

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: P893377

Luminaire Tested: 4MB-3SL-ASML-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893377
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-3SL-ASML-UNV-L830
Description: 3000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 80CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

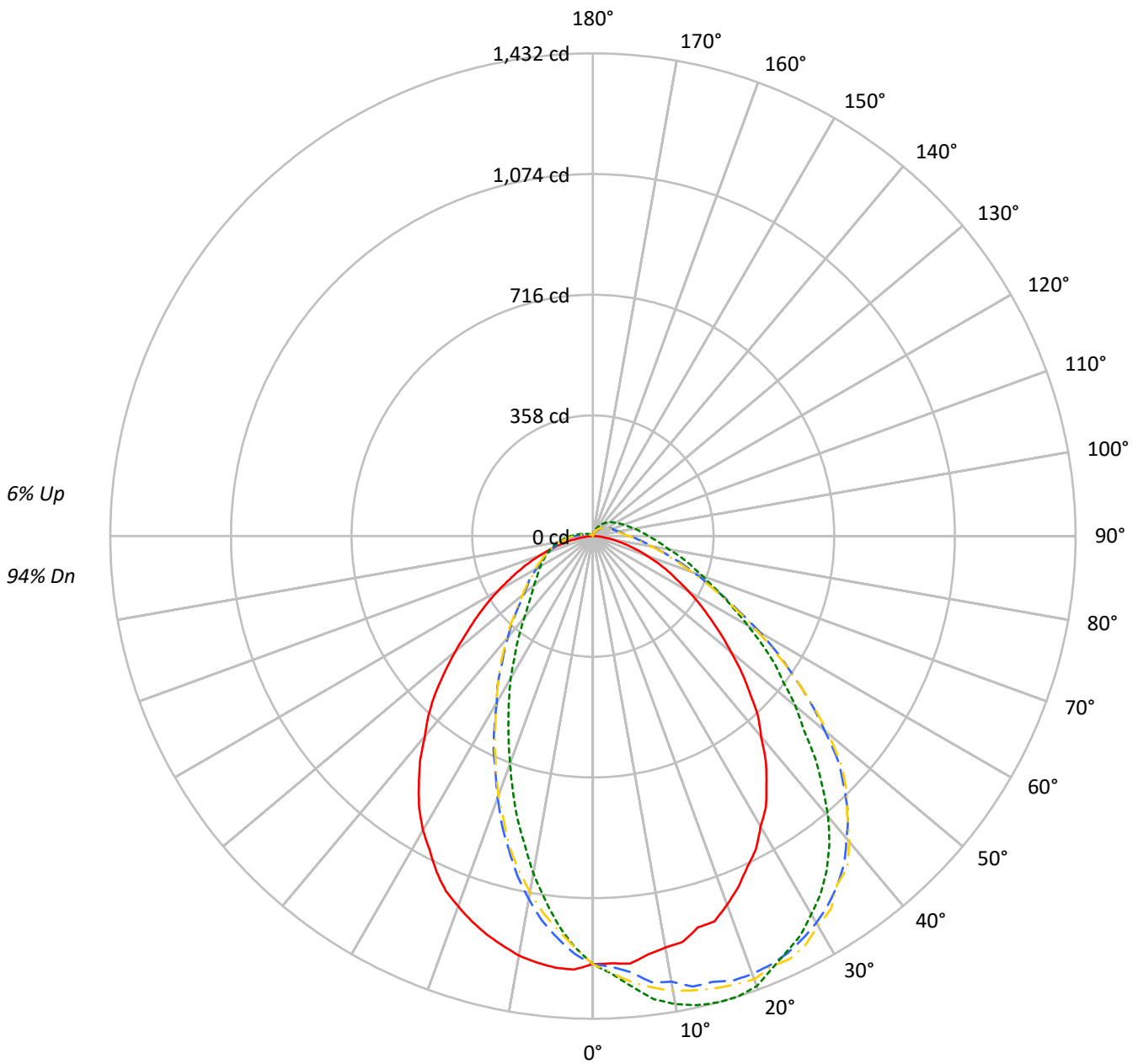
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3165.0 lumens
Efficiency: N/A
Efficacy: 150.0 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): 21.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 5.2
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P893377
CATALOG NUMBER: 4MB-3SL-ASML-UNV-L830

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - · - 90°-270° - · - 135°-315°



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CATALOG NUMBER: 4MB-3SL-ASML-UNV-L830

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°	12933	12933	12933	12933
5°	12980	13179	13103	11391
10°	12747	13460	12995	9707
15°	12569	13411	12782	8117
20°	12470	13147	12524	6641
25°	11996	12537	12161	5464
30°	11492	11981	11641	4514
35°	10925	11307	10956	3678
40°	10055	10343	10050	3016
45°	9197	9130	9244	2570
50°	8178	7968	8142	2322
55°	7207	6981	7158	2132
60°	6321	5954	6265	2015
65°	5538	5126	5407	1915
70°	4706	4492	4547	1831
75°	3835	4084	3733	1763
80°	2962	3675	2693	1642
85°	2038	3550	1642	1539

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 12793 cd/sqm



TEST NUMBER: P893377

CATALOG NUMBER: 4MB-3SL-ASML-UNV-L830

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.3	3.8
10°-20°	331.6	10.5
20°-30°	477.0	15.1
30°-40°	541.3	17.1
40°-50°	517.3	16.3
50°-60°	420.4	13.3
60°-70°	293.3	9.3
70°-80°	181.7	5.7
80°-90°	104.2	3.3
90°-100°	62.3	2.0
100°-110°	40.9	1.3
110°-120°	28.7	0.9
120°-130°	20.8	0.7
130°-140°	13.8	0.4
140°-150°	7.8	0.2
150°-160°	3.5	0.1
160°-170°	1.0	0.0
170°-180°	0.1	0.0
0°-30°	928.0	29.3
0°-40°	1469.3	46.4
0°-60°	2407.0	76.1
0°-90°	2986.2	94.4
90°-120°	131.9	4.2
90°-150°	174.2	5.5
90°-180°	179.0	5.7
0°-180°	3165.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1270	1270	1270	1270	1270	
5°	1273	1342	1285	1160	1273	120
15°	1202	1432	1222	867	1202	342
25°	1083	1360	1098	593	1083	500
35°	898	1209	901	393	898	560
45°	659	932	662	262	659	508
55°	424	657	421	201	424	382
65°	245	427	240	160	245	243
75°	109	286	106	124	109	118
85°	24	194	19	84	24	27
90°	1	164	0	64	1	2
95°	1	143	0	49	1	1
105°	1	110	0	27	1	1
115°	1	87	0	15	1	1
125°	1	71	0	10	1	1
135°	1	56	0	8	1	1
145°	1	40	0	5	1	1
155°	1	25	0	3	1	0
165°	1	12	0	1	1	0
175°	1	0	0	0	1	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°	1269.9	1269.9	1269.9	1269.9	1269.9	1269.9	1269.9	1269.9	1269.9	1269.9	1269.9
2.5°	1268.6	1278.2	1279.0	1308.9	1300.2	1311.4	1297.3	1299.8	1287.3	1284.0	1240.7
5°	1273.2	1293.6	1299.0	1350.5	1342.2	1348.0	1328.5	1314.3	1285.2	1267.8	1197.9
7.5°	1251.6	1305.2	1335.1	1371.7	1385.4	1390.0	1350.5	1324.3	1276.1	1233.3	1151.3
10°	1239.5	1313.5	1342.6	1397.5	1409.6	1400.8	1370.1	1326.8	1263.6	1194.6	1094.0
12.5°	1232.8	1318.1	1368.8	1424.9	1425.4	1416.2	1380.0	1333.5	1243.2	1153.0	1033.3
15°	1202.1	1317.3	1369.2	1426.2	1432.4	1426.6	1389.6	1328.9	1222.5	1101.5	963.4
17.5°	1198.7	1315.2	1382.5	1442.4	1432.0	1427.9	1395.4	1326.8	1197.5	1049.1	897.7
20°	1163.8	1310.6	1382.5	1424.1	1420.8	1422.5	1399.2	1323.9	1168.8	992.5	825.8
22.5°	1126.8	1305.2	1376.7	1408.3	1388.4	1418.7	1382.5	1316.0	1139.7	933.5	754.3
25°	1083.2	1296.5	1365.5	1385.9	1360.5	1384.2	1383.8	1303.9	1098.1	869.9	697.7
27.5°	1047.8	1282.7	1347.2	1378.0	1334.7	1355.1	1366.7	1289.4	1049.1	807.1	631.2
30°	995.0	1265.3	1325.2	1329.7	1295.6	1321.4	1334.7	1271.1	1007.9	736.0	570.5
32.5°	954.7	1245.3	1298.1	1291.9	1257.8	1291.9	1313.5	1252.8	958.8	673.6	527.6
35°	898.1	1221.2	1264.4	1231.6	1209.1	1237.4	1262.8	1233.3	900.6	607.1	472.8
37.5°	843.2	1200.0	1224.1	1183.4	1152.6	1184.2	1239.9	1196.7	842.0	554.3	432.0
40°	776.3	1151.3	1171.3	1116.0	1085.2	1131.8	1182.9	1165.1	775.9	499.4	392.5
42.5°	725.6	1115.2	1121.0	1045.3	1008.7	1058.2	1116.4	1120.2	722.2	449.9	357.6
45°	658.6	1064.4	1053.6	970.5	932.2	976.7	1064.0	1074.0	662.0	407.1	323.5
47.5°	598.3	1007.9	986.7	889.4	846.6	899.4	996.3	1022.5	594.6	367.6	291.5
50°	535.5	944.7	897.7	813.7	785.0	811.2	910.2	953.4	533.1	328.5	266.9
52.5°	478.2	874.8	816.6	741.4	712.7	734.3	820.0	884.8	471.9	295.6	245.3
55°	424.1	805.0	729.7	663.2	657.4	664.0	728.5	802.9	421.2	266.5	231.6
57.5°	375.9	720.2	651.6	602.5	592.1	597.5	642.0	718.5	372.1	237.4	211.6
60°	327.2	633.3	574.2	536.4	530.6	534.7	563.4	636.2	324.3	212.9	192.9
62.5°	283.2	545.9	493.6	479.4	475.3	475.3	487.3	553.8	279.4	187.9	178.8
65°	245.3	471.1	431.6	426.2	427.4	427.0	419.5	462.4	239.5	165.9	166.3
67.5°	207.1	391.7	369.6	376.3	381.3	379.2	363.4	384.6	202.1	145.9	155.1
70°	171.7	323.5	319.3	334.3	345.9	335.1	312.3	314.3	165.9	126.4	140.5
72.5°	138.5	261.5	280.7	301.5	312.7	300.6	269.0	259.9	133.5	108.5	127.2
75°	108.9	210.4	240.7	271.5	286.1	270.7	234.1	202.9	106.0	91.5	116.4
77.5°	83.2	166.7	205.8	241.6	255.7	242.4	203.7	158.4	77.8	76.9	104.8
80°	59.5	131.8	182.5	217.0	229.9	217.0	176.7	125.2	54.1	61.5	92.3
82.5°	39.1	101.9	158.8	197.5	211.6	195.8	153.4	96.5	34.5	49.9	83.2
85°	23.7	80.7	138.5	177.5	193.8	178.4	134.3	73.2	19.1	38.3	72.3
87.5°	10.4	62.4	123.5	163.8	178.4	164.2	119.8	57.4	7.9	29.9	62.0
90°	0.8	49.5	108.9	150.9	163.8	150.5	106.0	46.6	0.0	21.6	53.2
92.5°	0.8	42.4	99.8	139.7	154.3	139.3	95.6	38.3	0.0	15.8	44.9
95°	1.2	35.8	90.6	131.0	142.6	129.7	87.3	32.8	0.0	10.8	37.8
97.5°	1.2	32.4	83.2	122.2	135.1	121.4	79.8	29.5	0.0	7.9	30.8
100°	0.8	29.9	77.3	113.9	126.0	113.1	74.0	26.6	0.0	5.0	24.9
102.5°	0.8	27.9	72.3	106.9	116.4	105.6	69.0	24.9	0.0	4.2	20.4
105°	0.8	26.6	67.8	98.5	109.8	98.5	64.9	23.3	0.0	3.3	15.8
107.5°	0.8	24.9	64.4	94.0	103.1	93.1	61.5	22.0	0.0	3.3	12.9
110°	0.8	23.7	61.5	87.3	97.7	88.1	58.6	20.0	0.0	2.1	10.4



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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°	0.8	21.6	58.6	82.7	92.7	83.2	56.1	18.3	0.0	2.1	9.1
115°	0.8	19.5	56.1	79.8	87.3	79.0	53.6	16.2	0.0	1.7	8.3
117.5°	0.8	18.3	54.5	76.1	83.6	75.3	51.6	15.4	0.0	1.7	7.9
120°	0.8	17.5	52.0	72.3	78.2	71.5	49.1	14.6	0.0	1.7	7.5
122.5°	0.8	16.6	49.9	69.0	75.3	68.6	47.0	14.1	0.0	1.2	6.7
125°	0.8	15.8	47.0	65.3	71.1	64.4	43.2	13.7	0.0	0.8	5.8
127.5°	0.8	15.0	44.1	62.4	67.8	61.5	40.7	13.3	0.0	0.8	5.4
130°	0.8	14.6	40.3	58.6	64.0	57.8	37.8	13.3	0.0	0.8	5.0
132.5°	0.8	14.1	36.2	54.9	60.7	54.1	34.9	12.9	0.0	0.8	4.2
135°	0.8	13.7	32.0	51.1	56.5	50.3	32.4	12.5	0.0	0.8	3.7
137.5°	0.8	12.9	28.3	47.0	52.4	46.2	30.8	11.6	0.0	0.8	3.3
140°	0.8	12.1	25.4	43.7	48.2	42.4	28.3	10.8	0.0	0.4	2.5
142.5°	0.8	10.8	22.9	39.5	44.1	38.7	25.4	9.1	0.0	0.4	2.5
145°	0.8	9.6	20.8	34.5	39.9	34.5	23.7	8.3	0.0	0.4	2.1
147.5°	0.8	8.7	18.7	29.1	36.2	31.6	21.2	7.1	0.0	0.4	1.7
150°	0.8	7.9	16.2	24.5	32.0	27.9	19.5	6.2	0.0	0.0	1.2
152.5°	0.8	7.1	14.1	20.4	28.7	25.4	17.5	5.4	0.0	0.0	0.8
155°	1.2	6.7	12.1	17.9	24.9	22.0	14.6	4.6	0.0	0.0	0.8
157.5°	1.2	5.8	10.0	14.6	22.0	19.1	11.6	3.7	0.0	0.0	0.4
160°	1.2	5.4	8.3	11.2	18.3	15.8	9.6	2.9	0.0	0.0	0.4
162.5°	1.2	5.0	7.1	8.3	15.0	12.5	7.5	2.1	0.0	0.0	0.4
165°	1.2	4.2	6.2	5.8	11.6	9.6	5.8	1.2	0.0	0.0	0.0
167.5°	1.2	3.7	5.0	4.2	8.7	7.1	4.2	0.8	0.0	0.0	0.0
170°	1.2	2.9	4.2	2.9	2.5	4.6	2.5	0.4	0.0	0.0	0.0
172.5°	1.2	2.5	3.3	2.1	0.8	2.5	1.2	0.0	0.0	0.0	0.0
175°	1.2	2.1	2.1	1.2	0.4	0.8	0.0	0.0	0.0	0.0	0.0
177.5°	1.2	1.7	1.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1269.9	1269.9	1269.9	1269.9	1269.9	1269.9
2.5°	1234.9	1221.2	1208.7	1222.0	1231.6	1268.6
5°	1174.6	1160.1	1161.7	1173.8	1205.8	1273.2
7.5°	1112.3	1088.1	1094.0	1127.6	1175.0	1251.6
10°	1038.7	1016.6	1022.0	1072.8	1139.3	1239.5
12.5°	973.0	936.0	967.6	1015.4	1097.7	1232.8
15°	896.0	866.9	884.0	954.7	1057.8	1202.1
17.5°	812.9	790.4	810.8	881.1	1008.7	1198.7
20°	748.9	717.7	741.8	819.1	948.0	1163.8
22.5°	676.9	653.2	678.6	749.7	886.1	1126.8
25°	617.9	592.9	618.3	689.0	831.2	1083.2
27.5°	560.5	537.6	560.5	625.4	776.7	1047.8
30°	510.2	488.1	511.4	573.8	713.1	995.0
32.5°	463.2	434.9	464.9	525.2	657.0	954.7
35°	414.6	393.3	415.8	482.7	594.6	898.1
37.5°	374.2	352.2	378.8	436.2	541.8	843.2
40°	336.0	316.4	337.6	398.8	496.9	776.3
42.5°	306.0	286.5	308.1	364.7	451.6	725.6
45°	276.9	262.4	279.8	327.2	405.8	658.6
47.5°	255.7	243.2	257.8	299.8	367.6	598.3
50°	237.4	228.7	239.1	272.3	328.1	535.5
52.5°	221.2	212.5	224.5	251.1	296.9	478.2
55°	208.7	200.8	210.0	231.2	265.7	424.1
57.5°	195.0	190.0	197.1	210.0	241.2	375.9
60°	185.0	179.6	187.1	197.5	213.3	327.2
62.5°	173.8	170.9	175.5	183.8	192.1	283.2
65°	163.8	159.7	165.5	168.4	167.6	245.3
67.5°	153.0	151.8	155.1	155.5	149.3	207.1
70°	141.8	141.0	145.1	142.6	129.7	171.7
72.5°	132.6	132.6	135.1	130.1	113.1	138.5
75°	122.7	123.5	125.6	119.8	95.2	108.9
77.5°	113.5	114.3	114.8	106.9	79.8	83.2
80°	103.1	102.7	106.9	96.9	64.9	59.5
82.5°	94.0	92.3	94.8	84.8	52.4	39.1
85°	83.6	84.0	85.7	74.0	42.0	23.7
87.5°	75.3	75.3	76.9	65.3	31.6	10.4
90°	65.3	64.4	66.9	55.3	23.7	0.8
92.5°	57.0	57.0	58.6	47.4	17.5	0.8
95°	48.6	49.1	50.3	39.1	13.3	1.2
97.5°	41.6	42.0	43.7	33.3	9.6	1.2
100°	35.3	35.8	36.6	26.6	7.5	0.8
102.5°	29.5	30.8	30.8	22.0	5.8	0.8
105°	24.9	26.6	25.8	17.9	5.4	0.8
107.5°	20.8	22.5	22.5	14.6	5.4	0.8
110°	17.0	19.5	19.1	12.5	4.2	0.8



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	14.6	16.6	15.4	10.8	4.2	0.8
115°	12.5	14.6	13.7	10.0	3.7	0.8
117.5°	11.2	12.5	12.5	9.6	3.7	0.8
120°	10.4	11.6	11.2	9.1	3.7	0.8
122.5°	9.6	10.4	10.4	8.3	3.3	0.8
125°	9.1	9.6	10.0	7.5	3.3	0.8
127.5°	8.7	9.6	9.6	7.1	2.9	0.8
130°	7.9	8.7	8.7	6.7	2.9	0.8
132.5°	7.1	7.9	7.9	6.2	2.9	0.8
135°	6.7	7.5	7.5	5.8	2.9	0.8
137.5°	6.2	6.7	6.7	5.4	2.9	0.8
140°	5.4	6.2	6.2	5.0	2.9	0.8
142.5°	5.0	5.8	5.8	4.6	2.5	0.8
145°	4.6	5.0	5.4	4.2	2.5	0.8
147.5°	3.7	4.6	5.0	3.7	2.5	0.8
150°	2.9	4.2	4.2	3.7	2.5	0.8
152.5°	2.1	3.7	3.7	3.3	2.1	0.8
155°	1.7	2.9	3.3	2.9	2.1	1.2
157.5°	1.2	2.5	2.9	2.9	2.1	1.2
160°	0.8	2.1	2.5	2.5	1.7	1.2
162.5°	0.4	1.7	2.1	2.5	1.7	1.2
165°	0.0	1.2	1.7	2.1	1.7	1.2
167.5°	0.0	0.8	1.2	1.7	1.2	1.2
170°	0.0	0.4	0.8	1.2	1.2	1.2
172.5°	0.0	0.0	0.4	0.8	0.8	1.2
175°	0.0	0.0	0.0	0.4	0.8	1.2
177.5°	0.0	0.0	0.0	0.4	0.8	1.2
180°	0.4	0.4	0.4	0.4	0.4	0.4



TEST NUMBER: P893377
 CATALOG NUMBER: 4MB-3SL-ASML-UNV-L830

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	17.81	19.27	18.27	19.70	20.16	20.07	21.53	20.52	21.96	22.42
	3H	18.63	19.95	19.10	20.39	20.89	21.77	23.09	22.24	23.53	24.03
	4H	18.84	20.08	19.32	20.54	21.05	22.61	23.85	23.10	24.31	24.82
	6H	18.93	20.08	19.43	20.56	21.08	23.48	24.64	23.99	25.11	25.64
	8H	18.93	20.03	19.44	20.53	21.06	23.96	25.06	24.47	25.55	26.09
	12H	18.92	19.97	19.44	20.46	21.02	24.50	25.55	25.02	26.04	26.61
4H	2H	18.25	19.49	18.74	19.95	20.46	20.44	21.68	20.92	22.14	22.65
	3H	19.34	20.39	19.85	20.89	21.43	22.32	23.36	22.82	23.87	24.40
	4H	19.68	20.63	20.20	21.15	21.72	23.29	24.24	23.81	24.76	25.33
	6H	19.87	20.71	20.42	21.25	21.83	24.33	25.16	24.87	25.71	26.29
	8H	19.90	20.68	20.45	21.23	21.82	24.89	25.67	25.44	26.22	26.81
	12H	19.91	20.61	20.48	21.19	21.78	25.55	26.25	26.12	26.83	27.43
8H	4H	20.01	20.79	20.56	21.34	21.93	23.43	24.21	23.98	24.76	25.35
	6H	20.33	20.99	20.91	21.57	22.18	24.60	25.26	25.19	25.85	26.45
	8H	20.42	21.01	21.02	21.61	22.23	25.28	25.87	25.88	26.47	27.09
	12H	20.48	21.00	21.07	21.59	22.27	26.10	26.62	26.69	27.21	27.89
12H	4H	20.09	20.79	20.66	21.37	21.97	23.42	24.13	23.99	24.70	25.30
	6H	20.47	21.06	21.07	21.66	22.27	24.62	25.21	25.21	25.81	26.42
	8H	20.63	21.15	21.22	21.74	22.42	25.35	25.88	25.95	26.46	27.15