

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: P893495

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893495
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-L940
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

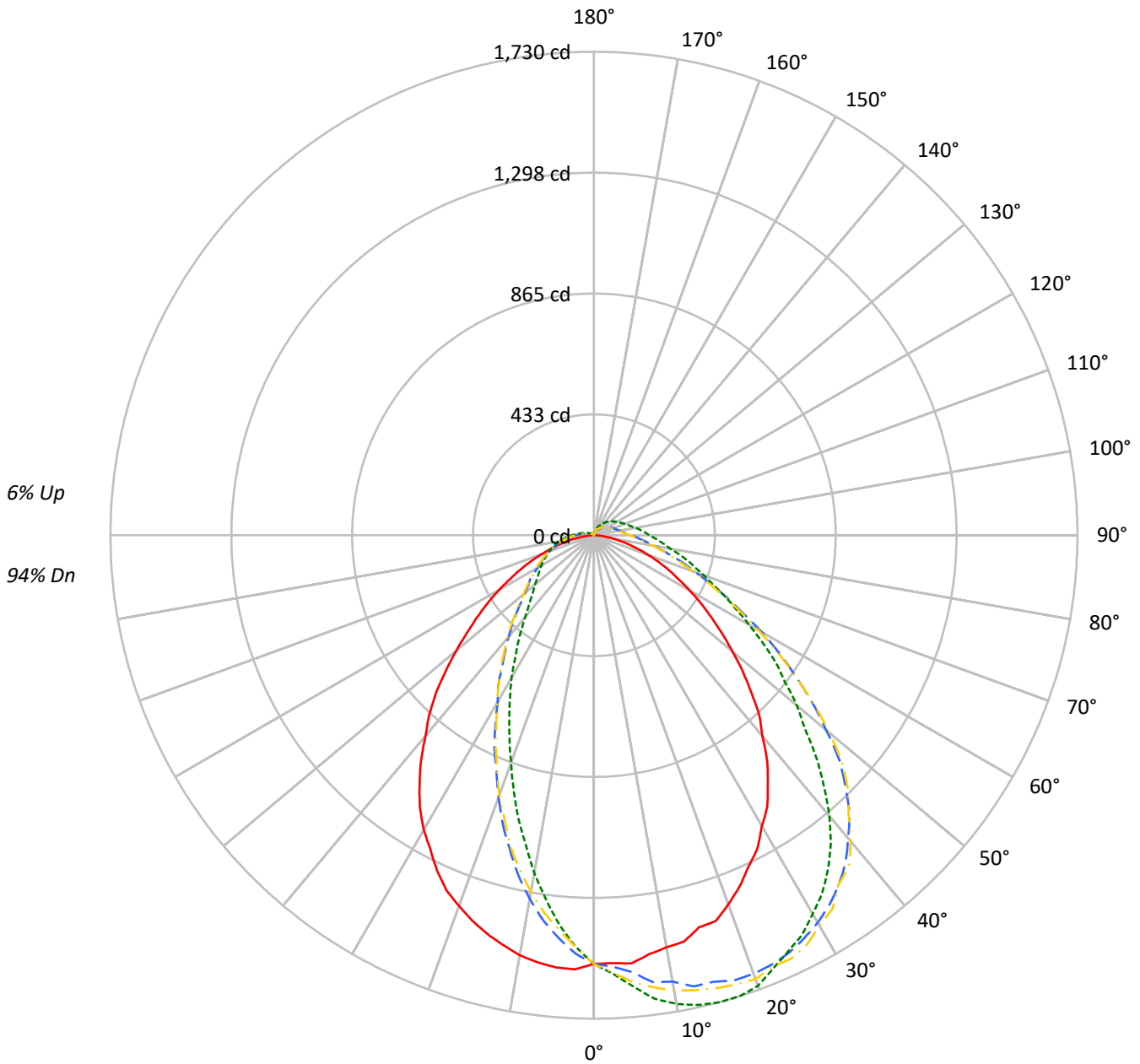
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3823.0 lumens
Efficiency: N/A
Efficacy: 128.3 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): 29.8
Input Voltage (V): 120
Input Current (A_{in}): 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

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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
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°	15622	15622	15622	15622
5°	15679	15918	15827	13759
10°	15398	16258	15697	11726
15°	15181	16200	15439	9805
20°	15064	15880	15128	8021
25°	14489	15143	14690	6600
30°	13882	14472	14061	5452
35°	13197	13658	13234	4443
40°	12146	12494	12140	3643
45°	11110	11028	11166	3104
50°	9879	9625	9834	2804
55°	8706	8431	8646	2576
60°	7636	7192	7569	2435
65°	6690	6192	6531	2314
70°	5685	5427	5493	2212
75°	4635	4932	4512	2130
80°	3574	4439	3251	1984
85°	2459	4287	1986	1859

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 15453 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.1	3.8
10°-20°	400.6	10.5
20°-30°	576.2	15.1
30°-40°	653.9	17.1
40°-50°	624.9	16.3
50°-60°	507.8	13.3
60°-70°	354.3	9.3
70°-80°	219.5	5.7
80°-90°	125.9	3.3
90°-100°	75.3	2.0
100°-110°	49.4	1.3
110°-120°	34.6	0.9
120°-130°	25.1	0.7
130°-140°	16.7	0.4
140°-150°	9.4	0.2
150°-160°	4.2	0.1
160°-170°	1.2	0.0
170°-180°	0.1	0.0
0°-30°	1120.9	29.3
0°-40°	1774.7	46.4
0°-60°	2907.4	76.1
0°-90°	3607.1	94.4
90°-120°	159.3	4.2
90°-150°	210.4	5.5
90°-180°	216.0	5.7
0°-180°	3823.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1534	1534	1534	1534	1534	
5°	1538	1621	1552	1401	1538	145
15°	1452	1730	1477	1047	1452	413
25°	1308	1643	1326	716	1308	604
35°	1085	1460	1088	475	1085	676
45°	796	1126	800	317	796	614
55°	512	794	509	243	512	461
65°	296	516	289	193	296	294
75°	132	346	128	149	132	142
85°	29	234	23	102	29	32
90°	1	198	0	78	1	2
95°	2	172	0	59	2	1
105°	1	133	0	32	1	1
115°	1	106	0	18	1	1
125°	1	86	0	12	1	1
135°	1	68	0	9	1	1
145°	1	48	0	6	1	1
155°	2	30	0	4	2	1
165°	2	14	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°	1533.9	1533.9	1533.9	1533.9	1533.9	1533.9	1533.9	1533.9	1533.9	1533.9	1533.9
2.5°	1532.3	1543.9	1544.9	1581.1	1570.5	1584.1	1567.0	1570.0	1554.9	1550.9	1498.7
5°	1537.9	1562.5	1569.0	1631.3	1621.2	1628.3	1604.7	1587.6	1552.4	1531.3	1447.0
7.5°	1511.8	1576.5	1612.7	1656.9	1673.5	1679.0	1631.3	1599.6	1541.4	1489.7	1390.7
10°	1497.2	1586.6	1621.7	1688.0	1702.6	1692.1	1654.9	1602.7	1526.3	1442.9	1321.4
12.5°	1489.2	1592.1	1653.4	1721.2	1721.7	1710.6	1666.9	1610.7	1501.7	1392.7	1248.1
15°	1452.0	1591.1	1653.9	1722.7	1730.2	1723.2	1678.5	1605.2	1476.6	1330.4	1163.7
17.5°	1448.0	1588.6	1670.0	1742.3	1729.7	1724.7	1685.5	1602.7	1446.5	1267.2	1084.3
20°	1405.8	1583.1	1670.0	1720.2	1716.2	1718.2	1690.1	1599.1	1411.8	1198.9	997.5
22.5°	1361.1	1576.5	1662.9	1701.1	1677.0	1713.7	1670.0	1589.6	1376.7	1127.5	911.1
25°	1308.3	1566.0	1649.4	1674.0	1643.3	1672.0	1671.5	1575.0	1326.4	1050.7	842.8
27.5°	1265.7	1549.4	1627.3	1664.4	1612.2	1636.8	1650.9	1557.5	1267.2	974.9	762.4
30°	1201.9	1528.3	1600.7	1606.2	1565.0	1596.1	1612.2	1535.4	1217.4	889.0	689.1
32.5°	1153.2	1504.2	1568.0	1560.5	1519.3	1560.5	1586.6	1513.3	1158.2	813.6	637.3
35°	1084.8	1475.1	1527.3	1487.6	1460.5	1494.7	1525.3	1489.7	1087.9	733.3	571.1
37.5°	1018.6	1449.5	1478.6	1429.4	1392.2	1430.4	1497.7	1445.5	1017.0	669.5	521.8
40°	937.7	1390.7	1414.8	1348.0	1310.9	1367.1	1428.9	1407.3	937.2	603.2	474.1
42.5°	876.4	1347.0	1354.0	1262.6	1218.4	1278.2	1348.5	1353.0	872.4	543.4	431.9
45°	795.6	1285.7	1272.7	1172.2	1126.0	1179.8	1285.2	1297.3	799.6	491.7	390.7
47.5°	722.7	1217.4	1191.8	1074.3	1022.6	1086.4	1203.4	1235.0	718.2	444.0	352.1
50°	646.9	1141.1	1084.3	982.9	948.2	979.9	1099.4	1151.6	643.9	396.8	322.4
52.5°	577.6	1056.7	986.4	895.5	860.8	887.0	990.4	1068.8	570.0	357.1	296.3
55°	512.3	972.3	881.4	801.1	794.0	802.1	879.9	969.8	508.8	321.9	279.7
57.5°	454.0	869.9	787.0	727.8	715.2	721.7	775.5	867.9	449.5	286.8	255.6
60°	395.3	764.9	693.6	647.9	640.9	645.9	680.5	768.4	391.8	257.1	233.0
62.5°	342.0	659.4	596.2	579.1	574.1	574.1	588.6	669.0	337.5	227.0	216.0
65°	296.3	569.0	521.3	514.8	516.3	515.8	506.8	558.5	289.3	200.4	200.9
67.5°	250.1	473.1	446.5	454.5	460.6	458.0	439.0	464.6	244.1	176.3	187.3
70°	207.4	390.7	385.7	403.8	417.9	404.8	377.2	379.7	200.4	152.7	169.8
72.5°	167.2	315.9	339.0	364.1	377.7	363.1	325.0	313.9	161.2	131.1	153.7
75°	131.6	254.1	290.8	328.0	345.5	327.0	282.8	245.1	128.1	110.5	140.6
77.5°	100.4	201.4	248.6	291.8	308.9	292.8	246.1	191.4	93.9	92.9	126.6
80°	71.8	159.2	220.5	262.2	277.7	262.2	213.5	151.2	65.3	74.3	111.5
82.5°	47.2	123.0	191.9	238.6	255.6	236.6	185.3	116.5	41.7	60.3	100.4
85°	28.6	97.4	167.2	214.5	234.0	215.5	162.2	88.4	23.1	46.2	87.4
87.5°	12.6	75.3	149.2	197.9	215.5	198.4	144.6	69.3	9.5	36.2	74.8
90°	1.0	59.8	131.6	182.3	197.9	181.8	128.1	56.3	0.0	26.1	64.3
92.5°	1.0	51.2	120.5	168.8	186.3	168.3	115.5	46.2	0.0	19.1	54.2
95°	1.5	43.2	109.5	158.2	172.3	156.7	105.5	39.7	0.0	13.1	45.7
97.5°	1.5	39.2	100.4	147.7	163.2	146.7	96.4	35.7	0.0	9.5	37.2
100°	1.0	36.2	93.4	137.6	152.2	136.6	89.4	32.1	0.0	6.0	30.1
102.5°	1.0	33.7	87.4	129.1	140.6	127.6	83.4	30.1	0.0	5.0	24.6
105°	1.0	32.1	81.9	119.0	132.6	119.0	78.4	28.1	0.0	4.0	19.1
107.5°	1.0	30.1	77.8	113.5	124.6	112.5	74.3	26.6	0.0	4.0	15.6
110°	1.0	28.6	74.3	105.5	118.0	106.5	70.8	24.1	0.0	2.5	12.6



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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°	1.0	26.1	70.8	99.9	112.0	100.4	67.8	22.1	0.0	2.5	11.0
115°	1.0	23.6	67.8	96.4	105.5	95.4	64.8	19.6	0.0	2.0	10.0
117.5°	1.0	22.1	65.8	91.9	101.0	90.9	62.3	18.6	0.0	2.0	9.5
120°	1.0	21.1	62.8	87.4	94.4	86.4	59.3	17.6	0.0	2.0	9.0
122.5°	1.0	20.1	60.3	83.4	90.9	82.9	56.8	17.1	0.0	1.5	8.0
125°	1.0	19.1	56.8	78.9	85.9	77.8	52.2	16.6	0.0	1.0	7.0
127.5°	1.0	18.1	53.2	75.3	81.9	74.3	49.2	16.1	0.0	1.0	6.5
130°	1.0	17.6	48.7	70.8	77.3	69.8	45.7	16.1	0.0	1.0	6.0
132.5°	1.0	17.1	43.7	66.3	73.3	65.3	42.2	15.6	0.0	1.0	5.0
135°	1.0	16.6	38.7	61.8	68.3	60.8	39.2	15.1	0.0	1.0	4.5
137.5°	1.0	15.6	34.2	56.8	63.3	55.7	37.2	14.1	0.0	1.0	4.0
140°	1.0	14.6	30.6	52.7	58.3	51.2	34.2	13.1	0.0	0.5	3.0
142.5°	1.0	13.1	27.6	47.7	53.2	46.7	30.6	11.0	0.0	0.5	3.0
145°	1.0	11.6	25.1	41.7	48.2	41.7	28.6	10.0	0.0	0.5	2.5
147.5°	1.0	10.5	22.6	35.2	43.7	38.2	25.6	8.5	0.0	0.5	2.0
150°	1.0	9.5	19.6	29.6	38.7	33.7	23.6	7.5	0.0	0.0	1.5
152.5°	1.0	8.5	17.1	24.6	34.7	30.6	21.1	6.5	0.0	0.0	1.0
155°	1.5	8.0	14.6	21.6	30.1	26.6	17.6	5.5	0.0	0.0	1.0
157.5°	1.5	7.0	12.1	17.6	26.6	23.1	14.1	4.5	0.0	0.0	0.5
160°	1.5	6.5	10.0	13.6	22.1	19.1	11.6	3.5	0.0	0.0	0.5
162.5°	1.5	6.0	8.5	10.0	18.1	15.1	9.0	2.5	0.0	0.0	0.5
165°	1.5	5.0	7.5	7.0	14.1	11.6	7.0	1.5	0.0	0.0	0.0
167.5°	1.5	4.5	6.0	5.0	10.5	8.5	5.0	1.0	0.0	0.0	0.0
170°	1.5	3.5	5.0	3.5	3.0	5.5	3.0	0.5	0.0	0.0	0.0
172.5°	1.5	3.0	4.0	2.5	1.0	3.0	1.5	0.0	0.0	0.0	0.0
175°	1.5	2.5	2.5	1.5	0.5	1.0	0.0	0.0	0.0	0.0	0.0
177.5°	1.5	2.0	1.5	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°	1533.9	1533.9	1533.9	1533.9	1533.9	1533.9
2.5°	1491.7	1475.1	1460.0	1476.1	1487.6	1532.3
5°	1418.8	1401.3	1403.3	1417.8	1456.5	1537.9
7.5°	1343.5	1314.4	1321.4	1362.1	1419.3	1511.8
10°	1254.6	1228.0	1234.5	1295.8	1376.1	1497.2
12.5°	1175.3	1130.6	1168.7	1226.5	1325.9	1489.2
15°	1082.3	1047.2	1067.8	1153.2	1277.7	1452.0
17.5°	981.9	954.8	979.4	1064.3	1218.4	1448.0
20°	904.5	866.9	896.0	989.4	1145.1	1405.8
22.5°	817.7	789.0	819.7	905.5	1070.3	1361.1
25°	746.3	716.2	746.8	832.2	1004.0	1308.3
27.5°	677.0	649.4	677.0	755.4	938.2	1265.7
30°	616.3	589.6	617.8	693.1	861.3	1201.9
32.5°	559.5	525.3	561.5	634.3	793.5	1153.2
35°	500.7	475.1	502.2	583.1	718.2	1084.8
37.5°	452.0	425.4	457.5	526.9	654.4	1018.6
40°	405.8	382.2	407.8	481.7	600.2	937.7
42.5°	369.7	346.0	372.2	440.5	545.4	876.4
45°	334.5	316.9	338.0	395.3	490.2	795.6
47.5°	308.9	293.8	311.4	362.1	444.0	722.7
50°	286.8	276.2	288.8	329.0	396.3	646.9
52.5°	267.2	256.6	271.2	303.4	358.6	577.6
55°	252.1	242.6	253.6	279.2	320.9	512.3
57.5°	235.6	229.5	238.1	253.6	291.3	454.0
60°	223.5	217.0	226.0	238.6	257.7	395.3
62.5°	209.9	206.4	211.9	222.0	232.0	342.0
65°	197.9	192.9	199.9	203.4	202.4	296.3
67.5°	184.8	183.3	187.3	187.8	180.3	250.1
70°	171.3	170.3	175.3	172.3	156.7	207.4
72.5°	160.2	160.2	163.2	157.2	136.6	167.2
75°	148.2	149.2	151.7	144.6	115.0	131.6
77.5°	137.1	138.1	138.6	129.1	96.4	100.4
80°	124.6	124.1	129.1	117.0	78.4	71.8
82.5°	113.5	111.5	114.5	102.5	63.3	47.2
85°	101.0	101.5	103.5	89.4	50.7	28.6
87.5°	90.9	90.9	92.9	78.9	38.2	12.6
90°	78.9	77.8	80.9	66.8	28.6	1.0
92.5°	68.8	68.8	70.8	57.3	21.1	1.0
95°	58.8	59.3	60.8	47.2	16.1	1.5
97.5°	50.2	50.7	52.7	40.2	11.6	1.5
100°	42.7	43.2	44.2	32.1	9.0	1.0
102.5°	35.7	37.2	37.2	26.6	7.0	1.0
105°	30.1	32.1	31.1	21.6	6.5	1.0
107.5°	25.1	27.1	27.1	17.6	6.5	1.0
110°	20.6	23.6	23.1	15.1	5.0	1.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	17.6	20.1	18.6	13.1	5.0	1.0
115°	15.1	17.6	16.6	12.1	4.5	1.0
117.5°	13.6	15.1	15.1	11.6	4.5	1.0
120°	12.6	14.1	13.6	11.0	4.5	1.0
122.5°	11.6	12.6	12.6	10.0	4.0	1.0
125°	11.0	11.6	12.1	9.0	4.0	1.0
127.5°	10.5	11.6	11.6	8.5	3.5	1.0
130°	9.5	10.5	10.5	8.0	3.5	1.0
132.5°	8.5	9.5	9.5	7.5	3.5	1.0
135°	8.0	9.0	9.0	7.0	3.5	1.0
137.5°	7.5	8.0	8.0	6.5	3.5	1.0
140°	6.5	7.5	7.5	6.0	3.5	1.0
142.5°	6.0	7.0	7.0	5.5	3.0	1.0
145°	5.5	6.0	6.5	5.0	3.0	1.0
147.5°	4.5	5.5	6.0	4.5	3.0	1.0
150°	3.5	5.0	5.0	4.5	3.0	1.0
152.5°	2.5	4.5	4.5	4.0	2.5	1.0
155°	2.0	3.5	4.0	3.5	2.5	1.5
157.5°	1.5	3.0	3.5	3.5	2.5	1.5
160°	1.0	2.5	3.0	3.0	2.0	1.5
162.5°	0.5	2.0	2.5	3.0	2.0	1.5
165°	0.0	1.5	2.0	2.5	2.0	1.5
167.5°	0.0	1.0	1.5	2.0	1.5	1.5
170°	0.0	0.5	1.0	1.5	1.5	1.5
172.5°	0.0	0.0	0.5	1.0	1.0	1.5
175°	0.0	0.0	0.0	0.5	1.0	1.5
177.5°	0.0	0.0	0.0	0.5	1.0	1.5
180°	0.5	0.5	0.5	0.5	0.5	0.5



TEST NUMBER: P893495
 CATALOG NUMBER: 4MB-4SL-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	18.47	19.93	18.92	20.36	20.81	20.73	22.19	21.18	22.62	23.07
	3H	19.29	20.61	19.76	21.05	21.55	22.43	23.74	22.89	24.19	24.69
	4H	19.49	20.74	19.98	21.20	21.71	23.26	24.51	23.75	24.97	25.48
	6H	19.58	20.74	20.08	21.21	21.74	24.14	25.29	24.64	25.77	26.30
	8H	19.59	20.69	20.10	21.18	21.72	24.61	25.71	25.13	26.21	26.74
	12H	19.57	20.63	20.09	21.12	21.68	25.15	26.21	25.67	26.70	27.26
4H	2H	18.90	20.15	19.39	20.61	21.12	21.09	22.33	21.58	22.80	23.31
	3H	20.00	21.04	20.50	21.55	22.08	22.98	24.02	23.48	24.53	25.06
	4H	20.34	21.29	20.86	21.80	22.37	23.95	24.90	24.47	25.41	25.98
	6H	20.53	21.36	21.07	21.90	22.49	24.99	25.82	25.53	26.36	26.95
	8H	20.56	21.34	21.11	21.88	22.48	25.55	26.33	26.10	26.87	27.47
	12H	20.56	21.27	21.13	21.84	22.44	26.21	26.91	26.78	27.48	28.08
8H	4H	20.67	21.45	21.22	21.99	22.59	24.09	24.87	24.64	25.41	26.01
	6H	20.99	21.64	21.57	22.23	22.83	25.26	25.91	25.84	26.50	27.10
	8H	21.08	21.67	21.67	22.27	22.88	25.94	26.53	26.54	27.13	27.74
	12H	21.13	21.66	21.73	22.24	22.93	26.76	27.28	27.35	27.87	28.55
12H	4H	20.75	21.45	21.31	22.02	22.62	24.08	24.78	24.65	25.36	25.96
	6H	21.13	21.72	21.72	22.32	22.93	25.27	25.86	25.87	26.46	27.08
	8H	21.29	21.81	21.88	22.40	23.08	26.01	26.53	26.60	27.12	27.80