

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: P893137

Luminaire Tested: 4MB-10HL-A-UNV-L830

Issue Date: 11/11/2024

**Test Information**

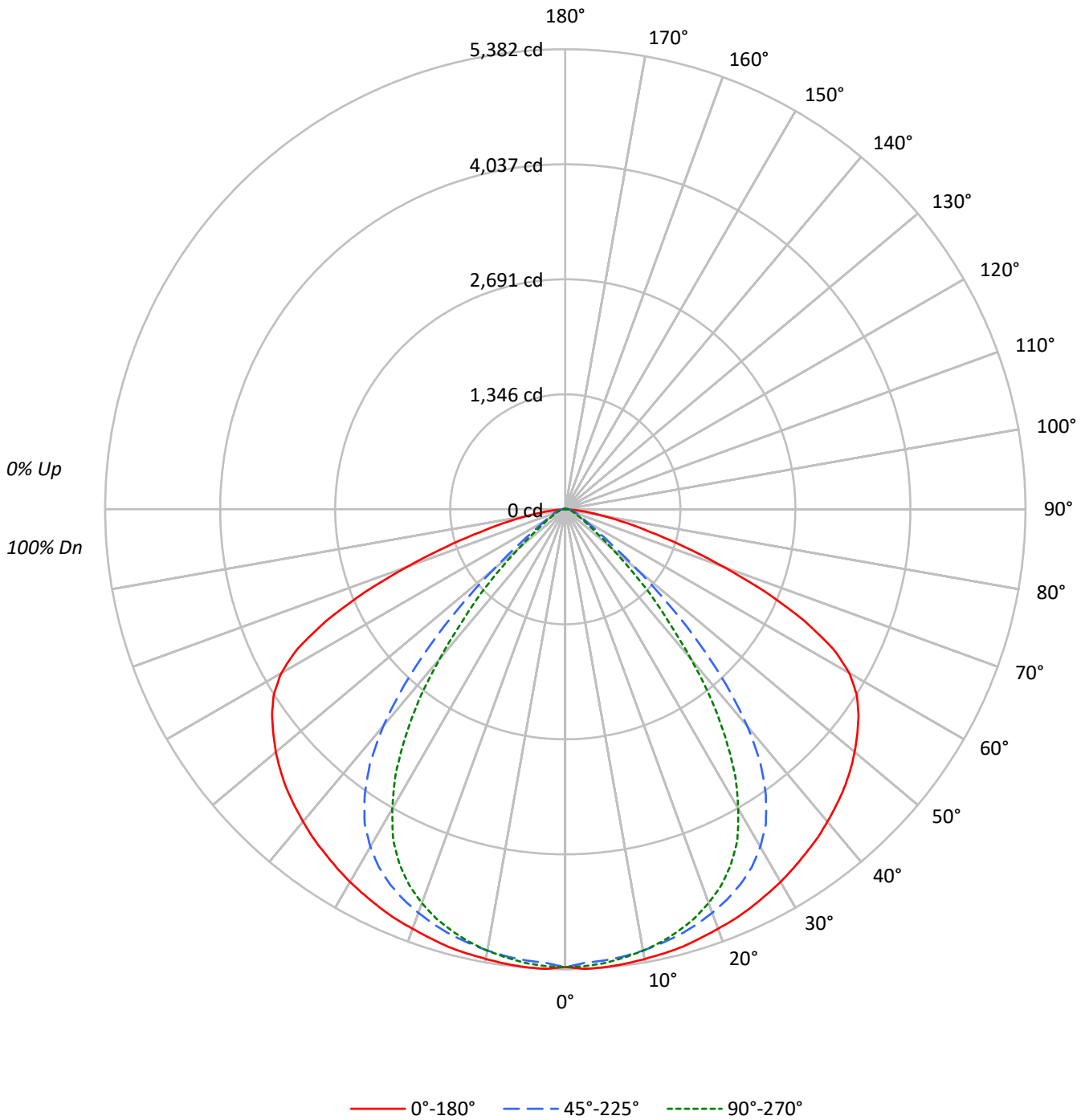
Test Method: LM-79-2019  
Report Number: P893137  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-10HL-A-UNV-L830  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 80CRI, 3000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10842.9 lumens  
Efficiency: N/A  
Efficacy: 143.6 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): 75.5  
Input Voltage (V): 120  
Input Current (Ain): 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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### 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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	91	90	88	88	88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77	77	77
3	95	86	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	68	68	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	60	60	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	53	53	53
6	76	65	57	51	75	64	56	51	62	55	50	60	55	50	59	54	50	48	48	48
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43	43	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	39	39	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	35	35	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	43	38	34	32	32	32

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	54533	54533	54533
5°	54958	54172	54483
10°	55248	54212	54223
15°	55859	54343	53874
20°	56596	54446	53140
25°	57748	54427	51503
30°	59208	53614	47579
35°	61023	50854	40610
40°	63410	44045	30373
45°	66435	31694	20221
50°	70004	17368	11081
55°	74336	8537	6380
60°	78180	5628	4412
65°	74202	4610	3487
70°	58413	4190	3225
75°	40506	4143	3065
80°	26656	4158	3800
85°	15261	6392	6509

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 60°  
 Luminance: 78180 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	507.8	4.7
10°-20°	1465.7	13.5
20°-30°	2232.9	20.6
30°-40°	2535.8	23.4
40°-50°	2036.2	18.8
50°-60°	1092.2	10.1
60°-70°	577.7	5.3
70°-80°	261.9	2.4
80°-90°	83.4	0.8
90°-100°	25.8	0.2
100°-110°	9.3	0.1
110°-120°	2.8	0.0
120°-130°	2.1	0.0
130°-140°	2.2	0.0
140°-150°	2.4	0.0
150°-160°	2.2	0.0
160°-170°	1.6	0.0
170°-180°	0.6	0.0
<b>0°-30°</b>	<b>4206.4</b>	<b>38.8</b>
<b>0°-40°</b>	<b>6742.3</b>	<b>62.2</b>
<b>0°-60°</b>	<b>9870.7</b>	<b>91.0</b>
<b>0°-90°</b>	<b>10793.8</b>	<b>99.5</b>
90°-120°	37.9	0.3
90°-150°	44.6	0.4
<b>90°-180°</b>	<b>49.0</b>	<b>0.5</b>
<b>0°-180°</b>	<b>10842.9</b>	<b>100.0</b>

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5355	5355	5355	5355	5355	
5°	5376	5365	5299	5344	5329	512
15°	5298	5265	5154	5140	5110	1498
25°	5139	5057	4844	4674	4583	2374
35°	4908	4700	4090	3497	3266	3080
45°	4613	3903	2201	1530	1404	3563
55°	4187	1562	481	376	359	3733
65°	3079	363	191	155	145	2978
75°	1029	208	105	83	78	1164
85°	131	78	55	55	56	178
90°	5	35	40	46	44	8
95°	5	14	31	27	26	4
105°	3	2	6	14	17	3
115°	2	2	2	4	4	2
125°	2	2	2	3	2	2
135°	3	2	3	3	3	2
145°	3	3	4	4	4	2
155°	4	4	5	6	5	2
165°	4	5	6	7	6	1
175°	5	5	7	8	7	0
180°	7	7	7	7	7	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5354.7	5354.7	5354.7	5354.7	5354.7
2.5°	5382.0	5371.9	5311.1	5361.7	5348.6
5°	5375.9	5364.8	5299.0	5343.5	5329.4
7.5°	5362.8	5348.6	5274.7	5311.1	5288.9
10°	5342.5	5328.3	5242.3	5267.6	5243.3
12.5°	5322.3	5298.0	5199.8	5207.9	5184.6
15°	5298.0	5264.6	5154.2	5140.1	5109.7
17.5°	5260.5	5223.1	5094.5	5061.1	5018.6
20°	5222.1	5171.4	5023.7	4955.8	4903.2
22.5°	5186.6	5116.8	4942.7	4834.4	4763.5
25°	5139.1	5057.1	4843.5	4674.4	4583.3
27.5°	5087.4	4987.2	4721.0	4468.0	4359.6
30°	5034.8	4903.2	4559.1	4208.8	4045.9
32.5°	4973.1	4811.1	4364.7	3895.0	3702.7
35°	4908.3	4699.8	4090.4	3497.2	3266.4
37.5°	4846.5	4571.2	3752.3	3014.4	2809.9
40°	4769.6	4421.4	3313.0	2496.1	2284.6
42.5°	4693.7	4190.6	2786.6	1999.1	1796.7
45°	4612.7	3903.1	2200.6	1530.5	1404.0
47.5°	4520.6	3509.4	1610.4	1114.5	1005.1
50°	4418.4	2942.5	1096.2	759.2	699.4
52.5°	4306.0	2279.5	712.6	523.3	488.9
55°	4186.6	1561.9	480.8	375.5	359.3
57.5°	4042.8	978.8	356.3	282.4	273.3
60°	3838.3	634.7	276.3	227.8	216.6
62.5°	3530.6	454.5	231.8	186.2	177.1
65°	3079.2	363.4	191.3	154.9	144.7
67.5°	2538.7	310.8	164.0	132.6	125.5
70°	1961.7	273.3	140.7	115.4	108.3
72.5°	1463.7	238.9	121.5	100.2	91.1
75°	1029.4	207.5	105.3	83.0	77.9
77.5°	723.7	179.2	87.1	70.9	69.8
80°	454.5	148.8	70.9	65.8	64.8
82.5°	276.3	117.4	61.7	60.7	59.7
85°	130.6	77.9	54.7	54.7	55.7
87.5°	42.5	51.6	46.6	48.6	48.6
90°	5.1	35.4	39.5	45.6	43.5
92.5°	5.1	25.3	36.4	36.4	29.4
95°	5.1	14.2	31.4	27.3	26.3
97.5°	5.1	7.1	23.3	26.3	25.3
100°	5.1	4.0	17.2	23.3	25.3
102.5°	4.0	3.0	11.1	19.2	21.3
105°	3.0	2.0	6.1	14.2	17.2
107.5°	2.0	2.0	4.0	10.1	12.1
110°	2.0	1.0	3.0	7.1	8.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	1.0	3.0	5.1	5.1
115°	2.0	2.0	2.0	4.0	4.0
117.5°	2.0	2.0	2.0	3.0	3.0
120°	2.0	2.0	2.0	3.0	2.0
122.5°	2.0	2.0	2.0	3.0	2.0
125°	2.0	2.0	2.0	3.0	2.0
127.5°	2.0	2.0	3.0	3.0	2.0
130°	2.0	2.0	3.0	3.0	2.0
132.5°	2.0	2.0	3.0	3.0	3.0
135°	3.0	2.0	3.0	3.0	3.0
137.5°	3.0	3.0	3.0	4.0	3.0
140°	3.0	3.0	4.0	4.0	3.0
142.5°	3.0	3.0	4.0	4.0	4.0
145°	3.0	3.0	4.0	4.0	4.0
147.5°	3.0	3.0	4.0	5.1	4.0
150°	3.0	4.0	5.1	5.1	4.0
152.5°	3.0	4.0	5.1	5.1	5.1
155°	4.0	4.0	5.1	6.1	5.1
157.5°	4.0	4.0	5.1	6.1	5.1
160°	4.0	4.0	6.1	6.1	6.1
162.5°	4.0	5.1	6.1	7.1	6.1
165°	4.0	5.1	6.1	7.1	6.1
167.5°	4.0	5.1	6.1	7.1	7.1
170°	4.0	5.1	7.1	7.1	7.1
172.5°	5.1	5.1	7.1	8.1	7.1
175°	5.1	5.1	7.1	8.1	7.1
177.5°	5.1	5.1	7.1	8.1	7.1
180°	7.1	7.1	7.1	7.1	7.1



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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	23.56	24.95	23.93	25.27	25.60	11.77	13.16	12.14	13.48	13.81
	3H	26.46	27.69	26.84	28.03	28.41	12.73	13.96	13.12	14.30	14.68
	4H	27.24	28.39	27.65	28.75	29.15	13.15	14.30	13.56	14.66	15.05
	6H	27.68	28.74	28.10	29.12	29.52	13.63	14.69	14.05	15.07	15.47
	8H	27.78	28.78	28.21	29.18	29.60	13.94	14.94	14.37	15.34	15.76
	12H	27.82	28.78	28.26	29.17	29.61	14.34	15.30	14.78	15.69	16.14
4H	2H	23.37	24.52	23.78	24.88	25.28	12.29	13.44	12.70	13.80	14.19
	3H	26.29	27.23	26.71	27.64	28.06	13.50	14.44	13.92	14.85	15.27
	4H	27.08	27.93	27.53	28.35	28.81	14.03	14.88	14.48	15.31	15.76
	6H	27.61	28.34	28.08	28.80	29.27	14.67	15.40	15.14	15.85	16.33
	8H	27.75	28.44	28.23	28.89	29.37	15.07	15.75	15.55	16.21	16.69
	12H	27.83	28.44	28.33	28.93	29.41	15.60	16.21	16.09	16.70	17.18
8H	4H	26.97	27.65	27.45	28.11	28.59	14.60	15.28	15.07	15.73	16.22
	6H	27.50	28.06	28.01	28.57	29.06	15.37	15.93	15.88	16.43	16.92
	8H	27.67	28.17	28.19	28.69	29.19	15.89	16.40	16.42	16.92	17.42
	12H	27.79	28.23	28.31	28.74	29.31	16.59	17.04	17.11	17.54	18.12
12H	4H	26.93	27.54	27.42	28.03	28.51	14.84	15.45	15.34	15.94	16.42
	6H	27.45	27.95	27.97	28.47	28.97	15.64	16.15	16.17	16.67	17.17
	8H	27.64	28.08	28.16	28.59	29.17	16.24	16.69	16.76	17.19	17.77