

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. 9332.0

Luminaire Tested: **FMS24CR-432-120-80/87-EB81**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: BALLABS TEST NO. 9332.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMS24CR-432-120-80/87-EB81
Description: 4/32W T8 LAMP 2x4 SURFACE MNT LUMINAIRE w/WHITE BODY
Light Source: -
F32T8/735/RS
Ballast/Driver: MAGNETEK BALLAST #B432I120RH

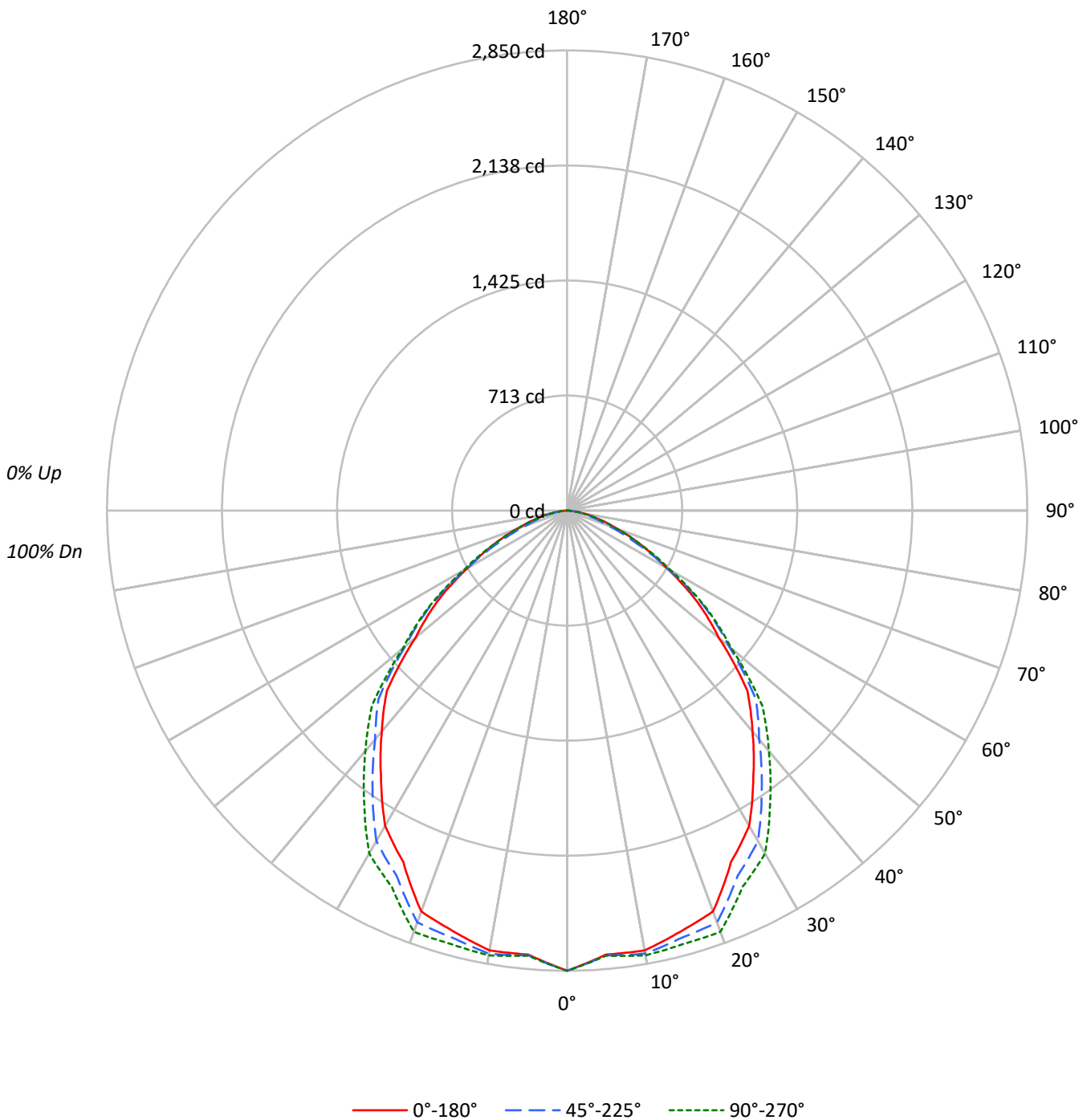
Summary

Lumens per Lamp: 2850 (4 lamps)
Luminaire Lumens: 6410.6 lumens
Efficiency: 56.2%
Efficacy: 57.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.25 / 1.29
Luminous Opening: Rectangular (W 1.54' x L: 3.69' x H: 0')
CIE Type: Direct

Input Watts (W): 111
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	67	67	67	67	65	65	65	65	62	62	62	60	60	60	57	57	57	56
1	62	60	58	56	61	59	57	55	56	55	53	54	53	52	52	51	50	49
2	57	53	50	47	56	52	49	46	50	48	45	48	46	44	47	45	43	42
3	53	47	43	40	51	47	43	40	45	42	39	43	41	38	42	40	38	37
4	49	42	38	35	47	42	38	34	40	37	34	39	36	33	38	35	33	32
5	45	38	34	30	44	38	33	30	37	33	30	35	32	29	34	32	29	28
6	42	35	30	27	41	34	30	27	33	29	26	32	29	26	31	28	26	25
7	39	32	27	24	38	31	27	24	30	26	24	30	26	23	29	26	23	22
8	36	29	25	21	35	29	24	21	28	24	21	27	24	21	27	23	21	20
9	34	27	22	19	33	26	22	19	26	22	19	25	22	19	25	21	19	18
10	32	25	20	18	31	24	20	18	24	20	18	23	20	17	23	20	17	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5394	5394	5394
5°	5244	5253	5257
10°	5316	5355	5376
15°	5293	5367	5446
20°	5322	5467	5592
25°	5016	5215	5369
30°	4926	5164	5359
35°	4647	4857	5067
40°	4413	4571	4803
45°	4224	4422	4575
50°	3613	3860	3913
55°	3241	3429	3472
60°	2692	2710	2805
65°	2266	2074	2284
70°	1815	1478	1793
75°	1455	1163	1433
80°	1112	992	1090
85°	673	630	673



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	265.5	4.1	2.3	0°	2850	2850	2850	2850	2850	
10°-20°	776.9	12.1	6.8	5°	2760	2763	2765	2763	2767	265
20°-30°	1159.5	18.1	10.2	15°	2701	2711	2739	2769	2779	765
30°-40°	1316.8	20.5	11.6	25°	2402	2433	2497	2551	2571	1118
40°-50°	1244.7	19.4	10.9	35°	2011	2041	2102	2163	2193	1262
50°-60°	909.8	14.2	8.0	45°	1578	1597	1652	1709	1709	1190
60°-70°	494.6	7.7	4.3	55°	982	1007	1039	1045	1052	872
70°-80°	200.5	3.1	1.8	65°	506	489	463	494	510	507
80°-90°	42.3	0.7	0.4	75°	199	182	159	187	196	218
90°-100°	0.0	0.0	0.0	85°	31	29	29	32	31	45
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°	2201.9	34.3	19.3							
0°-40°	3518.7	54.9	30.9							
0°-60°	5673.1	88.5	49.8							
0°-90°	6410.6	100.0	56.2							
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°	6410.6	100.0	56.2							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2850	2850	2850	2850	2850
5°	2760	2763	2765	2763	2767
10°	2766	2770	2786	2792	2797
15°	2701	2711	2739	2769	2779
20°	2642	2667	2714	2760	2776
25°	2402	2433	2497	2551	2571
30°	2254	2289	2363	2423	2452
35°	2011	2041	2102	2163	2193
40°	1786	1796	1850	1908	1944
45°	1578	1597	1652	1709	1709
50°	1227	1264	1311	1338	1329
55°	982	1007	1039	1045	1052
60°	711	715	716	731	741
65°	506	489	463	494	510
70°	328	307	267	311	324
75°	199	182	159	187	196
80°	102	92	91	96	100
85°	31	29	29	32	31
90°	0	0	0	0	0

(END OF REPORT)