

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: P333001-930

Luminaire Tested: **SA4XXRDIP-C1195D810U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P333001-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXRDIP-C1195D810U930-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

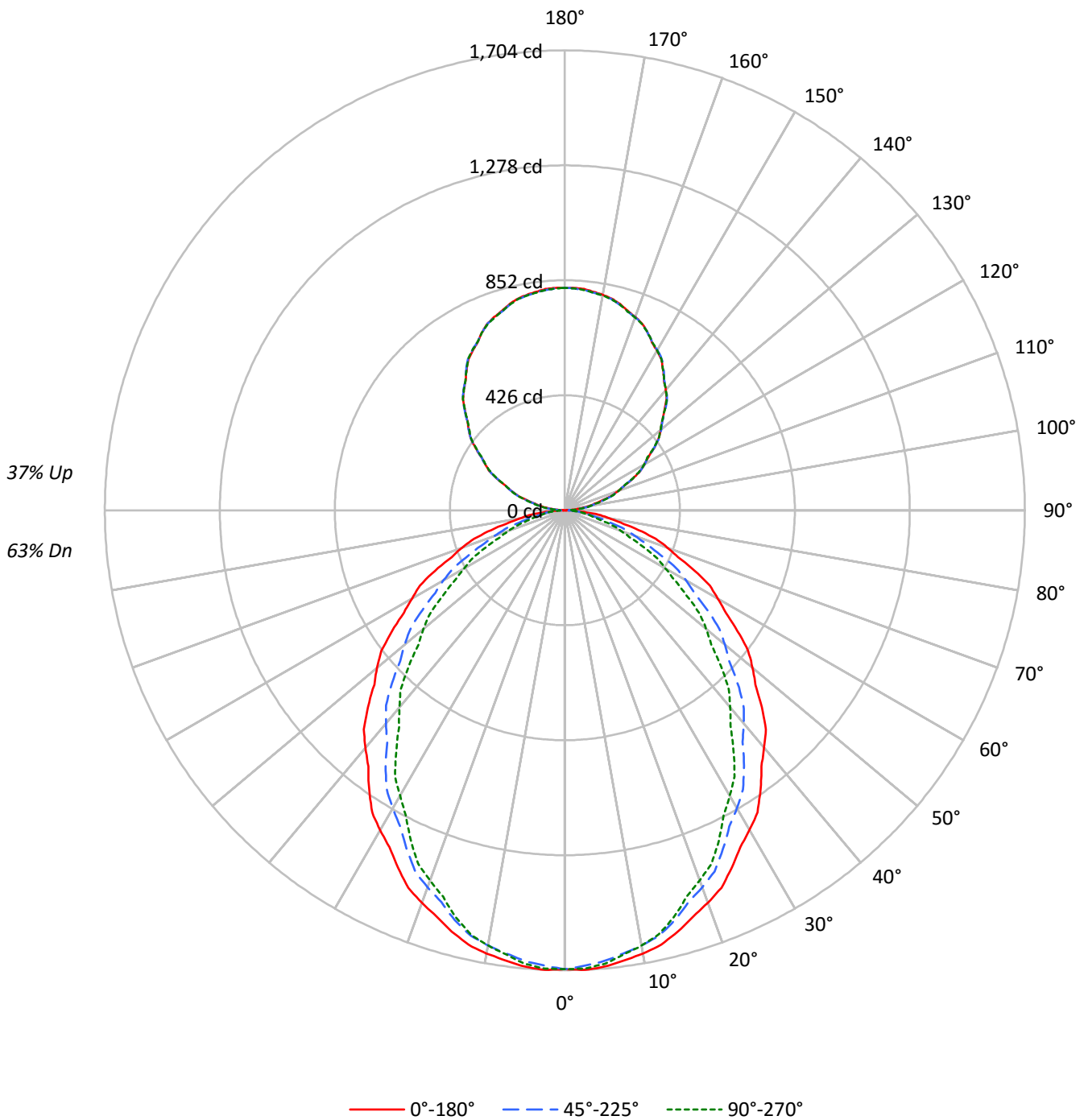
Lumens per Lamp: N/A  
Luminaire Lumens: 6217.3 lumens  
Efficiency: N/A  
Efficacy: 102.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63
1	101	97	93	90	95	91	88	85	80	78	75	70	68	67	61	60	58	54
2	92	85	79	74	86	80	75	70	71	66	63	62	59	56	54	52	50	46
3	84	75	68	62	79	71	64	59	63	57	53	55	51	48	48	45	43	39
4	77	67	59	53	72	63	56	50	56	50	46	49	45	41	43	40	37	34
5	71	60	51	45	67	56	49	43	50	44	40	44	40	36	39	35	32	30
6	66	54	45	40	62	51	43	38	45	39	35	40	35	32	36	32	29	26
7	61	49	41	35	57	46	39	34	41	35	31	37	32	28	33	29	26	23
8	57	44	36	31	53	42	35	30	38	32	28	34	29	25	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	28	24	21	19
10	50	37	30	25	47	36	29	24	32	26	23	29	24	21	26	22	19	17

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13726	13726	13726
5°	13757	13588	13674
10°	13671	13426	13426
15°	13514	13143	13046
20°	13298	12773	12538
25°	13023	12339	12026
30°	12755	11882	11384
35°	12458	11406	10738
40°	12101	10866	10043
45°	11772	10330	9334
50°	11396	9712	8584
55°	10994	9070	7769
60°	10551	8365	6936
65°	10147	7484	6117
70°	9557	6515	5193
75°	8812	5402	4223
80°	7685	4114	3873
85°	6512	3742	3492



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	159.7	2.6
10°-20°	445.4	7.2
20°-30°	643.1	10.3
30°-40°	729.0	11.7
40°-50°	704.0	11.3
50°-60°	585.4	9.4
60°-70°	404.2	6.5
70°-80°	204.9	3.3
80°-90°	55.0	0.9
90°-100°	54.4	0.9
100°-110°	161.0	2.6
110°-120°	273.3	4.4
120°-130°	360.4	5.8
130°-140°	404.7	6.5
140°-150°	397.7	6.4
150°-160°	334.5	5.4
160°-170°	222.6	3.6
170°-180°	77.9	1.3
0°-30°	1248.2	20.1
0°-40°	1977.3	31.8
0°-60°	3266.6	52.5
0°-90°	3930.8	63.2
90°-120°	488.7	7.9
90°-150°	1651.5	26.6
90°-180°	2287.0	36.8
0°-180°	6217.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1700	1700	1700	1700	1700	
5°	1698	1692	1677	1689	1687	161
15°	1617	1604	1573	1570	1561	455
25°	1462	1437	1385	1364	1350	673
35°	1264	1221	1157	1114	1090	790
45°	1031	981	905	843	818	795
55°	781	727	644	579	552	698
65°	531	474	392	338	320	524
75°	282	234	173	144	135	298
85°	70	46	40	38	38	79
90°	2	9	14	18	19	6
95°	38	44	48	50	50	43
105°	148	149	152	154	156	158
115°	278	278	277	276	275	274
125°	405	405	404	403	402	361
135°	522	526	526	524	523	404
145°	634	637	637	637	635	397
155°	727	727	726	728	726	334
165°	791	789	788	791	789	223
175°	823	820	819	823	819	78
180°	824	824	824	824	824	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1704.4	1703.5	1702.6	1701.6	1700.7	1699.0	1696.5	1693.9	1691.3	1688.8	1691.3
5°	1697.6	1696.5	1695.3	1694.2	1693.1	1690.7	1687.3	1683.8	1680.3	1676.8	1679.7
7.5°	1682.3	1681.1	1679.8	1678.6	1677.4	1674.5	1670.1	1665.6	1661.0	1656.5	1658.4
10°	1667.7	1666.2	1664.8	1663.4	1661.9	1658.6	1653.4	1648.2	1643.0	1637.8	1638.9
12.5°	1648.9	1647.3	1645.6	1643.9	1642.3	1638.3	1632.2	1626.1	1619.9	1613.8	1614.5
15°	1616.9	1614.3	1611.8	1609.2	1606.5	1601.6	1594.4	1587.1	1579.9	1572.6	1572.1
17.5°	1578.2	1574.3	1570.6	1566.8	1563.1	1556.9	1548.2	1539.5	1530.8	1522.2	1520.5
20°	1547.9	1544.2	1540.4	1536.7	1532.9	1526.1	1516.3	1506.4	1496.6	1486.8	1484.4
22.5°	1514.6	1510.4	1506.2	1501.9	1497.7	1490.4	1479.8	1469.3	1458.7	1448.2	1444.7
25°	1462.0	1456.8	1451.6	1446.4	1441.2	1432.6	1420.8	1408.9	1397.1	1385.2	1380.3
27.5°	1406.8	1400.3	1393.8	1387.2	1380.6	1371.1	1358.4	1345.7	1333.0	1320.4	1314.3
30°	1368.3	1361.1	1353.8	1346.5	1339.4	1328.9	1315.3	1301.7	1288.2	1274.6	1267.3
32.5°	1327.6	1319.5	1311.3	1303.2	1295.0	1283.9	1269.8	1255.8	1241.7	1227.7	1219.3
35°	1264.1	1254.8	1245.6	1236.3	1227.1	1215.2	1200.8	1186.3	1171.8	1157.4	1147.5
37.5°	1196.2	1186.6	1177.0	1167.5	1158.0	1145.2	1129.2	1113.1	1097.1	1081.1	1070.1
40°	1148.3	1138.7	1129.2	1119.7	1110.0	1097.1	1080.6	1064.0	1047.6	1031.1	1019.0
42.5°	1102.4	1092.4	1082.4	1072.4	1062.4	1048.8	1031.6	1014.4	997.3	980.1	967.7
45°	1031.1	1020.3	1009.7	999.0	988.3	974.2	956.9	939.6	922.2	904.8	890.6
47.5°	957.4	946.3	935.3	924.2	913.2	898.6	880.6	862.5	844.5	826.5	811.7
50°	907.4	896.1	884.8	873.6	862.3	847.3	828.8	810.3	791.8	773.3	758.9
52.5°	856.4	845.3	834.3	823.2	812.2	797.1	778.2	759.2	740.2	721.2	706.5
55°	781.1	769.6	758.0	746.4	734.8	719.7	700.8	682.1	663.2	644.4	629.4
57.5°	706.6	694.6	682.6	670.6	658.5	643.3	624.8	606.2	587.7	569.2	553.9
60°	653.5	642.0	630.4	618.8	607.2	592.2	573.7	555.2	536.6	518.1	503.1
62.5°	605.6	593.6	581.6	569.6	557.5	542.0	523.0	504.0	485.0	466.1	452.2
65°	531.2	518.7	506.3	493.8	481.4	465.9	447.4	428.9	410.4	391.8	379.4
67.5°	453.8	441.9	430.0	418.1	406.2	391.6	374.4	357.3	340.1	322.9	312.2
70°	404.9	392.7	380.6	368.4	356.3	341.9	325.5	309.0	292.5	276.0	266.4
72.5°	352.8	341.9	330.8	319.8	308.8	295.5	280.0	264.4	248.8	233.3	225.1
75°	282.5	271.8	261.1	250.4	239.7	227.6	213.9	200.3	186.8	173.2	166.5
77.5°	211.2	202.1	193.0	183.9	174.8	164.8	153.8	142.8	131.8	120.8	116.9
80°	165.3	156.9	148.5	140.1	131.8	123.3	114.5	105.9	97.2	88.5	87.6
82.5°	125.8	118.1	110.4	102.6	95.0	88.6	83.6	78.7	73.7	68.7	68.1
85°	70.3	64.5	58.7	52.9	47.1	43.9	43.0	42.1	41.3	40.4	39.8
87.5°	24.4	22.8	21.3	19.7	18.2	17.4	17.4	17.4	17.4	17.4	17.3
90°	1.9	3.5	5.1	6.6	8.2	9.5	10.6	11.7	12.9	14.0	14.8
92.5°	13.6	15.4	17.2	19.0	20.8	22.1	22.8	23.6	24.5	25.3	25.8
95°	38.2	39.5	40.8	42.1	43.4	44.5	45.5	46.5	47.5	48.4	48.8
97.5°	66.8	67.8	68.8	69.9	70.8	72.0	73.1	74.3	75.4	76.6	77.1
100°	89.3	89.8	90.3	90.9	91.5	92.5	93.7	95.0	96.2	97.5	97.8
102.5°	112.7	112.9	113.2	113.4	113.6	114.3	115.4	116.6	117.8	119.0	119.4
105°	148.5	148.6	148.8	149.0	149.1	149.4	150.0	150.6	151.2	151.7	152.1
107.5°	186.1	186.3	186.5	186.6	186.8	186.9	187.0	187.1	187.2	187.3	187.7
110°	211.7	211.9	212.1	212.5	212.7	212.8	212.7	212.5	212.4	212.2	212.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	238.1	238.1	238.2	238.3	238.4	238.2	238.0	237.7	237.5	237.3	237.2
115°	277.9	277.9	277.9	277.9	277.9	277.8	277.4	277.2	276.9	276.6	276.5
117.5°	315.4	315.5	315.6	315.7	315.8	315.8	315.6	315.4	315.2	315.0	314.5
120°	340.4	341.0	341.5	342.1	342.7	342.7	342.3	341.9	341.4	341.0	340.3
122.5°	366.4	366.6	366.8	367.0	367.3	367.3	367.1	366.9	366.7	366.5	366.0
125°	404.7	404.7	404.7	404.7	404.7	404.6	404.6	404.4	404.2	404.1	403.8
127.5°	439.5	439.9	440.4	440.8	441.2	441.3	441.1	440.9	440.7	440.4	440.2
130°	464.0	464.5	464.9	465.3	465.7	465.9	465.9	465.9	465.9	465.9	465.6
132.5°	489.0	489.3	489.7	489.9	490.2	490.3	490.2	490.2	490.0	489.9	489.6
135°	522.0	522.9	523.7	524.6	525.5	525.9	525.9	525.9	525.9	525.9	525.5
137.5°	558.0	558.4	558.7	559.1	559.5	559.9	560.1	560.4	560.5	560.8	560.4
140°	582.0	582.2	582.5	582.8	583.1	583.2	583.2	583.2	583.2	583.2	583.1
142.5°	603.9	604.1	604.5	604.7	605.0	605.1	605.0	604.9	604.7	604.6	604.6
145°	634.2	634.8	635.4	635.9	636.5	636.8	637.0	637.1	637.2	637.4	637.2
147.5°	664.3	665.0	665.6	666.3	667.0	667.3	667.2	667.1	666.9	666.8	666.8
150°	682.7	683.2	683.8	684.4	684.9	685.2	685.2	685.2	685.2	685.2	685.2
152.5°	700.0	700.3	700.7	701.0	701.3	701.6	701.6	701.8	701.9	702.1	702.4
155°	726.6	726.6	726.6	726.6	726.6	726.5	726.4	726.3	726.1	726.0	726.5
157.5°	749.1	748.8	748.5	748.3	748.0	747.9	747.9	747.9	747.8	747.8	748.2
160°	762.3	762.1	762.1	761.9	761.7	761.6	761.5	761.3	761.2	761.1	761.5
162.5°	774.5	774.2	773.8	773.5	773.1	772.8	772.7	772.6	772.4	772.3	773.1
165°	791.0	790.6	790.2	789.7	789.3	789.0	788.6	788.4	788.1	787.8	788.6
167.5°	803.6	803.0	802.4	801.8	801.3	801.0	801.0	801.0	801.0	801.0	801.9
170°	810.7	810.1	809.3	808.6	808.0	807.6	807.8	808.0	808.0	808.2	809.0
172.5°	815.9	815.3	814.6	814.1	813.5	813.2	813.3	813.3	813.3	813.3	814.2
175°	822.9	822.1	821.4	820.8	820.0	819.6	819.5	819.3	819.2	819.0	820.0
177.5°	825.2	824.6	824.0	823.5	822.9	822.6	822.6	822.6	822.6	822.6	823.4
180°	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1693.9	1696.5	1699.0	1700.1	1699.9	1699.7	1699.4	1699.2
5°	1682.6	1685.5	1688.4	1689.5	1689.0	1688.4	1687.8	1687.3
7.5°	1660.2	1662.1	1663.9	1664.4	1663.5	1662.6	1661.6	1660.7
10°	1640.1	1641.2	1642.4	1642.4	1641.2	1640.1	1638.9	1637.8
12.5°	1615.2	1615.9	1616.6	1616.1	1614.5	1612.9	1611.3	1609.6
15°	1571.5	1570.9	1570.3	1569.0	1567.0	1565.0	1563.0	1561.0
17.5°	1518.9	1517.3	1515.6	1513.4	1510.3	1507.2	1504.1	1501.0
20°	1482.1	1479.8	1477.5	1474.5	1470.7	1467.0	1463.1	1459.4
22.5°	1441.3	1437.8	1434.4	1431.1	1428.0	1424.9	1421.9	1418.8
25°	1375.3	1370.4	1365.5	1361.6	1358.7	1355.8	1352.9	1350.1
27.5°	1308.2	1302.1	1296.1	1290.9	1286.8	1282.6	1278.5	1274.3
30°	1260.0	1252.9	1245.6	1239.7	1235.0	1230.4	1225.8	1221.2
32.5°	1210.9	1202.5	1194.1	1187.7	1183.3	1178.9	1174.5	1170.1
35°	1137.7	1127.9	1118.0	1110.5	1105.3	1100.1	1094.9	1089.6
37.5°	1059.1	1048.1	1037.1	1029.0	1023.8	1018.6	1013.4	1008.2
40°	1006.8	994.7	982.5	973.8	968.6	963.4	958.2	953.0
42.5°	955.3	942.9	930.5	921.6	916.2	910.8	905.3	899.8
45°	876.4	862.3	848.1	838.4	833.2	828.0	822.8	817.6
47.5°	797.0	782.4	767.7	757.4	751.7	746.0	740.2	734.5
50°	744.4	729.9	715.4	705.5	700.0	694.5	689.0	683.5
52.5°	691.9	677.2	662.4	652.2	646.5	640.8	635.0	629.3
55°	614.3	599.3	584.2	574.0	568.5	563.0	557.5	552.0
57.5°	538.7	523.3	508.1	498.4	494.2	490.0	485.8	481.7
60°	488.0	473.0	458.0	448.2	443.5	438.9	434.2	429.6
62.5°	438.3	424.4	410.5	401.7	398.0	394.4	390.6	386.9
65°	367.0	354.6	342.1	334.1	330.7	327.2	323.8	320.2
67.5°	301.5	290.7	280.1	272.8	269.0	265.1	261.3	257.5
70°	256.9	247.4	237.8	231.6	228.7	225.8	222.9	220.0
72.5°	217.0	208.8	200.6	195.3	192.6	190.0	187.3	184.6
75°	159.9	153.2	146.5	142.4	140.6	138.8	137.1	135.4
77.5°	113.1	109.2	105.3	103.1	102.6	102.1	101.6	101.0
80°	86.8	85.9	85.0	84.5	84.2	83.9	83.6	83.3
82.5°	67.5	66.9	66.2	65.7	65.5	65.1	64.9	64.6
85°	39.2	38.6	38.1	37.7	37.7	37.7	37.7	37.7
87.5°	17.3	17.2	17.1	17.3	17.5	17.9	18.1	18.4
90°	15.7	16.6	17.4	18.0	18.3	18.6	18.8	19.2
92.5°	26.3	26.7	27.3	27.6	27.8	28.0	28.1	28.3
95°	49.3	49.7	50.1	50.4	50.4	50.4	50.4	50.4
97.5°	77.6	78.1	78.7	78.9	78.9	78.9	78.9	78.9
100°	98.1	98.4	98.7	98.8	98.8	98.8	98.8	98.8
102.5°	119.8	120.1	120.5	120.7	120.9	121.0	121.2	121.2
105°	152.5	153.0	153.4	153.8	154.3	154.7	155.1	155.6
107.5°	188.1	188.4	188.8	189.1	189.0	189.0	189.0	188.9
110°	211.7	211.4	211.1	211.2	211.7	212.1	212.5	212.9





TEST NUMBER: P333001-930

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.1	237.1	237.0	237.0	237.1	237.2	237.3	237.3
115°	276.3	276.2	276.1	275.9	275.8	275.7	275.5	275.3
117.5°	314.1	313.6	313.1	312.7	312.4	312.1	311.9	311.5
120°	339.6	338.8	338.2	337.9	338.3	338.5	338.8	339.1
122.5°	365.5	365.1	364.6	364.1	363.5	363.1	362.6	362.1
125°	403.6	403.2	403.0	402.7	402.4	402.1	401.9	401.5
127.5°	439.9	439.6	439.3	439.0	438.8	438.6	438.4	438.1
130°	465.4	465.0	464.8	464.4	463.8	463.3	462.7	462.1
132.5°	489.3	489.0	488.8	488.5	488.3	488.0	487.8	487.6
135°	525.3	525.0	524.7	524.3	523.9	523.5	523.1	522.7
137.5°	560.0	559.7	559.3	559.1	559.2	559.3	559.4	559.5
140°	582.9	582.8	582.6	582.5	582.4	582.2	582.0	582.0
142.5°	604.5	604.5	604.5	604.5	604.5	604.5	604.4	604.4
145°	637.1	637.0	636.8	636.5	636.1	635.7	635.3	634.9
147.5°	666.6	666.5	666.3	666.3	666.1	665.9	665.9	665.7
150°	685.2	685.2	685.2	685.1	685.0	684.9	684.7	684.5
152.5°	702.7	703.0	703.4	703.4	703.0	702.6	702.3	701.9
155°	727.1	727.7	728.2	728.2	727.7	727.1	726.5	726.0
157.5°	748.6	749.1	749.5	749.4	749.0	748.5	748.0	747.5
160°	761.9	762.3	762.7	762.6	761.9	761.2	760.5	759.8
162.5°	773.8	774.5	775.3	775.3	774.6	774.0	773.2	772.5
165°	789.5	790.4	791.2	791.3	790.8	790.2	789.6	789.1
167.5°	802.7	803.6	804.5	804.5	803.6	802.7	801.8	801.0
170°	809.9	810.7	811.6	811.5	810.6	809.6	808.5	807.6
172.5°	815.2	816.2	817.2	817.2	816.2	815.1	814.2	813.2
175°	821.0	822.0	823.0	823.0	822.0	821.0	820.0	819.0
177.5°	824.2	825.0	825.8	825.7	824.8	823.9	823.0	822.1
180°	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1

(END OF REPORT)