

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: 121P111

Luminaire Tested: **WS-432A**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 121P111
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: WS-432A
Description: WS Series Wraparound Luminaire
Light Source: Four-F32T8/35K - 2850 Lumens ea. - 32 Watts ea.
Ballast/Driver: Two-Triad-Utrad B232I120RH Electronic

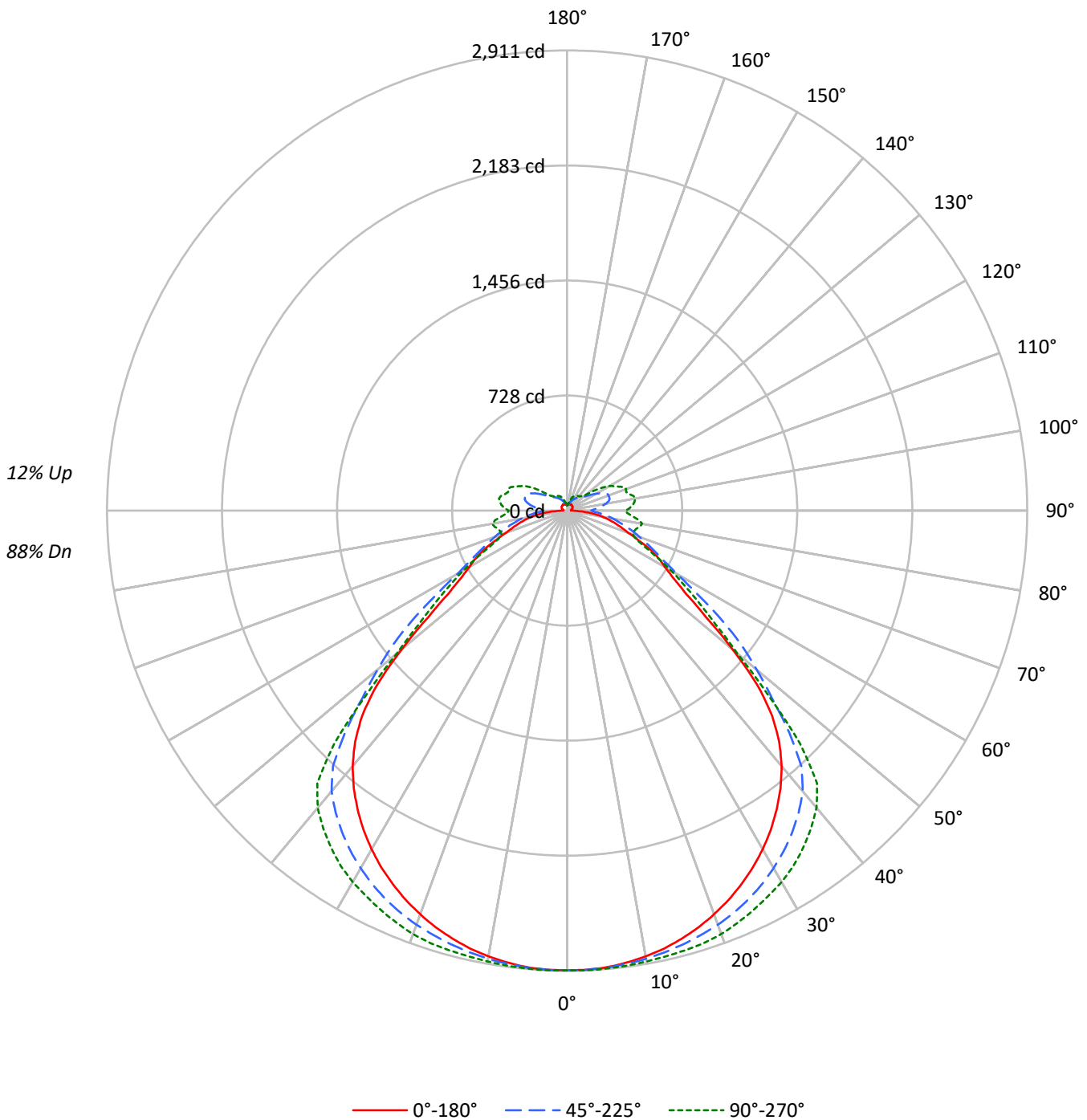
Summary

Lumens per Lamp: 2850 (4 lamps)
Luminaire Lumens: 8694.4 lumens
Efficiency: 76.3%
Efficacy: 73.6 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.38 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 1.28' x L: 4' x H: 0.17')
CIE Type: Semi-Direct

Input Watts (W): 118.2
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	89	89	89	89	85	85	85	85	80	80	80	74	74	74	69	69	69	67
1	81	77	74	71	78	75	72	69	70	68	66	65	64	62	61	60	59	56
2	74	68	63	59	71	66	61	58	62	58	55	58	55	52	54	52	50	48
3	68	60	55	50	65	59	53	49	55	51	47	52	48	45	49	46	43	41
4	62	54	48	43	60	52	46	42	49	44	40	46	42	39	44	40	37	36
5	58	48	42	37	55	47	41	36	44	39	35	42	38	34	40	36	33	31
6	53	44	37	33	51	43	36	32	40	35	31	38	34	30	36	32	29	27
7	50	40	33	29	48	39	33	28	37	31	28	35	30	27	33	29	26	24
8	46	36	30	26	44	35	30	25	34	28	25	32	27	24	30	26	23	22
9	43	33	27	23	42	32	27	23	31	26	22	30	25	22	28	24	21	20
10	40	31	25	21	39	30	24	21	29	24	20	27	23	20	26	22	19	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6108	6108	6108
5°	6090	6052	6060
10°	6061	6009	6036
15°	6025	5978	6049
20°	5982	5966	6082
25°	5926	5950	6089
30°	5857	5917	6118
35°	5753	5865	6117
40°	5590	5766	6066
45°	5228	5261	5476
50°	4257	4466	3968
55°	3168	3662	3143
60°	2796	2775	2598
65°	2627	2416	2094
70°	2275	2246	2003
75°	2218	2138	2458
80°	2249	2119	3347
85°	2089	2128	4020



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	276.3	3.2	2.4	0°	2909	2909	2909	2909	2909	
10°-20°	803.0	9.2	7.0	5°	2900	2901	2902	2903	2908	276
20°-30°	1247.2	14.3	10.9	15°	2803	2815	2840	2865	2880	791
30°-40°	1543.8	17.8	13.5	25°	2608	2638	2714	2767	2788	1202
40°-50°	1492.3	17.2	13.1	35°	2310	2364	2483	2577	2604	1443
50°-60°	988.6	11.4	8.7	45°	1834	1922	1987	2029	2084	1384
60°-70°	612.8	7.0	5.4	55°	917	1153	1174	1065	1018	860
70°-80°	411.0	4.7	3.6	65°	576	613	613	640	539	562
80°-90°	274.7	3.2	2.4	75°	316	327	383	436	450	336
90°-100°	230.3	2.6	2.0	85°	128	178	211	352	415	125
100°-110°	257.8	3.0	2.3	90°	24	67	152	307	369	19
110°-120°	228.0	2.6	2.0	95°	25	70	196	365	418	21
120°-130°	140.6	1.6	1.2	105°	31	102	278	378	405	33
130°-140°	80.6	0.9	0.7	115°	38	133	256	337	359	37
140°-150°	55.3	0.6	0.5	125°	42	100	167	212	235	37
150°-160°	33.7	0.4	0.3	135°	43	80	119	125	128	34
160°-170°	14.8	0.2	0.1	145°	46	65	95	112	113	29
170°-180°	3.6	0.0	0.0	155°	45	54	71	93	98	21
0°-30°	2326.5	26.8	20.4	165°	40	44	49	59	63	11
0°-40°	3870.3	44.5	33.9	175°	35	35	34	34	40	3
0°-60°	6351.2	73.0	55.7	180°	33	33	33	33	33	
0°-90°	7649.7	88.0	67.1							
90°-120°	716.2	8.2	6.3							
90°-150°	992.7	11.4	8.7							
90°-180°	1045.0	12.0	9.2							
0°-180°	8694.4	100.0	76.3							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2909	2909	2909	2909	2909
2.5°	2907	2909	2908	2906	2911
5°	2900	2901	2902	2903	2908
7.5°	2884	2889	2892	2897	2904
10°	2864	2870	2879	2887	2896
12.5°	2838	2846	2861	2875	2888
15°	2803	2815	2840	2865	2880
17.5°	2764	2780	2815	2852	2870
20°	2718	2737	2788	2832	2851
22.5°	2667	2690	2754	2804	2822
25°	2608	2638	2714	2767	2788
27.5°	2545	2579	2667	2725	2751
30°	2474	2514	2612	2683	2713
32.5°	2396	2443	2552	2635	2665
35°	2310	2364	2483	2577	2604
37.5°	2217	2278	2406	2506	2534
40°	2111	2184	2318	2422	2455
42.5°	1986	2071	2192	2287	2339
45°	1834	1922	1987	2029	2084
47.5°	1631	1721	1759	1711	1719
50°	1368	1517	1565	1415	1403
52.5°	1107	1329	1382	1200	1184
55°	917	1153	1174	1065	1018
57.5°	796	993	963	962	879
60°	714	852	800	848	758
62.5°	650	722	692	734	642
65°	576	613	613	640	539
67.5°	485	527	545	579	470
70°	413	451	488	530	443
72.5°	362	383	434	479	442
75°	316	327	383	436	450
77.5°	273	288	335	405	471
80°	230	266	296	380	481
82.5°	184	232	256	364	459
85°	128	178	211	352	415
87.5°	67	114	171	326	381
90°	24	67	152	307	369
92.5°	24	68	171	338	398
95°	25	70	196	365	418
97.5°	26	72	223	379	430
100°	27	76	249	393	438
102.5°	29	85	267	395	429
105°	31	102	278	378	405
107.5°	33	120	279	364	391
110°	34	132	279	369	397



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	36	136	275	362	388
115°	38	133	256	337	359
117.5°	39	128	236	314	335
120°	40	120	214	286	311
122.5°	41	110	191	251	276
125°	42	100	167	212	235
127.5°	42	93	148	175	193
130°	43	87	135	148	157
132.5°	43	83	126	134	138
135°	43	80	119	125	128
137.5°	44	76	114	120	122
140°	44	72	107	118	118
142.5°	45	69	101	115	116
145°	46	65	95	112	113
147.5°	46	62	89	108	110
150°	46	59	83	104	107
152.5°	46	57	78	99	102
155°	45	54	71	93	98
157.5°	44	52	65	87	91
160°	43	49	59	78	83
162.5°	42	46	54	69	73
165°	40	44	49	59	63
167.5°	39	41	45	50	53
170°	37	39	41	44	46
172.5°	36	37	37	38	43
175°	35	35	34	34	40
177.5°	35	34	33	32	35
180°	33	33	33	33	33

(END OF REPORT)