

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: P894159

Luminaire Tested: 4MB-SC3-ASML-UNV-CC83-MID-3500K

Issue Date: 11/11/2024

**Test Information**

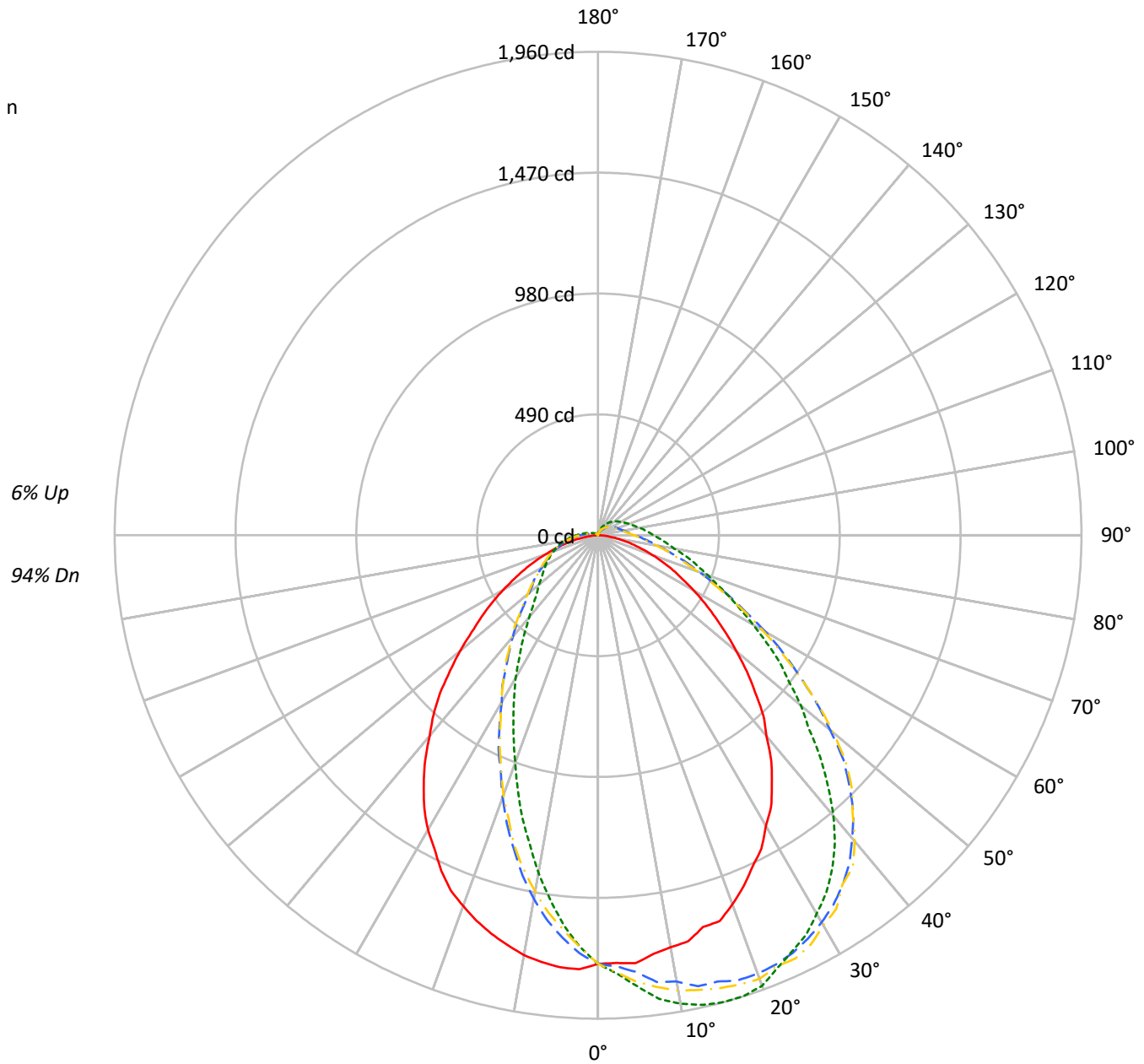
Test Method: LM-79-2019  
Report Number: P894159  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-33)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-SC3-ASML-UNV-CC83-MID-3500K  
Description: Selectable 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 80CRI, 3500K CCT, MID lumen setting  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4330.0 lumens  
Efficiency: N/A  
Efficacy: 129.3 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): 33.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9948  
Total Harmonic Distortion (THDi): 5.65231997856897  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P894159  
CATALOG NUMBER: 4MB-SC3-ASML-UNV-CC83-MID-3500K

### 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°	17693	17693	17693	17693
5°	17758	18029	17926	15584
10°	17439	18414	17779	13281
15°	17194	18348	17486	11105
20°	17061	17986	17134	9085
25°	16412	17152	16638	7475
30°	15723	16391	15927	6175
35°	14947	15469	14989	5032
40°	13756	14151	13750	4126
45°	12583	12491	12646	3515
50°	11190	10902	11138	3176
55°	9859	9551	9791	2918
60°	8648	8146	8571	2757
65°	7577	7014	7398	2619
70°	6439	6146	6222	2504
75°	5248	5588	5110	2411
80°	4047	5029	3684	2246
85°	2786	4856	2253	2105

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 17502 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.2	3.8
10°-20°	453.7	10.5
20°-30°	652.6	15.1
30°-40°	740.6	17.1
40°-50°	707.8	16.3
50°-60°	575.1	13.3
60°-70°	401.3	9.3
70°-80°	248.6	5.7
80°-90°	142.6	3.3
90°-100°	85.2	2.0
100°-110°	56.0	1.3
110°-120°	39.2	0.9
120°-130°	28.4	0.7
130°-140°	18.9	0.4
140°-150°	10.6	0.2
150°-160°	4.7	0.1
160°-170°	1.4	0.0
170°-180°	0.1	0.0
0°-30°	1269.5	29.3
0°-40°	2010.1	46.4
0°-60°	3293.0	76.1
0°-90°	4085.4	94.4
90°-120°	180.4	4.2
90°-150°	238.3	5.5
90°-180°	245.0	5.7
0°-180°	4330.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1737	1737	1737	1737	1737	
5°	1742	1836	1758	1587	1742	164
15°	1644	1960	1672	1186	1644	467
25°	1482	1861	1502	811	1482	684
35°	1229	1654	1232	538	1229	766
45°	901	1275	906	359	901	695
55°	580	899	576	275	580	522
65°	336	585	328	218	336	333
75°	149	391	145	169	149	161
85°	32	265	26	115	32	36
90°	1	224	0	88	1	2
95°	2	195	0	67	2	1
105°	1	150	0	36	1	1
115°	1	120	0	20	1	1
125°	1	97	0	13	1	1
135°	1	77	0	10	1	1
145°	1	55	0	7	1	1
155°	2	34	0	4	2	1
165°	2	16	0	2	2	0
175°	2	1	0	0	2	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1737.3	1737.3	1737.3	1737.3	1737.3	1737.3	1737.3	1737.3	1737.3	1737.3	1737.3
2.5°	1735.6	1748.6	1749.8	1790.7	1778.8	1794.2	1774.8	1778.2	1761.2	1756.6	1697.4
5°	1741.8	1769.7	1777.1	1847.6	1836.2	1844.2	1817.5	1798.1	1758.3	1734.4	1638.9
7.5°	1712.2	1785.6	1826.6	1876.6	1895.4	1901.7	1847.6	1811.8	1745.8	1687.2	1575.1
10°	1695.7	1797.0	1836.8	1911.9	1928.4	1916.5	1874.4	1815.2	1728.7	1634.3	1496.6
12.5°	1686.6	1803.3	1872.7	1949.5	1950.0	1937.5	1888.0	1824.3	1700.9	1577.4	1413.6
15°	1644.5	1802.1	1873.2	1951.2	1959.7	1951.7	1901.1	1818.0	1672.4	1506.9	1318.0
17.5°	1640.0	1799.3	1891.4	1973.3	1959.1	1953.4	1909.1	1815.2	1638.3	1435.2	1228.1
20°	1592.2	1793.0	1891.4	1948.3	1943.8	1946.0	1914.2	1811.2	1599.0	1357.8	1129.7
22.5°	1541.6	1785.6	1883.5	1926.7	1899.4	1940.9	1891.4	1800.4	1559.2	1277.1	1031.9
25°	1481.9	1773.7	1868.1	1896.0	1861.3	1893.7	1893.1	1783.9	1502.3	1190.0	954.5
27.5°	1433.5	1754.9	1843.1	1885.2	1826.0	1853.9	1869.8	1764.0	1435.2	1104.1	863.5
30°	1361.3	1731.0	1812.9	1819.2	1772.5	1807.8	1826.0	1739.0	1378.9	1006.9	780.5
32.5°	1306.1	1703.7	1776.0	1767.4	1720.8	1767.4	1797.0	1713.9	1311.8	921.5	721.9
35°	1228.7	1670.7	1729.9	1684.9	1654.2	1692.9	1727.6	1687.2	1232.1	830.5	646.8
37.5°	1153.6	1641.7	1674.7	1618.9	1576.9	1620.1	1696.3	1637.2	1151.9	758.3	591.0
40°	1062.0	1575.1	1602.5	1526.8	1484.7	1548.4	1618.4	1593.9	1061.5	683.2	537.0
42.5°	992.6	1525.7	1533.6	1430.1	1380.0	1447.7	1527.4	1532.5	988.1	615.5	489.2
45°	901.1	1456.3	1441.5	1327.7	1275.4	1336.2	1455.7	1469.3	905.6	556.9	442.6
47.5°	818.6	1378.9	1349.9	1216.8	1158.2	1230.4	1363.0	1398.8	813.5	502.9	398.8
50°	732.7	1292.4	1228.1	1113.2	1074.0	1109.8	1245.2	1304.4	729.3	449.4	365.2
52.5°	654.2	1196.9	1117.2	1014.3	975.0	1004.6	1121.8	1210.5	645.6	404.5	335.6
55°	580.2	1101.3	998.3	907.3	899.4	908.5	996.6	1098.5	576.2	364.6	316.8
57.5°	514.2	985.2	891.4	824.3	810.0	817.4	878.3	983.0	509.1	324.8	289.5
60°	447.7	866.4	785.6	733.8	725.9	731.5	770.8	870.3	443.7	291.3	263.9
62.5°	387.4	746.9	675.2	655.9	650.2	650.2	666.7	757.7	382.3	257.1	244.6
65°	335.6	644.5	590.5	583.1	584.8	584.2	574.0	632.6	327.7	227.0	227.5
67.5°	283.3	535.9	505.7	514.8	521.6	518.8	497.2	526.2	276.5	199.7	212.2
70°	234.9	442.6	436.9	457.4	473.3	458.5	427.2	430.1	227.0	172.9	192.3
72.5°	189.4	357.8	384.0	412.4	427.8	411.3	368.0	355.5	182.6	148.5	174.1
75°	149.0	287.8	329.4	371.5	391.4	370.3	320.3	277.6	145.1	125.1	159.3
77.5°	113.8	228.1	281.6	330.5	349.8	331.6	278.7	216.7	106.4	105.2	143.4
80°	81.3	180.3	249.7	296.9	314.6	296.9	241.8	171.2	74.0	84.2	126.3
82.5°	53.5	139.4	217.3	270.2	289.5	267.9	209.9	132.0	47.2	68.3	113.8
85°	32.4	110.4	189.4	242.9	265.1	244.0	183.7	100.1	26.2	52.3	99.0
87.5°	14.2	85.3	168.9	224.1	244.0	224.7	163.8	78.5	10.8	41.0	84.8
90°	1.1	67.7	149.0	206.5	224.1	205.9	145.1	63.7	0.0	29.6	72.8
92.5°	1.1	58.0	136.5	191.1	211.0	190.6	130.8	52.3	0.0	21.6	61.4
95°	1.7	48.9	124.0	179.2	195.1	177.5	119.5	44.9	0.0	14.8	51.8
97.5°	1.7	44.4	113.8	167.2	184.9	166.1	109.2	40.4	0.0	10.8	42.1
100°	1.1	41.0	105.8	155.9	172.4	154.7	101.3	36.4	0.0	6.8	34.1
102.5°	1.1	38.1	99.0	146.2	159.3	144.5	94.4	34.1	0.0	5.7	27.9
105°	1.1	36.4	92.7	134.8	150.2	134.8	88.7	31.9	0.0	4.6	21.6
107.5°	1.1	34.1	88.2	128.6	141.1	127.4	84.2	30.1	0.0	4.6	17.6
110°	1.1	32.4	84.2	119.5	133.7	120.6	80.2	27.3	0.0	2.8	14.2



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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	29.6	80.2	113.2	126.9	113.8	76.8	25.0	0.0	2.8	12.5
115°	1.1	26.7	76.8	109.2	119.5	108.1	73.4	22.2	0.0	2.3	11.4
117.5°	1.1	25.0	74.5	104.1	114.3	103.0	70.5	21.0	0.0	2.3	10.8
120°	1.1	23.9	71.1	99.0	106.9	97.8	67.1	19.9	0.0	2.3	10.2
122.5°	1.1	22.8	68.3	94.4	103.0	93.9	64.3	19.3	0.0	1.7	9.1
125°	1.1	21.6	64.3	89.3	97.3	88.2	59.2	18.8	0.0	1.1	8.0
127.5°	1.1	20.5	60.3	85.3	92.7	84.2	55.7	18.2	0.0	1.1	7.4
130°	1.1	19.9	55.2	80.2	87.6	79.1	51.8	18.2	0.0	1.1	6.8
132.5°	1.1	19.3	49.5	75.1	83.1	74.0	47.8	17.6	0.0	1.1	5.7
135°	1.1	18.8	43.8	70.0	77.4	68.8	44.4	17.1	0.0	1.1	5.1
137.5°	1.1	17.6	38.7	64.3	71.7	63.1	42.1	15.9	0.0	1.1	4.6
140°	1.1	16.5	34.7	59.7	66.0	58.0	38.7	14.8	0.0	0.6	3.4
142.5°	1.1	14.8	31.3	54.0	60.3	52.9	34.7	12.5	0.0	0.6	3.4
145°	1.1	13.1	28.4	47.2	54.6	47.2	32.4	11.4	0.0	0.6	2.8
147.5°	1.1	11.9	25.6	39.8	49.5	43.2	29.0	9.7	0.0	0.6	2.3
150°	1.1	10.8	22.2	33.6	43.8	38.1	26.7	8.5	0.0	0.0	1.7
152.5°	1.1	9.7	19.3	27.9	39.3	34.7	23.9	7.4	0.0	0.0	1.1
155°	1.7	9.1	16.5	24.5	34.1	30.1	19.9	6.3	0.0	0.0	1.1
157.5°	1.7	8.0	13.7	19.9	30.1	26.2	15.9	5.1	0.0	0.0	0.6
160°	1.7	7.4	11.4	15.4	25.0	21.6	13.1	4.0	0.0	0.0	0.6
162.5°	1.7	6.8	9.7	11.4	20.5	17.1	10.2	2.8	0.0	0.0	0.6
165°	1.7	5.7	8.5	8.0	15.9	13.1	8.0	1.7	0.0	0.0	0.0
167.5°	1.7	5.1	6.8	5.7	11.9	9.7	5.7	1.1	0.0	0.0	0.0
170°	1.7	4.0	5.7	4.0	3.4	6.3	3.4	0.6	0.0	0.0	0.0
172.5°	1.7	3.4	4.6	2.8	1.1	3.4	1.7	0.0	0.0	0.0	0.0
175°	1.7	2.8	2.8	1.7	0.6	1.1	0.0	0.0	0.0	0.0	0.0
177.5°	1.7	2.3	1.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1737.3	1737.3	1737.3	1737.3	1737.3	1737.3
2.5°	1689.5	1670.7	1653.6	1671.9	1684.9	1735.6
5°	1607.0	1587.1	1589.4	1605.9	1649.7	1741.8
7.5°	1521.7	1488.7	1496.6	1542.7	1607.6	1712.2
10°	1421.0	1390.8	1398.2	1467.6	1558.7	1695.7
12.5°	1331.1	1280.5	1323.7	1389.1	1501.8	1686.6
15°	1225.9	1186.1	1209.4	1306.1	1447.2	1644.5
17.5°	1112.1	1081.4	1109.3	1205.4	1380.0	1640.0
20°	1024.5	981.8	1014.8	1120.6	1297.0	1592.2
22.5°	926.1	893.7	928.4	1025.6	1212.2	1541.6
25°	845.3	811.2	845.9	942.6	1137.1	1481.9
27.5°	766.8	735.5	766.8	855.6	1062.6	1433.5
30°	698.0	667.8	699.7	785.0	975.6	1361.3
32.5°	633.7	595.0	636.0	718.5	898.8	1306.1
35°	567.1	538.1	568.9	660.4	813.5	1228.7
37.5°	512.0	481.8	518.2	596.7	741.2	1153.6
40°	459.6	432.9	461.9	545.5	679.8	1062.0
42.5°	418.7	391.9	421.5	498.9	617.8	992.6
45°	378.9	358.9	382.8	447.7	555.2	901.1
47.5°	349.8	332.8	352.7	410.1	502.9	818.6
50°	324.8	312.9	327.1	372.6	448.8	732.7
52.5°	302.6	290.7	307.2	343.6	406.2	654.2
55°	285.6	274.8	287.3	316.3	363.5	580.2
57.5°	266.8	260.0	269.6	287.3	329.9	514.2
60°	253.1	245.7	256.0	270.2	291.8	447.7
62.5°	237.8	233.8	240.1	251.4	262.8	387.4
65°	224.1	218.4	226.4	230.4	229.2	335.6
67.5°	209.3	207.6	212.2	212.8	204.2	283.3
70°	194.0	192.8	198.5	195.1	177.5	234.9
72.5°	181.5	181.5	184.9	178.1	154.7	189.4
75°	167.8	168.9	171.8	163.8	130.3	149.0
77.5°	155.3	156.4	157.0	146.2	109.2	113.8
80°	141.1	140.5	146.2	132.5	88.7	81.3
82.5°	128.6	126.3	129.7	116.0	71.7	53.5
85°	114.3	114.9	117.2	101.3	57.5	32.4
87.5°	103.0	103.0	105.2	89.3	43.2	14.2
90°	89.3	88.2	91.6	75.7	32.4	1.1
92.5°	77.9	77.9	80.2	64.8	23.9	1.1
95°	66.6	67.1	68.8	53.5	18.2	1.7
97.5°	56.9	57.5	59.7	45.5	13.1	1.7
100°	48.4	48.9	50.1	36.4	10.2	1.1
102.5°	40.4	42.1	42.1	30.1	8.0	1.1
105°	34.1	36.4	35.3	24.5	7.4	1.1
107.5°	28.4	30.7	30.7	19.9	7.4	1.1
110°	23.3	26.7	26.2	17.1	5.7	1.1





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	19.9	22.8	21.0	14.8	5.7	1.1
115°	17.1	19.9	18.8	13.7	5.1	1.1
117.5°	15.4	17.1	17.1	13.1	5.1	1.1
120°	14.2	15.9	15.4	12.5	5.1	1.1
122.5°	13.1	14.2	14.2	11.4	4.6	1.1
125°	12.5	13.1	13.7	10.2	4.6	1.1
127.5°	11.9	13.1	13.1	9.7	4.0	1.1
130°	10.8	11.9	11.9	9.1	4.0	1.1
132.5°	9.7	10.8	10.8	8.5	4.0	1.1
135°	9.1	10.2	10.2	8.0	4.0	1.1
137.5°	8.5	9.1	9.1	7.4	4.0	1.1
140°	7.4	8.5	8.5	6.8	4.0	1.1
142.5°	6.8	8.0	8.0	6.3	3.4	1.1
145°	6.3	6.8	7.4	5.7	3.4	1.1
147.5°	5.1	6.3	6.8	5.1	3.4	1.1
150°	4.0	5.7	5.7	5.1	3.4	1.1
152.5°	2.8	5.1	5.1	4.6	2.8	1.1
155°	2.3	4.0	4.6	4.0	2.8	1.7
157.5°	1.7	3.4	4.0	4.0	2.8	1.7
160°	1.1	2.8	3.4	3.4	2.3	1.7
162.5°	0.6	2.3	2.8	3.4	2.3	1.7
165°	0.0	1.7	2.3	2.8	2.3	1.7
167.5°	0.0	1.1	1.7	2.3	1.7	1.7
170°	0.0	0.6	1.1	1.7	1.7	1.7
172.5°	0.0	0.0	0.6	1.1	1.1	1.7
175°	0.0	0.0	0.0	0.6	1.1	1.7
177.5°	0.0	0.0	0.0	0.6	1.1	1.7
180°	0.6	0.6	0.6	0.6	0.6	0.6



TEST NUMBER: P894159  
 CATALOG NUMBER: 4MB-SC3-ASML-UNV-CC83-MID-3500K

**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	18.90	20.36	19.35	20.79	21.25	21.16	22.62	21.61	23.05	23.50
	3H	19.72	21.04	20.19	21.48	21.98	22.86	24.18	23.33	24.62	25.12
	4H	19.92	21.17	20.41	21.63	22.14	23.70	24.94	24.19	25.40	25.91
	6H	20.02	21.17	20.52	21.64	22.17	24.57	25.73	25.07	26.20	26.73
	8H	20.02	21.12	20.53	21.62	22.15	25.05	26.15	25.56	26.64	27.18
	12H	20.01	21.06	20.52	21.55	22.11	25.59	26.64	26.11	27.13	27.70
4H	2H	19.34	20.58	19.82	21.04	21.55	21.52	22.77	22.01	23.23	23.74
	3H	20.43	21.48	20.93	21.98	22.52	23.41	24.45	23.91	24.96	25.49
	4H	20.77	21.72	21.29	22.24	22.81	24.38	25.33	24.90	25.85	26.41
	6H	20.96	21.79	21.51	22.34	22.92	25.42	26.25	25.96	26.79	27.38
	8H	20.99	21.77	21.54	22.31	22.91	25.98	26.76	26.53	27.31	27.90
	12H	21.00	21.70	21.57	22.27	22.87	26.64	27.34	27.21	27.92	28.52
8H	4H	21.10	21.88	21.65	22.42	23.02	24.52	25.30	25.07	25.84	26.44
	6H	21.42	22.08	22.00	22.66	23.26	25.69	26.35	26.27	26.93	27.54
	8H	21.51	22.10	22.11	22.70	23.31	26.37	26.96	26.97	27.56	28.18
	12H	21.57	22.09	22.16	22.68	23.36	27.19	27.71	27.78	28.30	28.98
12H	4H	21.18	21.88	21.75	22.45	23.05	24.51	25.22	25.08	25.79	26.39
	6H	21.56	22.15	22.15	22.75	23.36	25.71	26.30	26.30	26.90	27.51
	8H	21.72	22.24	22.31	22.83	23.51	26.44	26.97	27.04	27.55	28.24