

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: P893382

Luminaire Tested: 4MB-3SL-ASML-UNV-L935

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893382  
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-3SL-ASML-UNV-L935  
Description: 3000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

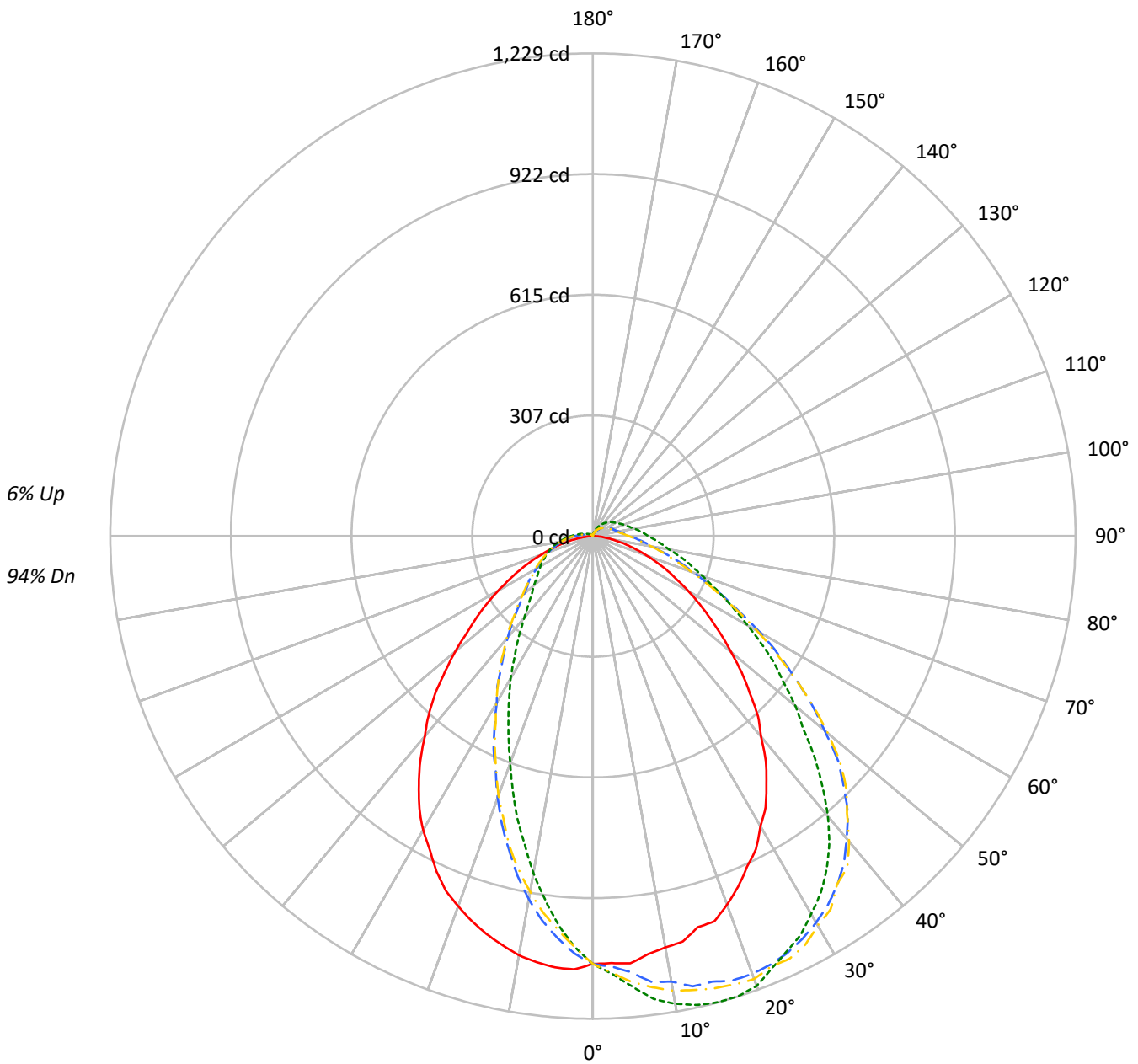
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2715.0 lumens  
Efficiency: N/A  
Efficacy: 128.7 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): 21.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 5.2  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P893382  
CATALOG NUMBER: 4MB-3SL-ASML-UNV-L935

### 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	81	81	81	79
2	98	90	83	78	95	88	82	76	83	78	74	79	75	71	75	72	69	69	69	69	66
3	90	80	72	65	87	78	70	64	74	68	63	70	65	61	67	63	59	59	59	59	57
4	83	71	63	56	80	69	61	55	66	59	54	63	57	53	60	55	51	51	51	51	49
5	76	64	55	49	74	62	54	48	60	53	47	57	51	46	55	49	45	45	45	45	43
6	71	58	49	43	68	56	48	42	54	47	42	52	46	41	50	44	40	40	40	40	38
7	66	53	44	38	64	51	43	38	49	42	37	48	41	36	46	40	36	36	36	36	34
8	61	48	40	34	59	47	39	34	45	38	33	44	37	33	42	37	32	32	32	32	30
9	57	44	36	31	56	43	36	31	42	35	30	40	34	30	39	33	29	29	29	29	28
10	54	41	33	28	52	40	33	28	39	32	28	38	31	27	36	31	27	27	27	27	25

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

	0°	90°	180°	270°
0°	11094	11094	11094	11094
5°	11135	11305	11240	9771
10°	10935	11546	11148	8328
15°	10782	11505	10964	6963
20°	10698	11278	10743	5696
25°	10291	10755	10432	4687
30°	9858	10277	9986	3872
35°	9372	9699	9399	3155
40°	8625	8872	8622	2587
45°	7890	7832	7929	2205
50°	7016	6836	6984	1992
55°	6182	5988	6140	1830
60°	5422	5107	5374	1729
65°	4750	4398	4637	1643
70°	4038	3854	3901	1570
75°	3293	3503	3205	1512
80°	2539	3152	2310	1408
85°	1745	3045	1410	1319

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 10974 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.4	3.8
10°-20°	284.5	10.5
20°-30°	409.2	15.1
30°-40°	464.4	17.1
40°-50°	443.8	16.3
50°-60°	360.6	13.3
60°-70°	251.6	9.3
70°-80°	155.9	5.7
80°-90°	89.4	3.3
90°-100°	53.4	2.0
100°-110°	35.1	1.3
110°-120°	24.6	0.9
120°-130°	17.8	0.7
130°-140°	11.8	0.4
140°-150°	6.7	0.2
150°-160°	3.0	0.1
160°-170°	0.9	0.0
170°-180°	0.1	0.0
0°-30°	796.0	29.3
0°-40°	1260.4	46.4
0°-60°	2064.8	76.0
0°-90°	2561.6	94.4
90°-120°	113.1	4.2
90°-150°	149.5	5.5
90°-180°	153.0	5.6
0°-180°	2715.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1089	1089	1089	1089	1089	
5°	1092	1151	1102	995	1092	103
15°	1031	1229	1049	744	1031	293
25°	929	1167	942	509	929	429
35°	770	1037	773	337	770	480
45°	565	800	568	225	565	436
55°	364	564	361	172	364	327
65°	210	367	205	137	210	209
75°	94	245	91	106	94	101
85°	20	166	16	72	20	23
90°	1	140	0	55	1	2
95°	1	122	0	42	1	1
105°	1	94	0	23	1	1
115°	1	75	0	12	1	1
125°	1	61	0	8	1	1
135°	1	48	0	6	1	1
145°	1	34	0	4	1	0
155°	1	21	0	2	1	0
165°	1	10	0	1	1	0
175°	1	0	0	0	1	0
180°	0	0	0	0	0	



TEST NUMBER: P893382  
 CATALOG NUMBER: 4MB-3SL-ASML-UNV-L935

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1089.3	1089.3	1089.3	1089.3	1089.3	1089.3	1089.3	1089.3	1089.3	1089.3	1089.3
2.5°	1088.2	1096.4	1097.2	1122.8	1115.3	1125.0	1112.8	1115.0	1104.3	1101.4	1064.3
5°	1092.2	1109.6	1114.3	1158.5	1151.4	1156.4	1139.6	1127.5	1102.5	1087.5	1027.6
7.5°	1073.6	1119.6	1145.3	1176.7	1188.5	1192.4	1158.5	1136.0	1094.7	1057.9	987.6
10°	1063.3	1126.8	1151.7	1198.8	1209.1	1201.7	1175.3	1138.2	1084.0	1024.7	938.4
12.5°	1057.6	1130.7	1174.2	1222.3	1222.7	1214.9	1183.8	1143.9	1066.5	989.1	886.4
15°	1031.2	1130.0	1174.6	1223.4	1228.8	1223.8	1192.0	1140.0	1048.6	944.8	826.4
17.5°	1028.3	1128.2	1186.0	1237.3	1228.4	1224.8	1197.0	1138.2	1027.2	899.9	770.1
20°	998.4	1124.3	1186.0	1221.6	1218.8	1220.2	1200.2	1135.7	1002.6	851.4	708.4
22.5°	966.6	1119.6	1181.0	1208.1	1191.0	1217.0	1186.0	1128.9	977.7	800.7	647.0
25°	929.2	1112.1	1171.3	1188.8	1167.1	1187.4	1187.0	1118.6	942.0	746.2	598.5
27.5°	898.8	1100.4	1155.6	1182.0	1144.9	1162.4	1172.4	1106.1	899.9	692.3	541.4
30°	853.5	1085.4	1136.7	1140.7	1111.4	1133.5	1144.9	1090.4	864.6	631.3	489.4
32.5°	818.9	1068.3	1113.6	1108.2	1079.0	1108.2	1126.8	1074.7	822.5	577.8	452.6
35°	770.4	1047.6	1084.7	1056.5	1037.2	1061.5	1083.2	1057.9	772.6	520.8	405.5
37.5°	723.3	1029.4	1050.1	1015.1	988.7	1015.8	1063.6	1026.5	722.3	475.5	370.6
40°	665.9	987.6	1004.8	957.3	930.9	970.9	1014.8	999.4	665.6	428.4	336.7
42.5°	622.4	956.6	961.6	896.7	865.3	907.8	957.7	960.9	619.6	385.9	306.7
45°	565.0	913.1	903.8	832.5	799.7	837.8	912.7	921.3	567.8	349.2	277.5
47.5°	513.3	864.6	846.4	762.9	726.2	771.5	854.6	877.1	510.1	315.3	250.0
50°	459.4	810.4	770.1	698.0	673.4	695.9	780.8	817.9	457.3	281.8	229.0
52.5°	410.2	750.5	700.5	636.0	611.4	629.9	703.4	759.0	404.8	253.6	210.4
55°	363.8	690.5	626.0	568.9	563.9	569.6	624.9	688.8	361.3	228.6	198.7
57.5°	322.4	617.8	558.9	516.8	507.9	512.6	550.7	616.3	319.2	203.7	181.6
60°	280.7	543.2	492.6	460.1	455.1	458.7	483.3	545.7	278.2	182.6	165.5
62.5°	242.9	468.3	423.4	411.3	407.7	407.7	418.0	475.1	239.7	161.2	153.4
65°	210.4	404.1	370.2	365.6	366.7	366.3	359.9	396.6	205.4	142.3	142.7
67.5°	177.6	336.0	317.1	322.8	327.1	325.3	311.7	329.9	173.3	125.2	133.0
70°	147.3	277.5	273.9	286.8	296.8	287.5	267.9	269.7	142.3	108.4	120.6
72.5°	118.8	224.4	240.8	258.6	268.2	257.9	230.8	222.9	114.5	93.1	109.1
75°	93.5	180.5	206.5	232.9	245.4	232.2	200.8	174.1	91.0	78.5	99.9
77.5°	71.3	143.0	176.6	207.2	219.4	207.9	174.8	135.9	66.7	66.0	89.9
80°	51.0	113.1	156.6	186.2	197.2	186.2	151.6	107.4	46.4	52.8	79.2
82.5°	33.5	87.4	136.3	169.4	181.6	168.0	131.6	82.8	29.6	42.8	71.3
85°	20.3	69.2	118.8	152.3	166.2	153.0	115.2	62.8	16.4	32.8	62.1
87.5°	8.9	53.5	105.9	140.5	153.0	140.9	102.7	49.2	6.8	25.7	53.1
90°	0.7	42.4	93.5	129.5	140.5	129.1	91.0	39.9	0.0	18.5	45.7
92.5°	0.7	36.4	85.6	119.8	132.3	119.5	82.0	32.8	0.0	13.6	38.5
95°	1.1	30.7	77.8	112.4	122.3	111.3	74.9	28.2	0.0	9.3	32.5
97.5°	1.1	27.8	71.3	104.9	115.9	104.2	68.5	25.3	0.0	6.8	26.4
100°	0.7	25.7	66.3	97.7	108.1	97.0	63.5	22.8	0.0	4.3	21.4
102.5°	0.7	23.9	62.1	91.7	99.9	90.6	59.2	21.4	0.0	3.6	17.5
105°	0.7	22.8	58.1	84.5	94.2	84.5	55.6	20.0	0.0	2.9	13.6
107.5°	0.7	21.4	55.3	80.6	88.5	79.9	52.8	18.9	0.0	2.9	11.1
110°	0.7	20.3	52.8	74.9	83.8	75.6	50.3	17.1	0.0	1.8	8.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	0.7	18.5	50.3	71.0	79.5	71.3	48.2	15.7	0.0	1.8	7.8
115°	0.7	16.8	48.2	68.5	74.9	67.8	46.0	13.9	0.0	1.4	7.1
117.5°	0.7	15.7	46.7	65.3	71.7	64.6	44.2	13.2	0.0	1.4	6.8
120°	0.7	15.0	44.6	62.1	67.1	61.3	42.1	12.5	0.0	1.4	6.4
122.5°	0.7	14.3	42.8	59.2	64.6	58.9	40.3	12.1	0.0	1.1	5.7
125°	0.7	13.6	40.3	56.0	61.0	55.3	37.1	11.8	0.0	0.7	5.0
127.5°	0.7	12.8	37.8	53.5	58.1	52.8	35.0	11.4	0.0	0.7	4.6
130°	0.7	12.5	34.6	50.3	54.9	49.6	32.5	11.4	0.0	0.7	4.3
132.5°	0.7	12.1	31.0	47.1	52.1	46.4	30.0	11.1	0.0	0.7	3.6
135°	0.7	11.8	27.5	43.9	48.5	43.2	27.8	10.7	0.0	0.7	3.2
137.5°	0.7	11.1	24.3	40.3	44.9	39.6	26.4	10.0	0.0	0.7	2.9
140°	0.7	10.3	21.8	37.5	41.4	36.4	24.3	9.3	0.0	0.4	2.1
142.5°	0.7	9.3	19.6	33.9	37.8	33.2	21.8	7.8	0.0	0.4	2.1
145°	0.7	8.2	17.8	29.6	34.2	29.6	20.3	7.1	0.0	0.4	1.8
147.5°	0.7	7.5	16.1	25.0	31.0	27.1	18.2	6.1	0.0	0.4	1.4
150°	0.7	6.8	13.9	21.0	27.5	23.9	16.8	5.4	0.0	0.0	1.1
152.5°	0.7	6.1	12.1	17.5	24.6	21.8	15.0	4.6	0.0	0.0	0.7
155°	1.1	5.7	10.3	15.3	21.4	18.9	12.5	3.9	0.0	0.0	0.7
157.5°	1.1	5.0	8.6	12.5	18.9	16.4	10.0	3.2	0.0	0.0	0.4
160°	1.1	4.6	7.1	9.6	15.7	13.6	8.2	2.5	0.0	0.0	0.4
162.5°	1.1	4.3	6.1	7.1	12.8	10.7	6.4	1.8	0.0	0.0	0.4
165°	1.1	3.6	5.4	5.0	10.0	8.2	5.0	1.1	0.0	0.0	0.0
167.5°	1.1	3.2	4.3	3.6	7.5	6.1	3.6	0.7	0.0	0.0	0.0
170°	1.1	2.5	3.6	2.5	2.1	3.9	2.1	0.4	0.0	0.0	0.0
172.5°	1.1	2.1	2.9	1.8	0.7	2.1	1.1	0.0	0.0	0.0	0.0
175°	1.1	1.8	1.8	1.1	0.4	0.7	0.0	0.0	0.0	0.0	0.0
177.5°	1.1	1.4	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1089.3	1089.3	1089.3	1089.3	1089.3	1089.3
2.5°	1059.3	1047.6	1036.9	1048.3	1056.5	1088.2
5°	1007.6	995.1	996.6	1006.9	1034.4	1092.2
7.5°	954.1	933.4	938.4	967.3	1008.0	1073.6
10°	891.0	872.1	876.7	920.2	977.3	1063.3
12.5°	834.6	802.9	830.0	871.0	941.6	1057.6
15°	768.6	743.7	758.3	818.9	907.4	1031.2
17.5°	697.3	678.1	695.5	755.8	865.3	1028.3
20°	642.4	615.6	636.3	702.7	813.2	998.4
22.5°	580.7	560.3	582.1	643.1	760.1	966.6
25°	530.0	508.6	530.4	591.0	713.0	929.2
27.5°	480.8	461.2	480.8	536.4	666.3	898.8
30°	437.6	418.7	438.7	492.2	611.7	853.5
32.5°	397.3	373.1	398.8	450.5	563.6	818.9
35°	355.6	337.4	356.7	414.1	510.1	770.4
37.5°	321.0	302.1	324.9	374.2	464.8	723.3
40°	288.2	271.4	289.6	342.1	426.2	665.9
42.5°	262.5	245.8	264.3	312.8	387.4	622.4
45°	237.5	225.1	240.0	280.7	348.1	565.0
47.5°	219.4	208.7	221.1	257.2	315.3	513.3
50°	203.7	196.2	205.1	233.6	281.4	459.4
52.5°	189.8	182.3	192.6	215.4	254.7	410.2
55°	179.1	172.3	180.1	198.3	227.9	363.8
57.5°	167.3	163.0	169.1	180.1	206.9	322.4
60°	158.7	154.1	160.5	169.4	183.0	280.7
62.5°	149.1	146.6	150.5	157.7	164.8	242.9
65°	140.5	137.0	142.0	144.5	143.7	210.4
67.5°	131.3	130.2	133.0	133.4	128.0	177.6
70°	121.6	120.9	124.5	122.3	111.3	147.3
72.5°	113.8	113.8	115.9	111.6	97.0	118.8
75°	105.2	105.9	107.7	102.7	81.7	93.5
77.5°	97.4	98.1	98.4	91.7	68.5	71.3
80°	88.5	88.1	91.7	83.1	55.6	51.0
82.5°	80.6	79.2	81.3	72.8	44.9	33.5
85°	71.7	72.0	73.5	63.5	36.0	20.3
87.5°	64.6	64.6	66.0	56.0	27.1	8.9
90°	56.0	55.3	57.4	47.4	20.3	0.7
92.5°	48.9	48.9	50.3	40.7	15.0	0.7
95°	41.7	42.1	43.2	33.5	11.4	1.1
97.5°	35.7	36.0	37.5	28.5	8.2	1.1
100°	30.3	30.7	31.4	22.8	6.4	0.7
102.5°	25.3	26.4	26.4	18.9	5.0	0.7
105°	21.4	22.8	22.1	15.3	4.6	0.7
107.5°	17.8	19.3	19.3	12.5	4.6	0.7
110°	14.6	16.8	16.4	10.7	3.6	0.7





TEST NUMBER: P893382  
 CATALOG NUMBER: 4MB-3SL-ASML-UNV-L935

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	12.5	14.3	13.2	9.3	3.6	0.7
115°	10.7	12.5	11.8	8.6	3.2	0.7
117.5°	9.6	10.7	10.7	8.2	3.2	0.7
120°	8.9	10.0	9.6	7.8	3.2	0.7
122.5°	8.2	8.9	8.9	7.1	2.9	0.7
125°	7.8	8.2	8.6	6.4	2.9	0.7
127.5°	7.5	8.2	8.2	6.1	2.5	0.7
130°	6.8	7.5	7.5	5.7	2.5	0.7
132.5°	6.1	6.8	6.8	5.4	2.5	0.7
135°	5.7	6.4	6.4	5.0	2.5	0.7
137.5°	5.4	5.7	5.7	4.6	2.5	0.7
140°	4.6	5.4	5.4	4.3	2.5	0.7
142.5°	4.3	5.0	5.0	3.9	2.1	0.7
145°	3.9	4.3	4.6	3.6	2.1	0.7
147.5°	3.2	3.9	4.3	3.2	2.1	0.7
150°	2.5	3.6	3.6	3.2	2.1	0.7
152.5°	1.8	3.2	3.2	2.9	1.8	0.7
155°	1.4	2.5	2.9	2.5	1.8	1.1
157.5°	1.1	2.1	2.5	2.5	1.8	1.1
160°	0.7	1.8	2.1	2.1	1.4	1.1
162.5°	0.4	1.4	1.8	2.1	1.4	1.1
165°	0.0	1.1	1.4	1.8	1.4	1.1
167.5°	0.0	0.7	1.1	1.4	1.1	1.1
170°	0.0	0.4	0.7	1.1	1.1	1.1
172.5°	0.0	0.0	0.4	0.7	0.7	1.1
175°	0.0	0.0	0.0	0.4	0.7	1.1
177.5°	0.0	0.0	0.0	0.4	0.7	1.1
180°	0.4	0.4	0.4	0.4	0.4	0.4



TEST NUMBER: P893382  
 CATALOG NUMBER: 4MB-3SL-ASML-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	17.28	18.74	17.73	19.17	19.62	19.54	21.00	19.99	21.43	21.88
	3H	18.10	19.42	18.57	19.86	20.36	21.24	22.56	21.70	23.00	23.50
	4H	18.30	19.55	18.79	20.01	20.52	22.08	23.32	22.56	23.78	24.29
	6H	18.39	19.55	18.90	20.02	20.55	22.95	24.10	23.45	24.58	25.11
	8H	18.40	19.50	18.91	19.99	20.53	23.42	24.52	23.94	25.02	25.56
	12H	18.38	19.44	18.90	19.93	20.49	23.97	25.02	24.49	25.51	26.07
4H	2H	17.71	18.96	18.20	19.42	19.93	19.90	21.14	20.39	21.61	22.12
	3H	18.81	19.86	19.31	20.36	20.90	21.79	22.83	22.29	23.34	23.87
	4H	19.15	20.10	19.67	20.62	21.18	22.76	23.71	23.28	24.22	24.79
	6H	19.34	20.17	19.88	20.72	21.30	23.80	24.63	24.34	25.17	25.76
	8H	19.37	20.15	19.92	20.69	21.29	24.36	25.14	24.91	25.69	26.28
	12H	19.38	20.08	19.94	20.65	21.25	25.02	25.72	25.59	26.30	26.89
8H	4H	19.48	20.26	20.03	20.80	21.40	22.90	23.68	23.45	24.22	24.82
	6H	19.80	20.45	20.38	21.04	21.64	24.07	24.73	24.65	25.31	25.91
	8H	19.89	20.48	20.48	21.08	21.69	24.75	25.34	25.35	25.94	26.55
	12H	19.95	20.47	20.54	21.06	21.74	25.57	26.09	26.16	26.68	27.36
12H	4H	19.56	20.26	20.13	20.83	21.43	22.89	23.59	23.46	24.17	24.77
	6H	19.94	20.53	20.53	21.13	21.74	24.08	24.67	24.68	25.27	25.89
	8H	20.10	20.62	20.69	21.21	21.89	24.82	25.35	25.42	25.93	26.61