

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: 4287.2

Luminaire Tested: **HCS-70 WATT**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 4287.2
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: HCS-70 WATT
Description: FAIL-SAFE HPS CEILING MOUNT WITH LENS
Light Source: S62MS-70 6300 LUMENS
Ballast/Driver: -

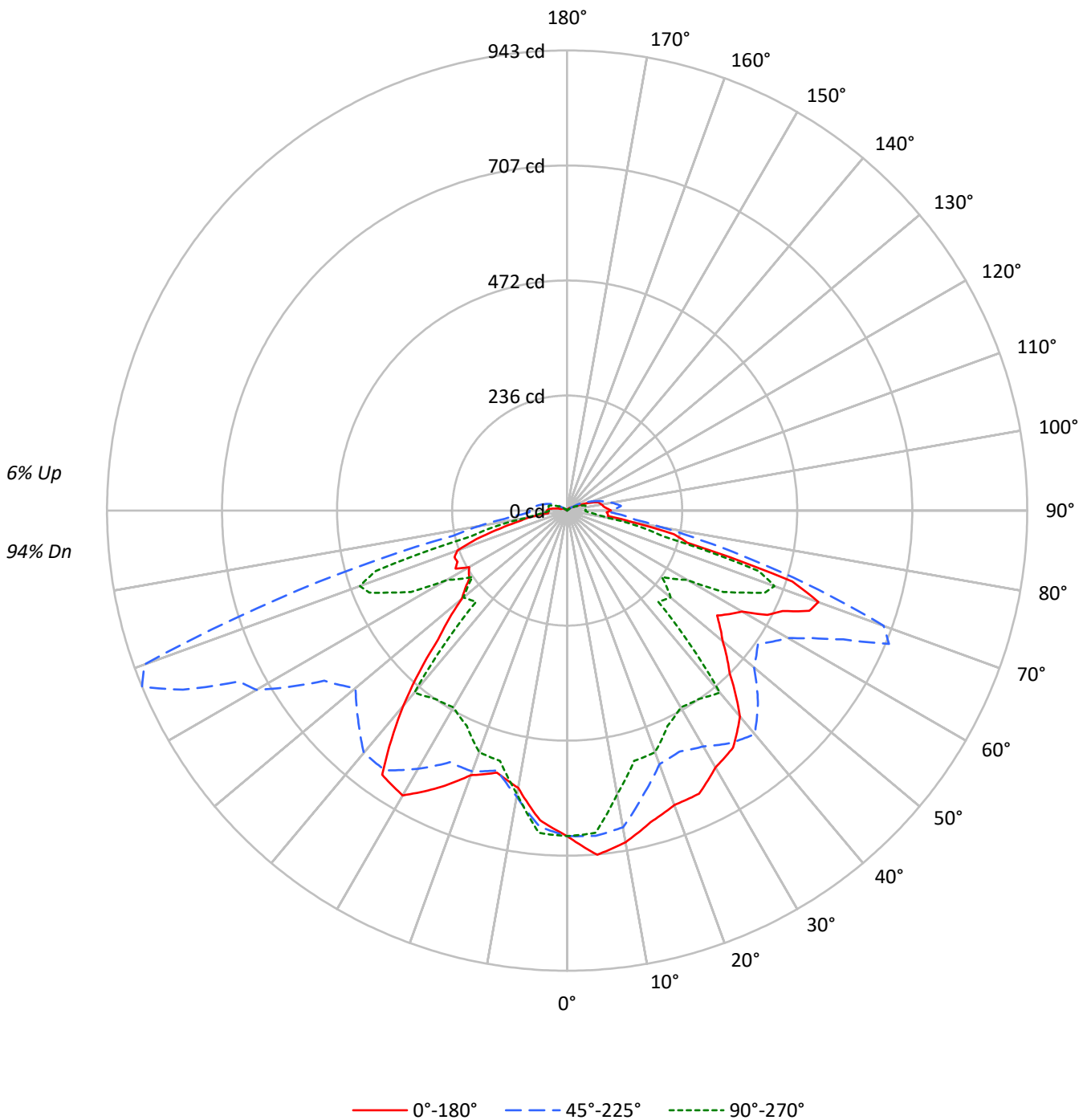
Summary

Lumens per Lamp: 6300 (1 lamp)
Luminaire Lumens: 2841.0 lumens
Efficiency: 45.1%
Efficacy: 40.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.04 / 1.55
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.25')
CIE Type: Direct

Input Watts (W): 70
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	50	30	10	0	
RCR																						
0	53	53	53	53	52	52	52	52	49	49	49	46	46	46	44	44	44	42				42
1	47	44	42	40	46	43	41	39	41	39	37	38	37	35	36	35	34	33				33
2	42	37	34	30	40	36	33	30	34	31	29	32	30	28	30	28	26	25				25
3	37	32	27	24	36	31	27	24	29	26	23	27	24	22	26	23	21	20				20
4	34	28	23	20	33	27	23	19	25	22	19	24	21	18	22	20	18	16				16
5	31	24	20	16	30	24	19	16	22	19	16	21	18	15	20	17	15	14				14
6	28	22	17	14	27	21	17	14	20	16	13	19	16	13	18	15	13	12				12
7	26	20	15	12	25	19	15	12	18	14	12	17	14	11	16	13	11	10				10
8	24	18	14	11	23	17	13	11	16	13	10	16	12	10	15	12	10	9				9
9	23	16	12	10	22	16	12	9	15	12	9	14	11	9	14	11	9	8				8
10	21	15	11	9	21	15	11	9	14	11	8	13	10	8	13	10	8	7				7

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7180	7180	7180
5°	7486	7010	6735
10°	7223	6176	6040
15°	6903	5546	5807
20°	6741	5533	6058
25°	6807	5180	6669
30°	6604	5061	7321
35°	6631	5267	7392
40°	6400	5656	6063
45°	5736	3215	4555
50°	5367	3574	3638
55°	5186	3277	3388
60°	6219	4266	3485
65°	8075	6582	4112
70°	10224	8433	4459
75°	5486	4411	3055
80°	3384	2154	1974
85°	2689	1505	1345



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	61.5	2.2	1.0	0°	667	667	667	667	667	
10°-20°	164.1	5.8	2.6	5°	708	669	663	650	637	66
20°-30°	260.4	9.2	4.1	15°	661	603	531	551	556	188
30°-40°	350.2	12.3	5.6	25°	640	545	487	569	627	292
40°-50°	359.5	12.7	5.7	35°	593	582	471	650	661	368
50°-60°	365.4	12.9	5.8	45°	471	553	264	606	374	368
60°-70°	589.5	20.8	9.4	55°	375	477	237	608	245	354
70°-80°	416.1	14.6	6.6	65°	487	624	397	869	248	489
80°-90°	104.3	3.7	1.7	75°	255	397	205	439	142	343
90°-100°	76.9	2.7	1.2	85°	84	116	47	95	42	75
100°-110°	53.8	1.9	0.9	90°	90	90	37	77	42	47
110°-120°	29.6	1.0	0.5	95°	77	111	39	71	37	63
120°-130°	10.5	0.4	0.2	105°	66	74	39	50	13	62
130°-140°	1.6	0.1	0.0	115°	24	37	21	31	11	31
140°-150°	0.0	0.0	0.0	125°	11	13	8	8	0	12
150°-160°	0.0	0.0	0.0	135°	8	0	0	0	0	6
160°-170°	0.0	0.0	0.0	145°	5	0	0	0	0	3
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	1
0°-30°	486.0	17.1	7.7	165°	0	0	0	0	0	0
0°-40°	836.2	29.4	13.3	175°	0	0	0	0	0	0
0°-60°	1561.1	55.0	24.8	180°	0	0	0	0	0	0
0°-90°	2671.0	94.0	42.4							
90°-120°	160.4	5.6	2.5							
90°-150°	172.5	6.1	2.7							
90°-180°	173.0	6.1	2.7							
0°-180°	2841.0	100.0	45.1							



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	667	667	667	667	667	667	667	667	667	667	667
5°	708	695	677	685	671	669	669	671	666	663	663
10°	690	677	677	669	659	659	650	635	611	606	590
15°	661	656	648	645	624	603	574	556	537	534	531
20°	642	632	632	624	582	553	534	527	527	527	527
25°	640	624	635	621	579	545	524	508	506	482	487
30°	608	600	608	614	574	558	519	500	482	466	466
35°	593	582	585	593	587	582	540	490	468	461	471
40°	551	534	543	545	611	598	524	487	466	463	487
45°	471	466	474	495	548	553	497	424	390	366	264
50°	416	403	421	479	490	500	432	350	308	287	277
55°	375	361	400	477	484	477	393	300	250	235	237
60°	414	397	508	611	595	522	432	308	284	292	284
62.5°	463	458	766	808	743	566	456	329	332	366	361
65°	487	500	972	985	829	624	490	353	385	406	397
67.5°	537	564	1288	1143	916	714	540	416	432	456	439
70°	548	534	1390	1137	919	690	566	445	445	463	452
72.5°	484	482	1267	988	698	540	492	406	421	403	411
75°	255	369	998	751	513	397	329	279	284	271	205
77.5°	224	203	524	487	321	282	216	169	169	132	153
80°	132	140	282	303	248	195	155	111	102	98	84
82.5°	84	79	187	190	155	140	102	77	68	63	60
85°	84	77	174	163	142	116	84	66	56	50	47
87.5°	81	77	161	124	105	90	74	60	53	42	39
90°	90	77	153	126	105	90	77	60	50	39	37
95°	77	81	132	132	121	111	90	66	53	42	39
105°	66	71	92	60	77	74	60	50	39	31	39
115°	24	53	68	11	39	37	34	37	26	24	21
125°	11	16	11	0	11	13	13	11	8	5	8
135°	8	0	0	0	0	0	0	0	0	0	0
145°	5	0	0	0	0	0	0	0	0	0	0
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°	667	667	667	667	667	667	667	667	667	667
5°	656	645	650	650	650	635	632	635	624	637
10°	593	579	587	595	595	587	590	590	587	577
15°	524	524	531	540	551	558	558	564	558	556
20°	516	522	540	548	569	566	577	579	577	577
25°	484	487	506	529	569	614	619	629	624	627
30°	469	474	503	545	611	650	671	661	669	674
35°	484	484	511	569	650	661	640	614	648	661
40°	474	456	506	608	648	616	548	522	519	522
45°	358	382	452	572	606	537	465	382	364	374
50°	282	287	397	529	566	506	424	334	284	282
55°	235	239	348	524	608	558	445	319	250	245
60°	300	319	387	640	735	682	529	414	255	232
62.5°	361	350	390	653	758	772	671	614	269	258
65°	387	353	403	650	869	853	851	698	250	248
67.5°	427	371	439	645	943	877	864	761	245	250
70°	445	350	429	603	922	872	769	829	190	239
72.5°	340	283	369	531	666	648	629	608	142	195
75°	237	197	265	334	439	448	387	382	100	142
77.5°	129	108	171	232	239	271	237	205	74	100
80°	81	77	108	150	184	179	179	129	39	77
82.5°	58	56	77	113	129	132	134	102	39	39
85°	45	45	60	81	95	90	119	92	37	42
87.5°	37	37	50	66	77	77	95	81	39	37
90°	37	37	50	66	77	74	90	81	34	42
95°	37	47	56	66	71	60	71	66	13	37
105°	31	37	45	45	50	42	45	31	11	13
115°	21	26	34	42	31	29	31	18	0	11
125°	8	5	11	11	8	5	5	3	0	0
135°	0	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)