

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: P332388-930

Luminaire Tested: **S123RDIP-S1165D1195U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332388-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1165D1195U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6914.4 lumens
Efficiency: N/A
Efficacy: 96.4 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

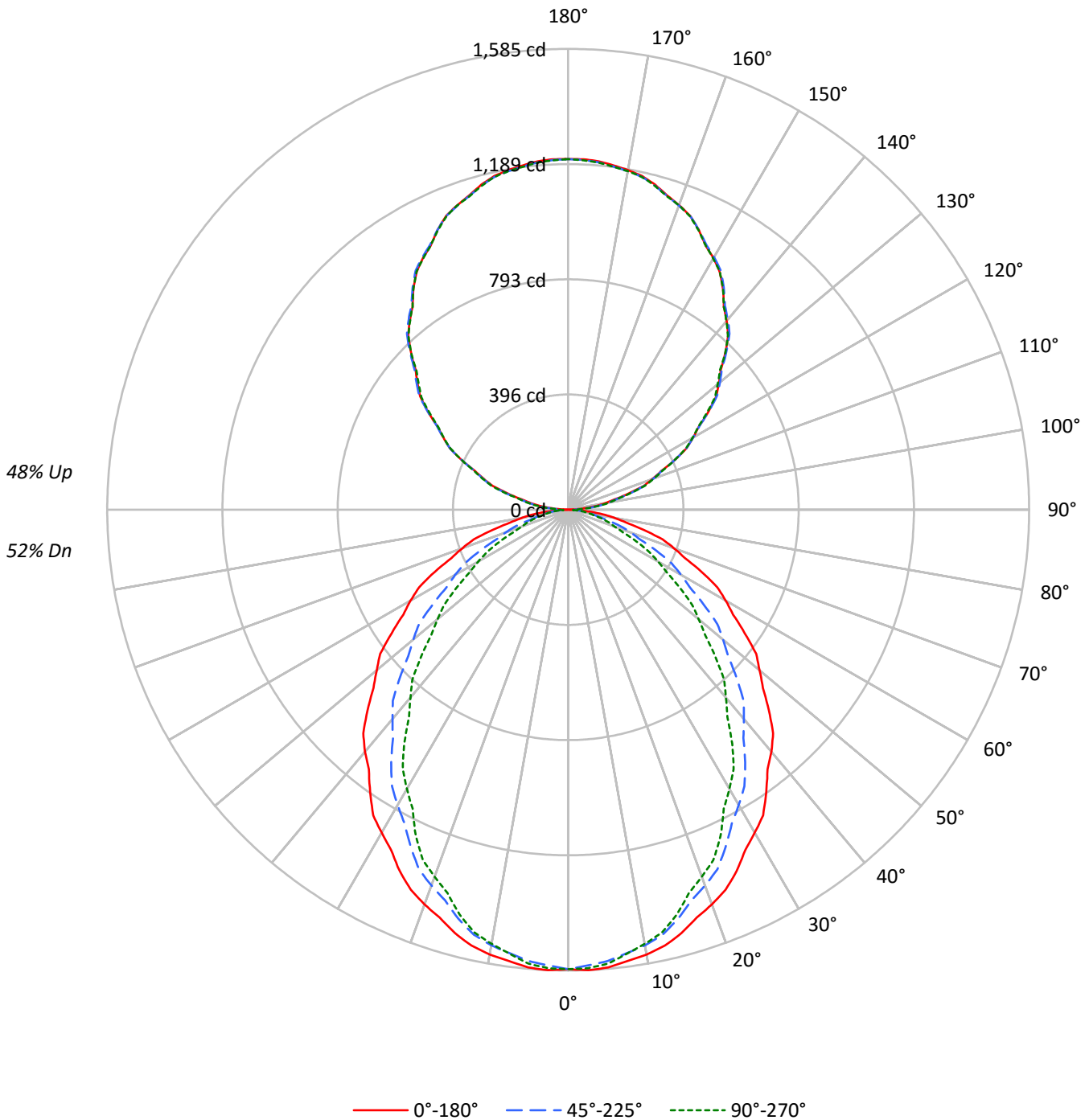
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	98	94	91	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	67	66	62	58	55	52	50	46	44	42	38
3	82	73	66	60	76	68	62	56	58	53	49	49	46	43	41	38	36	32
4	75	65	57	51	70	60	53	48	52	47	42	44	40	37	37	34	31	28
5	69	58	50	44	64	54	47	42	47	41	37	40	35	32	33	30	28	24
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	24	22
7	59	47	39	34	55	44	37	32	38	33	29	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	23	25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	24	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17009	17009	17009
5°	17074	16839	16935
10°	16978	16628	16571
15°	16796	16238	16067
20°	16544	15753	15385
25°	16286	15206	14719
30°	15945	14574	13779
35°	15594	13943	12917
40°	15271	13200	11849
45°	14846	12466	10886
50°	14380	11632	9808
55°	13902	10678	8801
60°	13464	9657	7698
65°	12893	8550	6594
70°	12180	7179	5325
75°	11137	5648	5011
80°	9930	5002	4612
85°	8386	4434	4113



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	2.1
10°-20°	412.9	6.0
20°-30°	594.5	8.6
30°-40°	669.6	9.7
40°-50°	640.6	9.3
50°-60°	524.6	7.6
60°-70°	354.0	5.1
70°-80°	178.1	2.6
80°-90°	50.7	0.7
90°-100°	78.6	1.1
100°-110°	235.1	3.4
110°-120°	399.9	5.8
120°-130°	526.0	7.6
130°-140°	591.2	8.6
140°-150°	581.2	8.4
150°-160°	489.3	7.1
160°-170°	325.7	4.7
170°-180°	114.0	1.6
0°-30°	1155.7	16.7
0°-40°	1825.4	26.4
0°-60°	2990.6	43.3
0°-90°	3573.3	51.7
90°-120°	713.6	10.3
90°-150°	2412.1	34.9
90°-180°	3341.0	48.3
0°-180°	6914.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1580	1580	1580	1580	1580	
5°	1580	1573	1558	1569	1567	150
15°	1507	1492	1457	1451	1442	424
25°	1371	1338	1280	1254	1239	630
35°	1187	1139	1061	1008	983	742
45°	975	915	819	748	715	752
55°	741	675	569	497	469	664
65°	506	434	336	276	259	501
75°	268	206	136	124	120	286
85°	68	41	36	33	33	76
90°	1	11	23	26	28	7
95°	56	63	70	74	74	63
105°	213	215	224	224	225	228
115°	403	405	404	404	404	398
125°	589	592	590	586	583	525
135°	764	770	769	766	764	589
145°	927	929	932	931	927	579
155°	1062	1062	1063	1066	1060	489
165°	1157	1154	1154	1159	1153	326
175°	1203	1199	1199	1204	1198	114
180°	1206	1206	1206	1206	1206	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1585.3	1584.4	1583.5	1582.6	1581.7	1579.8	1577.1	1574.3	1571.7	1568.9	1571.4
5°	1580.2	1578.7	1577.4	1575.9	1574.5	1572.1	1568.6	1565.2	1561.8	1558.4	1561.0
7.5°	1565.5	1564.1	1562.5	1561.0	1559.4	1556.4	1552.0	1547.5	1543.1	1538.6	1540.1
10°	1553.3	1551.3	1549.3	1547.3	1545.3	1541.7	1536.6	1531.5	1526.3	1521.3	1521.5
12.5°	1535.9	1533.7	1531.4	1529.2	1527.0	1522.7	1516.5	1510.2	1503.9	1497.6	1497.5
15°	1507.2	1504.0	1500.9	1497.7	1494.6	1489.1	1481.1	1473.1	1465.1	1457.2	1455.7
17.5°	1471.0	1467.4	1463.7	1460.0	1456.5	1449.5	1439.4	1429.2	1419.1	1409.0	1406.0
20°	1444.3	1439.8	1435.3	1430.7	1426.1	1418.5	1407.6	1396.8	1385.9	1375.2	1371.4
22.5°	1414.6	1409.3	1404.1	1398.9	1393.7	1385.3	1373.8	1362.3	1350.8	1339.2	1334.6
25°	1371.3	1364.2	1357.1	1349.9	1342.8	1332.7	1319.6	1306.5	1293.4	1280.3	1274.3
27.5°	1318.7	1310.9	1303.0	1295.2	1287.3	1276.1	1261.5	1246.9	1232.3	1217.7	1209.4
30°	1282.9	1274.3	1265.8	1257.2	1248.7	1236.4	1220.5	1204.5	1188.6	1172.6	1162.9
32.5°	1247.0	1237.3	1227.6	1217.9	1208.3	1195.0	1178.1	1161.2	1144.4	1127.6	1117.0
35°	1186.7	1176.5	1166.2	1156.0	1145.7	1131.8	1114.1	1096.5	1078.8	1061.1	1048.9
37.5°	1125.8	1114.4	1102.9	1091.5	1080.2	1065.0	1046.2	1027.4	1008.5	989.6	975.8
40°	1086.8	1074.2	1061.7	1049.2	1036.7	1020.3	1000.0	979.8	959.6	939.4	924.5
42.5°	1042.7	1030.1	1017.7	1005.1	992.5	975.8	955.0	934.0	913.1	892.3	876.0
45°	975.3	962.5	949.7	936.9	924.0	906.6	884.7	862.7	840.8	818.9	802.7
47.5°	907.8	893.8	879.7	865.7	851.6	833.6	811.6	789.7	767.8	745.9	728.2
50°	858.7	845.3	831.8	818.5	805.1	786.9	763.9	740.8	717.7	694.6	676.9
52.5°	814.6	800.1	785.5	771.0	756.4	737.8	714.9	692.1	669.3	646.5	628.1
55°	740.8	726.8	712.8	698.9	684.9	665.9	641.6	617.4	593.2	569.0	552.5
57.5°	672.5	657.4	642.1	627.0	611.7	592.0	567.7	543.3	519.0	494.7	479.1
60°	625.4	609.8	594.1	578.5	562.7	543.1	519.4	495.9	472.2	448.6	433.2
62.5°	578.2	562.6	546.9	531.2	515.6	495.9	472.3	448.7	425.0	401.4	386.9
65°	506.2	490.6	474.9	459.3	443.6	424.6	402.4	380.2	358.0	335.7	321.8
67.5°	434.2	418.3	402.5	386.7	370.9	352.3	331.0	309.7	288.4	267.1	256.7
70°	387.0	371.7	356.3	340.9	325.5	307.9	288.0	268.0	248.1	228.1	218.2
72.5°	339.9	324.7	309.6	294.4	279.2	262.6	244.5	226.4	208.3	190.2	182.1
75°	267.8	254.2	240.5	226.8	213.2	198.5	182.9	167.1	151.5	135.8	133.0
77.5°	202.2	189.9	177.5	165.2	152.8	141.5	131.5	121.4	111.3	101.3	99.7
80°	160.2	148.5	136.8	125.1	113.5	104.7	98.7	92.7	86.7	80.7	79.9
82.5°	120.2	110.1	100.0	89.9	79.9	73.5	70.7	67.8	65.1	62.3	61.4
85°	67.9	61.6	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.8	22.7	20.6	18.5	16.5	15.7	16.2	16.8	17.4	17.9	17.9
90°	1.0	3.0	5.1	7.3	9.4	11.8	14.5	17.3	20.0	22.7	23.6
92.5°	22.9	24.4	25.8	27.2	28.6	30.2	31.7	33.3	34.8	36.4	37.0
95°	55.9	57.4	58.9	60.3	61.8	63.3	65.1	66.7	68.4	70.1	70.9
97.5°	99.3	100.4	101.5	102.6	103.6	104.8	106.1	107.3	108.4	109.7	110.6
100°	128.8	130.1	131.3	132.6	133.9	135.0	136.1	137.1	138.2	139.3	139.9
102.5°	162.9	163.7	164.4	165.2	166.0	167.1	168.4	169.8	171.2	172.6	173.3
105°	213.1	213.5	214.0	214.4	214.8	216.0	217.8	219.8	221.7	223.6	223.6
107.5°	271.5	271.7	272.0	272.2	272.5	273.0	273.8	274.5	275.2	276.1	276.7
110°	307.9	308.3	308.7	309.2	309.6	310.0	310.4	310.8	311.2	311.7	312.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	345.8	346.0	346.3	346.5	346.7	346.9	347.0	347.1	347.2	347.2	348.3
115°	402.6	403.2	403.8	404.5	405.1	405.2	404.8	404.4	404.0	403.6	403.7
117.5°	459.8	460.2	460.6	461.1	461.5	461.5	460.9	460.3	459.8	459.3	459.2
120°	495.5	496.7	498.0	499.2	500.5	500.6	499.5	498.5	497.4	496.4	496.2
122.5°	532.6	533.5	534.4	535.3	536.3	536.5	535.9	535.3	534.8	534.3	533.7
125°	589.2	589.9	590.4	591.1	591.7	591.8	591.4	591.0	590.6	590.2	589.3
127.5°	641.5	642.9	644.2	645.6	646.9	647.3	646.9	646.4	646.0	645.5	644.3
130°	676.4	678.0	679.7	681.4	683.1	683.6	683.0	682.3	681.8	681.1	680.3
132.5°	711.2	712.9	714.6	716.2	718.0	718.6	718.1	717.6	717.1	716.7	715.7
135°	764.4	765.7	767.0	768.3	769.5	770.1	769.8	769.6	769.4	769.2	768.3
137.5°	813.8	814.7	815.8	816.8	817.9	818.7	819.3	819.8	820.4	820.9	820.0
140°	847.8	848.9	849.9	851.0	852.0	852.6	852.9	853.0	853.3	853.5	853.3
142.5°	878.9	880.0	881.0	882.1	883.1	883.8	884.2	884.6	884.9	885.3	885.1
145°	927.4	927.8	928.2	928.6	929.0	929.6	930.3	930.8	931.5	932.1	931.9
147.5°	969.8	970.6	971.3	972.1	972.9	973.5	974.1	974.7	975.3	975.9	975.9
150°	999.4	999.8	1000.2	1000.6	1001.1	1001.5	1001.9	1002.3	1002.7	1003.1	1003.1
152.5°	1023.6	1024.3	1024.8	1025.4	1026.0	1026.4	1026.6	1027.0	1027.2	1027.4	1027.8
155°	1061.9	1061.9	1061.9	1061.9	1061.9	1062.0	1062.3	1062.4	1062.7	1062.8	1063.7
157.5°	1094.5	1094.2	1094.0	1093.7	1093.5	1093.4	1093.6	1093.8	1094.0	1094.1	1095.0
160°	1114.9	1114.5	1114.1	1113.7	1113.3	1113.0	1113.0	1113.0	1113.0	1113.0	1114.1
162.5°	1133.1	1132.5	1132.0	1131.4	1130.8	1130.6	1130.7	1130.9	1131.1	1131.2	1132.3
165°	1156.7	1156.0	1155.4	1154.7	1154.1	1153.8	1153.8	1153.8	1153.8	1153.8	1155.0
167.5°	1175.4	1174.5	1173.7	1172.9	1172.0	1171.7	1171.8	1172.0	1172.2	1172.3	1173.6
170°	1186.0	1185.1	1184.3	1183.5	1182.6	1182.2	1182.2	1182.2	1182.2	1182.2	1183.7
172.5°	1194.3	1193.5	1192.6	1191.8	1191.0	1190.6	1190.6	1190.6	1190.6	1190.6	1191.9
175°	1203.1	1202.2	1201.3	1200.5	1199.7	1199.2	1199.2	1199.2	1199.2	1199.2	1200.5
177.5°	1206.6	1206.0	1205.3	1204.6	1204.0	1203.6	1203.6	1203.6	1203.6	1203.6	1204.6
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1573.9	1576.5	1578.9	1580.0	1579.5	1579.1	1578.6	1578.1
5°	1563.5	1566.1	1568.6	1569.6	1569.0	1568.5	1567.9	1567.3
7.5°	1541.5	1543.0	1544.3	1544.6	1543.6	1542.6	1541.6	1540.7
10°	1521.8	1522.1	1522.4	1521.8	1520.4	1519.0	1517.5	1516.1
12.5°	1497.3	1497.1	1497.0	1496.1	1494.4	1492.7	1491.1	1489.5
15°	1454.3	1452.9	1451.5	1449.8	1447.7	1445.8	1443.7	1441.8
17.5°	1403.0	1399.9	1396.9	1393.9	1390.9	1388.0	1385.0	1382.0
20°	1367.7	1364.0	1360.3	1356.7	1353.3	1349.9	1346.5	1343.1
22.5°	1330.0	1325.4	1320.8	1316.9	1313.7	1310.5	1307.3	1304.2
25°	1268.4	1262.3	1256.4	1251.8	1248.7	1245.5	1242.4	1239.3
27.5°	1201.1	1192.8	1184.5	1177.9	1173.1	1168.4	1163.6	1158.8
30°	1153.2	1143.6	1133.9	1126.8	1122.3	1117.7	1113.1	1108.6
32.5°	1106.4	1095.8	1085.2	1077.5	1072.7	1067.9	1063.2	1058.3
35°	1036.7	1024.4	1012.2	1003.5	998.3	993.2	988.1	983.0
37.5°	961.8	947.9	934.0	923.9	917.6	911.3	905.0	898.6
40°	909.8	895.0	880.2	869.5	862.9	856.4	849.9	843.3
42.5°	859.9	843.7	827.5	816.5	810.7	804.8	798.9	793.0
45°	786.4	770.2	754.0	742.5	735.6	728.8	721.9	715.1
47.5°	710.5	692.9	675.2	663.4	657.3	651.2	645.1	639.0
50°	659.3	641.6	623.9	611.9	605.4	598.8	592.2	585.7
52.5°	609.8	591.4	573.1	560.9	555.1	549.3	543.4	537.5
55°	536.0	519.4	503.0	491.9	486.2	480.5	474.7	469.0
57.5°	463.5	447.8	432.3	422.0	417.2	412.4	407.5	402.7
60°	417.8	402.4	387.0	376.9	372.1	367.2	362.4	357.6
62.5°	372.4	358.0	343.5	333.8	328.6	323.6	318.5	313.5
65°	307.9	293.9	280.0	271.4	268.3	265.1	262.0	258.9
67.5°	246.2	235.8	225.3	218.5	215.2	211.7	208.4	205.0
70°	208.1	198.2	188.3	181.7	178.6	175.5	172.3	169.2
72.5°	173.9	165.8	157.6	152.9	151.6	150.3	149.0	147.7
75°	130.1	127.3	124.4	122.8	122.2	121.6	121.1	120.5
77.5°	98.2	96.6	95.1	94.0	93.4	92.9	92.3	91.7
80°	79.0	78.2	77.3	76.6	76.1	75.5	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.1	58.0	58.0
85°	34.7	34.2	33.6	33.3	33.3	33.3	33.3	33.3
87.5°	17.8	17.7	17.6	17.5	17.4	17.3	17.1	17.0
90°	24.5	25.3	26.1	26.7	27.1	27.6	28.0	28.5
92.5°	37.7	38.4	39.1	39.3	39.1	38.8	38.5	38.2
95°	71.7	72.6	73.5	73.9	73.9	73.9	73.9	73.9
97.5°	111.6	112.6	113.6	114.0	113.9	113.8	113.7	113.7
100°	140.5	141.1	141.8	142.3	142.8	143.2	143.6	144.0
102.5°	173.8	174.5	175.1	175.4	175.3	175.2	175.1	175.0
105°	223.6	223.6	223.6	223.8	224.2	224.6	225.0	225.4
107.5°	277.4	278.1	278.8	278.9	278.7	278.4	278.2	277.9
110°	313.3	314.2	315.0	315.2	314.8	314.4	314.0	313.6



TEST NUMBER: P332388-930

CATALOG NUMBER: S123RDIP-S1165D1195U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	349.3	350.3	351.3	351.8	351.7	351.6	351.6	351.5
115°	404.0	404.1	404.4	404.4	404.1	404.0	403.7	403.6
117.5°	459.2	459.1	459.1	458.8	458.2	457.5	457.0	456.4
120°	495.9	495.8	495.5	495.2	494.8	494.4	494.0	493.5
122.5°	533.2	532.6	532.1	531.5	530.9	530.4	529.7	529.1
125°	588.5	587.7	586.8	586.0	585.1	584.2	583.4	582.6
127.5°	643.1	642.0	640.7	639.7	638.7	637.7	636.7	635.9
130°	679.4	678.6	677.8	676.5	675.1	673.6	672.1	670.7
132.5°	714.7	713.7	712.7	711.6	710.5	709.3	708.2	707.0
135°	767.5	766.6	765.8	765.2	764.8	764.3	763.9	763.5
137.5°	819.1	818.2	817.3	816.5	815.7	815.0	814.2	813.3
140°	853.0	852.9	852.6	851.8	850.4	848.9	847.4	846.0
142.5°	884.9	884.7	884.5	883.8	882.6	881.5	880.4	879.3
145°	931.7	931.5	931.3	930.7	929.9	929.0	928.2	927.4
147.5°	975.9	975.9	975.9	975.3	974.0	972.7	971.4	970.2
150°	1003.1	1003.1	1003.1	1002.6	1001.3	1000.0	998.7	997.5
152.5°	1028.1	1028.4	1028.7	1028.4	1027.3	1026.2	1025.1	1024.0
155°	1064.5	1065.4	1066.2	1065.9	1064.5	1063.0	1061.5	1060.0
157.5°	1095.8	1096.7	1097.6	1097.5	1096.3	1095.1	1094.0	1092.7
160°	1115.2	1116.2	1117.3	1117.4	1116.6	1115.7	1114.8	1114.0
162.5°	1133.3	1134.4	1135.5	1135.3	1133.9	1132.6	1131.2	1129.9
165°	1156.3	1157.6	1158.9	1158.7	1157.2	1155.8	1154.3	1152.8
167.5°	1174.9	1176.2	1177.5	1177.5	1176.2	1174.9	1173.6	1172.3
170°	1185.1	1186.7	1188.1	1188.1	1186.7	1185.1	1183.7	1182.2
172.5°	1193.2	1194.5	1195.8	1195.7	1194.2	1192.7	1191.2	1189.8
175°	1201.8	1203.1	1204.3	1204.2	1202.7	1201.3	1199.8	1198.3
177.5°	1205.7	1206.6	1207.6	1207.5	1206.4	1205.2	1204.0	1202.9
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9

(END OF REPORT)