

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: 9078.0

Luminaire Tested: **HDF-8-2110**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 9078.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: HDF-8-2110
Description: FAIL-SAFE 8'INDUSTRIAL STRIP LUMINAIRE
ENCLOSED IN 6.0"DIAMETER CLEAR ACRYLIC TUBE
Light Source: 2/110W T12 HO 9200 LUMENS
WATTS=173
F96T12/SP35/HO
Ballast/Driver: ADVANCE #REL-2S110-RH-TP

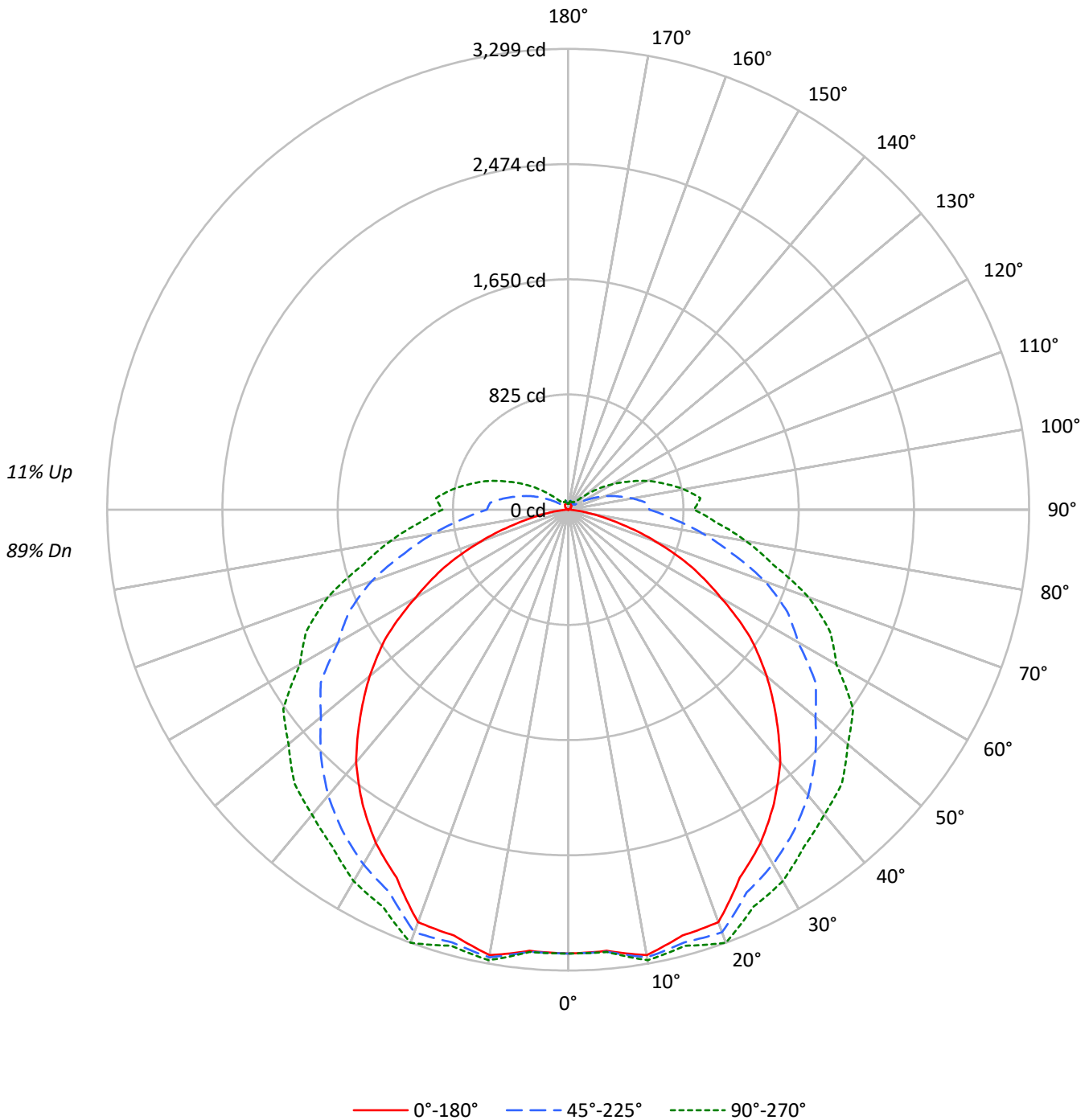
Summary

Lumens per Lamp: 9200 (2 lamps)
Luminaire Lumens: 13026.1 lumens
Efficiency: 70.8%
Efficacy: 75.3 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.42 / 1.5
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 8' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 173
Input Voltage (V): NR
Input Current (A_{in}): 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	83	83	83	83	80	80	80	80	75	75	75	70	70	70	65	65	65	63
1	74	70	66	63	71	67	64	61	63	60	58	59	57	55	55	53	52	50
2	66	60	54	50	64	58	53	49	54	50	46	51	47	44	47	45	42	40
3	60	52	46	41	58	50	45	40	47	42	38	44	40	37	41	38	35	33
4	55	46	39	34	53	44	38	33	42	36	32	39	35	31	37	33	30	28
5	50	41	34	29	48	39	33	28	37	32	27	35	30	26	33	29	26	24
6	46	36	30	25	44	35	29	25	33	28	24	31	27	23	30	25	22	21
7	43	33	26	22	41	32	26	22	30	25	21	28	24	20	27	23	20	18
8	40	30	24	19	38	29	23	19	27	22	19	26	21	18	25	21	17	16
9	37	27	21	17	36	27	21	17	25	20	17	24	19	16	23	19	16	14
10	35	25	19	16	33	25	19	15	23	18	15	22	18	15	21	17	14	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8549	8549	8549
5°	8545	8372	8311
10°	8811	8470	8392
15°	8737	8306	8180
20°	8921	8359	8310
25°	8535	7931	7925
30°	8443	7830	7840
35°	8296	7715	7656
40°	8133	7585	7613
45°	7827	7424	7664
50°	7550	7232	7551
55°	7213	7224	7598
60°	6532	6866	7223
65°	5929	6860	7293
70°	4922	6631	7082
75°	3613	6154	6563
80°	2243	5813	6392
85°	1071	5483	6213



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	305.9	2.3	1.7	0°	3177	3177	3177	3177	3177	
10°-20°	912.1	7.0	5.0	5°	3170	3171	3176	3178	3178	305
20°-30°	1407.6	10.8	7.6	15°	3156	3168	3207	3233	3232	898
30°-40°	1742.3	13.4	9.5	25°	2906	2948	3023	3105	3137	1351
40°-50°	1904.6	14.6	10.4	35°	2567	2629	2813	2914	2944	1606
50°-60°	1863.8	14.3	10.1	45°	2105	2251	2502	2690	2771	1627
60°-70°	1605.2	12.3	8.7	55°	1589	1829	2161	2407	2489	1408
70°-80°	1176.3	9.0	6.4	65°	978	1297	1730	1982	2069	961
80°-90°	740.5	5.7	4.0	75°	378	789	1216	1443	1517	418
90°-100°	538.3	4.1	2.9	85°	44	355	751	993	1066	66
100°-110°	378.3	2.9	2.1	90°	0	218	582	821	900	6
110°-120°	218.8	1.7	1.2	95°	0	165	561	844	950	0
120°-130°	103.2	0.8	0.6	105°	3	74	368	618	717	3
130°-140°	47.4	0.4	0.3	115°	15	35	195	392	474	13
140°-150°	35.5	0.3	0.2	125°	21	37	71	195	257	19
150°-160°	25.7	0.2	0.1	135°	29	40	54	72	93	23
160°-170°	16.3	0.1	0.1	145°	41	54	58	66	69	25
170°-180°	4.5	0.0	0.0	155°	44	52	60	63	62	20
0°-30°	2625.6	20.2	14.3	165°	54	55	66	72	71	14
0°-40°	4367.9	33.5	23.7	175°	46	46	46	46	44	4
0°-60°	8136.2	62.5	44.2	180°	43	43	43	43	43	
0°-90°	11658.1	89.5	63.4							
90°-120°	1135.4	8.7	6.2							
90°-150°	1321.5	10.1	7.2							
90°-180°	1368.0	10.5	7.4							
0°-180°	13026.1	100.0	70.8							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3177	3177	3177	3177	3177
5°	3170	3171	3176	3178	3178
10°	3238	3237	3254	3272	3275
15°	3156	3168	3207	3233	3232
20°	3142	3167	3219	3275	3299
25°	2906	2948	3023	3105	3137
30°	2754	2810	2931	3037	3071
35°	2567	2629	2813	2914	2944
40°	2361	2461	2671	2796	2851
45°	2105	2251	2502	2690	2771
50°	1854	2037	2309	2536	2612
55°	1589	1829	2161	2407	2489
60°	1263	1525	1900	2142	2216
65°	978	1297	1730	1982	2069
70°	666	1046	1497	1747	1830
75°	378	789	1216	1443	1517
80°	164	565	976	1216	1292
85°	44	355	751	993	1066
90°	0	218	582	821	900
95°	0	165	561	844	950
100°	0	113	465	734	840
105°	3	74	368	618	717
110°	7	44	283	510	603
115°	15	35	195	392	474
120°	17	35	125	291	364
125°	21	37	71	195	257
130°	26	38	57	116	161
135°	29	40	54	72	93
140°	34	46	55	65	69
145°	41	54	58	66	69
150°	41	51	57	62	62
155°	44	52	60	63	62
160°	43	44	57	58	57
165°	54	55	66	72	71
170°	46	46	48	55	54
175°	46	46	46	46	44
180°	43	43	43	43	43

(END OF REPORT)