

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: P331612-840

Luminaire Tested: **S122DIW-S1005D1440U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331612-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S1005D1440U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

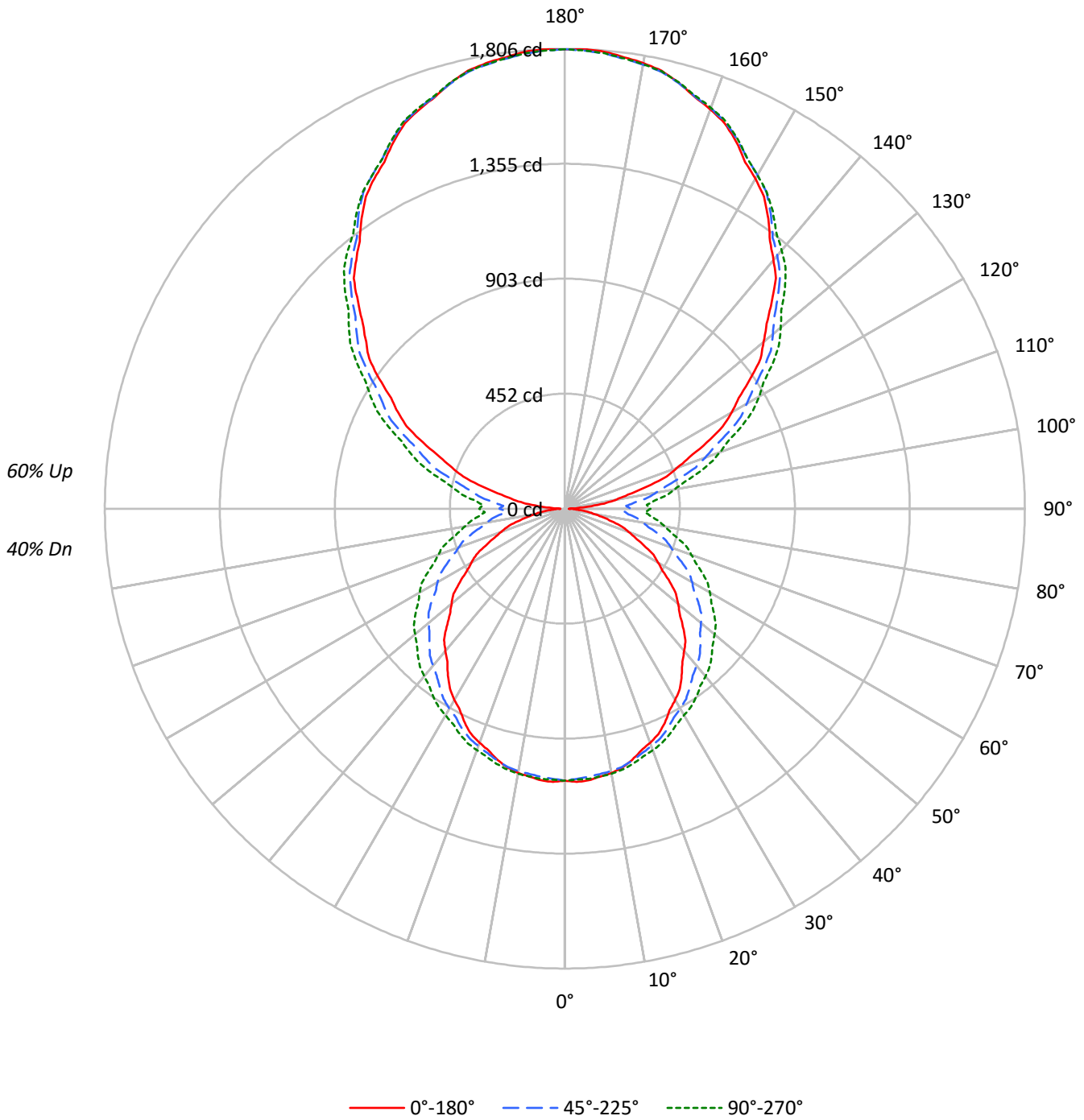
Lumens per Lamp: N/A
Luminaire Lumens: 9125.8 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 82.9
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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	94	89	85	81	85	81	78	74	66	64	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	78	68	60	54	70	62	55	50	50	45	41	39	36	33	30	27	25	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	24	21	17
5	65	53	44	38	58	48	41	35	39	34	30	31	27	24	24	21	18	15
6	59	47	39	33	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17241	17241	17241
5°	17327	16597	16534
10°	17217	16106	15925
15°	16980	15587	15284
20°	16681	15031	14669
25°	16384	14494	14107
30°	15966	13945	13546
35°	15544	13412	13150
40°	15099	12958	12754
45°	14678	12551	12415
50°	14226	12185	12082
55°	13750	11789	11742
60°	13168	11380	11382
65°	12566	10901	10957
70°	11886	10385	10497
75°	11021	9881	10071
80°	9646	9362	9643
85°	8334	8915	9308



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.2	1.1
10°-20°	290.2	3.2
20°-30°	439.7	4.8
30°-40°	535.6	5.9
40°-50°	576.2	6.3
50°-60°	559.5	6.1
60°-70°	488.6	5.4
70°-80°	376.1	4.1
80°-90°	259.6	2.8
90°-100°	288.2	3.2
100°-110°	482.0	5.3
110°-120°	690.8	7.6
120°-130°	844.9	9.3
130°-140°	915.4	10.0
140°-150°	881.7	9.7
150°-160°	736.7	8.1
160°-170°	488.6	5.4
170°-180°	170.8	1.9
0°-30°	831.1	9.1
0°-40°	1366.6	15.0
0°-60°	2502.3	27.4
0°-90°	3626.6	39.7
90°-120°	1461.0	16.0
90°-150°	4103.1	45.0
90°-180°	5499.0	60.3
0°-180°	9125.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1071	1066	1057	1066	1065	102
15°	1022	1024	1024	1038	1037	288
25°	929	940	953	971	976	427
35°	800	827	856	889	901	500
45°	656	699	752	798	816	506
55°	503	560	639	693	715	450
65°	344	420	511	572	594	341
75°	190	278	376	440	463	201
85°	56	152	251	313	337	60
90°	17	126	258	314	336	15
95°	92	180	275	332	350	101
105°	335	386	468	523	542	355
115°	615	644	708	751	765	608
125°	889	905	948	984	997	795
135°	1148	1165	1183	1213	1222	887
145°	1392	1402	1411	1422	1424	869
155°	1591	1596	1600	1607	1603	732
165°	1731	1730	1730	1739	1732	488
175°	1801	1797	1793	1803	1795	171
180°	1804	1804	1804	1804	1804	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1074.1	1073.3	1072.4	1071.6	1070.8	1069.3	1067.4	1065.5	1063.6	1061.7	1063.1
5°	1071.0	1070.0	1068.9	1067.8	1066.8	1065.3	1063.3	1061.2	1059.1	1057.0	1059.1
7.5°	1061.4	1060.7	1060.0	1059.3	1058.6	1057.5	1055.9	1054.3	1052.8	1051.2	1053.6
10°	1054.0	1053.3	1052.6	1051.9	1051.2	1050.4	1049.4	1048.2	1047.2	1046.2	1048.9
12.5°	1041.6	1041.7	1041.9	1042.0	1042.1	1041.8	1041.1	1040.3	1039.6	1038.7	1041.6
15°	1021.5	1022.2	1022.8	1023.5	1024.2	1024.5	1024.5	1024.5	1024.5	1024.5	1027.6
17.5°	995.4	996.9	998.4	999.8	1001.2	1002.5	1003.6	1004.7	1005.8	1006.9	1010.2
20°	978.2	979.9	981.6	983.3	985.0	986.5	988.0	989.3	990.7	992.1	995.8
22.5°	959.6	961.5	963.5	965.5	967.6	969.5	971.4	973.3	975.2	977.1	981.0
25°	928.6	931.0	933.4	935.8	938.3	941.0	944.0	947.2	950.3	953.3	957.5
27.5°	891.4	895.3	899.3	903.2	907.2	910.9	914.5	918.2	921.8	925.5	930.7
30°	866.7	871.1	875.7	880.1	884.5	889.1	893.5	898.0	902.4	907.0	912.4
32.5°	839.4	844.4	849.5	854.5	859.5	864.6	870.0	875.3	880.6	885.9	892.2
35°	800.1	806.0	811.8	817.7	823.5	829.7	836.3	842.7	849.3	855.9	863.4
37.5°	757.4	764.2	770.9	777.6	784.4	791.9	800.4	808.9	817.4	825.9	834.2
40°	728.9	736.5	744.1	751.6	759.2	767.6	776.9	786.2	795.5	804.8	813.7
42.5°	701.8	709.2	716.8	724.4	732.0	741.0	751.7	762.4	773.1	783.8	793.5
45°	656.2	665.5	674.8	684.1	693.4	704.0	716.1	728.1	740.1	752.1	762.9
47.5°	611.4	621.5	631.6	641.7	651.8	663.9	678.0	692.1	706.2	720.2	731.4
50°	580.4	591.1	601.7	612.4	623.0	636.1	651.6	667.0	682.5	698.0	709.7
52.5°	550.7	561.9	573.1	584.3	595.5	609.3	625.5	641.9	658.1	674.5	686.4
55°	503.0	515.3	527.8	540.2	552.5	567.6	585.5	603.4	621.3	639.1	651.6
57.5°	456.0	469.9	483.8	497.9	511.8	527.9	546.1	564.3	582.6	600.8	614.1
60°	422.5	437.3	452.1	466.9	481.7	498.9	518.5	538.1	557.6	577.2	590.4
62.5°	392.8	408.1	423.4	438.8	454.1	471.6	491.2	510.8	530.5	550.1	563.9
65°	343.6	360.4	377.3	394.2	411.0	429.6	449.9	470.1	490.4	510.7	524.8
67.5°	298.4	316.0	333.6	351.2	368.8	388.0	408.8	429.6	450.3	471.1	485.3
70°	266.2	284.1	301.9	319.8	337.7	357.3	378.7	400.0	421.3	442.6	457.4
72.5°	236.5	254.9	273.4	291.8	310.2	330.2	351.8	373.4	395.1	416.7	431.1
75°	190.4	209.6	228.8	248.1	267.4	288.0	310.0	332.0	354.1	376.1	390.8
77.5°	145.8	165.9	186.1	206.2	226.4	247.6	270.0	292.4	314.7	337.1	351.8
80°	116.0	137.0	158.0	179.0	200.0	221.7	244.0	266.4	288.7	311.0	325.5
82.5°	91.3	112.0	132.7	153.4	174.1	195.8	218.4	241.1	263.7	286.3	300.7
85°	55.7	77.1	98.4	119.7	141.0	162.7	184.7	206.7	228.7	250.7	265.2
87.5°	30.6	51.9	73.2	94.5	115.8	138.3	161.8	185.3	208.7	232.3	246.2
90°	17.0	41.0	65.0	89.1	113.0	139.8	169.3	198.6	228.1	257.6	270.6
92.5°	41.3	62.9	84.4	105.9	127.5	149.8	172.7	195.7	218.6	241.6	255.2
95°	91.6	111.1	130.7	150.2	169.8	190.2	211.5	232.8	254.1	275.4	288.5
97.5°	155.4	172.8	190.2	207.5	224.9	244.1	265.2	286.3	307.4	328.5	341.2
100°	204.2	219.6	235.0	250.4	265.9	283.8	304.1	324.3	344.6	364.9	377.6
102.5°	254.1	267.9	281.7	295.5	309.2	326.2	346.2	366.2	386.2	406.2	418.9
105°	335.1	346.1	357.1	368.0	379.0	393.7	412.3	430.9	449.5	468.1	480.8
107.5°	418.2	427.7	437.1	446.6	456.1	469.4	486.5	503.6	520.7	537.9	549.7
110°	470.5	479.5	488.4	497.3	506.1	519.1	535.9	552.8	569.6	586.4	597.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	529.0	536.8	544.6	552.4	560.3	572.0	587.7	603.5	619.2	635.0	645.2
115°	615.2	621.0	626.8	632.6	638.4	648.7	663.5	678.3	693.2	707.9	717.9
117.5°	699.4	704.7	709.8	715.0	720.2	729.0	741.4	753.9	766.3	778.7	788.0
120°	756.7	760.8	764.9	769.0	773.1	780.6	791.6	802.7	813.7	824.9	834.5
122.5°	809.1	812.9	816.7	820.5	824.3	831.7	842.7	853.7	864.8	875.9	884.4
125°	889.2	892.2	895.2	898.3	901.3	907.9	917.9	927.9	937.9	947.9	956.0
127.5°	968.7	972.1	975.6	979.2	982.7	988.3	995.9	1003.6	1011.2	1018.9	1026.2
130°	1018.5	1022.6	1026.6	1030.8	1034.8	1040.1	1046.6	1053.2	1059.8	1066.2	1073.8
132.5°	1074.6	1077.8	1081.1	1084.3	1087.5	1092.1	1097.7	1103.5	1109.1	1114.9	1121.4
135°	1147.9	1151.7	1155.4	1159.1	1162.9	1166.7	1170.8	1175.0	1179.1	1183.2	1190.1
137.5°	1226.8	1229.8	1232.7	1235.8	1238.7	1241.4	1243.7	1246.2	1248.6	1250.9	1257.0
140°	1274.3	1277.0	1279.7	1282.4	1285.2	1287.7	1290.0	1292.4	1294.7	1297.2	1302.6
142.5°	1323.0	1325.8	1328.4	1331.1	1333.8	1335.8	1337.1	1338.4	1339.7	1341.0	1345.6
145°	1391.5	1393.9	1396.2	1398.6	1401.0	1403.2	1405.2	1407.2	1409.3	1411.3	1413.7
147.5°	1453.9	1456.7	1459.6	1462.5	1465.3	1467.4	1468.7	1470.1	1471.5	1472.8	1473.8
150°	1496.5	1498.5	1500.7	1502.7	1504.7	1506.3	1507.7	1509.0	1510.5	1511.8	1512.8
152.5°	1534.3	1536.3	1538.3	1540.3	1542.5	1544.3	1545.9	1547.5	1549.1	1550.7	1552.1
155°	1590.9	1592.0	1593.0	1594.0	1595.0	1596.0	1597.0	1598.0	1599.0	1600.0	1601.7
157.5°	1639.3	1640.0	1640.7	1641.4	1642.0	1642.7	1643.4	1644.0	1644.6	1645.2	1647.4
160°	1668.6	1669.3	1669.9	1670.6	1671.3	1671.8	1672.1	1672.4	1672.8	1673.1	1675.2
162.5°	1695.4	1695.6	1695.7	1695.8	1696.0	1696.2	1696.5	1696.9	1697.2	1697.5	1699.8
165°	1731.0	1730.7	1730.3	1730.0	1729.7	1729.5	1729.5	1729.5	1729.5	1729.5	1731.8
167.5°	1760.8	1759.8	1758.8	1757.8	1756.8	1756.3	1756.2	1756.2	1756.1	1756.0	1758.4
170°	1776.7	1775.6	1774.6	1773.6	1772.6	1771.9	1771.6	1771.3	1770.9	1770.6	1772.9
172.5°	1787.7	1786.7	1785.6	1784.6	1783.6	1782.9	1782.6	1782.2	1781.9	1781.5	1783.9
175°	1801.0	1800.0	1799.0	1798.0	1797.0	1796.1	1795.4	1794.7	1794.1	1793.4	1795.8
177.5°	1806.5	1805.7	1804.9	1804.1	1803.3	1802.6	1802.0	1801.5	1801.0	1800.4	1802.0
180°	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1064.4	1065.8	1067.2	1067.6	1067.0	1066.5	1065.9	1065.4
5°	1061.2	1063.3	1065.3	1066.1	1065.8	1065.5	1065.1	1064.8
7.5°	1056.1	1058.6	1061.1	1062.2	1061.8	1061.5	1061.1	1060.8
10°	1051.7	1054.5	1057.2	1058.4	1058.0	1057.7	1057.4	1057.0
12.5°	1044.3	1047.0	1049.8	1051.0	1050.7	1050.3	1050.0	1049.7
15°	1030.8	1033.8	1036.9	1038.3	1037.9	1037.6	1037.2	1036.9
17.5°	1013.4	1016.6	1019.9	1021.5	1021.5	1021.5	1021.5	1021.5
20°	999.6	1003.4	1007.1	1009.1	1009.1	1009.1	1009.1	1009.1
22.5°	984.7	988.6	992.3	994.5	995.0	995.6	996.1	996.7
25°	961.6	965.7	969.9	972.4	973.5	974.5	975.5	976.5
27.5°	935.9	941.2	946.4	949.4	950.2	950.9	951.7	952.4
30°	918.0	923.4	929.0	932.2	933.2	934.2	935.3	936.3
32.5°	898.6	904.8	911.2	915.2	917.2	919.0	920.9	922.7
35°	871.0	878.6	886.2	891.1	893.5	896.0	898.4	900.7
37.5°	842.6	851.0	859.4	864.8	867.4	870.0	872.5	875.0
40°	822.6	831.6	840.5	846.6	849.7	852.7	855.9	859.0
42.5°	803.2	813.0	822.8	829.2	832.3	835.5	838.5	841.6
45°	773.5	784.2	794.8	801.8	805.3	808.7	812.1	815.6
47.5°	742.6	753.7	764.9	772.3	776.1	779.9	783.7	787.5
50°	721.3	733.1	744.8	752.6	756.3	760.0	763.9	767.6
52.5°	698.4	710.3	722.4	730.3	734.4	738.5	742.6	746.6
55°	664.0	676.3	688.7	697.1	701.6	706.1	710.5	715.0
57.5°	627.5	640.9	654.2	663.1	667.6	672.2	676.7	681.3
60°	603.4	616.5	629.5	638.5	643.3	648.1	653.0	657.7
62.5°	577.8	591.7	605.6	614.8	619.4	623.9	628.4	633.0
65°	539.0	553.0	567.1	576.4	580.9	585.3	589.9	594.3
67.5°	499.6	513.8	528.1	537.6	542.2	546.8	551.6	556.2
70°	472.2	487.0	501.8	511.2	515.3	519.5	523.6	527.8
72.5°	445.7	460.2	474.6	484.4	489.4	494.3	499.3	504.2
75°	405.7	420.4	435.3	444.8	449.3	453.8	458.3	462.7
77.5°	366.5	381.2	396.0	405.8	410.5	415.4	420.2	425.0
80°	339.9	354.5	368.9	378.5	383.3	388.1	392.9	397.8
82.5°	315.2	329.6	344.1	353.6	358.1	362.6	367.2	371.7
85°	279.6	294.1	308.5	318.1	323.0	327.8	332.5	337.4
87.5°	260.0	274.0	287.9	297.0	301.5	306.0	310.4	315.0
90°	283.8	296.8	309.9	318.7	323.2	327.6	332.0	336.5
92.5°	268.8	282.5	296.0	305.0	309.1	313.4	317.5	321.7
95°	301.5	314.6	327.7	336.0	339.4	342.8	346.3	349.7
97.5°	354.0	366.7	379.4	387.8	391.7	395.8	399.7	403.7
100°	390.3	403.0	415.8	423.8	427.3	430.7	434.1	437.7
102.5°	431.6	444.3	457.0	465.1	468.6	472.0	475.4	478.9
105°	493.4	506.1	518.9	527.1	530.9	534.7	538.5	542.3
107.5°	561.5	573.3	585.1	592.2	594.4	596.6	598.8	601.1
110°	608.4	619.5	630.5	637.3	640.2	642.9	645.7	648.4



TEST NUMBER: P331612-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	655.4	665.6	675.8	682.5	685.5	688.5	691.6	694.6
115°	727.9	737.9	747.8	754.2	757.0	759.7	762.5	765.3
117.5°	797.4	806.8	816.2	822.0	824.6	827.1	829.5	832.0
120°	844.0	853.7	863.3	869.5	872.3	875.0	877.9	880.6
122.5°	892.9	901.5	910.0	915.5	918.1	920.5	923.0	925.5
125°	964.3	972.6	980.9	986.4	989.2	991.9	994.7	997.4
127.5°	1033.5	1040.8	1048.1	1052.8	1054.7	1056.6	1058.5	1060.6
130°	1081.4	1089.0	1096.6	1101.1	1102.5	1103.9	1105.3	1106.6
132.5°	1127.8	1134.3	1140.8	1144.9	1146.6	1148.2	1149.9	1151.5
135°	1197.0	1203.9	1210.7	1215.1	1216.8	1218.5	1220.2	1222.0
137.5°	1263.0	1269.1	1275.2	1278.7	1279.7	1280.7	1281.6	1282.6
140°	1308.2	1313.6	1319.2	1322.3	1323.0	1323.7	1324.4	1325.1
142.5°	1350.3	1355.0	1359.7	1362.2	1362.6	1363.1	1363.5	1363.9
145°	1416.1	1418.5	1420.9	1422.3	1422.7	1423.0	1423.4	1423.7
147.5°	1474.8	1475.8	1476.9	1477.1	1476.7	1476.2	1475.8	1475.3
150°	1513.8	1514.8	1515.8	1515.8	1514.8	1513.8	1512.8	1511.8
152.5°	1553.3	1554.6	1555.9	1555.9	1554.6	1553.3	1552.1	1550.7
155°	1603.5	1605.2	1606.8	1607.2	1606.2	1605.2	1604.2	1603.2
157.5°	1649.7	1652.0	1654.4	1654.7	1653.0	1651.4	1649.8	1648.2
160°	1677.2	1679.2	1681.2	1681.6	1680.2	1678.9	1677.6	1676.2
162.5°	1702.1	1704.5	1706.7	1707.1	1705.5	1703.8	1702.2	1700.5
165°	1734.2	1736.6	1739.0	1739.3	1737.6	1736.0	1734.2	1732.5
167.5°	1760.7	1763.1	1765.4	1765.7	1764.0	1762.2	1760.5	1758.7
170°	1775.3	1777.7	1780.1	1780.2	1778.2	1776.2	1774.1	1772.1
172.5°	1786.2	1788.7	1791.0	1791.2	1789.2	1787.2	1785.1	1783.1
175°	1798.2	1800.5	1802.9	1803.1	1801.0	1799.0	1797.0	1794.9
177.5°	1803.7	1805.3	1807.0	1807.0	1805.3	1803.7	1802.0	1800.4
180°	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1

(END OF REPORT)