

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: P333105-840

Luminaire Tested: **S124RDIW-S1195D1050U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333105-840
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: S124RDIW-S1195D1050U840-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1050 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9101.3 lumens
Efficiency: N/A
Efficacy: 135.0 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

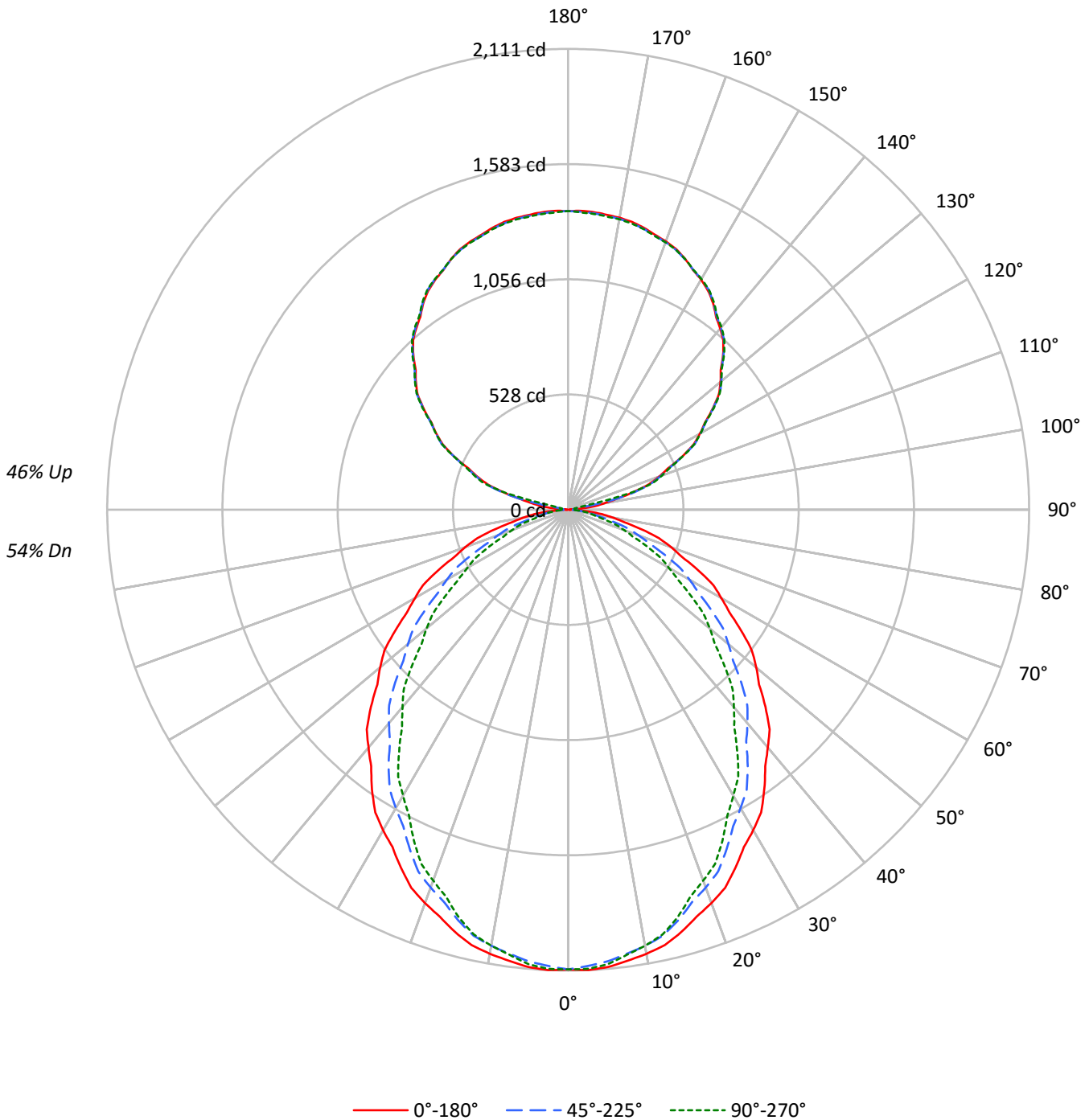
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	54
1	99	95	91	87	92	88	85	82	75	73	71	64	62	60	53	52	51	46
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	47	45	43	39
3	82	73	66	60	76	68	62	57	59	54	50	50	46	43	42	39	37	33
4	76	65	57	51	70	61	54	48	52	47	43	45	41	37	38	35	32	29
5	69	58	50	44	64	54	47	42	47	41	37	40	36	33	34	31	28	25
6	64	52	44	38	59	49	42	36	42	37	32	36	32	29	31	27	25	22
7	59	47	39	34	55	44	37	32	39	33	29	33	29	25	28	25	22	20
8	55	43	35	30	51	40	33	28	35	30	26	30	26	23	26	23	20	18
9	51	39	32	27	48	37	30	25	32	27	23	28	24	21	24	21	18	16
10	48	36	29	24	45	34	27	23	30	24	21	26	22	19	22	19	16	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17002	17002	17002
5°	17040	16832	16936
10°	16934	16629	16629
15°	16739	16280	16160
20°	16472	15821	15530
25°	16131	15284	14895
30°	15800	14716	14100
35°	15431	14128	13302
40°	14989	13460	12440
45°	14582	12795	11562
50°	14117	12031	10633
55°	13619	11234	9623
60°	13070	10362	8591
65°	12567	9270	7578
70°	11837	8068	6434
75°	10914	6691	5231
80°	9521	5100	4798
85°	8068	4631	4335



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.8	2.2
10°-20°	551.7	6.1
20°-30°	796.6	8.8
30°-40°	903.0	9.9
40°-50°	872.0	9.6
50°-60°	725.1	8.0
60°-70°	500.7	5.5
70°-80°	253.8	2.8
80°-90°	69.1	0.8
90°-100°	46.8	0.5
100°-110°	298.3	3.3
110°-120°	570.7	6.3
120°-130°	724.4	8.0
130°-140°	775.1	8.5
140°-150°	724.8	8.0
150°-160°	584.5	6.4
160°-170°	377.0	4.1
170°-180°	129.9	1.4
0°-30°	1546.1	17.0
0°-40°	2449.1	26.9
0°-60°	4046.2	44.5
0°-90°	4869.7	53.5
90°-120°	915.8	10.1
90°-150°	3140.1	34.5
90°-180°	4232.0	46.5
0°-180°	9101.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2106	2106	2106	2106	2106	
5°	2103	2096	2077	2092	2090	199
15°	2003	1987	1948	1944	1934	564
25°	1811	1780	1716	1689	1672	834
35°	1566	1513	1434	1380	1350	978
45°	1277	1215	1121	1044	1013	984
55°	968	901	798	717	684	865
65°	658	587	485	419	397	649
75°	350	289	214	179	168	369
85°	87	56	50	47	47	98
90°	3	14	22	28	31	7
95°	56	23	22	28	30	72
105°	308	314	319	326	292	322
115°	575	578	577	579	579	566
125°	808	812	810	813	814	721
135°	1003	1002	1006	1008	1010	772
145°	1156	1159	1159	1160	1162	722
155°	1268	1268	1266	1269	1267	584
165°	1337	1332	1332	1339	1331	378
175°	1368	1362	1363	1371	1360	130
180°	1368	1368	1368	1368	1368	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2111.1	2110.0	2108.9	2107.7	2106.6	2104.5	2101.3	2098.1	2095.0	2091.8	2095.0
5°	2102.7	2101.3	2099.9	2098.5	2097.1	2094.2	2089.9	2085.6	2081.3	2077.0	2080.5
7.5°	2083.8	2082.2	2080.7	2079.2	2077.7	2074.2	2068.6	2063.1	2057.4	2051.8	2054.2
10°	2065.7	2063.9	2062.1	2060.3	2058.5	2054.4	2048.0	2041.5	2035.1	2028.6	2030.0
12.5°	2042.5	2040.4	2038.3	2036.2	2034.2	2029.3	2021.7	2014.2	2006.5	1998.9	1999.8
15°	2002.8	1999.5	1996.4	1993.2	1989.9	1983.8	1974.9	1965.9	1956.9	1947.9	1947.2
17.5°	1954.8	1950.0	1945.4	1940.8	1936.1	1928.4	1917.6	1906.9	1896.1	1885.4	1883.4
20°	1917.3	1912.7	1908.0	1903.4	1898.7	1890.3	1878.1	1865.9	1853.7	1841.6	1838.7
22.5°	1876.0	1870.9	1865.6	1860.4	1855.1	1846.0	1832.9	1819.9	1806.9	1793.8	1789.5
25°	1810.9	1804.4	1798.0	1791.6	1785.1	1774.5	1759.9	1745.1	1730.5	1715.8	1709.7
27.5°	1742.5	1734.4	1726.4	1718.3	1710.1	1698.3	1682.5	1666.9	1651.1	1635.5	1627.9
30°	1694.9	1685.9	1676.9	1667.9	1659.0	1646.1	1629.2	1612.4	1595.6	1578.7	1569.7
32.5°	1644.5	1634.4	1624.3	1614.2	1604.1	1590.3	1572.9	1555.5	1538.0	1520.7	1510.3
35°	1565.8	1554.3	1542.9	1531.4	1519.9	1505.2	1487.3	1469.5	1451.5	1433.6	1421.4
37.5°	1481.7	1469.8	1457.9	1446.1	1434.3	1418.5	1398.7	1378.8	1359.0	1339.1	1325.4
40°	1422.3	1410.5	1398.7	1386.8	1374.9	1358.9	1338.5	1318.0	1297.6	1277.2	1262.1
42.5°	1365.5	1353.1	1340.7	1328.3	1316.0	1299.1	1277.8	1256.5	1235.3	1214.0	1198.6
45°	1277.2	1263.8	1250.6	1237.4	1224.2	1206.7	1185.3	1163.8	1142.3	1120.7	1103.2
47.5°	1185.9	1172.2	1158.5	1144.8	1131.1	1113.1	1090.8	1068.3	1046.0	1023.7	1005.4
50°	1124.0	1109.9	1096.0	1082.1	1068.0	1049.6	1026.6	1003.7	980.8	957.9	940.0
52.5°	1060.8	1047.0	1033.4	1019.7	1006.0	987.3	963.9	940.4	916.9	893.3	875.1
55°	967.6	953.2	938.9	924.5	910.2	891.4	868.1	844.9	821.5	798.2	779.6
57.5°	875.3	860.4	845.5	830.6	815.7	796.8	773.9	750.8	727.9	705.0	686.1
60°	809.5	795.2	780.8	766.5	752.1	733.6	710.6	687.7	664.7	641.8	623.2
62.5°	750.1	735.3	720.3	705.5	690.5	671.4	647.8	624.3	600.8	577.3	560.1
65°	657.9	642.5	627.1	611.7	596.3	577.1	554.2	531.3	508.4	485.3	470.0
67.5°	562.1	547.3	532.6	517.9	503.1	485.0	463.7	442.5	421.2	399.9	386.7
70°	501.5	486.5	471.4	456.4	441.3	423.5	403.1	382.7	362.3	341.8	330.0
72.5°	437.0	423.4	409.8	396.2	382.5	366.1	346.8	327.5	308.2	288.9	278.8
75°	349.9	336.7	323.4	310.1	296.9	281.9	265.0	248.1	231.4	214.5	206.2
77.5°	261.6	250.3	239.0	227.8	216.5	204.1	190.5	176.9	163.3	149.7	144.8
80°	204.8	194.4	184.0	173.6	163.2	152.7	141.9	131.2	120.4	109.7	108.6
82.5°	155.8	146.2	136.7	127.1	117.6	109.8	103.6	97.5	91.3	85.1	84.3
85°	87.1	79.9	72.7	65.5	58.4	54.3	53.2	52.1	51.1	50.0	49.3
87.5°	30.3	28.5	26.7	24.9	23.1	22.2	22.3	22.4	22.5	22.5	22.5
90°	3.0	5.6	8.1	10.6	13.0	15.2	17.1	18.9	20.7	22.5	23.8
92.5°	12.9	13.0	13.1	13.3	13.4	14.4	16.3	18.1	19.9	21.7	23.0
95°	56.2	48.6	40.8	33.1	25.3	21.6	21.8	22.0	22.3	22.5	23.8
97.5°	119.5	124.3	129.2	134.0	138.8	128.6	103.1	77.8	52.4	27.0	27.2
100°	167.8	171.9	176.0	180.1	184.2	170.6	139.2	107.8	76.4	45.0	41.2
102.5°	221.9	224.8	227.8	230.9	233.8	233.3	229.2	225.1	221.0	216.9	175.2
105°	308.0	309.3	310.7	312.0	313.5	314.7	315.8	317.0	318.1	319.2	321.2
107.5°	388.0	388.7	389.3	390.0	390.7	391.8	393.3	395.0	396.5	398.0	399.0
110°	442.0	442.7	443.3	444.0	444.7	445.8	447.2	448.5	449.9	451.2	451.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	494.4	495.6	496.9	498.1	499.3	500.3	500.9	501.5	502.1	502.8	502.7
115°	575.0	575.7	576.4	577.0	577.7	577.9	577.7	577.5	577.3	577.0	577.5
117.5°	647.6	648.5	649.4	650.4	651.3	652.0	652.5	653.0	653.5	654.0	653.9
120°	696.8	697.7	698.6	699.5	700.4	700.7	700.5	700.3	700.0	699.8	700.3
122.5°	742.7	743.2	743.7	744.3	744.8	745.3	745.6	745.9	746.2	746.5	746.8
125°	808.3	809.2	810.1	811.0	811.9	812.1	811.7	811.2	810.8	810.3	811.0
127.5°	870.5	870.7	871.0	871.2	871.4	872.0	873.1	874.1	875.1	876.3	876.2
130°	910.6	910.9	911.1	911.3	911.5	912.0	912.7	913.3	914.0	914.7	914.9
132.5°	947.5	947.9	948.3	948.7	949.1	949.8	950.6	951.5	952.3	953.2	953.4
135°	1002.7	1002.5	1002.3	1002.0	1001.8	1002.2	1003.1	1004.0	1004.9	1005.8	1006.2
137.5°	1051.6	1051.7	1051.8	1051.9	1052.0	1052.5	1053.5	1054.5	1055.5	1056.5	1057.0
140°	1083.6	1084.0	1084.5	1084.9	1085.4	1085.8	1086.3	1086.7	1087.2	1087.6	1088.3
142.5°	1112.2	1113.0	1113.8	1114.7	1115.5	1116.0	1116.3	1116.5	1116.8	1117.1	1117.6
145°	1156.2	1156.9	1157.5	1158.2	1158.9	1159.2	1159.2	1159.2	1159.2	1159.2	1159.5
147.5°	1191.1	1192.4	1193.8	1195.0	1196.3	1196.8	1196.6	1196.4	1196.1	1195.9	1196.1
150°	1216.6	1217.5	1218.4	1219.3	1220.2	1220.5	1220.3	1220.1	1219.8	1219.6	1219.6
152.5°	1237.8	1238.6	1239.3	1240.0	1240.7	1240.9	1240.5	1240.1	1239.7	1239.3	1239.6
155°	1267.7	1268.0	1268.2	1268.4	1268.6	1268.4	1267.7	1267.1	1266.4	1265.7	1266.6
157.5°	1292.9	1292.7	1292.6	1292.4	1292.3	1291.9	1291.1	1290.3	1289.6	1288.8	1290.0
160°	1307.6	1307.0	1306.3	1305.6	1304.8	1304.4	1304.2	1303.9	1303.7	1303.5	1304.8
162.5°	1320.7	1319.9	1319.0	1318.1	1317.3	1316.7	1316.5	1316.3	1316.1	1315.8	1317.2
165°	1337.3	1336.2	1335.0	1333.8	1332.7	1332.2	1332.2	1332.2	1332.2	1332.2	1334.0
167.5°	1350.4	1349.2	1348.1	1346.9	1345.6	1345.0	1344.8	1344.7	1344.6	1344.4	1346.5
170°	1357.8	1356.3	1355.0	1353.6	1352.3	1351.7	1351.9	1352.2	1352.4	1352.6	1354.4
172.5°	1362.6	1361.3	1359.9	1358.6	1357.2	1356.7	1356.9	1357.1	1357.4	1357.6	1359.4
175°	1368.0	1366.7	1365.2	1363.9	1362.5	1362.0	1362.2	1362.4	1362.6	1362.9	1364.9
177.5°	1370.4	1369.2	1367.9	1366.7	1365.3	1364.9	1365.2	1365.6	1365.9	1366.3	1367.8
180°	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2098.1	2101.3	2104.5	2105.9	2105.6	2105.3	2105.0	2104.8
5°	2084.2	2087.7	2091.3	2092.7	2092.0	2091.3	2090.6	2089.9
7.5°	2056.4	2058.7	2061.0	2061.5	2060.4	2059.3	2058.1	2057.0
10°	2031.4	2032.9	2034.4	2034.4	2032.9	2031.4	2030.0	2028.6
12.5°	2000.6	2001.6	2002.4	2001.8	1999.8	1997.8	1995.8	1993.8
15°	1946.5	1945.8	1945.1	1943.5	1941.0	1938.4	1936.0	1933.5
17.5°	1881.4	1879.4	1877.3	1874.5	1870.7	1866.8	1863.1	1859.3
20°	1835.8	1832.9	1830.1	1826.3	1821.7	1817.1	1812.3	1807.7
22.5°	1785.2	1780.9	1776.7	1772.6	1768.8	1764.9	1761.2	1757.4
25°	1703.5	1697.5	1691.4	1686.6	1682.9	1679.4	1675.8	1672.2
27.5°	1620.4	1612.9	1605.4	1599.0	1593.9	1588.7	1583.6	1578.4
30°	1560.7	1551.9	1542.9	1535.5	1529.7	1524.1	1518.3	1512.6
32.5°	1499.9	1489.4	1479.0	1471.2	1465.7	1460.3	1454.8	1449.4
35°	1409.2	1397.0	1384.8	1375.5	1369.1	1362.6	1356.1	1349.7
37.5°	1311.8	1298.2	1284.6	1274.6	1268.1	1261.6	1255.3	1248.8
40°	1247.1	1232.0	1217.0	1206.2	1199.7	1193.3	1186.9	1180.4
42.5°	1183.3	1167.9	1152.6	1141.6	1134.8	1128.1	1121.4	1114.6
45°	1085.6	1068.0	1050.5	1038.4	1032.1	1025.6	1019.2	1012.7
47.5°	987.2	969.1	950.9	938.2	931.1	924.0	916.9	909.8
50°	922.0	904.1	886.2	873.8	867.1	860.2	853.4	846.6
52.5°	857.0	838.8	820.5	807.9	800.8	793.8	786.6	779.5
55°	760.9	742.4	723.7	710.9	704.2	697.3	690.5	683.7
57.5°	667.2	648.2	629.3	617.3	612.2	606.9	601.8	596.6
60°	604.5	585.9	567.2	555.1	549.4	543.6	537.9	532.1
62.5°	542.9	525.7	508.5	497.6	493.0	488.5	483.8	479.3
65°	454.5	439.2	423.7	413.8	409.6	405.3	401.0	396.7
67.5°	373.4	360.1	346.9	337.9	333.2	328.4	323.7	318.9
70°	318.2	306.4	294.6	286.9	283.3	279.7	276.1	272.6
72.5°	268.7	258.6	248.5	241.9	238.5	235.3	232.0	228.6
75°	198.0	189.8	181.5	176.3	174.2	172.0	169.9	167.7
77.5°	140.1	135.2	130.5	127.7	127.0	126.4	125.8	125.1
80°	107.6	106.4	105.3	104.6	104.3	103.9	103.6	103.2
82.5°	83.6	82.8	82.0	81.4	81.1	80.7	80.4	80.0
85°	48.6	47.9	47.2	46.8	46.8	46.8	46.8	46.8
87.5°	22.5	22.5	22.5	22.7	23.0	23.4	23.8	24.2
90°	25.2	26.6	28.0	28.9	29.3	29.8	30.2	30.7
92.5°	24.4	25.8	27.2	27.9	28.0	28.1	28.2	28.3
95°	25.2	26.6	28.0	28.8	29.0	29.2	29.5	29.7
97.5°	27.3	27.5	27.6	27.8	28.0	28.2	28.4	28.7
100°	37.3	33.4	29.6	27.8	28.0	28.2	28.4	28.7
102.5°	133.5	91.8	50.1	29.3	29.3	29.4	29.4	29.5
105°	323.4	325.4	327.4	324.4	316.2	308.0	299.8	291.6
107.5°	400.0	401.0	402.0	402.9	403.8	404.7	405.6	406.4
110°	452.1	452.6	453.0	453.6	454.3	454.9	455.7	456.4



TEST NUMBER: P333105-840

CATALOG NUMBER: S124RDIW-S1195D1050U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	502.6	502.5	502.4	502.8	503.7	504.5	505.4	506.2
115°	577.9	578.5	578.9	579.2	579.2	579.2	579.2	579.2
117.5°	653.8	653.8	653.7	653.6	653.5	653.4	653.3	653.2
120°	700.7	701.3	701.7	701.7	701.3	700.7	700.3	699.8
122.5°	747.1	747.3	747.6	747.5	747.1	746.6	746.2	745.7
125°	811.7	812.4	813.0	813.5	813.7	814.0	814.3	814.5
127.5°	876.0	875.9	875.7	875.6	875.4	875.1	874.9	874.8
130°	915.1	915.4	915.6	915.7	915.7	915.7	915.7	915.7
132.5°	953.6	953.9	954.1	954.1	953.9	953.7	953.6	953.4
135°	1006.7	1007.1	1007.6	1008.0	1008.6	1009.0	1009.5	1009.9
137.5°	1057.5	1058.0	1058.5	1058.7	1058.5	1058.4	1058.3	1058.1
140°	1089.0	1089.6	1090.4	1090.9	1091.1	1091.3	1091.5	1091.8
142.5°	1118.1	1118.6	1119.1	1119.3	1119.4	1119.4	1119.5	1119.5
145°	1159.7	1159.9	1160.1	1160.5	1160.9	1161.4	1161.8	1162.4
147.5°	1196.3	1196.4	1196.6	1196.8	1197.1	1197.3	1197.5	1197.7
150°	1219.6	1219.6	1219.6	1219.7	1219.9	1220.2	1220.4	1220.6
152.5°	1240.0	1240.3	1240.7	1240.8	1240.7	1240.5	1240.4	1240.3
155°	1267.5	1268.4	1269.3	1269.4	1268.7	1268.1	1267.4	1266.7
157.5°	1291.1	1292.3	1293.5	1293.5	1292.3	1291.1	1290.0	1288.8
160°	1306.3	1307.6	1309.0	1309.0	1307.6	1306.3	1304.8	1303.5
162.5°	1318.5	1319.9	1321.2	1321.2	1319.6	1318.1	1316.6	1314.9
165°	1335.8	1337.7	1339.5	1339.3	1337.3	1335.2	1333.2	1331.1
167.5°	1348.5	1350.5	1352.4	1352.3	1350.1	1347.8	1345.5	1343.2
170°	1356.2	1358.1	1359.9	1359.7	1357.4	1355.1	1352.8	1350.6
172.5°	1361.2	1363.0	1364.8	1364.5	1362.0	1359.6	1357.2	1354.6
175°	1367.0	1369.0	1371.1	1370.7	1368.0	1365.2	1362.5	1359.8
177.5°	1369.3	1370.7	1372.2	1371.8	1369.6	1367.5	1365.2	1363.1
180°	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0

(END OF REPORT)