

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: P893496

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893496
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-L950
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 5000K CCT
Light Source: -
Ballast/Driver: -

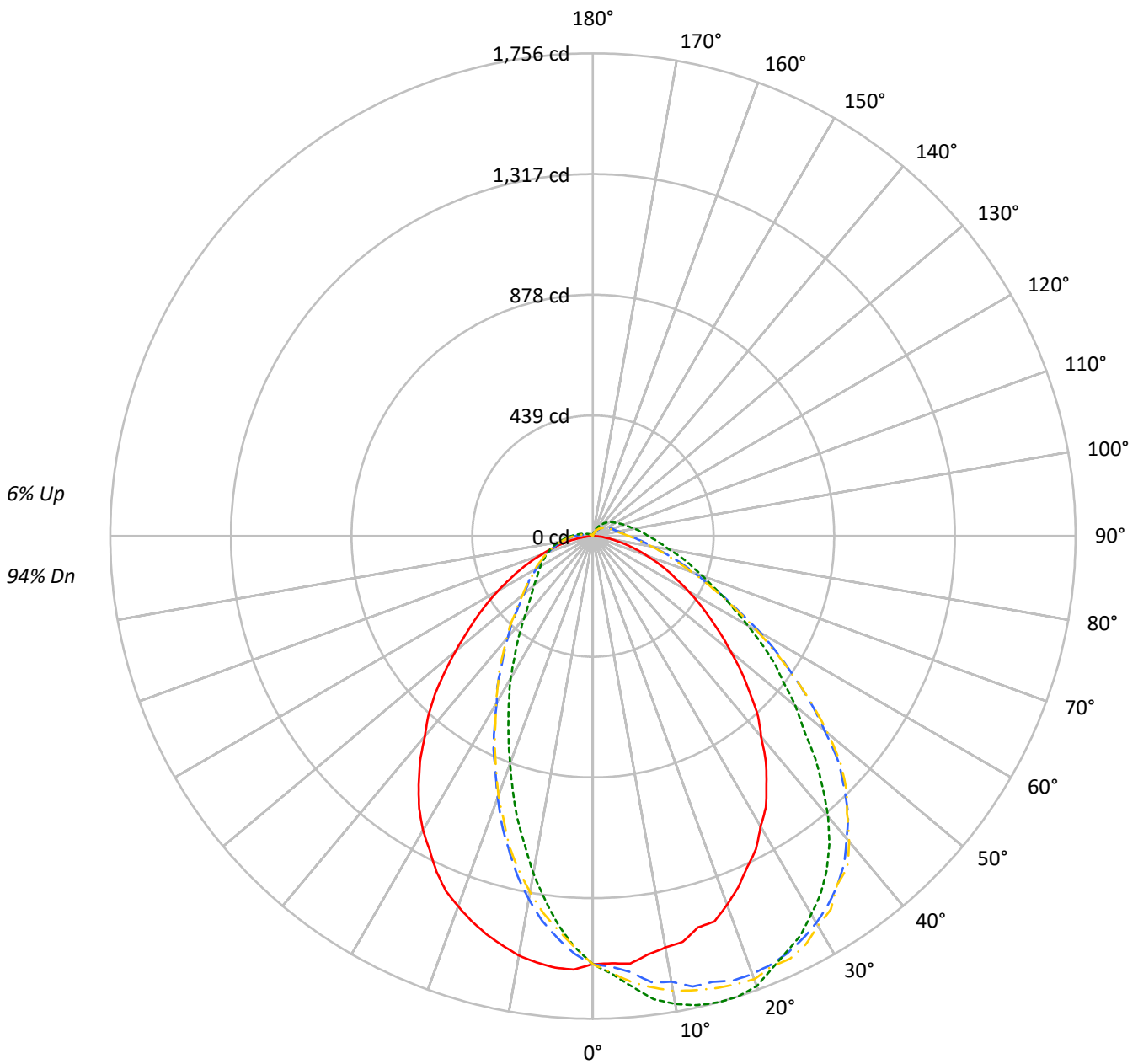
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3881.0 lumens
Efficiency: N/A
Efficacy: 130.2 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: P893496
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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				
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°	15858	15858	15858	15858
5°	15917	16160	16067	13967
10°	15631	16504	15936	11904
15°	15411	16446	15673	9954
20°	15292	16121	15357	8143
25°	14710	15373	14912	6700
30°	14092	14691	14275	5535
35°	13397	13865	13435	4510
40°	12330	12683	12324	3698
45°	11277	11195	11335	3151
50°	10029	9771	9982	2846
55°	8838	8560	8777	2615
60°	7752	7301	7682	2472
65°	6791	6286	6631	2348
70°	5773	5509	5575	2244
75°	4705	5008	4579	2161
80°	3629	4508	3300	2013
85°	2502	4352	2020	1887

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 15688 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.3	3.8
10°-20°	406.7	10.5
20°-30°	584.9	15.1
30°-40°	663.8	17.1
40°-50°	634.4	16.3
50°-60°	515.5	13.3
60°-70°	359.7	9.3
70°-80°	222.8	5.7
80°-90°	127.8	3.3
90°-100°	76.4	2.0
100°-110°	50.1	1.3
110°-120°	35.1	0.9
120°-130°	25.5	0.7
130°-140°	16.9	0.4
140°-150°	9.5	0.2
150°-160°	4.3	0.1
160°-170°	1.2	0.0
170°-180°	0.1	0.0
0°-30°	1137.9	29.3
0°-40°	1801.7	46.4
0°-60°	2951.5	76.1
0°-90°	3661.8	94.4
90°-120°	161.7	4.2
90°-150°	213.6	5.5
90°-180°	219.0	5.6
0°-180°	3881.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1557	1557	1557	1557	1557	
5°	1561	1646	1576	1422	1561	147
15°	1474	1756	1499	1063	1474	419
25°	1328	1668	1346	727	1328	613
35°	1101	1483	1104	482	1101	686
45°	808	1143	812	322	808	623
55°	520	806	516	246	520	468
65°	301	524	294	196	301	299
75°	134	351	130	151	134	144
85°	29	238	24	103	29	33
90°	1	201	0	79	1	2
95°	2	175	0	60	2	1
105°	1	135	0	33	1	1
115°	1	107	0	18	1	1
125°	1	87	0	12	1	1
135°	1	69	0	9	1	1
145°	1	49	0	6	1	1
155°	2	31	0	4	2	1
165°	2	14	0	2	2	0
175°	2	0	0	0	2	0
180°	0	0	0	0	0	



TEST NUMBER: P893496
 CATALOG NUMBER: 4MB-4SL-ASML-UNV-L950

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1557.1	1557.1	1557.1	1557.1	1557.1	1557.1	1557.1	1557.1	1557.1	1557.1	1557.1
2.5°	1555.6	1567.3	1568.3	1605.1	1594.3	1608.1	1590.8	1593.8	1578.5	1574.5	1521.4
5°	1561.2	1586.2	1592.8	1656.0	1645.8	1653.0	1629.0	1611.7	1576.0	1554.6	1468.9
7.5°	1534.7	1600.5	1637.2	1682.0	1698.9	1704.5	1656.0	1623.9	1564.8	1512.3	1411.8
10°	1519.9	1610.7	1646.3	1713.7	1728.4	1717.7	1680.0	1627.0	1549.5	1464.8	1341.5
12.5°	1511.7	1616.3	1678.5	1747.3	1747.8	1736.6	1692.2	1635.1	1524.5	1413.9	1267.0
15°	1474.0	1615.2	1679.0	1748.8	1756.5	1749.3	1704.0	1629.5	1499.0	1350.6	1181.4
17.5°	1469.9	1612.7	1695.3	1768.7	1756.0	1750.9	1711.1	1627.0	1468.4	1286.4	1100.8
20°	1427.1	1607.1	1695.3	1746.3	1742.2	1744.2	1715.7	1623.4	1433.2	1217.0	1012.6
22.5°	1381.7	1600.5	1688.2	1726.9	1702.4	1739.7	1695.3	1613.7	1397.5	1144.6	924.9
25°	1328.2	1589.8	1674.4	1699.4	1668.3	1697.3	1696.8	1598.9	1346.5	1066.6	855.6
27.5°	1284.9	1572.9	1652.0	1689.7	1636.7	1661.6	1675.9	1581.1	1286.4	989.6	774.0
30°	1220.1	1551.5	1624.9	1630.5	1588.7	1620.3	1636.7	1558.7	1235.9	902.5	699.5
32.5°	1170.6	1527.0	1591.8	1584.1	1542.3	1584.1	1610.7	1536.2	1175.7	826.0	647.0
35°	1101.3	1497.5	1550.5	1510.2	1482.7	1517.4	1548.5	1512.3	1104.4	744.4	579.7
37.5°	1034.0	1471.5	1501.0	1451.1	1413.3	1452.1	1520.4	1467.4	1032.5	679.6	529.7
40°	951.9	1411.8	1436.3	1368.5	1330.7	1387.8	1450.6	1428.6	951.4	612.3	481.3
42.5°	889.7	1367.5	1374.6	1281.8	1236.9	1297.6	1369.0	1373.6	885.6	551.7	438.5
45°	807.6	1305.3	1292.0	1190.0	1143.1	1197.7	1304.7	1317.0	811.7	499.2	396.7
47.5°	733.7	1235.9	1209.9	1090.6	1038.1	1102.8	1221.6	1253.8	729.1	450.7	357.4
50°	656.7	1158.4	1100.8	997.8	962.6	994.7	1116.1	1169.1	653.6	402.8	327.3
52.5°	586.3	1072.8	1001.4	909.1	873.9	900.4	1005.5	1085.0	578.7	362.5	300.8
55°	520.1	987.1	894.8	813.2	806.1	814.3	893.3	984.5	516.5	326.8	284.0
57.5°	460.9	883.1	799.0	738.8	726.0	732.7	787.2	881.0	456.3	291.1	259.5
60°	401.3	776.5	704.1	657.7	650.6	655.7	690.9	780.1	397.7	261.1	236.6
62.5°	347.2	669.5	605.2	587.9	582.8	582.8	597.6	679.1	342.6	230.5	219.2
65°	300.8	577.7	529.2	522.6	524.1	523.6	514.5	567.0	293.7	203.4	203.9
67.5°	253.9	480.3	453.3	461.4	467.5	465.0	445.6	471.6	247.8	179.0	190.2
70°	210.6	396.7	391.6	409.9	424.2	410.9	382.9	385.5	203.4	155.0	172.3
72.5°	169.8	320.7	344.2	369.7	383.4	368.6	329.9	318.7	163.7	133.1	156.0
75°	133.6	258.0	295.2	332.9	350.8	331.9	287.1	248.8	130.0	112.2	142.8
77.5°	102.0	204.5	252.4	296.2	313.6	297.3	249.8	194.3	95.3	94.3	128.5
80°	72.9	161.6	223.8	266.1	282.0	266.1	216.7	153.5	66.3	75.5	113.2
82.5°	47.9	124.9	194.8	242.2	259.5	240.1	188.1	118.3	42.3	61.2	102.0
85°	29.1	98.9	169.8	217.7	237.6	218.7	164.7	89.7	23.5	46.9	88.7
87.5°	12.7	76.5	151.4	200.9	218.7	201.4	146.8	70.4	9.7	36.7	76.0
90°	1.0	60.7	133.6	185.1	200.9	184.6	130.0	57.1	0.0	26.5	65.3
92.5°	1.0	52.0	122.4	171.3	189.2	170.8	117.3	46.9	0.0	19.4	55.1
95°	1.5	43.8	111.2	160.6	174.9	159.1	107.1	40.3	0.0	13.3	46.4
97.5°	1.5	39.8	102.0	149.9	165.7	148.9	97.9	36.2	0.0	9.7	37.7
100°	1.0	36.7	94.8	139.7	154.5	138.7	90.8	32.6	0.0	6.1	30.6
102.5°	1.0	34.2	88.7	131.0	142.8	129.5	84.6	30.6	0.0	5.1	25.0
105°	1.0	32.6	83.1	120.8	134.6	120.8	79.5	28.6	0.0	4.1	19.4
107.5°	1.0	30.6	79.0	115.2	126.4	114.2	75.5	27.0	0.0	4.1	15.8
110°	1.0	29.1	75.5	107.1	119.8	108.1	71.9	24.5	0.0	2.5	12.7



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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	26.5	71.9	101.5	113.7	102.0	68.8	22.4	0.0	2.5	11.2
115°	1.0	24.0	68.8	97.9	107.1	96.9	65.8	19.9	0.0	2.0	10.2
117.5°	1.0	22.4	66.8	93.3	102.5	92.3	63.2	18.9	0.0	2.0	9.7
120°	1.0	21.4	63.7	88.7	95.9	87.7	60.2	17.8	0.0	2.0	9.2
122.5°	1.0	20.4	61.2	84.6	92.3	84.1	57.6	17.3	0.0	1.5	8.2
125°	1.0	19.4	57.6	80.0	87.2	79.0	53.0	16.8	0.0	1.0	7.1
127.5°	1.0	18.4	54.0	76.5	83.1	75.5	50.0	16.3	0.0	1.0	6.6
130°	1.0	17.8	49.5	71.9	78.5	70.9	46.4	16.3	0.0	1.0	6.1
132.5°	1.0	17.3	44.4	67.3	74.4	66.3	42.8	15.8	0.0	1.0	5.1
135°	1.0	16.8	39.3	62.7	69.3	61.7	39.8	15.3	0.0	1.0	4.6
137.5°	1.0	15.8	34.7	57.6	64.2	56.6	37.7	14.3	0.0	1.0	4.1
140°	1.0	14.8	31.1	53.5	59.1	52.0	34.7	13.3	0.0	0.5	3.1
142.5°	1.0	13.3	28.0	48.4	54.0	47.4	31.1	11.2	0.0	0.5	3.1
145°	1.0	11.7	25.5	42.3	48.9	42.3	29.1	10.2	0.0	0.5	2.5
147.5°	1.0	10.7	22.9	35.7	44.4	38.7	26.0	8.7	0.0	0.5	2.0
150°	1.0	9.7	19.9	30.1	39.3	34.2	24.0	7.6	0.0	0.0	1.5
152.5°	1.0	8.7	17.3	25.0	35.2	31.1	21.4	6.6	0.0	0.0	1.0
155°	1.5	8.2	14.8	21.9	30.6	27.0	17.8	5.6	0.0	0.0	1.0
157.5°	1.5	7.1	12.2	17.8	27.0	23.5	14.3	4.6	0.0	0.0	0.5
160°	1.5	6.6	10.2	13.8	22.4	19.4	11.7	3.6	0.0	0.0	0.5
162.5°	1.5	6.1	8.7	10.2	18.4	15.3	9.2	2.5	0.0	0.0	0.5
165°	1.5	5.1	7.6	7.1	14.3	11.7	7.1	1.5	0.0	0.0	0.0
167.5°	1.5	4.6	6.1	5.1	10.7	8.7	5.1	1.0	0.0	0.0	0.0
170°	1.5	3.6	5.1	3.6	3.1	5.6	3.1	0.5	0.0	0.0	0.0
172.5°	1.5	3.1	4.1	2.5	1.0	3.1	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°	1557.1	1557.1	1557.1	1557.1	1557.1	1557.1
2.5°	1514.3	1497.5	1482.2	1498.5	1510.2	1555.6
5°	1440.4	1422.5	1424.6	1439.3	1478.6	1561.2
7.5°	1363.9	1334.3	1341.5	1382.7	1440.9	1534.7
10°	1273.6	1246.6	1253.2	1315.4	1397.0	1519.9
12.5°	1193.1	1147.7	1186.5	1245.1	1346.0	1511.7
15°	1098.8	1063.1	1084.0	1170.6	1297.1	1474.0
17.5°	996.8	969.3	994.2	1080.4	1236.9	1469.9
20°	918.3	880.0	909.6	1004.4	1162.5	1427.1
22.5°	830.1	801.0	832.1	919.3	1086.5	1381.7
25°	757.7	727.1	758.2	844.8	1019.2	1328.2
27.5°	687.3	659.3	687.3	766.8	952.4	1284.9
30°	625.6	598.6	627.1	703.6	874.4	1220.1
32.5°	568.0	533.3	570.0	644.0	805.6	1170.6
35°	508.3	482.3	509.9	592.0	729.1	1101.3
37.5°	458.9	431.9	464.5	534.8	664.4	1034.0
40°	412.0	388.0	414.0	489.0	609.3	951.9
42.5°	375.3	351.3	377.8	447.2	553.7	889.7
45°	339.6	321.7	343.1	401.3	497.6	807.6
47.5°	313.6	298.3	316.1	367.6	450.7	733.7
50°	291.1	280.4	293.2	334.0	402.3	656.7
52.5°	271.2	260.5	275.3	308.0	364.0	586.3
55°	256.0	246.3	257.5	283.5	325.8	520.1
57.5°	239.1	233.0	241.7	257.5	295.7	460.9
60°	226.9	220.3	229.4	242.2	261.6	401.3
62.5°	213.1	209.6	215.2	225.4	235.6	347.2
65°	200.9	195.8	202.9	206.5	205.5	300.8
67.5°	187.6	186.1	190.2	190.7	183.0	253.9
70°	173.9	172.8	177.9	174.9	159.1	210.6
72.5°	162.6	162.6	165.7	159.6	138.7	169.8
75°	150.4	151.4	154.0	146.8	116.8	133.6
77.5°	139.2	140.2	140.7	131.0	97.9	102.0
80°	126.4	125.9	131.0	118.8	79.5	72.9
82.5°	115.2	113.2	116.2	104.0	64.2	47.9
85°	102.5	103.0	105.0	90.8	51.5	29.1
87.5°	92.3	92.3	94.3	80.0	38.7	12.7
90°	80.0	79.0	82.1	67.8	29.1	1.0
92.5°	69.9	69.9	71.9	58.1	21.4	1.0
95°	59.7	60.2	61.7	47.9	16.3	1.5
97.5°	51.0	51.5	53.5	40.8	11.7	1.5
100°	43.3	43.8	44.9	32.6	9.2	1.0
102.5°	36.2	37.7	37.7	27.0	7.1	1.0
105°	30.6	32.6	31.6	21.9	6.6	1.0
107.5°	25.5	27.5	27.5	17.8	6.6	1.0
110°	20.9	24.0	23.5	15.3	5.1	1.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	17.8	20.4	18.9	13.3	5.1	1.0
115°	15.3	17.8	16.8	12.2	4.6	1.0
117.5°	13.8	15.3	15.3	11.7	4.6	1.0
120°	12.7	14.3	13.8	11.2	4.6	1.0
122.5°	11.7	12.7	12.7	10.2	4.1	1.0
125°	11.2	11.7	12.2	9.2	4.1	1.0
127.5°	10.7	11.7	11.7	8.7	3.6	1.0
130°	9.7	10.7	10.7	8.2	3.6	1.0
132.5°	8.7	9.7	9.7	7.6	3.6	1.0
135°	8.2	9.2	9.2	7.1	3.6	1.0
137.5°	7.6	8.2	8.2	6.6	3.6	1.0
140°	6.6	7.6	7.6	6.1	3.6	1.0
142.5°	6.1	7.1	7.1	5.6	3.1	1.0
145°	5.6	6.1	6.6	5.1	3.1	1.0
147.5°	4.6	5.6	6.1	4.6	3.1	1.0
150°	3.6	5.1	5.1	4.6	3.1	1.0
152.5°	2.5	4.6	4.6	4.1	2.5	1.0
155°	2.0	3.6	4.1	3.6	2.5	1.5
157.5°	1.5	3.1	3.6	3.6	2.5	1.5
160°	1.0	2.5	3.1	3.1	2.0	1.5
162.5°	0.5	2.0	2.5	3.1	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: P893496
 CATALOG NUMBER: 4MB-4SL-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	18.52	19.98	18.97	20.41	20.87	20.78	22.24	21.23	22.67	23.12
	3H	19.34	20.66	19.81	21.10	21.60	22.48	23.80	22.95	24.24	24.74
	4H	19.54	20.79	20.03	21.25	21.76	23.32	24.56	23.81	25.02	25.53
	6H	19.64	20.79	20.14	21.26	21.79	24.19	25.34	24.69	25.82	26.35
	8H	19.64	20.74	20.15	21.24	21.77	24.66	25.76	25.18	26.26	26.80
	12H	19.63	20.68	20.14	21.17	21.73	25.21	26.26	25.73	26.75	27.32
4H	2H	18.96	20.20	19.44	20.66	21.17	21.14	22.39	21.63	22.85	23.36
	3H	20.05	21.10	20.55	21.60	22.14	23.03	24.07	23.53	24.58	25.11
	4H	20.39	21.34	20.91	21.86	22.43	24.00	24.95	24.52	25.47	26.03
	6H	20.58	21.41	21.13	21.96	22.54	25.04	25.87	25.58	26.41	27.00
	8H	20.61	21.39	21.16	21.93	22.53	25.60	26.38	26.15	26.93	27.52
	12H	20.62	21.32	21.19	21.89	22.49	26.26	26.96	26.83	27.54	28.14
8H	4H	20.72	21.50	21.27	22.04	22.64	24.14	24.92	24.69	25.46	26.06
	6H	21.04	21.70	21.62	22.28	22.88	25.31	25.97	25.89	26.55	27.16
	8H	21.13	21.72	21.73	22.32	22.93	25.99	26.58	26.59	27.18	27.79
	12H	21.19	21.71	21.78	22.30	22.98	26.81	27.33	27.40	27.92	28.60
12H	4H	20.80	21.50	21.37	22.07	22.67	24.13	24.84	24.70	25.41	26.01
	6H	21.18	21.77	21.77	22.37	22.98	25.33	25.91	25.92	26.52	27.13
	8H	21.34	21.86	21.93	22.45	23.13	26.06	26.59	26.66	27.17	27.86