

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: P239208

Luminaire Tested: **HDF-4-LD4-UNV-2-LO-50-OPL-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239208
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-5)
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-LO-50-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 2-ROW LED BOARDS, OPAL LENS
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

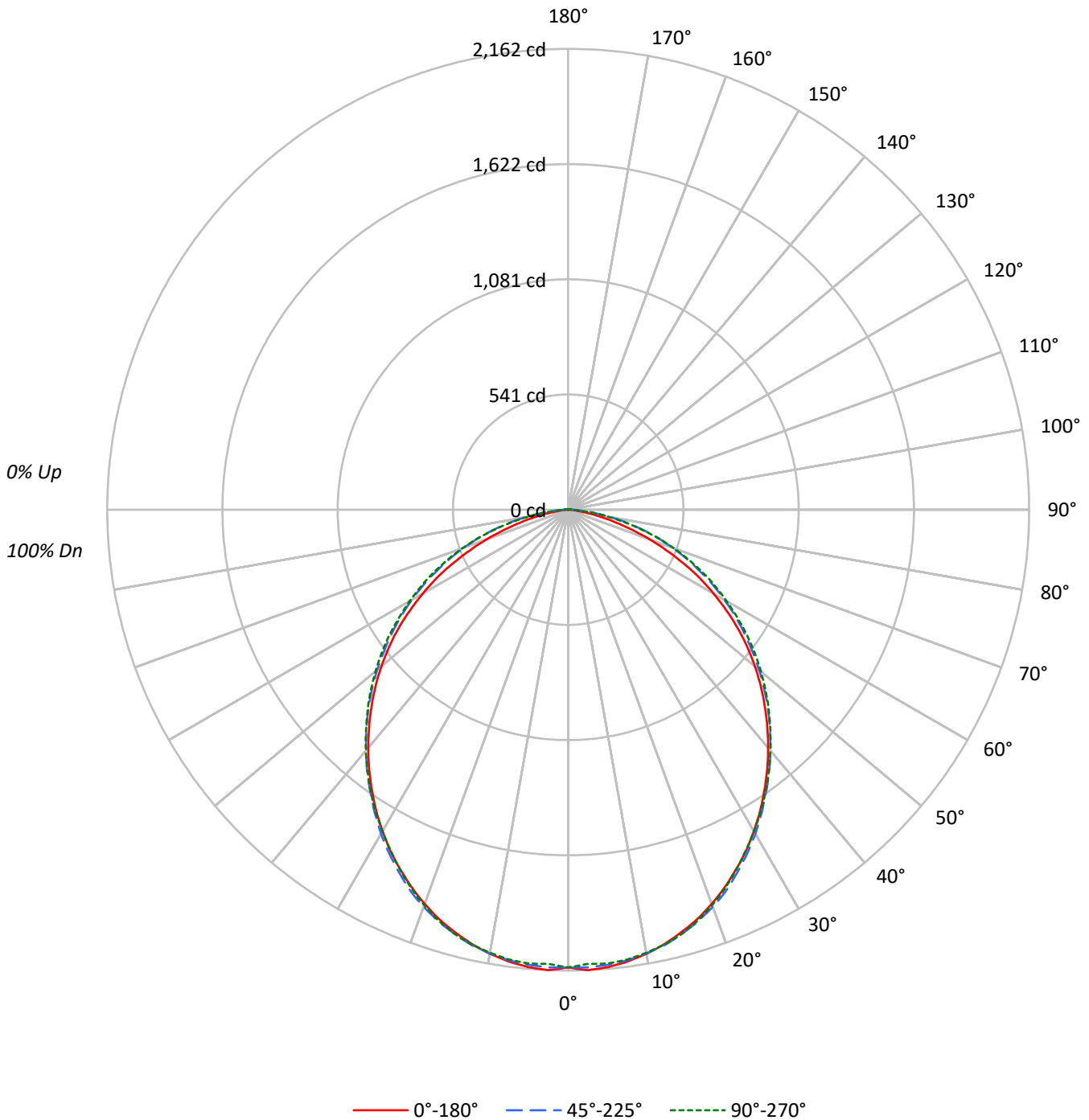
Lumens per Lamp: N/A
Luminaire Lumens: 5678.4 lumens
Efficiency: N/A
Efficacy: 120.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 47.2
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	100
1	109	104	100	96	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	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	46	44
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	44	38	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	41	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9907	9907	9907
5°	9974	9925	9895
10°	9911	9901	9886
15°	9801	9841	9841
20°	9663	9736	9694
25°	9480	9555	9490
30°	9277	9350	9282
35°	9038	9109	9092
40°	8783	8879	8885
45°	8506	8644	8679
50°	8208	8391	8467
55°	7818	8107	8218
60°	7276	7814	7922
65°	6525	7416	7590
70°	5476	7020	7092
75°	4137	6404	6292
80°	2564	5406	5098
85°	1233	4097	3477



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.2	3.6
10°-20°	578.6	10.2
20°-30°	859.0	15.1
30°-40°	1007.2	17.7
40°-50°	1017.2	17.9
50°-60°	893.7	15.7
60°-70°	657.5	11.6
70°-80°	350.9	6.2
80°-90°	84.5	1.5
90°-100°	13.2	0.2
100°-110°	6.7	0.1
110°-120°	3.3	0.1
120°-130°	2.4	0.0
130°-140°	1.1	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°	1640.8	28.9
0°-40°	2648.0	46.6
0°-60°	4558.9	80.3
0°-90°	5651.8	99.5
90°-120°	23.2	0.4
90°-150°	26.6	0.5
90°-180°	27.0	0.5
0°-180°	5678.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2148	2148	2148	2148	2148	
5°	2154	2131	2143	2136	2137	204
15°	2052	2038	2061	2057	2061	579
25°	1862	1858	1877	1861	1864	858
35°	1605	1607	1618	1606	1614	1004
45°	1304	1309	1325	1323	1330	1006
55°	972	979	1008	1016	1022	867
65°	598	636	679	693	695	591
75°	232	308	359	359	353	252
85°	23	70	77	71	66	34
90°	0	18	19	16	14	1
95°	0	11	17	15	14	0
105°	1	3	7	10	10	1
115°	1	2	3	4	4	1
125°	2	2	3	3	3	2
135°	2	2	2	2	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°	2147.5	2147.5	2147.5	2147.5	2147.5
2.5°	2162.4	2139.0	2149.6	2143.3	2132.7
5°	2153.9	2130.6	2143.3	2135.9	2136.9
7.5°	2138.0	2117.8	2131.6	2126.3	2128.4
10°	2115.7	2096.6	2113.6	2109.4	2110.4
12.5°	2087.1	2070.1	2092.4	2087.1	2089.2
15°	2052.1	2038.3	2060.6	2057.4	2060.6
17.5°	2014.0	2002.3	2024.6	2019.3	2021.4
20°	1968.4	1958.8	1983.2	1970.5	1974.7
22.5°	1917.5	1911.1	1935.5	1919.6	1922.8
25°	1862.4	1858.2	1877.2	1861.3	1864.5
27.5°	1806.2	1799.9	1817.9	1800.9	1803.0
30°	1741.6	1739.4	1755.3	1737.3	1742.6
32.5°	1675.8	1675.8	1687.5	1672.7	1680.1
35°	1604.8	1606.9	1617.5	1605.9	1614.4
37.5°	1533.8	1535.9	1548.6	1538.0	1546.5
40°	1458.5	1461.7	1474.4	1468.1	1475.5
42.5°	1382.2	1387.5	1401.3	1397.1	1403.4
45°	1303.8	1309.1	1325.0	1322.9	1330.3
47.5°	1225.3	1229.6	1247.6	1249.7	1256.1
50°	1143.7	1146.9	1169.2	1174.5	1179.8
52.5°	1060.0	1064.2	1087.5	1096.0	1102.4
55°	972.0	979.4	1008.0	1016.5	1021.8
57.5°	879.8	894.6	927.5	934.9	939.1
60°	788.6	805.6	846.9	856.5	858.6
62.5°	696.4	722.9	767.4	775.9	778.0
65°	597.8	636.0	679.4	693.2	695.3
67.5°	500.3	551.2	600.0	610.6	610.6
70°	406.0	467.5	520.5	526.8	525.8
72.5°	316.9	386.9	438.8	444.1	442.0
75°	232.1	308.5	359.3	359.3	353.0
77.5°	156.9	236.4	278.8	276.7	272.4
80°	96.5	172.8	203.5	198.2	191.9
82.5°	51.9	118.7	134.6	128.3	121.9
85°	23.3	70.0	77.4	71.0	65.7
87.5°	6.4	36.0	36.0	31.8	29.7
90°	0.0	18.0	19.1	15.9	13.8
92.5°	0.0	13.8	18.0	14.8	13.8
95°	0.0	10.6	17.0	14.8	13.8
97.5°	0.0	7.4	14.8	13.8	12.7
100°	0.0	5.3	11.7	12.7	11.7
102.5°	0.0	4.2	9.5	10.6	10.6
105°	1.1	3.2	7.4	9.5	9.5
107.5°	1.1	3.2	5.3	7.4	7.4
110°	1.1	2.1	4.2	6.4	6.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	2.1	4.2	5.3	5.3
115°	1.1	2.1	3.2	4.2	4.2
117.5°	1.1	2.1	3.2	4.2	4.2
120°	2.1	2.1	3.2	3.2	3.2
122.5°	2.1	2.1	3.2	3.2	3.2
125°	2.1	2.1	3.2	3.2	3.2
127.5°	2.1	2.1	2.1	3.2	3.2
130°	2.1	2.1	2.1	2.1	3.2
132.5°	2.1	2.1	2.1	2.1	2.1
135°	2.1	2.1	2.1	2.1	3.2
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)