

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: P239191

Luminaire Tested: **HDF-4-LD4-UNV-2-STD-40-IK12-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239191
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-4)
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-2-STD-40-IK12-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 2-ROW LED BOARDS, CLEAR LENS
Light Source: (168) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

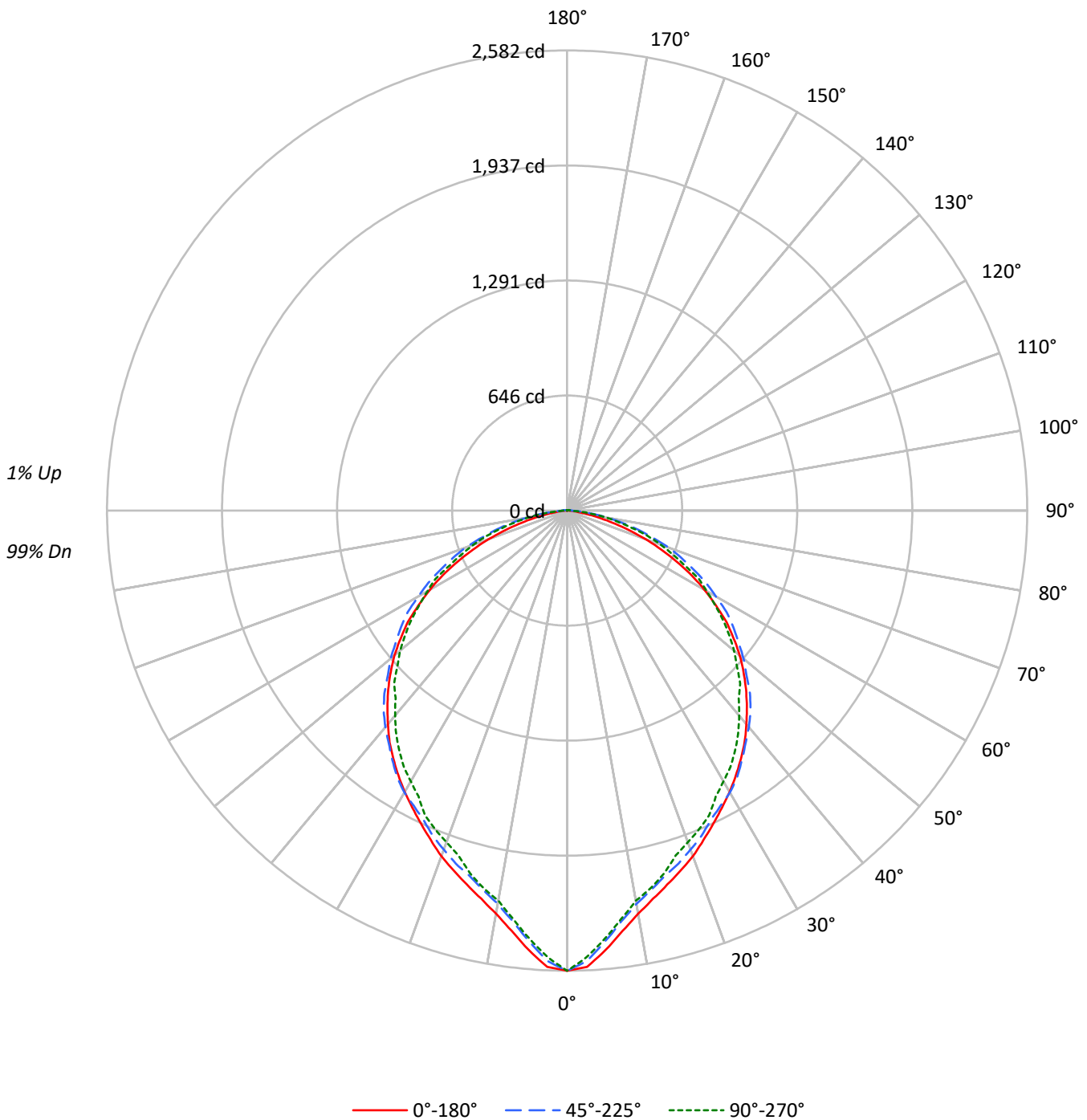
Lumens per Lamp: N/A
Luminaire Lumens: 6087.1 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.02 / 1.25
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 67.2
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	95	97	94	91	93	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	64	58	53	62	57	53	50
5	76	63	54	48	74	62	54	47	60	53	47	58	51	46	56	50	46	44
6	70	57	48	42	68	56	48	42	54	47	41	52	46	41	51	45	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11912	11912	11912
5°	11462	11241	11174
10°	10758	10497	10411
15°	10374	10128	10058
20°	10131	9936	9722
25°	9872	9723	9602
30°	9711	9731	9344
35°	9573	9625	9253
40°	9424	9552	9042
45°	9261	9459	8959
50°	9076	9276	8773
55°	8778	9150	8576
60°	8214	8886	8349
65°	7407	8534	7928
70°	6281	8155	7530
75°	4668	7286	6720
80°	2917	6044	5765
85°	1329	4552	4203



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.9	3.7
10°-20°	599.4	9.8
20°-30°	881.2	14.5
30°-40°	1052.9	17.3
40°-50°	1087.8	17.9
50°-60°	985.2	16.2
60°-70°	736.1	12.1
70°-80°	393.1	6.5
80°-90°	94.5	1.6
90°-100°	15.3	0.3
100°-110°	7.7	0.1
110°-120°	3.9	0.1
120°-130°	2.7	0.0
130°-140°	1.4	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°	1706.5	28.0
0°-40°	2759.4	45.3
0°-60°	4832.3	79.4
0°-90°	6056.1	99.5
90°-120°	26.9	0.4
90°-150°	31.0	0.5
90°-180°	31.0	0.5
0°-180°	6087.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2582	2582	2582	2582	2582	
5°	2475	2425	2428	2412	2413	230
15°	2172	2131	2121	2103	2106	613
25°	1939	1925	1910	1894	1886	895
35°	1700	1693	1709	1668	1643	1064
45°	1420	1420	1450	1377	1373	1094
55°	1091	1103	1138	1097	1066	969
65°	679	728	782	765	726	671
75°	262	351	409	405	377	287
85°	25	73	86	83	79	39
90°	0	21	22	20	18	1
95°	0	12	18	17	16	0
105°	1	4	8	11	11	1
115°	1	3	4	5	5	1
125°	3	3	3	3	4	2
135°	3	3	3	3	3	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°	2582.3	2582.3	2582.3	2582.3	2582.3
2.5°	2562.5	2525.4	2529.4	2521.5	2508.2
5°	2475.1	2424.9	2427.5	2411.7	2413.0
7.5°	2378.6	2327.0	2325.7	2300.5	2312.4
10°	2296.6	2256.9	2241.0	2218.5	2222.5
12.5°	2230.4	2185.4	2178.8	2151.0	2169.6
15°	2172.2	2131.2	2120.6	2103.4	2106.1
17.5°	2118.0	2084.9	2077.0	2054.5	2028.0
20°	2063.7	2028.0	2024.0	1984.4	1980.4
22.5°	2000.2	1983.0	1973.8	1947.3	1935.4
25°	1939.4	1924.8	1910.3	1894.4	1886.5
27.5°	1879.8	1864.0	1866.6	1844.1	1807.1
30°	1823.0	1808.4	1826.9	1776.7	1754.2
32.5°	1762.1	1752.8	1774.0	1727.7	1705.2
35°	1699.9	1693.3	1709.2	1668.2	1643.0
37.5°	1636.4	1623.2	1644.4	1592.8	1576.9
40°	1565.0	1558.4	1586.2	1520.0	1501.5
42.5°	1492.2	1484.3	1524.0	1444.6	1424.8
45°	1419.5	1419.5	1449.9	1377.1	1373.2
47.5°	1342.7	1345.4	1363.9	1329.5	1291.2
50°	1264.7	1267.3	1292.5	1248.8	1222.4
52.5°	1177.4	1185.3	1210.5	1177.4	1145.6
55°	1091.4	1103.3	1137.7	1096.7	1066.3
57.5°	988.2	1017.3	1061.0	1018.6	981.6
60°	890.3	927.4	963.1	934.0	904.9
62.5°	787.1	830.8	878.4	849.3	834.8
65°	678.6	727.6	781.8	764.6	726.3
67.5°	571.5	620.4	693.2	668.1	639.0
70°	465.7	529.2	604.6	575.5	558.3
72.5°	361.2	439.2	498.7	492.1	472.3
75°	261.9	350.6	408.8	404.8	377.0
77.5°	181.2	268.5	317.5	302.9	288.4
80°	109.8	193.1	227.5	218.3	217.0
82.5°	58.2	124.4	149.5	145.5	140.2
85°	25.1	72.8	86.0	83.3	79.4
87.5°	7.9	37.0	42.3	38.4	35.7
90°	0.0	21.2	22.5	19.8	18.5
92.5°	0.0	15.9	19.8	17.2	15.9
95°	0.0	11.9	18.5	17.2	15.9
97.5°	1.3	9.3	17.2	15.9	15.9
100°	0.0	6.6	13.2	14.6	13.2
102.5°	1.3	5.3	10.6	11.9	11.9
105°	1.3	4.0	7.9	10.6	10.6
107.5°	1.3	2.6	6.6	9.3	9.3
110°	1.3	2.6	5.3	6.6	7.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	2.6	5.3	5.3	6.6
115°	1.3	2.6	4.0	5.3	5.3
117.5°	1.3	2.6	4.0	4.0	5.3
120°	2.6	2.6	4.0	4.0	4.0
122.5°	2.6	2.6	4.0	4.0	4.0
125°	2.6	2.6	2.6	2.6	4.0
127.5°	2.6	2.6	2.6	2.6	4.0
130°	2.6	2.6	2.6	2.6	4.0
132.5°	2.6	2.6	2.6	2.6	4.0
135°	2.6	2.6	2.6	2.6	2.6
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)