

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: P239231

Luminaire Tested: **HDF-4-LD4-UNV-1-LO-40-IK12-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239231
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-LO-40-IK12-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 1-ROW LED BOARDS, CLEAR LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

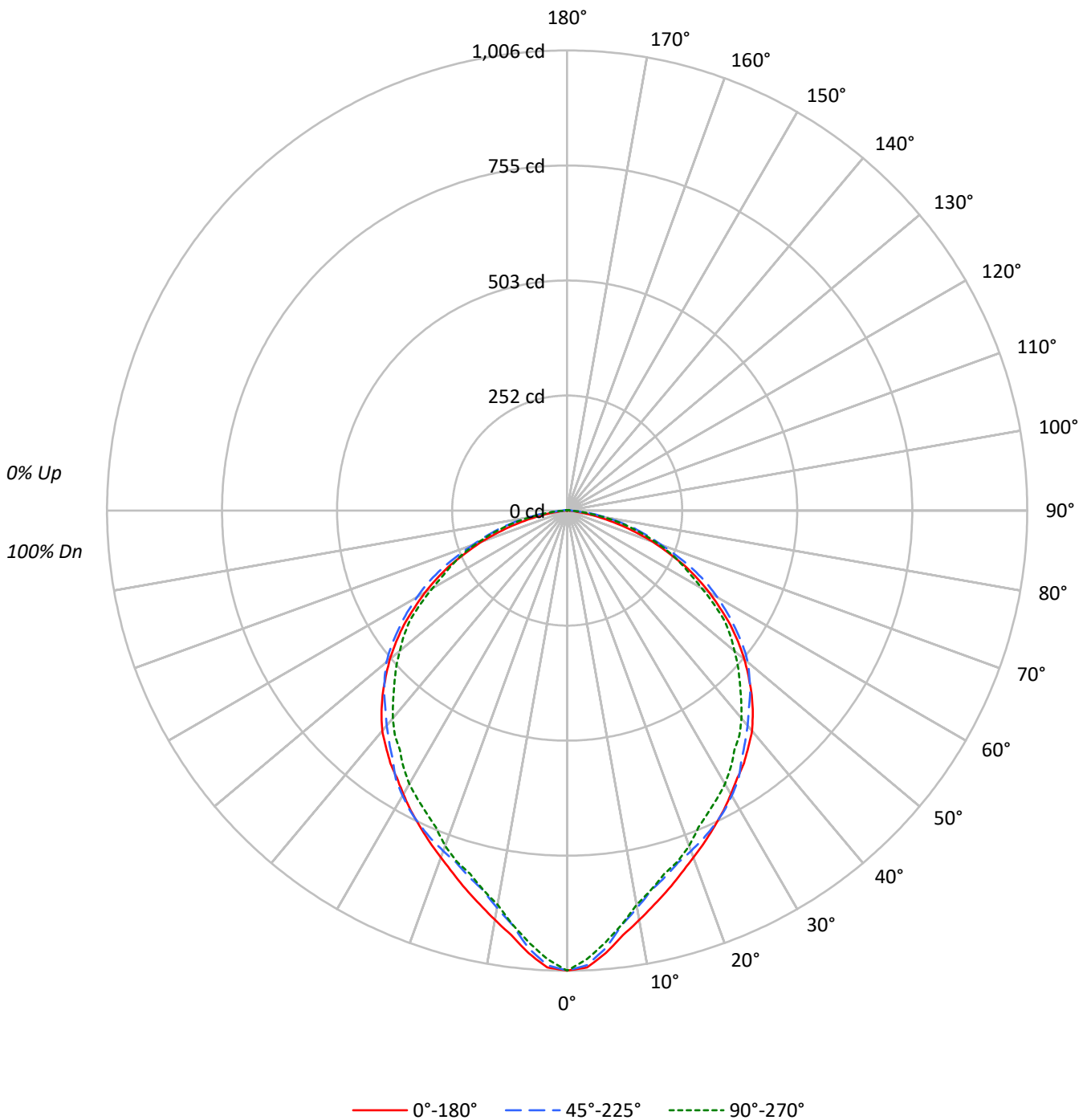
Lumens per Lamp: N/A
Luminaire Lumens: 2379.0 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.02 / 1.25
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P239231

CATALOG NUMBER: HDF-4-LD4-UNV-1-LO-40-IK12-EDC-1

Luminous Intensity Polar Plot





TEST NUMBER: P239231

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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	43	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°	4639	4639	4639
5°	4495	4449	4393
10°	4257	4131	4098
15°	4092	3958	3925
20°	3961	3887	3828
25°	3878	3867	3710
30°	3813	3834	3674
35°	3795	3744	3592
40°	3787	3696	3570
45°	3724	3691	3483
50°	3631	3702	3430
55°	3506	3610	3377
60°	3311	3496	3136
65°	3066	3317	3001
70°	2669	2952	2845
75°	2085	2727	2567
80°	1328	2258	2072
85°	582	1588	1482



TEST NUMBER: P239231

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.9	3.7
10°-20°	235.1	9.9
20°-30°	346.2	14.6
30°-40°	412.9	17.4
40°-50°	425.4	17.9
50°-60°	389.6	16.4
60°-70°	285.8	12.0
70°-80°	150.0	6.3
80°-90°	34.4	1.4
90°-100°	5.3	0.2
100°-110°	2.7	0.1
110°-120°	1.4	0.1
120°-130°	0.9	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°	670.3	28.2
0°-40°	1083.2	45.5
0°-60°	1898.2	79.8
0°-90°	2368.3	99.5
90°-120°	9.3	0.4
90°-150°	10.7	0.5
90°-180°	11.0	0.5
0°-180°	2379.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1006	1006	1006	1006	1006	
5°	971	961	961	951	949	91
15°	857	840	829	823	822	241
25°	762	754	760	740	729	351
35°	674	666	665	651	638	421
45°	571	549	566	534	534	440
55°	436	440	449	437	420	388
65°	281	285	304	289	275	276
75°	117	134	153	150	144	126
85°	11	25	30	30	28	17
90°	0	7	7	6	5	0
95°	0	4	7	6	5	0
105°	0	1	3	4	4	0
115°	1	1	1	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



TEST NUMBER: P239231

CATALOG NUMBER: HDF-4-LD4-UNV-1-LO-40-IK12-EDC-1

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1005.7	1005.7	1005.7	1005.7	1005.7
2.5°	999.7	992.7	994.7	987.7	981.7
5°	970.7	960.7	960.7	950.7	948.7
7.5°	935.8	917.8	913.8	911.8	912.8
10°	908.8	884.8	881.8	869.8	874.8
12.5°	881.8	862.8	849.8	838.8	848.8
15°	856.8	839.8	828.8	822.8	821.8
17.5°	830.8	816.8	806.8	806.8	803.8
20°	806.8	793.8	791.8	787.8	779.8
22.5°	784.8	771.8	776.8	765.8	749.8
25°	761.8	753.8	759.8	739.8	728.8
27.5°	739.8	737.8	741.8	718.8	709.8
30°	715.8	716.8	719.8	698.8	689.8
32.5°	692.8	693.8	696.8	677.8	665.8
35°	673.8	665.8	664.8	650.8	637.8
37.5°	650.8	636.8	638.8	621.8	618.8
40°	628.8	609.8	613.8	592.8	592.8
42.5°	600.8	576.8	587.8	565.8	562.9
45°	570.8	548.9	565.8	533.9	533.9
47.5°	537.9	519.9	540.9	507.9	506.9
50°	505.9	494.9	515.9	485.9	477.9
52.5°	470.9	469.9	483.9	457.9	449.9
55°	435.9	439.9	448.9	436.9	419.9
57.5°	395.9	406.9	414.9	406.9	379.9
60°	358.9	368.9	378.9	364.9	339.9
62.5°	320.9	327.9	343.9	326.9	304.9
65°	280.9	284.9	303.9	288.9	274.9
67.5°	236.9	242.9	259.9	255.9	244.9
70°	197.9	201.9	218.9	223.9	210.9
72.5°	157.0	167.0	185.0	183.0	178.0
75°	117.0	134.0	153.0	150.0	144.0
77.5°	81.0	100.0	118.0	116.0	113.0
80°	50.0	68.0	85.0	84.0	78.0
82.5°	25.0	44.0	57.0	54.0	49.0
85°	11.0	25.0	30.0	30.0	28.0
87.5°	3.0	12.0	15.0	13.0	12.0
90°	0.0	7.0	7.0	6.0	5.0
92.5°	0.0	6.0	7.0	6.0	5.0
95°	0.0	4.0	7.0	6.0	5.0
97.5°	0.0	3.0	6.0	6.0	5.0
100°	0.0	2.0	5.0	5.0	5.0
102.5°	0.0	2.0	4.0	4.0	4.0
105°	0.0	1.0	3.0	4.0	4.0
107.5°	0.0	1.0	2.0	3.0	3.0
110°	0.0	1.0	2.0	2.0	3.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.0	2.0	2.0	2.0
115°	1.0	1.0	1.0	2.0	2.0
117.5°	1.0	1.0	1.0	2.0	2.0
120°	1.0	1.0	1.0	1.0	2.0
122.5°	1.0	1.0	1.0	1.0	1.0
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)