

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: P333001-927

Luminaire Tested: **SA4XXRDIP-C1195D810U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P333001-927
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-C1195D810U927-4F0-1E-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: 6041.0 lumens
Efficiency: N/A
Efficacy: 99.5 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

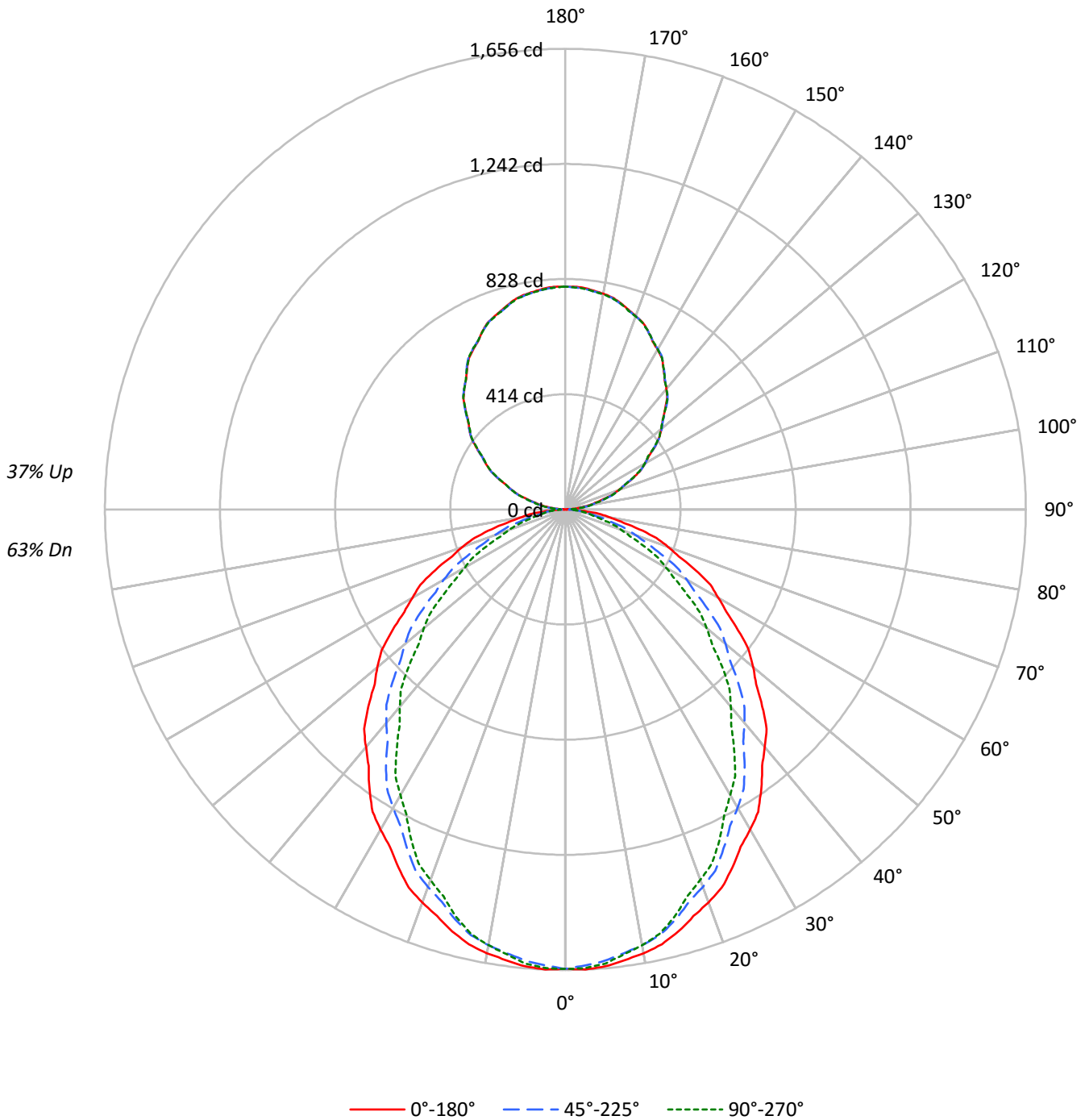
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	13337	13337	13337
5°	13367	13203	13285
10°	13283	13045	13045
15°	13131	12771	12676
20°	12921	12411	12182
25°	12653	11989	11685
30°	12393	11544	11060
35°	12105	11083	10435
40°	11758	10559	9759
45°	11439	10038	9070
50°	11074	9437	8341
55°	10683	8812	7548
60°	10253	8128	6739
65°	9859	7272	5945
70°	9286	6331	5046
75°	8562	5250	4105
80°	7471	3998	3766
85°	6326	3631	3399



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.2	2.6
10°-20°	432.8	7.2
20°-30°	624.9	10.3
30°-40°	708.3	11.7
40°-50°	684.0	11.3
50°-60°	568.8	9.4
60°-70°	392.8	6.5
70°-80°	199.1	3.3
80°-90°	53.5	0.9
90°-100°	52.8	0.9
100°-110°	156.5	2.6
110°-120°	265.6	4.4
120°-130°	350.2	5.8
130°-140°	393.3	6.5
140°-150°	386.4	6.4
150°-160°	325.0	5.4
160°-170°	216.2	3.6
170°-180°	75.7	1.3
0°-30°	1212.9	20.1
0°-40°	1921.2	31.8
0°-60°	3174.0	52.5
0°-90°	3819.3	63.2
90°-120°	474.9	7.9
90°-150°	1604.7	26.6
90°-180°	2222.0	36.8
0°-180°	6041.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1652	1652	1652	1652	1652	
5°	1650	1644	1629	1641	1639	156
15°	1571	1559	1528	1525	1517	442
25°	1420	1396	1346	1325	1312	654
35°	1228	1186	1125	1083	1059	767
45°	1002	953	879	819	794	772
55°	759	707	626	563	536	679
65°	516	460	381	328	311	509
75°	274	227	168	140	132	290
85°	68	44	39	37	37	77
90°	2	9	14	17	19	6
95°	37	43	47	49	49	41
105°	144	145	147	149	151	153
115°	270	270	269	268	268	266
125°	393	393	393	391	390	350
135°	507	511	511	510	508	392
145°	616	619	619	619	617	386
155°	706	706	705	708	705	325
165°	769	767	766	769	767	217
175°	800	797	796	800	796	76
180°	801	801	801	801	801	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1656.1	1655.2	1654.3	1653.4	1652.5	1650.8	1648.4	1645.8	1643.4	1640.9	1643.4
5°	1649.5	1648.4	1647.3	1646.2	1645.0	1642.7	1639.4	1636.0	1632.7	1629.3	1632.1
7.5°	1634.6	1633.4	1632.2	1631.0	1629.8	1627.1	1622.7	1618.3	1613.9	1609.6	1611.4
10°	1620.4	1619.0	1617.6	1616.2	1614.8	1611.5	1606.5	1601.5	1596.4	1591.3	1592.4
12.5°	1602.2	1600.6	1598.9	1597.3	1595.7	1591.9	1585.9	1580.0	1574.0	1568.0	1568.8
15°	1571.1	1568.5	1566.1	1563.5	1561.0	1556.2	1549.2	1542.1	1535.1	1528.0	1527.5
17.5°	1533.4	1529.7	1526.1	1522.4	1518.8	1512.8	1504.3	1495.9	1487.4	1479.0	1477.4
20°	1504.0	1500.4	1496.7	1493.1	1489.5	1482.8	1473.3	1463.7	1454.1	1444.6	1442.3
22.5°	1471.6	1467.6	1463.5	1459.4	1455.2	1448.1	1437.8	1427.6	1417.4	1407.2	1403.7
25°	1420.5	1415.5	1410.4	1405.4	1400.3	1392.0	1380.5	1369.0	1357.5	1345.9	1341.2
27.5°	1366.9	1360.6	1354.2	1347.9	1341.5	1332.2	1319.9	1307.6	1295.2	1282.9	1277.0
30°	1329.5	1322.5	1315.4	1308.4	1301.4	1291.3	1278.0	1264.8	1251.6	1238.4	1231.4
32.5°	1290.0	1282.1	1274.1	1266.2	1258.3	1247.5	1233.8	1220.2	1206.5	1192.9	1184.7
35°	1228.3	1219.2	1210.3	1201.3	1192.3	1180.7	1166.7	1152.7	1138.6	1124.6	1115.0
37.5°	1162.3	1152.9	1143.7	1134.4	1125.1	1112.7	1097.2	1081.6	1066.0	1050.4	1039.7
40°	1115.7	1106.4	1097.2	1087.9	1078.6	1066.0	1050.0	1033.9	1017.9	1001.9	990.1
42.5°	1071.2	1061.4	1051.7	1042.0	1032.3	1019.1	1002.3	985.6	969.0	952.3	940.2
45°	1001.9	991.4	981.0	970.7	960.3	946.6	929.8	912.9	896.0	879.2	865.4
47.5°	930.3	919.5	908.8	898.0	887.3	873.1	855.6	838.0	820.5	803.0	788.7
50°	881.7	870.7	859.8	848.8	837.8	823.3	805.3	787.3	769.4	751.4	737.4
52.5°	832.1	821.3	810.6	799.9	789.2	774.5	756.1	737.7	719.2	700.8	686.5
55°	759.0	747.7	736.5	725.2	714.0	699.3	681.0	662.7	644.4	626.1	611.6
57.5°	686.6	674.9	663.2	651.6	639.8	625.0	607.0	589.0	571.0	553.0	538.2
60°	635.0	623.8	612.5	601.3	590.0	575.4	557.5	539.5	521.4	503.4	488.9
62.5°	588.4	576.8	565.1	553.4	541.7	526.6	508.2	489.7	471.3	452.9	439.3
65°	516.1	504.0	491.9	479.8	467.8	452.7	434.7	416.8	398.8	380.7	368.7
67.5°	440.9	429.4	417.8	406.2	394.7	380.5	363.8	347.1	330.4	313.7	303.3
70°	393.4	381.6	369.8	358.0	346.2	332.2	316.2	300.2	284.2	268.2	258.9
72.5°	342.8	332.2	321.5	310.8	300.1	287.2	272.0	256.9	241.8	226.6	218.7
75°	274.5	264.1	253.7	243.3	232.9	221.1	207.9	194.6	181.5	168.3	161.8
77.5°	205.2	196.4	187.5	178.7	169.8	160.1	149.4	138.8	128.1	117.4	113.6
80°	160.7	152.5	144.3	136.2	128.0	119.8	111.3	102.9	94.4	86.0	85.2
82.5°	122.2	114.7	107.3	99.7	92.3	86.1	81.3	76.4	71.6	66.8	66.1
85°	68.3	62.7	57.0	51.4	45.8	42.6	41.7	40.9	40.1	39.2	38.7
87.5°	23.7	22.2	20.7	19.2	17.7	16.9	16.9	16.9	16.9	16.9	16.8
90°	1.8	3.4	4.9	6.4	7.9	9.2	10.3	11.4	12.5	13.6	14.4
92.5°	13.2	15.0	16.7	18.5	20.2	21.5	22.2	23.0	23.8	24.6	25.0
95°	37.2	38.4	39.6	40.9	42.1	43.3	44.2	45.2	46.1	47.1	47.5
97.5°	64.9	65.9	66.9	67.9	68.8	69.9	71.1	72.2	73.3	74.5	74.9
100°	86.7	87.2	87.8	88.3	88.9	89.8	91.0	92.3	93.5	94.7	95.1
102.5°	109.5	109.7	110.0	110.2	110.4	111.1	112.2	113.3	114.5	115.6	116.0
105°	144.3	144.4	144.6	144.7	144.9	145.2	145.8	146.3	146.9	147.4	147.8
107.5°	180.9	181.0	181.2	181.3	181.5	181.6	181.7	181.8	181.9	182.0	182.4
110°	205.7	205.9	206.1	206.4	206.7	206.8	206.7	206.5	206.4	206.2	206.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	231.4	231.4	231.5	231.6	231.6	231.5	231.2	231.0	230.8	230.5	230.4
115°	270.1	270.1	270.1	270.1	270.1	269.9	269.6	269.3	269.0	268.8	268.6
117.5°	306.4	306.6	306.7	306.7	306.9	306.8	306.7	306.4	306.3	306.1	305.6
120°	330.7	331.3	331.8	332.4	333.0	333.0	332.6	332.2	331.8	331.4	330.7
122.5°	356.0	356.2	356.4	356.6	356.9	356.9	356.7	356.5	356.3	356.1	355.6
125°	393.2	393.2	393.2	393.2	393.2	393.2	393.1	392.9	392.8	392.7	392.4
127.5°	427.1	427.5	427.9	428.3	428.7	428.8	428.6	428.4	428.2	427.9	427.7
130°	450.8	451.3	451.7	452.1	452.5	452.7	452.7	452.7	452.7	452.7	452.4
132.5°	475.2	475.5	475.8	476.0	476.3	476.4	476.3	476.3	476.1	476.0	475.7
135°	507.2	508.0	508.9	509.7	510.6	511.0	511.0	511.0	511.0	511.0	510.6
137.5°	542.2	542.6	542.9	543.3	543.7	544.0	544.2	544.5	544.6	544.9	544.5
140°	565.5	565.7	566.0	566.3	566.6	566.6	566.6	566.6	566.6	566.6	566.6
142.5°	586.8	587.0	587.3	587.6	587.9	588.0	587.8	587.7	587.6	587.5	587.5
145°	616.2	616.8	617.3	617.9	618.5	618.8	618.9	619.0	619.2	619.3	619.2
147.5°	645.5	646.1	646.7	647.5	648.1	648.4	648.2	648.2	648.0	647.9	647.8
150°	663.3	663.8	664.4	665.0	665.5	665.7	665.7	665.7	665.7	665.7	665.7
152.5°	680.2	680.5	680.8	681.1	681.4	681.7	681.8	681.9	682.0	682.1	682.5
155°	706.0	706.0	706.0	706.0	706.0	705.9	705.8	705.7	705.5	705.4	705.9
157.5°	727.9	727.5	727.3	727.1	726.8	726.7	726.7	726.7	726.6	726.6	727.0
160°	740.7	740.5	740.5	740.3	740.1	740.0	739.9	739.7	739.6	739.5	739.9
162.5°	752.6	752.3	751.9	751.5	751.1	750.9	750.8	750.7	750.5	750.4	751.1
165°	768.6	768.2	767.8	767.3	766.9	766.6	766.3	766.0	765.7	765.5	766.3
167.5°	780.9	780.2	779.7	779.1	778.6	778.2	778.2	778.3	778.3	778.3	779.2
170°	787.7	787.1	786.4	785.7	785.1	784.7	784.9	785.1	785.1	785.3	786.1
172.5°	792.7	792.2	791.5	791.0	790.4	790.1	790.2	790.2	790.2	790.3	791.2
175°	799.5	798.8	798.1	797.5	796.8	796.4	796.2	796.1	796.0	795.8	796.8
177.5°	801.8	801.2	800.7	800.1	799.5	799.3	799.3	799.3	799.3	799.3	800.0
180°	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1645.8	1648.4	1650.8	1651.9	1651.7	1651.5	1651.2	1651.1
5°	1634.9	1637.7	1640.5	1641.6	1641.1	1640.5	1640.0	1639.4
7.5°	1613.1	1614.9	1616.8	1617.2	1616.3	1615.4	1614.5	1613.6
10°	1593.6	1594.7	1595.9	1595.9	1594.7	1593.6	1592.4	1591.3
12.5°	1569.4	1570.1	1570.7	1570.3	1568.8	1567.2	1565.6	1564.0
15°	1526.9	1526.4	1525.8	1524.6	1522.6	1520.6	1518.7	1516.7
17.5°	1475.8	1474.3	1472.7	1470.4	1467.4	1464.4	1461.5	1458.5
20°	1440.1	1437.8	1435.6	1432.7	1429.0	1425.4	1421.7	1418.0
22.5°	1400.4	1397.0	1393.7	1390.5	1387.5	1384.5	1381.6	1378.6
25°	1336.3	1331.6	1326.8	1323.0	1320.2	1317.4	1314.5	1311.8
27.5°	1271.1	1265.2	1259.3	1254.3	1250.3	1246.3	1242.2	1238.2
30°	1224.3	1217.3	1210.3	1204.5	1200.0	1195.6	1191.0	1186.5
32.5°	1176.5	1168.4	1160.2	1154.1	1149.8	1145.5	1141.2	1136.9
35°	1105.4	1095.9	1086.3	1079.0	1074.0	1068.9	1063.8	1058.8
37.5°	1029.0	1018.4	1007.7	999.8	994.7	989.7	984.7	979.6
40°	978.3	966.5	954.7	946.2	941.1	936.0	931.1	926.0
42.5°	928.2	916.2	904.1	895.5	890.2	884.9	879.6	874.3
45°	851.6	837.8	824.0	814.6	809.6	804.5	799.5	794.4
47.5°	774.4	760.2	745.9	735.9	730.4	724.8	719.2	713.7
50°	723.3	709.2	695.1	685.5	680.2	674.8	669.5	664.1
52.5°	672.2	658.0	643.6	633.7	628.2	622.7	617.0	611.5
55°	596.9	582.3	567.7	557.7	552.4	547.0	541.7	536.3
57.5°	523.4	508.5	493.7	484.3	480.2	476.1	472.1	468.0
60°	474.2	459.6	445.0	435.5	430.9	426.4	421.9	417.4
62.5°	425.9	412.4	398.9	390.3	386.7	383.2	379.5	376.0
65°	356.6	344.5	332.4	324.6	321.3	317.9	314.6	311.2
67.5°	292.9	282.5	272.1	265.1	261.3	257.6	253.9	250.2
70°	249.6	240.3	231.1	225.1	222.2	219.4	216.6	213.8
72.5°	210.8	202.9	195.0	189.7	187.1	184.6	182.0	179.4
75°	155.3	148.9	142.4	138.3	136.7	134.9	133.2	131.6
77.5°	109.9	106.1	102.3	100.2	99.7	99.2	98.7	98.2
80°	84.4	83.5	82.6	82.1	81.8	81.5	81.3	81.0
82.5°	65.6	65.0	64.3	63.8	63.6	63.3	63.1	62.7
85°	38.1	37.5	37.0	36.7	36.7	36.7	36.7	36.7
87.5°	16.8	16.7	16.6	16.8	17.0	17.3	17.6	17.9
90°	15.3	16.1	17.0	17.5	17.7	18.1	18.3	18.6
92.5°	25.5	26.0	26.5	26.9	27.0	27.2	27.3	27.5
95°	47.9	48.3	48.7	49.0	49.0	49.0	49.0	49.0
97.5°	75.4	75.9	76.4	76.7	76.7	76.7	76.7	76.7
100°	95.3	95.6	95.9	96.0	96.0	96.0	96.0	96.0
102.5°	116.4	116.7	117.1	117.3	117.5	117.6	117.7	117.8
105°	148.2	148.6	149.0	149.5	149.9	150.3	150.7	151.1
107.5°	182.8	183.1	183.5	183.7	183.6	183.6	183.6	183.5
110°	205.7	205.4	205.1	205.2	205.7	206.0	206.4	206.8



TEST NUMBER: P333001-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	230.4	230.4	230.3	230.3	230.4	230.4	230.5	230.6
115°	268.5	268.4	268.2	268.1	268.0	267.8	267.7	267.5
117.5°	305.1	304.7	304.2	303.8	303.6	303.2	303.0	302.7
120°	329.9	329.2	328.6	328.4	328.7	328.9	329.2	329.5
122.5°	355.1	354.7	354.3	353.8	353.2	352.8	352.3	351.8
125°	392.1	391.8	391.6	391.3	391.0	390.7	390.5	390.1
127.5°	427.4	427.1	426.8	426.6	426.4	426.2	426.0	425.7
130°	452.2	451.9	451.6	451.2	450.7	450.1	449.6	449.0
132.5°	475.5	475.2	474.9	474.7	474.4	474.2	474.0	473.8
135°	510.4	510.1	509.8	509.5	509.1	508.7	508.3	507.9
137.5°	544.2	543.8	543.4	543.3	543.4	543.4	543.5	543.7
140°	566.4	566.3	566.1	566.0	565.9	565.7	565.5	565.5
142.5°	587.4	587.4	587.4	587.3	587.3	587.3	587.2	587.2
145°	619.0	618.9	618.8	618.5	618.1	617.7	617.3	616.9
147.5°	647.7	647.6	647.5	647.4	647.2	647.1	647.0	646.8
150°	665.7	665.7	665.7	665.7	665.6	665.4	665.3	665.1
152.5°	682.8	683.1	683.4	683.4	683.1	682.7	682.4	682.0
155°	706.5	707.0	707.6	707.6	707.0	706.5	705.9	705.4
157.5°	727.4	727.9	728.3	728.2	727.8	727.3	726.8	726.4
160°	740.3	740.7	741.1	741.0	740.3	739.6	738.9	738.2
162.5°	751.9	752.6	753.4	753.4	752.7	752.0	751.3	750.6
165°	767.1	767.9	768.8	768.9	768.3	767.8	767.2	766.8
167.5°	780.0	780.9	781.6	781.6	780.8	779.9	779.1	778.2
170°	787.0	787.7	788.6	788.5	787.6	786.6	785.6	784.7
172.5°	792.1	793.1	794.0	794.0	793.1	792.0	791.1	790.1
175°	797.7	798.7	799.7	799.7	798.7	797.7	796.8	795.8
177.5°	800.8	801.6	802.4	802.3	801.5	800.6	799.7	798.8
180°	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7

(END OF REPORT)