

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: 1832

Luminaire Tested: **HVV-70S**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 1832
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: HVV-70S
Description: FAIL-SAFE
Light Source: 70S S62 MED 5800 LUMENS
Ballast/Driver: -

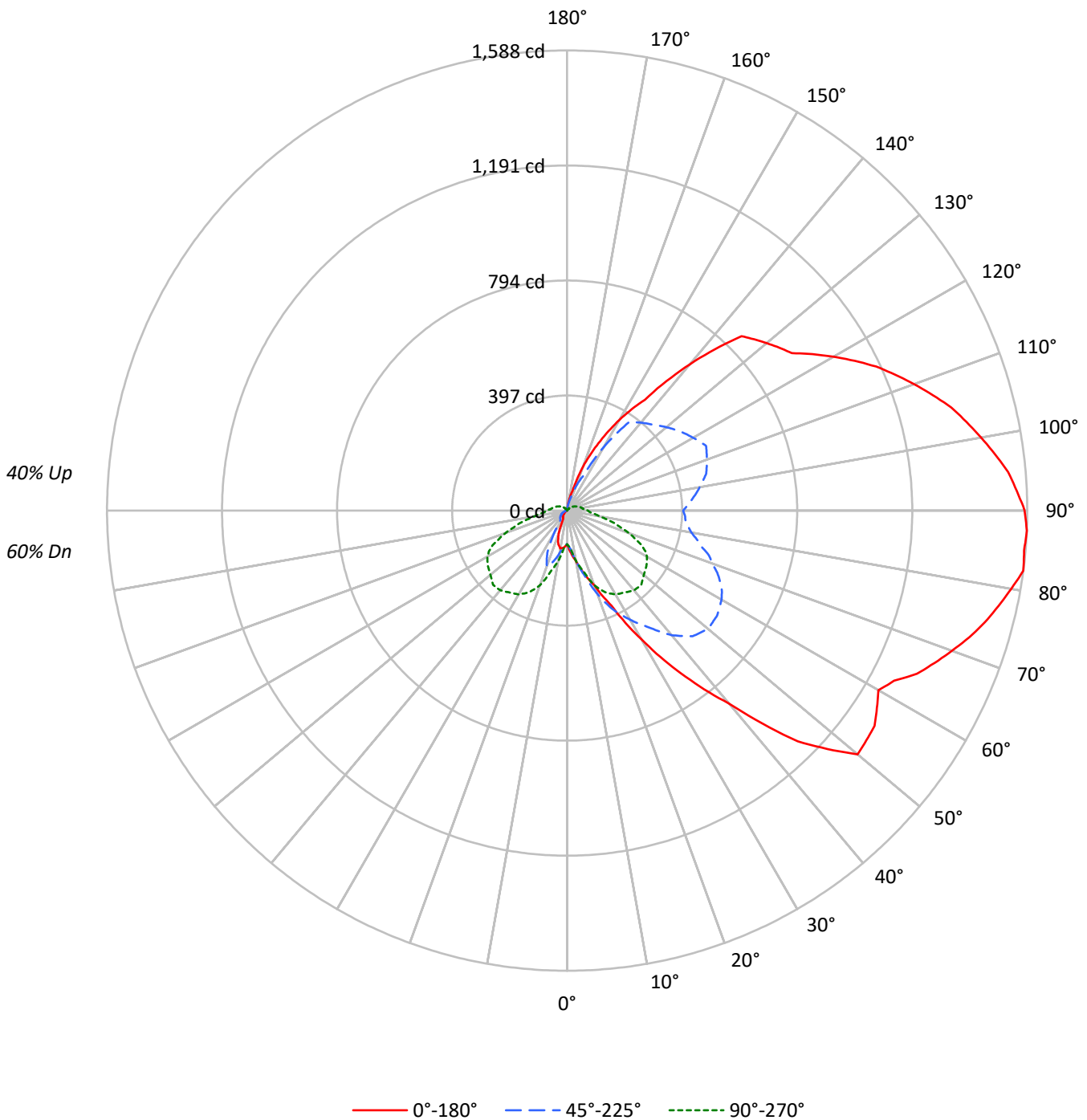
Summary

Lumens per Lamp: 5800 (1 lamp)
Luminaire Lumens: 3686.6 lumens
Efficiency: 63.6%
Efficacy: 52.7 lumens/watt
Spacing Criteria (0/90/45): 4 / 2.96 / 2.78
Luminous Opening: Rectangular w/ Sides (W: 0.75' x L: 0.5' x H: 0.25')
CIE Type: General Diffuse

Input Watts (W): 70
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	70	70	70	70	65	65	65	65	56	56	56	49	49	49	41	41	41	38
1	60	56	52	49	56	52	48	45	44	42	39	38	36	34	31	30	28	25
2	53	47	41	37	49	43	39	34	37	33	30	31	28	25	25	23	21	18
3	48	40	34	29	44	37	32	27	31	27	23	26	23	20	21	19	16	14
4	43	35	28	24	40	32	26	22	27	23	19	23	19	16	18	16	13	11
5	39	30	24	19	36	28	22	18	24	19	16	20	16	13	16	13	11	9
6	36	27	21	16	33	25	19	15	21	17	13	18	14	11	14	11	9	7
7	33	24	18	14	30	22	17	13	19	14	11	16	12	9	13	10	8	6
8	31	22	16	12	28	20	15	11	17	13	10	14	11	8	12	9	7	5
9	28	19	14	10	26	18	13	10	15	11	8	13	10	7	11	8	6	4
10	26	18	13	9	24	17	12	9	14	10	7	12	9	6	10	7	5	4

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3330	3330	3330
5°	4030	3640	3534
10°	4768	4845	3562
15°	5870	5920	3118
20°	7107	7491	2248
25°	9297	8525	822
30°	13194	9284	694
35°	17805	9801	701
40°	22938	10512	475
45°	30472	11021	487
50°	36628	11026	252
55°	37808	11324	146
60°	38148	11574	154
65°	43657	11248	0
70°	49992	9944	0
75°	57734	8352	0
80°	67056	6519	0
85°	77638	5614	0



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	13.3	0.4	0.2	0°	116	116	116	116	116	
10°-20°	57.1	1.5	1.0	5°	146	133	130	119	128	15
20°-30°	121.7	3.3	2.1	15°	224	231	217	181	119	65
30°-40°	200.7	5.4	3.5	25°	362	378	311	162	32	178
40°-50°	290.1	7.9	5.0	35°	686	492	345	41	27	436
50°-60°	359.3	9.7	6.2	45°	1126	613	362	34	18	861
60°-70°	389.1	10.6	6.7	55°	1295	632	334	25	5	1152
70°-80°	393.4	10.7	6.8	65°	1332	583	284	16	0	1317
80°-90°	384.7	10.4	6.6	75°	1492	480	169	7	0	1576
90°-100°	367.1	10.0	6.3	85°	1583	410	82	0	0	1292
100°-110°	330.5	9.0	5.7	90°	1579	400	71	0	0	863
110°-120°	280.8	7.6	4.8	95°	1528	432	57	0	0	1227
120°-130°	220.3	6.0	3.8	105°	1373	497	46	0	0	1441
130°-140°	151.0	4.1	2.6	115°	1176	529	34	0	0	1159
140°-150°	83.5	2.3	1.4	125°	947	476	23	0	0	879
150°-160°	33.5	0.9	0.6	135°	851	419	14	0	0	603
160°-170°	7.7	0.2	0.1	145°	467	373	2	0	0	321
170°-180°	0.5	0.0	0.0	155°	256	133	0	0	0	121
0°-30°	192.0	5.2	3.3	165°	69	43	0	0	0	28
0°-40°	392.8	10.7	6.8	175°	0	0	0	0	0	2
0°-60°	1042.1	28.3	18.0	180°	0	0	0	0	0	
0°-90°	2209.3	59.9	38.1							
90°-120°	978.5	26.5	16.9							
90°-150°	1433.3	38.9	24.7							
90°-180°	1475.0	40.0	25.4							
0°-180°	3686.6	100.0	63.6							



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	116	116	116	116	116	116	116	116	116	116	116
5°	146	133	135	133	135	133	135	135	133	135	130
10°	178	165	167	167	174	176	178	181	176	176	176
15°	224	213	215	217	224	231	243	243	231	222	217
20°	275	270	281	284	295	307	307	300	288	281	275
25°	362	350	350	350	364	378	373	359	348	325	311
30°	513	492	474	446	444	435	426	407	387	350	334
35°	686	648	611	551	531	492	467	435	405	364	345
40°	869	803	707	641	609	561	506	467	426	382	359
45°	1126	1025	865	707	661	613	547	494	448	387	362
50°	1309	1204	1020	787	673	634	572	519	467	389	345
55°	1295	1242	1128	869	666	632	579	535	483	382	334
60°	1240	1171	1105	956	693	615	577	542	478	378	318
62.5°	1272	1217	1096	984	700	602	572	542	476	366	304
65°	1332	1268	1117	966	702	583	565	542	474	357	284
67.5°	1373	1316	1158	947	696	561	558	535	469	339	254
70°	1414	1364	1178	922	682	533	554	526	460	320	227
72.5°	1455	1403	1206	906	661	513	542	517	448	293	194
75°	1492	1439	1229	897	643	480	533	503	442	268	169
77.5°	1524	1474	1247	892	618	458	522	494	426	238	140
80°	1556	1503	1265	895	599	435	513	490	412	217	114
82.5°	1588	1526	1277	892	574	421	506	480	403	190	98
85°	1583	1528	1281	888	565	410	501	476	394	165	82
87.5°	1588	1528	1272	881	556	407	501	469	382	153	76
90°	1579	1526	1261	874	554	400	503	469	380	133	71
95°	1528	1483	1215	847	549	432	506	462	368	110	57
105°	1373	1320	1098	789	526	497	492	446	320	80	46
115°	1176	1114	968	739	554	529	453	419	222	59	34
125°	947	888	789	716	593	476	419	366	146	43	23
135°	851	819	634	501	458	419	403	233	89	32	14
145°	467	451	391	357	366	373	245	110	48	14	2
155°	256	279	252	227	197	133	89	53	25	2	0
165°	69	80	73	66	53	43	27	11	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°	116	116	116	116	116	116	116	116	116	116
5°	128	126	126	124	119	121	119	119	119	128
10°	172	165	160	153	149	142	137	130	128	133
15°	208	201	194	190	181	162	142	121	117	119
20°	268	256	249	236	206	144	112	89	82	87
25°	300	288	281	245	162	92	46	34	32	32
30°	320	316	297	206	89	34	32	30	30	27
35°	336	329	272	142	41	30	30	30	27	27
40°	343	329	227	73	37	32	25	23	25	18
45°	339	318	169	46	34	27	27	21	18	18
50°	320	284	121	43	30	25	18	16	14	9
55°	300	249	76	37	25	18	14	9	9	5
60°	284	204	48	34	21	16	11	5	5	5
62.5°	265	185	41	30	18	11	5	2	2	0
65°	240	156	37	27	16	9	2	0	0	0
67.5°	217	133	32	25	14	5	0	0	0	0
70°	194	110	30	23	9	5	0	0	0	0
72.5°	167	92	25	18	9	2	0	0	0	0
75°	137	71	25	18	7	2	0	0	0	0
77.5°	114	64	23	16	7	2	0	0	0	0
80°	94	50	21	14	0	0	0	0	0	0
82.5°	80	43	18	11	0	0	0	0	0	0
85°	71	39	18	9	0	0	0	0	0	0
87.5°	62	34	16	7	0	0	0	0	0	0
90°	55	32	16	14	0	0	0	0	0	0
95°	48	27	14	11	0	0	0	0	0	0
105°	37	25	9	7	0	0	0	0	0	0
115°	27	16	7	0	0	0	0	0	0	0
125°	18	11	5	0	0	0	0	0	0	0
135°	5	2	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)