

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. 9331.0

Luminaire Tested: **FMS12CR-232-120-80/87**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: BALLABS TEST NO. 9331.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMS12CR-232-120-80/87
Description: 2/32W T8 LAMP 1x4'SURFACE MNT LUMINAIRE w/WHITE BODY
Light Source: -
F32T8/735/RS
Ballast/Driver: MAGNETEK BALLAST #B232I120RH

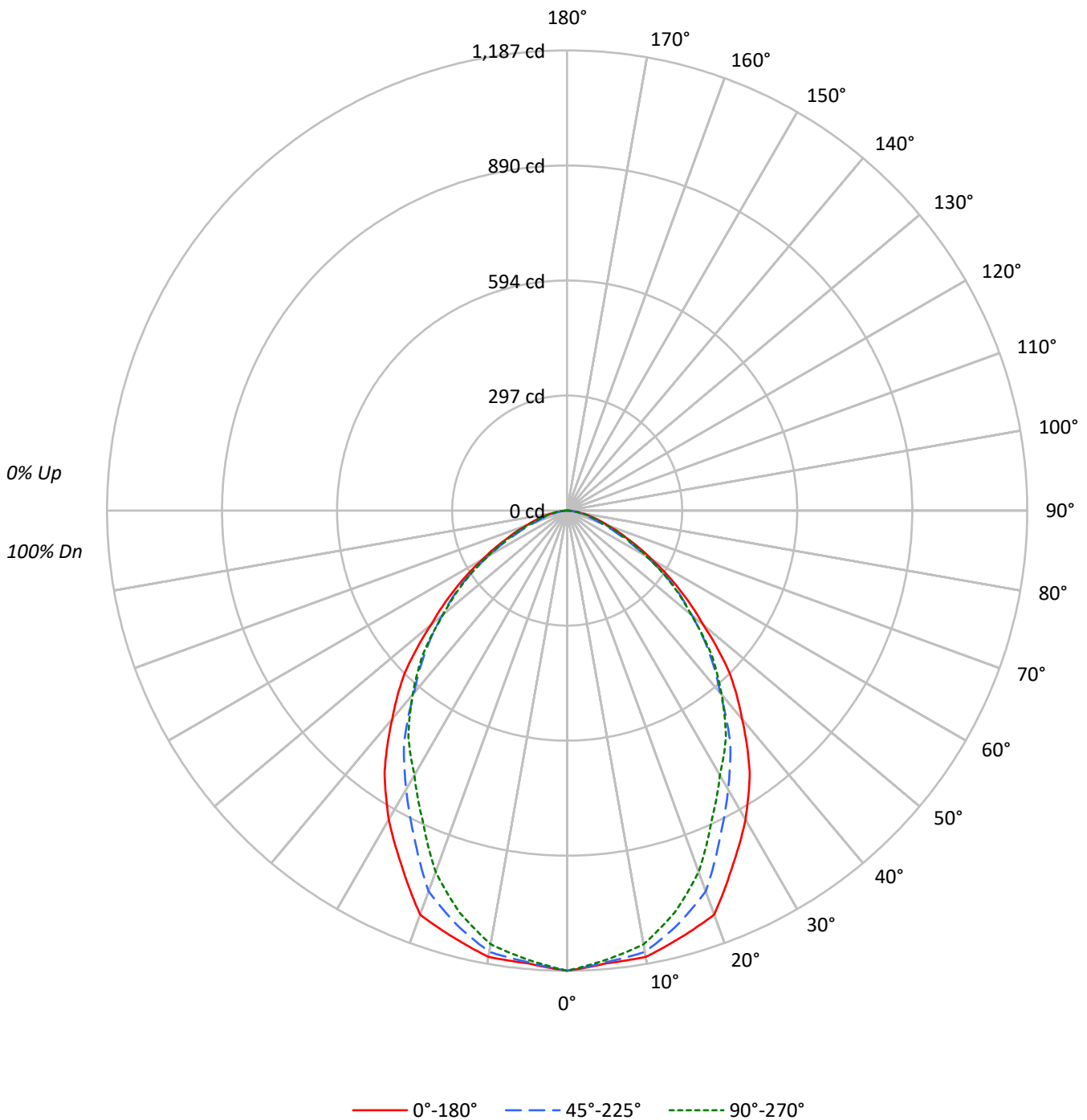
Summary

Lumens per Lamp: 2850 (2 lamps)
Luminaire Lumens: 2277.9 lumens
Efficiency: 40.0%
Efficacy: 40.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.02 / 1.15
Luminous Opening: Rectangular (W 0.58' x L: 3.73' x H: 0')
CIE Type: Direct

Input Watts (W): 57
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	48	48	48	48	46	46	46	46	44	44	44	43	43	43	41	41	41	40
1	44	43	41	40	43	42	41	39	40	39	38	39	38	37	37	37	36	35
2	41	38	36	34	40	37	35	33	36	34	33	35	33	32	34	32	31	30
3	38	34	31	29	37	33	31	29	32	30	28	31	29	28	30	29	27	27
4	35	31	28	25	34	30	27	25	29	27	25	28	26	24	28	26	24	23
5	32	28	25	22	32	27	24	22	27	24	22	26	23	22	25	23	21	21
6	30	25	22	20	29	25	22	20	24	22	20	24	21	19	23	21	19	18
7	28	23	20	18	27	23	20	18	22	20	18	22	19	17	21	19	17	17
8	26	21	18	16	26	21	18	16	21	18	16	20	18	16	20	17	16	15
9	25	20	17	15	24	19	17	15	19	16	14	19	16	14	18	16	14	14
10	23	18	15	13	23	18	15	13	18	15	13	17	15	13	17	15	13	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5877	5877	5877
5°	5825	5810	5780
10°	5877	5812	5711
15°	5838	5664	5500
20°	5843	5506	5227
25°	5518	5092	4818
30°	5260	4745	4505
35°	4962	4437	4316
40°	4537	3968	4007
45°	4152	3634	3690
50°	3528	3235	3212
55°	3039	2874	2831
60°	2495	2317	2347
65°	2015	1757	1898
70°	1607	1230	1477
75°	1339	995	1205
80°	1055	855	969
85°	568	568	739



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	111.2	4.9	2.0	0°	1187	1187	1187	1187	1187	
10°-20°	311.6	13.7	5.5	5°	1172	1171	1169	1163	1163	112
20°-30°	433.9	19.0	7.6	15°	1139	1132	1105	1082	1073	322
30°-40°	466.1	20.5	8.2	25°	1010	985	932	896	882	466
40°-50°	413.6	18.2	7.3	35°	821	788	734	713	714	510
50°-60°	299.2	13.1	5.2	45°	593	554	519	525	527	452
60°-70°	162.3	7.1	2.8	55°	352	339	333	330	328	316
70°-80°	65.5	2.9	1.1	65°	172	165	150	157	162	175
80°-90°	14.5	0.6	0.3	75°	70	61	52	60	63	76
90°-100°	0.0	0.0	0.0	85°	10	10	10	12	13	16
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°	856.7	37.6	15.0							
0°-40°	1322.8	58.1	23.2							
0°-60°	2035.6	89.4	35.7							
0°-90°	2277.9	100.0	40.0							
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°	2277.9	100.0	40.0							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1187	1187	1187	1187	1187
5°	1172	1171	1169	1163	1163
10°	1169	1166	1156	1141	1136
15°	1139	1132	1105	1082	1073
20°	1109	1088	1045	1009	992
25°	1010	985	932	896	882
30°	920	885	830	797	788
35°	821	788	734	713	714
40°	702	665	614	611	620
45°	593	554	519	525	527
50°	458	433	420	423	417
55°	352	339	333	330	328
60°	252	246	234	237	237
65°	172	165	150	157	162
70°	111	100	85	97	102
75°	70	61	52	60	63
80°	37	30	30	31	34
85°	10	10	10	12	13
90°	0	0	0	0	0

(END OF REPORT)