

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: P893493

Luminaire Tested: 4MB-4SL-ASML-UNV-L930

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893493  
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-4SL-ASML-UNV-L930  
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 3000K CCT  
Light Source: -  
Ballast/Driver: -

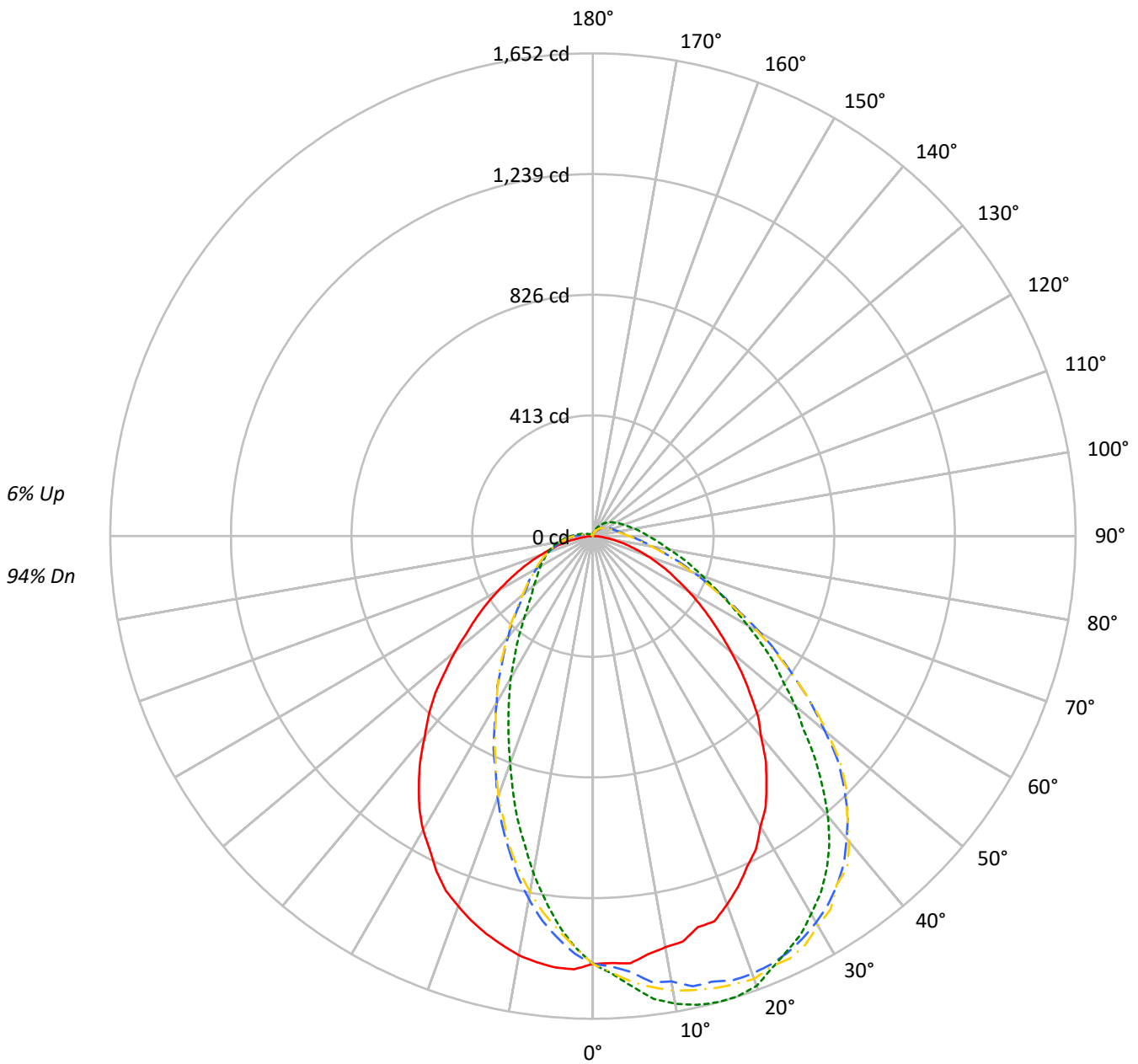
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3649.0 lumens  
Efficiency: N/A  
Efficacy: 122.4 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): 29.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 5.5  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P893493  
CATALOG NUMBER: 4MB-4SL-ASML-UNV-L930

### 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°	14910	14910	14910	14910
5°	14965	15195	15107	13133
10°	14696	15518	14982	11192
15°	14490	15463	14736	9358
20°	14378	15157	14440	7656
25°	13830	14454	14022	6299
30°	13250	13814	13421	5204
35°	12597	13037	12631	4241
40°	11593	11925	11587	3477
45°	10603	10526	10657	2963
50°	9429	9188	9386	2677
55°	8310	8048	8252	2458
60°	7288	6864	7223	2324
65°	6385	5911	6233	2208
70°	5427	5179	5244	2110
75°	4424	4708	4304	2033
80°	3415	4238	3101	1893
85°	2347	4092	1900	1773

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 14750 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	137.6	3.8
10°-20°	382.3	10.5
20°-30°	550.0	15.1
30°-40°	624.1	17.1
40°-50°	596.4	16.3
50°-60°	484.6	13.3
60°-70°	338.2	9.3
70°-80°	209.5	5.7
80°-90°	120.2	3.3
90°-100°	71.8	2.0
100°-110°	47.2	1.3
110°-120°	33.0	0.9
120°-130°	23.9	0.7
130°-140°	15.9	0.4
140°-150°	9.0	0.2
150°-160°	4.0	0.1
160°-170°	1.1	0.0
170°-180°	0.1	0.0
0°-30°	1069.9	29.3
0°-40°	1694.0	46.4
0°-60°	2775.1	76.0
0°-90°	3442.9	94.4
90°-120°	152.0	4.2
90°-150°	200.9	5.5
90°-180°	206.0	5.6
0°-180°	3649.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1464	1464	1464	1464	1464	
5°	1468	1548	1482	1338	1468	138
15°	1386	1652	1409	1000	1386	394
25°	1249	1568	1266	684	1249	576
35°	1036	1394	1038	454	1036	645
45°	759	1075	763	302	759	586
55°	489	758	486	232	489	440
65°	283	493	276	184	283	281
75°	126	330	122	142	126	136
85°	27	223	22	97	27	31
90°	1	189	0	74	1	2
95°	1	164	0	57	1	1
105°	1	127	0	31	1	1
115°	1	101	0	17	1	1
125°	1	82	0	11	1	1
135°	1	65	0	9	1	1
145°	1	46	0	6	1	1
155°	1	29	0	3	1	1
165°	1	13	0	1	1	0
175°	1	0	0	0	1	0
180°	0	0	0	0	0	



TEST NUMBER: P893493  
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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1464.0	1464.0	1464.0	1464.0	1464.0	1464.0	1464.0	1464.0	1464.0	1464.0	1464.0
2.5°	1462.6	1473.6	1474.6	1509.1	1499.0	1512.0	1495.7	1498.6	1484.2	1480.3	1430.5
5°	1467.9	1491.4	1497.6	1557.0	1547.5	1554.2	1531.6	1515.3	1481.8	1461.6	1381.1
7.5°	1442.9	1504.8	1539.3	1581.5	1597.3	1602.6	1557.0	1526.8	1471.2	1421.9	1327.4
10°	1429.0	1514.4	1547.9	1611.2	1625.1	1615.0	1579.6	1529.7	1456.8	1377.3	1261.3
12.5°	1421.4	1519.6	1578.1	1642.9	1643.3	1632.8	1591.1	1537.4	1433.4	1329.3	1191.3
15°	1385.9	1518.7	1578.6	1644.3	1651.5	1644.8	1602.1	1532.1	1409.4	1269.9	1110.7
17.5°	1382.1	1516.3	1594.0	1663.0	1651.0	1646.2	1608.8	1529.7	1380.6	1209.5	1035.0
20°	1341.8	1511.0	1594.0	1641.9	1638.1	1640.0	1613.1	1526.4	1347.6	1144.3	952.1
22.5°	1299.1	1504.8	1587.2	1623.7	1600.7	1635.7	1594.0	1517.3	1314.0	1076.2	869.6
25°	1248.8	1494.7	1574.3	1597.8	1568.5	1595.9	1595.4	1503.4	1266.1	1002.9	804.4
27.5°	1208.0	1478.9	1553.2	1588.7	1538.8	1562.3	1575.7	1486.6	1209.5	930.5	727.7
30°	1147.2	1458.8	1527.8	1533.1	1493.8	1523.5	1538.8	1465.5	1162.0	848.5	657.7
32.5°	1100.7	1435.8	1496.6	1489.4	1450.1	1489.4	1514.4	1444.4	1105.5	776.6	608.3
35°	1035.5	1408.0	1457.8	1419.9	1394.1	1426.6	1455.9	1421.9	1038.3	699.9	545.1
37.5°	972.2	1383.5	1411.3	1364.3	1328.9	1365.3	1429.5	1379.7	970.8	639.0	498.1
40°	895.0	1327.4	1350.4	1286.7	1251.2	1304.9	1363.8	1343.2	894.5	575.7	452.5
42.5°	836.5	1285.7	1292.4	1205.2	1163.0	1220.0	1287.1	1291.5	832.7	518.7	412.3
45°	759.3	1227.2	1214.8	1118.9	1074.8	1126.1	1226.7	1238.3	763.2	469.3	373.0
47.5°	689.8	1162.0	1137.6	1025.4	976.0	1036.9	1148.6	1178.8	685.5	423.8	336.0
50°	617.4	1089.2	1035.0	938.2	905.1	935.3	1049.4	1099.2	614.6	378.7	307.8
52.5°	551.3	1008.6	941.5	854.7	821.7	846.6	945.3	1020.1	544.1	340.8	282.8
55°	489.0	928.1	841.3	764.6	757.9	765.6	839.9	925.7	485.6	307.3	267.0
57.5°	433.4	830.3	751.2	694.6	682.6	688.9	740.2	828.4	429.0	273.7	244.0
60°	377.3	730.1	662.0	618.4	611.7	616.5	649.6	733.5	373.9	245.4	222.4
62.5°	326.5	629.4	569.0	552.7	547.9	547.9	561.8	638.5	322.1	216.7	206.1
65°	282.8	543.1	497.6	491.4	492.8	492.3	483.7	533.1	276.1	191.3	191.8
67.5°	238.7	451.6	426.2	433.8	439.6	437.2	419.0	443.4	233.0	168.3	178.8
70°	198.0	373.0	368.2	385.4	398.8	386.4	360.0	362.4	191.3	145.7	162.0
72.5°	159.6	301.5	323.6	347.6	360.5	346.6	310.2	299.6	153.9	125.1	146.7
75°	125.6	242.6	277.6	313.0	329.8	312.1	269.9	233.9	122.2	105.5	134.2
77.5°	95.9	192.2	237.3	278.5	294.8	279.5	234.9	182.6	89.6	88.7	120.8
80°	68.6	152.0	210.4	250.2	265.1	250.2	203.7	144.3	62.3	70.9	106.4
82.5°	45.1	117.4	183.1	227.7	244.0	225.8	176.9	111.2	39.8	57.5	95.9
85°	27.3	93.0	159.6	204.7	223.4	205.7	154.8	84.4	22.1	44.1	83.4
87.5°	12.0	71.9	142.4	188.9	205.7	189.4	138.1	66.2	9.1	34.5	71.4
90°	1.0	57.0	125.6	174.0	188.9	173.5	122.2	53.7	0.0	24.9	61.4
92.5°	1.0	48.9	115.1	161.1	177.9	160.6	110.3	44.1	0.0	18.2	51.8
95°	1.4	41.2	104.5	151.0	164.4	149.6	100.7	37.9	0.0	12.5	43.6
97.5°	1.4	37.4	95.9	140.9	155.8	140.0	92.0	34.0	0.0	9.1	35.5
100°	1.0	34.5	89.2	131.4	145.3	130.4	85.3	30.7	0.0	5.8	28.8
102.5°	1.0	32.1	83.4	123.2	134.2	121.8	79.6	28.8	0.0	4.8	23.5
105°	1.0	30.7	78.1	113.6	126.6	113.6	74.8	26.8	0.0	3.8	18.2
107.5°	1.0	28.8	74.3	108.3	118.9	107.4	70.9	25.4	0.0	3.8	14.9
110°	1.0	27.3	70.9	100.7	112.7	101.6	67.6	23.0	0.0	2.4	12.0



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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°	1.0	24.9	67.6	95.4	106.9	95.9	64.7	21.1	0.0	2.4	10.5
115°	1.0	22.5	64.7	92.0	100.7	91.1	61.8	18.7	0.0	1.9	9.6
117.5°	1.0	21.1	62.8	87.7	96.4	86.8	59.4	17.7	0.0	1.9	9.1
120°	1.0	20.1	59.9	83.4	90.1	82.5	56.6	16.8	0.0	1.9	8.6
122.5°	1.0	19.2	57.5	79.6	86.8	79.1	54.2	16.3	0.0	1.4	7.7
125°	1.0	18.2	54.2	75.3	82.0	74.3	49.9	15.8	0.0	1.0	6.7
127.5°	1.0	17.3	50.8	71.9	78.1	70.9	47.0	15.3	0.0	1.0	6.2
130°	1.0	16.8	46.5	67.6	73.8	66.6	43.6	15.3	0.0	1.0	5.8
132.5°	1.0	16.3	41.7	63.3	70.0	62.3	40.3	14.9	0.0	1.0	4.8
135°	1.0	15.8	36.9	59.0	65.2	58.0	37.4	14.4	0.0	1.0	4.3
137.5°	1.0	14.9	32.6	54.2	60.4	53.2	35.5	13.4	0.0	1.0	3.8
140°	1.0	13.9	29.2	50.3	55.6	48.9	32.6	12.5	0.0	0.5	2.9
142.5°	1.0	12.5	26.4	45.5	50.8	44.6	29.2	10.5	0.0	0.5	2.9
145°	1.0	11.0	24.0	39.8	46.0	39.8	27.3	9.6	0.0	0.5	2.4
147.5°	1.0	10.1	21.6	33.6	41.7	36.4	24.4	8.1	0.0	0.5	1.9
150°	1.0	9.1	18.7	28.3	36.9	32.1	22.5	7.2	0.0	0.0	1.4
152.5°	1.0	8.1	16.3	23.5	33.1	29.2	20.1	6.2	0.0	0.0	1.0
155°	1.4	7.7	13.9	20.6	28.8	25.4	16.8	5.3	0.0	0.0	1.0
157.5°	1.4	6.7	11.5	16.8	25.4	22.1	13.4	4.3	0.0	0.0	0.5
160°	1.4	6.2	9.6	12.9	21.1	18.2	11.0	3.4	0.0	0.0	0.5
162.5°	1.4	5.8	8.1	9.6	17.3	14.4	8.6	2.4	0.0	0.0	0.5
165°	1.4	4.8	7.2	6.7	13.4	11.0	6.7	1.4	0.0	0.0	0.0
167.5°	1.4	4.3	5.8	4.8	10.1	8.1	4.8	1.0	0.0	0.0	0.0
170°	1.4	3.4	4.8	3.4	2.9	5.3	2.9	0.5	0.0	0.0	0.0
172.5°	1.4	2.9	3.8	2.4	1.0	2.9	1.4	0.0	0.0	0.0	0.0
175°	1.4	2.4	2.4	1.4	0.5	1.0	0.0	0.0	0.0	0.0	0.0
177.5°	1.4	1.9	1.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1464.0	1464.0	1464.0	1464.0	1464.0	1464.0
2.5°	1423.8	1408.0	1393.6	1408.9	1419.9	1462.6
5°	1354.3	1337.5	1339.4	1353.3	1390.2	1467.9
7.5°	1282.4	1254.5	1261.3	1300.1	1354.7	1442.9
10°	1197.5	1172.1	1178.3	1236.8	1313.5	1429.0
12.5°	1121.8	1079.1	1115.5	1170.7	1265.6	1421.4
15°	1033.1	999.5	1019.2	1100.7	1219.6	1385.9
17.5°	937.2	911.3	934.8	1015.8	1163.0	1382.1
20°	863.4	827.4	855.2	944.4	1093.0	1341.8
22.5°	780.4	753.1	782.4	864.3	1021.6	1299.1
25°	712.4	683.6	712.8	794.3	958.3	1248.8
27.5°	646.2	619.8	646.2	721.0	895.5	1208.0
30°	588.2	562.8	589.6	661.6	822.1	1147.2
32.5°	534.0	501.4	536.0	605.5	757.4	1100.7
35°	477.9	453.5	479.4	556.6	685.5	1035.5
37.5°	431.4	406.0	436.7	502.9	624.6	972.2
40°	387.3	364.8	389.3	459.7	572.9	895.0
42.5°	352.8	330.3	355.2	420.4	520.6	836.5
45°	319.3	302.5	322.6	377.3	467.9	759.3
47.5°	294.8	280.4	297.2	345.6	423.8	689.8
50°	273.7	263.7	275.6	314.0	378.2	617.4
52.5°	255.0	245.0	258.9	289.5	342.3	551.3
55°	240.7	231.5	242.1	266.5	306.3	489.0
57.5°	224.8	219.1	227.2	242.1	278.0	433.4
60°	213.3	207.1	215.7	227.7	245.9	377.3
62.5°	200.4	197.0	202.3	211.9	221.5	326.5
65°	188.9	184.1	190.8	194.2	193.2	282.8
67.5°	176.4	175.0	178.8	179.3	172.1	238.7
70°	163.5	162.5	167.3	164.4	149.6	198.0
72.5°	152.9	152.9	155.8	150.0	130.4	159.6
75°	141.4	142.4	144.8	138.1	109.8	125.6
77.5°	130.9	131.8	132.3	123.2	92.0	95.9
80°	118.9	118.4	123.2	111.7	74.8	68.6
82.5°	108.3	106.4	109.3	97.8	60.4	45.1
85°	96.4	96.8	98.8	85.3	48.4	27.3
87.5°	86.8	86.8	88.7	75.3	36.4	12.0
90°	75.3	74.3	77.2	63.8	27.3	1.0
92.5°	65.7	65.7	67.6	54.6	20.1	1.0
95°	56.1	56.6	58.0	45.1	15.3	1.4
97.5°	47.9	48.4	50.3	38.4	11.0	1.4
100°	40.7	41.2	42.2	30.7	8.6	1.0
102.5°	34.0	35.5	35.5	25.4	6.7	1.0
105°	28.8	30.7	29.7	20.6	6.2	1.0
107.5°	24.0	25.9	25.9	16.8	6.2	1.0
110°	19.7	22.5	22.1	14.4	4.8	1.0





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	16.8	19.2	17.7	12.5	4.8	1.0
115°	14.4	16.8	15.8	11.5	4.3	1.0
117.5°	12.9	14.4	14.4	11.0	4.3	1.0
120°	12.0	13.4	12.9	10.5	4.3	1.0
122.5°	11.0	12.0	12.0	9.6	3.8	1.0
125°	10.5	11.0	11.5	8.6	3.8	1.0
127.5°	10.1	11.0	11.0	8.1	3.4	1.0
130°	9.1	10.1	10.1	7.7	3.4	1.0
132.5°	8.1	9.1	9.1	7.2	3.4	1.0
135°	7.7	8.6	8.6	6.7	3.4	1.0
137.5°	7.2	7.7	7.7	6.2	3.4	1.0
140°	6.2	7.2	7.2	5.8	3.4	1.0
142.5°	5.8	6.7	6.7	5.3	2.9	1.0
145°	5.3	5.8	6.2	4.8	2.9	1.0
147.5°	4.3	5.3	5.8	4.3	2.9	1.0
150°	3.4	4.8	4.8	4.3	2.9	1.0
152.5°	2.4	4.3	4.3	3.8	2.4	1.0
155°	1.9	3.4	3.8	3.4	2.4	1.4
157.5°	1.4	2.9	3.4	3.4	2.4	1.4
160°	1.0	2.4	2.9	2.9	1.9	1.4
162.5°	0.5	1.9	2.4	2.9	1.9	1.4
165°	0.0	1.4	1.9	2.4	1.9	1.4
167.5°	0.0	1.0	1.4	1.9	1.4	1.4
170°	0.0	0.5	1.0	1.4	1.4	1.4
172.5°	0.0	0.0	0.5	1.0	1.0	1.4
175°	0.0	0.0	0.0	0.5	1.0	1.4
177.5°	0.0	0.0	0.0	0.5	1.0	1.4
180°	0.5	0.5	0.5	0.5	0.5	0.5



TEST NUMBER: P893493  
 CATALOG NUMBER: 4MB-4SL-ASML-UNV-L930

**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	18.31	19.77	18.76	20.20	20.65	20.56	22.02	21.02	22.45	22.91
	3H	19.13	20.45	19.59	20.89	21.39	22.26	23.58	22.73	24.03	24.52
	4H	19.33	20.57	19.82	21.03	21.55	23.10	24.35	23.59	24.81	25.32
	6H	19.42	20.57	19.92	21.05	21.58	23.98	25.13	24.48	25.61	26.13
	8H	19.42	20.52	19.94	21.02	21.56	24.45	25.55	24.96	26.05	26.58
	12H	19.41	20.46	19.93	20.96	21.52	24.99	26.05	25.51	26.54	27.10
4H	2H	18.74	19.98	19.23	20.44	20.96	20.93	22.17	21.42	22.63	23.15
	3H	19.84	20.88	20.34	21.39	21.92	22.81	23.86	23.31	24.36	24.90
	4H	20.18	21.13	20.70	21.64	22.21	23.79	24.73	24.31	25.25	25.82
	6H	20.37	21.20	20.91	21.74	22.33	24.83	25.66	25.37	26.20	26.78
	8H	20.40	21.18	20.95	21.72	22.31	25.39	26.17	25.94	26.71	27.31
	12H	20.40	21.11	20.97	21.68	22.28	26.05	26.75	26.62	27.32	27.92
8H	4H	20.51	21.29	21.06	21.83	22.42	23.93	24.71	24.48	25.25	25.84
	6H	20.83	21.48	21.41	22.07	22.67	25.10	25.75	25.68	26.34	26.94
	8H	20.92	21.51	21.51	22.11	22.72	25.78	26.37	26.37	26.97	27.58
	12H	20.97	21.50	21.57	22.08	22.77	26.59	27.12	27.19	27.70	28.39
12H	4H	20.58	21.29	21.15	21.86	22.46	23.92	24.62	24.49	25.20	25.79
	6H	20.96	21.55	21.56	22.15	22.77	25.11	25.70	25.71	26.30	26.91
	8H	21.12	21.65	21.72	22.23	22.92	25.85	26.37	26.44	26.96	27.64