

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: P893272

Luminaire Tested: 4MB-2SL-ASML-UNV-L950

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893272  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-33)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-2SL-ASML-UNV-L950  
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

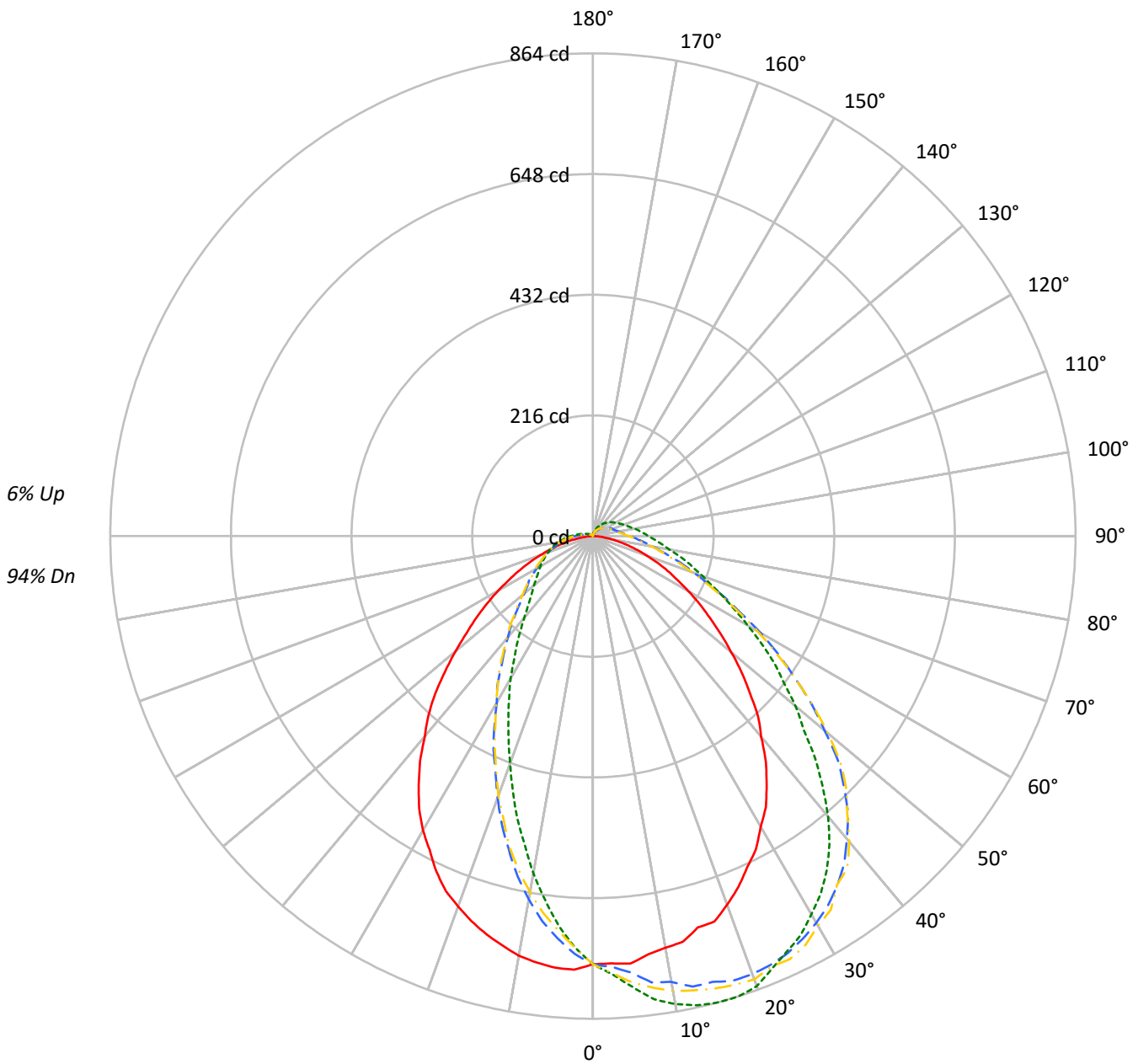
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1910.0 lumens  
Efficiency: N/A  
Efficacy: 138.4 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.07 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 13.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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

TEST NUMBER: P893272  
CATALOG NUMBER: 4MB-2SL-ASML-UNV-L950

### Luminous Intensity Polar Plot



— 0°-180°    - - 45°-225°    ··· 90°-270°    - · 135°-315°



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	97	97	97	94
1	107	103	98	94	104	100	96	92	95	91	88	90	87	85	85	83	81	85	83	81	79
2	98	90	83	78	95	88	82	76	83	78	74	79	75	71	75	72	69	75	72	69	66
3	90	80	72	65	87	78	70	64	74	68	63	70	65	61	67	63	59	67	63	59	57
4	83	71	63	56	80	69	61	55	66	59	54	63	57	53	60	55	51	60	55	51	49
5	76	64	55	49	74	62	54	48	60	53	47	57	51	46	55	49	45	55	49	45	43
6	71	58	49	43	68	56	48	42	54	47	42	52	46	41	50	44	40	50	44	40	38
7	66	53	44	38	64	51	43	38	49	42	37	48	41	36	46	40	36	46	40	36	34
8	61	48	40	34	59	47	39	34	45	38	33	44	37	33	42	37	32	42	37	32	30
9	57	44	36	31	56	43	36	31	42	35	30	40	34	30	39	33	29	39	33	29	28
10	54	41	33	28	52	40	33	28	39	32	28	38	31	27	36	31	27	36	31	27	25

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

	0°	90°	180°	270°
0°	7804	7804	7804	7804
5°	7833	7953	7907	6874
10°	7693	8122	7843	5858
15°	7584	8093	7713	4899
20°	7525	7933	7557	4007
25°	7240	7565	7339	3297
30°	6936	7230	7025	2724
35°	6593	6824	6612	2220
40°	6069	6242	6065	1820
45°	5551	5510	5579	1550
50°	4936	4808	4913	1401
55°	4349	4213	4320	1287
60°	3815	3593	3780	1216
65°	3341	3094	3262	1156
70°	2840	2712	2744	1105
75°	2314	2464	2254	1064
80°	1787	2219	1623	991
85°	1229	2141	989	929

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 7720 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.0	3.8
10°-20°	200.1	10.5
20°-30°	287.9	15.1
30°-40°	326.7	17.1
40°-50°	312.2	16.3
50°-60°	253.7	13.3
60°-70°	177.0	9.3
70°-80°	109.7	5.7
80°-90°	62.9	3.3
90°-100°	37.6	2.0
100°-110°	24.7	1.3
110°-120°	17.3	0.9
120°-130°	12.5	0.7
130°-140°	8.3	0.4
140°-150°	4.7	0.2
150°-160°	2.1	0.1
160°-170°	0.6	0.0
170°-180°	0.1	0.0
0°-30°	560.0	29.3
0°-40°	886.7	46.4
0°-60°	1452.6	76.0
0°-90°	1802.1	94.3
90°-120°	79.6	4.2
90°-150°	105.2	5.5
90°-180°	108.0	5.7
0°-180°	1910.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	766	766	766	766	766	
5°	768	810	776	700	768	72
15°	725	864	738	523	725	206
25°	654	821	663	358	654	302
35°	542	730	544	237	542	338
45°	398	563	400	158	398	307
55°	256	397	254	121	256	230
65°	148	258	144	96	148	147
75°	66	173	64	74	66	71
85°	14	117	12	51	14	16
90°	0	99	0	39	0	1
95°	1	86	0	30	1	1
105°	0	66	0	16	0	1
115°	0	53	0	9	0	0
125°	0	43	0	6	0	0
135°	0	34	0	4	0	0
145°	0	24	0	3	0	0
155°	1	15	0	2	1	0
165°	1	7	0	1	1	0
175°	1	0	0	0	1	0
180°	0	0	0	0	0	



TEST NUMBER: P893272  
 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L950

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	766.3	766.3	766.3	766.3	766.3	766.3	766.3	766.3	766.3	766.3	766.3
2.5°	765.6	771.3	771.8	789.9	784.6	791.4	782.9	784.4	776.9	774.9	748.8
5°	768.3	780.6	783.9	815.0	810.0	813.5	801.7	793.2	775.6	765.1	722.9
7.5°	755.3	787.7	805.7	827.8	836.1	838.8	815.0	799.2	770.1	744.2	694.8
10°	748.0	792.7	810.2	843.4	850.6	845.4	826.8	800.7	762.6	720.9	660.2
12.5°	744.0	795.4	826.0	859.9	860.2	854.6	832.8	804.7	750.3	695.8	623.5
15°	725.4	794.9	826.3	860.7	864.4	860.9	838.6	802.0	737.7	664.7	581.4
17.5°	723.4	793.7	834.3	870.5	864.2	861.7	842.1	800.7	722.7	633.1	541.7
20°	702.3	790.9	834.3	859.4	857.4	858.4	844.4	798.9	705.3	599.0	498.3
22.5°	680.0	787.7	830.8	849.9	837.8	856.2	834.3	794.2	687.8	563.3	455.2
25°	653.7	782.4	824.0	836.3	821.0	835.3	835.1	786.9	662.7	524.9	421.1
27.5°	632.3	774.1	813.0	831.6	805.5	817.8	824.8	778.1	633.1	487.0	380.9
30°	600.5	763.6	799.7	802.5	781.9	797.4	805.5	767.1	608.2	444.1	344.3
32.5°	576.1	751.5	783.4	779.6	759.0	779.6	792.7	756.0	578.6	406.5	318.4
35°	542.0	737.0	763.1	743.2	729.7	746.8	762.1	744.2	543.5	366.4	285.3
37.5°	508.9	724.2	738.7	714.1	695.6	714.6	748.3	722.2	508.1	334.5	260.7
40°	468.5	694.8	706.9	673.5	654.9	683.0	713.9	703.1	468.2	301.4	236.9
42.5°	437.9	673.0	676.5	630.8	608.7	638.6	673.7	676.0	435.9	271.5	215.8
45°	397.5	642.4	635.8	585.7	562.6	589.4	642.1	648.1	399.5	245.7	195.2
47.5°	361.1	608.2	595.4	536.7	510.9	542.8	601.2	617.0	358.8	221.8	175.9
50°	323.2	570.1	541.7	491.1	473.7	489.6	549.3	575.4	321.7	198.2	161.1
52.5°	288.6	527.9	492.8	447.4	430.1	443.1	494.8	534.0	284.8	178.4	148.0
55°	255.9	485.8	440.4	400.2	396.7	400.7	439.6	484.5	254.2	160.8	139.8
57.5°	226.8	434.6	393.2	363.6	357.3	360.6	387.4	433.6	224.6	143.3	127.7
60°	197.5	382.2	346.5	323.7	320.2	322.7	340.0	383.9	195.7	128.5	116.4
62.5°	170.9	329.5	297.8	289.3	286.8	286.8	294.1	334.2	168.6	113.4	107.9
65°	148.0	284.3	260.5	257.2	258.0	257.7	253.2	279.0	144.5	100.1	100.4
67.5°	125.0	236.4	223.1	227.1	230.1	228.8	219.3	232.1	121.9	88.1	93.6
70°	103.6	195.2	192.7	201.7	208.8	202.2	188.4	189.7	100.1	76.3	84.8
72.5°	83.6	157.8	169.4	181.9	188.7	181.4	162.3	156.8	80.5	65.5	76.8
75°	65.7	127.0	145.3	163.9	172.6	163.4	141.3	122.5	64.0	55.2	70.3
77.5°	50.2	100.6	124.2	145.8	154.3	146.3	123.0	95.6	46.9	46.4	63.2
80°	35.9	79.5	110.2	131.0	138.8	131.0	106.6	75.5	32.6	37.1	55.7
82.5°	23.6	61.5	95.9	119.2	127.7	118.2	92.6	58.2	20.8	30.1	50.2
85°	14.3	48.7	83.6	107.1	116.9	107.6	81.0	44.2	11.5	23.1	43.7
87.5°	6.3	37.6	74.5	98.9	107.6	99.1	72.3	34.6	4.8	18.1	37.4
90°	0.5	29.9	65.7	91.1	98.9	90.8	64.0	28.1	0.0	13.0	32.1
92.5°	0.5	25.6	60.2	84.3	93.1	84.1	57.7	23.1	0.0	9.5	27.1
95°	0.8	21.6	54.7	79.0	86.1	78.3	52.7	19.8	0.0	6.5	22.8
97.5°	0.8	19.6	50.2	73.8	81.6	73.3	48.2	17.8	0.0	4.8	18.6
100°	0.5	18.1	46.7	68.8	76.0	68.3	44.7	16.1	0.0	3.0	15.1
102.5°	0.5	16.8	43.7	64.5	70.3	63.7	41.7	15.1	0.0	2.5	12.3
105°	0.5	16.1	40.9	59.5	66.2	59.5	39.1	14.1	0.0	2.0	9.5
107.5°	0.5	15.1	38.9	56.7	62.2	56.2	37.1	13.3	0.0	2.0	7.8
110°	0.5	14.3	37.1	52.7	59.0	53.2	35.4	12.0	0.0	1.3	6.3



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CATALOG NUMBER: 4MB-2SL-ASML-UNV-L950

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	0.5	13.0	35.4	49.9	56.0	50.2	33.9	11.0	0.0	1.3	5.5
115°	0.5	11.8	33.9	48.2	52.7	47.7	32.4	9.8	0.0	1.0	5.0
117.5°	0.5	11.0	32.9	45.9	50.4	45.4	31.1	9.3	0.0	1.0	4.8
120°	0.5	10.5	31.4	43.7	47.2	43.2	29.6	8.8	0.0	1.0	4.5
122.5°	0.5	10.0	30.1	41.7	45.4	41.4	28.4	8.5	0.0	0.8	4.0
125°	0.5	9.5	28.4	39.4	42.9	38.9	26.1	8.3	0.0	0.5	3.5
127.5°	0.5	9.0	26.6	37.6	40.9	37.1	24.6	8.0	0.0	0.5	3.3
130°	0.5	8.8	24.3	35.4	38.6	34.9	22.8	8.0	0.0	0.5	3.0
132.5°	0.5	8.5	21.8	33.1	36.6	32.6	21.1	7.8	0.0	0.5	2.5
135°	0.5	8.3	19.3	30.9	34.1	30.4	19.6	7.5	0.0	0.5	2.3
137.5°	0.5	7.8	17.1	28.4	31.6	27.9	18.6	7.0	0.0	0.5	2.0
140°	0.5	7.3	15.3	26.3	29.1	25.6	17.1	6.5	0.0	0.3	1.5
142.5°	0.5	6.5	13.8	23.8	26.6	23.3	15.3	5.5	0.0	0.3	1.5
145°	0.5	5.8	12.5	20.8	24.1	20.8	14.3	5.0	0.0	0.3	1.3
147.5°	0.5	5.3	11.3	17.6	21.8	19.1	12.8	4.3	0.0	0.3	1.0
150°	0.5	4.8	9.8	14.8	19.3	16.8	11.8	3.8	0.0	0.0	0.8
152.5°	0.5	4.3	8.5	12.3	17.3	15.3	10.5	3.3	0.0	0.0	0.5
155°	0.8	4.0	7.3	10.8	15.1	13.3	8.8	2.8	0.0	0.0	0.5
157.5°	0.8	3.5	6.0	8.8	13.3	11.5	7.0	2.3	0.0	0.0	0.3
160°	0.8	3.3	5.0	6.8	11.0	9.5	5.8	1.8	0.0	0.0	0.3
162.5°	0.8	3.0	4.3	5.0	9.0	7.5	4.5	1.3	0.0	0.0	0.3
165°	0.8	2.5	3.8	3.5	7.0	5.8	3.5	0.8	0.0	0.0	0.0
167.5°	0.8	2.3	3.0	2.5	5.3	4.3	2.5	0.5	0.0	0.0	0.0
170°	0.8	1.8	2.5	1.8	1.5	2.8	1.5	0.3	0.0	0.0	0.0
172.5°	0.8	1.5	2.0	1.3	0.5	1.5	0.8	0.0	0.0	0.0	0.0
175°	0.8	1.3	1.3	0.8	0.3	0.5	0.0	0.0	0.0	0.0	0.0
177.5°	0.8	1.0	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3



TEST NUMBER: P893272

CATALOG NUMBER: 4MB-2SL-ASML-UNV-L950

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	766.3	766.3	766.3	766.3	766.3	766.3
2.5°	745.2	737.0	729.4	737.5	743.2	765.6
5°	708.9	700.1	701.1	708.4	727.7	768.3
7.5°	671.2	656.7	660.2	680.5	709.1	755.3
10°	626.8	613.5	616.8	647.4	687.5	748.0
12.5°	587.2	564.8	583.9	612.8	662.4	744.0
15°	540.7	523.2	533.5	576.1	638.4	725.4
17.5°	490.6	477.0	489.3	531.7	608.7	723.4
20°	451.9	433.1	447.6	494.3	572.1	702.3
22.5°	408.5	394.2	409.5	452.4	534.7	680.0
25°	372.9	357.8	373.1	415.8	501.6	653.7
27.5°	338.2	324.4	338.2	377.4	468.7	632.3
30°	307.9	294.6	308.6	346.3	430.3	600.5
32.5°	279.5	262.5	280.5	316.9	396.5	576.1
35°	250.2	237.4	250.9	291.3	358.8	542.0
37.5°	225.8	212.5	228.6	263.2	327.0	508.9
40°	202.7	191.0	203.8	240.6	299.9	468.5
42.5°	184.7	172.9	185.9	220.1	272.5	437.9
45°	167.1	158.3	168.9	197.5	244.9	397.5
47.5°	154.3	146.8	155.6	180.9	221.8	361.1
50°	143.3	138.0	144.3	164.4	198.0	323.2
52.5°	133.5	128.2	135.5	151.6	179.2	288.6
55°	126.0	121.2	126.7	139.5	160.3	255.9
57.5°	117.7	114.7	118.9	126.7	145.5	226.8
60°	111.7	108.4	112.9	119.2	128.7	197.5
62.5°	104.9	103.1	105.9	110.9	115.9	170.9
65°	98.9	96.4	99.9	101.6	101.1	148.0
67.5°	92.3	91.6	93.6	93.8	90.1	125.0
70°	85.6	85.1	87.6	86.1	78.3	103.6
72.5°	80.0	80.0	81.6	78.5	68.3	83.6
75°	74.0	74.5	75.8	72.3	57.5	65.7
77.5°	68.5	69.0	69.3	64.5	48.2	50.2
80°	62.2	62.0	64.5	58.5	39.1	35.9
82.5°	56.7	55.7	57.2	51.2	31.6	23.6
85°	50.4	50.7	51.7	44.7	25.3	14.3
87.5°	45.4	45.4	46.4	39.4	19.1	6.3
90°	39.4	38.9	40.4	33.4	14.3	0.5
92.5°	34.4	34.4	35.4	28.6	10.5	0.5
95°	29.4	29.6	30.4	23.6	8.0	0.8
97.5°	25.1	25.3	26.3	20.1	5.8	0.8
100°	21.3	21.6	22.1	16.1	4.5	0.5
102.5°	17.8	18.6	18.6	13.3	3.5	0.5
105°	15.1	16.1	15.6	10.8	3.3	0.5
107.5°	12.5	13.5	13.5	8.8	3.3	0.5
110°	10.3	11.8	11.5	7.5	2.5	0.5





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 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L950

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	8.8	10.0	9.3	6.5	2.5	0.5
115°	7.5	8.8	8.3	6.0	2.3	0.5
117.5°	6.8	7.5	7.5	5.8	2.3	0.5
120°	6.3	7.0	6.8	5.5	2.3	0.5
122.5°	5.8	6.3	6.3	5.0	2.0	0.5
125°	5.5	5.8	6.0	4.5	2.0	0.5
127.5°	5.3	5.8	5.8	4.3	1.8	0.5
130°	4.8	5.3	5.3	4.0	1.8	0.5
132.5°	4.3	4.8	4.8	3.8	1.8	0.5
135°	4.0	4.5	4.5	3.5	1.8	0.5
137.5°	3.8	4.0	4.0	3.3	1.8	0.5
140°	3.3	3.8	3.8	3.0	1.8	0.5
142.5°	3.0	3.5	3.5	2.8	1.5	0.5
145°	2.8	3.0	3.3	2.5	1.5	0.5
147.5°	2.3	2.8	3.0	2.3	1.5	0.5
150°	1.8	2.5	2.5	2.3	1.5	0.5
152.5°	1.3	2.3	2.3	2.0	1.3	0.5
155°	1.0	1.8	2.0	1.8	1.3	0.8
157.5°	0.8	1.5	1.8	1.8	1.3	0.8
160°	0.5	1.3	1.5	1.5	1.0	0.8
162.5°	0.3	1.0	1.3	1.5	1.0	0.8
165°	0.0	0.8	1.0	1.3	1.0	0.8
167.5°	0.0	0.5	0.8	1.0	0.8	0.8
170°	0.0	0.3	0.5	0.8	0.8	0.8
172.5°	0.0	0.0	0.3	0.5	0.5	0.8
175°	0.0	0.0	0.0	0.3	0.5	0.8
177.5°	0.0	0.0	0.0	0.3	0.5	0.8
180°	0.3	0.3	0.3	0.3	0.3	0.3



TEST NUMBER: P893272  
 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L950

**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	16.06	17.52	16.51	17.95	18.40	18.31	19.77	18.77	20.21	20.66
	3H	16.88	18.20	17.34	18.64	19.14	20.02	21.33	20.48	21.78	22.27
	4H	17.08	18.32	17.57	18.78	19.30	20.85	22.10	21.34	22.56	23.07
	6H	17.17	18.32	17.67	18.80	19.33	21.73	22.88	22.23	23.36	23.88
	8H	17.17	18.27	17.69	18.77	19.31	22.20	23.30	22.72	23.80	24.33
	12H	17.16	18.22	17.68	18.71	19.27	22.74	23.80	23.26	24.29	24.85
4H	2H	16.49	17.73	16.98	18.20	18.71	18.68	19.92	19.17	20.38	20.90
	3H	17.59	18.63	18.09	19.14	19.67	20.56	21.61	21.07	22.11	22.65
	4H	17.93	18.88	18.45	19.39	19.96	21.54	22.48	22.06	23.00	23.57
	6H	18.12	18.95	18.66	19.49	20.08	22.58	23.41	23.12	23.95	24.54
	8H	18.15	18.93	18.70	19.47	20.06	23.14	23.92	23.69	24.46	25.06
	12H	18.15	18.86	18.72	19.43	20.03	23.80	24.50	24.37	25.07	25.67
8H	4H	18.26	19.04	18.81	19.58	20.18	21.68	22.46	22.23	23.00	23.60
	6H	18.58	19.23	19.16	19.82	20.42	22.85	23.50	23.43	24.09	24.69
	8H	18.67	19.26	19.26	19.86	20.47	23.53	24.12	24.12	24.72	25.33
	12H	18.72	19.25	19.32	19.83	20.52	24.34	24.87	24.94	25.45	26.14
12H	4H	18.33	19.04	18.90	19.61	20.21	21.67	22.37	22.24	22.95	23.55
	6H	18.72	19.31	19.31	19.91	20.52	22.86	23.45	23.46	24.05	24.67
	8H	18.87	19.40	19.47	19.98	20.67	23.60	24.12	24.19	24.71	25.39