

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: METALUX

Report Number: P892775

Luminaire Tested: 2MB-4HL-RND-UNV-L840

Issue Date: 11/11/2024

**Test Information**

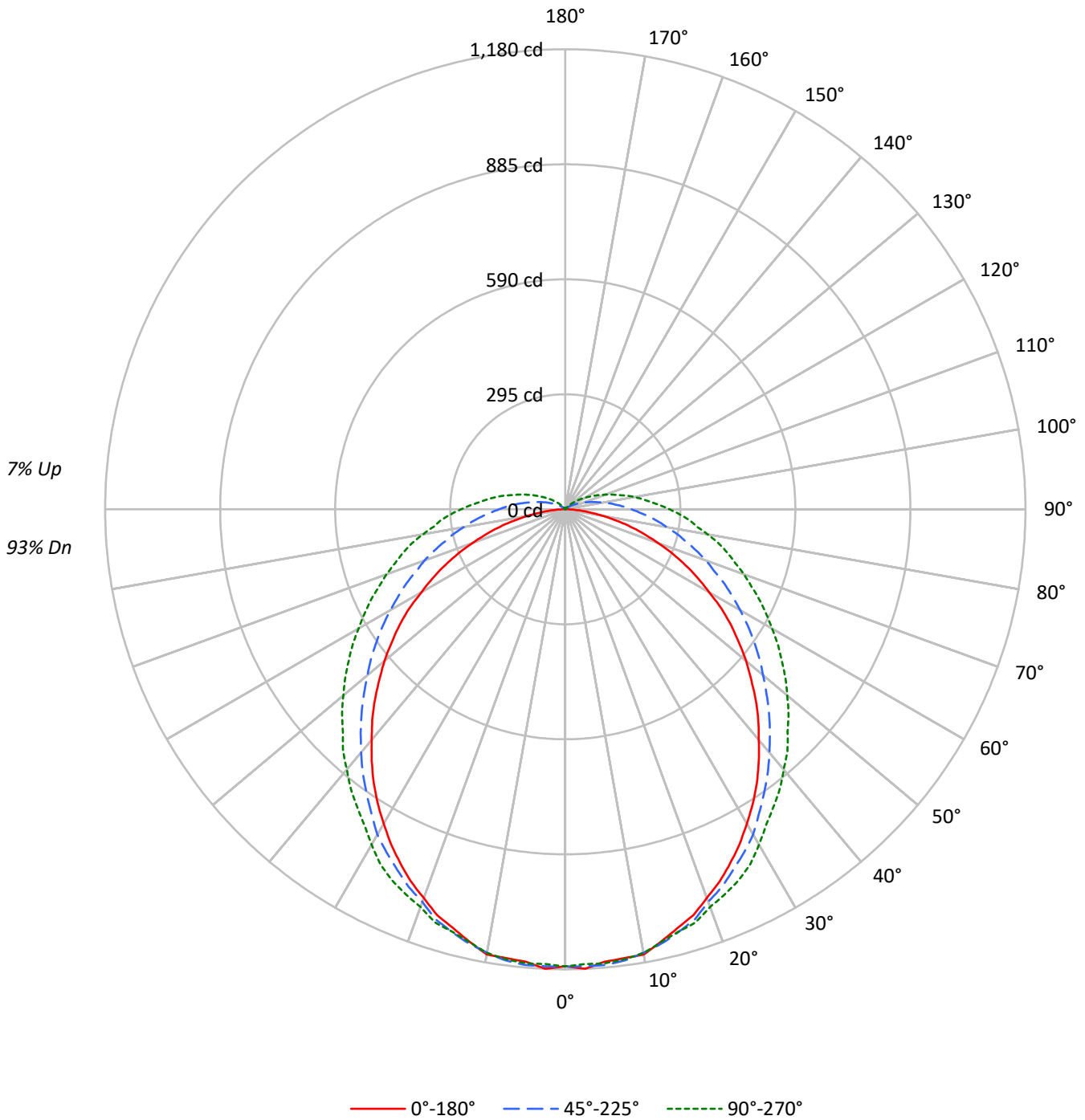
Test Method: LM-79-2019  
Report Number: P892775  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 2MB-4HL-RND-UNV-L840  
Description: 4000 Lumen 2FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 80CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3822.1 lumens  
Efficiency: N/A  
Efficacy: 138.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.34  
Luminous Opening: Rectangular (W 0.38' x L: 1.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 27.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 6.5  
Total Harmonic Distortion (THDi): 0.99  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 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	50	30	10	0
RCR																					
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	96	96	96	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	66	70	66	63	63	63	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	43	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	38	65	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	31	31	31	31	28
8	58	44	35	29	56	43	35	29	41	34	29	39	33	28	38	32	27	27	27	27	25
9	54	40	32	26	52	40	32	26	38	31	26	36	30	25	35	29	25	25	25	25	23
10	51	37	29	24	49	37	29	24	35	28	23	34	27	23	32	27	22	22	22	22	21

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	16773	16773	16773
5°	16724	16850	16787
10°	16842	16778	16791
15°	16467	16624	16611
20°	16152	16312	16527
25°	15805	16095	16581
30°	15379	15916	16410
35°	14954	15522	16259
40°	14417	15205	16271
45°	13965	14945	16312
50°	13469	14738	16536
55°	12947	14720	16912
60°	12188	14826	17516
65°	11536	15222	18611
70°	10616	16053	20390
75°	9612	17671	23789
80°	8106	21782	30531
85°	6483	35322	52475

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 87.5°  
 Luminance: 96224 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.1	2.9
10°-20°	316.0	8.3
20°-30°	471.2	12.3
30°-40°	557.9	14.6
40°-50°	574.7	15.0
50°-60°	531.4	13.9
60°-70°	441.7	11.6
70°-80°	330.5	8.6
80°-90°	219.0	5.7
90°-100°	134.0	3.5
100°-110°	75.7	2.0
110°-120°	37.7	1.0
120°-130°	15.6	0.4
130°-140°	4.6	0.1
140°-150°	0.7	0.0
150°-160°	0.2	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-30°	898.3	23.5
0°-40°	1456.1	38.1
0°-60°	2562.3	67.0
0°-90°	3553.4	93.0
90°-120°	247.5	6.5
90°-150°	268.3	7.0
90°-180°	269.0	7.0
0°-180°	3822.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1172	1172	1172	1172	1172	
5°	1165	1158	1173	1170	1169	111
15°	1112	1112	1122	1133	1122	314
25°	1001	1005	1020	1039	1050	461
35°	856	865	889	926	931	535
45°	690	697	739	790	806	532
55°	519	531	590	654	678	463
65°	341	367	450	520	550	337
75°	174	224	320	398	430	184
85°	40	115	215	289	320	45
90°	4	75	170	239	267	4
95°	1	47	132	198	219	1
105°	1	16	72	122	140	1
115°	1	4	34	68	83	1
125°	1	1	13	32	41	1
135°	1	1	4	10	15	1
145°	1	1	0	1	2	1
155°	1	1	0	0	0	0
165°	1	1	0	0	0	0
175°	2	1	0	0	0	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1172.5	1172.5	1172.5	1172.5	1172.5
2.5°	1179.6	1165.5	1173.4	1171.7	1167.3
5°	1164.6	1158.5	1173.4	1169.9	1169.0
7.5°	1161.1	1158.5	1167.3	1163.8	1163.8
10°	1159.4	1141.8	1155.0	1163.8	1155.9
12.5°	1135.7	1131.3	1140.9	1141.8	1136.5
15°	1111.9	1111.9	1122.5	1133.0	1121.6
17.5°	1091.7	1090.0	1103.2	1111.1	1111.1
20°	1061.0	1063.6	1071.5	1086.5	1085.6
22.5°	1033.8	1040.8	1048.7	1066.3	1068.9
25°	1001.3	1004.8	1019.7	1039.0	1050.5
27.5°	967.9	973.2	992.5	1013.6	1026.7
30°	931.0	931.0	963.5	988.1	993.4
32.5°	895.0	895.9	924.9	952.1	959.1
35°	856.3	865.1	888.8	925.7	931.0
37.5°	815.1	820.3	852.8	886.2	903.8
40°	772.0	780.8	814.2	860.7	871.3
42.5°	732.5	739.5	776.4	824.7	843.2
45°	690.3	697.4	738.7	790.5	806.3
47.5°	646.4	655.2	700.0	761.5	776.4
50°	605.2	612.2	662.2	724.6	743.0
52.5°	561.2	572.7	627.1	687.7	711.4
55°	519.1	531.4	590.2	654.3	678.1
57.5°	475.2	491.9	554.2	621.0	646.4
60°	426.0	447.9	518.2	589.3	612.2
62.5°	383.8	407.5	482.2	552.5	580.6
65°	340.8	367.1	449.7	520.0	549.8
67.5°	297.7	329.4	412.8	487.5	516.4
70°	253.8	294.2	383.8	458.5	487.5
72.5°	212.6	258.2	352.2	430.4	456.7
75°	173.9	224.0	319.7	397.9	430.4
77.5°	135.3	193.2	294.2	373.3	402.3
80°	98.4	163.4	264.4	343.4	370.6
82.5°	67.6	137.9	240.7	317.1	339.9
85°	39.5	115.1	215.2	289.0	319.7
87.5°	18.4	93.1	190.6	263.5	293.4
90°	3.5	74.7	169.5	238.9	267.0
92.5°	0.9	59.7	151.1	219.6	242.4
95°	0.9	46.6	131.7	197.6	218.7
97.5°	0.9	36.0	115.1	177.4	200.3
100°	0.9	27.2	99.2	159.0	180.1
102.5°	0.9	21.1	84.3	139.7	161.6
105°	0.9	15.8	72.0	122.1	140.5
107.5°	0.9	11.4	60.6	108.0	125.6
110°	0.9	8.8	50.9	94.9	109.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	6.1	41.3	80.8	95.7
115°	0.9	4.4	34.3	68.5	82.6
117.5°	0.9	2.6	27.2	58.0	70.3
120°	0.9	1.8	22.0	48.3	59.7
122.5°	0.9	1.8	16.7	39.5	50.1
125°	0.9	0.9	13.2	32.5	41.3
127.5°	0.9	0.9	9.7	25.5	32.5
130°	0.9	0.9	7.0	19.3	25.5
132.5°	0.9	0.9	4.4	14.9	19.3
135°	0.9	0.9	3.5	10.5	14.9
137.5°	0.9	0.9	1.8	7.0	9.7
140°	0.9	0.9	0.9	4.4	6.1
142.5°	0.9	0.9	0.9	2.6	3.5
145°	0.9	0.9	0.0	0.9	1.8
147.5°	0.9	0.9	0.0	0.9	0.9
150°	0.9	0.9	0.0	0.0	0.0
152.5°	0.9	0.9	0.0	0.0	0.0
155°	0.9	0.9	0.0	0.0	0.0
157.5°	0.9	0.9	0.0	0.0	0.0
160°	0.9	0.9	0.0	0.0	0.0
162.5°	0.9	0.9	0.0	0.0	0.0
165°	0.9	0.9	0.0	0.0	0.0
167.5°	0.9	0.9	0.0	0.0	0.0
170°	0.9	0.9	0.0	0.0	0.0
172.5°	1.8	0.9	0.0	0.0	0.0
175°	1.8	0.9	0.0	0.0	0.0
177.5°	1.8	0.9	0.0	0.0	0.0
180°	0.9	0.9	0.9	0.9	0.9



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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	19.88	21.42	20.35	21.87	22.36	21.62	23.15	22.09	23.61	24.09
	3H	21.62	23.02	22.10	23.48	24.01	24.19	25.59	24.67	26.05	26.58
	4H	22.26	23.59	22.77	24.07	24.61	25.49	26.82	25.99	27.30	27.84
	6H	22.73	23.97	23.25	24.47	25.02	26.89	28.12	27.40	28.62	29.18
	8H	22.88	24.07	23.41	24.59	25.15	27.62	28.80	28.14	29.32	29.88
	12H	22.98	24.11	23.51	24.63	25.22	28.46	29.60	29.00	30.11	30.71
4H	2H	20.86	22.18	21.36	22.67	23.21	22.17	23.50	22.67	23.98	24.52
	3H	22.87	24.00	23.38	24.53	25.09	25.03	26.16	25.55	26.69	27.25
	4H	23.66	24.70	24.20	25.24	25.83	26.55	27.59	27.08	28.12	28.72
	6H	24.30	25.22	24.86	25.78	26.39	28.18	29.10	28.74	29.66	30.27
	8H	24.53	25.39	25.09	25.95	26.58	29.04	29.91	29.60	30.47	31.09
	12H	24.69	25.48	25.28	26.07	26.70	30.03	30.82	30.62	31.41	32.04
8H	4H	24.54	25.40	25.10	25.97	26.59	26.91	27.77	27.47	28.33	28.96
	6H	25.45	26.19	26.05	26.79	27.42	28.80	29.53	29.39	30.14	30.77
	8H	25.83	26.50	26.44	27.11	27.75	29.87	30.53	30.47	31.14	31.78
	12H	26.15	26.75	26.76	27.35	28.06	31.12	31.71	31.72	32.32	33.02
12H	4H	24.81	25.60	25.40	26.19	26.82	26.95	27.73	27.53	28.32	28.95
	6H	25.89	26.56	26.50	27.17	27.81	28.91	29.57	29.51	30.19	30.83
	8H	26.43	27.03	27.04	27.63	28.34	30.09	30.68	30.69	31.28	31.99