

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: P239239

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239239
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-STD-40-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 1-ROW LED BOARDS, OPAL LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

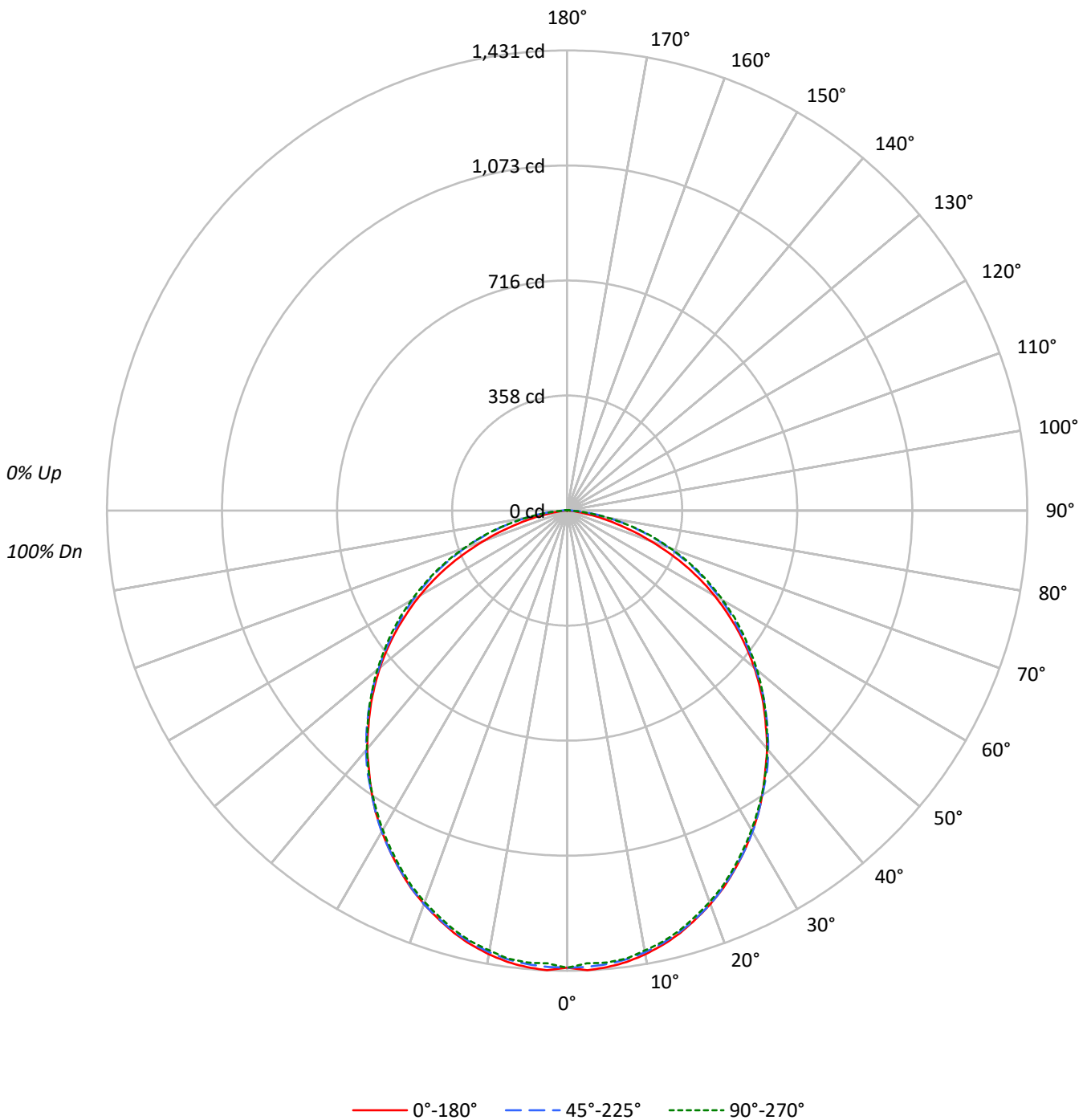
Lumens per Lamp: N/A
Luminaire Lumens: 3726.5 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.7
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	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					100			
1	109	104	100	97	106	102	98	95	98	95	92	94	91	89	90	88	86	84					84			
2	99	91	85	79	97	89	83	78	86	81	76	82	78	74	79	76	73	71					71			
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	70	66	62	60					60			
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51					51			
5	77	64	55	49	74	63	54	48	61	53	48	59	52	47	57	51	47	44					44			
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39					39			
7	66	52	44	38	64	51	43	37	50	43	37	48	42	37	47	41	37	35					35			
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28					28			
10	54	41	33	28	52	40	33	27	39	32	27	38	32	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6557	6557	6557
5°	6601	6557	6533
10°	6564	6533	6508
15°	6494	6475	6456
20°	6393	6393	6360
25°	6273	6267	6239
30°	6137	6144	6109
35°	5983	5990	5975
40°	5825	5857	5833
45°	5646	5690	5681
50°	5451	5490	5538
55°	5204	5290	5366
60°	4883	5093	5167
65°	4431	4855	4943
70°	3740	4536	4590
75°	2841	4058	4155
80°	1780	3451	3382
85°	852	2551	2339



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.3	3.6
10°-20°	380.9	10.2
20°-30°	565.0	15.2
30°-40°	662.7	17.8
40°-50°	668.2	17.9
50°-60°	586.3	15.7
60°-70°	430.3	11.5
70°-80°	227.9	6.1
80°-90°	54.7	1.5
90°-100°	8.0	0.2
100°-110°	4.0	0.1
110°-120°	2.2	0.1
120°-130°	1.3	0.0
130°-140°	0.6	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°	1080.2	29.0
0°-40°	1742.9	46.8
0°-60°	2997.4	80.4
0°-90°	3710.4	99.6
90°-120°	14.1	0.4
90°-150°	16.1	0.4
90°-180°	16.0	0.4
0°-180°	3726.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1425	1409	1416	1411	1411	135
15°	1360	1345	1356	1350	1352	383
25°	1232	1223	1231	1222	1226	568
35°	1062	1054	1064	1057	1061	664
45°	865	859	872	868	871	667
55°	647	643	658	664	667	578
65°	406	417	445	453	453	400
75°	159	200	228	233	233	173
85°	16	44	48	47	44	24
90°	0	12	12	11	11	1
95°	0	7	9	9	8	0
105°	0	3	4	5	5	0
115°	1	1	3	3	3	1
125°	1	1	1	1	1	1
135°	1	1	1	1	1	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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CATALOG NUMBER: HDF-4-LD4-UNV-1-STD-40-OPL-EDC-1

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1421.4	1421.4	1421.4	1421.4	1421.4
2.5°	1430.8	1414.7	1420.1	1416.0	1409.4
5°	1425.4	1409.4	1416.0	1410.7	1410.7
7.5°	1416.0	1401.3	1408.0	1402.7	1405.3
10°	1401.3	1386.6	1394.6	1389.3	1389.3
12.5°	1382.6	1367.8	1377.2	1370.5	1373.2
15°	1359.8	1345.0	1355.8	1350.4	1351.7
17.5°	1331.6	1319.6	1330.3	1323.6	1323.6
20°	1302.2	1291.5	1302.2	1292.8	1295.5
22.5°	1270.0	1260.6	1268.7	1258.0	1263.3
25°	1232.5	1223.1	1231.2	1221.8	1225.8
27.5°	1193.7	1184.3	1193.7	1185.6	1187.0
30°	1152.1	1144.1	1153.5	1144.1	1146.8
32.5°	1109.3	1099.9	1109.3	1102.6	1103.9
35°	1062.4	1054.3	1063.7	1057.0	1061.0
37.5°	1012.8	1007.4	1020.8	1011.5	1015.5
40°	967.3	957.9	972.6	963.2	968.6
42.5°	915.0	908.3	923.0	916.3	919.0
45°	865.4	858.7	872.1	868.1	870.8
47.5°	813.2	806.5	819.9	817.2	821.2
50°	759.6	754.2	765.0	767.6	771.7
52.5°	704.7	699.3	712.7	716.7	718.1
55°	647.1	643.0	657.8	664.5	667.2
57.5°	588.1	588.1	605.5	612.2	614.9
60°	529.2	530.5	552.0	558.6	560.0
62.5°	468.9	475.6	497.0	506.4	506.4
65°	405.9	416.6	444.8	452.8	452.8
67.5°	340.3	357.7	389.8	396.5	397.9
70°	277.3	300.1	336.3	341.6	340.3
72.5°	215.7	249.2	281.3	288.0	286.7
75°	159.4	199.6	227.7	233.1	233.1
77.5°	109.9	151.4	178.2	180.9	179.5
80°	67.0	111.2	129.9	129.9	127.3
82.5°	36.2	75.0	85.7	83.1	80.4
85°	16.1	44.2	48.2	46.9	44.2
87.5°	5.4	21.4	22.8	21.4	21.4
90°	0.0	12.1	12.1	10.7	10.7
92.5°	0.0	8.0	10.7	9.4	8.0
95°	0.0	6.7	9.4	9.4	8.0
97.5°	0.0	4.0	8.0	8.0	8.0
100°	0.0	4.0	6.7	8.0	6.7
102.5°	0.0	2.7	5.4	6.7	6.7
105°	0.0	2.7	4.0	5.4	5.4
107.5°	0.0	1.3	4.0	4.0	4.0
110°	0.0	1.3	2.7	4.0	4.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	1.3	2.7	2.7	2.7
115°	1.3	1.3	2.7	2.7	2.7
117.5°	1.3	1.3	2.7	2.7	2.7
120°	1.3	1.3	1.3	2.7	2.7
122.5°	1.3	1.3	1.3	2.7	2.7
125°	1.3	1.3	1.3	1.3	1.3
127.5°	1.3	1.3	1.3	1.3	1.3
130°	1.3	1.3	1.3	1.3	1.3
132.5°	1.3	1.3	1.3	1.3	1.3
135°	1.3	1.3	1.3	1.3	1.3
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)