

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: P197451

Luminaire Tested: **8WSL-LD2-150-UPL8-UNV-L840-CD2-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P197451  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28106)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 8WSL-LD2-150-UPL8-UNV-L840-CD2-U  
Description: 8FT. Linear Wavestream System, 8% Uplight, L840  
Light Source: (476) 4000K CCT, 80 CRI LEDS  
EL236N0119D840  
Ballast/Driver: OSRAM  
OT85W1202772A0DIML

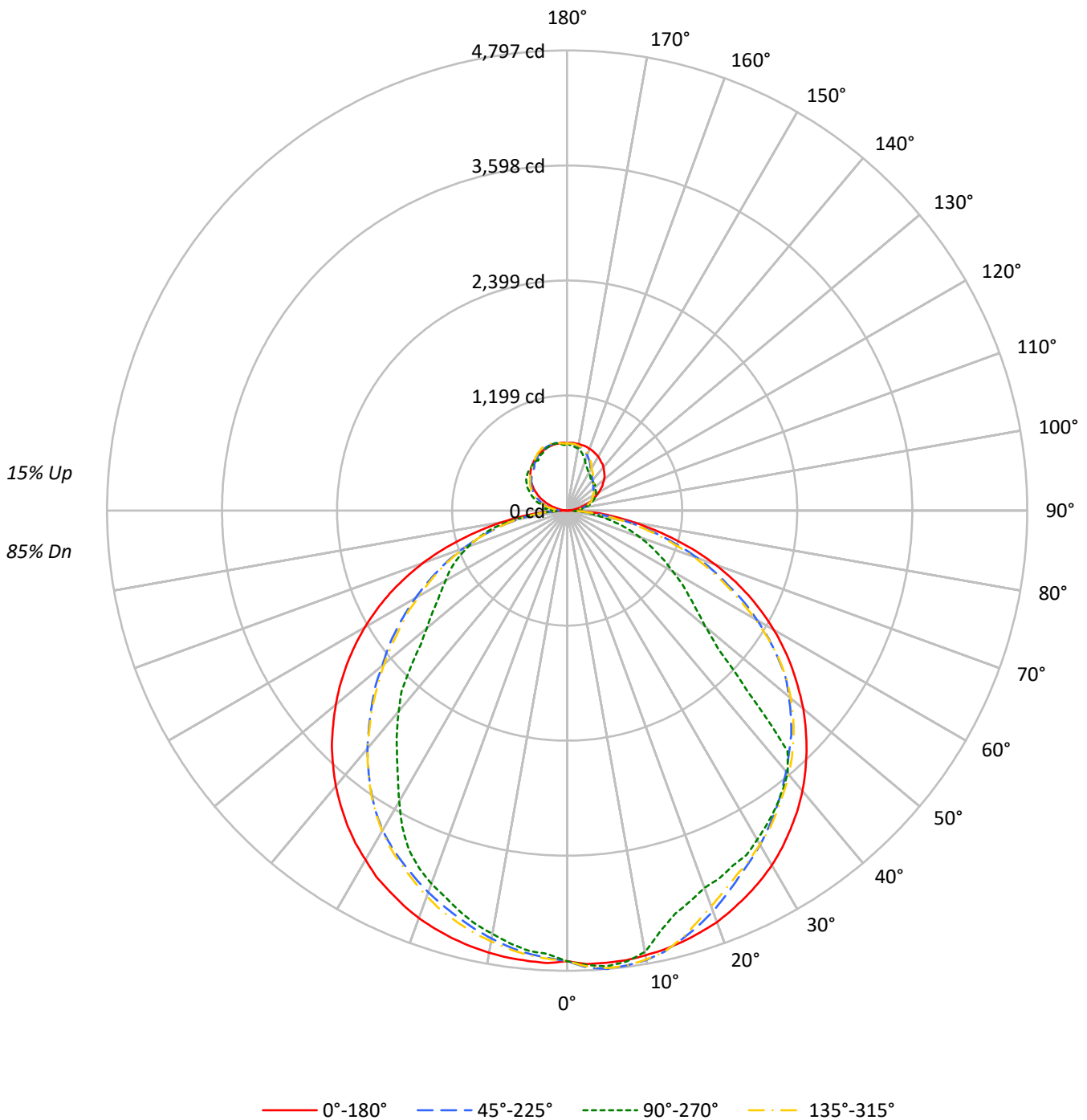
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15578.9 lumens  
Efficiency: N/A  
Efficacy: 104.8 lumens/watt  
Spacing Criteria (0/90/45): 1.34 / 1.19 / 1.36  
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

TEST NUMBER: P197451

CATALOG NUMBER: 8WSL-LD2-150-UPL8-UNV-L840-CD2-U

### Luminous Intensity Polar Plot





TEST NUMBER: P197451

CATALOG NUMBER: 8WSL-LD2-150-UPL8-UNV-L840-CD2-U

**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	115	115	115	115	111	111	111	111	103	103	103	95	95	95	88	88	88	85
1	105	101	96	92	101	97	93	90	90	87	84	83	81	79	78	76	74	71
2	96	88	81	75	92	84	78	73	78	73	69	73	69	65	68	65	62	59
3	87	77	69	62	83	74	67	61	69	63	58	64	59	55	60	56	52	50
4	80	68	59	53	76	66	58	52	61	55	49	57	52	47	53	49	45	42
5	73	61	52	45	70	59	51	44	55	48	43	51	45	41	48	43	39	37
6	68	55	46	40	65	53	45	39	50	43	37	47	40	36	44	38	34	32
7	63	49	41	35	60	48	40	34	45	38	33	42	36	32	40	35	31	28
8	58	45	37	31	56	44	36	30	41	34	29	39	33	28	37	31	27	25
9	54	41	33	28	52	40	33	27	38	31	26	36	30	26	34	29	25	23
10	51	38	30	25	49	37	30	25	35	28	24	33	27	23	31	26	22	21

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	13304	13304	13304	13304
5°	13455	13555	13398	13098
10°	13538	13437	13466	12888
15°	13641	12756	13538	12682
20°	13764	12612	13627	12475
25°	13847	12762	13689	12196
30°	13964	12961	13751	11448
35°	14033	13094	13824	10694
40°	14113	13221	13872	10097
45°	14142	10637	13900	9226
50°	14160	8266	13872	8421
55°	14131	7649	13857	8170
60°	14102	7208	13789	8290
65°	13954	6910	13650	8696
70°	13578	6664	13244	9080
75°	12713	6274	12328	9576
80°	11565	5742	11074	9106
85°	11278	6211	10134	8171



TEST NUMBER: P197451

CATALOG NUMBER: 8WSL-LD2-150-UPL8-UNV-L840-CD2-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	446.5	2.9
10°-20°	1267.9	8.1
20°-30°	1919.4	12.3
30°-40°	2317.7	14.9
40°-50°	2366.2	15.2
50°-60°	2068.7	13.3
60°-70°	1603.5	10.3
70°-80°	964.0	6.2
80°-90°	297.6	1.9
90°-100°	125.5	0.8
100°-110°	239.9	1.5
110°-120°	325.9	2.1
120°-130°	370.5	2.4
130°-140°	375.8	2.4
140°-150°	345.9	2.2
150°-160°	285.4	1.8
160°-170°	191.9	1.2
170°-180°	66.7	0.4
0°-30°	3633.8	23.3
0°-40°	5951.4	38.2
0°-60°	10386.4	66.7
0°-90°	13251.5	85.1
90°-120°	691.3	4.4
90°-150°	1783.5	11.4
90°-180°	2327.0	14.9
0°-180°	15578.9	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	4697	4697	4697	4697	4697	
5°	4732	4767	4712	4606	4732	451
15°	4652	4350	4616	4325	4652	1315
25°	4430	4083	4380	3902	4430	2045
35°	4058	3787	3998	3093	4058	2541
45°	3530	2655	3470	2303	3530	2723
55°	2861	1549	2806	1654	2861	2558
65°	2082	1031	2037	1297	2082	2054
75°	1162	573	1126	875	1162	1233
85°	347	191	312	251	347	350
90°	5	106	5	121	5	23
95°	30	146	30	231	30	38
105°	161	246	156	312	161	172
115°	312	317	307	422	312	309
125°	448	362	438	518	448	397
135°	548	397	543	573	548	423
145°	618	422	614	608	618	389
155°	669	493	664	644	669	309
165°	699	614	694	699	699	197
175°	709	674	709	694	709	67
180°	699	699	699	699	699	



TEST NUMBER: P197451

CATALOG NUMBER: 8WSL-LD2-150-UPL8-UNV-L840-CD2-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	4696.8	4696.8	4696.8	4696.8	4696.8	4696.8	4696.8	4696.8	4696.8	4696.8	4696.8
2.5°	4732.0	4706.9	4767.2	4777.3	4742.1	4752.1	4757.2	4701.8	4722.0	4646.5	4666.6
5°	4732.0	4727.0	4797.4	4787.3	4767.2	4772.2	4787.3	4722.0	4711.9	4621.4	4636.5
7.5°	4727.0	4737.0	4782.3	4772.2	4742.1	4757.2	4782.3	4732.0	4701.8	4596.2	4591.2
10°	4706.9	4722.0	4757.2	4727.0	4671.7	4696.8	4752.1	4722.0	4681.7	4556.0	4530.9
12.5°	4686.8	4696.8	4706.9	4581.2	4490.6	4551.0	4706.9	4696.8	4651.6	4510.8	4465.5
15°	4651.6	4666.6	4626.4	4445.4	4349.8	4410.2	4616.4	4656.6	4616.4	4445.4	4390.1
17.5°	4611.3	4626.4	4540.9	4339.8	4269.4	4299.5	4500.7	4606.3	4571.1	4385.0	4314.6
20°	4566.1	4581.2	4445.4	4229.1	4183.9	4209.0	4390.1	4551.0	4520.8	4314.6	4234.2
22.5°	4500.7	4525.8	4334.7	4153.7	4148.7	4148.7	4284.5	4485.6	4455.4	4229.1	4143.7
25°	4430.3	4455.4	4224.1	4083.3	4083.3	4083.3	4188.9	4400.1	4380.0	4138.6	4053.1
27.5°	4354.9	4380.0	4123.5	4033.0	4048.1	4023.0	4108.5	4304.6	4304.6	4048.1	3957.6
30°	4269.4	4294.5	4023.0	3952.6	3962.6	3952.6	4017.9	4204.0	4204.0	3942.5	3847.0
32.5°	4168.8	4193.9	3912.3	3857.0	3877.1	3867.1	3932.5	4103.4	4108.5	3831.9	3716.2
35°	4058.2	4088.3	3796.7	3766.5	3786.6	3771.5	3816.8	3997.8	3997.8	3711.2	3565.4
37.5°	3942.5	3972.7	3676.0	3665.9	3686.0	3671.0	3706.2	3887.2	3877.1	3585.5	3404.4
40°	3816.8	3852.0	3550.3	3550.3	3575.4	3565.4	3595.5	3771.5	3751.4	3459.8	3238.5
42.5°	3676.0	3721.2	3424.6	3429.6	3399.4	3439.6	3469.8	3650.8	3610.6	3318.9	3057.5
45°	3530.2	3585.5	3303.9	3213.3	2655.2	3178.1	3339.1	3530.2	3469.8	3178.1	2881.4
47.5°	3374.3	3444.7	3163.1	2831.2	2137.2	2785.9	3198.3	3379.3	3308.9	3027.3	2710.5
50°	3213.3	3293.8	3017.2	2504.3	1875.7	2454.0	3042.4	3228.4	3148.0	2871.4	2514.4
52.5°	3037.3	3127.9	2876.4	2217.7	1699.7	2172.4	2881.4	3082.6	2982.0	2705.4	2353.4
55°	2861.3	2956.9	2685.3	1971.3	1548.8	1931.0	2695.4	2896.5	2806.0	2534.5	2177.4
57.5°	2680.3	2775.8	2494.2	1755.0	1418.1	1714.8	2484.2	2725.6	2625.0	2358.5	2001.4
60°	2489.2	2584.8	2288.1	1558.9	1272.3	1528.7	2267.9	2534.5	2433.9	2177.4	1830.4
62.5°	2288.1	2383.6	2091.9	1377.9	1151.6	1352.7	2031.6	2348.4	2237.8	1986.3	1654.4
65°	2081.9	2152.3	1860.6	1206.9	1030.9	1186.8	1820.4	2117.1	2036.6	1785.2	1488.5
67.5°	1865.7	1936.1	1659.5	1056.0	915.2	1035.9	1614.2	1910.9	1820.4	1589.1	1322.6
70°	1639.4	1699.7	1448.3	910.2	804.6	895.1	1398.0	1679.6	1599.1	1382.9	1146.5
72.5°	1408.0	1463.4	1222.0	774.4	688.9	764.4	1171.7	1448.3	1367.8	1166.7	985.6
75°	1161.6	1216.9	1010.8	638.6	573.3	628.6	965.5	1201.9	1126.4	960.5	819.7
77.5°	930.3	995.7	799.6	502.9	457.6	492.8	759.3	970.5	895.1	769.4	658.8
80°	709.0	764.4	593.4	382.2	352.0	377.2	553.2	739.2	678.9	593.4	512.9
82.5°	512.9	543.1	407.3	281.6	266.5	276.6	377.2	523.0	492.8	427.4	377.2
85°	347.0	342.0	251.4	196.1	191.1	196.1	226.3	316.8	311.8	286.6	241.4
87.5°	145.8	135.8	115.7	80.5	70.4	75.4	90.5	120.7	115.7	120.7	115.7
90°	5.0	50.3	80.5	100.6	105.6	100.6	80.5	50.3	5.0	55.3	90.5
92.5°	10.1	65.4	95.5	110.6	120.7	110.6	90.5	65.4	10.1	85.5	90.5
95°	30.2	90.5	110.6	135.8	145.8	135.8	110.6	85.5	30.2	75.4	135.8
97.5°	60.3	115.7	130.7	150.9	155.9	145.8	125.7	115.7	55.3	135.8	140.8
100°	90.5	145.8	171.0	171.0	176.0	171.0	165.9	140.8	85.5	150.9	171.0
102.5°	125.7	165.9	196.1	211.2	211.2	211.2	196.1	165.9	115.7	186.1	236.3
105°	160.9	181.0	216.2	236.3	246.4	236.3	216.2	186.1	155.9	216.2	251.4
107.5°	201.1	196.1	236.3	256.5	266.5	256.5	236.3	201.1	191.1	241.4	281.6
110°	241.4	216.2	256.5	276.6	281.6	276.6	256.5	216.2	231.3	271.6	311.8



TEST NUMBER: P197451

CATALOG NUMBER: 8WSL-LD2-150-UPL8-UNV-L840-CD2-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	276.6	231.3	276.6	296.7	301.7	296.7	276.6	236.3	266.5	291.7	342.0
115°	311.8	246.4	286.6	311.8	316.8	311.8	286.6	251.4	306.8	316.8	367.1
117.5°	347.0	266.5	296.7	326.9	331.9	326.9	301.7	271.6	342.0	347.0	392.2
120°	382.2	291.7	311.8	336.9	347.0	342.0	311.8	296.7	372.1	372.1	412.4
122.5°	412.4	311.8	326.9	347.0	357.0	347.0	326.9	321.8	407.3	397.3	437.5
125°	447.6	331.9	336.9	357.0	362.1	357.0	342.0	336.9	437.5	417.4	452.6
127.5°	472.7	357.0	347.0	367.1	372.1	367.1	352.0	362.1	467.7	457.6	467.7
130°	502.9	382.2	357.0	377.2	382.2	382.2	357.0	392.2	492.8	487.8	487.8
132.5°	528.0	407.3	367.1	387.2	392.2	392.2	372.1	412.4	518.0	512.9	502.9
135°	548.1	442.5	387.2	387.2	397.3	397.3	392.2	447.6	543.1	538.1	528.0
137.5°	568.2	472.7	402.3	392.2	397.3	397.3	412.4	477.7	563.2	563.2	543.1
140°	588.4	502.9	412.4	402.3	402.3	412.4	427.4	507.9	583.3	583.3	548.1
142.5°	608.5	528.0	427.4	417.4	407.3	427.4	442.5	538.1	598.4	603.4	563.2
145°	618.5	553.2	447.6	432.5	422.4	447.6	467.7	563.2	613.5	623.6	593.4
147.5°	633.6	578.3	472.7	442.5	442.5	457.6	487.8	583.3	628.6	638.6	608.5
150°	648.7	598.4	492.8	457.6	447.6	472.7	507.9	603.4	643.7	653.7	628.6
152.5°	658.8	618.5	523.0	477.7	467.7	497.8	543.1	618.5	653.7	663.8	648.7
155°	668.8	633.6	558.2	497.8	492.8	518.0	573.3	633.6	663.8	673.8	663.8
157.5°	678.9	648.7	583.3	528.0	507.9	548.1	598.4	653.7	673.8	683.9	678.9
160°	683.9	658.8	613.5	558.2	548.1	583.3	623.6	658.8	678.9	694.0	688.9
162.5°	694.0	668.8	633.6	593.4	583.3	613.5	643.7	673.8	688.9	699.0	699.0
165°	699.0	678.9	653.7	623.6	613.5	643.7	658.8	683.9	694.0	699.0	704.0
167.5°	699.0	688.9	668.8	643.7	638.6	663.8	678.9	694.0	699.0	699.0	709.0
170°	704.0	694.0	678.9	663.8	658.8	678.9	683.9	699.0	704.0	699.0	714.1
172.5°	704.0	699.0	688.9	673.8	663.8	688.9	694.0	699.0	704.0	699.0	709.0
175°	709.0	699.0	699.0	688.9	673.8	699.0	699.0	699.0	709.0	699.0	704.0
177.5°	709.0	699.0	699.0	694.0	683.9	699.0	699.0	699.0	709.0	699.0	704.0
180°	699.0	699.0	699.0	699.0	699.0	699.0	699.0	699.0	699.0	699.0	699.0



TEST NUMBER: P197451

CATALOG NUMBER: 8WSL-LD2-150-UPL8-UNV-L840-CD2-U

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4696.8	4696.8	4696.8	4696.8	4696.8	4696.8
2.5°	4661.6	4626.4	4636.5	4676.7	4661.6	4732.0
5°	4626.4	4606.3	4606.3	4651.6	4646.5	4732.0
7.5°	4571.1	4551.0	4561.0	4611.3	4621.4	4727.0
10°	4505.7	4480.6	4490.6	4561.0	4586.2	4706.9
12.5°	4435.3	4415.2	4425.3	4505.7	4540.9	4686.8
15°	4354.9	4324.7	4354.9	4440.3	4485.6	4651.6
17.5°	4264.3	4224.1	4259.3	4369.9	4425.3	4611.3
20°	4173.8	4138.6	4158.7	4279.4	4359.9	4566.1
22.5°	4083.3	4033.0	4053.1	4178.9	4279.4	4500.7
25°	3977.7	3902.3	3942.5	4078.3	4193.9	4430.3
27.5°	3836.9	3721.2	3806.7	3977.7	4093.4	4354.9
30°	3650.8	3500.0	3625.7	3857.0	3987.8	4269.4
32.5°	3444.7	3283.7	3424.6	3721.2	3877.1	4168.8
35°	3238.5	3092.7	3218.4	3570.4	3761.5	4058.2
37.5°	3042.4	2916.7	3032.3	3409.5	3640.8	3942.5
40°	2856.3	2730.6	2851.3	3233.5	3510.0	3816.8
42.5°	2670.2	2554.6	2670.2	3047.4	3374.3	3676.0
45°	2484.2	2303.1	2474.1	2866.4	3228.4	3530.2
47.5°	2283.0	2071.8	2267.9	2670.2	3072.5	3374.3
50°	2091.9	1910.9	2081.9	2489.2	2911.6	3213.3
52.5°	1926.0	1780.2	1915.9	2303.1	2745.7	3037.3
55°	1770.1	1654.4	1770.1	2122.1	2569.7	2861.3
57.5°	1629.3	1553.9	1634.3	1966.2	2388.6	2680.3
60°	1508.6	1463.4	1513.6	1775.1	2207.6	2489.2
62.5°	1393.0	1387.9	1398.0	1624.3	2016.5	2288.1
65°	1272.3	1297.4	1272.3	1463.4	1825.4	2081.9
67.5°	1151.6	1201.9	1161.6	1302.4	1619.2	1865.7
70°	1040.9	1096.3	1040.9	1136.5	1413.1	1639.4
72.5°	915.2	985.6	915.2	980.6	1196.8	1408.0
75°	794.5	875.0	799.6	819.7	990.7	1161.6
77.5°	663.8	739.2	678.9	663.8	799.6	930.3
80°	528.0	558.2	528.0	523.0	618.5	709.0
82.5°	367.1	392.2	367.1	382.2	452.6	512.9
85°	241.4	251.4	241.4	246.4	301.7	347.0
87.5°	100.6	100.6	100.6	125.7	135.8	145.8
90°	110.6	120.7	110.6	90.5	55.3	5.0
92.5°	115.7	125.7	115.7	100.6	65.4	10.1
95°	206.2	231.3	196.1	125.7	105.6	30.2
97.5°	165.9	181.0	171.0	145.8	130.7	60.3
100°	196.1	211.2	196.1	206.2	160.9	90.5
102.5°	231.3	241.4	236.3	241.4	196.1	125.7
105°	301.7	311.8	301.7	261.5	226.3	160.9
107.5°	321.8	347.0	326.9	291.7	256.5	201.1
110°	347.0	367.1	352.0	321.8	281.6	241.4





TEST NUMBER: P197451

CATALOG NUMBER: 8WSL-LD2-150-UPL8-UNV-L840-CD2-U

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	372.1	397.3	382.2	357.0	301.7	276.6
115°	402.3	422.4	412.4	382.2	331.9	311.8
117.5°	432.5	447.6	437.5	402.3	362.1	347.0
120°	457.6	477.7	467.7	427.4	387.2	382.2
122.5°	477.7	497.8	487.8	452.6	412.4	412.4
125°	497.8	518.0	507.9	472.7	432.5	447.6
127.5°	512.9	538.1	528.0	487.8	477.7	472.7
130°	533.0	548.1	543.1	502.9	502.9	502.9
132.5°	543.1	563.2	553.2	523.0	533.0	528.0
135°	548.1	573.3	563.2	548.1	558.2	548.1
137.5°	558.2	578.3	573.3	563.2	583.3	568.2
140°	573.3	583.3	588.4	573.3	603.4	588.4
142.5°	588.4	593.4	603.4	588.4	623.6	608.5
145°	598.4	608.5	618.5	618.5	638.6	618.5
147.5°	598.4	613.5	613.5	628.6	658.8	633.6
150°	613.5	603.4	633.6	648.7	668.8	648.7
152.5°	633.6	628.6	653.7	668.8	678.9	658.8
155°	638.6	643.7	658.8	683.9	688.9	668.8
157.5°	658.8	653.7	678.9	699.0	699.0	678.9
160°	673.8	673.8	699.0	709.0	704.0	683.9
162.5°	688.9	688.9	714.1	714.1	709.0	694.0
165°	699.0	699.0	724.1	719.1	709.0	699.0
167.5°	704.0	709.0	729.2	724.1	709.0	699.0
170°	709.0	709.0	729.2	719.1	709.0	704.0
172.5°	709.0	704.0	724.1	714.1	704.0	704.0
175°	704.0	694.0	714.1	704.0	704.0	709.0
177.5°	699.0	683.9	699.0	699.0	704.0	709.0
180°	699.0	699.0	699.0	699.0	699.0	699.0

(END OF REPORT)