

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: P197480

Luminaire Tested: **8WSL-LD2-90-UPL15-UNV-L850-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197480
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-LD2-90-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
OT50W

Summary

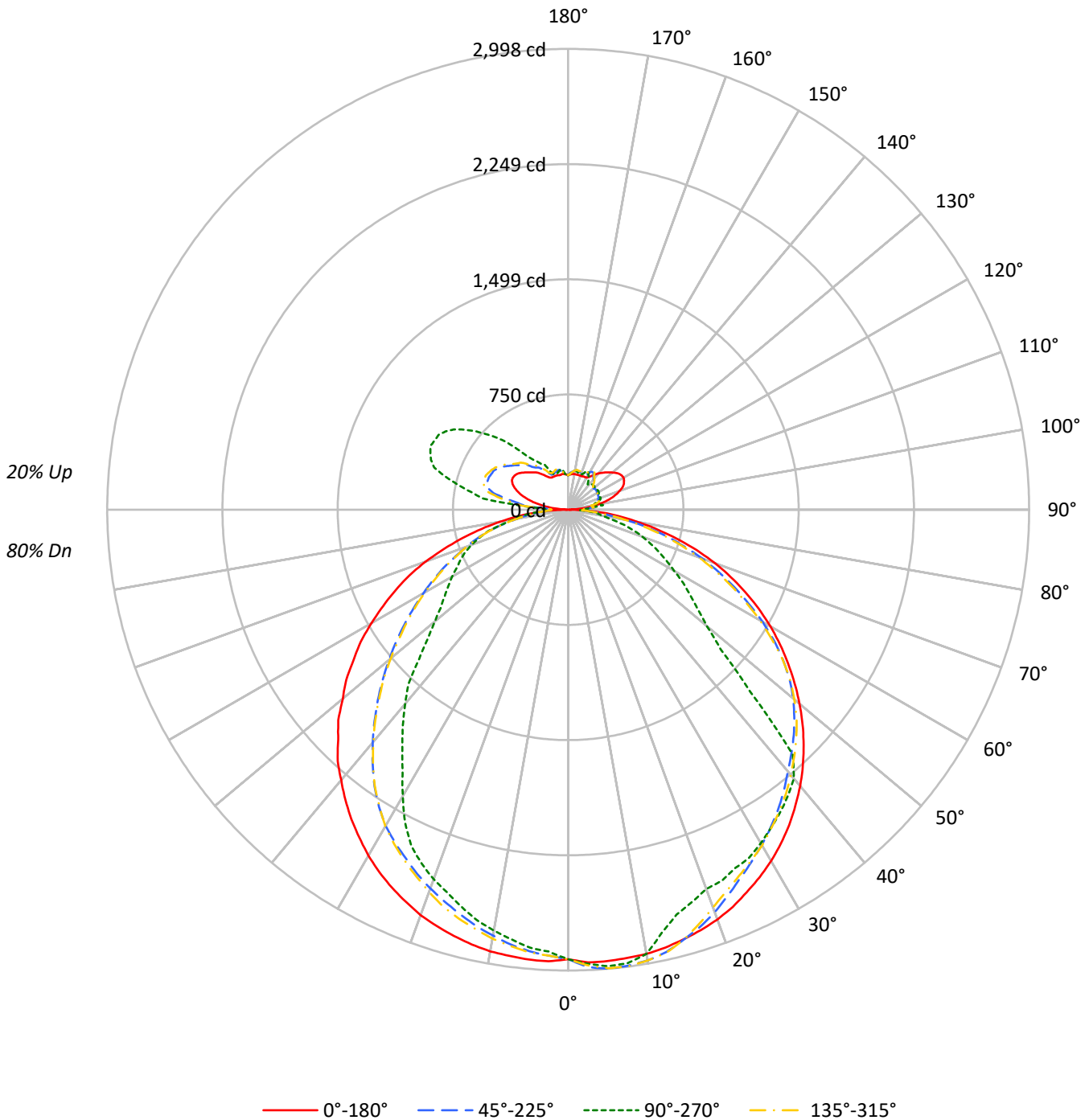
Lumens per Lamp: N/A
Luminaire Lumens: 10349.5 lumens
Efficiency: N/A
Efficacy: 128.4 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 80.6
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

TEST NUMBER: P197480

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L850-CD2-U

Luminous Intensity Polar Plot





TEST NUMBER: P197480

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L850-CD2-U

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°	8284	8284	8284	8284
5°	8382	8478	8353	8134
10°	8441	8441	8392	7996
15°	8487	7995	8418	7847
20°	8552	7915	8461	7712
25°	8584	8038	8479	7545
30°	8632	8192	8500	7039
35°	8661	8313	8499	6502
40°	8678	8442	8492	6096
45°	8675	6712	8473	5488
50°	8655	5178	8434	4986
55°	8622	4776	8407	4842
60°	8598	4508	8369	4945
65°	8529	4366	8304	5176
70°	8398	4254	8175	5533
75°	8010	4042	7753	5879
80°	7504	3670	7283	5861
85°	7530	4800	6984	6984



TEST NUMBER: P197480

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L850-CD2-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	278.3	2.7
10°-20°	789.8	7.6
20°-30°	1193.5	11.5
30°-40°	1436.4	13.9
40°-50°	1460.8	14.1
50°-60°	1271.5	12.3
60°-70°	991.8	9.6
70°-80°	613.1	5.9
80°-90°	215.7	2.1
90°-100°	203.1	2.0
100°-110°	393.3	3.8
110°-120°	430.3	4.2
120°-130°	377.3	3.6
130°-140°	282.6	2.7
140°-150°	193.5	1.9
150°-160°	123.2	1.2
160°-170°	72.0	0.7
170°-180°	23.2	0.2
0°-30°	2261.6	21.9
0°-40°	3698.0	35.7
0°-60°	6430.3	62.1
0°-90°	8251.0	79.7
90°-120°	1026.6	9.9
90°-150°	1880.0	18.2
90°-180°	2099.0	20.3
0°-180°	10349.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2924	2924	2924	2924	2924	
5°	2948	2982	2938	2861	2948	281
15°	2894	2726	2871	2676	2894	818
25°	2746	2572	2713	2414	2746	1268
35°	2505	2404	2458	1880	2505	1567
45°	2166	1675	2115	1370	2166	1670
55°	1746	967	1702	980	1746	1561
65°	1272	651	1239	772	1272	1257
75°	732	369	708	537	732	775
85°	232	148	215	215	232	231
90°	3	94	3	148	3	17
95°	91	154	70	309	91	94
105°	289	191	279	823	289	301
115°	400	218	400	987	400	391
125°	406	228	406	910	406	361
135°	342	228	342	665	342	266
145°	269	228	275	396	269	171
155°	238	275	235	272	238	110
165°	235	248	232	252	235	67
175°	232	242	232	235	232	22
180°	225	225	225	225	225	



TEST NUMBER: P197480

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L850-CD2-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2924.4	2924.4	2924.4	2924.4	2924.4	2924.4	2924.4	2924.4	2924.4	2924.4	2924.4
2.5°	2947.9	2934.5	2978.1	2981.5	2958.0	2968.0	2968.0	2931.1	2941.2	2897.5	2904.2
5°	2947.9	2951.2	2998.2	2994.9	2981.5	2984.8	2994.9	2947.9	2937.8	2877.4	2884.1
7.5°	2941.2	2958.0	2991.5	2988.2	2974.7	2978.1	2994.9	2954.6	2927.7	2857.2	2853.9
10°	2934.5	2951.2	2978.1	2961.3	2934.5	2944.5	2978.1	2951.2	2917.7	2833.7	2813.6
12.5°	2917.7	2934.5	2947.9	2863.9	2816.9	2857.2	2951.2	2934.5	2897.5	2800.2	2773.3
15°	2894.2	2914.3	2897.5	2780.0	2726.3	2763.2	2897.5	2911.0	2870.7	2756.5	2722.9
17.5°	2867.3	2890.8	2847.2	2716.2	2675.9	2692.7	2827.0	2880.7	2840.4	2712.9	2672.6
20°	2837.1	2863.9	2786.7	2649.1	2625.6	2639.0	2753.1	2847.2	2806.9	2665.9	2622.2
22.5°	2796.8	2827.0	2716.2	2602.1	2612.1	2602.1	2686.0	2803.5	2759.9	2615.5	2565.1
25°	2746.4	2780.0	2645.7	2561.8	2571.8	2568.5	2628.9	2746.4	2712.9	2555.1	2501.3
27.5°	2696.1	2729.6	2581.9	2534.9	2551.7	2531.6	2575.2	2686.0	2659.1	2491.3	2440.9
30°	2639.0	2675.9	2518.1	2487.9	2504.7	2491.3	2521.5	2625.6	2598.7	2424.1	2373.8
32.5°	2575.2	2612.1	2451.0	2430.8	2454.3	2437.5	2457.7	2558.4	2528.2	2350.2	2289.8
35°	2504.7	2541.6	2380.5	2380.5	2404.0	2383.8	2393.9	2491.3	2457.7	2276.4	2195.8
37.5°	2427.5	2467.8	2303.2	2320.0	2346.9	2326.7	2326.7	2420.8	2380.5	2195.8	2088.4
40°	2346.9	2390.5	2222.7	2259.6	2283.1	2259.6	2252.9	2346.9	2296.5	2115.2	1977.6
42.5°	2259.6	2306.6	2148.8	2192.4	2162.2	2192.4	2175.7	2269.7	2219.3	2027.9	1863.4
45°	2165.6	2226.0	2074.9	2048.1	1675.4	2027.9	2098.4	2189.1	2115.2	1944.0	1749.3
47.5°	2068.2	2132.0	1994.4	1799.6	1346.4	1779.5	2014.5	2101.8	2027.9	1853.3	1635.1
50°	1964.1	2038.0	1910.4	1584.7	1175.1	1564.6	1920.5	2011.1	1913.8	1756.0	1520.9
52.5°	1856.7	1937.3	1816.4	1400.1	1061.0	1379.9	1819.8	1913.8	1819.8	1651.9	1410.1
55°	1745.9	1829.8	1705.6	1228.8	967.0	1225.5	1702.3	1809.7	1702.3	1547.8	1299.4
57.5°	1635.1	1729.1	1588.1	1104.6	886.4	1087.8	1571.3	1702.3	1601.5	1440.4	1191.9
60°	1517.6	1604.9	1460.5	970.3	795.7	967.0	1440.4	1591.5	1477.3	1329.6	1087.8
62.5°	1396.7	1494.1	1322.9	852.8	721.9	849.4	1299.4	1467.2	1356.4	1215.4	987.1
65°	1272.5	1366.5	1191.9	758.8	651.4	752.1	1168.4	1339.6	1238.9	1101.3	893.1
67.5°	1144.9	1232.2	1061.0	668.1	580.8	661.4	1034.1	1205.3	1118.0	983.7	792.4
70°	1014.0	1094.5	926.7	580.8	513.7	577.5	903.2	1067.7	987.1	862.9	701.7
72.5°	876.3	950.2	785.7	496.9	443.2	493.6	765.5	926.7	842.7	735.3	621.1
75°	731.9	802.4	654.7	413.0	369.3	409.6	634.6	775.6	708.4	617.8	527.1
77.5°	594.3	664.8	520.4	319.0	282.0	312.2	496.9	634.6	577.5	500.3	429.8
80°	460.0	517.1	382.8	238.4	225.0	238.4	372.7	486.8	446.5	392.8	335.7
82.5°	339.1	372.7	258.5	194.7	194.7	194.7	251.8	345.8	329.0	292.1	255.2
85°	231.7	231.7	174.6	147.7	147.7	147.7	171.2	204.8	214.9	194.7	194.7
87.5°	97.4	100.7	90.7	80.6	77.2	80.6	87.3	83.9	83.9	94.0	117.5
90°	3.4	43.6	73.9	90.7	94.0	87.3	67.1	40.3	3.4	57.1	104.1
92.5°	23.5	94.0	87.3	114.2	117.5	107.4	90.7	73.9	13.4	104.1	110.8
95°	90.7	110.8	171.2	174.6	154.4	147.7	167.9	104.1	70.5	141.0	282.0
97.5°	144.4	167.9	154.4	201.4	228.3	201.4	161.2	161.2	134.3	218.2	329.0
100°	198.1	177.9	157.8	174.6	201.4	177.9	151.1	177.9	188.0	255.2	402.9
102.5°	248.5	198.1	198.1	171.2	174.6	167.9	191.4	194.7	235.0	288.7	496.9
105°	288.7	204.8	208.2	194.7	191.4	194.7	208.2	208.2	278.7	319.0	540.6
107.5°	325.7	211.5	204.8	214.9	218.2	214.9	204.8	211.5	319.0	339.1	550.6
110°	355.9	214.9	208.2	214.9	225.0	214.9	208.2	218.2	352.5	359.3	557.3



TEST NUMBER: P197480

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	382.8	218.2	214.9	211.5	221.6	211.5	214.9	225.0	379.4	369.3	557.3
115°	399.5	221.6	214.9	214.9	218.2	214.9	218.2	228.3	399.5	372.7	550.6
117.5°	409.6	228.3	218.2	221.6	225.0	221.6	218.2	235.0	413.0	386.1	547.3
120°	416.3	251.8	218.2	225.0	228.3	225.0	218.2	255.2	416.3	392.8	533.8
122.5°	413.0	261.9	221.6	225.0	231.7	225.0	221.6	265.2	413.0	389.5	517.1
125°	406.3	272.0	221.6	221.6	228.3	225.0	225.0	272.0	406.3	382.8	493.6
127.5°	392.8	295.5	221.6	225.0	225.0	225.0	225.0	292.1	392.8	386.1	470.0
130°	376.0	312.2	214.9	228.3	225.0	231.7	221.6	312.2	376.0	376.0	449.9
132.5°	359.3	319.0	214.9	228.3	228.3	231.7	218.2	319.0	359.3	362.6	429.8
135°	342.5	325.7	228.3	225.0	228.3	228.3	231.7	325.7	342.5	349.2	416.3
137.5°	325.7	329.0	245.1	214.9	225.0	218.2	251.8	329.0	329.0	329.0	396.2
140°	308.9	325.7	258.5	208.2	211.5	214.9	265.2	329.0	315.6	319.0	362.6
142.5°	288.7	315.6	268.6	225.0	208.2	231.7	275.3	325.7	295.5	308.9	345.8
145°	268.6	305.5	288.7	248.5	228.3	258.5	298.8	315.6	275.3	302.2	335.7
147.5°	251.8	288.7	292.1	261.9	251.8	272.0	302.2	302.2	255.2	288.7	312.2
150°	241.7	272.0	282.0	272.0	261.9	285.4	295.5	278.7	241.7	278.7	292.1
152.5°	238.4	258.5	258.5	285.4	282.0	298.8	272.0	265.2	235.0	268.6	265.2
155°	238.4	255.2	248.5	261.9	275.3	275.3	258.5	258.5	235.0	268.6	251.8
157.5°	235.0	258.5	248.5	245.1	251.8	258.5	258.5	261.9	235.0	261.9	251.8
160°	235.0	261.9	251.8	241.7	245.1	255.2	261.9	261.9	235.0	261.9	255.2
162.5°	235.0	255.2	255.2	245.1	245.1	258.5	261.9	258.5	235.0	255.2	261.9
165°	235.0	255.2	258.5	251.8	248.5	265.2	261.9	251.8	231.7	251.8	265.2
167.5°	235.0	248.5	261.9	255.2	255.2	265.2	265.2	248.5	231.7	241.7	265.2
170°	235.0	245.1	258.5	255.2	258.5	268.6	258.5	245.1	235.0	238.4	255.2
172.5°	235.0	238.4	251.8	255.2	255.2	261.9	251.8	238.4	235.0	231.7	245.1
175°	231.7	238.4	245.1	245.1	241.7	251.8	241.7	235.0	231.7	228.3	235.0
177.5°	228.3	231.7	238.4	238.4	231.7	238.4	231.7	228.3	228.3	225.0	231.7
180°	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0



TEST NUMBER: P197480

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2924.4	2924.4	2924.4	2924.4	2924.4	2924.4
2.5°	2900.9	2877.4	2884.1	2904.2	2900.9	2947.9
5°	2870.7	2860.6	2860.6	2890.8	2887.4	2947.9
7.5°	2837.1	2820.3	2830.4	2863.9	2874.0	2941.2
10°	2793.4	2780.0	2783.4	2833.7	2850.5	2934.5
12.5°	2749.8	2736.4	2746.4	2793.4	2816.9	2917.7
15°	2699.4	2675.9	2702.8	2753.1	2783.4	2894.2
17.5°	2639.0	2612.1	2639.0	2706.1	2743.1	2867.3
20°	2585.3	2558.4	2575.2	2645.7	2696.1	2837.1
22.5°	2524.8	2491.3	2504.7	2581.9	2645.7	2796.8
25°	2457.7	2414.0	2434.2	2518.1	2588.6	2746.4
27.5°	2370.4	2296.5	2346.9	2451.0	2518.1	2696.1
30°	2249.5	2152.2	2232.7	2377.1	2454.3	2639.0
32.5°	2108.5	2004.4	2091.7	2286.5	2380.5	2575.2
35°	1970.9	1880.2	1960.8	2192.4	2306.6	2504.7
37.5°	1850.0	1766.0	1839.9	2085.0	2226.0	2427.5
40°	1725.8	1648.5	1722.4	1970.9	2145.4	2346.9
42.5°	1611.6	1537.7	1608.2	1856.7	2058.1	2259.6
45°	1490.7	1369.9	1484.0	1739.2	1964.1	2165.6
47.5°	1363.1	1235.6	1353.1	1625.0	1870.1	2068.2
50°	1245.6	1131.5	1238.9	1507.5	1769.4	1964.1
52.5°	1141.5	1044.2	1138.2	1390.0	1665.3	1856.7
55°	1044.2	980.4	1047.5	1282.6	1568.0	1745.9
57.5°	967.0	923.3	970.3	1178.5	1460.5	1635.1
60°	899.8	872.9	903.2	1074.4	1346.4	1517.6
62.5°	825.9	815.9	825.9	973.7	1235.6	1396.7
65°	762.2	772.2	762.2	883.0	1118.0	1272.5
67.5°	701.7	725.2	705.1	785.7	1000.5	1144.9
70°	634.6	668.1	637.9	698.4	879.7	1014.0
72.5°	564.1	604.3	564.1	614.4	752.1	876.3
75°	490.2	537.2	493.6	523.8	631.2	731.9
77.5°	409.6	439.8	416.3	426.4	513.7	594.3
80°	325.7	359.3	329.0	335.7	406.3	460.0
82.5°	272.0	295.5	275.3	255.2	302.2	339.1
85°	201.4	214.9	208.2	198.1	208.2	231.7
87.5°	124.2	130.9	124.2	124.2	107.4	97.4
90°	137.7	147.7	137.7	107.4	60.4	3.4
92.5°	141.0	154.4	141.0	117.5	114.2	23.5
95°	315.6	308.9	335.7	305.5	174.6	90.7
97.5°	490.2	560.7	507.0	366.0	235.0	144.4
100°	564.1	631.2	587.6	456.6	268.6	198.1
102.5°	651.4	725.2	678.2	533.8	302.2	248.5
105°	758.8	822.6	782.3	564.1	332.4	288.7
107.5°	815.9	913.2	832.7	577.5	352.5	325.7
110°	846.1	950.2	872.9	580.8	369.3	355.9



TEST NUMBER: P197480

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	869.6	970.3	889.7	580.8	376.0	382.8
115°	869.6	987.1	889.7	570.8	386.1	399.5
117.5°	869.6	977.0	889.7	560.7	399.5	409.6
120°	839.4	973.7	866.2	547.3	402.9	416.3
122.5°	815.9	946.8	832.7	530.5	402.9	413.0
125°	772.2	909.9	792.4	510.3	396.2	406.3
127.5°	725.2	856.2	742.0	486.8	399.5	392.8
130°	681.6	795.7	691.6	463.3	386.1	376.0
132.5°	624.5	728.6	634.6	446.5	372.7	359.3
135°	570.8	664.8	584.2	433.1	355.9	342.5
137.5°	513.7	597.6	527.1	406.3	339.1	325.7
140°	446.5	513.7	460.0	376.0	329.0	308.9
142.5°	402.9	439.8	416.3	362.6	315.6	288.7
145°	376.0	396.2	386.1	349.2	308.9	268.6
147.5°	349.2	369.3	359.3	322.3	292.1	251.8
150°	339.1	339.1	352.5	298.8	282.0	241.7
152.5°	302.2	329.0	315.6	272.0	275.3	238.4
155°	258.5	272.0	272.0	261.9	275.3	238.4
157.5°	241.7	251.8	255.2	261.9	268.6	235.0
160°	241.7	245.1	255.2	265.2	265.2	235.0
162.5°	248.5	245.1	261.9	272.0	258.5	235.0
165°	255.2	251.8	268.6	275.3	251.8	235.0
167.5°	261.9	261.9	275.3	272.0	245.1	235.0
170°	261.9	268.6	275.3	261.9	241.7	235.0
172.5°	251.8	255.2	261.9	245.1	231.7	235.0
175°	238.4	235.0	245.1	235.0	231.7	231.7
177.5°	231.7	221.6	231.7	228.3	225.0	228.3
180°	225.0	225.0	225.0	225.0	225.0	225.0

(END OF REPORT)