

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: P332182-935

Luminaire Tested: **S123DIW-S1000D460U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332182-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D460U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5204.3 lumens
Efficiency: N/A
Efficacy: 112.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

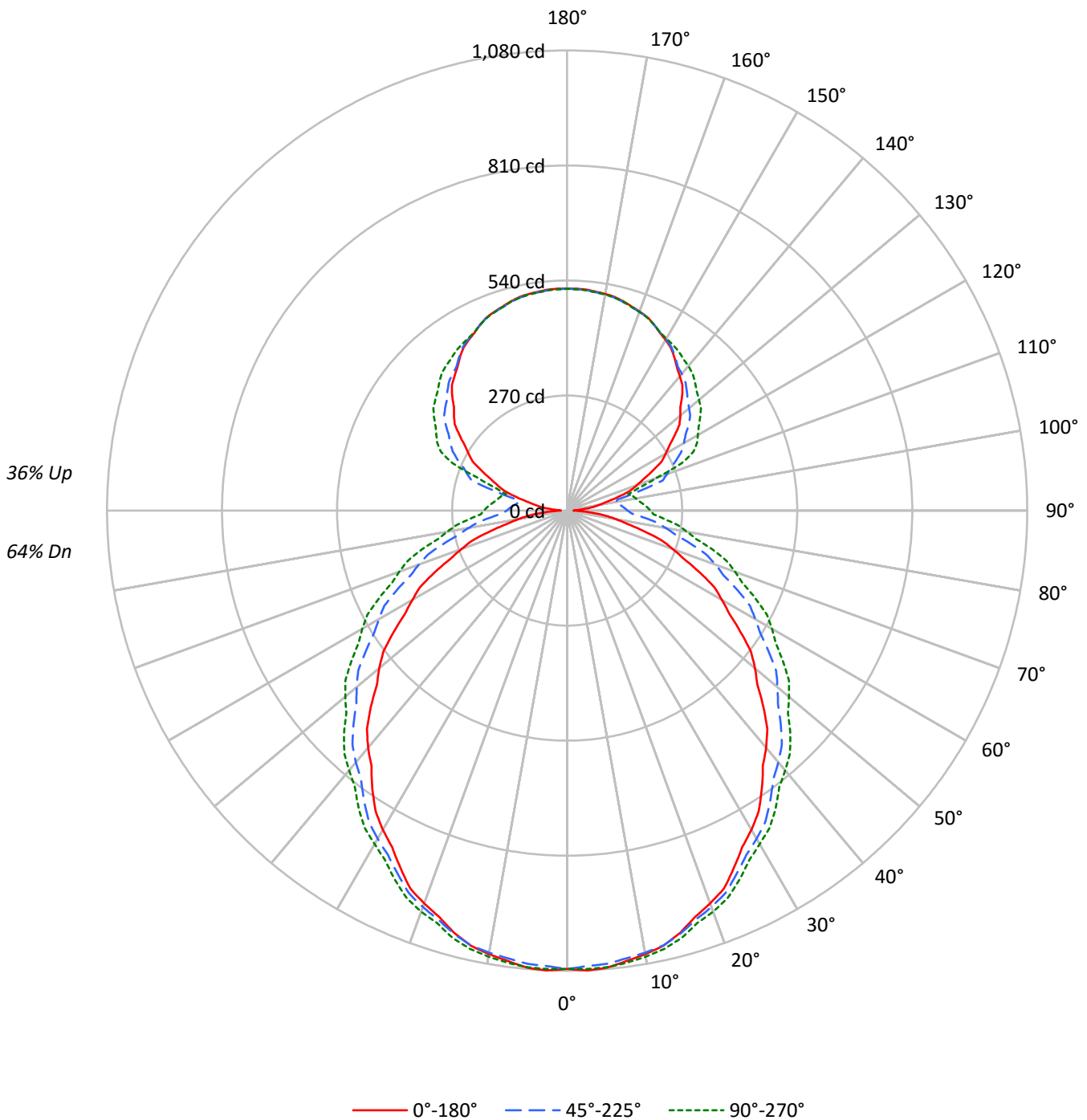
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64
1	99	94	90	86	93	89	85	81	78	75	72	68	66	63	59	57	55	51
2	90	82	75	69	84	77	71	66	67	63	59	59	55	52	51	48	46	42
3	82	71	63	57	76	67	60	54	59	53	49	52	47	43	45	41	38	35
4	75	63	55	48	70	59	52	46	52	46	41	46	41	37	40	36	33	29
5	69	56	47	41	64	53	45	39	47	40	35	41	36	32	36	32	28	25
6	63	50	42	35	59	47	40	34	42	36	31	37	32	28	32	28	25	22
7	58	45	37	31	55	43	35	30	38	32	27	34	28	24	29	25	22	19
8	54	41	33	27	51	39	32	26	35	28	24	31	26	22	27	23	20	17
9	51	38	30	24	47	36	28	23	32	26	22	28	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11579	11579	11579
5°	11615	11288	11294
10°	11511	11028	10973
15°	11363	10732	10622
20°	11151	10395	10235
25°	10888	10007	9829
30°	10621	9658	9417
35°	10321	9289	9089
40°	10033	8953	8737
45°	9715	8630	8455
50°	9402	8312	8146
55°	9056	7985	7866
60°	8718	7655	7580
65°	8372	7303	7241
70°	7847	6904	6893
75°	7189	6449	6538
80°	6431	6003	6131
85°	5726	5695	5898



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.0	2.0
10°-20°	290.7	5.6
20°-30°	434.8	8.4
30°-40°	519.2	10.0
40°-50°	543.3	10.4
50°-60°	509.8	9.8
60°-70°	425.8	8.2
70°-80°	304.6	5.9
80°-90°	183.1	3.5
90°-100°	132.9	2.6
100°-110°	174.0	3.3
110°-120°	272.7	5.2
120°-130°	307.9	5.9
130°-140°	309.2	5.9
140°-150°	278.8	5.4
150°-160°	222.4	4.3
160°-170°	143.5	2.8
170°-180°	49.5	1.0
0°-30°	827.5	15.9
0°-40°	1346.7	25.9
0°-60°	2399.8	46.1
0°-90°	3313.4	63.7
90°-120°	579.6	11.1
90°-150°	1475.5	28.4
90°-180°	1891.0	36.3
0°-180°	5204.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1076	1076	1076	1076	1076	
5°	1077	1074	1068	1076	1076	102
15°	1025	1029	1028	1039	1038	289
25°	926	937	941	955	956	426
35°	797	815	831	848	853	498
45°	652	680	709	731	741	502
55°	497	536	578	608	619	445
65°	343	389	441	474	488	339
75°	186	242	300	337	353	199
85°	57	116	178	216	230	60
90°	16	77	142	182	196	12
95°	36	68	128	166	179	39
105°	125	156	173	140	148	132
115°	222	240	284	315	327	219
125°	308	313	347	371	381	276
135°	382	384	397	419	424	294
145°	439	441	441	451	456	274
155°	482	482	482	484	482	222
165°	509	508	507	510	508	144
175°	521	519	519	522	519	50
180°	521	521	521	521	521	



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CATALOG NUMBER: S123DIW-S1000D460U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1080.5	1079.9	1079.2	1078.6	1078.0	1076.8	1075.1	1073.5	1071.8	1070.1	1071.8
5°	1076.9	1076.4	1075.9	1075.4	1074.9	1073.8	1072.3	1070.7	1069.1	1067.6	1069.6
7.5°	1066.3	1066.5	1066.6	1066.7	1066.8	1066.1	1064.6	1063.1	1061.5	1060.1	1062.6
10°	1057.0	1057.6	1058.1	1058.6	1059.1	1058.7	1057.4	1056.1	1054.8	1053.5	1056.1
12.5°	1045.8	1046.5	1047.2	1047.9	1048.7	1048.6	1047.8	1046.8	1045.9	1045.1	1047.5
15°	1025.4	1026.1	1026.9	1027.7	1028.5	1028.7	1028.5	1028.2	1027.9	1027.7	1030.4
17.5°	999.6	1001.2	1002.7	1004.3	1005.8	1006.6	1006.5	1006.3	1006.3	1006.2	1008.5
20°	980.9	982.4	984.0	985.5	987.1	988.2	988.7	989.2	989.7	990.2	992.6
22.5°	961.1	962.7	964.3	965.9	967.4	968.5	969.3	970.0	970.8	971.5	974.4
25°	925.7	928.3	931.0	933.6	936.2	937.9	938.7	939.4	940.2	941.0	944.3
27.5°	890.1	893.1	896.0	899.1	902.0	904.3	906.0	907.7	909.3	911.0	914.0
30°	864.8	868.2	871.6	874.9	878.4	881.1	883.2	885.3	887.3	889.4	892.6
32.5°	836.7	840.5	844.3	848.1	851.9	855.1	857.9	860.6	863.3	866.0	869.4
35°	796.9	801.0	805.2	809.3	813.6	817.3	820.7	824.1	827.4	830.9	834.7
37.5°	754.7	759.4	764.1	768.7	773.4	777.8	782.0	786.2	790.3	794.5	798.9
40°	726.5	731.2	735.9	740.6	745.3	750.3	755.4	760.7	765.9	771.1	775.5
42.5°	695.6	701.4	707.1	712.8	718.5	724.1	729.5	734.9	740.4	745.8	750.6
45°	651.5	657.8	664.1	670.3	676.6	682.9	689.4	695.9	702.5	708.9	713.9
47.5°	605.4	612.4	619.6	626.6	633.7	641.0	648.4	655.9	663.3	670.8	676.3
50°	575.4	582.6	590.0	597.3	604.5	612.3	620.3	628.4	636.5	644.5	650.5
52.5°	543.5	551.2	559.0	566.6	574.4	582.6	591.6	600.5	609.3	618.3	624.5
55°	496.9	505.5	514.0	522.6	531.2	540.2	549.6	559.0	568.3	577.7	584.8
57.5°	451.4	460.4	469.3	478.3	487.2	496.9	507.1	517.4	527.6	537.9	544.9
60°	419.6	428.9	438.2	447.6	457.0	467.0	477.7	488.4	499.1	509.8	517.0
62.5°	389.5	399.1	408.7	418.3	427.8	438.3	449.6	460.9	472.2	483.5	490.8
65°	343.4	353.5	363.7	373.8	384.0	394.8	406.2	417.7	429.1	440.7	448.4
67.5°	296.4	307.3	318.1	328.8	339.6	350.9	362.5	374.2	385.8	397.5	406.0
70°	263.6	274.8	286.0	297.3	308.5	320.3	332.8	345.3	357.8	370.3	378.7
72.5°	233.7	244.9	256.1	267.3	278.4	290.5	303.4	316.3	329.2	342.2	350.7
75°	186.3	198.5	210.8	223.1	235.3	247.9	261.0	274.0	287.0	300.0	308.6
77.5°	145.1	157.4	169.8	182.1	194.4	207.2	220.3	233.4	246.6	259.7	268.7
80°	116.0	128.8	141.5	154.3	167.0	180.2	193.7	207.3	220.8	234.4	243.2
82.5°	90.7	103.7	116.7	129.6	142.6	155.9	169.7	183.4	197.2	210.9	219.8
85°	57.4	70.4	83.4	96.5	109.5	123.0	136.7	150.5	164.3	178.1	187.0
87.5°	31.3	44.4	57.5	70.7	83.8	97.1	110.6	124.2	137.7	151.2	160.1
90°	15.6	29.3	42.9	56.5	70.1	84.1	98.5	112.9	127.3	141.7	150.9
92.5°	21.5	32.8	44.0	55.3	66.6	79.1	93.1	107.0	120.9	134.8	144.0
95°	36.5	43.1	49.8	56.4	63.0	73.2	86.9	100.6	114.3	128.0	136.6
97.5°	58.9	66.5	74.0	81.6	89.3	96.0	102.0	108.1	114.0	120.0	128.5
100°	75.9	86.0	96.0	106.1	116.1	120.5	119.0	117.6	116.1	114.7	123.0
102.5°	95.4	104.2	112.9	121.7	130.4	133.3	130.4	127.5	124.7	121.7	127.0
105°	124.7	131.8	139.1	146.2	153.4	158.8	162.2	165.7	169.1	172.6	164.7
107.5°	154.4	160.4	166.5	172.5	178.7	187.6	199.4	211.3	223.1	235.0	230.7
110°	174.2	179.5	184.9	190.3	195.6	204.0	215.3	226.7	238.1	249.4	253.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	194.0	198.5	202.9	207.3	211.8	219.6	230.5	241.4	252.4	263.3	269.9
115°	222.1	225.8	229.4	233.0	236.7	243.6	253.7	263.8	274.0	284.1	291.3
117.5°	250.3	252.8	255.4	258.0	260.5	266.4	275.6	284.8	293.9	303.2	310.0
120°	267.0	269.1	271.1	273.2	275.3	280.7	289.6	298.4	307.3	316.2	322.8
122.5°	284.9	286.2	287.6	288.9	290.2	295.1	303.6	312.1	320.6	329.1	335.4
125°	308.3	309.0	309.7	310.4	311.1	315.4	323.3	331.1	339.1	347.0	352.6
127.5°	332.2	332.6	333.0	333.5	333.9	337.4	344.1	350.8	357.4	364.0	369.5
130°	347.0	347.4	347.8	348.3	348.7	351.7	357.2	362.8	368.3	373.9	379.2
132.5°	360.3	360.9	361.6	362.2	362.8	365.4	369.8	374.3	378.8	383.1	388.2
135°	381.9	382.1	382.4	382.6	382.8	384.6	387.8	391.0	394.2	397.4	402.3
137.5°	400.2	400.6	401.1	401.5	401.9	403.0	404.8	406.7	408.5	410.3	414.8
140°	411.6	412.1	412.6	413.1	413.6	414.4	415.5	416.6	417.6	418.6	422.8
142.5°	423.0	423.4	423.7	424.0	424.3	424.6	425.1	425.5	425.9	426.3	430.1
145°	439.0	439.4	439.7	440.1	440.4	440.7	440.8	441.0	441.2	441.3	443.6
147.5°	453.0	453.4	453.7	454.2	454.5	454.9	455.0	455.2	455.4	455.6	456.3
150°	462.3	462.5	462.8	463.0	463.3	463.5	463.6	463.8	464.0	464.2	464.3
152.5°	470.6	470.7	470.9	471.0	471.1	471.2	471.3	471.4	471.5	471.7	471.9
155°	482.3	482.2	482.0	481.9	481.7	481.6	481.7	481.8	481.9	482.0	482.4
157.5°	491.5	491.5	491.5	491.5	491.5	491.4	491.3	491.2	491.1	491.0	491.5
160°	497.1	497.0	496.9	496.8	496.7	496.6	496.5	496.5	496.4	496.3	496.8
162.5°	502.3	502.1	501.9	501.7	501.4	501.3	501.2	501.1	501.0	500.9	501.5
165°	508.7	508.4	508.2	507.9	507.6	507.5	507.4	507.3	507.2	507.1	507.8
167.5°	513.7	513.3	513.0	512.6	512.3	512.1	512.1	512.1	512.1	512.1	512.8
170°	516.4	516.1	515.7	515.4	515.1	514.9	514.9	514.9	514.9	514.9	515.6
172.5°	518.2	517.9	517.5	517.0	516.6	516.4	516.5	516.6	516.7	516.7	517.4
175°	520.6	520.2	519.8	519.4	518.9	518.8	518.8	518.9	519.0	519.1	519.7
177.5°	521.2	520.9	520.6	520.2	519.9	519.8	519.9	519.9	520.0	520.0	520.6
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1073.5	1075.1	1076.8	1077.5	1077.3	1077.1	1076.9	1076.7
5°	1071.7	1073.8	1075.9	1076.8	1076.5	1076.2	1076.0	1075.7
7.5°	1065.2	1067.9	1070.5	1071.6	1071.3	1071.0	1070.7	1070.4
10°	1058.7	1061.3	1063.9	1065.0	1064.5	1063.9	1063.4	1062.9
12.5°	1049.8	1052.2	1054.6	1055.6	1055.1	1054.6	1054.0	1053.5
15°	1032.9	1035.5	1038.1	1039.3	1039.1	1038.8	1038.5	1038.3
17.5°	1010.8	1013.2	1015.5	1016.5	1016.2	1015.8	1015.5	1015.0
20°	994.9	997.2	999.6	1000.9	1001.2	1001.4	1001.7	1001.9
22.5°	977.4	980.3	983.3	984.7	984.6	984.5	984.3	984.1
25°	947.8	951.1	954.5	956.2	956.2	956.2	956.2	956.2
27.5°	916.8	919.7	922.6	924.2	924.5	924.6	924.9	925.1
30°	895.7	898.8	901.9	903.5	903.5	903.5	903.5	903.5
32.5°	872.7	876.0	879.3	881.3	881.9	882.5	883.2	883.8
35°	838.6	842.6	846.4	848.9	850.0	851.0	852.0	853.1
37.5°	803.4	807.8	812.3	814.9	815.7	816.5	817.3	818.2
40°	779.9	784.4	788.8	791.5	792.6	793.6	794.6	795.7
42.5°	755.4	760.3	765.2	768.3	769.7	771.2	772.7	774.1
45°	718.8	723.8	728.8	732.3	734.3	736.4	738.6	740.6
47.5°	681.9	687.5	693.0	696.6	698.3	699.9	701.5	703.1
50°	656.5	662.5	668.5	672.4	674.2	676.1	677.9	679.7
52.5°	630.7	636.9	643.1	647.3	649.5	651.8	654.0	656.3
55°	591.8	598.8	605.9	610.4	612.5	614.6	616.6	618.7
57.5°	552.1	559.1	566.2	571.0	573.4	575.8	578.3	580.7
60°	524.3	531.7	538.9	544.0	546.9	549.7	552.6	555.4
62.5°	498.1	505.4	512.6	517.6	520.3	523.0	525.6	528.3
65°	456.2	464.1	471.8	477.1	479.7	482.2	484.9	487.5
67.5°	414.6	423.1	431.6	437.0	439.2	441.4	443.6	445.7
70°	386.9	395.3	403.6	409.1	411.7	414.3	416.9	419.6
72.5°	359.3	367.8	376.3	381.9	384.5	387.1	389.8	392.4
75°	317.2	325.8	334.3	340.3	343.4	346.5	349.6	352.8
77.5°	277.8	286.9	295.9	301.7	304.0	306.4	308.8	311.3
80°	252.1	261.0	269.8	275.5	278.1	280.7	283.4	285.9
82.5°	228.7	237.5	246.3	252.1	254.7	257.3	259.8	262.5
85°	195.8	204.7	213.5	219.3	221.9	224.5	227.0	229.7
87.5°	169.0	177.9	186.8	192.6	195.3	197.9	200.5	203.2
90°	160.1	169.3	178.5	184.5	187.3	190.0	192.8	195.6
92.5°	153.2	162.4	171.6	177.5	179.9	182.4	184.9	187.4
95°	145.3	154.0	162.7	168.3	170.9	173.6	176.2	178.7
97.5°	136.9	145.3	153.9	159.4	162.0	164.8	167.5	170.1
100°	131.2	139.4	147.7	153.2	155.8	158.5	161.2	163.9
102.5°	132.2	137.4	142.7	146.6	149.4	152.1	154.9	157.6
105°	156.8	148.9	140.9	138.2	140.7	143.3	145.8	148.3
107.5°	226.6	222.4	218.3	211.5	202.4	193.2	184.1	174.9
110°	257.4	261.2	265.2	262.1	251.8	241.6	231.4	221.2



TEST NUMBER: P332182-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.6	283.2	289.8	292.9	292.7	292.3	292.1	291.7
115°	298.3	305.5	312.5	317.4	319.8	322.2	324.6	327.1
117.5°	316.9	323.8	330.7	335.2	337.3	339.4	341.5	343.6
120°	329.5	336.1	342.9	347.1	348.9	350.8	352.6	354.4
122.5°	341.6	347.8	354.1	358.2	360.1	362.0	363.9	365.8
125°	358.3	363.9	369.5	373.3	375.3	377.3	379.4	381.3
127.5°	375.0	380.4	385.8	389.3	390.9	392.5	394.1	395.7
130°	384.5	389.8	395.1	398.5	399.8	401.2	402.6	404.0
132.5°	393.3	398.4	403.5	406.8	408.4	409.8	411.4	412.9
135°	407.3	412.2	417.2	420.2	421.2	422.2	423.4	424.4
137.5°	419.3	423.9	428.3	431.2	432.3	433.5	434.6	435.8
140°	427.1	431.4	435.6	438.2	439.5	440.6	441.7	442.8
142.5°	433.9	437.6	441.3	443.8	444.8	445.9	446.9	448.0
145°	445.9	448.2	450.4	452.0	453.1	454.1	455.1	456.2
147.5°	457.1	457.9	458.7	459.3	459.9	460.5	461.0	461.6
150°	464.5	464.7	464.9	465.1	465.4	465.6	465.9	466.1
152.5°	472.3	472.5	472.9	472.9	472.6	472.3	472.0	471.7
155°	482.8	483.3	483.7	483.6	483.1	482.6	482.1	481.6
157.5°	492.1	492.6	493.1	493.0	492.3	491.7	491.0	490.3
160°	497.3	497.8	498.3	498.3	497.7	497.1	496.5	495.9
162.5°	502.1	502.7	503.3	503.3	502.7	502.2	501.7	501.2
165°	508.5	509.2	509.9	509.9	509.3	508.8	508.2	507.6
167.5°	513.5	514.1	514.8	514.8	514.1	513.5	512.8	512.1
170°	516.3	516.9	517.6	517.6	516.9	516.3	515.6	514.9
172.5°	518.1	518.8	519.4	519.4	518.7	517.9	517.2	516.4
175°	520.3	520.9	521.5	521.5	520.8	520.1	519.4	518.8
177.5°	521.2	521.7	522.3	522.2	521.5	520.8	520.1	519.4
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6

(END OF REPORT)