

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: P893989

Luminaire Tested: 4MB-9HL-A-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893989
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-L930
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 90CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

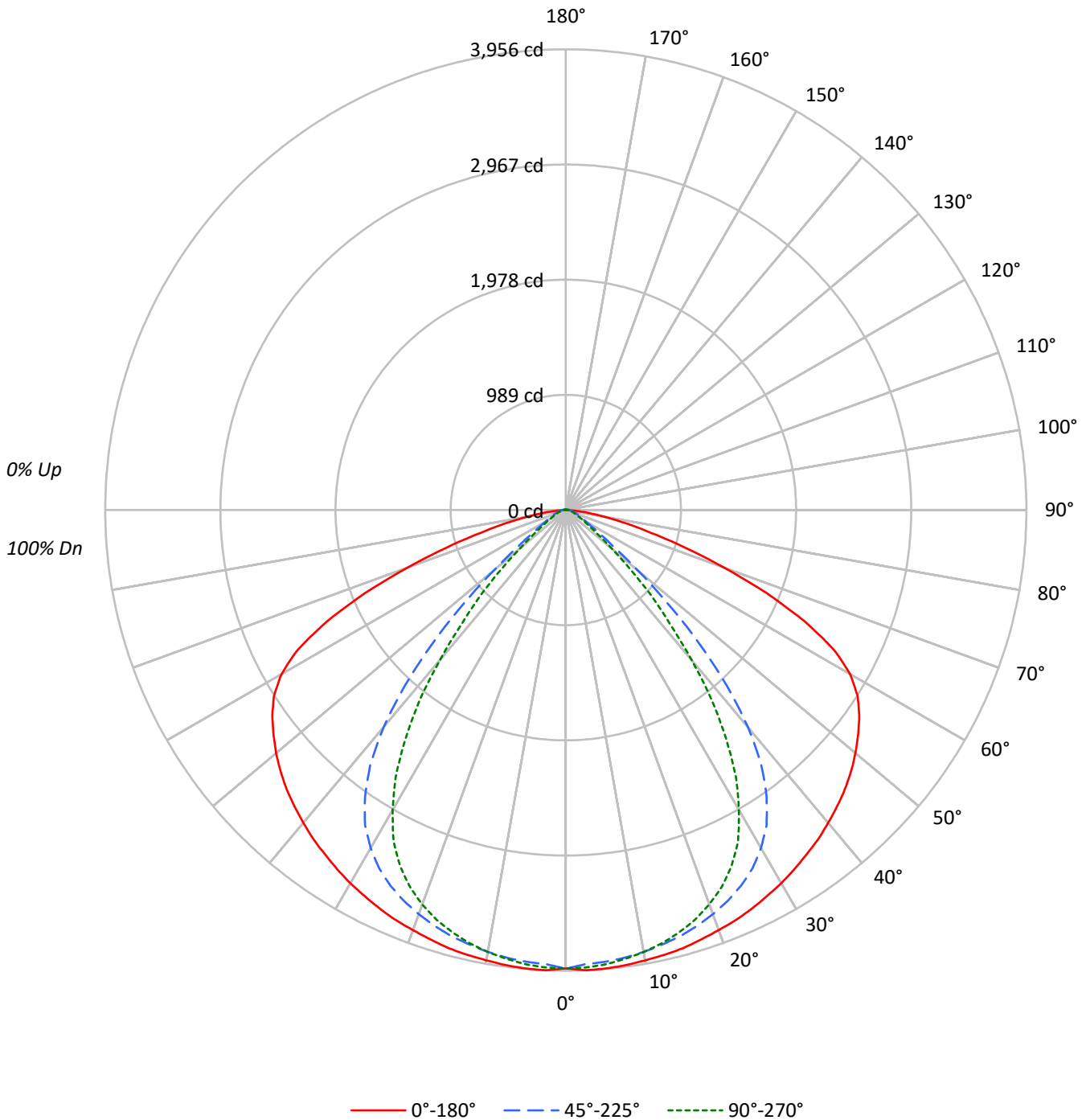
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7970.0 lumens
Efficiency: N/A
Efficacy: 123.8 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

TEST NUMBER: P893989
CATALOG NUMBER: 4MB-9HL-A-UNV-L930

Luminous Intensity Polar Plot





TEST NUMBER: P893989

CATALOG NUMBER: 4MB-9HL-A-UNV-L930

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°	40084	40084	40084
5°	40397	39818	40047
10°	40609	39848	39855
15°	41058	39945	39599
20°	41600	40020	39059
25°	42447	40005	37856
30°	43520	39408	34972
35°	44854	37380	29851
40°	46608	32375	22326
45°	48832	23296	14864
50°	51456	12767	8145
55°	54639	6275	4689
60°	57465	4137	3243
65°	54541	3388	2564
70°	42935	3079	2370
75°	29775	3046	2255
80°	19594	3056	2792
85°	11218	4697	4779

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 60°
 Luminance: 57465 cd/sqm



TEST NUMBER: P893989
 CATALOG NUMBER: 4MB-9HL-A-UNV-L930

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	373.3	4.7
10°-20°	1077.3	13.5
20°-30°	1641.3	20.6
30°-40°	1863.9	23.4
40°-50°	1496.7	18.8
50°-60°	802.8	10.1
60°-70°	424.6	5.3
70°-80°	192.5	2.4
80°-90°	61.3	0.8
90°-100°	19.0	0.2
100°-110°	6.8	0.1
110°-120°	2.1	0.0
120°-130°	1.6	0.0
130°-140°	1.7	0.0
140°-150°	1.8	0.0
150°-160°	1.6	0.0
160°-170°	1.2	0.0
170°-180°	0.5	0.0
0°-30°	3091.9	38.8
0°-40°	4955.8	62.2
0°-60°	7255.3	91.0
0°-90°	7933.8	99.5
90°-120°	27.9	0.3
90°-150°	32.8	0.4
90°-180°	36.0	0.5
0°-180°	7970.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3936	3936	3936	3936	3936	
5°	3952	3943	3895	3928	3917	376
15°	3894	3870	3789	3778	3756	1101
25°	3777	3717	3560	3436	3369	1745
35°	3608	3454	3007	2571	2401	2264
45°	3390	2869	1618	1125	1032	2619
55°	3077	1148	353	276	264	2744
65°	2263	267	141	114	106	2189
75°	757	152	77	61	57	856
85°	96	57	40	40	41	131
90°	4	26	29	34	32	6
95°	4	10	23	20	19	3
105°	2	2	4	10	13	2
115°	2	2	2	3	3	1
125°	2	2	2	2	2	1
135°	2	2	2	2	2	1
145°	2	2	3	3	3	1
155°	3	3	4	4	4	1
165°	3	4	4	5	4	1
175°	4	4	5	6	5	0
180°	5	5	5	5	5	



TEST NUMBER: P893989

CATALOG NUMBER: 4MB-9HL-A-UNV-L930

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3935.9	3935.9	3935.9	3935.9	3935.9
2.5°	3956.0	3948.5	3903.9	3941.1	3931.4
5°	3951.5	3943.3	3894.9	3927.7	3917.3
7.5°	3941.8	3931.4	3877.1	3903.9	3887.5
10°	3926.9	3916.5	3853.3	3871.9	3854.0
12.5°	3912.1	3894.2	3822.0	3828.0	3810.9
15°	3894.2	3869.7	3788.6	3778.1	3755.8
17.5°	3866.7	3839.1	3744.7	3720.1	3688.9
20°	3838.4	3801.2	3692.6	3642.7	3604.0
22.5°	3812.4	3761.0	3633.1	3553.4	3501.4
25°	3777.4	3717.1	3560.1	3435.9	3368.9
27.5°	3739.4	3665.8	3470.1	3284.1	3204.5
30°	3700.8	3604.0	3351.1	3093.6	2973.9
32.5°	3655.4	3536.3	3208.2	2863.0	2721.6
35°	3607.8	3454.5	3006.6	2570.6	2401.0
37.5°	3562.4	3360.0	2758.1	2215.7	2065.4
40°	3505.8	3249.9	2435.2	1834.8	1679.3
42.5°	3450.0	3080.2	2048.3	1469.4	1320.6
45°	3390.5	2868.9	1617.5	1125.0	1032.0
47.5°	3322.8	2579.5	1183.7	819.2	738.8
50°	3247.7	2162.9	805.8	558.0	514.1
52.5°	3165.1	1675.5	523.8	384.7	359.4
55°	3077.3	1148.0	353.4	276.0	264.1
57.5°	2971.6	719.5	261.9	207.6	200.9
60°	2821.3	466.5	203.1	167.4	159.2
62.5°	2595.1	334.1	170.4	136.9	130.2
65°	2263.3	267.1	140.6	113.8	106.4
67.5°	1866.0	228.4	120.5	97.5	92.3
70°	1441.9	200.9	103.4	84.8	79.6
72.5°	1075.9	175.6	89.3	73.7	67.0
75°	756.7	152.5	77.4	61.0	57.3
77.5°	532.0	131.7	64.0	52.1	51.3
80°	334.1	109.4	52.1	48.4	47.6
82.5°	203.1	86.3	45.4	44.6	43.9
85°	96.0	57.3	40.2	40.2	40.9
87.5°	31.2	37.9	34.2	35.7	35.7
90°	3.7	26.0	29.0	33.5	32.0
92.5°	3.7	18.6	26.8	26.8	21.6
95°	3.7	10.4	23.1	20.1	19.3
97.5°	3.7	5.2	17.1	19.3	18.6
100°	3.7	3.0	12.6	17.1	18.6
102.5°	3.0	2.2	8.2	14.1	15.6
105°	2.2	1.5	4.5	10.4	12.6
107.5°	1.5	1.5	3.0	7.4	8.9
110°	1.5	0.7	2.2	5.2	6.0



TEST NUMBER: P893989

CATALOG NUMBER: 4MB-9HL-A-UNV-L930

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	0.7	2.2	3.7	3.7
115°	1.5	1.5	1.5	3.0	3.0
117.5°	1.5	1.5	1.5	2.2	2.2
120°	1.5	1.5	1.5	2.2	1.5
122.5°	1.5	1.5	1.5	2.2	1.5
125°	1.5	1.5	1.5	2.2	1.5
127.5°	1.5	1.5	2.2	2.2	1.5
130°	1.5	1.5	2.2	2.2	1.5
132.5°	1.5	1.5	2.2	2.2	2.2
135°	2.2	1.5	2.2	2.2	2.2
137.5°	2.2	2.2	2.2	3.0	2.2
140°	2.2	2.2	3.0	3.0	2.2
142.5°	2.2	2.2	3.0	3.0	3.0
145°	2.2	2.2	3.0	3.0	3.0
147.5°	2.2	2.2	3.0	3.7	3.0
150°	2.2	3.0	3.7	3.7	3.0
152.5°	2.2	3.0	3.7	3.7	3.7
155°	3.0	3.0	3.7	4.5	3.7
157.5°	3.0	3.0	3.7	4.5	3.7
160°	3.0	3.0	4.5	4.5	4.5
162.5°	3.0	3.7	4.5	5.2	4.5
165°	3.0	3.7	4.5	5.2	4.5
167.5°	3.0	3.7	4.5	5.2	5.2
170°	3.0	3.7	5.2	5.2	5.2
172.5°	3.7	3.7	5.2	6.0	5.2
175°	3.7	3.7	5.2	6.0	5.2
177.5°	3.7	3.7	5.2	6.0	5.2
180°	5.2	5.2	5.2	5.2	5.2



TEST NUMBER: P893989
 CATALOG NUMBER: 4MB-9HL-A-UNV-L930

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	22.49	23.88	22.86	24.20	24.53	10.70	12.09	11.07	12.41	12.74
	3H	25.39	26.62	25.78	26.96	27.34	11.66	12.89	12.05	13.23	13.61
	4H	26.17	27.32	26.58	27.68	28.08	12.08	13.23	12.49	13.59	13.98
	6H	26.61	27.67	27.03	28.05	28.45	12.56	13.62	12.98	14.00	14.40
	8H	26.71	27.71	27.15	28.11	28.53	12.87	13.87	13.30	14.27	14.69
	12H	26.75	27.71	27.19	28.10	28.54	13.27	14.23	13.71	14.62	15.07
4H	2H	22.30	23.45	22.71	23.81	24.21	11.22	12.37	11.63	12.73	13.12
	3H	25.22	26.16	25.64	26.57	26.99	12.43	13.37	12.85	13.78	14.20
	4H	26.01	26.86	26.46	27.29	27.74	12.97	13.81	13.41	14.24	14.69
	6H	26.54	27.27	27.01	27.73	28.20	13.60	14.33	14.07	14.79	15.26
	8H	26.68	27.37	27.16	27.82	28.30	14.00	14.69	14.48	15.14	15.62
	12H	26.76	27.37	27.26	27.86	28.34	14.53	15.14	15.02	15.63	16.11
8H	4H	25.90	26.58	26.38	27.04	27.52	13.53	14.21	14.00	14.67	15.15
	6H	26.43	26.99	26.94	27.50	27.99	14.30	14.86	14.81	15.37	15.86
	8H	26.60	27.10	27.12	27.62	28.12	14.82	15.33	15.35	15.85	16.35
	12H	26.72	27.16	27.24	27.67	28.24	15.52	15.97	16.04	16.47	17.05
12H	4H	25.86	26.47	26.35	26.96	27.44	13.78	14.38	14.27	14.87	15.36
	6H	26.38	26.88	26.90	27.40	27.91	14.57	15.08	15.10	15.60	16.10
	8H	26.57	27.02	27.09	27.52	28.10	15.17	15.62	15.69	16.12	16.70