

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: P331756-840

Luminaire Tested: **SA2XXRDIP-C1005D925U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331756-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C1005D925U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

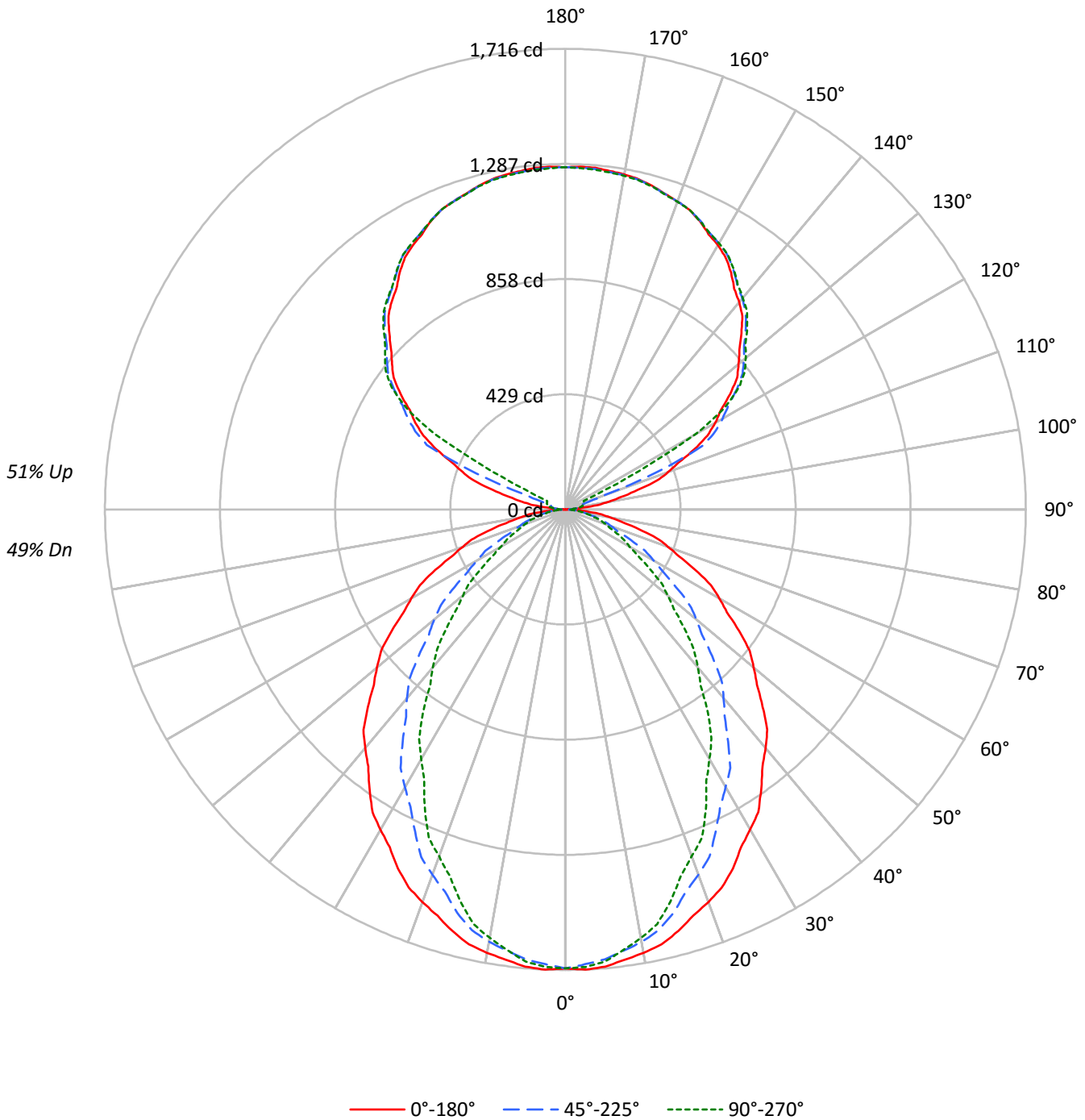
Lumens per Lamp: N/A
Luminaire Lumens: 7255.8 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 66.8
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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	98	94	90	87	90	87	83	80	73	71	69	61	59	58	49	48	47	42
2	90	82	77	72	82	76	71	67	65	61	58	54	51	49	44	42	40	36
3	82	73	66	60	75	67	61	56	57	53	49	48	45	42	39	37	35	31
4	75	65	57	51	69	60	53	48	51	46	42	43	39	36	35	33	30	27
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27	24
6	64	52	44	39	59	49	42	36	42	36	32	35	31	28	29	26	24	21
7	59	47	39	34	54	44	37	32	38	32	29	32	28	25	27	24	21	19
8	55	43	35	30	51	40	33	29	35	29	25	30	25	22	25	22	19	17
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	27611	27611	27611
5°	27716	27266	27417
10°	27506	26820	26591
15°	27189	26024	25275
20°	26751	24890	23639
25°	26302	23599	22057
30°	25682	22275	20025
35°	25074	20834	18242
40°	24464	19344	16179
45°	23749	17671	14312
50°	23016	15978	12479
55°	22261	14159	10716
60°	21390	12245	8896
65°	20397	10288	8103
70°	19218	8478	7449
75°	17767	7723	6949
80°	15676	6908	6332
85°	12338	5446	5446



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.1	2.2
10°-20°	439.5	6.1
20°-30°	617.2	8.5
30°-40°	673.0	9.3
40°-50°	618.8	8.5
50°-60°	486.0	6.7
60°-70°	316.9	4.4
70°-80°	163.4	2.3
80°-90°	45.5	0.6
90°-100°	42.5	0.6
100°-110°	155.9	2.1
110°-120°	416.8	5.7
120°-130°	688.0	9.5
130°-140°	731.7	10.1
140°-150°	680.1	9.4
150°-160°	546.8	7.5
160°-170°	352.3	4.9
170°-180°	121.3	1.7
0°-30°	1216.8	16.8
0°-40°	1889.8	26.0
0°-60°	2994.7	41.3
0°-90°	3520.5	48.5
90°-120°	615.2	8.5
90°-150°	2714.9	37.4
90°-180°	3735.0	51.5
0°-180°	7255.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1710	1710	1710	1710	1710	
5°	1710	1702	1682	1695	1692	162
15°	1627	1608	1557	1528	1512	458
25°	1476	1424	1325	1264	1238	679
35°	1272	1190	1057	963	926	796
45°	1040	933	774	668	627	803
55°	791	668	503	414	381	706
65°	534	408	269	219	212	529
75°	285	180	124	114	111	301
85°	67	36	29	29	29	78
90°	1	11	18	23	25	6
95°	60	32	36	40	40	73
105°	280	292	56	66	70	300
115°	530	546	569	162	76	522
125°	750	762	779	786	789	668
135°	928	942	951	960	958	716
145°	1076	1076	1091	1097	1093	673
155°	1185	1178	1188	1193	1186	546
165°	1249	1244	1246	1252	1246	353
175°	1277	1271	1273	1278	1270	122
180°	1275	1275	1275	1275	1275	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1
2.5°	1716.4	1715.0	1713.5	1712.2	1710.8	1708.6	1705.6	1702.6	1699.6	1696.6	1699.3
5°	1710.1	1708.4	1706.7	1705.0	1703.2	1700.2	1695.7	1691.2	1686.8	1682.3	1685.4
7.5°	1692.5	1690.4	1688.3	1686.1	1683.9	1680.3	1675.1	1669.8	1664.7	1659.4	1660.3
10°	1677.7	1675.3	1672.8	1670.4	1668.0	1663.3	1656.5	1649.6	1642.7	1635.9	1634.9
12.5°	1659.1	1656.1	1653.1	1650.2	1647.3	1641.3	1632.5	1623.8	1615.0	1606.2	1604.3
15°	1626.6	1622.8	1619.0	1615.2	1611.4	1603.7	1592.1	1580.3	1568.6	1556.9	1550.4
17.5°	1586.6	1580.8	1575.1	1569.3	1563.6	1553.2	1538.1	1523.2	1508.1	1493.2	1485.4
20°	1556.9	1550.0	1543.2	1536.3	1529.4	1517.4	1500.2	1483.0	1465.8	1448.6	1440.0
22.5°	1524.7	1517.0	1509.3	1501.7	1493.9	1480.4	1461.0	1441.6	1422.2	1402.8	1391.7
25°	1476.4	1465.4	1454.4	1443.4	1432.4	1415.6	1392.9	1370.2	1347.5	1324.7	1310.7
27.5°	1418.3	1406.3	1394.3	1382.4	1370.4	1351.6	1326.1	1300.4	1274.9	1249.3	1232.8
30°	1377.5	1364.3	1351.3	1338.2	1325.1	1304.8	1277.3	1249.8	1222.3	1194.8	1177.2
32.5°	1337.8	1322.5	1307.3	1292.0	1276.7	1255.1	1227.0	1198.9	1170.8	1142.8	1122.8
35°	1272.1	1254.7	1237.1	1219.5	1202.0	1178.1	1147.8	1117.6	1087.3	1057.0	1035.4
37.5°	1206.6	1187.3	1168.0	1148.7	1129.5	1103.8	1071.5	1039.3	1006.9	974.7	950.9
40°	1160.7	1140.1	1119.4	1098.8	1078.2	1051.2	1017.8	984.5	951.1	917.8	893.3
42.5°	1113.7	1092.0	1070.3	1048.4	1026.7	998.7	964.2	929.7	895.2	860.8	835.6
45°	1040.1	1016.9	993.9	970.9	947.9	918.3	882.1	846.1	809.9	773.9	749.4
47.5°	968.2	943.8	919.4	894.9	870.5	839.7	802.4	765.1	727.8	690.5	666.3
50°	916.3	891.8	867.4	842.9	818.5	787.4	749.6	711.8	673.9	636.1	612.4
52.5°	865.5	839.9	814.5	788.9	763.4	732.2	695.1	658.1	621.1	584.1	561.2
55°	790.8	764.1	737.2	710.3	683.6	651.6	614.4	577.2	540.2	503.0	482.3
57.5°	714.4	686.9	659.3	631.9	604.3	572.7	537.0	501.3	465.6	429.9	411.0
60°	662.4	634.9	607.3	579.9	552.3	520.9	485.4	450.0	414.5	379.2	361.6
62.5°	611.7	584.1	556.6	529.1	501.6	470.9	437.2	403.3	369.6	335.9	319.1
65°	533.9	506.0	478.3	450.4	422.5	393.1	362.1	331.2	300.2	269.3	257.6
67.5°	459.0	431.4	403.7	376.1	348.4	320.6	292.9	265.0	237.1	209.2	203.9
70°	407.1	380.2	353.4	326.6	299.7	274.5	250.7	227.0	203.3	179.6	176.1
72.5°	357.5	331.7	306.1	280.3	254.6	232.2	213.2	194.1	175.0	156.0	153.1
75°	284.8	260.6	236.6	212.6	188.4	170.6	158.9	147.2	135.5	123.8	121.4
77.5°	213.3	192.2	171.1	150.0	128.8	115.4	109.8	104.1	98.5	92.9	91.5
80°	168.6	151.2	133.6	116.0	98.6	88.1	84.6	81.2	77.8	74.3	72.9
82.5°	127.8	114.1	100.5	86.7	73.1	65.0	62.7	60.4	58.1	55.7	54.9
85°	66.6	59.3	52.1	44.8	37.7	33.5	32.5	31.5	30.4	29.4	29.4
87.5°	20.0	18.3	16.5	14.7	13.0	12.3	12.6	12.9	13.2	13.6	13.5
90°	0.9	3.1	5.5	7.7	9.9	11.9	13.5	15.1	16.8	18.5	19.5
92.5°	18.6	18.4	18.2	18.0	17.8	18.1	19.0	19.8	20.6	21.4	21.9
95°	60.0	53.2	46.5	39.7	32.9	30.2	31.7	33.1	34.5	36.0	37.0
97.5°	119.0	99.9	80.9	61.8	42.7	34.8	38.2	41.5	44.8	48.2	49.0
100°	163.3	135.1	107.0	79.0	50.9	38.7	42.1	45.6	49.1	52.6	54.2
102.5°	212.0	206.0	200.1	194.1	188.1	170.7	141.5	112.3	83.2	54.0	56.1
105°	280.3	286.5	292.7	298.8	305.0	280.0	224.1	168.1	112.2	56.2	58.5
107.5°	358.4	363.3	368.3	373.2	378.3	347.2	280.0	213.0	145.8	78.8	76.4
110°	408.6	412.9	417.2	421.5	425.8	398.3	339.1	279.8	220.7	161.4	140.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	455.8	459.6	463.4	467.3	471.0	465.6	451.0	436.4	421.7	407.1	332.3
115°	530.3	533.8	537.2	540.8	544.2	548.6	553.7	558.9	563.9	569.1	474.1
117.5°	596.9	600.8	604.7	608.6	612.5	616.2	619.8	623.3	626.8	630.3	607.3
120°	645.6	648.6	651.8	654.8	657.9	661.3	665.0	668.6	672.4	676.0	678.5
122.5°	686.9	690.1	693.4	696.6	699.8	703.5	707.5	711.6	715.6	719.6	721.0
125°	749.8	752.5	755.2	757.8	760.5	763.8	767.7	771.5	775.5	779.3	780.8
127.5°	806.8	809.8	812.7	815.7	818.6	821.5	824.5	827.4	830.3	833.2	835.3
130°	843.0	846.3	849.5	852.8	856.1	858.9	861.1	863.3	865.7	867.9	870.1
132.5°	879.9	882.6	885.4	888.3	891.0	893.5	895.9	898.1	900.3	902.5	904.5
135°	927.9	931.1	934.4	937.7	941.0	943.5	945.3	947.3	949.1	950.9	952.9
137.5°	976.3	978.7	981.0	983.2	985.5	987.7	989.8	991.9	994.0	996.1	998.0
140°	1008.0	1009.8	1011.4	1013.0	1014.6	1016.6	1018.9	1021.1	1023.4	1025.6	1027.4
142.5°	1034.6	1036.1	1037.6	1039.1	1040.6	1042.6	1045.1	1047.7	1050.4	1052.9	1054.6
145°	1076.3	1076.1	1075.9	1075.7	1075.5	1077.1	1080.7	1084.1	1087.6	1091.1	1092.5
147.5°	1112.7	1111.9	1111.2	1110.3	1109.5	1110.9	1114.3	1117.8	1121.3	1124.7	1125.7
150°	1136.3	1134.9	1133.4	1132.0	1130.5	1131.5	1134.8	1138.0	1141.3	1144.6	1145.8
152.5°	1156.2	1154.6	1153.0	1151.4	1149.8	1150.5	1153.7	1156.8	1159.9	1163.1	1164.3
155°	1185.2	1183.4	1181.4	1179.6	1177.8	1178.1	1180.5	1183.1	1185.5	1187.9	1189.1
157.5°	1207.8	1206.3	1204.8	1203.2	1201.6	1201.7	1203.5	1205.2	1206.9	1208.6	1210.0
160°	1221.1	1219.9	1218.7	1217.4	1216.2	1216.2	1217.4	1218.7	1219.9	1221.1	1222.3
162.5°	1232.9	1231.7	1230.5	1229.2	1228.0	1227.9	1229.0	1230.0	1231.1	1232.2	1233.6
165°	1248.8	1247.6	1246.4	1245.1	1243.9	1243.5	1244.2	1244.8	1245.5	1246.1	1247.5
167.5°	1260.6	1259.4	1258.2	1256.9	1255.7	1255.4	1256.0	1256.5	1257.1	1257.7	1259.1
170°	1267.3	1266.0	1264.8	1263.5	1262.3	1261.9	1262.3	1262.7	1263.1	1263.5	1265.0
172.5°	1271.6	1270.4	1269.2	1268.0	1266.8	1266.4	1266.8	1267.2	1267.6	1268.0	1269.4
175°	1277.4	1276.0	1274.6	1273.0	1271.6	1271.1	1271.5	1271.9	1272.3	1272.7	1274.2
177.5°	1278.3	1277.2	1276.1	1274.9	1273.7	1273.2	1273.4	1273.5	1273.7	1273.8	1275.1
180°	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1
2.5°	1702.0	1704.8	1707.6	1708.6	1708.1	1707.6	1707.0	1706.5
5°	1688.5	1691.6	1694.7	1695.7	1694.7	1693.6	1692.6	1691.6
7.5°	1661.1	1662.0	1662.9	1662.5	1660.7	1658.9	1657.2	1655.4
10°	1633.8	1632.7	1631.7	1630.2	1628.1	1626.1	1624.0	1621.9
12.5°	1602.5	1600.5	1598.7	1596.1	1592.7	1589.2	1585.8	1582.4
15°	1543.9	1537.3	1530.8	1525.8	1522.4	1518.9	1515.5	1512.1
17.5°	1477.6	1469.9	1462.1	1455.2	1449.4	1443.4	1437.4	1431.6
20°	1431.4	1422.8	1414.2	1406.1	1398.6	1391.0	1383.4	1375.8
22.5°	1380.7	1369.6	1358.5	1350.1	1344.5	1338.9	1333.2	1327.6
25°	1296.6	1282.5	1268.4	1258.8	1253.5	1248.4	1243.2	1238.1
27.5°	1216.4	1199.9	1183.5	1171.1	1163.0	1154.8	1146.6	1138.4
30°	1159.7	1142.2	1124.6	1111.3	1102.0	1092.7	1083.4	1074.1
32.5°	1102.8	1082.8	1062.7	1048.3	1039.7	1030.9	1022.1	1013.4
35°	1013.7	992.1	970.4	955.7	948.2	940.6	933.0	925.5
37.5°	927.0	903.1	879.2	862.9	854.3	845.7	837.0	828.3
40°	868.9	844.4	820.1	803.4	794.5	785.5	776.6	767.6
42.5°	810.3	785.1	759.8	742.9	734.2	725.5	716.9	708.2
45°	725.0	700.5	676.1	659.8	651.6	643.3	635.0	626.8
47.5°	642.0	617.7	593.4	577.5	570.1	562.6	555.0	547.5
50°	588.7	564.9	541.2	525.6	518.5	511.2	504.0	496.8
52.5°	538.3	515.3	492.5	477.7	471.0	464.3	457.7	451.0
55°	461.7	441.1	420.4	406.9	400.3	393.7	387.3	380.7
57.5°	392.1	373.1	354.3	342.0	336.6	331.0	325.6	320.0
60°	344.1	326.6	309.0	297.5	292.0	286.5	280.9	275.5
62.5°	302.5	285.7	269.0	258.9	255.7	252.4	249.0	245.8
65°	245.9	234.2	222.5	216.1	215.1	214.1	213.1	212.1
67.5°	198.5	193.2	187.7	184.5	183.5	182.4	181.3	180.2
70°	172.7	169.3	165.8	163.4	162.0	160.6	159.3	157.8
72.5°	150.3	147.3	144.4	142.6	141.8	141.0	140.1	139.3
75°	119.0	116.6	114.2	112.8	112.5	112.1	111.8	111.4
77.5°	90.1	88.8	87.4	86.3	85.8	85.3	84.7	84.2
80°	71.5	70.2	68.8	68.1	68.1	68.1	68.1	68.1
82.5°	54.0	53.2	52.4	52.0	52.0	52.0	52.0	52.0
85°	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
87.5°	13.4	13.4	13.3	13.3	13.4	13.5	13.5	13.6
90°	20.5	21.5	22.5	23.2	23.6	24.0	24.5	24.9
92.5°	22.4	23.0	23.5	23.9	24.1	24.4	24.6	24.9
95°	38.0	39.1	40.1	40.5	40.3	40.1	39.9	39.7
97.5°	49.8	50.6	51.4	51.9	52.2	52.4	52.7	52.9
100°	55.8	57.5	59.2	60.2	60.6	61.0	61.4	61.8
102.5°	58.3	60.5	62.6	63.9	64.5	65.0	65.6	66.2
105°	60.8	63.0	65.2	66.9	67.7	68.5	69.3	70.1
107.5°	74.1	71.9	69.6	68.9	69.7	70.5	71.3	72.1
110°	120.4	99.9	79.4	69.6	70.4	71.2	72.0	72.9



TEST NUMBER: P331756-840

CATALOG NUMBER: SA2XXRDIP-C1005D925U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	257.6	182.8	108.1	71.0	71.6	72.3	72.9	73.6
115°	379.3	284.4	189.5	134.6	119.9	105.1	90.4	75.6
117.5°	584.4	561.5	538.5	502.7	454.2	405.8	357.3	308.8
120°	681.0	683.5	685.9	673.3	645.6	617.9	590.3	562.6
122.5°	722.6	724.0	725.5	723.6	718.2	712.8	707.4	702.1
125°	782.2	783.7	785.1	786.1	786.7	787.3	788.0	788.6
127.5°	837.4	839.5	841.6	842.6	842.8	842.9	843.0	843.1
130°	872.4	874.6	876.9	878.0	877.8	877.5	877.3	877.1
132.5°	906.5	908.4	910.3	911.1	910.9	910.7	910.5	910.3
135°	955.0	957.0	959.1	959.9	959.5	959.1	958.7	958.3
137.5°	1000.1	1002.1	1004.1	1004.8	1004.1	1003.4	1002.7	1002.0
140°	1029.3	1031.2	1033.0	1033.4	1032.4	1031.4	1030.4	1029.3
142.5°	1056.2	1057.9	1059.7	1060.0	1058.9	1057.9	1056.9	1055.8
145°	1094.0	1095.4	1096.8	1097.0	1096.0	1095.0	1094.0	1093.0
147.5°	1126.8	1127.8	1128.9	1129.0	1128.1	1127.3	1126.4	1125.6
150°	1147.0	1148.3	1149.5	1149.6	1148.6	1147.5	1146.5	1145.5
152.5°	1165.5	1166.7	1167.9	1167.9	1166.5	1165.2	1163.9	1162.5
155°	1190.4	1191.6	1192.9	1192.7	1191.0	1189.3	1187.7	1186.1
157.5°	1211.3	1212.7	1214.2	1214.1	1212.4	1210.8	1209.2	1207.7
160°	1223.6	1224.9	1226.1	1226.0	1224.5	1223.0	1221.6	1220.2
162.5°	1235.0	1236.4	1237.8	1237.6	1235.9	1234.1	1232.3	1230.5
165°	1248.9	1250.3	1251.7	1251.7	1250.3	1248.9	1247.5	1246.1
167.5°	1260.5	1261.9	1263.4	1263.1	1261.3	1259.5	1257.7	1255.8
170°	1266.5	1267.9	1269.3	1269.1	1267.3	1265.4	1263.5	1261.7
172.5°	1270.8	1272.3	1273.7	1273.5	1271.6	1269.8	1268.0	1266.2
175°	1275.7	1277.1	1278.5	1278.2	1276.2	1274.1	1272.0	1270.0
177.5°	1276.2	1277.4	1278.5	1278.3	1276.9	1275.4	1273.8	1272.4
180°	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7

(END OF REPORT)