

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: P893608

Luminaire Tested: 4MB-5SL-ASML-UNV-L950

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893608  
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-L950  
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

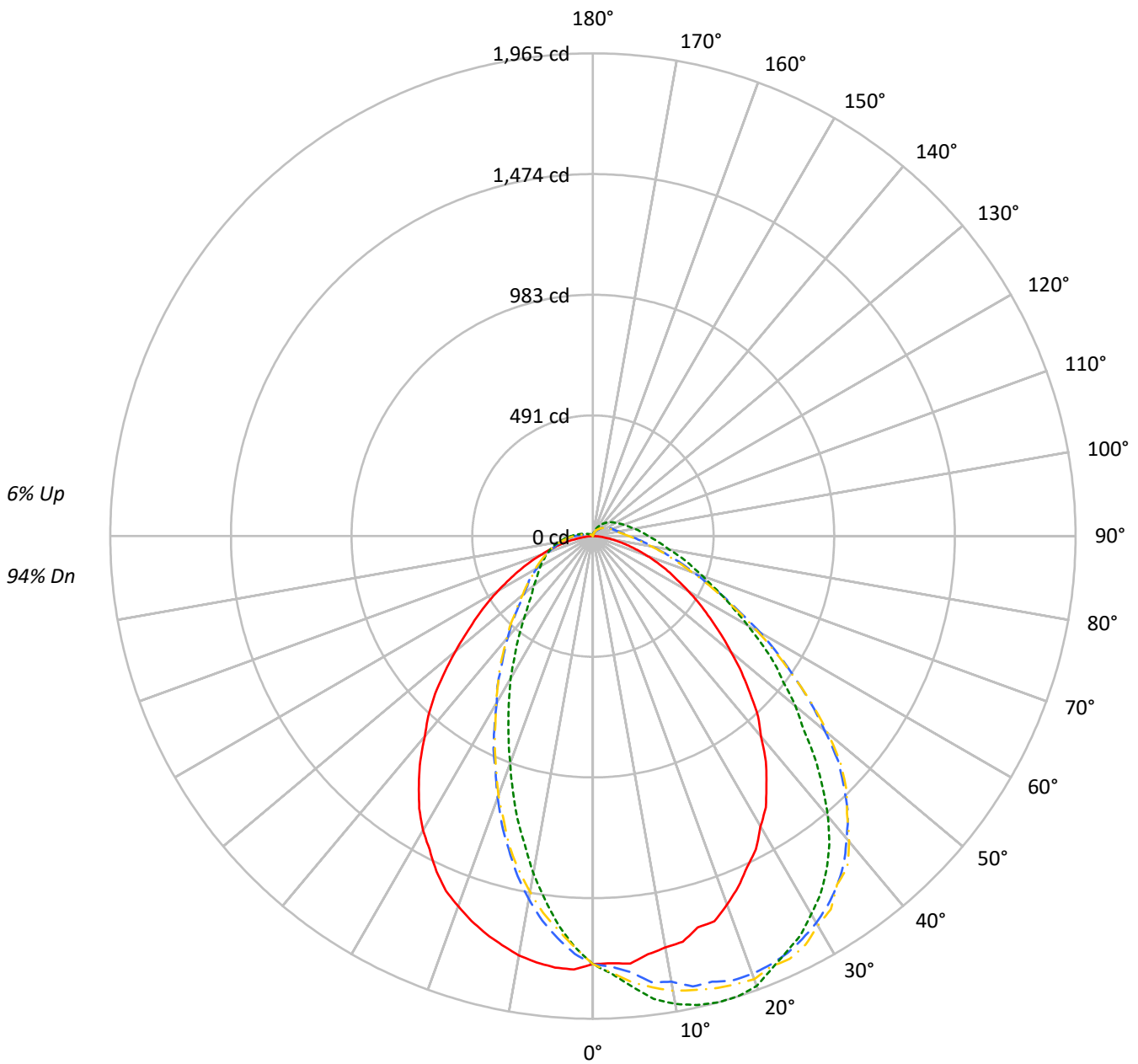
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4342.0 lumens  
Efficiency: N/A  
Efficacy: 124.1 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): 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: P893608  
CATALOG NUMBER: 4MB-5SL-ASML-UNV-L950

### 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°	17742	17742	17742	17742
5°	17807	18079	17976	15627
10°	17488	18465	17828	13318
15°	17242	18399	17535	11135
20°	17108	18035	17182	9110
25°	16457	17199	16684	7495
30°	15766	16437	15970	6193
35°	14989	15512	15030	5046
40°	13795	14190	13787	4137
45°	12618	12525	12681	3525
50°	11220	10933	11168	3184
55°	9887	9576	9819	2926
60°	8672	8168	8594	2765
65°	7599	7033	7419	2627
70°	6458	6163	6239	2512
75°	5265	5603	5124	2418
80°	4062	5042	3694	2252
85°	2794	4869	2253	2110

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 17551 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.7	3.8
10°-20°	455.0	10.5
20°-30°	654.4	15.1
30°-40°	742.6	17.1
40°-50°	709.7	16.3
50°-60°	576.7	13.3
60°-70°	402.4	9.3
70°-80°	249.3	5.7
80°-90°	143.0	3.3
90°-100°	85.5	2.0
100°-110°	56.1	1.3
110°-120°	39.3	0.9
120°-130°	28.5	0.7
130°-140°	18.9	0.4
140°-150°	10.7	0.2
150°-160°	4.8	0.1
160°-170°	1.4	0.0
170°-180°	0.1	0.0
0°-30°	1273.0	29.3
0°-40°	2015.7	46.4
0°-60°	3302.1	76.1
0°-90°	4096.7	94.4
90°-120°	180.9	4.2
90°-150°	239.0	5.5
90°-180°	245.0	5.6
0°-180°	4342.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1742	1742	1742	1742	1742	
5°	1747	1841	1763	1592	1747	165
15°	1649	1965	1677	1189	1649	469
25°	1486	1866	1506	813	1486	685
35°	1232	1659	1236	540	1232	768
45°	904	1279	908	360	904	697
55°	582	902	578	276	582	524
65°	337	586	329	219	337	334
75°	150	392	146	169	150	161
85°	32	266	26	115	32	36
90°	1	225	0	88	1	2
95°	2	196	0	67	2	1
105°	1	151	0	36	1	1
115°	1	120	0	20	1	1
125°	1	98	0	13	1	1
135°	1	78	0	10	1	1
145°	1	55	0	7	1	1
155°	2	34	0	4	2	1
165°	2	16	0	2	2	0
175°	2	1	0	0	2	0
180°	1	1	1	1	1	



TEST NUMBER: P893608

CATALOG NUMBER: 4MB-5SL-ASML-UNV-L950

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1742.1	1742.1	1742.1	1742.1	1742.1	1742.1	1742.1	1742.1	1742.1	1742.1	1742.1
2.5°	1740.4	1753.5	1754.6	1795.7	1783.7	1799.1	1779.7	1783.2	1766.0	1761.5	1702.2
5°	1746.6	1774.6	1782.0	1852.7	1841.3	1849.3	1822.5	1803.1	1763.2	1739.2	1643.4
7.5°	1717.0	1790.6	1831.6	1881.8	1900.7	1906.9	1852.7	1816.8	1750.6	1691.9	1579.5
10°	1700.4	1802.0	1841.9	1917.2	1933.7	1921.8	1879.6	1820.2	1733.5	1638.8	1500.8
12.5°	1691.3	1808.3	1877.8	1954.9	1955.4	1942.9	1893.2	1829.4	1705.6	1581.8	1417.5
15°	1649.1	1807.1	1878.4	1956.6	1965.1	1957.1	1906.4	1823.1	1677.1	1511.1	1321.7
17.5°	1644.5	1804.3	1896.7	1978.8	1964.6	1958.8	1914.4	1820.2	1642.8	1439.2	1231.6
20°	1596.6	1798.0	1896.7	1953.7	1949.1	1951.4	1919.5	1816.2	1603.5	1361.6	1132.9
22.5°	1545.9	1790.6	1888.7	1932.0	1904.7	1946.3	1896.7	1805.4	1563.5	1280.6	1034.8
25°	1486.0	1778.6	1873.3	1901.2	1866.4	1899.0	1898.4	1788.9	1506.5	1193.3	957.2
27.5°	1437.5	1759.8	1848.2	1890.4	1831.1	1859.0	1875.0	1768.9	1439.2	1107.2	865.9
30°	1365.0	1735.8	1818.0	1824.2	1777.5	1812.8	1831.1	1743.8	1382.7	1009.7	782.6
32.5°	1309.7	1708.4	1780.9	1772.3	1725.5	1772.3	1802.0	1718.7	1315.4	924.1	723.9
35°	1232.1	1675.3	1734.7	1689.6	1658.8	1697.6	1732.4	1691.9	1235.5	832.8	648.6
37.5°	1156.8	1646.3	1679.3	1623.4	1581.2	1624.6	1701.0	1641.7	1155.1	760.4	592.7
40°	1065.0	1579.5	1606.9	1531.0	1488.8	1552.7	1622.9	1598.3	1064.4	685.1	538.5
42.5°	995.4	1529.9	1537.9	1434.1	1383.9	1451.7	1531.6	1536.7	990.8	617.2	490.6
45°	903.6	1460.3	1445.5	1331.4	1278.9	1339.9	1459.7	1473.4	908.1	558.4	443.8
47.5°	820.8	1382.7	1353.6	1220.1	1161.4	1233.8	1366.7	1402.7	815.7	504.3	399.9
50°	734.7	1296.0	1231.6	1116.3	1077.0	1112.9	1248.7	1308.0	731.3	450.6	366.2
52.5°	656.0	1200.2	1120.3	1017.1	977.7	1007.4	1124.9	1213.9	647.4	405.6	336.6
55°	581.8	1104.3	1001.1	909.8	901.8	911.0	999.4	1101.5	577.8	365.6	317.7
57.5°	515.7	988.0	893.9	826.5	812.3	819.7	880.7	985.7	510.5	325.7	290.3
60°	448.9	868.8	787.8	735.9	727.9	733.6	772.9	872.8	444.9	292.1	264.7
62.5°	388.5	749.0	677.1	657.7	652.0	652.0	668.5	759.8	383.3	257.8	245.3
65°	336.6	646.3	592.1	584.7	586.4	585.8	575.6	634.3	328.6	227.6	228.2
67.5°	284.1	537.3	507.1	516.2	523.1	520.2	498.6	527.6	277.2	200.2	212.8
70°	235.6	443.8	438.1	458.6	474.6	459.8	428.4	431.2	227.6	173.4	192.8
72.5°	190.0	358.8	385.0	413.6	429.0	412.4	369.1	356.5	183.1	148.9	174.6
75°	149.5	288.6	330.3	372.5	392.5	371.3	321.2	278.4	145.5	125.5	159.7
77.5°	114.1	228.7	282.4	331.4	350.8	332.6	279.5	217.3	106.7	105.5	143.7
80°	81.6	180.8	250.4	297.8	315.4	297.8	242.4	171.7	74.2	84.4	126.6
82.5°	53.6	139.8	217.9	271.0	290.3	268.7	210.5	132.3	47.3	68.5	114.1
85°	32.5	110.7	190.0	243.6	265.8	244.7	184.2	100.4	26.2	52.5	99.3
87.5°	14.3	85.6	169.4	224.7	244.7	225.3	164.3	78.7	10.8	41.1	85.0
90°	1.1	67.9	149.5	207.1	224.7	206.5	145.5	63.9	0.0	29.7	73.0
92.5°	1.1	58.2	136.9	191.7	211.6	191.1	131.2	52.5	0.0	21.7	61.6
95°	1.7	49.1	124.4	179.7	195.7	178.0	119.8	45.1	0.0	14.8	51.9
97.5°	1.7	44.5	114.1	167.7	185.4	166.6	109.5	40.5	0.0	10.8	42.2
100°	1.1	41.1	106.1	156.3	172.8	155.2	101.5	36.5	0.0	6.8	34.2
102.5°	1.1	38.2	99.3	146.6	159.7	144.9	94.7	34.2	0.0	5.7	28.0
105°	1.1	36.5	93.0	135.2	150.6	135.2	89.0	31.9	0.0	4.6	21.7
107.5°	1.1	34.2	88.4	128.9	141.5	127.8	84.4	30.2	0.0	4.6	17.7
110°	1.1	32.5	84.4	119.8	134.1	120.9	80.4	27.4	0.0	2.9	14.3



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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	29.7	80.4	113.5	127.2	114.1	77.0	25.1	0.0	2.9	12.5
115°	1.1	26.8	77.0	109.5	119.8	108.4	73.6	22.2	0.0	2.3	11.4
117.5°	1.1	25.1	74.7	104.4	114.7	103.2	70.7	21.1	0.0	2.3	10.8
120°	1.1	24.0	71.3	99.3	107.2	98.1	67.3	20.0	0.0	2.3	10.3
122.5°	1.1	22.8	68.5	94.7	103.2	94.1	64.5	19.4	0.0	1.7	9.1
125°	1.1	21.7	64.5	89.6	97.5	88.4	59.3	18.8	0.0	1.1	8.0
127.5°	1.1	20.5	60.5	85.6	93.0	84.4	55.9	18.3	0.0	1.1	7.4
130°	1.1	20.0	55.3	80.4	87.8	79.3	51.9	18.3	0.0	1.1	6.8
132.5°	1.1	19.4	49.6	75.3	83.3	74.2	47.9	17.7	0.0	1.1	5.7
135°	1.1	18.8	43.9	70.2	77.6	69.0	44.5	17.1	0.0	1.1	5.1
137.5°	1.1	17.7	38.8	64.5	71.9	63.3	42.2	16.0	0.0	1.1	4.6
140°	1.1	16.5	34.8	59.9	66.2	58.2	38.8	14.8	0.0	0.6	3.4
142.5°	1.1	14.8	31.4	54.2	60.5	53.0	34.8	12.5	0.0	0.6	3.4
145°	1.1	13.1	28.5	47.3	54.8	47.3	32.5	11.4	0.0	0.6	2.9
147.5°	1.1	12.0	25.7	39.9	49.6	43.4	29.1	9.7	0.0	0.6	2.3
150°	1.1	10.8	22.2	33.7	43.9	38.2	26.8	8.6	0.0	0.0	1.7
152.5°	1.1	9.7	19.4	28.0	39.4	34.8	24.0	7.4	0.0	0.0	1.1
155°	1.7	9.1	16.5	24.5	34.2	30.2	20.0	6.3	0.0	0.0	1.1
157.5°	1.7	8.0	13.7	20.0	30.2	26.2	16.0	5.1	0.0	0.0	0.6
160°	1.7	7.4	11.4	15.4	25.1	21.7	13.1	4.0	0.0	0.0	0.6
162.5°	1.7	6.8	9.7	11.4	20.5	17.1	10.3	2.9	0.0	0.0	0.6
165°	1.7	5.7	8.6	8.0	16.0	13.1	8.0	1.7	0.0	0.0	0.0
167.5°	1.7	5.1	6.8	5.7	12.0	9.7	5.7	1.1	0.0	0.0	0.0
170°	1.7	4.0	5.7	4.0	3.4	6.3	3.4	0.6	0.0	0.0	0.0
172.5°	1.7	3.4	4.6	2.9	1.1	3.4	1.7	0.0	0.0	0.0	0.0
175°	1.7	2.9	2.9	1.7	0.6	1.1	0.0	0.0	0.0	0.0	0.0
177.5°	1.7	2.3	1.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1742.1	1742.1	1742.1	1742.1	1742.1	1742.1
2.5°	1694.2	1675.3	1658.2	1676.5	1689.6	1740.4
5°	1611.5	1591.5	1593.8	1610.3	1654.2	1746.6
7.5°	1525.9	1492.8	1500.8	1547.0	1612.0	1717.0
10°	1424.9	1394.7	1402.1	1471.7	1563.0	1700.4
12.5°	1334.8	1284.0	1327.4	1393.0	1505.9	1691.3
15°	1229.3	1189.3	1212.7	1309.7	1451.2	1649.1
17.5°	1115.2	1084.4	1112.3	1208.7	1383.9	1644.5
20°	1027.3	984.6	1017.6	1123.7	1300.6	1596.6
22.5°	928.7	896.1	930.9	1028.5	1215.6	1545.9
25°	847.7	813.4	848.2	945.2	1140.3	1486.0
27.5°	768.9	737.6	768.9	857.9	1065.6	1437.5
30°	699.9	669.7	701.6	787.2	978.3	1365.0
32.5°	635.5	596.7	637.7	720.4	901.3	1309.7
35°	568.7	539.6	570.4	662.3	815.7	1232.1
37.5°	513.4	483.2	519.7	598.4	743.3	1156.8
40°	460.9	434.1	463.2	547.0	681.7	1065.0
42.5°	419.8	393.0	422.7	500.3	619.5	995.4
45°	379.9	359.9	383.9	448.9	556.7	903.6
47.5°	350.8	333.7	353.7	411.3	504.3	820.8
50°	325.7	313.7	328.0	373.6	450.1	734.7
52.5°	303.5	291.5	308.0	344.5	407.3	656.0
55°	286.4	275.5	288.1	317.2	364.5	581.8
57.5°	267.5	260.7	270.4	288.1	330.8	515.7
60°	253.8	246.4	256.7	271.0	292.6	448.9
62.5°	238.4	234.4	240.7	252.1	263.5	388.5
65°	224.7	219.0	227.0	231.0	229.9	336.6
67.5°	209.9	208.2	212.8	213.3	204.8	284.1
70°	194.5	193.4	199.1	195.7	178.0	235.6
72.5°	182.0	182.0	185.4	178.5	155.2	190.0
75°	168.3	169.4	172.3	164.3	130.6	149.5
77.5°	155.7	156.9	157.4	146.6	109.5	114.1
80°	141.5	140.9	146.6	132.9	89.0	81.6
82.5°	128.9	126.6	130.1	116.4	71.9	53.6
85°	114.7	115.2	117.5	101.5	57.6	32.5
87.5°	103.2	103.2	105.5	89.6	43.4	14.3
90°	89.6	88.4	91.8	75.9	32.5	1.1
92.5°	78.1	78.1	80.4	65.0	24.0	1.1
95°	66.7	67.3	69.0	53.6	18.3	1.7
97.5°	57.0	57.6	59.9	45.6	13.1	1.7
100°	48.5	49.1	50.2	36.5	10.3	1.1
102.5°	40.5	42.2	42.2	30.2	8.0	1.1
105°	34.2	36.5	35.4	24.5	7.4	1.1
107.5°	28.5	30.8	30.8	20.0	7.4	1.1
110°	23.4	26.8	26.2	17.1	5.7	1.1





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CATALOG NUMBER: 4MB-5SL-ASML-UNV-L950

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	20.0	22.8	21.1	14.8	5.7	1.1
115°	17.1	20.0	18.8	13.7	5.1	1.1
117.5°	15.4	17.1	17.1	13.1	5.1	1.1
120°	14.3	16.0	15.4	12.5	5.1	1.1
122.5°	13.1	14.3	14.3	11.4	4.6	1.1
125°	12.5	13.1	13.7	10.3	4.6	1.1
127.5°	12.0	13.1	13.1	9.7	4.0	1.1
130°	10.8	12.0	12.0	9.1	4.0	1.1
132.5°	9.7	10.8	10.8	8.6	4.0	1.1
135°	9.1	10.3	10.3	8.0	4.0	1.1
137.5°	8.6	9.1	9.1	7.4	4.0	1.1
140°	7.4	8.6	8.6	6.8	4.0	1.1
142.5°	6.8	8.0	8.0	6.3	3.4	1.1
145°	6.3	6.8	7.4	5.7	3.4	1.1
147.5°	5.1	6.3	6.8	5.1	3.4	1.1
150°	4.0	5.7	5.7	5.1	3.4	1.1
152.5°	2.9	5.1	5.1	4.6	2.9	1.1
155°	2.3	4.0	4.6	4.0	2.9	1.7
157.5°	1.7	3.4	4.0	4.0	2.9	1.7
160°	1.1	2.9	3.4	3.4	2.3	1.7
162.5°	0.6	2.3	2.9	3.4	2.3	1.7
165°	0.0	1.7	2.3	2.9	2.3	1.7
167.5°	0.0	1.1	1.7	2.3	1.7	1.7
170°	0.0	0.6	1.1	1.7	1.7	1.7
172.5°	0.0	0.0	0.6	1.1	1.1	1.7
175°	0.0	0.0	0.0	0.6	1.1	1.7
177.5°	0.0	0.0	0.0	0.6	1.1	1.7
180°	0.6	0.6	0.6	0.6	0.6	0.6



TEST NUMBER: P893608  
 CATALOG NUMBER: 4MB-5SL-ASML-UNV-L950

**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	18.91	20.37	19.36	20.80	21.26	21.17	22.63	21.62	23.06	23.51
	3H	19.73	21.05	20.20	21.49	21.99	22.87	24.19	23.34	24.63	25.13
	4H	19.93	21.18	20.42	21.64	22.15	23.71	24.95	24.20	25.41	25.92
	6H	20.03	21.18	20.53	21.65	22.18	24.58	25.73	25.08	26.21	26.74
	8H	20.03	21.13	20.54	21.63	22.16	25.05	26.15	25.57	26.65	27.19
	12H	20.02	21.07	20.53	21.56	22.12	25.60	26.65	26.12	27.14	27.70
4H	2H	19.35	20.59	19.83	21.05	21.56	21.53	22.78	22.02	23.24	23.75
	3H	20.44	21.49	20.94	21.99	22.53	23.42	24.46	23.92	24.97	25.50
	4H	20.78	21.73	21.30	22.25	22.82	24.39	25.34	24.91	25.86	26.42
	6H	20.97	21.80	21.52	22.35	22.93	25.43	26.26	25.97	26.80	27.39
	8H	21.00	21.78	21.55	22.32	22.92	25.99	26.77	26.54	27.32	27.91
	12H	21.01	21.71	21.58	22.28	22.88	26.65	27.35	27.22	27.93	28.53
8H	4H	21.11	21.89	21.66	22.43	23.03	24.53	25.31	25.08	25.85	26.45
	6H	21.43	22.09	22.01	22.67	23.27	25.70	26.36	26.28	26.94	27.55
	8H	21.52	22.11	22.12	22.71	23.32	26.38	26.97	26.98	27.57	28.18
	12H	21.58	22.10	22.17	22.69	23.37	27.20	27.72	27.79	28.31	28.99
12H	4H	21.19	21.89	21.76	22.46	23.06	24.52	25.23	25.09	25.80	26.40
	6H	21.57	22.16	22.16	22.76	23.37	25.72	26.30	26.31	26.91	27.52
	8H	21.73	22.25	22.32	22.84	23.52	26.45	26.98	27.05	27.56	28.25