

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: 144P109

Luminaire Tested: **SA-440IMA**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: 144P109  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: SA-440IMA  
Description: Surface Mount Architectural Wrap with an injection molded acrylic lens.  
Light Source: Four-F40CW - 3150 Lumens ea. - 40 Watts ea.  
Ballast/Driver: -

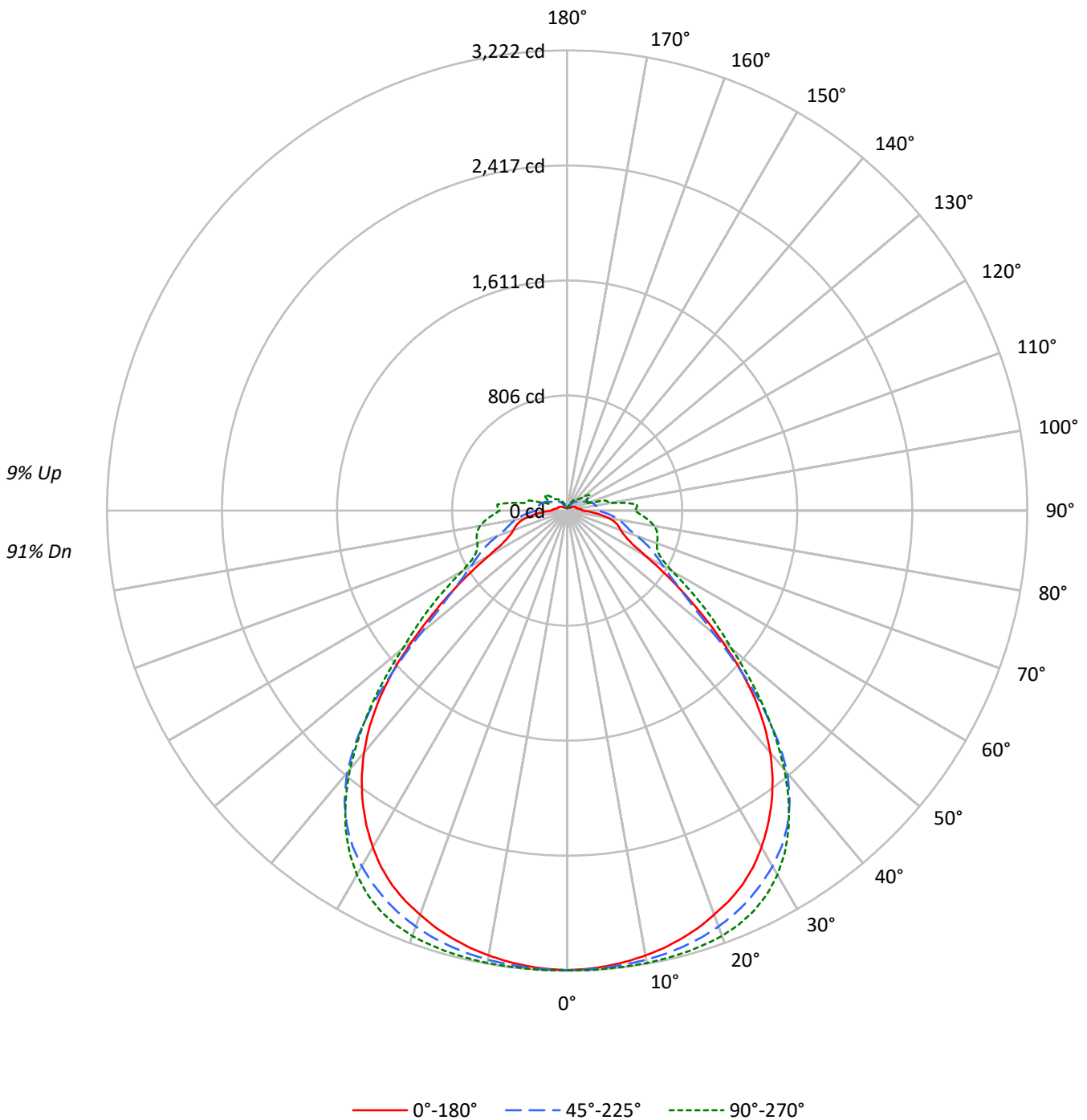
**Summary**

Lumens per Lamp: 3150 (4 lamps)  
Luminaire Lumens: 9003.2 lumens  
Efficiency: 71.5%  
Efficacy: 54.7 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.33 / 1.34  
Luminous Opening: Rectangular w/ Sides (W: 1.3' x L: 4.05' x H: 0.2')  
CIE Type: Direct

Input Watts (W): 164.7  
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	84	84	84	84	81	81	81	81	76	76	76	71	71	71	67	67	67	65
1	76	73	70	67	73	70	68	65	66	64	62	62	60	59	59	57	56	54
2	70	64	59	55	67	62	58	54	58	55	52	55	52	50	52	50	48	46
3	64	57	51	47	62	55	50	46	52	48	44	49	46	43	47	44	41	39
4	59	51	45	40	57	49	44	39	47	42	38	44	40	37	42	39	36	34
5	54	46	39	35	52	44	39	34	42	37	34	40	36	33	38	35	32	30
6	50	41	35	31	49	40	35	30	38	33	30	37	32	29	35	31	28	27
7	47	38	32	27	45	37	31	27	35	30	26	33	29	26	32	28	25	24
8	44	34	29	25	42	34	28	24	32	27	24	31	26	23	30	26	23	21
9	41	32	26	22	40	31	26	22	30	25	22	28	24	21	27	23	21	19
10	38	29	24	20	37	29	23	20	27	23	20	26	22	19	25	22	19	18

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

	0°	45°	90°
0°	6592	6592	6592
5°	6554	6519	6532
10°	6523	6479	6514
15°	6491	6453	6524
20°	6447	6422	6547
25°	6400	6375	6526
30°	6262	6286	6402
35°	6035	6117	6111
40°	5685	5725	5609
45°	5124	4884	4896
50°	4231	3645	4050
55°	3262	2879	3393
60°	2380	2547	2745
65°	2027	2432	2575
70°	2112	2225	2819
75°	2410	2201	3303
80°	2697	2388	3921
85°	2926	2611	4693



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	305.7	3.4	2.4	0°	3218	3218	3218	3218	3218	
10°-20°	891.4	9.9	7.1	5°	3201	3203	3210	3213	3219	304
20°-30°	1380.7	15.3	11.0	15°	3101	3119	3159	3186	3202	876
30°-40°	1641.3	18.2	13.0	25°	2896	2932	3008	3065	3093	1331
40°-50°	1467.5	16.3	11.6	35°	2496	2562	2690	2705	2705	1555
50°-60°	975.1	10.8	7.7	45°	1855	1898	1926	1963	1948	1414
60°-70°	636.9	7.1	5.1	55°	977	1083	970	1195	1157	883
70°-80°	504.7	5.6	4.0	65°	462	556	655	721	705	476
80°-90°	381.3	4.2	3.0	75°	360	384	426	589	655	375
90°-100°	278.9	3.1	2.2	85°	194	247	292	495	548	179
100°-110°	189.1	2.1	1.5	90°	109	151	217	414	473	64
110°-120°	121.3	1.3	1.0	95°	96	143	222	406	490	75
120°-130°	100.8	1.1	0.8	105°	67	113	192	256	276	73
130°-140°	62.0	0.7	0.5	115°	61	91	149	141	148	60
140°-150°	38.8	0.4	0.3	125°	46	64	115	175	192	41
150°-160°	19.0	0.2	0.2	135°	30	44	88	107	112	24
160°-170°	7.0	0.1	0.1	145°	23	37	66	85	93	15
170°-180°	1.7	0.0	0.0	155°	20	26	40	55	59	9
0°-30°	2577.8	28.6	20.5	165°	18	18	23	29	30	5
0°-40°	4219.2	46.9	33.5	175°	18	18	18	18	18	2
0°-60°	6661.8	74.0	52.9	180°	18	18	18	18	18	
0°-90°	8184.6	90.9	65.0							
90°-120°	589.3	6.5	4.7							
90°-150°	790.9	8.8	6.3							
90°-180°	819.0	9.1	6.5							
0°-180°	9003.2	100.0	71.5							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3218	3218	3218	3218	3218
2.5°	3213	3212	3216	3215	3222
5°	3201	3203	3210	3213	3219
7.5°	3185	3189	3203	3209	3218
10°	3163	3173	3193	3206	3216
12.5°	3136	3149	3179	3198	3210
15°	3101	3119	3159	3186	3202
17.5°	3062	3084	3133	3168	3188
20°	3010	3041	3099	3145	3170
22.5°	2959	2991	3058	3112	3138
25°	2896	2932	3008	3065	3093
27.5°	2817	2860	2946	3006	3029
30°	2722	2777	2876	2927	2945
32.5°	2615	2677	2793	2827	2837
35°	2496	2562	2690	2705	2705
37.5°	2363	2430	2560	2558	2547
40°	2213	2278	2397	2384	2366
42.5°	2045	2102	2186	2181	2161
45°	1855	1898	1926	1963	1948
47.5°	1640	1669	1632	1730	1724
50°	1405	1441	1338	1506	1502
52.5°	1180	1246	1119	1336	1322
55°	977	1083	970	1195	1157
57.5°	790	929	859	1059	993
60°	630	783	775	925	847
62.5°	522	653	712	810	754
65°	462	556	655	721	705
67.5°	426	488	588	664	680
70°	400	443	517	628	668
72.5°	381	410	462	604	664
75°	360	384	426	589	655
77.5°	331	359	398	575	642
80°	292	330	366	556	620
82.5°	245	291	332	529	586
85°	194	247	292	495	548
87.5°	142	200	250	458	506
90°	109	151	217	414	473
92.5°	104	149	222	421	488
95°	96	143	222	406	490
97.5°	88	135	213	376	407
100°	79	127	202	337	305
102.5°	72	119	195	313	289
105°	67	113	192	256	276
107.5°	65	107	180	200	188
110°	65	101	171	170	139



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	64	96	162	143	140
115°	61	91	149	141	148
117.5°	57	85	132	144	153
120°	53	78	118	151	162
122.5°	50	70	113	167	182
125°	46	64	115	175	192
127.5°	41	58	110	160	174
130°	37	52	99	139	155
132.5°	33	48	91	116	124
135°	30	44	88	107	112
137.5°	28	43	85	102	107
140°	26	41	80	98	103
142.5°	25	39	74	92	98
145°	23	37	66	85	93
147.5°	23	34	59	79	84
150°	22	31	52	71	76
152.5°	21	29	46	63	67
155°	20	26	40	55	59
157.5°	20	24	35	48	51
160°	19	21	31	41	43
162.5°	19	19	27	34	37
165°	18	18	23	29	30
167.5°	18	18	20	24	25
170°	18	18	17	20	21
172.5°	18	18	17	18	18
175°	18	18	18	18	18
177.5°	18	18	18	18	18
180°	18	18	18	18	18

(END OF REPORT)