

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: P893991

Luminaire Tested: 4MB-9HL-A-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893991
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-L940
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 90CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

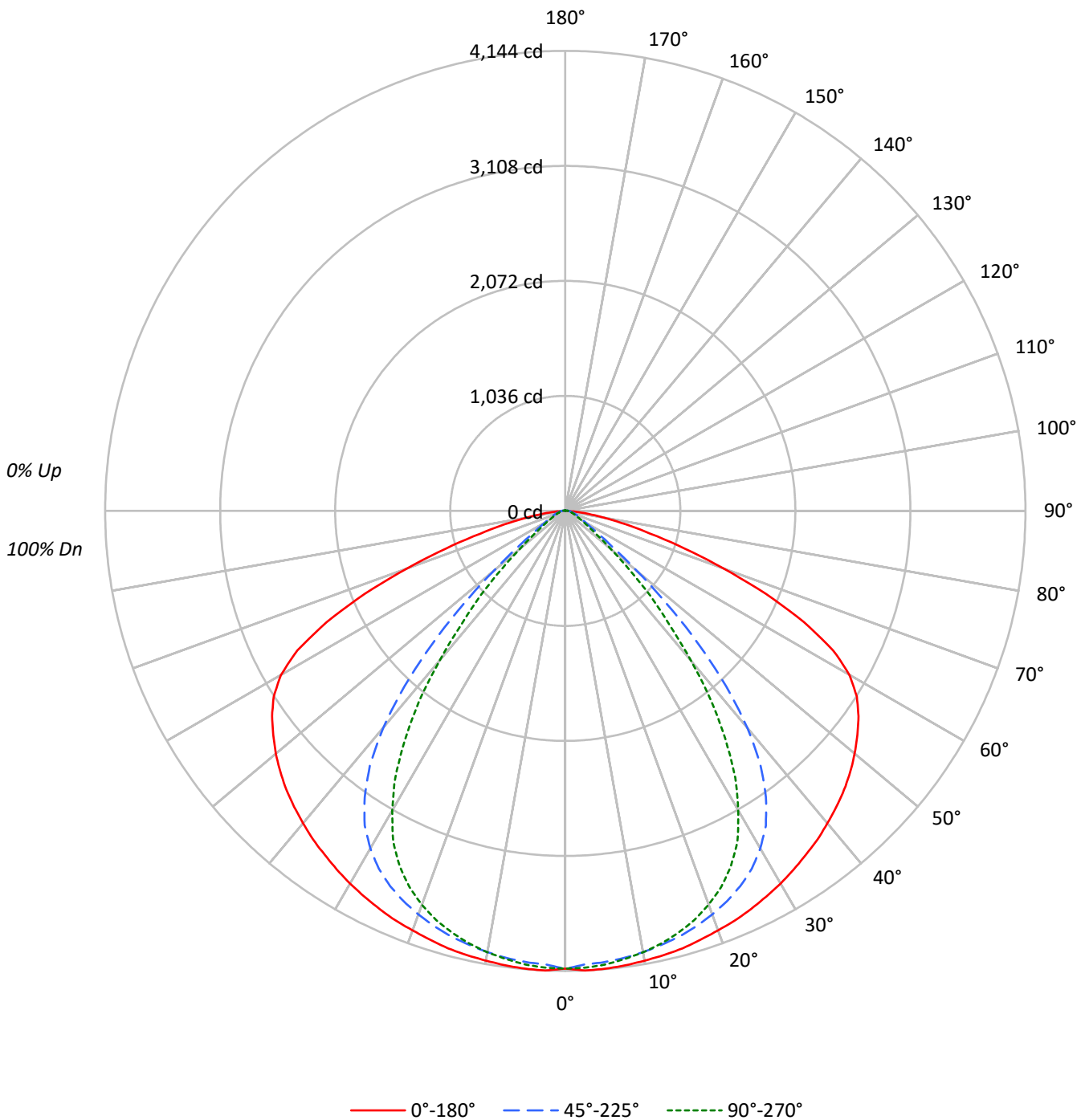
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8349.0 lumens
Efficiency: N/A
Efficacy: 129.6 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_{in}): 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

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	41990	41990	41990
5°	42318	41712	41951
10°	42541	41743	41751
15°	43011	41844	41482
20°	43578	41923	40917
25°	44465	41907	39657
30°	45589	41281	36635
35°	46987	39158	31269
40°	48824	33914	23386
45°	51154	24404	15569
50°	53902	13374	8533
55°	57237	6573	4913
60°	60199	4334	3397
65°	57134	3550	2687
70°	44978	3225	2483
75°	31192	3191	2361
80°	20527	3202	2927
85°	11743	4919	5013

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 60°
 Luminance: 60199 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	391.0	4.7
10°-20°	1128.6	13.5
20°-30°	1719.3	20.6
30°-40°	1952.6	23.4
40°-50°	1567.9	18.8
50°-60°	841.0	10.1
60°-70°	444.8	5.3
70°-80°	201.7	2.4
80°-90°	64.2	0.8
90°-100°	19.9	0.2
100°-110°	7.1	0.1
110°-120°	2.2	0.0
120°-130°	1.6	0.0
130°-140°	1.7	0.0
140°-150°	1.8	0.0
150°-160°	1.7	0.0
160°-170°	1.3	0.0
170°-180°	0.5	0.0
0°-30°	3238.9	38.8
0°-40°	5191.5	62.2
0°-60°	7600.4	91.0
0°-90°	8311.1	99.5
90°-120°	29.2	0.4
90°-150°	34.5	0.4
90°-180°	38.0	0.5
0°-180°	8349.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4123	4123	4123	4123	4123	
5°	4139	4131	4080	4114	4104	394
15°	4079	4054	3969	3958	3934	1153
25°	3957	3894	3729	3599	3529	1828
35°	3779	3619	3150	2693	2515	2371
45°	3552	3005	1694	1178	1081	2743
55°	3224	1203	370	289	277	2874
65°	2371	280	147	119	112	2293
75°	793	160	81	64	60	897
85°	100	60	42	42	43	137
90°	4	27	30	35	34	6
95°	4	11	24	21	20	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	1
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	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4123.0	4123.0	4123.0	4123.0	4123.0
2.5°	4144.1	4136.3	4089.5	4128.5	4118.4
5°	4139.4	4130.8	4080.2	4114.5	4103.5
7.5°	4129.3	4118.4	4061.5	4089.5	4072.4
10°	4113.7	4102.8	4036.5	4056.0	4037.3
12.5°	4098.1	4079.4	4003.8	4010.0	3992.1
15°	4079.4	4053.7	3968.7	3957.8	3934.4
17.5°	4050.5	4021.7	3922.7	3897.0	3864.3
20°	4020.9	3982.0	3868.2	3815.9	3775.4
22.5°	3993.7	3939.9	3805.8	3722.4	3667.9
25°	3957.0	3893.9	3729.4	3599.3	3529.1
27.5°	3917.3	3840.1	3635.1	3440.3	3356.9
30°	3876.7	3775.4	3510.4	3240.8	3115.3
32.5°	3829.2	3704.5	3360.8	2999.1	2851.1
35°	3779.3	3618.8	3149.6	2692.8	2515.1
37.5°	3731.8	3519.8	2889.2	2321.1	2163.6
40°	3672.5	3404.4	2551.0	1922.0	1759.1
42.5°	3614.1	3226.7	2145.7	1539.3	1383.4
45°	3551.7	3005.4	1694.4	1178.5	1081.0
47.5°	3480.8	2702.2	1240.0	858.1	773.9
50°	3402.1	2265.7	844.1	584.6	538.6
52.5°	3315.6	1755.2	548.7	403.0	376.5
55°	3223.6	1202.6	370.2	289.2	276.7
57.5°	3112.9	753.7	274.3	217.5	210.4
60°	2955.5	488.7	212.8	175.4	166.8
62.5°	2718.6	350.0	178.5	143.4	136.4
65°	2370.9	279.8	147.3	119.2	111.5
67.5°	1954.7	239.3	126.3	102.1	96.6
70°	1510.5	210.4	108.3	88.9	83.4
72.5°	1127.0	183.9	93.5	77.2	70.1
75°	792.7	159.8	81.1	63.9	60.0
77.5°	557.3	138.0	67.0	54.6	53.8
80°	350.0	114.6	54.6	50.7	49.9
82.5°	212.8	90.4	47.5	46.8	46.0
85°	100.5	60.0	42.1	42.1	42.9
87.5°	32.7	39.7	35.9	37.4	37.4
90°	3.9	27.3	30.4	35.1	33.5
92.5°	3.9	19.5	28.1	28.1	22.6
95°	3.9	10.9	24.2	21.0	20.3
97.5°	3.9	5.5	17.9	20.3	19.5
100°	3.9	3.1	13.2	17.9	19.5
102.5°	3.1	2.3	8.6	14.8	16.4
105°	2.3	1.6	4.7	10.9	13.2
107.5°	1.6	1.6	3.1	7.8	9.4
110°	1.6	0.8	2.3	5.5	6.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	0.8	2.3	3.9	3.9
115°	1.6	1.6	1.6	3.1	3.1
117.5°	1.6	1.6	1.6	2.3	2.3
120°	1.6	1.6	1.6	2.3	1.6
122.5°	1.6	1.6	1.6	2.3	1.6
125°	1.6	1.6	1.6	2.3	1.6
127.5°	1.6	1.6	2.3	2.3	1.6
130°	1.6	1.6	2.3	2.3	1.6
132.5°	1.6	1.6	2.3	2.3	2.3
135°	2.3	1.6	2.3	2.3	2.3
137.5°	2.3	2.3	2.3	3.1	2.3
140°	2.3	2.3	3.1	3.1	2.3
142.5°	2.3	2.3	3.1	3.1	3.1
145°	2.3	2.3	3.1	3.1	3.1
147.5°	2.3	2.3	3.1	3.9	3.1
150°	2.3	3.1	3.9	3.9	3.1
152.5°	2.3	3.1	3.9	3.9	3.9
155°	3.1	3.1	3.9	4.7	3.9
157.5°	3.1	3.1	3.9	4.7	3.9
160°	3.1	3.1	4.7	4.7	4.7
162.5°	3.1	3.9	4.7	5.5	4.7
165°	3.1	3.9	4.7	5.5	4.7
167.5°	3.1	3.9	4.7	5.5	5.5
170°	3.1	3.9	5.5	5.5	5.5
172.5°	3.9	3.9	5.5	6.2	5.5
175°	3.9	3.9	5.5	6.2	5.5
177.5°	3.9	3.9	5.5	6.2	5.5
180°	5.5	5.5	5.5	5.5	5.5



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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	22.65	24.04	23.02	24.36	24.69	10.86	12.25	11.24	12.57	12.90
	3H	25.55	26.78	25.94	27.12	27.50	11.82	13.05	12.21	13.39	13.77
	4H	26.33	27.48	26.74	27.84	28.24	12.24	13.39	12.65	13.75	14.14
	6H	26.77	27.83	27.19	28.21	28.61	12.72	13.78	13.14	14.16	14.56
	8H	26.87	27.87	27.31	28.27	28.69	13.03	14.03	13.47	14.43	14.85
	12H	26.91	27.87	27.35	28.26	28.70	13.43	14.40	13.87	14.79	15.23
4H	2H	22.46	23.61	22.87	23.97	24.37	11.38	12.53	11.79	12.89	13.28
	3H	25.38	26.32	25.80	26.74	27.15	12.59	13.53	13.01	13.94	14.36
	4H	26.17	27.02	26.62	27.45	27.90	13.13	13.97	13.57	14.40	14.85
	6H	26.70	27.43	27.17	27.89	28.36	13.76	14.49	14.23	14.95	15.42
	8H	26.85	27.53	27.32	27.98	28.46	14.16	14.85	14.64	15.30	15.78
	12H	26.93	27.53	27.42	28.02	28.51	14.70	15.30	15.19	15.79	16.28
8H	4H	26.06	26.74	26.54	27.20	27.68	13.69	14.37	14.16	14.83	15.31
	6H	26.59	27.15	27.10	27.66	28.15	14.46	15.02	14.97	15.53	16.02
	8H	26.76	27.26	27.28	27.78	28.29	14.98	15.49	15.51	16.01	16.51
	12H	26.88	27.33	27.40	27.83	28.41	15.69	16.14	16.21	16.64	17.22
12H	4H	26.02	26.63	26.51	27.12	27.60	13.94	14.54	14.43	15.03	15.52
	6H	26.54	27.04	27.06	27.57	28.07	14.74	15.24	15.26	15.76	16.26
	8H	26.73	27.18	27.25	27.68	28.26	15.33	15.78	15.85	16.28	16.86