

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P306978

Luminaire Tested: **4ST2L2050R**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: P306978  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1804-713-1)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4ST2L2050R  
Description: 4' LED STRIP SINGLE LENS UNV 5000K NO-DIM  
Light Source: -  
Ballast/Driver: -

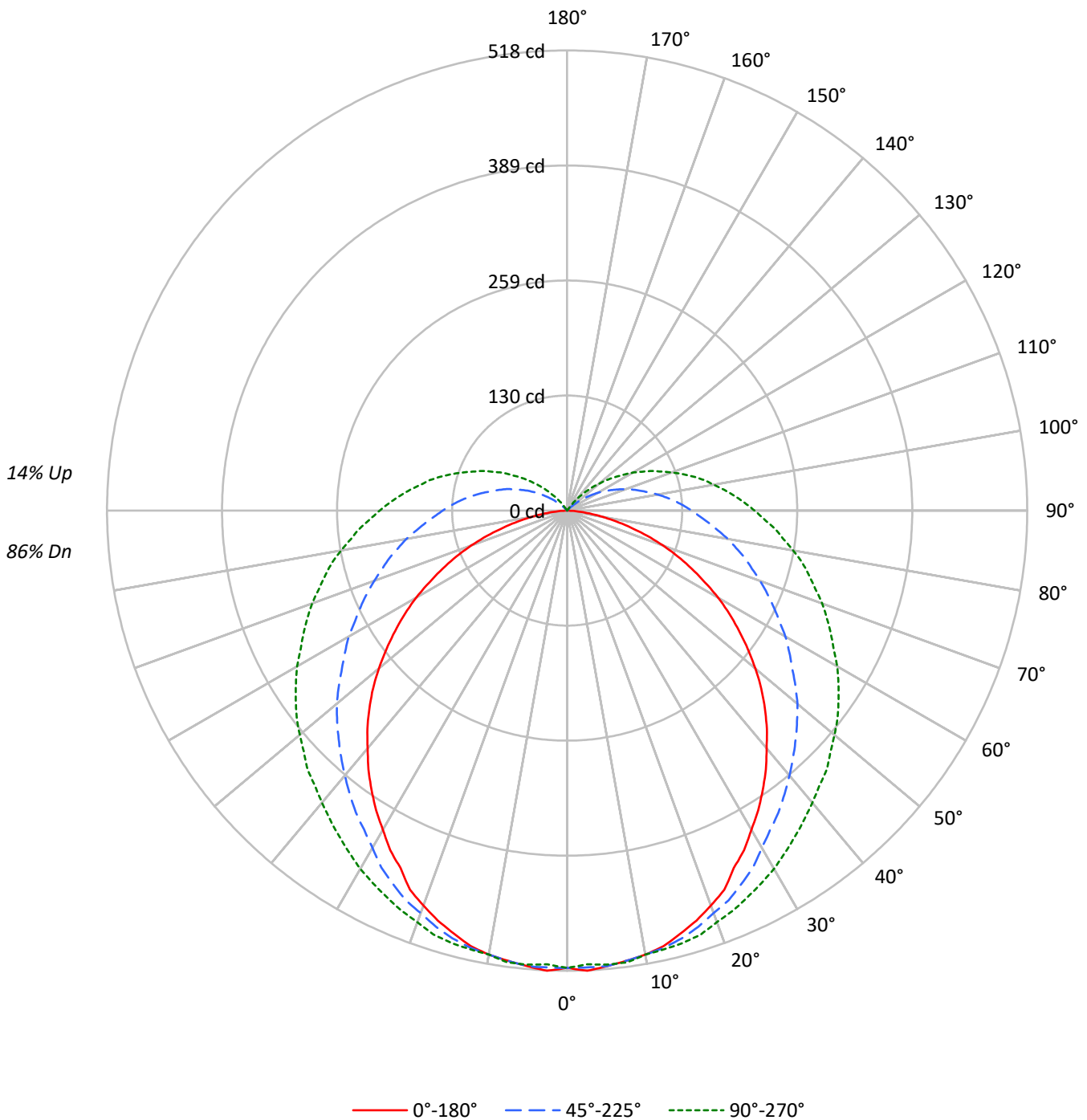
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2120.0 lumens  
Efficiency: N/A  
Efficacy: 109.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.35 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 4' x H: 0.62')  
CIE Type: Semi-Direct

Input Watts (W): 19.42  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	0
RCR																		
0	116	116	116	116	111	111	111	111	103	103	103	96	96	96	89	89	89	86
1	103	97	91	86	98	93	88	84	86	82	79	80	77	74	74	71	69	66
2	92	83	75	68	88	80	72	66	74	68	63	68	63	59	63	59	56	53
3	84	72	63	56	80	69	61	54	64	57	51	59	54	49	55	50	46	43
4	76	63	54	46	73	61	52	45	57	49	43	53	46	41	49	44	39	36
5	70	56	47	40	67	54	45	39	50	43	37	47	40	35	44	38	34	31
6	64	50	41	34	61	49	40	33	45	38	32	42	36	31	40	34	29	27
7	59	45	36	30	57	44	35	29	41	34	28	39	32	27	36	30	26	24
8	55	41	33	27	53	40	32	26	38	30	25	35	29	24	33	27	23	21
9	52	38	29	24	49	37	29	23	35	27	22	32	26	22	31	25	21	19
10	48	35	27	21	46	34	26	21	32	25	20	30	24	20	28	23	19	17

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9499	9499	9499
5°	9407	7480	6911
10°	9256	6121	5417
15°	9039	5171	4481
20°	8788	4417	3782
25°	8424	3832	3261
30°	8107	3320	2856
35°	7793	2921	2520
40°	7439	2579	2250
45°	7103	2293	2039
50°	6691	2048	1847
55°	6220	1814	1685
60°	5707	1626	1538
65°	5056	1448	1403
70°	4326	1294	1291
75°	3360	1162	1183
80°	2254	1038	1085
85°	965	919	994



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.8	2.3
10°-20°	140.4	6.6
20°-30°	213.1	10.1
30°-40°	259.4	12.2
40°-50°	280.2	13.2
50°-60°	274.9	13.0
60°-70°	247.3	11.7
70°-80°	205.9	9.7
80°-90°	159.5	7.5
90°-100°	119.6	5.6
100°-110°	83.7	3.9
110°-120°	51.8	2.4
120°-130°	26.1	1.2
130°-140°	8.7	0.4
140°-150°	0.6	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	402.3	19.0
0°-40°	661.7	31.2
0°-60°	1216.9	57.4
0°-90°	1829.5	86.3
90°-120°	255.0	12.0
90°-150°	290.5	13.7
90°-180°	290.0	13.7
0°-180°	2120.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	515	515	515	515	515	
5°	515	517	515	511	513	49
15°	493	497	498	502	504	139
25°	444	453	464	475	480	205
35°	384	393	415	437	448	240
45°	315	328	364	398	413	243
55°	236	258	309	355	373	211
65°	155	191	256	309	328	153
75°	75	131	207	262	282	80
85°	13	82	160	215	235	16
90°	0	64	140	193	211	0
95°	0	49	122	173	189	0
105°	0	26	86	131	147	0
115°	0	7	55	93	106	0
125°	0	0	26	56	66	0
135°	0	0	2	24	31	0
145°	0	0	0	0	2	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P306978  
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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	514.8	514.8	514.8	514.8	514.8	514.8	514.8	514.8	514.8	514.8	514.8
2.5°	518.5	516.6	516.6	516.6	516.6	518.5	516.6	514.8	514.8	514.8	514.8
5°	514.8	514.8	514.8	514.8	514.8	516.6	514.8	513.0	513.0	513.0	514.8
7.5°	511.2	511.2	511.2	511.2	511.2	513.0	511.2	511.2	511.2	511.2	511.2
10°	507.6	505.7	505.7	507.6	505.7	507.6	507.6	505.7	505.7	507.6	507.6
12.5°	502.1	500.3	500.3	502.1	502.1	503.9	502.1	502.1	502.1	502.1	503.9
15°	493.0	493.0	493.0	494.8	493.0	496.6	494.8	494.8	494.8	496.6	498.5
17.5°	483.9	483.9	483.9	485.7	485.7	487.5	485.7	485.7	487.5	489.4	491.2
20°	473.0	473.0	473.0	473.0	474.8	476.6	476.6	476.6	478.4	480.3	482.1
22.5°	462.1	460.3	462.1	463.9	463.9	465.7	465.7	465.7	469.3	471.2	474.8
25°	443.9	443.9	443.9	447.5	449.3	453.0	453.0	454.8	458.4	460.3	463.9
27.5°	431.1	429.3	429.3	433.0	433.0	436.6	436.6	438.4	442.1	445.7	453.0
30°	414.8	414.8	414.8	418.4	420.2	422.1	423.9	425.7	429.3	433.0	438.4
32.5°	400.2	400.2	400.2	403.9	405.7	407.5	409.3	411.1	416.6	420.2	425.7
35°	383.8	383.8	385.7	387.5	389.3	392.9	394.8	398.4	403.9	409.3	414.8
37.5°	367.5	367.5	369.3	371.1	374.8	376.6	378.4	383.8	389.3	396.6	402.0
40°	349.3	351.1	351.1	354.7	358.4	362.0	363.8	369.3	374.8	382.0	389.3
42.5°	332.9	332.9	334.7	338.4	342.0	345.6	347.5	352.9	362.0	369.3	376.6
45°	314.7	314.7	316.5	320.2	325.6	327.5	331.1	338.4	345.6	354.7	363.8
47.5°	296.5	296.5	298.3	302.0	307.4	311.1	314.7	322.0	331.1	340.2	351.1
50°	276.5	276.5	280.2	283.8	289.2	294.7	298.3	307.4	316.5	327.5	338.4
52.5°	256.5	258.3	260.1	265.6	271.1	276.5	282.0	291.1	302.0	312.9	323.8
55°	236.5	238.3	242.0	245.6	254.7	258.3	265.6	274.7	287.4	298.3	309.3
57.5°	216.5	218.3	221.9	227.4	236.5	242.0	247.4	260.1	271.1	283.8	296.5
60°	196.5	196.5	201.9	209.2	218.3	223.8	231.0	243.8	256.5	269.2	283.8
62.5°	174.6	176.5	181.9	191.0	201.9	207.4	214.7	229.2	242.0	256.5	269.2
65°	154.6	156.4	163.7	172.8	183.7	191.0	200.1	212.8	227.4	242.0	256.5
67.5°	134.6	136.4	143.7	154.6	167.4	176.5	183.7	198.3	212.8	229.2	243.8
70°	114.6	116.4	125.5	138.3	152.8	160.1	169.2	183.7	200.1	216.5	231.0
72.5°	94.6	98.2	107.3	121.9	138.3	145.5	154.6	171.0	187.4	203.7	218.3
75°	74.6	78.2	91.0	105.5	121.9	131.0	140.1	156.4	174.6	191.0	207.4
77.5°	56.4	61.9	74.6	91.0	109.2	118.2	127.3	143.7	161.9	178.3	194.7
80°	40.0	45.5	60.0	76.4	94.6	105.5	114.6	132.8	151.0	167.4	183.7
82.5°	25.5	30.9	45.5	63.7	83.7	92.8	101.9	120.1	138.3	156.4	171.0
85°	12.7	20.0	34.6	52.8	72.8	81.9	91.0	111.0	127.3	145.5	160.1
87.5°	3.6	10.9	25.5	43.7	61.9	72.8	81.9	100.1	118.2	134.6	149.2
90°	0.0	5.5	20.0	36.4	54.6	63.7	72.8	91.0	107.3	125.5	140.1
92.5°	0.0	3.6	14.6	30.9	47.3	56.4	65.5	81.9	100.1	116.4	131.0
95°	0.0	1.8	10.9	25.5	40.0	49.1	58.2	74.6	91.0	107.3	121.9
97.5°	0.0	0.0	7.3	20.0	34.6	43.7	50.9	67.3	81.9	98.2	112.8
100°	0.0	0.0	5.5	16.4	29.1	36.4	43.7	60.0	74.6	89.1	103.7
102.5°	0.0	0.0	1.8	12.7	25.5	30.9	38.2	52.8	67.3	81.9	94.6
105°	0.0	0.0	0.0	7.3	20.0	25.5	32.7	47.3	60.0	72.8	85.5
107.5°	0.0	0.0	0.0	3.6	14.6	21.8	27.3	40.0	52.8	65.5	78.2
110°	0.0	0.0	0.0	1.8	10.9	16.4	21.8	34.6	45.5	58.2	70.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.0	0.0	0.0	5.5	10.9	16.4	29.1	40.0	50.9	61.9
115°	0.0	0.0	0.0	0.0	1.8	7.3	12.7	21.8	32.7	43.7	54.6
117.5°	0.0	0.0	0.0	0.0	0.0	1.8	7.3	16.4	27.3	38.2	47.3
120°	0.0	0.0	0.0	0.0	0.0	0.0	3.6	12.7	21.8	30.9	40.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	16.4	23.6	32.7
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	9.1	18.2	25.5
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	12.7	20.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	12.7
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	7.3
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	514.8	514.8	514.8	514.8	514.8	514.8	514.8	514.8	514.8	514.8
2.5°	513.0	513.0	513.0	513.0	511.2	511.2	509.4	509.4	509.4	511.2
5°	513.0	513.0	513.0	513.0	511.2	511.2	511.2	509.4	511.2	513.0
7.5°	509.4	511.2	511.2	511.2	511.2	511.2	509.4	509.4	511.2	513.0
10°	507.6	507.6	507.6	507.6	507.6	507.6	505.7	505.7	505.7	507.6
12.5°	503.9	503.9	505.7	505.7	503.9	503.9	503.9	503.9	503.9	505.7
15°	498.5	500.3	500.3	502.1	502.1	502.1	500.3	500.3	502.1	503.9
17.5°	491.2	494.8	494.8	496.6	496.6	496.6	496.6	496.6	498.5	500.3
20°	482.1	485.7	487.5	489.4	489.4	489.4	489.4	489.4	491.2	493.0
22.5°	474.8	478.4	478.4	482.1	482.1	482.1	482.1	483.9	483.9	487.5
25°	465.7	469.3	471.2	474.8	474.8	474.8	474.8	476.6	478.4	480.3
27.5°	454.8	460.3	462.1	465.7	467.5	467.5	467.5	469.3	471.2	473.0
30°	440.2	445.7	451.2	456.6	458.4	458.4	460.3	462.1	463.9	465.7
32.5°	429.3	434.8	438.4	443.9	445.7	447.5	449.3	453.0	454.8	456.6
35°	418.4	423.9	427.5	434.8	436.6	436.6	440.2	442.1	445.7	447.5
37.5°	405.7	413.0	418.4	425.7	427.5	429.3	431.1	434.8	436.6	438.4
40°	394.8	402.0	409.3	414.8	418.4	420.2	422.1	425.7	427.5	429.3
42.5°	382.0	391.1	398.4	405.7	407.5	409.3	413.0	416.6	420.2	420.2
45°	371.1	380.2	387.5	394.8	398.4	400.2	403.9	407.5	411.1	413.0
47.5°	358.4	367.5	376.6	385.7	387.5	389.3	394.8	398.4	400.2	402.0
50°	345.6	356.6	365.7	374.8	376.6	380.2	383.8	389.3	391.1	392.9
52.5°	332.9	343.8	352.9	363.8	365.7	369.3	374.8	378.4	382.0	383.8
55°	320.2	332.9	342.0	351.1	354.7	358.4	363.8	367.5	371.1	372.9
57.5°	307.4	320.2	331.1	340.2	343.8	347.5	352.9	356.6	360.2	362.0
60°	294.7	307.4	318.4	327.5	332.9	336.5	342.0	345.6	349.3	351.1
62.5°	282.0	294.7	305.6	316.5	320.2	323.8	331.1	334.7	338.4	338.4
65°	269.2	282.0	292.9	303.8	309.3	312.9	318.4	323.8	327.5	327.5
67.5°	256.5	271.1	282.0	292.9	296.5	302.0	307.4	312.9	314.7	316.5
70°	243.8	258.3	269.2	280.2	285.6	289.2	296.5	300.2	303.8	305.6
72.5°	232.9	245.6	258.3	269.2	272.9	278.3	283.8	289.2	292.9	292.9
75°	220.1	234.7	247.4	256.5	262.0	265.6	272.9	276.5	280.2	282.0
77.5°	209.2	223.8	234.7	245.6	251.0	254.7	260.1	265.6	269.2	271.1
80°	196.5	211.0	223.8	234.7	238.3	242.0	249.2	252.9	256.5	258.3
82.5°	185.6	200.1	211.0	221.9	227.4	231.0	236.5	242.0	245.6	245.6
85°	174.6	189.2	200.1	211.0	214.7	218.3	225.6	231.0	232.9	234.7
87.5°	163.7	178.3	189.2	200.1	203.7	207.4	214.7	218.3	221.9	221.9
90°	154.6	167.4	178.3	189.2	192.8	196.5	203.7	207.4	211.0	211.0
92.5°	143.7	158.3	169.2	178.3	183.7	185.6	192.8	198.3	200.1	200.1
95°	134.6	147.4	158.3	167.4	172.8	176.5	181.9	187.4	189.2	189.2
97.5°	125.5	138.3	149.2	158.3	161.9	165.5	171.0	176.5	178.3	178.3
100°	116.4	129.2	138.3	147.4	151.0	154.6	160.1	165.5	167.4	167.4
102.5°	107.3	118.2	129.2	138.3	141.9	145.5	151.0	154.6	158.3	158.3
105°	98.2	109.2	118.2	127.3	131.0	134.6	140.1	143.7	145.5	147.4
107.5°	89.1	100.1	109.2	118.2	121.9	123.7	129.2	132.8	136.4	136.4
110°	81.9	91.0	100.1	107.3	111.0	114.6	120.1	121.9	125.5	125.5





TEST NUMBER: P306978

CATALOG NUMBER: 4ST2L2050R

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	72.8	81.9	91.0	98.2	101.9	105.5	109.2	112.8	114.6	114.6
115°	65.5	74.6	81.9	89.1	92.8	94.6	100.1	101.9	105.5	105.5
117.5°	56.4	65.5	72.8	80.0	81.9	85.5	89.1	92.8	94.6	94.6
120°	49.1	56.4	63.7	70.9	72.8	76.4	80.0	83.7	85.5	85.5
122.5°	41.8	49.1	56.4	61.9	63.7	67.3	70.9	72.8	76.4	74.6
125°	34.6	41.8	47.3	52.8	56.4	58.2	61.9	63.7	65.5	65.5
127.5°	27.3	34.6	40.0	45.5	47.3	49.1	52.8	54.6	56.4	56.4
130°	20.0	27.3	32.7	36.4	40.0	41.8	43.7	47.3	47.3	47.3
132.5°	14.6	20.0	25.5	29.1	30.9	32.7	36.4	38.2	40.0	40.0
135°	7.3	12.7	18.2	21.8	23.6	25.5	27.3	30.9	30.9	30.9
137.5°	1.8	7.3	10.9	14.6	16.4	18.2	20.0	21.8	23.6	23.6
140°	0.0	0.0	3.6	7.3	9.1	10.9	12.7	14.6	14.6	16.4
142.5°	0.0	0.0	0.0	1.8	1.8	3.6	5.5	7.3	7.3	9.1
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)