

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: 227p167

Luminaire Tested: **MBF-232FB-UNV-EB81-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: 227p167
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: MBF-232FB-UNV-EB81-U
Description: MICROBAY, 2 LAMP T8, WITH SPECULAR FOCUS BEAM REFLECTOR
(90352FB2L), TALL SOCKETS
Light Source: TWO T8 LINEAR FLUORESCENT LAMPS
F32T8 32 WATTS
Ballast/Driver: -

Summary

Lumens per Lamp: 3100 (2 lamps)
Luminaire Lumens: 6195.4 lumens
Efficiency: 99.9%
Efficacy: 99.9 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 0.71 / 0.96
Luminous Opening: Rectangular (W 0.73' x L: 4' x H: 0')
CIE Type: Direct

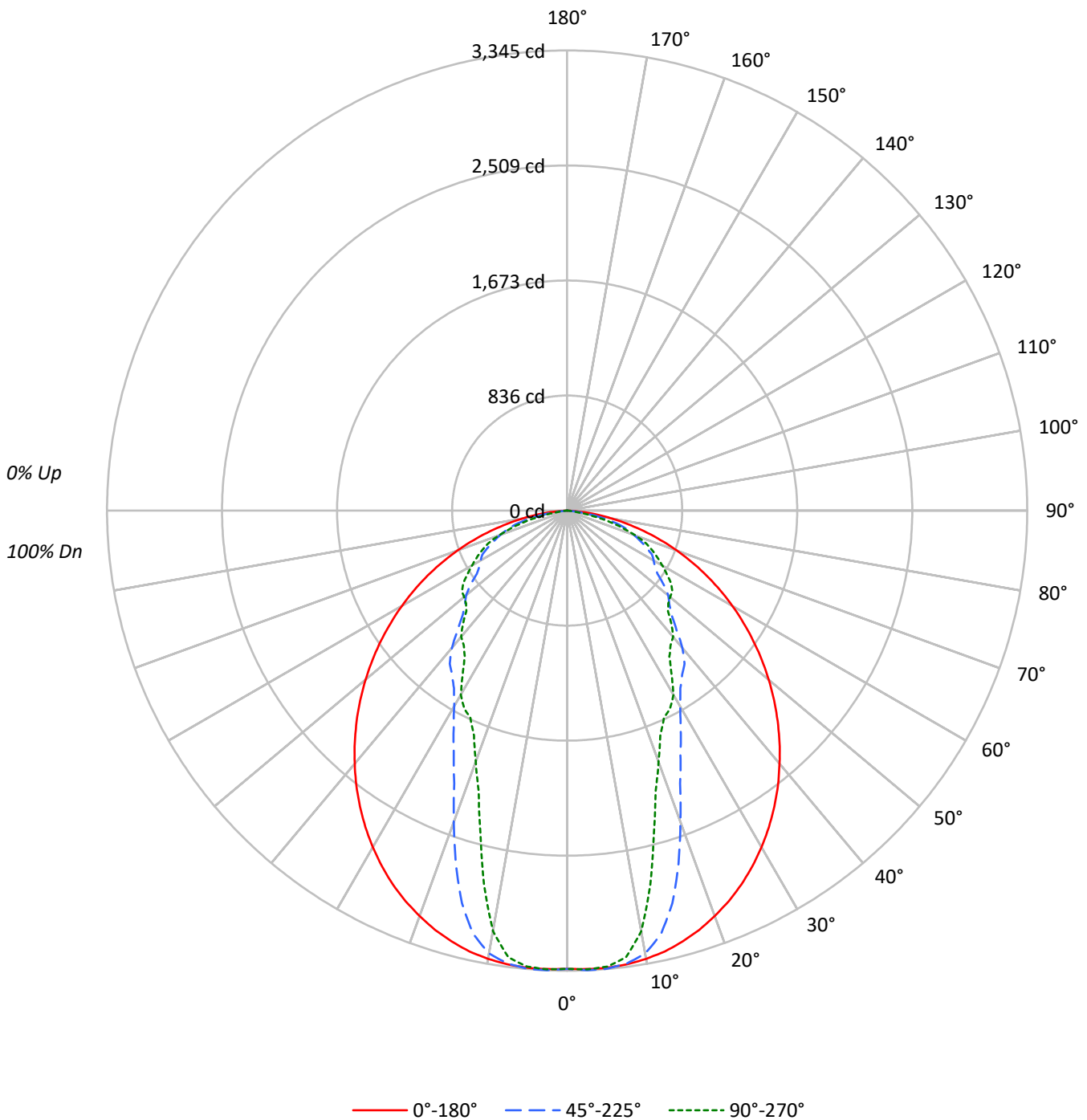
Input Watts (W): 62
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: 227p167

CATALOG NUMBER: MBF-232FB-UNV-EB81-U

Luminous Intensity Polar Plot





TEST NUMBER: 227p167

CATALOG NUMBER: MBF-232FB-UNV-EB81-U

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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	96	98	96	93	95	92	90	91	89	87	85					85			
2	100	92	86	81	98	90	85	80	87	82	78	84	80	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	85	73	65	59	82	72	64	58	69	63	57	67	61	57	65	60	56	54					54			
5	78	66	58	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47					47			
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42					42			
7	68	55	47	41	66	54	46	41	53	45	40	51	45	40	50	44	40	38					38			
8	63	50	42	37	62	50	42	37	49	41	36	47	41	36	46	40	36	34					34			
9	60	47	39	34	58	46	39	33	45	38	33	44	38	33	43	37	33	31					31			
10	56	43	36	31	55	43	36	31	42	35	31	41	35	30	40	34	30	29					29			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12293	12293	12293
5°	12358	12384	12325
10°	12400	12250	11636
15°	12390	11290	9296
20°	12320	9457	7631
25°	12208	7936	6776
30°	12043	6989	6588
35°	11831	6564	5839
40°	11572	6282	5771
45°	11294	5600	5407
50°	10983	5512	5615
55°	10636	5154	5939
60°	10245	5359	5897
65°	9772	5554	5964
70°	9150	5557	5708
75°	8256	5504	4606
80°	6865	4166	2253
85°	4404	847	0



TEST NUMBER: 227p167

CATALOG NUMBER: MBF-232FB-UNV-EB81-U

ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	315.7	5.1	5.1	0°	3331	3331	3331	3331	3331	
10°-20°	808.1	13.0	13.0	5°	3336	3341	3343	3337	3327	318
20°-30°	1012.5	16.3	16.3	15°	3243	3222	2955	2578	2433	915
30°-40°	1056.6	17.1	17.0	25°	2998	2774	1949	1701	1664	1381
40°-50°	980.5	15.8	15.8	35°	2626	1951	1457	1348	1296	1642
50°-60°	871.3	14.1	14.1	45°	2164	1304	1073	1063	1036	1669
60°-70°	683.5	11.0	11.0	55°	1653	926	801	896	923	1478
70°-80°	395.9	6.4	6.4	65°	1119	566	636	666	683	1107
80°-90°	70.7	1.1	1.1	75°	579	351	386	339	323	613
90°-100°	0.7	0.0	0.0	85°	104	96	20	1	0	132
100°-110°	0.0	0.0	0.0	90°	1	15	5	1	0	4
110°-120°	0.0	0.0	0.0	95°	0	0	0	0	0	0
120°-130°	0.0	0.0	0.0	105°	0	0	0	0	0	0
130°-140°	0.0	0.0	0.0	115°	0	0	0	0	0	0
140°-150°	0.0	0.0	0.0	125°	0	0	0	0	0	0
150°-160°	0.0	0.0	0.0	135°	0	0	0	0	0	0
160°-170°	0.0	0.0	0.0	145°	0	0	0	0	0	0
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	2136.2	34.5	34.5	165°	0	0	0	0	0	0
0°-40°	3192.8	51.5	51.5	175°	0	0	0	0	0	0
0°-60°	5044.6	81.4	81.4	180°	0	0	0	0	0	0
0°-90°	6194.7	100.0	99.9							
90°-120°	0.7	0.0	0.0							
90°-150°	0.7	0.0	0.0							
90°-180°	1.0	0.0	0.0							
0°-180°	6195.4	100.0	99.9							



TEST NUMBER: 227p167

CATALOG NUMBER: MBF-232FB-UNV-EB81-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3331	3331	3331	3331	3331
2.5°	3336	3340	3345	3344	3338
5°	3336	3341	3343	3337	3327
7.5°	3327	3332	3321	3297	3276
10°	3309	3308	3269	3171	3105
12.5°	3282	3273	3153	2910	2788
15°	3243	3222	2955	2578	2433
17.5°	3195	3155	2691	2256	2137
20°	3137	3061	2408	2028	1943
22.5°	3072	2934	2146	1848	1770
25°	2998	2774	1949	1701	1664
27.5°	2916	2584	1787	1611	1621
30°	2826	2377	1640	1571	1546
32.5°	2729	2164	1531	1481	1412
35°	2626	1951	1457	1348	1296
37.5°	2518	1757	1402	1239	1234
40°	2402	1591	1304	1179	1198
42.5°	2285	1441	1177	1139	1123
45°	2164	1304	1073	1063	1036
47.5°	2040	1179	1007	983	997
50°	1913	1077	960	942	978
52.5°	1784	996	884	918	963
55°	1653	926	801	896	923
57.5°	1521	831	757	848	858
60°	1388	717	726	784	799
62.5°	1254	627	696	725	741
65°	1119	566	636	666	683
67.5°	982	501	576	608	620
70°	848	429	515	538	529
72.5°	712	388	457	439	425
75°	579	351	386	339	323
77.5°	448	292	290	239	216
80°	323	239	196	130	106
82.5°	207	176	98	34	22
85°	104	96	20	1	0
87.5°	28	27	7	1	0
90°	1	15	5	1	0
92.5°	0	0	0	0	0
95°	0	0	0	0	0
97.5°	0	0	0	0	0
100°	0	0	0	0	0
102.5°	0	0	0	0	0
105°	0	0	0	0	0
107.5°	0	0	0	0	0
110°	0	0	0	0	0



TEST NUMBER: 227p167

CATALOG NUMBER: MBF-232FB-UNV-EB81-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0	0	0	0	0
115°	0	0	0	0	0
117.5°	0	0	0	0	0
120°	0	0	0	0	0
122.5°	0	0	0	0	0
125°	0	0	0	0	0
127.5°	0	0	0	0	0
130°	0	0	0	0	0
132.5°	0	0	0	0	0
135°	0	0	0	0	0
137.5°	0	0	0	0	0
140°	0	0	0	0	0
142.5°	0	0	0	0	0
145°	0	0	0	0	0
147.5°	0	0	0	0	0
150°	0	0	0	0	0
152.5°	0	0	0	0	0
155°	0	0	0	0	0
157.5°	0	0	0	0	0
160°	0	0	0	0	0
162.5°	0	0	0	0	0
165°	0	0	0	0	0
167.5°	0	0	0	0	0
170°	0	0	0	0	0
172.5°	0	0	0	0	0
175°	0	0	0	0	0
177.5°	0	0	0	0	0
180°	0	0	0	0	0

(END OF REPORT)