

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: P257643

Luminaire Tested: **4ST2L4040R**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: P257643  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1804-713-2)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4ST2L4040R  
Description: 4' LED STRIP  
Light Source: -  
Ballast/Driver: -

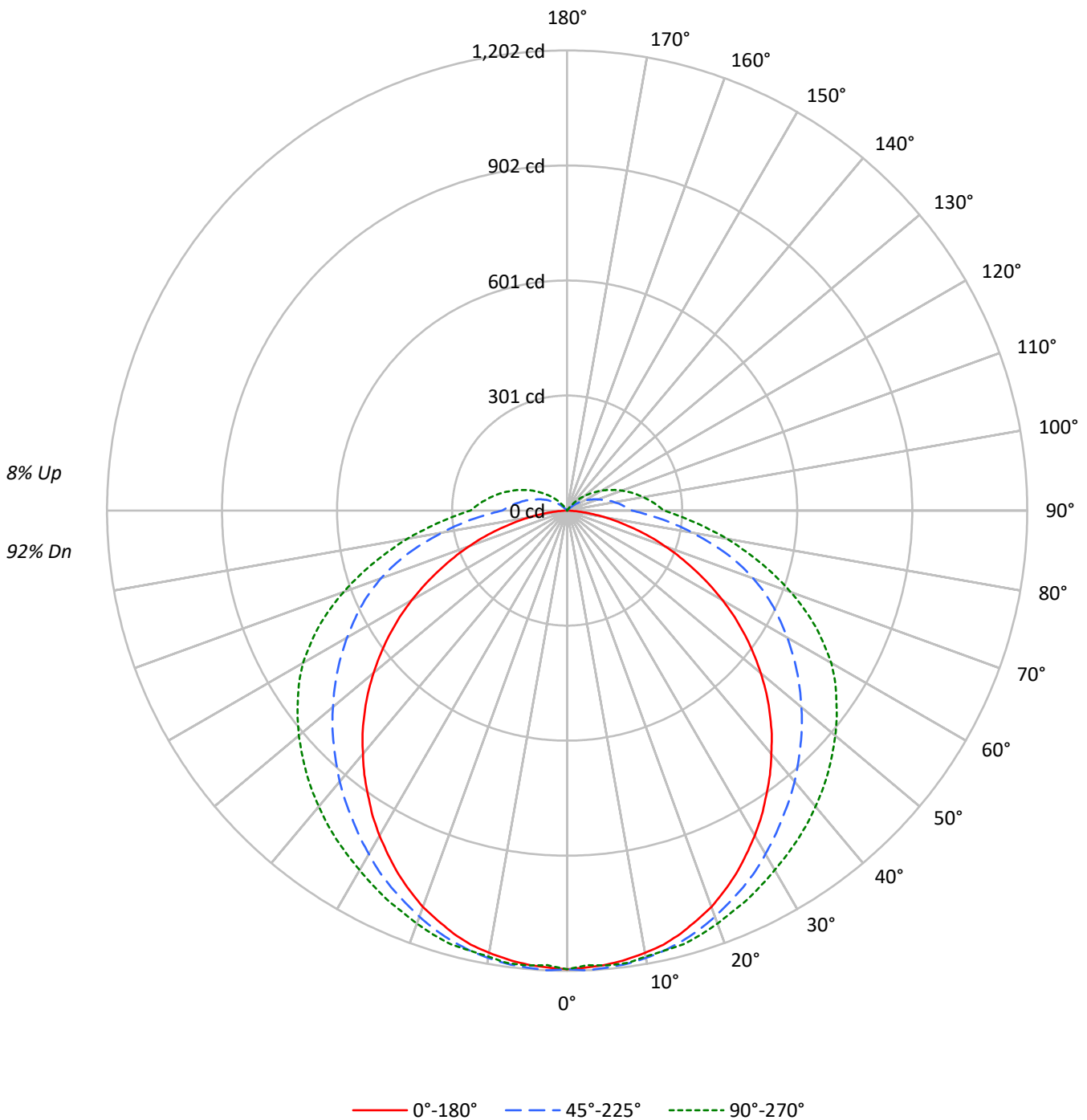
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4433.5 lumens  
Efficiency: N/A  
Efficacy: 113.4 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.35 / 1.43  
Luminous Opening: Rectangular w/ Sides (W: 0.08' x L: 4' x H: 0.08')  
CIE Type: Direct

Input Watts (W): 39.09  
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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CATALOG NUMBER: 4ST2L4040R

### 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	117	117	117	117	113	113	113	113	107	107	107	100	100	100	95	95	95	92
1	105	99	94	90	101	96	91	87	90	86	83	85	82	79	80	78	75	73
2	94	85	78	71	91	83	76	70	78	72	67	73	68	64	69	65	61	59
3	86	74	65	58	82	72	64	57	68	61	55	64	58	53	60	55	51	48
4	78	65	56	49	75	63	55	48	60	52	46	56	50	45	53	48	43	41
5	71	58	48	41	69	56	47	41	53	45	40	50	44	38	48	42	37	35
6	66	52	43	36	63	51	42	35	48	40	34	45	39	33	43	37	33	30
7	61	47	38	31	59	46	37	31	43	36	30	41	34	29	39	33	29	27
8	57	43	34	28	55	42	33	28	40	32	27	38	31	26	36	30	26	24
9	53	39	31	25	51	38	30	25	36	29	24	35	28	24	33	27	23	21
10	50	36	28	22	48	35	27	22	34	27	22	32	26	21	31	25	21	19

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

	0°	45°	90°
0°	38707	38707	38707
5°	38535	36547	35556
10°	38340	34529	32984
15°	38055	32606	30942
20°	37589	30732	28935
25°	36918	28969	27204
30°	36129	27280	25645
35°	35251	25678	24346
40°	34388	24273	23139
45°	33503	22885	22036
50°	32362	21581	20972
55°	31028	20333	19915
60°	29241	19056	18846
65°	26964	17829	17400
70°	24310	16372	15659
75°	20777	14472	13742
80°	16372	12122	11838
85°	9251	9817	9837



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.6	2.6
10°-20°	327.1	7.4
20°-30°	498.7	11.2
30°-40°	612.0	13.8
40°-50°	661.3	14.9
50°-60°	644.5	14.5
60°-70°	562.1	12.7
70°-80°	416.3	9.4
80°-90°	243.5	5.5
90°-100°	144.1	3.3
100°-110°	101.6	2.3
110°-120°	63.5	1.4
120°-130°	32.7	0.7
130°-140°	11.3	0.3
140°-150°	1.1	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	939.4	21.2
0°-40°	1551.4	35.0
0°-60°	2857.3	64.4
0°-90°	4079.1	92.0
90°-120°	309.2	7.0
90°-150°	354.4	8.0
90°-180°	354.0	8.0
0°-180°	4433.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1198	1198	1198	1198	1198	
5°	1190	1204	1198	1194	1192	113
15°	1144	1158	1164	1169	1173	323
25°	1046	1061	1086	1108	1119	481
35°	907	928	980	1026	1050	568
45°	749	780	862	932	965	577
55°	567	617	733	822	859	506
65°	368	455	594	683	716	366
75°	179	301	428	496	521	192
85°	31	145	245	305	330	40
90°	2	79	170	230	253	2
95°	0	62	147	204	228	0
105°	0	33	106	158	178	0
115°	0	10	68	112	127	0
125°	0	0	35	70	81	0
135°	0	0	4	31	40	0
145°	0	0	0	0	6	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



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2
2.5°	1194.4	1192.4	1209.8	1198.2	1200.1	1209.8	1202.1	1198.2	1202.1	1200.1	1202.1
5°	1190.5	1186.6	1204.0	1194.4	1196.3	1204.0	1196.3	1194.4	1196.3	1196.3	1198.2
7.5°	1182.8	1178.9	1196.3	1186.6	1188.6	1196.3	1188.6	1186.6	1190.5	1188.6	1194.4
10°	1173.1	1169.3	1184.7	1177.0	1178.9	1186.6	1178.9	1178.9	1180.8	1182.8	1186.6
12.5°	1161.6	1155.8	1171.2	1165.4	1165.4	1175.1	1167.3	1167.3	1169.3	1171.2	1177.0
15°	1144.2	1138.4	1151.9	1148.0	1148.0	1157.7	1150.0	1151.9	1153.8	1157.7	1163.5
17.5°	1123.0	1117.2	1128.8	1126.8	1126.8	1136.5	1128.8	1132.6	1134.5	1138.4	1148.0
20°	1101.7	1096.0	1105.6	1103.7	1105.6	1115.2	1107.5	1111.4	1115.2	1121.0	1128.8
22.5°	1074.7	1068.9	1078.6	1078.6	1078.6	1088.2	1082.4	1088.2	1092.1	1097.9	1107.5
25°	1045.8	1041.9	1047.7	1049.6	1051.6	1061.2	1055.4	1061.2	1067.0	1074.7	1086.3
27.5°	1013.0	1009.1	1013.0	1018.8	1020.7	1030.3	1024.6	1034.2	1038.1	1047.7	1063.2
30°	980.2	976.3	980.2	986.0	989.8	997.5	993.7	1003.3	1009.1	1020.7	1036.1
32.5°	945.5	943.5	945.5	953.2	957.0	964.7	962.8	974.4	980.2	993.7	1009.1
35°	906.9	904.9	906.9	916.5	922.3	928.1	926.2	939.7	949.3	962.8	980.2
37.5°	870.2	868.3	870.2	881.8	885.6	895.3	893.4	906.9	918.4	933.9	953.2
40°	829.7	829.7	829.7	843.2	849.0	858.6	856.7	874.1	885.6	901.1	924.2
42.5°	791.1	789.2	789.2	802.7	812.3	820.0	820.0	837.4	852.8	870.2	893.4
45°	748.6	748.6	746.7	762.1	771.8	779.5	781.4	800.7	818.1	837.4	862.5
47.5°	706.2	704.3	704.3	721.6	731.3	740.9	742.9	766.0	783.4	804.6	831.6
50°	659.9	659.9	659.9	679.2	690.8	698.5	704.3	727.4	746.7	769.9	798.8
52.5°	613.6	615.5	615.5	634.8	650.2	658.0	665.7	690.8	712.0	735.1	766.0
55°	567.3	569.2	571.1	592.4	607.8	617.4	627.1	652.2	677.3	700.4	733.2
57.5°	519.0	522.9	524.8	548.0	567.3	576.9	586.6	615.5	640.6	665.7	698.5
60°	468.9	474.7	480.4	503.6	524.8	536.4	548.0	576.9	603.9	632.9	663.7
62.5°	418.7	426.4	432.2	459.2	482.4	495.9	509.4	538.3	567.3	596.2	629.0
65°	368.5	376.3	384.0	414.8	443.8	455.4	470.8	501.7	530.6	561.5	594.3
67.5°	320.3	329.9	341.5	372.4	401.3	414.8	432.2	465.0	495.9	524.8	557.6
70°	272.1	281.7	297.1	329.9	360.8	374.3	389.8	428.3	459.2	488.2	517.1
72.5°	225.8	237.3	256.6	291.4	324.2	337.7	353.1	387.8	420.6	447.6	474.7
75°	179.4	192.9	216.1	250.8	285.6	301.0	318.4	349.2	376.3	401.3	428.3
77.5°	137.0	150.5	179.4	216.1	248.9	264.3	279.8	310.6	335.7	357.0	378.2
80°	98.4	111.9	142.8	179.4	212.2	225.8	239.3	266.3	289.4	310.6	331.9
82.5°	61.7	79.1	110.0	144.7	173.7	185.2	198.7	223.8	247.0	266.3	287.5
85°	30.9	50.2	79.1	108.1	133.1	144.7	158.2	181.4	204.5	223.8	245.0
87.5°	9.6	27.0	48.2	75.3	98.4	108.1	119.6	142.8	164.0	183.3	202.6
90°	1.9	9.6	27.0	48.2	69.5	79.1	90.7	111.9	131.2	150.5	169.8
92.5°	0.0	5.8	21.2	40.5	59.8	69.5	81.0	100.3	121.6	138.9	158.2
95°	0.0	1.9	15.4	32.8	52.1	61.7	71.4	90.7	111.9	129.3	146.6
97.5°	0.0	0.0	9.6	27.0	44.4	54.0	63.7	83.0	100.3	119.6	137.0
100°	0.0	0.0	5.8	21.2	38.6	46.3	56.0	73.3	92.6	108.1	125.4
102.5°	0.0	0.0	3.9	15.4	30.9	38.6	48.2	65.6	83.0	98.4	115.8
105°	0.0	0.0	1.9	11.6	25.1	32.8	40.5	57.9	75.3	90.7	106.1
107.5°	0.0	0.0	0.0	5.8	19.3	27.0	34.7	50.2	65.6	81.0	94.5
110°	0.0	0.0	0.0	1.9	13.5	21.2	28.9	42.4	57.9	71.4	84.9



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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	9.6	15.4	21.2	36.7	50.2	63.7	77.2
115°	0.0	0.0	0.0	0.0	3.9	9.6	15.4	28.9	42.4	56.0	67.5
117.5°	0.0	0.0	0.0	0.0	1.9	5.8	9.6	23.2	34.7	46.3	59.8
120°	0.0	0.0	0.0	0.0	0.0	1.9	5.8	15.4	28.9	38.6	50.2
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.9	9.6	21.2	32.8	42.4
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	15.4	25.1	34.7
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	7.7	17.4	27.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	9.6	19.3
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	11.6
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9
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°	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2	1198.2
2.5°	1204.0	1202.1	1200.1	1192.4	1194.4	1186.6	1178.9	1184.7	1194.4	1188.6
5°	1200.1	1198.2	1198.2	1192.4	1194.4	1186.6	1178.9	1186.6	1198.2	1192.4
7.5°	1196.3	1194.4	1194.4	1190.5	1192.4	1186.6	1178.9	1186.6	1198.2	1192.4
10°	1188.6	1188.6	1188.6	1182.8	1184.7	1178.9	1171.2	1178.9	1188.6	1182.8
12.5°	1178.9	1178.9	1180.8	1175.1	1178.9	1171.2	1165.4	1173.1	1184.7	1177.0
15°	1167.3	1167.3	1171.2	1167.3	1169.3	1165.4	1157.7	1167.3	1178.9	1173.1
17.5°	1150.0	1153.8	1157.7	1155.8	1157.7	1153.8	1148.0	1155.8	1169.3	1161.6
20°	1132.6	1138.4	1142.3	1140.3	1142.3	1138.4	1134.5	1142.3	1155.8	1148.0
22.5°	1111.4	1117.2	1123.0	1123.0	1124.9	1123.0	1119.1	1126.8	1140.3	1132.6
25°	1090.2	1097.9	1105.6	1105.6	1107.5	1105.6	1103.7	1113.3	1126.8	1119.1
27.5°	1067.0	1076.7	1084.4	1086.3	1088.2	1088.2	1088.2	1096.0	1109.5	1101.7
30°	1041.9	1051.6	1063.2	1065.1	1068.9	1068.9	1068.9	1078.6	1092.1	1084.4
32.5°	1016.8	1028.4	1040.0	1045.8	1047.7	1049.6	1051.6	1061.2	1074.7	1067.0
35°	987.9	1001.4	1016.8	1020.7	1026.5	1028.4	1032.3	1040.0	1055.4	1049.6
37.5°	960.9	978.3	993.7	1001.4	1005.3	1009.1	1014.9	1020.7	1036.1	1030.3
40°	933.9	951.2	968.6	978.3	982.1	987.9	991.8	1001.4	1014.9	1009.1
42.5°	904.9	924.2	943.5	953.2	959.0	962.8	970.5	978.3	991.8	987.9
45°	876.0	897.2	916.5	928.1	931.9	939.7	947.4	955.1	968.6	964.7
47.5°	845.1	868.3	887.6	901.1	906.9	914.6	922.3	930.0	943.5	939.7
50°	812.3	837.4	858.6	872.1	877.9	887.6	897.2	904.9	916.5	914.6
52.5°	783.4	806.5	829.7	845.1	850.9	860.6	870.2	877.9	889.5	887.6
55°	748.6	775.7	798.8	814.2	822.0	831.6	843.2	850.9	862.5	858.6
57.5°	717.8	742.9	767.9	783.4	791.1	800.7	814.2	822.0	829.7	829.7
60°	683.0	710.1	735.1	752.5	758.3	769.9	781.4	787.2	796.9	796.9
62.5°	648.3	675.3	700.4	715.8	721.6	733.2	744.8	748.6	758.3	756.4
65°	613.6	638.7	661.8	677.3	683.0	692.7	704.3	708.1	715.8	715.8
67.5°	575.0	600.1	621.3	634.8	638.7	650.2	659.9	661.8	669.5	669.5
70°	534.5	555.7	575.0	588.5	592.4	602.0	611.6	613.6	621.3	621.3
72.5°	490.1	509.4	526.8	540.3	546.0	553.8	561.5	563.4	569.2	571.1
75°	443.8	461.1	478.5	492.0	495.9	503.6	511.3	513.2	519.0	521.0
77.5°	393.6	412.9	430.3	443.8	447.6	455.4	463.1	465.0	468.9	470.8
80°	347.3	362.7	380.1	391.7	395.5	403.3	412.9	416.8	420.6	424.5
82.5°	302.9	318.4	333.8	345.4	349.2	357.0	364.7	368.5	372.4	374.3
85°	260.5	275.9	289.4	301.0	304.9	312.6	320.3	324.2	328.0	329.9
87.5°	218.0	233.5	247.0	260.5	264.3	272.1	279.8	285.6	285.6	289.4
90°	185.2	198.7	214.2	225.8	229.6	235.4	243.1	248.9	250.8	252.8
92.5°	171.7	187.2	200.7	212.2	218.0	223.8	231.5	235.4	237.3	239.3
95°	162.1	175.6	189.1	200.7	204.5	212.2	218.0	223.8	225.8	227.7
97.5°	150.5	164.0	177.5	189.1	192.9	198.7	206.5	210.3	212.2	214.2
100°	140.9	154.4	165.9	177.5	181.4	187.2	194.9	198.7	200.7	202.6
102.5°	129.3	142.8	154.4	165.9	169.8	175.6	181.4	187.2	189.1	189.1
105°	119.6	131.2	142.8	154.4	158.2	162.1	169.8	173.7	175.6	177.5
107.5°	108.1	121.6	131.2	142.8	146.6	150.5	156.3	162.1	164.0	164.0
110°	98.4	110.0	119.6	129.3	135.1	138.9	144.7	148.6	150.5	152.4





TEST NUMBER: P257643

CATALOG NUMBER: 4ST2L4040R

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	88.8	100.3	110.0	119.6	123.5	127.3	133.1	137.0	138.9	140.9
115°	79.1	90.7	98.4	108.1	111.9	115.8	121.6	125.4	127.3	127.3
117.5°	69.5	79.1	88.8	96.5	100.3	104.2	110.0	113.8	115.8	115.8
120°	61.7	69.5	79.1	86.8	88.8	92.6	98.4	102.3	104.2	104.2
122.5°	52.1	61.7	67.5	75.3	79.1	83.0	86.8	90.7	92.6	92.6
125°	42.4	52.1	57.9	65.6	69.5	71.4	75.3	79.1	81.0	81.0
127.5°	34.7	42.4	50.2	56.0	57.9	61.7	65.6	69.5	69.5	69.5
130°	27.0	34.7	40.5	46.3	48.2	52.1	56.0	57.9	59.8	59.8
132.5°	19.3	25.1	30.9	36.7	40.5	42.4	46.3	48.2	50.2	50.2
135°	11.6	17.4	23.2	28.9	30.9	32.8	36.7	38.6	38.6	40.5
137.5°	3.9	9.6	15.4	19.3	21.2	23.2	27.0	28.9	30.9	30.9
140°	0.0	3.9	7.7	11.6	13.5	15.4	17.4	19.3	21.2	21.2
142.5°	0.0	0.0	1.9	3.9	5.8	7.7	9.6	11.6	11.6	13.5
145°	0.0	0.0	0.0	0.0	0.0	1.9	1.9	3.9	3.9	5.8
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)