

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: P332464-830

Luminaire Tested: **S123RDIW-S1000D1320U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332464-830
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: S123RDIW-S1000D1320U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8552.5 lumens
Efficiency: N/A
Efficacy: 122.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

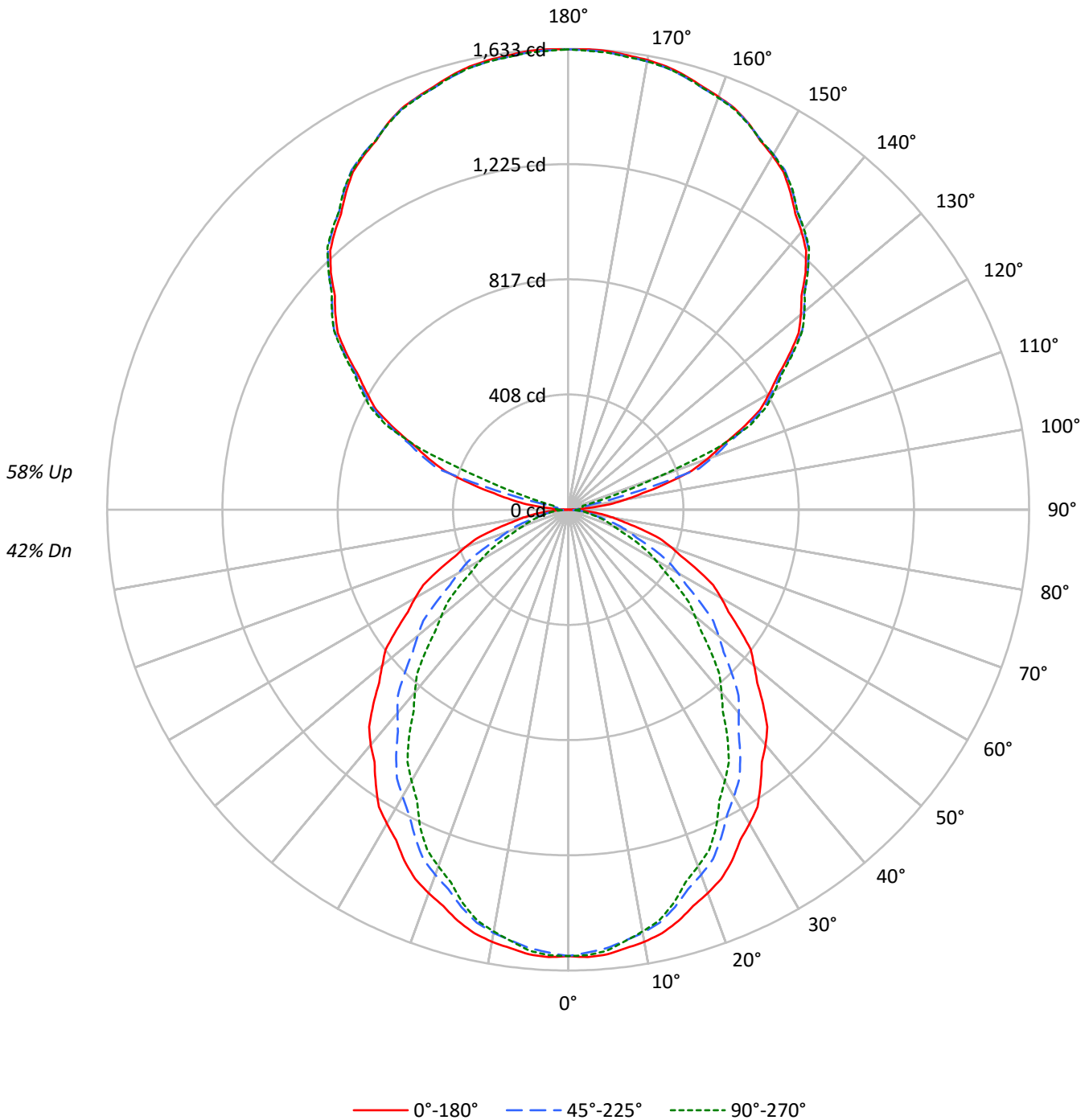
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	42	36
2	88	81	75	70	80	74	69	65	61	57	54	49	47	45	38	37	35	30
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	34	32	30	26
4	73	63	55	50	67	58	51	46	48	43	39	39	36	33	31	28	26	23
5	68	56	48	43	61	52	45	40	43	38	34	35	31	29	28	25	23	20
6	62	50	43	37	57	46	40	35	39	34	30	32	28	25	25	23	20	17
7	58	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	16
8	53	41	34	29	49	38	32	27	32	27	23	27	23	20	21	19	16	14
9	50	38	30	26	45	35	28	24	30	24	21	25	21	18	20	17	15	13
10	46	35	28	23	42	32	26	22	27	22	19	23	19	16	18	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17026	17026	17026
5°	17091	16855	16953
10°	16994	16644	16587
15°	16811	16254	16082
20°	16561	15767	15400
25°	16302	15221	14733
30°	15960	14589	13793
35°	15609	13958	12929
40°	15286	13212	11861
45°	14862	12478	10898
50°	14393	11643	9818
55°	13915	10689	8811
60°	13476	9666	7705
65°	12905	8560	6599
70°	12192	7188	5331
75°	11154	5656	5016
80°	9937	5009	4612
85°	8398	4434	4125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.5	1.7
10°-20°	413.3	4.8
20°-30°	595.1	7.0
30°-40°	670.3	7.8
40°-50°	641.3	7.5
50°-60°	525.1	6.1
60°-70°	354.3	4.1
70°-80°	178.2	2.1
80°-90°	51.7	0.6
90°-100°	59.3	0.7
100°-110°	282.7	3.3
110°-120°	679.0	7.9
120°-130°	864.6	10.1
130°-140°	923.8	10.8
140°-150°	863.8	10.1
150°-160°	696.8	8.1
160°-170°	449.7	5.3
170°-180°	155.0	1.8
0°-30°	1156.9	13.5
0°-40°	1827.2	21.4
0°-60°	2993.6	35.0
0°-90°	3577.9	41.8
90°-120°	1020.9	11.9
90°-150°	3673.1	42.9
90°-180°	4975.0	58.2
0°-180°	8552.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1582	1575	1560	1571	1569	150
15°	1509	1493	1459	1452	1443	425
25°	1373	1339	1282	1255	1240	631
35°	1188	1140	1062	1009	984	743
45°	976	916	820	749	716	753
55°	742	676	570	498	470	665
65°	507	435	336	276	259	501
75°	268	206	136	124	121	286
85°	68	41	36	34	33	76
90°	1	14	29	34	36	7
95°	74	28	38	46	46	91
105°	361	368	265	63	53	383
115°	678	685	696	707	713	669
125°	955	964	970	972	974	853
135°	1189	1196	1201	1204	1201	915
145°	1372	1380	1383	1385	1385	858
155°	1511	1509	1510	1515	1509	696
165°	1594	1590	1589	1598	1590	450
175°	1631	1626	1626	1634	1625	155
180°	1631	1631	1631	1631	1631	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1586.9	1585.9	1585.1	1584.1	1583.2	1581.4	1578.7	1575.9	1573.2	1570.5	1572.9
5°	1581.8	1580.3	1578.9	1577.4	1576.0	1573.6	1570.2	1566.8	1563.4	1559.9	1562.5
7.5°	1567.1	1565.6	1564.1	1562.5	1560.9	1557.9	1553.5	1549.1	1544.6	1540.2	1541.6
10°	1554.8	1552.8	1550.8	1548.8	1546.8	1543.2	1538.1	1533.0	1527.9	1522.8	1523.1
12.5°	1537.4	1535.1	1533.0	1530.7	1528.4	1524.2	1518.0	1511.6	1505.4	1499.1	1498.9
15°	1508.6	1505.5	1502.3	1499.2	1496.1	1490.5	1482.5	1474.5	1466.6	1458.6	1457.2
17.5°	1472.4	1468.8	1465.2	1461.5	1457.8	1451.0	1440.8	1430.7	1420.5	1410.3	1407.3
20°	1445.8	1441.2	1436.6	1432.1	1427.5	1419.8	1409.0	1398.2	1387.3	1376.5	1372.8
22.5°	1416.0	1410.8	1405.5	1400.2	1395.1	1386.7	1375.1	1363.6	1352.1	1340.6	1336.0
25°	1372.6	1365.6	1358.4	1351.2	1344.2	1334.0	1320.9	1307.8	1294.7	1281.6	1275.5
27.5°	1320.0	1312.2	1304.3	1296.5	1288.5	1277.3	1262.7	1248.1	1233.5	1219.0	1210.6
30°	1284.1	1275.5	1267.1	1258.5	1249.9	1237.7	1221.7	1205.7	1189.8	1173.8	1164.1
32.5°	1248.2	1238.5	1228.8	1219.1	1209.5	1196.2	1179.3	1162.4	1145.5	1128.6	1118.0
35°	1187.9	1177.6	1167.3	1157.2	1146.9	1132.8	1115.2	1097.5	1079.9	1062.2	1049.9
37.5°	1126.8	1115.4	1104.0	1092.6	1081.2	1066.1	1047.3	1028.3	1009.5	990.6	976.7
40°	1087.9	1075.3	1062.7	1050.2	1037.6	1021.2	1001.1	980.8	960.5	940.3	925.5
42.5°	1043.7	1031.1	1018.6	1006.1	993.5	976.9	955.9	935.0	914.1	893.2	876.9
45°	976.3	963.4	950.6	937.7	924.9	907.6	885.6	863.7	841.7	819.7	803.5
47.5°	908.8	894.7	880.6	866.5	852.4	834.4	812.5	790.5	768.5	746.6	729.0
50°	859.5	846.1	832.7	819.4	805.9	787.7	764.6	741.5	718.4	695.3	677.6
52.5°	815.4	800.9	786.3	771.8	757.2	738.5	715.7	692.8	670.0	647.1	628.7
55°	741.5	727.5	713.5	699.6	685.6	666.5	642.2	618.0	593.8	569.6	553.1
57.5°	673.3	658.0	642.8	627.5	612.4	592.6	568.2	543.8	519.5	495.2	479.6
60°	626.0	610.4	594.7	579.0	563.3	543.7	520.0	496.3	472.7	449.0	433.6
62.5°	578.8	563.2	547.4	531.8	516.1	496.4	472.8	449.1	425.5	401.8	387.3
65°	506.7	491.1	475.3	459.7	444.0	425.1	402.8	380.6	358.4	336.1	322.2
67.5°	434.6	418.8	402.9	387.1	371.3	352.6	331.3	310.0	288.7	267.3	256.9
70°	387.4	372.0	356.7	341.2	325.8	308.2	288.2	268.2	248.3	228.4	218.4
72.5°	340.2	325.1	309.9	294.7	279.6	262.9	244.8	226.7	208.5	190.4	182.2
75°	268.2	254.4	240.7	227.1	213.4	198.7	183.0	167.3	151.7	136.0	133.1
77.5°	202.5	190.0	177.7	165.3	153.0	141.7	131.6	121.5	111.4	101.3	99.8
80°	160.3	148.6	137.0	125.3	113.6	104.8	98.8	92.7	86.8	80.8	79.9
82.5°	120.4	110.3	100.2	90.0	79.9	73.5	70.7	68.0	65.1	62.3	61.5
85°	68.0	61.7	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.9	22.9	20.9	18.9	17.0	16.4	17.1	17.7	18.5	19.1	19.1
90°	1.2	3.9	6.6	9.3	12.0	15.1	18.6	22.1	25.5	29.1	30.2
92.5°	22.5	21.8	21.0	20.3	19.5	20.5	23.1	25.7	28.4	31.0	32.7
95°	73.9	62.9	51.8	40.8	29.8	25.7	28.7	31.7	34.6	37.6	39.5
97.5°	148.5	143.6	138.6	133.7	128.8	116.6	97.2	77.9	58.4	39.0	41.2
100°	204.8	210.2	215.6	220.9	226.4	208.0	166.1	124.0	82.0	40.0	42.1
102.5°	268.8	272.7	276.5	280.4	284.4	263.3	217.4	171.5	125.6	79.7	73.0
105°	361.2	364.1	367.1	370.0	373.0	362.4	338.1	313.9	289.6	265.4	217.7
107.5°	458.6	461.0	463.4	465.7	468.1	471.2	475.0	478.8	482.7	486.4	451.5
110°	523.6	525.8	527.8	530.0	532.2	534.7	537.7	540.6	543.7	546.6	537.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	585.6	587.6	589.5	591.4	593.3	595.8	598.8	601.7	604.7	607.7	607.8
115°	677.5	679.1	680.7	682.3	683.9	686.0	688.3	690.8	693.2	695.7	698.3
117.5°	766.5	768.5	770.4	772.4	774.4	776.0	777.2	778.5	779.8	781.0	783.2
120°	821.7	824.2	826.5	829.0	831.4	833.0	833.8	834.6	835.5	836.2	838.4
122.5°	878.0	880.0	881.9	883.9	885.9	887.4	888.4	889.5	890.5	891.6	893.1
125°	955.0	957.2	959.3	961.5	963.7	965.3	966.3	967.4	968.5	969.6	970.1
127.5°	1029.6	1031.8	1034.0	1036.1	1038.3	1040.0	1041.3	1042.6	1043.9	1045.2	1046.0
130°	1076.2	1078.4	1080.5	1082.7	1084.9	1086.5	1087.5	1088.6	1089.7	1090.7	1091.8
132.5°	1120.8	1122.9	1125.1	1127.3	1129.4	1131.0	1131.8	1132.7	1133.5	1134.3	1135.5
135°	1188.9	1190.5	1192.1	1193.7	1195.4	1196.7	1197.8	1198.9	1200.0	1201.1	1201.8
137.5°	1247.1	1249.2	1251.2	1253.2	1255.3	1256.6	1257.2	1257.8	1258.4	1259.0	1260.3
140°	1285.9	1287.5	1289.1	1290.7	1292.3	1293.5	1294.4	1295.1	1296.0	1296.8	1297.9
142.5°	1321.7	1323.3	1325.0	1326.6	1328.2	1329.5	1330.2	1331.1	1331.8	1332.7	1333.5
145°	1372.0	1373.9	1375.7	1377.6	1379.5	1380.6	1381.2	1381.8	1382.3	1382.8	1383.4
147.5°	1419.2	1420.4	1421.6	1422.9	1424.2	1425.0	1425.6	1426.1	1426.6	1427.2	1427.8
150°	1448.3	1449.1	1449.9	1450.7	1451.5	1452.2	1452.7	1453.2	1453.8	1454.3	1454.9
152.5°	1474.4	1474.8	1475.2	1475.6	1475.9	1476.3	1476.7	1477.0	1477.2	1477.6	1478.6
155°	1511.3	1510.8	1510.2	1509.7	1509.1	1509.0	1509.3	1509.6	1509.9	1510.0	1511.5
157.5°	1539.9	1539.8	1539.8	1539.7	1539.6	1539.5	1539.3	1539.0	1538.7	1538.4	1540.0
160°	1557.4	1557.1	1556.8	1556.5	1556.2	1556.0	1555.8	1555.5	1555.2	1554.9	1556.5
162.5°	1573.9	1573.1	1572.4	1571.7	1571.0	1570.6	1570.3	1570.0	1569.7	1569.4	1571.3
165°	1593.7	1592.9	1592.0	1591.3	1590.4	1590.0	1589.7	1589.4	1589.1	1588.8	1591.0
167.5°	1609.2	1608.2	1607.0	1606.0	1604.9	1604.4	1604.4	1604.4	1604.4	1604.4	1606.6
170°	1618.0	1616.8	1615.8	1614.8	1613.6	1613.1	1613.1	1613.1	1613.1	1613.1	1615.2
172.5°	1623.8	1622.5	1621.2	1619.9	1618.6	1618.1	1618.3	1618.5	1618.7	1618.9	1621.1
175°	1631.3	1629.9	1628.6	1627.2	1625.9	1625.3	1625.6	1625.9	1626.2	1626.5	1628.3
177.5°	1633.2	1632.1	1631.1	1630.0	1628.9	1628.5	1628.7	1628.9	1629.1	1629.4	1631.1
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1575.5	1578.0	1580.5	1581.5	1581.0	1580.6	1580.2	1579.7
5°	1565.1	1567.6	1570.2	1571.2	1570.7	1570.1	1569.5	1569.0
7.5°	1543.0	1544.5	1545.9	1546.1	1545.1	1544.2	1543.2	1542.2
10°	1523.3	1523.6	1523.9	1523.3	1521.8	1520.4	1519.0	1517.6
12.5°	1498.7	1498.6	1498.5	1497.5	1495.9	1494.2	1492.6	1490.9
15°	1455.8	1454.3	1452.9	1451.1	1449.2	1447.2	1445.2	1443.2
17.5°	1404.3	1401.3	1398.3	1395.2	1392.3	1389.3	1386.4	1383.4
20°	1369.0	1365.4	1361.7	1358.1	1354.7	1351.2	1347.8	1344.4
22.5°	1331.3	1326.7	1322.1	1318.1	1315.0	1311.8	1308.6	1305.4
25°	1269.6	1263.6	1257.6	1253.0	1249.9	1246.8	1243.7	1240.5
27.5°	1202.3	1194.0	1185.6	1179.1	1174.3	1169.5	1164.7	1160.0
30°	1154.4	1144.7	1135.0	1127.9	1123.3	1118.8	1114.2	1109.7
32.5°	1107.4	1096.8	1086.2	1078.6	1073.7	1068.9	1064.1	1059.3
35°	1037.6	1025.4	1013.1	1004.5	999.4	994.2	989.1	983.9
37.5°	962.8	948.9	935.0	924.8	918.5	912.2	905.9	899.6
40°	910.7	895.9	881.0	870.3	863.7	857.2	850.6	844.1
42.5°	860.7	844.5	828.3	817.3	811.4	805.6	799.7	793.8
45°	787.2	771.0	754.7	743.2	736.3	729.5	722.6	715.9
47.5°	711.2	693.6	675.9	664.0	657.9	651.9	645.7	639.6
50°	660.0	642.2	624.6	612.5	606.0	599.4	592.9	586.3
52.5°	610.4	592.0	573.6	561.5	555.6	549.8	543.9	538.0
55°	536.5	520.0	503.4	492.3	486.6	480.9	475.2	469.5
57.5°	463.9	448.3	432.7	422.4	417.6	412.7	407.9	403.0
60°	418.2	402.8	387.4	377.3	372.5	367.6	362.8	357.9
62.5°	372.8	358.4	343.8	334.0	329.0	324.0	318.9	313.8
65°	308.2	294.2	280.2	271.6	268.5	265.4	262.3	259.1
67.5°	246.5	236.0	225.6	218.7	215.4	212.0	208.6	205.3
70°	208.4	198.4	188.4	181.9	178.7	175.6	172.5	169.4
72.5°	174.1	165.9	157.8	153.1	151.7	150.4	149.1	147.8
75°	130.3	127.4	124.6	122.9	122.3	121.7	121.1	120.6
77.5°	98.3	96.7	95.2	94.2	93.6	93.0	92.5	91.9
80°	79.1	78.2	77.4	76.7	76.2	75.6	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.2	58.1	58.0
85°	34.8	34.2	33.6	33.4	33.4	33.4	33.4	33.4
87.5°	19.1	19.1	19.1	19.0	18.9	18.8	18.7	18.6
90°	31.2	32.3	33.4	34.2	34.8	35.3	35.8	36.4
92.5°	34.5	36.2	37.9	38.9	39.3	39.6	39.9	40.2
95°	41.4	43.3	45.1	46.1	46.1	46.1	46.1	46.1
97.5°	43.4	45.5	47.6	48.8	49.1	49.4	49.7	50.0
100°	44.3	46.5	48.6	49.9	50.0	50.3	50.6	50.9
102.5°	66.4	59.7	53.1	50.0	50.4	50.9	51.4	51.8
105°	170.0	122.4	74.7	51.2	51.7	52.2	52.8	53.3
107.5°	416.6	381.6	346.7	311.2	275.3	239.3	203.4	167.5
110°	528.8	519.9	511.0	487.3	448.8	410.3	371.8	333.3



TEST NUMBER: P332464-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	608.0	608.1	608.3	604.4	596.2	588.1	579.9	571.8
115°	701.1	703.7	706.4	708.3	709.4	710.5	711.5	712.7
117.5°	785.3	787.4	789.6	790.8	791.0	791.2	791.5	791.6
120°	840.6	842.7	844.9	845.9	845.9	845.9	845.9	845.9
122.5°	894.6	896.1	897.6	898.4	898.6	898.8	899.1	899.3
125°	970.6	971.2	971.7	972.2	972.8	973.4	973.8	974.4
127.5°	1046.9	1047.7	1048.7	1048.8	1048.3	1047.7	1047.2	1046.6
130°	1092.9	1094.0	1095.0	1095.3	1094.8	1094.3	1093.7	1093.2
132.5°	1136.5	1137.6	1138.7	1138.9	1138.1	1137.4	1136.6	1135.9
135°	1202.7	1203.4	1204.3	1204.3	1203.4	1202.7	1201.8	1201.1
137.5°	1261.6	1262.8	1264.1	1264.5	1263.9	1263.5	1262.9	1262.3
140°	1298.9	1300.0	1301.1	1301.4	1300.8	1300.2	1299.8	1299.2
142.5°	1334.4	1335.2	1336.1	1336.1	1335.4	1334.6	1333.9	1333.1
145°	1383.9	1384.4	1385.0	1385.3	1385.3	1385.3	1385.3	1385.3
147.5°	1428.2	1428.8	1429.4	1429.0	1427.8	1426.5	1425.3	1424.0
150°	1455.4	1455.9	1456.5	1456.3	1455.6	1454.7	1454.0	1453.1
152.5°	1479.5	1480.5	1481.5	1481.4	1480.1	1478.8	1477.6	1476.4
155°	1512.8	1514.1	1515.5	1515.3	1513.7	1512.1	1510.5	1508.9
157.5°	1541.7	1543.3	1544.9	1544.6	1542.6	1540.5	1538.3	1536.3
160°	1558.1	1559.8	1561.4	1561.2	1559.3	1557.5	1555.6	1553.7
162.5°	1573.1	1575.0	1576.8	1576.9	1575.2	1573.6	1571.9	1570.2
165°	1593.2	1595.3	1597.5	1597.6	1595.7	1593.8	1592.0	1590.1
167.5°	1608.7	1610.8	1613.0	1613.0	1610.8	1608.7	1606.6	1604.4
170°	1617.4	1619.6	1621.7	1621.7	1619.6	1617.4	1615.2	1613.1
172.5°	1623.2	1625.4	1627.6	1627.4	1625.0	1622.7	1620.3	1618.0
175°	1630.2	1632.1	1634.0	1633.8	1631.7	1629.6	1627.4	1625.2
177.5°	1632.8	1634.6	1636.3	1636.1	1633.9	1631.7	1629.6	1627.4
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3

(END OF REPORT)