

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: P331445-840

Luminaire Tested: **SA2XXDIP-C1005D725U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331445-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C1005D725U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

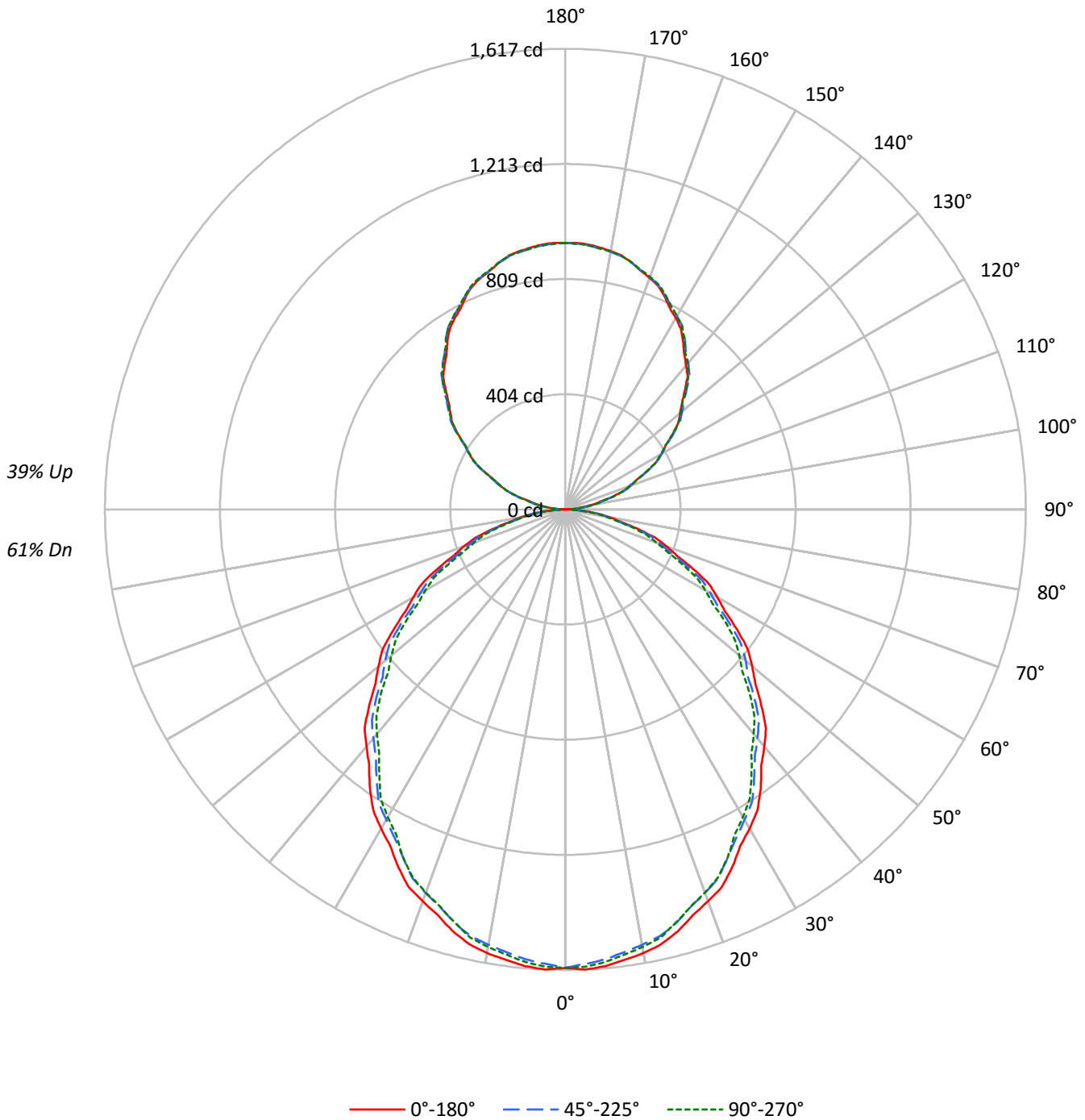
Lumens per Lamp: N/A  
Luminaire Lumens: 6714.2 lumens  
Efficiency: N/A  
Efficacy: 110.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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	89	89	89	77	77	77	66	66	66	61
1	100	96	92	88	94	90	86	83	79	76	74	68	66	64	59	57	56	51
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	49	47	43
3	83	74	66	60	78	69	63	57	61	56	51	53	49	46	46	43	40	36
4	76	65	57	51	71	61	54	49	54	48	44	47	43	39	41	37	35	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	38	34	30	33	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	31	27	24	21
8	56	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21	19
9	52	39	32	27	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	23	19	24	20	17	16

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

	0°	45°	90°
0°	25987	25987	25987
5°	26086	25710	25861
10°	25932	25450	25576
15°	25611	25120	25095
20°	25156	24624	24598
25°	24704	24015	24015
30°	24121	23457	23256
35°	23580	22787	22450
40°	22898	22118	21692
45°	22229	21450	20922
50°	21499	20760	20022
55°	20738	19952	19212
60°	19888	18991	18290
65°	18980	18032	17207
70°	17825	16877	16074
75°	16220	15540	15159
80°	14393	13966	13240
85°	11745	11189	10022



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.3	2.3
10°-20°	425.9	6.3
20°-30°	626.0	9.3
30°-40°	727.1	10.8
40°-50°	726.3	10.8
50°-60°	633.4	9.4
60°-70°	468.3	7.0
70°-80°	265.3	4.0
80°-90°	75.1	1.1
90°-100°	59.3	0.9
100°-110°	184.1	2.7
110°-120°	314.7	4.7
120°-130°	413.8	6.2
130°-140°	464.4	6.9
140°-150°	455.4	6.8
150°-160°	382.0	5.7
160°-170°	253.3	3.8
170°-180°	88.5	1.3
0°-30°	1203.2	17.9
0°-40°	1930.3	28.7
0°-60°	3290.0	49.0
0°-90°	4098.7	61.0
90°-120°	558.0	8.3
90°-150°	1891.7	28.2
90°-180°	2616.0	39.0
0°-180°	6714.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1610	1610	1610	1610	1610	
5°	1610	1603	1586	1598	1596	153
15°	1532	1522	1503	1508	1501	431
25°	1387	1374	1348	1351	1348	638
35°	1196	1180	1156	1147	1139	747
45°	974	962	939	923	916	751
55°	737	727	709	691	682	658
65°	497	487	472	458	450	491
75°	260	257	249	241	243	278
85°	63	62	60	56	54	73
90°	1	11	28	26	27	5
95°	41	49	50	50	49	47
105°	170	172	174	175	175	179
115°	316	320	319	318	316	312
125°	459	466	464	462	461	410
135°	594	603	605	604	602	459
145°	721	727	732	732	729	451
155°	825	827	830	833	831	380
165°	898	897	897	902	898	253
175°	934	932	930	935	931	89
180°	935	935	935	935	935	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1617.0	1615.6	1614.3	1612.9	1611.4	1609.3	1606.3	1603.3	1600.2	1597.2	1599.9
5°	1609.5	1608.2	1606.8	1605.4	1604.1	1601.4	1597.7	1593.9	1590.1	1586.3	1589.1
7.5°	1595.3	1593.2	1591.0	1588.9	1586.8	1583.8	1579.9	1576.1	1572.3	1568.4	1571.1
10°	1581.7	1579.3	1576.9	1574.5	1572.1	1568.8	1564.7	1560.5	1556.4	1552.3	1555.1
12.5°	1563.2	1560.9	1558.8	1556.7	1554.6	1551.5	1547.3	1543.2	1539.1	1535.0	1536.9
15°	1532.2	1530.1	1528.0	1526.0	1523.9	1520.7	1516.2	1511.7	1507.2	1502.8	1504.2
17.5°	1492.6	1490.5	1488.4	1486.3	1484.3	1481.0	1476.4	1471.9	1467.3	1462.9	1464.4
20°	1464.1	1462.0	1460.0	1457.8	1455.8	1452.4	1447.5	1442.8	1437.9	1433.1	1434.1
22.5°	1435.6	1432.7	1429.9	1426.9	1424.0	1420.4	1415.8	1411.3	1406.7	1402.2	1402.4
25°	1386.7	1383.9	1381.2	1378.5	1375.7	1371.4	1365.5	1359.7	1353.8	1348.0	1348.7
27.5°	1331.0	1328.5	1326.1	1323.5	1321.1	1317.6	1312.9	1308.3	1303.7	1299.1	1298.1
30°	1293.8	1291.1	1288.3	1285.6	1282.8	1278.9	1273.7	1268.6	1263.4	1258.2	1257.2
32.5°	1254.3	1252.0	1249.8	1247.6	1245.4	1241.6	1236.2	1230.7	1225.3	1219.8	1218.0
35°	1196.3	1192.9	1189.4	1186.0	1182.6	1178.1	1172.6	1167.1	1161.6	1156.1	1154.1
37.5°	1131.0	1128.0	1125.0	1122.0	1118.9	1114.7	1109.1	1103.7	1098.1	1092.7	1090.0
40°	1086.4	1083.7	1081.0	1078.2	1075.4	1071.4	1065.8	1060.4	1054.8	1049.4	1046.2
42.5°	1043.1	1040.4	1037.6	1034.9	1032.1	1027.9	1022.5	1016.9	1011.5	1005.9	1002.6
45°	973.5	971.1	968.7	966.2	963.8	960.1	954.9	949.8	944.6	939.4	935.6
47.5°	904.1	901.9	899.6	897.4	895.0	891.2	885.9	880.5	875.1	869.8	865.8
50°	855.9	854.1	852.4	850.7	849.0	845.7	840.9	836.1	831.2	826.5	821.6
52.5°	808.8	806.6	804.3	802.0	799.7	796.3	791.7	787.2	782.7	778.2	774.2
55°	736.7	734.6	732.6	730.5	728.4	725.3	721.2	717.1	713.0	708.8	704.7
57.5°	664.3	662.6	661.0	659.3	657.6	654.6	650.1	645.5	641.0	636.4	632.4
60°	615.9	614.6	613.2	611.9	610.5	607.3	602.6	597.7	592.9	588.1	584.3
62.5°	569.0	566.7	564.5	562.3	560.1	557.1	553.4	549.8	546.0	542.3	538.8
65°	496.8	494.7	492.7	490.6	488.6	485.7	482.3	478.9	475.4	472.0	469.0
67.5°	423.4	421.8	420.1	418.5	416.9	414.4	411.3	408.3	405.2	402.1	399.7
70°	377.6	376.3	374.9	373.5	372.1	369.9	366.8	363.7	360.6	357.5	355.1
72.5°	330.5	329.2	327.8	326.5	325.1	323.4	321.4	319.4	317.4	315.4	313.0
75°	260.0	259.3	258.6	257.9	257.2	256.0	254.3	252.6	250.9	249.1	247.1
77.5°	196.8	195.7	194.5	193.4	192.2	191.3	190.6	189.9	189.1	188.5	187.4
80°	154.8	154.4	154.1	153.7	153.4	152.9	152.2	151.5	150.8	150.2	149.1
82.5°	115.1	115.1	115.0	114.9	114.8	114.6	114.2	113.8	113.4	113.0	111.7
85°	63.4	63.1	62.8	62.4	62.1	61.7	61.4	61.0	60.7	60.4	59.3
87.5°	22.4	22.3	22.2	22.0	21.9	22.0	22.2	22.4	22.6	22.8	21.9
90°	0.8	2.9	5.0	7.1	9.2	12.2	16.1	19.9	23.7	27.7	27.3
92.5°	14.0	15.6	17.2	18.7	20.2	21.4	22.3	23.2	24.2	25.1	25.1
95°	41.0	42.8	44.5	46.4	48.1	49.1	49.5	49.8	50.2	50.5	50.5
97.5°	75.0	76.5	78.1	79.6	81.2	82.3	82.9	83.6	84.2	84.9	84.9
100°	100.3	101.7	103.0	104.4	105.8	106.8	107.3	107.9	108.4	109.0	109.0
102.5°	126.7	127.8	129.1	130.2	131.3	132.2	132.8	133.5	134.1	134.8	134.9
105°	169.8	170.3	170.8	171.3	171.8	172.3	172.6	173.0	173.3	173.7	174.0
107.5°	213.0	213.8	214.5	215.3	216.0	216.4	216.4	216.4	216.4	216.4	216.6
110°	240.8	241.8	242.9	243.9	245.0	245.5	245.5	245.5	245.5	245.5	245.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	271.0	272.2	273.2	274.2	275.3	275.7	275.6	275.5	275.3	275.2	274.8
115°	315.8	316.8	317.8	318.9	319.9	320.3	319.9	319.6	319.2	318.9	318.7
117.5°	360.2	361.6	363.0	364.5	365.9	366.1	365.1	364.2	363.1	362.1	361.7
120°	389.9	391.3	392.7	394.2	395.6	395.6	394.2	392.7	391.3	389.9	389.9
122.5°	417.1	418.8	420.5	422.1	423.8	424.1	423.2	422.2	421.2	420.2	419.8
125°	459.4	461.0	462.5	464.1	465.7	466.3	465.7	465.1	464.6	464.1	463.6
127.5°	500.6	502.6	504.6	506.6	508.6	509.3	508.7	508.1	507.4	506.8	506.1
130°	526.5	528.8	531.1	533.3	535.6	536.5	536.2	535.8	535.5	535.2	534.8
132.5°	555.5	557.4	559.3	561.1	563.0	563.9	564.0	564.1	564.1	564.2	563.5
135°	594.4	596.3	598.2	600.2	602.1	603.2	603.6	603.9	604.3	604.6	604.5
137.5°	635.3	636.8	638.4	640.1	641.6	642.6	643.1	643.5	644.0	644.4	644.3
140°	659.9	661.5	663.1	664.6	666.2	667.4	668.3	669.2	670.0	671.0	671.0
142.5°	685.2	686.7	688.3	689.9	691.5	692.6	693.2	693.8	694.4	695.0	695.1
145°	721.4	722.7	724.0	725.2	726.4	727.5	728.6	729.6	730.6	731.7	732.0
147.5°	753.9	755.3	756.8	758.2	759.7	760.8	761.5	762.2	763.0	763.7	764.0
150°	776.0	777.0	778.0	779.1	780.1	781.0	781.7	782.4	783.2	783.9	784.4
152.5°	795.5	796.6	797.6	798.7	799.7	800.6	801.5	802.3	803.1	804.1	804.7
155°	824.9	825.4	826.0	826.5	827.0	827.5	828.0	828.6	829.1	829.6	830.5
157.5°	850.0	850.3	850.7	851.0	851.4	851.7	852.0	852.3	852.6	852.9	854.1
160°	865.2	865.5	865.9	866.2	866.6	866.8	867.0	867.2	867.4	867.5	868.6
162.5°	879.0	879.1	879.2	879.2	879.3	879.4	879.6	879.8	880.0	880.1	881.3
165°	897.5	897.4	897.2	897.0	896.8	896.7	896.7	896.7	896.7	896.7	898.0
167.5°	912.9	912.4	911.9	911.4	910.9	910.6	910.6	910.5	910.5	910.4	911.7
170°	921.2	920.7	920.1	919.6	919.1	918.7	918.6	918.4	918.2	918.0	919.3
172.5°	926.9	926.3	925.8	925.2	924.7	924.4	924.2	924.0	923.9	923.7	924.9
175°	933.8	933.3	932.7	932.2	931.7	931.3	930.9	930.6	930.2	929.9	931.1
177.5°	936.6	936.2	935.8	935.3	934.9	934.6	934.3	934.0	933.7	933.5	934.3
180°	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1602.7	1605.4	1608.2	1609.3	1608.7	1608.2	1607.6	1607.1
5°	1591.9	1594.6	1597.3	1598.4	1597.7	1597.0	1596.3	1595.6
7.5°	1573.9	1576.6	1579.4	1580.4	1579.6	1578.9	1578.1	1577.4
10°	1557.8	1560.5	1563.3	1564.2	1563.2	1562.1	1561.0	1560.0
12.5°	1538.8	1540.8	1542.7	1543.3	1542.5	1541.8	1541.0	1540.2
15°	1505.5	1506.9	1508.2	1508.1	1506.4	1504.7	1503.0	1501.3
17.5°	1466.0	1467.6	1469.2	1469.2	1467.4	1465.8	1464.2	1462.5
20°	1435.2	1436.2	1437.2	1437.0	1435.7	1434.3	1433.0	1431.6
22.5°	1402.6	1402.8	1403.0	1402.7	1401.9	1401.1	1400.2	1399.4
25°	1349.4	1350.1	1350.8	1350.8	1350.1	1349.4	1348.7	1348.0
27.5°	1297.1	1296.0	1294.9	1293.6	1292.0	1290.3	1288.7	1287.1
30°	1256.2	1255.2	1254.2	1252.9	1251.5	1250.1	1248.8	1247.4
32.5°	1216.2	1214.3	1212.4	1210.8	1209.4	1208.1	1206.7	1205.3
35°	1152.0	1149.9	1147.8	1146.0	1144.3	1142.6	1140.7	1139.0
37.5°	1087.5	1085.0	1082.5	1080.4	1078.7	1077.0	1075.4	1073.8
40°	1043.1	1040.1	1036.9	1034.7	1033.3	1032.0	1030.6	1029.2
42.5°	999.3	995.8	992.5	989.9	988.0	986.0	984.1	982.1
45°	931.9	928.1	924.3	921.7	920.3	919.0	917.6	916.3
47.5°	861.8	857.8	853.8	850.8	848.8	846.9	844.9	842.8
50°	816.8	812.0	807.2	804.0	802.2	800.5	798.8	797.1
52.5°	770.2	766.2	762.2	759.1	756.8	754.6	752.2	750.0
55°	700.5	696.4	692.4	689.4	687.7	686.0	684.3	682.5
57.5°	628.2	624.2	620.2	617.4	616.2	614.9	613.6	612.3
60°	580.6	576.7	573.0	570.6	569.6	568.6	567.4	566.4
62.5°	535.3	531.8	528.3	525.8	524.5	523.2	521.9	520.6
65°	465.9	462.7	459.7	457.3	455.6	453.8	452.1	450.4
67.5°	397.3	394.9	392.4	390.5	389.2	387.8	386.5	385.1
70°	352.6	350.3	347.9	346.0	344.6	343.3	341.8	340.5
72.5°	310.6	308.2	305.8	304.1	303.0	301.8	300.7	299.6
75°	245.1	243.0	241.0	240.2	241.0	241.6	242.3	243.0
77.5°	186.4	185.4	184.4	183.4	182.4	181.5	180.5	179.6
80°	148.0	147.0	146.0	145.1	144.4	143.8	143.1	142.4
82.5°	110.4	109.1	107.8	107.0	106.8	106.7	106.6	106.4
85°	58.3	57.3	56.2	55.5	55.2	54.8	54.5	54.1
87.5°	21.1	20.2	19.3	18.7	18.5	18.3	18.0	17.8
90°	27.0	26.6	26.3	26.2	26.4	26.5	26.7	26.9
92.5°	25.2	25.3	25.3	25.4	25.4	25.5	25.5	25.5
95°	50.5	50.5	50.5	50.4	50.0	49.7	49.3	49.0
97.5°	84.9	84.9	84.9	84.9	84.9	84.8	84.8	84.7
100°	109.0	109.0	109.0	108.9	108.7	108.5	108.4	108.2
102.5°	135.1	135.2	135.4	135.3	135.2	135.0	134.8	134.6
105°	174.4	174.7	175.1	175.2	175.2	175.2	175.2	175.2
107.5°	216.7	216.8	217.0	216.7	215.9	215.1	214.3	213.5
110°	245.5	245.5	245.5	245.2	244.7	244.2	243.7	243.1





TEST NUMBER: P331445-840

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	274.3	273.9	273.5	273.1	272.7	272.3	272.0	271.6
115°	318.5	318.4	318.2	317.8	317.3	316.8	316.3	315.8
117.5°	361.3	360.9	360.4	360.0	359.5	358.9	358.4	357.9
120°	389.9	389.9	389.9	389.7	389.1	388.6	388.1	387.6
122.5°	419.4	419.0	418.6	418.2	417.8	417.4	417.0	416.7
125°	463.1	462.5	462.0	461.7	461.5	461.3	461.2	461.0
127.5°	505.5	504.8	504.2	503.6	503.1	502.5	502.0	501.4
130°	534.5	534.1	533.8	533.2	532.5	531.9	531.2	530.5
132.5°	562.7	561.9	561.2	560.5	559.9	559.4	558.8	558.3
135°	604.3	604.1	603.9	603.6	603.1	602.6	602.0	601.5
137.5°	644.2	644.0	643.9	643.5	642.8	642.1	641.4	640.7
140°	671.0	671.0	671.0	670.6	669.9	669.2	668.5	667.8
142.5°	695.2	695.4	695.5	695.2	694.5	693.8	693.2	692.5
145°	732.1	732.3	732.5	732.2	731.4	730.7	730.0	729.3
147.5°	764.4	764.8	765.2	765.1	764.4	763.7	763.1	762.3
150°	784.9	785.4	786.0	786.0	785.4	784.9	784.4	783.9
152.5°	805.4	806.1	806.7	806.7	806.1	805.4	804.7	804.1
155°	831.3	832.2	833.1	833.3	832.7	832.2	831.7	831.2
157.5°	855.4	856.6	857.8	857.9	857.1	856.3	855.4	854.5
160°	869.6	870.7	871.7	871.9	871.2	870.5	869.8	869.1
162.5°	882.5	883.7	884.9	885.0	884.2	883.4	882.5	881.7
165°	899.2	900.4	901.6	901.8	900.9	900.0	899.2	898.3
167.5°	912.9	914.1	915.3	915.5	914.6	913.7	912.8	911.9
170°	920.5	921.7	922.9	923.0	922.0	920.9	919.9	918.8
172.5°	926.1	927.4	928.6	928.7	927.7	926.6	925.5	924.5
175°	932.3	933.5	934.7	934.8	933.8	932.7	931.7	930.7
177.5°	935.1	936.0	936.9	936.9	936.0	935.1	934.3	933.5
180°	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3

(END OF REPORT)