

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: P332982-940

Luminaire Tested: **S124RDIP-S1020D1205U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332982-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S1020D1205U940-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8009.3 lumens
Efficiency: N/A
Efficacy: 122.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

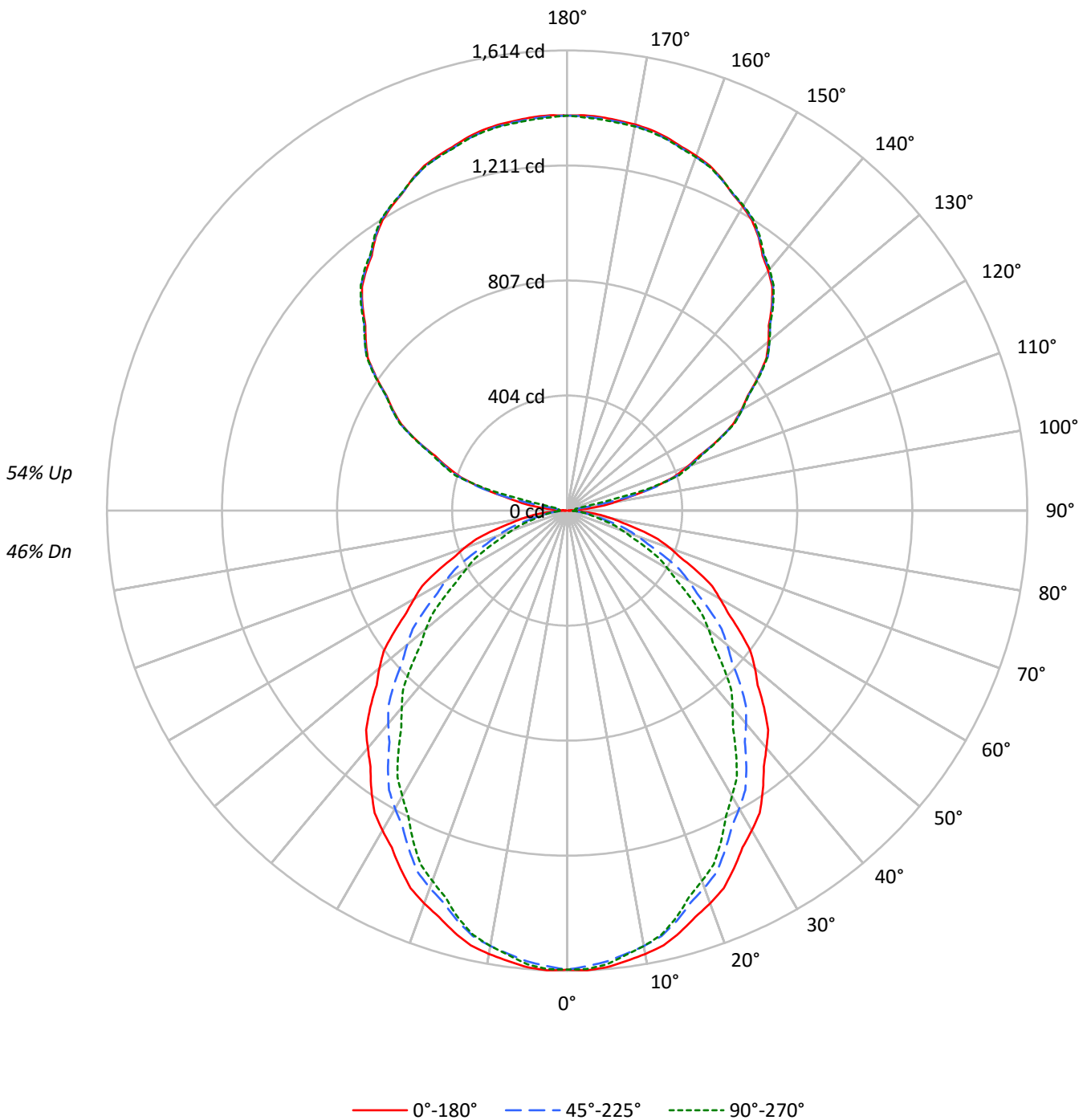
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	98	98	98	98	81	81	81	67	67	67	53	53	53	46
1	97	93	89	86	89	86	82	79	72	69	67	59	57	56	47	46	45	40
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	42	40	38	34
3	81	72	65	59	74	66	60	55	56	51	47	46	43	40	37	35	33	29
4	74	64	56	50	68	59	52	47	50	45	41	41	38	34	33	31	29	25
5	68	57	49	43	62	53	46	40	45	39	35	37	33	30	30	27	25	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	26	27	24	22	19
7	58	46	38	33	53	43	36	31	37	31	27	31	26	23	25	22	20	17
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	31	26	46	36	29	24	31	25	22	26	22	19	21	18	16	14
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12999	12999	12999
5°	13028	12869	12949
10°	12946	12714	12714
15°	12797	12447	12354
20°	12594	12095	11874
25°	12333	11685	11388
30°	12078	11251	10781
35°	11798	10801	10170
40°	11460	10290	9511
45°	11147	9782	8840
50°	10792	9198	8130
55°	10412	8590	7357
60°	9993	7923	6570
65°	9608	7089	5794
70°	9050	6170	4919
75°	8344	5115	3999
80°	7280	3896	3668
85°	6169	3548	3316



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.3	1.9
10°-20°	421.8	5.3
20°-30°	609.1	7.6
30°-40°	690.4	8.6
40°-50°	666.7	8.3
50°-60°	554.4	6.9
60°-70°	382.8	4.8
70°-80°	194.0	2.4
80°-90°	53.8	0.7
90°-100°	47.4	0.6
100°-110°	302.1	3.8
110°-120°	577.9	7.2
120°-130°	733.6	9.2
130°-140°	784.9	9.8
140°-150°	734.0	9.2
150°-160°	591.9	7.4
160°-170°	381.8	4.8
170°-180°	131.6	1.6
0°-30°	1182.1	14.8
0°-40°	1872.5	23.4
0°-60°	3093.5	38.6
0°-90°	3724.1	46.5
90°-120°	927.4	11.6
90°-150°	3179.9	39.7
90°-180°	4285.0	53.5
0°-180°	8009.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1610	1610	1610	1610	1610	
5°	1608	1602	1588	1599	1598	152
15°	1531	1519	1489	1486	1478	431
25°	1385	1361	1312	1291	1278	638
35°	1197	1156	1096	1055	1032	748
45°	976	929	857	799	774	753
55°	740	689	610	548	523	661
65°	503	449	371	320	303	497
75°	268	221	164	137	128	282
85°	67	43	38	36	36	75
90°	3	14	23	29	31	6
95°	57	24	23	29	30	73
105°	312	318	323	330	295	326
115°	582	585	584	586	586	573
125°	818	822	821	824	825	730
135°	1015	1015	1018	1021	1023	782
145°	1171	1174	1174	1175	1177	731
155°	1284	1285	1282	1285	1283	592
165°	1354	1349	1349	1356	1348	383
175°	1385	1379	1380	1388	1377	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°	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2
2.5°	1614.1	1613.2	1612.3	1611.5	1610.6	1608.9	1606.5	1604.1	1601.7	1599.3	1601.7
5°	1607.7	1606.6	1605.5	1604.4	1603.3	1601.1	1597.9	1594.6	1591.3	1588.0	1590.7
7.5°	1593.1	1592.0	1590.8	1589.7	1588.5	1585.8	1581.5	1577.3	1573.0	1568.7	1570.5
10°	1579.3	1578.0	1576.5	1575.2	1573.9	1570.7	1565.8	1560.9	1555.9	1551.0	1552.0
12.5°	1561.6	1560.0	1558.4	1556.8	1555.2	1551.5	1545.7	1539.9	1534.1	1528.3	1528.9
15°	1531.2	1528.7	1526.3	1523.8	1521.3	1516.7	1509.8	1503.0	1496.2	1489.3	1488.8
17.5°	1494.5	1490.9	1487.4	1483.8	1480.2	1474.4	1466.2	1457.9	1449.7	1441.5	1439.9
20°	1465.9	1462.3	1458.7	1455.2	1451.6	1445.2	1435.9	1426.6	1417.3	1407.9	1405.8
22.5°	1434.3	1430.3	1426.3	1422.4	1418.4	1411.3	1401.4	1391.4	1381.4	1371.5	1368.2
25°	1384.6	1379.6	1374.7	1369.8	1364.8	1356.7	1345.5	1334.3	1323.0	1311.8	1307.2
27.5°	1332.2	1326.1	1319.9	1313.7	1307.5	1298.4	1286.4	1274.4	1262.4	1250.4	1244.6
30°	1295.7	1288.9	1282.1	1275.2	1268.4	1258.5	1245.6	1232.7	1219.9	1207.0	1200.2
32.5°	1257.3	1249.6	1241.8	1234.1	1226.4	1215.8	1202.6	1189.3	1175.9	1162.6	1154.7
35°	1197.1	1188.4	1179.6	1170.8	1162.1	1150.8	1137.1	1123.5	1109.7	1096.0	1086.7
37.5°	1132.7	1123.7	1114.7	1105.6	1096.6	1084.5	1069.3	1054.2	1038.9	1023.8	1013.3
40°	1087.4	1078.3	1069.3	1060.2	1051.2	1038.9	1023.3	1007.6	992.0	976.4	964.9
42.5°	1044.0	1034.6	1025.0	1015.6	1006.1	993.2	977.0	960.6	944.4	928.1	916.4
45°	976.4	966.3	956.2	946.0	935.9	922.6	906.2	889.7	873.3	856.8	843.5
47.5°	906.7	896.2	885.7	875.3	864.8	851.0	833.9	816.8	799.7	782.7	768.7
50°	859.3	848.6	837.9	827.2	816.5	802.5	785.0	767.4	749.8	732.4	718.6
52.5°	811.0	800.5	790.1	779.6	769.1	754.9	736.9	719.0	701.0	683.1	669.1
55°	739.8	728.8	717.8	706.9	695.9	681.5	663.7	645.9	628.1	610.3	596.0
57.5°	669.2	657.8	646.4	635.0	623.7	609.1	591.7	574.1	556.5	539.0	524.6
60°	618.9	608.0	597.0	586.0	575.1	560.8	543.3	525.8	508.2	490.7	476.4
62.5°	573.5	562.1	550.7	539.3	528.0	513.3	495.3	477.3	459.3	441.4	428.2
65°	503.0	491.2	479.5	467.7	455.9	441.2	423.7	406.2	388.6	371.1	359.4
67.5°	429.8	418.5	407.2	395.9	384.6	370.9	354.5	338.3	322.0	305.8	295.6
70°	383.4	371.9	360.4	348.9	337.4	323.9	308.3	292.6	277.0	261.4	252.4
72.5°	334.1	323.7	313.3	302.9	292.5	279.9	265.2	250.4	235.7	221.0	213.2
75°	267.5	257.4	247.3	237.1	227.0	215.4	202.6	189.8	176.8	164.0	157.7
77.5°	200.0	191.4	182.8	174.2	165.6	156.0	145.6	135.3	124.8	114.4	110.8
80°	156.6	148.6	140.7	132.8	124.8	116.7	108.5	100.3	92.0	83.8	83.0
82.5°	119.1	111.8	104.5	97.2	90.0	83.9	79.3	74.5	69.8	65.1	64.5
85°	66.6	61.1	55.6	50.1	44.7	41.5	40.7	39.9	39.1	38.3	37.6
87.5°	23.3	22.0	20.8	19.5	18.3	17.7	17.9	18.1	18.2	18.4	18.5
90°	3.1	5.6	8.2	10.7	13.2	15.4	17.3	19.1	21.0	22.8	24.2
92.5°	13.0	13.2	13.4	13.5	13.6	14.6	16.4	18.3	20.2	21.9	23.4
95°	57.0	49.1	41.3	33.5	25.7	21.8	22.1	22.3	22.6	22.8	24.2
97.5°	121.0	125.9	130.8	135.6	140.5	130.1	104.4	78.7	53.1	27.4	27.5
100°	170.0	174.1	178.3	182.4	186.5	172.7	140.9	109.1	77.4	45.6	41.6
102.5°	224.6	227.7	230.7	233.7	236.7	236.2	232.1	227.9	223.8	219.6	177.5
105°	311.8	313.3	314.6	316.0	317.4	318.7	319.9	320.9	322.1	323.2	325.4
107.5°	392.9	393.6	394.3	394.9	395.7	396.8	398.3	399.9	401.4	403.1	404.0
110°	447.6	448.3	449.0	449.7	450.4	451.4	452.8	454.1	455.6	456.9	457.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	500.7	501.9	503.1	504.4	505.6	506.6	507.2	507.8	508.5	509.2	509.1
115°	582.3	583.0	583.7	584.3	585.1	585.3	585.1	584.9	584.6	584.3	584.9
117.5°	655.9	656.7	657.7	658.6	659.5	660.2	660.8	661.3	661.8	662.3	662.2
120°	705.6	706.5	707.5	708.4	709.3	709.6	709.4	709.2	708.9	708.7	709.2
122.5°	752.0	752.6	753.1	753.7	754.2	754.7	755.0	755.3	755.6	756.0	756.3
125°	818.5	819.5	820.4	821.3	822.2	822.4	822.0	821.5	821.1	820.6	821.3
127.5°	881.5	881.7	882.0	882.3	882.4	883.1	884.1	885.2	886.3	887.3	887.2
130°	922.1	922.4	922.7	922.8	923.1	923.5	924.3	924.9	925.6	926.3	926.5
132.5°	959.5	959.8	960.3	960.7	961.1	961.8	962.6	963.5	964.4	965.3	965.5
135°	1015.4	1015.2	1014.9	1014.7	1014.5	1014.9	1015.7	1016.6	1017.6	1018.5	1019.0
137.5°	1065.0	1065.1	1065.1	1065.2	1065.3	1065.9	1066.8	1067.9	1068.9	1069.9	1070.4
140°	1097.3	1097.7	1098.1	1098.7	1099.1	1099.6	1100.0	1100.5	1100.9	1101.4	1102.1
142.5°	1126.2	1127.1	1127.9	1128.7	1129.6	1130.2	1130.4	1130.7	1131.0	1131.2	1131.8
145°	1170.8	1171.5	1172.2	1172.9	1173.6	1173.9	1173.9	1173.9	1173.9	1173.9	1174.2
147.5°	1206.2	1207.6	1208.8	1210.1	1211.4	1211.9	1211.7	1211.5	1211.2	1211.0	1211.2
150°	1232.0	1232.9	1233.8	1234.8	1235.6	1236.0	1235.7	1235.6	1235.3	1235.0	1235.0
152.5°	1253.5	1254.3	1255.0	1255.7	1256.4	1256.6	1256.2	1255.8	1255.4	1255.0	1255.4
155°	1283.8	1284.0	1284.2	1284.4	1284.7	1284.4	1283.8	1283.1	1282.4	1281.7	1282.6
157.5°	1309.2	1309.1	1308.9	1308.9	1308.7	1308.2	1307.4	1306.7	1305.9	1305.1	1306.3
160°	1324.2	1323.5	1322.8	1322.1	1321.4	1321.0	1320.7	1320.4	1320.3	1320.0	1321.4
162.5°	1337.4	1336.6	1335.7	1334.8	1333.9	1333.4	1333.1	1332.9	1332.7	1332.5	1333.8
165°	1354.2	1353.1	1351.9	1350.8	1349.6	1349.1	1349.1	1349.1	1349.1	1349.1	1350.9
167.5°	1367.4	1366.3	1365.1	1363.9	1362.7	1362.0	1361.9	1361.7	1361.6	1361.5	1363.5
170°	1374.9	1373.6	1372.2	1370.8	1369.4	1368.9	1369.0	1369.3	1369.5	1369.8	1371.6
172.5°	1379.9	1378.5	1377.2	1375.7	1374.4	1373.8	1374.0	1374.3	1374.5	1374.8	1376.5
175°	1385.3	1383.9	1382.5	1381.2	1379.7	1379.2	1379.4	1379.7	1379.9	1380.1	1382.2
177.5°	1387.8	1386.5	1385.2	1383.9	1382.6	1382.2	1382.5	1382.9	1383.3	1383.7	1385.1
180°	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2
2.5°	1604.1	1606.5	1608.9	1610.1	1609.8	1609.6	1609.4	1609.2
5°	1593.4	1596.2	1598.9	1600.0	1599.5	1598.9	1598.4	1597.9
7.5°	1572.3	1574.0	1575.7	1576.2	1575.3	1574.4	1573.5	1572.6
10°	1553.2	1554.3	1555.3	1555.3	1554.3	1553.2	1552.0	1551.0
12.5°	1529.6	1530.3	1530.9	1530.4	1528.9	1527.4	1525.9	1524.4
15°	1488.3	1487.6	1487.1	1485.9	1484.0	1482.0	1480.2	1478.2
17.5°	1438.4	1436.9	1435.4	1433.2	1430.2	1427.4	1424.4	1421.5
20°	1403.6	1401.4	1399.2	1396.3	1392.8	1389.2	1385.6	1382.1
22.5°	1364.9	1361.6	1358.3	1355.2	1352.3	1349.4	1346.5	1343.6
25°	1302.4	1297.8	1293.2	1289.4	1286.7	1284.0	1281.2	1278.5
27.5°	1238.9	1233.1	1227.4	1222.5	1218.6	1214.6	1210.7	1206.8
30°	1193.3	1186.4	1179.6	1173.9	1169.6	1165.2	1160.8	1156.5
32.5°	1146.7	1138.8	1130.9	1124.8	1120.6	1116.4	1112.3	1108.1
35°	1077.4	1068.1	1058.7	1051.7	1046.7	1041.8	1036.9	1031.9
37.5°	1003.0	992.6	982.1	974.5	969.6	964.6	959.7	954.8
40°	953.4	941.9	930.4	922.2	917.3	912.3	907.4	902.5
42.5°	904.6	893.0	881.2	872.8	867.6	862.5	857.3	852.2
45°	830.0	816.5	803.2	794.0	789.1	784.1	779.2	774.3
47.5°	754.8	740.9	726.9	717.3	711.9	706.4	701.0	695.6
50°	704.9	691.3	677.5	668.1	662.9	657.6	652.5	647.3
52.5°	655.1	641.2	627.3	617.7	612.2	606.8	601.4	596.0
55°	581.8	567.6	553.3	543.6	538.3	533.2	528.0	522.7
57.5°	510.1	495.6	481.2	472.0	468.0	464.0	460.1	456.2
60°	462.2	447.9	433.7	424.4	420.0	415.6	411.3	406.9
62.5°	415.1	401.9	388.8	380.4	376.9	373.4	369.9	366.4
65°	347.5	335.7	324.0	316.5	313.2	309.9	306.6	303.3
67.5°	285.4	275.4	265.2	258.3	254.7	251.1	247.4	243.9
70°	243.3	234.3	225.2	219.3	216.6	213.8	211.1	208.4
72.5°	205.5	197.8	190.0	184.9	182.4	179.9	177.4	174.9
75°	151.4	145.1	138.8	134.8	133.1	131.5	129.8	128.2
77.5°	107.1	103.4	99.7	97.6	97.1	96.7	96.1	95.7
80°	82.2	81.4	80.5	80.0	79.7	79.5	79.2	78.9
82.5°	63.8	63.3	62.7	62.2	62.0	61.7	61.4	61.2
85°	37.1	36.6	36.0	35.8	35.8	35.8	35.8	35.8
87.5°	18.5	18.5	18.6	18.8	19.1	19.4	19.7	20.1
90°	25.6	26.9	28.4	29.2	29.7	30.1	30.6	31.1
92.5°	24.7	26.1	27.5	28.3	28.4	28.4	28.5	28.6
95°	25.6	26.9	28.4	29.2	29.3	29.6	29.8	30.1
97.5°	27.6	27.7	27.9	28.1	28.4	28.5	28.8	29.0
100°	37.7	33.9	30.0	28.1	28.4	28.5	28.8	29.0
102.5°	135.2	93.0	50.7	29.7	29.7	29.8	29.8	29.9
105°	327.4	329.5	331.5	328.4	320.1	311.8	303.6	295.3
107.5°	405.1	406.1	407.1	408.0	408.9	409.8	410.6	411.5
110°	457.9	458.3	458.8	459.3	460.0	460.7	461.5	462.1



TEST NUMBER: P332982-940

CATALOG NUMBER: S124RDIP-S1020D1205U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	509.0	508.9	508.8	509.2	510.1	511.0	511.8	512.6
115°	585.3	585.8	586.2	586.5	586.5	586.5	586.5	586.5
117.5°	662.1	662.0	661.9	661.8	661.7	661.6	661.6	661.5
120°	709.6	710.1	710.5	710.5	710.1	709.6	709.2	708.7
122.5°	756.5	756.8	757.1	757.0	756.5	756.1	755.5	755.1
125°	822.0	822.7	823.4	823.9	824.0	824.3	824.6	824.7
127.5°	887.1	886.9	886.8	886.6	886.4	886.3	886.1	885.9
130°	926.8	927.0	927.2	927.3	927.3	927.3	927.3	927.3
132.5°	965.7	966.0	966.2	966.2	966.0	965.8	965.6	965.5
135°	1019.4	1019.8	1020.4	1020.8	1021.3	1021.7	1022.2	1022.6
137.5°	1070.9	1071.4	1071.9	1072.1	1072.0	1071.8	1071.7	1071.6
140°	1102.8	1103.5	1104.2	1104.7	1104.8	1105.1	1105.3	1105.5
142.5°	1132.3	1132.7	1133.3	1133.5	1133.6	1133.6	1133.7	1133.7
145°	1174.4	1174.7	1174.8	1175.2	1175.6	1176.1	1176.6	1177.1
147.5°	1211.4	1211.6	1211.7	1211.9	1212.2	1212.5	1212.6	1212.9
150°	1235.0	1235.0	1235.0	1235.2	1235.4	1235.6	1235.9	1236.1
152.5°	1255.7	1256.1	1256.4	1256.5	1256.4	1256.2	1256.2	1256.0
155°	1283.5	1284.4	1285.4	1285.5	1284.8	1284.1	1283.4	1282.7
157.5°	1307.5	1308.7	1309.9	1309.9	1308.7	1307.5	1306.3	1305.1
160°	1322.8	1324.2	1325.5	1325.5	1324.2	1322.8	1321.4	1320.0
162.5°	1335.2	1336.6	1338.0	1337.9	1336.3	1334.8	1333.2	1331.6
165°	1352.7	1354.6	1356.4	1356.3	1354.2	1352.1	1350.1	1348.0
167.5°	1365.6	1367.5	1369.6	1369.4	1367.2	1364.9	1362.5	1360.2
170°	1373.4	1375.3	1377.2	1376.9	1374.6	1372.3	1370.0	1367.7
172.5°	1378.4	1380.3	1382.1	1381.8	1379.3	1376.8	1374.3	1371.8
175°	1384.3	1386.3	1388.4	1388.0	1385.3	1382.5	1379.7	1377.0
177.5°	1386.6	1388.0	1389.6	1389.2	1387.0	1384.7	1382.5	1380.4
180°	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3

(END OF REPORT)