

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P197456

Luminaire Tested: **8WSL-LD2-160-UPL8-UNV-L850-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197456
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28106)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 8WSL-LD2-160-UPL8-UNV-L850-CD2-U
Description: 8FT. Linear Wavestream System, 8% Uplight, L850
Light Source: (476) 5000K CCT, 80 CRI LEDS
EL236N0119D850
Ballast/Driver: OSRAM
OT85W1202772A0DIML

Summary

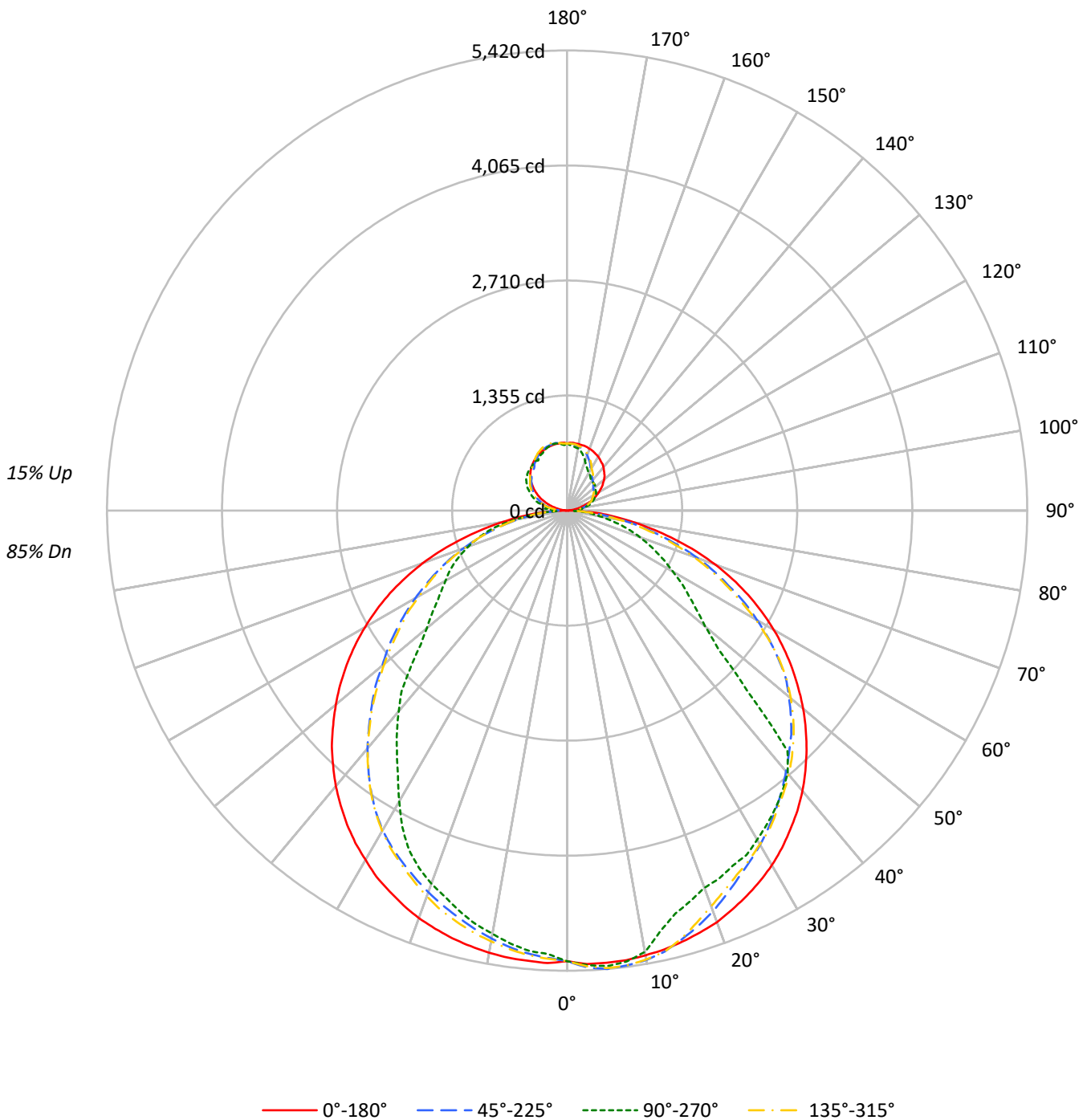
Lumens per Lamp: N/A
Luminaire Lumens: 17601.5 lumens
Efficiency: N/A
Efficacy: 115.1 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.19 / 1.36
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 152.9
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			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	115	115	115	115	111	111	111	111	103	103	103	95	95	95	88	88	88	85
1	105	101	96	92	101	97	93	90	90	87	84	83	81	79	78	76	74	71
2	96	88	81	75	92	84	78	73	78	73	69	73	69	65	68	65	62	59
3	87	77	69	62	83	74	67	61	69	63	58	64	59	55	60	56	52	50
4	80	68	59	53	76	66	58	52	61	55	49	57	52	47	53	49	45	42
5	73	61	52	45	70	59	51	44	55	48	43	51	45	41	48	43	39	37
6	68	55	46	40	65	53	45	39	50	43	37	47	40	36	44	38	34	32
7	63	49	41	35	60	48	40	34	45	38	33	42	36	32	40	35	31	28
8	58	45	37	31	56	44	36	30	41	34	29	39	33	28	37	31	27	25
9	54	41	33	28	52	40	33	27	38	31	26	36	30	26	34	29	25	23
10	51	38	30	25	49	37	30	25	35	28	24	33	27	23	31	26	22	21

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	15032	15032	15032	15032
5°	15202	15315	15137	14798
10°	15296	15182	15215	14561
15°	15412	14412	15295	14329
20°	15551	14249	15397	14095
25°	15644	14419	15467	13780
30°	15777	14644	15536	12934
35°	15855	14794	15619	12083
40°	15946	14937	15673	11408
45°	15978	12017	15704	10424
50°	15999	9339	15674	9514
55°	15965	8642	15657	9231
60°	15933	8143	15579	9366
65°	15766	7806	15423	9825
70°	15340	7529	14963	10258
75°	14363	7089	13929	10820
80°	13068	6487	12512	10288
85°	12740	7017	11450	9233



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	504.4	2.9
10°-20°	1432.5	8.1
20°-30°	2168.6	12.3
30°-40°	2618.6	14.9
40°-50°	2673.4	15.2
50°-60°	2337.3	13.3
60°-70°	1811.6	10.3
70°-80°	1089.2	6.2
80°-90°	336.2	1.9
90°-100°	141.8	0.8
100°-110°	271.0	1.5
110°-120°	368.2	2.1
120°-130°	418.6	2.4
130°-140°	424.6	2.4
140°-150°	390.8	2.2
150°-160°	322.4	1.8
160°-170°	216.8	1.2
170°-180°	75.3	0.4
0°-30°	4105.5	23.3
0°-40°	6724.1	38.2
0°-60°	11734.9	66.7
0°-90°	14971.9	85.1
90°-120°	781.0	4.4
90°-150°	2015.0	11.4
90°-180°	2630.0	14.9
0°-180°	17601.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5307	5307	5307	5307	5307	
5°	5346	5386	5324	5204	5346	509
15°	5256	4915	5216	4886	5256	1486
25°	5006	4614	4949	4409	5006	2310
35°	4585	4278	4517	3494	4585	2870
45°	3988	3000	3920	2602	3988	3076
55°	3233	1750	3170	1869	3233	2890
65°	2352	1165	2301	1466	2352	2321
75°	1312	648	1273	989	1312	1393
85°	392	216	352	284	392	396
90°	6	119	6	136	6	26
95°	34	165	34	261	34	43
105°	182	278	176	352	182	195
115°	352	358	347	477	352	349
125°	506	409	494	585	506	449
135°	619	449	614	648	619	478
145°	699	477	693	688	699	439
155°	756	557	750	727	756	349
165°	790	693	784	790	790	223
175°	801	761	801	784	801	76
180°	790	790	790	790	790	



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CATALOG NUMBER: 8WSL-LD2-160-UPL8-UNV-L850-CD2-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	5306.6	5306.6	5306.6	5306.6	5306.6	5306.6	5306.6	5306.6	5306.6	5306.6	5306.6
2.5°	5346.4	5318.0	5386.1	5397.5	5357.7	5369.1	5374.8	5312.3	5335.0	5249.8	5272.5
5°	5346.4	5340.7	5420.2	5408.9	5386.1	5391.8	5408.9	5335.0	5323.6	5221.4	5238.4
7.5°	5340.7	5352.1	5403.2	5391.8	5357.7	5374.8	5403.2	5346.4	5312.3	5193.0	5187.3
10°	5318.0	5335.0	5374.8	5340.7	5278.2	5306.6	5369.1	5335.0	5289.6	5147.5	5119.1
12.5°	5295.2	5306.6	5318.0	5175.9	5073.7	5141.8	5318.0	5306.6	5255.5	5096.4	5045.3
15°	5255.5	5272.5	5227.1	5022.5	4914.6	4982.8	5215.7	5261.2	5215.7	5022.5	4960.0
17.5°	5210.0	5227.1	5130.5	4903.2	4823.7	4857.8	5085.0	5204.3	5164.6	4954.3	4874.8
20°	5158.9	5175.9	5022.5	4778.2	4727.1	4755.5	4960.0	5141.8	5107.7	4874.8	4783.9
22.5°	5085.0	5113.4	4897.5	4693.0	4687.3	4687.3	4840.7	5068.0	5033.9	4778.2	4681.6
25°	5005.5	5033.9	4772.5	4613.5	4613.5	4613.5	4732.8	4971.4	4948.7	4675.9	4579.4
27.5°	4920.3	4948.7	4658.9	4556.6	4573.7	4545.3	4641.9	4863.4	4863.4	4573.7	4471.4
30°	4823.7	4852.1	4545.3	4465.7	4477.1	4465.7	4539.6	4749.8	4749.8	4454.4	4346.4
32.5°	4710.0	4738.4	4420.3	4357.8	4380.5	4369.1	4443.0	4636.2	4641.9	4329.4	4198.7
35°	4585.0	4619.1	4289.6	4255.5	4278.2	4261.2	4312.3	4516.9	4516.9	4193.0	4028.2
37.5°	4454.4	4488.5	4153.2	4141.9	4164.6	4147.6	4187.3	4391.9	4380.5	4051.0	3846.4
40°	4312.3	4352.1	4011.2	4011.2	4039.6	4028.2	4062.3	4261.2	4238.5	3908.9	3658.9
42.5°	4153.2	4204.4	3869.2	3874.8	3840.8	3886.2	3920.3	4124.8	4079.4	3749.8	3454.4
45°	3988.5	4051.0	3732.8	3630.5	2999.9	3590.8	3772.6	3988.5	3920.3	3590.8	3255.6
47.5°	3812.3	3891.9	3573.7	3198.7	2414.7	3147.6	3613.5	3818.0	3738.5	3420.3	3062.4
50°	3630.5	3721.4	3409.0	2829.4	2119.2	2772.6	3437.4	3647.6	3556.7	3244.2	2840.8
52.5°	3431.7	3533.9	3249.9	2505.6	1920.4	2454.4	3255.6	3482.8	3369.2	3056.7	2659.0
55°	3232.8	3340.8	3034.0	2227.2	1749.9	2181.7	3045.3	3272.6	3170.3	2863.5	2460.1
57.5°	3028.3	3136.2	2818.1	1982.9	1602.2	1937.4	2806.7	3079.4	2965.8	2664.7	2261.3
60°	2812.4	2920.3	2585.1	1761.3	1437.4	1727.2	2562.4	2863.5	2749.9	2460.1	2068.1
62.5°	2585.1	2693.1	2363.5	1556.8	1301.1	1528.3	2295.4	2653.3	2528.3	2244.2	1869.2
65°	2352.2	2431.7	2102.2	1363.6	1164.7	1340.9	2056.7	2391.9	2301.0	2017.0	1681.8
67.5°	2107.9	2187.4	1874.9	1193.1	1034.0	1170.4	1823.8	2159.0	2056.7	1795.4	1494.3
70°	1852.2	1920.4	1636.3	1028.4	909.1	1011.3	1579.5	1897.7	1806.7	1562.4	1295.4
72.5°	1590.8	1653.3	1380.6	875.0	778.4	863.6	1323.8	1636.3	1545.4	1318.1	1113.6
75°	1312.4	1374.9	1142.0	721.6	647.7	710.2	1090.9	1357.9	1272.7	1085.2	926.1
77.5°	1051.1	1125.0	903.4	568.2	517.0	556.8	857.9	1096.5	1011.3	869.3	744.3
80°	801.1	863.6	670.4	431.8	397.7	426.1	625.0	835.2	767.0	670.4	579.5
82.5°	579.5	613.6	460.2	318.2	301.1	312.5	426.1	590.9	556.8	482.9	426.1
85°	392.0	386.3	284.1	221.6	215.9	221.6	255.7	357.9	352.3	323.9	272.7
87.5°	164.8	153.4	130.7	90.9	79.5	85.2	102.3	136.4	130.7	136.4	130.7
90°	5.7	56.8	90.9	113.6	119.3	113.6	90.9	56.8	5.7	62.5	102.3
92.5°	11.4	73.9	108.0	125.0	136.4	125.0	102.3	73.9	11.4	96.6	102.3
95°	34.1	102.3	125.0	153.4	164.8	153.4	125.0	96.6	34.1	85.2	153.4
97.5°	68.2	130.7	147.7	170.4	176.1	164.8	142.0	130.7	62.5	153.4	159.1
100°	102.3	164.8	193.2	193.2	198.9	193.2	187.5	159.1	96.6	170.4	193.2
102.5°	142.0	187.5	221.6	238.6	238.6	238.6	221.6	187.5	130.7	210.2	267.0
105°	181.8	204.5	244.3	267.0	278.4	267.0	244.3	210.2	176.1	244.3	284.1
107.5°	227.3	221.6	267.0	289.8	301.1	289.8	267.0	227.3	215.9	272.7	318.2
110°	272.7	244.3	289.8	312.5	318.2	312.5	289.8	244.3	261.4	306.8	352.3



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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°	312.5	261.4	312.5	335.2	340.9	335.2	312.5	267.0	301.1	329.5	386.3
115°	352.3	278.4	323.9	352.3	357.9	352.3	323.9	284.1	346.6	357.9	414.8
117.5°	392.0	301.1	335.2	369.3	375.0	369.3	340.9	306.8	386.3	392.0	443.2
120°	431.8	329.5	352.3	380.7	392.0	386.3	352.3	335.2	420.4	420.4	465.9
122.5°	465.9	352.3	369.3	392.0	403.4	392.0	369.3	363.6	460.2	448.8	494.3
125°	505.7	375.0	380.7	403.4	409.1	403.4	386.3	380.7	494.3	471.6	511.3
127.5°	534.1	403.4	392.0	414.8	420.4	414.8	397.7	409.1	528.4	517.0	528.4
130°	568.2	431.8	403.4	426.1	431.8	431.8	403.4	443.2	556.8	551.1	551.1
132.5°	596.6	460.2	414.8	437.5	443.2	443.2	420.4	465.9	585.2	579.5	568.2
135°	619.3	500.0	437.5	437.5	448.8	448.8	443.2	505.7	613.6	607.9	596.6
137.5°	642.0	534.1	454.5	443.2	448.8	448.8	465.9	539.8	636.3	636.3	613.6
140°	664.7	568.2	465.9	454.5	454.5	465.9	482.9	573.8	659.1	659.1	619.3
142.5°	687.5	596.6	482.9	471.6	460.2	482.9	500.0	607.9	676.1	681.8	636.3
145°	698.8	625.0	505.7	488.6	477.3	505.7	528.4	636.3	693.2	704.5	670.4
147.5°	715.9	653.4	534.1	500.0	500.0	517.0	551.1	659.1	710.2	721.6	687.5
150°	732.9	676.1	556.8	517.0	505.7	534.1	573.8	681.8	727.2	738.6	710.2
152.5°	744.3	698.8	590.9	539.8	528.4	562.5	613.6	698.8	738.6	750.0	732.9
155°	755.7	715.9	630.7	562.5	556.8	585.2	647.7	715.9	750.0	761.3	750.0
157.5°	767.0	732.9	659.1	596.6	573.8	619.3	676.1	738.6	761.3	772.7	767.0
160°	772.7	744.3	693.2	630.7	619.3	659.1	704.5	744.3	767.0	784.1	778.4
162.5°	784.1	755.7	715.9	670.4	659.1	693.2	727.2	761.3	778.4	789.7	789.7
165°	789.7	767.0	738.6	704.5	693.2	727.2	744.3	772.7	784.1	789.7	795.4
167.5°	789.7	778.4	755.7	727.2	721.6	750.0	767.0	784.1	789.7	789.7	801.1
170°	795.4	784.1	767.0	750.0	744.3	767.0	772.7	789.7	795.4	789.7	806.8
172.5°	795.4	789.7	778.4	761.3	750.0	778.4	784.1	789.7	795.4	789.7	801.1
175°	801.1	789.7	789.7	778.4	761.3	789.7	789.7	789.7	801.1	789.7	795.4
177.5°	801.1	789.7	789.7	784.1	772.7	789.7	789.7	789.7	801.1	789.7	795.4
180°	789.7	789.7	789.7	789.7	789.7	789.7	789.7	789.7	789.7	789.7	789.7



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	5306.6	5306.6	5306.6	5306.6	5306.6	5306.6
2.5°	5266.8	5227.1	5238.4	5283.9	5266.8	5346.4
5°	5227.1	5204.3	5204.3	5255.5	5249.8	5346.4
7.5°	5164.6	5141.8	5153.2	5210.0	5221.4	5340.7
10°	5090.7	5062.3	5073.7	5153.2	5181.6	5318.0
12.5°	5011.2	4988.4	4999.8	5090.7	5130.5	5295.2
15°	4920.3	4886.2	4920.3	5016.8	5068.0	5255.5
17.5°	4818.0	4772.5	4812.3	4937.3	4999.8	5210.0
20°	4715.7	4675.9	4698.7	4835.0	4925.9	5158.9
22.5°	4613.5	4556.6	4579.4	4721.4	4835.0	5085.0
25°	4494.1	4408.9	4454.4	4607.8	4738.4	5005.5
27.5°	4335.1	4204.4	4301.0	4494.1	4624.8	4920.3
30°	4124.8	3954.4	4096.4	4357.8	4505.5	4823.7
32.5°	3891.9	3710.1	3869.2	4204.4	4380.5	4710.0
35°	3658.9	3494.2	3636.2	4033.9	4249.8	4585.0
37.5°	3437.4	3295.3	3426.0	3852.1	4113.5	4454.4
40°	3227.1	3085.1	3221.5	3653.3	3965.7	4312.3
42.5°	3016.9	2886.2	3016.9	3443.0	3812.3	4153.2
45°	2806.7	2602.2	2795.3	3238.5	3647.6	3988.5
47.5°	2579.4	2340.8	2562.4	3016.9	3471.5	3812.3
50°	2363.5	2159.0	2352.2	2812.4	3289.6	3630.5
52.5°	2176.0	2011.3	2164.7	2602.2	3102.1	3431.7
55°	1999.9	1869.2	1999.9	2397.6	2903.3	3232.8
57.5°	1840.8	1755.6	1846.5	2221.5	2698.8	3028.3
60°	1704.5	1653.3	1710.2	2005.6	2494.2	2812.4
62.5°	1573.8	1568.1	1579.5	1835.2	2278.3	2585.1
65°	1437.4	1465.8	1437.4	1653.3	2062.4	2352.2
67.5°	1301.1	1357.9	1312.4	1471.5	1829.5	2107.9
70°	1176.1	1238.6	1176.1	1284.0	1596.5	1852.2
72.5°	1034.0	1113.6	1034.0	1107.9	1352.2	1590.8
75°	897.7	988.6	903.4	926.1	1119.3	1312.4
77.5°	750.0	835.2	767.0	750.0	903.4	1051.1
80°	596.6	630.7	596.6	590.9	698.8	801.1
82.5°	414.8	443.2	414.8	431.8	511.3	579.5
85°	272.7	284.1	272.7	278.4	340.9	392.0
87.5°	113.6	113.6	113.6	142.0	153.4	164.8
90°	125.0	136.4	125.0	102.3	62.5	5.7
92.5°	130.7	142.0	130.7	113.6	73.9	11.4
95°	232.9	261.4	221.6	142.0	119.3	34.1
97.5°	187.5	204.5	193.2	164.8	147.7	68.2
100°	221.6	238.6	221.6	232.9	181.8	102.3
102.5°	261.4	272.7	267.0	272.7	221.6	142.0
105°	340.9	352.3	340.9	295.4	255.7	181.8
107.5°	363.6	392.0	369.3	329.5	289.8	227.3
110°	392.0	414.8	397.7	363.6	318.2	272.7



TEST NUMBER: P197456

CATALOG NUMBER: 8WSL-LD2-160-UPL8-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	420.4	448.8	431.8	403.4	340.9	312.5
115°	454.5	477.3	465.9	431.8	375.0	352.3
117.5°	488.6	505.7	494.3	454.5	409.1	392.0
120°	517.0	539.8	528.4	482.9	437.5	431.8
122.5°	539.8	562.5	551.1	511.3	465.9	465.9
125°	562.5	585.2	573.8	534.1	488.6	505.7
127.5°	579.5	607.9	596.6	551.1	539.8	534.1
130°	602.2	619.3	613.6	568.2	568.2	568.2
132.5°	613.6	636.3	625.0	590.9	602.2	596.6
135°	619.3	647.7	636.3	619.3	630.7	619.3
137.5°	630.7	653.4	647.7	636.3	659.1	642.0
140°	647.7	659.1	664.7	647.7	681.8	664.7
142.5°	664.7	670.4	681.8	664.7	704.5	687.5
145°	676.1	687.5	698.8	698.8	721.6	698.8
147.5°	676.1	693.2	693.2	710.2	744.3	715.9
150°	693.2	681.8	715.9	732.9	755.7	732.9
152.5°	715.9	710.2	738.6	755.7	767.0	744.3
155°	721.6	727.2	744.3	772.7	778.4	755.7
157.5°	744.3	738.6	767.0	789.7	789.7	767.0
160°	761.3	761.3	789.7	801.1	795.4	772.7
162.5°	778.4	778.4	806.8	806.8	801.1	784.1
165°	789.7	789.7	818.1	812.5	801.1	789.7
167.5°	795.4	801.1	823.8	818.1	801.1	789.7
170°	801.1	801.1	823.8	812.5	801.1	795.4
172.5°	801.1	795.4	818.1	806.8	795.4	795.4
175°	795.4	784.1	806.8	795.4	795.4	801.1
177.5°	789.7	772.7	789.7	789.7	795.4	801.1
180°	789.7	789.7	789.7	789.7	789.7	789.7

(END OF REPORT)