

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: P892784

Luminaire Tested: 2MB-4HL-RNDU-UNV-L850

Issue Date: 11/11/2024

**Test Information**

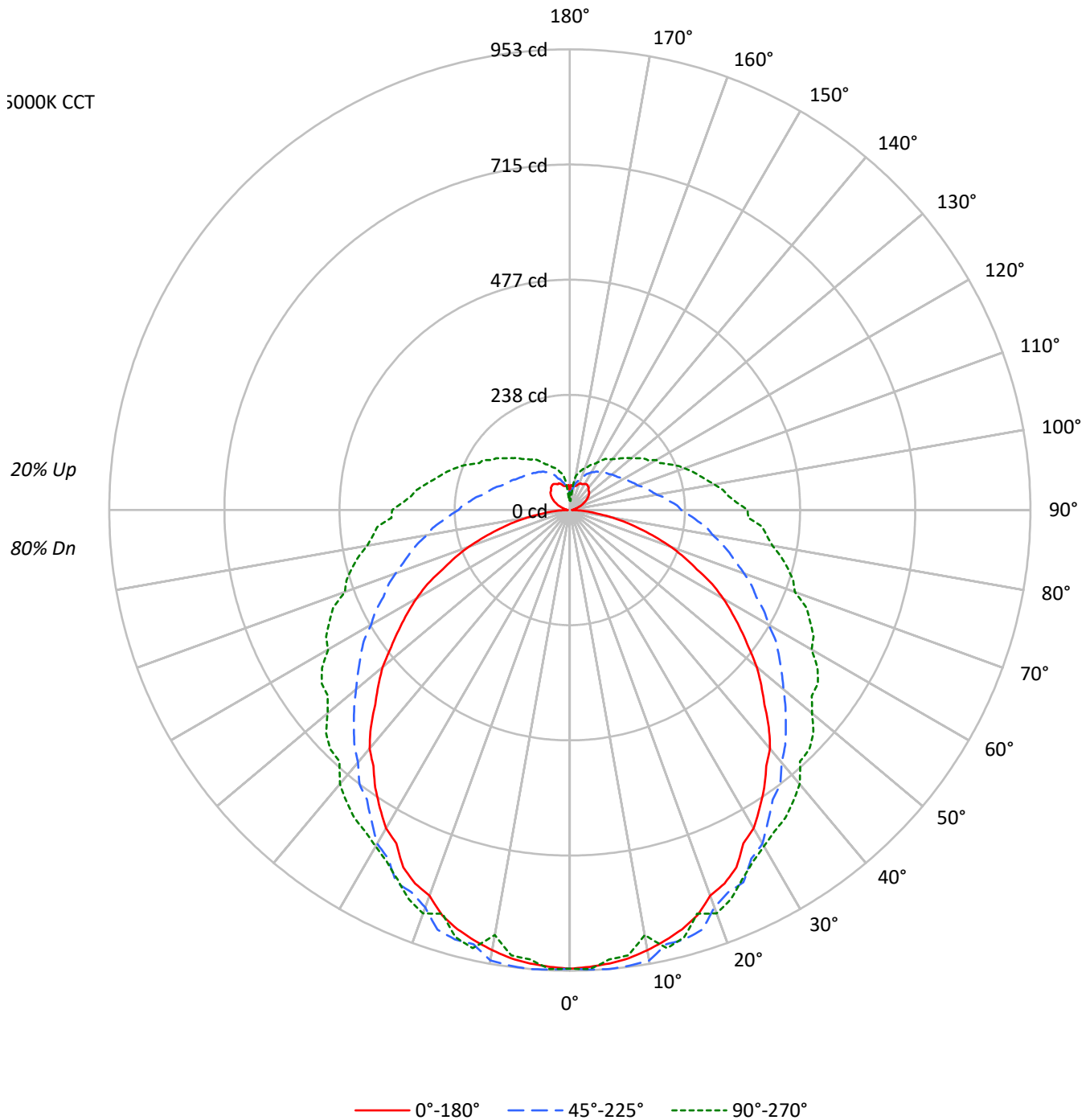
Test Method: LM-79-2019  
Report Number: P892784  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 2MB-4HL-RNDU-UNV-L850  
Description: 4000 Lumen 2FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 80CRI, 5  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3998.0 lumens  
Efficiency: N/A  
Efficacy: 144.9 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°	13572	13572	13572
5°	13398	13156	12792
10°	13186	12707	11822
15°	12932	12116	11814
20°	12445	11398	11271
25°	12273	11035	10603
30°	11841	10394	10079
35°	11410	9657	9812
40°	11057	9177	9465
45°	10422	8745	9157
50°	9990	8288	8808
55°	9366	7941	8766
60°	8876	7547	8476
65°	8011	7239	8542
70°	7209	7075	8269
75°	5948	6936	8473
80°	4467	6846	8538
85°	2794	6953	9035

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10422 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.2	2.3
10°-20°	257.4	6.4
20°-30°	385.6	9.6
30°-40°	462.8	11.6
40°-50°	488.1	12.2
50°-60°	470.9	11.8
60°-70°	417.5	10.4
70°-80°	344.1	8.6
80°-90°	267.5	6.7
90°-100°	208.5	5.2
100°-110°	166.3	4.2
110°-120°	133.2	3.3
120°-130°	105.7	2.6
130°-140°	81.2	2.0
140°-150°	59.0	1.5
150°-160°	37.3	0.9
160°-170°	18.2	0.5
170°-180°	4.3	0.1
0°-30°	733.2	18.3
0°-40°	1196.1	29.9
0°-60°	2155.1	53.9
0°-90°	3184.2	79.6
90°-120°	508.0	12.7
90°-150°	753.9	18.9
90°-180°	814.0	20.4
0°-180°	3998.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	949	949	949	949	949	
5°	942	955	953	945	934	89
15°	898	910	919	924	915	252
25°	816	828	850	849	843	373
35°	702	713	732	770	777	439
45°	569	583	632	675	701	442
55°	432	458	528	595	626	387
65°	290	325	426	503	549	290
75°	150	217	342	435	467	161
85°	38	132	266	362	400	40
90°	5	104	230	333	368	5
95°	6	87	207	296	329	6
105°	14	71	167	246	277	16
115°	30	69	138	203	225	29
125°	46	69	120	165	186	41
135°	55	70	108	137	152	43
145°	63	68	97	117	129	39
155°	59	62	82	96	104	28
165°	52	54	61	70	82	15
175°	51	47	39	36	19	5
180°	37	37	37	37	37	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	948.7	948.7	948.7	948.7	948.7
2.5°	946.0	952.3	951.4	963.0	950.5
5°	941.6	955.0	953.2	945.2	933.5
7.5°	935.3	954.1	950.5	948.7	929.1
10°	924.6	939.8	946.0	947.8	892.5
12.5°	912.1	926.4	920.2	928.2	928.2
15°	897.8	909.5	919.3	923.7	914.8
17.5°	879.1	897.8	910.3	907.7	875.5
20°	848.8	874.6	874.6	890.7	888.0
22.5°	836.3	857.7	855.9	866.6	871.1
25°	815.7	828.2	849.7	848.8	843.4
27.5°	777.4	811.3	813.1	819.3	820.2
30°	760.4	782.7	797.0	806.8	803.2
32.5°	731.0	742.6	763.1	783.6	788.1
35°	701.5	713.1	731.8	770.2	777.4
37.5°	667.6	692.6	714.9	739.0	759.5
40°	644.4	653.3	681.9	717.6	739.9
42.5°	609.6	624.7	659.6	689.9	705.1
45°	569.4	582.8	631.9	674.7	700.6
47.5°	537.3	557.8	605.1	655.1	683.7
50°	505.2	522.1	577.4	623.9	654.2
52.5°	465.9	489.1	552.5	622.1	631.0
55°	432.0	457.8	528.4	595.3	626.5
57.5°	398.9	422.1	506.0	565.8	607.8
60°	366.8	391.8	474.8	546.2	577.4
62.5°	332.0	356.1	453.4	529.2	568.5
65°	290.1	324.9	425.7	503.4	548.9
67.5°	257.0	299.9	407.0	497.1	530.1
70°	222.2	266.9	383.8	465.9	495.3
72.5°	185.6	241.0	360.6	457.0	484.6
75°	149.9	216.9	341.8	434.6	466.8
77.5°	119.6	192.8	322.2	416.8	448.0
80°	86.6	169.6	300.8	394.5	425.7
82.5°	58.9	149.0	286.5	382.0	411.4
85°	37.5	132.1	266.0	361.5	399.8
87.5°	17.8	116.9	248.1	346.3	369.5
90°	5.4	104.4	230.3	332.9	367.7
92.5°	4.5	94.6	222.2	313.3	346.3
95°	6.2	86.6	207.1	296.3	329.3
97.5°	8.9	80.3	197.2	282.0	319.5
100°	9.8	75.0	183.0	270.4	303.4
102.5°	11.6	72.3	174.0	258.8	289.2
105°	14.3	71.4	166.9	246.3	276.7
107.5°	17.8	67.8	158.9	229.4	265.1
110°	21.4	68.7	149.0	222.2	252.6



TEST NUMBER: P892784

CATALOG NUMBER: 2MB-4HL-RNDU-UNV-L850

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	25.9	67.8	144.6	208.8	240.1
115°	29.5	68.7	138.3	202.6	224.9
117.5°	33.9	67.8	133.9	189.2	210.6
120°	38.4	68.7	127.6	184.7	207.1
122.5°	41.9	69.6	124.1	174.0	191.9
125°	45.5	68.7	119.6	165.1	186.5
127.5°	49.1	69.6	116.9	157.1	175.8
130°	51.8	68.7	114.2	150.8	166.9
132.5°	54.4	68.7	109.8	143.7	158.9
135°	55.3	69.6	108.0	137.4	151.7
137.5°	57.1	70.5	104.4	131.2	142.8
140°	60.7	70.5	102.6	127.6	137.4
142.5°	61.6	68.7	99.1	120.5	131.2
145°	63.4	67.8	97.3	116.9	129.4
147.5°	63.4	67.8	92.8	109.8	121.4
150°	62.5	65.2	90.1	105.3	113.3
152.5°	60.7	65.2	85.7	100.9	106.2
155°	58.9	62.5	82.1	95.5	103.5
157.5°	59.8	61.6	75.9	92.8	96.4
160°	58.0	58.9	68.7	87.5	92.8
162.5°	55.3	56.2	66.9	80.3	88.4
165°	51.8	53.5	60.7	70.5	82.1
167.5°	50.9	50.0	57.1	63.4	77.6
170°	50.9	49.1	50.9	53.5	71.4
172.5°	50.0	47.3	45.5	42.8	52.7
175°	50.9	47.3	39.3	35.7	18.7
177.5°	51.8	48.2	38.4	26.8	19.6
180°	36.6	36.6	36.6	36.6	36.6



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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	16.03	17.35	16.68	18.01	18.78	19.19	20.50	19.83	21.16	21.93
	3H	17.51	18.70	18.16	19.38	20.18	22.02	23.22	22.67	23.89	24.69
	4H	17.98	19.12	18.65	19.81	20.62	23.43	24.57	24.11	25.26	26.07
	6H	18.27	19.33	18.96	20.03	20.86	24.91	25.97	25.60	26.67	27.50
	8H	18.33	19.35	19.02	20.06	20.90	25.67	26.68	26.36	27.40	28.23
	12H	18.35	19.33	19.05	20.04	20.90	26.48	27.45	27.18	28.17	29.03
4H	2H	17.14	18.28	17.81	18.96	19.78	19.55	20.69	20.23	21.38	22.19
	3H	18.85	19.83	19.54	20.55	21.39	22.61	23.59	23.30	24.31	25.15
	4H	19.46	20.36	20.16	21.09	21.95	24.22	25.12	24.93	25.85	26.71
	6H	19.88	20.68	20.60	21.43	22.30	25.90	26.70	26.62	27.45	28.32
	8H	19.99	20.75	20.72	21.49	22.38	26.77	27.53	27.50	28.27	29.16
	12H	20.05	20.74	20.80	21.51	22.40	27.72	28.40	28.47	29.17	30.06
8H	4H	20.46	21.22	21.19	21.96	22.85	24.42	25.17	25.14	25.92	26.80
	6H	21.12	21.76	21.88	22.55	23.43	26.29	26.93	27.04	27.71	28.60
	8H	21.35	21.93	22.11	22.71	23.61	27.31	27.89	28.08	28.68	29.58
	12H	21.50	22.02	22.27	22.80	23.75	28.46	28.97	29.23	29.75	30.71
12H	4H	20.78	21.46	21.52	22.23	23.12	24.42	25.10	25.16	25.87	26.76
	6H	21.59	22.17	22.36	22.96	23.86	26.32	26.90	27.09	27.69	28.59
	8H	21.94	22.46	22.71	23.24	24.20	27.42	27.94	28.19	28.72	29.67