

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: P894002

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894002
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-9HL-AOL-UNV-L835
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 8
3500K CCT
Light Source: -
Ballast/Driver: -

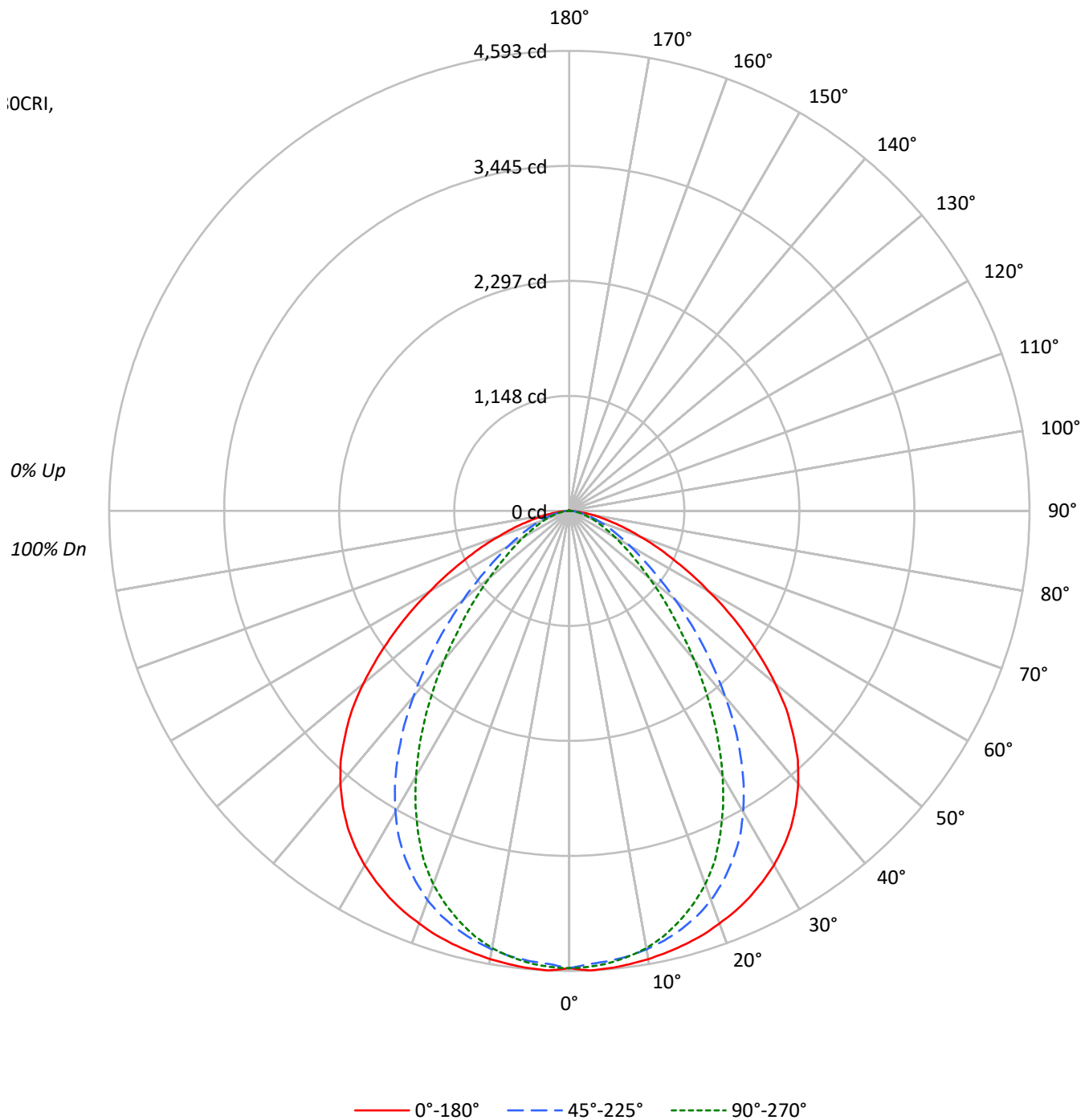
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9024.9 lumens
Efficiency: N/A
Efficacy: 140.1 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): 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	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	89	89	89	88
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°	46498	46498	46498
5°	46861	46130	46333
10°	46991	45970	45849
15°	47222	45580	44722
20°	47501	44843	43008
25°	47837	43301	40045
30°	48040	40812	36000
35°	47964	37036	31083
40°	47257	32179	25777
45°	45538	26999	20754
50°	42523	21899	16479
55°	38091	17486	13196
60°	32763	14270	10785
65°	27505	11866	8921
70°	22452	9972	7656
75°	17809	8440	6516
80°	13859	7220	5624
85°	10680	6450	4861

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 45538 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	431.9	4.8
10°-20°	1226.0	13.6
20°-30°	1784.0	19.8
30°-40°	1917.9	21.3
40°-50°	1601.7	17.7
50°-60°	1075.9	11.9
60°-70°	611.2	6.8
70°-80°	278.4	3.1
80°-90°	71.1	0.8
90°-100°	7.9	0.1
100°-110°	5.7	0.1
110°-120°	3.4	0.0
120°-130°	2.3	0.0
130°-140°	2.1	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°	3442.0	38.1
0°-40°	5359.9	59.4
0°-60°	8037.5	89.1
0°-90°	8998.2	99.7
90°-120°	17.0	0.2
90°-150°	23.3	0.3
90°-180°	27.0	0.3
0°-180°	9024.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4566	4566	4566	4566	4566	
5°	4584	4571	4512	4548	4532	436
15°	4479	4443	4323	4289	4242	1266
25°	4257	4134	3853	3653	3564	1962
35°	3858	3548	2979	2622	2500	2407
45°	3162	2608	1875	1533	1441	2430
55°	2145	1542	985	789	743	1917
65°	1141	785	492	395	370	1147
75°	453	327	214	175	166	498
85°	91	74	55	44	42	104
90°	12	10	7	6	5	11
95°	14	10	6	4	4	12
105°	11	8	4	3	2	11
115°	5	4	3	2	2	6
125°	4	3	3	2	2	3
135°	3	3	3	3	3	2
145°	3	3	4	4	3	2
155°	3	4	4	4	4	1
165°	4	4	4	5	5	1
175°	4	4	5	5	5	0
180°	5	5	5	5	5	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4565.7	4565.7	4565.7	4565.7	4565.7
2.5°	4592.9	4580.2	4528.6	4568.4	4557.6
5°	4583.8	4571.2	4512.3	4548.5	4532.2
7.5°	4566.6	4554.0	4485.2	4511.4	4489.7
10°	4544.0	4525.9	4445.3	4452.6	4433.6
12.5°	4514.1	4487.0	4391.9	4379.3	4349.4
15°	4478.8	4442.6	4323.1	4288.7	4241.7
17.5°	4438.1	4385.6	4239.9	4167.5	4115.9
20°	4382.9	4315.9	4137.6	4022.6	3968.3
22.5°	4325.9	4234.4	4005.4	3853.4	3788.2
25°	4257.1	4134.0	3853.4	3653.3	3563.7
27.5°	4174.7	4020.8	3682.3	3430.6	3323.8
30°	4085.1	3887.8	3470.5	3180.8	3061.3
32.5°	3977.4	3731.2	3238.7	2907.4	2783.4
35°	3857.9	3548.3	2978.9	2622.3	2500.1
37.5°	3713.1	3336.5	2709.2	2330.8	2213.2
40°	3554.6	3118.3	2420.5	2041.2	1938.9
42.5°	3376.3	2866.7	2139.8	1775.1	1664.6
45°	3161.8	2607.8	1874.6	1533.4	1441.0
47.5°	2942.7	2321.8	1610.3	1300.7	1234.7
50°	2683.9	2052.9	1382.2	1107.9	1040.1
52.5°	2415.0	1788.6	1169.5	940.5	879.8
55°	2145.3	1542.4	984.8	789.3	743.2
57.5°	1882.8	1316.1	828.2	667.1	627.3
60°	1608.5	1117.0	700.6	562.1	529.5
62.5°	1373.2	944.1	588.4	473.4	446.3
65°	1141.4	784.8	492.4	394.7	370.2
67.5°	946.8	648.1	408.2	327.7	306.9
70°	754.0	527.7	334.9	270.6	257.1
72.5°	601.0	420.9	271.6	220.0	206.4
75°	452.6	326.8	214.5	174.7	165.6
77.5°	340.3	248.0	165.6	135.8	125.8
80°	236.3	177.4	123.1	100.5	95.9
82.5°	151.2	122.2	85.1	71.5	66.1
85°	91.4	74.2	55.2	44.4	41.6
87.5°	43.4	36.2	28.1	21.7	19.9
90°	11.8	10.0	7.2	6.3	5.4
92.5°	13.6	10.0	6.3	4.5	3.6
95°	14.5	10.0	6.3	3.6	3.6
97.5°	14.5	10.9	5.4	3.6	2.7
100°	13.6	10.0	5.4	3.6	2.7
102.5°	11.8	9.1	4.5	2.7	2.7
105°	10.9	8.1	4.5	2.7	1.8
107.5°	9.1	7.2	3.6	2.7	1.8
110°	8.1	6.3	3.6	2.7	1.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.3	5.4	3.6	2.7	1.8
115°	5.4	4.5	2.7	1.8	1.8
117.5°	4.5	3.6	2.7	1.8	1.8
120°	4.5	3.6	2.7	1.8	1.8
122.5°	3.6	3.6	2.7	1.8	1.8
125°	3.6	2.7	2.7	1.8	1.8
127.5°	2.7	2.7	2.7	1.8	1.8
130°	2.7	2.7	2.7	2.7	1.8
132.5°	2.7	2.7	2.7	2.7	1.8
135°	2.7	2.7	2.7	2.7	2.7
137.5°	2.7	2.7	2.7	2.7	2.7
140°	2.7	2.7	2.7	2.7	2.7
142.5°	2.7	2.7	3.6	2.7	2.7
145°	2.7	2.7	3.6	3.6	2.7
147.5°	2.7	2.7	3.6	3.6	3.6
150°	2.7	2.7	3.6	3.6	3.6
152.5°	2.7	3.6	3.6	3.6	3.6
155°	2.7	3.6	3.6	3.6	3.6
157.5°	3.6	3.6	3.6	4.5	4.5
160°	3.6	3.6	4.5	4.5	4.5
162.5°	3.6	3.6	4.5	4.5	4.5
165°	3.6	3.6	4.5	5.4	5.4
167.5°	3.6	4.5	4.5	5.4	5.4
170°	3.6	4.5	4.5	5.4	5.4
172.5°	3.6	4.5	5.4	5.4	5.4
175°	3.6	4.5	5.4	5.4	5.4
177.5°	4.5	4.5	5.4	5.4	5.4
180°	5.4	5.4	5.4	5.4	5.4



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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	23.64	25.07	24.01	25.39	25.72	18.32	19.75	18.69	20.07	20.40
	3H	24.96	26.24	25.34	26.57	26.94	19.33	20.61	19.71	20.94	21.31
	4H	25.37	26.57	25.78	26.92	27.31	19.67	20.87	20.08	21.22	21.61
	6H	25.63	26.74	26.05	27.11	27.51	19.90	21.00	20.32	21.37	21.77
	8H	25.70	26.74	26.13	27.14	27.55	19.97	21.01	20.40	21.41	21.82
	12H	25.73	26.73	26.17	27.12	27.56	20.01	21.01	20.44	21.40	21.83
4H	2H	23.63	24.83	24.04	25.19	25.57	18.96	20.16	19.37	20.52	20.90
	3H	25.11	26.09	25.52	26.50	26.91	20.16	21.14	20.57	21.55	21.96
	4H	25.62	26.50	26.06	26.92	27.37	20.58	21.46	21.02	21.88	22.33
	6H	25.99	26.75	26.45	27.20	27.67	20.89	21.65	21.35	22.10	22.57
	8H	26.08	26.80	26.56	27.25	27.73	20.98	21.70	21.45	22.15	22.62
	12H	26.15	26.79	26.64	27.27	27.75	21.05	21.68	21.54	22.17	22.65
8H	4H	25.60	26.31	26.07	26.76	27.24	20.92	21.63	21.39	22.08	22.56
	6H	26.02	26.60	26.52	27.10	27.59	21.31	21.90	21.82	22.40	22.88
	8H	26.16	26.68	26.68	27.20	27.70	21.45	21.98	21.97	22.50	22.99
	12H	26.27	26.74	26.79	27.24	27.81	21.57	22.04	22.09	22.53	23.11
12H	4H	25.57	26.20	26.06	26.69	27.17	20.96	21.60	21.45	22.08	22.56
	6H	25.98	26.51	26.50	27.03	27.52	21.38	21.91	21.90	22.42	22.92
	8H	26.16	26.62	26.67	27.12	27.69	21.57	22.03	22.08	22.53	23.11