

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. 8368.0

Luminaire Tested: **FUS-X16-332-120-80/99(.75)**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: BALLABS TEST NO. 8368.0  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FUS-X16-332-120-80/99(.75)  
Description: 3/32W T8 4'SURFACE MOUNT LUMINAIRE w/WHITE REFL  
Light Source: -  
F32T8/735/RS  
Ballast/Driver: ADVANCE BALLAST #R1P32-TP & #R2P32-TP

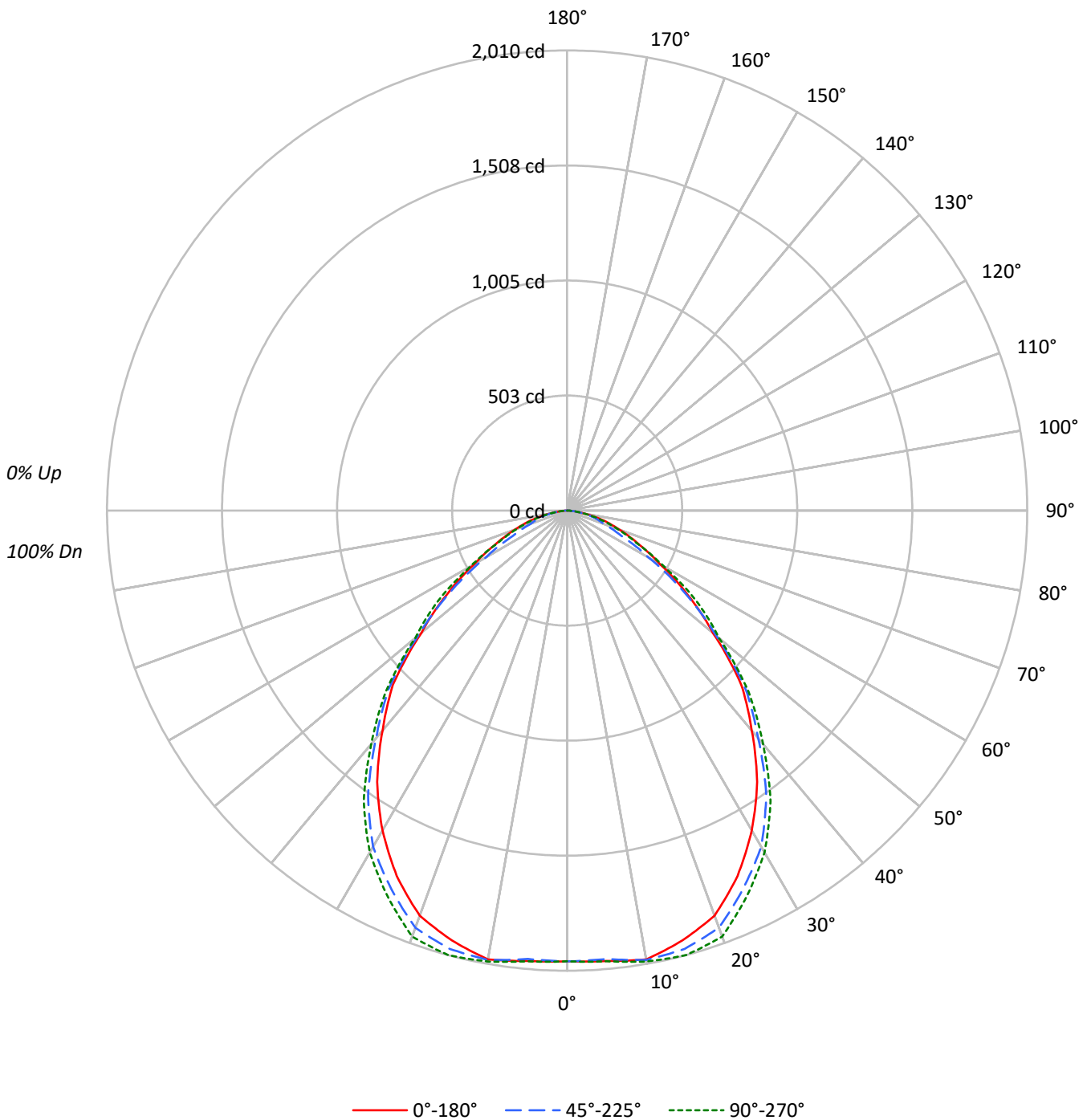
**Summary**

Lumens per Lamp: 2850 (3 lamps)  
Luminaire Lumens: 4423.1 lumens  
Efficiency: 51.7%  
Efficacy: 40.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.28  
Luminous Opening: Rectangular (W 1.02' x L: 3.92' x H: 0')  
CIE Type: Direct

Input Watts (W): 110  
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	62	62	62	62	60	60	60	60	57	57	57	55	55	55	53	53	53	52
1	57	55	53	52	56	54	52	51	52	50	49	50	49	48	48	47	46	45
2	53	49	46	43	51	48	45	43	46	44	42	45	43	41	43	42	40	39
3	49	44	40	37	47	43	40	37	42	39	36	40	38	36	39	37	35	34
4	45	39	35	32	44	39	35	32	38	34	32	36	34	31	35	33	31	30
5	42	36	31	28	41	35	31	28	34	31	28	33	30	28	32	29	27	26
6	39	32	28	25	38	32	28	25	31	27	25	30	27	25	29	27	24	23
7	36	30	25	22	35	29	25	22	28	25	22	28	24	22	27	24	22	21
8	34	27	23	20	33	27	23	20	26	23	20	25	22	20	25	22	20	19
9	31	25	21	18	31	25	21	18	24	21	18	24	20	18	23	20	18	17
10	30	23	19	17	29	23	19	17	22	19	17	22	19	17	21	19	16	16

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5300	5300	5300
5°	5336	5312	5339
10°	5441	5447	5466
15°	5417	5523	5601
20°	5393	5554	5671
25°	5230	5408	5518
30°	5013	5268	5358
35°	4754	4981	5090
40°	4409	4560	4676
45°	4096	4198	4267
50°	3484	3555	3630
55°	3027	2947	3238
60°	2525	2223	2616
65°	2172	1662	2121
70°	1897	1338	1818
75°	1674	1310	1560
80°	1209	1100	1147
85°	679	772	803



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	188.8	4.3	2.2	0°	1969	1969	1969	1969	1969	
10°-20°	557.8	12.6	6.5	5°	1975	1959	1966	1966	1976	189
20°-30°	836.8	18.9	9.8	15°	1944	1958	1982	1987	2010	549
30°-40°	938.1	21.2	11.0	25°	1761	1783	1821	1862	1858	809
40°-50°	837.1	18.9	9.8	35°	1447	1478	1516	1550	1549	901
50°-60°	580.8	13.1	6.8	45°	1076	1076	1103	1116	1121	817
60°-70°	306.9	6.9	3.6	55°	645	639	628	674	690	579
70°-80°	144.0	3.3	1.7	65°	341	285	261	305	333	344
80°-90°	32.9	0.7	0.4	75°	161	132	126	130	150	169
90°-100°	0.0	0.0	0.0	85°	22	23	25	26	26	33
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°	1583.3	35.8	18.5							
0°-40°	2521.4	57.0	29.5							
0°-60°	3939.3	89.1	46.1							
0°-90°	4423.1	100.0	51.7							
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°	4423.1	100.0	51.7							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1969	1969	1969	1969	1969
5°	1975	1959	1966	1966	1976
10°	1991	1982	1993	2008	2000
15°	1944	1958	1982	1987	2010
20°	1883	1906	1939	1962	1980
25°	1761	1783	1821	1862	1858
30°	1613	1650	1695	1716	1724
35°	1447	1478	1516	1550	1549
40°	1255	1266	1298	1319	1331
45°	1076	1076	1103	1116	1121
50°	832	843	849	867	867
55°	645	639	628	674	690
60°	469	428	413	463	486
65°	341	285	261	305	333
70°	241	202	170	201	231
75°	161	132	126	130	150
80°	78	70	71	71	74
85°	22	23	25	26	26
90°	0	0	0	0	0

(END OF REPORT)