

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: P893266

Luminaire Tested: 4MB-2SL-ASML-UNV-L835

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893266
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-L835
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 80CRI, 3500K CCT
Light Source: -
Ballast/Driver: -

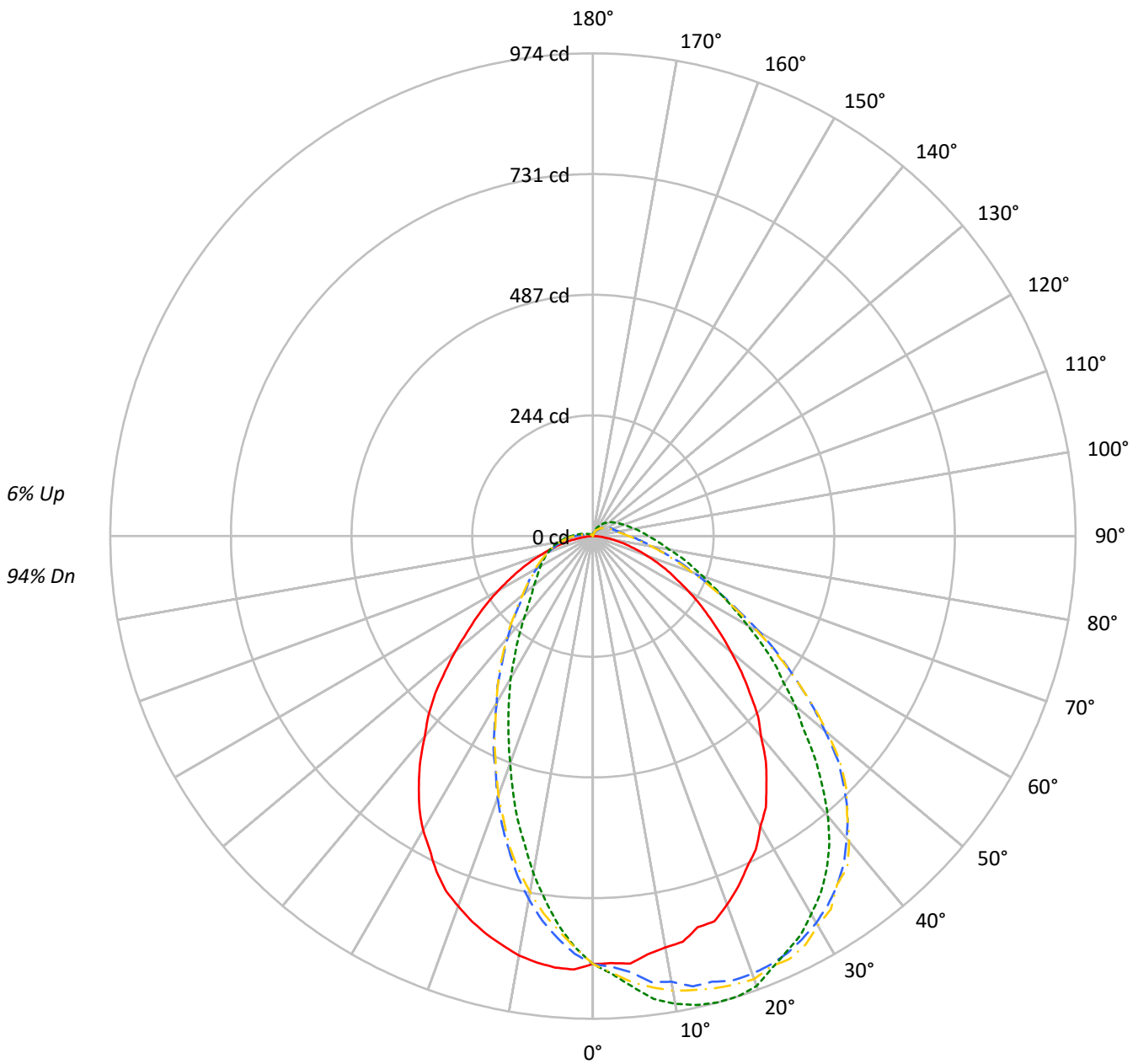
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2152.0 lumens
Efficiency: N/A
Efficacy: 155.9 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°	8793	8793	8793	8793
5°	8826	8961	8909	7745
10°	8668	9152	8836	6600
15°	8545	9119	8691	5519
20°	8479	8938	8515	4515
25°	8157	8525	8270	3715
30°	7814	8146	7915	3069
35°	7429	7688	7450	2501
40°	6837	7033	6834	2050
45°	6253	6208	6285	1747
50°	5561	5419	5535	1578
55°	4901	4747	4867	1451
60°	4298	4048	4259	1370
65°	3766	3485	3676	1303
70°	3202	3054	3092	1244
75°	2610	2777	2539	1199
80°	2011	2499	1832	1116
85°	1384	2413	1118	1046

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 8699 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.1	3.8
10°-20°	225.5	10.5
20°-30°	324.3	15.1
30°-40°	368.1	17.1
40°-50°	351.8	16.3
50°-60°	285.8	13.3
60°-70°	199.4	9.3
70°-80°	123.5	5.7
80°-90°	70.9	3.3
90°-100°	42.4	2.0
100°-110°	27.8	1.3
110°-120°	19.5	0.9
120°-130°	14.1	0.7
130°-140°	9.4	0.4
140°-150°	5.3	0.2
150°-160°	2.4	0.1
160°-170°	0.7	0.0
170°-180°	0.1	0.0
0°-30°	631.0	29.3
0°-40°	999.0	46.4
0°-60°	1636.6	76.0
0°-90°	2030.5	94.4
90°-120°	89.7	4.2
90°-150°	118.5	5.5
90°-180°	122.0	5.7
0°-180°	2152.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	863	863	863	863	863	
5°	866	913	874	789	866	82
15°	817	974	831	590	817	232
25°	736	925	747	403	736	340
35°	611	822	612	268	611	381
45°	448	634	450	178	448	346
55°	288	447	286	137	288	260
65°	167	291	163	109	167	166
75°	74	194	72	84	74	80
85°	16	132	13	57	16	18
90°	1	111	0	44	1	1
95°	1	97	0	33	1	1
105°	1	75	0	18	1	1
115°	1	59	0	10	1	1
125°	1	48	0	6	1	1
135°	1	38	0	5	1	0
145°	1	27	0	3	1	0
155°	1	17	0	2	1	0
165°	1	8	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°	863.4	863.4	863.4	863.4	863.4	863.4	863.4	863.4	863.4	863.4	863.4
2.5°	862.6	869.1	869.6	890.0	884.1	891.7	882.1	883.8	875.3	873.0	843.6
5°	865.7	879.5	883.2	918.3	912.6	916.6	903.3	893.7	873.9	862.0	814.5
7.5°	851.0	887.4	907.8	932.7	942.0	945.1	918.3	900.5	867.7	838.5	782.8
10°	842.8	893.1	912.9	950.2	958.4	952.5	931.6	902.2	859.2	812.2	743.8
12.5°	838.3	896.2	930.7	968.9	969.2	962.9	938.3	906.7	845.3	784.0	702.6
15°	817.3	895.6	931.0	969.7	974.0	970.0	944.8	903.6	831.2	748.9	655.1
17.5°	815.1	894.2	940.0	980.7	973.7	970.9	948.8	902.2	814.2	713.3	610.4
20°	791.3	891.1	940.0	968.3	966.0	967.2	951.3	900.2	794.7	674.8	561.5
22.5°	766.2	887.4	936.1	957.6	944.0	964.6	940.0	894.8	774.9	634.7	512.8
25°	736.5	881.5	928.4	942.3	925.1	941.2	940.9	886.6	746.7	591.4	474.4
27.5°	712.4	872.2	916.0	936.9	907.5	921.4	929.3	876.7	713.3	548.8	429.2
30°	676.5	860.3	901.0	904.1	880.9	898.5	907.5	864.3	685.3	500.4	387.9
32.5°	649.1	846.7	882.6	878.4	855.2	878.4	893.1	851.8	651.9	458.0	358.8
35°	610.7	830.3	859.7	837.4	822.1	841.4	858.6	838.5	612.4	412.8	321.4
37.5°	573.4	815.9	832.3	804.6	783.7	805.2	843.1	813.7	572.5	376.9	293.7
40°	527.8	782.8	796.4	758.8	737.9	769.6	804.3	792.2	527.6	339.5	266.9
42.5°	493.3	758.2	762.2	710.8	685.9	719.5	759.1	761.6	491.1	305.9	243.1
45°	447.8	723.8	716.4	659.9	633.9	664.1	723.5	730.3	450.1	276.8	220.0
47.5°	406.8	685.3	670.9	604.7	575.6	611.5	677.4	695.2	404.3	249.9	198.2
50°	364.1	642.3	610.4	553.3	533.8	551.6	618.9	648.3	362.4	223.3	181.5
52.5°	325.1	594.8	555.3	504.1	484.6	499.3	557.5	601.6	320.9	201.0	166.8
55°	288.4	547.3	496.2	450.9	447.0	451.5	495.3	545.9	286.4	181.2	157.5
57.5°	255.6	489.7	443.0	409.7	402.6	406.3	436.5	488.5	253.0	161.4	143.9
60°	222.5	430.6	390.4	364.7	360.7	363.6	383.1	432.6	220.5	144.8	131.2
62.5°	192.5	371.2	335.6	326.0	323.1	323.1	331.3	376.6	190.0	127.8	121.6
65°	166.8	320.3	293.5	289.8	290.6	290.4	285.3	314.4	162.8	112.8	113.1
67.5°	140.8	266.3	251.3	255.9	259.3	257.8	247.1	261.5	137.4	99.2	105.5
70°	116.8	220.0	217.1	227.3	235.2	227.9	212.3	213.7	112.8	85.9	95.6
72.5°	94.1	177.8	190.8	205.0	212.6	204.4	182.9	176.7	90.8	73.8	86.5
75°	74.1	143.1	163.7	184.6	194.5	184.0	159.2	138.0	72.1	62.2	79.2
77.5°	56.5	113.4	139.9	164.3	173.9	164.8	138.5	107.7	52.9	52.3	71.2
80°	40.4	89.6	124.1	147.6	156.3	147.6	120.2	85.1	36.8	41.8	62.8
82.5°	26.6	69.3	108.0	134.3	143.9	133.2	104.3	65.6	23.5	33.9	56.5
85°	16.1	54.8	94.1	120.7	131.7	121.3	91.3	49.8	13.0	26.0	49.2
87.5°	7.1	42.4	84.0	111.4	121.3	111.7	81.4	39.0	5.4	20.4	42.1
90°	0.6	33.6	74.1	102.6	111.4	102.3	72.1	31.7	0.0	14.7	36.2
92.5°	0.6	28.8	67.9	95.0	104.9	94.7	65.0	26.0	0.0	10.7	30.5
95°	0.8	24.3	61.6	89.1	97.0	88.2	59.4	22.3	0.0	7.4	25.7
97.5°	0.8	22.1	56.5	83.1	91.9	82.6	54.3	20.1	0.0	5.4	20.9
100°	0.6	20.4	52.6	77.5	85.7	76.9	50.3	18.1	0.0	3.4	17.0
102.5°	0.6	18.9	49.2	72.7	79.2	71.8	46.9	17.0	0.0	2.8	13.9
105°	0.6	18.1	46.1	67.0	74.6	67.0	44.1	15.8	0.0	2.3	10.7
107.5°	0.6	17.0	43.8	63.9	70.1	63.3	41.8	15.0	0.0	2.3	8.8
110°	0.6	16.1	41.8	59.4	66.4	59.9	39.9	13.6	0.0	1.4	7.1



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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°	0.6	14.7	39.9	56.3	63.0	56.5	38.2	12.4	0.0	1.4	6.2
115°	0.6	13.3	38.2	54.3	59.4	53.7	36.5	11.0	0.0	1.1	5.7
117.5°	0.6	12.4	37.0	51.7	56.8	51.2	35.1	10.5	0.0	1.1	5.4
120°	0.6	11.9	35.3	49.2	53.2	48.6	33.4	9.9	0.0	1.1	5.1
122.5°	0.6	11.3	33.9	46.9	51.2	46.6	31.9	9.6	0.0	0.8	4.5
125°	0.6	10.7	31.9	44.4	48.3	43.8	29.4	9.3	0.0	0.6	4.0
127.5°	0.6	10.2	30.0	42.4	46.1	41.8	27.7	9.0	0.0	0.6	3.7
130°	0.6	9.9	27.4	39.9	43.5	39.3	25.7	9.0	0.0	0.6	3.4
132.5°	0.6	9.6	24.6	37.3	41.3	36.8	23.7	8.8	0.0	0.6	2.8
135°	0.6	9.3	21.8	34.8	38.4	34.2	22.1	8.5	0.0	0.6	2.5
137.5°	0.6	8.8	19.2	31.9	35.6	31.4	20.9	7.9	0.0	0.6	2.3
140°	0.6	8.2	17.2	29.7	32.8	28.8	19.2	7.4	0.0	0.3	1.7
142.5°	0.6	7.4	15.5	26.9	30.0	26.3	17.2	6.2	0.0	0.3	1.7
145°	0.6	6.5	14.1	23.5	27.1	23.5	16.1	5.7	0.0	0.3	1.4
147.5°	0.6	5.9	12.7	19.8	24.6	21.5	14.4	4.8	0.0	0.3	1.1
150°	0.6	5.4	11.0	16.7	21.8	18.9	13.3	4.2	0.0	0.0	0.8
152.5°	0.6	4.8	9.6	13.9	19.5	17.2	11.9	3.7	0.0	0.0	0.6
155°	0.8	4.5	8.2	12.2	17.0	15.0	9.9	3.1	0.0	0.0	0.6
157.5°	0.8	4.0	6.8	9.9	15.0	13.0	7.9	2.5	0.0	0.0	0.3
160°	0.8	3.7	5.7	7.6	12.4	10.7	6.5	2.0	0.0	0.0	0.3
162.5°	0.8	3.4	4.8	5.7	10.2	8.5	5.1	1.4	0.0	0.0	0.3
165°	0.8	2.8	4.2	4.0	7.9	6.5	4.0	0.8	0.0	0.0	0.0
167.5°	0.8	2.5	3.4	2.8	5.9	4.8	2.8	0.6	0.0	0.0	0.0
170°	0.8	2.0	2.8	2.0	1.7	3.1	1.7	0.3	0.0	0.0	0.0
172.5°	0.8	1.7	2.3	1.4	0.6	1.7	0.8	0.0	0.0	0.0	0.0
175°	0.8	1.4	1.4	0.8	0.3	0.6	0.0	0.0	0.0	0.0	0.0
177.5°	0.8	1.1	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	863.4	863.4	863.4	863.4	863.4	863.4
2.5°	839.7	830.3	821.9	830.9	837.4	862.6
5°	798.7	788.8	789.9	798.1	819.9	865.7
7.5°	756.3	739.9	743.8	766.7	799.0	851.0
10°	706.2	691.2	694.9	729.4	774.6	842.8
12.5°	661.6	636.4	657.9	690.4	746.4	838.3
15°	609.3	589.5	601.1	649.1	719.2	817.3
17.5°	552.7	537.4	551.3	599.1	685.9	815.1
20°	509.2	488.0	504.4	557.0	644.6	791.3
22.5°	460.3	444.1	461.4	509.7	602.5	766.2
25°	420.1	403.2	420.4	468.5	565.2	736.5
27.5°	381.1	365.6	381.1	425.2	528.1	712.4
30°	346.9	331.9	347.7	390.1	484.9	676.5
32.5°	314.9	295.7	316.1	357.1	446.7	649.1
35°	281.9	267.5	282.7	328.2	404.3	610.7
37.5°	254.4	239.5	257.6	296.6	368.4	573.4
40°	228.4	215.1	229.6	271.1	337.8	527.8
42.5°	208.1	194.8	209.5	247.9	307.0	493.3
45°	188.3	178.4	190.3	222.5	275.9	447.8
47.5°	173.9	165.4	175.3	203.8	249.9	406.8
50°	161.4	155.5	162.6	185.2	223.1	364.1
52.5°	150.4	144.5	152.7	170.8	201.9	325.1
55°	141.9	136.6	142.8	157.2	180.7	288.4
57.5°	132.6	129.2	134.0	142.8	164.0	255.6
60°	125.8	122.1	127.2	134.3	145.0	222.5
62.5°	118.2	116.2	119.3	125.0	130.6	192.5
65°	111.4	108.6	112.5	114.5	113.9	166.8
67.5°	104.0	103.2	105.5	105.7	101.5	140.8
70°	96.4	95.8	98.7	97.0	88.2	116.8
72.5°	90.2	90.2	91.9	88.5	76.9	94.1
75°	83.4	84.0	85.4	81.4	64.7	74.1
77.5°	77.2	77.7	78.0	72.7	54.3	56.5
80°	70.1	69.8	72.7	65.9	44.1	40.4
82.5°	63.9	62.8	64.5	57.7	35.6	26.6
85°	56.8	57.1	58.2	50.3	28.6	16.1
87.5°	51.2	51.2	52.3	44.4	21.5	7.1
90°	44.4	43.8	45.5	37.6	16.1	0.6
92.5°	38.7	38.7	39.9	32.2	11.9	0.6
95°	33.1	33.4	34.2	26.6	9.0	0.8
97.5°	28.3	28.6	29.7	22.6	6.5	0.8
100°	24.0	24.3	24.9	18.1	5.1	0.6
102.5°	20.1	20.9	20.9	15.0	4.0	0.6
105°	17.0	18.1	17.5	12.2	3.7	0.6
107.5°	14.1	15.3	15.3	9.9	3.7	0.6
110°	11.6	13.3	13.0	8.5	2.8	0.6



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	9.9	11.3	10.5	7.4	2.8	0.6
115°	8.5	9.9	9.3	6.8	2.5	0.6
117.5°	7.6	8.5	8.5	6.5	2.5	0.6
120°	7.1	7.9	7.6	6.2	2.5	0.6
122.5°	6.5	7.1	7.1	5.7	2.3	0.6
125°	6.2	6.5	6.8	5.1	2.3	0.6
127.5°	5.9	6.5	6.5	4.8	2.0	0.6
130°	5.4	5.9	5.9	4.5	2.0	0.6
132.5°	4.8	5.4	5.4	4.2	2.0	0.6
135°	4.5	5.1	5.1	4.0	2.0	0.6
137.5°	4.2	4.5	4.5	3.7	2.0	0.6
140°	3.7	4.2	4.2	3.4	2.0	0.6
142.5°	3.4	4.0	4.0	3.1	1.7	0.6
145°	3.1	3.4	3.7	2.8	1.7	0.6
147.5°	2.5	3.1	3.4	2.5	1.7	0.6
150°	2.0	2.8	2.8	2.5	1.7	0.6
152.5°	1.4	2.5	2.5	2.3	1.4	0.6
155°	1.1	2.0	2.3	2.0	1.4	0.8
157.5°	0.8	1.7	2.0	2.0	1.4	0.8
160°	0.6	1.4	1.7	1.7	1.1	0.8
162.5°	0.3	1.1	1.4	1.7	1.1	0.8
165°	0.0	0.8	1.1	1.4	1.1	0.8
167.5°	0.0	0.6	0.8	1.1	0.8	0.8
170°	0.0	0.3	0.6	0.8	0.8	0.8
172.5°	0.0	0.0	0.3	0.6	0.6	0.8
175°	0.0	0.0	0.0	0.3	0.6	0.8
177.5°	0.0	0.0	0.0	0.3	0.6	0.8
180°	0.3	0.3	0.3	0.3	0.3	0.3



TEST NUMBER: P893266
 CATALOG NUMBER: 4MB-2SL-ASML-UNV-L835

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	16.47	17.93	16.93	18.36	18.82	18.73	20.19	19.18	20.62	21.08
	3H	17.29	18.61	17.76	19.05	19.55	20.43	21.75	20.90	22.19	22.69
	4H	17.50	18.74	17.98	19.20	19.71	21.27	22.51	21.76	22.97	23.48
	6H	17.59	18.74	18.09	19.21	19.74	22.14	23.30	22.65	23.77	24.30
	8H	17.59	18.69	18.10	19.19	19.72	22.62	23.72	23.13	24.21	24.75
	12H	17.58	18.63	18.10	19.12	19.68	23.16	24.21	23.68	24.70	25.27
4H	2H	16.91	18.15	17.40	18.61	19.12	19.10	20.34	19.58	20.80	21.31
	3H	18.00	19.05	18.51	19.55	20.09	20.98	22.02	21.48	22.53	23.06
	4H	18.34	19.29	18.86	19.81	20.38	21.95	22.90	22.47	23.42	23.99
	6H	18.53	19.37	19.08	19.91	20.49	22.99	23.82	23.53	24.37	24.95
	8H	18.56	19.34	19.11	19.88	20.48	23.55	24.33	24.10	24.88	25.47
	12H	18.57	19.27	19.14	19.84	20.44	24.21	24.91	24.78	25.49	26.09
8H	4H	18.67	19.45	19.22	20.00	20.59	22.09	22.87	22.64	23.41	24.01
	6H	18.99	19.65	19.57	20.23	20.84	23.26	23.92	23.85	24.51	25.11
	8H	19.08	19.67	19.68	20.27	20.89	23.94	24.53	24.54	25.13	25.75
	12H	19.14	19.66	19.73	20.25	20.93	24.76	25.28	25.35	25.87	26.55
12H	4H	18.75	19.45	19.32	20.03	20.63	22.08	22.79	22.65	23.36	23.96
	6H	19.13	19.72	19.73	20.32	20.93	23.28	23.87	23.87	24.47	25.08
	8H	19.29	19.81	19.88	20.40	21.08	24.01	24.54	24.61	25.12	25.81