

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: P893605

Luminaire Tested: 4MB-5SL-ASML-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893605
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-5SL-ASML-UNV-L930
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

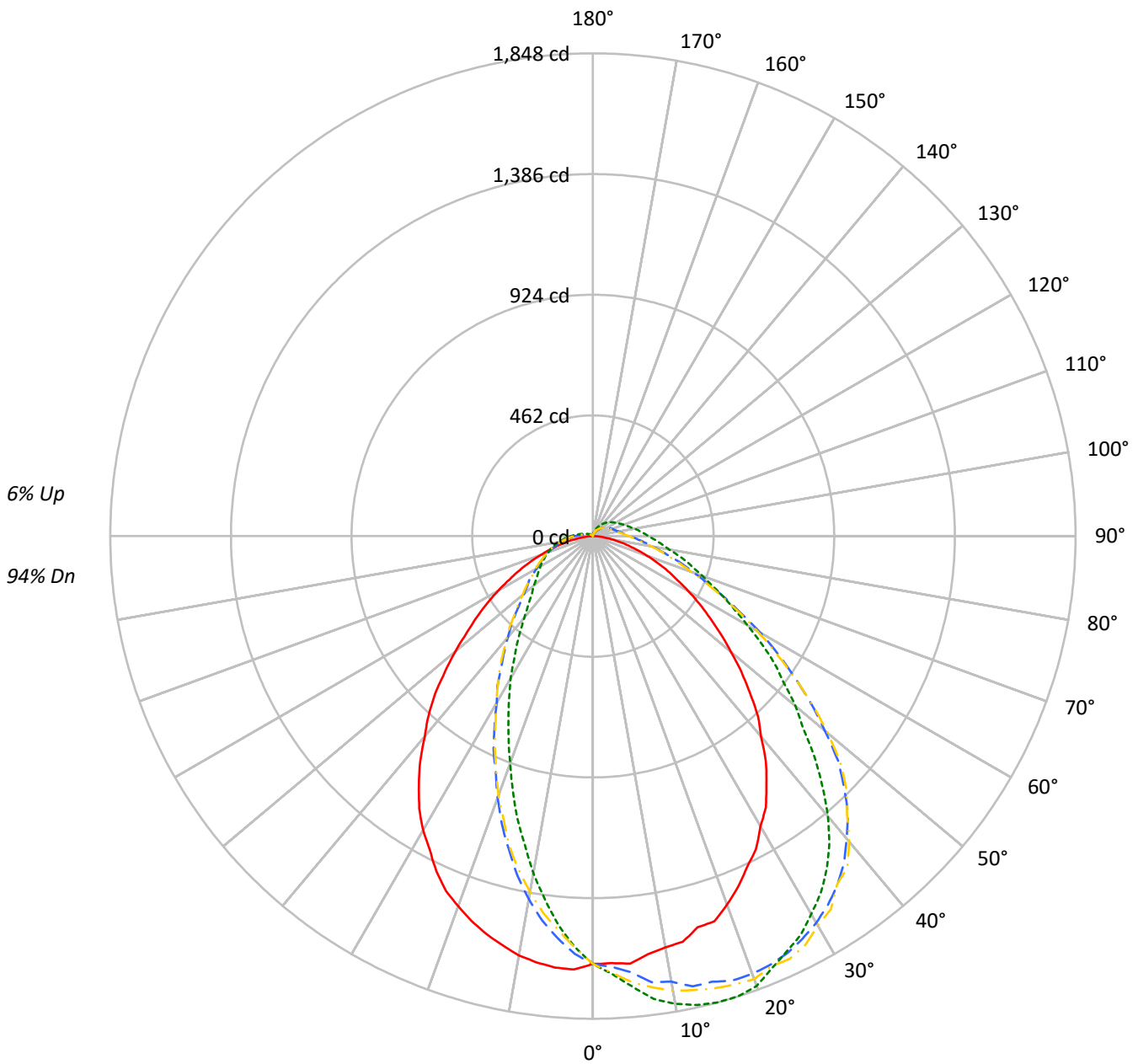
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4083.0 lumens
Efficiency: N/A
Efficacy: 116.7 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): 35
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.995
Total Harmonic Distortion (THDi): 9.55
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P893605
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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	81	81	81	79
2	98	90	83	78	95	88	82	76	83	78	74	79	75	71	75	72	69	69	69	69	66
3	90	80	72	65	87	78	70	64	74	68	63	70	65	61	67	63	59	59	59	59	57
4	83	71	63	56	80	69	61	55	66	59	54	63	57	53	60	55	51	51	51	51	49
5	76	64	55	49	74	62	54	48	60	53	47	57	51	46	55	49	45	45	45	45	43
6	71	58	49	43	68	56	48	42	54	47	42	52	46	41	50	44	40	40	40	40	38
7	66	53	44	38	64	51	43	38	49	42	37	48	41	36	46	40	36	36	36	36	34
8	61	48	40	34	59	47	39	34	45	38	33	44	37	33	42	37	32	32	32	32	30
9	57	44	36	31	56	43	36	31	42	35	30	40	34	30	39	33	29	29	29	29	28
10	54	41	33	28	52	40	33	28	39	32	28	38	31	27	36	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	16684	16684	16684	16684
5°	16745	17001	16903	14695
10°	16445	17364	16765	12523
15°	16213	17302	16488	10471
20°	16088	16960	16157	8566
25°	15475	16173	15689	7048
30°	14826	15456	15018	5823
35°	14094	14587	14133	4745
40°	12973	13343	12965	3891
45°	11865	11778	11925	3315
50°	10551	10280	10503	2995
55°	9297	9006	9234	2751
60°	8154	7680	8082	2600
65°	7146	6613	6976	2471
70°	6071	5796	5866	2361
75°	4948	5268	4818	2274
80°	3818	4741	3470	2118
85°	2631	4580	2124	1986

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 16504 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.9	3.8
10°-20°	427.8	10.5
20°-30°	615.4	15.1
30°-40°	698.3	17.1
40°-50°	667.4	16.3
50°-60°	542.3	13.3
60°-70°	378.4	9.3
70°-80°	234.4	5.7
80°-90°	134.5	3.3
90°-100°	80.4	2.0
100°-110°	52.8	1.3
110°-120°	37.0	0.9
120°-130°	26.8	0.7
130°-140°	17.8	0.4
140°-150°	10.0	0.2
150°-160°	4.5	0.1
160°-170°	1.3	0.0
170°-180°	0.1	0.0
0°-30°	1197.1	29.3
0°-40°	1895.4	46.4
0°-60°	3105.1	76.1
0°-90°	3852.4	94.4
90°-120°	170.1	4.2
90°-150°	224.8	5.5
90°-180°	231.0	5.7
0°-180°	4083.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1638	1638	1638	1638	1638	
5°	1642	1732	1658	1497	1642	155
15°	1551	1848	1577	1118	1551	441
25°	1397	1755	1417	765	1397	645
35°	1159	1560	1162	507	1159	722
45°	850	1203	854	338	850	656
55°	547	848	543	259	547	492
65°	316	551	309	206	316	314
75°	140	369	137	159	140	152
85°	31	250	25	108	31	34
90°	1	211	0	83	1	2
95°	2	184	0	63	2	1
105°	1	142	0	34	1	1
115°	1	113	0	19	1	1
125°	1	92	0	12	1	1
135°	1	73	0	10	1	1
145°	1	52	0	6	1	1
155°	2	32	0	4	2	1
165°	2	15	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°	1638.2	1638.2	1638.2	1638.2	1638.2	1638.2	1638.2	1638.2	1638.2	1638.2	1638.2
2.5°	1636.6	1648.9	1650.0	1688.6	1677.3	1691.8	1673.6	1676.8	1660.7	1656.4	1600.6
5°	1642.5	1668.7	1675.7	1742.2	1731.5	1739.0	1713.8	1695.6	1658.0	1635.5	1545.4
7.5°	1614.6	1683.8	1722.4	1769.6	1787.3	1793.2	1742.2	1708.4	1646.2	1591.0	1485.3
10°	1599.0	1694.5	1732.0	1802.8	1818.4	1807.1	1767.4	1711.7	1630.1	1541.1	1411.3
12.5°	1590.4	1700.4	1765.8	1838.2	1838.8	1827.0	1780.3	1720.2	1603.8	1487.4	1333.0
15°	1550.7	1699.3	1766.4	1839.9	1847.9	1840.4	1792.7	1714.3	1577.0	1420.9	1242.8
17.5°	1546.4	1696.6	1783.5	1860.8	1847.4	1842.0	1800.2	1711.7	1544.8	1353.3	1158.1
20°	1501.4	1690.7	1783.5	1837.2	1832.9	1835.0	1805.0	1707.9	1507.8	1280.4	1065.3
22.5°	1453.6	1683.8	1776.0	1816.8	1791.0	1830.2	1783.5	1697.7	1470.3	1204.2	973.0
25°	1397.3	1672.5	1761.5	1787.8	1755.1	1785.7	1785.1	1682.2	1416.6	1122.2	900.1
27.5°	1351.7	1654.8	1737.9	1777.6	1721.8	1748.1	1763.2	1663.4	1353.3	1041.2	814.3
30°	1283.6	1632.3	1709.5	1715.4	1671.4	1704.7	1721.8	1639.8	1300.2	949.4	735.9
32.5°	1231.6	1606.5	1674.6	1666.6	1622.6	1666.6	1694.5	1616.2	1236.9	869.0	680.7
35°	1158.6	1575.4	1631.2	1588.8	1559.9	1596.3	1629.0	1591.0	1161.8	783.1	609.9
37.5°	1087.8	1548.1	1579.2	1526.6	1486.9	1527.7	1599.5	1543.8	1086.2	715.0	557.3
40°	1001.5	1485.3	1511.0	1439.7	1400.0	1460.1	1526.1	1503.0	1000.9	644.2	506.4
42.5°	936.0	1438.6	1446.1	1348.5	1301.3	1365.1	1440.2	1445.1	931.7	580.4	461.3
45°	849.7	1373.2	1359.2	1252.0	1202.6	1260.0	1372.7	1385.5	854.0	525.1	417.3
47.5°	771.9	1300.2	1272.9	1147.4	1092.1	1160.2	1285.2	1319.0	767.1	474.2	376.0
50°	690.9	1218.7	1158.1	1049.7	1012.7	1046.5	1174.2	1230.0	687.7	423.8	344.4
52.5°	616.9	1128.6	1053.5	956.4	919.4	947.3	1057.8	1141.5	608.8	381.4	316.5
55°	547.1	1038.5	941.4	855.6	848.1	856.6	939.8	1035.8	543.4	343.8	298.8
57.5°	484.9	929.0	840.5	777.2	763.8	770.8	828.2	926.9	480.1	306.3	273.0
60°	422.1	816.9	740.8	692.0	684.4	689.8	726.8	820.7	418.4	274.6	248.9
62.5°	365.3	704.3	636.7	618.5	613.1	613.1	628.7	714.5	360.5	242.5	230.7
65°	316.5	607.7	556.8	549.8	551.4	550.9	541.2	596.5	309.0	214.0	214.6
67.5°	267.1	505.3	476.9	485.4	491.9	489.2	468.8	496.2	260.7	188.3	200.1
70°	221.5	417.3	412.0	431.3	446.3	432.3	402.8	405.5	214.0	163.1	181.3
72.5°	178.6	337.4	362.1	388.9	403.4	387.8	347.1	335.3	172.2	140.0	164.1
75°	140.5	271.4	310.6	350.3	369.0	349.2	302.0	261.8	136.8	118.0	150.2
77.5°	107.3	215.1	265.5	311.6	329.9	312.7	262.8	204.4	100.3	99.2	135.2
80°	76.7	170.0	235.5	280.0	296.6	280.0	228.0	161.5	69.7	79.4	119.1
82.5°	50.4	131.4	204.9	254.8	273.0	252.6	197.9	124.4	44.5	64.4	107.3
85°	30.6	104.1	178.6	229.0	250.0	230.1	173.3	94.4	24.7	49.3	93.3
87.5°	13.4	80.5	159.3	211.3	230.1	211.9	154.5	74.0	10.2	38.6	79.9
90°	1.1	63.8	140.5	194.7	211.3	194.2	136.8	60.1	0.0	27.9	68.7
92.5°	1.1	54.7	128.7	180.2	199.0	179.7	123.4	49.3	0.0	20.4	57.9
95°	1.6	46.1	116.9	169.0	184.0	167.4	112.6	42.4	0.0	13.9	48.8
97.5°	1.6	41.8	107.3	157.7	174.3	156.6	103.0	38.1	0.0	10.2	39.7
100°	1.1	38.6	99.8	147.0	162.5	145.9	95.5	34.3	0.0	6.4	32.2
102.5°	1.1	35.9	93.3	137.9	150.2	136.2	89.0	32.2	0.0	5.4	26.3
105°	1.1	34.3	87.4	127.1	141.6	127.1	83.7	30.0	0.0	4.3	20.4
107.5°	1.1	32.2	83.1	121.2	133.0	120.2	79.4	28.4	0.0	4.3	16.6
110°	1.1	30.6	79.4	112.6	126.1	113.7	75.6	25.7	0.0	2.7	13.4



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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°	1.1	27.9	75.6	106.7	119.6	107.3	72.4	23.6	0.0	2.7	11.8
115°	1.1	25.2	72.4	103.0	112.6	101.9	69.2	20.9	0.0	2.1	10.7
117.5°	1.1	23.6	70.3	98.2	107.8	97.1	66.5	19.8	0.0	2.1	10.2
120°	1.1	22.5	67.1	93.3	100.8	92.3	63.3	18.8	0.0	2.1	9.7
122.5°	1.1	21.5	64.4	89.0	97.1	88.5	60.6	18.2	0.0	1.6	8.6
125°	1.1	20.4	60.6	84.2	91.7	83.1	55.8	17.7	0.0	1.1	7.5
127.5°	1.1	19.3	56.9	80.5	87.4	79.4	52.6	17.2	0.0	1.1	7.0
130°	1.1	18.8	52.0	75.6	82.6	74.6	48.8	17.2	0.0	1.1	6.4
132.5°	1.1	18.2	46.7	70.8	78.3	69.7	45.1	16.6	0.0	1.1	5.4
135°	1.1	17.7	41.3	66.0	73.0	64.9	41.8	16.1	0.0	1.1	4.8
137.5°	1.1	16.6	36.5	60.6	67.6	59.5	39.7	15.0	0.0	1.1	4.3
140°	1.1	15.6	32.7	56.3	62.2	54.7	36.5	13.9	0.0	0.5	3.2
142.5°	1.1	13.9	29.5	51.0	56.9	49.9	32.7	11.8	0.0	0.5	3.2
145°	1.1	12.3	26.8	44.5	51.5	44.5	30.6	10.7	0.0	0.5	2.7
147.5°	1.1	11.3	24.1	37.5	46.7	40.8	27.4	9.1	0.0	0.5	2.1
150°	1.1	10.2	20.9	31.6	41.3	35.9	25.2	8.0	0.0	0.0	1.6
152.5°	1.1	9.1	18.2	26.3	37.0	32.7	22.5	7.0	0.0	0.0	1.1
155°	1.6	8.6	15.6	23.1	32.2	28.4	18.8	5.9	0.0	0.0	1.1
157.5°	1.6	7.5	12.9	18.8	28.4	24.7	15.0	4.8	0.0	0.0	0.5
160°	1.6	7.0	10.7	14.5	23.6	20.4	12.3	3.8	0.0	0.0	0.5
162.5°	1.6	6.4	9.1	10.7	19.3	16.1	9.7	2.7	0.0	0.0	0.5
165°	1.6	5.4	8.0	7.5	15.0	12.3	7.5	1.6	0.0	0.0	0.0
167.5°	1.6	4.8	6.4	5.4	11.3	9.1	5.4	1.1	0.0	0.0	0.0
170°	1.6	3.8	5.4	3.8	3.2	5.9	3.2	0.5	0.0	0.0	0.0
172.5°	1.6	3.2	4.3	2.7	1.1	3.2	1.6	0.0	0.0	0.0	0.0
175°	1.6	2.7	2.7	1.6	0.5	1.1	0.0	0.0	0.0	0.0	0.0
177.5°	1.6	2.1	1.6	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°	1638.2	1638.2	1638.2	1638.2	1638.2	1638.2
2.5°	1593.1	1575.4	1559.3	1576.5	1588.8	1636.6
5°	1515.3	1496.6	1498.7	1514.3	1555.6	1642.5
7.5°	1434.9	1403.8	1411.3	1454.7	1515.9	1614.6
10°	1339.9	1311.5	1318.5	1383.9	1469.7	1599.0
12.5°	1255.2	1207.4	1248.2	1309.9	1416.1	1590.4
15°	1155.9	1118.4	1140.4	1231.6	1364.6	1550.7
17.5°	1048.7	1019.7	1046.0	1136.6	1301.3	1546.4
20°	966.1	925.8	956.9	1056.7	1223.0	1501.4
22.5°	873.3	842.7	875.4	967.1	1143.1	1453.6
25°	797.1	764.9	797.6	888.8	1072.3	1397.3
27.5°	723.1	693.6	723.1	806.7	1002.0	1351.7
30°	658.2	629.7	659.8	740.2	919.9	1283.6
32.5°	597.6	561.1	599.7	677.5	847.5	1231.6
35°	534.8	507.4	536.4	622.8	767.1	1158.6
37.5°	482.8	454.3	488.7	562.7	698.9	1087.8
40°	433.4	408.2	435.6	514.4	641.0	1001.5
42.5°	394.8	369.6	397.5	470.4	582.5	936.0
45°	357.2	338.5	361.0	422.1	523.5	849.7
47.5°	329.9	313.8	332.6	386.7	474.2	771.9
50°	306.3	295.0	308.4	351.3	423.2	690.9
52.5°	285.4	274.1	289.7	324.0	383.0	616.9
55°	269.3	259.1	270.9	298.2	342.8	547.1
57.5°	251.6	245.1	254.3	270.9	311.1	484.9
60°	238.7	231.7	241.4	254.8	275.2	422.1
62.5°	224.2	220.5	226.4	237.1	247.8	365.3
65°	211.3	206.0	213.5	217.2	216.2	316.5
67.5°	197.4	195.8	200.1	200.6	192.6	267.1
70°	182.9	181.8	187.2	184.0	167.4	221.5
72.5°	171.1	171.1	174.3	167.9	145.9	178.6
75°	158.2	159.3	162.0	154.5	122.8	140.5
77.5°	146.4	147.5	148.0	137.9	103.0	107.3
80°	133.0	132.5	137.9	125.0	83.7	76.7
82.5°	121.2	119.1	122.3	109.4	67.6	50.4
85°	107.8	108.4	110.5	95.5	54.2	30.6
87.5°	97.1	97.1	99.2	84.2	40.8	13.4
90°	84.2	83.1	86.4	71.3	30.6	1.1
92.5°	73.5	73.5	75.6	61.1	22.5	1.1
95°	62.8	63.3	64.9	50.4	17.2	1.6
97.5°	53.6	54.2	56.3	42.9	12.3	1.6
100°	45.6	46.1	47.2	34.3	9.7	1.1
102.5°	38.1	39.7	39.7	28.4	7.5	1.1
105°	32.2	34.3	33.3	23.1	7.0	1.1
107.5°	26.8	29.0	29.0	18.8	7.0	1.1
110°	22.0	25.2	24.7	16.1	5.4	1.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	18.8	21.5	19.8	13.9	5.4	1.1
115°	16.1	18.8	17.7	12.9	4.8	1.1
117.5°	14.5	16.1	16.1	12.3	4.8	1.1
120°	13.4	15.0	14.5	11.8	4.8	1.1
122.5°	12.3	13.4	13.4	10.7	4.3	1.1
125°	11.8	12.3	12.9	9.7	4.3	1.1
127.5°	11.3	12.3	12.3	9.1	3.8	1.1
130°	10.2	11.3	11.3	8.6	3.8	1.1
132.5°	9.1	10.2	10.2	8.0	3.8	1.1
135°	8.6	9.7	9.7	7.5	3.8	1.1
137.5°	8.0	8.6	8.6	7.0	3.8	1.1
140°	7.0	8.0	8.0	6.4	3.8	1.1
142.5°	6.4	7.5	7.5	5.9	3.2	1.1
145°	5.9	6.4	7.0	5.4	3.2	1.1
147.5°	4.8	5.9	6.4	4.8	3.2	1.1
150°	3.8	5.4	5.4	4.8	3.2	1.1
152.5°	2.7	4.8	4.8	4.3	2.7	1.1
155°	2.1	3.8	4.3	3.8	2.7	1.6
157.5°	1.6	3.2	3.8	3.8	2.7	1.6
160°	1.1	2.7	3.2	3.2	2.1	1.6
162.5°	0.5	2.1	2.7	3.2	2.1	1.6
165°	0.0	1.6	2.1	2.7	2.1	1.6
167.5°	0.0	1.1	1.6	2.1	1.6	1.6
170°	0.0	0.5	1.1	1.6	1.6	1.6
172.5°	0.0	0.0	0.5	1.1	1.1	1.6
175°	0.0	0.0	0.0	0.5	1.1	1.6
177.5°	0.0	0.0	0.0	0.5	1.1	1.6
180°	0.5	0.5	0.5	0.5	0.5	0.5



TEST NUMBER: P893605
 CATALOG NUMBER: 4MB-5SL-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	18.70	20.16	19.15	20.59	21.04	20.95	22.41	21.41	22.85	23.30
	3H	19.52	20.84	19.98	21.28	21.78	22.65	23.97	23.12	24.42	24.91
	4H	19.72	20.96	20.21	21.42	21.94	23.49	24.74	23.98	25.20	25.71
	6H	19.81	20.96	20.31	21.44	21.97	24.37	25.52	24.87	26.00	26.52
	8H	19.81	20.91	20.33	21.41	21.95	24.84	25.94	25.36	26.44	26.97
	12H	19.80	20.85	20.32	21.35	21.91	25.38	26.44	25.90	26.93	27.49
4H	2H	19.13	20.37	19.62	20.83	21.35	21.32	22.56	21.81	23.02	23.54
	3H	20.23	21.27	20.73	21.78	22.31	23.20	24.25	23.70	24.75	25.29
	4H	20.57	21.52	21.09	22.03	22.60	24.18	25.12	24.70	25.64	26.21
	6H	20.76	21.59	21.30	22.13	22.72	25.22	26.05	25.76	26.59	27.18
	8H	20.79	21.57	21.34	22.11	22.70	25.78	26.56	26.33	27.10	27.70
	12H	20.79	21.50	21.36	22.07	22.67	26.44	27.14	27.01	27.71	28.31
8H	4H	20.90	21.68	21.45	22.22	22.81	24.32	25.10	24.87	25.64	26.23
	6H	21.22	21.87	21.80	22.46	23.06	25.49	26.14	26.07	26.73	27.33
	8H	21.31	21.90	21.90	22.50	23.11	26.17	26.76	26.76	27.36	27.97
	12H	21.36	21.89	21.96	22.47	23.16	26.98	27.51	27.58	28.09	28.78
12H	4H	20.97	21.68	21.54	22.25	22.85	24.31	25.01	24.88	25.59	26.18
	6H	21.36	21.94	21.95	22.55	23.16	25.50	26.09	26.10	26.69	27.30
	8H	21.51	22.04	22.11	22.62	23.31	26.24	26.76	26.83	27.35	28.03