

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: P893986

Luminaire Tested: 4MB-9HL-A-UNV-L835

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893986
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-L835
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 80CRI, 3500K CCT
Light Source: -
Ballast/Driver: -

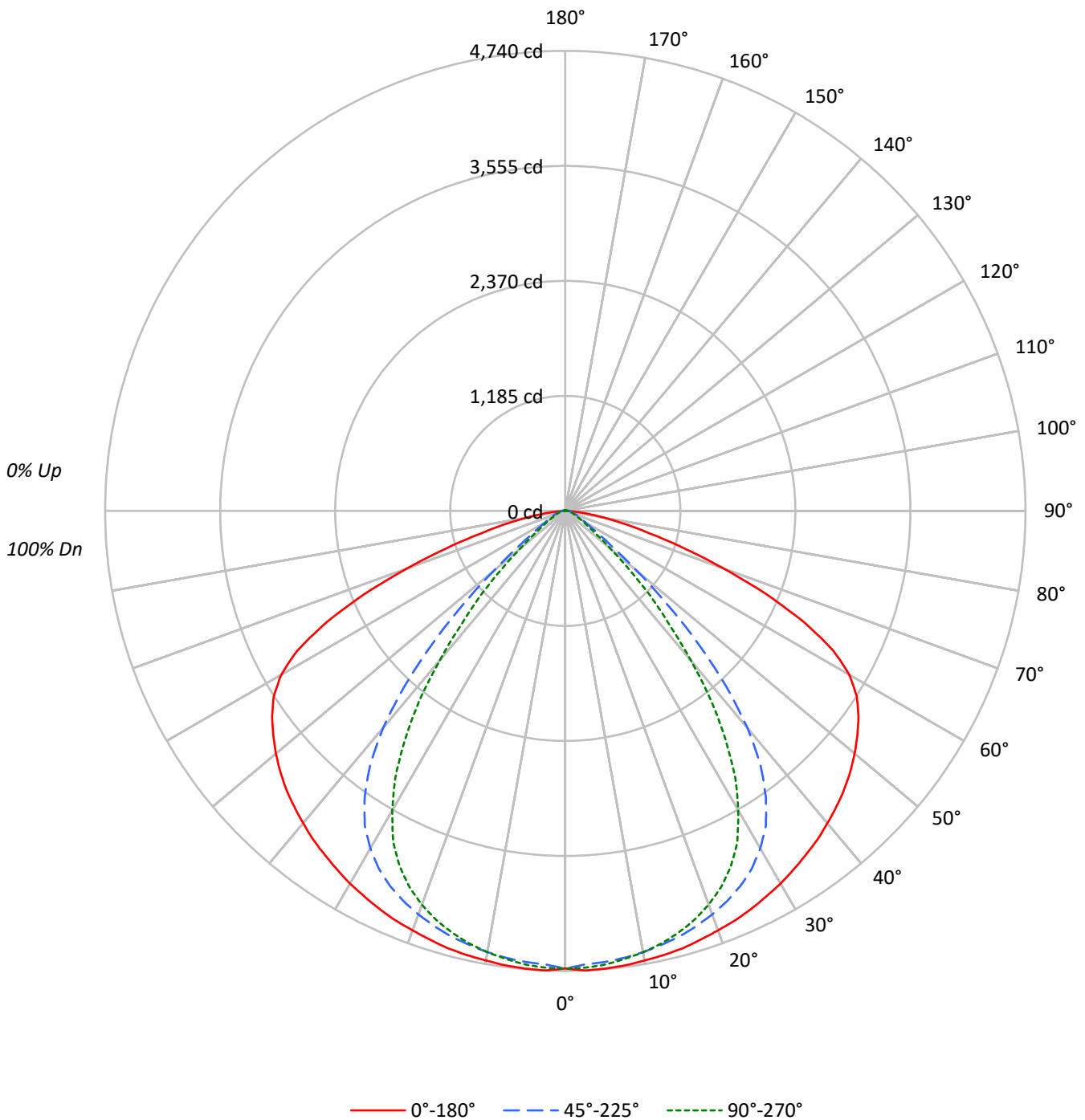
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9549.1 lumens
Efficiency: N/A
Efficacy: 148.3 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 (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°	48025	48025	48025
5°	48400	47707	47981
10°	48655	47743	47752
15°	49193	47858	47445
20°	49842	47948	46799
25°	50857	47932	45357
30°	52141	47215	41900
35°	53740	44785	35764
40°	55842	38788	26747
45°	58506	27912	17807
50°	61650	15296	9760
55°	65463	7518	5620
60°	68851	4958	3886
65°	65346	4060	3072
70°	51442	3689	2841
75°	35674	3648	2699
80°	23471	3660	3349
85°	13438	5621	5726

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 60°
 Luminance: 68851 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	447.2	4.7
10°-20°	1290.8	13.5
20°-30°	1966.4	20.6
30°-40°	2233.2	23.4
40°-50°	1793.2	18.8
50°-60°	961.9	10.1
60°-70°	508.8	5.3
70°-80°	230.7	2.4
80°-90°	73.5	0.8
90°-100°	22.7	0.2
100°-110°	8.2	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°	2.0	0.0
160°-170°	1.4	0.0
170°-180°	0.5	0.0
0°-30°	3704.4	38.8
0°-40°	5937.6	62.2
0°-60°	8692.8	91.0
0°-90°	9505.7	99.5
90°-120°	33.5	0.4
90°-150°	39.5	0.4
90°-180°	43.0	0.5
0°-180°	9549.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4716	4716	4716	4716	4716	
5°	4734	4725	4667	4706	4693	451
15°	4666	4636	4539	4527	4500	1319
25°	4526	4454	4266	4117	4036	2091
35°	4322	4139	3602	3080	2877	2712
45°	4062	3437	1938	1348	1236	3138
55°	3687	1376	423	331	316	3287
65°	2712	320	168	136	128	2622
75°	907	183	93	73	69	1026
85°	115	69	48	48	49	157
90°	4	31	35	40	38	7
95°	4	12	28	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°	4715.6	4715.6	4715.6	4715.6	4715.6
2.5°	4739.7	4730.8	4677.3	4721.9	4710.3
5°	4734.4	4724.6	4666.6	4705.8	4693.4
7.5°	4722.8	4710.3	4645.2	4677.3	4657.7
10°	4704.9	4692.5	4616.7	4639.0	4617.6
12.5°	4687.1	4665.7	4579.2	4586.4	4565.9
15°	4665.7	4636.3	4539.1	4526.7	4499.9
17.5°	4632.7	4599.8	4486.5	4457.1	4419.7
20°	4598.9	4554.3	4424.1	4364.4	4318.1
22.5°	4567.7	4506.2	4352.8	4257.4	4195.0
25°	4525.8	4453.6	4265.5	4116.6	4036.4
27.5°	4480.3	4392.0	4157.6	3934.7	3839.4
30°	4433.9	4318.1	4015.0	3706.5	3563.0
32.5°	4379.6	4236.9	3843.8	3430.2	3260.8
35°	4322.5	4138.9	3602.2	3079.9	2876.6
37.5°	4268.1	4025.7	3304.5	2654.7	2474.6
40°	4200.4	3893.7	2917.6	2198.3	2011.9
42.5°	4133.5	3690.5	2454.1	1760.6	1582.3
45°	4062.2	3437.3	1938.0	1347.8	1236.4
47.5°	3981.1	3090.6	1418.3	981.5	885.2
50°	3891.1	2591.4	965.4	668.6	616.0
52.5°	3792.1	2007.5	627.6	460.9	430.6
55°	3686.9	1375.5	423.4	330.7	316.5
57.5°	3560.3	862.0	313.8	248.7	240.7
60°	3380.3	558.9	243.4	200.6	190.8
62.5°	3109.3	400.2	204.1	164.0	156.0
65°	2711.7	320.0	168.5	136.4	127.5
67.5°	2235.7	273.7	144.4	116.8	110.5
70°	1727.6	240.7	123.9	101.6	95.4
72.5°	1289.0	210.4	107.0	88.3	80.2
75°	906.6	182.7	92.7	73.1	68.6
77.5°	637.4	157.8	76.7	62.4	61.5
80°	400.2	131.0	62.4	57.9	57.1
82.5°	243.4	103.4	54.4	53.5	52.6
85°	115.0	68.6	48.1	48.1	49.0
87.5°	37.4	45.5	41.0	42.8	42.8
90°	4.5	31.2	34.8	40.1	38.3
92.5°	4.5	22.3	32.1	32.1	25.9
95°	4.5	12.5	27.6	24.1	23.2
97.5°	4.5	6.2	20.5	23.2	22.3
100°	4.5	3.6	15.2	20.5	22.3
102.5°	3.6	2.7	9.8	16.9	18.7
105°	2.7	1.8	5.3	12.5	15.2
107.5°	1.8	1.8	3.6	8.9	10.7
110°	1.8	0.9	2.7	6.2	7.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.8	0.9	2.7	4.5	4.5
115°	1.8	1.8	1.8	3.6	3.6
117.5°	1.8	1.8	1.8	2.7	2.7
120°	1.8	1.8	1.8	2.7	1.8
122.5°	1.8	1.8	1.8	2.7	1.8
125°	1.8	1.8	1.8	2.7	1.8
127.5°	1.8	1.8	2.7	2.7	1.8
130°	1.8	1.8	2.7	2.7	1.8
132.5°	1.8	1.8	2.7	2.7	2.7
135°	2.7	1.8	2.7	2.7	2.7
137.5°	2.7	2.7	2.7	3.6	2.7
140°	2.7	2.7	3.6	3.6	2.7
142.5°	2.7	2.7	3.6	3.6	3.6
145°	2.7	2.7	3.6	3.6	3.6
147.5°	2.7	2.7	3.6	4.5	3.6
150°	2.7	3.6	4.5	4.5	3.6
152.5°	2.7	3.6	4.5	4.5	4.5
155°	3.6	3.6	4.5	5.3	4.5
157.5°	3.6	3.6	4.5	5.3	4.5
160°	3.6	3.6	5.3	5.3	5.3
162.5°	3.6	4.5	5.3	6.2	5.3
165°	3.6	4.5	5.3	6.2	5.3
167.5°	3.6	4.5	5.3	6.2	6.2
170°	3.6	4.5	6.2	6.2	6.2
172.5°	4.5	4.5	6.2	7.1	6.2
175°	4.5	4.5	6.2	7.1	6.2
177.5°	4.5	4.5	6.2	7.1	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	23.12	24.51	23.49	24.83	25.16	11.33	12.72	11.70	13.04	13.37
	3H	26.02	27.25	26.40	27.59	27.96	12.29	13.52	12.67	13.86	14.23
	4H	26.80	27.95	27.21	28.31	28.70	12.71	13.86	13.12	14.22	14.61
	6H	27.24	28.30	27.66	28.67	29.08	13.19	14.25	13.61	14.62	15.03
	8H	27.34	28.34	27.77	28.74	29.16	13.50	14.50	13.93	14.90	15.31
	12H	27.37	28.33	27.81	28.73	29.17	13.90	14.86	14.34	15.25	15.69
4H	2H	22.93	24.08	23.34	24.44	24.83	11.85	13.00	12.26	13.36	13.75
	3H	25.85	26.79	26.27	27.20	27.62	13.06	14.00	13.48	14.41	14.82
	4H	26.64	27.49	27.08	27.91	28.37	13.59	14.44	14.03	14.86	15.32
	6H	27.17	27.90	27.64	28.35	28.83	14.23	14.96	14.70	15.41	15.89
	8H	27.31	28.00	27.79	28.45	28.93	14.63	15.31	15.11	15.77	16.25
	12H	27.39	28.00	27.88	28.49	28.97	15.16	15.77	15.65	16.26	16.74
8H	4H	26.53	27.21	27.00	27.67	28.15	14.16	14.84	14.63	15.29	15.77
	6H	27.06	27.62	27.57	28.12	28.61	14.93	15.49	15.44	15.99	16.48
	8H	27.22	27.73	27.75	28.25	28.75	15.45	15.95	15.98	16.48	16.98
	12H	27.34	27.79	27.86	28.29	28.87	16.15	16.60	16.67	17.10	17.68
12H	4H	26.49	27.09	26.98	27.58	28.07	14.40	15.01	14.90	15.50	15.98
	6H	27.00	27.51	27.53	28.03	28.53	15.20	15.71	15.73	16.23	16.73
	8H	27.20	27.64	27.72	28.15	28.72	15.80	16.24	16.32	16.75	17.33