

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: P332340-840

Luminaire Tested: **S123RDIP-S1000D585U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332340-840
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: S123RDIP-S1000D585U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5862.3 lumens
Efficiency: N/A
Efficacy: 120.1 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: Semi-Direct

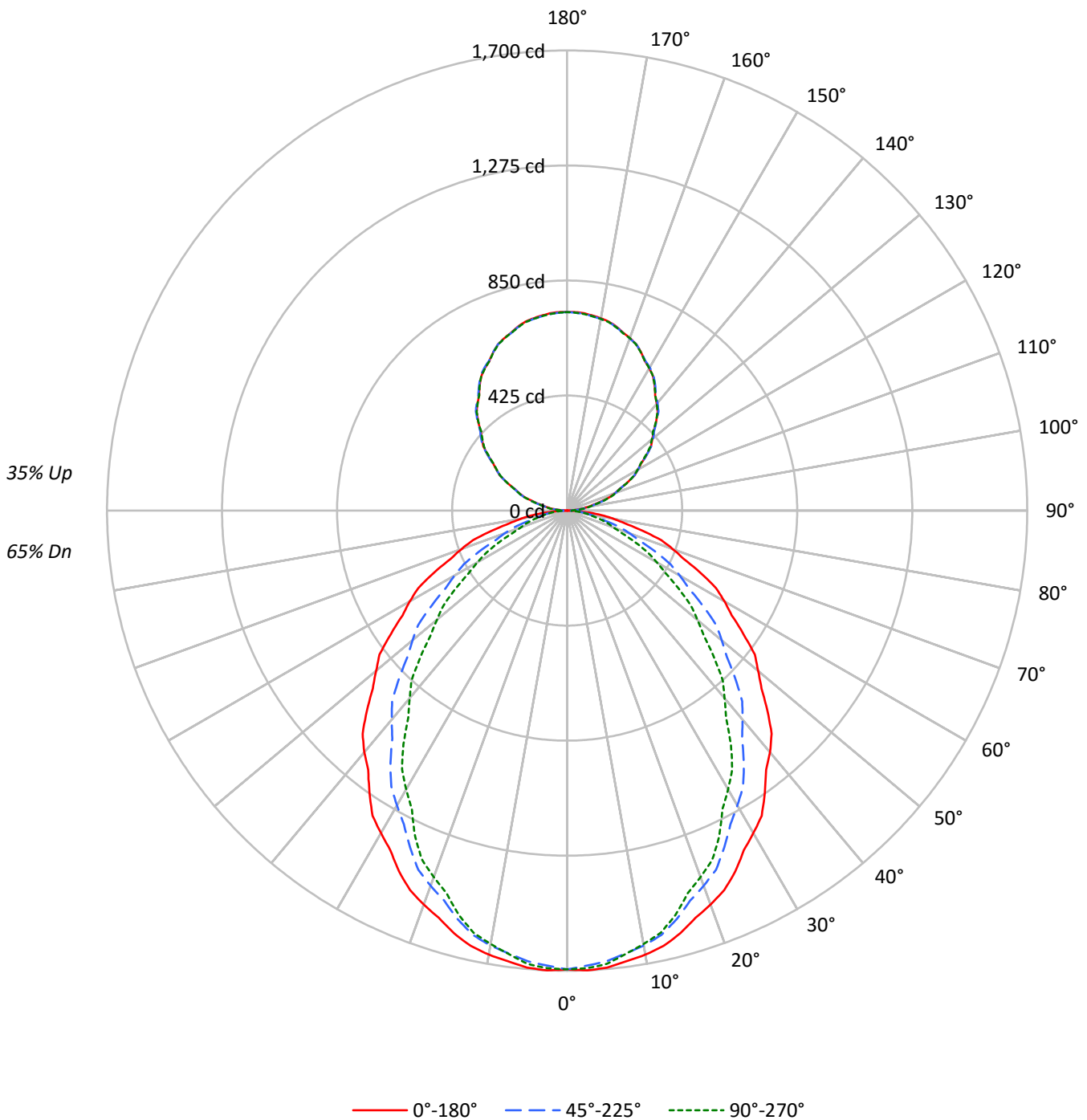
Input Watts (W): 48.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	70	70	70	65
1	102	97	94	90	95	92	88	85	81	79	76	72	70	68	63	61	60	56
2	93	86	79	74	87	81	75	71	72	68	64	63	60	58	56	53	51	47
3	85	76	68	62	80	71	65	60	64	59	54	56	52	49	50	47	44	41
4	78	67	59	53	73	64	57	51	57	51	47	51	46	42	45	41	38	35
5	72	60	52	46	67	57	50	44	51	45	41	46	41	37	40	37	34	31
6	66	54	46	40	62	51	44	39	46	40	36	41	37	33	37	33	30	27
7	62	49	41	36	58	47	39	34	42	36	32	38	33	29	34	30	27	24
8	57	45	37	32	54	43	36	31	39	33	28	35	30	26	31	27	24	22
9	53	41	34	28	50	39	32	27	36	30	26	32	27	24	29	25	22	20
10	50	38	31	26	47	36	29	25	33	27	23	30	25	22	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18243	18243	18243
5°	18312	18058	18163
10°	18208	17832	17772
15°	18013	17415	17231
20°	17743	16893	16501
25°	17467	16308	15785
30°	17100	15632	14777
35°	16724	14954	13853
40°	16378	14155	12708
45°	15923	13370	11676
50°	15421	12476	10518
55°	14910	11453	9439
60°	14441	10357	8254
65°	13827	9172	7070
70°	13064	7701	5712
75°	11948	6059	5373
80°	10649	5362	4940
85°	8991	4755	4409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.1	2.7
10°-20°	442.8	7.6
20°-30°	637.6	10.9
30°-40°	718.2	12.3
40°-50°	687.1	11.7
50°-60°	562.6	9.6
60°-70°	379.6	6.5
70°-80°	191.0	3.3
80°-90°	52.7	0.9
90°-100°	47.8	0.8
100°-110°	143.0	2.4
110°-120°	243.2	4.1
120°-130°	319.9	5.5
130°-140°	359.5	6.1
140°-150°	353.4	6.0
150°-160°	297.5	5.1
160°-170°	198.0	3.4
170°-180°	69.3	1.2
0°-30°	1239.5	21.1
0°-40°	1957.7	33.4
0°-60°	3207.4	54.7
0°-90°	3830.7	65.3
90°-120°	433.9	7.4
90°-150°	1466.7	25.0
90°-180°	2032.0	34.7
0°-180°	5862.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1695	1695	1695	1695	1695	
5°	1695	1687	1671	1683	1681	161
15°	1616	1600	1563	1556	1546	455
25°	1471	1435	1373	1345	1329	676
35°	1273	1221	1138	1081	1054	796
45°	1046	982	878	802	767	807
55°	794	724	610	533	503	712
65°	543	466	360	296	278	537
75°	287	221	146	133	129	306
85°	73	44	38	36	36	82
90°	1	6	14	16	17	6
95°	34	38	43	45	45	38
105°	130	131	136	136	137	139
115°	245	246	245	246	245	242
125°	358	360	359	357	354	319
135°	465	468	468	465	464	358
145°	564	565	567	566	564	352
155°	646	646	646	648	645	297
165°	703	702	702	705	701	198
175°	732	729	729	732	729	69
180°	733	733	733	733	733	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1700.2	1699.2	1698.3	1697.3	1696.3	1694.4	1691.4	1688.5	1685.6	1682.6	1685.3
5°	1694.8	1693.1	1691.6	1690.1	1688.6	1686.0	1682.3	1678.7	1675.1	1671.3	1674.1
7.5°	1679.0	1677.4	1675.8	1674.1	1672.4	1669.2	1664.5	1659.7	1655.0	1650.2	1651.7
10°	1665.9	1663.8	1661.5	1659.4	1657.3	1653.5	1648.0	1642.4	1637.0	1631.5	1631.8
12.5°	1647.2	1644.8	1642.4	1640.0	1637.6	1633.1	1626.4	1619.6	1613.0	1606.2	1606.0
15°	1616.4	1613.1	1609.6	1606.3	1603.0	1597.0	1588.4	1579.8	1571.3	1562.8	1561.3
17.5°	1577.6	1573.7	1569.8	1565.9	1562.0	1554.6	1543.7	1532.9	1522.0	1511.1	1507.8
20°	1549.0	1544.2	1539.2	1534.4	1529.4	1521.3	1509.6	1498.0	1486.4	1474.8	1470.9
22.5°	1517.1	1511.6	1505.9	1500.3	1494.7	1485.7	1473.3	1461.0	1448.7	1436.3	1431.4
25°	1470.7	1463.1	1455.4	1447.7	1440.2	1429.3	1415.2	1401.2	1387.2	1373.1	1366.7
27.5°	1414.3	1405.9	1397.5	1389.1	1380.6	1368.6	1352.9	1337.3	1321.6	1306.1	1297.1
30°	1375.8	1366.7	1357.6	1348.4	1339.2	1326.1	1309.0	1291.8	1274.8	1257.7	1247.3
32.5°	1337.4	1327.0	1316.6	1306.2	1295.9	1281.6	1263.5	1245.5	1227.3	1209.2	1197.9
35°	1272.7	1261.7	1250.7	1239.8	1228.8	1213.8	1194.9	1175.9	1157.0	1138.0	1124.9
37.5°	1207.3	1195.1	1182.9	1170.6	1158.4	1142.3	1122.1	1101.8	1081.6	1061.4	1046.4
40°	1165.6	1152.2	1138.6	1125.2	1111.8	1094.2	1072.6	1050.9	1029.2	1007.4	991.6
42.5°	1118.2	1104.8	1091.4	1077.9	1064.5	1046.6	1024.2	1001.8	979.4	956.9	939.6
45°	1046.0	1032.2	1018.4	1004.7	991.0	972.4	948.9	925.3	901.8	878.3	860.9
47.5°	973.7	958.6	943.5	928.4	913.3	894.0	870.5	847.0	823.4	799.9	781.0
50°	920.9	906.6	892.2	877.9	863.4	843.9	819.2	794.5	769.7	745.0	726.0
52.5°	873.6	858.1	842.4	826.9	811.3	791.2	766.8	742.3	717.8	693.3	673.6
55°	794.5	779.5	764.5	749.5	734.6	714.1	688.1	662.2	636.2	610.3	592.6
57.5°	721.3	705.0	688.7	672.4	656.1	634.9	608.7	582.7	556.6	530.6	513.8
60°	670.8	654.0	637.1	620.4	603.5	582.5	557.1	531.8	506.4	481.1	464.5
62.5°	620.2	603.4	586.5	569.8	553.0	531.9	506.5	481.2	455.9	430.5	415.0
65°	542.9	526.1	509.3	492.5	475.7	455.4	431.6	407.8	384.0	360.1	345.2
67.5°	465.6	448.7	431.7	414.8	397.8	377.8	355.0	332.1	309.3	286.4	275.3
70°	415.1	398.6	382.1	365.6	349.1	330.2	308.8	287.4	266.0	244.7	234.0
72.5°	364.5	348.3	332.0	315.8	299.5	281.7	262.3	242.9	223.4	204.0	195.2
75°	287.3	272.6	257.9	243.3	228.6	212.9	196.1	179.3	162.5	145.7	142.6
77.5°	216.9	203.6	190.4	177.1	163.9	151.8	141.0	130.2	119.4	108.6	106.9
80°	171.8	159.3	146.7	134.2	121.7	112.3	105.8	99.4	93.0	86.5	85.6
82.5°	129.0	118.2	107.3	96.4	85.6	78.8	75.7	72.8	69.8	66.8	65.8
85°	72.8	66.1	59.4	52.7	45.9	42.1	41.2	40.3	39.4	38.5	37.9
87.5°	26.5	24.0	21.6	19.2	16.8	15.8	16.1	16.4	16.8	17.1	17.0
90°	0.6	1.8	3.1	4.4	5.7	7.2	8.8	10.5	12.1	13.8	14.3
92.5°	13.9	14.8	15.7	16.6	17.5	18.4	19.3	20.2	21.2	22.1	22.5
95°	34.0	34.8	35.7	36.7	37.6	38.6	39.6	40.6	41.6	42.6	43.1
97.5°	60.4	61.0	61.7	62.4	63.0	63.7	64.4	65.2	65.9	66.8	67.3
100°	78.4	79.1	79.9	80.7	81.4	82.1	82.7	83.4	84.0	84.6	85.0
102.5°	99.1	99.6	100.0	100.5	100.9	101.6	102.4	103.3	104.1	104.9	105.3
105°	129.6	129.9	130.1	130.4	130.7	131.3	132.5	133.6	134.8	135.9	135.9
107.5°	165.1	165.2	165.4	165.5	165.7	166.0	166.4	166.9	167.4	167.8	168.2
110°	187.2	187.4	187.7	187.9	188.2	188.4	188.7	189.0	189.2	189.6	190.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.3	210.4	210.6	210.7	210.9	211.0	211.1	211.1	211.2	211.2	211.8
115°	244.8	245.2	245.6	246.0	246.3	246.4	246.1	245.9	245.6	245.4	245.5
117.5°	279.6	279.8	280.1	280.3	280.6	280.5	280.2	279.9	279.6	279.2	279.2
120°	301.2	302.1	302.8	303.6	304.4	304.4	303.8	303.2	302.5	301.8	301.7
122.5°	323.9	324.4	325.0	325.5	326.1	326.2	325.9	325.6	325.2	324.9	324.6
125°	358.3	358.7	359.0	359.4	359.8	359.9	359.6	359.4	359.1	358.9	358.3
127.5°	390.1	390.9	391.7	392.5	393.3	393.6	393.3	393.0	392.7	392.5	391.8
130°	411.3	412.3	413.3	414.3	415.4	415.7	415.4	415.0	414.5	414.1	413.6
132.5°	432.4	433.5	434.5	435.6	436.6	437.0	436.7	436.4	436.1	435.9	435.2
135°	464.8	465.6	466.4	467.2	467.9	468.3	468.1	468.0	467.9	467.8	467.3
137.5°	494.8	495.4	496.0	496.8	497.4	497.9	498.2	498.5	498.9	499.2	498.7
140°	515.5	516.1	516.8	517.5	518.1	518.5	518.6	518.8	518.9	519.0	518.9
142.5°	534.4	535.0	535.7	536.3	536.9	537.5	537.7	537.9	538.2	538.4	538.3
145°	563.9	564.2	564.4	564.7	564.9	565.2	565.6	566.0	566.4	566.8	566.6
147.5°	589.8	590.2	590.7	591.1	591.6	592.0	592.4	592.7	593.1	593.4	593.4
150°	607.7	607.9	608.2	608.4	608.7	608.9	609.3	609.5	609.8	610.0	610.0
152.5°	622.5	622.8	623.2	623.5	623.9	624.1	624.3	624.4	624.6	624.7	624.9
155°	645.7	645.7	645.7	645.7	645.7	645.8	645.9	646.0	646.2	646.3	646.8
157.5°	665.5	665.4	665.2	665.1	664.9	664.9	665.0	665.1	665.2	665.3	665.8
160°	677.9	677.7	677.4	677.2	676.9	676.8	676.8	676.8	676.8	676.8	677.4
162.5°	689.0	688.6	688.3	687.9	687.6	687.5	687.6	687.7	687.8	687.9	688.5
165°	703.3	703.0	702.6	702.2	701.8	701.6	701.6	701.6	701.6	701.6	702.4
167.5°	714.7	714.2	713.7	713.2	712.7	712.5	712.6	712.7	712.8	712.9	713.7
170°	721.1	720.6	720.1	719.6	719.1	718.8	718.8	718.8	718.8	718.8	719.7
172.5°	726.2	725.7	725.2	724.7	724.2	724.0	724.0	724.0	724.0	724.0	724.8
175°	731.5	731.0	730.5	730.0	729.5	729.2	729.2	729.2	729.2	729.2	730.0
177.5°	733.8	733.4	733.0	732.5	732.1	731.8	731.8	731.8	731.8	731.8	732.5
180°	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1688.0	1690.7	1693.3	1694.5	1693.9	1693.5	1693.0	1692.5
5°	1676.9	1679.6	1682.3	1683.4	1682.8	1682.2	1681.6	1681.0
7.5°	1653.3	1654.8	1656.3	1656.6	1655.5	1654.5	1653.5	1652.3
10°	1632.1	1632.4	1632.7	1632.1	1630.5	1629.0	1627.5	1626.0
12.5°	1605.8	1605.7	1605.5	1604.5	1602.8	1600.9	1599.2	1597.4
15°	1559.7	1558.2	1556.7	1554.8	1552.7	1550.5	1548.4	1546.3
17.5°	1504.6	1501.4	1498.1	1494.9	1491.8	1488.5	1485.4	1482.2
20°	1466.8	1462.9	1459.0	1455.1	1451.5	1447.7	1444.1	1440.5
22.5°	1426.4	1421.5	1416.5	1412.3	1409.0	1405.5	1402.1	1398.7
25°	1360.3	1353.8	1347.5	1342.5	1339.2	1335.8	1332.5	1329.1
27.5°	1288.2	1279.3	1270.3	1263.3	1258.2	1253.0	1247.9	1242.8
30°	1236.9	1226.5	1216.1	1208.5	1203.6	1198.7	1193.8	1188.9
32.5°	1186.5	1175.2	1163.8	1155.6	1150.4	1145.3	1140.1	1135.0
35°	1111.8	1098.6	1085.5	1076.2	1070.8	1065.2	1059.8	1054.2
37.5°	1031.6	1016.6	1001.8	990.9	984.1	977.3	970.6	963.8
40°	975.7	959.9	943.9	932.5	925.4	918.5	911.4	904.4
42.5°	922.2	904.8	887.5	875.7	869.4	863.1	856.8	850.5
45°	843.4	826.1	808.6	796.3	788.9	781.6	774.3	767.0
47.5°	762.0	743.2	724.2	711.4	704.9	698.4	691.9	685.3
50°	707.1	688.1	669.2	656.2	649.2	642.2	635.2	628.1
52.5°	654.0	634.3	614.6	601.6	595.3	589.1	582.8	576.4
55°	574.8	557.1	539.4	527.5	521.4	515.2	509.2	503.0
57.5°	497.1	480.3	463.6	452.6	447.5	442.2	437.1	431.8
60°	448.1	431.6	415.1	404.2	399.1	393.8	388.7	383.4
62.5°	399.4	384.0	368.4	357.9	352.5	347.1	341.6	336.2
65°	330.2	315.2	300.2	291.0	287.7	284.4	281.0	277.6
67.5°	264.1	252.9	241.8	234.3	230.8	227.1	223.5	219.9
70°	223.3	212.6	201.9	194.9	191.5	188.1	184.8	181.5
72.5°	186.5	177.7	169.1	164.0	162.6	161.2	159.8	158.3
75°	139.6	136.5	133.5	131.7	131.1	130.4	129.8	129.2
77.5°	105.3	103.6	102.0	100.9	100.3	99.7	99.1	98.5
80°	84.7	83.8	82.9	82.2	81.6	81.0	80.3	79.7
82.5°	64.9	64.0	63.1	62.6	62.5	62.4	62.2	62.1
85°	37.3	36.7	36.1	35.7	35.7	35.7	35.7	35.7
87.5°	16.8	16.7	16.5	16.4	16.2	16.0	15.8	15.6
90°	14.8	15.3	15.9	16.3	16.6	16.8	17.1	17.3
92.5°	22.9	23.3	23.7	23.9	23.7	23.5	23.4	23.2
95°	43.6	44.1	44.6	44.9	44.9	44.9	44.9	44.9
97.5°	67.9	68.5	69.1	69.3	69.3	69.2	69.2	69.1
100°	85.4	85.8	86.2	86.5	86.7	87.1	87.3	87.6
102.5°	105.7	106.1	106.4	106.6	106.6	106.5	106.5	106.4
105°	135.9	135.9	135.9	136.0	136.3	136.5	136.8	137.1
107.5°	168.6	169.1	169.5	169.7	169.5	169.4	169.2	169.1
110°	190.6	191.1	191.6	191.7	191.5	191.2	191.0	190.7



TEST NUMBER: P332340-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.4	213.0	213.6	213.9	213.9	213.8	213.8	213.7
115°	245.6	245.8	245.9	245.9	245.8	245.6	245.5	245.4
117.5°	279.2	279.1	279.1	278.9	278.6	278.2	277.9	277.5
120°	301.5	301.4	301.3	301.1	300.8	300.6	300.3	300.1
122.5°	324.2	323.9	323.6	323.2	322.9	322.4	322.1	321.7
125°	357.8	357.3	356.8	356.3	355.8	355.3	354.8	354.3
127.5°	391.0	390.3	389.6	389.0	388.4	387.8	387.2	386.6
130°	413.1	412.6	412.1	411.4	410.5	409.6	408.7	407.8
132.5°	434.5	433.9	433.3	432.7	432.0	431.3	430.6	429.9
135°	466.7	466.2	465.6	465.2	465.0	464.7	464.5	464.2
137.5°	498.1	497.6	497.1	496.6	496.0	495.5	495.0	494.5
140°	518.8	518.6	518.5	518.0	517.1	516.1	515.2	514.4
142.5°	538.1	538.0	537.9	537.5	536.7	536.0	535.3	534.6
145°	566.5	566.4	566.3	565.9	565.4	564.9	564.4	563.9
147.5°	593.4	593.4	593.4	593.0	592.3	591.5	590.8	590.0
150°	610.0	610.0	610.0	609.7	608.8	608.0	607.3	606.5
152.5°	625.2	625.4	625.6	625.3	624.7	624.0	623.4	622.7
155°	647.3	647.8	648.3	648.1	647.2	646.3	645.5	644.6
157.5°	666.4	666.9	667.4	667.3	666.6	665.9	665.2	664.5
160°	678.1	678.7	679.3	679.4	678.9	678.4	677.9	677.4
162.5°	689.1	689.8	690.4	690.3	689.5	688.7	687.9	687.1
165°	703.2	703.9	704.7	704.6	703.7	702.8	702.0	701.0
167.5°	714.5	715.3	716.1	716.1	715.3	714.5	713.7	712.9
170°	720.6	721.5	722.5	722.5	721.5	720.6	719.7	718.8
172.5°	725.5	726.3	727.1	727.1	726.2	725.3	724.4	723.5
175°	730.7	731.5	732.4	732.3	731.3	730.4	729.5	728.6
177.5°	733.2	733.8	734.4	734.3	733.6	732.9	732.2	731.4
180°	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3

(END OF REPORT)