

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: P331762-830

Luminaire Tested: **SA2XXRDIP-C1005D1080U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331762-830  
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-C1005D1080U830-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7344.2 lumens  
Efficiency: N/A  
Efficacy: 102.4 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

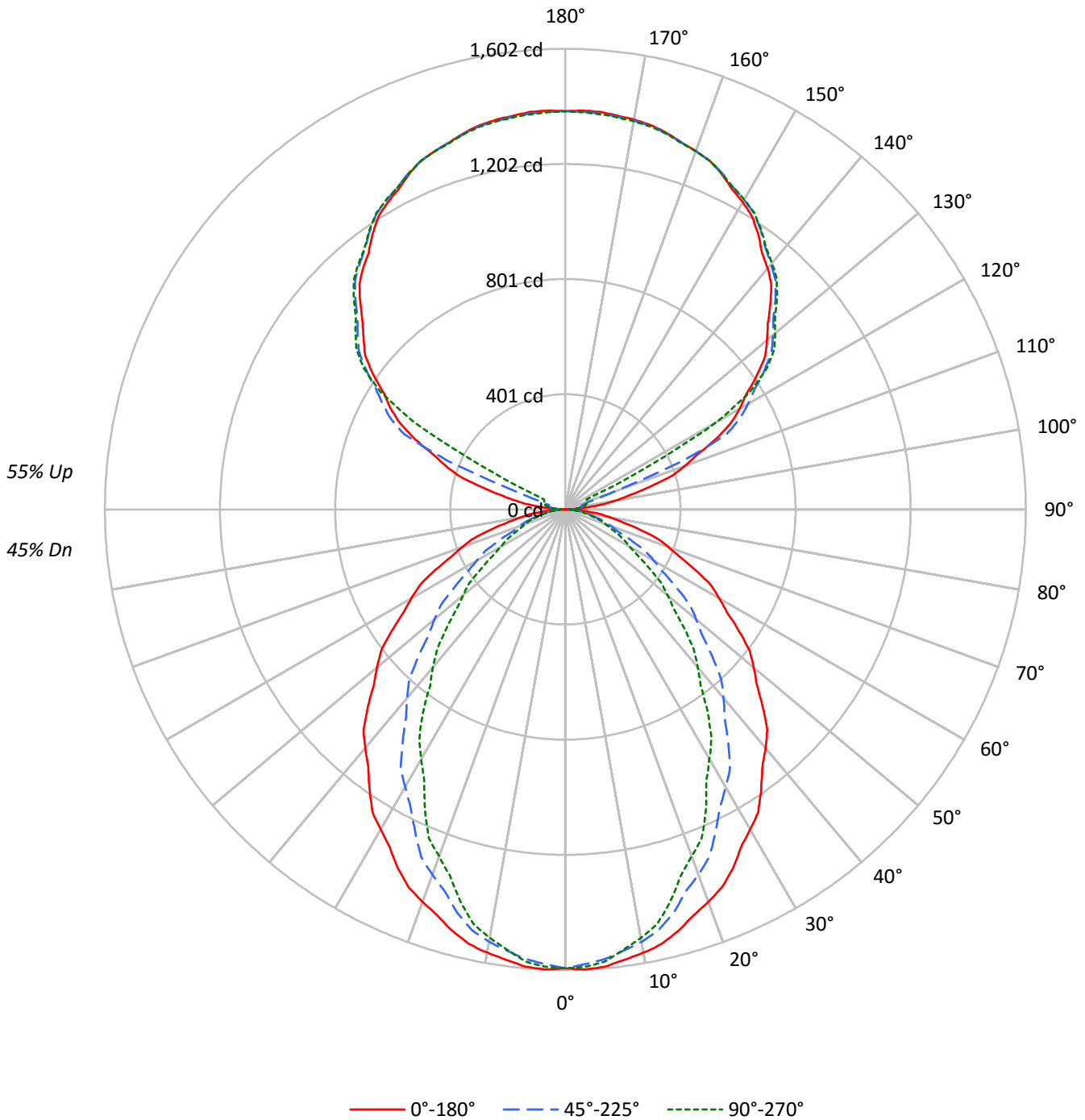
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45
1	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	44	39
2	89	82	76	71	81	75	70	66	63	59	56	51	49	47	41	39	38	33
3	81	72	65	59	74	66	60	55	56	51	48	46	43	40	37	35	33	28
4	74	64	56	51	68	59	52	47	50	45	41	41	38	35	33	31	29	25
5	68	57	49	44	63	53	46	41	45	40	36	37	33	30	30	27	25	22
6	63	51	44	38	58	48	41	36	40	35	31	34	30	27	27	25	22	19
7	58	47	39	33	54	43	36	32	37	31	28	31	27	24	25	22	20	17
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16
9	51	39	31	27	46	36	30	25	31	26	22	26	22	19	21	19	16	14
10	47	36	29	24	43	33	27	23	28	23	20	24	20	17	20	17	15	13

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

	0°	45°	90°
0°	25770	25770	25770
5°	25869	25449	25590
10°	25671	25032	24819
15°	25377	24289	23590
20°	24967	23230	22063
25°	24549	22026	20587
30°	23968	20789	18690
35°	23402	19446	17026
40°	22835	18054	15099
45°	22165	16493	13358
50°	21481	14913	11645
55°	20777	13216	10001
60°	19963	11428	8302
65°	19037	9605	7561
70°	17934	7912	6954
75°	16581	7211	6488
80°	14635	6453	5904
85°	11504	5076	5076



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.4	2.0
10°-20°	410.2	5.6
20°-30°	576.1	7.8
30°-40°	628.2	8.6
40°-50°	577.6	7.9
50°-60°	453.6	6.2
60°-70°	295.8	4.0
70°-80°	152.5	2.1
80°-90°	43.0	0.6
90°-100°	46.2	0.6
100°-110°	169.4	2.3
110°-120°	452.8	6.2
120°-130°	747.4	10.2
130°-140°	794.9	10.8
140°-150°	738.8	10.1
150°-160°	594.0	8.1
160°-170°	382.8	5.2
170°-180°	131.8	1.8
0°-30°	1135.7	15.5
0°-40°	1763.9	24.0
0°-60°	2795.1	38.1
0°-90°	3286.3	44.7
90°-120°	668.4	9.1
90°-150°	2949.4	40.2
90°-180°	4058.0	55.3
0°-180°	7344.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1596	1596	1596	1596	1596	
5°	1596	1588	1570	1582	1579	151
15°	1518	1500	1453	1426	1411	427
25°	1378	1329	1236	1179	1156	633
35°	1187	1111	987	899	864	743
45°	971	871	722	623	585	749
55°	738	623	470	386	355	659
65°	498	381	251	205	198	494
75°	266	168	116	106	104	281
85°	62	33	27	27	27	73
90°	1	12	20	25	27	6
95°	65	34	39	44	43	80
105°	305	318	61	72	76	325
115°	576	594	618	176	82	567
125°	815	828	847	853	857	726
135°	1008	1024	1033	1042	1041	778
145°	1169	1169	1185	1192	1187	731
155°	1288	1280	1290	1296	1288	593
165°	1357	1351	1354	1360	1354	383
175°	1388	1381	1383	1389	1380	132
180°	1385	1385	1385	1385	1385	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1601.9	1600.6	1599.3	1598.1	1596.8	1594.7	1591.9	1589.1	1586.3	1583.5	1586.0
5°	1596.1	1594.5	1592.9	1591.3	1589.7	1586.9	1582.6	1578.5	1574.3	1570.2	1573.0
7.5°	1579.7	1577.7	1575.7	1573.7	1571.7	1568.3	1563.4	1558.5	1553.7	1548.8	1549.6
10°	1565.8	1563.6	1561.3	1559.1	1556.8	1552.5	1546.1	1539.6	1533.2	1526.8	1525.9
12.5°	1548.5	1545.7	1542.9	1540.2	1537.5	1531.9	1523.7	1515.5	1507.3	1499.1	1497.3
15°	1518.2	1514.6	1511.1	1507.5	1504.0	1496.8	1485.9	1475.0	1464.1	1453.1	1447.1
17.5°	1480.8	1475.5	1470.1	1464.7	1459.3	1449.6	1435.6	1421.6	1407.6	1393.6	1386.4
20°	1453.1	1446.7	1440.3	1433.9	1427.5	1416.3	1400.1	1384.1	1368.1	1352.0	1344.0
22.5°	1423.1	1415.9	1408.7	1401.6	1394.3	1381.7	1363.6	1345.5	1327.4	1309.3	1298.9
25°	1378.0	1367.7	1357.4	1347.2	1336.9	1321.3	1300.0	1278.8	1257.6	1236.4	1223.3
27.5°	1323.7	1312.6	1301.4	1290.2	1279.0	1261.5	1237.7	1213.7	1189.9	1166.0	1150.7
30°	1285.6	1273.4	1261.2	1249.0	1236.8	1217.9	1192.1	1166.5	1140.9	1115.1	1098.7
32.5°	1248.6	1234.4	1220.1	1205.9	1191.6	1171.4	1145.2	1119.0	1092.8	1066.6	1047.9
35°	1187.3	1171.0	1154.6	1138.2	1121.9	1099.6	1071.3	1043.1	1014.8	986.6	966.4
37.5°	1126.1	1108.1	1090.1	1072.1	1054.2	1030.2	1000.0	970.0	939.8	909.7	887.5
40°	1083.4	1064.1	1044.8	1025.6	1006.4	981.1	950.0	918.9	887.7	856.6	833.8
42.5°	1039.4	1019.2	998.9	978.5	958.3	932.1	899.9	867.7	835.6	803.4	779.9
45°	970.7	949.1	927.7	906.2	884.7	857.1	823.3	789.7	755.9	722.3	699.5
47.5°	903.6	880.9	858.1	835.3	812.5	783.7	748.9	714.1	679.3	644.5	621.9
50°	855.2	832.4	809.5	786.7	763.9	734.9	699.6	664.3	629.0	593.7	571.6
52.5°	807.8	783.9	760.2	736.3	712.5	683.3	648.8	614.3	579.7	545.2	523.8
55°	738.1	713.1	688.1	663.0	638.0	608.1	573.4	538.8	504.2	469.5	450.2
57.5°	666.8	641.1	615.4	589.7	564.0	534.5	501.2	467.9	434.6	401.2	383.6
60°	618.2	592.6	566.8	541.2	515.5	486.2	453.1	420.0	386.9	353.9	337.5
62.5°	570.9	545.2	519.5	493.8	468.2	439.5	408.0	376.5	345.0	313.5	297.8
65°	498.3	472.3	446.4	420.4	394.4	366.9	338.0	309.2	280.2	251.4	240.4
67.5°	428.4	402.7	376.8	351.0	325.2	299.3	273.3	247.3	221.3	195.3	190.3
70°	379.9	354.9	329.8	304.8	279.7	256.2	234.0	211.9	189.7	167.6	164.4
72.5°	333.7	309.6	285.7	261.6	237.6	216.7	199.0	181.2	163.3	145.6	142.9
75°	265.8	243.3	220.8	198.4	175.9	159.2	148.3	137.4	126.5	115.6	113.3
77.5°	199.1	179.4	159.7	140.0	120.2	107.7	102.5	97.2	91.9	86.7	85.4
80°	157.4	141.1	124.7	108.3	92.0	82.2	79.0	75.8	72.6	69.4	68.1
82.5°	119.3	106.5	93.8	81.0	68.2	60.7	58.5	56.4	54.2	52.0	51.3
85°	62.1	55.3	48.6	41.8	35.2	31.3	30.3	29.4	28.4	27.4	27.4
87.5°	18.7	17.2	15.6	13.9	12.4	11.8	12.2	12.5	12.9	13.3	13.2
90°	1.0	3.5	5.9	8.4	10.8	12.9	14.7	16.5	18.3	20.1	21.1
92.5°	20.3	20.0	19.8	19.6	19.3	19.7	20.5	21.5	22.3	23.3	23.8
95°	65.1	57.8	50.4	43.1	35.7	32.8	34.4	36.0	37.5	39.1	40.2
97.5°	129.2	108.6	87.8	67.1	46.5	37.9	41.5	45.1	48.7	52.3	53.2
100°	177.4	146.8	116.3	85.9	55.3	41.9	45.7	49.6	53.3	57.1	58.9
102.5°	230.3	223.8	217.4	210.8	204.4	185.4	153.7	122.1	90.4	58.7	61.1
105°	304.6	311.3	317.9	324.6	331.3	304.3	243.5	182.7	121.9	61.1	63.5
107.5°	389.4	394.7	400.1	405.5	410.9	377.2	304.3	231.4	158.4	85.6	83.0
110°	443.8	448.6	453.3	457.9	462.6	432.7	368.3	304.1	239.7	175.3	153.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	495.2	499.4	503.4	507.6	511.7	505.9	489.9	474.1	458.2	442.2	361.1
115°	576.2	579.9	583.7	587.5	591.3	596.0	601.5	607.1	612.7	618.2	515.1
117.5°	648.5	652.7	657.0	661.2	665.4	669.4	673.3	677.1	680.9	684.8	659.8
120°	701.3	704.7	708.0	711.4	714.7	718.4	722.5	726.4	730.5	734.4	737.1
122.5°	746.3	749.8	753.3	756.9	760.3	764.3	768.6	773.0	777.4	781.7	783.3
125°	814.6	817.5	820.4	823.3	826.1	829.7	834.0	838.2	842.4	846.7	848.2
127.5°	876.6	879.8	883.0	886.2	889.4	892.5	895.7	898.8	902.0	905.2	907.5
130°	915.8	919.4	922.9	926.5	930.0	933.0	935.5	937.9	940.4	942.8	945.3
132.5°	955.8	958.9	962.0	965.0	968.0	970.7	973.2	975.6	978.1	980.5	982.6
135°	1008.0	1011.5	1015.1	1018.7	1022.2	1025.0	1027.0	1029.0	1031.0	1033.0	1035.3
137.5°	1060.6	1063.2	1065.6	1068.2	1070.6	1073.0	1075.3	1077.6	1079.9	1082.1	1084.3
140°	1095.1	1096.9	1098.7	1100.5	1102.3	1104.4	1106.8	1109.3	1111.7	1114.2	1116.2
142.5°	1124.0	1125.6	1127.2	1128.8	1130.4	1132.7	1135.4	1138.2	1141.0	1143.9	1145.7
145°	1169.3	1169.0	1168.8	1168.7	1168.4	1170.2	1173.9	1177.7	1181.6	1185.3	1186.8
147.5°	1208.8	1208.0	1207.1	1206.3	1205.4	1206.8	1210.6	1214.3	1218.0	1221.8	1222.9
150°	1234.4	1232.8	1231.3	1229.7	1228.2	1229.2	1232.8	1236.3	1239.9	1243.4	1244.8
152.5°	1256.0	1254.3	1252.5	1250.8	1249.2	1249.9	1253.3	1256.7	1260.1	1263.5	1264.8
155°	1287.5	1285.5	1283.6	1281.5	1279.5	1279.9	1282.5	1285.2	1287.9	1290.5	1291.8
157.5°	1312.2	1310.5	1308.8	1307.1	1305.4	1305.5	1307.4	1309.2	1311.1	1313.0	1314.5
160°	1326.6	1325.3	1323.9	1322.6	1321.3	1321.3	1322.6	1323.9	1325.3	1326.6	1327.9
162.5°	1339.4	1338.1	1336.7	1335.4	1334.1	1334.0	1335.1	1336.3	1337.5	1338.6	1340.1
165°	1356.7	1355.3	1354.0	1352.6	1351.3	1350.9	1351.6	1352.4	1353.0	1353.7	1355.2
167.5°	1369.5	1368.2	1366.8	1365.5	1364.1	1363.8	1364.4	1365.0	1365.6	1366.3	1367.8
170°	1376.7	1375.4	1374.0	1372.7	1371.4	1370.9	1371.4	1371.8	1372.2	1372.7	1374.2
172.5°	1381.5	1380.2	1378.8	1377.5	1376.2	1375.7	1376.2	1376.6	1377.1	1377.5	1379.0
175°	1387.7	1386.2	1384.6	1383.1	1381.5	1380.9	1381.4	1381.9	1382.2	1382.7	1384.3
177.5°	1388.7	1387.5	1386.2	1385.0	1383.7	1383.2	1383.4	1383.6	1383.7	1383.9	1385.2
180°	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1588.6	1591.1	1593.7	1594.7	1594.2	1593.7	1593.2	1592.7
5°	1575.9	1578.9	1581.7	1582.6	1581.7	1580.7	1579.8	1578.9
7.5°	1550.4	1551.2	1552.1	1551.7	1550.0	1548.3	1546.7	1545.0
10°	1524.8	1523.9	1523.0	1521.5	1519.6	1517.7	1515.7	1513.8
12.5°	1495.6	1493.8	1492.1	1489.7	1486.5	1483.3	1480.1	1476.9
15°	1441.0	1434.8	1428.7	1424.1	1420.9	1417.7	1414.5	1411.3
17.5°	1379.1	1371.9	1364.6	1358.2	1352.7	1347.2	1341.6	1336.1
20°	1336.0	1327.9	1319.9	1312.4	1305.3	1298.3	1291.2	1284.1
22.5°	1288.6	1278.3	1267.9	1260.1	1254.9	1249.6	1244.3	1239.1
25°	1210.1	1197.0	1183.8	1174.9	1170.0	1165.2	1160.4	1155.6
27.5°	1135.3	1119.9	1104.6	1093.1	1085.4	1077.8	1070.2	1062.5
30°	1082.4	1066.0	1049.6	1037.2	1028.5	1019.8	1011.2	1002.5
32.5°	1029.3	1010.6	991.8	978.5	970.3	962.1	953.9	945.8
35°	946.1	926.0	905.7	892.0	885.0	877.9	870.8	863.8
37.5°	865.2	842.9	820.6	805.4	797.4	789.3	781.2	773.1
40°	811.0	788.2	765.4	749.9	741.5	733.1	724.8	716.4
42.5°	756.3	732.7	709.2	693.3	685.2	677.1	669.1	661.0
45°	676.7	653.8	631.0	615.9	608.1	600.4	592.7	585.0
47.5°	599.2	576.6	553.8	539.0	532.1	525.1	518.0	511.0
50°	549.4	527.3	505.1	490.6	483.9	477.1	470.4	463.6
52.5°	502.4	481.0	459.7	445.8	439.6	433.4	427.2	420.9
55°	430.9	411.7	392.4	379.8	373.6	367.5	361.5	355.3
57.5°	366.0	348.3	330.6	319.2	314.1	309.0	303.9	298.7
60°	321.1	304.8	288.4	277.7	272.5	267.4	262.2	257.1
62.5°	282.3	266.6	251.1	241.7	238.7	235.5	232.4	229.4
65°	229.5	218.6	207.6	201.7	200.8	199.8	198.9	197.9
67.5°	185.3	180.3	175.2	172.2	171.3	170.2	169.2	168.1
70°	161.2	158.0	154.8	152.5	151.2	149.9	148.6	147.3
72.5°	140.3	137.5	134.8	133.1	132.3	131.6	130.7	130.0
75°	111.0	108.9	106.6	105.3	105.0	104.6	104.3	104.0
77.5°	84.1	82.8	81.5	80.6	80.1	79.6	79.1	78.6
80°	66.7	65.5	64.2	63.5	63.5	63.5	63.5	63.5
82.5°	50.4	49.7	48.9	48.5	48.5	48.5	48.5	48.5
85°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
87.5°	13.2	13.2	13.1	13.1	13.2	13.3	13.4	13.5
90°	22.2	23.4	24.5	25.3	25.7	26.2	26.6	27.1
92.5°	24.4	25.0	25.5	26.0	26.3	26.5	26.8	27.1
95°	41.3	42.4	43.5	44.0	43.7	43.5	43.3	43.1
97.5°	54.1	55.0	55.9	56.5	56.7	57.0	57.2	57.5
100°	60.7	62.5	64.3	65.3	65.8	66.3	66.7	67.1
102.5°	63.3	65.7	68.0	69.5	70.0	70.7	71.4	71.9
105°	66.0	68.4	70.9	72.6	73.5	74.4	75.2	76.2
107.5°	80.6	78.0	75.6	74.8	75.7	76.5	77.5	78.3
110°	130.8	108.6	86.2	75.6	76.4	77.4	78.2	79.2





TEST NUMBER: P331762-830

CATALOG NUMBER: SA2XXRDIP-C1005D1080U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	279.8	198.6	117.3	77.1	77.9	78.5	79.3	79.9
115°	412.0	309.0	205.9	146.3	130.3	114.2	98.2	82.2
117.5°	634.9	609.9	585.0	546.2	493.5	440.8	388.1	335.5
120°	739.8	742.4	745.2	731.4	701.3	671.3	641.2	611.2
122.5°	784.9	786.6	788.2	786.0	780.2	774.4	768.5	762.7
125°	849.8	851.3	852.9	854.0	854.7	855.4	856.0	856.7
127.5°	909.7	912.0	914.3	915.5	915.6	915.8	915.9	916.0
130°	947.7	950.2	952.6	953.8	953.6	953.3	953.1	952.9
132.5°	984.7	986.8	988.9	989.9	989.6	989.4	989.2	988.9
135°	1037.5	1039.7	1041.9	1042.8	1042.4	1041.9	1041.5	1041.0
137.5°	1086.5	1088.6	1090.8	1091.6	1090.8	1090.1	1089.3	1088.5
140°	1118.2	1120.2	1122.2	1122.7	1121.5	1120.4	1119.3	1118.2
142.5°	1147.5	1149.3	1151.1	1151.5	1150.4	1149.2	1148.2	1147.1
145°	1188.5	1190.0	1191.6	1191.8	1190.7	1189.6	1188.5	1187.3
147.5°	1224.1	1225.3	1226.4	1226.5	1225.6	1224.6	1223.7	1222.8
150°	1246.1	1247.5	1248.8	1248.9	1247.7	1246.7	1245.6	1244.4
152.5°	1266.1	1267.5	1268.9	1268.8	1267.2	1265.8	1264.3	1262.9
155°	1293.2	1294.6	1295.9	1295.6	1293.8	1292.1	1290.3	1288.5
157.5°	1316.0	1317.5	1319.0	1318.9	1317.2	1315.4	1313.7	1311.9
160°	1329.3	1330.6	1331.9	1331.8	1330.3	1328.7	1327.2	1325.6
162.5°	1341.6	1343.1	1344.7	1344.4	1342.6	1340.7	1338.7	1336.8
165°	1356.8	1358.3	1359.9	1359.9	1358.3	1356.8	1355.2	1353.7
167.5°	1369.4	1370.9	1372.5	1372.2	1370.3	1368.3	1366.3	1364.2
170°	1375.8	1377.3	1378.9	1378.7	1376.7	1374.7	1372.7	1370.6
172.5°	1380.6	1382.1	1383.7	1383.6	1381.5	1379.5	1377.5	1375.5
175°	1385.8	1387.4	1388.9	1388.6	1386.4	1384.1	1382.0	1379.7
177.5°	1386.4	1387.6	1388.9	1388.7	1387.1	1385.5	1383.9	1382.3
180°	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7

(END OF REPORT)