

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: BALLABS TEST NO. 9340.0

Luminaire Tested: **FMS12CR-332-120-80/87**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: BALLABS TEST NO. 9340.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMS12CR-332-120-80/87
Description: 3/32W T8 LAMP 1x4'SURFACE MNT LUMINAIRE w/WHITE BODY
Light Source: -
F32T8/735/RS
Ballast/Driver: MAGNETEK BALLAST #B332I120RH

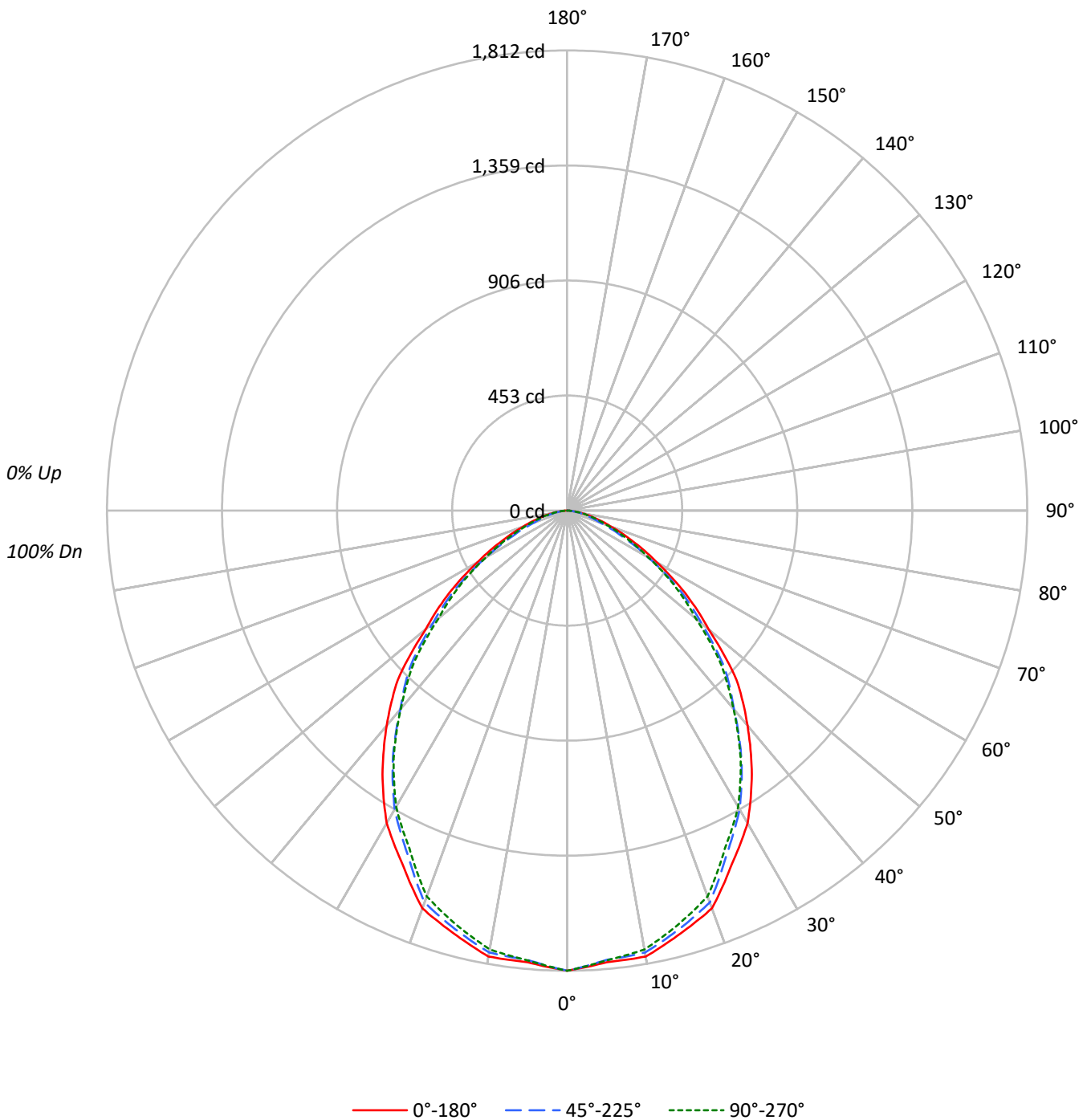
Summary

Lumens per Lamp: 2850 (3 lamps)
Luminaire Lumens: 3647.6 lumens
Efficiency: 42.7%
Efficacy: 43.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.12 / 1.19
Luminous Opening: Rectangular (W 0.58' x L: 3.73' x H: 0')
CIE Type: Direct

Input Watts (W): 83
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										
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	50	30	10	0														
RCR																																						
0	51	51	51	51	50	50	50	50	47	47	47	45	45	45	44	44	44	43	43	43	41	40	39	40	39	38	37											
1	47	46	44	43	46	45	43	42	43	42	41	41	40	39	40	39	38	37	37	36	35	37	35	34	36	34	33	32										
2	44	41	38	36	43	40	38	36	38	36	35	37	35	34	36	34	33	32	32	31	30	33	31	30	32	31	29	28										
3	40	36	33	31	39	36	33	31	34	32	30	33	31	30	32	31	29	28	28	27	26	30	28	26	29	27	26	25										
4	37	33	29	27	36	32	29	27	31	28	26	30	28	26	29	27	26	25	25	24	23	27	25	23	27	24	23	22										
5	34	30	26	24	34	29	26	23	28	25	23	27	25	23	27	24	23	22	22	21	25	22	21	24	22	20	20	20										
6	32	27	23	21	31	26	23	21	26	23	21	25	22	21	24	22	20	20	20	19	23	20	18	22	20	18	18	18										
7	30	25	21	19	29	24	21	19	24	21	19	23	20	18	22	20	18	18	18	17	22	19	17	21	18	17	16	16										
8	28	23	19	17	27	22	19	17	22	19	17	21	19	17	21	18	17	16	16	16	20	17	15	19	17	15	14	14										
9	26	21	18	15	26	21	17	15	20	17	15	20	17	15	19	17	15	14	14	14	18	16	14	18	16	14	13	13										
10	25	19	16	14	24	19	16	14	19	16	14	18	16	14	18	16	14	13	13	13	17	15	14	18	16	14	13	13										

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8972	8972	8972
5°	8872	8827	8837
10°	8964	8884	8823
15°	8837	8745	8652
20°	8783	8652	8520
25°	8386	8134	8025
30°	8124	7764	7701
35°	7664	7235	7199
40°	7142	6606	6586
45°	6610	6141	6008
50°	5600	5315	5099
55°	4894	4627	4463
60°	4030	3644	3664
65°	3315	2765	2987
70°	2649	1998	2389
75°	2162	1607	1970
80°	1682	1369	1540
85°	966	966	1136



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	169.9	4.7	2.0	0°	1812	1812	1812	1812	1812	
10°-20°	482.3	13.2	5.6	5°	1785	1782	1776	1780	1778	171
20°-30°	692.1	19.0	8.1	15°	1724	1721	1706	1693	1688	487
30°-40°	756.7	20.7	8.9	25°	1535	1519	1489	1473	1469	710
40°-50°	677.1	18.6	7.9	35°	1268	1237	1197	1191	1191	792
50°-60°	480.5	13.2	5.6	45°	944	908	877	870	858	717
60°-70°	258.8	7.1	3.0	55°	567	558	536	521	517	506
70°-80°	106.5	2.9	1.2	65°	283	264	236	248	255	286
80°-90°	23.8	0.7	0.3	75°	113	99	84	97	103	123
90°-100°	0.0	0.0	0.0	85°	17	17	17	20	20	25
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	
110°-120°	0.0	0.0	0.0							
120°-130°	0.0	0.0	0.0							
130°-140°	0.0	0.0	0.0							
140°-150°	0.0	0.0	0.0							
150°-160°	0.0	0.0	0.0							
160°-170°	0.0	0.0	0.0							
170°-180°	0.0	0.0	0.0							
0°-30°	1344.2	36.9	15.7							
0°-40°	2101.0	57.6	24.6							
0°-60°	3258.5	89.3	38.1							
0°-90°	3647.6	100.0	42.7							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	3647.6	100.0	42.7							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1812	1812	1812	1812	1812
5°	1785	1782	1776	1780	1778
10°	1783	1776	1767	1761	1755
15°	1724	1721	1706	1693	1688
20°	1667	1672	1642	1622	1617
25°	1535	1519	1489	1473	1469
30°	1421	1393	1358	1347	1347
35°	1268	1237	1197	1191	1191
40°	1105	1062	1022	1019	1019
45°	944	908	877	870	858
50°	727	713	690	675	662
55°	567	558	536	521	517
60°	407	396	368	368	370
65°	283	264	236	248	255
70°	183	165	138	158	165
75°	113	99	84	97	103
80°	59	50	48	50	54
85°	17	17	17	20	20
90°	0	0	0	0	0

(END OF REPORT)