

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: P332207-940

Luminaire Tested: **S123DIW-S1000D1535U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332207-940
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-S1000D1535U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8491.7 lumens
Efficiency: N/A
Efficacy: 110.9 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

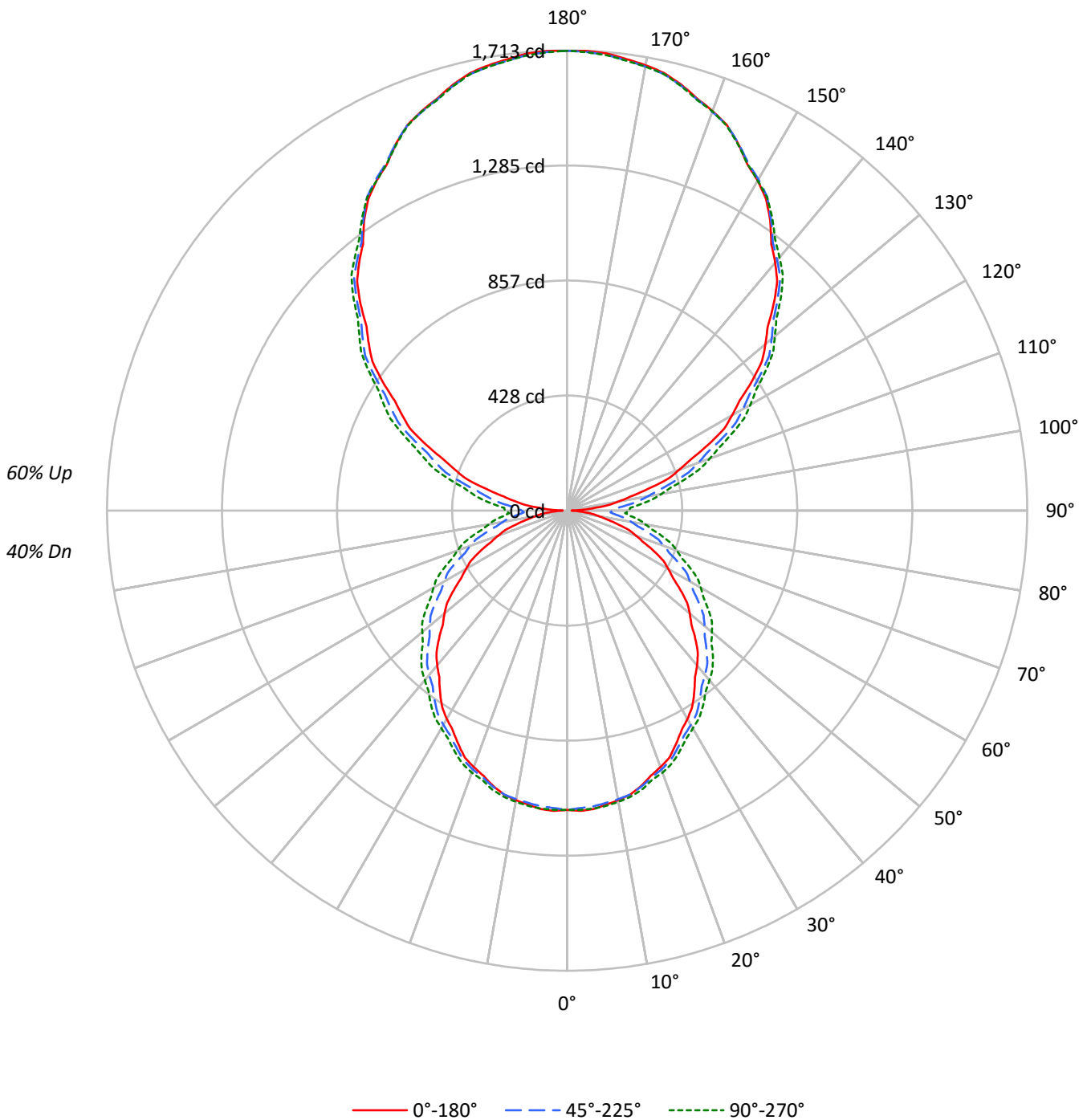
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	47	47	47	40				
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32				
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26				
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22				
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19				
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16				
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14				
7	55	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12				
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11				
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10				
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11992	11992	11992
5°	12030	11690	11697
10°	11922	11421	11364
15°	11768	11114	11000
20°	11548	10767	10600
25°	11278	10365	10179
30°	10999	10002	9754
35°	10689	9620	9413
40°	10391	9273	9048
45°	10062	8938	8757
50°	9737	8608	8436
55°	9378	8270	8147
60°	9028	7928	7850
65°	8670	7563	7499
70°	8127	7150	7138
75°	7448	6679	6770
80°	6658	6216	6350
85°	5935	5899	6108



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.6	1.2
10°-20°	301.1	3.5
20°-30°	450.3	5.3
30°-40°	537.8	6.3
40°-50°	562.6	6.6
50°-60°	528.0	6.2
60°-70°	441.0	5.2
70°-80°	315.5	3.7
80°-90°	193.2	2.3
90°-100°	229.6	2.7
100°-110°	420.5	5.0
110°-120°	625.6	7.4
120°-130°	779.8	9.2
130°-140°	854.1	10.1
140°-150°	828.2	9.8
150°-160°	694.5	8.2
160°-170°	462.3	5.4
170°-180°	161.9	1.9
0°-30°	857.0	10.1
0°-40°	1394.8	16.4
0°-60°	2485.4	29.3
0°-90°	3435.1	40.5
90°-120°	1275.7	15.0
90°-150°	3737.8	44.0
90°-180°	5057.0	59.6
0°-180°	8491.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1115	1113	1106	1115	1114	106
15°	1062	1065	1064	1076	1075	299
25°	959	970	975	989	990	442
35°	825	844	860	878	884	516
45°	675	704	734	757	767	520
55°	515	555	598	630	641	461
65°	356	403	456	491	505	351
75°	193	250	311	349	365	206
85°	60	120	184	224	238	62
90°	17	90	169	214	231	16
95°	93	150	220	261	275	100
105°	312	346	408	441	456	334
115°	578	597	637	666	676	572
125°	840	846	877	896	900	749
135°	1088	1095	1106	1122	1126	838
145°	1318	1319	1323	1331	1331	822
155°	1507	1507	1509	1513	1505	694
165°	1642	1638	1638	1645	1636	463
175°	1708	1703	1702	1709	1701	162
180°	1712	1712	1712	1712	1712	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1119.0	1118.4	1117.7	1117.0	1116.4	1115.2	1113.5	1111.8	1110.0	1108.3	1110.0
5°	1115.4	1114.8	1114.3	1113.7	1113.2	1112.1	1110.5	1108.8	1107.2	1105.6	1107.8
7.5°	1104.4	1104.6	1104.7	1104.7	1104.8	1104.1	1102.6	1101.0	1099.4	1097.9	1100.5
10°	1094.8	1095.3	1095.8	1096.4	1096.9	1096.4	1095.1	1093.8	1092.4	1091.1	1093.8
12.5°	1083.1	1083.8	1084.6	1085.3	1086.1	1086.0	1085.1	1084.1	1083.3	1082.4	1084.9
15°	1061.9	1062.7	1063.5	1064.3	1065.1	1065.4	1065.1	1064.9	1064.6	1064.3	1067.1
17.5°	1035.3	1036.9	1038.5	1040.1	1041.7	1042.5	1042.4	1042.2	1042.1	1042.1	1044.5
20°	1015.8	1017.4	1019.0	1020.7	1022.3	1023.4	1024.0	1024.5	1025.0	1025.6	1028.0
22.5°	995.4	997.0	998.7	1000.3	1001.9	1003.1	1003.9	1004.6	1005.4	1006.1	1009.1
25°	958.8	961.4	964.2	966.9	969.6	971.3	972.1	972.9	973.7	974.6	978.0
27.5°	921.9	925.0	928.0	931.1	934.2	936.6	938.3	940.0	941.7	943.5	946.6
30°	895.6	899.2	902.7	906.2	909.7	912.5	914.7	916.9	919.0	921.1	924.4
32.5°	866.6	870.5	874.4	878.3	882.3	885.6	888.5	891.3	894.1	896.9	900.4
35°	825.3	829.6	833.9	838.2	842.6	846.4	850.0	853.5	856.9	860.5	864.5
37.5°	781.6	786.5	791.3	796.1	801.0	805.6	809.9	814.2	818.5	822.9	827.4
40°	752.4	757.3	762.1	767.0	771.9	777.0	782.4	787.8	793.2	798.6	803.2
42.5°	720.4	726.4	732.3	738.2	744.1	749.9	755.5	761.2	766.8	772.4	777.4
45°	674.8	681.3	687.8	694.2	700.7	707.3	714.0	720.8	727.5	734.2	739.4
47.5°	627.0	634.3	641.7	649.0	656.3	663.9	671.5	679.3	687.0	694.7	700.4
50°	595.9	603.4	611.0	618.6	626.1	634.1	642.4	650.8	659.2	667.5	673.7
52.5°	562.8	570.9	578.9	586.8	594.9	603.4	612.7	621.9	631.1	640.3	646.8
55°	514.6	523.5	532.4	541.3	550.2	559.5	569.2	578.9	588.6	598.3	605.6
57.5°	467.5	476.8	486.1	495.3	504.6	514.6	525.2	535.8	546.4	557.1	564.4
60°	434.5	444.2	453.9	463.6	473.3	483.7	494.7	505.9	516.9	528.0	535.5
62.5°	403.4	413.3	423.3	433.2	443.1	454.0	465.7	477.3	489.0	500.8	508.3
65°	355.6	366.1	376.7	387.2	397.7	408.8	420.7	432.6	444.4	456.4	464.4
67.5°	307.0	318.3	329.4	340.5	351.7	363.4	375.4	387.5	399.6	411.7	420.5
70°	273.0	284.6	296.2	307.9	319.5	331.7	344.6	357.7	370.6	383.5	392.2
72.5°	242.0	253.6	265.2	276.8	288.4	300.9	314.2	327.6	341.0	354.4	363.2
75°	193.0	205.6	218.3	231.0	243.7	256.7	270.3	283.7	297.2	310.7	319.6
77.5°	150.3	163.0	175.8	188.6	201.3	214.5	228.2	241.7	255.4	268.9	278.3
80°	120.1	133.4	146.6	159.8	173.0	186.6	200.6	214.7	228.7	242.7	251.9
82.5°	93.9	107.4	120.8	134.2	147.7	161.5	175.8	189.9	204.2	218.5	227.7
85°	59.5	72.9	86.4	100.0	113.4	127.3	141.6	155.9	170.1	184.5	193.7
87.5°	32.5	46.5	60.6	74.6	88.6	102.9	117.4	132.0	146.5	161.0	170.5
90°	17.1	33.3	49.5	65.7	81.9	98.9	116.5	134.1	151.8	169.4	179.8
92.5°	47.3	61.3	75.3	89.2	103.2	118.0	133.8	149.5	165.2	181.0	190.9
95°	92.6	105.3	117.9	130.5	143.1	157.2	172.8	188.4	204.0	219.6	229.2
97.5°	152.8	163.9	174.9	185.9	197.0	209.7	224.1	238.4	252.8	267.2	276.5
100°	193.8	204.2	214.6	225.1	235.5	247.6	261.5	275.4	289.4	303.3	312.0
102.5°	241.2	250.0	259.0	267.8	276.6	288.1	302.3	316.5	330.6	344.7	353.3
105°	312.3	319.3	326.4	333.5	340.5	351.2	365.5	379.8	394.0	408.4	415.9
107.5°	393.6	399.5	405.4	411.2	417.1	426.1	438.1	450.2	462.3	474.4	482.5
110°	444.3	449.8	455.2	460.7	466.1	474.5	485.9	497.3	508.7	520.0	528.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	498.1	502.4	506.8	511.1	515.5	522.9	533.3	543.9	554.3	564.8	573.0
115°	577.6	581.7	585.9	590.0	594.1	600.7	609.8	618.9	628.0	637.1	643.9
117.5°	658.5	661.1	663.7	666.3	668.9	674.4	682.7	691.1	699.4	707.8	714.1
120°	708.1	711.2	714.3	717.6	720.7	725.9	733.3	740.7	748.1	755.5	761.4
122.5°	760.8	762.9	764.8	766.9	768.9	773.7	781.4	789.1	796.8	804.5	809.7
125°	840.0	840.9	841.8	842.7	843.6	847.7	854.9	862.1	869.3	876.6	881.0
127.5°	914.3	915.9	917.5	919.2	920.8	924.5	930.3	936.2	942.0	947.8	951.5
130°	963.8	965.8	968.0	970.1	972.2	975.5	980.0	984.5	989.0	993.5	997.5
132.5°	1012.3	1014.6	1016.9	1019.2	1021.5	1024.6	1028.2	1031.9	1035.5	1039.2	1042.7
135°	1087.5	1089.0	1090.7	1092.2	1093.7	1095.7	1098.4	1101.1	1103.8	1106.4	1110.1
137.5°	1157.3	1158.5	1159.8	1161.1	1162.3	1164.2	1166.6	1169.1	1171.5	1174.0	1177.1
140°	1204.7	1206.1	1207.6	1209.2	1210.7	1211.9	1213.1	1214.2	1215.3	1216.4	1220.1
142.5°	1248.8	1250.1	1251.3	1252.6	1253.9	1254.9	1255.6	1256.2	1257.0	1257.7	1261.0
145°	1317.6	1317.9	1318.3	1318.6	1318.9	1319.6	1320.4	1321.3	1322.2	1323.1	1325.0
147.5°	1376.6	1377.7	1378.8	1379.9	1381.0	1381.9	1382.8	1383.6	1384.4	1385.3	1385.9
150°	1418.6	1419.2	1419.8	1420.4	1421.0	1421.6	1422.2	1422.8	1423.3	1424.0	1424.0
152.5°	1453.0	1453.8	1454.7	1455.5	1456.3	1457.0	1457.3	1457.7	1458.0	1458.4	1458.9
155°	1507.3	1507.3	1507.3	1507.3	1507.3	1507.5	1507.8	1508.1	1508.4	1508.7	1509.9
157.5°	1553.6	1553.3	1552.9	1552.6	1552.2	1552.1	1552.4	1552.6	1552.8	1553.1	1554.3
160°	1582.7	1582.1	1581.4	1580.8	1580.3	1579.9	1579.9	1579.9	1579.9	1579.9	1581.4
162.5°	1608.5	1607.7	1606.8	1606.0	1605.2	1604.8	1605.1	1605.3	1605.5	1605.8	1607.3
165°	1641.8	1640.9	1640.0	1639.1	1638.3	1637.8	1637.8	1637.8	1637.8	1637.8	1639.6
167.5°	1668.5	1667.2	1666.1	1664.8	1663.7	1663.2	1663.4	1663.7	1663.9	1664.1	1666.0
170°	1683.5	1682.3	1681.1	1679.9	1678.7	1678.1	1678.1	1678.1	1678.1	1678.1	1680.3
172.5°	1695.3	1694.2	1692.9	1691.8	1690.6	1690.0	1690.0	1690.0	1690.0	1690.0	1691.8
175°	1707.7	1706.6	1705.3	1704.1	1702.9	1702.4	1702.4	1702.4	1702.4	1702.4	1704.1
177.5°	1712.8	1711.9	1710.9	1709.9	1709.0	1708.5	1708.5	1708.5	1708.5	1708.5	1709.9
180°	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1111.8	1113.5	1115.2	1116.0	1115.7	1115.5	1115.4	1115.1
5°	1109.9	1112.1	1114.3	1115.2	1114.9	1114.6	1114.4	1114.1
7.5°	1103.2	1106.0	1108.7	1109.8	1109.6	1109.2	1108.8	1108.6
10°	1096.4	1099.1	1101.9	1103.0	1102.4	1101.9	1101.4	1100.8
12.5°	1087.3	1089.8	1092.3	1093.2	1092.7	1092.2	1091.6	1091.1
15°	1069.8	1072.5	1075.1	1076.4	1076.1	1075.8	1075.6	1075.3
17.5°	1046.9	1049.4	1051.8	1052.8	1052.4	1052.0	1051.7	1051.2
20°	1030.4	1032.8	1035.3	1036.6	1036.9	1037.1	1037.4	1037.7
22.5°	1012.3	1015.3	1018.4	1019.8	1019.7	1019.6	1019.4	1019.2
25°	981.6	985.1	988.6	990.3	990.3	990.3	990.3	990.3
27.5°	949.5	952.5	955.6	957.2	957.4	957.6	957.9	958.1
30°	927.6	930.9	934.1	935.8	935.8	935.8	935.8	935.8
32.5°	903.8	907.2	910.7	912.8	913.4	914.0	914.7	915.3
35°	868.5	872.6	876.6	879.2	880.3	881.4	882.4	883.5
37.5°	832.1	836.6	841.2	843.9	844.8	845.6	846.5	847.4
40°	807.7	812.3	816.9	819.7	820.8	821.9	823.0	824.0
42.5°	782.4	787.4	792.5	795.7	797.2	798.7	800.2	801.7
45°	744.5	749.7	754.7	758.4	760.5	762.7	764.9	767.0
47.5°	706.2	712.0	717.7	721.5	723.2	724.9	726.5	728.2
50°	679.9	686.1	692.3	696.3	698.3	700.2	702.0	703.9
52.5°	653.2	659.6	666.0	670.4	672.7	675.0	677.3	679.7
55°	612.9	620.2	627.5	632.1	634.4	636.5	638.6	640.8
57.5°	571.8	579.1	586.4	591.4	593.9	596.4	599.0	601.5
60°	543.1	550.6	558.1	563.4	566.4	569.4	572.3	575.2
62.5°	515.9	523.4	530.9	536.1	538.9	541.6	544.4	547.2
65°	472.5	480.6	488.7	494.1	496.8	499.4	502.2	504.9
67.5°	429.4	438.2	447.0	452.6	454.9	457.2	459.4	461.6
70°	400.7	409.4	418.0	423.7	426.4	429.1	431.8	434.5
72.5°	372.1	380.9	389.8	395.6	398.2	400.9	403.7	406.4
75°	328.5	337.4	346.3	352.4	355.6	358.8	362.0	365.3
77.5°	287.8	297.1	306.5	312.5	314.9	317.4	319.9	322.4
80°	261.1	270.3	279.4	285.3	288.0	290.7	293.5	296.1
82.5°	236.8	245.9	255.1	261.1	263.8	266.4	269.1	271.9
85°	202.8	212.0	221.1	227.1	229.8	232.5	235.1	237.9
87.5°	179.9	189.3	198.7	204.8	207.7	210.4	213.3	216.1
90°	190.1	200.5	210.9	217.7	221.0	224.3	227.6	230.9
92.5°	200.8	210.7	220.6	226.7	228.8	231.0	233.0	235.1
95°	238.8	248.3	257.9	264.0	266.7	269.4	272.1	274.8
97.5°	286.0	295.3	304.8	310.8	313.3	315.9	318.5	321.1
100°	320.7	329.4	338.1	344.1	347.4	350.7	354.0	357.3
102.5°	361.8	370.2	378.8	384.3	386.9	389.5	392.0	394.6
105°	423.5	431.1	438.5	443.9	446.9	449.9	452.9	455.9
107.5°	490.7	498.9	507.1	512.2	514.2	516.2	518.3	520.2
110°	536.5	544.7	552.9	557.8	559.4	560.9	562.5	564.0



TEST NUMBER: P332207-940

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	581.2	589.5	597.7	603.0	605.2	607.4	609.8	612.0
115°	650.7	657.5	664.2	668.5	670.4	672.3	674.1	676.0
117.5°	720.4	726.8	733.2	737.0	738.2	739.5	740.7	742.0
120°	767.4	773.3	779.2	782.7	784.1	785.3	786.7	787.9
122.5°	814.9	820.1	825.4	828.5	829.6	830.5	831.6	832.7
125°	885.5	889.9	894.4	897.0	897.7	898.4	899.1	899.7
127.5°	955.1	958.8	962.4	964.6	965.0	965.5	965.9	966.3
130°	1001.4	1005.3	1009.2	1010.9	1010.5	1010.0	1009.5	1009.1
132.5°	1046.2	1049.6	1053.1	1055.0	1055.2	1055.4	1055.6	1055.9
135°	1113.7	1117.4	1121.1	1123.3	1124.0	1124.8	1125.5	1126.2
137.5°	1180.0	1183.0	1186.1	1187.7	1187.8	1188.1	1188.3	1188.5
140°	1223.9	1227.6	1231.4	1232.9	1232.2	1231.4	1230.7	1229.9
142.5°	1264.4	1267.7	1271.0	1272.5	1272.2	1271.9	1271.7	1271.4
145°	1326.9	1328.7	1330.6	1331.4	1331.3	1331.2	1331.1	1331.0
147.5°	1386.5	1387.2	1387.9	1387.8	1387.0	1386.1	1385.3	1384.5
150°	1424.0	1424.0	1424.0	1423.3	1422.1	1420.9	1419.6	1418.4
152.5°	1459.4	1459.8	1460.4	1459.8	1458.4	1457.0	1455.5	1454.0
155°	1511.1	1512.3	1513.5	1513.1	1510.9	1508.9	1506.7	1504.7
157.5°	1555.6	1556.8	1558.1	1557.9	1556.2	1554.5	1552.8	1551.2
160°	1583.0	1584.5	1585.9	1586.1	1584.9	1583.7	1582.5	1581.3
162.5°	1608.7	1610.3	1611.8	1611.6	1609.6	1607.8	1605.8	1603.9
165°	1641.4	1643.2	1644.9	1644.8	1642.7	1640.7	1638.5	1636.5
167.5°	1667.9	1669.7	1671.5	1671.5	1669.7	1667.9	1666.0	1664.1
170°	1682.3	1684.4	1686.5	1686.5	1684.4	1682.3	1680.3	1678.1
172.5°	1693.6	1695.5	1697.4	1697.3	1695.1	1693.1	1691.0	1688.9
175°	1705.9	1707.7	1709.5	1709.3	1707.3	1705.1	1703.1	1701.0
177.5°	1711.4	1712.8	1714.2	1714.1	1712.4	1710.7	1709.1	1707.4
180°	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7

(END OF REPORT)