

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: P893997

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893997
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-20)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-ACL-UNV-L930
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 90CRI, 3000K (C)
Light Source: -
Ballast/Driver: -

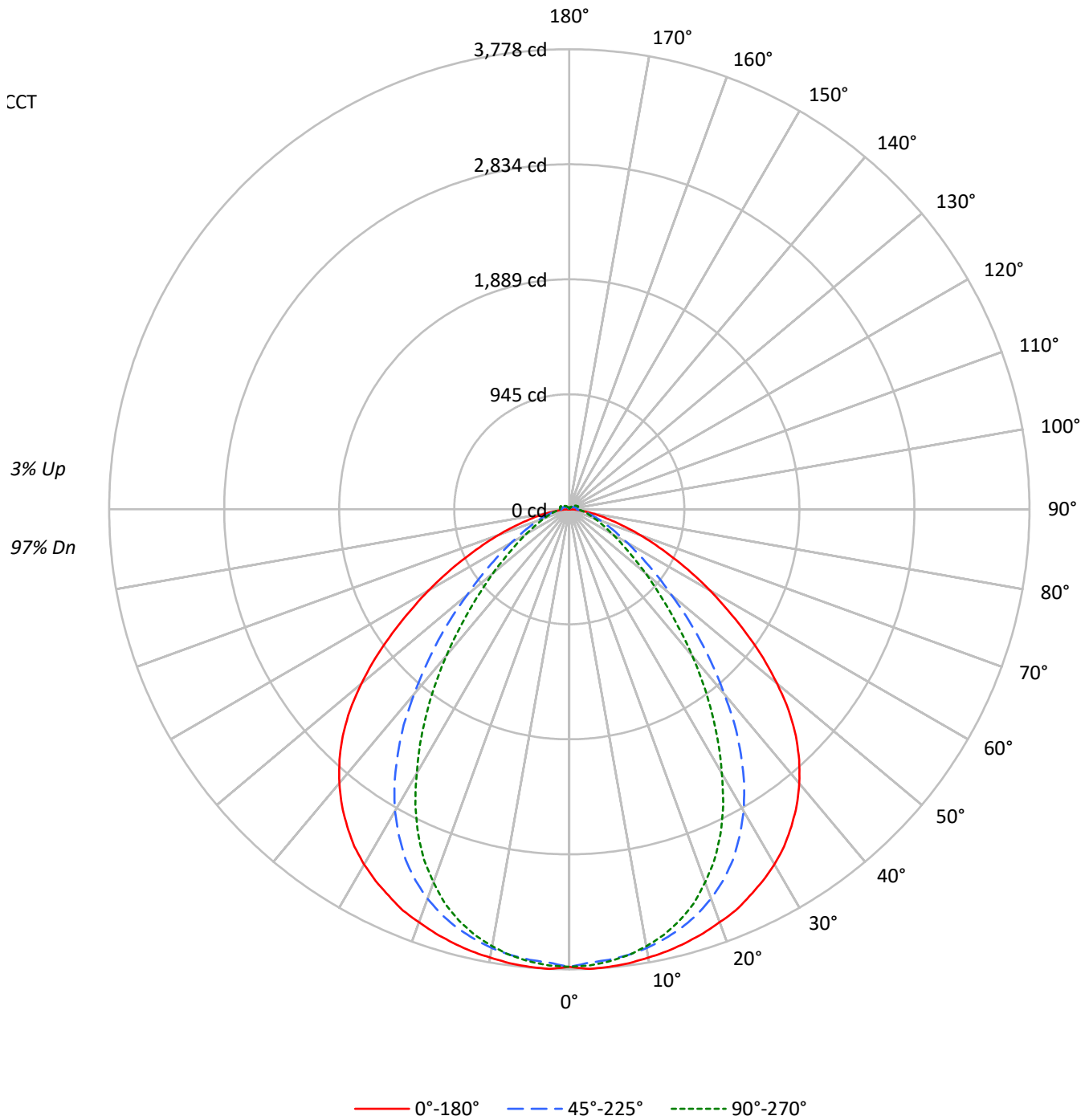
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7621.0 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.05 / 1.15
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.08')
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

TEST NUMBER: P893997
CATALOG NUMBER: 4MB-9HL-ACL-UNV-L930

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	118	118	118	118	115	115	115	115	110	110	110	104	104	104	100	100	100	97				97
1	110	106	102	99	107	103	100	97	99	96	94	94	92	90	90	89	87	85				85
2	101	94	89	84	99	92	87	83	88	84	80	85	81	78	82	79	76	74				74
3	94	85	78	72	91	83	76	71	80	74	70	77	72	68	74	70	67	65				65
4	87	76	69	63	84	75	68	62	72	66	61	70	64	60	67	63	59	57				57
5	81	69	61	55	78	68	60	55	66	59	54	63	58	53	61	56	52	50				50
6	75	63	55	49	73	62	54	49	60	53	48	58	52	48	56	51	47	45				45
7	70	58	50	44	68	57	49	44	55	48	43	53	47	43	52	47	42	41				41
8	65	53	45	40	64	52	45	40	51	44	39	49	43	39	48	43	39	37				37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	34				34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32	31				31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	38262	38262	38262
5°	38492	37198	37097
10°	38523	36322	35706
15°	38654	35281	34020
20°	38817	33953	31703
25°	38993	32157	28802
30°	39133	29615	24949
35°	38952	26186	20798
40°	38375	21961	16535
45°	37108	17690	12503
50°	34411	13524	9430
55°	30550	10360	7024
60°	26215	7970	5435
65°	21626	6246	4301
70°	17469	5005	3517
75°	13292	4090	3001
80°	9945	3349	2647
85°	6770	2836	2409

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 37108 cd/sqm



TEST NUMBER: P893997
 CATALOG NUMBER: 4MB-9HL-ACL-UNV-L930

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	355.4	4.7
10°-20°	1009.2	13.2
20°-30°	1468.9	19.3
30°-40°	1576.4	20.7
40°-50°	1304.4	17.1
50°-60°	864.5	11.3
60°-70°	492.6	6.5
70°-80°	244.3	3.2
80°-90°	98.8	1.3
90°-100°	58.0	0.8
100°-110°	51.6	0.7
110°-120°	38.9	0.5
120°-130°	25.9	0.3
130°-140°	15.9	0.2
140°-150°	9.1	0.1
150°-160°	4.6	0.1
160°-170°	2.0	0.0
170°-180°	0.5	0.0
0°-30°	2833.5	37.2
0°-40°	4409.9	57.9
0°-60°	6578.8	86.3
0°-90°	7414.5	97.3
90°-120°	148.6	2.0
90°-150°	199.5	2.6
90°-180°	207.0	2.7
0°-180°	7621.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3757	3757	3757	3757	3757	
5°	3772	3762	3714	3742	3728	359
15°	3687	3657	3558	3526	3498	1042
25°	3504	3412	3177	3004	2938	1617
35°	3179	2927	2455	2134	2040	1986
45°	2630	2136	1519	1223	1140	2016
55°	1772	1253	781	617	573	1585
65°	938	629	391	315	298	942
75°	364	271	196	171	166	402
85°	72	77	90	95	94	83
90°	10	32	61	75	77	9
95°	11	33	62	75	77	9
105°	9	25	56	72	76	9
115°	5	17	43	61	66	5
125°	3	11	31	45	51	3
135°	2	9	21	32	36	2
145°	3	7	14	22	25	2
155°	3	6	10	14	17	1
165°	4	4	7	8	11	1
175°	4	4	5	5	4	0
180°	4	4	4	4	4	



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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3757.0	3757.0	3757.0	3757.0	3757.0
2.5°	3778.2	3769.9	3726.8	3759.3	3749.5
5°	3772.1	3762.3	3713.9	3741.9	3728.3
7.5°	3759.3	3747.2	3692.8	3711.7	3695.1
10°	3738.9	3723.8	3658.8	3662.6	3643.7
12.5°	3717.0	3693.5	3614.2	3603.6	3580.2
15°	3686.7	3657.3	3558.3	3525.8	3497.8
17.5°	3652.0	3611.2	3488.8	3431.3	3395.1
20°	3608.9	3554.5	3402.6	3315.0	3259.1
22.5°	3567.4	3487.3	3299.9	3174.4	3115.5
25°	3503.9	3412.4	3177.4	3004.4	2937.9
27.5°	3441.2	3318.0	3027.1	2814.7	2737.7
30°	3367.9	3206.2	2862.3	2600.9	2505.7
32.5°	3283.2	3083.7	2671.2	2378.7	2277.5
35°	3179.0	2926.6	2455.1	2133.9	2040.2
37.5°	3067.1	2753.5	2232.1	1901.2	1804.5
40°	2937.2	2569.9	1979.8	1659.4	1571.0
42.5°	2792.8	2359.8	1745.5	1431.9	1343.5
45°	2630.4	2136.2	1518.8	1223.4	1140.3
47.5°	2443.7	1907.2	1299.7	1035.2	965.7
50°	2226.1	1678.3	1094.2	869.0	817.6
52.5°	2007.0	1462.9	928.7	736.7	681.6
55°	1772.0	1252.8	780.6	617.4	572.8
57.5°	1544.5	1067.0	652.1	517.6	486.6
60°	1333.7	900.7	551.6	436.8	411.8
62.5°	1131.2	759.4	461.7	369.5	347.6
65°	937.7	628.7	390.7	315.1	298.5
67.5°	767.7	525.2	329.5	269.0	256.2
70°	620.4	424.7	277.3	230.5	219.9
72.5°	482.9	340.8	232.7	199.5	190.4
75°	364.2	271.3	195.7	170.8	165.5
77.5°	274.3	210.8	161.7	147.3	143.6
80°	189.7	157.2	133.7	127.7	125.4
82.5°	120.9	112.6	109.6	109.6	109.6
85°	71.8	77.1	89.9	95.2	94.5
87.5°	34.0	50.6	72.5	82.4	83.9
90°	9.8	31.7	61.2	74.8	77.1
92.5°	11.3	32.5	61.2	74.8	77.1
95°	11.3	33.2	62.0	74.8	77.1
97.5°	11.3	31.7	61.2	75.6	77.8
100°	11.3	31.0	60.5	74.8	77.8
102.5°	9.8	28.7	58.2	74.1	77.1
105°	9.1	24.9	55.9	71.8	75.6
107.5°	7.6	22.7	53.7	69.5	74.1
110°	6.8	20.4	50.6	67.3	72.5



TEST NUMBER: P893997

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.0	18.1	46.8	65.0	69.5
115°	5.3	16.6	43.1	61.2	66.5
117.5°	4.5	15.1	39.3	57.4	63.5
120°	3.8	13.6	36.3	53.7	58.9
122.5°	3.8	12.8	33.2	49.1	55.2
125°	3.0	11.3	31.0	45.3	50.6
127.5°	3.0	10.6	28.0	41.6	46.1
130°	2.3	10.6	25.7	38.5	43.1
132.5°	2.3	9.8	22.7	34.8	39.3
135°	2.3	9.1	21.2	31.7	35.5
137.5°	2.3	9.1	18.9	29.5	33.2
140°	3.0	8.3	16.6	26.4	30.2
142.5°	3.0	7.6	15.9	24.2	27.2
145°	3.0	6.8	14.4	21.9	24.9
147.5°	3.0	6.8	12.8	19.6	22.7
150°	3.0	6.0	12.1	17.4	20.4
152.5°	3.0	6.0	11.3	15.1	18.9
155°	3.0	6.0	9.8	13.6	17.4
157.5°	3.0	5.3	9.1	12.1	15.1
160°	3.8	5.3	8.3	10.6	13.6
162.5°	3.8	5.3	7.6	9.8	12.1
165°	3.8	4.5	6.8	8.3	10.6
167.5°	3.8	4.5	6.8	7.6	9.1
170°	3.8	4.5	6.0	6.0	6.8
172.5°	3.8	4.5	5.3	6.0	4.5
175°	3.8	4.5	5.3	5.3	4.5
177.5°	3.8	4.5	4.5	5.3	4.5
180°	4.5	4.5	4.5	4.5	4.5



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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	21.33	22.71	21.74	23.09	23.47	16.45	17.83	16.86	18.21	18.59
	3H	22.42	23.66	22.85	24.05	24.48	17.59	18.83	18.02	19.22	19.65
	4H	22.72	23.88	23.16	24.28	24.73	18.09	19.25	18.54	19.66	20.11
	6H	22.86	23.93	23.32	24.35	24.81	18.60	19.67	19.06	20.09	20.55
	8H	22.88	23.89	23.35	24.34	24.81	18.87	19.88	19.34	20.33	20.80
	12H	22.87	23.84	23.34	24.28	24.77	19.16	20.13	19.64	20.57	21.07
4H	2H	21.30	22.46	21.75	22.87	23.31	16.95	18.11	17.40	18.51	18.96
	3H	22.54	23.49	22.99	23.95	24.42	18.27	19.22	18.73	19.68	20.15
	4H	22.91	23.77	23.39	24.24	24.74	18.86	19.72	19.34	20.19	20.70
	6H	23.14	23.88	23.64	24.38	24.90	19.49	20.24	20.00	20.73	21.26
	8H	23.17	23.87	23.68	24.37	24.90	19.82	20.52	20.33	21.01	21.54
	12H	23.18	23.80	23.71	24.33	24.87	20.19	20.82	20.72	21.34	21.88
8H	4H	22.89	23.59	23.40	24.09	24.62	19.11	19.81	19.62	20.30	20.84
	6H	23.16	23.74	23.71	24.28	24.82	19.84	20.42	20.38	20.96	21.50
	8H	23.23	23.75	23.79	24.30	24.86	20.25	20.77	20.81	21.33	21.88
	12H	23.27	23.73	23.82	24.27	24.89	20.74	21.20	21.30	21.74	22.37
12H	4H	22.87	23.49	23.40	24.02	24.56	19.12	19.75	19.65	20.28	20.81
	6H	23.14	23.66	23.70	24.22	24.77	19.88	20.40	20.44	20.95	21.51
	8H	23.24	23.70	23.80	24.24	24.87	20.34	20.80	20.90	21.34	21.97