

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: 165P125

Luminaire Tested: **P410-354T5-LR-UPL-NO LENS-TALL SOCKETS**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 165P125
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: P410-354T5-LR-UPL-NO LENS-TALL SOCKETS
Description: P410 Series Luminaire with reflector with turned up
legs, tall sockets, and 16 unlensed uplight apertures.
Light Source: Three - F54T5/HO/830 - 4400 Lumens ea. - 54 Watts ea.
Ballast/Driver: Two - Triad B254PUNV-D Electronic - L.O.B.F. = Unknown

Summary

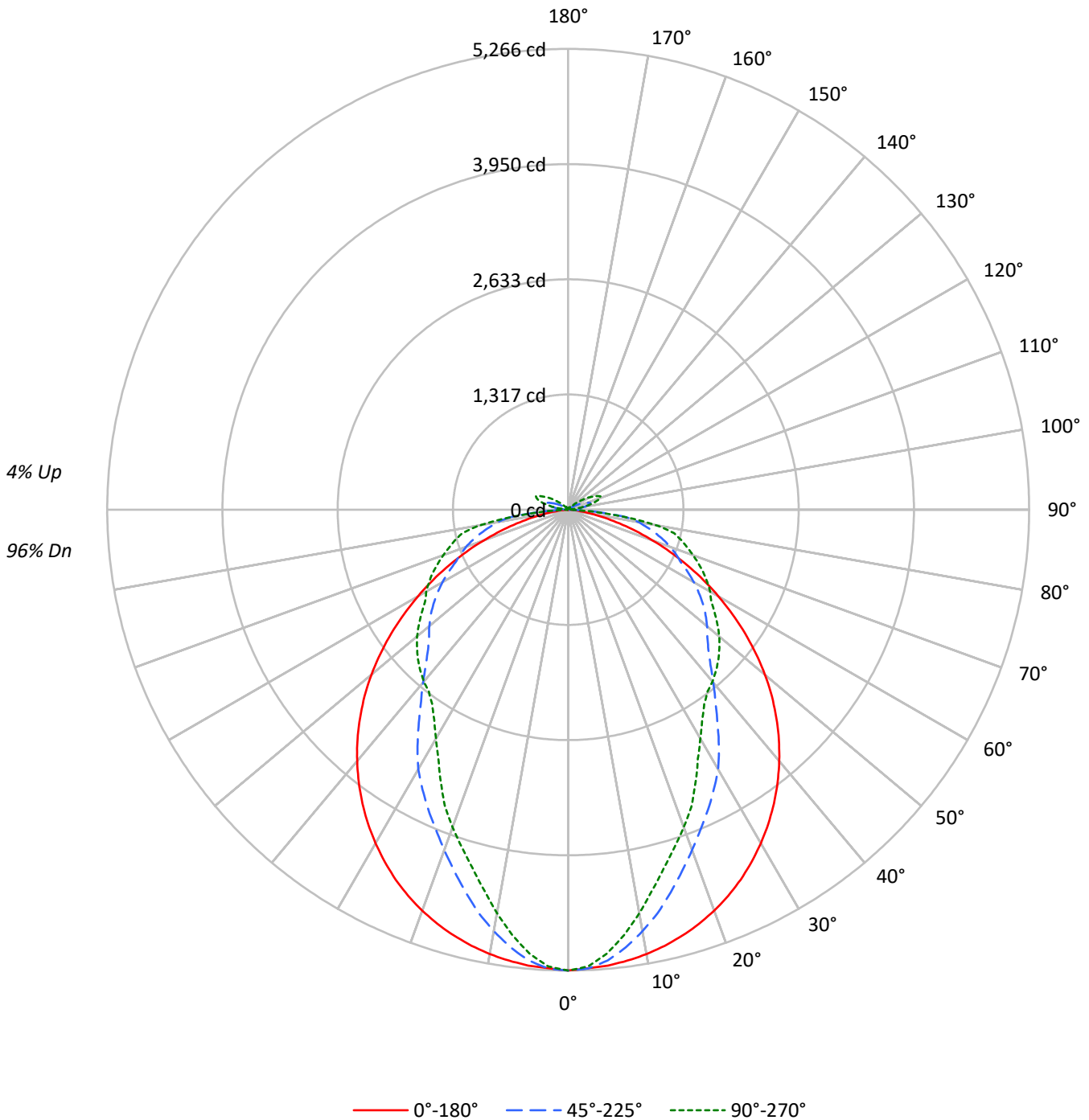
Lumens per Lamp: 4400 (3 lamps)
Luminaire Lumens: 12670.4 lumens
Efficiency: 96.0%
Efficacy: 69.6 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 0.91 / 1.11
Luminous Opening: Rectangular w/ Sides (W: 0.77' x L: 4' x H: 0.16')
CIE Type: Direct

Input Watts (W): 182
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	113	113	113	113	110	110	110	110	104	104	104	99	99	99	94	94	94	92
1	103	98	94	90	100	96	92	88	91	88	85	86	84	81	82	80	78	76
2	94	85	79	73	91	83	77	72	79	74	70	75	71	67	72	68	65	63
3	85	75	67	61	83	73	66	60	70	64	58	67	61	57	64	59	55	53
4	78	67	58	52	76	65	57	51	62	55	50	59	54	49	57	52	48	46
5	72	60	51	45	70	58	50	44	56	49	44	54	47	43	51	46	42	40
6	67	54	45	39	65	53	45	39	51	44	38	49	42	38	47	41	37	35
7	62	49	41	35	60	48	40	35	46	39	34	45	38	34	43	37	33	31
8	58	45	37	31	56	44	36	31	43	36	31	41	35	30	40	34	30	28
9	54	41	34	28	53	41	33	28	39	33	28	38	32	27	37	31	27	25
10	51	38	31	26	49	38	30	26	36	30	25	35	29	25	34	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18403	18403	18403
5°	18280	17867	17538
10°	18169	16833	16021
15°	18038	15641	14508
20°	17874	14463	13346
25°	17655	13475	12097
30°	17363	12552	10878
35°	17007	11298	10093
40°	16552	10258	9961
45°	15982	9521	9927
50°	15236	9319	9818
55°	14219	9152	9585
60°	12975	8896	9616
65°	11401	8529	9759
70°	9464	8553	9867
75°	7120	8393	10145
80°	4511	8257	9488
85°	1596	4981	3932



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	484.9	3.8	3.7	0°	5266	5266	5266	5266	5266	
10°-20°	1289.1	10.2	9.8	5°	5229	5215	5171	5125	5090	497
20°-30°	1793.6	14.2	13.6	15°	5039	4849	4526	4317	4233	1422
30°-40°	1974.1	15.6	15.0	25°	4664	4225	3780	3562	3441	2148
40°-50°	1972.4	15.6	14.9	35°	4098	3452	2973	2743	2710	2561
50°-60°	1776.2	14.0	13.5	45°	3363	2667	2264	2388	2426	2591
60°-70°	1439.0	11.4	10.9	55°	2467	1789	1878	2008	2040	2203
70°-80°	1037.6	8.2	7.9	65°	1497	1134	1419	1638	1706	1484
80°-90°	351.5	2.8	2.7	75°	606	665	1028	1261	1334	656
90°-100°	59.2	0.5	0.4	85°	58	262	373	351	331	97
100°-110°	196.2	1.5	1.5	90°	0	13	14	13	8	2
110°-120°	168.5	1.3	1.3	95°	2	70	49	28	19	2
120°-130°	72.6	0.6	0.5	105°	4	66	263	300	300	4
130°-140°	24.0	0.2	0.2	115°	5	23	162	316	371	5
140°-150°	14.7	0.1	0.1	125°	6	14	43	151	196	6
150°-160°	9.2	0.1	0.1	135°	8	13	31	35	50	6
160°-170°	5.9	0.0	0.0	145°	11	20	21	29	38	7
170°-180°	1.7	0.0	0.0	155°	13	20	20	21	24	6
0°-30°	3567.6	28.2	27.0	165°	16	18	22	25	25	4
0°-40°	5541.7	43.7	42.0	175°	17	18	18	17	15	2
0°-60°	9290.3	73.3	70.4	180°	17	17	17	17	17	
0°-90°	12118.3	95.6	91.8							
90°-120°	424.0	3.3	3.2							
90°-150°	535.3	4.2	4.1							
90°-180°	552.0	4.4	4.2							
0°-180°	12670.4	100.0	96.0							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5266	5266	5266	5266	5266
2.5°	5244	5247	5248	5245	5224
5°	5229	5215	5171	5125	5090
7.5°	5197	5158	5044	4951	4901
10°	5156	5075	4890	4752	4680
12.5°	5104	4969	4721	4525	4449
15°	5039	4849	4526	4317	4233
17.5°	4964	4713	4329	4118	4042
20°	4876	4566	4137	3934	3860
22.5°	4776	4404	3953	3761	3675
25°	4664	4225	3780	3562	3441
27.5°	4537	4037	3604	3325	3209
30°	4402	3845	3425	3102	3019
32.5°	4255	3650	3204	2917	2846
35°	4098	3452	2973	2743	2710
37.5°	3930	3255	2761	2612	2617
40°	3750	3062	2579	2522	2564
42.5°	3564	2864	2405	2463	2498
45°	3363	2667	2264	2388	2426
47.5°	3155	2460	2155	2310	2343
50°	2936	2234	2072	2217	2253
52.5°	2705	2004	1979	2119	2149
55°	2467	1789	1878	2008	2040
57.5°	2227	1596	1771	1901	1935
60°	1985	1413	1659	1802	1871
62.5°	1742	1258	1539	1723	1792
65°	1497	1134	1419	1638	1706
67.5°	1258	1017	1332	1549	1613
70°	1028	896	1240	1451	1517
72.5°	807	779	1140	1354	1424
75°	606	665	1028	1261	1334
77.5°	426	569	920	1171	1239
80°	275	471	818	1029	1027
82.5°	153	364	675	703	676
85°	58	262	373	351	331
87.5°	16	105	100	79	70
90°	0	13	14	13	8
92.5°	1	21	15	13	8
95°	2	70	49	28	19
97.5°	3	105	122	95	80
100°	3	107	184	175	163
102.5°	3	86	233	242	235
105°	4	66	263	300	300
107.5°	4	47	264	340	349
110°	4	29	230	365	384



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5	21	195	357	398
115°	5	23	162	316	371
117.5°	6	21	128	274	327
120°	6	17	97	232	284
122.5°	6	14	67	191	240
125°	6	14	43	151	196
127.5°	7	15	31	114	153
130°	7	15	32	79	115
132.5°	8	13	35	50	80
135°	8	13	31	35	50
137.5°	9	13	25	36	37
140°	10	16	21	40	38
142.5°	10	18	21	37	42
145°	11	20	21	29	38
147.5°	12	20	20	24	30
150°	12	20	18	24	26
152.5°	13	19	18	23	24
155°	13	20	20	21	24
157.5°	14	19	23	20	21
160°	15	18	25	20	20
162.5°	15	18	24	24	22
165°	16	18	22	25	25
167.5°	16	18	21	23	23
170°	17	18	19	20	20
172.5°	17	18	19	19	18
175°	17	18	18	17	15
177.5°	18	18	18	17	14
180°	17	17	17	17	17

(END OF REPORT)