

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: P239188

Luminaire Tested: **HDF-4-LD4-UNV-2-HI-50-IK12-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239188
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-4)
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-2-HI-50-IK12-EDC-1
Description: FAILSAFE HDF LED FIXTURE
4FT, 2-ROW LED BOARDS, CLEAR LENS
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

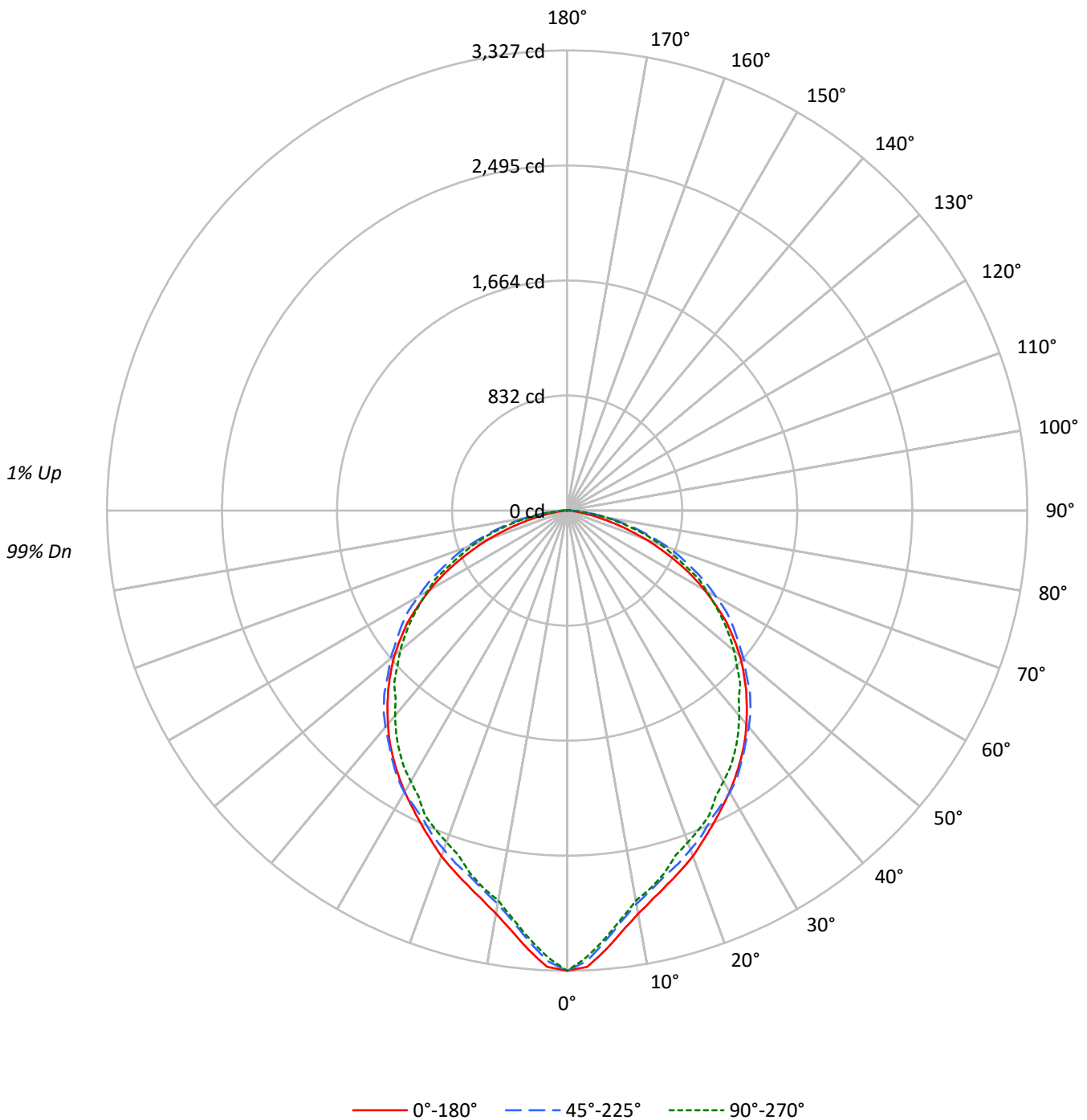
Lumens per Lamp: N/A
Luminaire Lumens: 7842.8 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.02 / 1.25
Luminous Opening: Rectangular (W 0.58' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 88.7
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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	99				
1	109	104	100	96	106	102	98	95	97	94	91	93	91	89	90	88	86	84				
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70				
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59				
4	83	71	62	55	80	69	61	55	67	60	54	64	58	53	62	57	53	50				
5	76	63	54	48	74	62	54	47	60	53	47	58	51	46	56	50	46	44				
6	70	57	48	42	68	56	48	42	54	47	41	52	46	41	51	45	40	38				
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34				
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30				
9	57	43	35	30	55	43	35	30	42	34	29	40	34	29	39	33	29	27				
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	25				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15348	15348	15348
5°	14767	14484	14396
10°	13860	13525	13413
15°	13366	13049	12959
20°	13053	12802	12526
25°	12718	12528	12372
30°	12511	12539	12039
35°	12334	12402	11921
40°	12143	12307	11650
45°	11932	12187	11542
50°	11694	11951	11303
55°	11310	11789	11049
60°	10583	11448	10757
65°	9545	10995	10214
70°	8093	10506	9702
75°	6015	9388	8659
80°	3759	7789	7425
85°	1715	5865	5415



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.0	3.7
10°-20°	772.3	9.8
20°-30°	1135.3	14.5
30°-40°	1356.6	17.3
40°-50°	1401.5	17.9
50°-60°	1269.3	16.2
60°-70°	948.4	12.1
70°-80°	506.5	6.5
80°-90°	121.8	1.6
90°-100°	19.7	0.3
100°-110°	9.9	0.1
110°-120°	5.0	0.1
120°-130°	3.5	0.0
130°-140°	1.8	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°	2198.6	28.0
0°-40°	3555.2	45.3
0°-60°	6226.1	79.4
0°-90°	7802.8	99.5
90°-120°	34.7	0.4
90°-150°	40.0	0.5
90°-180°	40.0	0.5
0°-180°	7842.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3327	3327	3327	3327	3327	
5°	3189	3124	3128	3107	3109	297
15°	2799	2746	2732	2710	2714	790
25°	2499	2480	2461	2441	2431	1153
35°	2190	2182	2202	2149	2117	1370
45°	1829	1829	1868	1774	1769	1410
55°	1406	1422	1466	1413	1374	1248
65°	874	938	1007	985	936	865
75°	338	452	527	522	486	370
85°	32	94	111	107	102	50
90°	0	27	29	26	24	1
95°	0	15	24	22	20	0
105°	2	5	10	14	14	2
115°	2	3	5	7	7	2
125°	3	3	3	3	5	3
135°	3	3	3	3	3	2
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°	3327.1	3327.1	3327.1	3327.1	3327.1
2.5°	3301.5	3253.8	3258.9	3248.7	3231.7
5°	3189.0	3124.3	3127.7	3107.2	3108.9
7.5°	3064.6	2998.1	2996.4	2964.1	2979.4
10°	2958.9	2907.8	2887.4	2858.4	2863.5
12.5°	2873.7	2815.8	2807.2	2771.5	2795.3
15°	2798.7	2745.9	2732.2	2710.1	2713.5
17.5°	2728.8	2686.2	2676.0	2647.0	2612.9
20°	2659.0	2612.9	2607.8	2556.7	2551.6
22.5°	2577.1	2555.0	2543.1	2509.0	2493.6
25°	2498.7	2480.0	2461.2	2440.8	2430.6
27.5°	2422.0	2401.6	2405.0	2376.0	2328.3
30°	2348.7	2330.0	2353.9	2289.1	2260.1
32.5°	2270.3	2258.4	2285.7	2226.0	2197.0
35°	2190.2	2181.7	2202.2	2149.3	2116.9
37.5°	2108.4	2091.4	2118.6	2052.2	2031.7
40°	2016.4	2007.9	2043.6	1958.4	1934.6
42.5°	1922.6	1912.4	1963.5	1861.3	1835.7
45°	1828.9	1828.9	1868.1	1774.3	1769.2
47.5°	1730.0	1733.4	1757.3	1713.0	1663.6
50°	1629.5	1632.9	1665.3	1609.0	1574.9
52.5°	1517.0	1527.2	1559.6	1517.0	1476.1
55°	1406.2	1421.5	1465.8	1413.0	1373.8
57.5°	1273.2	1310.7	1367.0	1312.4	1264.7
60°	1147.1	1194.8	1240.8	1203.3	1165.9
62.5°	1014.2	1070.4	1131.8	1094.3	1075.5
65°	874.4	937.5	1007.3	985.2	935.7
67.5°	736.3	799.4	893.1	860.8	823.3
70°	600.0	681.8	778.9	741.4	719.3
72.5°	465.3	565.9	642.6	634.1	608.5
75°	337.5	451.7	526.7	521.6	485.8
77.5°	233.5	346.0	409.1	390.3	371.6
80°	141.5	248.9	293.2	281.2	279.5
82.5°	75.0	160.2	192.6	187.5	180.7
85°	32.4	93.7	110.8	107.4	102.3
87.5°	10.2	47.7	54.5	49.4	46.0
90°	0.0	27.3	29.0	25.6	23.9
92.5°	0.0	20.5	25.6	22.2	20.5
95°	0.0	15.3	23.9	22.2	20.5
97.5°	1.7	11.9	22.2	20.5	20.5
100°	0.0	8.5	17.0	18.7	17.0
102.5°	1.7	6.8	13.6	15.3	15.3
105°	1.7	5.1	10.2	13.6	13.6
107.5°	1.7	3.4	8.5	11.9	11.9
110°	1.7	3.4	6.8	8.5	10.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	3.4	6.8	6.8	8.5
115°	1.7	3.4	5.1	6.8	6.8
117.5°	1.7	3.4	5.1	5.1	6.8
120°	3.4	3.4	5.1	5.1	5.1
122.5°	3.4	3.4	5.1	5.1	5.1
125°	3.4	3.4	3.4	3.4	5.1
127.5°	3.4	3.4	3.4	3.4	5.1
130°	3.4	3.4	3.4	3.4	5.1
132.5°	3.4	3.4	3.4	3.4	5.1
135°	3.4	3.4	3.4	3.4	3.4
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)