

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: 4118.0

Luminaire Tested: **HUS-50S**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: 4118.0  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: HUS-50S  
Description: FAIL-SAFE CEIL MT  
Light Source: S68 (LU50) 4000 LUMENS  
Ballast/Driver: -

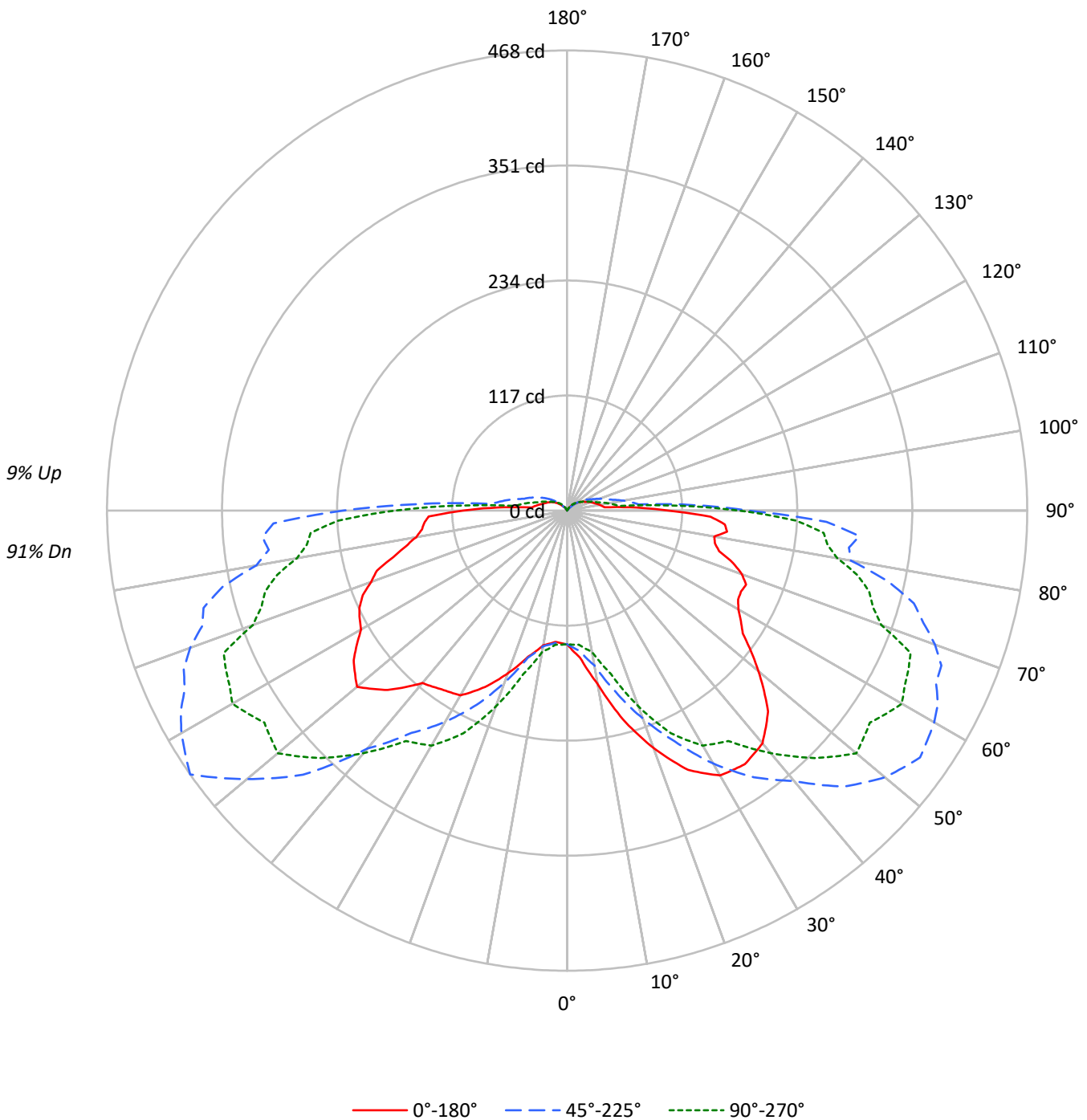
**Summary**

Lumens per Lamp: 4000 (1 lamp)  
Luminaire Lumens: 2147.2 lumens  
Efficiency: 53.7%  
Efficacy: 42.9 lumens/watt  
Spacing Criteria (0/90/45): 2.42 / 2.92 / 2.96  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 50  
Input Voltage (V): NR  
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	63	63	63	63	61	61	61	61	57	57	57	54	54	54	51	51	51	49
1	54	50	46	43	52	48	44	41	45	42	39	41	39	37	39	37	35	33
2	47	41	36	31	45	39	35	30	36	32	29	34	31	28	31	29	26	25
3	42	34	29	24	40	33	28	23	31	26	22	28	25	21	26	23	20	19
4	38	29	24	19	36	28	23	19	26	22	18	24	20	17	23	19	16	15
5	34	26	20	15	32	25	19	15	23	18	14	21	17	14	20	16	13	12
6	31	23	17	13	30	22	16	13	20	16	12	19	15	11	18	14	11	10
7	29	20	15	11	27	19	14	11	18	13	10	17	13	10	16	12	9	8
8	26	18	13	9	25	17	13	9	16	12	9	15	11	8	14	11	8	7
9	25	16	11	8	23	16	11	8	15	11	8	14	10	7	13	9	7	6
10	23	15	10	7	22	14	10	7	14	9	7	13	9	6	12	9	6	5

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

	0°	90°	180°
0°	1464	1464	1464
5°	1621	1480	1448
10°	1956	1596	1519
15°	2452	1917	1716
20°	2944	2428	2016
25°	3456	2969	2352
30°	3865	3430	2697
35°	4139	3758	2917
40°	4342	4525	3218
45°	4399	5419	3927
50°	4253	6430	4672
55°	4091	7056	4973
60°	4327	8460	5210
65°	4967	9755	5934
70°	5948	10700	6672
75°	6654	13225	7611
80°	9422	17294	9670
85°	19884	32358	18031



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	13.7	0.6	0.3	0°	136	136	136	136	136	
10°-20°	51.2	2.4	1.3	5°	150	143	137	135	134	15
20°-30°	113.1	5.3	2.8	15°	220	191	172	155	154	63
30°-40°	186.0	8.7	4.6	25°	291	259	250	218	198	134
40°-50°	271.7	12.7	6.8	35°	315	331	286	276	222	196
50°-60°	341.3	15.9	8.5	45°	289	397	356	380	258	220
60°-70°	370.0	17.2	9.2	55°	218	438	376	468	265	199
70°-80°	336.5	15.7	8.4	65°	195	414	383	429	233	194
80°-90°	280.6	13.1	7.0	75°	160	365	318	383	183	175
90°-100°	97.7	4.5	2.4	85°	161	298	262	311	146	129
100°-110°	41.9	2.0	1.0	90°	103	184	175	228	106	58
110°-120°	24.9	1.2	0.6	95°	38	73	53	77	36	42
120°-130°	13.7	0.6	0.3	105°	29	43	32	46	26	31
130°-140°	5.9	0.3	0.1	115°	21	27	21	31	20	21
140°-150°	1.6	0.1	0.0	125°	15	17	15	19	14	13
150°-160°	0.2	0.0	0.0	135°	8	6	10	8	7	7
160°-170°	0.0	0.0	0.0	145°	3	0	5	0	2	2
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	177.9	8.3	4.4	165°	0	0	0	0	0	0
0°-40°	363.9	16.9	9.1	175°	0	0	0	0	0	0
0°-60°	977.0	45.5	24.4	180°	0	0	0	0	0	0
0°-90°	1964.0	91.5	49.1							
90°-120°	164.4	7.7	4.1							
90°-150°	185.7	8.6	4.6							
90°-180°	186.0	8.7	4.7							
0°-180°	2147.2	100.0	53.7							



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	136	136	136	136	136	136	136	136	136	136	136
5°	150	148	147	145	142	143	142	140	139	137	137
10°	179	178	172	170	167	160	157	153	149	146	146
15°	220	216	213	214	204	191	183	176	169	168	172
20°	257	253	253	255	238	225	214	211	207	212	212
25°	291	284	287	289	276	259	250	248	244	247	250
30°	311	309	317	325	310	297	292	285	282	279	276
35°	315	318	330	339	335	331	324	312	299	291	286
40°	309	312	327	343	353	359	355	350	336	321	322
45°	289	298	320	343	374	397	406	402	380	362	356
50°	254	258	290	333	384	422	443	434	417	391	384
55°	218	224	262	321	380	438	459	442	416	385	376
60°	201	207	255	324	383	431	455	452	436	405	393
62.5°	196	206	260	328	389	425	449	449	434	400	387
65°	195	207	263	328	383	414	435	442	441	399	383
67.5°	197	206	264	330	386	412	426	443	435	401	378
70°	189	197	260	321	376	398	410	419	401	369	340
72.5°	177	187	242	306	354	380	396	393	382	346	326
75°	160	169	228	294	327	365	385	379	377	343	318
77.5°	154	159	221	291	307	335	347	351	367	329	302
80°	152	155	212	276	281	293	299	316	330	296	279
82.5°	164	171	223	284	280	289	287	301	318	285	267
85°	161	168	223	292	293	298	292	309	324	288	262
87.5°	146	148	203	268	259	264	266	284	305	258	233
90°	103	107	140	189	179	184	189	200	222	182	175
95°	38	37	44	59	63	73	68	71	61	56	53
105°	29	28	29	34	39	43	43	40	36	32	32
115°	21	19	19	21	26	27	28	26	23	21	21
125°	15	14	11	11	14	17	15	15	14	14	15
135°	8	7	6	4	5	6	7	6	8	9	10
145°	3	2	0	0	0	0	0	2	3	4	5
155°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	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°	136	136	136	136	136	136	136	136	136	136
5°	137	135	135	135	135	135	133	134	134	134
10°	147	145	143	140	140	140	137	138	139	139
15°	177	172	164	160	155	151	151	150	155	154
20°	218	211	211	192	186	175	173	171	173	176
25°	248	251	243	224	218	203	201	201	199	198
30°	275	276	273	261	248	243	233	226	218	217
35°	284	282	288	291	276	275	256	240	226	222
40°	322	316	322	329	316	304	281	252	235	229
45°	354	363	370	378	380	363	316	282	259	258
50°	382	399	408	425	425	427	362	314	285	279
55°	372	395	422	450	468	463	378	316	274	265
60°	390	422	438	451	453	449	368	307	256	242
62.5°	382	420	439	445	443	437	365	312	254	238
65°	379	416	432	427	429	424	361	315	252	233
67.5°	371	418	436	421	422	412	349	306	244	225
70°	338	383	412	405	408	396	342	296	230	212
72.5°	316	358	391	376	389	375	331	282	220	203
75°	309	343	381	363	383	360	313	257	201	183
77.5°	294	327	366	348	359	341	300	248	189	168
80°	269	309	338	320	321	305	281	232	171	156
82.5°	262	295	325	310	306	290	270	222	163	149
85°	260	287	323	304	311	294	273	219	162	146
87.5°	238	255	305	290	299	287	269	212	155	141
90°	173	198	212	211	228	240	227	181	120	106
95°	54	54	66	75	77	74	72	50	39	36
105°	31	32	39	43	46	46	41	32	26	26
115°	21	21	26	28	31	31	28	23	19	20
125°	15	15	15	17	19	18	16	13	13	14
135°	9	9	8	7	8	8	6	6	7	7
145°	3	4	3	2	0	0	1	2	2	2
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)