

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: P894162

Luminaire Tested: 4MB-SC3-ASML-UNV-CC93-HI-3500K

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894162
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-3500K
Description: Selectable 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 3500K CCT, HI lumen setting
Light Source: -
Ballast/Driver: -

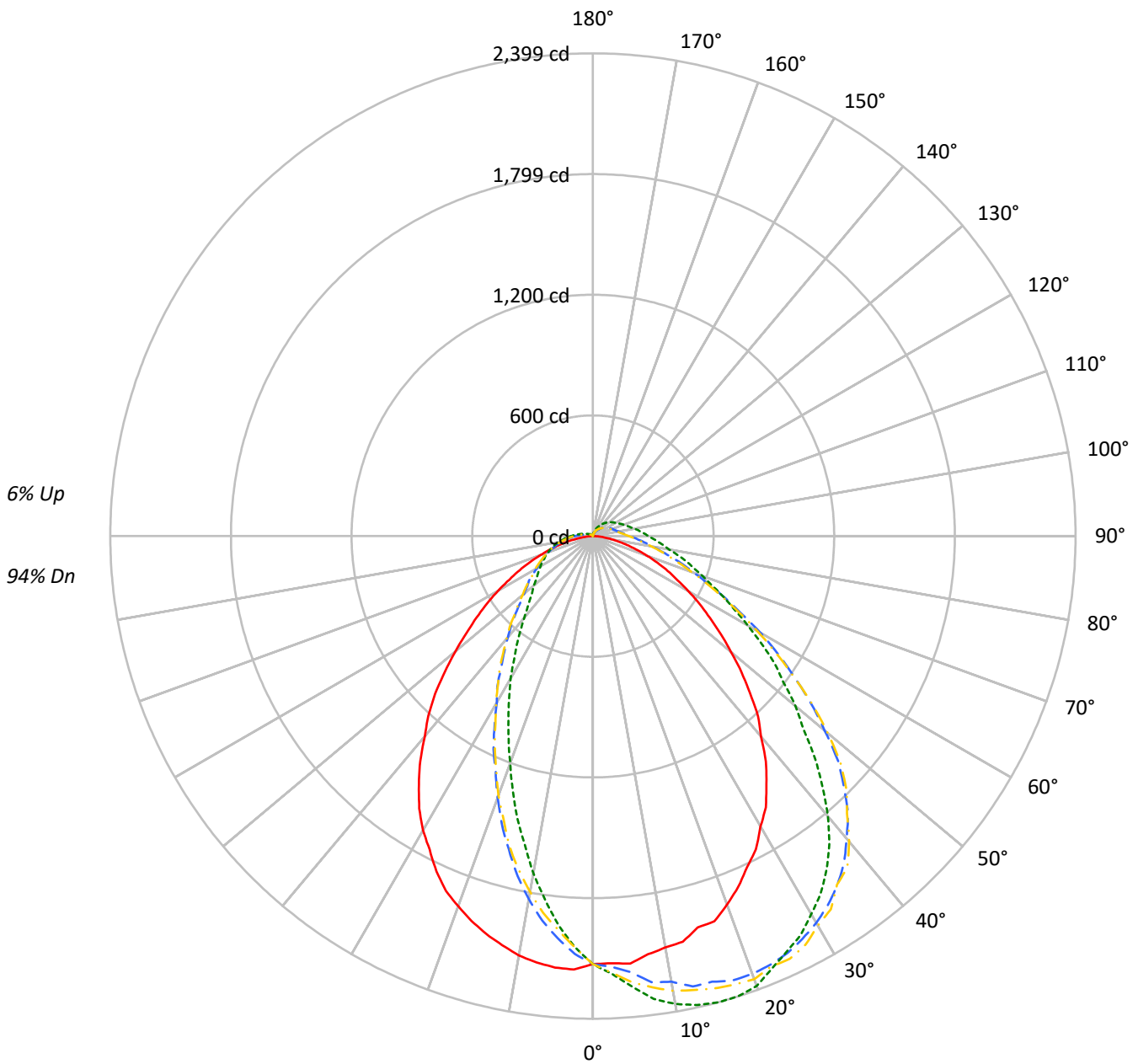
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5301.0 lumens
Efficiency: N/A
Efficacy: 104.6 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	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°	21661	21661	21661	21661
5°	21740	22073	21946	19078
10°	21350	22543	21766	16259
15°	21050	22462	21408	13595
20°	20887	22018	20976	11122
25°	20092	20998	20369	9151
30°	19248	20067	19498	7561
35°	18300	18938	18350	6161
40°	16842	17324	16833	5051
45°	15404	15292	15482	4303
50°	13699	13346	13635	3888
55°	12070	11691	11989	3572
60°	10588	9972	10493	3377
65°	9277	8586	9056	3207
70°	7883	7524	7617	3066
75°	6428	6840	6255	2952
80°	4958	6156	4505	2750
85°	3413	5944	2751	2577

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 21427 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.8	3.8
10°-20°	555.4	10.5
20°-30°	798.9	15.1
30°-40°	906.7	17.1
40°-50°	866.5	16.3
50°-60°	704.1	13.3
60°-70°	491.3	9.3
70°-80°	304.3	5.7
80°-90°	174.6	3.3
90°-100°	104.3	2.0
100°-110°	68.5	1.3
110°-120°	48.0	0.9
120°-130°	34.8	0.7
130°-140°	23.1	0.4
140°-150°	13.0	0.2
150°-160°	5.8	0.1
160°-170°	1.7	0.0
170°-180°	0.1	0.0
0°-30°	1554.2	29.3
0°-40°	2460.9	46.4
0°-60°	4031.4	76.0
0°-90°	5001.6	94.4
90°-120°	220.9	4.2
90°-150°	291.8	5.5
90°-180°	299.0	5.6
0°-180°	5301.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2127	2127	2127	2127	2127	
5°	2132	2248	2153	1943	2132	201
15°	2013	2399	2048	1452	2013	572
25°	1814	2279	1839	993	1814	837
35°	1504	2025	1508	659	1504	938
45°	1103	1561	1109	439	1103	851
55°	710	1101	706	336	710	639
65°	411	716	401	267	411	408
75°	182	479	178	207	182	197
85°	40	324	32	141	40	45
90°	1	274	0	108	1	3
95°	2	239	0	82	2	2
105°	1	184	0	45	1	1
115°	1	146	0	24	1	1
125°	1	119	0	16	1	1
135°	1	95	0	12	1	1
145°	1	67	0	8	1	1
155°	2	42	0	5	2	1
165°	2	20	0	2	2	1
175°	2	1	0	0	2	0
180°	1	1	1	1	1	



TEST NUMBER: P894162
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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9
2.5°	2124.8	2140.8	2142.2	2192.3	2177.7	2196.5	2172.8	2177.0	2156.1	2150.5	2078.1
5°	2132.4	2166.5	2175.6	2262.0	2248.0	2257.8	2225.0	2201.4	2152.6	2123.4	2006.4
7.5°	2096.2	2186.0	2236.2	2297.5	2320.5	2328.1	2262.0	2218.1	2137.3	2065.6	1928.4
10°	2076.0	2200.0	2248.7	2340.7	2360.8	2346.2	2294.7	2222.3	2116.4	2000.8	1832.3
12.5°	2064.9	2207.6	2292.6	2386.6	2387.3	2372.0	2311.4	2233.4	2082.3	1931.2	1730.6
15°	2013.3	2206.2	2293.3	2388.7	2399.1	2389.4	2327.4	2225.7	2047.5	1844.8	1613.6
17.5°	2007.8	2202.8	2315.6	2415.9	2398.5	2391.5	2337.2	2222.3	2005.7	1757.1	1503.6
20°	1949.3	2195.1	2315.6	2385.2	2379.6	2382.4	2343.4	2217.4	1957.6	1662.3	1383.1
22.5°	1887.3	2186.0	2305.8	2358.8	2325.3	2376.2	2315.6	2204.2	1908.9	1563.5	1263.3
25°	1814.2	2171.4	2287.0	2321.2	2278.7	2318.4	2317.7	2184.0	1839.2	1456.9	1168.6
27.5°	1755.0	2148.4	2256.4	2307.9	2235.5	2269.6	2289.1	2159.6	1757.1	1351.7	1057.2
30°	1666.5	2119.2	2219.5	2227.1	2170.0	2213.2	2235.5	2128.9	1688.1	1232.7	955.5
32.5°	1599.0	2085.8	2174.2	2163.8	2106.7	2163.8	2200.0	2098.3	1605.9	1128.2	883.8
35°	1504.3	2045.4	2117.8	2062.8	2025.2	2072.5	2115.0	2065.6	1508.4	1016.8	791.8
37.5°	1412.3	2009.9	2050.2	1982.0	1930.5	1983.4	2076.7	2004.3	1410.2	928.3	723.6
40°	1300.2	1928.4	1961.8	1869.2	1817.6	1895.6	1981.3	1951.4	1299.5	836.4	657.4
42.5°	1215.2	1867.8	1877.5	1750.8	1689.5	1772.4	1869.9	1876.1	1209.7	753.5	598.9
45°	1103.1	1782.8	1764.7	1625.4	1561.4	1635.9	1782.1	1798.8	1108.7	681.8	541.8
47.5°	1002.1	1688.1	1652.6	1489.6	1417.9	1506.3	1668.6	1712.5	995.9	615.6	488.2
50°	897.0	1582.3	1503.6	1362.9	1314.8	1358.7	1524.5	1596.9	892.8	550.2	447.1
52.5°	800.9	1465.3	1367.8	1241.7	1193.7	1229.9	1373.3	1482.0	790.4	495.2	410.9
55°	710.3	1348.3	1222.2	1110.8	1101.0	1112.2	1220.1	1344.8	705.5	446.4	387.9
57.5°	629.6	1206.2	1091.3	1009.1	991.7	1000.7	1075.3	1203.4	623.3	397.7	354.5
60°	548.1	1060.6	961.7	898.4	888.6	895.6	943.6	1065.5	543.2	356.6	323.1
62.5°	474.3	914.4	826.6	803.0	796.0	796.0	816.2	927.6	468.0	314.8	299.5
65°	410.9	789.0	722.9	713.8	715.9	715.2	702.7	774.4	401.1	277.9	278.6
67.5°	346.8	656.0	619.1	630.3	638.6	635.1	608.7	644.2	338.5	244.4	259.8
70°	287.6	541.8	534.8	559.9	579.4	561.3	523.0	526.5	277.9	211.7	235.4
72.5°	231.9	438.0	470.1	504.9	523.7	503.5	450.6	435.3	223.5	181.8	213.1
75°	182.5	352.4	403.2	454.8	479.1	453.4	392.1	339.9	177.6	153.2	195.0
77.5°	139.3	279.3	344.7	404.6	428.3	406.0	341.2	265.3	130.2	128.8	175.5
80°	99.6	220.8	305.7	363.5	385.1	363.5	296.0	209.6	90.5	103.1	154.6
82.5°	65.5	170.6	266.0	330.8	354.5	328.0	257.0	161.6	57.8	83.6	139.3
85°	39.7	135.1	231.9	297.4	324.5	298.8	224.9	122.6	32.0	64.1	121.2
87.5°	17.4	104.5	206.8	274.4	298.8	275.1	200.6	96.1	13.2	50.1	103.8
90°	1.4	82.9	182.5	252.8	274.4	252.1	177.6	78.0	0.0	36.2	89.1
92.5°	1.4	71.0	167.1	234.0	258.4	233.3	160.2	64.1	0.0	26.5	75.2
95°	2.1	59.9	151.8	219.4	238.9	217.3	146.2	55.0	0.0	18.1	63.4
97.5°	2.1	54.3	139.3	204.7	226.3	203.4	133.7	49.4	0.0	13.2	51.5
100°	1.4	50.1	129.5	190.8	211.0	189.4	124.0	44.6	0.0	8.4	41.8
102.5°	1.4	46.7	121.2	179.0	195.0	176.9	115.6	41.8	0.0	7.0	34.1
105°	1.4	44.6	113.5	165.1	183.9	165.1	108.6	39.0	0.0	5.6	26.5
107.5°	1.4	41.8	107.9	157.4	172.7	156.0	103.1	36.9	0.0	5.6	21.6
110°	1.4	39.7	103.1	146.2	163.7	147.6	98.2	33.4	0.0	3.5	17.4



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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°	1.4	36.2	98.2	138.6	155.3	139.3	94.0	30.6	0.0	3.5	15.3
115°	1.4	32.7	94.0	133.7	146.2	132.3	89.8	27.2	0.0	2.8	13.9
117.5°	1.4	30.6	91.2	127.4	140.0	126.1	86.4	25.8	0.0	2.8	13.2
120°	1.4	29.2	87.1	121.2	130.9	119.8	82.2	24.4	0.0	2.8	12.5
122.5°	1.4	27.9	83.6	115.6	126.1	114.9	78.7	23.7	0.0	2.1	11.1
125°	1.4	26.5	78.7	109.3	119.1	107.9	72.4	23.0	0.0	1.4	9.7
127.5°	1.4	25.1	73.8	104.5	113.5	103.1	68.2	22.3	0.0	1.4	9.1
130°	1.4	24.4	67.6	98.2	107.2	96.8	63.4	22.3	0.0	1.4	8.4
132.5°	1.4	23.7	60.6	91.9	101.7	90.5	58.5	21.6	0.0	1.4	7.0
135°	1.4	23.0	53.6	85.7	94.7	84.3	54.3	20.9	0.0	1.4	6.3
137.5°	1.4	21.6	47.4	78.7	87.7	77.3	51.5	19.5	0.0	1.4	5.6
140°	1.4	20.2	42.5	73.1	80.8	71.0	47.4	18.1	0.0	0.7	4.2
142.5°	1.4	18.1	38.3	66.2	73.8	64.8	42.5	15.3	0.0	0.7	4.2
145°	1.4	16.0	34.8	57.8	66.9	57.8	39.7	13.9	0.0	0.7	3.5
147.5°	1.4	14.6	31.3	48.7	60.6	52.9	35.5	11.8	0.0	0.7	2.8
150°	1.4	13.2	27.2	41.1	53.6	46.7	32.7	10.4	0.0	0.0	2.1
152.5°	1.4	11.8	23.7	34.1	48.1	42.5	29.2	9.1	0.0	0.0	1.4
155°	2.1	11.1	20.2	29.9	41.8	36.9	24.4	7.7	0.0	0.0	1.4
157.5°	2.1	9.7	16.7	24.4	36.9	32.0	19.5	6.3	0.0	0.0	0.7
160°	2.1	9.1	13.9	18.8	30.6	26.5	16.0	4.9	0.0	0.0	0.7
162.5°	2.1	8.4	11.8	13.9	25.1	20.9	12.5	3.5	0.0	0.0	0.7
165°	2.1	7.0	10.4	9.7	19.5	16.0	9.7	2.1	0.0	0.0	0.0
167.5°	2.1	6.3	8.4	7.0	14.6	11.8	7.0	1.4	0.0	0.0	0.0
170°	2.1	4.9	7.0	4.9	4.2	7.7	4.2	0.7	0.0	0.0	0.0
172.5°	2.1	4.2	5.6	3.5	1.4	4.2	2.1	0.0	0.0	0.0	0.0
175°	2.1	3.5	3.5	2.1	0.7	1.4	0.0	0.0	0.0	0.0	0.0
177.5°	2.1	2.8	2.1	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°	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9
2.5°	2068.4	2045.4	2024.5	2046.8	2062.8	2124.8
5°	1967.4	1943.0	1945.8	1966.0	2019.6	2132.4
7.5°	1862.9	1822.5	1832.3	1888.7	1968.1	2096.2
10°	1739.6	1702.7	1711.8	1796.8	1908.2	2076.0
12.5°	1629.6	1567.6	1620.6	1700.6	1838.5	2064.9
15°	1500.8	1452.0	1480.6	1599.0	1771.7	2013.3
17.5°	1361.5	1323.9	1358.0	1475.7	1689.5	2007.8
20°	1254.2	1202.0	1242.4	1371.9	1587.8	1949.3
22.5°	1133.8	1094.1	1136.5	1255.6	1484.1	1887.3
25°	1034.9	993.1	1035.6	1154.0	1392.1	1814.2
27.5°	938.8	900.5	938.8	1047.4	1300.9	1755.0
30°	854.5	817.6	856.6	961.1	1194.4	1666.5
32.5°	775.8	728.4	778.6	879.6	1100.3	1599.0
35°	694.3	658.8	696.4	808.5	995.9	1504.3
37.5°	626.8	589.9	634.4	730.5	907.4	1412.3
40°	562.7	530.0	565.5	667.9	832.2	1300.2
42.5°	512.6	479.8	516.0	610.8	756.3	1215.2
45°	463.8	439.4	468.7	548.1	679.7	1103.1
47.5°	428.3	407.4	431.8	502.1	615.6	1002.1
50°	397.7	383.0	400.4	456.2	549.5	897.0
52.5°	370.5	355.9	376.1	420.6	497.2	800.9
55°	349.6	336.4	351.7	387.2	445.0	710.3
57.5°	326.6	318.3	330.1	351.7	403.9	629.6
60°	309.9	300.9	313.4	330.8	357.3	548.1
62.5°	291.1	286.2	293.9	307.8	321.7	474.3
65°	274.4	267.4	277.2	282.0	280.7	410.9
67.5°	256.3	254.2	259.8	260.5	250.0	346.8
70°	237.5	236.1	243.0	238.9	217.3	287.6
72.5°	222.2	222.2	226.3	218.0	189.4	231.9
75°	205.4	206.8	210.3	200.6	159.5	182.5
77.5°	190.1	191.5	192.2	179.0	133.7	139.3
80°	172.7	172.0	179.0	162.3	108.6	99.6
82.5°	157.4	154.6	158.8	142.1	87.7	65.5
85°	140.0	140.7	143.5	124.0	70.3	39.7
87.5°	126.1	126.1	128.8	109.3	52.9	17.4
90°	109.3	107.9	112.1	92.6	39.7	1.4
92.5°	95.4	95.4	98.2	79.4	29.2	1.4
95°	81.5	82.2	84.3	65.5	22.3	2.1
97.5°	69.6	70.3	73.1	55.7	16.0	2.1
100°	59.2	59.9	61.3	44.6	12.5	1.4
102.5°	49.4	51.5	51.5	36.9	9.7	1.4
105°	41.8	44.6	43.2	29.9	9.1	1.4
107.5°	34.8	37.6	37.6	24.4	9.1	1.4
110°	28.6	32.7	32.0	20.9	7.0	1.4



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	24.4	27.9	25.8	18.1	7.0	1.4
115°	20.9	24.4	23.0	16.7	6.3	1.4
117.5°	18.8	20.9	20.9	16.0	6.3	1.4
120°	17.4	19.5	18.8	15.3	6.3	1.4
122.5°	16.0	17.4	17.4	13.9	5.6	1.4
125°	15.3	16.0	16.7	12.5	5.6	1.4
127.5°	14.6	16.0	16.0	11.8	4.9	1.4
130°	13.2	14.6	14.6	11.1	4.9	1.4
132.5°	11.8	13.2	13.2	10.4	4.9	1.4
135°	11.1	12.5	12.5	9.7	4.9	1.4
137.5°	10.4	11.1	11.1	9.1	4.9	1.4
140°	9.1	10.4	10.4	8.4	4.9	1.4
142.5°	8.4	9.7	9.7	7.7	4.2	1.4
145°	7.7	8.4	9.1	7.0	4.2	1.4
147.5°	6.3	7.7	8.4	6.3	4.2	1.4
150°	4.9	7.0	7.0	6.3	4.2	1.4
152.5°	3.5	6.3	6.3	5.6	3.5	1.4
155°	2.8	4.9	5.6	4.9	3.5	2.1
157.5°	2.1	4.2	4.9	4.9	3.5	2.1
160°	1.4	3.5	4.2	4.2	2.8	2.1
162.5°	0.7	2.8	3.5	4.2	2.8	2.1
165°	0.0	2.1	2.8	3.5	2.8	2.1
167.5°	0.0	1.4	2.1	2.8	2.1	2.1
170°	0.0	0.7	1.4	2.1	2.1	2.1
172.5°	0.0	0.0	0.7	1.4	1.4	2.1
175°	0.0	0.0	0.0	0.7	1.4	2.1
177.5°	0.0	0.0	0.0	0.7	1.4	2.1
180°	0.7	0.7	0.7	0.7	0.7	0.7



TEST NUMBER: P894162
 CATALOG NUMBER: 4MB-SC3-ASML-UNV-CC93-HI-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	19.60	21.06	20.06	21.49	21.95	21.86	23.32	22.32	23.75	24.21
	3H	20.42	21.74	20.89	22.19	22.68	23.56	24.88	24.03	25.32	25.82
	4H	20.63	21.87	21.12	22.33	22.84	24.40	25.64	24.89	26.10	26.62
	6H	20.72	21.87	21.22	22.35	22.87	25.28	26.43	25.78	26.90	27.43
	8H	20.72	21.82	21.24	22.32	22.85	25.75	26.85	26.26	27.35	27.88
	12H	20.71	21.76	21.23	22.25	22.82	26.29	27.34	26.81	27.84	28.40
4H	2H	20.04	21.28	20.53	21.74	22.25	22.23	23.47	22.72	23.93	24.44
	3H	21.14	22.18	21.64	22.69	23.22	24.11	25.15	24.61	25.66	26.20
	4H	21.47	22.42	22.00	22.94	23.51	25.08	26.03	25.60	26.55	27.12
	6H	21.67	22.50	22.21	23.04	23.63	26.12	26.95	26.67	27.50	28.08
	8H	21.69	22.47	22.24	23.02	23.61	26.69	27.47	27.24	28.01	28.60
	12H	21.70	22.40	22.27	22.98	23.58	27.34	28.05	27.91	28.62	29.22
8H	4H	21.80	22.58	22.35	23.13	23.72	25.22	26.00	25.77	26.55	27.14
	6H	22.12	22.78	22.71	23.37	23.97	26.40	27.05	26.98	27.64	28.24
	8H	22.21	22.80	22.81	23.40	24.02	27.08	27.66	27.67	28.26	28.88
	12H	22.27	22.79	22.86	23.38	24.06	27.89	28.42	28.49	29.00	29.69
12H	4H	21.88	22.58	22.45	23.16	23.76	25.22	25.92	25.79	26.49	27.09
	6H	22.26	22.85	22.86	23.45	24.07	26.41	27.00	27.00	27.60	28.21
	8H	22.42	22.95	23.02	23.53	24.21	27.15	27.67	27.74	28.26	28.94