

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: P197504

Luminaire Tested: **8WSL-LD2-150-UPL15-UNV-L850-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197504
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-LD2-150-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

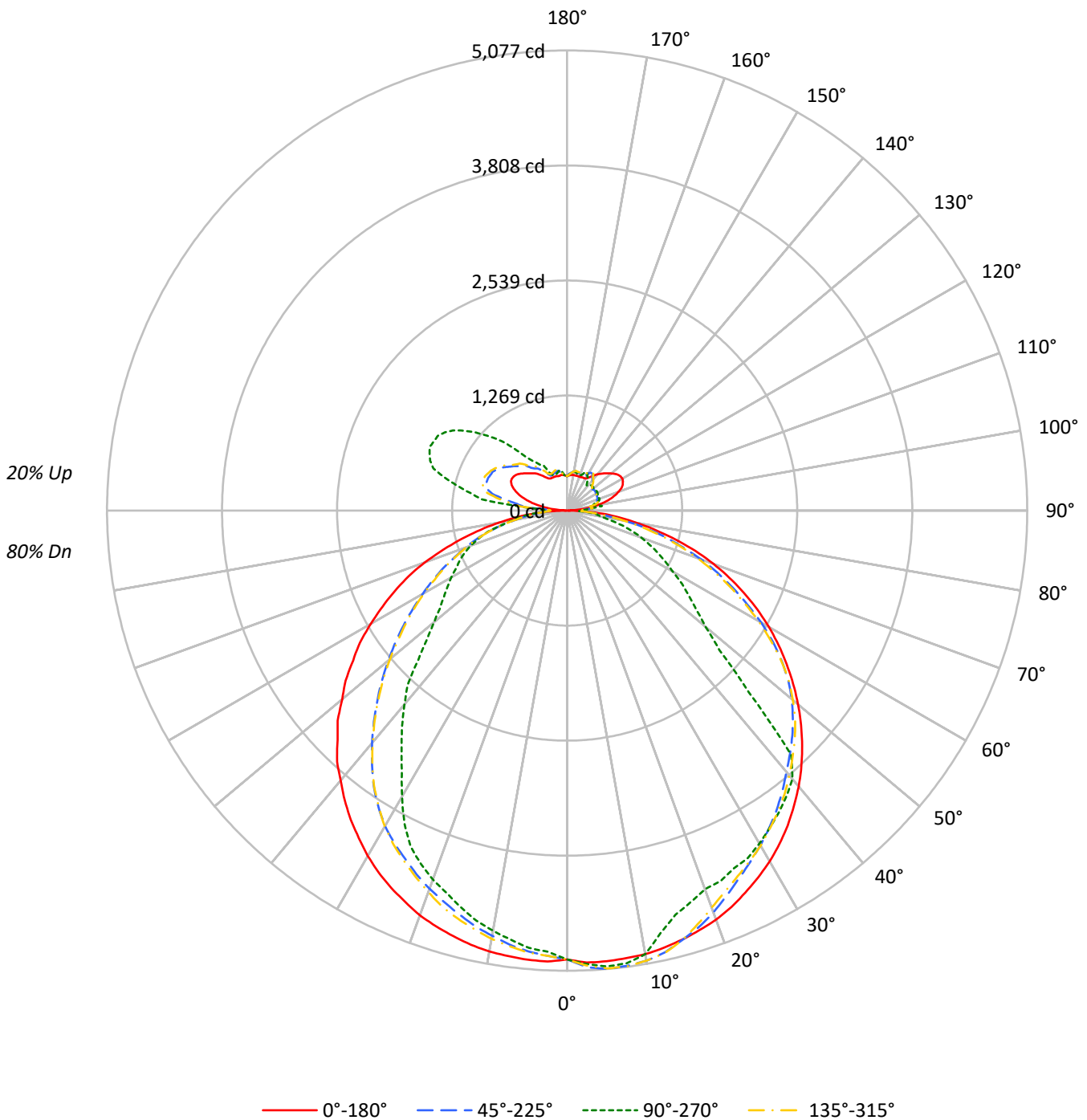
Lumens per Lamp: N/A
Luminaire Lumens: 17524.3 lumens
Efficiency: N/A
Efficacy: 117.9 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 148.7
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°	14026	14026	14026	14026
5°	14193	14354	14144	13773
10°	14292	14292	14210	13539
15°	14371	13537	14254	13287
20°	14481	13401	14327	13058
25°	14535	13611	14357	12776
30°	14616	13872	14392	11919
35°	14666	14076	14390	11009
40°	14694	14295	14379	10322
45°	14689	11364	14348	9292
50°	14656	8769	14280	8443
55°	14599	8086	14234	8198
60°	14558	7633	14171	8374
65°	14441	7392	14061	8764
70°	14219	7204	13843	9369
75°	13563	6845	13129	9955
80°	12706	6213	12334	9923
85°	12750	8128	11824	11824



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	471.2	2.7
10°-20°	1337.3	7.6
20°-30°	2020.9	11.5
30°-40°	2432.2	13.9
40°-50°	2473.5	14.1
50°-60°	2153.0	12.3
60°-70°	1679.4	9.6
70°-80°	1038.2	5.9
80°-90°	365.3	2.1
90°-100°	343.9	2.0
100°-110°	665.9	3.8
110°-120°	728.6	4.2
120°-130°	638.8	3.6
130°-140°	478.6	2.7
140°-150°	327.6	1.9
150°-160°	208.6	1.2
160°-170°	122.0	0.7
170°-180°	39.3	0.2
0°-30°	3829.4	21.9
0°-40°	6261.6	35.7
0°-60°	10888.1	62.1
0°-90°	13971.0	79.7
90°-120°	1738.4	9.9
90°-150°	3183.4	18.2
90°-180°	3553.0	20.3
0°-180°	17524.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4952	4952	4952	4952	4952	
5°	4992	5048	4974	4844	4992	475
15°	4900	4616	4861	4531	4900	1385
25°	4650	4355	4594	4088	4650	2146
35°	4241	4070	4162	3184	4241	2653
45°	3667	2837	3582	2320	3667	2829
55°	2956	1637	2882	1660	2956	2644
65°	2155	1103	2098	1308	2155	2129
75°	1239	625	1200	910	1239	1313
85°	392	250	364	364	392	391
90°	6	159	6	250	6	30
95°	154	262	119	523	154	159
105°	489	324	472	1393	489	509
115°	676	370	676	1671	676	662
125°	688	387	688	1541	688	611
135°	580	387	580	1126	580	450
145°	455	387	466	671	455	290
155°	404	466	398	460	404	186
165°	398	421	392	426	398	113
175°	392	409	392	398	392	38
180°	381	381	381	381	381	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	4951.7	4951.7	4951.7	4951.7	4951.7	4951.7	4951.7	4951.7	4951.7	4951.7	4951.7
2.5°	4991.5	4968.8	5042.7	5048.3	5008.6	5025.6	5025.6	4963.1	4980.1	4906.2	4917.6
5°	4991.5	4997.2	5076.8	5071.1	5048.3	5054.0	5071.1	4991.5	4974.4	4872.1	4883.5
7.5°	4980.1	5008.6	5065.4	5059.7	5037.0	5042.7	5071.1	5002.9	4957.4	4838.0	4832.3
10°	4968.8	4997.2	5042.7	5014.2	4968.8	4985.8	5042.7	4997.2	4940.3	4798.2	4764.1
12.5°	4940.3	4968.8	4991.5	4849.4	4769.8	4838.0	4997.2	4968.8	4906.2	4741.4	4695.9
15°	4900.5	4934.6	4906.2	4707.2	4616.3	4678.8	4906.2	4929.0	4860.7	4667.4	4610.6
17.5°	4855.1	4894.8	4820.9	4599.2	4531.0	4559.4	4786.8	4877.8	4809.6	4593.5	4525.3
20°	4803.9	4849.4	4718.6	4485.5	4445.7	4468.5	4661.8	4820.9	4752.7	4513.9	4440.0
22.5°	4735.7	4786.8	4599.2	4405.9	4423.0	4405.9	4548.1	4747.0	4673.1	4428.7	4343.4
25°	4650.4	4707.2	4479.8	4337.7	4354.8	4349.1	4451.4	4650.4	4593.5	4326.3	4235.4
27.5°	4565.1	4622.0	4371.8	4292.2	4320.7	4286.5	4360.5	4548.1	4502.6	4218.3	4133.0
30°	4468.5	4531.0	4263.8	4212.6	4241.1	4218.3	4269.5	4445.7	4400.2	4104.6	4019.3
32.5°	4360.5	4423.0	4150.1	4116.0	4155.8	4127.4	4161.5	4332.0	4280.9	3979.6	3877.2
35°	4241.1	4303.6	4030.7	4030.7	4070.5	4036.4	4053.5	4218.3	4161.5	3854.5	3718.0
37.5°	4110.3	4178.5	3900.0	3928.4	3973.9	3939.8	3939.8	4098.9	4030.7	3718.0	3536.1
40°	3973.9	4047.8	3763.5	3826.1	3865.9	3826.1	3814.7	3973.9	3888.6	3581.6	3348.5
42.5°	3826.1	3905.6	3638.4	3712.4	3661.2	3712.4	3683.9	3843.1	3757.8	3433.8	3155.2
45°	3666.9	3769.2	3513.4	3467.9	2836.9	3433.8	3553.2	3706.7	3581.6	3291.7	2961.9
47.5°	3502.0	3610.0	3376.9	3047.2	2279.7	3013.1	3411.0	3558.9	3433.8	3138.2	2768.6
50°	3325.8	3450.8	3234.8	2683.4	1989.8	2649.2	3251.9	3405.4	3240.5	2973.3	2575.3
52.5°	3143.8	3280.3	3075.6	2370.7	1796.5	2336.6	3081.3	3240.5	3081.3	2797.1	2387.7
55°	2956.2	3098.4	2888.0	2080.7	1637.3	2075.1	2882.3	3064.3	2882.3	2620.8	2200.1
57.5°	2768.6	2927.8	2689.0	1870.4	1500.9	1842.0	2660.6	2882.3	2711.8	2438.9	2018.2
60°	2569.7	2717.5	2473.0	1643.0	1347.4	1637.3	2438.9	2694.7	2501.4	2251.3	1842.0
62.5°	2365.0	2529.9	2239.9	1444.0	1222.3	1438.3	2200.1	2484.4	2296.8	2058.0	1671.4
65°	2154.6	2313.8	2018.2	1284.8	1102.9	1273.5	1978.4	2268.3	2097.8	1864.7	1512.2
67.5°	1938.6	2086.4	1796.5	1131.3	983.5	1120.0	1751.0	2040.9	1893.1	1665.7	1341.7
70°	1716.9	1853.3	1569.1	983.5	869.8	977.8	1529.3	1807.9	1671.4	1461.1	1188.2
72.5°	1483.8	1608.9	1330.3	841.4	750.4	835.7	1296.2	1569.1	1427.0	1245.0	1051.7
75°	1239.3	1358.7	1108.6	699.3	625.4	693.6	1074.5	1313.3	1199.6	1046.1	892.6
77.5°	1006.3	1125.6	881.2	540.1	477.5	528.7	841.4	1074.5	977.8	847.1	727.7
80°	778.9	875.5	648.1	403.6	380.9	403.6	631.0	824.3	756.1	665.2	568.5
82.5°	574.2	631.0	437.8	329.7	329.7	329.7	426.4	585.6	557.1	494.6	432.1
85°	392.3	392.3	295.6	250.1	250.1	250.1	289.9	346.8	363.8	329.7	329.7
87.5°	164.9	170.6	153.5	136.4	130.8	136.4	147.8	142.1	142.1	159.2	199.0
90°	5.7	73.9	125.1	153.5	159.2	147.8	113.7	68.2	5.7	96.6	176.2
92.5°	39.8	159.2	147.8	193.3	199.0	181.9	153.5	125.1	22.7	176.2	187.6
95°	153.5	187.6	289.9	295.6	261.5	250.1	284.3	176.2	119.4	238.8	477.5
97.5°	244.5	284.3	261.5	341.1	386.6	341.1	272.9	272.9	227.4	369.5	557.1
100°	335.4	301.3	267.2	295.6	341.1	301.3	255.8	301.3	318.4	432.1	682.2
102.5°	420.7	335.4	335.4	289.9	295.6	284.3	324.0	329.7	398.0	488.9	841.4
105°	488.9	346.8	352.5	329.7	324.0	329.7	352.5	352.5	471.9	540.1	915.3
107.5°	551.5	358.2	346.8	363.8	369.5	363.8	346.8	358.2	540.1	574.2	932.4
110°	602.6	363.8	352.5	363.8	380.9	363.8	352.5	369.5	596.9	608.3	943.7



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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°	648.1	369.5	363.8	358.2	375.2	358.2	363.8	380.9	642.4	625.4	943.7
115°	676.5	375.2	363.8	363.8	369.5	363.8	369.5	386.6	676.5	631.0	932.4
117.5°	693.6	386.6	369.5	375.2	380.9	375.2	369.5	398.0	699.3	653.8	926.7
120°	704.9	426.4	369.5	380.9	386.6	380.9	369.5	432.1	704.9	665.2	903.9
122.5°	699.3	443.4	375.2	380.9	392.3	380.9	375.2	449.1	699.3	659.5	875.5
125°	687.9	460.5	375.2	375.2	386.6	380.9	380.9	460.5	687.9	648.1	835.7
127.5°	665.2	500.3	375.2	380.9	380.9	380.9	380.9	494.6	665.2	653.8	795.9
130°	636.7	528.7	363.8	386.6	380.9	392.3	375.2	528.7	636.7	636.7	761.8
132.5°	608.3	540.1	363.8	386.6	386.6	392.3	369.5	540.1	608.3	614.0	727.7
135°	579.9	551.5	386.6	380.9	386.6	386.6	392.3	551.5	579.9	591.2	704.9
137.5°	551.5	557.1	415.0	363.8	380.9	369.5	426.4	557.1	557.1	557.1	670.8
140°	523.0	551.5	437.8	352.5	358.2	363.8	449.1	557.1	534.4	540.1	614.0
142.5°	488.9	534.4	454.8	380.9	352.5	392.3	466.2	551.5	500.3	523.0	585.6
145°	454.8	517.3	488.9	420.7	386.6	437.8	506.0	534.4	466.2	511.7	568.5
147.5°	426.4	488.9	494.6	443.4	426.4	460.5	511.7	511.7	432.1	488.9	528.7
150°	409.3	460.5	477.5	460.5	443.4	483.2	500.3	471.9	409.3	471.9	494.6
152.5°	403.6	437.8	437.8	483.2	477.5	506.0	460.5	449.1	398.0	454.8	449.1
155°	403.6	432.1	420.7	443.4	466.2	466.2	437.8	437.8	398.0	454.8	426.4
157.5°	398.0	437.8	420.7	415.0	426.4	437.8	437.8	443.4	398.0	443.4	426.4
160°	398.0	443.4	426.4	409.3	415.0	432.1	443.4	443.4	398.0	443.4	432.1
162.5°	398.0	432.1	432.1	415.0	415.0	437.8	443.4	437.8	398.0	432.1	443.4
165°	398.0	432.1	437.8	426.4	420.7	449.1	443.4	426.4	392.3	426.4	449.1
167.5°	398.0	420.7	443.4	432.1	432.1	449.1	449.1	420.7	392.3	409.3	449.1
170°	398.0	415.0	437.8	432.1	437.8	454.8	437.8	415.0	398.0	403.6	432.1
172.5°	398.0	403.6	426.4	432.1	432.1	443.4	426.4	403.6	398.0	392.3	415.0
175°	392.3	403.6	415.0	415.0	409.3	426.4	409.3	398.0	392.3	386.6	398.0
177.5°	386.6	392.3	403.6	403.6	392.3	403.6	392.3	386.6	386.6	380.9	392.3
180°	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4951.7	4951.7	4951.7	4951.7	4951.7	4951.7
2.5°	4911.9	4872.1	4883.5	4917.6	4911.9	4991.5
5°	4860.7	4843.7	4843.7	4894.8	4889.2	4991.5
7.5°	4803.9	4775.5	4792.5	4849.4	4866.4	4980.1
10°	4730.0	4707.2	4712.9	4798.2	4826.6	4968.8
12.5°	4656.1	4633.3	4650.4	4730.0	4769.8	4940.3
15°	4570.8	4531.0	4576.5	4661.8	4712.9	4900.5
17.5°	4468.5	4423.0	4468.5	4582.2	4644.7	4855.1
20°	4377.5	4332.0	4360.5	4479.8	4565.1	4803.9
22.5°	4275.2	4218.3	4241.1	4371.8	4479.8	4735.7
25°	4161.5	4087.6	4121.7	4263.8	4383.2	4650.4
27.5°	4013.7	3888.6	3973.9	4150.1	4263.8	4565.1
30°	3809.0	3644.1	3780.6	4025.0	4155.8	4468.5
32.5°	3570.2	3394.0	3541.8	3871.5	4030.7	4360.5
35°	3337.1	3183.6	3320.1	3712.4	3905.6	4241.1
37.5°	3132.5	2990.3	3115.4	3530.4	3769.2	4110.3
40°	2922.1	2791.4	2916.4	3337.1	3632.8	3973.9
42.5°	2728.8	2603.8	2723.2	3143.8	3485.0	3826.1
45°	2524.2	2319.5	2512.8	2944.9	3325.8	3666.9
47.5°	2308.1	2092.1	2291.1	2751.6	3166.6	3502.0
50°	2109.2	1915.9	2097.8	2552.6	2996.0	3325.8
52.5°	1932.9	1768.1	1927.2	2353.6	2819.8	3143.8
55°	1768.1	1660.0	1773.7	2171.7	2654.9	2956.2
57.5°	1637.3	1563.4	1643.0	1995.5	2473.0	2768.6
60°	1523.6	1478.1	1529.3	1819.2	2279.7	2569.7
62.5°	1398.5	1381.5	1398.5	1648.7	2092.1	2365.0
65°	1290.5	1307.6	1290.5	1495.2	1893.1	2154.6
67.5°	1188.2	1228.0	1193.9	1330.3	1694.2	1938.6
70°	1074.5	1131.3	1080.2	1182.5	1489.5	1716.9
72.5°	955.1	1023.3	955.1	1040.4	1273.5	1483.8
75°	830.0	909.6	835.7	886.9	1068.8	1239.3
77.5°	693.6	744.7	704.9	722.0	869.8	1006.3
80°	551.5	608.3	557.1	568.5	687.9	778.9
82.5°	460.5	500.3	466.2	432.1	511.7	574.2
85°	341.1	363.8	352.5	335.4	352.5	392.3
87.5°	210.3	221.7	210.3	210.3	181.9	164.9
90°	233.1	250.1	233.1	181.9	102.3	5.7
92.5°	238.8	261.5	238.8	199.0	193.3	39.8
95°	534.4	523.0	568.5	517.3	295.6	153.5
97.5°	830.0	949.4	858.4	619.7	398.0	244.5
100°	955.1	1068.8	994.9	773.2	454.8	335.4
102.5°	1102.9	1228.0	1148.4	903.9	511.7	420.7
105°	1284.8	1392.8	1324.6	955.1	562.8	488.9
107.5°	1381.5	1546.3	1409.9	977.8	596.9	551.5
110°	1432.6	1608.9	1478.1	983.5	625.4	602.6



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CATALOG NUMBER: 8WSL-LD2-150-UPL15-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	1472.4	1643.0	1506.5	983.5	636.7	648.1
115°	1472.4	1671.4	1506.5	966.5	653.8	676.5
117.5°	1472.4	1654.4	1506.5	949.4	676.5	693.6
120°	1421.3	1648.7	1466.7	926.7	682.2	704.9
122.5°	1381.5	1603.2	1409.9	898.2	682.2	699.3
125°	1307.6	1540.7	1341.7	864.1	670.8	687.9
127.5°	1228.0	1449.7	1256.4	824.3	676.5	665.2
130°	1154.1	1347.4	1171.1	784.5	653.8	636.7
132.5°	1057.4	1233.7	1074.5	756.1	631.0	608.3
135°	966.5	1125.6	989.2	733.4	602.6	579.9
137.5°	869.8	1011.9	892.6	687.9	574.2	551.5
140°	756.1	869.8	778.9	636.7	557.1	523.0
142.5°	682.2	744.7	704.9	614.0	534.4	488.9
145°	636.7	670.8	653.8	591.2	523.0	454.8
147.5°	591.2	625.4	608.3	545.8	494.6	426.4
150°	574.2	574.2	596.9	506.0	477.5	409.3
152.5°	511.7	557.1	534.4	460.5	466.2	403.6
155°	437.8	460.5	460.5	443.4	466.2	403.6
157.5°	409.3	426.4	432.1	443.4	454.8	398.0
160°	409.3	415.0	432.1	449.1	449.1	398.0
162.5°	420.7	415.0	443.4	460.5	437.8	398.0
165°	432.1	426.4	454.8	466.2	426.4	398.0
167.5°	443.4	443.4	466.2	460.5	415.0	398.0
170°	443.4	454.8	466.2	443.4	409.3	398.0
172.5°	426.4	432.1	443.4	415.0	392.3	398.0
175°	403.6	398.0	415.0	398.0	392.3	392.3
177.5°	392.3	375.2	392.3	386.6	380.9	386.6
180°	380.9	380.9	380.9	380.9	380.9	380.9

(END OF REPORT)