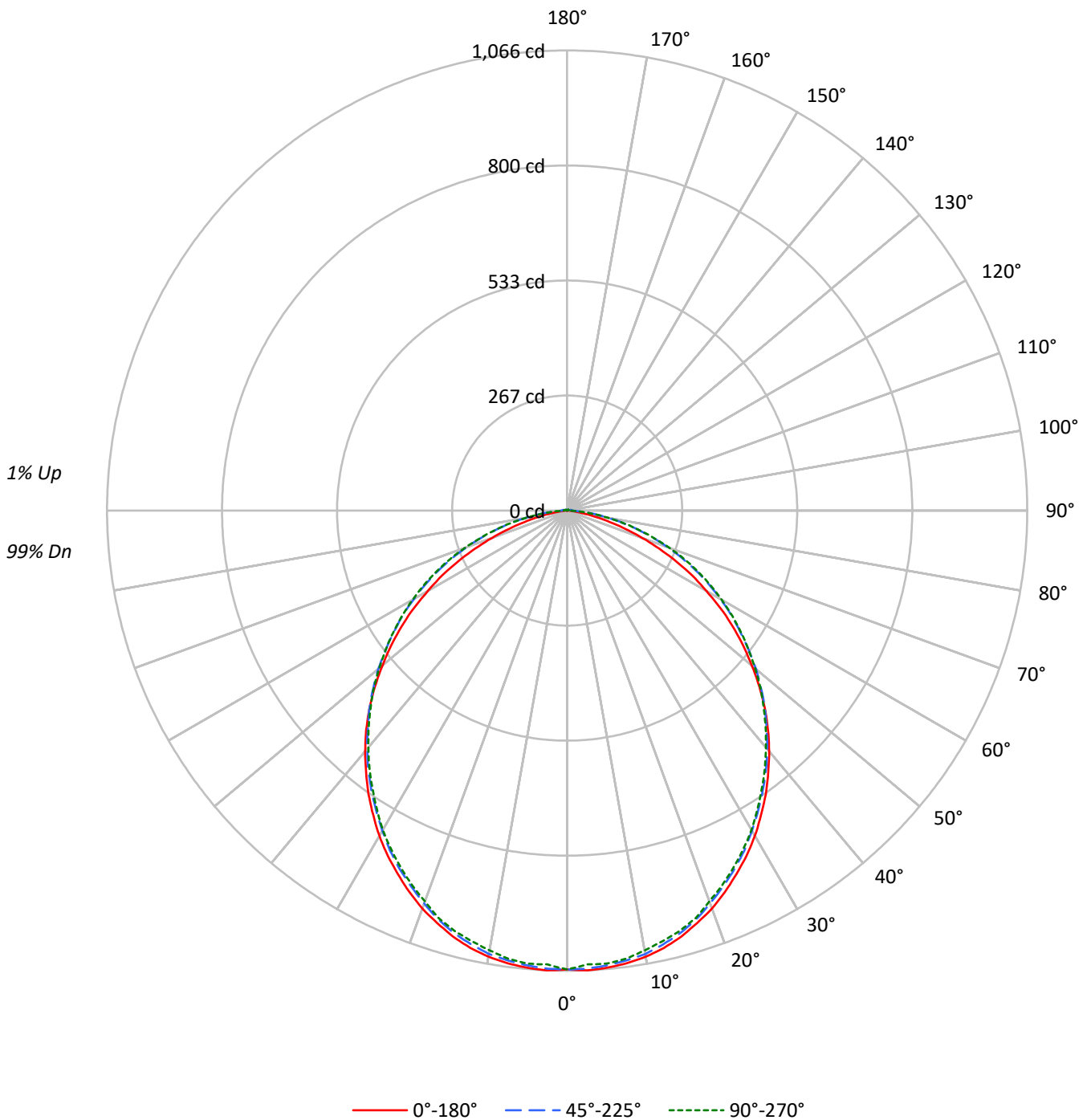
Lumens per Lamp: N/A
Luminaire Lumens: 2777.2 lumens
Efficiency: N/A
Efficacy: 119.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')
CIE Type: Direct

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°	9807	9807	9807
5°	9845	9796	9757
10°	9830	9770	9691
15°	9759	9678	9627
20°	9636	9511	9459
25°	9451	9333	9289
30°	9270	9124	9100
35°	9036	8906	8857
40°	8769	8680	8630
45°	8450	8450	8394
50°	8016	8200	8154
55°	7536	7877	7911
60°	6864	7569	7626
65°	6084	7196	7289
70°	5004	6660	6776
75°	3665	6046	6121
80°	2141	5122	5122
85°	1122	4150	3811



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.5	3.6
10°-20°	285.6	10.3
20°-30°	422.9	15.2
30°-40°	495.4	17.8
40°-50°	498.3	17.9
50°-60°	433.9	15.6
60°-70°	315.0	11.3
70°-80°	165.7	6.0
80°-90°	41.5	1.5
90°-100°	8.1	0.3
100°-110°	4.7	0.2
110°-120°	2.7	0.1
120°-130°	1.9	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°	809.0	29.1
0°-40°	1304.3	47.0
0°-60°	2236.6	80.5
0°-90°	2758.8	99.3
90°-120°	15.5	0.6
90°-150°	18.4	0.7
90°-180°	18.0	0.6
0°-180°	2777.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1063	1061	1058	1054	1054	101
15°	1022	1018	1013	1010	1008	288
25°	928	922	917	914	912	428
35°	802	795	791	788	786	501
45°	648	644	648	646	643	498
55°	468	476	490	495	492	418
65°	279	302	330	336	334	276
75°	103	142	170	174	172	112
85°	11	31	39	39	36	15
90°	0	10	12	10	7	1
95°	0	6	11	10	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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CATALOG NUMBER: HDF-2-LD4-UNV-2-LO-50-OPL-EDC-1

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1063.0	1063.0	1063.0	1063.0	1063.0
2.5°	1066.2	1066.2	1062.0	1055.6	1052.4
5°	1063.0	1060.9	1057.7	1053.5	1053.5
7.5°	1057.7	1055.6	1051.4	1047.1	1047.1
10°	1049.3	1047.1	1042.9	1036.5	1034.4
12.5°	1037.6	1035.5	1029.1	1023.8	1021.7
15°	1021.7	1018.5	1013.2	1010.0	1007.9
17.5°	1001.6	999.4	993.1	989.9	989.9
20°	981.4	976.1	968.7	965.5	963.4
22.5°	956.0	950.7	943.3	939.0	939.0
25°	928.4	922.1	916.8	913.6	912.5
27.5°	900.9	892.4	888.2	885.0	883.9
30°	870.1	861.7	856.4	854.2	854.2
32.5°	836.2	828.8	823.5	821.4	820.3
35°	802.3	794.9	790.7	788.5	786.4
37.5°	765.2	758.9	756.7	755.7	752.5
40°	728.1	721.8	720.7	719.6	716.5
42.5°	688.9	684.7	683.6	684.7	680.4
45°	647.6	644.4	647.6	646.5	643.3
47.5°	604.1	604.1	609.4	610.5	607.3
50°	558.5	562.8	571.3	573.4	568.1
52.5°	514.0	519.3	529.9	534.2	529.9
55°	468.5	475.9	489.7	495.0	491.8
57.5°	421.8	432.4	451.5	456.8	453.6
60°	372.0	387.9	410.2	417.6	413.3
62.5°	327.5	345.5	369.9	376.2	374.1
65°	278.7	302.1	329.6	336.0	333.9
67.5°	231.0	258.6	288.3	295.7	293.6
70°	185.5	217.3	246.9	254.4	251.2
72.5°	142.0	178.1	207.7	214.1	210.9
75°	102.8	142.0	169.6	173.8	171.7
77.5°	67.8	108.1	131.4	136.7	133.5
80°	40.3	77.4	96.4	99.6	96.4
82.5°	21.2	51.9	65.7	66.8	63.6
85°	10.6	30.7	39.2	39.2	36.0
87.5°	4.2	15.9	19.1	18.0	15.9
90°	0.0	9.5	11.7	9.5	7.4
92.5°	0.0	8.5	10.6	9.5	6.4
95°	0.0	6.4	10.6	9.5	7.4
97.5°	0.0	5.3	9.5	9.5	7.4
100°	0.0	3.2	8.5	8.5	7.4
102.5°	0.0	3.2	6.4	7.4	6.4
105°	1.1	2.1	5.3	6.4	5.3
107.5°	1.1	2.1	4.2	5.3	5.3
110°	1.1	2.1	4.2	4.2	4.2



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CANDELA DISTRIBUTION (continued):

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