

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: P332201-830

Luminaire Tested: **S123DIW-S1000D1320U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332201-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D1320U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8273.6 lumens
Efficiency: N/A
Efficacy: 118.5 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: General Diffuse

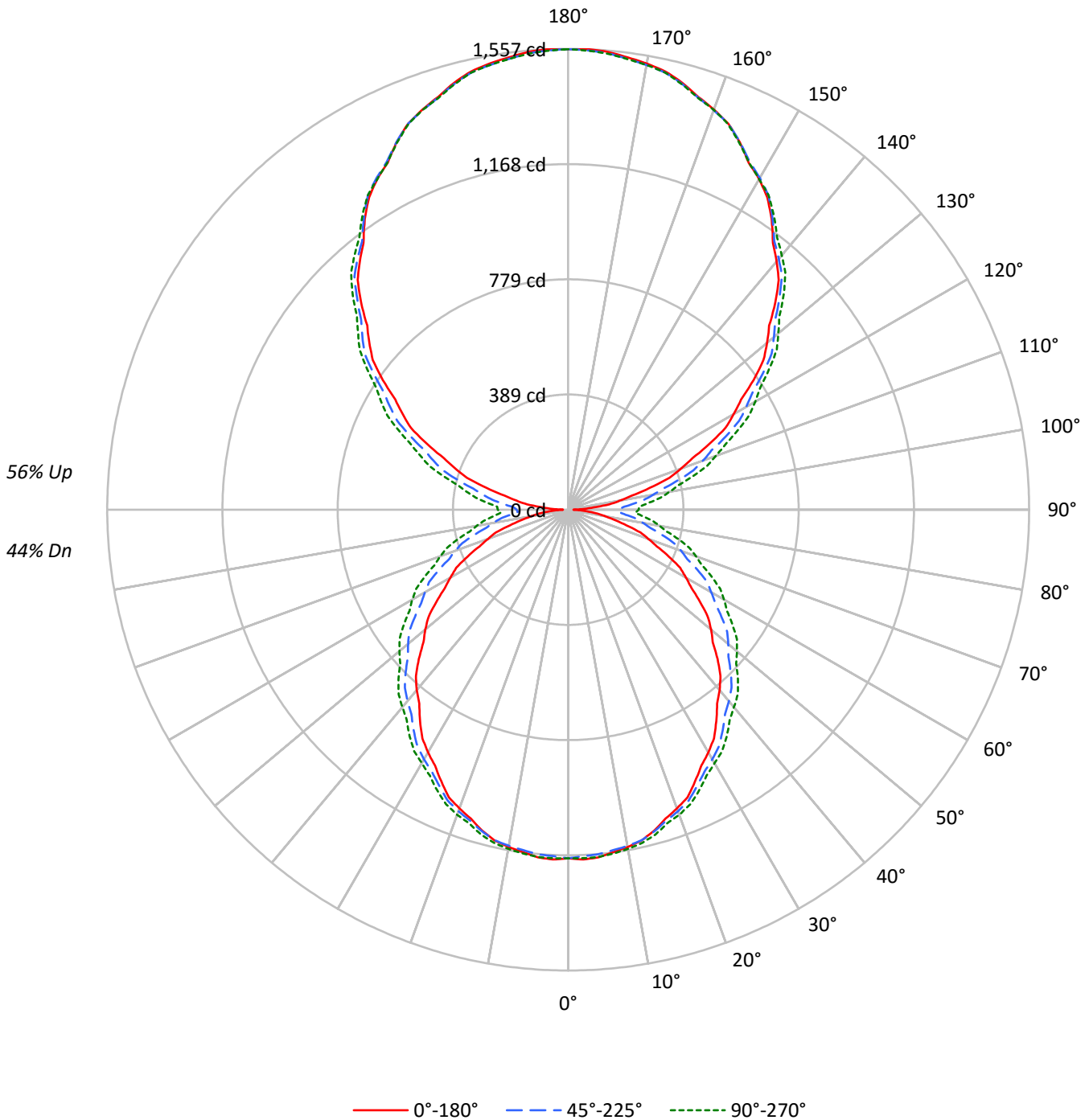
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80		65	65	65		50	50	50	44
1	95	91	87	83	87	83	79	76	69	66	64		55	54	52		43	42	41	35
2	87	79	72	67	79	72	66	62	60	55	52		48	45	43		37	35	34	29
3	79	69	61	55	72	63	56	51	52	47	43		42	39	36		33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	37		37	33	30		29	26	24	20
5	66	54	46	40	60	50	42	37	41	36	31		33	29	26		26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27		30	26	23		24	21	18	15
7	56	43	35	30	51	40	33	28	33	28	24		27	23	20		22	18	16	13
8	52	39	32	26	47	36	29	24	30	25	21		25	21	18		20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19		23	19	16		18	15	13	11
10	45	33	26	21	41	30	24	19	26	20	17		21	17	14		17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12676	12676	12676
5°	12715	12357	12363
10°	12602	12072	12012
15°	12439	11748	11627
20°	12206	11380	11204
25°	11920	10955	10760
30°	11627	10572	10310
35°	11297	10169	9950
40°	10983	9801	9564
45°	10635	9448	9257
50°	10293	9100	8917
55°	9912	8741	8611
60°	9543	8380	8298
65°	9165	7994	7927
70°	8591	7558	7545
75°	7872	7060	7157
80°	7040	6572	6712
85°	6274	6235	6458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.6	1.3
10°-20°	318.2	3.8
20°-30°	476.0	5.8
30°-40°	568.4	6.9
40°-50°	594.7	7.2
50°-60°	558.1	6.7
60°-70°	466.1	5.6
70°-80°	333.5	4.0
80°-90°	203.5	2.5
90°-100°	226.2	2.7
100°-110°	395.1	4.8
110°-120°	577.3	7.0
120°-130°	713.8	8.6
130°-140°	778.7	9.4
140°-150°	753.4	9.1
150°-160°	631.4	7.6
160°-170°	420.3	5.1
170°-180°	147.2	1.8
0°-30°	905.9	10.9
0°-40°	1474.3	17.8
0°-60°	2627.1	31.8
0°-90°	3630.2	43.9
90°-120°	1198.6	14.5
90°-150°	3444.5	41.6
90°-180°	4643.0	56.1
0°-180°	8273.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1179	1176	1169	1178	1178	112
15°	1122	1126	1125	1137	1137	316
25°	1013	1026	1030	1046	1047	467
35°	872	893	910	928	934	545
45°	713	744	776	800	811	550
55°	544	586	632	666	677	487
65°	376	426	482	519	534	371
75°	204	264	328	369	386	218
85°	63	127	195	237	252	66
90°	18	93	174	221	238	16
95°	86	146	217	260	275	92
105°	285	320	385	419	435	305
115°	526	546	589	620	630	521
125°	764	770	803	824	829	682
135°	989	996	1008	1025	1030	762
145°	1198	1199	1203	1211	1212	748
155°	1370	1370	1372	1376	1368	631
165°	1493	1489	1489	1495	1488	421
175°	1553	1548	1548	1554	1546	147
180°	1556	1556	1556	1556	1556	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1182.8	1182.1	1181.4	1180.7	1180.1	1178.7	1177.0	1175.2	1173.3	1171.5	1173.3
5°	1178.9	1178.4	1177.8	1177.2	1176.7	1175.5	1173.8	1172.1	1170.4	1168.7	1170.9
7.5°	1167.3	1167.5	1167.6	1167.7	1167.8	1167.1	1165.5	1163.8	1162.1	1160.5	1163.3
10°	1157.2	1157.7	1158.3	1158.9	1159.4	1159.0	1157.5	1156.1	1154.7	1153.3	1156.1
12.5°	1144.8	1145.6	1146.4	1147.2	1148.0	1147.9	1147.0	1145.9	1145.0	1144.1	1146.7
15°	1122.5	1123.3	1124.2	1125.0	1125.9	1126.1	1125.9	1125.6	1125.3	1125.0	1127.9
17.5°	1094.3	1096.0	1097.7	1099.4	1101.1	1101.9	1101.8	1101.6	1101.5	1101.5	1104.0
20°	1073.7	1075.4	1077.1	1078.8	1080.5	1081.8	1082.3	1082.9	1083.5	1084.0	1086.6
22.5°	1052.2	1053.9	1055.6	1057.3	1059.0	1060.3	1061.1	1061.9	1062.7	1063.5	1066.7
25°	1013.4	1016.2	1019.2	1022.0	1024.8	1026.7	1027.6	1028.4	1029.3	1030.1	1033.8
27.5°	974.4	977.7	980.9	984.2	987.4	990.0	991.8	993.6	995.4	997.3	1000.5
30°	946.7	950.5	954.1	957.8	961.6	964.5	966.9	969.1	971.4	973.6	977.1
32.5°	916.0	920.1	924.3	928.4	932.6	936.1	939.1	942.1	945.1	948.0	951.7
35°	872.3	876.8	881.5	886.0	890.6	894.7	898.4	902.1	905.8	909.6	913.8
37.5°	826.1	831.3	836.4	841.5	846.7	851.5	856.1	860.6	865.2	869.8	874.6
40°	795.3	800.5	805.6	810.8	815.9	821.3	827.0	832.7	838.4	844.1	848.9
42.5°	761.5	767.8	774.0	780.3	786.6	792.7	798.6	804.6	810.5	816.4	821.7
45°	713.2	720.1	727.0	733.8	740.6	747.6	754.7	761.9	769.0	776.1	781.6
47.5°	662.7	670.4	678.3	686.0	693.7	701.7	709.8	718.0	726.1	734.3	740.4
50°	629.9	637.8	645.8	653.8	661.8	670.2	679.0	687.9	696.7	705.6	712.1
52.5°	594.9	603.4	611.9	620.3	628.8	637.8	647.6	657.3	667.0	676.8	683.6
55°	543.9	553.4	562.7	572.1	581.5	591.4	601.6	611.9	622.2	632.4	640.2
57.5°	494.2	504.0	513.8	523.6	533.4	543.9	555.2	566.4	577.6	588.8	596.5
60°	459.3	469.5	479.8	490.0	500.3	511.2	522.9	534.7	546.4	558.1	566.0
62.5°	426.4	436.9	447.4	457.9	468.3	479.8	492.2	504.5	516.9	529.3	537.2
65°	375.9	387.0	398.1	409.3	420.4	432.2	444.7	457.2	469.8	482.4	490.9
67.5°	324.5	336.4	348.2	360.0	371.7	384.1	396.8	409.6	422.4	435.2	444.5
70°	288.6	300.9	313.1	325.5	337.7	350.6	364.3	378.1	391.7	405.4	414.5
72.5°	255.8	268.1	280.3	292.6	304.8	318.0	332.2	346.3	360.4	374.6	383.9
75°	204.0	217.4	230.7	244.2	257.6	271.4	285.7	299.9	314.1	328.4	337.8
77.5°	158.8	172.3	185.9	199.3	212.8	226.8	241.2	255.5	269.9	284.3	294.2
80°	127.0	141.0	155.0	168.9	182.9	197.3	212.1	227.0	241.8	256.6	266.3
82.5°	99.2	113.5	127.7	141.9	156.1	170.7	185.8	200.8	215.8	230.9	240.6
85°	62.9	77.1	91.3	105.7	119.9	134.6	149.7	164.8	179.8	195.0	204.7
87.5°	34.4	49.1	63.8	78.6	93.3	108.3	123.6	138.8	154.0	169.3	179.2
90°	17.9	34.6	51.3	68.0	84.6	102.0	120.1	138.2	156.3	174.3	185.1
92.5°	45.2	59.7	74.1	88.6	103.0	118.4	134.7	151.1	167.4	183.7	194.1
95°	86.2	99.2	112.3	125.3	138.3	152.9	169.0	185.2	201.3	217.4	227.3
97.5°	140.7	152.1	163.6	175.0	186.4	199.6	214.6	229.5	244.4	259.3	269.1
100°	177.8	188.5	199.3	210.1	220.8	233.5	247.9	262.4	276.8	291.3	300.4
102.5°	220.7	230.0	239.1	248.4	257.5	269.5	284.2	298.8	313.5	328.2	337.1
105°	285.3	292.7	300.1	307.5	314.8	325.9	340.6	355.3	370.0	384.7	392.7
107.5°	359.1	365.2	371.4	377.5	383.6	393.0	405.7	418.2	430.8	443.5	451.9
110°	405.0	410.7	416.3	422.0	427.7	436.5	448.5	460.4	472.3	484.3	492.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	453.9	458.5	463.0	467.5	472.1	479.8	491.0	502.0	513.0	524.1	532.6
115°	525.9	530.2	534.4	538.7	542.9	549.9	559.6	569.3	579.0	588.7	595.9
117.5°	599.6	602.2	604.8	607.5	610.1	616.0	624.9	633.8	642.7	651.7	658.4
120°	644.5	647.5	650.5	653.7	656.7	662.2	670.3	678.3	686.4	694.5	700.7
122.5°	692.4	694.4	696.3	698.2	700.1	705.2	713.5	721.7	730.0	738.2	743.9
125°	764.2	765.1	765.8	766.7	767.5	771.8	779.5	787.2	794.9	802.7	807.6
127.5°	831.7	833.1	834.6	836.0	837.5	841.3	847.6	853.8	860.1	866.3	870.4
130°	876.7	878.5	880.4	882.3	884.2	887.6	892.5	897.4	902.3	907.2	911.5
132.5°	920.7	922.7	924.9	927.0	929.1	932.2	936.1	940.1	944.1	948.0	951.9
135°	989.1	990.4	991.7	993.2	994.5	996.6	999.5	1002.3	1005.1	1008.0	1012.1
137.5°	1052.4	1053.6	1054.7	1055.8	1056.9	1058.8	1061.2	1063.7	1066.1	1068.7	1072.0
140°	1095.4	1096.7	1098.1	1099.5	1100.8	1102.0	1103.2	1104.3	1105.4	1106.5	1110.6
142.5°	1135.5	1136.6	1137.7	1138.9	1140.0	1140.9	1141.5	1142.2	1142.8	1143.5	1147.1
145°	1198.1	1198.3	1198.5	1198.8	1199.1	1199.7	1200.4	1201.3	1202.1	1202.9	1204.9
147.5°	1251.5	1252.5	1253.5	1254.5	1255.5	1256.3	1257.1	1257.8	1258.6	1259.3	1260.1
150°	1289.7	1290.2	1290.8	1291.3	1291.8	1292.4	1293.0	1293.5	1294.0	1294.6	1294.6
152.5°	1321.0	1321.7	1322.5	1323.2	1324.0	1324.6	1324.9	1325.2	1325.6	1325.9	1326.3
155°	1370.4	1370.4	1370.4	1370.4	1370.4	1370.6	1370.7	1371.0	1371.3	1371.6	1372.7
157.5°	1412.4	1412.1	1411.7	1411.5	1411.1	1411.1	1411.3	1411.5	1411.7	1411.9	1413.1
160°	1438.8	1438.3	1437.8	1437.2	1436.6	1436.3	1436.3	1436.3	1436.3	1436.3	1437.8
162.5°	1462.3	1461.5	1460.8	1460.0	1459.2	1459.0	1459.2	1459.4	1459.6	1459.8	1461.2
165°	1492.6	1491.8	1491.0	1490.2	1489.4	1488.9	1488.9	1488.9	1488.9	1488.9	1490.5
167.5°	1516.8	1515.7	1514.7	1513.5	1512.5	1512.0	1512.2	1512.5	1512.7	1512.9	1514.6
170°	1530.5	1529.5	1528.3	1527.3	1526.2	1525.6	1525.6	1525.6	1525.6	1525.6	1527.5
172.5°	1541.2	1540.2	1539.1	1538.0	1536.9	1536.3	1536.3	1536.3	1536.3	1536.3	1538.0
175°	1552.6	1551.4	1550.4	1549.3	1548.1	1547.7	1547.7	1547.7	1547.7	1547.7	1549.3
177.5°	1557.2	1556.3	1555.4	1554.5	1553.7	1553.2	1553.2	1553.2	1553.2	1553.2	1554.5
180°	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1175.2	1177.0	1178.7	1179.6	1179.3	1179.1	1178.9	1178.6
5°	1173.2	1175.5	1177.8	1178.7	1178.5	1178.2	1177.9	1177.6
7.5°	1166.1	1169.0	1171.9	1173.1	1172.8	1172.4	1172.1	1171.8
10°	1159.0	1161.8	1164.7	1165.8	1165.3	1164.7	1164.1	1163.6
12.5°	1149.2	1151.9	1154.5	1155.6	1155.0	1154.4	1153.9	1153.3
15°	1130.8	1133.6	1136.4	1137.7	1137.5	1137.2	1136.9	1136.6
17.5°	1106.5	1109.2	1111.7	1112.8	1112.4	1112.0	1111.6	1111.2
20°	1089.1	1091.7	1094.3	1095.7	1096.0	1096.3	1096.6	1096.8
22.5°	1070.0	1073.2	1076.5	1078.0	1077.8	1077.7	1077.5	1077.3
25°	1037.6	1041.2	1044.9	1046.8	1046.8	1046.8	1046.8	1046.8
27.5°	1003.6	1006.8	1010.0	1011.7	1012.0	1012.2	1012.5	1012.7
30°	980.5	983.9	987.3	989.1	989.1	989.1	989.1	989.1
32.5°	955.4	958.9	962.6	964.8	965.4	966.1	966.9	967.5
35°	918.0	922.4	926.6	929.3	930.5	931.6	932.7	933.9
37.5°	879.5	884.3	889.2	892.0	893.0	893.8	894.8	895.7
40°	853.8	858.7	863.5	866.5	867.6	868.7	869.9	871.0
42.5°	827.0	832.3	837.6	841.0	842.6	844.2	845.8	847.4
45°	786.9	792.4	797.8	801.6	803.9	806.2	808.5	810.8
47.5°	746.5	752.6	758.7	762.6	764.4	766.2	767.9	769.7
50°	718.7	725.2	731.8	736.0	738.1	740.1	742.1	744.0
52.5°	690.4	697.2	704.0	708.6	711.1	713.5	716.0	718.4
55°	647.8	655.5	663.3	668.2	670.5	672.8	675.0	677.3
57.5°	604.4	612.1	619.8	625.1	627.7	630.4	633.1	635.7
60°	574.0	582.0	589.9	595.5	598.7	601.8	604.9	608.0
62.5°	545.3	553.3	561.2	566.7	569.6	572.5	575.4	578.3
65°	499.5	508.0	516.5	522.3	525.1	527.9	530.8	533.7
67.5°	453.8	463.2	472.5	478.4	480.8	483.2	485.6	488.0
70°	423.6	432.7	441.9	447.9	450.7	453.6	456.4	459.3
72.5°	393.3	402.7	412.0	418.1	420.9	423.8	426.7	429.5
75°	347.2	356.7	366.0	372.5	375.9	379.3	382.7	386.2
77.5°	304.2	314.1	324.0	330.3	332.8	335.5	338.1	340.7
80°	276.0	285.7	295.3	301.6	304.4	307.3	310.2	313.0
82.5°	250.3	260.0	269.7	276.0	278.8	281.6	284.5	287.4
85°	214.3	224.0	233.8	240.1	242.9	245.7	248.5	251.5
87.5°	189.1	199.1	209.0	215.4	218.3	221.3	224.2	227.2
90°	195.9	206.6	217.4	224.5	227.9	231.3	234.7	238.1
92.5°	204.3	214.7	225.0	231.3	233.7	235.9	238.3	240.5
95°	237.3	247.2	257.1	263.5	266.4	269.3	272.1	274.9
97.5°	278.8	288.5	298.3	304.5	307.3	310.0	312.7	315.5
100°	309.4	318.6	327.6	333.8	337.2	340.6	344.0	347.4
102.5°	345.9	354.8	363.6	369.4	372.1	374.8	377.6	380.4
105°	400.7	408.7	416.6	422.2	425.3	428.4	431.5	434.6
107.5°	460.4	469.0	477.5	482.9	485.0	487.2	489.4	491.5
110°	501.2	509.8	518.3	523.4	525.2	526.9	528.6	530.4



TEST NUMBER: P332201-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	541.1	549.6	558.1	563.5	565.9	568.3	570.7	573.1
115°	602.9	610.1	617.2	621.8	623.8	625.8	627.8	629.8
117.5°	665.2	671.8	678.5	682.7	684.1	685.6	687.0	688.5
120°	707.0	713.3	719.6	723.5	724.9	726.3	727.8	729.2
122.5°	749.4	755.1	760.7	764.1	765.3	766.6	767.8	769.1
125°	812.5	817.4	822.3	825.1	826.0	827.0	827.8	828.8
127.5°	874.6	878.7	882.8	885.2	885.9	886.6	887.3	888.0
130°	915.9	920.2	924.4	926.5	926.3	926.1	926.0	925.8
132.5°	955.7	959.7	963.6	965.7	966.2	966.7	967.1	967.6
135°	1016.2	1020.2	1024.2	1026.7	1027.6	1028.4	1029.4	1030.2
137.5°	1075.3	1078.7	1082.0	1083.9	1084.3	1084.8	1085.1	1085.5
140°	1114.6	1118.6	1122.6	1124.4	1123.9	1123.4	1122.9	1122.5
142.5°	1150.7	1154.1	1157.7	1159.5	1159.4	1159.4	1159.3	1159.3
145°	1206.9	1208.9	1211.0	1211.9	1212.0	1212.1	1212.1	1212.2
147.5°	1260.7	1261.4	1262.1	1262.2	1261.6	1260.9	1260.4	1259.7
150°	1294.6	1294.6	1294.6	1294.0	1293.0	1291.9	1290.9	1289.8
152.5°	1326.7	1327.2	1327.6	1327.2	1325.9	1324.6	1323.3	1322.0
155°	1373.8	1374.9	1375.9	1375.5	1373.7	1371.8	1369.8	1367.9
157.5°	1414.2	1415.3	1416.5	1416.3	1414.8	1413.2	1411.7	1410.2
160°	1439.1	1440.5	1441.8	1442.0	1440.9	1439.8	1438.7	1437.6
162.5°	1462.5	1464.0	1465.3	1465.1	1463.4	1461.6	1459.9	1458.1
165°	1492.2	1493.8	1495.4	1495.3	1493.5	1491.6	1489.6	1487.7
167.5°	1516.3	1518.0	1519.7	1519.7	1518.0	1516.3	1514.6	1512.9
170°	1529.5	1531.3	1533.2	1533.2	1531.3	1529.5	1527.5	1525.6
172.5°	1539.7	1541.4	1543.1	1543.0	1541.2	1539.2	1537.3	1535.4
175°	1550.9	1552.6	1554.2	1554.0	1552.1	1550.2	1548.3	1546.4
177.5°	1555.9	1557.2	1558.5	1558.4	1556.8	1555.3	1553.8	1552.3
180°	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2

(END OF REPORT)