

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: 165P105

Luminaire Tested: **P410-232-TBW**

Issue Date: 3/3/2020



**Test Information**

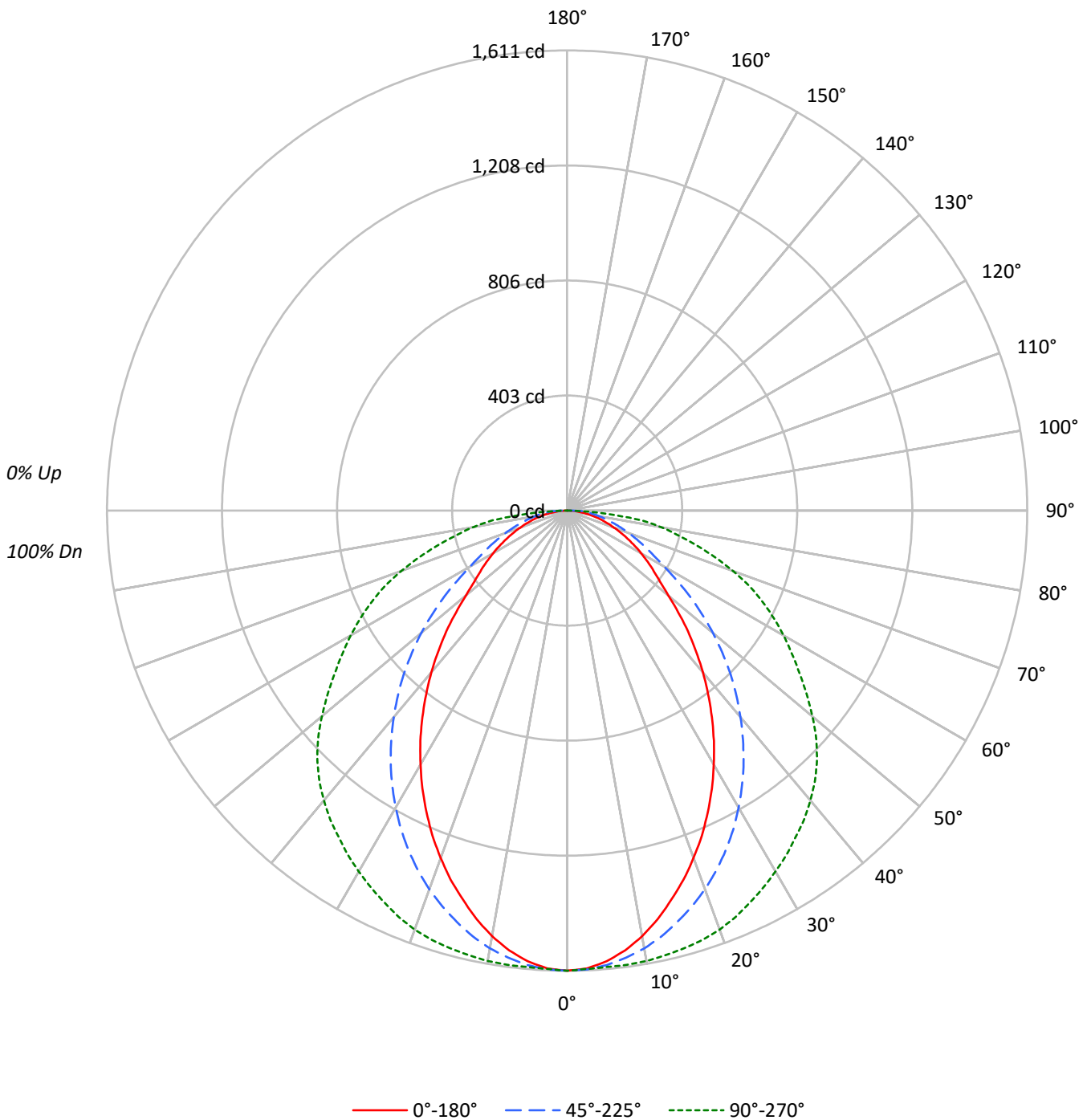
Test Method: LM-41-14  
Report Number: 165P105  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: P410-232-TBW  
Description: P410 Series Surface Linear Luminaire with white thin blade baffle. Baffle has 40 degree shielding in the 0 degree lateral plane.  
Light Source: Two-FO32T8/35K - 2850 Lumens ea. - 32 Watts ea.  
Ballast/Driver: Advance R2P32-TP Magnetic; L.O.B.F. = 95.5

**Summary**

Lumens per Lamp: 2850 (2 lamps)  
Luminaire Lumens: 3768.7 lumens  
Efficiency: 66.1%  
Efficacy: 49.5 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.34 / 1.23  
Luminous Opening: Rectangular w/ Sides (W: 0.72' x L: 4' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 76.2  
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	79	79	79	79	77	77	77	77	73	73	73		70	70	70		67	67	67	66
1	72	69	66	64	70	68	65	63	65	63	61		62	61	59		60	58	57	56
2	66	61	56	53	64	59	55	52	57	54	51		55	52	50		53	51	49	47
3	60	54	48	44	59	53	48	44	51	47	43		49	45	42		47	44	42	40
4	56	48	42	38	54	47	42	38	45	41	37		44	40	37		42	39	36	35
5	51	43	37	33	50	42	37	33	41	36	32		40	35	32		38	35	32	30
6	47	39	33	29	46	38	33	29	37	32	29		36	32	28		35	31	28	27
7	44	35	30	26	43	35	30	26	34	29	26		33	29	25		32	28	25	24
8	41	32	27	23	40	32	27	23	31	26	23		30	26	23		30	26	23	22
9	39	30	25	21	38	30	24	21	29	24	21		28	24	21		27	24	21	19
10	36	28	23	19	35	27	22	19	27	22	19		26	22	19		25	22	19	18

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

	0°	45°	90°
0°	6031	6031	6031
5°	5942	5951	5967
10°	5731	5816	5964
15°	5435	5633	5962
20°	5116	5430	5967
25°	4766	5190	5933
30°	4387	4917	5912
35°	3978	4610	5897
40°	3550	4267	5901
45°	3101	3901	5869
50°	2626	3478	5737
55°	2352	3011	5561
60°	2168	2514	5456
65°	1984	2209	5350
70°	1812	1981	5131
75°	1651	1765	4716
80°	1465	1587	4358
85°	1145	1449	2735



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	151.1	4.0	2.7	0°	1611	1611	1611	1611	1611	
10°-20°	421.1	11.2	7.4	5°	1584	1588	1597	1605	1604	149
20°-30°	610.1	16.2	10.7	15°	1410	1434	1491	1558	1586	396
30°-40°	691.6	18.4	12.1	25°	1165	1207	1313	1445	1514	535
40°-50°	661.6	17.6	11.6	35°	883	940	1077	1271	1395	551
50°-60°	537.0	14.2	9.4	45°	598	652	808	1060	1237	461
60°-70°	387.3	10.3	6.8	55°	371	390	525	793	993	334
70°-80°	223.8	5.9	3.9	65°	234	247	301	522	754	233
80°-90°	85.2	2.3	1.5	75°	123	133	166	237	467	131
90°-100°	0.0	0.0	0.0	85°	33	45	71	113	148	36
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	2
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°	1182.4	31.4	20.7	165°	0	0	0	0	0	0
0°-40°	1873.9	49.7	32.9	175°	0	0	0	0	0	0
0°-60°	3072.5	81.5	53.9	180°	0	0	0	0	0	0
0°-90°	3768.7	100.0	66.1							
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°	3768.7	100.0	66.1							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1611	1611	1611	1611	1611
2.5°	1604	1606	1608	1610	1606
5°	1584	1588	1597	1605	1604
7.5°	1553	1560	1579	1599	1604
10°	1513	1525	1556	1588	1601
12.5°	1465	1482	1527	1575	1594
15°	1410	1434	1491	1558	1586
17.5°	1355	1382	1453	1537	1576
20°	1294	1326	1411	1511	1561
22.5°	1232	1269	1364	1481	1540
25°	1165	1207	1313	1445	1514
27.5°	1097	1144	1259	1405	1488
30°	1027	1077	1201	1361	1459
32.5°	956	1010	1140	1316	1429
35°	883	940	1077	1271	1395
37.5°	811	869	1011	1222	1363
40°	739	797	944	1170	1325
42.5°	668	724	877	1117	1284
45°	598	652	808	1060	1237
47.5°	528	580	737	1000	1183
50°	462	508	666	933	1121
52.5°	410	442	595	864	1057
55°	371	390	525	793	993
57.5°	334	351	455	724	933
60°	300	314	392	657	875
62.5°	266	280	342	590	816
65°	234	247	301	522	754
67.5°	204	215	264	450	691
70°	175	186	229	374	618
72.5°	149	159	196	300	542
75°	123	133	166	237	467
77.5°	99	109	139	191	396
80°	76	86	114	161	335
82.5°	54	65	91	143	264
85°	33	45	71	113	148
87.5°	13	26	52	80	53
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)