

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: P332852-930

Luminaire Tested: **S124DIW-S1195D1050U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332852-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1050U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7135.4 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

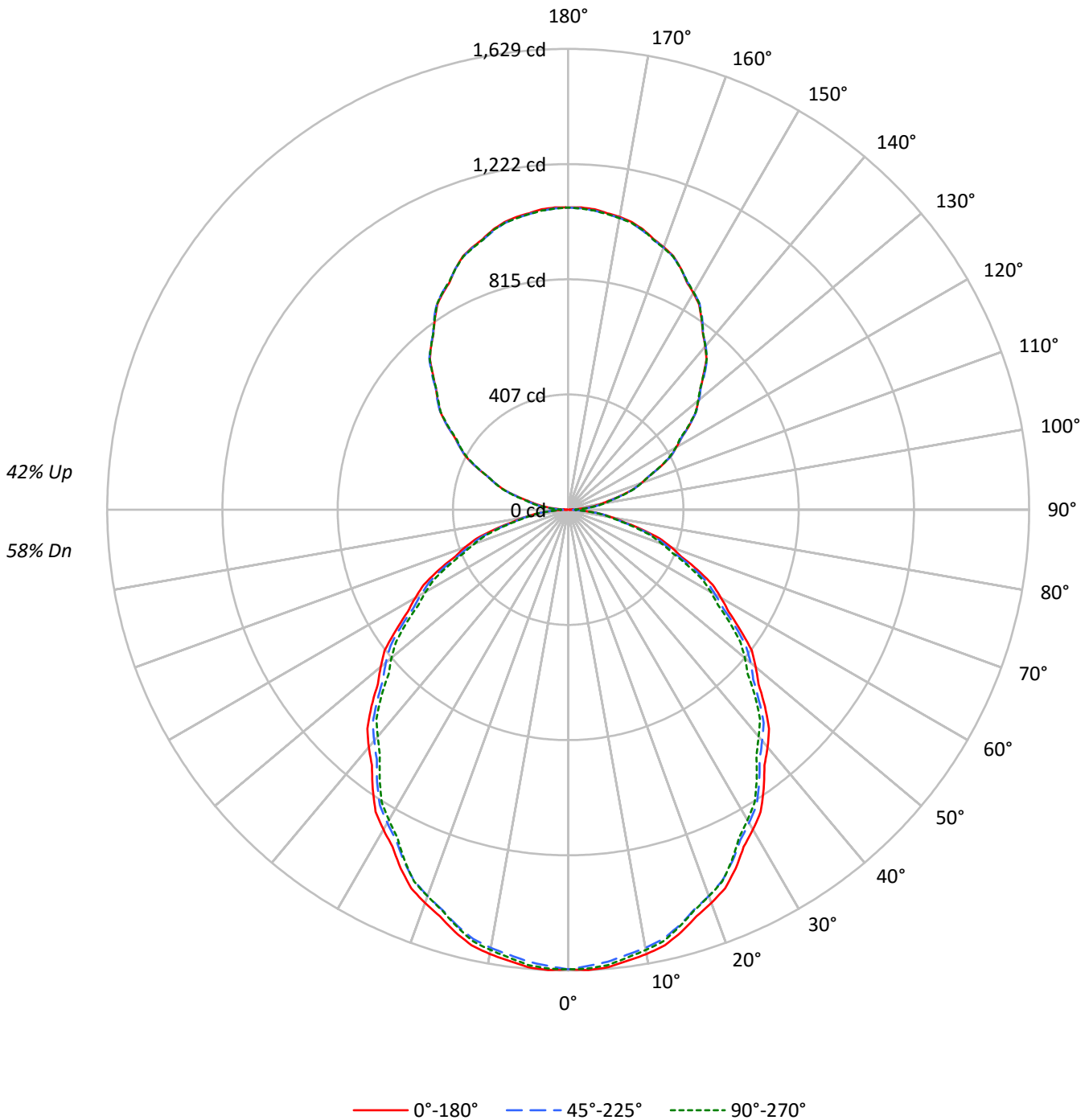
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	49	43	65	54	47	41	47	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	35	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	24	21	27	22	19	23	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13116	13116	13116
5°	13156	12998	13092
10°	13073	12892	12956
15°	12915	12709	12741
20°	12706	12482	12493
25°	12466	12222	12188
30°	12172	11918	11808
35°	11869	11599	11445
40°	11552	11236	11031
45°	11222	10880	10671
50°	10857	10562	10236
55°	10463	10151	9821
60°	10069	9689	9397
65°	9626	9251	8879
70°	9128	8665	8327
75°	8366	7960	7757
80°	7443	7141	6960
85°	6512	6271	6150



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.0	2.1
10°-20°	431.1	6.0
20°-30°	634.5	8.9
30°-40°	737.7	10.3
40°-50°	737.7	10.3
50°-60°	645.3	9.0
60°-70°	479.2	6.7
70°-80°	272.3	3.8
80°-90°	81.8	1.1
90°-100°	70.4	1.0
100°-110°	208.7	2.9
110°-120°	354.2	5.0
120°-130°	467.0	6.5
130°-140°	524.5	7.4
140°-150°	515.4	7.2
150°-160°	433.5	6.1
160°-170°	288.4	4.0
170°-180°	101.0	1.4
0°-30°	1218.6	17.1
0°-40°	1956.3	27.4
0°-60°	3339.3	46.8
0°-90°	4172.5	58.5
90°-120°	633.2	8.9
90°-150°	2140.1	30.0
90°-180°	2963.0	41.5
0°-180°	7135.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1625	1625	1625	1625	1625	
5°	1623	1618	1604	1617	1616	154
15°	1545	1539	1521	1528	1524	435
25°	1400	1390	1372	1373	1368	644
35°	1204	1195	1177	1168	1161	753
45°	983	973	953	939	935	757
55°	743	739	721	706	698	666
65°	504	497	484	472	465	499
75°	268	262	255	250	249	285
85°	70	70	68	68	66	77
90°	2	11	18	23	25	7
95°	50	57	63	65	65	55
105°	192	193	197	199	202	204
115°	360	360	358	358	357	355
125°	524	524	524	522	520	467
135°	676	681	681	680	677	523
145°	822	825	826	825	823	514
155°	942	942	941	944	941	433
165°	1025	1023	1021	1025	1022	289
175°	1066	1062	1061	1066	1061	101
180°	1068	1068	1068	1068	1068	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1628.9	1628.2	1627.5	1626.8	1626.1	1624.5	1622.0	1619.4	1616.9	1614.4	1616.7
5°	1623.4	1622.3	1621.1	1620.0	1618.9	1616.7	1613.5	1610.3	1607.1	1603.9	1607.1
7.5°	1608.3	1607.2	1606.1	1604.8	1603.7	1601.4	1597.8	1594.3	1590.8	1587.2	1589.8
10°	1594.8	1593.7	1592.5	1591.3	1590.2	1587.7	1584.0	1580.2	1576.5	1572.7	1575.0
12.5°	1577.1	1576.0	1574.8	1573.6	1572.5	1569.9	1565.9	1562.0	1558.0	1554.0	1556.5
15°	1545.3	1544.2	1543.0	1541.9	1540.7	1538.0	1533.6	1529.3	1524.9	1520.6	1522.3
17.5°	1507.1	1505.6	1504.1	1502.8	1501.3	1498.5	1494.4	1490.3	1486.2	1482.1	1483.2
20°	1479.0	1477.5	1476.0	1474.6	1473.2	1470.2	1465.9	1461.6	1457.3	1452.9	1453.8
22.5°	1448.7	1446.8	1445.0	1443.0	1441.1	1437.9	1433.6	1429.3	1425.0	1420.6	1422.2
25°	1399.5	1397.5	1395.5	1393.4	1391.4	1388.4	1384.3	1380.3	1376.2	1372.1	1372.5
27.5°	1343.3	1341.2	1339.1	1337.0	1335.0	1332.0	1328.3	1324.5	1320.8	1317.0	1316.3
30°	1305.8	1303.5	1301.1	1298.9	1296.6	1293.5	1289.7	1286.0	1282.2	1278.5	1277.3
32.5°	1266.2	1264.1	1262.1	1260.0	1257.8	1254.8	1250.8	1246.8	1242.8	1238.8	1237.5
35°	1204.3	1202.2	1200.2	1198.2	1196.1	1193.1	1189.0	1185.0	1181.0	1176.9	1174.8
37.5°	1138.9	1137.0	1135.2	1133.3	1131.5	1128.4	1124.1	1119.7	1115.3	1111.0	1108.8
40°	1096.2	1093.9	1091.5	1089.2	1087.0	1083.6	1079.3	1074.9	1070.6	1066.2	1063.3
42.5°	1050.4	1049.0	1047.6	1046.2	1044.8	1041.7	1036.9	1032.1	1027.3	1022.5	1019.1
45°	982.9	980.9	978.8	976.8	974.9	971.5	966.9	962.2	957.6	953.0	949.8
47.5°	912.3	910.9	909.5	908.2	906.8	904.0	899.7	895.4	891.1	886.9	883.3
50°	864.5	863.3	862.1	861.0	859.8	857.2	853.1	849.1	845.1	841.0	837.0
52.5°	817.6	816.2	814.8	813.4	812.0	809.2	804.9	800.6	796.4	792.1	788.5
55°	743.4	742.5	741.7	740.8	739.9	737.4	733.4	729.4	725.3	721.2	717.8
57.5°	672.5	671.6	670.6	669.6	668.6	666.1	662.1	658.1	654.1	650.1	646.9
60°	623.6	622.2	620.7	619.3	617.8	615.2	611.5	607.7	603.9	600.1	597.5
62.5°	575.7	574.5	573.2	572.0	570.9	568.3	564.3	560.3	556.3	552.3	549.9
65°	503.9	502.4	500.9	499.5	498.1	495.9	493.0	490.1	487.2	484.3	481.4
67.5°	431.5	430.2	428.8	427.5	426.2	424.0	421.3	418.5	415.7	412.9	410.2
70°	386.7	384.7	382.6	380.6	378.5	376.4	374.1	371.8	369.4	367.1	364.8
72.5°	338.8	336.7	334.7	332.6	330.7	328.7	326.9	325.0	323.2	321.3	319.4
75°	268.2	266.8	265.3	263.8	262.4	261.0	259.5	258.0	256.7	255.2	254.0
77.5°	200.7	200.1	199.5	198.9	198.2	197.2	196.0	194.7	193.5	192.2	191.8
80°	160.1	159.2	158.4	157.5	156.7	156.0	155.4	154.7	154.2	153.6	153.0
82.5°	120.6	120.2	119.8	119.4	119.0	118.7	118.5	118.5	118.3	118.2	117.9
85°	70.3	70.3	70.3	70.3	70.3	70.0	69.5	68.9	68.2	67.7	67.7
87.5°	27.6	27.7	27.9	28.1	28.3	28.4	28.5	28.5	28.5	28.6	28.9
90°	2.4	4.5	6.5	8.6	10.5	12.3	13.8	15.2	16.7	18.2	19.2
92.5°	17.7	20.0	22.3	24.6	26.9	28.6	29.6	30.7	31.7	32.7	33.3
95°	49.6	51.2	52.8	54.5	56.2	57.6	58.9	60.2	61.5	62.8	63.3
97.5°	86.6	87.9	89.2	90.5	91.9	93.3	94.7	96.3	97.8	99.3	100.0
100°	115.6	116.3	117.1	117.8	118.5	119.8	121.4	123.0	124.7	126.4	126.7
102.5°	146.0	146.3	146.6	146.9	147.2	148.1	149.6	151.1	152.6	154.1	154.7
105°	192.4	192.7	192.8	193.0	193.1	193.6	194.4	195.1	195.8	196.6	197.1
107.5°	241.2	241.4	241.6	241.8	242.1	242.2	242.3	242.5	242.6	242.6	243.2
110°	274.2	274.6	274.9	275.3	275.7	275.7	275.6	275.4	275.2	275.0	274.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.6	308.7	308.8	308.8	308.8	308.8	308.4	308.1	307.8	307.4	307.4
115°	360.1	360.1	360.1	360.1	360.1	360.0	359.5	359.2	358.8	358.5	358.2
117.5°	408.7	408.8	409.0	409.1	409.3	409.2	409.0	408.7	408.5	408.1	407.6
120°	441.1	441.8	442.5	443.3	444.0	444.1	443.5	443.0	442.5	441.9	441.0
122.5°	474.7	475.1	475.3	475.6	475.9	476.0	475.6	475.4	475.2	474.9	474.3
125°	524.5	524.5	524.5	524.5	524.5	524.4	524.2	524.0	523.8	523.7	523.3
127.5°	569.6	570.1	570.6	571.2	571.8	571.9	571.6	571.3	571.0	570.7	570.4
130°	601.3	601.9	602.3	602.9	603.5	603.7	603.7	603.7	603.7	603.7	603.4
132.5°	633.7	634.1	634.5	634.9	635.3	635.4	635.3	635.1	635.0	634.8	634.5
135°	676.5	677.5	678.7	679.7	680.9	681.4	681.4	681.4	681.4	681.4	681.0
137.5°	723.0	723.5	724.1	724.6	725.0	725.5	725.8	726.1	726.4	726.7	726.2
140°	754.1	754.5	754.8	755.2	755.5	755.7	755.7	755.7	755.7	755.7	755.5
142.5°	782.5	782.9	783.3	783.6	784.0	784.1	783.9	783.7	783.7	783.5	783.4
145°	821.8	822.6	823.3	824.0	824.8	825.2	825.4	825.6	825.7	825.9	825.7
147.5°	860.8	861.7	862.6	863.4	864.3	864.7	864.5	864.4	864.2	864.1	864.0
150°	884.6	885.3	886.1	886.8	887.5	887.9	887.9	887.9	887.9	887.9	887.9
152.5°	907.0	907.5	907.9	908.3	908.8	909.1	909.2	909.4	909.5	909.7	910.1
155°	941.6	941.6	941.6	941.6	941.6	941.5	941.3	941.1	940.9	940.8	941.5
157.5°	970.6	970.3	970.0	969.6	969.3	969.1	969.1	969.1	969.0	969.0	969.6
160°	987.8	987.7	987.4	987.2	987.1	986.9	986.7	986.5	986.3	986.2	986.7
162.5°	1003.6	1003.2	1002.7	1002.2	1001.8	1001.4	1001.3	1001.1	1000.9	1000.7	1001.7
165°	1025.0	1024.4	1023.9	1023.4	1022.8	1022.3	1022.0	1021.6	1021.2	1020.8	1022.0
167.5°	1041.3	1040.6	1039.8	1039.0	1038.3	1037.9	1038.0	1038.0	1038.0	1038.0	1039.1
170°	1050.6	1049.7	1048.7	1047.8	1046.9	1046.5	1046.8	1046.9	1047.1	1047.3	1048.4
172.5°	1057.2	1056.4	1055.6	1054.9	1054.1	1053.8	1053.8	1053.9	1053.9	1053.9	1055.2
175°	1066.2	1065.4	1064.5	1063.6	1062.6	1062.1	1061.8	1061.7	1061.5	1061.4	1062.6
177.5°	1069.3	1068.5	1067.8	1067.1	1066.3	1065.9	1065.9	1065.9	1065.9	1065.9	1067.0
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1618.9	1621.3	1623.6	1624.6	1624.4	1624.2	1623.9	1623.7
5°	1610.3	1613.5	1616.7	1618.0	1617.4	1616.8	1616.2	1615.6
7.5°	1592.4	1594.9	1597.4	1598.6	1598.2	1597.8	1597.5	1597.2
10°	1577.3	1579.6	1581.9	1582.8	1582.3	1581.7	1581.0	1580.5
12.5°	1559.0	1561.5	1564.2	1565.0	1564.2	1563.3	1562.5	1561.7
15°	1524.0	1525.8	1527.5	1528.0	1527.1	1526.2	1525.3	1524.5
17.5°	1484.3	1485.4	1486.5	1486.7	1486.1	1485.6	1485.0	1484.4
20°	1454.7	1455.5	1456.4	1456.5	1456.0	1455.4	1454.8	1454.2
22.5°	1423.8	1425.3	1426.9	1427.1	1426.1	1425.1	1424.0	1422.9
25°	1372.8	1373.0	1373.4	1372.9	1371.7	1370.6	1369.5	1368.3
27.5°	1315.6	1314.9	1314.2	1313.1	1311.7	1310.3	1308.8	1307.3
30°	1276.1	1275.0	1273.8	1272.5	1271.1	1269.7	1268.2	1266.7
32.5°	1236.1	1234.7	1233.3	1231.9	1230.4	1229.0	1227.6	1226.1
35°	1172.9	1170.9	1168.8	1167.1	1165.6	1164.2	1162.7	1161.3
37.5°	1106.6	1104.4	1102.2	1100.2	1098.3	1096.3	1094.5	1092.5
40°	1060.5	1057.5	1054.7	1052.5	1051.1	1049.6	1048.1	1046.7
42.5°	1015.8	1012.4	1009.1	1006.9	1005.9	1004.9	1004.0	1003.0
45°	946.6	943.5	940.3	938.2	937.3	936.5	935.6	934.7
47.5°	879.7	876.1	872.5	869.6	867.4	865.2	863.0	860.8
50°	832.9	828.8	824.8	821.9	820.2	818.5	816.7	815.0
52.5°	784.9	781.3	777.7	774.9	772.7	770.5	768.3	766.1
55°	714.3	710.9	707.4	704.7	703.0	701.3	699.5	697.8
57.5°	643.6	640.3	637.0	634.5	632.8	631.1	629.4	627.8
60°	594.9	592.4	589.8	587.7	586.3	584.8	583.4	582.0
62.5°	547.5	545.1	542.7	540.9	539.4	537.9	536.5	535.1
65°	478.5	475.6	472.7	470.6	469.1	467.7	466.2	464.8
67.5°	407.4	404.6	401.9	400.2	399.8	399.4	399.0	398.6
70°	362.5	360.2	357.8	356.3	355.4	354.6	353.7	352.8
72.5°	317.6	315.8	313.9	312.5	311.7	310.8	309.9	309.1
75°	252.8	251.7	250.5	249.8	249.6	249.2	248.9	248.7
77.5°	191.4	191.1	190.8	190.2	189.5	188.7	187.9	187.2
80°	152.5	151.9	151.3	150.9	150.6	150.3	150.0	149.7
82.5°	117.5	117.2	116.8	116.5	116.2	115.9	115.6	115.4
85°	67.7	67.7	67.7	67.6	67.3	66.9	66.7	66.4
87.5°	29.1	29.3	29.5	29.7	29.8	29.8	29.8	29.9
90°	20.4	21.4	22.6	23.3	23.6	24.1	24.4	24.8
92.5°	34.0	34.7	35.4	35.8	36.0	36.2	36.4	36.7
95°	63.8	64.4	65.0	65.2	65.2	65.2	65.2	65.2
97.5°	100.6	101.3	101.9	102.2	102.2	102.2	102.2	102.2
100°	127.1	127.4	127.8	128.0	128.0	128.0	128.0	128.0
102.5°	155.2	155.6	156.2	156.5	156.6	156.8	156.9	157.1
105°	197.7	198.2	198.8	199.3	199.9	200.4	201.0	201.5
107.5°	243.7	244.2	244.8	244.9	244.9	244.9	244.8	244.8
110°	274.3	273.9	273.5	273.7	274.2	274.8	275.3	275.9



TEST NUMBER: P332852-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	307.3	307.2	307.1	307.1	307.3	307.4	307.4	307.6
115°	358.1	357.9	357.8	357.5	357.3	357.2	357.0	356.8
117.5°	406.9	406.3	405.7	405.2	404.8	404.5	404.1	403.7
120°	440.0	439.1	438.2	437.9	438.3	438.6	439.0	439.4
122.5°	473.7	473.0	472.4	471.7	471.1	470.4	469.8	469.1
125°	522.9	522.5	522.2	521.8	521.5	521.1	520.7	520.3
127.5°	570.0	569.6	569.2	568.9	568.6	568.3	568.0	567.8
130°	603.0	602.7	602.3	601.8	601.0	600.3	599.6	598.8
132.5°	634.1	633.7	633.3	633.0	632.8	632.4	632.1	631.9
135°	680.7	680.3	680.0	679.5	678.9	678.3	677.8	677.3
137.5°	725.7	725.2	724.7	724.6	724.6	724.8	724.9	725.0
140°	755.4	755.2	755.0	754.8	754.6	754.5	754.2	754.1
142.5°	783.4	783.3	783.3	783.3	783.3	783.3	783.2	783.2
145°	825.6	825.4	825.2	824.8	824.3	823.7	823.2	822.6
147.5°	863.8	863.6	863.5	863.3	863.2	863.0	862.7	862.6
150°	887.9	887.9	887.9	887.8	887.6	887.5	887.2	887.0
152.5°	910.5	911.0	911.4	911.4	910.9	910.4	910.0	909.5
155°	942.2	943.0	943.7	943.7	943.0	942.2	941.5	940.8
157.5°	970.1	970.6	971.2	971.2	970.5	969.9	969.3	968.7
160°	987.2	987.8	988.4	988.1	987.2	986.3	985.5	984.5
162.5°	1002.7	1003.6	1004.7	1004.7	1003.8	1002.9	1001.9	1001.0
165°	1023.0	1024.2	1025.2	1025.4	1024.7	1023.9	1023.2	1022.5
167.5°	1040.2	1041.3	1042.4	1042.4	1041.3	1040.2	1039.0	1037.9
170°	1049.5	1050.6	1051.7	1051.6	1050.4	1049.0	1047.7	1046.4
172.5°	1056.4	1057.6	1058.9	1058.8	1057.6	1056.3	1055.0	1053.7
175°	1063.9	1065.2	1066.5	1066.5	1065.2	1063.9	1062.6	1061.4
177.5°	1068.0	1069.0	1070.1	1070.0	1068.8	1067.6	1066.5	1065.3
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0

(END OF REPORT)