

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: P893273

Luminaire Tested: 4MB-2SL-ASYMR-UNV-L830

Issue Date: 11/11/2024

**Test Information**

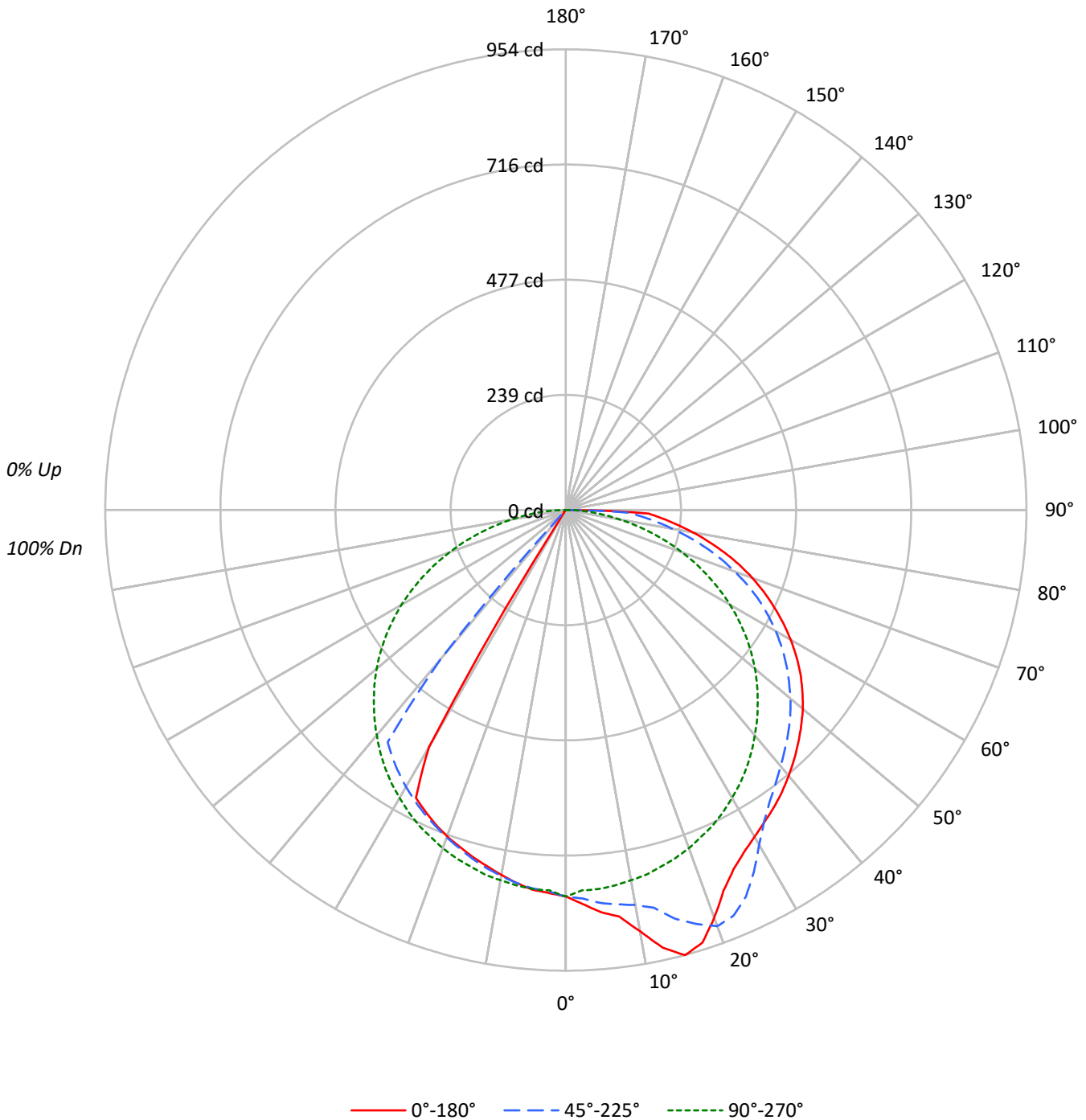
Test Method: LM-79-2019  
Report Number: P893273  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2410-248-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-2SL-ASYMR-UNV-L830  
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMERIC REFLECTOR, 80CRI, 3000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2165.0 lumens  
Efficiency: N/A  
Efficacy: 156.9 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.28 / 1.25  
Luminous Opening: Rectangular (W 0.21' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 13.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.996  
Total Harmonic Distortion (THDi): 5.92  
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	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	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	85	85	85	83
2	99	90	83	77	96	88	82	76	85	79	75	81	77	73	78	75	71	71	71	71	69
3	90	79	71	65	88	78	70	64	75	68	63	72	67	62	70	65	61	61	61	61	59
4	83	71	62	55	80	69	61	55	67	60	54	65	58	53	62	57	53	53	53	53	50
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	71	57	48	42	69	56	48	42	55	47	42	53	46	41	51	45	41	41	41	41	39
7	66	52	44	37	64	51	43	37	50	42	37	48	42	37	47	41	36	36	36	36	35
8	61	48	39	34	60	47	39	33	46	38	33	45	38	33	43	37	33	33	33	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	30	30	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	27	27	27	26

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

	0°	45°	90°	135°	180°
0°	10391	10391	10391	10391	10391
5°	10896	10645	10269	10250	10287
10°	11674	10949	10266	10146	10116
15°	12827	11780	10271	10049	9999
20°	12419	12673	10297	9969	9937
25°	11767	12647	10321	9935	9863
30°	11716	12004	10322	9923	8494
35°	11914	11675	10339	9923	116
40°	12174	11730	10325	6845	78
45°	12506	11968	10326	127	50
50°	12943	12266	10333	93	18
55°	13436	12617	10303	61	11
60°	13972	13045	10211	23	13
65°	14631	13559	10026	28	28
70°	15608	14127	9708	34	34
75°	17083	15036	9292	90	45
80°	20048	16825	8599	135	67
85°	29842	23629	8060	209	134

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 87.5°  
 Luminance: 51173 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.7	3.5
10°-20°	228.9	10.6
20°-30°	351.9	16.3
30°-40°	377.2	17.4
40°-50°	342.5	15.8
50°-60°	312.4	14.4
60°-70°	232.4	10.7
70°-80°	163.6	7.6
80°-90°	79.3	3.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	657.6	30.4
0°-40°	1034.7	47.8
0°-60°	1689.7	78.0
0°-90°	2165.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2165.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	800	800	800	800	800	
5°	836	817	788	786	789	81
15°	954	876	764	748	744	263
25°	821	883	720	693	688	382
35°	752	736	652	626	7	471
45°	681	652	562	7	3	526
55°	594	557	455	3	0	530
65°	476	441	326	1	1	471
75°	340	300	185	2	1	359
85°	200	159	54	1	1	201
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	800.2	800.2	800.2	800.2	800.2	800.2	800.2	800.2	800.2
2.5°	816.7	807.5	805.2	811.6	788.3	803.9	791.0	793.8	793.8
5°	835.9	823.1	816.7	814.9	787.8	798.4	786.4	786.4	789.2
7.5°	849.2	835.0	823.6	819.0	783.7	792.9	779.1	779.1	779.1
10°	885.4	858.9	830.4	822.2	778.6	785.5	769.5	770.4	767.2
12.5°	928.1	904.2	843.7	820.8	773.1	776.4	759.4	758.9	755.3
15°	954.2	936.3	876.3	819.0	764.0	766.7	747.5	746.1	743.8
17.5°	939.5	936.8	898.7	817.6	755.7	753.4	734.2	732.8	731.0
20°	898.7	905.6	917.1	814.9	745.2	740.6	721.4	720.4	719.1
22.5°	853.4	860.2	908.8	819.4	732.4	726.9	707.6	706.7	704.9
25°	821.3	821.3	882.7	830.4	720.4	710.4	693.4	692.0	688.4
27.5°	798.8	794.7	843.7	842.8	705.3	693.9	678.3	676.9	672.3
30°	781.4	774.5	800.6	848.8	688.4	676.0	661.8	660.4	566.5
32.5°	765.8	758.5	764.4	853.8	671.4	656.7	644.4	459.7	20.2
35°	751.6	743.4	736.5	850.1	652.2	637.5	626.0	13.3	7.3
37.5°	735.6	729.2	713.6	830.9	631.5	616.9	605.9	7.3	6.4
40°	718.2	712.2	692.0	802.5	609.1	596.7	403.8	6.4	4.6
42.5°	700.3	695.7	671.9	761.2	586.6	574.2	12.8	5.0	3.7
45°	681.0	676.9	651.7	711.3	562.3	550.9	6.9	3.7	2.7
47.5°	661.3	655.4	630.6	657.7	537.6	526.1	6.0	2.7	1.8
50°	640.7	634.3	607.2	610.5	511.5	500.0	4.6	1.8	0.9
52.5°	617.8	610.0	582.5	567.8	484.0	473.4	3.7	0.9	0.5
55°	593.5	584.8	557.3	530.7	455.1	443.2	2.7	0.9	0.5
57.5°	566.5	556.8	530.7	495.4	424.4	299.7	1.8	0.9	0.5
60°	538.0	528.4	502.3	462.4	393.2	20.6	0.9	0.9	0.5
62.5°	507.8	497.7	472.5	429.0	359.8	17.0	0.9	0.9	0.9
65°	476.2	464.3	441.3	394.6	326.3	14.2	0.9	0.9	0.9
67.5°	444.5	429.4	407.9	359.3	291.9	11.9	0.9	0.9	0.9
70°	411.1	394.6	372.1	323.6	255.7	9.6	0.9	0.9	0.9
72.5°	376.7	360.7	336.4	287.4	221.8	7.3	0.9	0.9	0.9
75°	340.5	325.9	299.7	251.1	185.2	5.5	1.8	0.9	0.9
77.5°	302.9	291.5	262.1	214.0	149.4	3.7	1.8	0.9	0.9
80°	268.1	255.3	225.0	176.4	115.0	2.7	1.8	1.4	0.9
82.5°	232.4	220.9	190.7	142.1	82.5	2.3	1.8	1.4	0.9
85°	200.3	189.3	158.6	110.9	54.1	1.8	1.4	1.4	0.9
87.5°	171.9	161.8	131.5	81.1	30.7	1.4	1.4	1.4	0.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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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	22.66	24.28	23.03	24.59	24.91	18.10	19.71	18.46	20.03	20.34
	3H	25.11	26.58	25.49	26.90	27.26	18.74	20.20	19.12	20.53	20.89
	4H	26.24	27.62	26.63	27.97	28.34	18.88	20.27	19.28	20.61	20.99
	6H	27.33	28.61	27.74	28.98	29.37	18.92	20.21	19.34	20.57	20.96
	8H	27.86	29.09	28.28	29.48	29.87	18.91	20.14	19.34	20.53	20.93
	12H	28.43	29.60	28.86	29.99	30.41	18.89	20.07	19.32	20.45	20.88
4H	2H	23.32	24.70	23.72	25.05	25.43	19.22	20.61	19.62	20.95	21.33
	3H	26.01	27.18	26.42	27.58	27.98	20.57	21.73	20.98	22.13	22.53
	4H	27.31	28.37	27.74	28.78	29.22	21.10	22.16	21.53	22.58	23.01
	6H	28.59	29.52	29.04	29.96	30.42	21.38	22.31	21.83	22.75	23.21
	8H	29.21	30.09	29.67	30.53	31.00	21.41	22.29	21.87	22.73	23.20
	12H	29.90	30.69	30.38	31.17	31.64	21.43	22.22	21.91	22.69	23.16
8H	4H	27.67	28.55	28.13	28.99	29.45	22.05	22.93	22.51	23.37	23.83
	6H	29.15	29.89	29.64	30.38	30.85	22.64	23.38	23.13	23.86	24.34
	8H	29.94	30.60	30.44	31.11	31.59	22.82	23.48	23.32	23.99	24.47
	12H	30.83	31.42	31.33	31.91	32.47	22.92	23.51	23.42	24.00	24.56
12H	4H	27.71	28.50	28.19	28.98	29.44	22.27	23.06	22.75	23.53	24.00
	6H	29.24	29.91	29.75	30.41	30.90	22.99	23.66	23.50	24.16	24.64
	8H	30.12	30.71	30.63	31.20	31.76	23.30	23.89	23.81	24.38	24.94