

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: P332983

Luminaire Tested: **S124RDIP-S1020D1205U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332983
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S1020D1205U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8344.1 lumens
Efficiency: N/A
Efficacy: 127.6 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

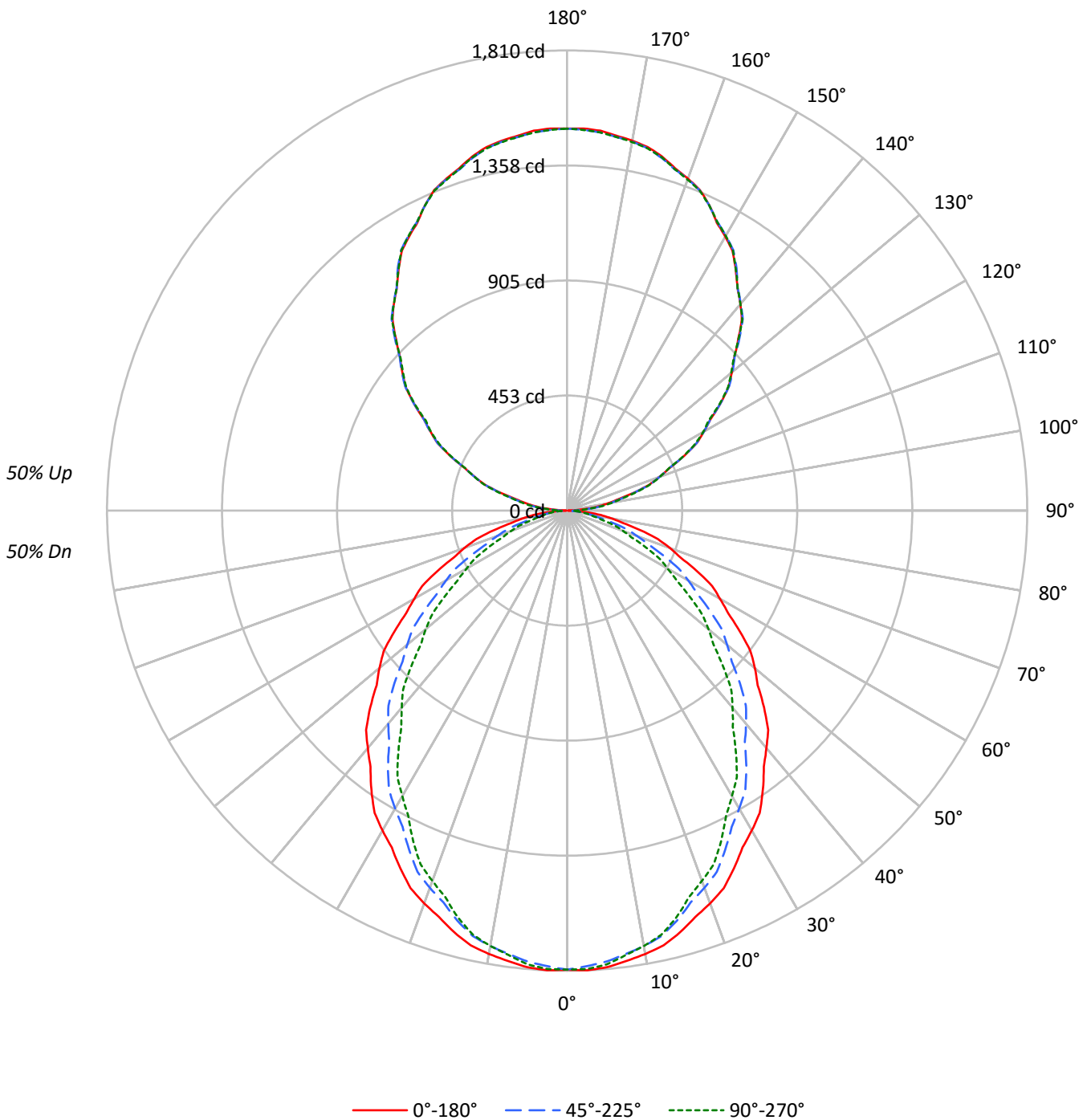
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50																				
1	98	94	90	87	90	87	84	81	73	71	69	61	60	58	50	49	48	43																				
2	90	82	76	71	82	76	71	67	65	61	58	54	51	49	44	42	41	36																				
3	82	73	65	60	75	67	61	56	57	53	49	48	45	42	40	37	35	31																				
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	35	33	30	27																				
5	69	57	49	43	63	53	46	41	46	40	36	39	35	31	32	29	27	23																				
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	24	21																				
7	59	47	39	33	54	43	36	31	38	32	28	32	28	24	27	23	21	18																				
8	55	42	35	29	50	40	33	28	34	29	25	29	25	22	25	21	19	17																				
9	51	39	31	26	47	36	30	25	31	26	22	27	23	20	23	19	17	15																				
10	48	36	28	24	44	33	27	22	29	24	20	25	21	18	21	18	16	14																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14577	14577	14577
5°	14610	14431	14521
10°	14519	14258	14258
15°	14352	13959	13855
20°	14123	13564	13315
25°	13831	13104	12772
30°	13546	12618	12089
35°	13231	12113	11404
40°	12852	11540	10666
45°	12501	10970	9913
50°	12103	10315	9117
55°	11676	9633	8251
60°	11207	8885	7367
65°	10776	7950	6497
70°	10150	6918	5516
75°	9357	5736	4485
80°	8164	4370	4114
85°	6919	3974	3714



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.6	2.0
10°-20°	473.0	5.7
20°-30°	683.0	8.2
30°-40°	774.2	9.3
40°-50°	747.6	9.0
50°-60°	621.7	7.5
60°-70°	429.3	5.1
70°-80°	217.6	2.6
80°-90°	60.3	0.7
90°-100°	99.1	1.2
100°-110°	293.5	3.5
110°-120°	498.2	6.0
120°-130°	656.9	7.9
130°-140°	737.7	8.8
140°-150°	724.9	8.7
150°-160°	609.7	7.3
160°-170°	405.7	4.9
170°-180°	142.1	1.7
0°-30°	1325.6	15.9
0°-40°	2099.9	25.2
0°-60°	3469.2	41.6
0°-90°	4176.4	50.1
90°-120°	890.8	10.7
90°-150°	3010.3	36.1
90°-180°	4168.0	50.0
0°-180°	8344.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1806	1806	1806	1806	1806	
5°	1803	1797	1781	1794	1792	171
15°	1717	1704	1670	1667	1658	484
25°	1553	1526	1471	1448	1434	715
35°	1342	1297	1229	1183	1157	839
45°	1095	1042	961	896	868	844
55°	830	772	684	615	586	742
65°	564	503	416	359	340	557
75°	300	248	184	153	144	317
85°	75	48	43	40	40	84
90°	4	16	26	32	35	8
95°	70	80	88	92	92	78
105°	271	272	276	280	284	287
115°	506	506	504	503	502	499
125°	738	738	737	734	732	657
135°	952	958	958	956	953	736
145°	1156	1160	1162	1160	1157	723
155°	1324	1324	1323	1327	1323	609
165°	1442	1438	1436	1442	1438	406
175°	1500	1494	1493	1500	1493	142
180°	1502	1502	1502	1502	1502	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1805.7	1805.7	1805.7	1805.7	1805.7	1805.7	1805.7	1805.7	1805.7	1805.7	1805.7
2.5°	1810.1	1809.1	1808.1	1807.2	1806.2	1804.3	1801.6	1798.9	1796.2	1793.5	1796.2
5°	1802.9	1801.7	1800.5	1799.2	1798.0	1795.5	1791.9	1788.2	1784.5	1780.8	1783.9
7.5°	1786.6	1785.3	1784.0	1782.7	1781.4	1778.4	1773.6	1768.8	1764.0	1759.2	1761.2
10°	1771.1	1769.6	1768.0	1766.5	1765.0	1761.4	1755.9	1750.4	1744.8	1739.3	1740.5
12.5°	1751.2	1749.4	1747.6	1745.9	1744.1	1739.9	1733.4	1726.9	1720.4	1713.9	1714.6
15°	1717.2	1714.4	1711.7	1708.9	1706.1	1700.9	1693.2	1685.5	1677.9	1670.2	1669.6
17.5°	1676.0	1672.0	1668.0	1664.0	1660.0	1653.4	1644.2	1635.0	1625.8	1616.5	1614.8
20°	1643.9	1639.9	1635.9	1631.9	1627.9	1620.7	1610.3	1599.8	1589.4	1578.9	1576.5
22.5°	1608.5	1604.0	1599.5	1595.1	1590.6	1582.7	1571.6	1560.4	1549.2	1538.0	1534.3
25°	1552.7	1547.1	1541.6	1536.1	1530.5	1521.5	1508.9	1496.3	1483.7	1471.1	1465.9
27.5°	1494.0	1487.1	1480.2	1473.2	1466.3	1456.1	1442.6	1429.2	1415.7	1402.2	1395.8
30°	1453.1	1445.4	1437.8	1430.1	1422.4	1411.3	1396.9	1382.4	1368.0	1353.6	1345.9
32.5°	1410.0	1401.3	1392.6	1384.0	1375.3	1363.5	1348.6	1333.7	1318.7	1303.8	1294.9
35°	1342.5	1332.7	1322.8	1313.0	1303.2	1290.6	1275.2	1259.9	1244.5	1229.1	1218.7
37.5°	1270.3	1260.2	1250.1	1239.9	1229.8	1216.2	1199.2	1182.2	1165.1	1148.1	1136.4
40°	1219.5	1209.3	1199.2	1189.0	1178.9	1165.1	1147.6	1130.0	1112.5	1095.0	1082.1
42.5°	1170.8	1160.2	1149.5	1138.9	1128.3	1113.8	1095.6	1077.3	1059.1	1040.8	1027.7
45°	1095.0	1083.7	1072.3	1060.9	1049.5	1034.6	1016.2	997.8	979.3	960.9	945.9
47.5°	1016.8	1005.0	993.3	981.6	969.8	954.4	935.2	916.0	896.8	877.7	862.1
50°	963.7	951.7	939.7	927.7	915.7	899.9	880.3	860.6	840.9	821.3	805.9
52.5°	909.5	897.7	886.0	874.3	862.5	846.6	826.4	806.3	786.1	766.0	750.4
55°	829.6	817.3	805.0	792.7	780.4	764.3	744.3	724.3	704.4	684.4	668.4
57.5°	750.5	737.7	724.9	712.1	699.4	683.1	663.5	643.8	624.1	604.5	588.3
60°	694.1	681.8	669.5	657.2	644.9	628.9	609.3	589.6	569.9	550.3	534.3
62.5°	643.2	630.4	617.6	604.8	592.1	575.6	555.4	535.3	515.1	495.0	480.2
65°	564.1	550.9	537.7	524.5	511.3	494.8	475.2	455.5	435.8	416.2	403.0
67.5°	482.0	469.3	456.7	444.0	431.3	415.9	397.6	379.4	361.1	342.9	331.5
70°	430.0	417.1	404.2	391.3	378.4	363.2	345.7	328.1	310.6	293.1	283.0
72.5°	374.7	363.0	351.3	339.7	328.0	313.9	297.4	280.8	264.3	247.8	239.1
75°	300.0	288.7	277.3	265.9	254.6	241.6	227.2	212.8	198.3	183.9	176.8
77.5°	224.3	214.6	205.0	195.3	185.7	175.0	163.3	151.7	140.0	128.3	124.2
80°	175.6	166.7	157.8	148.9	140.0	130.9	121.7	112.5	103.2	94.0	93.1
82.5°	133.6	125.4	117.2	109.0	100.9	94.1	88.9	83.6	78.3	73.0	72.3
85°	74.7	68.5	62.4	56.2	50.1	46.5	45.6	44.7	43.8	42.9	42.2
87.5°	26.1	24.7	23.3	21.9	20.5	19.9	20.1	20.3	20.4	20.6	20.7
90°	3.5	6.3	9.2	12.0	14.8	17.3	19.4	21.4	23.5	25.6	27.1
92.5°	24.9	28.1	31.4	34.6	37.9	40.2	41.7	43.1	44.6	46.0	46.9
95°	69.7	72.0	74.4	76.7	79.0	81.1	82.9	84.7	86.5	88.3	89.1
97.5°	121.8	123.6	125.5	127.3	129.2	131.2	133.3	135.4	137.5	139.6	140.6
100°	162.7	163.7	164.7	165.7	166.8	168.5	170.8	173.1	175.4	177.8	178.3
102.5°	205.4	205.8	206.2	206.6	207.1	208.3	210.4	212.6	214.7	216.8	217.5
105°	270.7	271.0	271.2	271.5	271.7	272.4	273.4	274.4	275.5	276.5	277.3
107.5°	339.2	339.6	339.9	340.2	340.5	340.7	340.9	341.0	341.2	341.3	342.1
110°	385.7	386.2	386.7	387.3	387.8	387.9	387.7	387.4	387.1	386.9	386.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	434.0	434.2	434.3	434.4	434.5	434.3	433.8	433.4	432.9	432.4	432.3
115°	506.5	506.5	506.5	506.5	506.5	506.3	505.8	505.3	504.7	504.2	504.0
117.5°	574.9	575.1	575.3	575.5	575.7	575.6	575.2	574.9	574.5	574.2	573.3
120°	620.4	621.4	622.5	623.5	624.5	624.7	623.9	623.1	622.3	621.6	620.3
122.5°	667.8	668.2	668.6	669.0	669.5	669.5	669.1	668.8	668.4	668.0	667.2
125°	737.7	737.7	737.7	737.7	737.7	737.6	737.4	737.1	736.8	736.6	736.1
127.5°	801.2	802.0	802.7	803.5	804.3	804.5	804.0	803.6	803.2	802.8	802.3
130°	845.8	846.6	847.3	848.1	848.9	849.3	849.3	849.3	849.3	849.3	848.8
132.5°	891.3	891.9	892.5	893.0	893.6	893.8	893.6	893.4	893.2	893.0	892.4
135°	951.5	953.1	954.6	956.2	957.7	958.5	958.5	958.5	958.5	958.5	958.0
137.5°	1017.0	1017.8	1018.5	1019.2	1019.9	1020.5	1020.9	1021.3	1021.7	1022.1	1021.5
140°	1060.7	1061.2	1061.8	1062.3	1062.8	1063.0	1063.0	1063.0	1063.0	1063.0	1062.8
142.5°	1100.7	1101.2	1101.7	1102.2	1102.8	1102.9	1102.7	1102.5	1102.3	1102.1	1102.0
145°	1156.0	1157.0	1158.1	1159.1	1160.1	1160.8	1161.0	1161.3	1161.5	1161.8	1161.5
147.5°	1210.8	1212.1	1213.3	1214.5	1215.8	1216.3	1216.1	1215.9	1215.7	1215.5	1215.3
150°	1244.3	1245.3	1246.4	1247.4	1248.4	1248.9	1248.9	1248.9	1248.9	1248.9	1248.9
152.5°	1275.9	1276.5	1277.1	1277.7	1278.4	1278.8	1279.0	1279.2	1279.4	1279.6	1280.2
155°	1324.4	1324.4	1324.4	1324.4	1324.4	1324.3	1324.1	1323.8	1323.5	1323.3	1324.3
157.5°	1365.3	1364.9	1364.4	1364.0	1363.5	1363.2	1363.2	1363.1	1363.1	1363.0	1363.8
160°	1389.5	1389.3	1389.0	1388.7	1388.5	1388.2	1388.0	1387.7	1387.4	1387.2	1388.0
162.5°	1411.8	1411.1	1410.5	1409.8	1409.1	1408.7	1408.4	1408.2	1407.9	1407.6	1409.0
165°	1441.8	1441.0	1440.2	1439.5	1438.7	1438.0	1437.5	1437.0	1436.5	1436.0	1437.5
167.5°	1464.8	1463.7	1462.6	1461.5	1460.5	1459.9	1460.0	1460.0	1460.1	1460.1	1461.7
170°	1477.8	1476.5	1475.2	1473.9	1472.6	1472.1	1472.4	1472.6	1472.9	1473.2	1474.7
172.5°	1487.1	1486.0	1484.9	1483.8	1482.8	1482.2	1482.3	1482.4	1482.4	1482.5	1484.2
175°	1499.9	1498.6	1497.3	1496.0	1494.7	1493.9	1493.7	1493.4	1493.2	1492.9	1494.7
177.5°	1504.1	1503.0	1502.0	1501.0	1499.9	1499.4	1499.4	1499.4	1499.4	1499.4	1500.9
180°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1805.7	1805.7	1805.7	1805.7	1805.7	1805.7	1805.7	1805.7
2.5°	1798.9	1801.6	1804.3	1805.6	1805.3	1805.1	1804.8	1804.6
5°	1786.9	1790.0	1793.1	1794.3	1793.7	1793.1	1792.5	1791.9
7.5°	1763.2	1765.1	1767.1	1767.6	1766.6	1765.6	1764.6	1763.6
10°	1741.8	1743.0	1744.2	1744.2	1743.0	1741.8	1740.5	1739.3
12.5°	1715.3	1716.1	1716.8	1716.3	1714.6	1712.9	1711.2	1709.5
15°	1669.0	1668.3	1667.7	1666.3	1664.2	1662.0	1659.9	1657.7
17.5°	1613.1	1611.4	1609.7	1607.2	1603.9	1600.7	1597.4	1594.1
20°	1574.0	1571.6	1569.1	1565.9	1561.9	1557.9	1553.9	1549.9
22.5°	1530.6	1526.9	1523.3	1519.8	1516.5	1513.3	1510.0	1506.8
25°	1460.6	1455.4	1450.2	1446.0	1443.0	1439.9	1436.8	1433.8
27.5°	1389.3	1382.9	1376.4	1371.0	1366.6	1362.1	1357.7	1353.3
30°	1338.2	1330.5	1322.8	1316.5	1311.6	1306.7	1301.8	1296.9
32.5°	1286.0	1277.1	1268.2	1261.4	1256.7	1252.0	1247.4	1242.7
35°	1208.2	1197.8	1187.3	1179.4	1173.8	1168.3	1162.8	1157.2
37.5°	1124.8	1113.1	1101.4	1092.8	1087.3	1081.7	1076.2	1070.7
40°	1069.2	1056.3	1043.4	1034.2	1028.7	1023.1	1017.6	1012.1
42.5°	1014.5	1001.4	988.2	978.8	973.0	967.2	961.4	955.7
45°	930.8	915.7	900.7	890.4	884.9	879.3	873.8	868.3
47.5°	846.5	830.9	815.2	804.4	798.3	792.2	786.1	780.1
50°	790.5	775.2	759.8	749.2	743.4	737.5	731.7	725.9
52.5°	734.7	719.1	703.5	692.7	686.6	680.5	674.4	668.4
55°	652.4	636.5	620.5	609.6	603.7	597.9	592.1	586.2
57.5°	572.0	555.8	539.6	529.3	524.8	520.4	516.0	511.6
60°	518.3	502.3	486.4	475.9	471.0	466.1	461.2	456.3
62.5°	465.5	450.7	436.0	426.6	422.7	418.8	414.8	410.9
65°	389.7	376.5	363.3	354.9	351.2	347.5	343.8	340.1
67.5°	320.1	308.8	297.4	289.7	285.6	281.6	277.5	273.5
70°	272.8	262.7	252.6	245.9	242.9	239.8	236.7	233.7
72.5°	230.4	221.8	213.1	207.4	204.5	201.7	198.9	196.1
75°	169.8	162.7	155.6	151.2	149.3	147.5	145.6	143.8
77.5°	120.1	116.0	111.8	109.5	108.9	108.4	107.8	107.3
80°	92.2	91.3	90.3	89.7	89.4	89.1	88.8	88.5
82.5°	71.6	71.0	70.3	69.8	69.5	69.2	68.9	68.6
85°	41.6	41.0	40.4	40.1	40.1	40.1	40.1	40.1
87.5°	20.7	20.8	20.9	21.1	21.4	21.8	22.1	22.5
90°	28.7	30.2	31.8	32.8	33.3	33.8	34.3	34.9
92.5°	47.9	48.8	49.7	50.3	50.7	51.0	51.3	51.6
95°	89.8	90.6	91.4	91.8	91.8	91.8	91.8	91.8
97.5°	141.5	142.4	143.4	143.8	143.8	143.8	143.8	143.8
100°	178.8	179.3	179.8	180.1	180.1	180.1	180.1	180.1
102.5°	218.2	219.0	219.7	220.1	220.4	220.6	220.8	221.0
105°	278.1	278.8	279.6	280.4	281.2	281.9	282.7	283.5
107.5°	342.8	343.5	344.2	344.6	344.5	344.5	344.4	344.4
110°	385.8	385.3	384.8	384.9	385.7	386.5	387.3	388.0



TEST NUMBER: P332983

CATALOG NUMBER: S124RDIP-S1020D1205U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	432.2	432.1	432.0	432.0	432.2	432.3	432.5	432.7
115°	503.7	503.4	503.2	502.9	502.7	502.4	502.2	501.9
117.5°	572.4	571.5	570.6	570.0	569.4	568.9	568.4	567.9
120°	619.0	617.7	616.4	616.0	616.5	617.0	617.6	618.1
122.5°	666.3	665.4	664.5	663.6	662.7	661.8	660.8	659.9
125°	735.5	735.0	734.5	734.0	733.5	733.0	732.4	731.9
127.5°	801.8	801.3	800.7	800.3	799.9	799.4	799.0	798.6
130°	848.2	847.7	847.2	846.4	845.4	844.4	843.3	842.3
132.5°	891.9	891.4	890.9	890.4	890.0	889.6	889.2	888.8
135°	957.5	956.9	956.4	955.8	955.0	954.2	953.4	952.7
137.5°	1020.8	1020.1	1019.5	1019.2	1019.4	1019.5	1019.7	1019.8
140°	1062.5	1062.3	1062.0	1061.8	1061.5	1061.2	1061.0	1060.7
142.5°	1102.0	1101.9	1101.9	1101.8	1101.8	1101.7	1101.7	1101.6
145°	1161.3	1161.0	1160.8	1160.2	1159.5	1158.7	1157.9	1157.2
147.5°	1215.1	1214.9	1214.6	1214.4	1214.2	1213.9	1213.6	1213.4
150°	1248.9	1248.9	1248.9	1248.8	1248.5	1248.3	1248.0	1247.8
152.5°	1280.8	1281.5	1282.1	1282.1	1281.4	1280.7	1280.0	1279.4
155°	1325.4	1326.4	1327.4	1327.4	1326.4	1325.4	1324.3	1323.3
157.5°	1364.6	1365.3	1366.1	1366.1	1365.2	1364.3	1363.4	1362.6
160°	1388.7	1389.5	1390.3	1390.0	1388.7	1387.4	1386.2	1384.9
162.5°	1410.4	1411.8	1413.2	1413.3	1412.0	1410.7	1409.4	1408.1
165°	1439.1	1440.6	1442.2	1442.4	1441.4	1440.4	1439.3	1438.3
167.5°	1463.2	1464.8	1466.3	1466.3	1464.7	1463.1	1461.5	1459.9
170°	1476.3	1477.8	1479.4	1479.2	1477.4	1475.6	1473.8	1472.0
172.5°	1486.0	1487.7	1489.5	1489.5	1487.6	1485.8	1484.0	1482.2
175°	1496.5	1498.3	1500.1	1500.1	1498.3	1496.5	1494.7	1492.9
177.5°	1502.3	1503.8	1505.2	1505.1	1503.4	1501.8	1500.1	1498.5
180°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2

(END OF REPORT)