

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: P893153

Luminaire Tested: 4MB-10HL-AOL-UNV-L830

Issue Date: 11/11/2024

**Test Information**

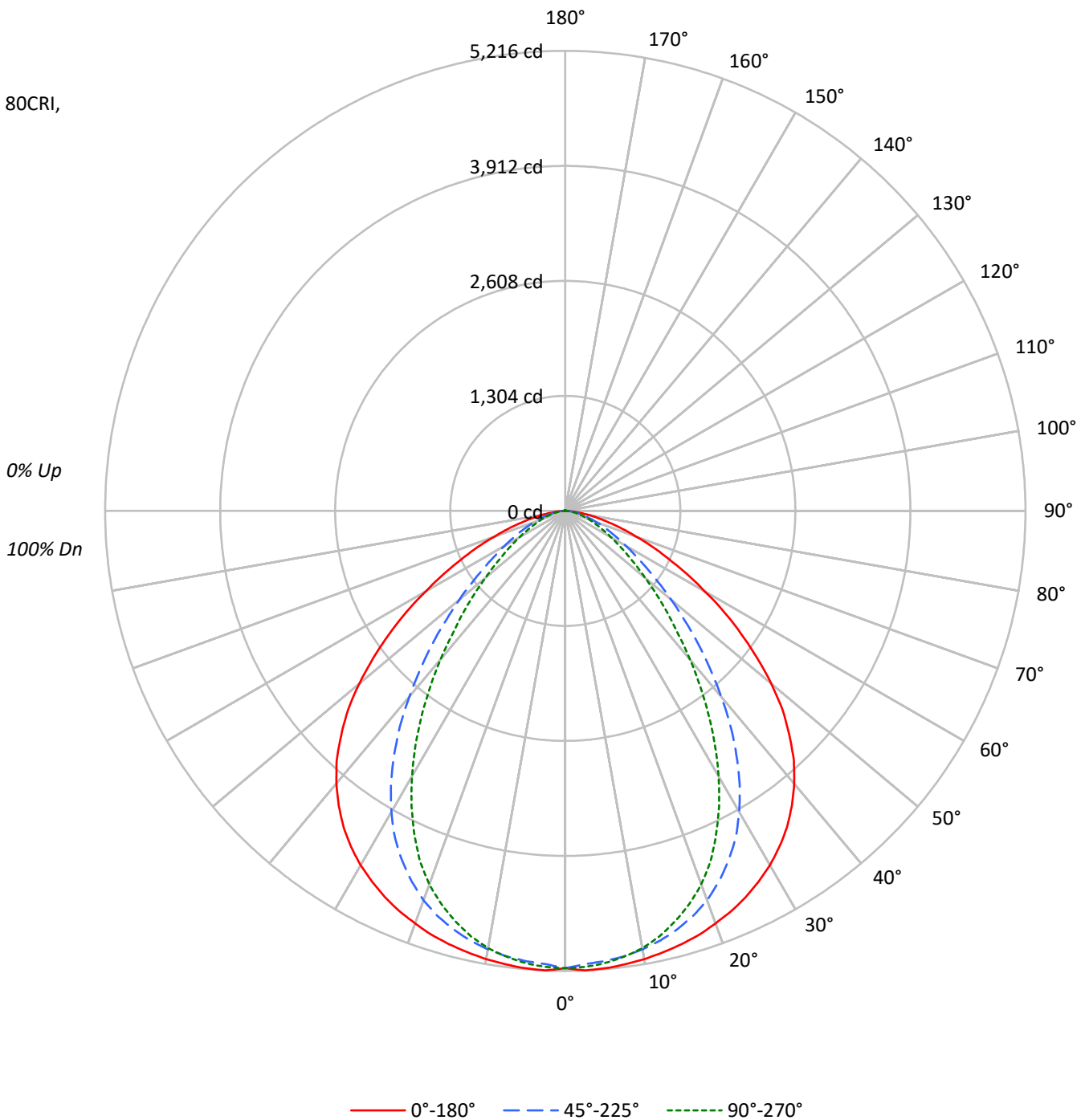
Test Method: LM-79-2019  
Report Number: P893153  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-10HL-AOL-UNV-L830  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 3000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10249.1 lumens  
Efficiency: N/A  
Efficacy: 135.7 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.05 / 1.16  
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 75.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.997  
Total Harmonic Distortion (THDi): 7.45  
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				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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	89	89	89	87
2	102	95	90	85	100	93	88	84	90	86	82	87	83	80	84	81	78	78	78	78	76
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	68	68	68	68	67
4	87	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	61	61	61	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	54	54	54	52
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	52	48	48	48	48	46
7	70	58	50	45	69	57	50	45	56	49	44	55	48	44	53	48	44	44	44	44	42
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	40	40	40	38
9	62	49	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	36	36	36	34
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	33	33	33	32

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

	0°	45°	90°
0°	52805	52805	52805
5°	53216	52386	52617
10°	53364	52205	52068
15°	53627	51763	50787
20°	53943	50924	48841
25°	54324	49173	45476
30°	54554	46346	40883
35°	54469	42060	35299
40°	53666	36543	29273
45°	51714	30662	23570
50°	48290	24870	18713
55°	43256	19858	14984
60°	37207	16205	12248
65°	31236	13476	10131
70°	25498	11324	8692
75°	20225	9585	7402
80°	15735	8199	6393
85°	12129	7327	5527

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 51714 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	490.5	4.8
10°-20°	1392.3	13.6
20°-30°	2026.0	19.8
30°-40°	2178.0	21.3
40°-50°	1819.0	17.7
50°-60°	1221.8	11.9
60°-70°	694.1	6.8
70°-80°	316.2	3.1
80°-90°	80.7	0.8
90°-100°	9.0	0.1
100°-110°	6.5	0.1
110°-120°	3.9	0.0
120°-130°	2.6	0.0
130°-140°	2.4	0.0
140°-150°	2.2	0.0
150°-160°	1.9	0.0
160°-170°	1.4	0.0
170°-180°	0.5	0.0
0°-30°	3908.8	38.1
0°-40°	6086.8	59.4
0°-60°	9127.6	89.1
0°-90°	10218.6	99.7
90°-120°	19.4	0.2
90°-150°	26.6	0.3
90°-180°	30.0	0.3
0°-180°	10249.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5185	5185	5185	5185	5185	
5°	5206	5191	5124	5165	5147	495
15°	5086	5045	4910	4870	4817	1438
25°	4834	4695	4376	4149	4047	2228
35°	4381	4030	3383	2978	2839	2734
45°	3591	2962	2129	1741	1636	2760
55°	2436	1752	1118	896	844	2177
65°	1296	891	559	448	420	1302
75°	514	371	244	198	188	565
85°	104	84	63	50	47	118
90°	13	11	8	7	6	13
95°	16	11	7	4	4	13
105°	12	9	5	3	2	13
115°	6	5	3	2	2	6
125°	4	3	3	2	2	3
135°	3	3	3	3	3	2
145°	3	3	4	4	3	2
155°	3	4	4	4	4	2
165°	4	4	5	6	6	1
175°	4	5	6	6	6	0
180°	6	6	6	6	6	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5185.0	5185.0	5185.0	5185.0	5185.0
2.5°	5215.8	5201.4	5142.8	5188.0	5175.7
5°	5205.5	5191.1	5124.3	5165.4	5146.9
7.5°	5186.0	5171.6	5093.5	5123.3	5098.6
10°	5160.3	5139.7	5048.2	5056.5	5034.9
12.5°	5126.4	5095.5	4987.6	4973.2	4939.3
15°	5086.3	5045.1	4909.5	4870.4	4816.9
17.5°	5040.0	4980.4	4814.9	4732.7	4674.1
20°	4977.3	4901.2	4698.7	4568.2	4506.5
22.5°	4912.5	4808.7	4548.7	4376.0	4301.9
25°	4834.4	4694.6	4376.0	4148.8	4047.0
27.5°	4740.9	4566.1	4181.7	3895.9	3774.6
30°	4639.1	4415.0	3941.1	3612.2	3476.5
32.5°	4516.8	4237.2	3678.0	3301.8	3160.9
35°	4381.1	4029.5	3383.0	2978.0	2839.2
37.5°	4216.6	3789.0	3076.6	2647.0	2513.3
40°	4036.7	3541.3	2748.7	2318.0	2201.9
42.5°	3834.2	3255.5	2430.1	2015.8	1890.4
45°	3590.6	2961.5	2128.9	1741.3	1636.5
47.5°	3341.8	2636.7	1828.7	1477.2	1402.1
50°	3047.9	2331.4	1569.7	1258.2	1181.1
52.5°	2742.6	2031.2	1328.1	1068.0	999.2
55°	2436.2	1751.6	1118.4	896.4	843.9
57.5°	2138.1	1494.6	940.6	757.6	712.4
60°	1826.7	1268.5	795.6	638.4	601.3
62.5°	1559.4	1072.1	668.2	537.6	506.8
65°	1296.2	891.2	559.2	448.2	420.4
67.5°	1075.2	736.0	463.6	372.1	348.5
70°	856.3	599.3	380.3	307.4	291.9
72.5°	682.6	478.0	308.4	249.8	234.4
75°	514.0	371.1	243.6	198.4	188.1
77.5°	386.5	281.7	188.1	154.2	142.9
80°	268.3	201.5	139.8	114.1	109.0
82.5°	171.7	138.8	96.6	81.2	75.0
85°	103.8	84.3	62.7	50.4	47.3
87.5°	49.3	41.1	31.9	24.7	22.6
90°	13.4	11.3	8.2	7.2	6.2
92.5°	15.4	11.3	7.2	5.1	4.1
95°	16.4	11.3	7.2	4.1	4.1
97.5°	16.4	12.3	6.2	4.1	3.1
100°	15.4	11.3	6.2	4.1	3.1
102.5°	13.4	10.3	5.1	3.1	3.1
105°	12.3	9.3	5.1	3.1	2.1
107.5°	10.3	8.2	4.1	3.1	2.1
110°	9.3	7.2	4.1	3.1	2.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	7.2	6.2	4.1	3.1	2.1
115°	6.2	5.1	3.1	2.1	2.1
117.5°	5.1	4.1	3.1	2.1	2.1
120°	5.1	4.1	3.1	2.1	2.1
122.5°	4.1	4.1	3.1	2.1	2.1
125°	4.1	3.1	3.1	2.1	2.1
127.5°	3.1	3.1	3.1	2.1	2.1
130°	3.1	3.1	3.1	3.1	2.1
132.5°	3.1	3.1	3.1	3.1	2.1
135°	3.1	3.1	3.1	3.1	3.1
137.5°	3.1	3.1	3.1	3.1	3.1
140°	3.1	3.1	3.1	3.1	3.1
142.5°	3.1	3.1	4.1	3.1	3.1
145°	3.1	3.1	4.1	4.1	3.1
147.5°	3.1	3.1	4.1	4.1	4.1
150°	3.1	3.1	4.1	4.1	4.1
152.5°	3.1	4.1	4.1	4.1	4.1
155°	3.1	4.1	4.1	4.1	4.1
157.5°	4.1	4.1	4.1	5.1	5.1
160°	4.1	4.1	5.1	5.1	5.1
162.5°	4.1	4.1	5.1	5.1	5.1
165°	4.1	4.1	5.1	6.2	6.2
167.5°	4.1	5.1	5.1	6.2	6.2
170°	4.1	5.1	5.1	6.2	6.2
172.5°	4.1	5.1	6.2	6.2	6.2
175°	4.1	5.1	6.2	6.2	6.2
177.5°	5.1	5.1	6.2	6.2	6.2
180°	6.2	6.2	6.2	6.2	6.2



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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	24.08	25.52	24.45	25.84	26.16	18.76	20.19	19.13	20.51	20.84
	3H	25.40	26.68	25.78	27.01	27.38	19.77	21.05	20.15	21.38	21.76
	4H	25.82	27.01	26.22	27.37	27.75	20.11	21.31	20.52	21.66	22.05
	6H	26.08	27.18	26.50	27.55	27.95	20.34	21.44	20.76	21.82	22.22
	8H	26.14	27.19	26.57	27.58	27.99	20.41	21.45	20.84	21.85	22.26
	12H	26.17	27.17	26.61	27.56	28.00	20.45	21.45	20.89	21.84	22.27
4H	2H	24.08	25.27	24.48	25.63	26.02	19.41	20.60	19.81	20.96	21.35
	3H	25.55	26.53	25.97	26.94	27.35	20.60	21.58	21.02	21.99	22.40
	4H	26.06	26.94	26.50	27.36	27.81	21.02	21.90	21.46	22.32	22.77
	6H	26.43	27.19	26.89	27.64	28.11	21.33	22.10	21.80	22.55	23.02
	8H	26.53	27.24	27.00	27.69	28.17	21.42	22.14	21.90	22.59	23.07
	12H	26.59	27.23	27.08	27.71	28.19	21.49	22.13	21.98	22.61	23.09
8H	4H	26.04	26.75	26.51	27.20	27.68	21.36	22.07	21.83	22.52	23.00
	6H	26.46	27.04	26.96	27.54	28.03	21.75	22.34	22.26	22.84	23.33
	8H	26.60	27.12	27.12	27.64	28.14	21.89	22.42	22.42	22.94	23.44
	12H	26.72	27.18	27.23	27.68	28.26	22.01	22.48	22.53	22.98	23.55
12H	4H	26.01	26.64	26.50	27.13	27.61	21.40	22.04	21.89	22.52	23.00
	6H	26.42	26.95	26.95	27.47	27.97	21.82	22.35	22.34	22.86	23.36
	8H	26.60	27.06	27.11	27.56	28.14	22.01	22.48	22.53	22.97	23.55