

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: P893494

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893494
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-L935
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 3500K CCT
Light Source: -
Ballast/Driver: -

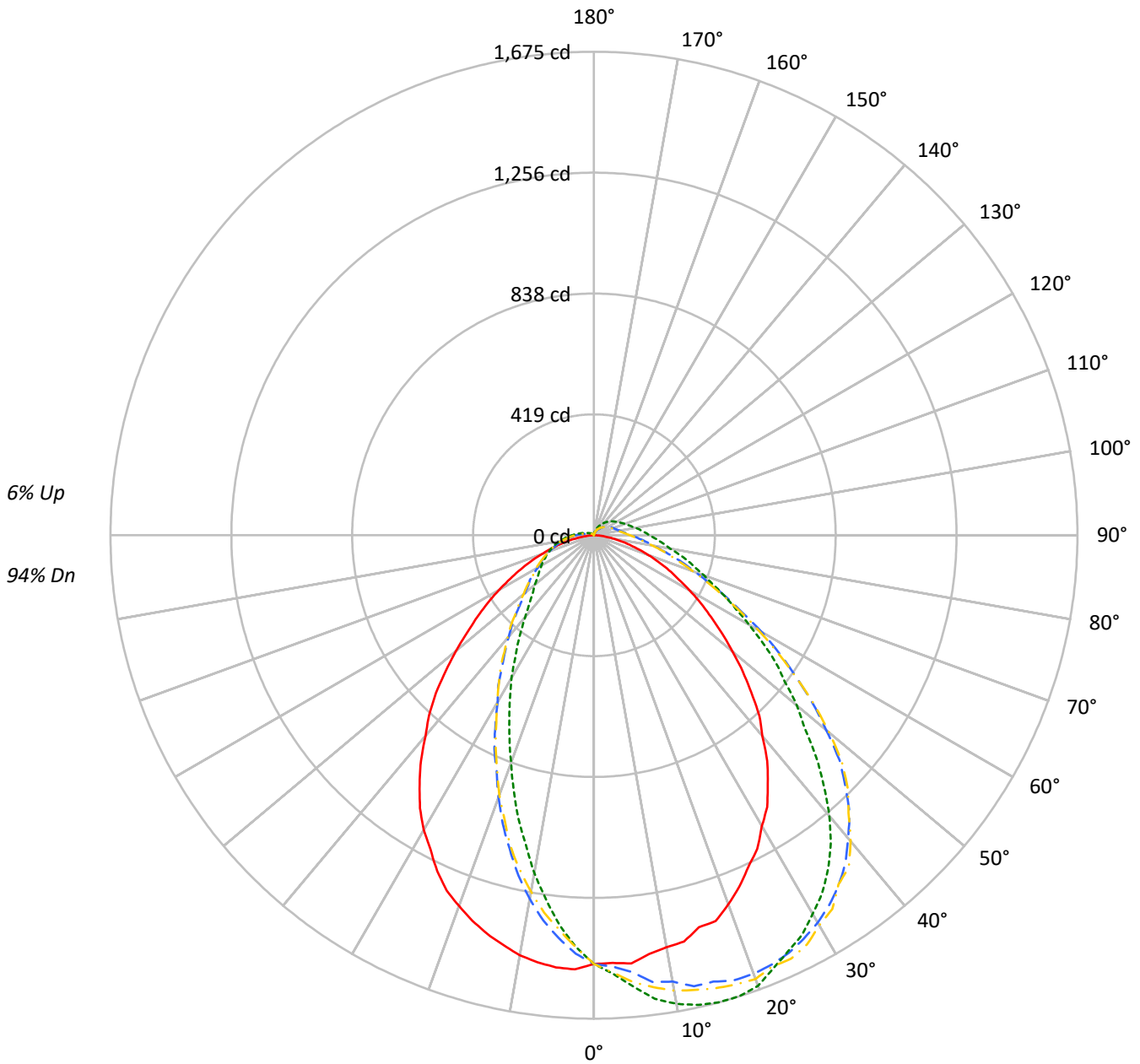
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3701.0 lumens
Efficiency: N/A
Efficacy: 124.2 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): 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

TEST NUMBER: P893494
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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	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°	15123	15123	15123	15123
5°	15178	15411	15322	13319
10°	14906	15740	15196	11352
15°	14697	15683	14946	9492
20°	14582	15373	14646	7765
25°	14027	14660	14221	6389
30°	13439	14010	13613	5278
35°	12776	13222	12811	4302
40°	11759	12095	11752	3526
45°	10755	10676	10810	3005
50°	9563	9319	9519	2714
55°	8427	8163	8369	2493
60°	7393	6962	7325	2357
65°	6477	5995	6324	2239
70°	5504	5253	5318	2140
75°	4487	4775	4367	2061
80°	3460	4299	3146	1920
85°	2382	4151	1926	1799

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 14960 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.5	3.8
10°-20°	387.8	10.5
20°-30°	557.8	15.1
30°-40°	633.0	17.1
40°-50°	604.9	16.3
50°-60°	491.6	13.3
60°-70°	343.0	9.3
70°-80°	212.5	5.7
80°-90°	121.9	3.3
90°-100°	72.9	2.0
100°-110°	47.8	1.3
110°-120°	33.5	0.9
120°-130°	24.3	0.7
130°-140°	16.1	0.4
140°-150°	9.1	0.2
150°-160°	4.1	0.1
160°-170°	1.2	0.0
170°-180°	0.1	0.0
0°-30°	1085.1	29.3
0°-40°	1718.1	46.4
0°-60°	2814.6	76.1
0°-90°	3491.9	94.4
90°-120°	154.2	4.2
90°-150°	203.7	5.5
90°-180°	209.0	5.6
0°-180°	3701.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1485	1485	1485	1485	1485	
5°	1489	1570	1503	1356	1489	140
15°	1406	1675	1430	1014	1406	399
25°	1267	1591	1284	693	1267	584
35°	1050	1414	1053	460	1050	655
45°	770	1090	774	307	770	594
55°	496	769	492	235	496	446
65°	287	500	280	187	287	285
75°	127	334	124	144	127	137
85°	28	227	22	98	28	31
90°	1	192	0	75	1	2
95°	2	167	0	57	2	1
105°	1	128	0	31	1	1
115°	1	102	0	17	1	1
125°	1	83	0	11	1	1
135°	1	66	0	9	1	1
145°	1	47	0	6	1	1
155°	2	29	0	3	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°	1484.9	1484.9	1484.9	1484.9	1484.9	1484.9	1484.9	1484.9	1484.9	1484.9	1484.9
2.5°	1483.4	1494.6	1495.6	1530.6	1520.4	1533.5	1517.0	1519.9	1505.3	1501.4	1450.9
5°	1488.8	1512.6	1518.9	1579.2	1569.5	1576.3	1553.5	1536.9	1502.9	1482.5	1400.8
7.5°	1463.5	1526.2	1561.2	1604.0	1620.1	1625.4	1579.2	1548.6	1492.2	1442.1	1346.3
10°	1449.4	1536.0	1570.0	1634.2	1648.3	1638.1	1602.1	1551.5	1477.6	1396.9	1279.2
12.5°	1441.6	1541.3	1600.6	1666.3	1666.7	1656.1	1613.8	1559.3	1453.8	1348.3	1208.2
15°	1405.7	1540.3	1601.1	1667.7	1675.0	1668.2	1624.9	1553.9	1429.5	1288.0	1126.6
17.5°	1401.8	1537.9	1616.7	1686.7	1674.5	1669.7	1631.7	1551.5	1400.3	1226.7	1049.7
20°	1360.9	1532.6	1616.7	1665.3	1661.4	1663.3	1636.1	1548.1	1366.8	1160.6	965.6
22.5°	1317.6	1526.2	1609.9	1646.8	1623.5	1659.0	1616.7	1538.9	1332.7	1091.6	882.0
25°	1266.6	1516.0	1596.7	1620.6	1590.9	1618.6	1618.1	1524.8	1284.1	1017.2	815.9
27.5°	1225.3	1500.0	1575.3	1611.3	1560.8	1584.6	1598.2	1507.8	1226.7	943.7	738.1
30°	1163.5	1479.6	1549.6	1554.9	1515.0	1545.2	1560.8	1486.4	1178.6	860.6	667.1
32.5°	1116.4	1456.2	1518.0	1510.7	1470.8	1510.7	1536.0	1465.0	1121.2	787.7	617.0
35°	1050.2	1428.0	1478.6	1440.2	1413.9	1447.0	1476.6	1442.1	1053.1	709.9	552.8
37.5°	986.0	1403.2	1431.4	1383.8	1347.8	1384.7	1449.9	1399.3	984.6	648.1	505.2
40°	907.8	1346.3	1369.7	1305.0	1269.0	1323.5	1383.3	1362.4	907.3	583.9	459.0
42.5°	848.4	1304.0	1310.8	1222.3	1179.6	1237.4	1305.5	1309.9	844.6	526.1	418.1
45°	770.2	1244.7	1232.1	1134.8	1090.1	1142.1	1244.2	1255.9	774.1	476.0	378.3
47.5°	699.7	1178.6	1153.8	1040.0	989.9	1051.7	1165.0	1195.6	695.3	429.8	340.8
50°	626.2	1104.7	1049.7	951.5	918.0	948.6	1064.3	1114.9	623.3	384.1	312.2
52.5°	559.1	1023.0	954.9	866.9	833.4	858.7	958.8	1034.7	551.9	345.7	286.9
55°	495.9	941.3	853.3	775.5	768.7	776.5	851.9	938.9	492.5	311.7	270.8
57.5°	439.5	842.1	761.9	704.5	692.4	698.7	750.7	840.2	435.2	277.6	247.5
60°	382.7	740.5	671.5	627.2	620.4	625.3	658.8	743.9	379.2	248.9	225.6
62.5°	331.1	638.4	577.1	560.6	555.7	555.7	569.8	647.6	326.7	219.8	209.1
65°	286.9	550.9	504.7	498.4	499.8	499.3	490.6	540.7	280.1	194.0	194.5
67.5°	242.1	458.0	432.2	440.0	445.9	443.4	425.0	449.7	236.3	170.7	181.4
70°	200.8	378.3	373.4	390.9	404.5	391.9	365.1	367.6	194.0	147.8	164.3
72.5°	161.9	305.8	328.2	352.5	365.6	351.5	314.6	303.9	156.1	126.9	148.8
75°	127.4	246.0	281.5	317.5	334.5	316.5	273.7	237.3	124.0	107.0	136.1
77.5°	97.2	195.0	240.7	282.5	299.0	283.5	238.2	185.2	90.9	89.9	122.5
80°	69.5	154.1	213.4	253.8	268.9	253.8	206.6	146.4	63.2	72.0	107.9
82.5°	45.7	119.1	185.7	231.0	247.5	229.0	179.4	112.8	40.4	58.3	97.2
85°	27.7	94.3	161.9	207.6	226.6	208.6	157.0	85.6	22.4	44.7	84.6
87.5°	12.2	72.9	144.4	191.6	208.6	192.1	140.0	67.1	9.2	35.0	72.4
90°	1.0	57.9	127.4	176.5	191.6	176.0	124.0	54.5	0.0	25.3	62.2
92.5°	1.0	49.6	116.7	163.4	180.4	162.9	111.8	44.7	0.0	18.5	52.5
95°	1.5	41.8	106.0	153.2	166.8	151.7	102.1	38.4	0.0	12.6	44.2
97.5°	1.5	37.9	97.2	142.9	158.0	142.0	93.4	34.5	0.0	9.2	36.0
100°	1.0	35.0	90.4	133.2	147.3	132.3	86.5	31.1	0.0	5.8	29.2
102.5°	1.0	32.6	84.6	125.0	136.1	123.5	80.7	29.2	0.0	4.9	23.8
105°	1.0	31.1	79.3	115.2	128.4	115.2	75.8	27.2	0.0	3.9	18.5
107.5°	1.0	29.2	75.4	109.9	120.6	108.9	72.0	25.8	0.0	3.9	15.1
110°	1.0	27.7	72.0	102.1	114.3	103.1	68.6	23.3	0.0	2.4	12.2



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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	25.3	68.6	96.8	108.4	97.2	65.6	21.4	0.0	2.4	10.7
115°	1.0	22.9	65.6	93.4	102.1	92.4	62.7	19.0	0.0	1.9	9.7
117.5°	1.0	21.4	63.7	89.0	97.7	88.0	60.3	18.0	0.0	1.9	9.2
120°	1.0	20.4	60.8	84.6	91.4	83.6	57.4	17.0	0.0	1.9	8.8
122.5°	1.0	19.4	58.3	80.7	88.0	80.2	54.9	16.5	0.0	1.5	7.8
125°	1.0	18.5	54.9	76.3	83.1	75.4	50.6	16.0	0.0	1.0	6.8
127.5°	1.0	17.5	51.5	72.9	79.3	72.0	47.6	15.6	0.0	1.0	6.3
130°	1.0	17.0	47.2	68.6	74.9	67.6	44.2	15.6	0.0	1.0	5.8
132.5°	1.0	16.5	42.3	64.2	71.0	63.2	40.8	15.1	0.0	1.0	4.9
135°	1.0	16.0	37.4	59.8	66.1	58.8	37.9	14.6	0.0	1.0	4.4
137.5°	1.0	15.1	33.1	54.9	61.3	54.0	36.0	13.6	0.0	1.0	3.9
140°	1.0	14.1	29.7	51.1	56.4	49.6	33.1	12.6	0.0	0.5	2.9
142.5°	1.0	12.6	26.7	46.2	51.5	45.2	29.7	10.7	0.0	0.5	2.9
145°	1.0	11.2	24.3	40.4	46.7	40.4	27.7	9.7	0.0	0.5	2.4
147.5°	1.0	10.2	21.9	34.0	42.3	37.0	24.8	8.3	0.0	0.5	1.9
150°	1.0	9.2	19.0	28.7	37.4	32.6	22.9	7.3	0.0	0.0	1.5
152.5°	1.0	8.3	16.5	23.8	33.5	29.7	20.4	6.3	0.0	0.0	1.0
155°	1.5	7.8	14.1	20.9	29.2	25.8	17.0	5.3	0.0	0.0	1.0
157.5°	1.5	6.8	11.7	17.0	25.8	22.4	13.6	4.4	0.0	0.0	0.5
160°	1.5	6.3	9.7	13.1	21.4	18.5	11.2	3.4	0.0	0.0	0.5
162.5°	1.5	5.8	8.3	9.7	17.5	14.6	8.8	2.4	0.0	0.0	0.5
165°	1.5	4.9	7.3	6.8	13.6	11.2	6.8	1.5	0.0	0.0	0.0
167.5°	1.5	4.4	5.8	4.9	10.2	8.3	4.9	1.0	0.0	0.0	0.0
170°	1.5	3.4	4.9	3.4	2.9	5.3	2.9	0.5	0.0	0.0	0.0
172.5°	1.5	2.9	3.9	2.4	1.0	2.9	1.5	0.0	0.0	0.0	0.0
175°	1.5	2.4	2.4	1.5	0.5	1.0	0.0	0.0	0.0	0.0	0.0
177.5°	1.5	1.9	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°	1484.9	1484.9	1484.9	1484.9	1484.9	1484.9
2.5°	1444.1	1428.0	1413.4	1429.0	1440.2	1483.4
5°	1373.6	1356.5	1358.5	1372.6	1410.0	1488.8
7.5°	1300.6	1272.4	1279.2	1318.6	1374.0	1463.5
10°	1214.6	1188.8	1195.1	1254.4	1332.2	1449.4
12.5°	1137.7	1094.5	1131.4	1187.3	1283.6	1441.6
15°	1047.8	1013.8	1033.7	1116.4	1236.9	1405.7
17.5°	950.6	924.3	948.1	1030.3	1179.6	1401.8
20°	875.7	839.2	867.4	957.8	1108.6	1360.9
22.5°	791.6	763.8	793.5	876.6	1036.1	1317.6
25°	722.5	693.3	723.0	805.7	971.9	1266.6
27.5°	655.4	628.7	655.4	731.3	908.3	1225.3
30°	596.6	570.8	598.0	671.0	833.9	1163.5
32.5°	541.6	508.6	543.6	614.1	768.2	1116.4
35°	484.8	460.0	486.2	564.5	695.3	1050.2
37.5°	437.6	411.8	442.9	510.0	633.5	986.0
40°	392.9	370.0	394.8	466.3	581.0	907.8
42.5°	357.9	335.0	360.3	426.4	528.0	848.4
45°	323.8	306.8	327.2	382.7	474.5	770.2
47.5°	299.0	284.4	301.5	350.6	429.8	699.7
50°	277.6	267.4	279.6	318.5	383.6	626.2
52.5°	258.7	248.5	262.6	293.7	347.2	559.1
55°	244.1	234.8	245.5	270.3	310.7	495.9
57.5°	228.0	222.2	230.5	245.5	282.0	439.5
60°	216.4	210.0	218.8	231.0	249.4	382.7
62.5°	203.2	199.8	205.2	214.9	224.6	331.1
65°	191.6	186.7	193.5	196.9	195.9	286.9
67.5°	178.9	177.5	181.4	181.8	174.6	242.1
70°	165.8	164.8	169.7	166.8	151.7	200.8
72.5°	155.1	155.1	158.0	152.2	132.3	161.9
75°	143.4	144.4	146.8	140.0	111.3	127.4
77.5°	132.7	133.7	134.2	125.0	93.4	97.2
80°	120.6	120.1	125.0	113.3	75.8	69.5
82.5°	109.9	107.9	110.9	99.2	61.3	45.7
85°	97.7	98.2	100.2	86.5	49.1	27.7
87.5°	88.0	88.0	89.9	76.3	37.0	12.2
90°	76.3	75.4	78.3	64.7	27.7	1.0
92.5°	66.6	66.6	68.6	55.4	20.4	1.0
95°	56.9	57.4	58.8	45.7	15.6	1.5
97.5°	48.6	49.1	51.1	38.9	11.2	1.5
100°	41.3	41.8	42.8	31.1	8.8	1.0
102.5°	34.5	36.0	36.0	25.8	6.8	1.0
105°	29.2	31.1	30.1	20.9	6.3	1.0
107.5°	24.3	26.3	26.3	17.0	6.3	1.0
110°	19.9	22.9	22.4	14.6	4.9	1.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	17.0	19.4	18.0	12.6	4.9	1.0
115°	14.6	17.0	16.0	11.7	4.4	1.0
117.5°	13.1	14.6	14.6	11.2	4.4	1.0
120°	12.2	13.6	13.1	10.7	4.4	1.0
122.5°	11.2	12.2	12.2	9.7	3.9	1.0
125°	10.7	11.2	11.7	8.8	3.9	1.0
127.5°	10.2	11.2	11.2	8.3	3.4	1.0
130°	9.2	10.2	10.2	7.8	3.4	1.0
132.5°	8.3	9.2	9.2	7.3	3.4	1.0
135°	7.8	8.8	8.8	6.8	3.4	1.0
137.5°	7.3	7.8	7.8	6.3	3.4	1.0
140°	6.3	7.3	7.3	5.8	3.4	1.0
142.5°	5.8	6.8	6.8	5.3	2.9	1.0
145°	5.3	5.8	6.3	4.9	2.9	1.0
147.5°	4.4	5.3	5.8	4.4	2.9	1.0
150°	3.4	4.9	4.9	4.4	2.9	1.0
152.5°	2.4	4.4	4.4	3.9	2.4	1.0
155°	1.9	3.4	3.9	3.4	2.4	1.5
157.5°	1.5	2.9	3.4	3.4	2.4	1.5
160°	1.0	2.4	2.9	2.9	1.9	1.5
162.5°	0.5	1.9	2.4	2.9	1.9	1.5
165°	0.0	1.5	1.9	2.4	1.9	1.5
167.5°	0.0	1.0	1.5	1.9	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: P893494
 CATALOG NUMBER: 4MB-4SL-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	18.35	19.81	18.81	20.25	20.70	20.61	22.07	21.07	22.50	22.96
	3H	19.18	20.49	19.64	20.94	21.43	22.31	23.63	22.78	24.07	24.57
	4H	19.38	20.62	19.87	21.08	21.60	23.15	24.39	23.64	24.86	25.37
	6H	19.47	20.62	19.97	21.10	21.62	24.03	25.18	24.53	25.66	26.18
	8H	19.47	20.57	19.99	21.07	21.60	24.50	25.60	25.01	26.10	26.63
	12H	19.46	20.51	19.98	21.01	21.57	25.04	26.10	25.56	26.59	27.15
4H	2H	18.79	20.03	19.28	20.49	21.01	20.98	22.22	21.47	22.68	23.19
	3H	19.89	20.93	20.39	21.44	21.97	22.86	23.91	23.36	24.41	24.95
	4H	20.23	21.17	20.75	21.69	22.26	23.83	24.78	24.36	25.30	25.87
	6H	20.42	21.25	20.96	21.79	22.38	24.87	25.71	25.42	26.25	26.83
	8H	20.44	21.22	20.99	21.77	22.36	25.44	26.22	25.99	26.76	27.36
	12H	20.45	21.15	21.02	21.73	22.33	26.10	26.80	26.66	27.37	27.97
8H	4H	20.56	21.33	21.10	21.88	22.47	23.98	24.75	24.52	25.30	25.89
	6H	20.88	21.53	21.46	22.12	22.72	25.15	25.80	25.73	26.39	26.99
	8H	20.97	21.55	21.56	22.15	22.77	25.83	26.42	26.42	27.02	27.63
	12H	21.02	21.55	21.62	22.13	22.82	26.64	27.17	27.24	27.75	28.44
12H	4H	20.63	21.34	21.20	21.91	22.51	23.97	24.67	24.54	25.24	25.84
	6H	21.01	21.60	21.61	22.20	22.82	25.16	25.75	25.76	26.35	26.96
	8H	21.17	21.70	21.77	22.28	22.97	25.90	26.42	26.49	27.01	27.69