

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: P894931

Luminaire Tested: 8TMB-20HL-RND-UNV-L940

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P894931  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-20HL-RND-UNV-L940  
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 90CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

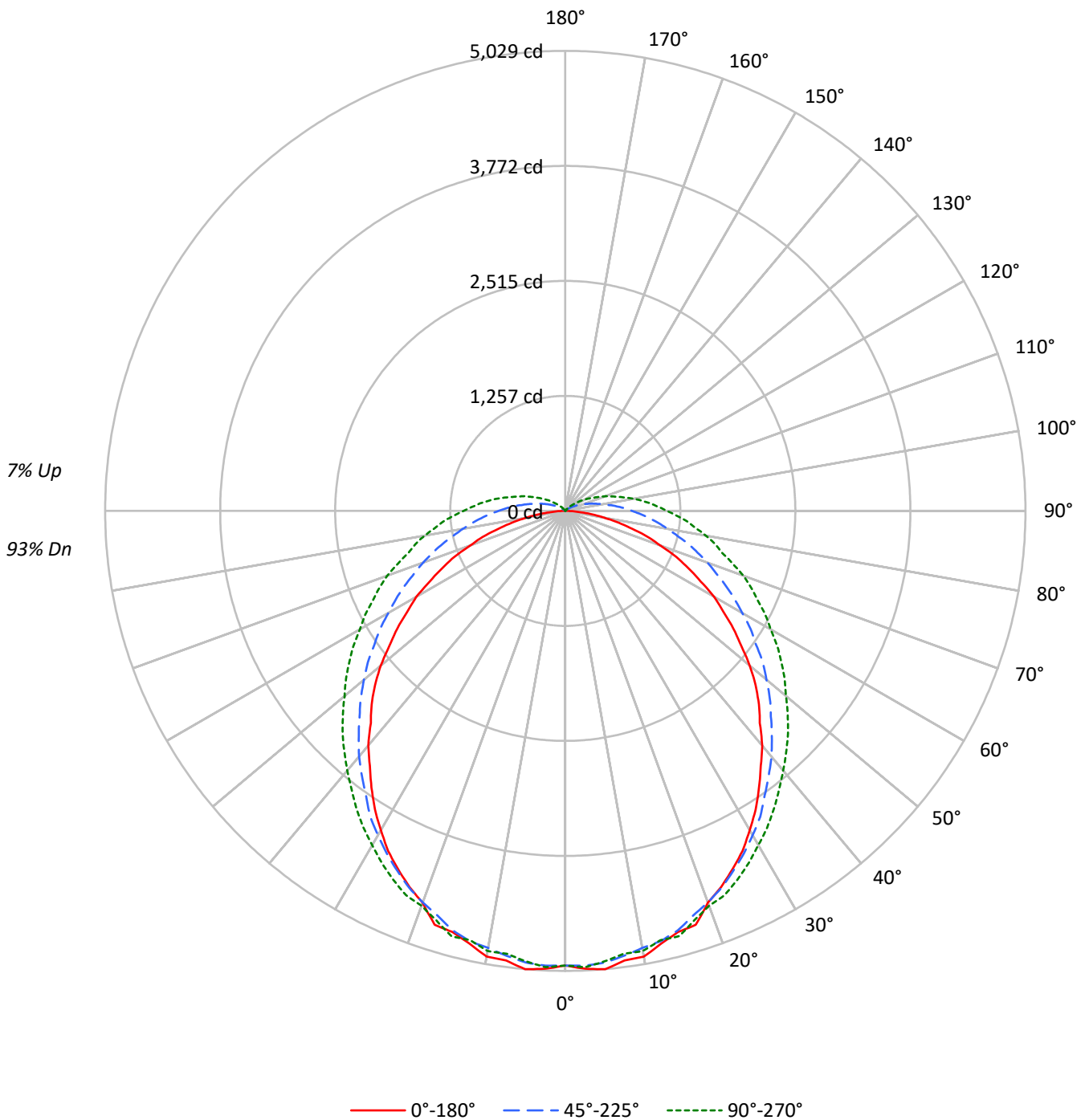
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16369.0 lumens  
Efficiency: N/A  
Efficacy: 112.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 0.38' x L: 7.98' x H: 0')  
CIE Type: Direct

Input Watts (W): 145  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.997  
Total Harmonic Distortion (THDi): 7.79  
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	96	96	96	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	66	70	67	63	63	63	63	60
3	86	75	66	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	65	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	33	28	38	32	27	27	27	27	25
9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	25	25	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	22	22	22	21

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

	0°	45°	90°
0°	17632	17632	17632
5°	17910	17651	17603
10°	17823	17479	17601
15°	17503	17445	17678
20°	17210	17193	17339
25°	16928	16999	17417
30°	16514	16774	17287
35°	15991	16454	17222
40°	15510	16237	17163
45°	15023	15947	17270
50°	14531	15849	17380
55°	13866	15737	17832
60°	13325	15842	18391
65°	12444	16261	19506
70°	11438	17169	21485
75°	10378	19010	24340
80°	8919	23226	31912
85°	7218	37576	54605

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 87.5°  
 Luminance: 99117 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	471.2	2.9
10°-20°	1341.3	8.2
20°-30°	2010.0	12.3
30°-40°	2388.5	14.6
40°-50°	2472.8	15.1
50°-60°	2291.6	14.0
60°-70°	1907.8	11.7
70°-80°	1416.0	8.7
80°-90°	936.6	5.7
90°-100°	569.9	3.5
100°-110°	319.5	2.0
110°-120°	157.3	1.0
120°-130°	64.0	0.4
130°-140°	18.6	0.1
140°-150°	2.7	0.0
150°-160°	0.7	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	3822.4	23.4
0°-40°	6210.9	37.9
0°-60°	10975.3	67.0
0°-90°	15235.6	93.1
90°-120°	1046.8	6.4
90°-150°	1132.0	6.9
90°-180°	1133.0	6.9
0°-180°	16369.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4970	4970	4970	4970	4970	
5°	5029	4974	4956	4981	4942	475
15°	4765	4747	4749	4756	4813	1349
25°	4324	4319	4342	4426	4449	1990
35°	3692	3719	3799	3919	3976	2310
45°	2994	3037	3178	3376	3442	2307
55°	2242	2337	2544	2798	2883	2005
65°	1482	1621	1937	2221	2323	1472
75°	757	987	1387	1684	1776	810
85°	177	498	923	1250	1341	199
90°	9	323	730	1021	1112	13
95°	2	200	566	843	937	2
105°	2	66	307	521	593	2
115°	2	16	143	286	343	2
125°	2	4	52	132	168	2
135°	4	2	14	43	59	3
145°	4	2	0	4	7	3
155°	4	4	0	0	0	2
165°	7	4	0	0	0	2
175°	7	4	0	0	0	1
180°	2	2	2	2	2	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4969.5	4969.5	4969.5	4969.5	4969.5
2.5°	5010.4	4985.4	4976.3	4964.9	4992.2
5°	5028.6	4974.0	4955.9	4980.9	4942.2
7.5°	4958.1	4944.5	4905.8	4919.5	4883.1
10°	4946.8	4871.7	4851.3	4896.7	4885.4
12.5°	4844.5	4780.8	4817.2	4849.0	4805.8
15°	4764.9	4746.7	4749.0	4755.8	4812.6
17.5°	4744.4	4662.6	4639.9	4696.7	4692.1
20°	4558.0	4542.1	4553.5	4628.5	4592.1
22.5°	4448.9	4398.9	4460.3	4533.0	4548.9
25°	4323.9	4319.3	4342.1	4426.2	4448.9
27.5°	4192.0	4162.5	4223.8	4321.6	4339.8
30°	4030.6	4019.2	4094.3	4178.4	4219.3
32.5°	3871.5	3878.3	3964.7	4035.2	4105.6
35°	3691.9	3719.2	3798.7	3919.2	3976.0
37.5°	3510.0	3544.1	3651.0	3789.6	3837.4
40°	3348.6	3355.4	3505.5	3646.4	3705.5
42.5°	3146.3	3214.5	3341.8	3528.2	3573.7
45°	2994.0	3037.2	3178.1	3375.9	3441.8
47.5°	2821.2	2871.2	3032.6	3225.8	3296.3
50°	2632.5	2678.0	2871.2	3091.7	3148.6
52.5°	2423.4	2516.6	2718.9	2946.2	3021.3
55°	2241.5	2337.0	2543.9	2798.5	2882.6
57.5°	2046.0	2141.5	2400.6	2637.1	2746.2
60°	1877.8	1968.7	2232.4	2525.7	2591.6
62.5°	1668.6	1798.2	2084.6	2373.4	2466.6
65°	1482.2	1620.9	1936.9	2221.0	2323.3
67.5°	1311.7	1454.9	1784.6	2089.2	2200.6
70°	1102.6	1291.2	1655.0	1955.1	2071.0
72.5°	948.0	1136.7	1516.3	1814.1	1918.7
75°	757.0	986.6	1386.7	1684.5	1775.5
77.5°	597.9	845.7	1252.6	1586.8	1677.7
80°	436.5	718.4	1136.7	1457.2	1561.8
82.5°	297.8	600.2	1029.8	1336.7	1436.7
85°	177.3	497.9	923.0	1250.3	1341.3
87.5°	77.3	406.9	825.2	1125.3	1218.5
90°	9.1	322.8	729.7	1020.7	1111.7
92.5°	2.3	259.2	645.6	927.5	1016.2
95°	2.3	200.1	566.1	843.4	936.6
97.5°	2.3	154.6	486.5	757.0	845.7
100°	2.3	118.2	420.6	666.1	761.6
102.5°	2.3	88.7	356.9	591.1	672.9
105°	2.3	65.9	306.9	520.6	593.3
107.5°	2.3	47.7	256.9	454.7	527.4
110°	2.3	34.1	216.0	393.3	466.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.3	25.0	175.0	338.7	400.1
115°	2.3	15.9	143.2	286.4	343.3
117.5°	2.3	11.4	113.7	241.0	295.5
120°	2.3	9.1	90.9	200.1	247.8
122.5°	2.3	6.8	70.5	163.7	209.1
125°	2.3	4.5	52.3	131.9	168.2
127.5°	2.3	4.5	38.6	104.6	136.4
130°	2.3	2.3	27.3	79.6	106.8
132.5°	2.3	2.3	18.2	59.1	79.6
135°	4.5	2.3	13.6	43.2	59.1
137.5°	4.5	2.3	9.1	29.6	40.9
140°	4.5	2.3	4.5	18.2	25.0
142.5°	4.5	2.3	2.3	9.1	13.6
145°	4.5	2.3	0.0	4.5	6.8
147.5°	4.5	2.3	0.0	2.3	2.3
150°	4.5	2.3	0.0	0.0	0.0
152.5°	4.5	2.3	0.0	0.0	0.0
155°	4.5	4.5	0.0	0.0	0.0
157.5°	4.5	4.5	0.0	0.0	0.0
160°	4.5	4.5	0.0	0.0	0.0
162.5°	4.5	4.5	0.0	0.0	0.0
165°	6.8	4.5	0.0	0.0	0.0
167.5°	6.8	4.5	0.0	0.0	0.0
170°	6.8	4.5	0.0	0.0	0.0
172.5°	6.8	4.5	0.0	0.0	0.0
175°	6.8	4.5	0.0	0.0	0.0
177.5°	6.8	4.5	0.0	0.0	0.0
180°	2.3	2.3	2.3	2.3	2.3



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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	20.20	21.74	20.67	22.19	22.67	21.77	23.31	22.24	23.77	24.25
	3H	21.96	23.37	22.44	23.83	24.36	24.36	25.76	24.84	26.23	26.75
	4H	22.62	23.95	23.12	24.43	24.97	25.62	26.95	26.12	27.43	27.97
	6H	23.10	24.34	23.61	24.83	25.39	27.00	28.24	27.51	28.73	29.29
	8H	23.25	24.44	23.77	24.96	25.51	27.73	28.92	28.26	29.44	30.00
	12H	23.35	24.49	23.88	25.00	25.59	28.57	29.71	29.11	30.23	30.81
4H	2H	21.16	22.49	21.66	22.97	23.51	22.35	23.68	22.85	24.16	24.70
	3H	23.20	24.33	23.71	24.86	25.42	25.21	26.35	25.73	26.87	27.43
	4H	24.01	25.05	24.54	25.59	26.18	26.69	27.73	27.23	28.27	28.86
	6H	24.66	25.58	25.21	26.14	26.75	28.31	29.23	28.86	29.79	30.40
	8H	24.89	25.75	25.45	26.31	26.93	29.17	30.03	29.73	30.59	31.21
	12H	25.05	25.84	25.64	26.43	27.06	30.16	30.95	30.74	31.54	32.16
8H	4H	24.86	25.72	25.42	26.28	26.90	27.06	27.93	27.62	28.49	29.11
	6H	25.78	26.52	26.37	27.12	27.75	28.94	29.68	29.53	30.28	30.90
	8H	26.16	26.83	26.77	27.44	28.08	30.00	30.67	30.60	31.28	31.92
	12H	26.48	27.08	27.09	27.68	28.38	31.26	31.85	31.86	32.45	33.16
12H	4H	25.12	25.91	25.70	26.50	27.12	27.11	27.89	27.69	28.48	29.11
	6H	26.20	26.87	26.81	27.48	28.12	29.05	29.72	29.65	30.33	30.97
	8H	26.74	27.34	27.35	27.94	28.64	30.23	30.82	30.83	31.42	32.13