

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: P894163

Luminaire Tested: 4MB-SC3-ASML-UNV-CC93-HI-4000K

Issue Date: 11/11/2024

**Test Information**

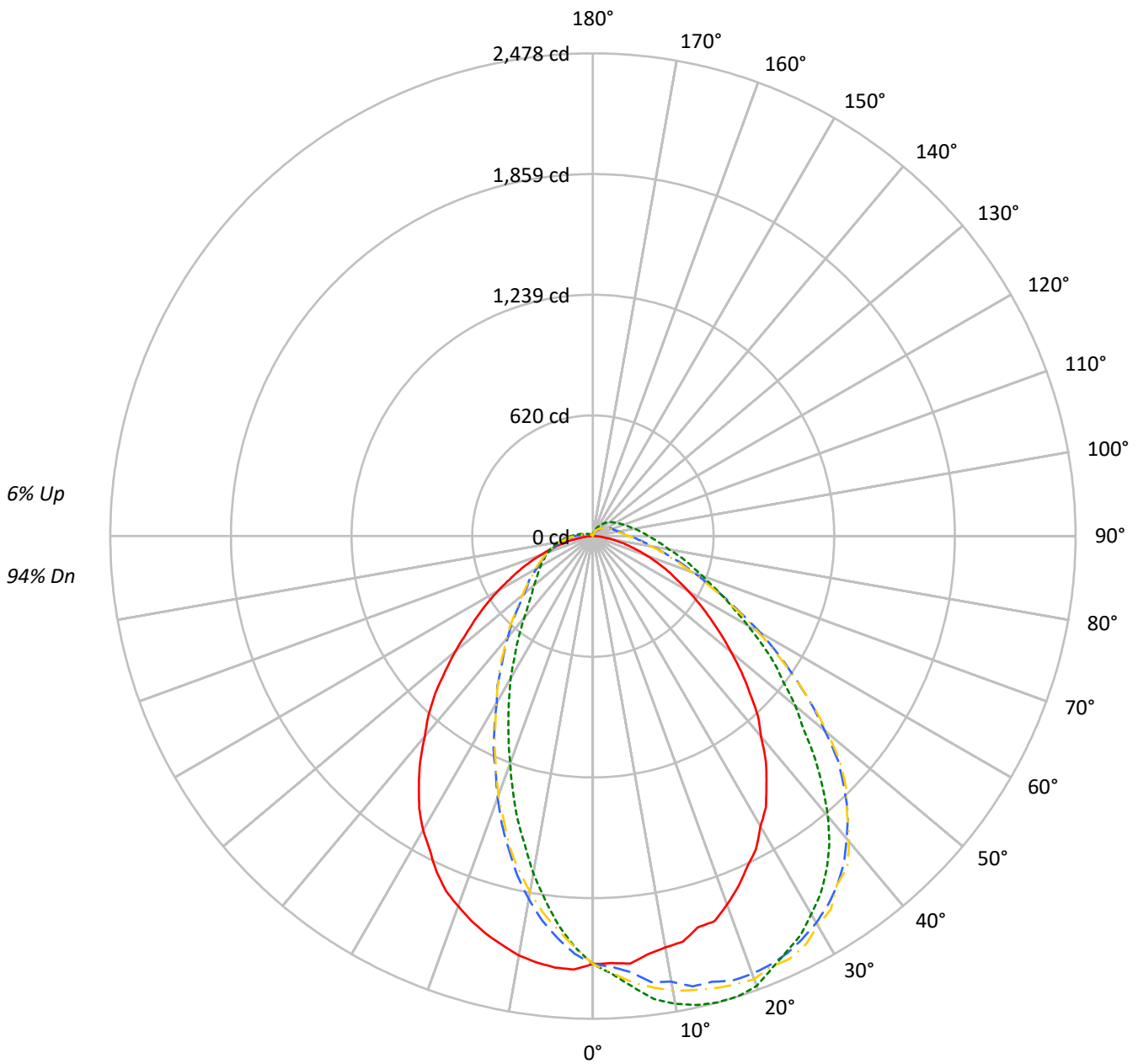
Test Method: LM-79-2019  
Report Number: P894163  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-33)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-SC3-ASML-UNV-CC93-HI-4000K  
Description: Selectable 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 4000K CCT, HI lumen setting  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5475.0 lumens  
Efficiency: N/A  
Efficacy: 108.0 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): 50.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.996  
Total Harmonic Distortion (THDi): 5.39961257980444  
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°	22372	22372	22372	22372
5°	22454	22797	22667	19704
10°	22052	23283	22481	16793
15°	21741	23200	22110	14041
20°	21572	22742	21665	11488
25°	20751	21687	21038	9452
30°	19880	20726	20138	7808
35°	18900	19559	18952	6363
40°	17395	17893	17386	5217
45°	15909	15793	15990	4445
50°	14148	13785	14082	4016
55°	12468	12076	12381	3689
60°	10936	10299	10837	3487
65°	9582	8868	9354	3313
70°	8144	7771	7867	3166
75°	6635	7065	6459	3049
80°	5122	6359	4654	2841
85°	3525	6140	2846	2662

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 22131 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	206.4	3.8
10°-20°	573.7	10.5
20°-30°	825.2	15.1
30°-40°	936.4	17.1
40°-50°	894.9	16.3
50°-60°	727.2	13.3
60°-70°	507.4	9.3
70°-80°	314.3	5.7
80°-90°	180.3	3.3
90°-100°	107.8	2.0
100°-110°	70.8	1.3
110°-120°	49.6	0.9
120°-130°	35.9	0.7
130°-140°	23.9	0.4
140°-150°	13.5	0.2
150°-160°	6.0	0.1
160°-170°	1.7	0.0
170°-180°	0.2	0.0
0°-30°	1605.2	29.3
0°-40°	2541.6	46.4
0°-60°	4163.7	76.1
0°-90°	5165.8	94.4
90°-120°	228.1	4.2
90°-150°	301.4	5.5
90°-180°	309.0	5.6
0°-180°	5475.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2197	2197	2197	2197	2197	
5°	2202	2322	2223	2007	2202	208
15°	2079	2478	2115	1500	2079	591
25°	1874	2354	1900	1026	1874	864
35°	1554	2092	1558	680	1554	968
45°	1139	1613	1145	454	1139	879
55°	734	1137	729	347	734	660
65°	424	739	414	276	424	421
75°	188	495	183	214	188	203
85°	41	335	33	145	41	46
90°	1	283	0	112	1	3
95°	2	247	0	85	2	2
105°	1	190	0	46	1	1
115°	1	151	0	25	1	1
125°	1	123	0	16	1	1
135°	1	98	0	13	1	1
145°	1	69	0	9	1	1
155°	2	43	0	5	2	1
165°	2	20	0	2	2	1
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°	2196.7	2196.7	2196.7	2196.7	2196.7	2196.7	2196.7	2196.7	2196.7	2196.7	2196.7
2.5°	2194.5	2211.0	2212.5	2264.3	2249.2	2268.6	2244.1	2248.5	2226.9	2221.1	2146.3
5°	2202.4	2237.7	2247.0	2336.2	2321.8	2331.9	2298.1	2273.6	2223.3	2193.1	2072.2
7.5°	2165.0	2257.8	2309.6	2372.9	2396.6	2404.5	2336.2	2290.9	2207.5	2133.4	1991.7
10°	2144.2	2272.2	2322.5	2417.5	2438.3	2423.2	2370.0	2295.2	2185.9	2066.5	1892.4
12.5°	2132.6	2280.1	2367.8	2465.0	2465.7	2449.8	2387.3	2306.7	2150.6	1994.5	1787.4
15°	2079.4	2278.7	2368.6	2467.1	2477.9	2467.8	2403.8	2298.8	2114.7	1905.4	1666.6
17.5°	2073.7	2275.1	2391.6	2495.2	2477.2	2470.0	2413.9	2295.2	2071.5	1814.7	1552.9
20°	2013.2	2267.2	2391.6	2463.5	2457.8	2460.6	2420.4	2290.2	2021.9	1716.9	1428.5
22.5°	1949.2	2257.8	2381.5	2436.2	2401.7	2454.2	2391.6	2276.5	1971.5	1614.8	1304.8
25°	1873.7	2242.7	2362.1	2397.3	2353.5	2394.5	2393.7	2255.6	1899.6	1504.7	1206.9
27.5°	1812.6	2219.0	2330.4	2383.7	2308.9	2344.1	2364.3	2230.5	1814.7	1396.1	1091.9
30°	1721.2	2188.8	2292.3	2300.2	2241.3	2285.9	2308.9	2198.8	1743.5	1273.1	986.8
32.5°	1651.5	2154.2	2245.6	2234.8	2175.8	2234.8	2272.2	2167.2	1658.6	1165.2	912.8
35°	1553.6	2112.5	2187.3	2130.5	2091.6	2140.6	2184.4	2133.4	1557.9	1050.1	817.8
37.5°	1458.7	2075.8	2117.5	2047.1	1993.8	2048.5	2144.9	2070.1	1456.5	958.8	747.3
40°	1342.9	1991.7	2026.2	1930.5	1877.3	1957.9	2046.3	2015.4	1342.2	863.8	679.0
42.5°	1255.1	1929.1	1939.2	1808.3	1745.0	1830.6	1931.3	1937.7	1249.4	778.3	618.6
45°	1139.3	1841.3	1822.6	1678.8	1612.6	1689.6	1840.6	1857.9	1145.1	704.2	559.6
47.5°	1035.0	1743.5	1706.8	1538.5	1464.4	1555.8	1723.4	1768.7	1028.6	635.8	504.2
50°	926.4	1634.2	1552.9	1407.6	1358.0	1403.3	1574.5	1649.3	922.1	568.2	461.8
52.5°	827.2	1513.4	1412.7	1282.5	1232.8	1270.2	1418.4	1530.6	816.4	511.4	424.4
55°	733.7	1392.5	1262.3	1147.2	1137.2	1148.7	1260.2	1388.9	728.6	461.1	400.6
57.5°	650.2	1245.8	1127.1	1042.2	1024.2	1033.6	1110.6	1242.9	643.8	410.7	366.1
60°	566.1	1095.5	993.3	927.9	917.8	925.0	974.6	1100.5	561.0	368.3	333.7
62.5°	489.8	944.4	853.8	829.3	822.1	822.1	843.0	958.1	483.4	325.1	309.3
65°	424.4	814.9	746.6	737.3	739.4	738.7	725.7	799.8	414.3	287.0	287.7
67.5°	358.2	677.6	639.4	650.9	659.6	656.0	628.6	665.3	349.6	252.5	268.3
70°	297.1	559.6	552.4	578.3	598.4	579.7	540.2	543.8	287.0	218.7	243.1
72.5°	239.5	452.4	485.5	521.5	540.9	520.0	465.4	449.5	230.9	187.7	220.1
75°	188.4	364.0	416.5	469.7	494.9	468.2	405.0	351.0	183.4	158.2	201.4
77.5°	143.9	288.4	356.0	417.9	442.4	419.3	352.4	274.0	134.5	133.1	181.3
80°	102.9	228.0	315.8	375.5	397.8	375.5	305.7	216.5	93.5	106.5	159.7
82.5°	67.6	176.2	274.8	341.7	366.1	338.8	265.4	166.9	59.7	86.3	143.9
85°	41.0	139.5	239.5	307.1	335.2	308.6	232.3	126.6	33.1	66.2	125.2
87.5°	18.0	107.9	213.6	283.4	308.6	284.1	207.2	99.3	13.7	51.8	107.2
90°	1.4	85.6	188.4	261.1	283.4	260.4	183.4	80.6	0.0	37.4	92.1
92.5°	1.4	73.4	172.6	241.7	266.9	241.0	165.4	66.2	0.0	27.3	77.7
95°	2.2	61.9	156.8	226.6	246.7	224.4	151.0	56.8	0.0	18.7	65.5
97.5°	2.2	56.1	143.9	211.5	233.8	210.0	138.1	51.1	0.0	13.7	53.2
100°	1.4	51.8	133.8	197.1	217.9	195.6	128.0	46.0	0.0	8.6	43.2
102.5°	1.4	48.2	125.2	184.9	201.4	182.7	119.4	43.2	0.0	7.2	35.2
105°	1.4	46.0	117.2	170.5	189.9	170.5	112.2	40.3	0.0	5.8	27.3
107.5°	1.4	43.2	111.5	162.6	178.4	161.1	106.5	38.1	0.0	5.8	22.3
110°	1.4	41.0	106.5	151.0	169.0	152.5	101.4	34.5	0.0	3.6	18.0



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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°	1.4	37.4	101.4	143.1	160.4	143.9	97.1	31.6	0.0	3.6	15.8
115°	1.4	33.8	97.1	138.1	151.0	136.7	92.8	28.1	0.0	2.9	14.4
117.5°	1.4	31.6	94.2	131.6	144.6	130.2	89.2	26.6	0.0	2.9	13.7
120°	1.4	30.2	89.9	125.2	135.2	123.7	84.9	25.2	0.0	2.9	12.9
122.5°	1.4	28.8	86.3	119.4	130.2	118.7	81.3	24.5	0.0	2.2	11.5
125°	1.4	27.3	81.3	112.9	123.0	111.5	74.8	23.7	0.0	1.4	10.1
127.5°	1.4	25.9	76.2	107.9	117.2	106.5	70.5	23.0	0.0	1.4	9.4
130°	1.4	25.2	69.8	101.4	110.8	100.0	65.5	23.0	0.0	1.4	8.6
132.5°	1.4	24.5	62.6	94.9	105.0	93.5	60.4	22.3	0.0	1.4	7.2
135°	1.4	23.7	55.4	88.5	97.8	87.0	56.1	21.6	0.0	1.4	6.5
137.5°	1.4	22.3	48.9	81.3	90.6	79.8	53.2	20.1	0.0	1.4	5.8
140°	1.4	20.9	43.9	75.5	83.4	73.4	48.9	18.7	0.0	0.7	4.3
142.5°	1.4	18.7	39.6	68.3	76.2	66.9	43.9	15.8	0.0	0.7	4.3
145°	1.4	16.5	36.0	59.7	69.1	59.7	41.0	14.4	0.0	0.7	3.6
147.5°	1.4	15.1	32.4	50.3	62.6	54.7	36.7	12.2	0.0	0.7	2.9
150°	1.4	13.7	28.1	42.4	55.4	48.2	33.8	10.8	0.0	0.0	2.2
152.5°	1.4	12.2	24.5	35.2	49.6	43.9	30.2	9.4	0.0	0.0	1.4
155°	2.2	11.5	20.9	30.9	43.2	38.1	25.2	7.9	0.0	0.0	1.4
157.5°	2.2	10.1	17.3	25.2	38.1	33.1	20.1	6.5	0.0	0.0	0.7
160°	2.2	9.4	14.4	19.4	31.6	27.3	16.5	5.0	0.0	0.0	0.7
162.5°	2.2	8.6	12.2	14.4	25.9	21.6	12.9	3.6	0.0	0.0	0.7
165°	2.2	7.2	10.8	10.1	20.1	16.5	10.1	2.2	0.0	0.0	0.0
167.5°	2.2	6.5	8.6	7.2	15.1	12.2	7.2	1.4	0.0	0.0	0.0
170°	2.2	5.0	7.2	5.0	4.3	7.9	4.3	0.7	0.0	0.0	0.0
172.5°	2.2	4.3	5.8	3.6	1.4	4.3	2.2	0.0	0.0	0.0	0.0
175°	2.2	3.6	3.6	2.2	0.7	1.4	0.0	0.0	0.0	0.0	0.0
177.5°	2.2	2.9	2.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2196.7	2196.7	2196.7	2196.7	2196.7	2196.7
2.5°	2136.2	2112.5	2090.9	2113.9	2130.5	2194.5
5°	2031.9	2006.8	2009.7	2030.5	2085.9	2202.4
7.5°	1924.1	1882.3	1892.4	1950.7	2032.7	2165.0
10°	1796.7	1758.6	1768.0	1855.7	1970.8	2144.2
12.5°	1683.1	1619.1	1673.8	1756.5	1898.9	2132.6
15°	1550.0	1499.7	1529.2	1651.5	1829.8	2079.4
17.5°	1406.2	1367.3	1402.6	1524.1	1745.0	2073.7
20°	1295.4	1241.5	1283.2	1417.0	1639.9	2013.2
22.5°	1171.0	1130.0	1173.9	1296.9	1532.8	1949.2
25°	1068.8	1025.7	1069.6	1191.8	1437.8	1873.7
27.5°	969.6	930.0	969.6	1081.8	1343.6	1812.6
30°	882.5	844.4	884.7	992.6	1233.6	1721.2
32.5°	801.3	752.4	804.1	908.4	1136.5	1651.5
35°	717.1	680.4	719.3	835.1	1028.6	1553.6
37.5°	647.3	609.2	655.3	754.5	937.2	1458.7
40°	581.2	547.4	584.1	689.8	859.5	1342.9
42.5°	529.4	495.6	533.0	630.8	781.1	1255.1
45°	479.0	453.9	484.1	566.1	702.0	1139.3
47.5°	442.4	420.8	445.9	518.6	635.8	1035.0
50°	410.7	395.6	413.6	471.1	567.5	926.4
52.5°	382.7	367.5	388.4	434.4	513.6	827.2
55°	361.1	347.4	363.2	399.9	459.6	733.7
57.5°	337.3	328.7	340.9	363.2	417.2	650.2
60°	320.1	310.7	323.7	341.7	369.0	566.1
62.5°	300.7	295.6	303.5	317.9	332.3	489.8
65°	283.4	276.2	286.3	291.3	289.9	424.4
67.5°	264.7	262.5	268.3	269.0	258.2	358.2
70°	245.3	243.8	251.0	246.7	224.4	297.1
72.5°	229.4	229.4	233.8	225.1	195.6	239.5
75°	212.2	213.6	217.2	207.2	164.7	188.4
77.5°	196.4	197.8	198.5	184.9	138.1	143.9
80°	178.4	177.7	184.9	167.6	112.2	102.9
82.5°	162.6	159.7	164.0	146.7	90.6	67.6
85°	144.6	145.3	148.2	128.0	72.6	41.0
87.5°	130.2	130.2	133.1	112.9	54.7	18.0
90°	112.9	111.5	115.8	95.7	41.0	1.4
92.5°	98.5	98.5	101.4	82.0	30.2	1.4
95°	84.2	84.9	87.0	67.6	23.0	2.2
97.5°	71.9	72.6	75.5	57.5	16.5	2.2
100°	61.1	61.9	63.3	46.0	12.9	1.4
102.5°	51.1	53.2	53.2	38.1	10.1	1.4
105°	43.2	46.0	44.6	30.9	9.4	1.4
107.5°	36.0	38.8	38.8	25.2	9.4	1.4
110°	29.5	33.8	33.1	21.6	7.2	1.4





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	25.2	28.8	26.6	18.7	7.2	1.4
115°	21.6	25.2	23.7	17.3	6.5	1.4
117.5°	19.4	21.6	21.6	16.5	6.5	1.4
120°	18.0	20.1	19.4	15.8	6.5	1.4
122.5°	16.5	18.0	18.0	14.4	5.8	1.4
125°	15.8	16.5	17.3	12.9	5.8	1.4
127.5°	15.1	16.5	16.5	12.2	5.0	1.4
130°	13.7	15.1	15.1	11.5	5.0	1.4
132.5°	12.2	13.7	13.7	10.8	5.0	1.4
135°	11.5	12.9	12.9	10.1	5.0	1.4
137.5°	10.8	11.5	11.5	9.4	5.0	1.4
140°	9.4	10.8	10.8	8.6	5.0	1.4
142.5°	8.6	10.1	10.1	7.9	4.3	1.4
145°	7.9	8.6	9.4	7.2	4.3	1.4
147.5°	6.5	7.9	8.6	6.5	4.3	1.4
150°	5.0	7.2	7.2	6.5	4.3	1.4
152.5°	3.6	6.5	6.5	5.8	3.6	1.4
155°	2.9	5.0	5.8	5.0	3.6	2.2
157.5°	2.2	4.3	5.0	5.0	3.6	2.2
160°	1.4	3.6	4.3	4.3	2.9	2.2
162.5°	0.7	2.9	3.6	4.3	2.9	2.2
165°	0.0	2.2	2.9	3.6	2.9	2.2
167.5°	0.0	1.4	2.2	2.9	2.2	2.2
170°	0.0	0.7	1.4	2.2	2.2	2.2
172.5°	0.0	0.0	0.7	1.4	1.4	2.2
175°	0.0	0.0	0.0	0.7	1.4	2.2
177.5°	0.0	0.0	0.0	0.7	1.4	2.2
180°	0.7	0.7	0.7	0.7	0.7	0.7



TEST NUMBER: P894163  
 CATALOG NUMBER: 4MB-SC3-ASML-UNV-CC93-HI-4000K

**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	19.72	21.18	20.17	21.61	22.06	21.97	23.43	22.43	23.86	24.32
	3H	20.54	21.85	21.00	22.30	22.80	23.67	24.99	24.14	25.44	25.93
	4H	20.74	21.98	21.23	22.44	22.96	24.51	25.76	25.00	26.22	26.73
	6H	20.83	21.98	21.33	22.46	22.99	25.39	26.54	25.89	27.02	27.54
	8H	20.83	21.93	21.35	22.43	22.97	25.86	26.96	26.37	27.46	27.99
	12H	20.82	21.87	21.34	22.37	22.93	26.40	27.46	26.92	27.95	28.51
4H	2H	20.15	21.39	20.64	21.85	22.37	22.34	23.58	22.83	24.04	24.56
	3H	21.25	22.29	21.75	22.80	23.33	24.22	25.27	24.72	25.77	26.31
	4H	21.59	22.54	22.11	23.05	23.62	25.20	26.14	25.72	26.66	27.23
	6H	21.78	22.61	22.32	23.15	23.74	26.24	27.07	26.78	27.61	28.19
	8H	21.81	22.59	22.35	23.13	23.72	26.80	27.58	27.35	28.12	28.72
	12H	21.81	22.52	22.38	23.09	23.69	27.46	28.16	28.03	28.73	29.33
8H	4H	21.92	22.70	22.47	23.24	23.83	25.34	26.12	25.88	26.66	27.25
	6H	22.24	22.89	22.82	23.48	24.08	26.51	27.16	27.09	27.75	28.35
	8H	22.33	22.92	22.92	23.52	24.13	27.19	27.78	27.78	28.38	28.99
	12H	22.38	22.91	22.98	23.49	24.18	28.00	28.53	28.60	29.11	29.80
12H	4H	21.99	22.70	22.56	23.27	23.87	25.33	26.03	25.90	26.60	27.20
	6H	22.37	22.96	22.97	23.56	24.18	26.52	27.11	27.12	27.71	28.32
	8H	22.53	23.06	23.13	23.64	24.33	27.26	27.78	27.85	28.37	29.05