

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: P239205

Luminaire Tested: **HDF-4-LD4-UNV-2-LO-30-OPL-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239205
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-30-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 2-ROW LED BOARDS, OPAL LENS
Light Source: (168) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

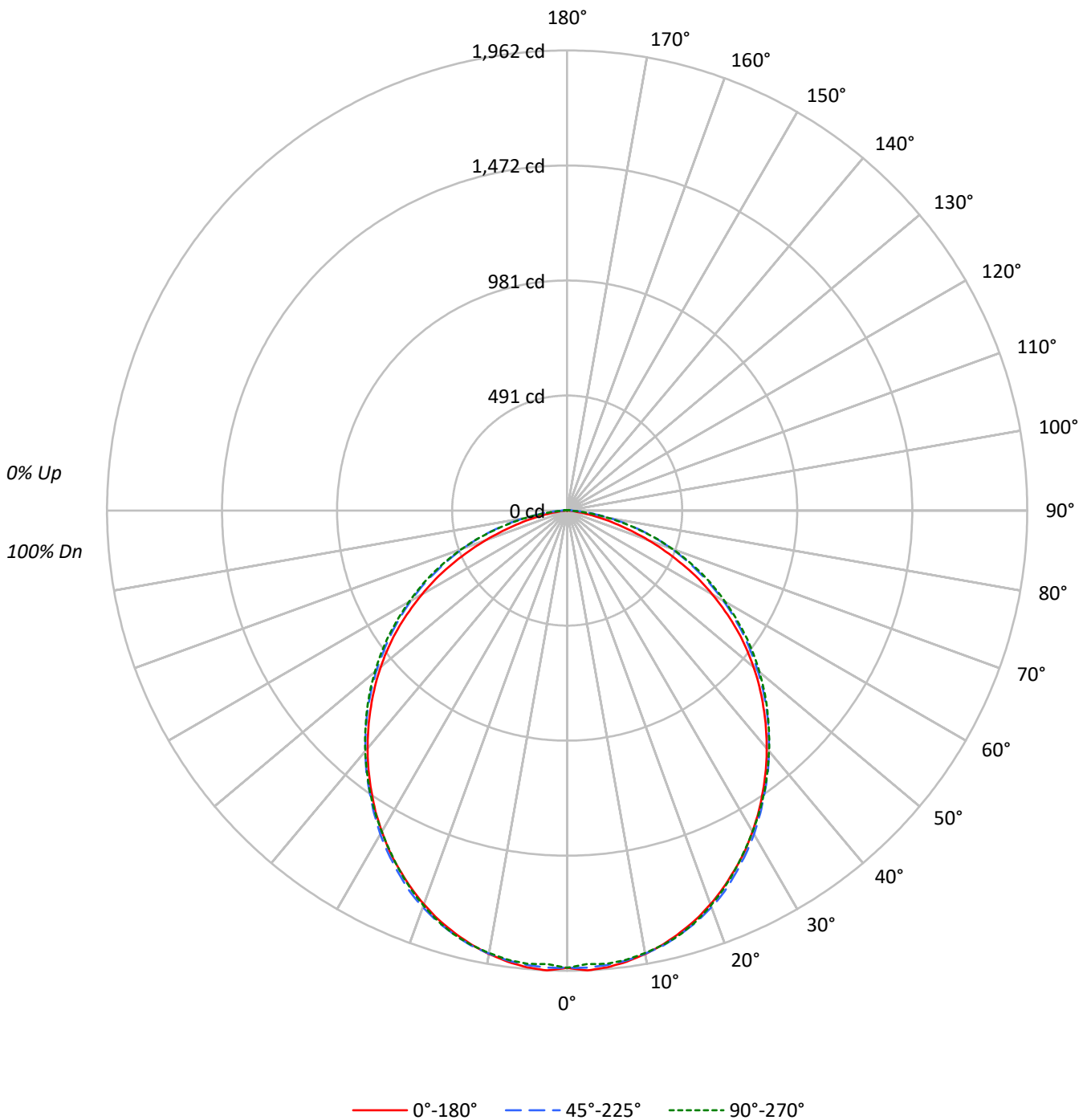
Lumens per Lamp: N/A
Luminaire Lumens: 5153.4 lumens
Efficiency: N/A
Efficacy: 109.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

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°	8991	8991	8991
5°	9052	9007	8981
10°	8994	8985	8972
15°	8895	8931	8931
20°	8770	8836	8798
25°	8603	8672	8613
30°	8419	8486	8424
35°	8202	8267	8251
40°	7971	8058	8064
45°	7719	7845	7876
50°	7449	7615	7684
55°	7094	7357	7459
60°	6603	7091	7189
65°	5923	6731	6889
70°	4969	6370	6435
75°	3755	5812	5709
80°	2325	4907	4625
85°	1122	3716	3155



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.4	3.6
10°-20°	525.2	10.2
20°-30°	779.5	15.1
30°-40°	914.1	17.7
40°-50°	923.2	17.9
50°-60°	811.1	15.7
60°-70°	596.7	11.6
70°-80°	318.4	6.2
80°-90°	76.7	1.5
90°-100°	11.9	0.2
100°-110°	6.1	0.1
110°-120°	3.0	0.1
120°-130°	2.2	0.0
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°	1489.1	28.9
0°-40°	2403.2	46.6
0°-60°	4137.4	80.3
0°-90°	5129.2	99.5
90°-120°	21.0	0.4
90°-150°	24.2	0.5
90°-180°	24.0	0.5
0°-180°	5153.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1949	1949	1949	1949	1949	
5°	1955	1934	1945	1938	1939	185
15°	1862	1850	1870	1867	1870	525
25°	1690	1686	1704	1689	1692	779
35°	1456	1458	1468	1457	1465	911
45°	1183	1188	1202	1201	1207	913
55°	882	889	915	922	927	787
65°	543	577	617	629	631	536
75°	211	280	326	326	320	229
85°	21	64	70	64	60	31
90°	0	16	17	14	12	1
95°	0	10	15	14	12	0
105°	1	3	7	9	9	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°	1949.0	1949.0	1949.0	1949.0	1949.0
2.5°	1962.4	1941.3	1950.9	1945.1	1935.5
5°	1954.8	1933.6	1945.1	1938.4	1939.4
7.5°	1940.3	1922.0	1934.6	1929.7	1931.7
10°	1920.1	1902.8	1918.2	1914.3	1915.3
12.5°	1894.1	1878.8	1899.0	1894.1	1896.1
15°	1862.4	1849.9	1870.1	1867.2	1870.1
17.5°	1827.8	1817.2	1837.4	1832.6	1834.5
20°	1786.4	1777.7	1799.9	1788.3	1792.2
22.5°	1740.2	1734.5	1756.6	1742.2	1745.0
25°	1690.2	1686.4	1703.7	1689.2	1692.1
27.5°	1639.2	1633.4	1649.8	1634.4	1636.3
30°	1580.5	1578.6	1593.0	1576.7	1581.5
32.5°	1520.9	1520.9	1531.5	1518.0	1524.7
35°	1456.4	1458.4	1468.0	1457.4	1465.1
37.5°	1392.0	1393.9	1405.5	1395.8	1403.5
40°	1323.7	1326.6	1338.1	1332.3	1339.1
42.5°	1254.4	1259.2	1271.7	1267.9	1273.7
45°	1183.2	1188.1	1202.5	1200.6	1207.3
47.5°	1112.1	1115.9	1132.3	1134.2	1140.0
50°	1038.0	1040.9	1061.1	1065.9	1070.7
52.5°	962.0	965.8	987.0	994.7	1000.5
55°	882.1	888.9	914.8	922.5	927.4
57.5°	798.4	811.9	841.7	848.5	852.3
60°	715.7	731.1	768.6	777.3	779.2
62.5°	632.0	656.1	696.5	704.2	706.1
65°	542.6	577.2	616.6	629.1	631.1
67.5°	454.1	500.2	544.5	554.1	554.1
70°	368.4	424.2	472.3	478.1	477.1
72.5°	287.6	351.1	398.3	403.1	401.1
75°	210.7	279.9	326.1	326.1	320.3
77.5°	142.4	214.5	253.0	251.1	247.2
80°	87.5	156.8	184.7	179.9	174.1
82.5°	47.1	107.7	122.2	116.4	110.6
85°	21.2	63.5	70.2	64.5	59.6
87.5°	5.8	32.7	32.7	28.9	26.9
90°	0.0	16.4	17.3	14.4	12.5
92.5°	0.0	12.5	16.4	13.5	12.5
95°	0.0	9.6	15.4	13.5	12.5
97.5°	0.0	6.7	13.5	12.5	11.5
100°	0.0	4.8	10.6	11.5	10.6
102.5°	0.0	3.8	8.7	9.6	9.6
105°	1.0	2.9	6.7	8.7	8.7
107.5°	1.0	2.9	4.8	6.7	6.7
110°	1.0	1.9	3.8	5.8	5.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.9	3.8	4.8	4.8
115°	1.0	1.9	2.9	3.8	3.8
117.5°	1.0	1.9	2.9	3.8	3.8
120°	1.9	1.9	2.9	2.9	2.9
122.5°	1.9	1.9	2.9	2.9	2.9
125°	1.9	1.9	2.9	2.9	2.9
127.5°	1.9	1.9	1.9	2.9	2.9
130°	1.9	1.9	1.9	1.9	2.9
132.5°	1.9	1.9	1.9	1.9	1.9
135°	1.9	1.9	1.9	1.9	2.9
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)