

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: P239234

Luminaire Tested: **HDF-4-LD4-UNV-1-HI-35-OPL-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239234
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-10)
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-35-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 1-ROW LED BOARDS, OPAL LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

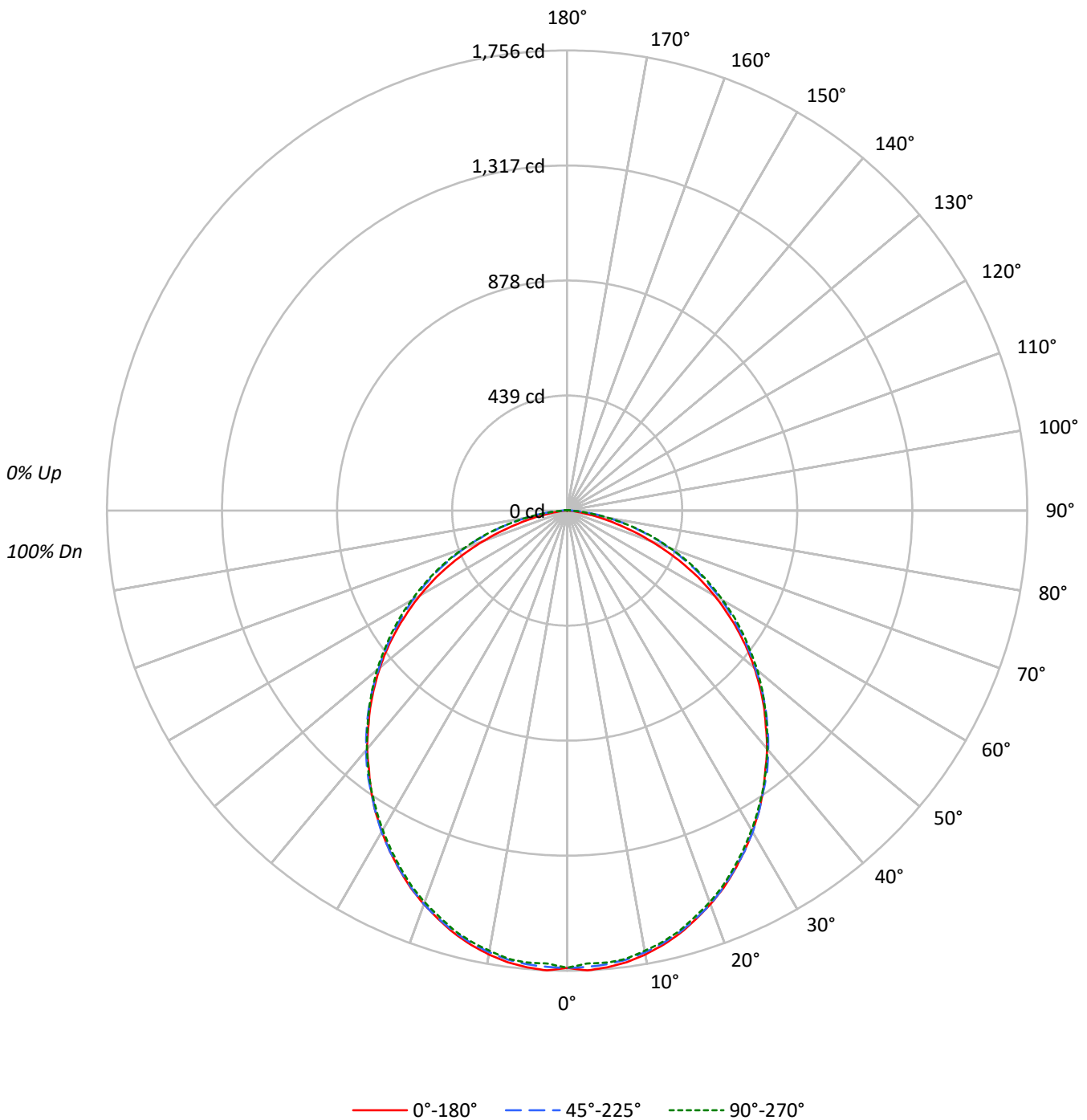
Lumens per Lamp: N/A
Luminaire Lumens: 4574.4 lumens
Efficiency: N/A
Efficacy: 102.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

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	97	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	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	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	49	74	63	54	48	61	53	48	59	52	47	57	51	47	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	43	37	48	42	37	47	41	37	35
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	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	27	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8049	8049	8049
5°	8103	8049	8019
10°	8058	8019	7989
15°	7972	7948	7925
20°	7847	7847	7807
25°	7701	7693	7659
30°	7534	7542	7498
35°	7344	7353	7335
40°	7150	7190	7160
45°	6931	6985	6973
50°	6692	6739	6798
55°	6388	6494	6587
60°	5993	6251	6342
65°	5439	5960	6067
70°	4591	5568	5634
75°	3488	4984	5099
80°	2184	4237	4150
85°	1043	3133	2874



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.8	3.6
10°-20°	467.6	10.2
20°-30°	693.6	15.2
30°-40°	813.5	17.8
40°-50°	820.3	17.9
50°-60°	719.7	15.7
60°-70°	528.3	11.5
70°-80°	279.8	6.1
80°-90°	67.2	1.5
90°-100°	9.8	0.2
100°-110°	4.9	0.1
110°-120°	2.6	0.1
120°-130°	1.7	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°	1326.0	29.0
0°-40°	2139.4	46.8
0°-60°	3679.4	80.4
0°-90°	4554.6	99.6
90°-120°	17.3	0.4
90°-150°	19.8	0.4
90°-180°	20.0	0.4
0°-180°	4574.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1745	1745	1745	1745	1745	
5°	1750	1730	1738	1732	1732	166
15°	1669	1651	1664	1658	1659	470
25°	1513	1501	1511	1500	1505	697
35°	1304	1294	1306	1298	1302	815
45°	1062	1054	1071	1066	1069	819
55°	794	789	808	816	819	709
65°	498	511	546	556	556	491
75°	196	245	280	286	286	212
85°	20	54	59	58	54	29
90°	0	15	15	13	13	1
95°	0	8	12	12	10	0
105°	0	3	5	7	7	0
115°	2	2	3	3	3	1
125°	2	2	2	2	2	1
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°	1744.8	1744.8	1744.8	1744.8	1744.8
2.5°	1756.3	1736.6	1743.2	1738.2	1730.0
5°	1749.8	1730.0	1738.2	1731.7	1731.7
7.5°	1738.2	1720.2	1728.4	1721.8	1725.1
10°	1720.2	1702.1	1711.9	1705.4	1705.4
12.5°	1697.1	1679.0	1690.6	1682.3	1685.6
15°	1669.2	1651.1	1664.2	1657.7	1659.3
17.5°	1634.6	1619.8	1633.0	1624.8	1624.8
20°	1598.5	1585.3	1598.5	1587.0	1590.2
22.5°	1559.0	1547.5	1557.3	1544.2	1550.8
25°	1512.9	1501.4	1511.3	1499.8	1504.7
27.5°	1465.3	1453.7	1465.3	1455.4	1457.0
30°	1414.3	1404.4	1415.9	1404.4	1407.7
32.5°	1361.7	1350.1	1361.7	1353.4	1355.1
35°	1304.1	1294.2	1305.7	1297.5	1302.5
37.5°	1243.2	1236.7	1253.1	1241.6	1246.5
40°	1187.3	1175.8	1193.9	1182.4	1189.0
42.5°	1123.2	1115.0	1133.1	1124.8	1128.1
45°	1062.4	1054.1	1070.6	1065.6	1068.9
47.5°	998.2	990.0	1006.4	1003.1	1008.1
50°	932.4	925.9	939.0	942.3	947.2
52.5°	865.0	858.4	874.9	879.8	881.5
55°	794.3	789.4	807.5	815.7	819.0
57.5°	721.9	721.9	743.3	751.5	754.8
60°	649.6	651.2	677.5	685.8	687.4
62.5°	575.6	583.8	610.1	621.6	621.6
65°	498.3	511.4	546.0	555.8	555.8
67.5°	417.7	439.1	478.6	486.8	488.4
70°	340.4	368.4	412.8	419.3	417.7
72.5°	264.8	305.9	345.3	353.6	351.9
75°	195.7	245.0	279.6	286.1	286.1
77.5°	134.8	185.8	218.7	222.0	220.4
80°	82.2	136.5	159.5	159.5	156.2
82.5°	44.4	92.1	105.2	102.0	98.7
85°	19.7	54.3	59.2	57.6	54.3
87.5°	6.6	26.3	28.0	26.3	26.3
90°	0.0	14.8	14.8	13.2	13.2
92.5°	0.0	9.9	13.2	11.5	9.9
95°	0.0	8.2	11.5	11.5	9.9
97.5°	0.0	4.9	9.9	9.9	9.9
100°	0.0	4.9	8.2	9.9	8.2
102.5°	0.0	3.3	6.6	8.2	8.2
105°	0.0	3.3	4.9	6.6	6.6
107.5°	0.0	1.6	4.9	4.9	4.9
110°	0.0	1.6	3.3	4.9	4.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	1.6	3.3	3.3	3.3
115°	1.6	1.6	3.3	3.3	3.3
117.5°	1.6	1.6	3.3	3.3	3.3
120°	1.6	1.6	1.6	3.3	3.3
122.5°	1.6	1.6	1.6	3.3	3.3
125°	1.6	1.6	1.6	1.6	1.6
127.5°	1.6	1.6	1.6	1.6	1.6
130°	1.6	1.6	1.6	1.6	1.6
132.5°	1.6	1.6	1.6	1.6	1.6
135°	1.6	1.6	1.6	1.6	1.6
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)