

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: P239220

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239220
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-8)
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-LO-50-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 1-ROW LED BOARDS, NON-OVERLAY
Light Source: (84) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

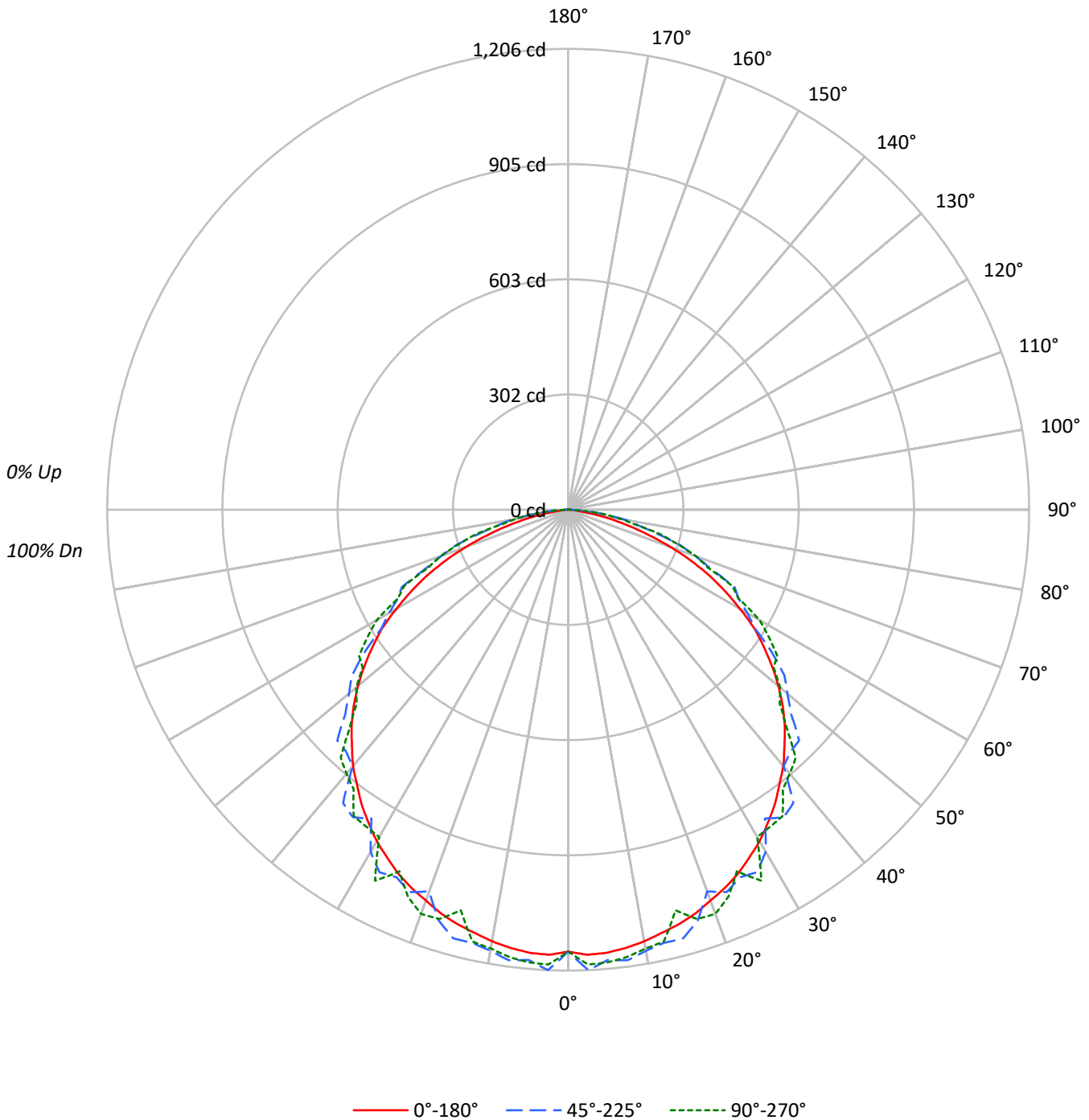
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3477.9 lumens
Efficiency: N/A
Efficacy: 147.4 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.3 / 1.44
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.6
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	96	106	102	98	94	97	94	91	93	91	88	90	87	86	83
2	99	90	83	78	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	50	45	55	49	45	43
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	42	34	29	55	42	34	29	41	33	28	40	33	28	39	32	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5334	5334	5334
5°	5389	5477	5507
10°	5372	5491	5461
15°	5360	5548	5183
20°	5344	5219	5526
25°	5352	5406	5314
30°	5335	5505	5268
35°	5306	5533	5509
40°	5272	5278	5432
45°	5228	5573	5276
50°	5149	5370	5195
55°	5021	5225	5370
60°	4791	4987	5339
65°	4443	5241	5172
70°	3845	4746	4790
75°	2966	4231	4495
80°	1801	3998	3717
85°	842	2975	2747



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.4	3.2
10°-20°	320.8	9.2
20°-30°	492.4	14.2
30°-40°	595.9	17.1
40°-50°	631.9	18.2
50°-60°	574.5	16.5
60°-70°	442.5	12.7
70°-80°	237.7	6.8
80°-90°	58.5	1.7
90°-100°	4.9	0.1
100°-110°	2.9	0.1
110°-120°	1.8	0.1
120°-130°	1.1	0.0
130°-140°	0.5	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°	925.6	26.6
0°-40°	1521.6	43.7
0°-60°	2727.9	78.4
0°-90°	3466.7	99.7
90°-120°	9.6	0.3
90°-150°	11.3	0.3
90°-180°	11.0	0.3
0°-180°	3477.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1156	1156	1156	1156	1156	
5°	1164	1201	1183	1186	1189	110
15°	1122	1150	1162	1096	1085	317
25°	1051	1072	1062	1039	1044	484
35°	942	904	982	948	978	589
45°	801	840	854	842	809	617
55°	624	656	650	632	668	557
65°	407	422	480	466	474	400
75°	166	205	237	247	252	178
85°	16	49	56	52	52	24
90°	0	10	8	6	5	1
95°	0	5	5	4	4	0
105°	0	2	3	3	3	0
115°	1	1	2	2	2	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°	1156.3	1156.3	1156.3	1156.3	1156.3
2.5°	1165.9	1178.6	1206.1	1199.8	1191.3
5°	1163.7	1200.8	1182.8	1186.0	1189.2
7.5°	1156.3	1165.9	1189.2	1177.5	1180.7
10°	1146.8	1165.9	1172.2	1168.0	1165.9
12.5°	1134.1	1161.6	1160.6	1178.6	1157.4
15°	1122.4	1150.0	1161.6	1095.9	1085.3
17.5°	1107.6	1130.9	1126.6	1109.7	1123.5
20°	1088.5	1120.3	1063.1	1102.3	1125.6
22.5°	1071.5	1092.7	1083.2	1103.3	1095.9
25°	1051.4	1071.5	1062.0	1038.7	1044.0
27.5°	1026.0	1060.9	1069.4	1030.2	1094.8
30°	1001.6	1015.4	1033.4	1066.2	988.9
32.5°	971.9	953.9	958.1	959.2	983.6
35°	942.2	904.1	982.5	947.5	978.3
37.5°	907.2	905.1	967.7	951.8	922.1
40°	875.5	894.5	876.5	887.1	902.0
42.5°	837.3	863.8	859.6	859.6	880.8
45°	801.3	840.5	854.3	841.5	808.7
47.5°	761.0	774.8	790.7	776.9	750.4
50°	717.5	696.3	748.3	708.0	723.9
52.5°	672.0	712.2	713.3	674.1	677.3
55°	624.3	656.1	649.7	631.7	667.7
57.5°	576.6	573.4	579.7	626.4	623.2
60°	519.3	538.4	540.5	569.2	578.7
62.5°	463.2	505.6	502.4	527.8	501.3
65°	407.0	421.8	480.1	466.3	473.8
67.5°	346.6	374.1	403.8	411.2	395.3
70°	285.1	318.0	351.9	349.8	355.1
72.5°	221.5	246.9	305.2	279.8	298.9
75°	166.4	204.6	237.4	246.9	252.2
77.5°	113.4	162.2	186.5	196.1	178.1
80°	67.8	120.8	150.5	138.8	139.9
82.5°	35.0	72.1	95.4	91.1	100.7
85°	15.9	48.8	56.2	51.9	51.9
87.5°	5.3	22.3	23.3	17.0	14.8
90°	0.0	9.5	8.5	6.4	5.3
92.5°	0.0	6.4	6.4	5.3	4.2
95°	0.0	5.3	5.3	4.2	4.2
97.5°	0.0	4.2	5.3	4.2	3.2
100°	0.0	3.2	4.2	4.2	3.2
102.5°	0.0	2.1	4.2	4.2	3.2
105°	0.0	2.1	3.2	3.2	3.2
107.5°	0.0	2.1	3.2	3.2	3.2
110°	0.0	1.1	3.2	3.2	2.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	1.1	2.1	3.2	2.1
115°	1.1	1.1	2.1	2.1	2.1
117.5°	1.1	1.1	2.1	2.1	2.1
120°	1.1	1.1	1.1	2.1	2.1
122.5°	1.1	1.1	1.1	2.1	2.1
125°	1.1	1.1	1.1	1.1	1.1
127.5°	1.1	1.1	1.1	1.1	1.1
130°	1.1	1.1	1.1	1.1	1.1
132.5°	1.1	1.1	1.1	1.1	1.1
135°	1.1	1.1	1.1	1.1	1.1
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)