

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: 4159.0

Luminaire Tested: **HDR-100 WATT**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 4159.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: HDR-100 WATT
Description: FAIL-SAFE MERCURY - DROP DISH LENS
Light Source: H38JA-100/DX 4200 LUMENS
Ballast/Driver: -

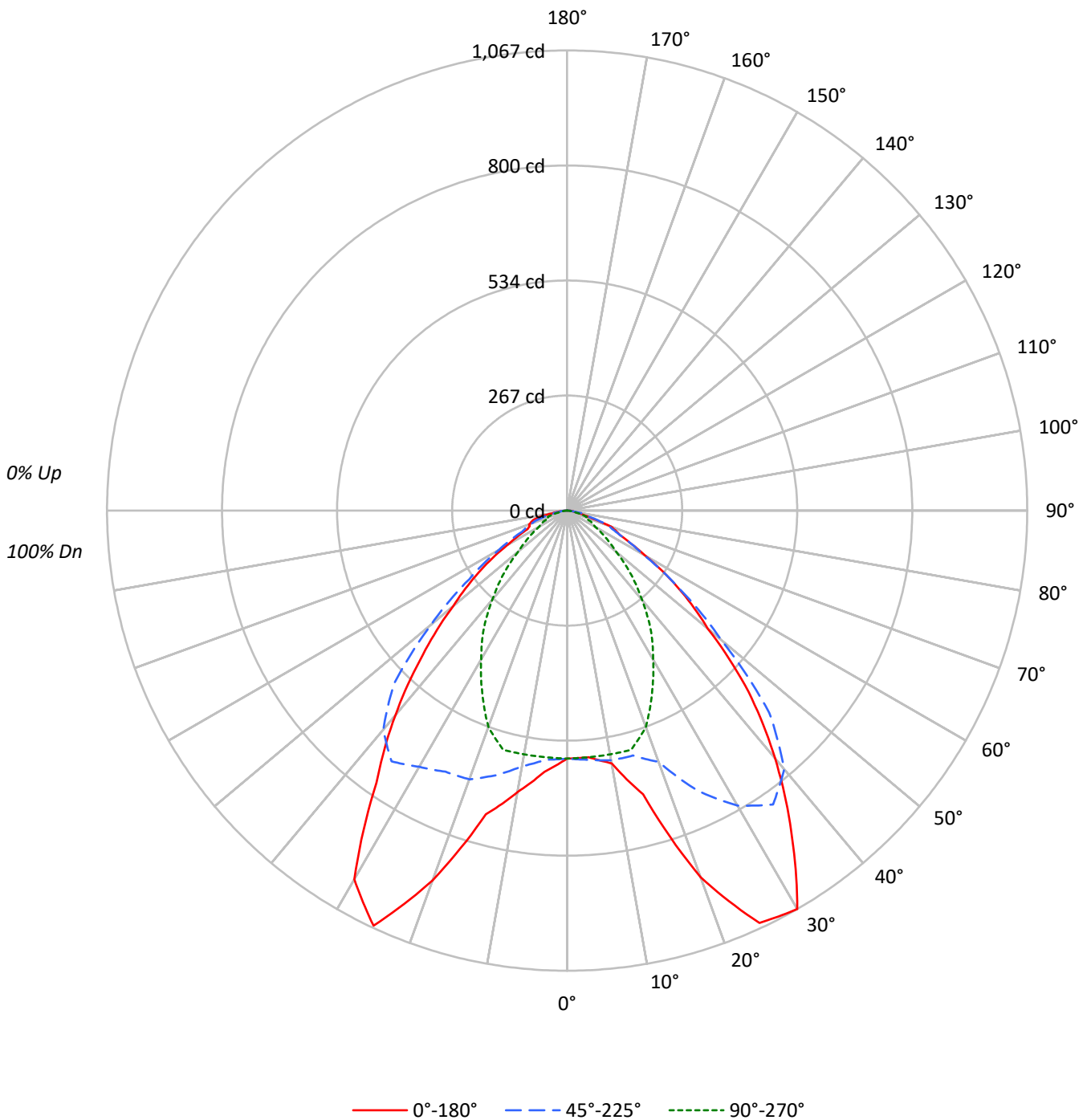
Summary

Lumens per Lamp: 4200 (1 lamp)
Luminaire Lumens: 1782.5 lumens
Efficiency: 42.4%
Efficacy: 17.8 lumens/watt
Spacing Criteria (0/90/45): 1.72 / 1.08 / 1.57
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 100
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	51	51	51	51	49	49	49	49	47	47	47	45	45	45	43	43	43	42
1	47	45	44	42	46	44	43	42	42	41	40	41	40	39	39	39	38	37
2	43	40	38	35	42	39	37	35	38	36	34	37	35	33	35	34	33	32
3	40	36	33	30	39	35	32	30	34	31	29	33	31	29	32	30	28	28
4	37	32	29	26	36	31	28	26	30	28	26	29	27	25	29	27	25	24
5	34	29	25	23	33	28	25	23	27	25	22	27	24	22	26	24	22	21
6	31	26	22	20	31	26	22	20	25	22	20	24	22	20	24	21	19	19
7	29	24	20	18	28	23	20	18	23	20	18	22	19	17	22	19	17	16
8	27	22	18	16	26	21	18	16	21	18	16	20	18	16	20	17	15	15
9	25	20	16	14	25	20	16	14	19	16	14	19	16	14	18	16	14	13
10	24	18	15	13	23	18	15	13	18	15	13	17	15	13	17	14	13	12

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6189	6189	6189
5°	6202	6202	6569
10°	6503	6274	7247
15°	7589	6396	8124
20°	10367	6117	10447
25°	12530	5535	12613
30°	13262	4959	12268
35°	11892	4441	10131
40°	10538	3794	8712
45°	9057	3181	7200
50°	7134	2478	5777
55°	5949	2027	4710
60°	4499	1615	3466
65°	3464	1554	2572
70°	3399	1479	2958
75°	1664	1372	3327
80°	868	868	2046
85°	1729	0	1729



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	55.7	3.1	1.3	0°	575	575	575	575	575	
10°-20°	180.1	10.1	4.3	5°	574	580	574	580	608	56
20°-30°	330.4	18.5	7.9	15°	681	588	574	635	729	206
30°-40°	419.5	23.5	10.0	25°	1055	717	466	668	1062	474
40°-50°	379.7	21.3	9.0	35°	905	832	338	710	771	567
50°-60°	231.0	13.0	5.5	45°	595	663	209	567	473	455
60°-70°	116.7	6.5	2.8	55°	317	322	108	277	251	283
70°-80°	56.0	3.1	1.3	65°	136	136	61	115	101	145
80°-90°	12.2	0.7	0.3	75°	40	47	33	54	80	50
90°-100°	1.2	0.1	0.0	85°	14	7	0	14	14	10
100°-110°	0.1	0.0	0.0	90°	0	7	0	7	0	1
110°-120°	0.0	0.0	0.0	95°	0	0	0	0	0	0
120°-130°	0.0	0.0	0.0	105°	0	0	0	0	0	0
130°-140°	0.0	0.0	0.0	115°	0	0	0	0	0	0
140°-150°	0.0	0.0	0.0	125°	0	0	0	0	0	0
150°-160°	0.0	0.0	0.0	135°	0	0	0	0	0	0
160°-170°	0.0	0.0	0.0	145°	0	0	0	0	0	0
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	566.2	31.8	13.5	165°	0	0	0	0	0	0
0°-40°	985.6	55.3	23.5	175°	0	0	0	0	0	0
0°-60°	1596.4	89.6	38.0	180°	0	0	0	0	0	0
0°-90°	1781.2	99.9	42.4							
90°-120°	1.3	0.1	0.0							
90°-150°	1.3	0.1	0.0							
90°-180°	1.0	0.1	0.0							
0°-180°	1782.5	100.0	42.4							



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	575	575	575	575	575	575	575	575	575	575	575
5°	574	588	574	567	567	580	567	561	567	561	574
10°	595	595	588	580	574	588	574	574	580	567	574
15°	681	689	675	628	608	588	574	561	567	567	574
20°	905	886	851	771	710	620	567	534	527	527	534
25°	1055	1088	1048	940	804	717	580	500	473	473	466
30°	1067	1067	1062	1027	947	790	614	473	412	412	399
35°	905	933	947	987	973	832	655	473	358	331	338
40°	750	757	825	905	886	783	628	453	317	270	270
45°	595	614	649	710	757	663	541	399	257	209	209
50°	426	446	480	520	527	466	426	317	216	155	148
55°	317	311	322	331	331	322	298	237	169	122	108
60°	209	202	216	209	209	202	197	169	122	87	75
62.5°	169	176	176	161	161	169	161	148	108	75	68
65°	136	143	143	143	129	136	129	115	87	61	61
67.5°	122	115	122	115	115	115	108	101	75	54	47
70°	108	101	115	101	101	101	87	87	68	54	47
72.5°	61	61	101	87	80	75	75	68	54	54	47
75°	40	47	68	69	54	47	47	47	40	40	33
77.5°	28	28	47	47	40	40	33	33	28	21	21
80°	14	21	28	28	28	28	21	21	21	14	14
82.5°	14	14	21	21	21	14	14	14	7	7	7
85°	14	7	14	14	14	7	7	7	0	0	0
87.5°	7	7	7	7	7	7	7	7	0	0	0
90°	0	0	7	7	7	7	0	7	0	0	0
95°	0	0	0	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0	0	0
145°	0	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°	575	575	575	575	575	575	575	575	575	575
5°	567	580	580	580	580	580	588	602	595	608
10°	574	580	595	608	602	614	620	628	642	663
15°	574	588	595	620	635	655	675	710	729	729
20°	534	567	588	614	663	703	771	872	1020	912
25°	473	513	541	580	668	764	879	1008	973	1062
30°	406	446	473	548	686	832	947	1008	771	987
35°	345	365	406	527	710	851	905	892	620	771
40°	284	298	358	500	663	771	790	736	771	620
45°	223	244	311	439	567	608	620	595	620	473
50°	155	183	244	322	412	453	419	392	493	345
55°	115	143	190	244	277	277	251	257	352	251
60°	80	101	129	176	183	169	161	183	257	161
62.5°	68	87	115	143	148	143	143	148	161	129
65°	61	75	87	115	115	115	115	122	143	101
67.5°	54	61	75	94	101	101	101	108	115	94
70°	47	54	68	75	87	87	94	101	101	94
72.5°	47	54	61	68	75	75	75	87	94	87
75°	33	40	40	40	54	47	54	54	87	80
77.5°	21	33	28	33	33	40	40	47	61	61
80°	14	21	21	31	28	28	28	28	40	33
82.5°	7	14	17	14	14	21	14	21	28	21
85°	0	7	14	7	14	14	14	14	21	14
87.5°	0	0	7	0	7	7	7	7	7	7
90°	0	0	0	0	7	7	7	7	7	0
95°	0	0	0	0	0	0	0	0	7	0
105°	0	0	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	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)