

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: P239241

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239241
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-LO-30-OPL-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 1-ROW LED BOARDS, OPAL LENS
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

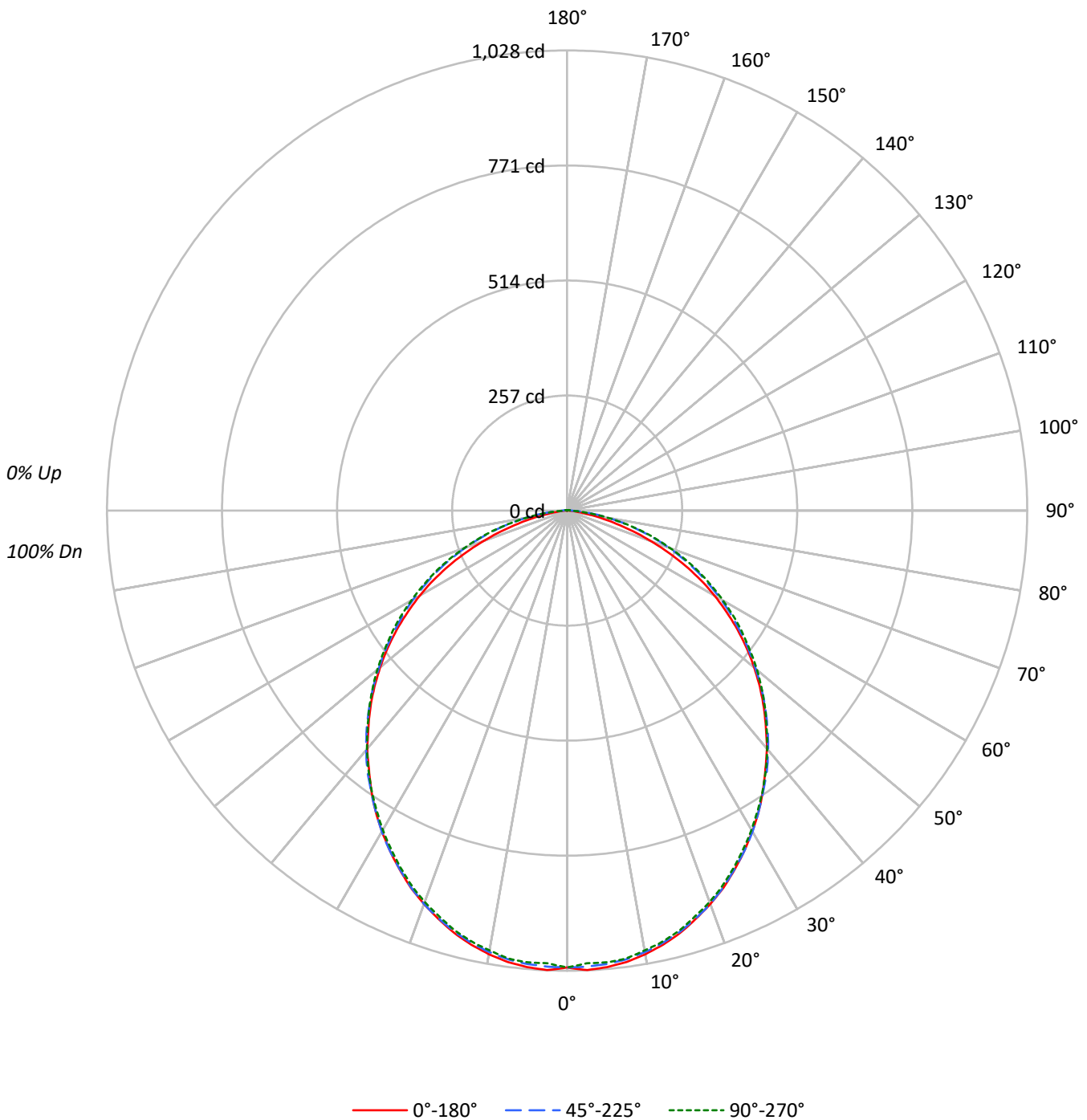
Lumens per Lamp: N/A
Luminaire Lumens: 2676.3 lumens
Efficiency: N/A
Efficacy: 113.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.32
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.6
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°	4709	4709	4709
5°	4740	4709	4691
10°	4714	4692	4673
15°	4664	4650	4636
20°	4591	4591	4567
25°	4505	4501	4481
30°	4407	4413	4387
35°	4297	4302	4291
40°	4183	4206	4189
45°	4055	4086	4080
50°	3915	3943	3977
55°	3737	3799	3853
60°	3506	3657	3711
65°	3182	3486	3550
70°	2687	3257	3296
75°	2041	2916	2984
80°	1278	2479	2428
85°	609	1831	1678



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.4	3.6
10°-20°	273.5	10.2
20°-30°	405.8	15.2
30°-40°	475.9	17.8
40°-50°	479.9	17.9
50°-60°	421.1	15.7
60°-70°	309.1	11.5
70°-80°	163.7	6.1
80°-90°	39.3	1.5
90°-100°	5.7	0.2
100°-110°	2.9	0.1
110°-120°	1.6	0.1
120°-130°	1.0	0.0
130°-140°	0.5	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°	775.7	29.0
0°-40°	1251.7	46.8
0°-60°	2152.6	80.4
0°-90°	2664.7	99.6
90°-120°	10.2	0.4
90°-150°	11.7	0.4
90°-180°	12.0	0.4
0°-180°	2676.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1021	1021	1021	1021	1021	
5°	1024	1012	1017	1013	1013	97
15°	976	966	974	970	971	275
25°	885	878	884	877	880	408
35°	763	757	764	759	762	477
45°	622	617	626	623	625	479
55°	465	462	472	477	479	415
65°	292	299	319	325	325	287
75°	114	143	164	167	167	124
85°	12	32	35	34	32	17
90°	0	9	9	8	8	1
95°	0	5	7	7	6	0
105°	0	2	3	4	4	0
115°	1	1	2	2	2	1
125°	1	1	1	1	1	1
135°	1	1	1	1	1	0
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°	1020.8	1020.8	1020.8	1020.8	1020.8
2.5°	1027.5	1016.0	1019.8	1017.0	1012.1
5°	1023.7	1012.1	1017.0	1013.1	1013.1
7.5°	1017.0	1006.4	1011.2	1007.3	1009.3
10°	1006.4	995.8	1001.6	997.7	997.7
12.5°	992.9	982.3	989.1	984.2	986.2
15°	976.5	966.0	973.7	969.8	970.8
17.5°	956.3	947.7	955.4	950.6	950.6
20°	935.2	927.5	935.2	928.4	930.4
22.5°	912.1	905.3	911.1	903.4	907.3
25°	885.1	878.4	884.2	877.4	880.3
27.5°	857.2	850.5	857.2	851.5	852.4
30°	827.4	821.6	828.4	821.6	823.6
32.5°	796.6	789.9	796.6	791.8	792.8
35°	763.0	757.2	763.9	759.1	762.0
37.5°	727.4	723.5	733.1	726.4	729.3
40°	694.6	687.9	698.5	691.8	695.6
42.5°	657.1	652.3	662.9	658.1	660.0
45°	621.5	616.7	626.3	623.4	625.4
47.5°	584.0	579.2	588.8	586.9	589.8
50°	545.5	541.7	549.4	551.3	554.2
52.5°	506.1	502.2	511.8	514.7	515.7
55°	464.7	461.8	472.4	477.2	479.1
57.5°	422.4	422.4	434.9	439.7	441.6
60°	380.0	381.0	396.4	401.2	402.2
62.5°	336.7	341.5	356.9	363.7	363.7
65°	291.5	299.2	319.4	325.2	325.2
67.5°	244.4	256.9	280.0	284.8	285.7
70°	199.2	215.5	241.5	245.3	244.4
72.5°	154.9	179.0	202.0	206.9	205.9
75°	114.5	143.4	163.6	167.4	167.4
77.5°	78.9	108.7	128.0	129.9	128.9
80°	48.1	79.9	93.3	93.3	91.4
82.5°	26.0	53.9	61.6	59.7	57.7
85°	11.5	31.7	34.6	33.7	31.7
87.5°	3.8	15.4	16.4	15.4	15.4
90°	0.0	8.7	8.7	7.7	7.7
92.5°	0.0	5.8	7.7	6.7	5.8
95°	0.0	4.8	6.7	6.7	5.8
97.5°	0.0	2.9	5.8	5.8	5.8
100°	0.0	2.9	4.8	5.8	4.8
102.5°	0.0	1.9	3.8	4.8	4.8
105°	0.0	1.9	2.9	3.8	3.8
107.5°	0.0	1.0	2.9	2.9	2.9
110°	0.0	1.0	1.9	2.9	2.9



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CANDELA DISTRIBUTION (continued):

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