

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: NEO-RAY

Report Number: P331636-930

Luminaire Tested: **SA2XXRDIP-C290D925U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331636-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C290D925U930-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3859.9 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

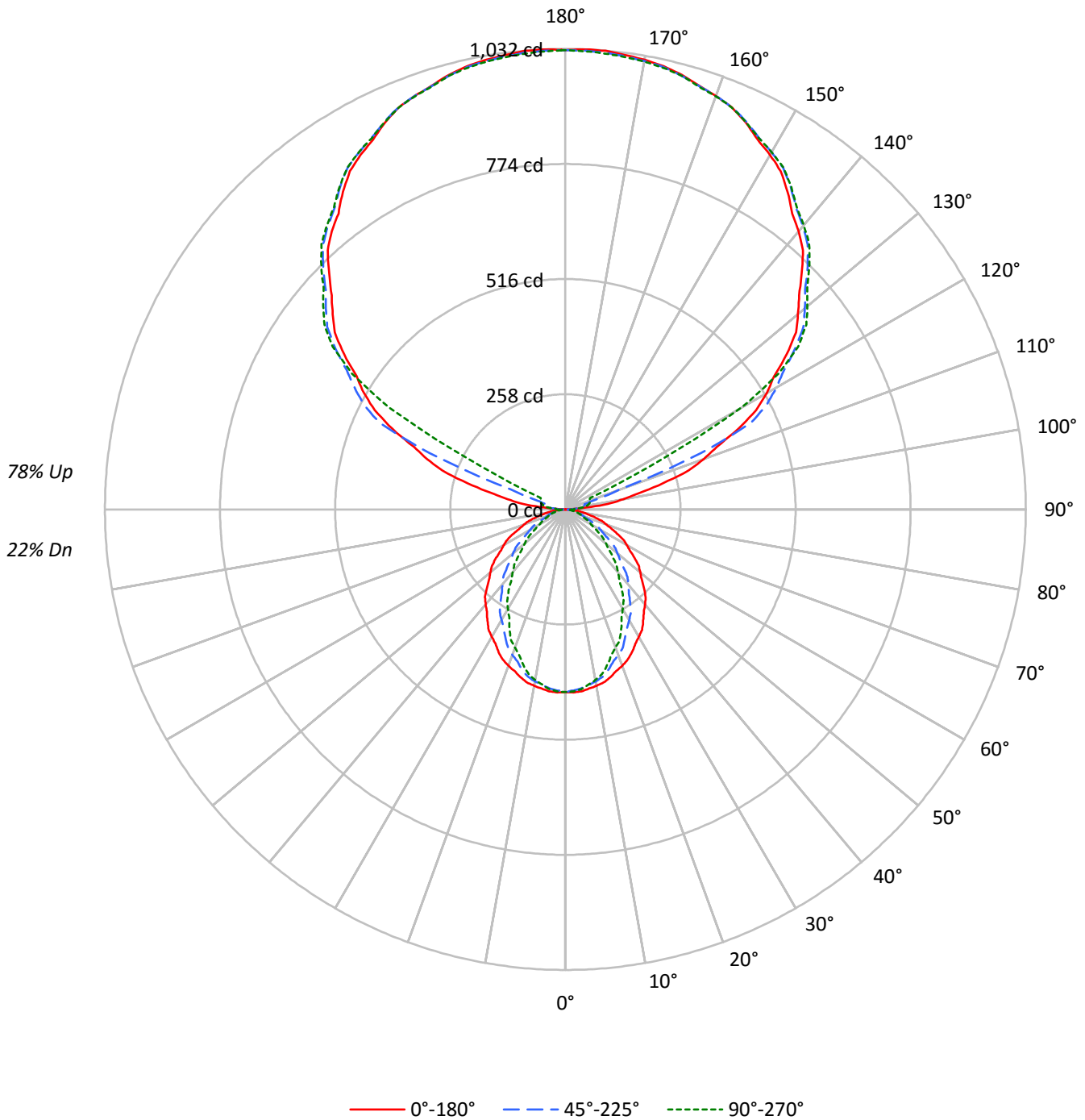
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331636-930

CATALOG NUMBER: SA2XXRDIP-C290D925U930-4F0-1E-UDD-F

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	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22
1	92	88	84	81	81	78	75	72	59	57	56	43	41	40	27	26	26	19
2	84	77	71	66	74	68	63	59	52	49	46	38	36	34	24	23	22	16
3	76	67	61	55	67	60	54	50	46	42	39	33	31	29	21	20	19	14
4	70	60	52	47	62	53	47	42	41	37	33	30	27	25	19	18	17	12
5	64	53	46	40	57	47	41	36	37	32	29	27	24	22	17	16	14	11
6	59	48	40	34	52	43	36	31	33	28	25	24	21	19	16	14	13	9
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	14	13	11	8
8	50	39	31	26	45	35	28	24	27	23	19	20	17	15	13	12	10	8
9	47	35	28	23	41	32	26	21	25	20	17	18	15	13	12	11	9	7
10	44	32	25	21	39	29	23	19	23	18	15	17	14	12	11	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6608	6608	6608
5°	6634	6525	6561
10°	6583	6419	6365
15°	6506	6228	6048
20°	6402	5957	5658
25°	6296	5649	5279
30°	6145	5330	4793
35°	6000	4987	4366
40°	5855	4628	3872
45°	5683	4229	3425
50°	5506	3823	2987
55°	5326	3386	2567
60°	5118	2929	2131
65°	4883	2460	1937
70°	4598	2030	1780
75°	4255	1847	1666
80°	3756	1655	1516
85°	2946	1297	1297



TEST NUMBER: P331636-930

CATALOG NUMBER: SA2XXRDIP-C290D925U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.3	1.0
10°-20°	105.2	2.7
20°-30°	147.7	3.8
30°-40°	161.1	4.2
40°-50°	148.1	3.8
50°-60°	116.3	3.0
60°-70°	75.8	2.0
70°-80°	39.1	1.0
80°-90°	12.7	0.3
90°-100°	34.3	0.9
100°-110°	125.9	3.3
110°-120°	336.5	8.7
120°-130°	555.4	14.4
130°-140°	590.7	15.3
140°-150°	549.0	14.2
150°-160°	441.4	11.4
160°-170°	284.5	7.4
170°-180°	97.9	2.5
0°-30°	291.2	7.5
0°-40°	452.3	11.7
0°-60°	716.7	18.6
0°-90°	844.3	21.9
90°-120°	496.7	12.9
90°-150°	2191.9	56.8
90°-180°	3016.0	78.1
0°-180°	3859.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	409	409	409	409	409	
5°	409	407	403	406	405	39
15°	389	385	373	366	362	110
25°	353	341	317	302	296	162
35°	304	285	253	230	222	190
45°	249	223	185	160	150	192
55°	189	160	120	99	91	169
65°	128	98	64	52	51	127
75°	68	43	30	27	27	72
85°	16	8	7	7	7	19
90°	1	9	15	18	20	3
95°	48	26	29	33	32	59
105°	226	236	45	53	57	242
115°	428	441	459	131	61	421
125°	605	615	629	634	637	540
135°	749	761	768	775	774	578
145°	869	869	881	886	882	543
155°	957	951	959	963	958	441
165°	1008	1004	1006	1011	1006	285
175°	1031	1026	1028	1032	1025	98
180°	1029	1029	1029	1029	1029	



TEST NUMBER: P331636-930

CATALOG NUMBER: SA2XXRDIP-C290D925U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	410.7	410.4	410.1	409.8	409.4	408.9	408.1	407.5	406.8	406.0	406.7
5°	409.3	408.9	408.5	408.1	407.6	406.8	405.8	404.7	403.7	402.6	403.3
7.5°	405.0	404.6	404.0	403.5	403.0	402.1	400.9	399.6	398.4	397.1	397.3
10°	401.5	400.9	400.3	399.7	399.2	398.0	396.4	394.8	393.1	391.5	391.3
12.5°	397.1	396.3	395.6	394.9	394.2	392.8	390.7	388.6	386.5	384.3	383.9
15°	389.2	388.3	387.4	386.5	385.6	383.8	381.0	378.2	375.4	372.6	371.0
17.5°	379.7	378.3	376.9	375.5	374.1	371.7	368.1	364.5	360.9	357.3	355.5
20°	372.6	371.0	369.3	367.6	366.0	363.1	359.0	354.9	350.8	346.7	344.6
22.5°	364.9	363.1	361.2	359.4	357.5	354.2	349.6	345.0	340.4	335.7	333.0
25°	353.4	350.7	348.1	345.4	342.8	338.8	333.3	327.9	322.5	317.1	313.6
27.5°	339.4	336.6	333.7	330.8	327.9	323.4	317.3	311.2	305.1	299.0	295.1
30°	329.6	326.5	323.3	320.2	317.2	312.3	305.7	299.1	292.5	285.9	281.8
32.5°	320.2	316.5	312.8	309.2	305.5	300.4	293.7	286.9	280.2	273.5	268.7
35°	304.4	300.3	296.0	291.9	287.6	281.9	274.7	267.4	260.2	253.0	247.8
37.5°	288.8	284.1	279.5	274.9	270.3	264.2	256.4	248.7	241.0	233.3	227.6
40°	277.8	272.9	267.9	262.9	258.0	251.6	243.6	235.6	227.6	219.6	213.8
42.5°	266.5	261.3	256.1	250.9	245.7	239.0	230.7	222.5	214.3	206.0	200.0
45°	248.9	243.4	237.8	232.4	226.8	219.7	211.1	202.4	193.8	185.2	179.4
47.5°	231.7	225.8	220.0	214.2	208.3	201.0	192.0	183.1	174.1	165.3	159.5
50°	219.2	213.4	207.6	201.7	195.9	188.4	179.4	170.3	161.3	152.2	146.5
52.5°	207.1	201.0	194.9	188.8	182.7	175.2	166.3	157.5	148.6	139.7	134.3
55°	189.2	182.9	176.4	170.0	163.5	156.0	147.0	138.1	129.2	120.3	115.4
57.5°	171.0	164.4	157.8	151.2	144.6	137.1	128.5	120.0	111.5	102.9	98.3
60°	158.5	152.0	145.4	138.8	132.2	124.7	116.2	107.7	99.2	90.7	86.5
62.5°	146.3	139.8	133.2	126.6	120.0	112.7	104.6	96.5	88.5	80.4	76.4
65°	127.8	121.1	114.5	107.8	101.1	94.1	86.7	79.2	71.8	64.4	61.6
67.5°	109.8	103.2	96.6	90.0	83.4	76.7	70.0	63.4	56.7	50.1	48.8
70°	97.4	91.0	84.5	78.2	71.7	65.7	60.0	54.3	48.7	43.0	42.2
72.5°	85.5	79.4	73.2	67.1	60.9	55.6	51.0	46.5	41.9	37.3	36.6
75°	68.2	62.4	56.7	50.9	45.1	40.8	38.0	35.2	32.4	29.6	29.0
77.5°	51.0	46.0	40.9	35.9	30.8	27.6	26.3	24.9	23.6	22.3	21.9
80°	40.4	36.2	32.0	27.8	23.6	21.0	20.2	19.4	18.6	17.8	17.4
82.5°	30.6	27.3	24.1	20.8	17.5	15.6	15.0	14.4	13.9	13.4	13.1
85°	15.9	14.2	12.5	10.8	9.0	8.0	7.7	7.5	7.3	7.0	7.0
87.5°	4.9	4.7	4.6	4.4	4.2	4.3	4.6	4.8	5.1	5.4	5.5
90°	0.7	2.5	4.4	6.2	8.0	9.6	10.9	12.2	13.5	14.9	15.7
92.5°	15.0	14.8	14.7	14.5	14.3	14.6	15.3	16.0	16.6	17.3	17.7
95°	48.4	43.0	37.5	32.0	26.6	24.4	25.6	26.7	27.9	29.0	29.8
97.5°	96.0	80.6	65.3	49.9	34.5	28.1	30.8	33.5	36.2	38.9	39.5
100°	131.8	109.1	86.4	63.8	41.1	31.2	34.0	36.9	39.6	42.5	43.8
102.5°	171.1	166.3	161.5	156.7	151.9	137.8	114.2	90.7	67.2	43.6	45.3
105°	226.3	231.3	236.3	241.2	246.2	226.1	180.9	135.7	90.6	45.4	47.2
107.5°	289.3	293.3	297.3	301.3	305.4	280.3	226.1	171.9	117.7	63.6	61.7
110°	329.9	333.4	336.8	340.3	343.7	321.6	273.8	225.9	178.1	130.3	113.7



TEST NUMBER: P331636-930

CATALOG NUMBER: SA2XXRDIP-C290D925U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	367.9	371.0	374.1	377.2	380.3	375.9	364.1	352.3	340.5	328.6	268.3
115°	428.1	431.0	433.7	436.6	439.4	442.9	447.0	451.2	455.3	459.4	382.8
117.5°	481.9	485.0	488.2	491.4	494.5	497.5	500.3	503.2	506.1	508.8	490.3
120°	521.2	523.7	526.2	528.6	531.2	533.9	536.9	539.8	542.8	545.8	547.8
122.5°	554.6	557.2	559.8	562.4	565.0	567.9	571.2	574.5	577.7	581.0	582.1
125°	605.4	607.5	609.7	611.8	614.0	616.6	619.8	622.9	626.1	629.2	630.4
127.5°	651.3	653.8	656.2	658.5	660.9	663.2	665.6	668.0	670.3	672.7	674.3
130°	680.6	683.2	685.8	688.5	691.1	693.4	695.2	697.0	698.9	700.7	702.5
132.5°	710.4	712.6	714.9	717.1	719.3	721.4	723.3	725.0	726.8	728.6	730.3
135°	749.1	751.7	754.4	757.0	759.7	761.7	763.2	764.8	766.2	767.7	769.3
137.5°	788.2	790.1	792.0	793.8	795.7	797.4	799.1	800.8	802.5	804.2	805.8
140°	813.8	815.2	816.5	817.8	819.1	820.8	822.6	824.3	826.2	828.0	829.5
142.5°	835.3	836.5	837.7	838.9	840.1	841.7	843.8	845.9	848.0	850.0	851.4
145°	868.9	868.8	868.6	868.5	868.3	869.6	872.5	875.2	878.1	880.8	882.0
147.5°	898.3	897.6	897.1	896.4	895.8	896.8	899.6	902.5	905.2	908.0	908.8
150°	917.4	916.2	915.0	913.9	912.7	913.5	916.2	918.8	921.5	924.1	925.0
152.5°	933.4	932.1	930.8	929.6	928.3	928.9	931.4	933.9	936.5	939.0	940.0
155°	956.8	955.4	953.8	952.4	950.9	951.1	953.1	955.1	957.1	959.0	960.0
157.5°	975.1	973.9	972.7	971.3	970.1	970.2	971.6	973.0	974.4	975.8	976.9
160°	985.9	984.9	983.9	982.8	981.9	981.9	982.8	983.9	984.9	985.9	986.8
162.5°	995.4	994.4	993.4	992.4	991.4	991.3	992.2	993.0	993.9	994.8	995.9
165°	1008.2	1007.2	1006.2	1005.2	1004.2	1004.0	1004.4	1004.9	1005.5	1006.0	1007.1
167.5°	1017.7	1016.8	1015.8	1014.7	1013.7	1013.5	1014.0	1014.4	1014.9	1015.4	1016.5
170°	1023.1	1022.1	1021.1	1020.1	1019.1	1018.8	1019.1	1019.5	1019.8	1020.1	1021.2
172.5°	1026.6	1025.6	1024.7	1023.7	1022.7	1022.4	1022.7	1023.0	1023.4	1023.7	1024.8
175°	1031.3	1030.1	1029.0	1027.8	1026.6	1026.2	1026.5	1026.9	1027.2	1027.5	1028.7
177.5°	1032.0	1031.1	1030.2	1029.2	1028.3	1027.9	1028.1	1028.2	1028.3	1028.4	1029.4
180°	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1



TEST NUMBER: P331636-930

CATALOG NUMBER: SA2XXRDIP-C290D925U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	407.3	408.0	408.6	408.9	408.8	408.6	408.5	408.4
5°	404.1	404.8	405.5	405.8	405.5	405.3	405.0	404.8
7.5°	397.5	397.8	397.9	397.9	397.5	397.0	396.6	396.2
10°	391.0	390.8	390.5	390.1	389.6	389.1	388.7	388.2
12.5°	383.5	383.0	382.6	382.0	381.2	380.3	379.5	378.7
15°	369.5	367.9	366.3	365.2	364.4	363.5	362.6	361.8
17.5°	353.6	351.7	349.9	348.3	346.8	345.4	344.0	342.6
20°	342.6	340.5	338.4	336.5	334.7	332.9	331.1	329.3
22.5°	330.4	327.8	325.1	323.1	321.7	320.4	319.0	317.7
25°	310.3	306.9	303.5	301.3	300.0	298.7	297.5	296.3
27.5°	291.1	287.1	283.2	280.3	278.3	276.4	274.4	272.5
30°	277.5	273.4	269.1	266.0	263.7	261.5	259.3	257.1
32.5°	263.9	259.1	254.3	250.9	248.8	246.7	244.6	242.6
35°	242.6	237.4	232.2	228.7	226.9	225.1	223.3	221.5
37.5°	221.8	216.1	210.4	206.5	204.5	202.4	200.3	198.2
40°	208.0	202.1	196.2	192.2	190.1	188.0	185.8	183.7
42.5°	193.9	187.8	181.8	177.8	175.7	173.7	171.5	169.5
45°	173.5	167.6	161.8	157.9	156.0	153.9	152.0	150.0
47.5°	153.6	147.8	142.0	138.2	136.4	134.6	132.8	131.0
50°	140.9	135.2	129.5	125.8	124.1	122.4	120.6	118.9
52.5°	128.8	123.4	117.9	114.3	112.8	111.1	109.5	107.9
55°	110.5	105.6	100.6	97.3	95.8	94.2	92.7	91.2
57.5°	93.8	89.3	84.8	81.9	80.6	79.2	77.9	76.6
60°	82.3	78.2	73.9	71.2	69.9	68.6	67.3	66.0
62.5°	72.4	68.4	64.4	62.0	61.1	60.4	59.6	58.8
65°	58.9	56.0	53.2	51.7	51.4	51.2	51.0	50.7
67.5°	47.5	46.2	44.9	44.2	43.9	43.6	43.4	43.1
70°	41.3	40.5	39.7	39.1	38.7	38.4	38.1	37.7
72.5°	36.0	35.2	34.6	34.2	33.9	33.8	33.5	33.3
75°	28.5	27.9	27.3	27.0	26.9	26.8	26.7	26.7
77.5°	21.5	21.2	20.9	20.7	20.5	20.4	20.3	20.1
80°	17.1	16.8	16.5	16.3	16.3	16.3	16.3	16.3
82.5°	13.0	12.7	12.6	12.5	12.5	12.5	12.5	12.5
85°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
87.5°	5.5	5.6	5.7	5.9	5.9	6.0	6.0	6.1
90°	16.6	17.4	18.2	18.8	19.1	19.4	19.8	20.1
92.5°	18.1	18.6	19.0	19.3	19.5	19.7	19.9	20.1
95°	30.7	31.6	32.4	32.7	32.5	32.4	32.2	32.0
97.5°	40.2	40.8	41.5	41.9	42.2	42.3	42.6	42.7
100°	45.1	46.4	47.8	48.6	48.9	49.2	49.6	49.9
102.5°	47.0	48.8	50.5	51.6	52.1	52.5	53.0	53.5
105°	49.1	50.9	52.7	54.0	54.6	55.3	55.9	56.6
107.5°	59.8	58.0	56.2	55.6	56.3	56.9	57.6	58.2
110°	97.2	80.6	64.1	56.2	56.8	57.5	58.1	58.9



TEST NUMBER: P331636-930

CATALOG NUMBER: SA2XXRDIP-C290D925U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	208.0	147.6	87.2	57.3	57.8	58.4	58.9	59.4
115°	306.2	229.6	153.0	108.7	96.8	84.9	73.0	61.1
117.5°	471.8	453.3	434.7	405.9	366.7	327.6	288.5	249.3
120°	549.8	551.8	553.8	543.6	521.2	498.9	476.5	454.2
122.5°	583.3	584.5	585.7	584.2	579.8	575.4	571.1	566.8
125°	631.5	632.7	633.8	634.6	635.1	635.6	636.2	636.7
127.5°	676.0	677.8	679.5	680.3	680.4	680.5	680.6	680.7
130°	704.3	706.1	707.9	708.8	708.7	708.4	708.3	708.1
132.5°	731.8	733.4	734.9	735.6	735.4	735.2	735.1	734.9
135°	771.0	772.7	774.3	774.9	774.6	774.3	774.0	773.6
137.5°	807.4	809.0	810.7	811.2	810.7	810.1	809.5	808.9
140°	831.0	832.5	834.0	834.3	833.5	832.7	831.8	831.0
142.5°	852.7	854.1	855.5	855.7	854.9	854.1	853.3	852.4
145°	883.2	884.4	885.5	885.7	884.8	884.0	883.2	882.4
147.5°	909.7	910.5	911.4	911.5	910.8	910.1	909.4	908.7
150°	926.0	927.1	928.1	928.1	927.3	926.4	925.6	924.8
152.5°	940.9	941.9	942.9	942.9	941.8	940.7	939.6	938.5
155°	961.1	962.1	963.0	962.9	961.6	960.2	958.9	957.6
157.5°	978.0	979.1	980.2	980.2	978.8	977.5	976.2	975.0
160°	987.8	988.9	989.9	989.8	988.6	987.4	986.3	985.1
162.5°	997.0	998.2	999.3	999.1	997.8	996.3	994.9	993.4
165°	1008.3	1009.4	1010.6	1010.6	1009.4	1008.3	1007.1	1006.0
167.5°	1017.7	1018.8	1020.0	1019.8	1018.3	1016.8	1015.4	1013.8
170°	1022.5	1023.6	1024.7	1024.6	1023.1	1021.6	1020.1	1018.6
172.5°	1026.0	1027.2	1028.3	1028.2	1026.6	1025.2	1023.7	1022.2
175°	1029.9	1031.0	1032.2	1031.9	1030.3	1028.7	1027.0	1025.3
177.5°	1030.3	1031.3	1032.2	1032.0	1030.9	1029.6	1028.4	1027.3
180°	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1

(END OF REPORT)