

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: P893154

Luminaire Tested: 4MB-10HL-AOL-UNV-L835

Issue Date: 11/11/2024

**Test Information**

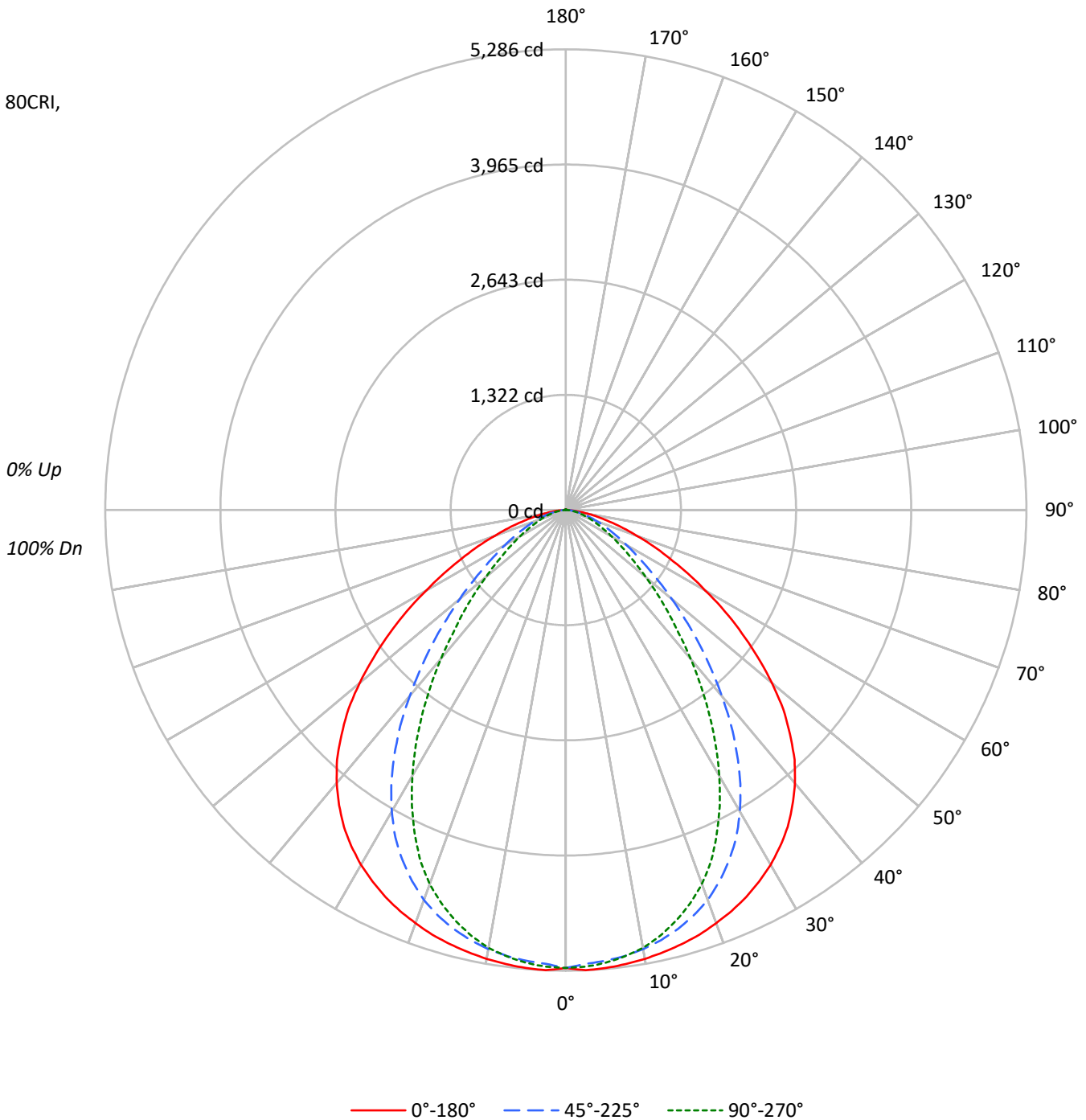
Test Method: LM-79-2019  
Report Number: P893154  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-10HL-AOL-UNV-L835  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 3500K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10386.0 lumens  
Efficiency: N/A  
Efficacy: 137.6 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 (A<sub>in</sub>): 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				
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°	53511	53511	53511
5°	53928	53087	53321
10°	54078	52903	52763
15°	54344	52455	51466
20°	54664	51604	49493
25°	55050	49831	46084
30°	55284	46966	41429
35°	55197	42622	35770
40°	54384	37032	29664
45°	52405	31071	23885
50°	48935	25203	18963
55°	43835	20124	15185
60°	37704	16423	12413
65°	31655	13656	10266
70°	25837	11476	8808
75°	20493	9715	7500
80°	15947	8310	6475
85°	12293	7420	5597

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 52405 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	497.0	4.8
10°-20°	1410.9	13.6
20°-30°	2053.1	19.8
30°-40°	2207.2	21.3
40°-50°	1843.3	17.7
50°-60°	1238.1	11.9
60°-70°	703.4	6.8
70°-80°	320.4	3.1
80°-90°	81.8	0.8
90°-100°	9.2	0.1
100°-110°	6.6	0.1
110°-120°	3.9	0.0
120°-130°	2.7	0.0
130°-140°	2.4	0.0
140°-150°	2.2	0.0
150°-160°	2.0	0.0
160°-170°	1.5	0.0
170°-180°	0.5	0.0
0°-30°	3961.0	38.1
0°-40°	6168.2	59.4
0°-60°	9249.6	89.1
0°-90°	10355.1	99.7
90°-120°	19.7	0.2
90°-150°	26.9	0.3
90°-180°	31.0	0.3
0°-180°	10386.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5254	5254	5254	5254	5254	
5°	5275	5260	5193	5234	5216	502
15°	5154	5113	4975	4936	4881	1457
25°	4899	4757	4434	4204	4101	2258
35°	4440	4083	3428	3018	2877	2770
45°	3639	3001	2157	1765	1658	2797
55°	2469	1775	1133	908	855	2206
65°	1314	903	567	454	426	1320
75°	521	376	247	201	191	573
85°	105	85	64	51	48	120
90°	14	12	8	7	6	13
95°	17	12	7	4	4	13
105°	12	9	5	3	2	13
115°	6	5	3	2	2	7
125°	4	3	3	2	2	4
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°	5254.3	5254.3	5254.3	5254.3	5254.3
2.5°	5285.5	5270.9	5211.5	5257.4	5244.9
5°	5275.1	5260.5	5192.8	5234.5	5215.7
7.5°	5255.3	5240.7	5161.5	5191.8	5166.8
10°	5229.3	5208.4	5115.7	5124.0	5102.2
12.5°	5194.9	5163.6	5054.3	5039.7	5005.3
15°	5154.3	5112.6	4975.1	4935.5	4881.3
17.5°	5107.4	5047.0	4879.3	4795.9	4736.5
20°	5043.8	4966.8	4761.5	4629.2	4566.7
22.5°	4978.2	4873.0	4609.5	4434.5	4359.5
25°	4899.0	4757.4	4434.5	4204.2	4101.1
27.5°	4804.3	4627.2	4237.6	3948.0	3825.1
30°	4701.1	4474.0	3993.8	3660.5	3523.0
32.5°	4577.2	4293.8	3727.1	3345.9	3203.2
35°	4439.7	4083.4	3428.2	3017.8	2877.1
37.5°	4273.0	3839.7	3117.8	2682.3	2546.9
40°	4090.7	3588.6	2785.5	2349.0	2231.3
42.5°	3885.5	3299.0	2462.5	2042.7	1915.7
45°	3638.6	3001.1	2157.3	1764.6	1658.4
47.5°	3386.5	2671.9	1853.2	1496.9	1420.9
50°	3088.6	2362.5	1590.7	1275.0	1196.9
52.5°	2779.2	2058.4	1345.9	1082.3	1012.5
55°	2468.8	1775.0	1133.4	908.3	855.2
57.5°	2166.7	1514.6	953.1	767.7	721.9
60°	1851.1	1285.4	806.3	646.9	609.4
62.5°	1580.2	1086.5	677.1	544.8	513.6
65°	1313.6	903.1	566.7	454.2	426.0
67.5°	1089.6	745.8	469.8	377.1	353.1
70°	867.7	607.3	385.4	311.5	295.8
72.5°	691.7	484.4	312.5	253.1	237.5
75°	520.8	376.0	246.9	201.0	190.6
77.5°	391.7	285.4	190.6	156.3	144.8
80°	271.9	204.2	141.7	115.6	110.4
82.5°	174.0	140.6	97.9	82.3	76.0
85°	105.2	85.4	63.5	51.0	47.9
87.5°	50.0	41.7	32.3	25.0	22.9
90°	13.5	11.5	8.3	7.3	6.3
92.5°	15.6	11.5	7.3	5.2	4.2
95°	16.7	11.5	7.3	4.2	4.2
97.5°	16.7	12.5	6.3	4.2	3.1
100°	15.6	11.5	6.3	4.2	3.1
102.5°	13.5	10.4	5.2	3.1	3.1
105°	12.5	9.4	5.2	3.1	2.1
107.5°	10.4	8.3	4.2	3.1	2.1
110°	9.4	7.3	4.2	3.1	2.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	7.3	6.3	4.2	3.1	2.1
115°	6.3	5.2	3.1	2.1	2.1
117.5°	5.2	4.2	3.1	2.1	2.1
120°	5.2	4.2	3.1	2.1	2.1
122.5°	4.2	4.2	3.1	2.1	2.1
125°	4.2	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	4.2	3.1	3.1
145°	3.1	3.1	4.2	4.2	3.1
147.5°	3.1	3.1	4.2	4.2	4.2
150°	3.1	3.1	4.2	4.2	4.2
152.5°	3.1	4.2	4.2	4.2	4.2
155°	3.1	4.2	4.2	4.2	4.2
157.5°	4.2	4.2	4.2	5.2	5.2
160°	4.2	4.2	5.2	5.2	5.2
162.5°	4.2	4.2	5.2	5.2	5.2
165°	4.2	4.2	5.2	6.3	6.3
167.5°	4.2	5.2	5.2	6.3	6.3
170°	4.2	5.2	5.2	6.3	6.3
172.5°	4.2	5.2	6.3	6.3	6.3
175°	4.2	5.2	6.3	6.3	6.3
177.5°	5.2	5.2	6.3	6.3	6.3
180°	6.3	6.3	6.3	6.3	6.3



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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	24.13	25.56	24.50	25.88	26.21	18.81	20.24	19.18	20.56	20.88
	3H	25.44	26.72	25.83	27.06	27.43	19.82	21.10	20.20	21.43	21.80
	4H	25.86	27.06	26.27	27.41	27.80	20.16	21.35	20.56	21.71	22.10
	6H	26.12	27.22	26.54	27.60	28.00	20.39	21.49	20.81	21.86	22.26
	8H	26.19	27.23	26.62	27.63	28.04	20.45	21.50	20.89	21.90	22.31
	12H	26.22	27.22	26.65	27.61	28.04	20.49	21.49	20.93	21.88	22.32
4H	2H	24.12	25.32	24.53	25.67	26.06	19.45	20.65	19.86	21.00	21.39
	3H	25.59	26.58	26.01	26.99	27.40	20.64	21.63	21.06	22.04	22.45
	4H	26.11	26.99	26.54	27.41	27.86	21.06	21.95	21.50	22.37	22.82
	6H	26.47	27.24	26.94	27.69	28.16	21.38	22.14	21.84	22.59	23.06
	8H	26.57	27.29	27.04	27.74	28.21	21.47	22.18	21.94	22.64	23.11
	12H	26.64	27.27	27.13	27.76	28.24	21.54	22.17	22.03	22.66	23.14
8H	4H	26.08	26.80	26.55	27.25	27.72	21.40	22.12	21.88	22.57	23.05
	6H	26.50	27.09	27.01	27.59	28.08	21.80	22.39	22.30	22.89	23.37
	8H	26.64	27.17	27.17	27.69	28.19	21.94	22.47	22.46	22.99	23.48
	12H	26.76	27.23	27.28	27.73	28.30	22.06	22.52	22.57	23.02	23.60
12H	4H	26.05	26.69	26.54	27.18	27.65	21.45	22.08	21.94	22.57	23.05
	6H	26.47	27.00	26.99	27.51	28.01	21.87	22.39	22.39	22.91	23.41
	8H	26.64	27.11	27.16	27.61	28.18	22.06	22.52	22.57	23.02	23.59