

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: P332357-830

Luminaire Tested: **S123RDIP-S1000D1195U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332357-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1000D1195U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8072.2 lumens
Efficiency: N/A
Efficacy: 123.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

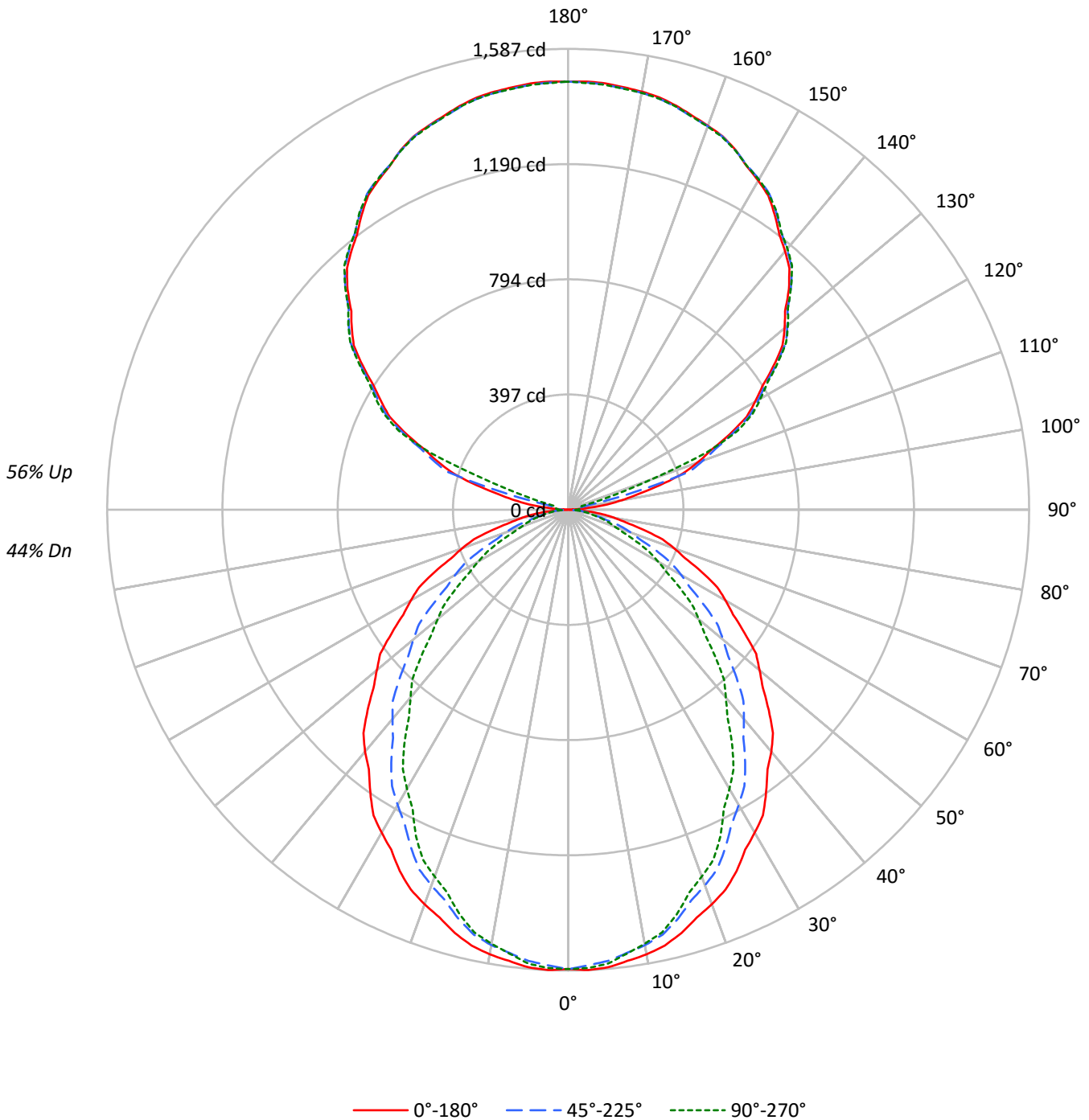
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44				
1	97	93	89	85	89	85	82	79	71	68	66	58	56	55	45	44	44	38				
2	88	81	75	70	81	75	70	65	62	59	55	51	48	46	40	39	37	32				
3	81	72	64	59	74	66	60	55	55	51	47	45	42	39	36	34	32	28				
4	74	63	56	50	68	59	52	47	49	44	40	40	37	34	32	30	28	24				
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	29	26	24	21				
6	63	51	43	37	57	47	40	35	40	34	30	33	29	26	27	24	21	18				
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	24	21	19	16				
8	54	42	34	29	49	39	32	27	33	28	24	27	23	21	22	19	17	15				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	21	18	16	13				
10	47	35	28	23	43	33	26	22	28	23	19	23	19	17	19	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17026	17026	17026
5°	17091	16855	16953
10°	16994	16644	16587
15°	16811	16254	16082
20°	16561	15767	15400
25°	16302	15221	14733
30°	15960	14589	13793
35°	15609	13958	12929
40°	15286	13212	11861
45°	14862	12478	10898
50°	14393	11643	9818
55°	13915	10689	8811
60°	13476	9666	7705
65°	12905	8560	6599
70°	12192	7188	5331
75°	11154	5656	5016
80°	9937	5009	4612
85°	8398	4434	4125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.5	1.8
10°-20°	413.3	5.1
20°-30°	595.1	7.4
30°-40°	670.3	8.3
40°-50°	641.3	7.9
50°-60°	525.1	6.5
60°-70°	354.3	4.4
70°-80°	178.2	2.2
80°-90°	51.3	0.6
90°-100°	53.6	0.7
100°-110°	255.4	3.2
110°-120°	613.5	7.6
120°-130°	781.2	9.7
130°-140°	834.7	10.3
140°-150°	780.5	9.7
150°-160°	629.6	7.8
160°-170°	406.3	5.0
170°-180°	140.0	1.7
0°-30°	1156.9	14.3
0°-40°	1827.2	22.6
0°-60°	2993.6	37.1
0°-90°	3577.4	44.3
90°-120°	922.4	11.4
90°-150°	3318.8	41.1
90°-180°	4495.0	55.7
0°-180°	8072.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1582	1575	1560	1571	1569	150
15°	1509	1493	1459	1452	1443	425
25°	1373	1339	1282	1255	1240	631
35°	1188	1140	1062	1009	984	743
45°	976	916	820	749	716	753
55°	742	676	570	498	470	665
65°	507	435	336	276	259	501
75°	268	206	136	124	121	286
85°	68	41	36	34	33	76
90°	1	12	26	31	33	7
95°	67	25	34	41	42	83
105°	326	332	240	57	48	346
115°	612	619	629	639	644	604
125°	863	871	876	878	880	770
135°	1074	1081	1085	1088	1085	827
145°	1240	1247	1249	1252	1252	776
155°	1366	1364	1364	1369	1363	629
165°	1440	1437	1436	1443	1437	407
175°	1474	1469	1470	1476	1468	140
180°	1474	1474	1474	1474	1474	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1586.9	1585.9	1585.1	1584.1	1583.2	1581.4	1578.7	1575.9	1573.2	1570.5	1572.9
5°	1581.8	1580.3	1578.9	1577.4	1576.0	1573.6	1570.2	1566.8	1563.4	1559.9	1562.5
7.5°	1567.1	1565.6	1564.1	1562.5	1560.9	1557.9	1553.5	1549.1	1544.6	1540.2	1541.6
10°	1554.8	1552.8	1550.8	1548.8	1546.8	1543.2	1538.1	1533.0	1527.9	1522.8	1523.1
12.5°	1537.4	1535.1	1533.0	1530.7	1528.4	1524.2	1518.0	1511.6	1505.4	1499.1	1498.9
15°	1508.6	1505.5	1502.3	1499.2	1496.1	1490.5	1482.5	1474.5	1466.6	1458.6	1457.2
17.5°	1472.4	1468.8	1465.2	1461.5	1457.8	1451.0	1440.8	1430.7	1420.5	1410.3	1407.3
20°	1445.8	1441.2	1436.6	1432.1	1427.5	1419.8	1409.0	1398.2	1387.3	1376.5	1372.8
22.5°	1416.0	1410.8	1405.5	1400.2	1395.1	1386.7	1375.1	1363.6	1352.1	1340.6	1336.0
25°	1372.6	1365.6	1358.4	1351.2	1344.2	1334.0	1320.9	1307.8	1294.7	1281.6	1275.5
27.5°	1320.0	1312.2	1304.3	1296.5	1288.5	1277.3	1262.7	1248.1	1233.5	1219.0	1210.6
30°	1284.1	1275.5	1267.1	1258.5	1249.9	1237.7	1221.7	1205.7	1189.8	1173.8	1164.1
32.5°	1248.2	1238.5	1228.8	1219.1	1209.5	1196.2	1179.3	1162.4	1145.5	1128.6	1118.0
35°	1187.9	1177.6	1167.3	1157.2	1146.9	1132.8	1115.2	1097.5	1079.9	1062.2	1049.9
37.5°	1126.8	1115.4	1104.0	1092.6	1081.2	1066.1	1047.3	1028.3	1009.5	990.6	976.7
40°	1087.9	1075.3	1062.7	1050.2	1037.6	1021.2	1001.1	980.8	960.5	940.3	925.5
42.5°	1043.7	1031.1	1018.6	1006.1	993.5	976.9	955.9	935.0	914.1	893.2	876.9
45°	976.3	963.4	950.6	937.7	924.9	907.6	885.6	863.7	841.7	819.7	803.5
47.5°	908.8	894.7	880.6	866.5	852.4	834.4	812.5	790.5	768.5	746.6	729.0
50°	859.5	846.1	832.7	819.4	805.9	787.7	764.6	741.5	718.4	695.3	677.6
52.5°	815.4	800.9	786.3	771.8	757.2	738.5	715.7	692.8	670.0	647.1	628.7
55°	741.5	727.5	713.5	699.6	685.6	666.5	642.2	618.0	593.8	569.6	553.1
57.5°	673.3	658.0	642.8	627.5	612.4	592.6	568.2	543.8	519.5	495.2	479.6
60°	626.0	610.4	594.7	579.0	563.3	543.7	520.0	496.3	472.7	449.0	433.6
62.5°	578.8	563.2	547.4	531.8	516.1	496.4	472.8	449.1	425.5	401.8	387.3
65°	506.7	491.1	475.3	459.7	444.0	425.1	402.8	380.6	358.4	336.1	322.2
67.5°	434.6	418.8	402.9	387.1	371.3	352.6	331.3	310.0	288.7	267.3	256.9
70°	387.4	372.0	356.7	341.2	325.8	308.2	288.2	268.2	248.3	228.4	218.4
72.5°	340.2	325.1	309.9	294.7	279.6	262.9	244.8	226.7	208.5	190.4	182.2
75°	268.2	254.4	240.7	227.1	213.4	198.7	183.0	167.3	151.7	136.0	133.1
77.5°	202.5	190.0	177.7	165.3	153.0	141.7	131.6	121.5	111.4	101.3	99.8
80°	160.3	148.6	137.0	125.3	113.6	104.8	98.8	92.7	86.8	80.8	79.9
82.5°	120.4	110.3	100.2	90.0	79.9	73.5	70.7	68.0	65.1	62.3	61.5
85°	68.0	61.7	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.9	22.8	20.8	18.8	16.8	16.0	16.7	17.3	18.0	18.6	18.6
90°	1.1	3.5	5.9	8.4	10.8	13.7	16.8	20.0	23.1	26.3	27.2
92.5°	20.4	19.7	19.0	18.3	17.6	18.5	20.9	23.3	25.6	28.0	29.6
95°	66.8	56.8	46.8	36.9	26.9	23.3	25.9	28.6	31.3	33.9	35.6
97.5°	134.2	129.8	125.3	120.8	116.3	105.4	87.8	70.3	52.8	35.3	37.2
100°	185.0	189.9	194.8	199.6	204.5	187.9	150.1	112.1	74.1	36.1	38.1
102.5°	242.9	246.4	249.9	253.4	256.9	237.9	196.4	155.0	113.5	72.0	66.0
105°	326.3	329.0	331.7	334.3	337.1	327.4	305.5	283.6	261.7	239.8	196.7
107.5°	414.3	416.5	418.7	420.8	422.9	425.7	429.2	432.6	436.1	439.6	407.9
110°	473.1	475.0	476.9	478.9	480.9	483.1	485.9	488.5	491.2	493.9	485.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	529.1	530.8	532.6	534.4	536.1	538.4	541.0	543.8	546.4	549.0	549.2
115°	612.2	613.6	615.0	616.5	617.9	619.8	622.0	624.2	626.4	628.6	631.0
117.5°	692.5	694.3	696.1	698.0	699.7	701.2	702.3	703.4	704.6	705.7	707.6
120°	742.4	744.6	746.9	749.0	751.2	752.7	753.4	754.1	754.9	755.5	757.5
122.5°	793.2	795.0	796.8	798.6	800.5	801.8	802.8	803.7	804.6	805.5	806.9
125°	862.9	864.9	866.8	868.7	870.7	872.1	873.1	874.1	875.1	876.0	876.6
127.5°	930.4	932.3	934.2	936.2	938.1	939.7	940.8	942.1	943.2	944.3	945.2
130°	972.4	974.4	976.3	978.3	980.1	981.7	982.6	983.6	984.6	985.5	986.6
132.5°	1012.7	1014.6	1016.6	1018.5	1020.5	1021.8	1022.7	1023.4	1024.2	1025.0	1026.0
135°	1074.2	1075.7	1077.1	1078.6	1080.1	1081.3	1082.3	1083.3	1084.2	1085.2	1085.9
137.5°	1126.8	1128.7	1130.5	1132.4	1134.3	1135.4	1136.0	1136.5	1137.0	1137.6	1138.7
140°	1161.9	1163.3	1164.8	1166.2	1167.7	1168.8	1169.5	1170.3	1171.0	1171.7	1172.7
142.5°	1194.3	1195.7	1197.2	1198.6	1200.1	1201.2	1201.9	1202.7	1203.4	1204.1	1204.9
145°	1239.6	1241.3	1243.0	1244.7	1246.4	1247.5	1248.0	1248.5	1249.0	1249.4	1249.9
147.5°	1282.3	1283.5	1284.6	1285.6	1286.8	1287.6	1288.1	1288.5	1289.0	1289.5	1290.1
150°	1308.6	1309.3	1310.0	1310.8	1311.5	1312.1	1312.6	1313.1	1313.6	1314.1	1314.6
152.5°	1332.3	1332.6	1332.9	1333.2	1333.6	1333.9	1334.2	1334.5	1334.8	1335.1	1336.0
155°	1365.6	1365.1	1364.5	1364.0	1363.6	1363.5	1363.7	1364.0	1364.2	1364.4	1365.6
157.5°	1391.4	1391.3	1391.3	1391.2	1391.2	1391.0	1390.8	1390.5	1390.3	1390.1	1391.6
160°	1407.1	1406.9	1406.7	1406.5	1406.2	1405.9	1405.7	1405.4	1405.2	1405.0	1406.5
162.5°	1422.0	1421.4	1420.8	1420.1	1419.5	1419.1	1418.8	1418.6	1418.3	1418.1	1419.8
165°	1440.0	1439.3	1438.5	1437.8	1437.1	1436.6	1436.3	1436.1	1435.9	1435.6	1437.6
167.5°	1454.1	1453.0	1452.1	1451.1	1450.1	1449.6	1449.6	1449.6	1449.6	1449.6	1451.6
170°	1461.9	1460.9	1460.0	1459.0	1458.0	1457.5	1457.5	1457.5	1457.5	1457.5	1459.4
172.5°	1467.2	1466.0	1464.8	1463.7	1462.4	1462.0	1462.2	1462.4	1462.5	1462.7	1464.7
175°	1473.9	1472.7	1471.5	1470.3	1469.0	1468.6	1468.9	1469.0	1469.3	1469.5	1471.3
177.5°	1475.7	1474.7	1473.8	1472.8	1471.8	1471.4	1471.6	1471.8	1472.0	1472.2	1473.8
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1575.5	1578.0	1580.5	1581.5	1581.0	1580.6	1580.2	1579.7
5°	1565.1	1567.6	1570.2	1571.2	1570.7	1570.1	1569.5	1569.0
7.5°	1543.0	1544.5	1545.9	1546.1	1545.1	1544.2	1543.2	1542.2
10°	1523.3	1523.6	1523.9	1523.3	1521.8	1520.4	1519.0	1517.6
12.5°	1498.7	1498.6	1498.5	1497.5	1495.9	1494.2	1492.6	1490.9
15°	1455.8	1454.3	1452.9	1451.1	1449.2	1447.2	1445.2	1443.2
17.5°	1404.3	1401.3	1398.3	1395.2	1392.3	1389.3	1386.4	1383.4
20°	1369.0	1365.4	1361.7	1358.1	1354.7	1351.2	1347.8	1344.4
22.5°	1331.3	1326.7	1322.1	1318.1	1315.0	1311.8	1308.6	1305.4
25°	1269.6	1263.6	1257.6	1253.0	1249.9	1246.8	1243.7	1240.5
27.5°	1202.3	1194.0	1185.6	1179.1	1174.3	1169.5	1164.7	1160.0
30°	1154.4	1144.7	1135.0	1127.9	1123.3	1118.8	1114.2	1109.7
32.5°	1107.4	1096.8	1086.2	1078.6	1073.7	1068.9	1064.1	1059.3
35°	1037.6	1025.4	1013.1	1004.5	999.4	994.2	989.1	983.9
37.5°	962.8	948.9	935.0	924.8	918.5	912.2	905.9	899.6
40°	910.7	895.9	881.0	870.3	863.7	857.2	850.6	844.1
42.5°	860.7	844.5	828.3	817.3	811.4	805.6	799.7	793.8
45°	787.2	771.0	754.7	743.2	736.3	729.5	722.6	715.9
47.5°	711.2	693.6	675.9	664.0	657.9	651.9	645.7	639.6
50°	660.0	642.2	624.6	612.5	606.0	599.4	592.9	586.3
52.5°	610.4	592.0	573.6	561.5	555.6	549.8	543.9	538.0
55°	536.5	520.0	503.4	492.3	486.6	480.9	475.2	469.5
57.5°	463.9	448.3	432.7	422.4	417.6	412.7	407.9	403.0
60°	418.2	402.8	387.4	377.3	372.5	367.6	362.8	357.9
62.5°	372.8	358.4	343.8	334.0	329.0	324.0	318.9	313.8
65°	308.2	294.2	280.2	271.6	268.5	265.4	262.3	259.1
67.5°	246.5	236.0	225.6	218.7	215.4	212.0	208.6	205.3
70°	208.4	198.4	188.4	181.9	178.7	175.6	172.5	169.4
72.5°	174.1	165.9	157.8	153.1	151.7	150.4	149.1	147.8
75°	130.3	127.4	124.6	122.9	122.3	121.7	121.1	120.6
77.5°	98.3	96.7	95.2	94.2	93.6	93.0	92.5	91.9
80°	79.1	78.2	77.4	76.7	76.2	75.6	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.2	58.1	58.0
85°	34.8	34.2	33.6	33.4	33.4	33.4	33.4	33.4
87.5°	18.6	18.5	18.5	18.4	18.3	18.1	18.0	17.8
90°	28.2	29.2	30.2	30.9	31.4	31.9	32.3	32.9
92.5°	31.1	32.7	34.3	35.2	35.4	35.8	36.1	36.4
95°	37.3	39.0	40.7	41.6	41.6	41.6	41.6	41.6
97.5°	39.1	41.1	43.1	44.1	44.4	44.7	44.9	45.1
100°	40.1	41.9	43.9	45.1	45.2	45.5	45.7	46.0
102.5°	59.9	53.9	47.9	45.1	45.5	46.0	46.5	46.8
105°	153.6	110.6	67.5	46.3	46.8	47.2	47.7	48.2
107.5°	376.4	344.8	313.2	281.2	248.7	216.2	183.8	151.4
110°	477.8	469.8	461.8	440.4	405.6	370.7	335.9	301.1



TEST NUMBER: P332357-830

CATALOG NUMBER: S123RDIP-S1000D1195U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	549.3	549.5	549.7	546.0	538.7	531.3	524.0	516.6
115°	633.4	635.8	638.3	640.0	640.9	642.0	642.9	643.9
117.5°	709.5	711.5	713.4	714.5	714.7	714.9	715.1	715.3
120°	759.5	761.4	763.4	764.3	764.3	764.3	764.3	764.3
122.5°	808.2	809.6	811.0	811.7	811.9	812.1	812.4	812.6
125°	877.0	877.5	878.0	878.4	878.9	879.5	880.0	880.4
127.5°	945.9	946.7	947.4	947.6	947.2	946.7	946.2	945.7
130°	987.5	988.4	989.5	989.7	989.2	988.7	988.3	987.8
132.5°	1026.9	1027.9	1028.9	1029.0	1028.3	1027.7	1027.0	1026.2
135°	1086.7	1087.4	1088.2	1088.2	1087.4	1086.7	1085.9	1085.2
137.5°	1139.9	1141.0	1142.2	1142.6	1142.1	1141.6	1141.1	1140.6
140°	1173.7	1174.6	1175.6	1175.8	1175.4	1174.9	1174.4	1173.9
142.5°	1205.7	1206.5	1207.2	1207.3	1206.6	1205.9	1205.2	1204.6
145°	1250.5	1250.9	1251.4	1251.6	1251.6	1251.6	1251.6	1251.6
147.5°	1290.5	1291.0	1291.5	1291.2	1290.1	1288.9	1287.8	1286.7
150°	1315.0	1315.5	1316.0	1315.9	1315.1	1314.5	1313.7	1313.0
152.5°	1336.8	1337.8	1338.6	1338.5	1337.4	1336.2	1335.1	1334.0
155°	1366.9	1368.1	1369.3	1369.1	1367.7	1366.3	1364.8	1363.4
157.5°	1393.0	1394.4	1395.9	1395.7	1393.8	1391.9	1390.0	1388.1
160°	1407.9	1409.3	1410.8	1410.7	1409.0	1407.3	1405.5	1403.8
162.5°	1421.4	1423.1	1424.7	1424.7	1423.2	1421.7	1420.2	1418.7
165°	1439.5	1441.4	1443.4	1443.5	1441.8	1440.1	1438.4	1436.7
167.5°	1453.5	1455.5	1457.5	1457.5	1455.5	1453.5	1451.6	1449.6
170°	1461.4	1463.4	1465.3	1465.3	1463.4	1461.4	1459.4	1457.5
172.5°	1466.7	1468.6	1470.6	1470.5	1468.3	1466.2	1464.1	1461.9
175°	1473.0	1474.7	1476.4	1476.2	1474.3	1472.3	1470.5	1468.5
177.5°	1475.3	1476.9	1478.4	1478.2	1476.3	1474.3	1472.3	1470.5
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9

(END OF REPORT)