

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: 162P101

Luminaire Tested: **MC-232A**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: 162P101  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: MC-232A  
Description: 1 X 4 Surface Modular Luminaire with a  
.095 pattern 12 acrylic lens.  
Light Source: Two-F32T8/35K - 2850 Lumens ea. - 32 Watts ea.  
Ballast/Driver: Triad-Utrad B232I120RH Electronic

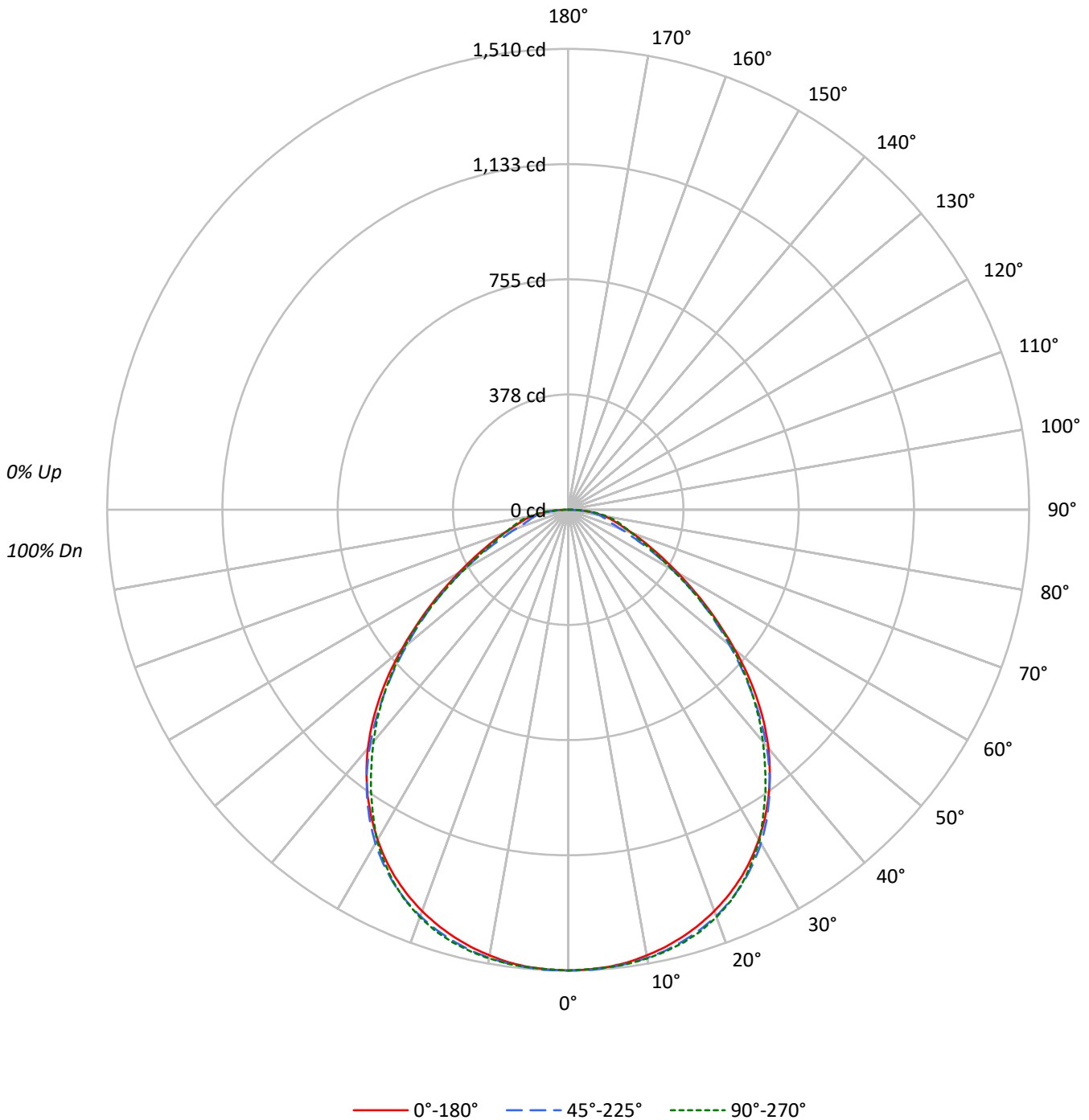
**Summary**

Lumens per Lamp: 2850 (2 lamps)  
Luminaire Lumens: 3550.1 lumens  
Efficiency: 62.3%  
Efficacy: 58.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.22 / 1.29  
Luminous Opening: Rectangular (W 0.78' x L: 3.8' x H: 0')  
CIE Type: Direct

Input Watts (W): 60.8  
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	74	74	74	74	72	72	72	72	69	69	69	66	66	66	64	64	64	62
1	68	66	63	61	67	64	62	60	62	60	58	59	58	56	57	56	55	53
2	63	58	54	51	61	57	53	50	55	52	49	53	50	48	51	49	47	46
3	58	52	47	43	56	51	46	43	49	45	42	47	44	41	46	43	41	39
4	53	46	41	37	52	45	41	37	44	40	36	42	39	36	41	38	35	34
5	49	42	36	32	48	41	36	32	40	35	32	38	35	32	37	34	31	30
6	46	38	32	29	44	37	32	29	36	32	28	35	31	28	34	31	28	27
7	42	34	29	26	41	34	29	25	33	29	25	32	28	25	31	28	25	24
8	40	32	26	23	39	31	26	23	30	26	23	30	26	23	29	25	23	21
9	37	29	24	21	36	29	24	21	28	24	21	27	23	21	27	23	20	19
10	35	27	22	19	34	27	22	19	26	22	19	25	21	19	25	21	19	18

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

	0°	45°	90°
0°	5471	5471	5471
5°	5471	5478	5474
10°	5457	5486	5493
15°	5436	5484	5503
20°	5398	5464	5476
25°	5333	5405	5397
30°	5226	5284	5243
35°	5065	5083	4981
40°	4829	4782	4692
45°	4484	4366	4366
50°	4014	3890	3952
55°	3494	3399	3418
60°	3000	2863	2855
65°	2615	2315	2461
70°	2352	1907	2320
75°	2282	1848	2450
80°	2504	2191	2734
85°	2661	2411	2952



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	143.2	4.0	2.5	0°	1510	1510	1510	1510	1510	
10°-20°	411.9	11.6	7.2	5°	1504	1504	1506	1507	1505	143
20°-30°	619.3	17.4	10.9	15°	1449	1453	1462	1467	1467	409
30°-40°	712.2	20.1	12.5	25°	1334	1342	1352	1353	1350	614
40°-50°	659.3	18.6	11.6	35°	1145	1149	1149	1135	1126	714
50°-60°	484.2	13.6	8.5	45°	875	868	852	846	852	672
60°-70°	287.3	8.1	5.0	55°	553	538	538	536	541	497
70°-80°	166.1	4.7	2.9	65°	305	283	270	286	287	307
80°-90°	66.7	1.9	1.2	75°	163	155	132	166	175	175
90°-100°	0.0	0.0	0.0	85°	64	61	58	69	71	64
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	5
110°-120°	0.0	0.0	0.0	95°	0	0	0	0	0	0
120°-130°	0.0	0.0	0.0	105°	0	0	0	0	0	0
130°-140°	0.0	0.0	0.0	115°	0	0	0	0	0	0
140°-150°	0.0	0.0	0.0	125°	0	0	0	0	0	0
150°-160°	0.0	0.0	0.0	135°	0	0	0	0	0	0
160°-170°	0.0	0.0	0.0	145°	0	0	0	0	0	0
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	1174.4	33.1	20.6	165°	0	0	0	0	0	0
0°-40°	1886.6	53.1	33.1	175°	0	0	0	0	0	0
0°-60°	3030.1	85.4	53.2	180°	0	0	0	0	0	0
0°-90°	3550.1	100.0	62.3							
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°	3550.1	100.0	62.3							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1510	1510	1510	1510	1510
2.5°	1508	1508	1510	1510	1507
5°	1504	1504	1506	1507	1505
7.5°	1496	1496	1500	1502	1501
10°	1483	1485	1491	1494	1493
12.5°	1468	1470	1479	1483	1482
15°	1449	1453	1462	1467	1467
17.5°	1426	1431	1442	1448	1447
20°	1400	1406	1417	1422	1420
22.5°	1369	1376	1387	1391	1389
25°	1334	1342	1352	1353	1350
27.5°	1294	1302	1310	1308	1303
30°	1249	1257	1263	1256	1253
32.5°	1199	1206	1209	1198	1189
35°	1145	1149	1149	1135	1126
37.5°	1085	1088	1083	1067	1059
40°	1021	1020	1011	997	992
42.5°	950	947	933	922	924
45°	875	868	852	846	852
47.5°	795	785	770	767	777
50°	712	703	690	690	701
52.5°	631	619	613	612	621
55°	553	538	538	536	541
57.5°	480	463	466	463	464
60°	414	394	395	395	394
62.5°	356	334	329	336	335
65°	305	283	270	286	287
67.5°	261	241	220	248	249
70°	222	207	180	217	219
72.5°	189	179	151	190	195
75°	163	155	132	166	175
77.5°	142	132	119	143	155
80°	120	108	105	120	131
82.5°	93	84	85	97	103
85°	64	61	58	69	71
87.5°	33	33	29	35	35
90°	0	0	0	0	0
92.5°	0	0	0	0	0
95°	0	0	0	0	0
97.5°	0	0	0	0	0
100°	0	0	0	0	0
102.5°	0	0	0	0	0
105°	0	0	0	0	0
107.5°	0	0	0	0	0
110°	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0	0	0	0	0
115°	0	0	0	0	0
117.5°	0	0	0	0	0
120°	0	0	0	0	0
122.5°	0	0	0	0	0
125°	0	0	0	0	0
127.5°	0	0	0	0	0
130°	0	0	0	0	0
132.5°	0	0	0	0	0
135°	0	0	0	0	0
137.5°	0	0	0	0	0
140°	0	0	0	0	0
142.5°	0	0	0	0	0
145°	0	0	0	0	0
147.5°	0	0	0	0	0
150°	0	0	0	0	0
152.5°	0	0	0	0	0
155°	0	0	0	0	0
157.5°	0	0	0	0	0
160°	0	0	0	0	0
162.5°	0	0	0	0	0
165°	0	0	0	0	0
167.5°	0	0	0	0	0
170°	0	0	0	0	0
172.5°	0	0	0	0	0
175°	0	0	0	0	0
177.5°	0	0	0	0	0
180°	0	0	0	0	0

(END OF REPORT)