

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: P894007

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894007
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-L940
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 9
4000K CCT
Light Source: -
Ballast/Driver: -

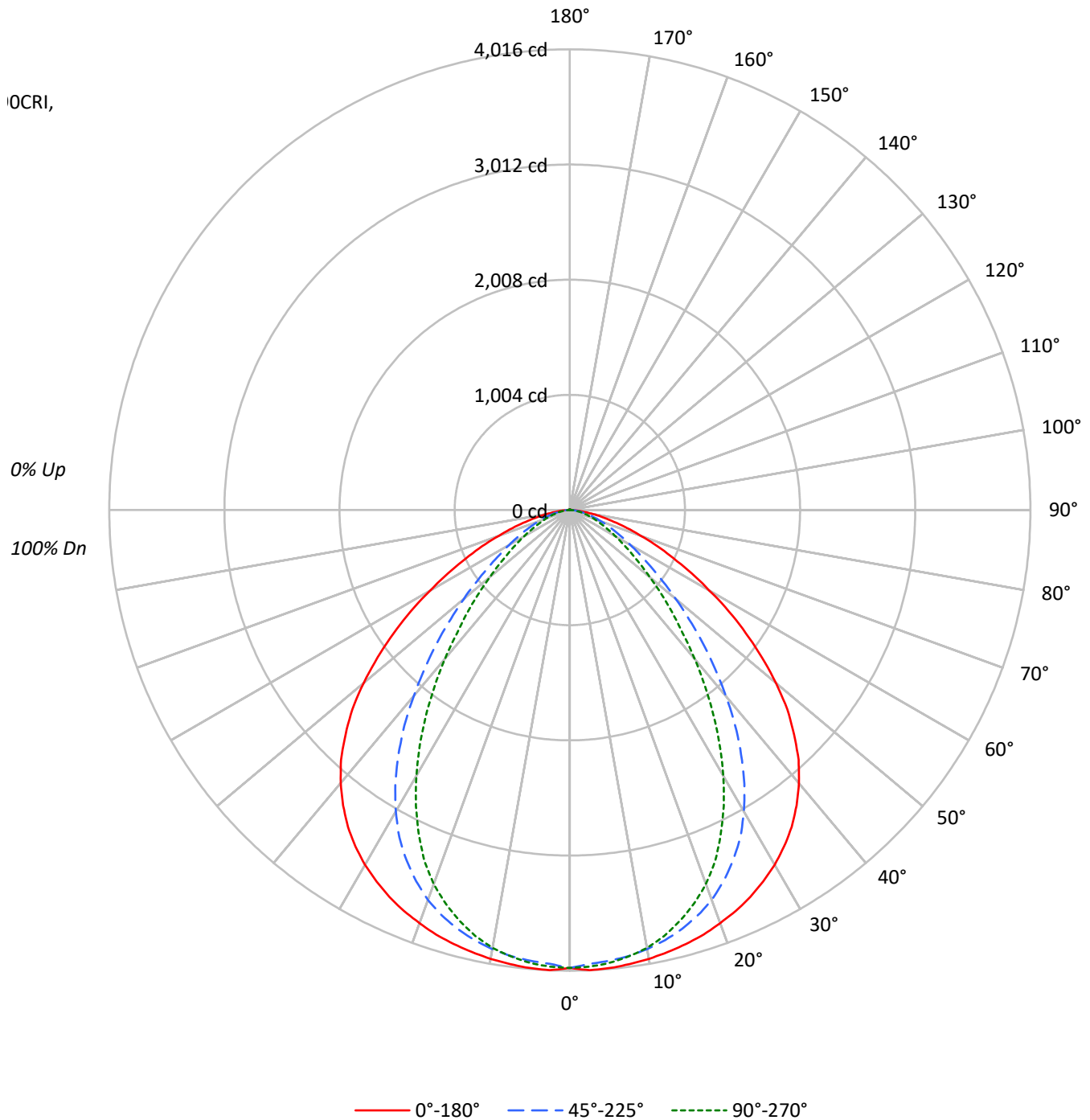
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7891.1 lumens
Efficiency: N/A
Efficacy: 122.5 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				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	87
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°	40655	40655	40655
5°	40973	40333	40512
10°	41086	40195	40088
15°	41289	39853	39103
20°	41533	39208	37604
25°	41826	37860	35013
30°	42003	35684	31477
35°	41936	32382	27178
40°	41319	28135	22538
45°	39816	23607	18147
50°	37179	19147	14408
55°	33304	15289	11538
60°	28646	12478	9431
65°	24050	10374	7800
70°	19632	8719	6694
75°	15570	7382	5698
80°	12117	6311	4921
85°	9336	5644	4253

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 39816 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	377.6	4.8
10°-20°	1072.0	13.6
20°-30°	1559.9	19.8
30°-40°	1676.9	21.3
40°-50°	1400.5	17.7
50°-60°	940.7	11.9
60°-70°	534.4	6.8
70°-80°	243.4	3.1
80°-90°	62.1	0.8
90°-100°	7.0	0.1
100°-110°	5.0	0.1
110°-120°	3.0	0.0
120°-130°	2.0	0.0
130°-140°	1.8	0.0
140°-150°	1.7	0.0
150°-160°	1.5	0.0
160°-170°	1.1	0.0
170°-180°	0.4	0.0
0°-30°	3009.5	38.1
0°-40°	4686.4	59.4
0°-60°	7027.6	89.1
0°-90°	7867.5	99.7
90°-120°	15.0	0.2
90°-150°	20.5	0.3
90°-180°	24.0	0.3
0°-180°	7891.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3992	3992	3992	3992	3992	
5°	4008	3997	3945	3977	3963	381
15°	3916	3884	3780	3750	3709	1107
25°	3722	3614	3369	3194	3116	1716
35°	3373	3102	2605	2293	2186	2105
45°	2764	2280	1639	1341	1260	2125
55°	1876	1349	861	690	650	1676
65°	998	686	430	345	324	1003
75°	396	286	188	153	145	435
85°	80	65	48	39	36	91
90°	10	9	6	6	5	10
95°	13	9	6	3	3	10
105°	10	7	4	2	2	10
115°	5	4	2	2	2	5
125°	3	2	2	2	2	3
135°	2	2	2	2	2	2
145°	2	2	3	3	2	2
155°	2	3	3	3	3	1
165°	3	3	4	5	5	1
175°	3	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°	3992.0	3992.0	3992.0	3992.0	3992.0
2.5°	4015.8	4004.7	3959.6	3994.4	3984.9
5°	4007.9	3996.8	3945.3	3977.0	3962.8
7.5°	3992.8	3981.8	3921.6	3944.6	3925.6
10°	3973.0	3957.2	3886.8	3893.1	3876.5
12.5°	3946.9	3923.2	3840.1	3829.0	3802.9
15°	3916.1	3884.4	3779.9	3749.9	3708.7
17.5°	3880.4	3834.5	3707.1	3643.8	3598.7
20°	3832.2	3773.6	3617.7	3517.2	3469.7
22.5°	3782.3	3702.4	3502.1	3369.2	3312.2
25°	3722.2	3614.5	3369.2	3194.3	3115.9
27.5°	3650.1	3515.6	3219.6	2999.6	2906.2
30°	3571.8	3399.3	3034.4	2781.1	2676.7
32.5°	3477.6	3262.3	2831.8	2542.1	2433.7
35°	3373.1	3102.5	2604.6	2292.8	2186.0
37.5°	3246.5	2917.3	2368.8	2038.0	1935.1
40°	3108.0	2726.5	2116.3	1784.7	1695.3
42.5°	2952.1	2506.5	1871.0	1552.0	1455.5
45°	2764.5	2280.1	1639.1	1340.7	1260.0
47.5°	2573.0	2030.1	1408.0	1137.3	1079.5
50°	2346.6	1795.0	1208.5	968.7	909.4
52.5°	2111.6	1563.9	1022.5	822.3	769.3
55°	1875.7	1348.6	861.1	690.1	649.8
57.5°	1646.2	1150.8	724.2	583.3	548.5
60°	1406.4	976.6	612.6	491.5	463.0
62.5°	1200.6	825.5	514.4	413.9	390.2
65°	998.0	686.2	430.5	345.1	323.7
67.5°	827.9	566.7	356.9	286.5	268.3
70°	659.3	461.4	292.8	236.6	224.8
72.5°	525.5	368.0	237.4	192.3	180.4
75°	395.7	285.7	187.6	152.7	144.8
77.5°	297.6	216.9	144.8	118.7	110.0
80°	206.6	155.1	107.6	87.9	83.9
82.5°	132.2	106.8	74.4	62.5	57.8
85°	79.9	64.9	48.3	38.8	36.4
87.5°	38.0	31.7	24.5	19.0	17.4
90°	10.3	8.7	6.3	5.5	4.7
92.5°	11.9	8.7	5.5	4.0	3.2
95°	12.7	8.7	5.5	3.2	3.2
97.5°	12.7	9.5	4.7	3.2	2.4
100°	11.9	8.7	4.7	3.2	2.4
102.5°	10.3	7.9	4.0	2.4	2.4
105°	9.5	7.1	4.0	2.4	1.6
107.5°	7.9	6.3	3.2	2.4	1.6
110°	7.1	5.5	3.2	2.4	1.6



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CANDELA DISTRIBUTION (continued):

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



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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	23.17	24.61	23.54	24.93	25.25	17.85	19.29	18.22	19.61	19.93
	3H	24.49	25.77	24.87	26.10	26.47	18.86	20.14	19.25	20.48	20.85
	4H	24.91	26.10	25.31	26.46	26.85	19.20	20.40	19.61	20.76	21.14
	6H	25.17	26.27	25.59	26.64	27.04	19.43	20.53	19.85	20.91	21.31
	8H	25.23	26.28	25.66	26.67	27.08	19.50	20.55	19.93	20.94	21.35
	12H	25.26	26.26	25.70	26.65	27.09	19.54	20.54	19.98	20.93	21.37
4H	2H	23.17	24.36	23.57	24.72	25.11	18.50	19.69	18.90	20.05	20.44
	3H	24.64	25.62	25.06	26.03	26.44	19.69	20.67	20.11	21.08	21.49
	4H	25.15	26.03	25.59	26.46	26.90	20.11	20.99	20.55	21.41	21.86
	6H	25.52	26.28	25.98	26.73	27.20	20.42	21.19	20.89	21.64	22.11
	8H	25.62	26.33	26.09	26.78	27.26	20.52	21.23	20.99	21.68	22.16
	12H	25.69	26.32	26.17	26.81	27.29	20.58	21.22	21.07	21.70	22.18
8H	4H	25.13	25.84	25.60	26.29	26.77	20.45	21.16	20.92	21.61	22.09
	6H	25.55	26.14	26.05	26.64	27.12	20.85	21.43	21.35	21.93	22.42
	8H	25.69	26.22	26.21	26.73	27.23	20.99	21.51	21.51	22.03	22.53
	12H	25.81	26.27	26.32	26.77	27.35	21.10	21.57	21.62	22.07	22.64
12H	4H	25.10	25.73	25.59	26.22	26.70	20.50	21.13	20.98	21.62	22.10
	6H	25.51	26.04	26.04	26.56	27.06	20.91	21.44	21.43	21.96	22.45
	8H	25.69	26.16	26.21	26.65	27.23	21.10	21.57	21.62	22.07	22.64