

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: P893270

Luminaire Tested: 4MB-2SL-ASML-UNV-L935

Issue Date: 11/11/2024

**Test Information**

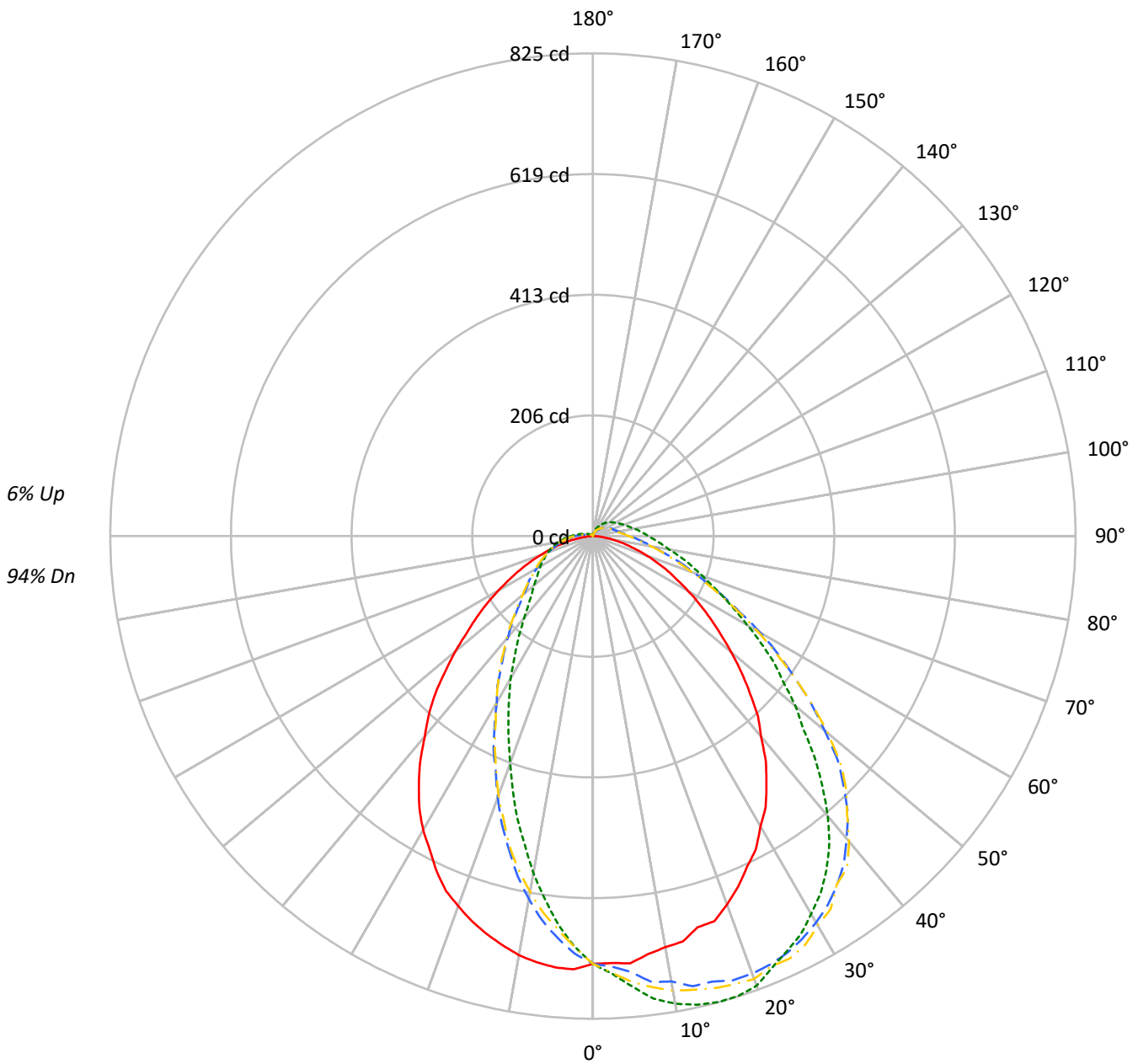
Test Method: LM-79-2019  
Report Number: P893270  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-33)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-2SL-ASML-UNV-L935  
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1822.0 lumens  
Efficiency: N/A  
Efficacy: 132.0 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: P893270  
CATALOG NUMBER: 4MB-2SL-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	0
RCR																		
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	94
1	107	103	98	94	104	100	96	92	95	91	88	90	87	85	85	83	81	79
2	98	90	83	78	95	88	82	76	83	78	74	79	75	71	75	72	69	66
3	90	80	72	65	87	78	70	64	74	68	63	70	65	61	67	63	59	57
4	83	71	63	56	80	69	61	55	66	59	54	63	57	53	60	55	51	49
5	76	64	55	49	74	62	54	48	60	53	47	57	51	46	55	49	45	43
6	71	58	49	43	68	56	48	42	54	47	42	52	46	41	50	44	40	38
7	66	53	44	38	64	51	43	38	49	42	37	48	41	36	46	40	36	34
8	61	48	40	34	59	47	39	34	45	38	33	44	37	33	42	37	32	30
9	57	44	36	31	56	43	36	31	42	35	30	40	34	30	39	33	29	28
10	54	41	33	28	52	40	33	28	39	32	28	38	31	27	36	31	27	25

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

	0°	90°	180°	270°
0°	7445	7445	7445	7445
5°	7472	7587	7543	6557
10°	7338	7748	7481	5588
15°	7235	7721	7358	4673
20°	7179	7568	7210	3822
25°	6905	7217	7001	3145
30°	6616	6898	6701	2598
35°	6289	6509	6308	2117
40°	5789	5954	5786	1737
45°	5295	5256	5322	1479
50°	4708	4587	4687	1337
55°	4150	4018	4121	1228
60°	3639	3427	3607	1160
65°	3188	2952	3113	1102
70°	2711	2587	2618	1053
75°	2208	2351	2148	1015
80°	1702	2116	1548	945
85°	1169	2043	946	887

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 7365 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.7	3.8
10°-20°	190.9	10.5
20°-30°	274.6	15.1
30°-40°	311.6	17.1
40°-50°	297.8	16.3
50°-60°	242.0	13.3
60°-70°	168.8	9.3
70°-80°	104.6	5.7
80°-90°	60.0	3.3
90°-100°	35.9	2.0
100°-110°	23.5	1.3
110°-120°	16.5	0.9
120°-130°	12.0	0.7
130°-140°	7.9	0.4
140°-150°	4.5	0.2
150°-160°	2.0	0.1
160°-170°	0.6	0.0
170°-180°	0.0	0.0
0°-30°	534.2	29.3
0°-40°	845.8	46.4
0°-60°	1385.6	76.1
0°-90°	1719.1	94.4
90°-120°	75.9	4.2
90°-150°	100.3	5.5
90°-180°	103.0	5.7
0°-180°	1822.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	731	731	731	731	731	
5°	733	773	740	668	733	69
15°	692	825	704	499	692	197
25°	624	783	632	341	624	288
35°	517	696	518	226	517	322
45°	379	537	381	151	379	293
55°	244	378	242	116	244	220
65°	141	246	138	92	141	140
75°	63	165	61	71	63	68
85°	14	112	11	48	14	15
90°	0	94	0	37	0	1
95°	1	82	0	28	1	1
105°	0	63	0	15	0	1
115°	0	50	0	8	0	0
125°	0	41	0	6	0	0
135°	0	33	0	4	0	0
145°	0	23	0	3	0	0
155°	1	14	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: P893270  
 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L935

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	731.0	731.0	731.0	731.0	731.0	731.0	731.0	731.0	731.0	731.0	731.0
2.5°	730.3	735.8	736.3	753.5	748.5	755.0	746.8	748.3	741.1	739.2	714.3
5°	732.9	744.7	747.8	777.5	772.7	776.0	764.8	756.6	739.9	729.8	689.6
7.5°	720.5	751.4	768.6	789.7	797.6	800.2	777.5	762.4	734.6	710.0	662.8
10°	713.5	756.2	772.9	804.5	811.4	806.4	788.7	763.8	727.4	687.7	629.8
12.5°	709.7	758.8	788.0	820.3	820.5	815.3	794.4	767.6	715.7	663.8	594.8
15°	692.0	758.3	788.2	821.0	824.6	821.3	800.0	765.0	703.7	634.1	554.6
17.5°	690.1	757.1	795.9	830.4	824.4	822.0	803.3	763.8	689.4	603.9	516.8
20°	670.0	754.5	795.9	819.8	817.9	818.9	805.5	762.1	672.9	571.4	475.4
22.5°	648.7	751.4	792.5	810.7	799.2	816.7	795.9	757.6	656.1	537.4	434.2
25°	623.5	746.3	786.1	797.8	783.2	796.8	796.6	750.6	632.2	500.7	401.7
27.5°	603.2	738.4	775.5	793.3	768.4	780.1	786.8	742.3	603.9	464.6	363.4
30°	572.8	728.4	762.9	765.5	745.9	760.7	768.4	731.7	580.2	423.7	328.4
32.5°	549.6	716.9	747.3	743.7	724.1	743.7	756.2	721.2	552.0	387.8	303.8
35°	517.0	703.0	727.9	709.0	696.1	712.3	726.9	710.0	518.5	349.5	272.2
37.5°	485.4	690.8	704.7	681.2	663.5	681.7	713.8	688.9	484.7	319.1	248.7
40°	446.9	662.8	674.3	642.5	624.7	651.5	681.0	670.7	446.7	287.5	226.0
42.5°	417.7	642.0	645.3	601.8	580.7	609.2	642.7	644.8	415.8	259.0	205.9
45°	379.2	612.8	606.5	558.7	536.7	562.3	612.5	618.3	381.1	234.3	186.2
47.5°	344.4	580.2	568.0	512.0	487.3	517.7	573.5	588.6	342.3	211.6	167.8
50°	308.3	543.8	516.8	468.4	451.9	467.0	524.0	548.9	306.9	189.1	153.7
52.5°	275.3	503.6	470.1	426.8	410.3	422.7	472.0	509.4	271.7	170.2	141.2
55°	244.2	463.4	420.1	381.8	378.4	382.3	419.4	462.2	242.5	153.4	133.3
57.5°	216.4	414.6	375.1	346.8	340.9	344.0	369.6	413.6	214.2	136.7	121.8
60°	188.4	364.6	330.6	308.8	305.4	307.8	324.3	366.2	186.7	122.6	111.1
62.5°	163.0	314.3	284.1	276.0	273.6	273.6	280.5	318.8	160.9	108.2	102.9
65°	141.2	271.2	248.5	245.3	246.1	245.8	241.5	266.2	137.9	95.5	95.7
67.5°	119.2	225.5	212.8	216.6	219.5	218.3	209.2	221.4	116.3	84.0	89.3
70°	98.9	186.2	183.8	192.4	199.2	192.9	179.8	181.0	95.5	72.8	80.9
72.5°	79.7	150.6	161.6	173.5	180.0	173.1	154.9	149.6	76.8	62.5	73.2
75°	62.7	121.1	138.6	156.3	164.7	155.8	134.8	116.8	61.0	52.7	67.0
77.5°	47.9	96.0	118.5	139.1	147.2	139.5	117.3	91.2	44.8	44.3	60.3
80°	34.2	75.9	105.1	124.9	132.4	124.9	101.7	72.0	31.1	35.4	53.1
82.5°	22.5	58.6	91.4	113.7	121.8	112.7	88.3	55.5	19.9	28.7	47.9
85°	13.6	46.4	79.7	102.2	111.5	102.7	77.3	42.1	11.0	22.0	41.6
87.5°	6.0	35.9	71.1	94.3	102.7	94.5	68.9	33.0	4.5	17.2	35.7
90°	0.5	28.5	62.7	86.9	94.3	86.6	61.0	26.8	0.0	12.4	30.6
92.5°	0.5	24.4	57.4	80.4	88.8	80.2	55.1	22.0	0.0	9.1	25.9
95°	0.7	20.6	52.2	75.4	82.1	74.7	50.3	18.9	0.0	6.2	21.8
97.5°	0.7	18.7	47.9	70.4	77.8	69.9	46.0	17.0	0.0	4.5	17.7
100°	0.5	17.2	44.5	65.6	72.5	65.1	42.6	15.3	0.0	2.9	14.4
102.5°	0.5	16.0	41.6	61.5	67.0	60.8	39.7	14.4	0.0	2.4	11.7
105°	0.5	15.3	39.0	56.7	63.2	56.7	37.3	13.4	0.0	1.9	9.1
107.5°	0.5	14.4	37.1	54.1	59.4	53.6	35.4	12.7	0.0	1.9	7.4
110°	0.5	13.6	35.4	50.3	56.3	50.7	33.8	11.5	0.0	1.2	6.0



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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°	0.5	12.4	33.8	47.6	53.4	47.9	32.3	10.5	0.0	1.2	5.3
115°	0.5	11.3	32.3	46.0	50.3	45.5	30.9	9.3	0.0	1.0	4.8
117.5°	0.5	10.5	31.4	43.8	48.1	43.3	29.7	8.9	0.0	1.0	4.5
120°	0.5	10.1	29.9	41.6	45.0	41.2	28.2	8.4	0.0	1.0	4.3
122.5°	0.5	9.6	28.7	39.7	43.3	39.5	27.0	8.1	0.0	0.7	3.8
125°	0.5	9.1	27.0	37.6	40.9	37.1	24.9	7.9	0.0	0.5	3.4
127.5°	0.5	8.6	25.4	35.9	39.0	35.4	23.5	7.7	0.0	0.5	3.1
130°	0.5	8.4	23.2	33.8	36.9	33.3	21.8	7.7	0.0	0.5	2.9
132.5°	0.5	8.1	20.8	31.6	34.9	31.1	20.1	7.4	0.0	0.5	2.4
135°	0.5	7.9	18.4	29.4	32.6	29.0	18.7	7.2	0.0	0.5	2.2
137.5°	0.5	7.4	16.3	27.0	30.2	26.6	17.7	6.7	0.0	0.5	1.9
140°	0.5	6.9	14.6	25.1	27.8	24.4	16.3	6.2	0.0	0.2	1.4
142.5°	0.5	6.2	13.2	22.7	25.4	22.3	14.6	5.3	0.0	0.2	1.4
145°	0.5	5.5	12.0	19.9	23.0	19.9	13.6	4.8	0.0	0.2	1.2
147.5°	0.5	5.0	10.8	16.8	20.8	18.2	12.2	4.1	0.0	0.2	1.0
150°	0.5	4.5	9.3	14.1	18.4	16.0	11.3	3.6	0.0	0.0	0.7
152.5°	0.5	4.1	8.1	11.7	16.5	14.6	10.1	3.1	0.0	0.0	0.5
155°	0.7	3.8	6.9	10.3	14.4	12.7	8.4	2.6	0.0	0.0	0.5
157.5°	0.7	3.4	5.7	8.4	12.7	11.0	6.7	2.2	0.0	0.0	0.2
160°	0.7	3.1	4.8	6.5	10.5	9.1	5.5	1.7	0.0	0.0	0.2
162.5°	0.7	2.9	4.1	4.8	8.6	7.2	4.3	1.2	0.0	0.0	0.2
165°	0.7	2.4	3.6	3.4	6.7	5.5	3.4	0.7	0.0	0.0	0.0
167.5°	0.7	2.2	2.9	2.4	5.0	4.1	2.4	0.5	0.0	0.0	0.0
170°	0.7	1.7	2.4	1.7	1.4	2.6	1.4	0.2	0.0	0.0	0.0
172.5°	0.7	1.4	1.9	1.2	0.5	1.4	0.7	0.0	0.0	0.0	0.0
175°	0.7	1.2	1.2	0.7	0.2	0.5	0.0	0.0	0.0	0.0	0.0
177.5°	0.7	1.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	731.0	731.0	731.0	731.0	731.0	731.0
2.5°	710.9	703.0	695.8	703.5	709.0	730.3
5°	676.2	667.8	668.8	675.7	694.2	732.9
7.5°	640.3	626.4	629.8	649.2	676.4	720.5
10°	597.9	585.2	588.4	617.6	655.9	713.5
12.5°	560.1	538.8	557.0	584.5	631.9	709.7
15°	515.8	499.1	508.9	549.6	608.9	692.0
17.5°	468.0	455.0	466.8	507.2	580.7	690.1
20°	431.1	413.1	427.0	471.5	545.7	670.0
22.5°	389.7	376.0	390.6	431.6	510.1	648.7
25°	355.7	341.3	355.9	396.6	478.5	623.5
27.5°	322.7	309.5	322.7	360.0	447.1	603.2
30°	293.7	281.0	294.4	330.3	410.5	572.8
32.5°	266.7	250.4	267.6	302.3	378.2	549.6
35°	238.6	226.4	239.4	277.9	342.3	517.0
37.5°	215.4	202.7	218.1	251.1	311.9	485.4
40°	193.4	182.2	194.4	229.5	286.0	446.9
42.5°	176.2	164.9	177.4	209.9	259.9	417.7
45°	159.4	151.0	161.1	188.4	233.6	379.2
47.5°	147.2	140.0	148.4	172.6	211.6	344.4
50°	136.7	131.7	137.6	156.8	188.9	308.3
52.5°	127.3	122.3	129.3	144.6	170.9	275.3
55°	120.2	115.6	120.9	133.1	153.0	244.2
57.5°	112.3	109.4	113.5	120.9	138.8	216.4
60°	106.5	103.4	107.7	113.7	122.8	188.4
62.5°	100.1	98.4	101.0	105.8	110.6	163.0
65°	94.3	91.9	95.3	96.9	96.5	141.2
67.5°	88.1	87.4	89.3	89.5	85.9	119.2
70°	81.6	81.1	83.5	82.1	74.7	98.9
72.5°	76.4	76.4	77.8	74.9	65.1	79.7
75°	70.6	71.1	72.3	68.9	54.8	62.7
77.5°	65.3	65.8	66.1	61.5	46.0	47.9
80°	59.4	59.1	61.5	55.8	37.3	34.2
82.5°	54.1	53.1	54.6	48.8	30.2	22.5
85°	48.1	48.4	49.3	42.6	24.2	13.6
87.5°	43.3	43.3	44.3	37.6	18.2	6.0
90°	37.6	37.1	38.5	31.8	13.6	0.5
92.5°	32.8	32.8	33.8	27.3	10.1	0.5
95°	28.0	28.2	29.0	22.5	7.7	0.7
97.5°	23.9	24.2	25.1	19.1	5.5	0.7
100°	20.3	20.6	21.1	15.3	4.3	0.5
102.5°	17.0	17.7	17.7	12.7	3.4	0.5
105°	14.4	15.3	14.8	10.3	3.1	0.5
107.5°	12.0	12.9	12.9	8.4	3.1	0.5
110°	9.8	11.3	11.0	7.2	2.4	0.5





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 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L935

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	8.4	9.6	8.9	6.2	2.4	0.5
115°	7.2	8.4	7.9	5.7	2.2	0.5
117.5°	6.5	7.2	7.2	5.5	2.2	0.5
120°	6.0	6.7	6.5	5.3	2.2	0.5
122.5°	5.5	6.0	6.0	4.8	1.9	0.5
125°	5.3	5.5	5.7	4.3	1.9	0.5
127.5°	5.0	5.5	5.5	4.1	1.7	0.5
130°	4.5	5.0	5.0	3.8	1.7	0.5
132.5°	4.1	4.5	4.5	3.6	1.7	0.5
135°	3.8	4.3	4.3	3.4	1.7	0.5
137.5°	3.6	3.8	3.8	3.1	1.7	0.5
140°	3.1	3.6	3.6	2.9	1.7	0.5
142.5°	2.9	3.4	3.4	2.6	1.4	0.5
145°	2.6	2.9	3.1	2.4	1.4	0.5
147.5°	2.2	2.6	2.9	2.2	1.4	0.5
150°	1.7	2.4	2.4	2.2	1.4	0.5
152.5°	1.2	2.2	2.2	1.9	1.2	0.5
155°	1.0	1.7	1.9	1.7	1.2	0.7
157.5°	0.7	1.4	1.7	1.7	1.2	0.7
160°	0.5	1.2	1.4	1.4	1.0	0.7
162.5°	0.2	1.0	1.2	1.4	1.0	0.7
165°	0.0	0.7	1.0	1.2	1.0	0.7
167.5°	0.0	0.5	0.7	1.0	0.7	0.7
170°	0.0	0.2	0.5	0.7	0.7	0.7
172.5°	0.0	0.0	0.2	0.5	0.5	0.7
175°	0.0	0.0	0.0	0.2	0.5	0.7
177.5°	0.0	0.0	0.0	0.2	0.5	0.7
180°	0.2	0.2	0.2	0.2	0.2	0.2



TEST NUMBER: P893270  
 CATALOG NUMBER: 4MB-2SL-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	15.89	17.35	16.35	17.78	18.24	18.15	19.61	18.61	20.04	20.50
	3H	16.71	18.03	17.18	18.48	18.97	19.85	21.17	20.32	21.61	22.11
	4H	16.92	18.16	17.41	18.62	19.13	20.69	21.93	21.18	22.39	22.91
	6H	17.01	18.16	17.51	18.64	19.16	21.57	22.72	22.07	23.19	23.72
	8H	17.01	18.11	17.52	18.61	19.14	22.04	23.14	22.55	23.64	24.17
	12H	17.00	18.05	17.52	18.54	19.11	22.58	23.63	23.10	24.12	24.69
4H	2H	16.33	17.57	16.82	18.03	18.54	18.52	19.76	19.01	20.22	20.73
	3H	17.43	18.47	17.93	18.98	19.51	20.40	21.44	20.90	21.95	22.48
	4H	17.76	18.71	18.29	19.23	19.80	21.37	22.32	21.89	22.84	23.41
	6H	17.96	18.79	18.50	19.33	19.92	22.41	23.24	22.96	23.79	24.37
	8H	17.98	18.76	18.53	19.31	19.90	22.98	23.76	23.53	24.30	24.89
	12H	17.99	18.69	18.56	19.27	19.87	23.63	24.34	24.20	24.91	25.51
8H	4H	18.09	18.87	18.64	19.42	20.01	21.51	22.29	22.06	22.84	23.43
	6H	18.41	19.07	19.00	19.66	20.26	22.69	23.34	23.27	23.93	24.53
	8H	18.50	19.09	19.10	19.69	20.31	23.36	23.95	23.96	24.55	25.17
	12H	18.56	19.08	19.15	19.67	20.35	24.18	24.70	24.77	25.29	25.97
12H	4H	18.17	18.87	18.74	19.45	20.05	21.51	22.21	22.08	22.78	23.38
	6H	18.55	19.14	19.15	19.74	20.36	22.70	23.29	23.29	23.89	24.50
	8H	18.71	19.23	19.30	19.82	20.50	23.43	23.96	24.03	24.54	25.23