

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: P239212

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239212
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-HI-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

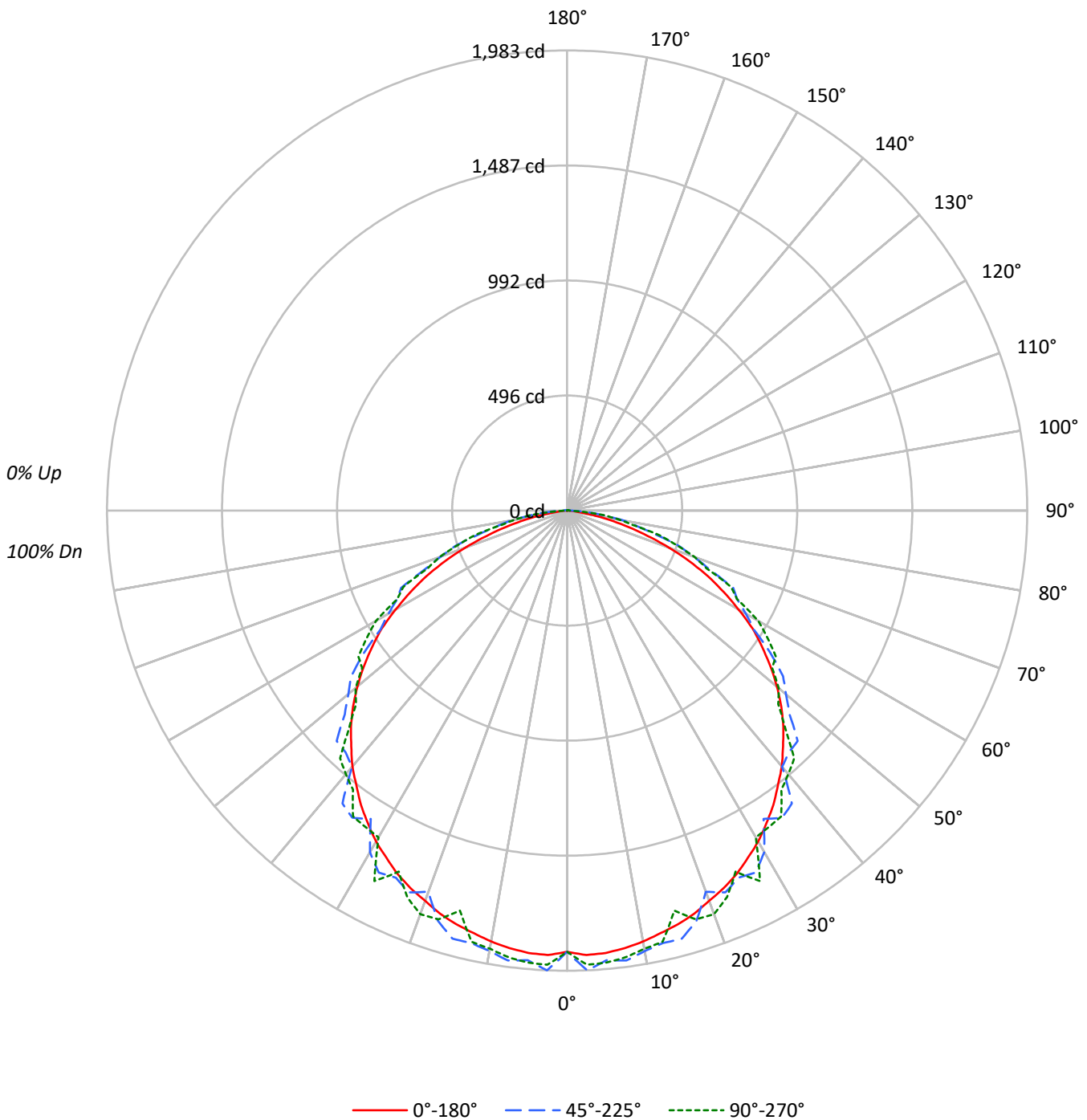
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5718.7 lumens
Efficiency: N/A
Efficacy: 128.5 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): 44.5
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°	8771	8771	8771
5°	8861	9006	9055
10°	8833	9029	8980
15°	8814	9122	8523
20°	8786	8581	9086
25°	8800	8888	8737
30°	8773	9051	8661
35°	8725	9098	9059
40°	8669	8679	8931
45°	8595	9164	8675
50°	8468	8830	8542
55°	8256	8592	8830
60°	7879	8200	8779
65°	7305	8618	8503
70°	6323	7804	7874
75°	4877	6958	7393
80°	2962	6575	6110
85°	1381	4891	4520



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.8	3.2
10°-20°	527.5	9.2
20°-30°	809.7	14.2
30°-40°	979.9	17.1
40°-50°	1039.0	18.2
50°-60°	944.6	16.5
60°-70°	727.6	12.7
70°-80°	390.9	6.8
80°-90°	96.2	1.7
90°-100°	8.2	0.1
100°-110°	4.7	0.1
110°-120°	2.9	0.1
120°-130°	1.8	0.0
130°-140°	0.8	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°	1522.0	26.6
0°-40°	2501.9	43.7
0°-60°	4485.5	78.4
0°-90°	5700.3	99.7
90°-120°	15.8	0.3
90°-150°	18.4	0.3
90°-180°	18.0	0.3
0°-180°	5718.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1901	1901	1901	1901	1901	
5°	1914	1975	1945	1950	1955	182
15°	1846	1891	1910	1802	1785	521
25°	1729	1762	1746	1708	1717	796
35°	1549	1487	1616	1558	1609	968
45°	1318	1382	1405	1384	1330	1015
55°	1026	1079	1068	1039	1098	916
65°	669	694	790	767	779	658
75°	274	336	390	406	415	293
85°	26	80	92	85	85	39
90°	0	16	14	10	9	1
95°	0	9	9	7	7	0
105°	0	4	5	5	5	0
115°	2	2	4	4	4	1
125°	2	2	2	2	2	2
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°	1901.4	1901.4	1901.4	1901.4	1901.4
2.5°	1917.0	1938.0	1983.3	1972.8	1958.9
5°	1913.6	1974.6	1944.9	1950.2	1955.4
7.5°	1901.4	1917.0	1955.4	1936.2	1941.4
10°	1885.7	1917.0	1927.5	1920.5	1917.0
12.5°	1864.8	1910.1	1908.3	1938.0	1903.1
15°	1845.6	1890.9	1910.1	1802.0	1784.6
17.5°	1821.2	1859.5	1852.6	1824.7	1847.3
20°	1789.8	1842.1	1748.0	1812.5	1850.8
22.5°	1761.9	1796.8	1781.1	1814.2	1802.0
25°	1728.8	1761.9	1746.2	1707.9	1716.6
27.5°	1687.0	1744.5	1758.4	1694.0	1800.3
30°	1646.9	1669.6	1699.2	1753.2	1626.0
32.5°	1598.1	1568.5	1575.5	1577.2	1617.3
35°	1549.3	1486.6	1615.5	1558.0	1608.6
37.5°	1491.8	1488.3	1591.1	1565.0	1516.2
40°	1439.5	1470.9	1441.3	1458.7	1483.1
42.5°	1376.8	1420.4	1413.4	1413.4	1448.2
45°	1317.5	1382.0	1404.7	1383.8	1329.7
47.5°	1251.3	1274.0	1300.1	1277.4	1233.9
50°	1179.9	1145.0	1230.4	1164.2	1190.3
52.5°	1104.9	1171.1	1172.9	1108.4	1113.6
55°	1026.5	1078.8	1068.3	1038.7	1097.9
57.5°	948.1	942.8	953.3	1030.0	1024.7
60°	854.0	885.3	888.8	935.9	951.5
62.5°	761.6	831.3	826.1	867.9	824.3
65°	669.2	693.6	789.5	766.8	779.0
67.5°	569.9	615.2	664.0	676.2	650.1
70°	468.8	522.8	578.6	575.1	583.8
72.5°	364.2	406.1	501.9	460.1	491.5
75°	273.6	336.4	390.4	406.1	414.8
77.5°	186.5	266.6	306.7	322.4	292.8
80°	111.5	198.7	247.5	228.3	230.0
82.5°	57.5	118.5	156.8	149.9	165.6
85°	26.1	80.2	92.4	85.4	85.4
87.5°	8.7	36.6	38.3	27.9	24.4
90°	0.0	15.7	13.9	10.5	8.7
92.5°	0.0	10.5	10.5	8.7	7.0
95°	0.0	8.7	8.7	7.0	7.0
97.5°	0.0	7.0	8.7	7.0	5.2
100°	0.0	5.2	7.0	7.0	5.2
102.5°	0.0	3.5	7.0	7.0	5.2
105°	0.0	3.5	5.2	5.2	5.2
107.5°	0.0	3.5	5.2	5.2	5.2
110°	0.0	1.7	5.2	5.2	3.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	1.7	3.5	5.2	3.5
115°	1.7	1.7	3.5	3.5	3.5
117.5°	1.7	1.7	3.5	3.5	3.5
120°	1.7	1.7	1.7	3.5	3.5
122.5°	1.7	1.7	1.7	3.5	3.5
125°	1.7	1.7	1.7	1.7	1.7
127.5°	1.7	1.7	1.7	1.7	1.7
130°	1.7	1.7	1.7	1.7	1.7
132.5°	1.7	1.7	1.7	1.7	1.7
135°	1.7	1.7	1.7	1.7	1.7
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)