

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: P197497

Luminaire Tested: **8WSL-LD2-140-UPL15-UNV-L830-CD2-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P197497  
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-L830-CD2-U  
Description: 8FT. Linear Wavestream System, 15% Uplight, L830  
Light Source: (476) 3000K CCT, 80 CRI LEDS  
EL236N0119D830  
Ballast/Driver: OSRAM  
OT85W1202772A0DIML

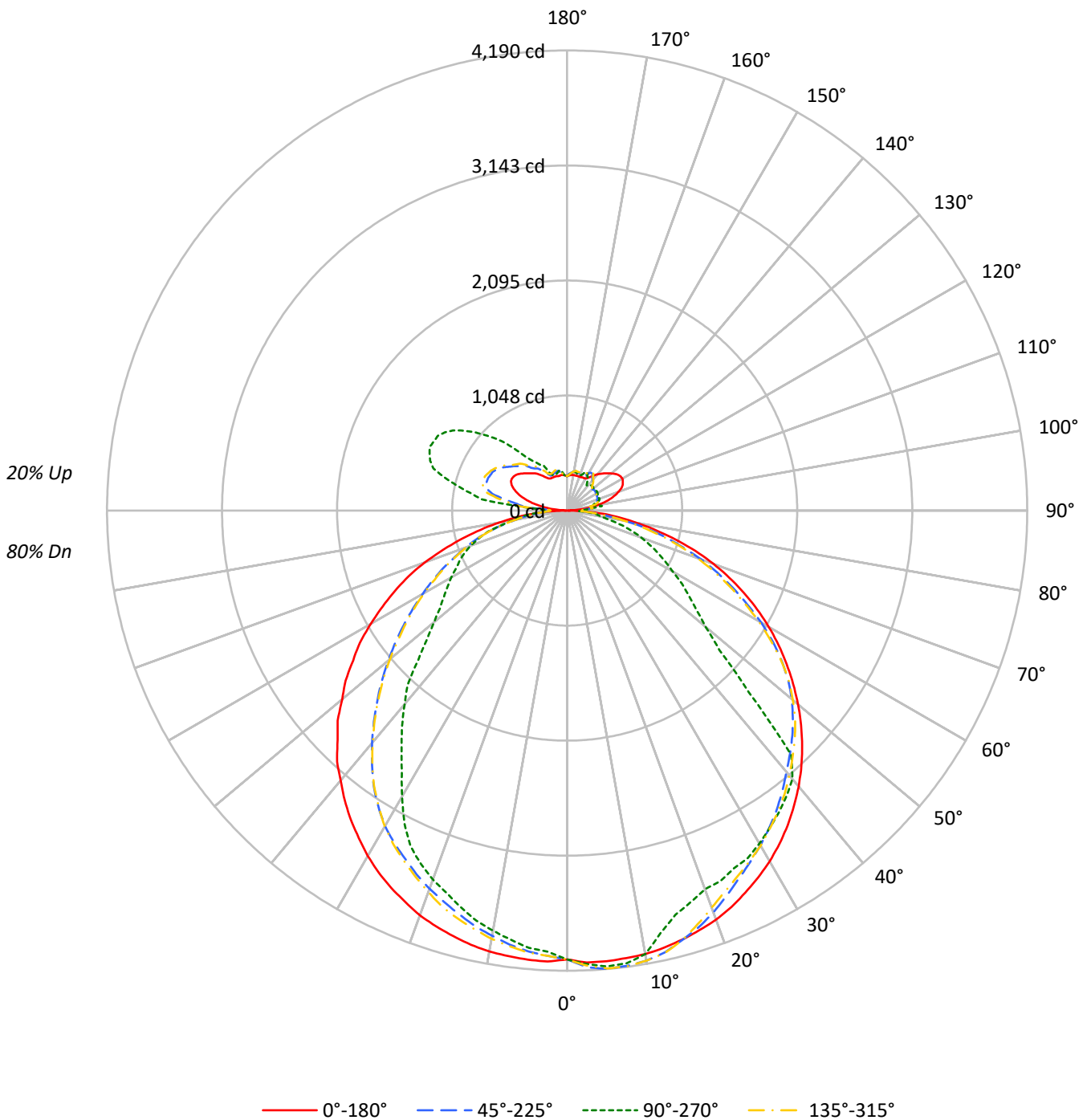
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14462.2 lumens  
Efficiency: N/A  
Efficacy: 105.9 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°	11575	11575	11575	11575
5°	11713	11846	11673	11366
10°	11794	11794	11727	11174
15°	11860	11172	11764	10966
20°	11951	11060	11823	10777
25°	11995	11232	11848	10543
30°	12062	11448	11878	9837
35°	12103	11616	11876	9085
40°	12127	11797	11866	8518
45°	12122	9379	11841	7668
50°	12095	7236	11785	6968
55°	12048	6673	11747	6766
60°	12014	6299	11695	6910
65°	11918	6101	11603	7233
70°	11735	5945	11424	7732
75°	11194	5648	10834	8216
80°	10486	5127	10179	8189
85°	10520	6708	9760	9760



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	388.9	2.7
10°-20°	1103.6	7.6
20°-30°	1667.8	11.5
30°-40°	2007.2	13.9
40°-50°	2041.3	14.1
50°-60°	1776.8	12.3
60°-70°	1386.0	9.6
70°-80°	856.8	5.9
80°-90°	301.5	2.1
90°-100°	283.8	2.0
100°-110°	549.5	3.8
110°-120°	601.3	4.2
120°-130°	527.2	3.6
130°-140°	395.0	2.7
140°-150°	270.4	1.9
150°-160°	172.2	1.2
160°-170°	100.7	0.7
170°-180°	32.5	0.2
0°-30°	3160.3	21.9
0°-40°	5167.5	35.7
0°-60°	8985.5	62.1
0°-90°	11529.8	79.7
90°-120°	1434.6	9.9
90°-150°	2627.1	18.2
90°-180°	2932.0	20.3
0°-180°	14462.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	4086	4086	4086	4086	4086	
5°	4119	4166	4105	3997	4119	392
15°	4044	3810	4011	3739	4044	1143
25°	3838	3594	3791	3373	3838	1771
35°	3500	3359	3434	2627	3500	2190
45°	3026	2341	2956	1914	3026	2334
55°	2440	1351	2379	1370	2440	2182
65°	1778	910	1731	1079	1778	1757
75°	1023	516	990	751	1023	1083
85°	324	206	300	300	324	323
90°	5	131	5	206	5	24
95°	127	216	98	432	127	131
105°	404	267	389	1150	404	420
115°	558	305	558	1379	558	547
125°	568	319	568	1271	568	505
135°	479	319	479	929	479	372
145°	375	319	385	554	375	239
155°	333	385	328	380	333	154
165°	328	347	324	352	328	93
175°	324	338	324	328	324	31
180°	314	314	314	314	314	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	4086.5	4086.5	4086.5	4086.5	4086.5	4086.5	4086.5	4086.5	4086.5	4086.5	4086.5
2.5°	4119.3	4100.5	4161.5	4166.2	4133.4	4147.5	4147.5	4095.8	4109.9	4048.9	4058.3
5°	4119.3	4124.0	4189.7	4185.0	4166.2	4170.9	4185.0	4119.3	4105.2	4020.8	4030.2
7.5°	4109.9	4133.4	4180.3	4175.6	4156.8	4161.5	4185.0	4128.7	4091.2	3992.6	3987.9
10°	4100.5	4124.0	4161.5	4138.1	4100.5	4114.6	4161.5	4124.0	4077.1	3959.8	3931.6
12.5°	4077.1	4100.5	4119.3	4002.0	3936.3	3992.6	4124.0	4100.5	4048.9	3912.9	3875.3
15°	4044.2	4072.4	4048.9	3884.7	3809.7	3861.3	4048.9	4067.7	4011.4	3851.9	3805.0
17.5°	4006.7	4039.5	3978.6	3795.6	3739.3	3762.7	3950.4	4025.5	3969.2	3790.9	3734.6
20°	3964.5	4002.0	3894.1	3701.7	3668.9	3687.7	3847.2	3978.6	3922.3	3725.2	3664.2
22.5°	3908.2	3950.4	3795.6	3636.1	3650.1	3636.1	3753.4	3917.6	3856.6	3654.8	3584.5
25°	3837.8	3884.7	3697.1	3579.8	3593.8	3589.1	3673.6	3837.8	3790.9	3570.4	3495.3
27.5°	3767.4	3814.3	3607.9	3542.2	3565.7	3537.5	3598.5	3753.4	3715.8	3481.2	3410.9
30°	3687.7	3739.3	3518.8	3476.5	3500.0	3481.2	3523.5	3668.9	3631.4	3387.4	3317.0
32.5°	3598.5	3650.1	3424.9	3396.8	3429.6	3406.2	3434.3	3575.1	3532.8	3284.2	3199.7
35°	3500.0	3551.6	3326.4	3326.4	3359.3	3331.1	3345.2	3481.2	3434.3	3181.0	3068.4
37.5°	3392.1	3448.4	3218.5	3242.0	3279.5	3251.3	3251.3	3382.7	3326.4	3068.4	2918.2
40°	3279.5	3340.5	3105.9	3157.5	3190.3	3157.5	3148.1	3279.5	3209.1	2955.8	2763.4
42.5°	3157.5	3223.2	3002.7	3063.7	3021.4	3063.7	3040.2	3171.6	3101.2	2833.8	2603.9
45°	3026.1	3110.6	2899.5	2861.9	2341.2	2833.8	2932.3	3059.0	2955.8	2716.5	2444.4
47.5°	2890.1	2979.2	2786.9	2514.7	1881.4	2486.6	2815.0	2937.0	2833.8	2589.8	2284.9
50°	2744.6	2847.9	2669.6	2214.5	1642.1	2186.3	2683.6	2810.3	2674.3	2453.8	2125.3
52.5°	2594.5	2707.1	2538.2	1956.4	1482.6	1928.3	2542.9	2674.3	2542.9	2308.3	1970.5
55°	2439.7	2557.0	2383.4	1717.2	1351.2	1712.5	2378.7	2528.8	2378.7	2162.9	1815.7
57.5°	2284.9	2416.2	2219.2	1543.6	1238.6	1520.1	2195.7	2378.7	2237.9	2012.7	1665.5
60°	2120.6	2242.6	2040.9	1355.9	1111.9	1351.2	2012.7	2223.9	2064.3	1857.9	1520.1
62.5°	1951.7	2087.8	1848.5	1191.7	1008.7	1187.0	1815.7	2050.3	1895.4	1698.4	1379.4
65°	1778.2	1909.5	1665.5	1060.3	910.2	1050.9	1632.7	1872.0	1731.2	1538.9	1248.0
67.5°	1599.9	1721.9	1482.6	933.6	811.7	924.3	1445.0	1684.3	1562.3	1374.7	1107.2
70°	1416.9	1529.5	1294.9	811.7	717.8	807.0	1262.1	1492.0	1379.4	1205.8	980.6
72.5°	1224.5	1327.7	1097.9	694.4	619.3	689.7	1069.7	1294.9	1177.6	1027.5	868.0
75°	1022.8	1121.3	914.9	577.1	516.1	572.4	886.7	1083.8	989.9	863.3	736.6
77.5°	830.4	929.0	727.2	445.7	394.1	436.3	694.4	886.7	807.0	699.1	600.5
80°	642.8	722.5	534.9	333.1	314.3	333.1	520.8	680.3	624.0	548.9	469.2
82.5°	473.9	520.8	361.3	272.1	272.1	272.1	351.9	483.2	459.8	408.2	356.6
85°	323.7	323.7	244.0	206.4	206.4	206.4	239.3	286.2	300.3	272.1	272.1
87.5°	136.1	140.8	126.7	112.6	107.9	112.6	122.0	117.3	117.3	131.4	164.2
90°	4.7	61.0	103.2	126.7	131.4	122.0	93.8	56.3	4.7	79.8	145.4
92.5°	32.8	131.4	122.0	159.5	164.2	150.1	126.7	103.2	18.8	145.4	154.8
95°	126.7	154.8	239.3	244.0	215.8	206.4	234.6	145.4	98.5	197.1	394.1
97.5°	201.7	234.6	215.8	281.5	319.0	281.5	225.2	225.2	187.7	305.0	459.8
100°	276.8	248.7	220.5	244.0	281.5	248.7	211.1	248.7	262.7	356.6	563.0
102.5°	347.2	276.8	276.8	239.3	244.0	234.6	267.4	272.1	328.4	403.5	694.4
105°	403.5	286.2	290.9	272.1	267.4	272.1	290.9	290.9	389.4	445.7	755.4
107.5°	455.1	295.6	286.2	300.3	305.0	300.3	286.2	295.6	445.7	473.9	769.4
110°	497.3	300.3	290.9	300.3	314.3	300.3	290.9	305.0	492.6	502.0	778.8



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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°	534.9	305.0	300.3	295.6	309.7	295.6	300.3	314.3	530.2	516.1	778.8
115°	558.3	309.7	300.3	300.3	305.0	300.3	305.0	319.0	558.3	520.8	769.4
117.5°	572.4	319.0	305.0	309.7	314.3	309.7	305.0	328.4	577.1	539.5	764.7
120°	581.8	351.9	305.0	314.3	319.0	314.3	305.0	356.6	581.8	548.9	746.0
122.5°	577.1	366.0	309.7	314.3	323.7	314.3	309.7	370.6	577.1	544.2	722.5
125°	567.7	380.0	309.7	309.7	319.0	314.3	314.3	380.0	567.7	534.9	689.7
127.5°	548.9	412.9	309.7	314.3	314.3	314.3	314.3	408.2	548.9	539.5	656.8
130°	525.5	436.3	300.3	319.0	314.3	323.7	309.7	436.3	525.5	525.5	628.7
132.5°	502.0	445.7	300.3	319.0	319.0	323.7	305.0	445.7	502.0	506.7	600.5
135°	478.6	455.1	319.0	314.3	319.0	319.0	323.7	455.1	478.6	487.9	581.8
137.5°	455.1	459.8	342.5	300.3	314.3	305.0	351.9	459.8	459.8	459.8	553.6
140°	431.6	455.1	361.3	290.9	295.6	300.3	370.6	459.8	441.0	445.7	506.7
142.5°	403.5	441.0	375.3	314.3	290.9	323.7	384.7	455.1	412.9	431.6	483.2
145°	375.3	426.9	403.5	347.2	319.0	361.3	417.6	441.0	384.7	422.3	469.2
147.5°	351.9	403.5	408.2	366.0	351.9	380.0	422.3	422.3	356.6	403.5	436.3
150°	337.8	380.0	394.1	380.0	366.0	398.8	412.9	389.4	337.8	389.4	408.2
152.5°	333.1	361.3	361.3	398.8	394.1	417.6	380.0	370.6	328.4	375.3	370.6
155°	333.1	356.6	347.2	366.0	384.7	384.7	361.3	361.3	328.4	375.3	351.9
157.5°	328.4	361.3	347.2	342.5	351.9	361.3	361.3	366.0	328.4	366.0	351.9
160°	328.4	366.0	351.9	337.8	342.5	356.6	366.0	366.0	328.4	366.0	356.6
162.5°	328.4	356.6	356.6	342.5	342.5	361.3	366.0	361.3	328.4	356.6	366.0
165°	328.4	356.6	361.3	351.9	347.2	370.6	366.0	351.9	323.7	351.9	370.6
167.5°	328.4	347.2	366.0	356.6	356.6	370.6	370.6	347.2	323.7	337.8	370.6
170°	328.4	342.5	361.3	356.6	361.3	375.3	361.3	342.5	328.4	333.1	356.6
172.5°	328.4	333.1	351.9	356.6	356.6	366.0	351.9	333.1	328.4	323.7	342.5
175°	323.7	333.1	342.5	342.5	337.8	351.9	337.8	328.4	323.7	319.0	328.4
177.5°	319.0	323.7	333.1	333.1	323.7	333.1	323.7	319.0	319.0	314.3	323.7
180°	314.3	314.3	314.3	314.3	314.3	314.3	314.3	314.3	314.3	314.3	314.3



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4086.5	4086.5	4086.5	4086.5	4086.5	4086.5
2.5°	4053.6	4020.8	4030.2	4058.3	4053.6	4119.3
5°	4011.4	3997.3	3997.3	4039.5	4034.9	4119.3
7.5°	3964.5	3941.0	3955.1	4002.0	4016.1	4109.9
10°	3903.5	3884.7	3889.4	3959.8	3983.2	4100.5
12.5°	3842.5	3823.7	3837.8	3903.5	3936.3	4077.1
15°	3772.1	3739.3	3776.8	3847.2	3889.4	4044.2
17.5°	3687.7	3650.1	3687.7	3781.5	3833.1	4006.7
20°	3612.6	3575.1	3598.5	3697.1	3767.4	3964.5
22.5°	3528.2	3481.2	3500.0	3607.9	3697.1	3908.2
25°	3434.3	3373.3	3401.5	3518.8	3617.3	3837.8
27.5°	3312.3	3209.1	3279.5	3424.9	3518.8	3767.4
30°	3143.4	3007.4	3120.0	3321.7	3429.6	3687.7
32.5°	2946.4	2800.9	2922.9	3195.0	3326.4	3598.5
35°	2754.0	2627.3	2739.9	3063.7	3223.2	3500.0
37.5°	2585.1	2467.8	2571.0	2913.5	3110.6	3392.1
40°	2411.5	2303.6	2406.8	2754.0	2998.0	3279.5
42.5°	2252.0	2148.8	2247.3	2594.5	2876.0	3157.5
45°	2083.1	1914.2	2073.7	2430.3	2744.6	3026.1
47.5°	1904.8	1726.5	1890.8	2270.8	2613.3	2890.1
50°	1740.6	1581.1	1731.2	2106.6	2472.5	2744.6
52.5°	1595.2	1459.1	1590.5	1942.4	2327.1	2594.5
55°	1459.1	1370.0	1463.8	1792.2	2191.0	2439.7
57.5°	1351.2	1290.2	1355.9	1646.8	2040.9	2284.9
60°	1257.4	1219.8	1262.1	1501.3	1881.4	2120.6
62.5°	1154.2	1140.1	1154.2	1360.6	1726.5	1951.7
65°	1065.0	1079.1	1065.0	1233.9	1562.3	1778.2
67.5°	980.6	1013.4	985.3	1097.9	1398.1	1599.9
70°	886.7	933.6	891.4	975.9	1229.2	1416.9
72.5°	788.2	844.5	788.2	858.6	1050.9	1224.5
75°	685.0	750.7	689.7	731.9	882.0	1022.8
77.5°	572.4	614.6	581.8	595.8	717.8	830.4
80°	455.1	502.0	459.8	469.2	567.7	642.8
82.5°	380.0	412.9	384.7	356.6	422.3	473.9
85°	281.5	300.3	290.9	276.8	290.9	323.7
87.5°	173.6	183.0	173.6	173.6	150.1	136.1
90°	192.4	206.4	192.4	150.1	84.5	4.7
92.5°	197.1	215.8	197.1	164.2	159.5	32.8
95°	441.0	431.6	469.2	426.9	244.0	126.7
97.5°	685.0	783.5	708.4	511.4	328.4	201.7
100°	788.2	882.0	821.0	638.1	375.3	276.8
102.5°	910.2	1013.4	947.7	746.0	422.3	347.2
105°	1060.3	1149.5	1093.2	788.2	464.5	403.5
107.5°	1140.1	1276.1	1163.5	807.0	492.6	455.1
110°	1182.3	1327.7	1219.8	811.7	516.1	497.3





TEST NUMBER: P197497

CATALOG NUMBER: 8WSL-LD2-140-UPL15-UNV-L830-CD2-U

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	1215.1	1355.9	1243.3	811.7	525.5	534.9
115°	1215.1	1379.4	1243.3	797.6	539.5	558.3
117.5°	1215.1	1365.3	1243.3	783.5	558.3	572.4
120°	1172.9	1360.6	1210.5	764.7	563.0	581.8
122.5°	1140.1	1323.1	1163.5	741.3	563.0	577.1
125°	1079.1	1271.4	1107.2	713.1	553.6	567.7
127.5°	1013.4	1196.4	1036.9	680.3	558.3	548.9
130°	952.4	1111.9	966.5	647.5	539.5	525.5
132.5°	872.7	1018.1	886.7	624.0	520.8	502.0
135°	797.6	929.0	816.4	605.2	497.3	478.6
137.5°	717.8	835.1	736.6	567.7	473.9	455.1
140°	624.0	717.8	642.8	525.5	459.8	431.6
142.5°	563.0	614.6	581.8	506.7	441.0	403.5
145°	525.5	553.6	539.5	487.9	431.6	375.3
147.5°	487.9	516.1	502.0	450.4	408.2	351.9
150°	473.9	473.9	492.6	417.6	394.1	337.8
152.5°	422.3	459.8	441.0	380.0	384.7	333.1
155°	361.3	380.0	380.0	366.0	384.7	333.1
157.5°	337.8	351.9	356.6	366.0	375.3	328.4
160°	337.8	342.5	356.6	370.6	370.6	328.4
162.5°	347.2	342.5	366.0	380.0	361.3	328.4
165°	356.6	351.9	375.3	384.7	351.9	328.4
167.5°	366.0	366.0	384.7	380.0	342.5	328.4
170°	366.0	375.3	384.7	366.0	337.8	328.4
172.5°	351.9	356.6	366.0	342.5	323.7	328.4
175°	333.1	328.4	342.5	328.4	323.7	323.7
177.5°	323.7	309.7	323.7	319.0	314.3	319.0
180°	314.3	314.3	314.3	314.3	314.3	314.3

(END OF REPORT)