

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: P894166

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

Issue Date: 11/11/2024

**Test Information**

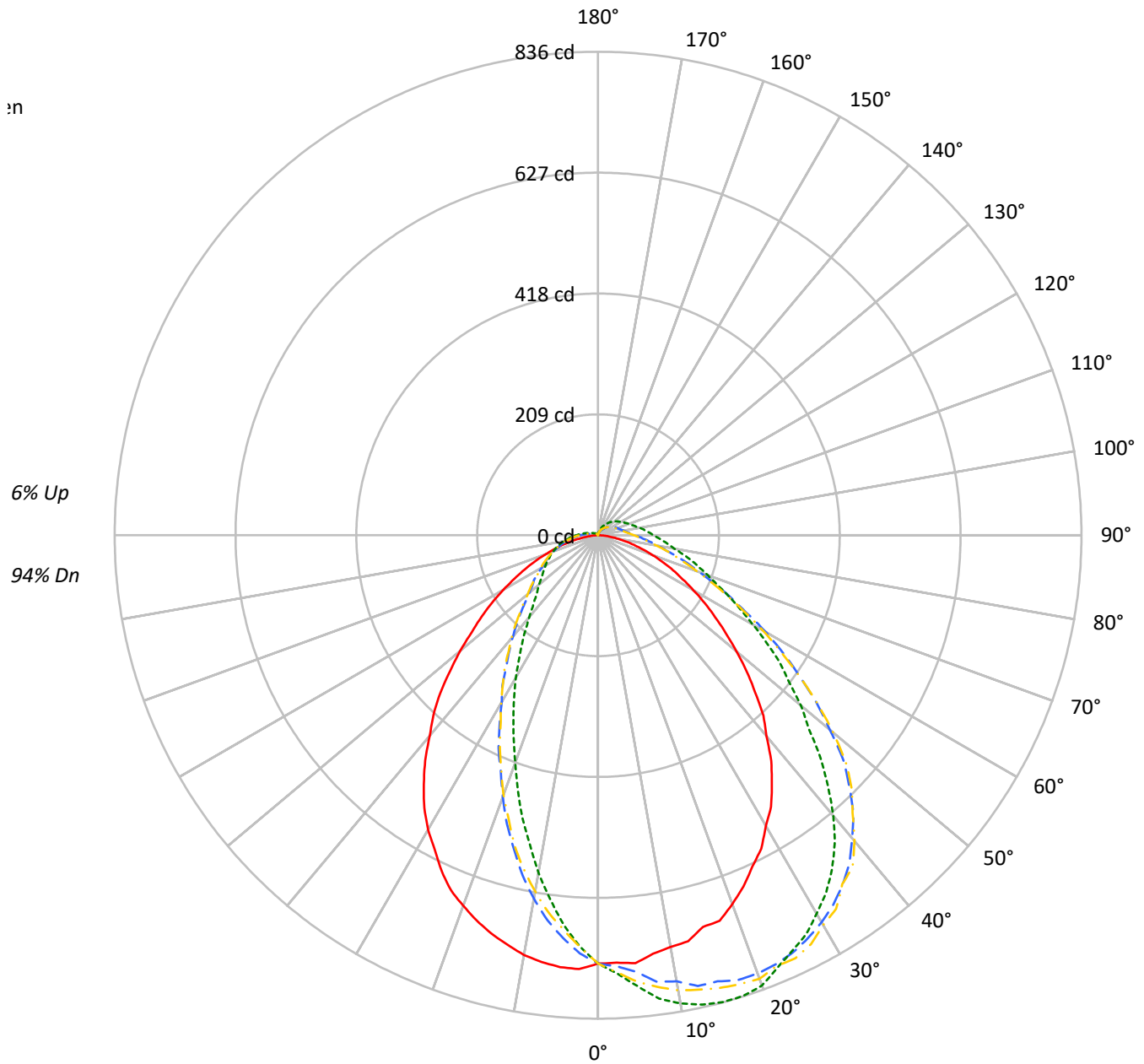
Test Method: LM-79-2019  
Report Number: P894166  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-33)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-SC3-ASML-UNV-CC93-LOW-4000K  
Description: Selectable 4FT MICROBAY LINEAR BAY with ASYMMETRIC LENS, 90CRI, 4000K CCT, LOW lumen setting  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1846.0 lumens  
Efficiency: N/A  
Efficacy: 110.5 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): 16.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.9915  
Total Harmonic Distortion (THDi): 6.67573310469889  
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°	7542	7542	7542	7542
5°	7571	7686	7642	6643
10°	7435	7850	7580	5663
15°	7330	7823	7455	4734
20°	7274	7668	7305	3873
25°	6997	7312	7093	3187
30°	6703	6988	6790	2633
35°	6372	6595	6390	2145
40°	5865	6033	5861	1759
45°	5364	5325	5391	1498
50°	4771	4648	4748	1354
55°	4204	4071	4175	1243
60°	3688	3473	3655	1176
65°	3231	2990	3154	1117
70°	2747	2621	2653	1067
75°	2236	2383	2177	1028
80°	1727	2144	1568	958
85°	1186	2070	963	898

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 7462 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.6	3.8
10°-20°	193.4	10.5
20°-30°	278.2	15.1
30°-40°	315.7	17.1
40°-50°	301.7	16.3
50°-60°	245.2	13.3
60°-70°	171.1	9.3
70°-80°	106.0	5.7
80°-90°	60.8	3.3
90°-100°	36.3	2.0
100°-110°	23.9	1.3
110°-120°	16.7	0.9
120°-130°	12.1	0.7
130°-140°	8.1	0.4
140°-150°	4.5	0.2
150°-160°	2.0	0.1
160°-170°	0.6	0.0
170°-180°	0.1	0.0
0°-30°	541.2	29.3
0°-40°	857.0	46.4
0°-60°	1403.9	76.0
0°-90°	1741.7	94.4
90°-120°	76.9	4.2
90°-150°	101.6	5.5
90°-180°	104.0	5.6
0°-180°	1846.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	741	741	741	741	741	
5°	743	783	750	677	743	70
15°	701	836	713	506	701	199
25°	632	794	640	346	632	291
35°	524	705	525	229	524	326
45°	384	544	386	153	384	296
55°	247	383	246	117	247	223
65°	143	249	140	93	143	142
75°	64	167	62	72	64	69
85°	14	113	11	49	14	15
90°	0	96	0	38	0	1
95°	1	83	0	29	1	1
105°	0	64	0	16	0	1
115°	0	51	0	8	0	0
125°	0	42	0	6	0	0
135°	0	33	0	4	0	0
145°	0	23	0	3	0	0
155°	1	15	0	2	1	0
165°	1	7	0	1	1	0
175°	1	0	0	0	1	0
180°	0	0	0	0	0	



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 CATALOG NUMBER: 4MB-SC3-ASML-UNV-CC93-LOW-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	740.6	740.6	740.6	740.6	740.6	740.6	740.6	740.6	740.6	740.6	740.6
2.5°	739.9	745.5	746.0	763.4	758.4	764.9	756.7	758.1	750.8	748.9	723.7
5°	742.6	754.5	757.6	787.7	782.8	786.2	774.8	766.6	749.6	739.4	698.7
7.5°	730.0	761.3	778.7	800.1	808.1	810.7	787.7	772.4	744.3	719.3	671.5
10°	722.9	766.1	783.1	815.1	822.1	817.0	799.1	773.9	737.0	696.8	638.1
12.5°	719.1	768.8	798.4	831.1	831.3	826.0	804.9	777.8	725.1	672.5	602.7
15°	701.1	768.3	798.6	831.8	835.5	832.1	810.5	775.1	713.0	642.4	561.9
17.5°	699.2	767.1	806.4	841.3	835.2	832.8	813.9	773.9	698.4	611.9	523.6
20°	678.8	764.4	806.4	830.6	828.7	829.7	816.1	772.2	681.7	578.9	481.6
22.5°	657.2	761.3	803.0	821.4	809.8	827.5	806.4	767.6	664.7	544.5	439.9
25°	631.8	756.2	796.4	808.3	793.5	807.3	807.1	760.5	640.5	507.3	406.9
27.5°	611.1	748.2	785.8	803.7	778.5	790.4	797.2	752.0	611.9	470.7	368.1
30°	580.3	738.0	772.9	775.6	755.7	770.7	778.5	741.4	587.9	429.3	332.7
32.5°	556.8	726.3	757.1	753.5	733.6	753.5	766.1	730.7	559.2	392.9	307.8
35°	523.8	712.3	737.5	718.3	705.2	721.7	736.5	719.3	525.3	354.1	275.7
37.5°	491.8	699.9	714.0	690.2	672.3	690.7	723.2	698.0	491.1	323.3	252.0
40°	452.8	671.5	683.2	650.9	633.0	660.1	690.0	679.5	452.5	291.3	228.9
42.5°	423.2	650.4	653.8	609.7	588.3	617.2	651.2	653.3	421.3	262.4	208.6
45°	384.1	620.8	614.5	566.0	543.7	569.7	620.6	626.4	386.1	237.4	188.7
47.5°	349.0	587.9	575.5	518.7	493.8	524.6	581.1	596.3	346.8	214.4	170.0
50°	312.4	551.0	523.6	474.6	457.9	473.2	530.9	556.1	310.9	191.6	155.7
52.5°	278.9	510.3	476.3	432.4	415.7	428.3	478.2	516.1	275.3	172.4	143.1
55°	247.4	469.5	425.6	386.8	383.4	387.3	424.9	468.3	245.7	155.5	135.1
57.5°	219.2	420.0	380.0	351.4	345.3	348.5	374.4	419.1	217.1	138.5	123.4
60°	190.9	369.4	334.9	312.8	309.5	311.9	328.6	371.1	189.2	124.2	112.5
62.5°	165.2	318.4	287.9	279.6	277.2	277.2	284.2	323.0	163.0	109.6	104.3
65°	143.1	274.8	251.7	248.6	249.3	249.1	244.7	269.7	139.7	96.8	97.0
67.5°	120.8	228.5	215.6	219.5	222.4	221.2	212.0	224.3	117.9	85.1	90.5
70°	100.2	188.7	186.3	195.0	201.8	195.5	182.1	183.3	96.8	73.7	82.0
72.5°	80.8	152.5	163.7	175.8	182.4	175.3	156.9	151.6	77.8	63.3	74.2
75°	63.5	122.7	140.4	158.4	166.9	157.9	136.5	118.3	61.8	53.4	67.9
77.5°	48.5	97.2	120.0	140.9	149.1	141.4	118.8	92.4	45.4	44.9	61.1
80°	34.7	76.9	106.5	126.6	134.1	126.6	103.1	73.0	31.5	35.9	53.8
82.5°	22.8	59.4	92.6	115.2	123.4	114.2	89.5	56.3	20.1	29.1	48.5
85°	13.8	47.0	80.8	103.6	113.0	104.0	78.3	42.7	11.2	22.3	42.2
87.5°	6.1	36.4	72.0	95.6	104.0	95.8	69.8	33.5	4.6	17.5	36.1
90°	0.5	28.9	63.5	88.0	95.6	87.8	61.8	27.2	0.0	12.6	31.0
92.5°	0.5	24.7	58.2	81.5	90.0	81.2	55.8	22.3	0.0	9.2	26.2
95°	0.7	20.9	52.9	76.4	83.2	75.7	50.9	19.2	0.0	6.3	22.1
97.5°	0.7	18.9	48.5	71.3	78.8	70.8	46.6	17.2	0.0	4.6	17.9
100°	0.5	17.5	45.1	66.4	73.5	66.0	43.2	15.5	0.0	2.9	14.6
102.5°	0.5	16.2	42.2	62.3	67.9	61.6	40.3	14.6	0.0	2.4	11.9
105°	0.5	15.5	39.5	57.5	64.0	57.5	37.8	13.6	0.0	1.9	9.2
107.5°	0.5	14.6	37.6	54.8	60.1	54.3	35.9	12.9	0.0	1.9	7.5
110°	0.5	13.8	35.9	50.9	57.0	51.4	34.2	11.6	0.0	1.2	6.1



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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°	0.5	12.6	34.2	48.3	54.1	48.5	32.7	10.7	0.0	1.2	5.3
115°	0.5	11.4	32.7	46.6	50.9	46.1	31.3	9.5	0.0	1.0	4.9
117.5°	0.5	10.7	31.8	44.4	48.7	43.9	30.1	9.0	0.0	1.0	4.6
120°	0.5	10.2	30.3	42.2	45.6	41.7	28.6	8.5	0.0	1.0	4.4
122.5°	0.5	9.7	29.1	40.3	43.9	40.0	27.4	8.2	0.0	0.7	3.9
125°	0.5	9.2	27.4	38.1	41.5	37.6	25.2	8.0	0.0	0.5	3.4
127.5°	0.5	8.7	25.7	36.4	39.5	35.9	23.8	7.8	0.0	0.5	3.2
130°	0.5	8.5	23.5	34.2	37.3	33.7	22.1	7.8	0.0	0.5	2.9
132.5°	0.5	8.2	21.1	32.0	35.4	31.5	20.4	7.5	0.0	0.5	2.4
135°	0.5	8.0	18.7	29.8	33.0	29.3	18.9	7.3	0.0	0.5	2.2
137.5°	0.5	7.5	16.5	27.4	30.6	26.9	17.9	6.8	0.0	0.5	1.9
140°	0.5	7.0	14.8	25.5	28.1	24.7	16.5	6.3	0.0	0.2	1.5
142.5°	0.5	6.3	13.3	23.0	25.7	22.6	14.8	5.3	0.0	0.2	1.5
145°	0.5	5.6	12.1	20.1	23.3	20.1	13.8	4.9	0.0	0.2	1.2
147.5°	0.5	5.1	10.9	17.0	21.1	18.4	12.4	4.1	0.0	0.2	1.0
150°	0.5	4.6	9.5	14.3	18.7	16.2	11.4	3.6	0.0	0.0	0.7
152.5°	0.5	4.1	8.2	11.9	16.7	14.8	10.2	3.2	0.0	0.0	0.5
155°	0.7	3.9	7.0	10.4	14.6	12.9	8.5	2.7	0.0	0.0	0.5
157.5°	0.7	3.4	5.8	8.5	12.9	11.2	6.8	2.2	0.0	0.0	0.2
160°	0.7	3.2	4.9	6.5	10.7	9.2	5.6	1.7	0.0	0.0	0.2
162.5°	0.7	2.9	4.1	4.9	8.7	7.3	4.4	1.2	0.0	0.0	0.2
165°	0.7	2.4	3.6	3.4	6.8	5.6	3.4	0.7	0.0	0.0	0.0
167.5°	0.7	2.2	2.9	2.4	5.1	4.1	2.4	0.5	0.0	0.0	0.0
170°	0.7	1.7	2.4	1.7	1.5	2.7	1.5	0.2	0.0	0.0	0.0
172.5°	0.7	1.5	1.9	1.2	0.5	1.5	0.7	0.0	0.0	0.0	0.0
175°	0.7	1.2	1.2	0.7	0.2	0.5	0.0	0.0	0.0	0.0	0.0
177.5°	0.7	1.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2



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CATALOG NUMBER: 4MB-SC3-ASML-UNV-CC93-LOW-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	740.6	740.6	740.6	740.6	740.6	740.6
2.5°	720.3	712.3	705.0	712.8	718.3	739.9
5°	685.1	676.6	677.6	684.6	703.3	742.6
7.5°	648.7	634.7	638.1	657.7	685.4	730.0
10°	605.8	593.0	596.1	625.7	664.5	722.9
12.5°	567.5	545.9	564.3	592.2	640.2	719.1
15°	522.6	505.6	515.6	556.8	617.0	701.1
17.5°	474.1	461.0	472.9	513.9	588.3	699.2
20°	436.8	418.6	432.7	477.8	552.9	678.8
22.5°	394.8	381.0	395.8	437.3	516.8	657.2
25°	360.4	345.8	360.6	401.9	484.8	631.8
27.5°	326.9	313.6	326.9	364.7	453.0	611.1
30°	297.6	284.7	298.3	334.7	415.9	580.3
32.5°	270.2	253.7	271.1	306.3	383.2	556.8
35°	241.8	229.4	242.5	281.6	346.8	523.8
37.5°	218.3	205.4	220.9	254.4	316.0	491.8
40°	196.0	184.6	196.9	232.6	289.8	452.8
42.5°	178.5	167.1	179.7	212.7	263.4	423.2
45°	161.5	153.0	163.2	190.9	236.7	384.1
47.5°	149.1	141.9	150.4	174.9	214.4	349.0
50°	138.5	133.4	139.4	158.8	191.3	312.4
52.5°	129.0	123.9	131.0	146.5	173.2	278.9
55°	121.7	117.1	122.5	134.8	155.0	247.4
57.5°	113.7	110.8	115.0	122.5	140.7	219.2
60°	107.9	104.8	109.1	115.2	124.4	190.9
62.5°	101.4	99.7	102.3	107.2	112.0	165.2
65°	95.6	93.1	96.5	98.2	97.7	143.1
67.5°	89.2	88.5	90.5	90.7	87.1	120.8
70°	82.7	82.2	84.6	83.2	75.7	100.2
72.5°	77.4	77.4	78.8	75.9	66.0	80.8
75°	71.5	72.0	73.2	69.8	55.5	63.5
77.5°	66.2	66.7	66.9	62.3	46.6	48.5
80°	60.1	59.9	62.3	56.5	37.8	34.7
82.5°	54.8	53.8	55.3	49.5	30.6	22.8
85°	48.7	49.0	50.0	43.2	24.5	13.8
87.5°	43.9	43.9	44.9	38.1	18.4	6.1
90°	38.1	37.6	39.0	32.3	13.8	0.5
92.5°	33.2	33.2	34.2	27.6	10.2	0.5
95°	28.4	28.6	29.3	22.8	7.8	0.7
97.5°	24.3	24.5	25.5	19.4	5.6	0.7
100°	20.6	20.9	21.3	15.5	4.4	0.5
102.5°	17.2	17.9	17.9	12.9	3.4	0.5
105°	14.6	15.5	15.0	10.4	3.2	0.5
107.5°	12.1	13.1	13.1	8.5	3.2	0.5
110°	9.9	11.4	11.2	7.3	2.4	0.5





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	8.5	9.7	9.0	6.3	2.4	0.5
115°	7.3	8.5	8.0	5.8	2.2	0.5
117.5°	6.5	7.3	7.3	5.6	2.2	0.5
120°	6.1	6.8	6.5	5.3	2.2	0.5
122.5°	5.6	6.1	6.1	4.9	1.9	0.5
125°	5.3	5.6	5.8	4.4	1.9	0.5
127.5°	5.1	5.6	5.6	4.1	1.7	0.5
130°	4.6	5.1	5.1	3.9	1.7	0.5
132.5°	4.1	4.6	4.6	3.6	1.7	0.5
135°	3.9	4.4	4.4	3.4	1.7	0.5
137.5°	3.6	3.9	3.9	3.2	1.7	0.5
140°	3.2	3.6	3.6	2.9	1.7	0.5
142.5°	2.9	3.4	3.4	2.7	1.5	0.5
145°	2.7	2.9	3.2	2.4	1.5	0.5
147.5°	2.2	2.7	2.9	2.2	1.5	0.5
150°	1.7	2.4	2.4	2.2	1.5	0.5
152.5°	1.2	2.2	2.2	1.9	1.2	0.5
155°	1.0	1.7	1.9	1.7	1.2	0.7
157.5°	0.7	1.5	1.7	1.7	1.2	0.7
160°	0.5	1.2	1.5	1.5	1.0	0.7
162.5°	0.2	1.0	1.2	1.5	1.0	0.7
165°	0.0	0.7	1.0	1.2	1.0	0.7
167.5°	0.0	0.5	0.7	1.0	0.7	0.7
170°	0.0	0.2	0.5	0.7	0.7	0.7
172.5°	0.0	0.0	0.2	0.5	0.5	0.7
175°	0.0	0.0	0.0	0.2	0.5	0.7
177.5°	0.0	0.0	0.0	0.2	0.5	0.7
180°	0.2	0.2	0.2	0.2	0.2	0.2



TEST NUMBER: P894166  
 CATALOG NUMBER: 4MB-SC3-ASML-UNV-CC93-LOW-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	15.94	17.40	16.39	17.83	18.28	18.20	19.66	18.65	20.09	20.54
	3H	16.76	18.08	17.23	18.52	19.02	19.90	21.22	20.36	21.66	22.16
	4H	16.96	18.21	17.45	18.67	19.18	20.74	21.98	21.22	22.44	22.95
	6H	17.05	18.21	17.55	18.68	19.21	21.61	22.76	22.11	23.24	23.77
	8H	17.06	18.16	17.57	18.65	19.19	22.08	23.18	22.60	23.68	24.22
	12H	17.04	18.10	17.56	18.59	19.15	22.63	23.68	23.14	24.17	24.73
4H	2H	16.37	17.62	16.86	18.08	18.59	18.56	19.80	19.05	20.27	20.78
	3H	17.47	18.51	17.97	19.02	19.56	20.45	21.49	20.95	22.00	22.53
	4H	17.81	18.76	18.33	19.28	19.84	21.42	22.37	21.94	22.88	23.45
	6H	18.00	18.83	18.54	19.38	19.96	22.46	23.29	23.00	23.83	24.42
	8H	18.03	18.81	18.58	19.35	19.95	23.02	23.80	23.57	24.34	24.94
	12H	18.04	18.74	18.60	19.31	19.91	23.68	24.38	24.25	24.95	25.55
8H	4H	18.14	18.92	18.69	19.46	20.06	21.56	22.34	22.11	22.88	23.48
	6H	18.46	19.11	19.04	19.70	20.30	22.73	23.38	23.31	23.97	24.57
	8H	18.55	19.14	19.14	19.74	20.35	23.41	24.00	24.01	24.60	25.21
	12H	18.61	19.13	19.20	19.72	20.40	24.23	24.75	24.82	25.34	26.02
12H	4H	18.22	18.92	18.79	19.49	20.09	21.55	22.25	22.12	22.83	23.43
	6H	18.60	19.19	19.19	19.79	20.40	22.74	23.33	23.34	23.93	24.55
	8H	18.76	19.28	19.35	19.87	20.55	23.48	24.00	24.07	24.59	25.27