

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: P892783

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

Issue Date: 11/11/2024

**Test Information**

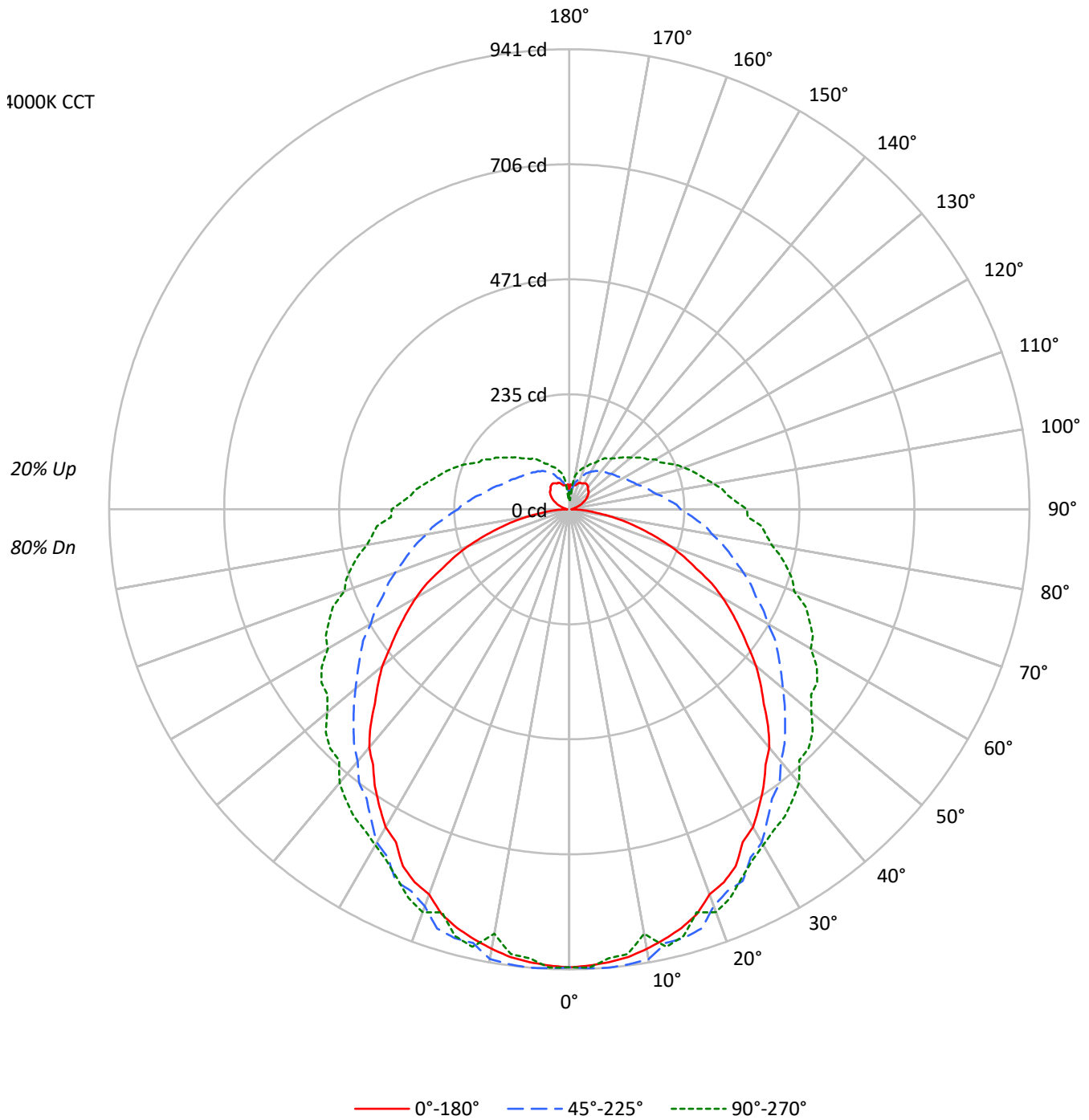
Test Method: LM-79-2019  
Report Number: P892783  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 2MB-4HL-RNDU-UNV-L840  
Description: 4000 Lumen 2FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 80CRI, 4  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3948.0 lumens  
Efficiency: N/A  
Efficacy: 143.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.38  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 1.98' x H: 0.21')  
CIE Type: Semi-Direct  
  
Input Watts (W): 27.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	83	83	83	80
1	102	96	91	86	97	92	87	83	84	80	76	76	73	70	69	67	65	65	65	65	61
2	92	82	75	68	87	79	72	66	72	66	61	65	61	57	60	56	53	53	53	53	49
3	83	72	63	56	79	69	61	54	63	56	51	57	52	47	52	48	44	44	44	44	41
4	76	63	54	47	72	60	52	45	55	48	43	51	45	40	46	41	37	37	37	37	34
5	69	56	47	40	66	54	45	39	49	42	37	45	39	34	41	36	32	32	32	32	29
6	64	50	41	35	61	48	40	34	44	37	32	41	35	30	37	32	28	28	28	28	26
7	59	46	37	30	56	44	35	30	40	33	28	37	31	26	34	29	25	25	25	25	23
8	55	41	33	27	52	40	32	26	37	30	25	34	28	24	31	26	22	22	22	22	20
9	51	38	30	24	49	37	29	23	34	27	22	31	25	21	29	24	20	20	20	20	18
10	48	35	27	22	46	34	26	21	31	25	20	29	23	19	27	22	18	18	18	18	16

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

	0°	45°	90°
0°	13403	13403	13403
5°	13230	12992	12633
10°	13022	12548	11674
15°	12770	11964	11667
20°	12288	11256	11130
25°	12119	10896	10471
30°	11693	10263	9954
35°	11267	9537	9688
40°	10918	9062	9346
45°	10292	8636	9042
50°	9864	8185	8697
55°	9249	7840	8657
60°	8765	7453	8370
65°	7909	7149	8435
70°	7121	6986	8165
75°	5877	6851	8366
80°	4411	6760	8432
85°	2756	6864	8922

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10292 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.1	2.3
10°-20°	254.2	6.4
20°-30°	380.8	9.6
30°-40°	457.0	11.6
40°-50°	482.0	12.2
50°-60°	465.0	11.8
60°-70°	412.3	10.4
70°-80°	339.8	8.6
80°-90°	264.1	6.7
90°-100°	205.9	5.2
100°-110°	164.3	4.2
110°-120°	131.5	3.3
120°-130°	104.4	2.6
130°-140°	80.2	2.0
140°-150°	58.3	1.5
150°-160°	36.9	0.9
160°-170°	18.0	0.5
170°-180°	4.2	0.1
0°-30°	724.0	18.3
0°-40°	1181.1	29.9
0°-60°	2128.1	53.9
0°-90°	3144.3	79.6
90°-120°	501.7	12.7
90°-150°	744.6	18.9
90°-180°	804.0	20.4
0°-180°	3948.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	937	937	937	937	937	
5°	930	943	941	933	922	88
15°	887	898	908	912	903	249
25°	806	818	839	838	833	368
35°	693	704	723	761	768	433
45°	562	576	624	666	692	437
55°	427	452	522	588	619	383
65°	286	321	420	497	542	287
75°	148	214	338	429	461	159
85°	37	130	263	357	395	40
90°	5	103	227	329	363	4
95°	6	86	204	293	325	6
105°	14	70	165	243	273	15
115°	29	68	137	200	222	29
125°	45	68	118	163	184	40
135°	55	69	107	136	150	43
145°	63	67	96	116	128	39
155°	58	62	81	94	102	27
165°	51	53	60	70	81	15
175°	50	47	39	35	18	5
180°	36	36	36	36	36	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	936.9	936.9	936.9	936.9	936.9
2.5°	934.2	940.4	939.5	951.0	938.6
5°	929.8	943.0	941.3	933.3	921.9
7.5°	923.6	942.1	938.6	936.9	917.5
10°	913.1	928.0	934.2	936.0	881.3
12.5°	900.7	914.8	908.7	916.6	916.6
15°	886.6	898.1	907.8	912.2	903.4
17.5°	868.1	886.6	899.0	896.3	864.6
20°	838.1	863.7	863.7	879.6	876.9
22.5°	825.8	847.0	845.2	855.8	860.2
25°	805.5	817.9	839.0	838.1	832.9
27.5°	767.6	801.1	802.9	809.1	809.9
30°	750.9	772.9	787.0	796.7	793.2
32.5°	721.8	733.3	753.5	773.8	778.2
35°	692.7	704.2	722.7	760.6	767.6
37.5°	659.2	683.9	705.9	729.7	750.0
40°	636.3	645.1	673.3	708.6	730.6
42.5°	601.9	616.9	651.3	681.3	696.3
45°	562.3	575.5	624.0	666.3	691.8
47.5°	530.6	550.8	597.5	646.9	675.1
50°	498.8	515.6	570.2	616.1	646.0
52.5°	460.1	483.0	545.5	614.3	623.1
55°	426.6	452.1	521.7	587.8	618.7
57.5°	394.0	416.9	499.7	558.8	600.2
60°	362.2	386.9	468.9	539.4	570.2
62.5°	327.9	351.7	447.7	522.6	561.4
65°	286.4	320.8	420.4	497.1	542.0
67.5°	253.8	296.1	401.9	490.9	523.5
70°	219.5	263.5	379.0	460.1	489.1
72.5°	183.3	238.0	356.1	451.2	478.6
75°	148.1	214.2	337.6	429.2	460.9
77.5°	118.1	190.4	318.2	411.6	442.4
80°	85.5	167.5	297.0	389.5	420.4
82.5°	58.2	147.2	282.9	377.2	406.3
85°	37.0	130.4	262.6	356.9	394.8
87.5°	17.6	115.5	245.0	342.0	364.9
90°	5.3	103.1	227.4	328.7	363.1
92.5°	4.4	93.4	219.5	309.3	342.0
95°	6.2	85.5	204.5	292.6	325.2
97.5°	8.8	79.3	194.8	278.5	315.5
100°	9.7	74.0	180.7	267.0	299.7
102.5°	11.5	71.4	171.9	255.6	285.6
105°	14.1	70.5	164.8	243.2	273.2
107.5°	17.6	67.0	156.9	226.5	261.8
110°	21.2	67.9	147.2	219.5	249.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	25.6	67.0	142.8	206.2	237.1
115°	29.1	67.9	136.6	200.1	222.1
117.5°	33.5	67.0	132.2	186.8	208.0
120°	37.9	67.9	126.0	182.4	204.5
122.5°	41.4	68.7	122.5	171.9	189.5
125°	44.9	67.9	118.1	163.0	184.2
127.5°	48.5	68.7	115.5	155.1	173.6
130°	51.1	67.9	112.8	148.9	164.8
132.5°	53.8	67.9	108.4	141.9	156.9
135°	54.6	68.7	106.6	135.7	149.8
137.5°	56.4	69.6	103.1	129.6	141.0
140°	59.9	69.6	101.4	126.0	135.7
142.5°	60.8	67.9	97.8	119.0	129.6
145°	62.6	67.0	96.1	115.5	127.8
147.5°	62.6	67.0	91.7	108.4	119.9
150°	61.7	64.3	89.0	104.0	111.9
152.5°	59.9	64.3	84.6	99.6	104.9
155°	58.2	61.7	81.1	94.3	102.2
157.5°	59.0	60.8	74.9	91.7	95.2
160°	57.3	58.2	67.9	86.4	91.7
162.5°	54.6	55.5	66.1	79.3	87.3
165°	51.1	52.9	59.9	69.6	81.1
167.5°	50.2	49.4	56.4	62.6	76.7
170°	50.2	48.5	50.2	52.9	70.5
172.5°	49.4	46.7	44.9	42.3	52.0
175°	50.2	46.7	38.8	35.3	18.5
177.5°	51.1	47.6	37.9	26.4	19.4
180°	36.1	36.1	36.1	36.1	36.1



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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	15.99	17.30	16.63	17.97	18.74	19.14	20.45	19.79	21.12	21.89
	3H	17.46	18.66	18.12	19.34	20.14	21.97	23.17	22.63	23.85	24.65
	4H	17.94	19.08	18.61	19.76	20.58	23.39	24.53	24.06	25.22	26.03
	6H	18.23	19.29	18.91	19.98	20.81	24.87	25.93	25.55	26.63	27.46
	8H	18.28	19.30	18.98	20.02	20.85	25.62	26.64	26.32	27.36	28.19
	12H	18.31	19.28	19.01	19.99	20.86	26.44	27.41	27.14	28.12	28.99
4H	2H	17.09	18.23	17.77	18.92	19.73	19.51	20.65	20.18	21.33	22.15
	3H	18.81	19.79	19.50	20.51	21.34	22.57	23.55	23.26	24.27	25.10
	4H	19.42	20.32	20.12	21.04	21.90	24.18	25.08	24.88	25.80	26.67
	6H	19.84	20.64	20.56	21.39	22.25	25.86	26.66	26.58	27.41	28.27
	8H	19.95	20.70	20.68	21.45	22.33	26.73	27.48	27.46	28.23	29.11
	12H	20.01	20.70	20.76	21.47	22.36	27.67	28.36	28.42	29.13	30.02
8H	4H	20.42	21.17	21.15	21.92	22.80	24.37	25.13	25.10	25.87	26.76
	6H	21.08	21.72	21.83	22.51	23.39	26.24	26.88	27.00	27.67	28.55
	8H	21.30	21.88	22.07	22.67	23.57	27.27	27.85	28.04	28.64	29.54
	12H	21.46	21.97	22.23	22.75	23.71	28.41	28.93	29.18	29.71	30.66
12H	4H	20.73	21.42	21.48	22.19	23.08	24.37	25.06	25.12	25.83	26.72
	6H	21.55	22.13	22.32	22.92	23.82	26.28	26.86	27.05	27.65	28.55
	8H	21.90	22.42	22.67	23.20	24.15	27.38	27.89	28.15	28.67	29.63