

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: P894886

Luminaire Tested: 8TMB-20HL-FLTU-UNV-L835

Issue Date: 11/11/2024

**Test Information**

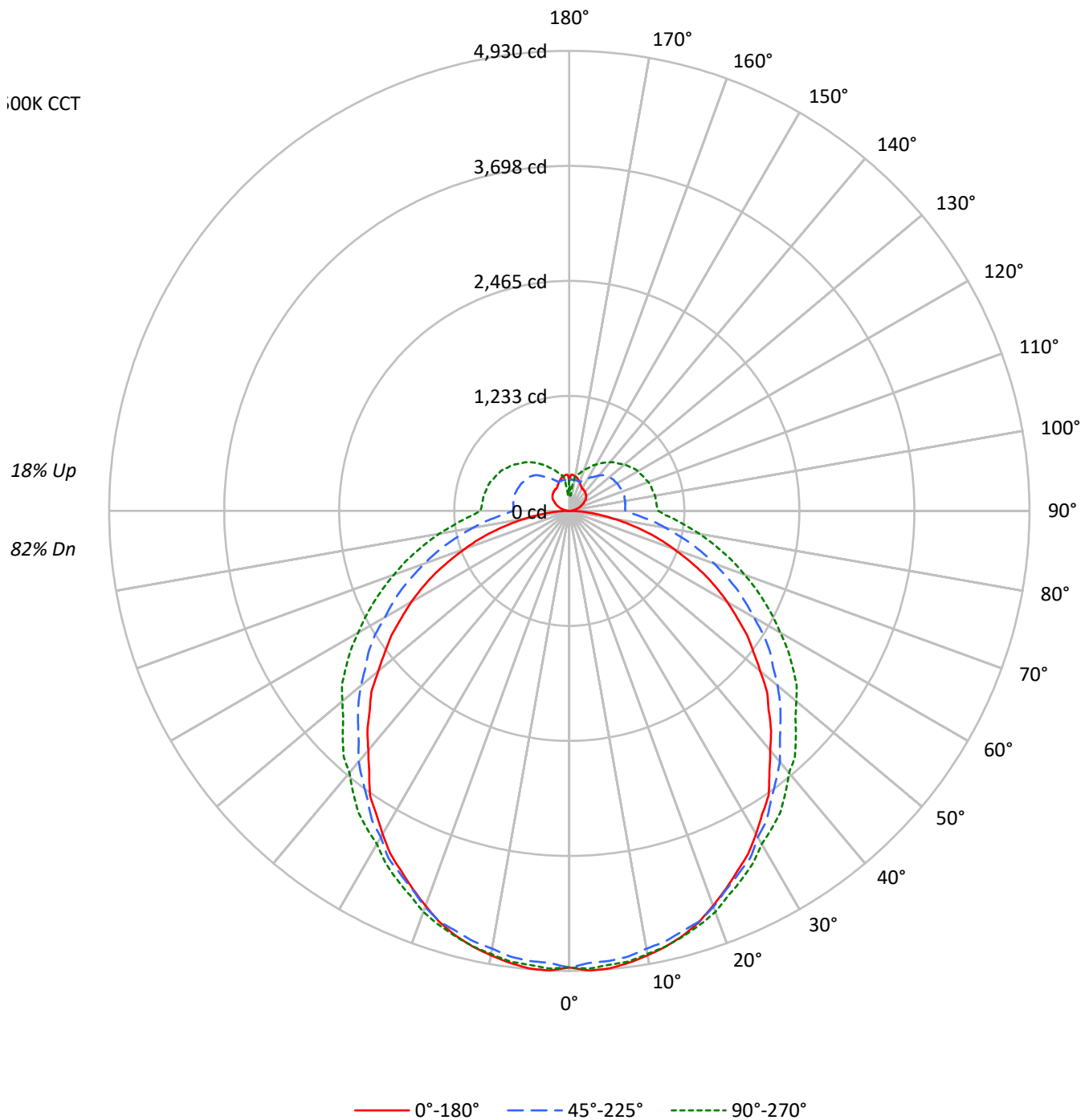
Test Method: LM-79-2019  
Report Number: P894886  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-20HL-FLTU-UNV-L835  
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 80CRI, 35  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18396.8 lumens  
Efficiency: N/A  
Efficacy: 126.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.26 / 1.36  
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

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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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	86	86	86	86	86	86	82
1	103	98	93	89	99	94	90	86	87	83	80	80	77	74	73	71	69	69	69	69	66
2	93	85	77	71	89	81	75	69	75	70	65	69	65	61	63	60	57	57	57	57	54
3	85	74	66	59	81	71	63	57	66	59	54	60	55	51	56	51	48	48	48	48	45
4	78	65	56	49	74	63	55	48	58	51	46	54	48	43	50	45	41	41	41	41	38
5	71	58	49	42	68	56	48	41	52	45	39	48	42	37	44	39	35	35	35	35	33
6	66	52	43	37	63	50	42	36	47	40	34	43	37	33	40	35	31	31	31	31	28
7	61	47	38	32	58	46	37	32	42	35	30	39	33	29	37	31	27	27	27	27	25
8	56	43	34	29	54	42	34	28	39	32	27	36	30	26	34	28	24	24	24	24	22
9	53	39	31	26	50	38	30	25	36	29	24	33	27	23	31	26	22	22	22	22	20
10	49	36	28	23	47	35	28	23	33	26	22	31	25	21	29	24	20	20	20	20	18

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

	0°	45°	90°
0°	17362	17362	17362
5°	17491	16652	16596
10°	17344	16016	15838
15°	17186	15454	15116
20°	16844	14858	14398
25°	16473	14123	13605
30°	16141	13403	12835
35°	15838	12716	12340
40°	15179	12128	11624
45°	14775	11424	11126
50°	14295	10834	10602
55°	13878	10273	10133
60°	13275	9501	9505
65°	12590	8881	8912
70°	11528	8110	8268
75°	10426	7342	7656
80°	8561	6500	7036
85°	6440	5687	6457

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14775 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	463.5	2.5
10°-20°	1323.6	7.2
20°-30°	1988.3	10.8
30°-40°	2383.0	13.0
40°-50°	2498.4	13.6
50°-60°	2343.7	12.7
60°-70°	1946.7	10.6
70°-80°	1391.9	7.6
80°-90°	825.4	4.5
90°-100°	605.5	3.3
100°-110°	596.6	3.2
110°-120°	556.5	3.0
120°-130°	488.3	2.7
130°-140°	393.2	2.1
140°-150°	282.2	1.5
150°-160°	179.4	1.0
160°-170°	99.4	0.5
170°-180°	31.3	0.2
0°-30°	3775.4	20.5
0°-40°	6158.4	33.5
0°-60°	11000.5	59.8
0°-90°	15164.4	82.4
90°-120°	1758.6	9.6
90°-150°	2922.3	15.9
90°-180°	3232.0	17.6
0°-180°	18396.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4893	4893	4893	4893	4893	
5°	4922	4912	4841	4865	4883	467
15°	4711	4683	4665	4698	4719	1326
25°	4259	4298	4290	4340	4363	1965
35°	3723	3736	3770	3879	3942	2311
45°	3021	3107	3201	3411	3432	2337
55°	2327	2402	2624	2837	2920	2070
65°	1584	1703	1979	2244	2309	1560
75°	835	1027	1347	1625	1700	882
85°	205	450	788	1053	1152	226
90°	8	273	601	858	952	17
95°	23	286	601	848	936	24
105°	83	315	611	837	915	88
115°	151	341	598	796	874	149
125°	216	351	580	738	806	189
135°	250	338	538	668	723	194
145°	270	312	442	588	629	170
155°	296	312	361	455	515	137
165°	354	343	333	330	413	99
175°	390	374	335	278	169	36
180°	322	322	322	322	322	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4893.4	4893.4	4893.4	4893.4	4893.4
2.5°	4929.8	4890.8	4849.2	4911.6	4909.0
5°	4922.0	4911.6	4841.4	4864.8	4883.0
7.5°	4885.6	4859.6	4818.0	4875.2	4870.0
10°	4836.2	4805.0	4763.4	4797.2	4820.6
12.5°	4781.6	4755.6	4727.0	4763.4	4779.0
15°	4711.4	4682.8	4664.6	4698.4	4719.2
17.5°	4620.4	4612.6	4615.2	4617.8	4651.6
20°	4503.4	4508.6	4516.4	4563.2	4573.6
22.5°	4383.8	4412.4	4391.6	4464.4	4459.2
25°	4259.0	4298.0	4290.2	4339.6	4363.0
27.5°	4147.2	4149.8	4196.6	4266.8	4259.0
30°	3999.0	4043.2	4038.0	4123.8	4123.8
32.5°	3848.2	3913.2	3934.0	4009.4	4035.4
35°	3723.4	3736.4	3770.2	3879.4	3941.8
37.5°	3520.6	3583.0	3637.6	3780.6	3804.0
40°	3349.0	3411.4	3510.2	3676.6	3663.6
42.5°	3200.8	3265.8	3338.6	3531.0	3577.8
45°	3021.3	3107.2	3200.8	3411.4	3432.2
47.5°	2875.7	2943.3	3065.6	3258.0	3284.0
50°	2670.3	2779.5	2912.1	3135.8	3174.8
52.5°	2488.3	2581.9	2750.9	2982.3	3070.8
55°	2327.1	2402.5	2623.5	2836.7	2919.9
57.5°	2129.5	2233.5	2464.9	2701.5	2776.9
60°	1955.3	2056.7	2280.3	2550.7	2610.5
62.5°	1770.7	1890.3	2132.1	2394.7	2462.3
65°	1583.5	1703.1	1978.7	2243.9	2308.9
67.5°	1380.7	1528.9	1809.7	2085.3	2152.9
70°	1190.9	1352.1	1653.7	1929.3	1996.9
72.5°	1019.2	1193.5	1500.3	1783.7	1856.5
75°	834.6	1027.1	1346.9	1625.1	1700.5
77.5°	655.2	863.2	1188.3	1469.1	1557.5
80°	481.0	709.8	1050.5	1320.9	1414.5
82.5°	338.0	572.0	923.0	1188.3	1274.1
85°	205.4	449.8	787.8	1053.1	1151.9
87.5°	91.0	348.4	681.2	943.8	1032.3
90°	7.8	273.0	600.6	858.0	951.6
92.5°	15.6	278.2	598.0	847.6	941.2
95°	23.4	286.0	600.6	847.6	936.0
97.5°	33.8	296.4	605.8	847.6	933.4
100°	49.4	301.6	608.4	847.6	933.4
102.5°	65.0	309.4	605.8	834.6	923.0
105°	83.2	314.6	611.0	837.2	915.2
107.5°	101.4	319.8	611.0	824.2	912.6
110°	119.6	327.6	605.8	816.4	902.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	135.2	335.4	603.2	800.8	884.0
115°	150.8	340.6	598.0	795.6	873.6
117.5°	166.4	343.2	595.4	782.6	858.0
120°	179.4	348.4	590.2	767.0	850.2
122.5°	195.0	351.0	582.4	751.4	834.6
125°	215.8	351.0	579.8	738.4	806.0
127.5°	226.2	353.6	569.4	722.8	793.0
130°	236.6	345.8	564.2	704.6	772.2
132.5°	244.4	343.2	551.2	686.4	746.2
135°	249.6	338.0	538.2	668.2	722.8
137.5°	257.4	330.2	520.0	655.2	707.2
140°	262.6	325.0	494.0	629.2	681.2
142.5°	267.8	317.2	468.0	605.8	655.2
145°	270.4	312.0	442.0	587.6	629.2
147.5°	278.2	304.2	426.4	564.2	600.6
150°	275.6	299.0	403.0	535.6	572.0
152.5°	283.4	306.8	382.2	496.6	548.6
155°	296.4	312.0	361.4	455.0	514.8
157.5°	309.4	322.4	345.8	418.6	488.8
160°	327.6	327.6	327.6	390.0	468.0
162.5°	338.0	338.0	330.2	356.2	439.4
165°	353.6	343.2	332.8	330.2	413.4
167.5°	369.2	348.4	338.0	319.8	395.2
170°	371.8	356.2	335.4	301.6	382.2
172.5°	382.2	364.0	332.8	286.0	296.4
175°	390.0	374.4	335.4	278.2	169.0
177.5°	387.4	374.4	343.2	278.2	163.8
180°	322.4	322.4	322.4	322.4	322.4



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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	17.67	18.99	18.28	19.62	20.33	20.26	21.58	20.87	22.21	22.92
	3H	19.10	20.30	19.72	20.94	21.69	22.65	23.86	23.28	24.50	25.25
	4H	19.56	20.70	20.20	21.35	22.11	23.80	24.94	24.44	25.59	26.35
	6H	19.83	20.89	20.48	21.55	22.33	24.95	26.01	25.61	26.67	27.45
	8H	19.88	20.89	20.55	21.58	22.36	25.54	26.55	26.20	27.23	28.01
	12H	19.89	20.87	20.57	21.54	22.35	26.17	27.14	26.84	27.82	28.63
4H	2H	18.55	19.69	19.20	20.34	21.11	20.60	21.74	21.24	22.39	23.15
	3H	20.20	21.17	20.86	21.86	22.64	23.21	24.18	23.87	24.86	25.65
	4H	20.78	21.67	21.46	22.37	23.18	24.51	25.40	25.18	26.09	26.90
	6H	21.16	21.94	21.85	22.66	23.48	25.84	26.62	26.53	27.33	28.16
	8H	21.25	21.98	21.95	22.70	23.53	26.51	27.25	27.21	27.96	28.80
	12H	21.29	21.96	22.01	22.70	23.54	27.25	27.92	27.98	28.66	29.50
8H	4H	21.42	22.16	22.12	22.87	23.71	24.66	25.39	25.36	26.11	26.94
	6H	21.96	22.58	22.69	23.33	24.17	26.13	26.75	26.86	27.51	28.34
	8H	22.13	22.68	22.87	23.44	24.29	26.93	27.49	27.67	28.24	29.09
	12H	22.23	22.73	22.97	23.47	24.39	27.83	28.32	28.57	29.07	29.98
12H	4H	21.59	22.25	22.31	22.99	23.83	24.65	25.32	25.37	26.05	26.89
	6H	22.21	22.77	22.95	23.53	24.38	26.15	26.71	26.89	27.46	28.32
	8H	22.46	22.95	23.20	23.70	24.61	27.00	27.49	27.74	28.24	29.15