

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: P893985

Luminaire Tested: 4MB-9HL-A-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893985
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-L830
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 80CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

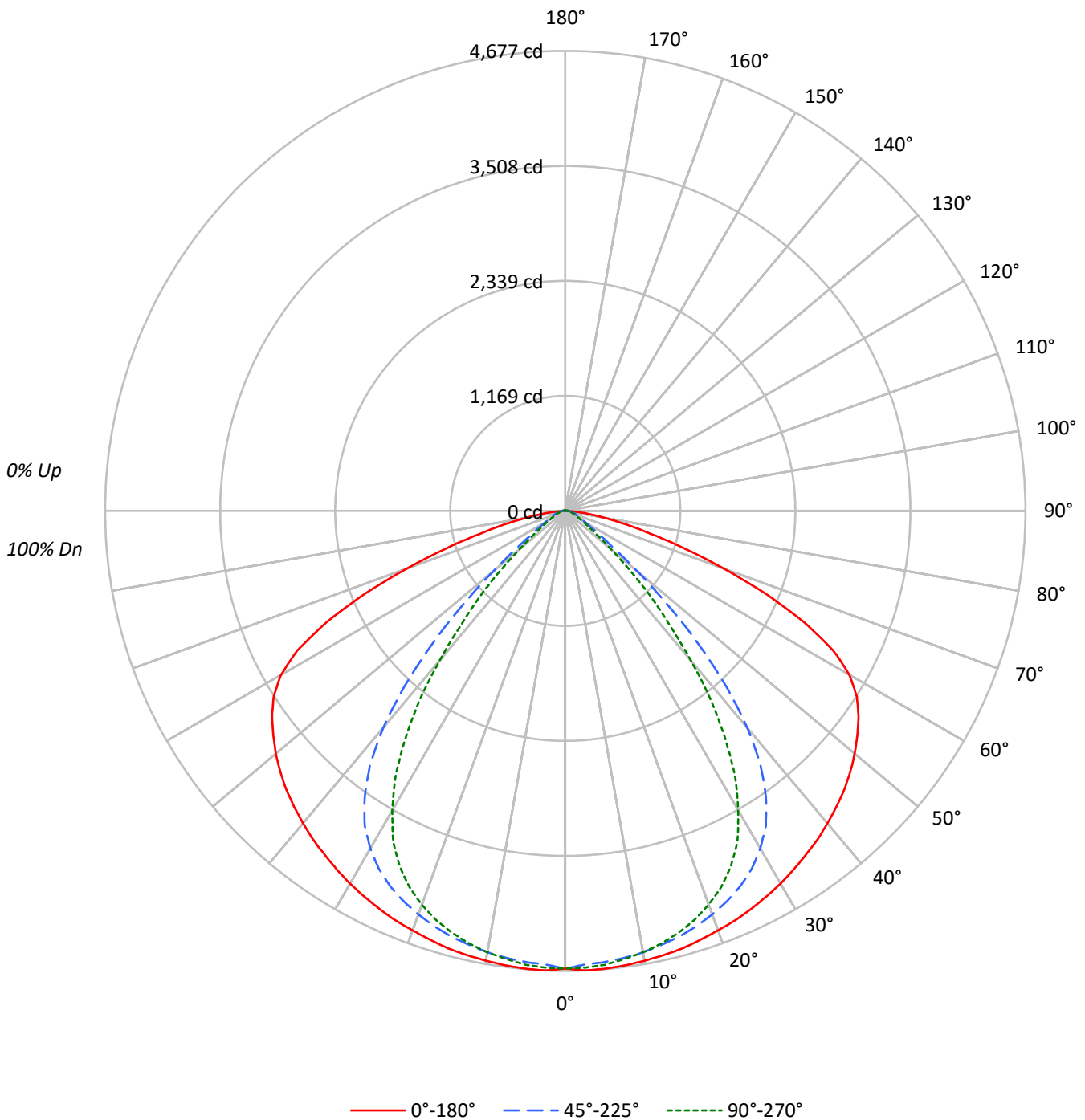
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9423.0 lumens
Efficiency: N/A
Efficacy: 146.3 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 (Ain): 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	90	90	90	88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	79	79	79	77
3	95	86	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	70	70	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	62	62	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	55	55	55	53
6	76	65	57	51	75	64	56	51	62	55	50	60	55	50	59	54	50	50	50	50	48
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	45	45	45	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	41	41	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	37	37	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	43	38	34	34	34	34	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	47391	47391	47391
5°	47761	47077	47347
10°	48014	47113	47121
15°	48544	47226	46818
20°	49184	47316	46181
25°	50185	47299	44758
30°	51453	46592	41347
35°	53031	44194	35292
40°	55106	38276	26395
45°	57734	27544	17573
50°	60836	15094	9630
55°	64600	7418	5545
60°	67943	4890	3833
65°	64484	4007	3032
70°	50763	3642	2802
75°	35201	3600	2664
80°	23166	3613	3302
85°	13263	5550	5656

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 60°
 Luminance: 67943 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	441.3	4.7
10°-20°	1273.7	13.5
20°-30°	1940.5	20.6
30°-40°	2203.7	23.4
40°-50°	1769.6	18.8
50°-60°	949.2	10.1
60°-70°	502.1	5.3
70°-80°	227.6	2.4
80°-90°	72.5	0.8
90°-100°	22.4	0.2
100°-110°	8.1	0.1
110°-120°	2.5	0.0
120°-130°	1.9	0.0
130°-140°	2.0	0.0
140°-150°	2.1	0.0
150°-160°	1.9	0.0
160°-170°	1.4	0.0
170°-180°	0.5	0.0
0°-30°	3655.6	38.8
0°-40°	5859.3	62.2
0°-60°	8578.0	91.0
0°-90°	9380.2	99.5
90°-120°	33.0	0.4
90°-150°	38.9	0.4
90°-180°	43.0	0.5
0°-180°	9423.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4653	4653	4653	4653	4653	
5°	4672	4662	4605	4644	4631	445
15°	4604	4575	4479	4467	4440	1302
25°	4466	4395	4209	4062	3983	2063
35°	4266	4084	3555	3039	2839	2676
45°	4009	3392	1912	1330	1220	3096
55°	3638	1357	418	326	312	3244
65°	2676	316	166	135	126	2588
75°	895	180	92	72	68	1012
85°	114	68	48	48	48	155
90°	4	31	34	40	38	7
95°	4	12	27	24	23	4
105°	3	2	5	12	15	3
115°	2	2	2	4	4	2
125°	2	2	2	3	2	2
135°	3	2	3	3	3	2
145°	3	3	4	4	4	2
155°	4	4	4	5	4	1
165°	4	4	5	6	5	1
175°	4	4	6	7	6	0
180°	6	6	6	6	6	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4653.4	4653.4	4653.4	4653.4	4653.4
2.5°	4677.2	4668.4	4615.6	4659.6	4648.1
5°	4671.9	4662.2	4605.0	4643.7	4631.4
7.5°	4660.5	4648.1	4583.9	4615.6	4596.2
10°	4642.9	4630.5	4555.8	4577.8	4556.6
12.5°	4625.3	4604.2	4518.8	4525.9	4505.6
15°	4604.2	4575.1	4479.2	4466.9	4440.5
17.5°	4571.6	4539.1	4427.3	4398.3	4361.4
20°	4538.2	4494.2	4365.8	4306.8	4261.1
22.5°	4507.4	4446.7	4295.4	4201.3	4139.7
25°	4466.0	4394.8	4209.2	4062.3	3983.1
27.5°	4421.2	4334.1	4102.7	3882.8	3788.7
30°	4375.4	4261.1	3962.0	3657.6	3516.0
32.5°	4321.8	4181.0	3793.1	3384.9	3217.8
35°	4265.5	4084.3	3554.7	3039.2	2838.7
37.5°	4211.8	3972.6	3260.9	2619.6	2441.9
40°	4145.0	3842.4	2879.1	2169.2	1985.4
42.5°	4079.0	3641.8	2421.7	1737.3	1561.4
45°	4008.6	3392.0	1912.4	1330.0	1220.1
47.5°	3928.6	3049.8	1399.5	968.5	873.5
50°	3839.7	2557.2	952.7	659.7	607.8
52.5°	3742.1	1981.0	619.3	454.8	424.9
55°	3638.3	1357.3	417.8	326.4	312.3
57.5°	3513.4	850.6	309.6	245.4	237.5
60°	3335.7	551.5	240.1	197.9	188.2
62.5°	3068.3	395.0	201.4	161.9	153.9
65°	2675.9	315.8	166.3	134.6	125.8
67.5°	2206.2	270.1	142.5	115.2	109.1
70°	1704.8	237.5	122.3	100.3	94.1
72.5°	1272.0	207.6	105.6	87.1	79.2
75°	894.6	180.3	91.5	72.1	67.7
77.5°	629.0	155.7	75.7	61.6	60.7
80°	395.0	129.3	61.6	57.2	56.3
82.5°	240.1	102.0	53.7	52.8	51.9
85°	113.5	67.7	47.5	47.5	48.4
87.5°	36.9	44.9	40.5	42.2	42.2
90°	4.4	30.8	34.3	39.6	37.8
92.5°	4.4	22.0	31.7	31.7	25.5
95°	4.4	12.3	27.3	23.8	22.9
97.5°	4.4	6.2	20.2	22.9	22.0
100°	4.4	3.5	15.0	20.2	22.0
102.5°	3.5	2.6	9.7	16.7	18.5
105°	2.6	1.8	5.3	12.3	15.0
107.5°	1.8	1.8	3.5	8.8	10.6
110°	1.8	0.9	2.6	6.2	7.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.8	0.9	2.6	4.4	4.4
115°	1.8	1.8	1.8	3.5	3.5
117.5°	1.8	1.8	1.8	2.6	2.6
120°	1.8	1.8	1.8	2.6	1.8
122.5°	1.8	1.8	1.8	2.6	1.8
125°	1.8	1.8	1.8	2.6	1.8
127.5°	1.8	1.8	2.6	2.6	1.8
130°	1.8	1.8	2.6	2.6	1.8
132.5°	1.8	1.8	2.6	2.6	2.6
135°	2.6	1.8	2.6	2.6	2.6
137.5°	2.6	2.6	2.6	3.5	2.6
140°	2.6	2.6	3.5	3.5	2.6
142.5°	2.6	2.6	3.5	3.5	3.5
145°	2.6	2.6	3.5	3.5	3.5
147.5°	2.6	2.6	3.5	4.4	3.5
150°	2.6	3.5	4.4	4.4	3.5
152.5°	2.6	3.5	4.4	4.4	4.4
155°	3.5	3.5	4.4	5.3	4.4
157.5°	3.5	3.5	4.4	5.3	4.4
160°	3.5	3.5	5.3	5.3	5.3
162.5°	3.5	4.4	5.3	6.2	5.3
165°	3.5	4.4	5.3	6.2	5.3
167.5°	3.5	4.4	5.3	6.2	6.2
170°	3.5	4.4	6.2	6.2	6.2
172.5°	4.4	4.4	6.2	7.0	6.2
175°	4.4	4.4	6.2	7.0	6.2
177.5°	4.4	4.4	6.2	7.0	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	23.07	24.46	23.44	24.78	25.11	11.28	12.67	11.66	12.99	13.32
	3H	25.97	27.20	26.36	27.54	27.92	12.24	13.47	12.63	13.81	14.19
	4H	26.75	27.90	27.16	28.26	28.66	12.66	13.81	13.07	14.17	14.56
	6H	27.19	28.25	27.61	28.63	29.03	13.14	14.20	13.56	14.58	14.98
	8H	27.29	28.29	27.73	28.69	29.11	13.45	14.45	13.89	14.85	15.27
	12H	27.33	28.29	27.77	28.68	29.12	13.85	14.81	14.29	15.21	15.65
4H	2H	22.88	24.03	23.29	24.39	24.79	11.80	12.95	12.21	13.31	13.70
	3H	25.80	26.74	26.22	27.16	27.57	13.01	13.95	13.43	14.36	14.78
	4H	26.60	27.44	27.04	27.87	28.32	13.55	14.39	13.99	14.82	15.27
	6H	27.12	27.85	27.59	28.31	28.78	14.18	14.91	14.65	15.37	15.84
	8H	27.27	27.95	27.74	28.40	28.88	14.58	15.27	15.06	15.72	16.20
	12H	27.35	27.95	27.84	28.44	28.93	15.11	15.72	15.61	16.21	16.69
8H	4H	26.48	27.17	26.96	27.62	28.10	14.11	14.79	14.58	15.25	15.73
	6H	27.01	27.57	27.52	28.08	28.57	14.88	15.44	15.39	15.95	16.44
	8H	27.18	27.68	27.71	28.21	28.71	15.40	15.91	15.93	16.43	16.93
	12H	27.30	27.75	27.82	28.25	28.83	16.11	16.55	16.63	17.06	17.64
12H	4H	26.44	27.05	26.93	27.54	28.02	14.36	14.96	14.85	15.45	15.94
	6H	26.96	27.46	27.49	27.99	28.49	15.16	15.66	15.68	16.18	16.68
	8H	27.15	27.60	27.67	28.10	28.68	15.75	16.20	16.27	16.70	17.28