

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: 121P116

Luminaire Tested: **WS-SS-232A**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 121P116
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: WS-SS-232A
Description: WS Series Wraparound with a silver steel reflector
finish and acrylic lens.
Light Source: Two - FO32T8/35K - 2800 Lumens ea. - 32 Watts ea.
Ballast/Driver: Magnetek B232I120RH Electronic - L.O.B.F. = 88.22

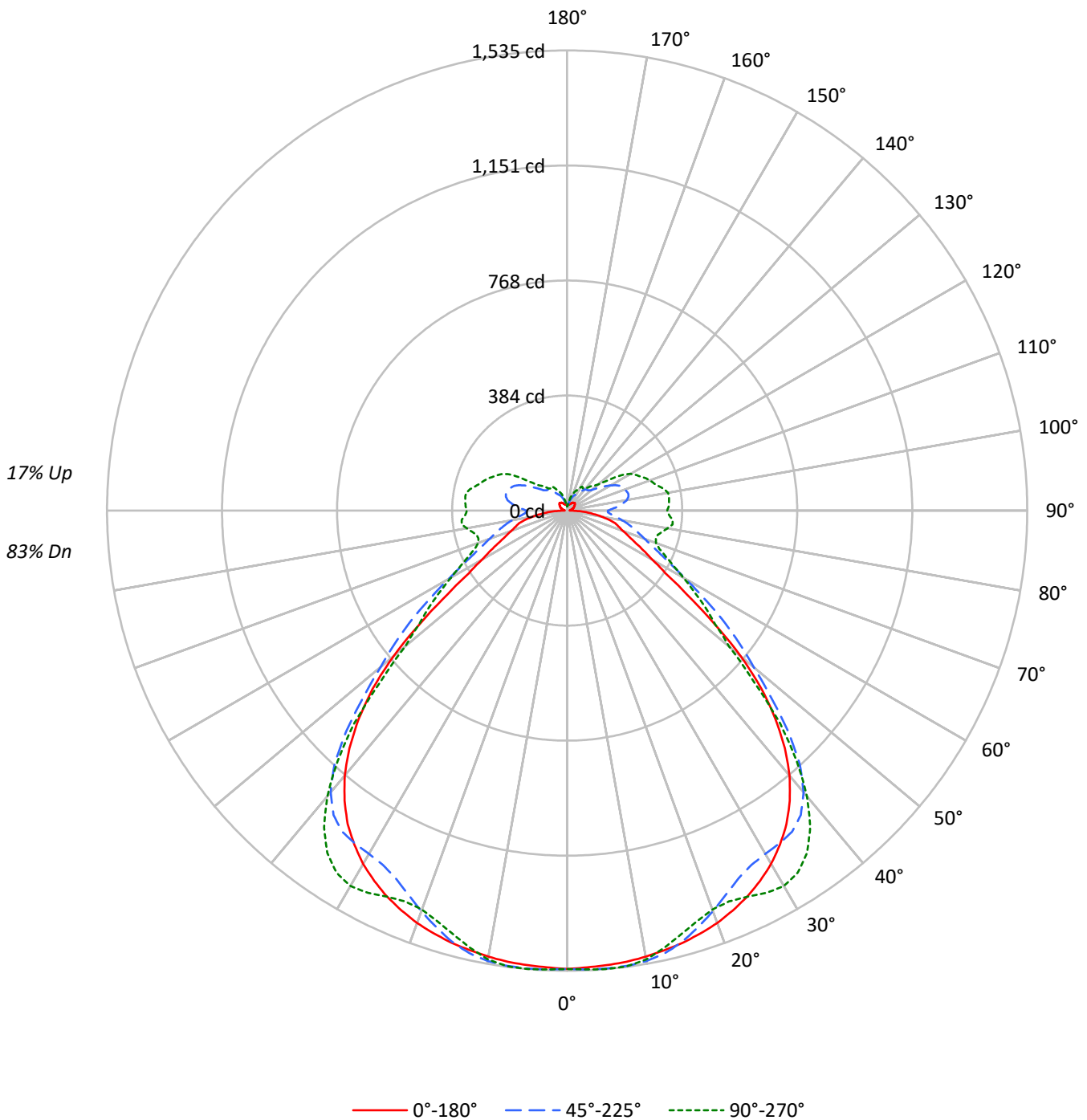
Summary

Lumens per Lamp: 2800 (2 lamps)
Luminaire Lumens: 4912.0 lumens
Efficiency: 87.7%
Efficacy: 84.5 lumens/watt
Spacing Criteria (0/90/45): 1.31 / 1.4 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.82' x L: 4' x H: 0.17')
CIE Type: Semi-Direct

Input Watts (W): 58.1
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	101	101	101	101	97	97	97	97	89	89	89		82	82	82		76	76	76	73
1	92	88	84	80	88	84	81	78	78	75	73		72	70	68		66	65	63	60
2	84	77	71	66	80	74	69	64	68	64	61		63	60	57		59	56	54	51
3	77	68	61	56	73	65	59	54	61	56	51		56	52	49		53	49	46	44
4	71	61	53	48	67	58	52	46	54	49	44		51	46	42		47	43	40	38
5	65	54	47	41	62	52	46	40	49	43	39		46	41	37		43	39	35	33
6	60	49	41	36	58	47	40	35	44	38	34		42	36	33		39	35	31	29
7	56	44	37	32	53	43	36	31	40	35	30		38	33	29		36	31	28	26
8	52	41	33	29	50	39	33	28	37	31	27		35	30	26		33	28	25	23
9	49	37	30	26	47	36	30	25	34	28	24		32	27	23		30	26	23	21
10	45	34	28	23	44	33	27	23	32	26	22		30	25	21		28	24	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5000	5000	5000
5°	4978	4957	4951
10°	4981	4917	4873
15°	4995	4815	4701
20°	5019	4656	4589
25°	5029	4518	4685
30°	5018	4539	4888
35°	4949	4658	4877
40°	4760	4575	4543
45°	4364	4113	3865
50°	3669	3430	2889
55°	2615	2881	2485
60°	2001	2296	2164
65°	1769	1937	1958
70°	1699	1777	1935
75°	1826	1759	2252
80°	1782	1770	2980
85°	1627	1867	3995



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	145.8	3.0	2.6	0°	1529	1529	1529	1529	1529	
10°-20°	418.8	8.5	7.5	5°	1522	1525	1533	1537	1535	145
20°-30°	643.8	13.1	11.5	15°	1492	1501	1488	1472	1464	422
30°-40°	811.7	16.5	14.5	25°	1421	1390	1353	1396	1421	655
40°-50°	765.7	15.6	13.7	35°	1276	1194	1308	1386	1395	794
50°-60°	518.4	10.6	9.3	45°	983	973	1043	1018	1005	750
60°-70°	343.8	7.0	6.1	55°	486	595	630	536	562	452
70°-80°	248.2	5.1	4.4	65°	249	329	343	391	363	252
80°-90°	199.8	4.1	3.6	75°	167	168	229	293	313	172
90°-100°	189.6	3.9	3.4	85°	64	100	148	281	353	62
100°-110°	196.1	4.0	3.5	90°	8	47	136	284	334	8
110°-120°	169.7	3.5	3.0	95°	9	48	172	304	341	8
120°-130°	112.3	2.3	2.0	105°	16	77	212	291	316	17
130°-140°	67.0	1.4	1.2	115°	24	95	195	250	269	24
140°-150°	44.5	0.9	0.8	125°	31	77	135	171	191	27
150°-160°	24.8	0.5	0.4	135°	35	62	96	109	116	27
160°-170°	10.1	0.2	0.2	145°	32	53	75	94	91	20
170°-180°	1.9	0.0	0.0	155°	24	37	56	69	74	11
0°-30°	1208.4	24.6	21.6	165°	20	26	34	44	46	6
0°-40°	2020.1	41.1	36.1	175°	18	19	18	17	17	2
0°-60°	3304.2	67.3	59.0	180°	17	17	17	17	17	
0°-90°	4096.0	83.4	73.1							
90°-120°	555.4	11.3	9.9							
90°-150°	779.1	15.9	13.9							
90°-180°	816.0	16.6	14.6							
0°-180°	4912.0	100.0	87.7							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1529	1529	1529	1529	1529
2.5°	1525	1527	1532	1534	1532
5°	1522	1525	1533	1537	1535
7.5°	1518	1523	1532	1535	1533
10°	1511	1519	1526	1524	1520
12.5°	1502	1512	1512	1501	1494
15°	1492	1501	1488	1472	1464
17.5°	1479	1484	1456	1441	1437
20°	1464	1459	1422	1415	1416
22.5°	1444	1428	1386	1396	1411
25°	1421	1390	1353	1396	1421
27.5°	1393	1346	1332	1408	1438
30°	1361	1296	1322	1418	1446
32.5°	1321	1244	1317	1413	1432
35°	1276	1194	1308	1386	1395
37.5°	1220	1149	1280	1332	1332
40°	1154	1104	1227	1255	1245
42.5°	1075	1050	1149	1153	1134
45°	983	973	1043	1018	1005
47.5°	880	875	922	865	845
50°	757	768	813	719	705
52.5°	616	674	720	604	622
55°	486	595	630	536	562
57.5°	388	520	537	496	502
60°	328	448	456	464	447
62.5°	286	384	393	429	400
65°	249	329	343	391	363
67.5°	220	282	305	354	333
70°	198	237	274	323	315
72.5°	181	197	250	305	310
75°	167	168	229	293	313
77.5°	145	145	208	285	325
80°	117	130	186	280	340
82.5°	89	117	165	280	355
85°	64	100	148	281	353
87.5°	35	72	136	282	340
90°	8	47	136	284	334
92.5°	8	46	153	296	339
95°	9	48	172	304	341
97.5°	10	52	188	306	343
100°	12	57	202	308	342
102.5°	14	66	209	302	331
105°	16	77	212	291	316
107.5°	18	87	209	278	303
110°	20	94	205	271	294



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	22	97	202	263	283
115°	24	95	195	250	269
117.5°	26	92	183	240	258
120°	27	89	168	228	245
122.5°	29	85	151	203	224
125°	31	77	135	171	191
127.5°	32	71	119	145	159
130°	34	67	106	129	136
132.5°	35	64	100	120	123
135°	35	62	96	109	116
137.5°	35	61	95	99	105
140°	34	59	92	95	96
142.5°	33	56	84	92	93
145°	32	53	75	94	91
147.5°	30	48	69	91	94
150°	28	44	63	82	90
152.5°	26	40	60	75	80
155°	24	37	56	69	74
157.5°	23	34	52	66	69
160°	22	31	46	61	63
162.5°	21	29	40	54	56
165°	20	26	34	44	46
167.5°	19	24	29	34	37
170°	19	22	24	27	28
172.5°	19	20	21	21	21
175°	18	19	18	17	17
177.5°	19	19	17	15	14
180°	17	17	17	17	17

(END OF REPORT)