

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: 121P112

Luminaire Tested: **WS-332A**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 121P112
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: WS-332A
Description: WS Series Wraparound Luminaire
Light Source: Three-F32T8/35K - 2850 Lumens ea. - 32 Watts ea.
Ballast/Driver: Two-Triad-Utrad B232I120RH Electronic

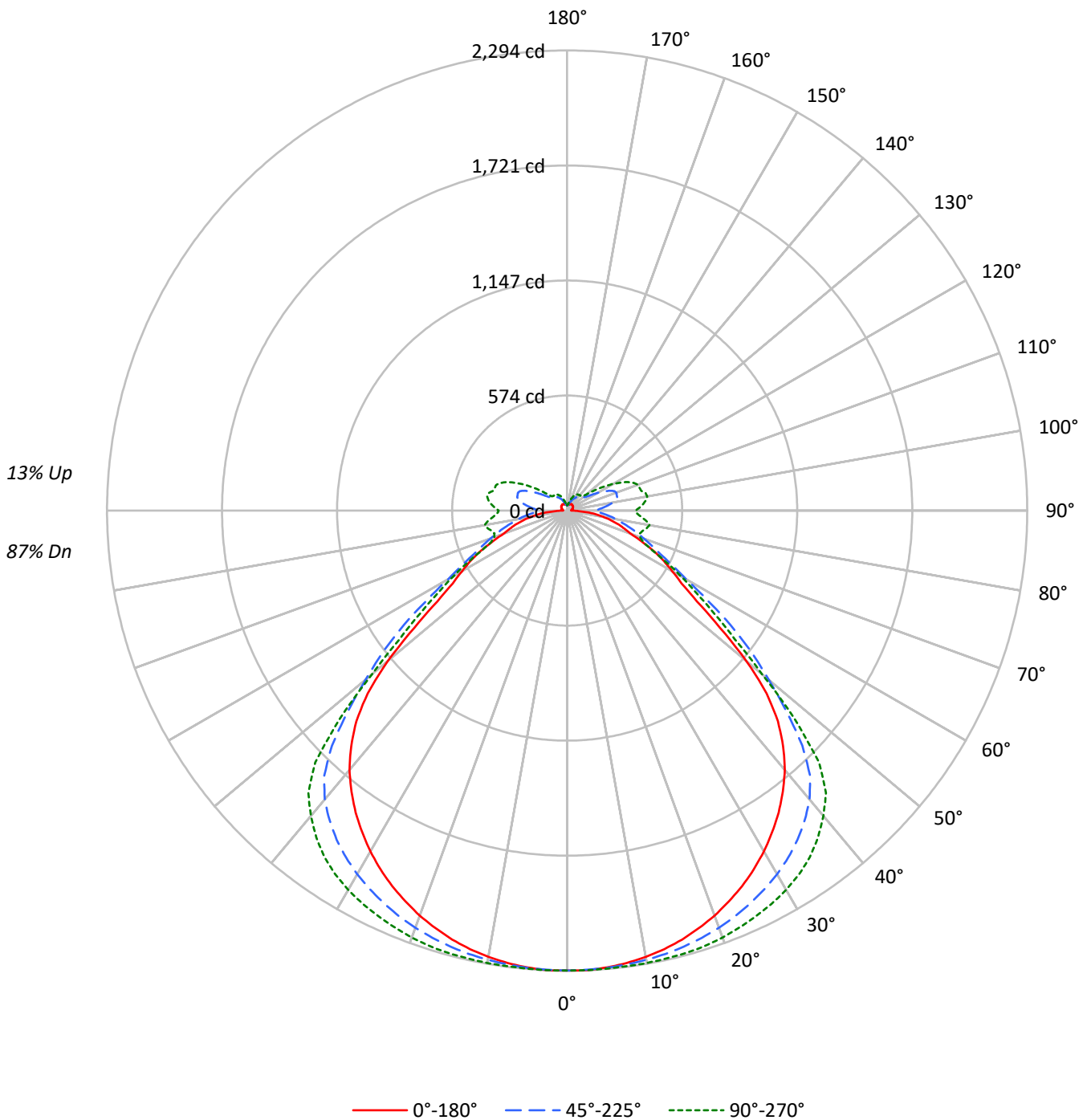
Summary

Lumens per Lamp: 2850 (3 lamps)
Luminaire Lumens: 7200.1 lumens
Efficiency: 84.2%
Efficacy: 74.3 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.41 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 1.28' x L: 4' x H: 0.17')
CIE Type: Semi-Direct

Input Watts (W): 96.9
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	98	98	98	98	94	94	94	94	88	88	88		82	82	82		76	76	76	73
1	89	85	82	78	86	82	79	76	77	74	72		72	70	68		67	65	64	61
2	81	75	69	65	78	72	67	63	68	64	60		63	60	57		59	57	54	52
3	75	66	60	54	72	64	58	53	60	55	51		56	52	49		53	50	47	44
4	69	59	52	47	66	57	51	46	54	48	44		51	46	42		48	44	41	38
5	63	53	46	40	61	51	45	40	48	43	38		46	41	37		43	39	36	34
6	58	48	41	35	56	46	40	35	44	38	34		41	36	33		39	35	31	30
7	54	43	36	31	52	42	35	31	40	34	30		38	33	29		36	31	28	26
8	50	40	33	28	49	38	32	27	36	31	27		35	30	26		33	28	25	23
9	47	36	30	25	45	35	29	25	34	28	24		32	27	23		30	26	23	21
10	44	33	27	23	43	33	26	22	31	26	22		30	25	21		28	24	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4814	4814	4814
5°	4800	4771	4776
10°	4781	4746	4773
15°	4759	4736	4797
20°	4730	4735	4832
25°	4693	4736	4871
30°	4645	4742	4923
35°	4577	4731	4954
40°	4470	4676	4910
45°	4236	4390	4666
50°	3631	3741	3589
55°	2726	3098	2763
60°	2373	2380	2245
65°	2166	2026	1814
70°	1856	1873	1746
75°	1846	1781	2124
80°	1819	1783	2902
85°	1681	1826	3594



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	218.0	3.0	2.5	0°	2293	2293	2293	2293	2293	
10°-20°	635.7	8.8	7.4	5°	2286	2286	2288	2289	2292	217
20°-30°	993.5	13.8	11.6	15°	2214	2222	2250	2273	2284	625
30°-40°	1241.5	17.2	14.5	25°	2065	2093	2160	2211	2230	952
40°-50°	1239.6	17.2	14.5	35°	1838	1885	2003	2087	2109	1148
50°-60°	843.9	11.7	9.9	45°	1486	1568	1658	1714	1776	1129
60°-70°	516.6	7.2	6.0	55°	789	969	993	918	895	738
70°-80°	345.9	4.8	4.0	65°	475	509	514	547	467	467
80°-90°	238.8	3.3	2.8	75°	263	271	319	372	389	276
90°-100°	211.9	2.9	2.5	85°	103	147	181	312	371	101
100°-110°	240.8	3.3	2.8	90°	21	63	140	286	341	16
110°-120°	206.9	2.9	2.4	95°	21	64	182	333	381	18
120°-130°	112.3	1.6	1.3	105°	26	93	258	354	382	28
130°-140°	65.7	0.9	0.8	115°	32	121	234	313	336	32
140°-150°	47.2	0.7	0.6	125°	35	79	124	168	192	32
150°-160°	27.6	0.4	0.3	135°	37	69	98	99	101	29
160°-170°	11.7	0.2	0.1	145°	38	57	81	95	97	24
170°-180°	2.8	0.0	0.0	155°	35	43	60	77	81	16
0°-30°	1847.2	25.7	21.6	165°	31	34	39	47	49	9
0°-40°	3088.6	42.9	36.1	175°	28	28	27	27	30	3
0°-60°	5172.1	71.8	60.5	180°	26	26	26	26	26	
0°-90°	6273.3	87.1	73.4							
90°-120°	659.6	9.2	7.7							
90°-150°	884.7	12.3	10.3							
90°-180°	927.0	12.9	10.8							
0°-180°	7200.1	100.0	84.2							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2293	2293	2293	2293	2293
2.5°	2294	2291	2291	2291	2293
5°	2286	2286	2288	2289	2292
7.5°	2275	2276	2282	2288	2291
10°	2259	2262	2274	2284	2290
12.5°	2239	2244	2264	2280	2287
15°	2214	2222	2250	2273	2284
17.5°	2183	2196	2233	2264	2277
20°	2149	2166	2213	2250	2265
22.5°	2108	2132	2189	2233	2249
25°	2065	2093	2160	2211	2230
27.5°	2016	2049	2129	2188	2209
30°	1962	2000	2093	2160	2183
32.5°	1902	1946	2051	2127	2151
35°	1838	1885	2003	2087	2109
37.5°	1766	1821	1946	2033	2054
40°	1688	1751	1880	1966	1987
42.5°	1594	1671	1792	1875	1910
45°	1486	1568	1658	1714	1776
47.5°	1349	1430	1484	1483	1538
50°	1167	1271	1311	1247	1269
52.5°	960	1114	1156	1054	1054
55°	789	969	993	918	895
57.5°	676	832	824	815	763
60°	606	707	686	718	655
62.5°	543	597	587	623	557
65°	475	509	514	547	467
67.5°	400	439	455	492	410
70°	337	375	407	449	386
72.5°	299	318	362	407	380
75°	263	271	319	372	389
77.5°	224	237	282	346	406
80°	186	215	249	329	417
82.5°	147	189	215	320	399
85°	103	147	181	312	371
87.5°	56	98	152	295	349
90°	21	63	140	286	341
92.5°	20	63	159	309	362
95°	21	64	182	333	381
97.5°	22	66	207	350	396
100°	23	71	231	363	405
102.5°	25	79	248	366	401
105°	26	93	258	354	382
107.5°	28	109	259	350	378
110°	29	121	261	350	376



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	31	126	254	337	360
115°	32	121	234	313	336
117.5°	33	110	206	279	303
120°	34	97	176	243	266
122.5°	35	86	148	206	229
125°	35	79	124	168	192
127.5°	36	76	109	136	155
130°	36	74	104	111	124
132.5°	37	71	101	101	106
135°	37	69	98	99	101
137.5°	37	67	95	99	100
140°	38	64	91	98	99
142.5°	38	61	86	97	98
145°	38	57	81	95	97
147.5°	38	53	76	93	95
150°	37	49	71	88	91
152.5°	36	46	65	83	86
155°	35	43	60	77	81
157.5°	34	41	54	70	74
160°	33	38	48	63	66
162.5°	32	36	43	56	57
165°	31	34	39	47	49
167.5°	30	32	35	39	41
170°	29	30	32	33	36
172.5°	29	29	29	29	32
175°	28	28	27	27	30
177.5°	28	28	26	25	28
180°	26	26	26	26	26

(END OF REPORT)