

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: P197508

Luminaire Tested: **8WSL-LD2-160-UPL15-UNV-L850-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197508
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-LD2-160-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

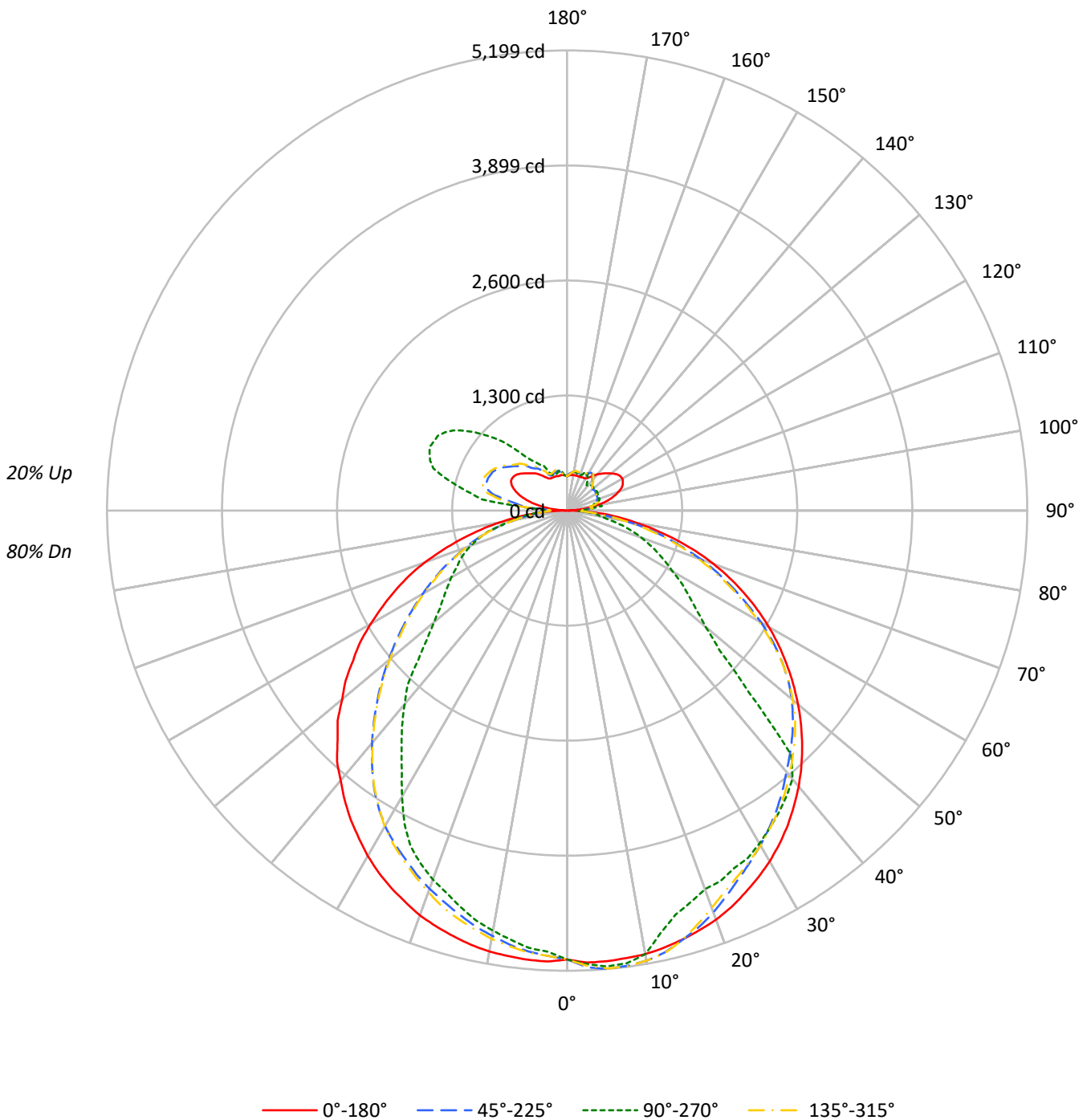
Lumens per Lamp: N/A
Luminaire Lumens: 17945.0 lumens
Efficiency: N/A
Efficacy: 117.4 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 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	
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°	14363	14363	14363	14363
5°	14534	14699	14484	14103
10°	14635	14635	14551	13864
15°	14716	13862	14596	13606
20°	14828	13723	14670	13372
25°	14883	13937	14701	13082
30°	14966	14205	14738	12205
35°	15018	14414	14736	11273
40°	15047	14638	14724	10570
45°	15042	11637	14692	9515
50°	15008	8979	14623	8646
55°	14950	8280	14576	8395
60°	14907	7816	14511	8575
65°	14788	7570	14398	8975
70°	14561	7377	14175	9595
75°	13889	7009	13443	10194
80°	13011	6362	12631	10161
85°	13055	8323	12110	12110



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	482.5	2.7
10°-20°	1369.4	7.6
20°-30°	2069.4	11.5
30°-40°	2490.6	13.9
40°-50°	2532.9	14.1
50°-60°	2204.6	12.3
60°-70°	1719.7	9.6
70°-80°	1063.1	5.9
80°-90°	374.1	2.1
90°-100°	352.2	2.0
100°-110°	681.9	3.8
110°-120°	746.1	4.2
120°-130°	654.1	3.6
130°-140°	490.1	2.7
140°-150°	335.5	1.9
150°-160°	213.6	1.2
160°-170°	124.9	0.7
170°-180°	40.3	0.2
0°-30°	3921.4	21.9
0°-40°	6411.9	35.7
0°-60°	11149.5	62.1
0°-90°	14306.4	79.7
90°-120°	1780.1	9.9
90°-150°	3259.8	18.2
90°-180°	3639.0	20.3
0°-180°	17945.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5071	5071	5071	5071	5071	
5°	5111	5170	5094	4960	5111	487
15°	5018	4727	4977	4640	5018	1419
25°	4762	4459	4704	4186	4762	2198
35°	4343	4168	4261	3260	4343	2717
45°	3755	2905	3668	2375	3755	2896
55°	3027	1677	2952	1700	3027	2707
65°	2206	1129	2148	1339	2206	2180
75°	1269	640	1228	931	1269	1344
85°	402	256	373	373	402	401
90°	6	163	6	256	6	30
95°	157	268	122	536	157	163
105°	501	332	483	1426	501	522
115°	693	378	693	1712	693	678
125°	704	396	704	1578	704	626
135°	594	396	594	1153	594	461
145°	466	396	477	687	466	297
155°	413	477	408	472	413	191
165°	408	431	402	437	408	116
175°	402	419	402	408	402	39
180°	390	390	390	390	390	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	5070.6	5070.6	5070.6	5070.6	5070.6	5070.6	5070.6	5070.6	5070.6	5070.6	5070.6
2.5°	5111.3	5088.0	5163.7	5169.5	5128.8	5146.3	5146.3	5082.2	5099.7	5024.0	5035.6
5°	5111.3	5117.1	5198.6	5192.8	5169.5	5175.4	5192.8	5111.3	5093.9	4989.1	5000.7
7.5°	5099.7	5128.8	5187.0	5181.2	5157.9	5163.7	5192.8	5123.0	5076.4	4954.1	4948.3
10°	5088.0	5117.1	5163.7	5134.6	5088.0	5105.5	5163.7	5117.1	5058.9	4913.4	4878.5
12.5°	5058.9	5088.0	5111.3	4965.8	4884.3	4954.1	5117.1	5088.0	5024.0	4855.2	4808.6
15°	5018.2	5053.1	5024.0	4820.2	4727.1	4791.1	5024.0	5047.3	4977.4	4779.5	4721.3
17.5°	4971.6	5012.4	4936.7	4709.6	4639.8	4668.9	4901.7	4994.9	4925.0	4703.8	4634.0
20°	4919.2	4965.8	4831.9	4593.2	4552.5	4575.7	4773.7	4936.7	4866.8	4622.3	4546.6
22.5°	4849.4	4901.7	4709.6	4511.7	4529.2	4511.7	4657.2	4861.0	4785.3	4535.0	4447.7
25°	4762.0	4820.2	4587.4	4441.8	4459.3	4453.5	4558.3	4762.0	4703.8	4430.2	4337.1
27.5°	4674.7	4732.9	4476.8	4395.3	4424.4	4389.4	4465.1	4657.2	4610.7	4319.6	4232.3
30°	4575.7	4639.8	4366.2	4313.8	4342.9	4319.6	4372.0	4552.5	4505.9	4203.2	4115.8
32.5°	4465.1	4529.2	4249.7	4214.8	4255.6	4226.4	4261.4	4436.0	4383.6	4075.1	3970.3
35°	4342.9	4406.9	4127.5	4127.5	4168.2	4133.3	4150.8	4319.6	4261.4	3947.0	3807.3
37.5°	4209.0	4278.8	3993.6	4022.7	4069.3	4034.3	4034.3	4197.3	4127.5	3807.3	3621.0
40°	4069.3	4144.9	3853.9	3917.9	3958.7	3917.9	3906.3	4069.3	3981.9	3667.6	3428.9
42.5°	3917.9	3999.4	3725.8	3801.5	3749.1	3801.5	3772.4	3935.4	3848.0	3516.2	3231.0
45°	3754.9	3859.7	3597.7	3551.1	2905.0	3516.2	3638.5	3795.7	3667.6	3370.7	3033.0
47.5°	3586.1	3696.7	3458.0	3120.4	2334.4	3085.4	3492.9	3644.3	3516.2	3213.5	2835.1
50°	3405.6	3533.7	3312.5	2747.8	2037.5	2712.8	3329.9	3487.1	3318.3	3044.7	2637.2
52.5°	3219.3	3359.0	3149.5	2427.6	1839.6	2392.7	3155.3	3318.3	3155.3	2864.2	2445.1
55°	3027.2	3172.7	2957.3	2130.7	1676.6	2124.9	2951.5	3137.8	2951.5	2683.7	2252.9
57.5°	2835.1	2998.1	2753.6	1915.3	1536.9	1886.2	2724.5	2951.5	2776.9	2497.4	2066.7
60°	2631.3	2782.7	2532.4	1682.4	1379.7	1676.6	2497.4	2759.4	2561.5	2305.3	1886.2
62.5°	2421.8	2590.6	2293.7	1478.7	1251.6	1472.9	2252.9	2544.0	2351.9	2107.4	1711.5
65°	2206.4	2369.4	2066.7	1315.7	1129.4	1304.0	2025.9	2322.8	2148.2	1909.5	1548.5
67.5°	1985.1	2136.5	1839.6	1158.5	1007.1	1146.8	1793.0	2089.9	1938.6	1705.7	1373.9
70°	1758.1	1897.8	1606.7	1007.1	890.7	1001.3	1566.0	1851.3	1711.5	1496.1	1216.7
72.5°	1519.4	1647.5	1362.2	861.6	768.4	855.8	1327.3	1606.7	1461.2	1274.9	1077.0
75°	1269.1	1391.4	1135.2	716.1	640.4	710.2	1100.3	1344.8	1228.3	1071.2	914.0
77.5°	1030.4	1152.7	902.3	553.0	489.0	541.4	861.6	1100.3	1001.3	867.4	745.2
80°	797.6	896.5	663.7	413.3	390.0	413.3	646.2	844.1	774.3	681.1	582.2
82.5°	588.0	646.2	448.3	337.6	337.6	337.6	436.6	599.6	570.5	506.5	442.4
85°	401.7	401.7	302.7	256.1	256.1	256.1	296.9	355.1	372.6	337.6	337.6
87.5°	168.8	174.6	157.2	139.7	133.9	139.7	151.4	145.5	145.5	163.0	203.8
90°	5.8	75.7	128.1	157.2	163.0	151.4	116.4	69.9	5.8	99.0	180.5
92.5°	40.8	163.0	151.4	197.9	203.8	186.3	157.2	128.1	23.3	180.5	192.1
95°	157.2	192.1	296.9	302.7	267.8	256.1	291.1	180.5	122.3	244.5	489.0
97.5°	250.3	291.1	267.8	349.3	395.9	349.3	279.4	279.4	232.9	378.4	570.5
100°	343.5	308.5	273.6	302.7	349.3	308.5	262.0	308.5	326.0	442.4	698.6
102.5°	430.8	343.5	343.5	296.9	302.7	291.1	331.8	337.6	407.5	500.7	861.6
105°	500.7	355.1	360.9	337.6	331.8	337.6	360.9	360.9	483.2	553.0	937.3
107.5°	564.7	366.8	355.1	372.6	378.4	372.6	355.1	366.8	553.0	588.0	954.7
110°	617.1	372.6	360.9	372.6	390.0	372.6	360.9	378.4	611.3	622.9	966.4



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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°	663.7	378.4	372.6	366.8	384.2	366.8	372.6	390.0	657.8	640.4	966.4
115°	692.8	384.2	372.6	372.6	378.4	372.6	378.4	395.9	692.8	646.2	954.7
117.5°	710.2	395.9	378.4	384.2	390.0	384.2	378.4	407.5	716.1	669.5	948.9
120°	721.9	436.6	378.4	390.0	395.9	390.0	378.4	442.4	721.9	681.1	925.6
122.5°	716.1	454.1	384.2	390.0	401.7	390.0	384.2	459.9	716.1	675.3	896.5
125°	704.4	471.5	384.2	384.2	395.9	390.0	390.0	471.5	704.4	663.7	855.8
127.5°	681.1	512.3	384.2	390.0	390.0	390.0	390.0	506.5	681.1	669.5	815.0
130°	652.0	541.4	372.6	395.9	390.0	401.7	384.2	541.4	652.0	652.0	780.1
132.5°	622.9	553.0	372.6	395.9	395.9	401.7	378.4	553.0	622.9	628.7	745.2
135°	593.8	564.7	395.9	390.0	395.9	395.9	401.7	564.7	593.8	605.4	721.9
137.5°	564.7	570.5	425.0	372.6	390.0	378.4	436.6	570.5	570.5	570.5	686.9
140°	535.6	564.7	448.3	360.9	366.8	372.6	459.9	570.5	547.2	553.0	628.7
142.5°	500.7	547.2	465.7	390.0	360.9	401.7	477.4	564.7	512.3	535.6	599.6
145°	465.7	529.8	500.7	430.8	395.9	448.3	518.1	547.2	477.4	523.9	582.2
147.5°	436.6	500.7	506.5	454.1	436.6	471.5	523.9	523.9	442.4	500.7	541.4
150°	419.2	471.5	489.0	471.5	454.1	494.8	512.3	483.2	419.2	483.2	506.5
152.5°	413.3	448.3	448.3	494.8	489.0	518.1	471.5	459.9	407.5	465.7	459.9
155°	413.3	442.4	430.8	454.1	477.4	477.4	448.3	448.3	407.5	465.7	436.6
157.5°	407.5	448.3	430.8	425.0	436.6	448.3	448.3	454.1	407.5	454.1	436.6
160°	407.5	454.1	436.6	419.2	425.0	442.4	454.1	454.1	407.5	454.1	442.4
162.5°	407.5	442.4	442.4	425.0	425.0	448.3	454.1	448.3	407.5	442.4	454.1
165°	407.5	442.4	448.3	436.6	430.8	459.9	454.1	436.6	401.7	436.6	459.9
167.5°	407.5	430.8	454.1	442.4	442.4	459.9	459.9	430.8	401.7	419.2	459.9
170°	407.5	425.0	448.3	442.4	448.3	465.7	448.3	425.0	407.5	413.3	442.4
172.5°	407.5	413.3	436.6	442.4	442.4	454.1	436.6	413.3	407.5	401.7	425.0
175°	401.7	413.3	425.0	425.0	419.2	436.6	419.2	407.5	401.7	395.9	407.5
177.5°	395.9	401.7	413.3	413.3	401.7	413.3	401.7	395.9	395.9	390.0	401.7
180°	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	5070.6	5070.6	5070.6	5070.6	5070.6	5070.6
2.5°	5029.8	4989.1	5000.7	5035.6	5029.8	5111.3
5°	4977.4	4960.0	4960.0	5012.4	5006.5	5111.3
7.5°	4919.2	4890.1	4907.6	4965.8	4983.2	5099.7
10°	4843.5	4820.2	4826.1	4913.4	4942.5	5088.0
12.5°	4767.9	4744.6	4762.0	4843.5	4884.3	5058.9
15°	4680.5	4639.8	4686.3	4773.7	4826.1	5018.2
17.5°	4575.7	4529.2	4575.7	4692.2	4756.2	4971.6
20°	4482.6	4436.0	4465.1	4587.4	4674.7	4919.2
22.5°	4377.8	4319.6	4342.9	4476.8	4587.4	4849.4
25°	4261.4	4185.7	4220.6	4366.2	4488.4	4762.0
27.5°	4110.0	3981.9	4069.3	4249.7	4366.2	4674.7
30°	3900.4	3731.6	3871.3	4121.7	4255.6	4575.7
32.5°	3655.9	3475.5	3626.8	3964.5	4127.5	4465.1
35°	3417.3	3260.1	3399.8	3801.5	3999.4	4342.9
37.5°	3207.7	3062.1	3190.2	3615.2	3859.7	4209.0
40°	2992.3	2858.4	2986.5	3417.3	3720.0	4069.3
42.5°	2794.3	2666.3	2788.5	3219.3	3568.6	3917.9
45°	2584.8	2375.2	2573.1	3015.6	3405.6	3754.9
47.5°	2363.5	2142.3	2346.1	2817.6	3242.6	3586.1
50°	2159.8	1961.9	2148.2	2613.9	3068.0	3405.6
52.5°	1979.3	1810.5	1973.5	2410.1	2887.5	3219.3
55°	1810.5	1699.9	1816.3	2223.8	2718.7	3027.2
57.5°	1676.6	1600.9	1682.4	2043.4	2532.4	2835.1
60°	1560.2	1513.6	1566.0	1862.9	2334.4	2631.3
62.5°	1432.1	1414.6	1432.1	1688.2	2142.3	2421.8
65°	1321.5	1339.0	1321.5	1531.1	1938.6	2206.4
67.5°	1216.7	1257.5	1222.5	1362.2	1734.8	1985.1
70°	1100.3	1158.5	1106.1	1210.9	1525.2	1758.1
72.5°	978.0	1047.9	978.0	1065.3	1304.0	1519.4
75°	849.9	931.4	855.8	908.2	1094.5	1269.1
77.5°	710.2	762.6	721.9	739.3	890.7	1030.4
80°	564.7	622.9	570.5	582.2	704.4	797.6
82.5°	471.5	512.3	477.4	442.4	523.9	588.0
85°	349.3	372.6	360.9	343.5	360.9	401.7
87.5°	215.4	227.0	215.4	215.4	186.3	168.8
90°	238.7	256.1	238.7	186.3	104.8	5.8
92.5°	244.5	267.8	244.5	203.8	197.9	40.8
95°	547.2	535.6	582.2	529.8	302.7	157.2
97.5°	849.9	972.2	879.1	634.5	407.5	250.3
100°	978.0	1094.5	1018.8	791.7	465.7	343.5
102.5°	1129.4	1257.5	1176.0	925.6	523.9	430.8
105°	1315.7	1426.3	1356.4	978.0	576.3	500.7
107.5°	1414.6	1583.5	1443.7	1001.3	611.3	564.7
110°	1467.0	1647.5	1513.6	1007.1	640.4	617.1



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CATALOG NUMBER: 8WSL-LD2-160-UPL15-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	1507.8	1682.4	1542.7	1007.1	652.0	663.7
115°	1507.8	1711.5	1542.7	989.7	669.5	692.8
117.5°	1507.8	1694.1	1542.7	972.2	692.8	710.2
120°	1455.4	1688.2	1502.0	948.9	698.6	721.9
122.5°	1414.6	1641.7	1443.7	919.8	698.6	716.1
125°	1339.0	1577.6	1373.9	884.9	686.9	704.4
127.5°	1257.5	1484.5	1286.6	844.1	692.8	681.1
130°	1181.8	1379.7	1199.2	803.4	669.5	652.0
132.5°	1082.8	1263.3	1100.3	774.3	646.2	622.9
135°	989.7	1152.7	1012.9	751.0	617.1	593.8
137.5°	890.7	1036.2	914.0	704.4	588.0	564.7
140°	774.3	890.7	797.6	652.0	570.5	535.6
142.5°	698.6	762.6	721.9	628.7	547.2	500.7
145°	652.0	686.9	669.5	605.4	535.6	465.7
147.5°	605.4	640.4	622.9	558.9	506.5	436.6
150°	588.0	588.0	611.3	518.1	489.0	419.2
152.5°	523.9	570.5	547.2	471.5	477.4	413.3
155°	448.3	471.5	471.5	454.1	477.4	413.3
157.5°	419.2	436.6	442.4	454.1	465.7	407.5
160°	419.2	425.0	442.4	459.9	459.9	407.5
162.5°	430.8	425.0	454.1	471.5	448.3	407.5
165°	442.4	436.6	465.7	477.4	436.6	407.5
167.5°	454.1	454.1	477.4	471.5	425.0	407.5
170°	454.1	465.7	477.4	454.1	419.2	407.5
172.5°	436.6	442.4	454.1	425.0	401.7	407.5
175°	413.3	407.5	425.0	407.5	401.7	401.7
177.5°	401.7	384.2	401.7	395.9	390.0	395.9
180°	390.0	390.0	390.0	390.0	390.0	390.0

(END OF REPORT)