

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: P893380

Luminaire Tested: 4MB-3SL-ASML-UNV-L850

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893380
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-L850
Description: 3000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 80CRI, 5000K CCT
Light Source: -
Ballast/Driver: -

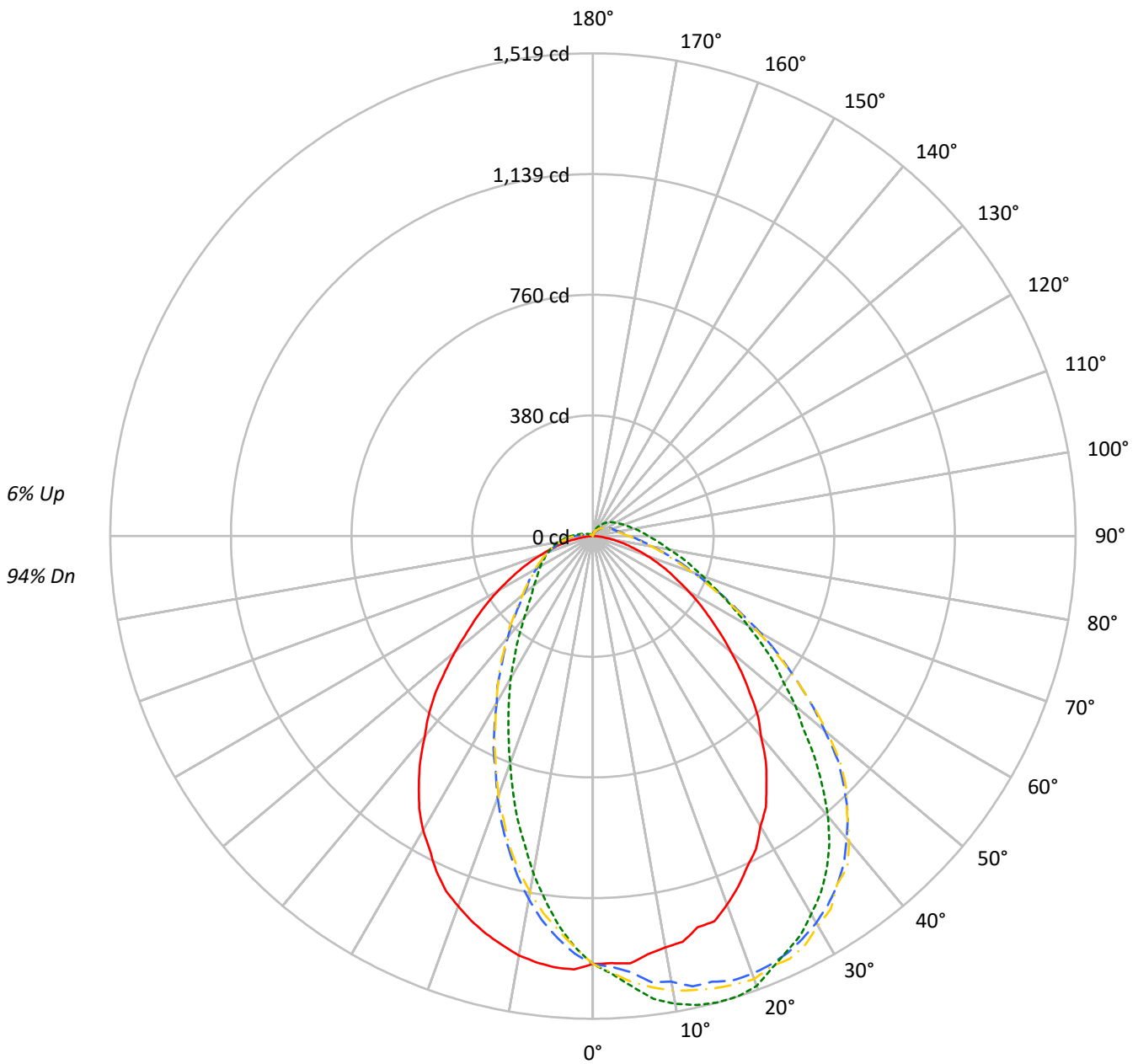
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3356.0 lumens
Efficiency: N/A
Efficacy: 159.1 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_{in}): 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: P893380
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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°	13713	13713	13713	13713
5°	13763	13974	13894	12078
10°	13517	14272	13780	10294
15°	13327	14221	13552	8607
20°	13224	13940	13279	7042
25°	12719	13293	12895	5793
30°	12187	12704	12344	4786
35°	11585	11989	11618	3900
40°	10662	10967	10657	3198
45°	9752	9681	9801	2725
50°	8673	8450	8632	2462
55°	7642	7402	7589	2262
60°	6703	6313	6643	2138
65°	5872	5436	5735	2031
70°	4992	4763	4822	1941
75°	4068	4330	3959	1869
80°	3136	3897	2852	1741
85°	2158	3764	1745	1632

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 13565 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.5	3.8
10°-20°	351.6	10.5
20°-30°	505.8	15.1
30°-40°	574.0	17.1
40°-50°	548.6	16.3
50°-60°	445.7	13.3
60°-70°	311.0	9.3
70°-80°	192.7	5.7
80°-90°	110.5	3.3
90°-100°	66.1	2.0
100°-110°	43.4	1.3
110°-120°	30.4	0.9
120°-130°	22.0	0.7
130°-140°	14.6	0.4
140°-150°	8.2	0.2
150°-160°	3.7	0.1
160°-170°	1.1	0.0
170°-180°	0.1	0.0
0°-30°	984.0	29.3
0°-40°	1558.0	46.4
0°-60°	2552.2	76.1
0°-90°	3166.4	94.4
90°-120°	139.8	4.2
90°-150°	184.7	5.5
90°-180°	190.0	5.7
0°-180°	3356.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1346	1346	1346	1346	1346	
5°	1350	1423	1363	1230	1350	127
15°	1275	1519	1296	919	1275	362
25°	1148	1443	1164	629	1148	530
35°	952	1282	955	417	952	594
45°	698	988	702	278	698	539
55°	450	697	447	213	450	405
65°	260	453	254	169	260	258
75°	116	303	112	131	116	125
85°	25	206	20	89	25	28
90°	1	174	0	68	1	2
95°	1	151	0	52	1	1
105°	1	116	0	28	1	1
115°	1	93	0	15	1	1
125°	1	75	0	10	1	1
135°	1	60	0	8	1	1
145°	1	42	0	5	1	1
155°	1	26	0	3	1	1
165°	1	12	0	1	1	0
175°	1	0	0	0	1	0
180°	0	0	0	0	0	



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 CATALOG NUMBER: 4MB-3SL-ASML-UNV-L850

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1346.5	1346.5	1346.5	1346.5	1346.5	1346.5	1346.5	1346.5	1346.5	1346.5	1346.5
2.5°	1345.2	1355.3	1356.2	1387.9	1378.7	1390.6	1375.6	1378.2	1365.0	1361.5	1315.6
5°	1350.0	1371.6	1377.3	1432.0	1423.2	1429.4	1408.6	1393.7	1362.8	1344.3	1270.2
7.5°	1327.1	1384.0	1415.7	1454.5	1469.1	1473.9	1432.0	1404.2	1353.1	1307.7	1220.8
10°	1314.3	1392.8	1423.6	1481.8	1494.6	1485.4	1452.7	1406.9	1339.9	1266.7	1160.0
12.5°	1307.2	1397.6	1451.4	1510.9	1511.4	1501.7	1463.3	1413.9	1318.3	1222.6	1095.6
15°	1274.6	1396.7	1451.9	1512.3	1518.9	1512.7	1473.5	1409.1	1296.2	1167.9	1021.5
17.5°	1271.1	1394.5	1466.0	1529.5	1518.4	1514.0	1479.6	1406.9	1269.8	1112.4	951.9
20°	1234.1	1389.7	1466.0	1510.1	1506.5	1508.3	1483.6	1403.8	1239.3	1052.4	875.6
22.5°	1194.8	1384.0	1459.8	1493.3	1472.1	1504.3	1466.0	1395.4	1208.5	989.8	799.8
25°	1148.5	1374.7	1447.9	1469.5	1442.6	1467.7	1467.3	1382.6	1164.4	922.3	739.8
27.5°	1111.0	1360.2	1428.5	1461.1	1415.3	1436.9	1449.2	1367.2	1112.4	855.8	669.3
30°	1055.1	1341.6	1405.1	1410.0	1373.8	1401.2	1415.3	1347.8	1068.7	780.4	604.9
32.5°	1012.3	1320.5	1376.5	1369.9	1333.7	1369.9	1392.8	1328.4	1016.7	714.2	559.5
35°	952.3	1294.9	1340.8	1305.9	1282.1	1312.1	1339.0	1307.7	955.0	643.7	501.3
37.5°	894.1	1272.4	1298.0	1254.8	1222.2	1255.7	1314.7	1268.9	892.8	587.7	458.1
40°	823.1	1220.8	1242.0	1183.4	1150.7	1200.1	1254.3	1235.4	822.7	529.5	416.2
42.5°	769.4	1182.5	1188.6	1108.4	1069.6	1122.1	1183.8	1187.8	765.8	477.0	379.2
45°	698.4	1128.7	1117.2	1029.0	988.5	1035.7	1128.2	1138.8	701.9	431.6	343.0
47.5°	634.4	1068.7	1046.2	943.1	897.7	953.6	1056.4	1084.2	630.5	389.7	309.1
50°	567.9	1001.7	951.9	862.8	832.4	860.2	965.1	1011.0	565.2	348.3	283.1
52.5°	507.0	927.6	865.9	786.1	755.7	778.6	869.4	938.2	500.4	313.5	260.1
55°	449.7	853.6	773.8	703.2	697.1	704.1	772.4	851.4	446.6	282.6	245.6
57.5°	398.6	763.6	690.9	638.9	627.8	633.6	680.7	761.9	394.6	251.7	224.4
60°	347.0	671.5	608.9	568.8	562.6	567.0	597.4	674.6	343.9	225.7	204.6
62.5°	300.2	578.9	523.3	508.3	503.9	503.9	516.7	587.3	296.3	199.3	189.6
65°	260.1	499.5	457.6	451.9	453.2	452.8	444.9	490.3	254.0	175.9	176.4
67.5°	219.6	415.3	392.0	399.0	404.3	402.1	385.3	407.8	214.3	154.8	164.5
70°	182.1	343.0	338.6	354.5	366.8	355.4	331.1	333.3	175.9	134.0	149.0
72.5°	146.8	277.3	297.6	319.6	331.6	318.8	285.3	275.6	141.5	115.1	134.9
75°	115.5	223.1	255.3	287.9	303.3	287.0	248.2	215.2	112.4	97.0	123.4
77.5°	88.2	176.8	218.2	256.2	271.1	257.0	216.0	168.0	82.4	81.6	111.1
80°	63.0	139.8	193.6	230.1	243.8	230.1	187.4	132.7	57.3	65.3	97.9
82.5°	41.4	108.0	168.4	209.4	224.4	207.7	162.7	102.3	36.6	52.9	88.2
85°	25.1	85.5	146.8	188.3	205.5	189.1	142.4	77.6	20.3	40.6	76.7
87.5°	11.0	66.1	130.9	173.7	189.1	174.2	127.0	60.8	8.4	31.7	65.7
90°	0.9	52.5	115.5	160.0	173.7	159.6	112.4	49.4	0.0	22.9	56.4
92.5°	0.9	45.0	105.8	148.1	163.6	147.7	101.4	40.6	0.0	16.8	47.6
95°	1.3	37.9	96.1	138.9	151.2	137.6	92.6	34.8	0.0	11.5	40.1
97.5°	1.3	34.4	88.2	129.6	143.3	128.7	84.7	31.3	0.0	8.4	32.6
100°	0.9	31.7	82.0	120.8	133.6	119.9	78.5	28.2	0.0	5.3	26.5
102.5°	0.9	29.5	76.7	113.3	123.4	112.0	73.2	26.5	0.0	4.4	21.6
105°	0.9	28.2	71.9	104.5	116.4	104.5	68.8	24.7	0.0	3.5	16.8
107.5°	0.9	26.5	68.3	99.6	109.3	98.8	65.3	23.4	0.0	3.5	13.7
110°	0.9	25.1	65.3	92.6	103.6	93.5	62.2	21.2	0.0	2.2	11.0



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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°	0.9	22.9	62.2	87.7	98.3	88.2	59.5	19.4	0.0	2.2	9.7
115°	0.9	20.7	59.5	84.7	92.6	83.8	56.9	17.2	0.0	1.8	8.8
117.5°	0.9	19.4	57.8	80.7	88.6	79.8	54.7	16.3	0.0	1.8	8.4
120°	0.9	18.5	55.1	76.7	82.9	75.8	52.0	15.4	0.0	1.8	7.9
122.5°	0.9	17.6	52.9	73.2	79.8	72.7	49.8	15.0	0.0	1.3	7.1
125°	0.9	16.8	49.8	69.2	75.4	68.3	45.9	14.5	0.0	0.9	6.2
127.5°	0.9	15.9	46.7	66.1	71.9	65.3	43.2	14.1	0.0	0.9	5.7
130°	0.9	15.4	42.8	62.2	67.9	61.3	40.1	14.1	0.0	0.9	5.3
132.5°	0.9	15.0	38.4	58.2	64.4	57.3	37.0	13.7	0.0	0.9	4.4
135°	0.9	14.5	33.9	54.2	60.0	53.3	34.4	13.2	0.0	0.9	4.0
137.5°	0.9	13.7	30.0	49.8	55.6	48.9	32.6	12.3	0.0	0.9	3.5
140°	0.9	12.8	26.9	46.3	51.1	45.0	30.0	11.5	0.0	0.4	2.6
142.5°	0.9	11.5	24.2	41.9	46.7	41.0	26.9	9.7	0.0	0.4	2.6
145°	0.9	10.1	22.0	36.6	42.3	36.6	25.1	8.8	0.0	0.4	2.2
147.5°	0.9	9.3	19.8	30.9	38.4	33.5	22.5	7.5	0.0	0.4	1.8
150°	0.9	8.4	17.2	26.0	33.9	29.5	20.7	6.6	0.0	0.0	1.3
152.5°	0.9	7.5	15.0	21.6	30.4	26.9	18.5	5.7	0.0	0.0	0.9
155°	1.3	7.1	12.8	19.0	26.5	23.4	15.4	4.8	0.0	0.0	0.9
157.5°	1.3	6.2	10.6	15.4	23.4	20.3	12.3	4.0	0.0	0.0	0.4
160°	1.3	5.7	8.8	11.9	19.4	16.8	10.1	3.1	0.0	0.0	0.4
162.5°	1.3	5.3	7.5	8.8	15.9	13.2	7.9	2.2	0.0	0.0	0.4
165°	1.3	4.4	6.6	6.2	12.3	10.1	6.2	1.3	0.0	0.0	0.0
167.5°	1.3	4.0	5.3	4.4	9.3	7.5	4.4	0.9	0.0	0.0	0.0
170°	1.3	3.1	4.4	3.1	2.6	4.8	2.6	0.4	0.0	0.0	0.0
172.5°	1.3	2.6	3.5	2.2	0.9	2.6	1.3	0.0	0.0	0.0	0.0
175°	1.3	2.2	2.2	1.3	0.4	0.9	0.0	0.0	0.0	0.0	0.0
177.5°	1.3	1.8	1.3	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°	1346.5	1346.5	1346.5	1346.5	1346.5	1346.5
2.5°	1309.4	1294.9	1281.7	1295.8	1305.9	1345.2
5°	1245.5	1230.1	1231.9	1244.6	1278.6	1350.0
7.5°	1179.4	1153.8	1160.0	1195.7	1246.0	1327.1
10°	1101.3	1078.0	1083.7	1137.5	1208.0	1314.3
12.5°	1031.7	992.4	1026.0	1076.7	1164.0	1307.2
15°	950.1	919.3	937.3	1012.3	1121.6	1274.6
17.5°	861.9	838.1	859.7	934.3	1069.6	1271.1
20°	794.0	761.0	786.6	868.6	1005.2	1234.1
22.5°	717.8	692.6	719.5	794.9	939.5	1194.8
25°	655.2	628.7	655.6	730.6	881.3	1148.5
27.5°	594.3	570.1	594.3	663.1	823.6	1111.0
30°	541.0	517.6	542.3	608.4	756.1	1055.1
32.5°	491.2	461.2	492.9	556.8	696.6	1012.3
35°	439.6	417.1	440.9	511.9	630.5	952.3
37.5°	396.8	373.4	401.7	462.5	574.5	894.1
40°	356.2	335.5	358.0	422.8	526.9	823.1
42.5°	324.5	303.8	326.7	386.7	478.8	769.4
45°	293.6	278.2	296.7	347.0	430.3	698.4
47.5°	271.1	257.9	273.4	317.9	389.7	634.4
50°	251.7	242.5	253.5	288.8	347.9	567.9
52.5°	234.6	225.3	238.1	266.3	314.8	507.0
55°	221.3	213.0	222.7	245.1	281.7	449.7
57.5°	206.8	201.5	209.0	222.7	255.7	398.6
60°	196.2	190.5	198.4	209.4	226.2	347.0
62.5°	184.3	181.2	186.1	194.9	203.7	300.2
65°	173.7	169.3	175.5	178.6	177.7	260.1
67.5°	162.2	160.9	164.5	164.9	158.3	219.6
70°	150.3	149.5	153.9	151.2	137.6	182.1
72.5°	140.6	140.6	143.3	138.0	119.9	146.8
75°	130.1	130.9	133.1	127.0	101.0	115.5
77.5°	120.4	121.2	121.7	113.3	84.7	88.2
80°	109.3	108.9	113.3	102.7	68.8	63.0
82.5°	99.6	97.9	100.5	89.9	55.6	41.4
85°	88.6	89.1	90.8	78.5	44.5	25.1
87.5°	79.8	79.8	81.6	69.2	33.5	11.0
90°	69.2	68.3	71.0	58.6	25.1	0.9
92.5°	60.4	60.4	62.2	50.3	18.5	0.9
95°	51.6	52.0	53.3	41.4	14.1	1.3
97.5°	44.1	44.5	46.3	35.3	10.1	1.3
100°	37.5	37.9	38.8	28.2	7.9	0.9
102.5°	31.3	32.6	32.6	23.4	6.2	0.9
105°	26.5	28.2	27.3	19.0	5.7	0.9
107.5°	22.0	23.8	23.8	15.4	5.7	0.9
110°	18.1	20.7	20.3	13.2	4.4	0.9



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CATALOG NUMBER: 4MB-3SL-ASML-UNV-L850

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	15.4	17.6	16.3	11.5	4.4	0.9
115°	13.2	15.4	14.5	10.6	4.0	0.9
117.5°	11.9	13.2	13.2	10.1	4.0	0.9
120°	11.0	12.3	11.9	9.7	4.0	0.9
122.5°	10.1	11.0	11.0	8.8	3.5	0.9
125°	9.7	10.1	10.6	7.9	3.5	0.9
127.5°	9.3	10.1	10.1	7.5	3.1	0.9
130°	8.4	9.3	9.3	7.1	3.1	0.9
132.5°	7.5	8.4	8.4	6.6	3.1	0.9
135°	7.1	7.9	7.9	6.2	3.1	0.9
137.5°	6.6	7.1	7.1	5.7	3.1	0.9
140°	5.7	6.6	6.6	5.3	3.1	0.9
142.5°	5.3	6.2	6.2	4.8	2.6	0.9
145°	4.8	5.3	5.7	4.4	2.6	0.9
147.5°	4.0	4.8	5.3	4.0	2.6	0.9
150°	3.1	4.4	4.4	4.0	2.6	0.9
152.5°	2.2	4.0	4.0	3.5	2.2	0.9
155°	1.8	3.1	3.5	3.1	2.2	1.3
157.5°	1.3	2.6	3.1	3.1	2.2	1.3
160°	0.9	2.2	2.6	2.6	1.8	1.3
162.5°	0.4	1.8	2.2	2.6	1.8	1.3
165°	0.0	1.3	1.8	2.2	1.8	1.3
167.5°	0.0	0.9	1.3	1.8	1.3	1.3
170°	0.0	0.4	0.9	1.3	1.3	1.3
172.5°	0.0	0.0	0.4	0.9	0.9	1.3
175°	0.0	0.0	0.0	0.4	0.9	1.3
177.5°	0.0	0.0	0.0	0.4	0.9	1.3
180°	0.4	0.4	0.4	0.4	0.4	0.4



TEST NUMBER: P893380
 CATALOG NUMBER: 4MB-3SL-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	18.01	19.47	18.47	19.91	20.36	20.27	21.73	20.73	22.16	22.62
	3H	18.84	20.15	19.30	20.60	21.09	21.97	23.29	22.44	23.74	24.23
	4H	19.04	20.28	19.53	20.74	21.26	22.81	24.06	23.30	24.52	25.03
	6H	19.13	20.28	19.63	20.76	21.29	23.69	24.84	24.19	25.32	25.84
	8H	19.13	20.23	19.65	20.73	21.26	24.16	25.26	24.67	25.76	26.29
	12H	19.12	20.17	19.64	20.67	21.23	24.70	25.76	25.22	26.25	26.81
4H	2H	18.45	19.69	18.94	20.15	20.67	20.64	21.88	21.13	22.34	22.85
	3H	19.55	20.59	20.05	21.10	21.63	22.52	23.57	23.02	24.07	24.61
	4H	19.89	20.83	20.41	21.35	21.92	23.49	24.44	24.02	24.96	25.53
	6H	20.08	20.91	20.62	21.45	22.04	24.53	25.37	25.08	25.91	26.49
	8H	20.11	20.88	20.65	21.43	22.02	25.10	25.88	25.65	26.42	27.02
	12H	20.11	20.81	20.68	21.39	21.99	25.76	26.46	26.32	27.03	27.63
8H	4H	20.22	20.99	20.76	21.54	22.13	23.64	24.42	24.18	24.96	25.55
	6H	20.54	21.19	21.12	21.78	22.38	24.81	25.46	25.39	26.05	26.65
	8H	20.63	21.21	21.22	21.81	22.43	25.49	26.08	26.08	26.68	27.29
	12H	20.68	21.21	21.28	21.79	22.48	26.30	26.83	26.90	27.41	28.10
12H	4H	20.29	21.00	20.86	21.57	22.17	23.63	24.33	24.20	24.90	25.50
	6H	20.67	21.26	21.27	21.86	22.48	24.82	25.41	25.42	26.01	26.62
	8H	20.83	21.36	21.43	21.94	22.63	25.56	26.08	26.15	26.67	27.35