

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: P894936

Luminaire Tested: 8TMB-20HL-RNDU-UNV-L850

Issue Date: 11/11/2024

**Test Information**

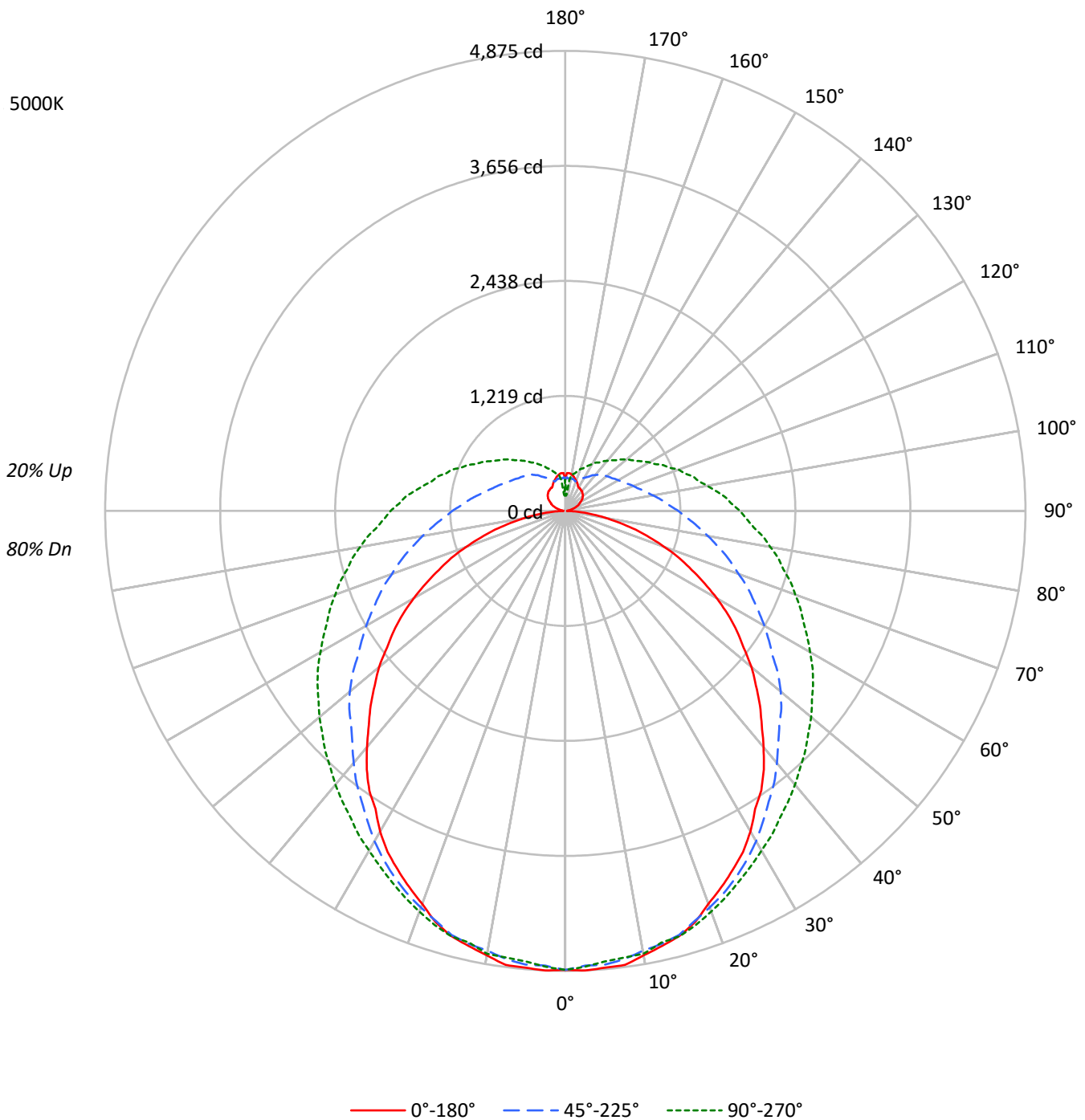
Test Method: LM-79-2019  
Report Number: P894936  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-20HL-RNDU-UNV-L850  
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 80CRI, CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20448.0 lumens  
Efficiency: N/A  
Efficacy: 141.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 7.98' x H: 0.21')  
CIE Type: Semi-Direct  
  
Input Watts (W): 145  
Input Voltage (V): 120  
Input Current (Ain): 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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	83	83	83	80
1	102	96	91	86	97	92	87	83	84	80	77	76	73	71	69	67	65	65	65	65	61
2	92	82	75	68	87	79	72	66	72	66	61	66	61	57	60	56	53	53	53	53	49
3	83	72	63	56	79	69	61	54	63	56	51	57	52	47	52	48	44	44	44	44	41
4	76	63	54	47	72	60	52	45	55	48	43	51	45	40	46	41	37	37	37	37	34
5	69	56	47	40	66	54	45	39	49	42	37	45	39	34	41	36	32	32	32	32	29
6	64	50	41	35	61	48	40	34	44	37	32	41	35	30	38	32	28	28	28	28	26
7	59	46	37	30	56	44	35	30	40	33	28	37	31	26	34	29	25	25	25	25	23
8	55	41	33	27	52	40	32	26	37	30	25	34	28	24	31	26	22	22	22	22	20
9	51	38	30	24	49	37	29	23	34	27	22	31	25	21	29	24	20	20	20	20	18
10	48	35	27	22	46	34	26	21	31	25	20	29	23	19	27	22	18	18	18	18	16

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

	0°	45°	90°
0°	17258	17258	17258
5°	17266	16599	16292
10°	17152	15915	15659
15°	17019	15412	14952
20°	16576	14713	14225
25°	16236	14095	13539
30°	15833	13418	12938
35°	15391	12681	12417
40°	14808	12050	12015
45°	14261	11447	11658
50°	13791	11082	11355
55°	13239	10504	11121
60°	12578	10145	10905
65°	11744	9829	10742
70°	10823	9580	10735
75°	9617	9506	10766
80°	7843	9494	10975
85°	5628	9760	11223

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14261 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	460.5	2.3
10°-20°	1315.8	6.4
20°-30°	1975.7	9.7
30°-40°	2372.6	11.6
40°-50°	2509.5	12.3
50°-60°	2418.4	11.8
60°-70°	2145.6	10.5
70°-80°	1759.6	8.6
80°-90°	1361.9	6.7
90°-100°	1062.5	5.2
100°-110°	845.9	4.1
110°-120°	676.0	3.3
120°-130°	533.2	2.6
130°-140°	406.9	2.0
140°-150°	286.1	1.4
150°-160°	182.9	0.9
160°-170°	102.5	0.5
170°-180°	32.5	0.2
0°-30°	3752.0	18.3
0°-40°	6124.6	30.0
0°-60°	11052.5	54.1
0°-90°	16319.7	79.8
90°-120°	2584.4	12.6
90°-150°	3810.5	18.6
90°-180°	4128.0	20.2
0°-180°	20448.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4864	4864	4864	4864	4864	
5°	4859	4872	4826	4861	4793	462
15°	4666	4668	4652	4682	4668	1311
25°	4198	4266	4282	4355	4342	1933
35°	3618	3673	3760	3915	3966	2256
45°	2916	3003	3207	3512	3596	2250
55°	2220	2331	2682	3047	3205	1981
65°	1477	1681	2190	2644	2783	1468
75°	770	1107	1744	2214	2391	814
85°	180	675	1352	1839	2002	203
90°	19	536	1197	1665	1850	19
95°	24	443	1058	1521	1700	24
105°	82	359	846	1243	1404	86
115°	158	351	702	1015	1145	153
125°	220	356	604	832	922	194
135°	258	346	541	705	759	200
145°	280	318	446	590	626	176
155°	310	326	367	462	517	143
165°	367	359	346	337	419	103
175°	403	389	346	283	180	38
180°	329	329	329	329	329	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4864.1	4864.1	4864.1	4864.1	4864.1
2.5°	4875.0	4891.3	4823.3	4864.1	4834.2
5°	4858.7	4872.3	4826.0	4861.4	4793.4
7.5°	4853.2	4847.8	4790.7	4836.9	4774.3
10°	4782.5	4801.5	4733.5	4796.1	4766.2
12.5°	4722.6	4760.7	4700.9	4749.8	4687.3
15°	4665.5	4668.2	4651.9	4681.8	4668.2
17.5°	4570.3	4594.8	4556.7	4624.7	4600.2
20°	4431.6	4507.7	4472.4	4534.9	4518.6
22.5°	4317.3	4355.4	4385.3	4456.0	4434.3
25°	4197.6	4265.6	4281.9	4355.4	4341.8
27.5°	4075.2	4105.1	4167.7	4246.6	4249.3
30°	3922.8	3955.5	4042.5	4132.3	4156.8
32.5°	3743.3	3846.7	3898.4	4034.4	4072.5
35°	3618.2	3672.6	3759.6	3914.7	3966.4
37.5°	3454.9	3517.5	3634.5	3816.7	3879.3
40°	3267.2	3359.7	3487.6	3713.4	3786.8
42.5°	3079.5	3188.3	3337.9	3601.8	3686.2
45°	2916.3	3003.3	3207.4	3512.1	3596.4
47.5°	2739.5	2845.6	3104.0	3395.1	3490.3
50°	2576.2	2685.1	2978.9	3286.3	3400.5
52.5°	2380.4	2505.5	2842.8	3161.1	3294.4
55°	2219.9	2331.4	2682.3	3046.9	3204.6
57.5°	2043.0	2168.2	2557.2	2962.5	3106.7
60°	1852.6	2010.4	2434.8	2856.4	2995.2
62.5°	1664.9	1852.6	2309.6	2753.1	2889.1
65°	1477.2	1681.2	2189.9	2644.2	2783.0
67.5°	1308.5	1528.9	2081.1	2524.5	2695.9
70°	1118.1	1382.0	1953.3	2413.0	2592.6
72.5°	938.5	1248.7	1849.9	2323.2	2502.8
75°	769.9	1107.2	1743.8	2214.4	2391.2
77.5°	601.2	973.9	1632.2	2116.5	2309.6
80°	440.7	865.1	1534.3	2021.3	2206.3
82.5°	304.7	769.9	1439.1	1942.4	2116.5
85°	179.5	674.7	1352.0	1839.0	2002.2
87.5°	81.6	598.5	1262.3	1760.1	1920.6
90°	19.0	535.9	1197.0	1664.9	1849.9
92.5°	19.0	487.0	1118.1	1594.2	1762.8
95°	24.5	443.4	1058.2	1520.7	1700.3
97.5°	32.6	410.8	1003.8	1452.7	1610.5
100°	46.2	389.0	944.0	1373.8	1528.9
102.5°	62.6	372.7	889.6	1303.1	1447.3
105°	81.6	359.1	846.0	1243.2	1403.7
107.5°	100.7	353.7	802.5	1186.1	1322.1
110°	119.7	350.9	769.9	1126.3	1278.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	138.7	348.2	734.5	1071.8	1194.3
115°	157.8	350.9	701.9	1014.7	1145.3
117.5°	168.7	350.9	671.9	965.7	1074.6
120°	185.0	353.7	650.2	914.1	1028.3
122.5°	201.3	353.7	628.4	876.0	976.6
125°	220.4	356.4	603.9	832.4	922.2
127.5°	231.2	356.4	590.3	802.5	884.1
130°	242.1	353.7	571.3	764.4	848.8
132.5°	253.0	348.2	560.4	729.1	808.0
135°	258.4	345.5	541.4	704.6	759.0
137.5°	266.6	337.3	522.3	669.2	729.1
140°	274.8	334.6	495.1	642.0	693.7
142.5°	274.8	326.4	476.1	617.5	663.8
145°	280.2	318.3	446.1	590.3	625.7
147.5°	285.6	315.6	424.4	563.1	606.7
150°	285.6	312.8	405.3	533.2	574.0
152.5°	291.1	315.6	386.3	506.0	544.1
155°	310.1	326.4	367.3	462.5	516.9
157.5°	326.4	337.3	348.2	429.8	487.0
160°	340.1	345.5	331.9	397.2	473.4
162.5°	350.9	353.7	334.6	367.3	443.4
165°	367.3	359.1	345.5	337.3	418.9
167.5°	380.9	364.5	350.9	329.2	399.9
170°	391.7	375.4	345.5	310.1	391.7
172.5°	399.9	378.1	348.2	291.1	329.2
175°	402.6	389.0	345.5	282.9	179.5
177.5°	399.9	391.7	356.4	280.2	160.5
180°	329.2	329.2	329.2	329.2	329.2



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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	16.96	18.28	17.60	18.94	19.71	20.45	21.76	21.09	22.43	23.19
	3H	18.41	19.61	19.07	20.29	21.09	23.32	24.52	23.98	25.20	26.00
	4H	18.88	20.03	19.56	20.71	21.52	24.80	25.95	25.47	26.63	27.44
	6H	19.16	20.23	19.85	20.92	21.75	26.42	27.48	27.10	28.17	29.00
	8H	19.22	20.24	19.92	20.96	21.79	27.28	28.30	27.97	29.01	29.84
	12H	19.24	20.22	19.94	20.93	21.79	28.22	29.20	28.92	29.91	30.77
4H	2H	18.12	19.26	18.79	19.94	20.75	20.78	21.93	21.46	22.61	23.42
	3H	19.82	20.80	20.50	21.52	22.35	23.89	24.87	24.57	25.59	26.42
	4H	20.42	21.32	21.12	22.04	22.90	25.55	26.46	26.26	27.18	28.04
	6H	20.82	21.62	21.54	22.37	23.24	27.36	28.16	28.08	28.91	29.77
	8H	20.94	21.69	21.66	22.43	23.31	28.33	29.09	29.06	29.83	30.71
	12H	20.99	21.68	21.74	22.45	23.33	29.41	30.09	30.15	30.86	31.75
8H	4H	21.47	22.22	22.19	22.96	23.84	25.73	26.48	26.45	27.23	28.11
	6H	22.11	22.75	22.86	23.54	24.42	27.71	28.36	28.47	29.14	30.02
	8H	22.34	22.92	23.10	23.70	24.60	28.83	29.41	29.60	30.20	31.09
	12H	22.49	23.00	23.25	23.78	24.73	30.09	30.61	30.86	31.39	32.34
12H	4H	21.81	22.49	22.55	23.26	24.15	25.72	26.41	26.47	27.18	28.07
	6H	22.61	23.19	23.38	23.98	24.88	27.75	28.33	28.51	29.11	30.01
	8H	22.96	23.48	23.73	24.26	25.21	28.93	29.45	29.69	30.22	31.18