

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: P893156

Luminaire Tested: 4MB-10HL-AOL-UNV-L850

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893156
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-10HL-AOL-UNV-L850
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 5000K CCT
Light Source: -
Ballast/Driver: -

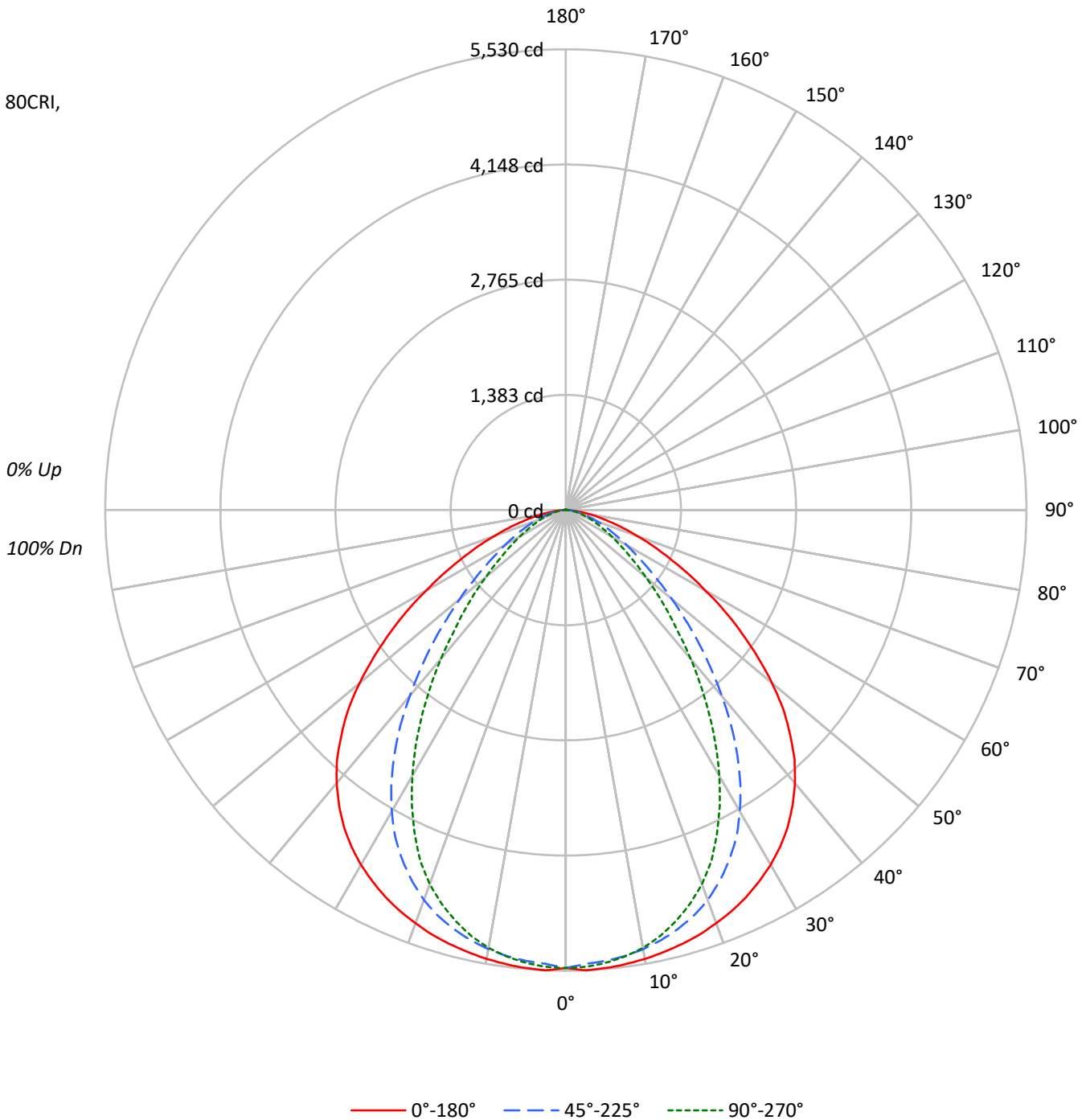
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10867.1 lumens
Efficiency: N/A
Efficacy: 143.9 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): 75.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.997
Total Harmonic Distortion (THDi): 7.45
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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CATALOG NUMBER: 4MB-10HL-AOL-UNV-L850

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°	55989	55989	55989
5°	56425	55545	55791
10°	56581	55353	55207
15°	56861	54884	53850
20°	57195	53995	51785
25°	57600	52138	48218
30°	57844	49141	43347
35°	57753	44596	37427
40°	56902	38747	31037
45°	54832	32510	24991
50°	51201	26369	19841
55°	45865	21055	15888
60°	39450	17183	12987
65°	33120	14288	10743
70°	27034	12009	9216
75°	21445	10164	7850
80°	16686	8692	6774
85°	12865	7771	5854

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 54832 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	520.0	4.8
10°-20°	1476.3	13.6
20°-30°	2148.2	19.8
30°-40°	2309.4	21.3
40°-50°	1928.7	17.7
50°-60°	1295.4	11.9
60°-70°	735.9	6.8
70°-80°	335.3	3.1
80°-90°	85.6	0.8
90°-100°	9.6	0.1
100°-110°	6.9	0.1
110°-120°	4.1	0.0
120°-130°	2.8	0.0
130°-140°	2.5	0.0
140°-150°	2.4	0.0
150°-160°	2.0	0.0
160°-170°	1.5	0.0
170°-180°	0.6	0.0
0°-30°	4144.4	38.1
0°-40°	6453.8	59.4
0°-60°	9677.9	89.1
0°-90°	10834.7	99.7
90°-120°	20.6	0.2
90°-150°	28.2	0.3
90°-180°	32.0	0.3
0°-180°	10867.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5498	5498	5498	5498	5498	
5°	5519	5504	5433	5477	5457	525
15°	5393	5349	5206	5164	5107	1524
25°	5126	4978	4640	4399	4291	2363
35°	4645	4272	3587	3158	3010	2898
45°	3807	3140	2257	1846	1735	2926
55°	2583	1857	1186	950	895	2309
65°	1374	945	593	475	446	1381
75°	545	394	258	210	200	599
85°	110	89	66	53	50	125
90°	14	12	9	8	6	13
95°	17	12	8	4	4	14
105°	13	10	5	3	2	14
115°	6	5	3	2	2	7
125°	4	3	3	2	2	4
135°	3	3	3	3	3	3
145°	3	3	4	4	3	2
155°	3	4	4	4	4	2
165°	4	4	5	6	6	1
175°	4	5	6	6	6	0
180°	6	6	6	6	6	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5497.6	5497.6	5497.6	5497.6	5497.6
2.5°	5530.3	5515.0	5452.9	5500.9	5487.8
5°	5519.4	5504.1	5433.3	5476.9	5457.3
7.5°	5498.7	5483.4	5400.6	5432.2	5406.0
10°	5471.4	5449.6	5352.6	5361.4	5338.5
12.5°	5435.5	5402.8	5288.3	5273.1	5237.1
15°	5393.0	5349.4	5205.5	5164.1	5107.4
17.5°	5343.9	5280.7	5105.2	5018.0	4955.9
20°	5277.4	5196.8	4982.1	4843.6	4778.2
22.5°	5208.8	5098.7	4822.9	4639.8	4561.3
25°	5125.9	4977.7	4639.8	4398.9	4291.0
27.5°	5026.7	4841.5	4433.8	4130.8	4002.2
30°	4918.8	4681.2	4178.8	3830.0	3686.1
32.5°	4789.1	4492.7	3899.8	3500.8	3351.5
35°	4645.3	4272.5	3587.0	3157.5	3010.4
37.5°	4470.9	4017.5	3262.2	2806.6	2664.9
40°	4280.1	3754.8	2914.5	2457.8	2334.6
42.5°	4065.4	3451.8	2576.6	2137.3	2004.4
45°	3807.1	3140.1	2257.2	1846.3	1735.2
47.5°	3543.4	2795.7	1939.0	1566.2	1486.7
50°	3231.6	2472.0	1664.3	1334.1	1252.3
52.5°	2907.9	2153.7	1408.2	1132.4	1059.4
55°	2583.1	1857.2	1185.8	950.4	894.8
57.5°	2267.0	1584.8	997.3	803.3	755.3
60°	1936.8	1345.0	843.6	676.8	637.6
62.5°	1653.4	1136.8	708.5	570.0	537.3
65°	1374.4	945.0	592.9	475.2	445.8
67.5°	1140.1	780.4	491.6	394.6	369.5
70°	907.9	635.4	403.3	325.9	309.5
72.5°	723.7	506.8	327.0	264.9	248.5
75°	545.0	393.5	258.3	210.4	199.5
77.5°	409.8	298.6	199.5	163.5	151.5
80°	284.5	213.6	148.2	121.0	115.5
82.5°	182.0	147.1	102.5	86.1	79.6
85°	110.1	89.4	66.5	53.4	50.1
87.5°	52.3	43.6	33.8	26.2	24.0
90°	14.2	12.0	8.7	7.6	6.5
92.5°	16.3	12.0	7.6	5.4	4.4
95°	17.4	12.0	7.6	4.4	4.4
97.5°	17.4	13.1	6.5	4.4	3.3
100°	16.3	12.0	6.5	4.4	3.3
102.5°	14.2	10.9	5.4	3.3	3.3
105°	13.1	9.8	5.4	3.3	2.2
107.5°	10.9	8.7	4.4	3.3	2.2
110°	9.8	7.6	4.4	3.3	2.2



TEST NUMBER: P893156
 CATALOG NUMBER: 4MB-10HL-AOL-UNV-L850

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.6	6.5	4.4	3.3	2.2
115°	6.5	5.4	3.3	2.2	2.2
117.5°	5.4	4.4	3.3	2.2	2.2
120°	5.4	4.4	3.3	2.2	2.2
122.5°	4.4	4.4	3.3	2.2	2.2
125°	4.4	3.3	3.3	2.2	2.2
127.5°	3.3	3.3	3.3	2.2	2.2
130°	3.3	3.3	3.3	3.3	2.2
132.5°	3.3	3.3	3.3	3.3	2.2
135°	3.3	3.3	3.3	3.3	3.3
137.5°	3.3	3.3	3.3	3.3	3.3
140°	3.3	3.3	3.3	3.3	3.3
142.5°	3.3	3.3	4.4	3.3	3.3
145°	3.3	3.3	4.4	4.4	3.3
147.5°	3.3	3.3	4.4	4.4	4.4
150°	3.3	3.3	4.4	4.4	4.4
152.5°	3.3	4.4	4.4	4.4	4.4
155°	3.3	4.4	4.4	4.4	4.4
157.5°	4.4	4.4	4.4	5.4	5.4
160°	4.4	4.4	5.4	5.4	5.4
162.5°	4.4	4.4	5.4	5.4	5.4
165°	4.4	4.4	5.4	6.5	6.5
167.5°	4.4	5.4	5.4	6.5	6.5
170°	4.4	5.4	5.4	6.5	6.5
172.5°	4.4	5.4	6.5	6.5	6.5
175°	4.4	5.4	6.5	6.5	6.5
177.5°	5.4	5.4	6.5	6.5	6.5
180°	6.5	6.5	6.5	6.5	6.5



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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	24.29	25.72	24.66	26.04	26.36	18.96	20.40	19.33	20.72	21.04
	3H	25.60	26.88	25.99	27.22	27.59	19.97	21.25	20.36	21.59	21.96
	4H	26.02	27.21	26.43	27.57	27.96	20.32	21.51	20.72	21.87	22.26
	6H	26.28	27.38	26.70	27.76	28.16	20.54	21.65	20.96	22.02	22.42
	8H	26.34	27.39	26.78	27.79	28.20	20.61	21.66	21.05	22.05	22.46
	12H	26.37	27.38	26.81	27.76	28.20	20.65	21.65	21.09	22.04	22.48
4H	2H	24.28	25.47	24.69	25.83	26.22	19.61	20.80	20.02	21.16	21.55
	3H	25.75	26.74	26.17	27.14	27.55	20.80	21.79	21.22	22.19	22.60
	4H	26.26	27.14	26.70	27.57	28.02	21.22	22.10	21.66	22.53	22.97
	6H	26.63	27.40	27.10	27.85	28.32	21.54	22.30	22.00	22.75	23.22
	8H	26.73	27.44	27.20	27.89	28.37	21.63	22.34	22.10	22.79	23.27
	12H	26.80	27.43	27.29	27.92	28.40	21.70	22.33	22.18	22.82	23.30
8H	4H	26.24	26.95	26.71	27.41	27.88	21.56	22.28	22.03	22.73	23.20
	6H	26.66	27.25	27.17	27.75	28.23	21.96	22.54	22.46	23.04	23.53
	8H	26.80	27.33	27.32	27.85	28.34	22.10	22.63	22.62	23.14	23.64
	12H	26.92	27.39	27.44	27.88	28.46	22.22	22.68	22.73	23.18	23.75
12H	4H	26.21	26.85	26.70	27.33	27.81	21.61	22.24	22.10	22.73	23.21
	6H	26.63	27.15	27.15	27.67	28.17	22.02	22.55	22.55	23.07	23.57
	8H	26.80	27.27	27.32	27.77	28.34	22.21	22.68	22.73	23.18	23.75