

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: P239221

Luminaire Tested: **HDF-4-LD4-UNV-1-HI-30-IK12-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239221
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-HI-30-IK12-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 1-ROW LED BOARDS, CLEAR LENS
Light Source: (84) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

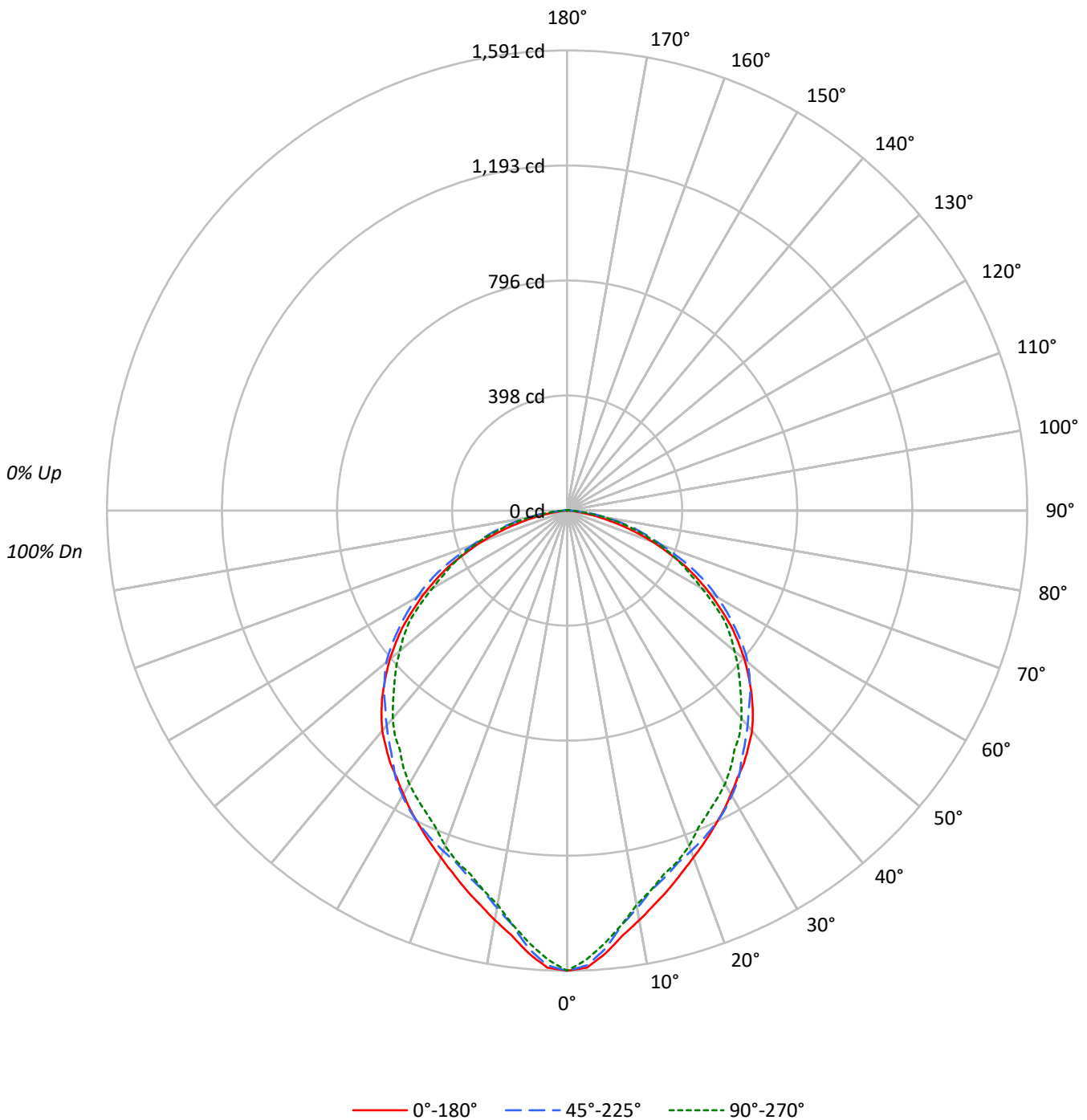
Lumens per Lamp: N/A
Luminaire Lumens: 3763.2 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.02 / 1.25
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	7339	7339	7339
5°	7111	7037	6950
10°	6734	6534	6482
15°	6473	6261	6208
20°	6265	6149	6055
25°	6133	6118	5868
30°	6031	6065	5813
35°	6003	5922	5682
40°	5990	5847	5647
45°	5891	5840	5509
50°	5743	5856	5425
55°	5545	5711	5342
60°	5238	5530	4961
65°	4851	5247	4747
70°	4223	4671	4501
75°	3297	4313	4058
80°	2101	3570	3278
85°	921	2509	2345



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.7	3.7
10°-20°	371.9	9.9
20°-30°	547.7	14.6
30°-40°	653.2	17.4
40°-50°	672.9	17.9
50°-60°	616.2	16.4
60°-70°	452.1	12.0
70°-80°	237.2	6.3
80°-90°	54.4	1.4
90°-100°	8.3	0.2
100°-110°	4.2	0.1
110°-120°	2.2	0.1
120°-130°	1.5	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°	1060.3	28.2
0°-40°	1713.5	45.5
0°-60°	3002.6	79.8
0°-90°	3746.2	99.5
90°-120°	14.7	0.4
90°-150°	17.0	0.5
90°-180°	17.0	0.5
0°-180°	3763.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1591	1591	1591	1591	1591	
5°	1536	1520	1520	1504	1501	143
15°	1355	1328	1311	1302	1300	382
25°	1205	1192	1202	1170	1153	556
35°	1066	1053	1052	1030	1009	667
45°	903	868	895	844	844	695
55°	690	696	710	691	664	614
65°	444	451	481	457	435	437
75°	185	212	242	237	228	199
85°	17	40	47	47	44	27
90°	0	11	11	10	8	1
95°	0	6	11	10	8	0
105°	0	2	5	6	6	0
115°	2	2	2	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°	1590.9	1590.9	1590.9	1590.9	1590.9
2.5°	1581.4	1570.3	1573.5	1562.4	1552.9
5°	1535.6	1519.7	1519.7	1503.9	1500.8
7.5°	1480.2	1451.7	1445.4	1442.2	1443.8
10°	1437.5	1399.5	1394.8	1375.8	1383.7
12.5°	1394.8	1364.8	1344.2	1326.8	1342.6
15°	1355.3	1328.4	1311.0	1301.5	1299.9
17.5°	1314.2	1292.0	1276.2	1276.2	1271.5
20°	1276.2	1255.6	1252.5	1246.2	1233.5
22.5°	1241.4	1220.9	1228.8	1211.4	1186.1
25°	1205.0	1192.4	1201.9	1170.2	1152.8
27.5°	1170.2	1167.1	1173.4	1137.0	1122.8
30°	1132.3	1133.9	1138.6	1105.4	1091.2
32.5°	1095.9	1097.5	1102.2	1072.2	1053.2
35°	1065.9	1053.2	1051.6	1029.5	1008.9
37.5°	1029.5	1007.4	1010.5	983.6	978.9
40°	994.7	964.7	971.0	937.8	937.8
42.5°	950.4	912.5	929.9	895.1	890.3
45°	903.0	868.2	895.1	844.5	844.5
47.5°	850.8	822.3	855.5	803.4	801.8
50°	800.2	782.8	816.0	768.6	755.9
52.5°	744.8	743.3	765.4	724.3	711.6
55°	689.5	695.8	710.1	691.1	664.2
57.5°	626.2	643.6	656.3	643.6	600.9
60°	567.7	583.5	599.4	577.2	537.7
62.5°	507.6	518.7	544.0	517.1	482.3
65°	444.4	450.7	480.7	457.0	434.9
67.5°	374.8	384.3	411.2	404.8	387.4
70°	313.1	319.4	346.3	354.2	333.7
72.5°	248.3	264.1	292.6	289.4	281.5
75°	185.0	211.9	242.0	237.2	227.7
77.5°	128.1	158.1	186.6	183.4	178.7
80°	79.1	107.5	134.4	132.8	123.4
82.5°	39.5	69.6	90.1	85.4	77.5
85°	17.4	39.5	47.4	47.4	44.3
87.5°	4.7	19.0	23.7	20.6	19.0
90°	0.0	11.1	11.1	9.5	7.9
92.5°	0.0	9.5	11.1	9.5	7.9
95°	0.0	6.3	11.1	9.5	7.9
97.5°	0.0	4.7	9.5	9.5	7.9
100°	0.0	3.2	7.9	7.9	7.9
102.5°	0.0	3.2	6.3	6.3	6.3
105°	0.0	1.6	4.7	6.3	6.3
107.5°	0.0	1.6	3.2	4.7	4.7
110°	0.0	1.6	3.2	3.2	4.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.6	3.2	3.2	3.2
115°	1.6	1.6	1.6	3.2	3.2
117.5°	1.6	1.6	1.6	3.2	3.2
120°	1.6	1.6	1.6	1.6	3.2
122.5°	1.6	1.6	1.6	1.6	1.6
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)