

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: P893269

Luminaire Tested: 4MB-2SL-ASML-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893269
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-2SL-ASML-UNV-L930
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

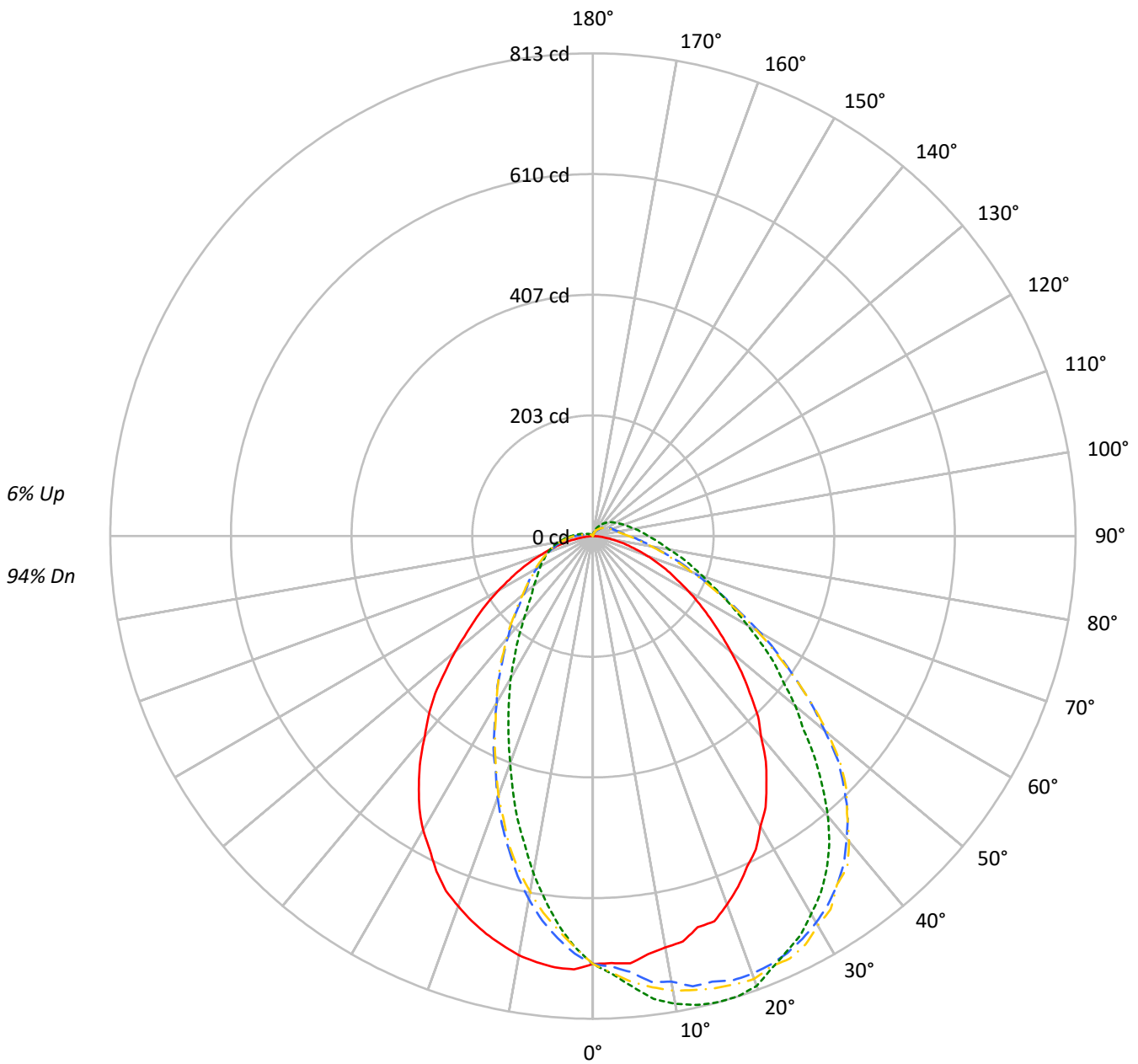
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1796.0 lumens
Efficiency: N/A
Efficacy: 130.1 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): 13.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 5.92
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	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°	7339	7339	7339	7339
5°	7366	7478	7435	6464
10°	7234	7638	7374	5509
15°	7132	7610	7253	4607
20°	7076	7460	7107	3768
25°	6807	7114	6901	3101
30°	6521	6799	6606	2561
35°	6199	6416	6218	2087
40°	5706	5869	5703	1712
45°	5218	5181	5245	1458
50°	4641	4522	4620	1318
55°	4090	3961	4061	1211
60°	3587	3379	3554	1143
65°	3143	2910	3068	1087
70°	2670	2549	2579	1039
75°	2177	2317	2120	1001
80°	1678	2086	1528	932
85°	1152	2015	937	874

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 7260 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.7	3.8
10°-20°	188.2	10.5
20°-30°	270.7	15.1
30°-40°	307.2	17.1
40°-50°	293.6	16.3
50°-60°	238.5	13.3
60°-70°	166.4	9.3
70°-80°	103.1	5.7
80°-90°	59.1	3.3
90°-100°	35.4	2.0
100°-110°	23.2	1.3
110°-120°	16.3	0.9
120°-130°	11.8	0.7
130°-140°	7.8	0.4
140°-150°	4.4	0.2
150°-160°	2.0	0.1
160°-170°	0.6	0.0
170°-180°	0.0	0.0
0°-30°	526.6	29.3
0°-40°	833.8	46.4
0°-60°	1365.9	76.0
0°-90°	1694.6	94.4
90°-120°	74.8	4.2
90°-150°	98.9	5.5
90°-180°	101.0	5.6
0°-180°	1796.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	721	721	721	721	721	
5°	722	762	729	658	722	68
15°	682	813	694	492	682	194
25°	615	772	623	336	615	284
35°	510	686	511	223	510	318
45°	374	529	376	149	374	288
55°	241	373	239	114	241	217
65°	139	243	136	91	139	138
75°	62	162	60	70	62	67
85°	13	110	11	48	13	15
90°	0	93	0	37	0	1
95°	1	81	0	28	1	1
105°	0	62	0	15	0	1
115°	0	50	0	8	0	0
125°	0	40	0	5	0	0
135°	0	32	0	4	0	0
145°	0	23	0	3	0	0
155°	1	14	0	2	1	0
165°	1	7	0	1	1	0
175°	1	0	0	0	1	0
180°	0	0	0	0	0	



TEST NUMBER: P893269
 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L930

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	720.6	720.6	720.6	720.6	720.6	720.6	720.6	720.6	720.6	720.6	720.6
2.5°	719.9	725.3	725.8	742.8	737.8	744.2	736.2	737.6	730.5	728.6	704.1
5°	722.5	734.0	737.1	766.4	761.6	764.9	753.9	745.8	729.3	719.4	679.8
7.5°	710.2	740.6	757.6	778.4	786.2	788.8	766.4	751.5	724.1	699.8	653.3
10°	703.4	745.4	761.9	793.0	799.9	794.9	777.4	752.9	717.0	677.9	620.8
12.5°	699.6	748.0	776.7	808.6	808.8	803.6	783.1	756.7	705.5	654.3	586.3
15°	682.1	747.5	777.0	809.3	812.8	809.5	788.5	754.1	693.7	625.0	546.7
17.5°	680.2	746.3	784.5	818.5	812.6	810.2	791.8	752.9	679.5	595.3	509.4
20°	660.4	743.7	784.5	808.1	806.2	807.2	794.0	751.3	663.3	563.2	468.6
22.5°	639.4	740.6	781.2	799.2	787.8	805.1	784.5	746.8	646.7	529.7	428.0
25°	614.6	735.7	774.9	786.4	772.0	785.5	785.2	739.9	623.1	493.6	395.9
27.5°	594.6	727.9	764.5	781.9	757.4	769.0	775.6	731.7	595.3	458.0	358.2
30°	564.6	718.0	752.0	754.6	735.2	749.8	757.4	721.3	571.9	417.6	323.7
32.5°	541.7	706.7	736.6	733.1	713.7	733.1	745.4	710.9	544.1	382.2	299.4
35°	509.6	693.0	717.5	698.9	686.1	702.2	716.6	699.8	511.1	344.5	268.3
37.5°	478.5	680.9	694.6	671.5	654.0	672.0	703.6	679.1	477.8	314.5	245.2
40°	440.5	653.3	664.7	633.3	615.8	642.3	671.3	661.1	440.3	283.4	222.7
42.5°	411.7	632.8	636.1	593.2	572.4	600.5	633.5	635.6	409.8	255.3	202.9
45°	373.7	604.0	597.9	550.7	529.0	554.2	603.8	609.5	375.6	231.0	183.6
47.5°	339.5	571.9	559.9	504.7	480.4	510.4	565.3	580.2	337.4	208.6	165.4
50°	303.9	536.1	509.4	461.8	445.5	460.3	516.5	541.0	302.5	186.4	151.5
52.5°	271.3	496.4	463.4	420.7	404.4	416.7	465.3	502.1	267.8	167.8	139.2
55°	240.7	456.8	414.1	376.3	373.0	376.8	413.4	455.6	239.0	151.2	131.4
57.5°	213.3	408.7	369.7	341.9	336.0	339.1	364.3	407.7	211.2	134.7	120.1
60°	185.7	359.3	325.8	304.4	301.1	303.4	319.7	361.0	184.0	120.8	109.5
62.5°	160.7	309.8	280.1	272.0	269.7	269.7	276.5	314.3	158.6	106.6	101.5
65°	139.2	267.3	244.9	241.8	242.6	242.3	238.1	262.4	135.9	94.1	94.4
67.5°	117.5	222.3	209.8	213.5	216.4	215.2	206.2	218.3	114.7	82.8	88.0
70°	97.4	183.6	181.2	189.7	196.3	190.2	177.2	178.4	94.1	71.7	79.8
72.5°	78.6	148.4	159.3	171.1	177.4	170.6	152.7	147.5	75.7	61.6	72.2
75°	61.8	119.4	136.6	154.1	162.3	153.6	132.8	115.1	60.2	51.9	66.1
77.5°	47.2	94.6	116.8	137.1	145.1	137.6	115.6	89.9	44.1	43.7	59.5
80°	33.7	74.8	103.6	123.2	130.5	123.2	100.3	71.0	30.7	34.9	52.4
82.5°	22.2	57.8	90.1	112.1	120.1	111.1	87.1	54.7	19.6	28.3	47.2
85°	13.4	45.8	78.6	100.7	110.0	101.2	76.2	41.5	10.9	21.7	41.1
87.5°	5.9	35.4	70.1	93.0	101.2	93.2	68.0	32.6	4.5	17.0	35.2
90°	0.5	28.1	61.8	85.6	93.0	85.4	60.2	26.4	0.0	12.3	30.2
92.5°	0.5	24.1	56.6	79.3	87.5	79.0	54.3	21.7	0.0	9.0	25.5
95°	0.7	20.3	51.4	74.3	80.9	73.6	49.5	18.6	0.0	6.1	21.5
97.5°	0.7	18.4	47.2	69.4	76.7	68.9	45.3	16.8	0.0	4.5	17.5
100°	0.5	17.0	43.9	64.6	71.5	64.2	42.0	15.1	0.0	2.8	14.2
102.5°	0.5	15.8	41.1	60.6	66.1	59.9	39.2	14.2	0.0	2.4	11.6
105°	0.5	15.1	38.5	55.9	62.3	55.9	36.8	13.2	0.0	1.9	9.0
107.5°	0.5	14.2	36.6	53.3	58.5	52.9	34.9	12.5	0.0	1.9	7.3
110°	0.5	13.4	34.9	49.5	55.4	50.0	33.3	11.3	0.0	1.2	5.9



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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°	0.5	12.3	33.3	47.0	52.6	47.2	31.9	10.4	0.0	1.2	5.2
115°	0.5	11.1	31.9	45.3	49.5	44.8	30.4	9.2	0.0	0.9	4.7
117.5°	0.5	10.4	30.9	43.2	47.4	42.7	29.3	8.7	0.0	0.9	4.5
120°	0.5	9.9	29.5	41.1	44.4	40.6	27.8	8.3	0.0	0.9	4.2
122.5°	0.5	9.4	28.3	39.2	42.7	38.9	26.7	8.0	0.0	0.7	3.8
125°	0.5	9.0	26.7	37.0	40.3	36.6	24.5	7.8	0.0	0.5	3.3
127.5°	0.5	8.5	25.0	35.4	38.5	34.9	23.1	7.6	0.0	0.5	3.1
130°	0.5	8.3	22.9	33.3	36.3	32.8	21.5	7.6	0.0	0.5	2.8
132.5°	0.5	8.0	20.5	31.1	34.4	30.7	19.8	7.3	0.0	0.5	2.4
135°	0.5	7.8	18.2	29.0	32.1	28.5	18.4	7.1	0.0	0.5	2.1
137.5°	0.5	7.3	16.0	26.7	29.7	26.2	17.5	6.6	0.0	0.5	1.9
140°	0.5	6.8	14.4	24.8	27.4	24.1	16.0	6.1	0.0	0.2	1.4
142.5°	0.5	6.1	13.0	22.4	25.0	21.9	14.4	5.2	0.0	0.2	1.4
145°	0.5	5.4	11.8	19.6	22.7	19.6	13.4	4.7	0.0	0.2	1.2
147.5°	0.5	5.0	10.6	16.5	20.5	17.9	12.0	4.0	0.0	0.2	0.9
150°	0.5	4.5	9.2	13.9	18.2	15.8	11.1	3.5	0.0	0.0	0.7
152.5°	0.5	4.0	8.0	11.6	16.3	14.4	9.9	3.1	0.0	0.0	0.5
155°	0.7	3.8	6.8	10.1	14.2	12.5	8.3	2.6	0.0	0.0	0.5
157.5°	0.7	3.3	5.7	8.3	12.5	10.9	6.6	2.1	0.0	0.0	0.2
160°	0.7	3.1	4.7	6.4	10.4	9.0	5.4	1.7	0.0	0.0	0.2
162.5°	0.7	2.8	4.0	4.7	8.5	7.1	4.2	1.2	0.0	0.0	0.2
165°	0.7	2.4	3.5	3.3	6.6	5.4	3.3	0.7	0.0	0.0	0.0
167.5°	0.7	2.1	2.8	2.4	5.0	4.0	2.4	0.5	0.0	0.0	0.0
170°	0.7	1.7	2.4	1.7	1.4	2.6	1.4	0.2	0.0	0.0	0.0
172.5°	0.7	1.4	1.9	1.2	0.5	1.4	0.7	0.0	0.0	0.0	0.0
175°	0.7	1.2	1.2	0.7	0.2	0.5	0.0	0.0	0.0	0.0	0.0
177.5°	0.7	0.9	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	720.6	720.6	720.6	720.6	720.6	720.6
2.5°	700.8	693.0	685.9	693.5	698.9	719.9
5°	666.6	658.3	659.2	666.1	684.2	722.5
7.5°	631.2	617.5	620.8	639.9	666.8	710.2
10°	589.4	576.9	580.0	608.7	646.5	703.4
12.5°	552.1	531.1	549.1	576.2	622.9	699.6
15°	508.5	492.0	501.6	541.7	600.3	682.1
17.5°	461.3	448.5	460.1	500.0	572.4	680.2
20°	424.9	407.2	420.9	464.8	538.0	660.4
22.5°	384.1	370.7	385.1	425.4	502.8	639.4
25°	350.6	336.5	350.9	391.0	471.7	614.6
27.5°	318.1	305.1	318.1	354.9	440.8	594.6
30°	289.5	277.0	290.2	325.6	404.7	564.6
32.5°	262.8	246.8	263.8	298.0	372.8	541.7
35°	235.2	223.2	235.9	273.9	337.4	509.6
37.5°	212.4	199.8	214.9	247.5	307.4	478.5
40°	190.6	179.6	191.6	226.3	282.0	440.5
42.5°	173.7	162.6	174.8	206.9	256.2	411.7
45°	157.1	148.9	158.8	185.7	230.3	373.7
47.5°	145.1	138.0	146.3	170.1	208.6	339.5
50°	134.7	129.8	135.7	154.5	186.2	303.9
52.5°	125.5	120.6	127.4	142.5	168.5	271.3
55°	118.4	114.0	119.2	131.2	150.8	240.7
57.5°	110.7	107.8	111.8	119.2	136.8	213.3
60°	105.0	101.9	106.2	112.1	121.0	185.7
62.5°	98.6	97.0	99.6	104.3	109.0	160.7
65°	93.0	90.6	93.9	95.6	95.1	139.2
67.5°	86.8	86.1	88.0	88.2	84.7	117.5
70°	80.5	80.0	82.3	80.9	73.6	97.4
72.5°	75.3	75.3	76.7	73.9	64.2	78.6
75°	69.6	70.1	71.3	68.0	54.0	61.8
77.5°	64.4	64.9	65.1	60.6	45.3	47.2
80°	58.5	58.3	60.6	55.0	36.8	33.7
82.5°	53.3	52.4	53.8	48.1	29.7	22.2
85°	47.4	47.7	48.6	42.0	23.8	13.4
87.5°	42.7	42.7	43.7	37.0	17.9	5.9
90°	37.0	36.6	38.0	31.4	13.4	0.5
92.5°	32.3	32.3	33.3	26.9	9.9	0.5
95°	27.6	27.8	28.5	22.2	7.6	0.7
97.5°	23.6	23.8	24.8	18.9	5.4	0.7
100°	20.1	20.3	20.8	15.1	4.2	0.5
102.5°	16.8	17.5	17.5	12.5	3.3	0.5
105°	14.2	15.1	14.6	10.1	3.1	0.5
107.5°	11.8	12.7	12.7	8.3	3.1	0.5
110°	9.7	11.1	10.9	7.1	2.4	0.5



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	8.3	9.4	8.7	6.1	2.4	0.5
115°	7.1	8.3	7.8	5.7	2.1	0.5
117.5°	6.4	7.1	7.1	5.4	2.1	0.5
120°	5.9	6.6	6.4	5.2	2.1	0.5
122.5°	5.4	5.9	5.9	4.7	1.9	0.5
125°	5.2	5.4	5.7	4.2	1.9	0.5
127.5°	5.0	5.4	5.4	4.0	1.7	0.5
130°	4.5	5.0	5.0	3.8	1.7	0.5
132.5°	4.0	4.5	4.5	3.5	1.7	0.5
135°	3.8	4.2	4.2	3.3	1.7	0.5
137.5°	3.5	3.8	3.8	3.1	1.7	0.5
140°	3.1	3.5	3.5	2.8	1.7	0.5
142.5°	2.8	3.3	3.3	2.6	1.4	0.5
145°	2.6	2.8	3.1	2.4	1.4	0.5
147.5°	2.1	2.6	2.8	2.1	1.4	0.5
150°	1.7	2.4	2.4	2.1	1.4	0.5
152.5°	1.2	2.1	2.1	1.9	1.2	0.5
155°	0.9	1.7	1.9	1.7	1.2	0.7
157.5°	0.7	1.4	1.7	1.7	1.2	0.7
160°	0.5	1.2	1.4	1.4	0.9	0.7
162.5°	0.2	0.9	1.2	1.4	0.9	0.7
165°	0.0	0.7	0.9	1.2	0.9	0.7
167.5°	0.0	0.5	0.7	0.9	0.7	0.7
170°	0.0	0.2	0.5	0.7	0.7	0.7
172.5°	0.0	0.0	0.2	0.5	0.5	0.7
175°	0.0	0.0	0.0	0.2	0.5	0.7
177.5°	0.0	0.0	0.0	0.2	0.5	0.7
180°	0.2	0.2	0.2	0.2	0.2	0.2



TEST NUMBER: P893269
 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L930

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	15.84	17.30	16.30	17.73	18.19	18.10	19.56	18.56	19.99	20.45
	3H	16.66	17.98	17.13	18.43	18.92	19.80	21.12	20.27	21.56	22.06
	4H	16.87	18.11	17.36	18.57	19.08	20.64	21.88	21.13	22.34	22.86
	6H	16.96	18.11	17.46	18.59	19.11	21.52	22.67	22.02	23.14	23.67
	8H	16.96	18.06	17.47	18.56	19.09	21.99	23.09	22.50	23.59	24.12
	12H	16.95	18.00	17.47	18.49	19.06	22.53	23.58	23.05	24.08	24.64
4H	2H	16.28	17.52	16.77	17.98	18.49	18.47	19.71	18.96	20.17	20.68
	3H	17.38	18.42	17.88	18.93	19.46	20.35	21.39	20.85	21.90	22.44
	4H	17.71	18.66	18.24	19.18	19.75	21.32	22.27	21.84	22.79	23.36
	6H	17.91	18.74	18.45	19.28	19.87	22.36	23.19	22.91	23.74	24.32
	8H	17.93	18.71	18.48	19.26	19.85	22.93	23.71	23.48	24.25	24.84
	12H	17.94	18.64	18.51	19.22	19.82	23.58	24.29	24.15	24.86	25.46
8H	4H	18.04	18.82	18.59	19.37	19.96	21.46	22.24	22.01	22.79	23.38
	6H	18.36	19.02	18.95	19.61	20.21	22.64	23.29	23.22	23.88	24.48
	8H	18.45	19.04	19.05	19.64	20.26	23.32	23.90	23.91	24.50	25.12
	12H	18.51	19.03	19.10	19.62	20.30	24.13	24.66	24.73	25.24	25.93
12H	4H	18.12	18.82	18.69	19.40	20.00	21.46	22.16	22.03	22.73	23.33
	6H	18.50	19.09	19.10	19.69	20.31	22.65	23.24	23.24	23.84	24.45
	8H	18.66	19.18	19.25	19.77	20.45	23.39	23.91	23.98	24.50	25.18