

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: P197503

Luminaire Tested: **8WSL-LD2-150-UPL15-UNV-L840-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197503
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-L840-CD2-U
Description: 8FT. Linear Wavestream System, 15% Uplight, L840
Light Source: (476) 4000K CCT, 80 CRI LEDS
EL236N0119D840
Ballast/Driver: OSRAM
OT85W1202772A0DIML

Summary

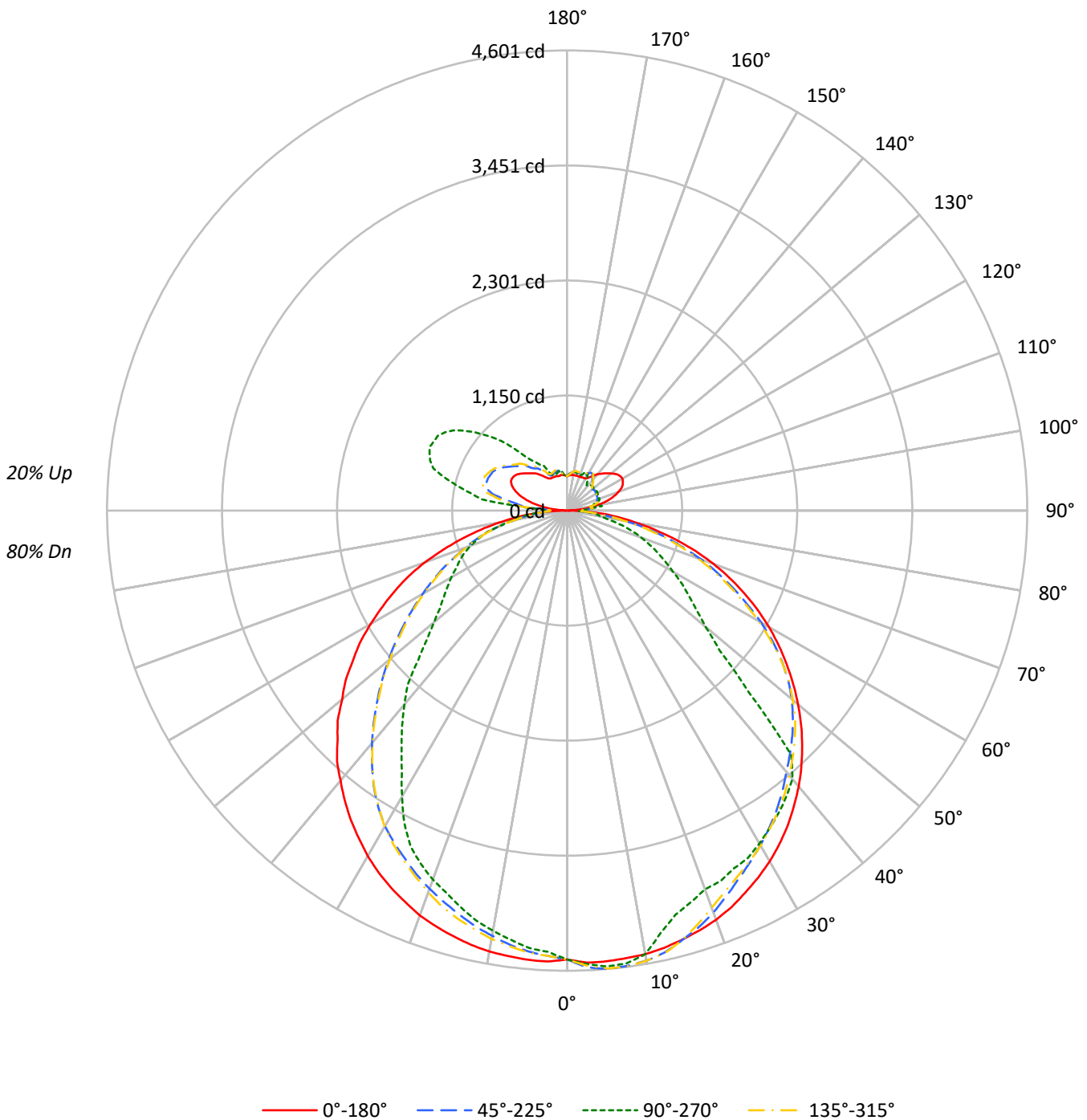
Lumens per Lamp: N/A
Luminaire Lumens: 15882.9 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

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			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°	12712	12712	12712	12712
5°	12864	13010	12820	12483
10°	12953	12953	12879	12271
15°	13025	12269	12919	12043
20°	13124	12146	12985	11835
25°	13173	12336	13012	11579
30°	13246	12572	13044	10803
35°	13292	12758	13042	9978
40°	13318	12956	13032	9355
45°	13313	10300	13004	8422
50°	13283	7947	12943	7652
55°	13232	7328	12901	7430
60°	13194	6918	12844	7590
65°	13089	6700	12744	7943
70°	12888	6529	12546	8492
75°	12294	6203	11899	9023
80°	11515	5631	11179	8993
85°	11554	7368	10719	10719



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	427.1	2.7
10°-20°	1212.0	7.6
20°-30°	1831.6	11.5
30°-40°	2204.4	13.9
40°-50°	2241.8	14.1
50°-60°	1951.3	12.3
60°-70°	1522.1	9.6
70°-80°	941.0	5.9
80°-90°	331.1	2.1
90°-100°	311.7	2.0
100°-110°	603.5	3.8
110°-120°	660.3	4.2
120°-130°	578.9	3.6
130°-140°	433.8	2.7
140°-150°	297.0	1.9
150°-160°	189.1	1.2
160°-170°	110.5	0.7
170°-180°	35.7	0.2
0°-30°	3470.7	21.9
0°-40°	5675.1	35.7
0°-60°	9868.3	62.1
0°-90°	12662.4	79.7
90°-120°	1575.6	9.9
90°-150°	2885.2	18.2
90°-180°	3220.0	20.3
0°-180°	15882.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4488	4488	4488	4488	4488	
5°	4524	4576	4508	4390	4524	431
15°	4442	4184	4406	4107	4442	1256
25°	4215	3947	4163	3705	4215	1945
35°	3844	3689	3772	2885	3844	2405
45°	3323	2571	3246	2102	3323	2564
55°	2679	1484	2612	1505	2679	2396
65°	1953	1000	1901	1185	1953	1930
75°	1123	567	1087	824	1123	1190
85°	356	227	330	330	356	355
90°	5	144	5	227	5	27
95°	139	237	108	474	139	144
105°	443	294	428	1262	443	462
115°	613	335	613	1515	613	600
125°	624	350	624	1396	624	554
135°	526	350	526	1020	526	408
145°	412	350	422	608	412	263
155°	366	422	361	417	366	169
165°	361	381	356	386	361	102
175°	356	371	356	361	356	34
180°	345	345	345	345	345	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	4487.9	4487.9	4487.9	4487.9	4487.9	4487.9	4487.9	4487.9	4487.9	4487.9	4487.9
2.5°	4524.0	4503.4	4570.3	4575.5	4539.4	4554.9	4554.9	4498.2	4513.7	4446.7	4457.0
5°	4524.0	4529.1	4601.3	4596.1	4575.5	4580.7	4596.1	4524.0	4508.5	4415.8	4426.1
7.5°	4513.7	4539.4	4591.0	4585.8	4565.2	4570.3	4596.1	4534.3	4493.1	4384.9	4379.7
10°	4503.4	4529.1	4570.3	4544.6	4503.4	4518.8	4570.3	4529.1	4477.6	4348.8	4317.9
12.5°	4477.6	4503.4	4524.0	4395.2	4323.0	4384.9	4529.1	4503.4	4446.7	4297.3	4256.0
15°	4441.5	4472.4	4446.7	4266.3	4183.9	4240.6	4446.7	4467.3	4405.5	4230.3	4178.7
17.5°	4400.3	4436.4	4369.4	4168.4	4106.6	4132.4	4338.5	4420.9	4359.1	4163.3	4101.5
20°	4353.9	4395.2	4276.6	4065.4	4029.3	4049.9	4225.1	4369.4	4307.6	4091.2	4024.2
22.5°	4292.1	4338.5	4168.4	3993.3	4008.7	3993.3	4122.1	4302.4	4235.4	4013.9	3936.6
25°	4214.8	4266.3	4060.2	3931.4	3946.9	3941.7	4034.5	4214.8	4163.3	3921.1	3838.7
27.5°	4137.5	4189.1	3962.3	3890.2	3916.0	3885.1	3952.0	4122.1	4080.8	3823.2	3745.9
30°	4049.9	4106.6	3864.4	3818.1	3843.8	3823.2	3869.6	4029.3	3988.1	3720.2	3642.9
32.5°	3952.0	4008.7	3761.4	3730.5	3766.5	3740.8	3771.7	3926.3	3879.9	3606.8	3514.1
35°	3843.8	3900.5	3653.2	3653.2	3689.3	3658.3	3673.8	3823.2	3771.7	3493.5	3369.8
37.5°	3725.3	3787.2	3534.7	3560.4	3601.7	3570.7	3570.7	3715.0	3653.2	3369.8	3204.9
40°	3601.7	3668.6	3411.0	3467.7	3503.8	3467.7	3457.4	3601.7	3524.4	3246.1	3034.9
42.5°	3467.7	3539.8	3297.7	3364.6	3318.3	3364.6	3338.9	3483.1	3405.9	3112.2	2859.7
45°	3323.4	3416.2	3184.3	3143.1	2571.1	3112.2	3220.4	3359.5	3246.1	2983.3	2684.5
47.5°	3174.0	3271.9	3060.6	2761.8	2066.2	2730.9	3091.6	3225.5	3112.2	2844.2	2509.3
50°	3014.3	3127.6	2931.8	2432.0	1803.4	2401.1	2947.3	3086.4	2937.0	2694.8	2334.1
52.5°	2849.4	2973.0	2787.5	2148.6	1628.2	2117.7	2792.7	2937.0	2792.7	2535.1	2164.1
55°	2679.3	2808.2	2617.5	1885.8	1483.9	1880.7	2612.4	2777.2	2612.4	2375.3	1994.1
57.5°	2509.3	2653.6	2437.2	1695.2	1360.3	1669.4	2411.4	2612.4	2457.8	2210.5	1829.2
60°	2329.0	2462.9	2241.4	1489.1	1221.2	1483.9	2210.5	2442.3	2267.1	2040.4	1669.4
62.5°	2143.5	2292.9	2030.1	1308.8	1107.8	1303.6	1994.1	2251.7	2081.6	1865.2	1514.9
65°	1952.8	2097.1	1829.2	1164.5	999.6	1154.2	1793.1	2055.9	1901.3	1690.0	1370.6
67.5°	1757.0	1891.0	1628.2	1025.4	891.4	1015.1	1587.0	1849.8	1715.8	1509.7	1216.0
70°	1556.1	1679.7	1422.1	891.4	788.3	886.2	1386.0	1638.5	1514.9	1324.2	1076.9
72.5°	1344.8	1458.2	1205.7	762.6	680.1	757.4	1174.8	1422.1	1293.3	1128.4	953.2
75°	1123.3	1231.5	1004.8	633.8	566.8	628.6	973.8	1190.2	1087.2	948.1	809.0
77.5°	912.0	1020.2	798.7	489.5	432.8	479.2	762.6	973.8	886.2	767.7	659.5
80°	705.9	793.5	587.4	365.8	345.2	365.8	571.9	747.1	685.3	602.9	515.3
82.5°	520.4	571.9	396.7	298.9	298.9	298.9	386.4	530.7	505.0	448.3	391.6
85°	355.5	355.5	267.9	226.7	226.7	226.7	262.8	314.3	329.8	298.9	298.9
87.5°	149.4	154.6	139.1	123.7	118.5	123.7	134.0	128.8	128.8	144.3	180.3
90°	5.2	67.0	113.4	139.1	144.3	134.0	103.1	61.8	5.2	87.6	159.7
92.5°	36.1	144.3	134.0	175.2	180.3	164.9	139.1	113.4	20.6	159.7	170.0
95°	139.1	170.0	262.8	267.9	237.0	226.7	257.6	159.7	108.2	216.4	432.8
97.5°	221.6	257.6	237.0	309.2	350.4	309.2	247.3	247.3	206.1	334.9	505.0
100°	304.0	273.1	242.2	267.9	309.2	273.1	231.9	273.1	288.5	391.6	618.3
102.5°	381.3	304.0	304.0	262.8	267.9	257.6	293.7	298.9	360.7	443.1	762.6
105°	443.1	314.3	319.5	298.9	293.7	298.9	319.5	319.5	427.7	489.5	829.6
107.5°	499.8	324.6	314.3	329.8	334.9	329.8	314.3	324.6	489.5	520.4	845.0
110°	546.2	329.8	319.5	329.8	345.2	329.8	319.5	334.9	541.0	551.3	855.3



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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°	587.4	334.9	329.8	324.6	340.1	324.6	329.8	345.2	582.2	566.8	855.3
115°	613.2	340.1	329.8	329.8	334.9	329.8	334.9	350.4	613.2	571.9	845.0
117.5°	628.6	350.4	334.9	340.1	345.2	340.1	334.9	360.7	633.8	592.5	839.9
120°	638.9	386.4	334.9	345.2	350.4	345.2	334.9	391.6	638.9	602.9	819.3
122.5°	633.8	401.9	340.1	345.2	355.5	345.2	340.1	407.1	633.8	597.7	793.5
125°	623.5	417.4	340.1	340.1	350.4	345.2	345.2	417.4	623.5	587.4	757.4
127.5°	602.9	453.4	340.1	345.2	345.2	345.2	345.2	448.3	602.9	592.5	721.4
130°	577.1	479.2	329.8	350.4	345.2	355.5	340.1	479.2	577.1	577.1	690.4
132.5°	551.3	489.5	329.8	350.4	350.4	355.5	334.9	489.5	551.3	556.5	659.5
135°	525.6	499.8	350.4	345.2	350.4	350.4	355.5	499.8	525.6	535.9	638.9
137.5°	499.8	505.0	376.1	329.8	345.2	334.9	386.4	505.0	505.0	505.0	608.0
140°	474.0	499.8	396.7	319.5	324.6	329.8	407.1	505.0	484.3	489.5	556.5
142.5°	443.1	484.3	412.2	345.2	319.5	355.5	422.5	499.8	453.4	474.0	530.7
145°	412.2	468.9	443.1	381.3	350.4	396.7	458.6	484.3	422.5	463.7	515.3
147.5°	386.4	443.1	448.3	401.9	386.4	417.4	463.7	463.7	391.6	443.1	479.2
150°	371.0	417.4	432.8	417.4	401.9	438.0	453.4	427.7	371.0	427.7	448.3
152.5°	365.8	396.7	396.7	438.0	432.8	458.6	417.4	407.1	360.7	412.2	407.1
155°	365.8	391.6	381.3	401.9	422.5	422.5	396.7	396.7	360.7	412.2	386.4
157.5°	360.7	396.7	381.3	376.1	386.4	396.7	396.7	401.9	360.7	401.9	386.4
160°	360.7	401.9	386.4	371.0	376.1	391.6	401.9	401.9	360.7	401.9	391.6
162.5°	360.7	391.6	391.6	376.1	376.1	396.7	401.9	396.7	360.7	391.6	401.9
165°	360.7	391.6	396.7	386.4	381.3	407.1	401.9	386.4	355.5	386.4	407.1
167.5°	360.7	381.3	401.9	391.6	391.6	407.1	407.1	381.3	355.5	371.0	407.1
170°	360.7	376.1	396.7	391.6	396.7	412.2	396.7	376.1	360.7	365.8	391.6
172.5°	360.7	365.8	386.4	391.6	391.6	401.9	386.4	365.8	360.7	355.5	376.1
175°	355.5	365.8	376.1	376.1	371.0	386.4	371.0	360.7	355.5	350.4	360.7
177.5°	350.4	355.5	365.8	365.8	355.5	365.8	355.5	350.4	350.4	345.2	355.5
180°	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4487.9	4487.9	4487.9	4487.9	4487.9	4487.9
2.5°	4451.8	4415.8	4426.1	4457.0	4451.8	4524.0
5°	4405.5	4390.0	4390.0	4436.4	4431.2	4524.0
7.5°	4353.9	4328.2	4343.6	4395.2	4410.6	4513.7
10°	4287.0	4266.3	4271.5	4348.8	4374.5	4503.4
12.5°	4220.0	4199.4	4214.8	4287.0	4323.0	4477.6
15°	4142.7	4106.6	4147.8	4225.1	4271.5	4441.5
17.5°	4049.9	4008.7	4049.9	4153.0	4209.7	4400.3
20°	3967.5	3926.3	3952.0	4060.2	4137.5	4353.9
22.5°	3874.7	3823.2	3843.8	3962.3	4060.2	4292.1
25°	3771.7	3704.7	3735.6	3864.4	3972.6	4214.8
27.5°	3637.7	3524.4	3601.7	3761.4	3864.4	4137.5
30°	3452.2	3302.8	3426.5	3648.0	3766.5	4049.9
32.5°	3235.8	3076.1	3210.1	3508.9	3653.2	3952.0
35°	3024.6	2885.4	3009.1	3364.6	3539.8	3843.8
37.5°	2839.1	2710.3	2823.6	3199.8	3416.2	3725.3
40°	2648.4	2529.9	2643.3	3024.6	3292.5	3601.7
42.5°	2473.2	2359.9	2468.1	2849.4	3158.5	3467.7
45°	2287.7	2102.3	2277.4	2669.0	3014.3	3323.4
47.5°	2092.0	1896.2	2076.5	2493.9	2870.0	3174.0
50°	1911.6	1736.4	1901.3	2313.5	2715.4	3014.3
52.5°	1751.9	1602.5	1746.7	2133.2	2555.7	2849.4
55°	1602.5	1504.6	1607.6	1968.3	2406.3	2679.3
57.5°	1483.9	1417.0	1489.1	1808.6	2241.4	2509.3
60°	1380.9	1339.7	1386.0	1648.8	2066.2	2329.0
62.5°	1267.5	1252.1	1267.5	1494.3	1896.2	2143.5
65°	1169.6	1185.1	1169.6	1355.1	1715.8	1952.8
67.5°	1076.9	1113.0	1082.0	1205.7	1535.5	1757.0
70°	973.8	1025.4	979.0	1071.7	1350.0	1556.1
72.5°	865.6	927.5	865.6	942.9	1154.2	1344.8
75°	752.3	824.4	757.4	803.8	968.7	1123.3
77.5°	628.6	675.0	638.9	654.4	788.3	912.0
80°	499.8	551.3	505.0	515.3	623.5	705.9
82.5°	417.4	453.4	422.5	391.6	463.7	520.4
85°	309.2	329.8	319.5	304.0	319.5	355.5
87.5°	190.6	201.0	190.6	190.6	164.9	149.4
90°	211.3	226.7	211.3	164.9	92.7	5.2
92.5°	216.4	237.0	216.4	180.3	175.2	36.1
95°	484.3	474.0	515.3	468.9	267.9	139.1
97.5°	752.3	860.5	778.0	561.6	360.7	221.6
100°	865.6	968.7	901.7	700.8	412.2	304.0
102.5°	999.6	1113.0	1040.8	819.3	463.7	381.3
105°	1164.5	1262.4	1200.6	865.6	510.1	443.1
107.5°	1252.1	1401.5	1277.8	886.2	541.0	499.8
110°	1298.5	1458.2	1339.7	891.4	566.8	546.2



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CATALOG NUMBER: 8WSL-LD2-150-UPL15-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	1334.5	1489.1	1365.4	891.4	577.1	587.4
115°	1334.5	1514.9	1365.4	875.9	592.5	613.2
117.5°	1334.5	1499.4	1365.4	860.5	613.2	628.6
120°	1288.1	1494.3	1329.4	839.9	618.3	638.9
122.5°	1252.1	1453.0	1277.8	814.1	618.3	633.8
125°	1185.1	1396.4	1216.0	783.2	608.0	623.5
127.5°	1113.0	1313.9	1138.7	747.1	613.2	602.9
130°	1046.0	1221.2	1061.4	711.1	592.5	577.1
132.5°	958.4	1118.1	973.8	685.3	571.9	551.3
135°	875.9	1020.2	896.6	664.7	546.2	525.6
137.5°	788.3	917.2	809.0	623.5	520.4	499.8
140°	685.3	788.3	705.9	577.1	505.0	474.0
142.5°	618.3	675.0	638.9	556.5	484.3	443.1
145°	577.1	608.0	592.5	535.9	474.0	412.2
147.5°	535.9	566.8	551.3	494.6	448.3	386.4
150°	520.4	520.4	541.0	458.6	432.8	371.0
152.5°	463.7	505.0	484.3	417.4	422.5	365.8
155°	396.7	417.4	417.4	401.9	422.5	365.8
157.5°	371.0	386.4	391.6	401.9	412.2	360.7
160°	371.0	376.1	391.6	407.1	407.1	360.7
162.5°	381.3	376.1	401.9	417.4	396.7	360.7
165°	391.6	386.4	412.2	422.5	386.4	360.7
167.5°	401.9	401.9	422.5	417.4	376.1	360.7
170°	401.9	412.2	422.5	401.9	371.0	360.7
172.5°	386.4	391.6	401.9	376.1	355.5	360.7
175°	365.8	360.7	376.1	360.7	355.5	355.5
177.5°	355.5	340.1	355.5	350.4	345.2	350.4
180°	345.2	345.2	345.2	345.2	345.2	345.2

(END OF REPORT)