

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: P893268

Luminaire Tested: 4MB-2SL-ASML-UNV-L850

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893268
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-L850
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 80CRI, 5000K CCT
Light Source: -
Ballast/Driver: -

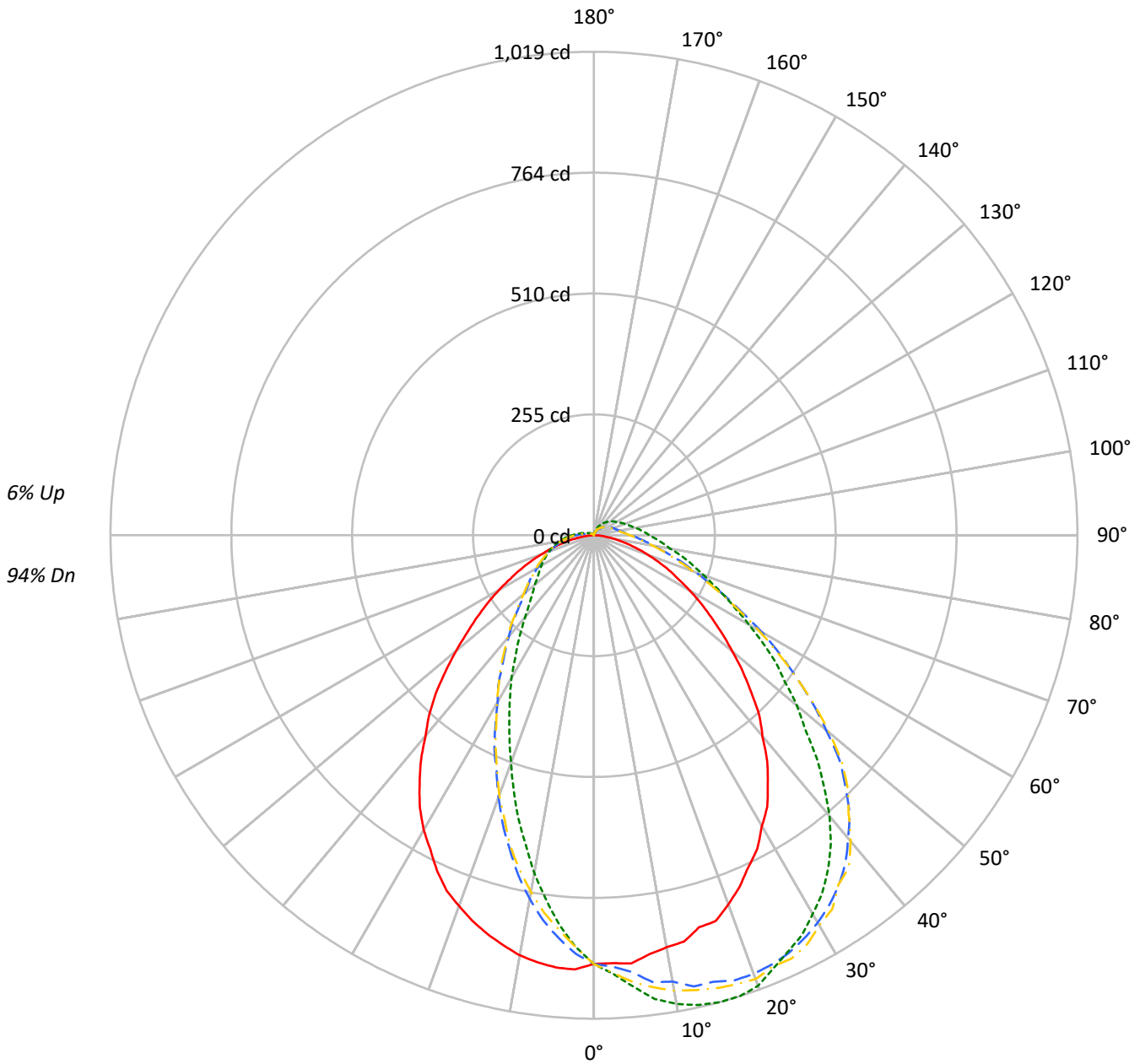
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2252.0 lumens
Efficiency: N/A
Efficacy: 163.2 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_{in}): 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: P893268
CATALOG NUMBER: 4MB-2SL-ASML-UNV-L850

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°	9201	9201	9201	9201
5°	9236	9377	9323	8104
10°	9070	9577	9247	6908
15°	8943	9543	9094	5776
20°	8873	9354	8911	4725
25°	8535	8920	8654	3888
30°	8178	8525	8284	3212
35°	7773	8045	7795	2617
40°	7155	7360	7151	2145
45°	6544	6496	6577	1829
50°	5820	5670	5793	1652
55°	5129	4966	5093	1517
60°	4497	4236	4458	1434
65°	3942	3647	3847	1363
70°	3350	3197	3234	1303
75°	2730	2905	2656	1255
80°	2106	2615	1917	1169
85°	1453	2526	1169	1095

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 9103 cd/sqm



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 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L850

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.9	3.8
10°-20°	236.0	10.5
20°-30°	339.4	15.1
30°-40°	385.2	17.1
40°-50°	368.1	16.3
50°-60°	299.1	13.3
60°-70°	208.7	9.3
70°-80°	129.3	5.7
80°-90°	74.2	3.3
90°-100°	44.3	2.0
100°-110°	29.1	1.3
110°-120°	20.4	0.9
120°-130°	14.8	0.7
130°-140°	9.8	0.4
140°-150°	5.5	0.2
150°-160°	2.5	0.1
160°-170°	0.7	0.0
170°-180°	0.1	0.0
0°-30°	660.3	29.3
0°-40°	1045.4	46.4
0°-60°	1712.7	76.0
0°-90°	2124.8	94.4
90°-120°	93.8	4.2
90°-150°	124.0	5.5
90°-180°	127.0	5.6
0°-180°	2252.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	904	904	904	904	904	
5°	906	955	914	825	906	85
15°	855	1019	870	617	855	243
25°	771	968	781	422	771	356
35°	639	860	641	280	639	398
45°	469	663	471	187	469	362
55°	302	468	300	143	302	272
65°	175	304	170	114	175	173
75°	78	204	75	88	78	84
85°	17	138	14	60	17	19
90°	1	117	0	46	1	1
95°	1	102	0	35	1	1
105°	1	78	0	19	1	1
115°	1	62	0	10	1	1
125°	1	51	0	7	1	1
135°	1	40	0	5	1	0
145°	1	28	0	4	1	0
155°	1	18	0	2	1	0
165°	1	8	0	1	1	0
175°	1	0	0	0	1	0
180°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	903.5	903.5	903.5	903.5	903.5	903.5	903.5	903.5	903.5	903.5	903.5
2.5°	902.7	909.5	910.0	931.4	925.1	933.1	923.1	924.8	916.0	913.6	882.8
5°	905.9	920.4	924.3	960.9	955.0	959.2	945.3	935.2	914.5	902.1	852.4
7.5°	890.5	928.7	950.0	976.0	985.8	989.0	960.9	942.3	908.0	877.5	819.2
10°	881.9	934.6	955.3	994.4	1002.9	996.7	974.8	944.1	899.1	850.0	778.4
12.5°	877.2	937.9	974.0	1013.9	1014.2	1007.7	981.9	948.8	884.6	820.4	735.2
15°	855.3	937.3	974.2	1014.8	1019.2	1015.1	988.7	945.6	869.8	783.7	685.5
17.5°	852.9	935.8	983.7	1026.3	1018.9	1016.0	992.9	944.1	852.1	746.4	638.8
20°	828.1	932.5	983.7	1013.3	1010.9	1012.1	995.6	942.0	831.6	706.2	587.6
22.5°	801.8	928.7	979.6	1002.1	987.9	1009.5	983.7	936.4	810.9	664.2	536.7
25°	770.7	922.5	971.6	986.1	968.0	984.9	984.6	927.8	781.4	618.9	496.4
27.5°	745.6	912.7	958.6	980.5	949.7	964.2	972.5	917.4	746.4	574.3	449.1
30°	708.0	900.3	942.9	946.1	921.9	940.2	949.7	904.4	717.2	523.7	405.9
32.5°	679.3	886.1	923.7	919.2	895.0	919.2	934.6	891.4	682.2	479.3	375.4
35°	639.0	868.9	899.7	876.3	860.3	880.5	898.5	877.5	640.8	431.9	336.4
37.5°	600.0	853.8	871.0	842.0	820.1	842.6	882.2	851.5	599.1	394.4	307.4
40°	552.4	819.2	833.4	794.1	772.2	805.3	841.7	829.0	552.1	355.3	279.3
42.5°	516.3	793.5	797.6	743.8	717.7	753.0	794.4	797.0	513.9	320.1	254.4
45°	468.6	757.4	749.7	690.5	663.3	695.0	757.1	764.2	471.0	289.6	230.2
47.5°	425.7	717.2	702.1	632.8	602.4	639.9	708.9	727.5	423.1	261.5	207.4
50°	381.1	672.2	638.8	579.0	558.6	577.2	647.6	678.4	379.3	233.7	189.9
52.5°	340.2	622.5	581.1	527.5	507.1	522.5	583.4	629.6	335.8	210.4	174.6
55°	301.8	572.8	519.2	471.9	467.7	472.5	518.3	571.3	299.7	189.6	164.8
57.5°	267.5	512.4	463.6	428.7	421.3	425.1	456.8	511.2	264.8	168.9	150.6
60°	232.8	450.6	408.6	381.7	377.5	380.5	400.9	452.7	230.8	151.5	137.3
62.5°	201.5	388.5	351.2	341.1	338.2	338.2	346.7	394.1	198.8	133.7	127.2
65°	174.6	335.2	307.1	303.3	304.1	303.8	298.5	329.0	170.4	118.0	118.3
67.5°	147.3	278.7	263.0	267.7	271.3	269.8	258.6	273.7	143.8	103.8	110.4
70°	122.2	230.2	227.2	237.9	246.2	238.5	222.2	223.7	118.0	89.9	100.0
72.5°	98.5	186.1	199.7	214.5	222.5	213.9	191.4	184.9	95.0	77.2	90.5
75°	77.5	149.7	171.3	193.2	203.5	192.6	166.6	144.4	75.4	65.1	82.8
77.5°	59.2	118.6	146.4	171.9	182.0	172.5	145.0	112.7	55.3	54.7	74.6
80°	42.3	93.8	129.9	154.4	163.6	154.4	125.7	89.1	38.5	43.8	65.7
82.5°	27.8	72.5	113.0	140.5	150.6	139.3	109.2	68.6	24.6	35.5	59.2
85°	16.9	57.4	98.5	126.3	137.9	126.9	95.6	52.1	13.6	27.2	51.5
87.5°	7.4	44.4	87.9	116.6	126.9	116.9	85.2	40.8	5.6	21.3	44.1
90°	0.6	35.2	77.5	107.4	116.6	107.1	75.4	33.1	0.0	15.4	37.9
92.5°	0.6	30.2	71.0	99.4	109.8	99.1	68.0	27.2	0.0	11.2	32.0
95°	0.9	25.4	64.5	93.2	101.5	92.3	62.1	23.4	0.0	7.7	26.9
97.5°	0.9	23.1	59.2	87.0	96.2	86.4	56.8	21.0	0.0	5.6	21.9
100°	0.6	21.3	55.0	81.1	89.6	80.5	52.7	18.9	0.0	3.6	17.8
102.5°	0.6	19.8	51.5	76.0	82.8	75.1	49.1	17.8	0.0	3.0	14.5
105°	0.6	18.9	48.2	70.1	78.1	70.1	46.2	16.6	0.0	2.4	11.2
107.5°	0.6	17.8	45.9	66.9	73.4	66.3	43.8	15.7	0.0	2.4	9.2
110°	0.6	16.9	43.8	62.1	69.5	62.7	41.7	14.2	0.0	1.5	7.4



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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°	0.6	15.4	41.7	58.9	66.0	59.2	39.9	13.0	0.0	1.5	6.5
115°	0.6	13.9	39.9	56.8	62.1	56.2	38.2	11.5	0.0	1.2	5.9
117.5°	0.6	13.0	38.8	54.1	59.5	53.5	36.7	10.9	0.0	1.2	5.6
120°	0.6	12.4	37.0	51.5	55.6	50.9	34.9	10.4	0.0	1.2	5.3
122.5°	0.6	11.8	35.5	49.1	53.5	48.8	33.4	10.1	0.0	0.9	4.7
125°	0.6	11.2	33.4	46.4	50.6	45.9	30.8	9.8	0.0	0.6	4.1
127.5°	0.6	10.7	31.4	44.4	48.2	43.8	29.0	9.5	0.0	0.6	3.8
130°	0.6	10.4	28.7	41.7	45.6	41.1	26.9	9.5	0.0	0.6	3.6
132.5°	0.6	10.1	25.7	39.1	43.2	38.5	24.9	9.2	0.0	0.6	3.0
135°	0.6	9.8	22.8	36.4	40.2	35.8	23.1	8.9	0.0	0.6	2.7
137.5°	0.6	9.2	20.1	33.4	37.3	32.8	21.9	8.3	0.0	0.6	2.4
140°	0.6	8.6	18.0	31.1	34.3	30.2	20.1	7.7	0.0	0.3	1.8
142.5°	0.6	7.7	16.3	28.1	31.4	27.5	18.0	6.5	0.0	0.3	1.8
145°	0.6	6.8	14.8	24.6	28.4	24.6	16.9	5.9	0.0	0.3	1.5
147.5°	0.6	6.2	13.3	20.7	25.7	22.5	15.1	5.0	0.0	0.3	1.2
150°	0.6	5.6	11.5	17.5	22.8	19.8	13.9	4.4	0.0	0.0	0.9
152.5°	0.6	5.0	10.1	14.5	20.4	18.0	12.4	3.8	0.0	0.0	0.6
155°	0.9	4.7	8.6	12.7	17.8	15.7	10.4	3.3	0.0	0.0	0.6
157.5°	0.9	4.1	7.1	10.4	15.7	13.6	8.3	2.7	0.0	0.0	0.3
160°	0.9	3.8	5.9	8.0	13.0	11.2	6.8	2.1	0.0	0.0	0.3
162.5°	0.9	3.6	5.0	5.9	10.7	8.9	5.3	1.5	0.0	0.0	0.3
165°	0.9	3.0	4.4	4.1	8.3	6.8	4.1	0.9	0.0	0.0	0.0
167.5°	0.9	2.7	3.6	3.0	6.2	5.0	3.0	0.6	0.0	0.0	0.0
170°	0.9	2.1	3.0	2.1	1.8	3.3	1.8	0.3	0.0	0.0	0.0
172.5°	0.9	1.8	2.4	1.5	0.6	1.8	0.9	0.0	0.0	0.0	0.0
175°	0.9	1.5	1.5	0.9	0.3	0.6	0.0	0.0	0.0	0.0	0.0
177.5°	0.9	1.2	0.9	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



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CATALOG NUMBER: 4MB-2SL-ASML-UNV-L850

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	903.5	903.5	903.5	903.5	903.5	903.5
2.5°	878.7	868.9	860.0	869.5	876.3	902.7
5°	835.8	825.4	826.6	835.2	858.0	905.9
7.5°	791.4	774.3	778.4	802.4	836.1	890.5
10°	739.0	723.4	727.2	763.3	810.6	881.9
12.5°	692.3	666.0	688.5	722.5	781.1	877.2
15°	637.6	616.9	629.0	679.3	752.7	855.3
17.5°	578.4	562.4	576.9	626.9	717.7	852.9
20°	532.8	510.6	527.8	582.8	674.5	828.1
22.5°	481.7	464.8	482.8	533.4	630.5	801.8
25°	439.6	421.9	439.9	490.2	591.4	770.7
27.5°	398.8	382.5	398.8	445.0	552.7	745.6
30°	363.0	347.3	363.9	408.3	507.4	708.0
32.5°	329.6	309.5	330.8	373.7	467.5	679.3
35°	295.0	279.9	295.9	343.5	423.1	639.0
37.5°	266.3	250.6	269.5	310.4	385.5	600.0
40°	239.1	225.1	240.2	283.7	353.5	552.4
42.5°	217.7	203.8	219.2	259.5	321.3	516.3
45°	197.0	186.7	199.1	232.8	288.8	468.6
47.5°	182.0	173.1	183.4	213.3	261.5	425.7
50°	168.9	162.7	170.1	193.8	233.4	381.1
52.5°	157.4	151.2	159.8	178.7	211.2	340.2
55°	148.5	142.9	149.4	164.5	189.1	301.8
57.5°	138.8	135.2	140.2	149.4	171.6	267.5
60°	131.7	127.8	133.1	140.5	151.8	232.8
62.5°	123.7	121.6	124.9	130.8	136.7	201.5
65°	116.6	113.6	117.8	119.8	119.2	174.6
67.5°	108.9	108.0	110.4	110.6	106.2	147.3
70°	100.9	100.3	103.3	101.5	92.3	122.2
72.5°	94.4	94.4	96.2	92.6	80.5	98.5
75°	87.3	87.9	89.3	85.2	67.8	77.5
77.5°	80.8	81.4	81.7	76.0	56.8	59.2
80°	73.4	73.1	76.0	68.9	46.2	42.3
82.5°	66.9	65.7	67.5	60.4	37.3	27.8
85°	59.5	59.8	60.9	52.7	29.9	16.9
87.5°	53.5	53.5	54.7	46.4	22.5	7.4
90°	46.4	45.9	47.6	39.3	16.9	0.6
92.5°	40.5	40.5	41.7	33.7	12.4	0.6
95°	34.6	34.9	35.8	27.8	9.5	0.9
97.5°	29.6	29.9	31.1	23.7	6.8	0.9
100°	25.1	25.4	26.0	18.9	5.3	0.6
102.5°	21.0	21.9	21.9	15.7	4.1	0.6
105°	17.8	18.9	18.3	12.7	3.8	0.6
107.5°	14.8	16.0	16.0	10.4	3.8	0.6
110°	12.1	13.9	13.6	8.9	3.0	0.6



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CATALOG NUMBER: 4MB-2SL-ASML-UNV-L850

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	10.4	11.8	10.9	7.7	3.0	0.6
115°	8.9	10.4	9.8	7.1	2.7	0.6
117.5°	8.0	8.9	8.9	6.8	2.7	0.6
120°	7.4	8.3	8.0	6.5	2.7	0.6
122.5°	6.8	7.4	7.4	5.9	2.4	0.6
125°	6.5	6.8	7.1	5.3	2.4	0.6
127.5°	6.2	6.8	6.8	5.0	2.1	0.6
130°	5.6	6.2	6.2	4.7	2.1	0.6
132.5°	5.0	5.6	5.6	4.4	2.1	0.6
135°	4.7	5.3	5.3	4.1	2.1	0.6
137.5°	4.4	4.7	4.7	3.8	2.1	0.6
140°	3.8	4.4	4.4	3.6	2.1	0.6
142.5°	3.6	4.1	4.1	3.3	1.8	0.6
145°	3.3	3.6	3.8	3.0	1.8	0.6
147.5°	2.7	3.3	3.6	2.7	1.8	0.6
150°	2.1	3.0	3.0	2.7	1.8	0.6
152.5°	1.5	2.7	2.7	2.4	1.5	0.6
155°	1.2	2.1	2.4	2.1	1.5	0.9
157.5°	0.9	1.8	2.1	2.1	1.5	0.9
160°	0.6	1.5	1.8	1.8	1.2	0.9
162.5°	0.3	1.2	1.5	1.8	1.2	0.9
165°	0.0	0.9	1.2	1.5	1.2	0.9
167.5°	0.0	0.6	0.9	1.2	0.9	0.9
170°	0.0	0.3	0.6	0.9	0.9	0.9
172.5°	0.0	0.0	0.3	0.6	0.6	0.9
175°	0.0	0.0	0.0	0.3	0.6	0.9
177.5°	0.0	0.0	0.0	0.3	0.6	0.9
180°	0.3	0.3	0.3	0.3	0.3	0.3



TEST NUMBER: P893268
 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L850

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	16.63	18.09	17.08	18.52	18.97	18.89	20.35	19.34	20.78	21.23
	3H	17.45	18.77	17.92	19.21	19.71	20.59	21.91	21.05	22.35	22.85
	4H	17.65	18.90	18.14	19.36	19.87	21.43	22.67	21.91	23.13	23.64
	6H	17.74	18.90	18.25	19.37	19.90	22.30	23.45	22.80	23.93	24.46
	8H	17.75	18.85	18.26	19.34	19.88	22.77	23.87	23.29	24.37	24.91
	12H	17.73	18.79	18.25	19.28	19.84	23.32	24.37	23.84	24.86	25.42
4H	2H	17.06	18.31	17.55	18.77	19.28	19.25	20.50	19.74	20.96	21.47
	3H	18.16	19.21	18.66	19.71	20.25	21.14	22.18	21.64	22.69	23.22
	4H	18.50	19.45	19.02	19.97	20.53	22.11	23.06	22.63	23.57	24.14
	6H	18.69	19.52	19.24	20.07	20.65	23.15	23.98	23.69	24.52	25.11
	8H	18.72	19.50	19.27	20.04	20.64	23.71	24.49	24.26	25.04	25.63
	12H	18.73	19.43	19.30	20.00	20.60	24.37	25.07	24.94	25.65	26.25
8H	4H	18.83	19.61	19.38	20.15	20.75	22.25	23.03	22.80	23.57	24.17
	6H	19.15	19.80	19.73	20.39	20.99	23.42	24.08	24.00	24.66	25.27
	8H	19.24	19.83	19.84	20.43	21.04	24.10	24.69	24.70	25.29	25.90
	12H	19.30	19.82	19.89	20.41	21.09	24.92	25.44	25.51	26.03	26.71
12H	4H	18.91	19.61	19.48	20.18	20.78	22.24	22.94	22.81	23.52	24.12
	6H	19.29	19.88	19.88	20.48	21.09	23.43	24.02	24.03	24.62	25.24
	8H	19.45	19.97	20.04	20.56	21.24	24.17	24.70	24.77	25.28	25.96