

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: P893992

Luminaire Tested: 4MB-9HL-A-UNV-L950

Issue Date: 11/11/2024

**Test Information**

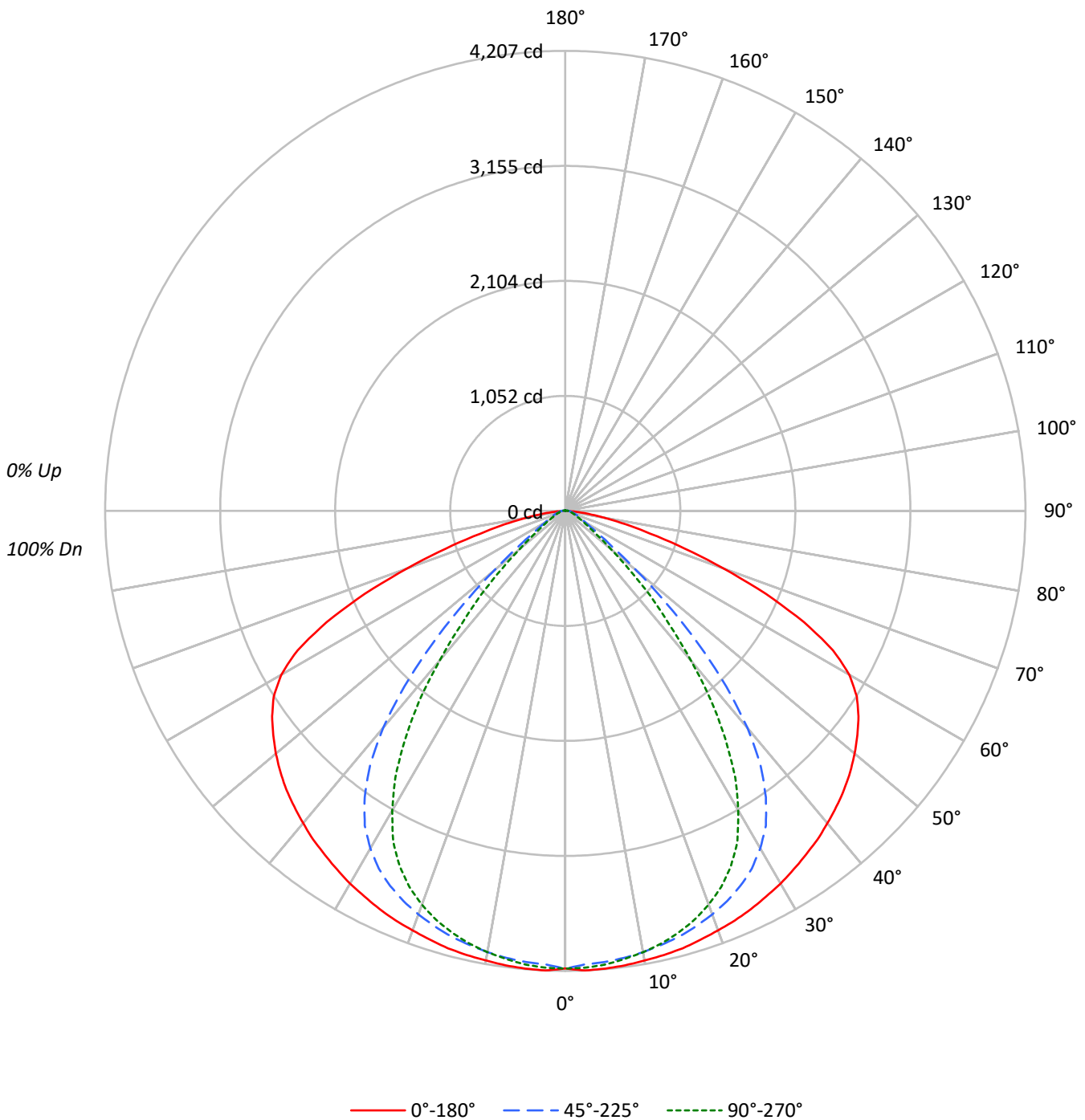
Test Method: LM-79-2019  
Report Number: P893992  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-9HL-A-UNV-L950  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 90CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8475.1 lumens  
Efficiency: N/A  
Efficacy: 131.6 lumens/watt  
Spacing Criteria (0/90/45): 1.41 / 1.14 / 1.22  
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.996  
Total Harmonic Distortion (THDi): 8.94  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P893992  
CATALOG NUMBER: 4MB-9HL-A-UNV-L950

### Luminous Intensity Polar Plot





TEST NUMBER: P893992

CATALOG NUMBER: 4MB-9HL-A-UNV-L950

**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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	91	90	88		
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77		
3	95	86	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	68		
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	60		
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	53		
6	76	65	57	51	75	64	56	51	62	55	50	60	55	50	59	54	50	48		
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43		
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	39		
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	35		
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	43	38	34	32		

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

	0°	45°	90°
0°	42624	42624	42624
5°	42956	42341	42584
10°	43183	42373	42381
15°	43661	42475	42109
20°	44236	42555	41535
25°	45136	42540	40256
30°	46277	41905	37188
35°	47697	39748	31742
40°	49562	34426	23740
45°	51926	24773	15804
50°	54715	13575	8662
55°	58102	6673	4988
60°	61107	4400	3448
65°	57996	3603	2725
70°	45657	3275	2522
75°	31660	3238	2396
80°	20832	3249	2968
85°	11930	4990	5083

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 60°  
 Luminance: 61107 cd/sqm



TEST NUMBER: P893992  
 CATALOG NUMBER: 4MB-9HL-A-UNV-L950

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	396.9	4.7
10°-20°	1145.6	13.5
20°-30°	1745.3	20.6
30°-40°	1982.0	23.4
40°-50°	1591.5	18.8
50°-60°	853.7	10.1
60°-70°	451.5	5.3
70°-80°	204.7	2.4
80°-90°	65.2	0.8
90°-100°	20.2	0.2
100°-110°	7.3	0.1
110°-120°	2.3	0.0
120°-130°	1.7	0.0
130°-140°	1.8	0.0
140°-150°	1.9	0.0
150°-160°	1.7	0.0
160°-170°	1.3	0.0
170°-180°	0.5	0.0
0°-30°	3287.8	38.8
0°-40°	5269.8	62.2
0°-60°	7715.1	91.0
0°-90°	8436.5	99.5
90°-120°	29.7	0.4
90°-150°	35.1	0.4
90°-180°	39.0	0.5
0°-180°	8475.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4185	4185	4185	4185	4185	
5°	4202	4193	4142	4177	4166	400
15°	4141	4115	4029	4018	3994	1171
25°	4017	3953	3786	3654	3582	1856
35°	3836	3673	3197	2734	2553	2407
45°	3605	3051	1720	1196	1097	2785
55°	3272	1221	376	294	281	2918
65°	2407	284	150	121	113	2327
75°	805	162	82	65	61	910
85°	102	61	43	43	44	139
90°	4	28	31	36	34	6
95°	4	11	24	21	21	3
105°	2	2	5	11	13	3
115°	2	2	2	3	3	2
125°	2	2	2	2	2	1
135°	2	2	2	2	2	2
145°	2	2	3	3	3	2
155°	3	3	4	5	4	1
165°	3	4	5	6	5	1
175°	4	4	6	6	6	0
180°	6	6	6	6	6	



TEST NUMBER: P893992

CATALOG NUMBER: 4MB-9HL-A-UNV-L950

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4185.3	4185.3	4185.3	4185.3	4185.3
2.5°	4206.6	4198.7	4151.2	4190.8	4180.5
5°	4201.9	4193.2	4141.7	4176.6	4165.5
7.5°	4191.6	4180.5	4122.8	4151.2	4133.8
10°	4175.8	4164.7	4097.4	4117.2	4098.2
12.5°	4159.9	4141.0	4064.2	4070.5	4052.3
15°	4141.0	4114.8	4028.6	4017.5	3993.8
17.5°	4111.7	4082.4	3981.9	3955.8	3922.6
20°	4081.6	4042.1	3926.5	3873.5	3832.4
22.5°	4053.9	3999.3	3863.3	3778.6	3723.2
25°	4016.7	3952.7	3785.7	3653.6	3582.4
27.5°	3976.4	3898.1	3690.0	3492.2	3407.5
30°	3935.2	3832.4	3563.4	3289.7	3162.3
32.5°	3887.0	3760.4	3411.5	3044.4	2894.1
35°	3836.4	3673.4	3197.1	2733.5	2553.1
37.5°	3788.1	3572.9	2932.8	2356.1	2196.3
40°	3728.0	3455.8	2589.5	1951.0	1785.7
42.5°	3668.6	3275.4	2178.1	1562.5	1404.3
45°	3605.3	3050.7	1720.0	1196.2	1097.3
47.5°	3533.3	2743.0	1258.7	871.1	785.6
50°	3453.4	2299.9	856.8	593.4	546.7
52.5°	3365.6	1781.7	557.0	409.0	382.1
55°	3272.3	1220.8	375.8	293.5	280.9
57.5°	3159.9	765.1	278.5	220.7	213.6
60°	3000.1	496.1	216.0	178.0	169.3
62.5°	2759.6	355.2	181.2	145.6	138.5
65°	2406.7	284.0	149.5	121.0	113.1
67.5°	1984.2	242.9	128.2	103.6	98.1
70°	1533.3	213.6	110.0	90.2	84.7
72.5°	1144.0	186.7	94.9	78.3	71.2
75°	804.6	162.2	82.3	64.9	60.9
77.5°	565.7	140.0	68.0	55.4	54.6
80°	355.2	116.3	55.4	51.4	50.6
82.5°	216.0	91.8	48.3	47.5	46.7
85°	102.1	60.9	42.7	42.7	43.5
87.5°	33.2	40.3	36.4	38.0	38.0
90°	4.0	27.7	30.9	35.6	34.0
92.5°	4.0	19.8	28.5	28.5	22.9
95°	4.0	11.1	24.5	21.4	20.6
97.5°	4.0	5.5	18.2	20.6	19.8
100°	4.0	3.2	13.4	18.2	19.8
102.5°	3.2	2.4	8.7	15.0	16.6
105°	2.4	1.6	4.7	11.1	13.4
107.5°	1.6	1.6	3.2	7.9	9.5
110°	1.6	0.8	2.4	5.5	6.3



TEST NUMBER: P893992  
 CATALOG NUMBER: 4MB-9HL-A-UNV-L950

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	0.8	2.4	4.0	4.0
115°	1.6	1.6	1.6	3.2	3.2
117.5°	1.6	1.6	1.6	2.4	2.4
120°	1.6	1.6	1.6	2.4	1.6
122.5°	1.6	1.6	1.6	2.4	1.6
125°	1.6	1.6	1.6	2.4	1.6
127.5°	1.6	1.6	2.4	2.4	1.6
130°	1.6	1.6	2.4	2.4	1.6
132.5°	1.6	1.6	2.4	2.4	2.4
135°	2.4	1.6	2.4	2.4	2.4
137.5°	2.4	2.4	2.4	3.2	2.4
140°	2.4	2.4	3.2	3.2	2.4
142.5°	2.4	2.4	3.2	3.2	3.2
145°	2.4	2.4	3.2	3.2	3.2
147.5°	2.4	2.4	3.2	4.0	3.2
150°	2.4	3.2	4.0	4.0	3.2
152.5°	2.4	3.2	4.0	4.0	4.0
155°	3.2	3.2	4.0	4.7	4.0
157.5°	3.2	3.2	4.0	4.7	4.0
160°	3.2	3.2	4.7	4.7	4.7
162.5°	3.2	4.0	4.7	5.5	4.7
165°	3.2	4.0	4.7	5.5	4.7
167.5°	3.2	4.0	4.7	5.5	5.5
170°	3.2	4.0	5.5	5.5	5.5
172.5°	4.0	4.0	5.5	6.3	5.5
175°	4.0	4.0	5.5	6.3	5.5
177.5°	4.0	4.0	5.5	6.3	5.5
180°	5.5	5.5	5.5	5.5	5.5



TEST NUMBER: P893992  
 CATALOG NUMBER: 4MB-9HL-A-UNV-L950

**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	22.70	24.09	23.08	24.41	24.74	10.91	12.30	11.29	12.62	12.95
	3H	25.60	26.83	25.99	27.17	27.55	11.87	13.10	12.26	13.44	13.82
	4H	26.39	27.54	26.79	27.90	28.29	12.29	13.44	12.70	13.80	14.20
	6H	26.82	27.88	27.24	28.26	28.66	12.77	13.83	13.19	14.21	14.61
	8H	26.92	27.93	27.36	28.33	28.74	13.08	14.08	13.52	14.48	14.90
	12H	26.96	27.92	27.40	28.31	28.75	13.48	14.45	13.92	14.84	15.28
4H	2H	22.52	23.67	22.93	24.03	24.42	11.43	12.58	11.84	12.94	13.33
	3H	25.43	26.38	25.85	26.79	27.20	12.64	13.58	13.06	14.00	14.41
	4H	26.23	27.07	26.67	27.50	27.95	13.18	14.02	13.62	14.45	14.90
	6H	26.75	27.48	27.22	27.94	28.41	13.81	14.54	14.28	15.00	15.47
	8H	26.90	27.58	27.37	28.04	28.52	14.22	14.90	14.69	15.35	15.83
	12H	26.98	27.58	27.47	28.07	28.56	14.75	15.35	15.24	15.84	16.32
8H	4H	26.11	26.80	26.59	27.25	27.73	13.74	14.42	14.22	14.88	15.36
	6H	26.64	27.21	27.15	27.71	28.20	14.51	15.07	15.02	15.58	16.07
	8H	26.81	27.32	27.34	27.84	28.34	15.03	15.54	15.56	16.06	16.56
	12H	26.93	27.38	27.45	27.88	28.46	15.74	16.18	16.26	16.69	17.27
12H	4H	26.07	26.68	26.57	27.17	27.65	13.99	14.59	14.48	15.08	15.57
	6H	26.59	27.10	27.12	27.62	28.12	14.79	15.29	15.31	15.81	16.32
	8H	26.78	27.23	27.30	27.73	28.31	15.38	15.83	15.90	16.33	16.91