

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: P197500

Luminaire Tested: **8WSL-LD2-140-UPL15-UNV-L850-CD2-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P197500  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28105)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 8WSL-LD2-140-UPL15-UNV-L850-CD2-U  
Description: 8FT. Linear Wavestream System, 15% Uplight, L850  
Light Source: (476) 5000K CCT, 80 CRI LEDS  
EL236N0119D850  
Ballast/Driver: OSRAM  
OT85W1202772A0DIML

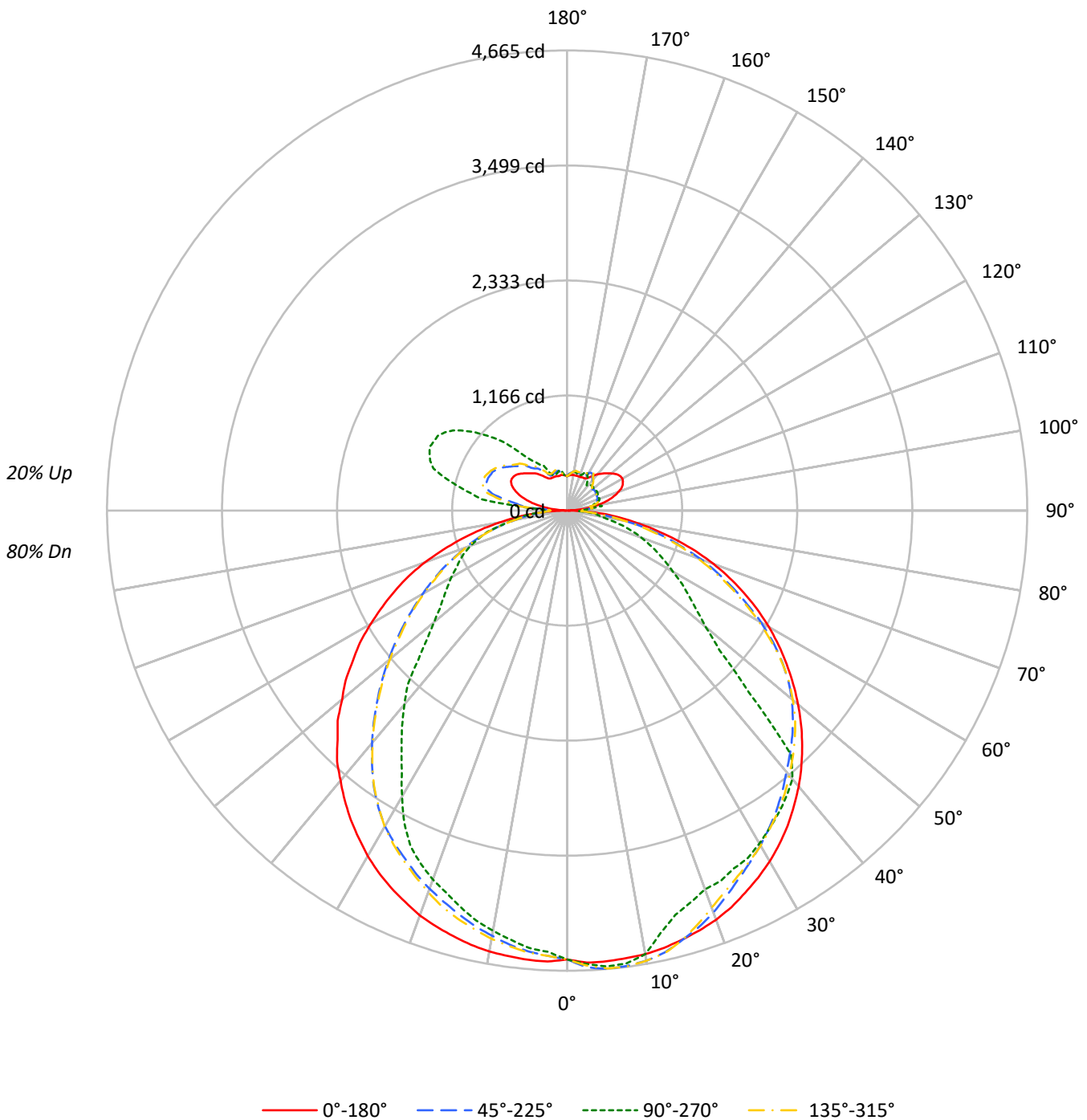
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16103.6 lumens  
Efficiency: N/A  
Efficacy: 117.9 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35  
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')  
CIE Type: Semi-Direct  
  
Input Watts (W): 136.6  
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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	80
1	104	99	95	91	99	95	91	88	87	84	81	80	77	75	73	71	70	66
2	94	86	80	74	90	83	77	72	76	71	67	70	66	62	64	61	58	55
3	86	76	68	62	82	73	66	60	67	61	56	61	57	53	56	53	49	46
4	79	67	59	52	75	64	57	51	59	53	48	55	49	45	50	46	42	40
5	72	60	51	45	69	58	50	44	53	46	41	49	43	39	45	41	37	34
6	67	54	45	39	64	52	44	38	48	41	36	44	39	34	41	36	32	30
7	62	49	40	34	59	47	39	33	44	37	32	40	35	30	38	33	29	26
8	58	44	36	30	55	43	35	30	40	33	28	37	31	27	34	29	26	24
9	54	41	33	27	51	39	32	27	37	30	26	34	28	24	32	27	23	21
10	50	37	30	25	48	36	29	24	34	27	23	32	26	22	30	25	21	19

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

	0°	90°	180°	270°
0°	12889	12889	12889	12889
5°	13042	13191	12998	12656
10°	13133	13133	13058	12442
15°	13206	12440	13099	12210
20°	13307	12315	13165	12000
25°	13356	12507	13193	11740
30°	13431	12747	13226	10953
35°	13476	12935	13224	10116
40°	13503	13136	13213	9485
45°	13498	10443	13184	8539
50°	13467	8058	13122	7758
55°	13416	7430	13081	7534
60°	13377	7014	13022	7695
65°	13271	6793	12920	8054
70°	13067	6620	12720	8610
75°	12465	6290	12064	9148
80°	11675	5709	11334	9119
85°	11716	7472	10865	10865



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	433.0	2.7
10°-20°	1228.9	7.6
20°-30°	1857.1	11.5
30°-40°	2235.0	13.9
40°-50°	2273.0	14.1
50°-60°	1978.4	12.3
60°-70°	1543.3	9.6
70°-80°	954.0	5.9
80°-90°	335.7	2.1
90°-100°	316.0	2.0
100°-110°	611.9	3.8
110°-120°	669.5	4.2
120°-130°	587.0	3.6
130°-140°	439.8	2.7
140°-150°	301.1	1.9
150°-160°	191.7	1.2
160°-170°	112.1	0.7
170°-180°	36.2	0.2
0°-30°	3519.0	21.9
0°-40°	5754.0	35.7
0°-60°	10005.4	62.1
0°-90°	12838.4	79.7
90°-120°	1597.4	9.9
90°-150°	2925.3	18.2
90°-180°	3265.0	20.3
0°-180°	16103.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	4550	4550	4550	4550	4550	
5°	4587	4639	4571	4451	4587	437
15°	4503	4242	4467	4164	4503	1273
25°	4273	4002	4221	3756	4273	1972
35°	3897	3740	3824	2926	3897	2438
45°	3370	2607	3291	2132	3370	2599
55°	2717	1505	2649	1526	2717	2430
65°	1980	1014	1928	1202	1980	1957
75°	1139	575	1102	836	1139	1206
85°	360	230	334	334	360	359
90°	5	146	5	230	5	27
95°	141	240	110	481	141	146
105°	449	298	434	1280	449	468
115°	622	340	622	1536	622	609
125°	632	355	632	1416	632	562
135°	533	355	533	1034	533	414
145°	418	355	428	616	418	266
155°	371	428	366	423	371	171
165°	366	387	360	392	366	104
175°	360	376	360	366	360	35
180°	350	350	350	350	350	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	4550.3	4550.3	4550.3	4550.3	4550.3	4550.3	4550.3	4550.3	4550.3	4550.3	4550.3
2.5°	4586.8	4565.9	4633.8	4639.1	4602.5	4618.2	4618.2	4560.7	4576.4	4508.5	4518.9
5°	4586.8	4592.1	4665.2	4660.0	4639.1	4644.3	4660.0	4586.8	4571.2	4477.1	4487.6
7.5°	4576.4	4602.5	4654.7	4649.5	4628.6	4633.8	4660.0	4597.3	4555.5	4445.8	4440.6
10°	4565.9	4592.1	4633.8	4607.7	4565.9	4581.6	4633.8	4592.1	4539.8	4409.2	4377.9
12.5°	4539.8	4565.9	4586.8	4456.2	4383.1	4445.8	4592.1	4565.9	4508.5	4357.0	4315.2
15°	4503.2	4534.6	4508.5	4325.6	4242.0	4299.5	4508.5	4529.4	4466.7	4289.1	4236.8
17.5°	4461.5	4498.0	4430.1	4226.4	4163.7	4189.8	4398.8	4482.3	4419.7	4221.1	4158.4
20°	4414.4	4456.2	4336.1	4121.9	4085.3	4106.2	4283.8	4430.1	4367.4	4148.0	4080.1
22.5°	4351.7	4398.8	4226.4	4048.7	4064.4	4048.7	4179.3	4362.2	4294.3	4069.6	3991.3
25°	4273.4	4325.6	4116.7	3986.1	4001.7	3996.5	4090.5	4273.4	4221.1	3975.6	3892.0
27.5°	4195.0	4247.3	4017.4	3944.3	3970.4	3939.0	4006.9	4179.3	4137.6	3876.3	3798.0
30°	4106.2	4163.7	3918.1	3871.1	3897.2	3876.3	3923.4	4085.3	4043.5	3771.9	3693.5
32.5°	4006.9	4064.4	3813.7	3782.3	3818.9	3792.8	3824.1	3980.8	3933.8	3656.9	3562.9
35°	3897.2	3954.7	3703.9	3703.9	3740.5	3709.2	3724.8	3876.3	3824.1	3542.0	3416.6
37.5°	3777.1	3839.8	3583.8	3609.9	3651.7	3620.4	3620.4	3766.6	3703.9	3416.6	3249.4
40°	3651.7	3719.6	3458.4	3515.9	3552.4	3515.9	3505.4	3651.7	3573.3	3291.2	3077.0
42.5°	3515.9	3589.0	3343.5	3411.4	3364.4	3411.4	3385.3	3531.5	3453.2	3155.4	2899.4
45°	3369.6	3463.6	3228.5	3186.8	2606.9	3155.4	3265.1	3406.2	3291.2	3024.8	2721.8
47.5°	3218.1	3317.4	3103.2	2800.2	2094.9	2768.8	3134.5	3270.3	3155.4	2883.7	2544.2
50°	3056.1	3171.1	2972.6	2465.8	1828.5	2434.5	2988.2	3129.3	2977.8	2732.2	2366.6
52.5°	2889.0	3014.4	2826.3	2178.5	1650.8	2147.1	2831.5	2977.8	2831.5	2570.3	2194.2
55°	2716.6	2847.2	2653.9	1912.1	1504.6	1906.8	2648.7	2815.8	2648.7	2408.3	2021.8
57.5°	2544.2	2690.5	2471.0	1718.8	1379.2	1692.6	2444.9	2648.7	2491.9	2241.2	1854.6
60°	2361.3	2497.2	2272.5	1509.8	1238.1	1504.6	2241.2	2476.3	2298.6	2068.8	1692.6
62.5°	2173.3	2324.8	2058.3	1326.9	1123.2	1321.7	2021.8	2283.0	2110.6	1891.2	1535.9
65°	1980.0	2126.2	1854.6	1180.7	1013.5	1170.2	1818.0	2084.4	1927.7	1713.5	1389.6
67.5°	1781.4	1917.3	1650.8	1039.6	903.8	1029.2	1609.0	1875.5	1739.7	1530.7	1232.9
70°	1577.7	1703.1	1441.9	903.8	799.3	898.6	1405.3	1661.3	1535.9	1342.6	1091.9
72.5°	1363.5	1478.4	1222.5	773.2	689.6	768.0	1191.1	1441.9	1311.3	1144.1	966.5
75°	1138.9	1248.6	1018.7	642.6	574.7	637.4	987.4	1206.8	1102.3	961.2	820.2
77.5°	924.7	1034.4	809.7	496.3	438.8	485.8	773.2	987.4	898.6	778.4	668.7
80°	715.7	804.5	595.6	370.9	350.0	370.9	579.9	757.5	694.8	611.2	522.4
82.5°	527.6	579.9	402.3	303.0	303.0	303.0	391.8	538.1	512.0	454.5	397.0
85°	360.5	360.5	271.7	229.9	229.9	229.9	266.4	318.7	334.3	303.0	303.0
87.5°	151.5	156.7	141.1	125.4	120.2	125.4	135.8	130.6	130.6	146.3	182.8
90°	5.2	67.9	114.9	141.1	146.3	135.8	104.5	62.7	5.2	88.8	161.9
92.5°	36.6	146.3	135.8	177.6	182.8	167.2	141.1	114.9	20.9	161.9	172.4
95°	141.1	172.4	266.4	271.7	240.3	229.9	261.2	161.9	109.7	219.4	438.8
97.5°	224.6	261.2	240.3	313.5	355.2	313.5	250.8	250.8	209.0	339.6	512.0
100°	308.2	276.9	245.5	271.7	313.5	276.9	235.1	276.9	292.6	397.0	626.9
102.5°	386.6	308.2	308.2	266.4	271.7	261.2	297.8	303.0	365.7	449.3	773.2
105°	449.3	318.7	323.9	303.0	297.8	303.0	323.9	323.9	433.6	496.3	841.1
107.5°	506.7	329.1	318.7	334.3	339.6	334.3	318.7	329.1	496.3	527.6	856.8
110°	553.8	334.3	323.9	334.3	350.0	334.3	323.9	339.6	548.5	559.0	867.2



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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°	595.6	339.6	334.3	329.1	344.8	329.1	334.3	350.0	590.3	574.7	867.2
115°	621.7	344.8	334.3	334.3	339.6	334.3	339.6	355.2	621.7	579.9	856.8
117.5°	637.4	355.2	339.6	344.8	350.0	344.8	339.6	365.7	642.6	600.8	851.5
120°	647.8	391.8	339.6	350.0	355.2	350.0	339.6	397.0	647.8	611.2	830.6
122.5°	642.6	407.5	344.8	350.0	360.5	350.0	344.8	412.7	642.6	606.0	804.5
125°	632.1	423.2	344.8	344.8	355.2	350.0	350.0	423.2	632.1	595.6	768.0
127.5°	611.2	459.7	344.8	350.0	350.0	350.0	350.0	454.5	611.2	600.8	731.4
130°	585.1	485.8	334.3	355.2	350.0	360.5	344.8	485.8	585.1	585.1	700.0
132.5°	559.0	496.3	334.3	355.2	355.2	360.5	339.6	496.3	559.0	564.2	668.7
135°	532.9	506.7	355.2	350.0	355.2	355.2	360.5	506.7	532.9	543.3	647.8
137.5°	506.7	512.0	381.4	334.3	350.0	339.6	391.8	512.0	512.0	512.0	616.5
140°	480.6	506.7	402.3	323.9	329.1	334.3	412.7	512.0	491.1	496.3	564.2
142.5°	449.3	491.1	417.9	350.0	323.9	360.5	428.4	506.7	459.7	480.6	538.1
145°	417.9	475.4	449.3	386.6	355.2	402.3	465.0	491.1	428.4	470.2	522.4
147.5°	391.8	449.3	454.5	407.5	391.8	423.2	470.2	470.2	397.0	449.3	485.8
150°	376.1	423.2	438.8	423.2	407.5	444.1	459.7	433.6	376.1	433.6	454.5
152.5°	370.9	402.3	402.3	444.1	438.8	465.0	423.2	412.7	365.7	417.9	412.7
155°	370.9	397.0	386.6	407.5	428.4	428.4	402.3	402.3	365.7	417.9	391.8
157.5°	365.7	402.3	386.6	381.4	391.8	402.3	402.3	407.5	365.7	407.5	391.8
160°	365.7	407.5	391.8	376.1	381.4	397.0	407.5	407.5	365.7	407.5	397.0
162.5°	365.7	397.0	397.0	381.4	381.4	402.3	407.5	402.3	365.7	397.0	407.5
165°	365.7	397.0	402.3	391.8	386.6	412.7	407.5	391.8	360.5	391.8	412.7
167.5°	365.7	386.6	407.5	397.0	397.0	412.7	412.7	386.6	360.5	376.1	412.7
170°	365.7	381.4	402.3	397.0	402.3	417.9	402.3	381.4	365.7	370.9	397.0
172.5°	365.7	370.9	391.8	397.0	397.0	407.5	391.8	370.9	365.7	360.5	381.4
175°	360.5	370.9	381.4	381.4	376.1	391.8	376.1	365.7	360.5	355.2	365.7
177.5°	355.2	360.5	370.9	370.9	360.5	370.9	360.5	355.2	355.2	350.0	360.5
180°	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4550.3	4550.3	4550.3	4550.3	4550.3	4550.3
2.5°	4513.7	4477.1	4487.6	4518.9	4513.7	4586.8
5°	4466.7	4451.0	4451.0	4498.0	4492.8	4586.8
7.5°	4414.4	4388.3	4404.0	4456.2	4471.9	4576.4
10°	4346.5	4325.6	4330.8	4409.2	4435.3	4565.9
12.5°	4278.6	4257.7	4273.4	4346.5	4383.1	4539.8
15°	4200.2	4163.7	4205.5	4283.8	4330.8	4503.2
17.5°	4106.2	4064.4	4106.2	4210.7	4268.2	4461.5
20°	4022.6	3980.8	4006.9	4116.7	4195.0	4414.4
22.5°	3928.6	3876.3	3897.2	4017.4	4116.7	4351.7
25°	3824.1	3756.2	3787.5	3918.1	4027.8	4273.4
27.5°	3688.3	3573.3	3651.7	3813.7	3918.1	4195.0
30°	3500.2	3348.7	3474.1	3698.7	3818.9	4106.2
32.5°	3280.8	3118.8	3254.7	3557.7	3703.9	4006.9
35°	3066.6	2925.5	3050.9	3411.4	3589.0	3897.2
37.5°	2878.5	2747.9	2862.9	3244.2	3463.6	3777.1
40°	2685.2	2565.1	2680.0	3066.6	3338.3	3651.7
42.5°	2507.6	2392.7	2502.4	2889.0	3202.4	3515.9
45°	2319.5	2131.5	2309.1	2706.1	3056.1	3369.6
47.5°	2121.0	1922.5	2105.3	2528.5	2909.9	3218.1
50°	1938.2	1760.5	1927.7	2345.7	2753.1	3056.1
52.5°	1776.2	1624.7	1771.0	2162.8	2591.2	2889.0
55°	1624.7	1525.5	1629.9	1995.6	2439.7	2716.6
57.5°	1504.6	1436.7	1509.8	1833.7	2272.5	2544.2
60°	1400.1	1358.3	1405.3	1671.7	2094.9	2361.3
62.5°	1285.1	1269.5	1285.1	1515.0	1922.5	2173.3
65°	1185.9	1201.6	1185.9	1374.0	1739.7	1980.0
67.5°	1091.9	1128.4	1097.1	1222.5	1556.8	1781.4
70°	987.4	1039.6	992.6	1086.6	1368.7	1577.7
72.5°	877.7	940.4	877.7	956.0	1170.2	1363.5
75°	762.7	835.9	768.0	815.0	982.1	1138.9
77.5°	637.4	684.4	647.8	663.5	799.3	924.7
80°	506.7	559.0	512.0	522.4	632.1	715.7
82.5°	423.2	459.7	428.4	397.0	470.2	527.6
85°	313.5	334.3	323.9	308.2	323.9	360.5
87.5°	193.3	203.7	193.3	193.3	167.2	151.5
90°	214.2	229.9	214.2	167.2	94.0	5.2
92.5°	219.4	240.3	219.4	182.8	177.6	36.6
95°	491.1	480.6	522.4	475.4	271.7	141.1
97.5°	762.7	872.4	788.9	569.4	365.7	224.6
100°	877.7	982.1	914.2	710.5	417.9	308.2
102.5°	1013.5	1128.4	1055.3	830.6	470.2	386.6
105°	1180.7	1279.9	1217.2	877.7	517.2	449.3
107.5°	1269.5	1421.0	1295.6	898.6	548.5	506.7
110°	1316.5	1478.4	1358.3	903.8	574.7	553.8





TEST NUMBER: P197500

CATALOG NUMBER: 8WSL-LD2-140-UPL15-UNV-L850-CD2-U

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	1353.1	1509.8	1384.4	903.8	585.1	595.6
115°	1353.1	1535.9	1384.4	888.1	600.8	621.7
117.5°	1353.1	1520.2	1384.4	872.4	621.7	637.4
120°	1306.0	1515.0	1347.8	851.5	626.9	647.8
122.5°	1269.5	1473.2	1295.6	825.4	626.9	642.6
125°	1201.6	1415.8	1232.9	794.1	616.5	632.1
127.5°	1128.4	1332.2	1154.5	757.5	621.7	611.2
130°	1060.5	1238.1	1076.2	720.9	600.8	585.1
132.5°	971.7	1133.6	987.4	694.8	579.9	559.0
135°	888.1	1034.4	909.0	673.9	553.8	532.9
137.5°	799.3	929.9	820.2	632.1	527.6	506.7
140°	694.8	799.3	715.7	585.1	512.0	480.6
142.5°	626.9	684.4	647.8	564.2	491.1	449.3
145°	585.1	616.5	600.8	543.3	480.6	417.9
147.5°	543.3	574.7	559.0	501.5	454.5	391.8
150°	527.6	527.6	548.5	465.0	438.8	376.1
152.5°	470.2	512.0	491.1	423.2	428.4	370.9
155°	402.3	423.2	423.2	407.5	428.4	370.9
157.5°	376.1	391.8	397.0	407.5	417.9	365.7
160°	376.1	381.4	397.0	412.7	412.7	365.7
162.5°	386.6	381.4	407.5	423.2	402.3	365.7
165°	397.0	391.8	417.9	428.4	391.8	365.7
167.5°	407.5	407.5	428.4	423.2	381.4	365.7
170°	407.5	417.9	428.4	407.5	376.1	365.7
172.5°	391.8	397.0	407.5	381.4	360.5	365.7
175°	370.9	365.7	381.4	365.7	360.5	360.5
177.5°	360.5	344.8	360.5	355.2	350.0	355.2
180°	350.0	350.0	350.0	350.0	350.0	350.0

(END OF REPORT)