

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: P893607

Luminaire Tested: 4MB-5SL-ASML-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893607
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-L940
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

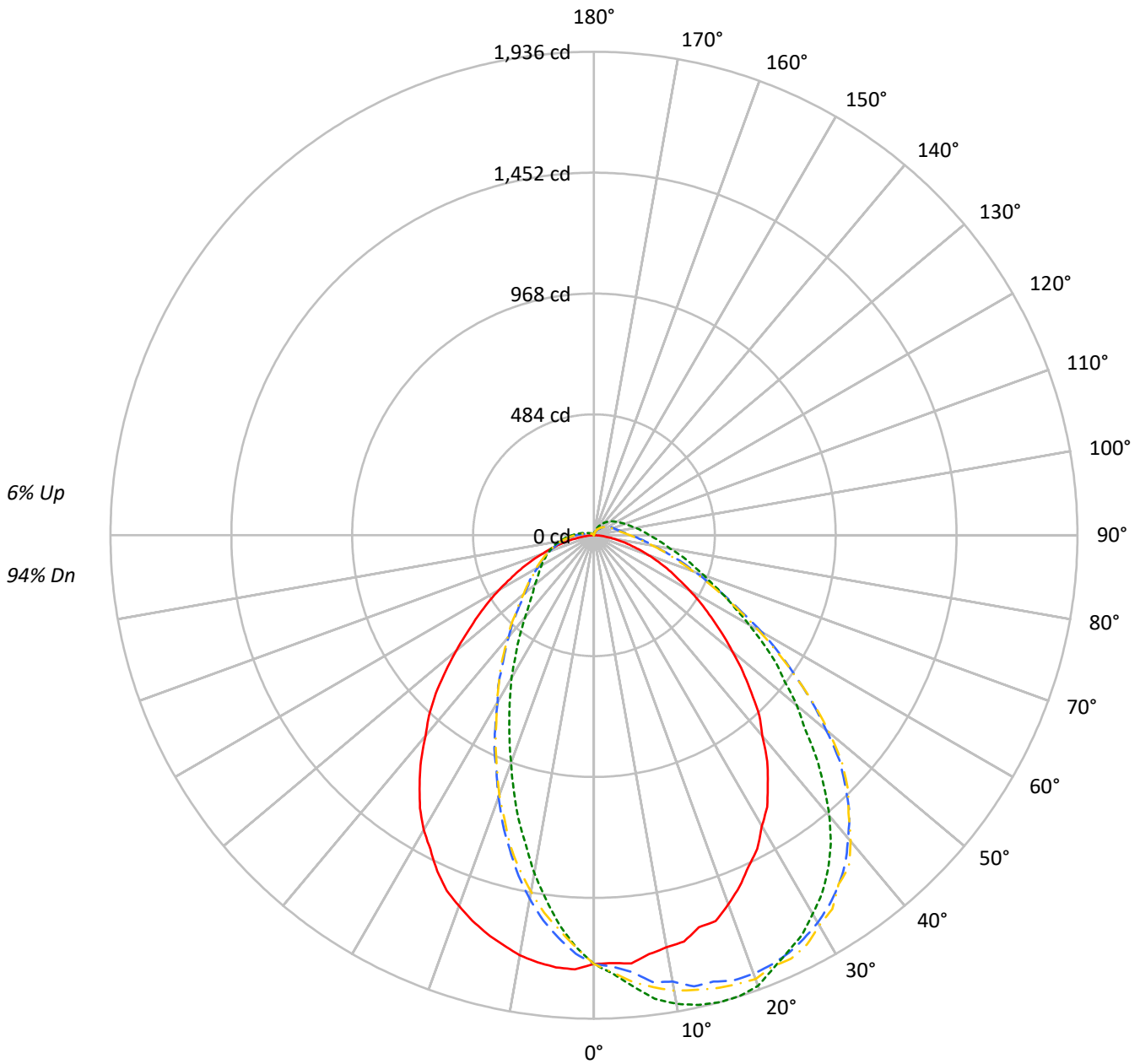
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4278.0 lumens
Efficiency: N/A
Efficacy: 122.2 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): 35
Input Voltage (V): 120
Input Current (A_{in}): 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: P893607
CATALOG NUMBER: 4MB-5SL-ASML-UNV-L940

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	85	83	81	79
2	98	90	83	78	95	88	82	76	83	78	74	79	75	71	75	72	69	75	72	69	66
3	90	80	72	65	87	78	70	64	74	68	63	70	65	61	67	63	59	67	63	59	57
4	83	71	63	56	80	69	61	55	66	59	54	63	57	53	60	55	51	60	55	51	49
5	76	64	55	49	74	62	54	48	60	53	47	57	51	46	55	49	45	55	49	45	43
6	71	58	49	43	68	56	48	42	54	47	42	52	46	41	50	44	40	50	44	40	38
7	66	53	44	38	64	51	43	38	49	42	37	48	41	36	46	40	36	46	40	36	34
8	61	48	40	34	59	47	39	34	45	38	33	44	37	33	42	37	32	42	37	32	30
9	57	44	36	31	56	43	36	31	42	35	30	40	34	30	39	33	29	39	33	29	28
10	54	41	33	28	52	40	33	28	39	32	28	38	31	27	36	31	27	36	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	17480	17480	17480	17480
5°	17545	17813	17711	15396
10°	17230	18193	17566	13121
15°	16988	18128	17276	10971
20°	16856	17769	16928	8975
25°	16215	16945	16438	7385
30°	15534	16195	15735	6101
35°	14768	15284	14808	4972
40°	13592	13981	13584	4076
45°	12431	12340	12494	3473
50°	11055	10771	11004	3138
55°	9742	9436	9674	2883
60°	8544	8047	8469	2725
65°	7487	6930	7308	2588
70°	6362	6072	6145	2474
75°	5184	5521	5047	2383
80°	4002	4968	3639	2219
85°	2751	4798	2227	2079

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 17292 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.3	3.8
10°-20°	448.3	10.5
20°-30°	644.8	15.1
30°-40°	731.7	17.1
40°-50°	699.3	16.3
50°-60°	568.2	13.3
60°-70°	396.5	9.3
70°-80°	245.6	5.7
80°-90°	140.9	3.3
90°-100°	84.2	2.0
100°-110°	55.3	1.3
110°-120°	38.7	0.9
120°-130°	28.1	0.7
130°-140°	18.7	0.4
140°-150°	10.5	0.2
150°-160°	4.7	0.1
160°-170°	1.3	0.0
170°-180°	0.1	0.0
0°-30°	1254.3	29.3
0°-40°	1986.0	46.4
0°-60°	3253.4	76.1
0°-90°	4036.4	94.4
90°-120°	178.2	4.2
90°-150°	235.5	5.5
90°-180°	242.0	5.7
0°-180°	4278.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1716	1716	1716	1716	1716	
5°	1721	1814	1737	1568	1721	162
15°	1625	1936	1652	1172	1625	462
25°	1464	1839	1484	801	1464	675
35°	1214	1634	1217	532	1214	757
45°	890	1260	895	355	890	687
55°	573	889	569	272	573	516
65°	332	578	324	216	332	329
75°	147	387	143	167	147	159
85°	32	262	26	114	32	36
90°	1	221	0	87	1	2
95°	2	193	0	66	2	1
105°	1	148	0	36	1	1
115°	1	118	0	20	1	1
125°	1	96	0	13	1	1
135°	1	76	0	10	1	1
145°	1	54	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	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1716.4	1716.4	1716.4	1716.4	1716.4	1716.4	1716.4	1716.4	1716.4	1716.4	1716.4
2.5°	1714.7	1727.6	1728.8	1769.2	1757.4	1772.6	1753.5	1756.9	1740.0	1735.5	1677.1
5°	1720.9	1748.4	1755.7	1825.4	1814.2	1822.1	1795.7	1776.5	1737.2	1713.6	1619.2
7.5°	1691.7	1764.2	1804.6	1854.1	1872.6	1878.8	1825.4	1790.0	1724.8	1666.9	1556.2
10°	1675.4	1775.4	1814.8	1888.9	1905.2	1893.4	1851.9	1793.4	1708.0	1614.7	1478.7
12.5°	1666.4	1781.6	1850.2	1926.0	1926.6	1914.2	1865.3	1802.4	1680.4	1558.5	1396.6
15°	1624.8	1780.5	1850.7	1927.7	1936.2	1928.3	1878.3	1796.2	1652.3	1488.8	1302.2
17.5°	1620.3	1777.7	1868.7	1949.6	1935.6	1930.0	1886.1	1793.4	1618.6	1418.0	1213.4
20°	1573.1	1771.5	1868.7	1924.9	1920.4	1922.7	1891.2	1789.5	1579.8	1341.5	1116.2
22.5°	1523.1	1764.2	1860.8	1903.6	1876.6	1917.6	1868.7	1778.8	1540.5	1261.7	1019.5
25°	1464.1	1752.4	1845.7	1873.2	1838.9	1871.0	1870.4	1762.5	1484.3	1175.7	943.1
27.5°	1416.3	1733.8	1820.9	1862.5	1804.1	1831.6	1847.4	1742.8	1418.0	1090.9	853.1
30°	1344.9	1710.2	1791.2	1797.3	1751.3	1786.1	1804.1	1718.1	1362.3	994.8	771.1
32.5°	1290.4	1683.2	1754.6	1746.2	1700.1	1746.2	1775.4	1693.4	1296.0	910.5	713.2
35°	1214.0	1650.6	1709.1	1664.7	1634.4	1672.6	1706.9	1666.9	1217.3	820.5	639.0
37.5°	1139.8	1622.0	1654.6	1599.5	1557.9	1600.6	1675.9	1617.5	1138.1	749.2	583.9
40°	1049.3	1556.2	1583.2	1508.5	1466.9	1529.8	1598.9	1574.8	1048.7	675.0	530.5
42.5°	980.7	1507.3	1515.2	1412.9	1363.5	1430.3	1509.0	1514.1	976.2	608.1	483.3
45°	890.2	1438.8	1424.2	1311.8	1260.0	1320.2	1438.2	1451.7	894.7	550.2	437.3
47.5°	808.7	1362.3	1333.7	1202.2	1144.3	1215.6	1346.6	1382.0	803.7	496.8	394.0
50°	723.9	1276.9	1213.4	1099.9	1061.1	1096.5	1230.3	1288.7	720.5	444.0	360.8
52.5°	646.3	1182.5	1103.8	1002.1	963.3	992.5	1108.3	1196.0	637.9	399.6	331.6
55°	573.3	1088.1	986.3	896.4	888.6	897.5	984.7	1085.3	569.3	360.3	313.0
57.5°	508.1	973.4	880.7	814.4	800.3	807.6	867.8	971.2	503.0	320.9	286.1
60°	442.3	856.0	776.1	725.0	717.1	722.8	761.5	859.9	438.4	287.8	260.8
62.5°	382.7	737.9	667.1	648.0	642.4	642.4	658.7	748.6	377.7	254.0	241.7
65°	331.6	636.8	583.4	576.1	577.8	577.2	567.1	625.0	323.7	224.2	224.8
67.5°	279.9	529.4	499.6	508.6	515.4	512.6	491.2	519.9	273.1	197.3	209.6
70°	232.1	437.3	431.6	451.9	467.6	453.0	422.1	424.9	224.2	170.9	190.0
72.5°	187.2	353.5	379.4	407.5	422.6	406.3	363.6	351.3	180.4	146.7	172.0
75°	147.2	284.4	325.4	367.0	386.7	365.9	316.4	274.3	143.3	123.6	157.4
77.5°	112.4	225.4	278.2	326.5	345.6	327.7	275.4	214.1	105.1	104.0	141.6
80°	80.4	178.2	246.7	293.4	310.8	293.4	238.9	169.2	73.1	83.2	124.8
82.5°	52.8	137.7	214.7	267.0	286.1	264.7	207.4	130.4	46.6	67.4	112.4
85°	32.0	109.0	187.2	240.0	261.9	241.1	181.5	98.9	25.9	51.7	97.8
87.5°	14.1	84.3	166.9	221.4	241.1	222.0	161.9	77.6	10.7	40.5	83.7
90°	1.1	66.9	147.2	204.0	221.4	203.5	143.3	62.9	0.0	29.2	71.9
92.5°	1.1	57.3	134.9	188.8	208.5	188.3	129.3	51.7	0.0	21.4	60.7
95°	1.7	48.3	122.5	177.0	192.8	175.3	118.0	44.4	0.0	14.6	51.1
97.5°	1.7	43.8	112.4	165.2	182.7	164.1	107.9	39.9	0.0	10.7	41.6
100°	1.1	40.5	104.5	154.0	170.3	152.9	100.0	36.0	0.0	6.7	33.7
102.5°	1.1	37.7	97.8	144.4	157.4	142.8	93.3	33.7	0.0	5.6	27.5
105°	1.1	36.0	91.6	133.2	148.4	133.2	87.7	31.5	0.0	4.5	21.4
107.5°	1.1	33.7	87.1	127.0	139.4	125.9	83.2	29.8	0.0	4.5	17.4
110°	1.1	32.0	83.2	118.0	132.1	119.1	79.2	27.0	0.0	2.8	14.1



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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	29.2	79.2	111.8	125.3	112.4	75.9	24.7	0.0	2.8	12.4
115°	1.1	26.4	75.9	107.9	118.0	106.8	72.5	21.9	0.0	2.2	11.2
117.5°	1.1	24.7	73.6	102.8	113.0	101.7	69.7	20.8	0.0	2.2	10.7
120°	1.1	23.6	70.3	97.8	105.7	96.7	66.3	19.7	0.0	2.2	10.1
122.5°	1.1	22.5	67.4	93.3	101.7	92.7	63.5	19.1	0.0	1.7	9.0
125°	1.1	21.4	63.5	88.2	96.1	87.1	58.4	18.5	0.0	1.1	7.9
127.5°	1.1	20.2	59.6	84.3	91.6	83.2	55.1	18.0	0.0	1.1	7.3
130°	1.1	19.7	54.5	79.2	86.6	78.1	51.1	18.0	0.0	1.1	6.7
132.5°	1.1	19.1	48.9	74.2	82.1	73.1	47.2	17.4	0.0	1.1	5.6
135°	1.1	18.5	43.3	69.1	76.4	68.0	43.8	16.9	0.0	1.1	5.1
137.5°	1.1	17.4	38.2	63.5	70.8	62.4	41.6	15.7	0.0	1.1	4.5
140°	1.1	16.3	34.3	59.0	65.2	57.3	38.2	14.6	0.0	0.6	3.4
142.5°	1.1	14.6	30.9	53.4	59.6	52.3	34.3	12.4	0.0	0.6	3.4
145°	1.1	12.9	28.1	46.6	54.0	46.6	32.0	11.2	0.0	0.6	2.8
147.5°	1.1	11.8	25.3	39.3	48.9	42.7	28.7	9.6	0.0	0.6	2.2
150°	1.1	10.7	21.9	33.2	43.3	37.7	26.4	8.4	0.0	0.0	1.7
152.5°	1.1	9.6	19.1	27.5	38.8	34.3	23.6	7.3	0.0	0.0	1.1
155°	1.7	9.0	16.3	24.2	33.7	29.8	19.7	6.2	0.0	0.0	1.1
157.5°	1.7	7.9	13.5	19.7	29.8	25.9	15.7	5.1	0.0	0.0	0.6
160°	1.7	7.3	11.2	15.2	24.7	21.4	12.9	3.9	0.0	0.0	0.6
162.5°	1.7	6.7	9.6	11.2	20.2	16.9	10.1	2.8	0.0	0.0	0.6
165°	1.7	5.6	8.4	7.9	15.7	12.9	7.9	1.7	0.0	0.0	0.0
167.5°	1.7	5.1	6.7	5.6	11.8	9.6	5.6	1.1	0.0	0.0	0.0
170°	1.7	3.9	5.6	3.9	3.4	6.2	3.4	0.6	0.0	0.0	0.0
172.5°	1.7	3.4	4.5	2.8	1.1	3.4	1.7	0.0	0.0	0.0	0.0
175°	1.7	2.8	2.8	1.7	0.6	1.1	0.0	0.0	0.0	0.0	0.0
177.5°	1.7	2.2	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°	1716.4	1716.4	1716.4	1716.4	1716.4	1716.4
2.5°	1669.2	1650.6	1633.8	1651.8	1664.7	1714.7
5°	1587.7	1568.0	1570.3	1586.6	1629.9	1720.9
7.5°	1503.4	1470.8	1478.7	1524.2	1588.3	1691.7
10°	1403.9	1374.1	1381.4	1450.0	1539.9	1675.4
12.5°	1315.1	1265.1	1307.8	1372.5	1483.7	1666.4
15°	1211.2	1171.8	1194.9	1290.4	1429.8	1624.8
17.5°	1098.7	1068.4	1095.9	1190.9	1363.5	1620.3
20°	1012.2	970.0	1002.6	1107.2	1281.4	1573.1
22.5°	915.0	882.9	917.2	1013.3	1197.7	1523.1
25°	835.2	801.4	835.7	931.3	1123.5	1464.1
27.5°	757.6	726.7	757.6	845.3	1049.9	1416.3
30°	689.6	659.8	691.3	775.6	963.9	1344.9
32.5°	626.1	587.9	628.3	709.8	888.0	1290.4
35°	560.3	531.7	562.0	652.5	803.7	1214.0
37.5°	505.8	476.0	512.0	589.6	732.3	1139.8
40°	454.1	427.7	456.4	539.0	671.6	1049.3
42.5°	413.6	387.2	416.5	492.9	610.4	980.7
45°	374.3	354.6	378.2	442.3	548.5	890.2
47.5°	345.6	328.8	348.5	405.2	496.8	808.7
50°	320.9	309.1	323.2	368.1	443.4	723.9
52.5°	299.0	287.2	303.5	339.5	401.3	646.3
55°	282.1	271.5	283.8	312.5	359.1	573.3
57.5°	263.6	256.8	266.4	283.8	326.0	508.1
60°	250.1	242.8	252.9	267.0	288.3	442.3
62.5°	234.9	231.0	237.2	248.4	259.7	382.7
65°	221.4	215.8	223.7	227.6	226.5	331.6
67.5°	206.8	205.1	209.6	210.2	201.8	279.9
70°	191.6	190.5	196.1	192.8	175.3	232.1
72.5°	179.3	179.3	182.7	175.9	152.9	187.2
75°	165.8	166.9	169.7	161.9	128.7	147.2
77.5°	153.4	154.6	155.1	144.4	107.9	112.4
80°	139.4	138.8	144.4	131.0	87.7	80.4
82.5°	127.0	124.8	128.1	114.7	70.8	52.8
85°	113.0	113.5	115.8	100.0	56.8	32.0
87.5°	101.7	101.7	104.0	88.2	42.7	14.1
90°	88.2	87.1	90.5	74.7	32.0	1.1
92.5°	77.0	77.0	79.2	64.1	23.6	1.1
95°	65.8	66.3	68.0	52.8	18.0	1.7
97.5°	56.2	56.8	59.0	45.0	12.9	1.7
100°	47.8	48.3	49.5	36.0	10.1	1.1
102.5°	39.9	41.6	41.6	29.8	7.9	1.1
105°	33.7	36.0	34.8	24.2	7.3	1.1
107.5°	28.1	30.3	30.3	19.7	7.3	1.1
110°	23.0	26.4	25.9	16.9	5.6	1.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	19.7	22.5	20.8	14.6	5.6	1.1
115°	16.9	19.7	18.5	13.5	5.1	1.1
117.5°	15.2	16.9	16.9	12.9	5.1	1.1
120°	14.1	15.7	15.2	12.4	5.1	1.1
122.5°	12.9	14.1	14.1	11.2	4.5	1.1
125°	12.4	12.9	13.5	10.1	4.5	1.1
127.5°	11.8	12.9	12.9	9.6	3.9	1.1
130°	10.7	11.8	11.8	9.0	3.9	1.1
132.5°	9.6	10.7	10.7	8.4	3.9	1.1
135°	9.0	10.1	10.1	7.9	3.9	1.1
137.5°	8.4	9.0	9.0	7.3	3.9	1.1
140°	7.3	8.4	8.4	6.7	3.9	1.1
142.5°	6.7	7.9	7.9	6.2	3.4	1.1
145°	6.2	6.7	7.3	5.6	3.4	1.1
147.5°	5.1	6.2	6.7	5.1	3.4	1.1
150°	3.9	5.6	5.6	5.1	3.4	1.1
152.5°	2.8	5.1	5.1	4.5	2.8	1.1
155°	2.2	3.9	4.5	3.9	2.8	1.7
157.5°	1.7	3.4	3.9	3.9	2.8	1.7
160°	1.1	2.8	3.4	3.4	2.2	1.7
162.5°	0.6	2.2	2.8	3.4	2.2	1.7
165°	0.0	1.7	2.2	2.8	2.2	1.7
167.5°	0.0	1.1	1.7	2.2	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: P893607
 CATALOG NUMBER: 4MB-5SL-ASML-UNV-L940

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	18.86	20.32	19.31	20.75	21.20	21.12	22.58	21.57	23.01	23.46
	3H	19.68	21.00	20.15	21.44	21.94	22.82	24.14	23.28	24.58	25.08
	4H	19.88	21.13	20.37	21.59	22.10	23.66	24.90	24.14	25.36	25.87
	6H	19.97	21.13	20.48	21.60	22.13	24.53	25.68	25.03	26.16	26.69
	8H	19.98	21.08	20.49	21.57	22.11	25.00	26.10	25.52	26.60	27.14
	12H	19.96	21.02	20.48	21.51	22.07	25.55	26.60	26.07	27.09	27.65
4H	2H	19.29	20.54	19.78	21.00	21.51	21.48	22.72	21.97	23.19	23.70
	3H	20.39	21.43	20.89	21.94	22.48	23.37	24.41	23.87	24.92	25.45
	4H	20.73	21.68	21.25	22.20	22.76	24.34	25.29	24.86	25.80	26.37
	6H	20.92	21.75	21.46	22.30	22.88	25.38	26.21	25.92	26.75	27.34
	8H	20.95	21.73	21.50	22.27	22.87	25.94	26.72	26.49	27.27	27.86
	12H	20.96	21.66	21.52	22.23	22.83	26.60	27.30	27.17	27.88	28.47
8H	4H	21.06	21.84	21.61	22.38	22.98	24.48	25.26	25.03	25.80	26.40
	6H	21.38	22.03	21.96	22.62	23.22	25.65	26.31	26.23	26.89	27.49
	8H	21.47	22.06	22.06	22.66	23.27	26.33	26.92	26.93	27.52	28.13
	12H	21.53	22.05	22.12	22.64	23.32	27.15	27.67	27.74	28.26	28.94
12H	4H	21.14	21.84	21.71	22.41	23.01	24.47	25.17	25.04	25.75	26.35
	6H	21.52	22.11	22.11	22.71	23.32	25.66	26.25	26.26	26.85	27.47
	8H	21.68	22.20	22.27	22.79	23.47	26.40	26.93	27.00	27.51	28.19