

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: 121P104

Luminaire Tested: **WS-SS-440A**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 121P104
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: WS-SS-440A
Description: WS series Wraparound with silver steel reflector
finish and acrylic lens.
Light Source: Four-F40CW - 3150 Lumens ea. - 40 Watts ea.
Ballast/Driver: -

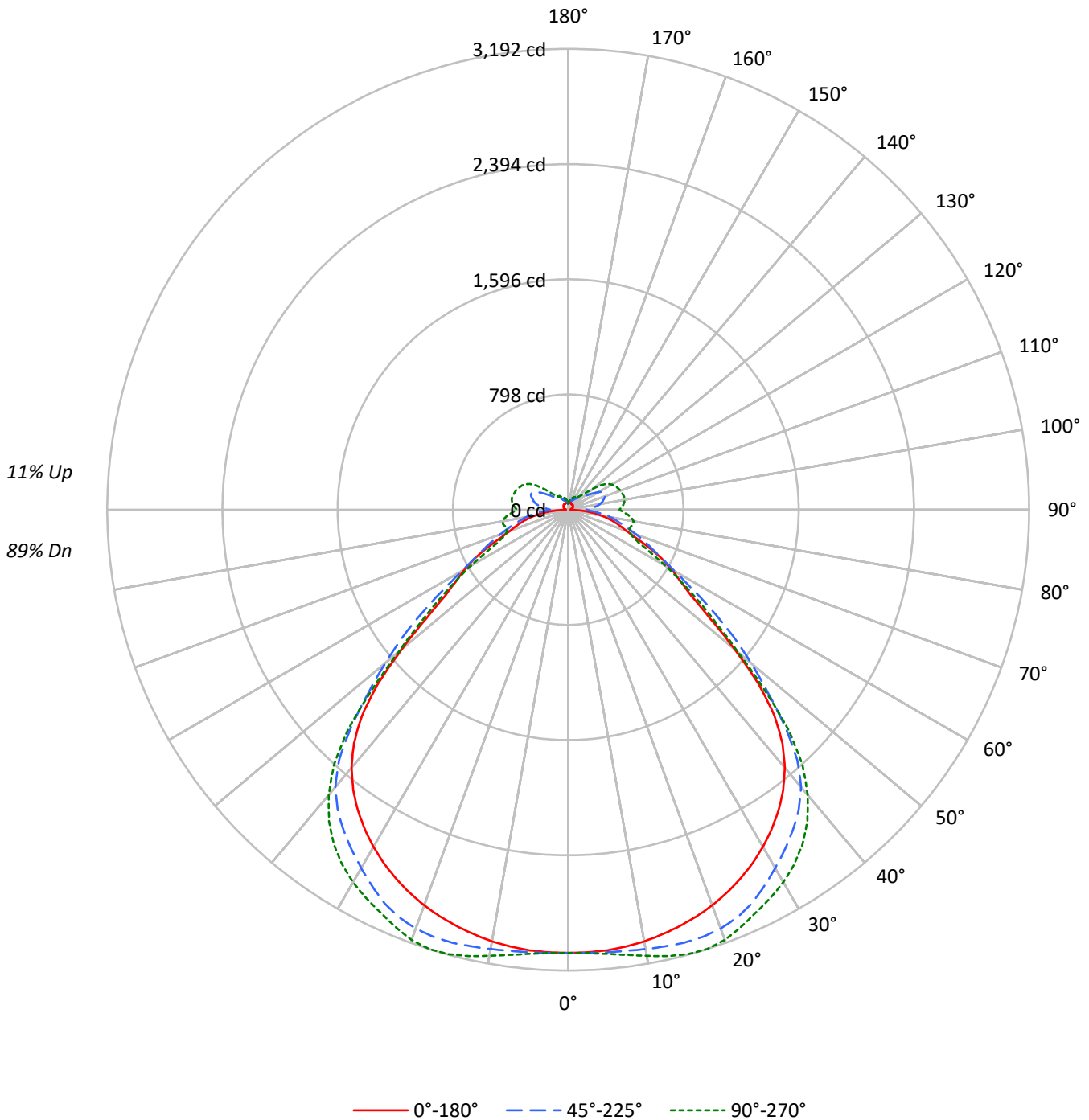
Summary

Lumens per Lamp: 3150 (4 lamps)
Luminaire Lumens: 9247.5 lumens
Efficiency: 73.4%
Efficacy: 55.6 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.41 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 1.28' x L: 4' x H: 0.17')
CIE Type: Semi-Direct

Input Watts (W): 166.3
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	85	85	85	85	82	82	82	82	77	77	77		72	72	72		67	67	67	65
1	78	75	72	69	75	72	70	67	68	66	64		63	62	60		60	58	57	55
2	72	66	61	57	69	64	60	56	60	56	53		56	54	51		53	51	49	47
3	66	58	53	48	63	57	52	47	53	49	46		50	47	44		47	45	42	40
4	60	52	46	42	58	51	45	41	48	43	39		45	41	38		43	39	37	35
5	56	47	41	36	54	46	40	36	43	38	34		41	37	33		39	35	32	31
6	52	42	36	32	50	41	35	31	39	34	30		37	33	29		35	32	29	27
7	48	39	32	28	46	38	32	28	36	31	27		34	30	26		32	28	26	24
8	45	35	29	25	43	34	29	25	33	28	24		31	27	24		30	26	23	22
9	42	32	27	23	40	32	26	22	30	25	22		29	24	21		27	24	21	19
10	39	30	24	21	38	29	24	20	28	23	20		27	22	19		26	22	19	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6446	6446	6446
5°	6434	6417	6435
10°	6425	6450	6540
15°	6417	6536	6696
20°	6418	6605	6765
25°	6408	6595	6721
30°	6385	6493	6718
35°	6326	6406	6643
40°	6181	6238	6373
45°	5761	5621	5665
50°	4680	4719	4341
55°	3590	3799	3386
60°	3235	2935	2670
65°	2786	2523	2090
70°	2357	2311	2049
75°	2331	2138	2458
80°	2288	2119	3201
85°	2007	1967	4040



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	294.0	3.2	2.3	0°	3070	3070	3070	3070	3070	
10°-20°	875.2	9.5	6.9	5°	3064	3070	3077	3083	3088	292
20°-30°	1373.6	14.9	10.9	15°	2985	3027	3105	3164	3188	844
30°-40°	1682.5	18.2	13.4	25°	2820	2907	3008	3058	3077	1300
40°-50°	1589.5	17.2	12.6	35°	2540	2588	2712	2808	2828	1585
50°-60°	1057.9	11.4	8.4	45°	2021	2045	2123	2107	2156	1525
60°-70°	638.6	6.9	5.1	55°	1039	1227	1218	1157	1097	972
70°-80°	419.0	4.5	3.3	65°	611	642	640	664	538	609
80°-90°	267.3	2.9	2.1	75°	332	357	383	429	450	350
90°-100°	208.8	2.3	1.7	85°	123	172	195	346	417	123
100°-110°	239.8	2.6	1.9	90°	16	59	126	302	355	15
110°-120°	233.3	2.5	1.9	95°	16	59	176	334	383	14
120°-130°	166.1	1.8	1.3	105°	24	89	251	360	394	26
130°-140°	88.8	1.0	0.7	115°	33	121	277	351	370	33
140°-150°	55.1	0.6	0.4	125°	41	104	190	277	308	37
150°-160°	33.6	0.4	0.3	135°	45	83	118	141	159	35
160°-170°	19.3	0.2	0.2	145°	45	65	96	110	113	28
170°-180°	5.2	0.1	0.0	155°	46	51	72	93	94	22
0°-30°	2542.9	27.5	20.2	165°	54	60	68	80	83	15
0°-40°	4225.4	45.7	33.5	175°	44	45	49	53	58	4
0°-60°	6872.8	74.3	54.5	180°	42	42	42	42	42	
0°-90°	8197.7	88.6	65.1							
90°-120°	681.8	7.4	5.4							
90°-150°	991.8	10.7	7.9							
90°-180°	1050.0	11.4	8.3							
0°-180°	9247.5	100.0	73.4							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3070	3070	3070	3070	3070
2.5°	3068	3073	3073	3071	3074
5°	3064	3070	3077	3083	3088
7.5°	3053	3063	3082	3101	3110
10°	3036	3055	3090	3123	3138
12.5°	3013	3043	3098	3147	3167
15°	2985	3027	3105	3164	3188
17.5°	2954	3006	3102	3167	3192
20°	2916	2981	3087	3151	3171
22.5°	2871	2950	3057	3112	3128
25°	2820	2907	3008	3058	3077
27.5°	2762	2851	2940	3004	3032
30°	2697	2781	2866	2950	2979
32.5°	2622	2692	2791	2888	2913
35°	2540	2588	2712	2808	2828
37.5°	2445	2473	2622	2705	2720
40°	2334	2351	2508	2570	2579
42.5°	2196	2216	2347	2381	2401
45°	2021	2045	2123	2107	2156
47.5°	1787	1838	1875	1803	1835
50°	1504	1621	1654	1533	1535
52.5°	1236	1416	1439	1319	1294
55°	1039	1227	1218	1157	1097
57.5°	919	1052	1009	1013	928
60°	826	891	846	874	779
62.5°	726	751	730	753	642
65°	611	642	640	664	538
67.5°	500	554	567	598	477
70°	428	473	502	540	453
72.5°	379	407	439	481	445
75°	332	357	383	429	450
77.5°	283	319	339	391	462
80°	234	285	296	368	460
82.5°	181	235	246	357	443
85°	123	172	195	346	417
87.5°	63	107	151	324	383
90°	16	59	126	302	355
92.5°	15	59	148	319	369
95°	16	59	176	334	383
97.5°	18	61	202	347	392
100°	19	65	223	355	397
102.5°	22	73	240	360	398
105°	24	89	251	360	394
107.5°	27	104	262	358	390
110°	29	117	273	358	386



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	31	122	278	355	378
115°	33	121	277	351	370
117.5°	36	120	267	343	362
120°	38	117	244	328	349
122.5°	40	111	216	308	331
125°	41	104	190	277	308
127.5°	42	97	165	238	273
130°	44	92	144	199	230
132.5°	44	87	127	167	190
135°	45	83	118	141	159
137.5°	45	79	113	124	134
140°	45	75	108	114	121
142.5°	45	70	102	111	113
145°	45	65	96	110	113
147.5°	45	60	91	107	114
150°	45	56	85	102	105
152.5°	45	53	79	97	98
155°	46	51	72	93	94
157.5°	48	52	68	87	87
160°	52	55	67	83	84
162.5°	54	58	67	82	85
165°	54	60	68	80	83
167.5°	53	60	68	76	76
170°	50	56	64	69	69
172.5°	47	51	58	62	63
175°	44	45	49	53	58
177.5°	42	43	43	44	50
180°	42	42	42	42	42

(END OF REPORT)