

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: P893606

Luminaire Tested: 4MB-5SL-ASML-UNV-L935

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893606  
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-5SL-ASML-UNV-L935  
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

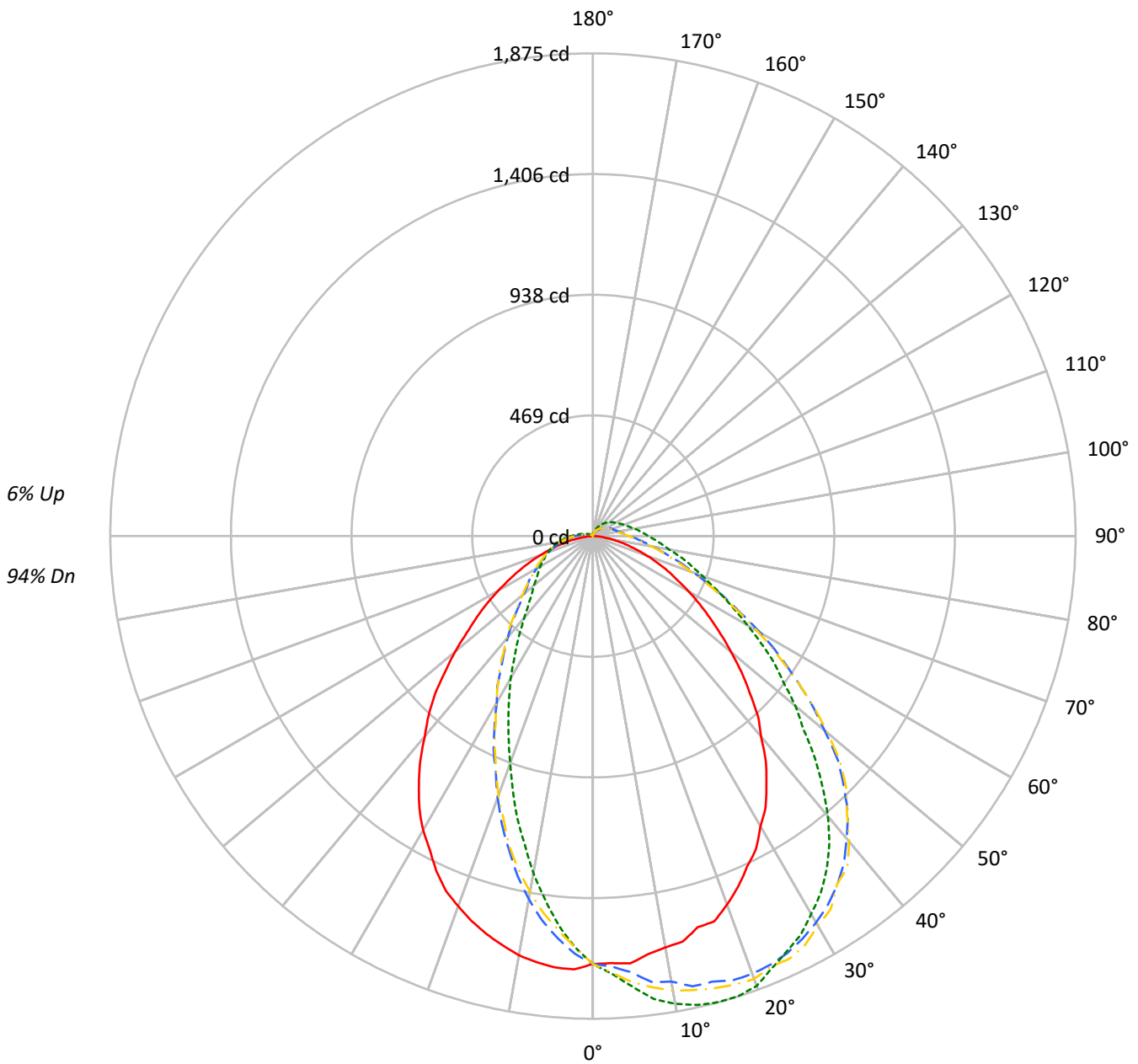
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4142.0 lumens  
Efficiency: N/A  
Efficacy: 118.3 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): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.995  
Total Harmonic Distortion (THDi): 9.55  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P893606  
CATALOG NUMBER: 4MB-5SL-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°	16924	16924	16924	16924
5°	16987	17247	17148	14907
10°	16682	17615	17007	12705
15°	16447	17552	16727	10623
20°	16320	17205	16390	8690
25°	15699	16407	15916	7151
30°	15041	15680	15235	5907
35°	14299	14797	14338	4814
40°	13159	13536	13153	3947
45°	12036	11948	12097	3363
50°	10704	10429	10654	3038
55°	9431	9135	9367	2791
60°	8272	7791	8198	2638
65°	7247	6709	7076	2507
70°	6159	5879	5951	2396
75°	5022	5345	4888	2307
80°	3873	4810	3519	2148
85°	2665	4646	2149	2013

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 16742 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	156.1	3.8
10°-20°	434.0	10.5
20°-30°	624.3	15.1
30°-40°	708.4	17.1
40°-50°	677.0	16.3
50°-60°	550.1	13.3
60°-70°	383.9	9.3
70°-80°	237.8	5.7
80°-90°	136.4	3.3
90°-100°	81.5	2.0
100°-110°	53.5	1.3
110°-120°	37.5	0.9
120°-130°	27.2	0.7
130°-140°	18.1	0.4
140°-150°	10.2	0.2
150°-160°	4.5	0.1
160°-170°	1.3	0.0
170°-180°	0.1	0.0
0°-30°	1214.4	29.3
0°-40°	1922.8	46.4
0°-60°	3150.0	76.1
0°-90°	3908.0	94.4
90°-120°	172.6	4.2
90°-150°	228.0	5.5
90°-180°	234.0	5.6
0°-180°	4142.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1662	1662	1662	1662	1662	
5°	1666	1756	1682	1518	1666	157
15°	1573	1875	1600	1135	1573	447
25°	1418	1780	1437	776	1418	654
35°	1175	1582	1179	515	1175	733
45°	862	1220	866	343	862	665
55°	555	860	551	263	555	499
65°	321	559	313	209	321	319
75°	143	374	139	162	143	154
85°	31	254	25	110	31	35
90°	1	214	0	84	1	2
95°	2	187	0	64	2	1
105°	1	144	0	35	1	1
115°	1	114	0	19	1	1
125°	1	93	0	12	1	1
135°	1	74	0	10	1	1
145°	1	52	0	6	1	1
155°	2	33	0	4	2	1
165°	2	15	0	2	2	0
175°	2	0	0	0	2	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°	1661.8	1661.8	1661.8	1661.8	1661.8	1661.8	1661.8	1661.8	1661.8	1661.8	1661.8
2.5°	1660.2	1672.7	1673.8	1713.0	1701.6	1716.3	1697.8	1701.0	1684.7	1680.3	1623.7
5°	1666.2	1692.9	1699.9	1767.4	1756.5	1764.1	1738.6	1720.1	1682.0	1659.1	1567.7
7.5°	1637.9	1708.1	1747.3	1795.2	1813.1	1819.1	1767.4	1733.1	1670.0	1614.0	1506.8
10°	1622.1	1719.0	1757.1	1828.9	1844.7	1833.2	1793.0	1736.4	1653.7	1563.3	1431.7
12.5°	1613.4	1725.0	1791.3	1864.8	1865.4	1853.4	1806.0	1745.1	1627.0	1508.9	1352.2
15°	1573.1	1723.9	1791.9	1866.4	1874.6	1867.0	1818.6	1739.1	1599.8	1441.5	1260.8
17.5°	1568.8	1721.2	1809.3	1887.7	1874.1	1868.6	1826.2	1736.4	1567.2	1372.9	1174.8
20°	1523.1	1715.2	1809.3	1863.7	1859.4	1861.5	1831.1	1732.6	1529.6	1298.9	1080.7
22.5°	1474.7	1708.1	1801.7	1843.0	1816.9	1856.6	1809.3	1722.2	1491.5	1221.6	987.1
25°	1417.5	1696.7	1787.0	1813.7	1780.5	1811.5	1810.9	1706.5	1437.1	1138.4	913.1
27.5°	1371.3	1678.7	1763.1	1803.3	1746.7	1773.4	1788.6	1687.4	1372.9	1056.2	826.0
30°	1302.2	1655.9	1734.2	1740.2	1695.6	1729.3	1746.7	1663.5	1319.0	963.1	746.6
32.5°	1249.4	1629.7	1698.8	1690.7	1646.1	1690.7	1719.0	1639.5	1254.8	881.5	690.5
35°	1175.4	1598.2	1654.8	1611.8	1582.4	1619.4	1652.6	1614.0	1178.6	794.5	618.7
37.5°	1103.5	1570.4	1602.0	1548.7	1508.4	1549.7	1622.7	1566.1	1101.9	725.4	565.4
40°	1015.9	1506.8	1532.9	1460.5	1420.2	1481.2	1548.1	1524.7	1015.4	653.5	513.7
42.5°	949.5	1459.4	1467.0	1368.0	1320.1	1384.9	1461.0	1465.9	945.2	588.8	468.0
45°	861.9	1393.0	1378.9	1270.1	1220.0	1278.2	1392.5	1405.5	866.3	532.7	423.4
47.5°	783.0	1319.0	1291.3	1163.9	1107.9	1177.0	1303.8	1338.1	778.1	481.0	381.5
50°	700.9	1236.3	1174.8	1064.9	1027.4	1061.6	1191.1	1247.7	697.6	429.9	349.3
52.5°	625.8	1144.9	1068.7	970.2	932.7	961.0	1073.1	1158.0	617.6	386.9	321.0
55°	555.0	1053.5	955.0	867.9	860.3	869.0	953.4	1050.8	551.2	348.8	303.1
57.5°	491.9	942.5	852.7	788.5	774.9	781.9	840.2	940.3	487.0	310.7	277.0
60°	428.2	828.7	751.5	702.0	694.3	699.8	737.3	832.6	424.4	278.6	252.5
62.5°	370.6	714.5	645.9	627.4	622.0	622.0	637.7	724.8	365.7	246.0	234.0
65°	321.0	616.5	564.8	557.8	559.4	558.8	549.0	605.1	313.4	217.1	217.7
67.5°	271.0	512.6	483.8	492.5	499.0	496.3	475.6	503.3	264.5	191.0	203.0
70°	224.7	423.4	417.9	437.5	452.7	438.6	408.7	411.4	217.1	165.4	183.9
72.5°	181.2	342.3	367.3	394.5	409.2	393.4	352.1	340.1	174.7	142.0	166.5
75°	142.6	275.3	315.1	355.3	374.4	354.2	306.4	265.5	138.8	119.7	152.4
77.5°	108.8	218.2	269.4	316.2	334.7	317.2	266.6	207.3	101.8	100.7	137.1
80°	77.8	172.5	238.9	284.0	300.9	284.0	231.3	163.8	70.7	80.5	120.8
82.5°	51.2	133.3	207.9	258.5	277.0	256.3	200.8	126.2	45.2	65.3	108.8
85°	31.0	105.6	181.2	232.4	253.6	233.4	175.8	95.8	25.0	50.1	94.7
87.5°	13.6	81.6	161.6	214.4	233.4	214.9	156.7	75.1	10.3	39.2	81.1
90°	1.1	64.8	142.6	197.5	214.4	197.0	138.8	60.9	0.0	28.3	69.7
92.5°	1.1	55.5	130.6	182.8	201.9	182.3	125.2	50.1	0.0	20.7	58.8
95°	1.6	46.8	118.6	171.4	186.6	169.8	114.3	43.0	0.0	14.1	49.5
97.5°	1.6	42.4	108.8	160.0	176.8	158.9	104.5	38.6	0.0	10.3	40.3
100°	1.1	39.2	101.2	149.1	164.9	148.0	96.9	34.8	0.0	6.5	32.6
102.5°	1.1	36.5	94.7	139.8	152.4	138.2	90.3	32.6	0.0	5.4	26.7
105°	1.1	34.8	88.7	129.0	143.7	129.0	84.9	30.5	0.0	4.4	20.7
107.5°	1.1	32.6	84.3	123.0	134.9	121.9	80.5	28.8	0.0	4.4	16.9
110°	1.1	31.0	80.5	114.3	127.9	115.4	76.7	26.1	0.0	2.7	13.6



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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°	1.1	28.3	76.7	108.3	121.3	108.8	73.5	23.9	0.0	2.7	12.0
115°	1.1	25.6	73.5	104.5	114.3	103.4	70.2	21.2	0.0	2.2	10.9
117.5°	1.1	23.9	71.3	99.6	109.4	98.5	67.5	20.1	0.0	2.2	10.3
120°	1.1	22.9	68.0	94.7	102.3	93.6	64.2	19.0	0.0	2.2	9.8
122.5°	1.1	21.8	65.3	90.3	98.5	89.8	61.5	18.5	0.0	1.6	8.7
125°	1.1	20.7	61.5	85.4	93.1	84.3	56.6	18.0	0.0	1.1	7.6
127.5°	1.1	19.6	57.7	81.6	88.7	80.5	53.3	17.4	0.0	1.1	7.1
130°	1.1	19.0	52.8	76.7	83.8	75.6	49.5	17.4	0.0	1.1	6.5
132.5°	1.1	18.5	47.3	71.8	79.4	70.7	45.7	16.9	0.0	1.1	5.4
135°	1.1	18.0	41.9	66.9	74.0	65.8	42.4	16.3	0.0	1.1	4.9
137.5°	1.1	16.9	37.0	61.5	68.6	60.4	40.3	15.2	0.0	1.1	4.4
140°	1.1	15.8	33.2	57.1	63.1	55.5	37.0	14.1	0.0	0.5	3.3
142.5°	1.1	14.1	29.9	51.7	57.7	50.6	33.2	12.0	0.0	0.5	3.3
145°	1.1	12.5	27.2	45.2	52.2	45.2	31.0	10.9	0.0	0.5	2.7
147.5°	1.1	11.4	24.5	38.1	47.3	41.4	27.8	9.3	0.0	0.5	2.2
150°	1.1	10.3	21.2	32.1	41.9	36.5	25.6	8.2	0.0	0.0	1.6
152.5°	1.1	9.3	18.5	26.7	37.5	33.2	22.9	7.1	0.0	0.0	1.1
155°	1.6	8.7	15.8	23.4	32.6	28.8	19.0	6.0	0.0	0.0	1.1
157.5°	1.6	7.6	13.1	19.0	28.8	25.0	15.2	4.9	0.0	0.0	0.5
160°	1.6	7.1	10.9	14.7	23.9	20.7	12.5	3.8	0.0	0.0	0.5
162.5°	1.6	6.5	9.3	10.9	19.6	16.3	9.8	2.7	0.0	0.0	0.5
165°	1.6	5.4	8.2	7.6	15.2	12.5	7.6	1.6	0.0	0.0	0.0
167.5°	1.6	4.9	6.5	5.4	11.4	9.3	5.4	1.1	0.0	0.0	0.0
170°	1.6	3.8	5.4	3.8	3.3	6.0	3.3	0.5	0.0	0.0	0.0
172.5°	1.6	3.3	4.4	2.7	1.1	3.3	1.6	0.0	0.0	0.0	0.0
175°	1.6	2.7	2.7	1.6	0.5	1.1	0.0	0.0	0.0	0.0	0.0
177.5°	1.6	2.2	1.6	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°	1661.8	1661.8	1661.8	1661.8	1661.8	1661.8
2.5°	1616.1	1598.2	1581.9	1599.3	1611.8	1660.2
5°	1537.2	1518.2	1520.4	1536.1	1578.0	1666.2
7.5°	1455.6	1424.0	1431.7	1475.7	1537.8	1637.9
10°	1359.3	1330.5	1337.5	1403.9	1491.0	1622.1
12.5°	1273.3	1224.9	1266.2	1328.8	1436.6	1613.4
15°	1172.6	1134.6	1156.9	1249.4	1384.3	1573.1
17.5°	1063.8	1034.4	1061.1	1153.1	1320.1	1568.8
20°	980.0	939.2	970.8	1072.0	1240.7	1523.1
22.5°	885.9	854.9	888.1	981.1	1159.6	1474.7
25°	808.6	776.0	809.2	901.7	1087.8	1417.5
27.5°	733.5	703.6	733.5	818.4	1016.5	1371.3
30°	667.7	638.8	669.3	750.9	933.2	1302.2
32.5°	606.2	569.2	608.4	687.3	859.8	1249.4
35°	542.5	514.8	544.2	631.8	778.1	1175.4
37.5°	489.7	460.9	495.7	570.8	709.0	1103.5
40°	439.7	414.1	441.9	521.8	650.3	1015.9
42.5°	400.5	374.9	403.2	477.2	590.9	949.5
45°	362.4	343.4	366.2	428.2	531.1	861.9
47.5°	334.7	318.3	337.4	392.3	481.0	783.0
50°	310.7	299.3	312.9	356.4	429.3	700.9
52.5°	289.5	278.1	293.8	328.7	388.5	625.8
55°	273.2	262.8	274.8	302.5	347.7	555.0
57.5°	255.2	248.7	257.9	274.8	315.6	491.9
60°	242.1	235.1	244.9	258.5	279.2	428.2
62.5°	227.5	223.6	229.6	240.5	251.4	370.6
65°	214.4	209.0	216.6	220.4	219.3	321.0
67.5°	200.2	198.6	203.0	203.5	195.4	271.0
70°	185.6	184.5	189.9	186.6	169.8	224.7
72.5°	173.6	173.6	176.8	170.3	148.0	181.2
75°	160.5	161.6	164.3	156.7	124.6	142.6
77.5°	148.6	149.6	150.2	139.8	104.5	108.8
80°	134.9	134.4	139.8	126.8	84.9	77.8
82.5°	123.0	120.8	124.1	111.0	68.6	51.2
85°	109.4	109.9	112.1	96.9	55.0	31.0
87.5°	98.5	98.5	100.7	85.4	41.4	13.6
90°	85.4	84.3	87.6	72.4	31.0	1.1
92.5°	74.5	74.5	76.7	62.0	22.9	1.1
95°	63.7	64.2	65.8	51.2	17.4	1.6
97.5°	54.4	55.0	57.1	43.5	12.5	1.6
100°	46.3	46.8	47.9	34.8	9.8	1.1
102.5°	38.6	40.3	40.3	28.8	7.6	1.1
105°	32.6	34.8	33.7	23.4	7.1	1.1
107.5°	27.2	29.4	29.4	19.0	7.1	1.1
110°	22.3	25.6	25.0	16.3	5.4	1.1





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	19.0	21.8	20.1	14.1	5.4	1.1
115°	16.3	19.0	18.0	13.1	4.9	1.1
117.5°	14.7	16.3	16.3	12.5	4.9	1.1
120°	13.6	15.2	14.7	12.0	4.9	1.1
122.5°	12.5	13.6	13.6	10.9	4.4	1.1
125°	12.0	12.5	13.1	9.8	4.4	1.1
127.5°	11.4	12.5	12.5	9.3	3.8	1.1
130°	10.3	11.4	11.4	8.7	3.8	1.1
132.5°	9.3	10.3	10.3	8.2	3.8	1.1
135°	8.7	9.8	9.8	7.6	3.8	1.1
137.5°	8.2	8.7	8.7	7.1	3.8	1.1
140°	7.1	8.2	8.2	6.5	3.8	1.1
142.5°	6.5	7.6	7.6	6.0	3.3	1.1
145°	6.0	6.5	7.1	5.4	3.3	1.1
147.5°	4.9	6.0	6.5	4.9	3.3	1.1
150°	3.8	5.4	5.4	4.9	3.3	1.1
152.5°	2.7	4.9	4.9	4.4	2.7	1.1
155°	2.2	3.8	4.4	3.8	2.7	1.6
157.5°	1.6	3.3	3.8	3.8	2.7	1.6
160°	1.1	2.7	3.3	3.3	2.2	1.6
162.5°	0.5	2.2	2.7	3.3	2.2	1.6
165°	0.0	1.6	2.2	2.7	2.2	1.6
167.5°	0.0	1.1	1.6	2.2	1.6	1.6
170°	0.0	0.5	1.1	1.6	1.6	1.6
172.5°	0.0	0.0	0.5	1.1	1.1	1.6
175°	0.0	0.0	0.0	0.5	1.1	1.6
177.5°	0.0	0.0	0.0	0.5	1.1	1.6
180°	0.5	0.5	0.5	0.5	0.5	0.5



TEST NUMBER: P893606  
 CATALOG NUMBER: 4MB-5SL-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	18.75	20.21	19.20	20.64	21.09	21.00	22.46	21.46	22.90	23.35
	3H	19.57	20.89	20.03	21.33	21.83	22.70	24.02	23.17	24.47	24.96
	4H	19.77	21.01	20.26	21.47	21.99	23.54	24.79	24.03	25.25	25.76
	6H	19.86	21.01	20.36	21.49	22.02	24.42	25.57	24.92	26.05	26.57
	8H	19.86	20.96	20.38	21.46	22.00	24.89	25.99	25.41	26.49	27.02
	12H	19.85	20.91	20.37	21.40	21.96	25.43	26.49	25.95	26.98	27.54
4H	2H	19.18	20.42	19.67	20.88	21.40	21.37	22.61	21.86	23.07	23.59
	3H	20.28	21.32	20.78	21.83	22.36	23.25	24.30	23.75	24.80	25.34
	4H	20.62	21.57	21.14	22.08	22.65	24.23	25.17	24.75	25.69	26.26
	6H	20.81	21.64	21.35	22.18	22.77	25.27	26.10	25.81	26.64	27.23
	8H	20.84	21.62	21.39	22.16	22.75	25.83	26.61	26.38	27.15	27.75
	12H	20.84	21.55	21.41	22.12	22.72	26.49	27.19	27.06	27.76	28.36
8H	4H	20.95	21.73	21.50	22.27	22.86	24.37	25.15	24.92	25.69	26.28
	6H	21.27	21.92	21.85	22.51	23.11	25.54	26.19	26.12	26.78	27.38
	8H	21.36	21.95	21.95	22.55	23.16	26.22	26.81	26.81	27.41	28.02
	12H	21.41	21.94	22.01	22.52	23.21	27.03	27.56	27.63	28.14	28.83
12H	4H	21.02	21.73	21.59	22.30	22.90	24.36	25.06	24.93	25.64	26.23
	6H	21.41	22.00	22.00	22.60	23.21	25.55	26.14	26.15	26.74	27.35
	8H	21.56	22.09	22.16	22.67	23.36	26.29	26.81	26.88	27.40	28.08