

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: P894938

Luminaire Tested: 8TMB-20HL-RNDU-UNV-L935

Issue Date: 11/11/2024

**Test Information**

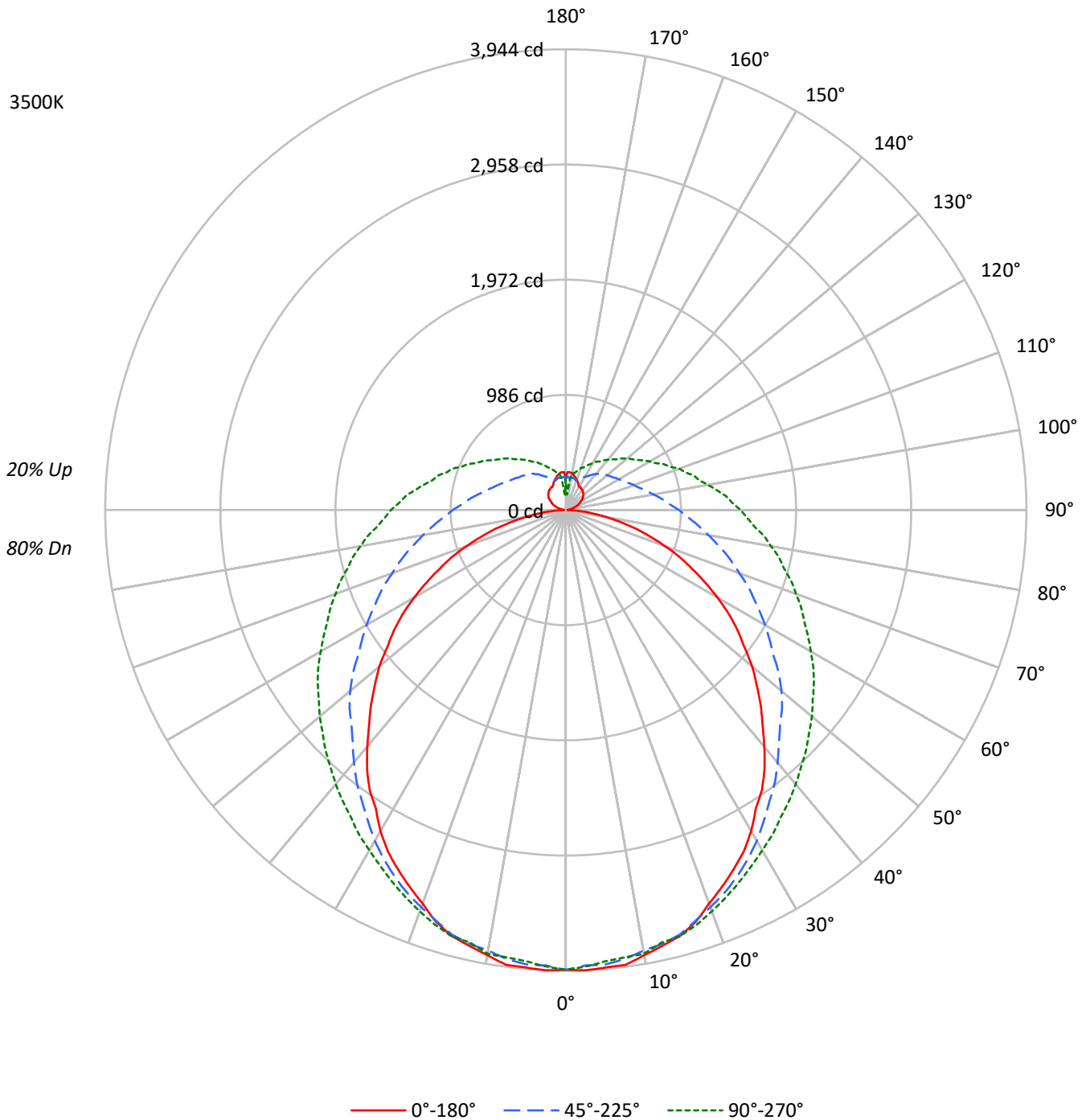
Test Method: LM-79-2019  
Report Number: P894938  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-20HL-RNDU-UNV-L935  
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 90CRI, CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16545.0 lumens  
Efficiency: N/A  
Efficacy: 114.1 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 (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

TEST NUMBER: P894938  
CATALOG NUMBER: 8TMB-20HL-RNDU-UNV-L935

### Luminous Intensity Polar Plot





TEST NUMBER: P894938  
 CATALOG NUMBER: 8TMB-20HL-RNDU-UNV-L935

**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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	80		
1	102	96	91	86	97	92	87	83	84	80	77	76	73	71	69	67	65	61		
2	92	82	75	68	87	79	72	66	72	66	61	66	61	57	60	56	53	49		
3	83	72	63	56	79	69	61	54	63	56	51	57	52	47	52	48	44	41		
4	76	63	54	47	72	60	52	45	55	48	43	51	45	40	46	41	37	34		
5	69	56	47	40	66	54	45	39	49	42	37	45	39	34	41	36	32	29		
6	64	50	41	35	61	48	40	34	44	37	32	41	35	30	38	32	28	26		
7	59	46	37	30	56	44	35	30	40	33	28	37	31	26	34	29	25	23		
8	55	41	33	27	52	40	32	26	37	30	25	34	28	24	31	26	22	20		
9	51	38	30	24	49	37	29	23	34	27	22	31	25	21	29	24	20	18		
10	48	35	27	22	46	34	26	21	31	25	20	29	23	19	27	22	18	16		

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

	0°	45°	90°
0°	13964	13964	13964
5°	13970	13431	13182
10°	13878	12877	12670
15°	13770	12470	12098
20°	13412	11905	11510
25°	13137	11405	10954
30°	12811	10857	10468
35°	12453	10260	10046
40°	11982	9750	9722
45°	11539	9262	9433
50°	11159	8967	9188
55°	10711	8499	8999
60°	10177	8209	8824
65°	9502	7953	8692
70°	8757	7751	8686
75°	7781	7691	8711
80°	6347	7682	8880
85°	4556	7897	9081

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11539 cd/sqm



TEST NUMBER: P894938  
 CATALOG NUMBER: 8TMB-20HL-RNDU-UNV-L935

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	372.6	2.3
10°-20°	1064.6	6.4
20°-30°	1598.6	9.7
30°-40°	1919.7	11.6
40°-50°	2030.5	12.3
50°-60°	1956.8	11.8
60°-70°	1736.1	10.5
70°-80°	1423.8	8.6
80°-90°	1102.0	6.7
90°-100°	859.7	5.2
100°-110°	684.4	4.1
110°-120°	547.0	3.3
120°-130°	431.4	2.6
130°-140°	329.2	2.0
140°-150°	231.5	1.4
150°-160°	148.0	0.9
160°-170°	82.9	0.5
170°-180°	26.3	0.2
0°-30°	3035.8	18.3
0°-40°	4955.5	30.0
0°-60°	8942.9	54.1
0°-90°	13204.6	79.8
90°-120°	2091.1	12.6
90°-150°	3083.2	18.6
90°-180°	3340.0	20.2
0°-180°	16545.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3936	3936	3936	3936	3936	
5°	3931	3942	3905	3934	3878	374
15°	3775	3777	3764	3788	3777	1061
25°	3396	3451	3465	3524	3513	1564
35°	2928	2972	3042	3168	3209	1825
45°	2360	2430	2595	2842	2910	1820
55°	1796	1886	2170	2465	2593	1603
65°	1195	1360	1772	2140	2252	1188
75°	623	896	1411	1792	1935	659
85°	145	546	1094	1488	1620	164
90°	15	434	968	1347	1497	15
95°	20	359	856	1230	1376	20
105°	66	291	685	1006	1136	70
115°	128	284	568	821	927	124
125°	178	288	489	674	746	157
135°	209	280	438	570	614	162
145°	227	258	361	478	506	142
155°	251	264	297	374	418	115
165°	297	291	280	273	339	83
175°	326	315	280	229	145	31
180°	266	266	266	266	266	



TEST NUMBER: P894938

CATALOG NUMBER: 8TMB-20HL-RNDU-UNV-L935

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3935.7	3935.7	3935.7	3935.7	3935.7
2.5°	3944.5	3957.7	3902.7	3935.7	3911.5
5°	3931.3	3942.3	3904.9	3933.5	3878.4
7.5°	3926.9	3922.5	3876.2	3913.7	3863.0
10°	3869.6	3885.0	3830.0	3880.6	3856.4
12.5°	3821.2	3852.0	3803.6	3843.2	3792.6
15°	3775.0	3777.2	3764.0	3788.2	3777.2
17.5°	3697.9	3717.8	3686.9	3742.0	3722.2
20°	3585.7	3647.3	3618.7	3669.3	3656.1
22.5°	3493.2	3524.1	3548.3	3605.5	3587.9
25°	3396.4	3451.4	3464.6	3524.1	3513.0
27.5°	3297.3	3321.5	3372.2	3436.0	3438.2
30°	3174.1	3200.5	3270.9	3343.6	3363.4
32.5°	3028.8	3112.4	3154.3	3264.3	3295.1
35°	2927.5	2971.6	3042.0	3167.5	3209.3
37.5°	2795.5	2846.1	2940.7	3088.2	3138.9
40°	2643.6	2718.4	2821.9	3004.6	3064.0
42.5°	2491.7	2579.8	2700.8	2914.3	2982.6
45°	2359.6	2430.1	2595.2	2841.7	2909.9
47.5°	2216.6	2302.4	2511.5	2747.0	2824.1
50°	2084.5	2172.5	2410.3	2659.0	2751.4
52.5°	1926.0	2027.3	2300.2	2557.7	2665.6
55°	1796.1	1886.4	2170.3	2465.3	2593.0
57.5°	1653.1	1754.3	2069.1	2397.1	2513.7
60°	1499.0	1626.7	1970.0	2311.2	2423.5
62.5°	1347.1	1499.0	1868.8	2227.6	2337.6
65°	1195.2	1360.3	1771.9	2139.5	2251.8
67.5°	1058.8	1237.1	1683.9	2042.7	2181.3
70°	904.7	1118.2	1580.4	1952.4	2097.7
72.5°	759.4	1010.3	1496.8	1879.8	2025.1
75°	622.9	895.9	1410.9	1791.7	1934.8
77.5°	486.5	788.0	1320.7	1712.5	1868.8
80°	356.6	700.0	1241.5	1635.5	1785.1
82.5°	246.5	622.9	1164.4	1571.6	1712.5
85°	145.3	545.9	1094.0	1488.0	1620.1
87.5°	66.0	484.3	1021.3	1424.1	1554.0
90°	15.4	433.6	968.5	1347.1	1496.8
92.5°	15.4	394.0	904.7	1289.9	1426.4
95°	19.8	358.8	856.3	1230.4	1375.7
97.5°	26.4	332.4	812.2	1175.4	1303.1
100°	37.4	314.8	763.8	1111.6	1237.1
102.5°	50.6	301.6	719.8	1054.4	1171.0
105°	66.0	290.6	684.6	1005.9	1135.8
107.5°	81.4	286.2	649.3	959.7	1069.8
110°	96.9	283.9	622.9	911.3	1034.5



TEST NUMBER: P894938  
 CATALOG NUMBER: 8TMB-20HL-RNDU-UNV-L935

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	112.3	281.7	594.3	867.3	966.3
115°	127.7	283.9	567.9	821.0	926.7
117.5°	136.5	283.9	543.7	781.4	869.5
120°	149.7	286.2	526.1	739.6	832.0
122.5°	162.9	286.2	508.5	708.8	790.2
125°	178.3	288.4	488.7	673.6	746.2
127.5°	187.1	288.4	477.7	649.3	715.4
130°	195.9	286.2	462.2	618.5	686.8
132.5°	204.7	281.7	453.4	589.9	653.7
135°	209.1	279.5	438.0	570.1	614.1
137.5°	215.7	272.9	422.6	541.5	589.9
140°	222.3	270.7	400.6	519.5	561.3
142.5°	222.3	264.1	385.2	499.7	537.1
145°	226.7	257.5	361.0	477.7	506.3
147.5°	231.1	255.3	343.4	455.6	490.9
150°	231.1	253.1	328.0	431.4	464.4
152.5°	235.5	255.3	312.6	409.4	440.2
155°	250.9	264.1	297.2	374.2	418.2
157.5°	264.1	272.9	281.7	347.8	394.0
160°	275.1	279.5	268.5	321.4	383.0
162.5°	283.9	286.2	270.7	297.2	358.8
165°	297.2	290.6	279.5	272.9	339.0
167.5°	308.2	295.0	283.9	266.3	323.6
170°	317.0	303.8	279.5	250.9	317.0
172.5°	323.6	306.0	281.7	235.5	266.3
175°	325.8	314.8	279.5	228.9	145.3
177.5°	323.6	317.0	288.4	226.7	129.9
180°	266.3	266.3	266.3	266.3	266.3



TEST NUMBER: P894938  
 CATALOG NUMBER: 8TMB-20HL-RNDU-UNV-L935

**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	16.23	17.54	16.87	18.21	18.97	19.72	21.03	20.36	21.69	22.46
	3H	17.68	18.88	18.33	19.55	20.35	22.59	23.79	23.24	24.46	25.26
	4H	18.15	19.29	18.82	19.97	20.79	24.07	25.21	24.74	25.89	26.70
	6H	18.43	19.49	19.11	20.18	21.01	25.68	26.74	26.36	27.44	28.27
	8H	18.48	19.51	19.18	20.22	21.05	26.54	27.56	27.23	28.28	29.11
	12H	18.50	19.48	19.21	20.19	21.05	27.49	28.46	28.19	29.17	30.03
4H	2H	17.38	18.52	18.05	19.21	20.02	20.05	21.19	20.72	21.88	22.69
	3H	19.08	20.06	19.77	20.78	21.61	23.15	24.13	23.84	24.85	25.68
	4H	19.68	20.58	20.38	21.31	22.16	24.82	25.72	25.52	26.44	27.30
	6H	20.09	20.89	20.81	21.64	22.50	26.63	27.42	27.34	28.17	29.04
	8H	20.20	20.95	20.92	21.70	22.58	27.60	28.35	28.32	29.10	29.98
	12H	20.26	20.94	21.00	21.71	22.60	28.67	29.36	29.42	30.12	31.01
8H	4H	20.73	21.48	21.45	22.23	23.11	24.99	25.75	25.72	26.49	27.37
	6H	21.38	22.02	22.13	22.80	23.68	26.98	27.62	27.73	28.41	29.29
	8H	21.60	22.18	22.37	22.97	23.86	28.10	28.68	28.86	29.46	30.36
	12H	21.75	22.27	22.52	23.05	24.00	29.36	29.88	30.13	30.65	31.61
12H	4H	21.07	21.76	21.82	22.53	23.41	24.99	25.68	25.73	26.44	27.33
	6H	21.88	22.46	22.64	23.24	24.14	27.01	27.59	27.77	28.38	29.27
	8H	22.23	22.74	22.99	23.52	24.47	28.19	28.71	28.96	29.49	30.44