

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: P239226

Luminaire Tested: **HDF-4-LD4-UNV-1-STD-35-IK12-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239226
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-9)
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-35-IK12-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 1-ROW LED BOARDS, CLEAR LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

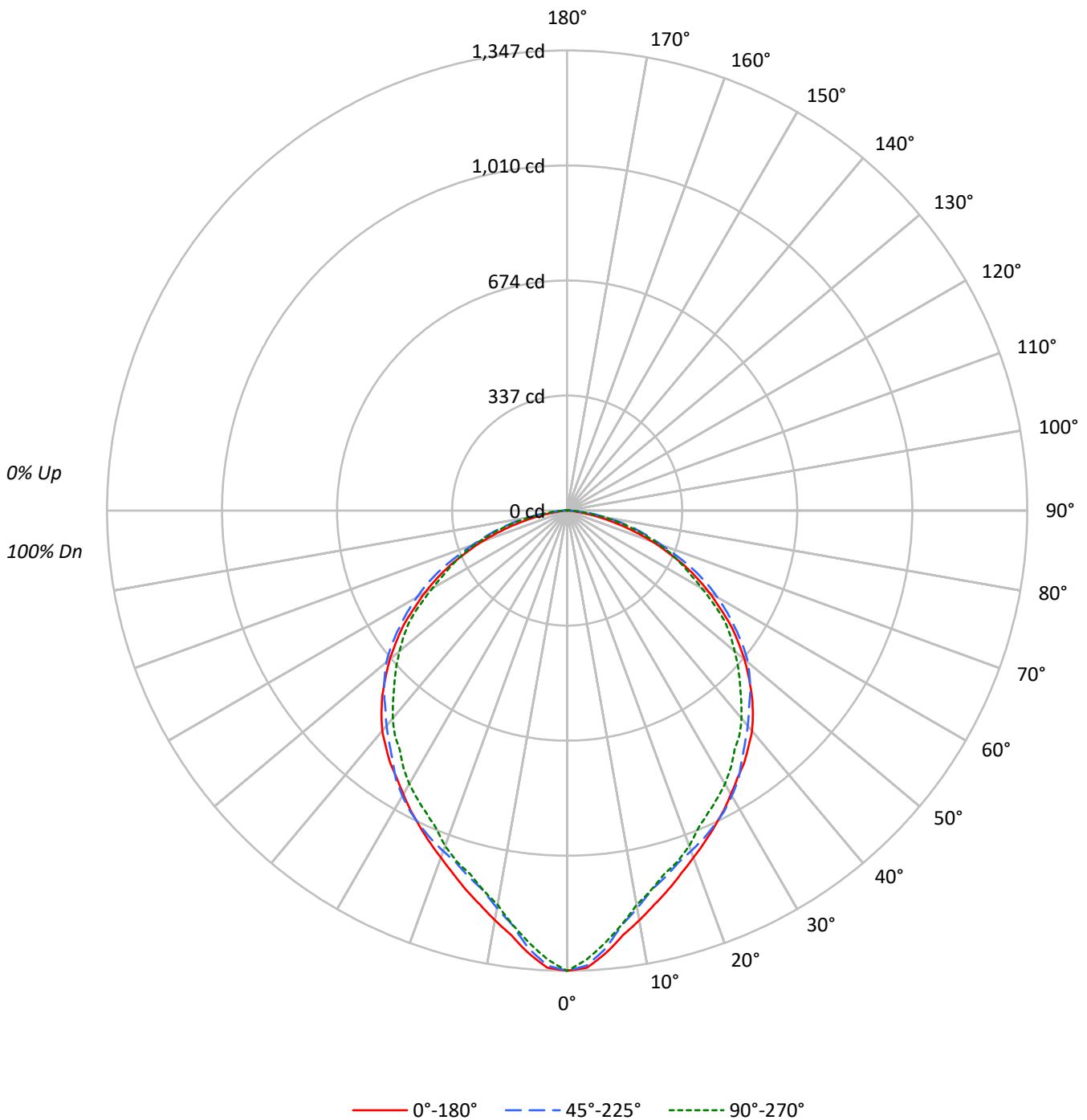
Lumens per Lamp: N/A
Luminaire Lumens: 3186.7 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.02 / 1.25
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

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	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	94	92	94	91	89	90	88	86	84
2	99	91	84	79	96	89	83	78	85	80	76	82	78	74	79	75	72	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	65	61	59
4	83	71	62	56	81	70	61	55	67	60	54	65	59	54	62	57	53	51
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	32	43	37	32	30
9	57	44	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6215	6215	6215
5°	6021	5959	5885
10°	5702	5533	5489
15°	5481	5302	5257
20°	5305	5207	5128
25°	5194	5181	4969
30°	5107	5136	4922
35°	5083	5015	4812
40°	5072	4952	4782
45°	4989	4945	4665
50°	4863	4959	4594
55°	4696	4836	4524
60°	4436	4682	4201
65°	4108	4444	4020
70°	3577	3956	3812
75°	2793	3652	3436
80°	1780	3023	2776
85°	778	2128	1985



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.1	3.7
10°-20°	314.9	9.9
20°-30°	463.8	14.6
30°-40°	553.2	17.4
40°-50°	569.8	17.9
50°-60°	521.8	16.4
60°-70°	382.9	12.0
70°-80°	200.8	6.3
80°-90°	46.1	1.4
90°-100°	7.0	0.2
100°-110°	3.6	0.1
110°-120°	1.9	0.1
120°-130°	1.2	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°	897.9	28.2
0°-40°	1451.0	45.5
0°-60°	2542.6	79.8
0°-90°	3172.4	99.6
90°-120°	12.5	0.4
90°-150°	14.3	0.4
90°-180°	14.0	0.4
0°-180°	3186.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1347	1347	1347	1347	1347	
5°	1300	1287	1287	1274	1271	121
15°	1148	1125	1110	1102	1101	323
25°	1020	1010	1018	991	976	471
35°	903	892	891	872	854	564
45°	765	735	758	715	715	589
55°	584	589	601	585	562	520
65°	376	382	407	387	368	370
75°	157	179	205	201	193	169
85°	15	34	40	40	38	23
90°	0	9	9	8	7	1
95°	0	5	9	8	7	0
105°	0	1	4	5	5	0
115°	1	1	1	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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1347.2	1347.2	1347.2	1347.2	1347.2
2.5°	1339.2	1329.8	1332.5	1323.1	1315.1
5°	1300.3	1286.9	1286.9	1273.6	1270.9
7.5°	1253.5	1229.4	1224.0	1221.3	1222.7
10°	1217.3	1185.2	1181.2	1165.1	1171.8
12.5°	1181.2	1155.7	1138.3	1123.6	1137.0
15°	1147.7	1124.9	1110.2	1102.1	1100.8
17.5°	1112.9	1094.1	1080.7	1080.7	1076.7
20°	1080.7	1063.3	1060.6	1055.3	1044.6
22.5°	1051.3	1033.8	1040.5	1025.8	1004.4
25°	1020.5	1009.7	1017.8	991.0	976.3
27.5°	991.0	988.3	993.7	962.9	950.8
30°	958.8	960.2	964.2	936.1	924.0
32.5°	928.0	929.4	933.4	908.0	891.9
35°	902.6	891.9	890.6	871.8	854.4
37.5°	871.8	853.1	855.7	833.0	828.9
40°	842.3	816.9	822.3	794.1	794.1
42.5°	804.8	772.7	787.4	758.0	754.0
45°	764.7	735.2	758.0	715.1	715.1
47.5°	720.5	696.4	724.5	680.3	679.0
50°	677.6	662.9	691.0	650.8	640.1
52.5°	630.8	629.4	648.2	613.3	602.6
55°	583.9	589.2	601.3	585.2	562.5
57.5°	530.3	545.0	555.8	545.0	508.9
60°	480.8	494.2	507.5	488.8	455.3
62.5°	429.9	439.2	460.7	437.9	408.4
65°	376.3	381.7	407.1	387.0	368.3
67.5°	317.4	325.4	348.2	342.8	328.1
70°	265.2	270.5	293.3	300.0	282.6
72.5°	210.3	223.6	247.7	245.1	238.4
75°	156.7	179.4	204.9	200.9	192.8
77.5°	108.5	133.9	158.0	155.3	151.3
80°	67.0	91.1	113.8	112.5	104.5
82.5°	33.5	58.9	76.3	72.3	65.6
85°	14.7	33.5	40.2	40.2	37.5
87.5°	4.0	16.1	20.1	17.4	16.1
90°	0.0	9.4	9.4	8.0	6.7
92.5°	0.0	8.0	9.4	8.0	6.7
95°	0.0	5.4	9.4	8.0	6.7
97.5°	0.0	4.0	8.0	8.0	6.7
100°	0.0	2.7	6.7	6.7	6.7
102.5°	0.0	2.7	5.4	5.4	5.4
105°	0.0	1.3	4.0	5.4	5.4
107.5°	0.0	1.3	2.7	4.0	4.0
110°	0.0	1.3	2.7	2.7	4.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.3	2.7	2.7	2.7
115°	1.3	1.3	1.3	2.7	2.7
117.5°	1.3	1.3	1.3	2.7	2.7
120°	1.3	1.3	1.3	1.3	2.7
122.5°	1.3	1.3	1.3	1.3	1.3
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)