

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: P183420

Luminaire Tested: **FMS-24-4-LD4-3STD-80-84**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P183420  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26874)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMS-24-4-LD4-3STD-80-84  
Description:  
Light Source: 2UT217042A8404A  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10002.1 lumens  
Efficiency: N/A  
Efficacy: 96.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.19 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

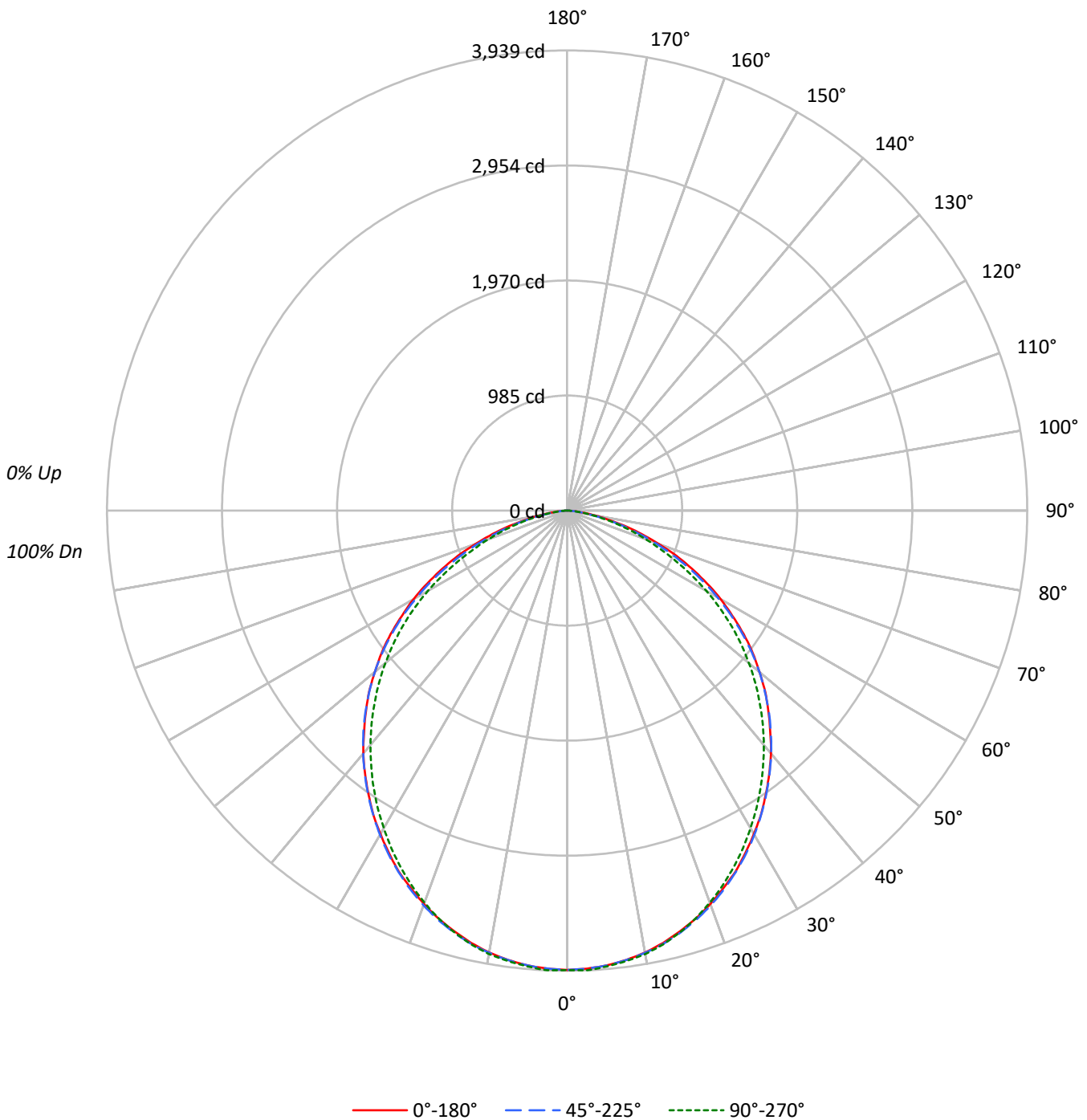
Input Watts (W): 103.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93		95	92	90		91	89	88	85
2	100	92	86	80	98	90	85	80	87	82	78		84	80	76		81	77	74	72
3	92	81	74	67	89	80	73	67	77	71	66		74	69	65		72	67	63	61
4	84	72	64	58	82	71	63	57	69	62	56		66	60	56		64	59	55	53
5	77	65	56	50	75	64	56	49	62	54	49		60	53	48		58	52	48	46
6	72	59	50	44	70	58	49	43	56	48	43		54	48	43		53	47	42	40
7	66	53	45	39	65	52	44	38	51	44	38		49	43	38		48	42	38	36
8	62	49	40	35	60	48	40	34	47	39	34		45	39	34		44	38	34	32
9	58	45	37	31	56	44	36	31	43	36	31		42	35	31		41	35	31	29
10	54	41	33	28	53	41	33	28	40	33	28		39	32	28		38	32	28	26

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

	0°	45°	90°
0°	5291	5291	5291
5°	5278	5279	5290
10°	5249	5252	5267
15°	5194	5210	5205
20°	5131	5149	5114
25°	5061	5069	5002
30°	4967	4981	4877
35°	4870	4878	4747
40°	4768	4771	4600
45°	4638	4647	4438
50°	4499	4499	4253
55°	4329	4288	4021
60°	4093	3999	3706
65°	3748	3612	3283
70°	3284	3089	2806
75°	2670	2429	2262
80°	1881	1657	1593
85°	956	866	880



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	371.4	3.7
10°-20°	1054.0	10.5
20°-30°	1568.0	15.7
30°-40°	1845.9	18.5
40°-50°	1859.3	18.6
50°-60°	1603.2	16.0
60°-70°	1107.4	11.1
70°-80°	507.8	5.1
80°-90°	85.2	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2993.5	29.9
0°-40°	4839.3	48.4
0°-60°	8301.8	83.0
0°-90°	10002.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10002.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3933	3933	3933	3933	3933	
5°	3908	3911	3909	3918	3917	371
15°	3729	3734	3740	3746	3737	1052
25°	3409	3416	3414	3398	3370	1569
35°	2965	2977	2970	2932	2890	1855
45°	2437	2440	2442	2380	2332	1881
55°	1845	1818	1828	1757	1714	1645
65°	1177	1159	1134	1077	1031	1166
75°	514	501	467	444	435	548
85°	62	61	56	56	57	93
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3932.6	3932.6	3932.6	3932.6	3932.6
2.5°	3924.4	3926.9	3923.6	3934.3	3939.2
5°	3907.9	3911.2	3908.7	3917.8	3916.9
7.5°	3879.8	3882.3	3880.6	3891.4	3889.7
10°	3841.8	3842.6	3844.3	3857.5	3855.0
12.5°	3790.6	3794.7	3799.7	3808.8	3802.2
15°	3728.7	3734.5	3740.3	3746.0	3737.0
17.5°	3662.6	3667.6	3673.4	3675.0	3660.2
20°	3583.4	3594.1	3595.8	3590.8	3571.8
22.5°	3497.5	3509.9	3509.1	3499.2	3475.2
25°	3409.2	3415.8	3414.1	3398.4	3369.5
27.5°	3305.1	3318.3	3314.2	3291.9	3258.1
30°	3197.0	3211.8	3206.1	3178.0	3139.2
32.5°	3088.0	3096.2	3089.6	3056.6	3017.8
35°	2965.0	2977.3	2969.9	2931.9	2889.8
37.5°	2841.9	2852.7	2846.1	2801.5	2756.1
40°	2714.8	2721.4	2716.4	2666.1	2619.0
42.5°	2574.4	2582.7	2581.8	2525.7	2477.8
45°	2437.4	2439.8	2442.3	2380.4	2332.5
47.5°	2301.1	2291.2	2297.0	2230.9	2184.7
50°	2149.2	2137.6	2149.2	2078.2	2032.0
52.5°	2003.9	1979.9	1991.5	1922.1	1875.1
55°	1845.4	1818.1	1828.0	1757.0	1714.1
57.5°	1676.1	1657.9	1658.8	1593.5	1547.3
60°	1520.9	1492.0	1486.2	1422.6	1377.2
62.5°	1348.3	1324.4	1312.8	1250.9	1203.0
65°	1177.4	1159.2	1134.5	1076.7	1031.3
67.5°	1012.3	990.0	957.8	906.6	867.8
70°	834.7	821.5	785.2	743.1	713.4
72.5°	668.8	657.2	620.9	587.9	572.2
75°	513.6	501.2	467.3	444.2	435.1
77.5°	361.6	359.2	330.3	314.6	311.3
80°	242.7	232.8	213.8	203.1	205.6
82.5°	139.5	132.1	121.4	118.1	119.7
85°	61.9	61.1	56.1	56.1	57.0
87.5°	19.0	19.8	20.6	21.5	22.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)