

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: P331444-830

Luminaire Tested: **SA2XXDIP-C1005D725U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331444-830
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: SA2XXDIP-C1005D725U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6554.9 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

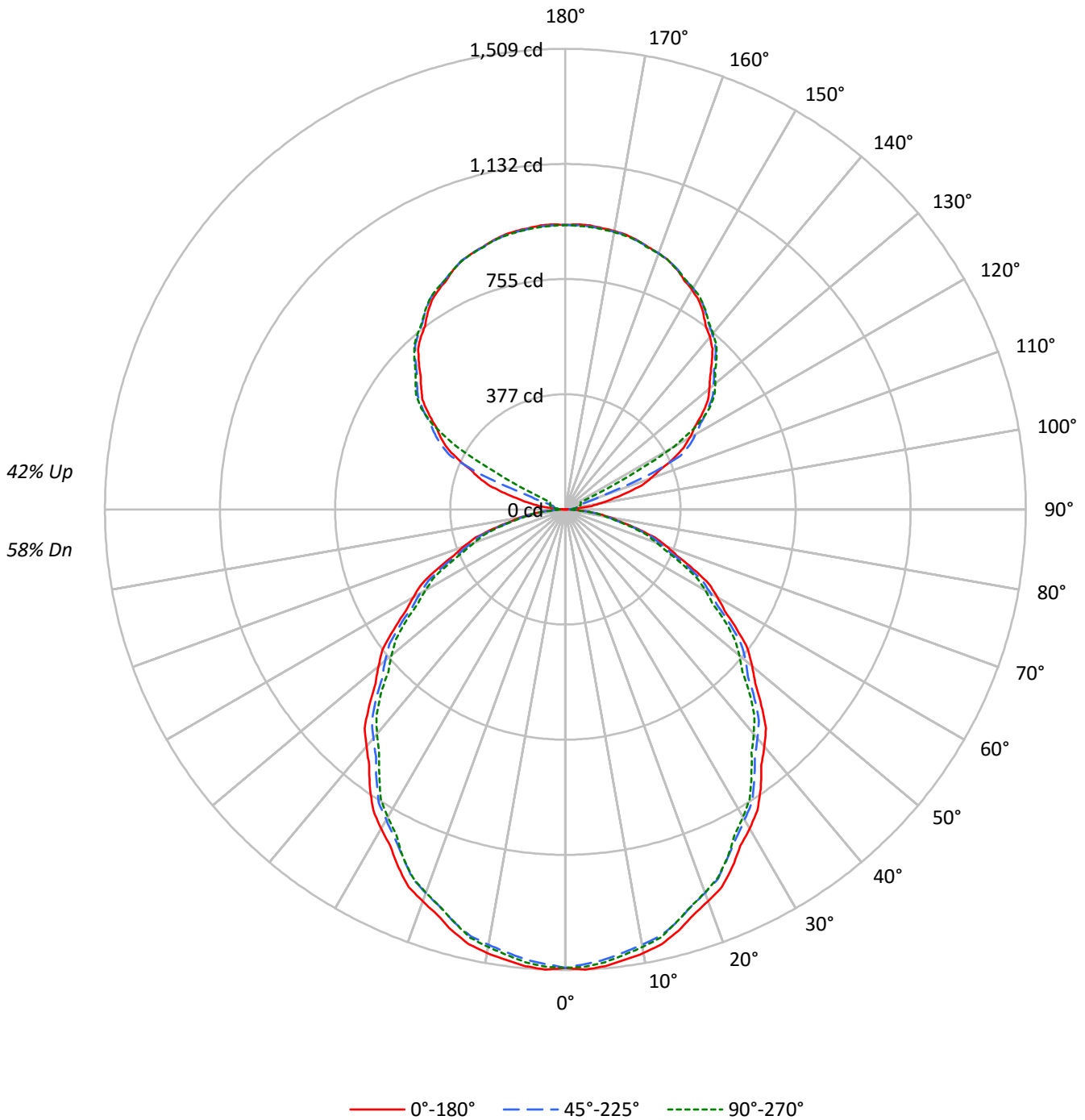
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58
1	100	95	91	88	93	89	86	82	77	75	72	66	65	63	56	55	54	49
2	91	83	77	72	84	78	72	68	68	63	60	58	55	52	50	47	45	41
3	83	73	66	60	77	68	62	57	60	55	50	52	48	44	44	41	39	35
4	76	65	57	51	70	61	54	48	53	47	43	46	42	38	39	36	33	30
5	70	58	50	43	65	54	47	41	48	42	37	41	37	33	35	32	29	26
6	64	52	44	38	60	49	41	36	43	37	32	37	33	29	32	28	26	23
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	29	26	23	20
8	55	43	35	29	51	40	33	28	36	30	25	31	26	23	27	23	20	18
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	18	16
10	48	36	28	24	45	34	27	23	30	25	21	27	22	19	23	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	24254	24254	24254
5°	24347	23995	24136
10°	24202	23753	23871
15°	23903	23445	23422
20°	23479	22983	22957
25°	23058	22413	22413
30°	22514	21893	21705
35°	22007	21268	20954
40°	21372	20643	20244
45°	20747	20021	19527
50°	20065	19376	18686
55°	19356	18624	17931
60°	18564	17725	17073
65°	17712	16829	16061
70°	16636	15753	15002
75°	15140	14504	14148
80°	13436	13036	12357
85°	10967	10448	9355



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.3	2.2
10°-20°	397.5	6.1
20°-30°	584.2	8.9
30°-40°	678.6	10.4
40°-50°	677.9	10.3
50°-60°	591.2	9.0
60°-70°	437.1	6.7
70°-80°	247.6	3.8
80°-90°	68.9	1.1
90°-100°	31.1	0.5
100°-110°	114.0	1.7
110°-120°	304.7	4.6
120°-130°	502.9	7.7
130°-140°	534.9	8.2
140°-150°	497.1	7.6
150°-160°	399.7	6.1
160°-170°	257.6	3.9
170°-180°	88.7	1.4
0°-30°	1123.0	17.1
0°-40°	1801.6	27.5
0°-60°	3070.7	46.8
0°-90°	3824.3	58.3
90°-120°	449.7	6.9
90°-150°	1984.7	30.3
90°-180°	2731.0	41.7
0°-180°	6554.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1502	1502	1502	1502	1502	
5°	1502	1496	1480	1491	1489	142
15°	1430	1421	1403	1408	1401	402
25°	1294	1282	1258	1261	1258	595
35°	1116	1102	1079	1070	1063	697
45°	909	898	877	862	855	701
55°	688	678	662	645	637	615
65°	464	455	440	428	420	458
75°	243	240	232	225	227	259
85°	59	58	56	52	50	68
90°	1	8	14	17	18	5
95°	44	23	26	29	29	54
105°	205	214	41	48	51	219
115°	388	399	416	118	55	382
125°	548	557	570	574	576	489
135°	678	689	695	701	700	524
145°	787	787	798	802	799	492
155°	866	861	868	872	867	399
165°	913	909	911	915	911	258
175°	934	929	930	934	928	89
180°	932	932	932	932	932	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2
2.5°	1509.2	1507.9	1506.7	1505.3	1504.0	1502.0	1499.2	1496.4	1493.6	1490.7	1493.3
5°	1502.2	1501.0	1499.7	1498.4	1497.1	1494.7	1491.2	1487.6	1484.1	1480.5	1483.2
7.5°	1488.9	1487.0	1485.0	1483.0	1481.0	1478.2	1474.6	1471.0	1467.4	1463.9	1466.4
10°	1476.2	1474.0	1471.8	1469.5	1467.3	1464.2	1460.4	1456.5	1452.6	1448.8	1451.4
12.5°	1459.0	1456.9	1454.9	1452.9	1451.0	1448.0	1444.2	1440.3	1436.5	1432.7	1434.5
15°	1430.0	1428.1	1426.2	1424.3	1422.3	1419.3	1415.1	1410.9	1406.7	1402.6	1403.9
17.5°	1393.1	1391.1	1389.2	1387.2	1385.3	1382.2	1378.0	1373.8	1369.5	1365.4	1366.8
20°	1366.5	1364.5	1362.6	1360.7	1358.8	1355.6	1351.0	1346.6	1342.1	1337.6	1338.5
22.5°	1339.9	1337.2	1334.5	1331.8	1329.1	1325.7	1321.4	1317.2	1313.0	1308.7	1308.9
25°	1294.3	1291.7	1289.1	1286.6	1284.0	1280.0	1274.5	1269.0	1263.6	1258.1	1258.8
27.5°	1242.3	1239.9	1237.7	1235.3	1233.0	1229.7	1225.4	1221.1	1216.8	1212.5	1211.5
30°	1207.6	1205.0	1202.4	1199.9	1197.3	1193.6	1188.8	1184.0	1179.2	1174.3	1173.4
32.5°	1170.6	1168.6	1166.5	1164.4	1162.3	1158.9	1153.8	1148.7	1143.6	1138.5	1136.8
35°	1116.5	1113.3	1110.1	1106.9	1103.7	1099.6	1094.4	1089.3	1084.2	1079.0	1077.1
37.5°	1055.6	1052.8	1050.0	1047.2	1044.3	1040.4	1035.2	1030.1	1024.9	1019.8	1017.4
40°	1014.0	1011.4	1008.9	1006.4	1003.7	999.9	994.8	989.7	984.5	979.4	976.5
42.5°	973.6	971.0	968.5	965.9	963.3	959.4	954.3	949.1	944.1	938.9	935.8
45°	908.6	906.3	904.1	901.8	899.6	896.1	891.3	886.5	881.7	876.8	873.3
47.5°	843.9	841.8	839.6	837.5	835.4	831.8	826.8	821.8	816.8	811.8	808.0
50°	798.8	797.2	795.6	794.0	792.4	789.3	784.9	780.3	775.8	771.4	766.9
52.5°	754.9	752.8	750.6	748.6	746.4	743.2	739.0	734.7	730.6	726.3	722.6
55°	687.6	685.6	683.7	681.8	679.9	676.9	673.2	669.3	665.4	661.6	657.7
57.5°	620.0	618.4	616.9	615.4	613.8	611.0	606.7	602.5	598.2	594.0	590.2
60°	574.9	573.6	572.3	571.1	569.8	566.8	562.4	557.9	553.4	548.9	545.4
62.5°	531.0	529.0	526.9	524.8	522.7	520.0	516.5	513.1	509.6	506.1	502.8
65°	463.6	461.8	459.9	457.9	456.0	453.4	450.2	447.0	443.7	440.5	437.7
67.5°	395.2	393.7	392.1	390.6	389.1	386.8	383.9	381.1	378.1	375.3	373.1
70°	352.4	351.2	349.9	348.6	347.3	345.3	342.3	339.4	336.6	333.7	331.4
72.5°	308.5	307.3	305.9	304.7	303.4	301.8	300.0	298.1	296.2	294.4	292.1
75°	242.7	242.0	241.4	240.7	240.1	238.9	237.3	235.7	234.1	232.5	230.6
77.5°	183.7	182.7	181.5	180.5	179.4	178.5	177.9	177.2	176.5	176.0	174.9
80°	144.5	144.1	143.8	143.5	143.2	142.7	142.0	141.4	140.7	140.2	139.1
82.5°	107.4	107.4	107.4	107.3	107.2	107.0	106.6	106.2	105.8	105.5	104.2
85°	59.2	58.9	58.6	58.2	58.0	57.6	57.3	56.9	56.6	56.4	55.3
87.5°	20.9	20.7	20.5	20.4	20.2	20.0	19.7	19.4	19.1	18.9	18.3
90°	0.7	2.4	4.0	5.7	7.3	8.7	9.9	11.1	12.3	13.5	14.2
92.5°	13.6	13.5	13.3	13.2	13.0	13.3	13.9	14.4	15.1	15.6	16.0
95°	43.8	38.9	33.9	29.0	24.0	22.1	23.2	24.2	25.3	26.3	27.1
97.5°	87.0	73.0	59.1	45.1	31.2	25.4	27.9	30.3	32.8	35.2	35.8
100°	119.3	98.8	78.3	57.8	37.2	28.3	30.8	33.4	35.9	38.5	39.6
102.5°	155.0	150.6	146.3	141.9	137.5	124.7	103.4	82.1	60.8	39.5	41.1
105°	205.0	209.4	214.0	218.5	222.9	204.7	163.8	122.9	82.0	41.1	42.8
107.5°	262.0	265.6	269.3	272.9	276.5	253.8	204.7	155.7	106.6	57.6	55.9
110°	298.7	301.8	305.0	308.1	311.2	291.2	247.9	204.6	161.3	118.0	103.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	333.2	336.0	338.7	341.6	344.3	340.4	329.7	319.0	308.3	297.6	243.0
115°	387.7	390.2	392.8	395.3	397.8	401.1	404.7	408.5	412.3	416.0	346.7
117.5°	436.4	439.2	442.1	444.9	447.7	450.4	453.1	455.6	458.2	460.8	444.0
120°	471.9	474.2	476.5	478.7	481.0	483.4	486.2	488.8	491.5	494.2	496.0
122.5°	502.2	504.5	506.9	509.3	511.6	514.3	517.3	520.2	523.1	526.0	527.1
125°	548.2	550.1	552.0	554.0	555.9	558.4	561.2	564.0	566.8	569.8	570.8
127.5°	589.8	592.0	594.2	596.3	598.4	600.6	602.8	604.8	607.0	609.1	610.7
130°	616.2	618.7	621.0	623.4	625.8	627.8	629.5	631.1	632.8	634.4	636.1
132.5°	643.2	645.3	647.3	649.3	651.4	653.2	654.9	656.5	658.2	659.8	661.2
135°	678.3	680.7	683.1	685.5	687.9	689.8	691.1	692.4	693.8	695.1	696.6
137.5°	713.8	715.4	717.1	718.8	720.5	722.1	723.6	725.1	726.6	728.2	729.6
140°	737.0	738.1	739.3	740.6	741.7	743.2	744.8	746.5	748.1	749.8	751.1
142.5°	756.4	757.4	758.6	759.6	760.6	762.1	764.0	765.9	767.8	769.7	770.9
145°	786.8	786.6	786.6	786.4	786.3	787.4	789.9	792.5	795.0	797.6	798.7
147.5°	813.4	812.8	812.3	811.7	811.2	812.1	814.6	817.1	819.6	822.2	822.9
150°	830.7	829.6	828.6	827.6	826.4	827.2	829.5	831.9	834.3	836.7	837.6
152.5°	845.2	844.0	842.9	841.7	840.6	841.1	843.4	845.6	847.9	850.2	851.1
155°	866.4	865.1	863.7	862.3	861.0	861.2	863.0	864.8	866.6	868.4	869.3
157.5°	883.0	881.8	880.7	879.6	878.4	878.4	879.8	881.0	882.2	883.5	884.6
160°	892.7	891.7	890.9	889.9	889.1	889.1	889.9	890.9	891.7	892.7	893.6
162.5°	901.4	900.4	899.6	898.6	897.7	897.7	898.4	899.2	900.0	900.8	901.8
165°	912.9	912.0	911.2	910.2	909.3	909.1	909.6	910.0	910.4	910.9	911.9
167.5°	921.5	920.7	919.7	918.9	917.9	917.7	918.1	918.5	919.0	919.4	920.4
170°	926.4	925.5	924.6	923.7	922.8	922.5	922.8	923.1	923.4	923.7	924.7
172.5°	929.6	928.7	927.8	926.9	926.0	925.8	926.0	926.3	926.6	926.9	928.0
175°	933.8	932.7	931.7	930.7	929.6	929.3	929.5	929.8	930.1	930.5	931.5
177.5°	934.5	933.7	932.8	932.0	931.1	930.8	930.9	931.0	931.1	931.2	932.1
180°	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2
2.5°	1495.8	1498.4	1501.0	1502.0	1501.5	1501.0	1500.4	1500.0
5°	1485.7	1488.3	1490.8	1491.9	1491.2	1490.5	1489.9	1489.2
7.5°	1469.0	1471.5	1474.1	1475.1	1474.3	1473.7	1472.9	1472.3
10°	1454.0	1456.5	1459.1	1459.9	1459.0	1457.9	1457.0	1456.0
12.5°	1436.2	1438.0	1439.8	1440.4	1439.6	1439.0	1438.2	1437.6
15°	1405.1	1406.5	1407.7	1407.6	1406.0	1404.4	1402.8	1401.2
17.5°	1368.3	1369.8	1371.2	1371.2	1369.6	1368.1	1366.6	1365.0
20°	1339.5	1340.5	1341.4	1341.2	1340.0	1338.7	1337.5	1336.1
22.5°	1309.1	1309.3	1309.5	1309.2	1308.4	1307.7	1306.8	1306.1
25°	1259.4	1260.1	1260.7	1260.7	1260.1	1259.4	1258.8	1258.1
27.5°	1210.6	1209.6	1208.6	1207.4	1205.9	1204.3	1202.8	1201.3
30°	1172.4	1171.5	1170.5	1169.4	1168.1	1166.8	1165.5	1164.2
32.5°	1135.1	1133.3	1131.6	1130.1	1128.8	1127.6	1126.2	1124.9
35°	1075.2	1073.3	1071.3	1069.6	1068.0	1066.4	1064.7	1063.1
37.5°	1015.0	1012.7	1010.3	1008.3	1006.8	1005.2	1003.7	1002.2
40°	973.6	970.7	967.8	965.7	964.4	963.2	961.9	960.5
42.5°	932.6	929.4	926.3	923.9	922.1	920.3	918.5	916.6
45°	869.8	866.2	862.7	860.3	858.9	857.7	856.4	855.2
47.5°	804.4	800.6	796.9	794.1	792.2	790.4	788.5	786.6
50°	762.3	757.9	753.4	750.4	748.8	747.2	745.6	743.9
52.5°	718.9	715.1	711.4	708.5	706.3	704.3	702.1	700.0
55°	653.8	650.0	646.2	643.5	641.9	640.3	638.7	637.0
57.5°	586.4	582.6	578.8	576.3	575.1	573.9	572.7	571.5
60°	541.9	538.3	534.8	532.5	531.6	530.7	529.6	528.7
62.5°	499.6	496.3	493.0	490.8	489.6	488.3	487.1	485.9
65°	434.8	431.9	429.0	426.8	425.2	423.6	422.0	420.4
67.5°	370.8	368.5	366.3	364.5	363.3	361.9	360.7	359.4
70°	329.1	327.0	324.7	322.9	321.6	320.4	319.1	317.8
72.5°	289.9	287.7	285.4	283.8	282.8	281.7	280.7	279.7
75°	228.8	226.8	224.9	224.2	224.9	225.5	226.1	226.8
77.5°	174.0	173.1	172.1	171.2	170.2	169.4	168.4	167.6
80°	138.2	137.2	136.3	135.4	134.8	134.2	133.6	132.9
82.5°	103.0	101.8	100.6	99.9	99.7	99.6	99.5	99.3
85°	54.4	53.4	52.5	51.8	51.6	51.2	50.9	50.5
87.5°	17.6	17.1	16.4	16.0	15.7	15.6	15.4	15.2
90°	15.0	15.7	16.5	17.0	17.3	17.6	17.9	18.2
92.5°	16.4	16.8	17.2	17.5	17.6	17.8	18.0	18.2
95°	27.8	28.6	29.3	29.6	29.4	29.3	29.1	29.0
97.5°	36.4	36.9	37.6	38.0	38.2	38.4	38.5	38.7
100°	40.8	42.0	43.3	44.0	44.3	44.6	44.9	45.1
102.5°	42.6	44.2	45.7	46.8	47.1	47.6	48.0	48.4
105°	44.4	46.1	47.7	48.8	49.5	50.0	50.6	51.3
107.5°	54.2	52.5	50.9	50.3	50.9	51.6	52.1	52.7
110°	88.0	73.0	58.1	50.9	51.5	52.0	52.7	53.3



TEST NUMBER: P331444-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	188.3	133.7	79.0	51.8	52.4	52.9	53.3	53.8
115°	277.3	207.9	138.6	98.4	87.7	76.8	66.1	55.3
117.5°	427.3	410.4	393.6	367.5	332.1	296.6	261.2	225.7
120°	497.9	499.6	501.4	492.2	471.9	451.8	431.5	411.3
122.5°	528.2	529.2	530.4	529.0	525.0	521.0	517.2	513.2
125°	571.8	572.9	573.9	574.7	575.1	575.6	576.0	576.5
127.5°	612.2	613.7	615.2	616.0	616.1	616.2	616.3	616.4
130°	637.7	639.4	641.0	641.8	641.7	641.5	641.3	641.2
132.5°	662.6	664.0	665.4	666.1	665.9	665.8	665.6	665.4
135°	698.1	699.6	701.2	701.7	701.4	701.2	700.8	700.5
137.5°	731.1	732.5	734.1	734.5	734.1	733.5	733.0	732.4
140°	752.4	753.8	755.2	755.4	754.7	753.9	753.2	752.4
142.5°	772.1	773.4	774.6	774.9	774.1	773.4	772.6	771.8
145°	799.7	800.8	801.8	801.9	801.3	800.5	799.7	799.0
147.5°	823.7	824.5	825.3	825.4	824.7	824.1	823.5	822.8
150°	838.5	839.4	840.3	840.4	839.6	838.9	838.1	837.4
152.5°	852.0	852.9	853.8	853.8	852.8	851.8	850.8	849.8
155°	870.2	871.1	872.0	871.9	870.6	869.5	868.3	867.0
157.5°	885.5	886.6	887.6	887.5	886.4	885.1	884.0	882.9
160°	894.5	895.4	896.3	896.2	895.1	894.1	893.1	892.0
162.5°	902.8	903.8	904.8	904.7	903.4	902.1	900.9	899.6
165°	912.9	914.1	915.1	915.1	914.1	912.9	911.9	910.9
167.5°	921.5	922.6	923.6	923.4	922.1	920.8	919.4	918.0
170°	925.8	926.8	927.9	927.7	926.4	925.0	923.7	922.4
172.5°	929.1	930.1	931.1	930.9	929.6	928.3	926.9	925.6
175°	932.6	933.6	934.6	934.4	932.9	931.4	929.9	928.4
177.5°	932.9	933.8	934.6	934.5	933.4	932.4	931.2	930.2
180°	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8

(END OF REPORT)