

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: 1826

Luminaire Tested: **HUV-70S**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: 1826  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: HUV-70S  
Description: FAIL-SAFE  
Light Source: LU-70 5800 LUMENS  
Ballast/Driver: -

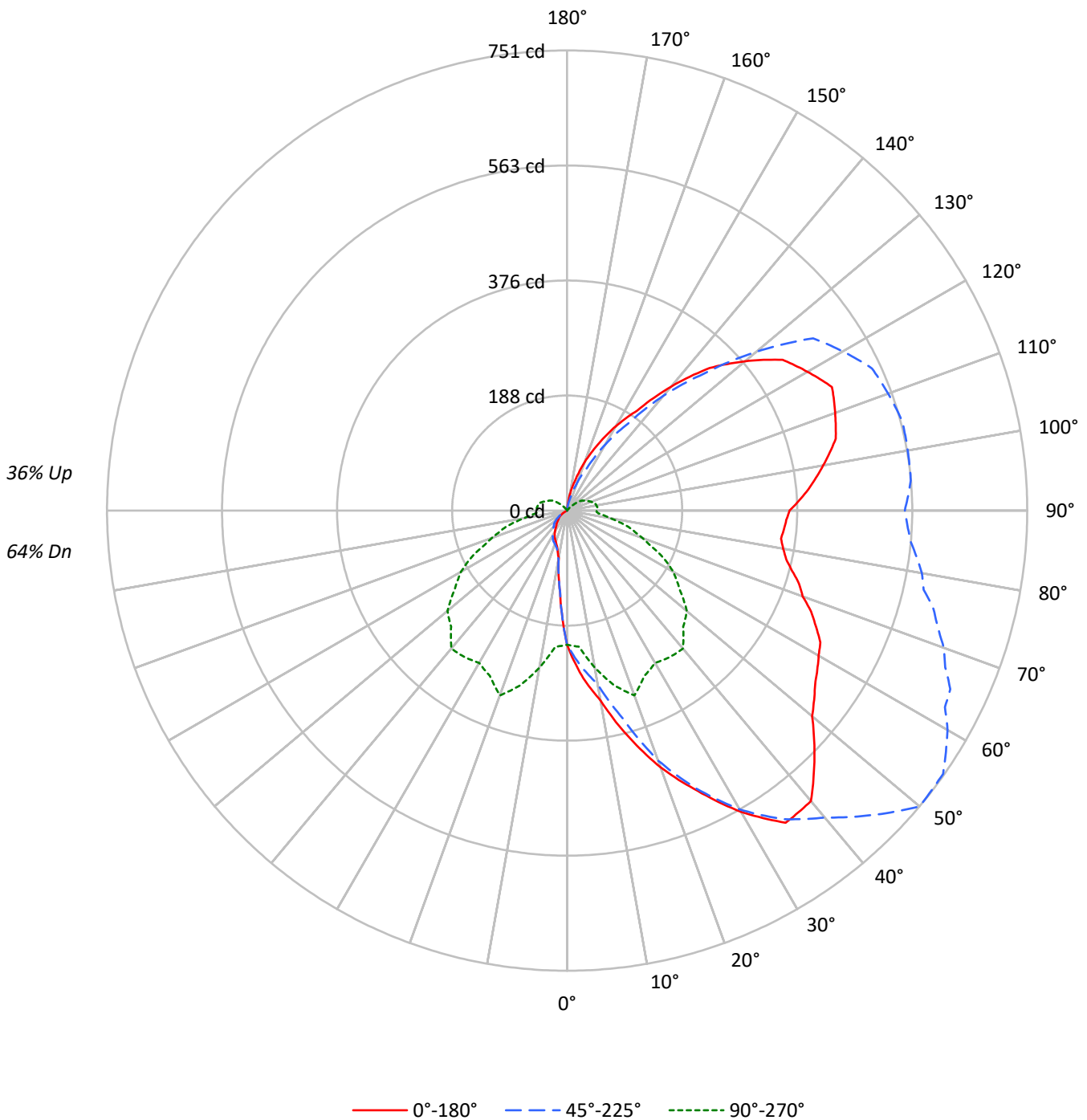
**Summary**

Lumens per Lamp: 5800 (1 lamp)  
Luminaire Lumens: 2505.9 lumens  
Efficiency: 43.2%  
Efficacy: 35.8 lumens/watt  
Spacing Criteria (0/90/45): 1.95 / 1.86 / 2.28  
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.25')  
CIE Type: Semi-Direct

Input Watts (W): 70  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	48	48	48	48	45	45	45	45	39	39	39	34	34	34	30	30	30	28
1	42	39	37	34	39	36	34	32	32	30	29	27	26	25	23	22	21	19
2	37	33	30	27	35	31	28	25	27	24	22	23	21	19	19	18	17	15
3	33	28	24	21	31	26	23	20	23	20	18	20	17	15	17	15	13	12
4	30	25	21	17	28	23	19	16	20	17	15	17	15	13	14	13	11	9
5	28	22	18	15	26	20	17	14	18	15	12	15	13	11	13	11	9	8
6	25	19	15	12	23	18	14	12	16	13	10	13	11	9	11	9	8	6
7	23	17	13	11	22	16	13	10	14	11	9	12	10	8	10	8	7	6
8	22	16	12	9	20	15	11	9	13	10	8	11	9	7	9	7	6	5
9	20	14	10	8	19	13	10	8	12	9	7	10	8	6	9	7	5	4
10	19	13	9	7	17	12	9	7	11	8	6	9	7	5	8	6	5	4

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	2357	2357	2357
5°	2855	2358	1406
10°	3298	2722	827
15°	3969	3081	648
20°	4683	3370	567
25°	5372	3170	511
30°	6169	3117	434
35°	6956	3265	347
40°	7190	3415	302
45°	6954	3264	244
50°	6735	3290	219
55°	6831	3098	152
60°	7121	3005	90
65°	7428	2752	0
70°	7631	2444	0
75°	8176	2238	0
80°	9178	1820	0
85°	11366	1633	0



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	19.3	0.8	0.3	0°	219	219	219	219	219	
10°-20°	63.3	2.5	1.1	5°	270	254	223	133	133	27
20°-30°	123.9	4.9	2.1	15°	380	351	295	64	62	109
30°-40°	189.5	7.6	3.3	25°	505	501	298	54	48	236
40°-50°	242.0	9.7	4.2	35°	622	615	292	41	31	382
50°-60°	260.7	10.4	4.5	45°	571	703	268	30	20	441
60°-70°	256.0	10.2	4.4	55°	494	749	224	16	11	445
70°-80°	232.8	9.3	4.0	65°	448	690	166	1	0	443
80°-90°	210.6	8.4	3.6	75°	380	619	104	0	0	404
90°-100°	210.5	8.4	3.6	85°	355	562	51	0	0	290
100°-110°	206.3	8.2	3.6	90°	363	551	48	0	0	200
110°-120°	185.0	7.4	3.2	95°	395	563	50	0	0	328
120°-130°	143.5	5.7	2.5	105°	454	566	47	0	0	471
130°-140°	91.1	3.6	1.6	115°	477	549	37	0	0	456
140°-150°	46.0	1.8	0.8	125°	429	490	28	0	0	373
150°-160°	17.4	0.7	0.3	135°	329	316	11	0	0	249
160°-170°	4.0	0.2	0.1	145°	199	173	1	0	0	133
170°-180°	0.3	0.0	0.0	155°	119	77	0	0	0	56
0°-30°	206.4	8.2	3.6	165°	51	24	0	0	0	16
0°-40°	395.9	15.8	6.8	175°	6	0	0	0	0	1
0°-60°	898.7	35.9	15.5	180°	0	0	0	0	0	
0°-90°	1598.0	63.8	27.6							
90°-120°	601.7	24.0	10.4							
90°-150°	882.2	35.2	15.2							
90°-180°	904.0	36.1	15.6							
0°-180°	2505.9	100.0	43.2							



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	219	219	219	219	219	219	219	219	219	219	219
5°	270	258	261	255	258	254	257	250	246	231	223
10°	315	295	299	290	298	288	299	295	292	274	260
15°	380	355	358	355	359	351	345	341	342	319	295
20°	446	427	437	434	443	434	422	392	390	362	321
25°	505	485	497	511	521	501	487	444	380	336	298
30°	568	548	562	571	586	563	524	463	372	335	287
35°	622	596	622	634	646	615	563	491	387	341	292
40°	619	612	641	681	700	654	610	536	406	349	294
45°	571	568	612	673	727	703	657	569	409	326	268
50°	522	527	561	623	727	751	678	572	399	312	255
55°	494	504	532	580	688	749	661	569	393	275	224
60°	474	481	507	544	632	717	660	569	385	250	200
62.5°	466	470	488	535	606	695	654	565	376	237	184
65°	448	453	473	522	588	690	650	556	360	219	166
67.5°	431	433	456	511	575	668	630	539	343	200	145
70°	409	412	443	500	558	654	612	527	314	182	131
72.5°	397	395	427	491	541	634	595	510	284	165	116
75°	380	378	416	485	521	619	571	483	255	146	104
77.5°	366	365	412	474	505	596	555	457	228	126	87
80°	358	356	406	477	495	588	535	426	203	108	71
82.5°	352	346	400	466	487	575	517	407	183	97	61
85°	355	343	402	460	480	562	504	390	166	85	51
87.5°	358	349	404	458	477	556	498	378	155	78	48
90°	363	356	409	461	480	551	495	370	150	79	48
95°	395	380	429	480	494	563	504	365	146	78	50
105°	454	444	467	502	515	566	497	311	143	75	47
115°	477	470	480	498	525	549	453	250	126	61	37
125°	429	420	431	460	497	490	341	186	94	45	28
135°	329	332	343	366	352	316	210	116	57	17	11
145°	199	202	213	231	217	173	118	74	33	3	1
155°	119	118	121	118	94	77	58	34	9	0	0
165°	51	45	41	37	28	24	14	1	0	0	0
175°	6	1	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	219	219	219	219	219	219	219	219	219	219
5°	206	186	165	149	133	123	121	115	116	133
10°	207	155	114	89	81	74	71	68	68	79
15°	211	128	91	77	64	60	57	55	53	62
20°	194	109	81	68	58	51	50	47	45	54
25°	167	98	75	62	54	45	41	40	40	48
30°	150	91	72	58	47	37	35	34	31	40
35°	150	88	70	54	41	33	30	28	26	31
40°	141	82	61	48	34	27	24	24	21	26
45°	126	74	55	40	30	21	17	16	16	20
50°	114	68	47	35	23	16	11	11	9	17
55°	97	58	40	26	16	7	9	9	7	11
60°	81	48	31	18	9	1	4	4	4	6
62.5°	72	43	27	16	3	0	1	1	1	0
65°	64	41	23	13	1	0	0	0	0	0
67.5°	57	35	21	7	0	0	0	0	0	0
70°	50	30	17	1	0	0	0	0	0	0
72.5°	44	26	11	1	0	0	0	0	0	0
75°	40	23	10	0	0	0	0	0	0	0
77.5°	37	21	10	0	0	0	0	0	0	0
80°	30	18	10	0	0	0	0	0	0	0
82.5°	28	16	9	0	0	0	0	0	0	0
85°	27	16	6	0	0	0	0	0	0	0
87.5°	26	16	4	0	0	0	0	0	0	0
90°	26	16	3	0	0	0	0	0	0	0
95°	26	14	4	0	0	0	0	0	0	0
105°	21	11	3	0	0	0	0	0	0	0
115°	17	9	0	0	0	0	0	0	0	0
125°	11	4	0	0	0	0	0	0	0	0
135°	4	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0

(END OF REPORT)