

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: P333074

Luminaire Tested: **S124RDIW-S795D1560U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333074  
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: S124RDIW-S795D1560U835-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8624.5 lumens  
Efficiency: N/A  
Efficacy: 126.6 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: Semi-Indirect

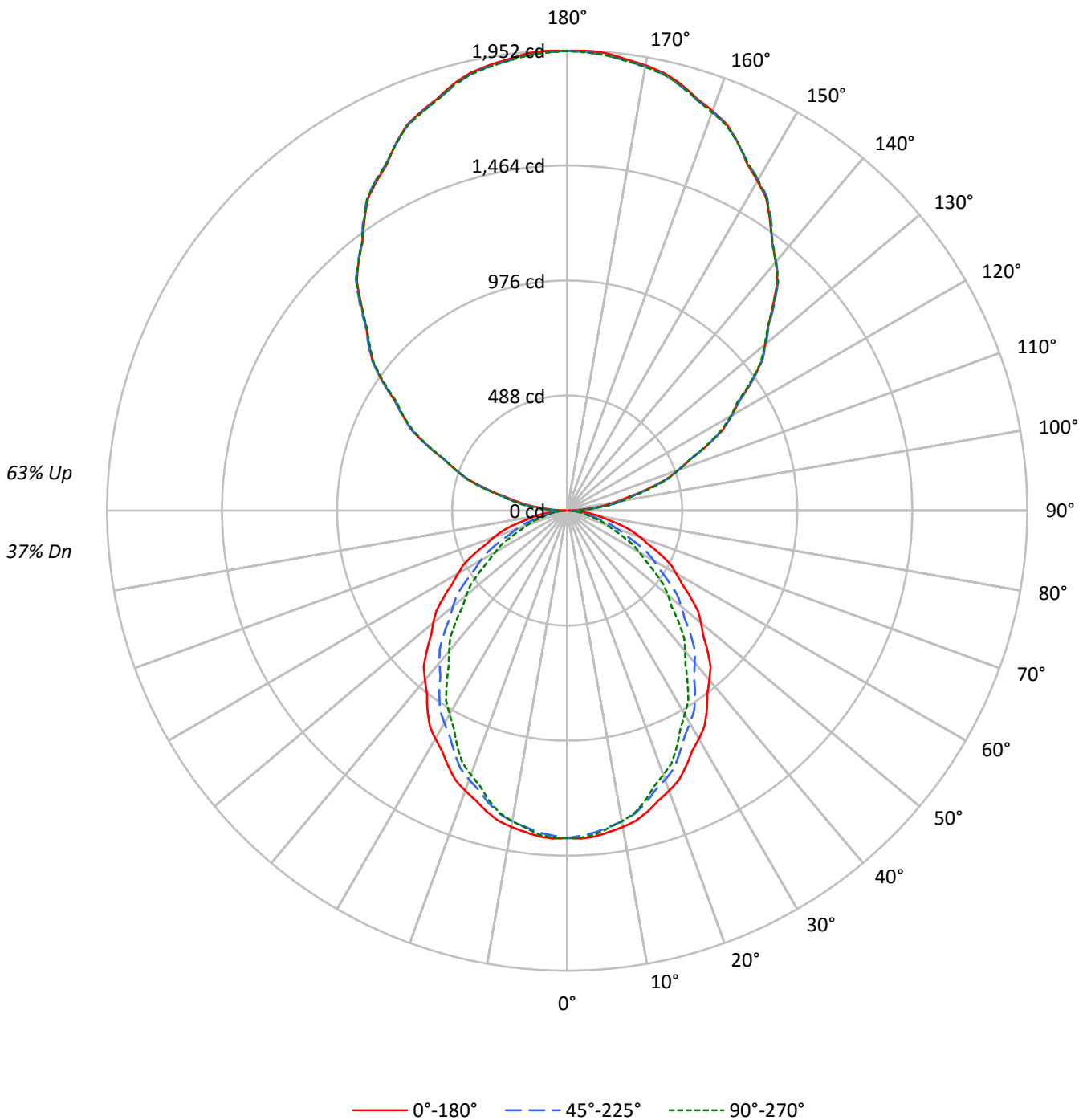
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	44	44	44	37
1	95	91	87	84	86	83	79	77	67	65	63	53	51	50	40	39	38	32
2	87	80	74	69	78	72	67	63	59	55	52	47	44	42	35	34	32	27
3	79	70	63	57	72	64	58	53	52	48	44	41	38	36	31	29	28	23
4	73	62	54	49	66	57	50	45	46	42	38	37	33	31	28	26	24	20
5	67	55	47	42	60	51	44	39	42	36	33	33	29	27	25	23	21	17
6	61	50	42	36	55	45	39	34	37	32	28	30	26	23	23	20	18	15
7	57	45	37	32	51	41	34	29	34	29	25	27	23	21	21	18	16	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	18	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	22	41	31	25	21	26	21	18	21	18	15	17	14	12	10

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11215	11215	11215
5°	11240	11102	11171
10°	11170	10969	10969
15°	11041	10739	10659
20°	10865	10436	10244
25°	10640	10081	9825
30°	10421	9707	9300
35°	10178	9319	8774
40°	9887	8878	8205
45°	9618	8440	7626
50°	9311	7935	7013
55°	8983	7410	6348
60°	8622	6835	5667
65°	8290	6117	4999
70°	7808	5323	4244
75°	7199	4414	3450
80°	6281	3361	3166
85°	5317	3057	2853



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.5	1.5
10°-20°	363.9	4.2
20°-30°	525.5	6.1
30°-40°	595.6	6.9
40°-50°	575.2	6.7
50°-60°	478.3	5.5
60°-70°	330.3	3.8
70°-80°	167.4	1.9
80°-90°	48.8	0.6
90°-100°	128.6	1.5
100°-110°	380.9	4.4
110°-120°	646.6	7.5
120°-130°	852.5	9.9
130°-140°	957.5	11.1
140°-150°	940.9	10.9
150°-160°	791.3	9.2
160°-170°	526.5	6.1
170°-180°	184.4	2.1
0°-30°	1019.8	11.8
0°-40°	1615.5	18.7
0°-60°	2668.9	30.9
0°-90°	3215.3	37.3
90°-120°	1156.1	13.4
90°-150°	3906.9	45.3
90°-180°	5409.0	62.7
0°-180°	8624.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1389	1389	1389	1389	1389	
5°	1387	1382	1370	1380	1378	132
15°	1321	1311	1285	1282	1275	372
25°	1194	1174	1132	1114	1103	550
35°	1033	998	946	910	890	645
45°	842	802	739	689	668	649
55°	638	594	526	473	451	571
65°	434	387	320	276	262	428
75°	231	191	142	118	111	244
85°	57	37	33	31	31	65
90°	4	21	33	42	45	8
95°	90	104	115	119	119	101
105°	351	353	359	363	368	373
115°	657	657	654	653	651	648
125°	958	957	956	953	950	853
135°	1235	1244	1244	1241	1236	955
145°	1500	1506	1508	1506	1502	939
155°	1719	1719	1717	1723	1717	791
165°	1871	1867	1864	1872	1867	527
175°	1947	1939	1938	1947	1938	185
180°	1950	1950	1950	1950	1950	



TEST NUMBER: P333074

CATALOG NUMBER: S124RDIW-S795D1560U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2
2.5°	1392.6	1391.8	1391.0	1390.3	1389.5	1388.1	1386.0	1384.0	1381.9	1379.8	1381.9
5°	1387.0	1386.1	1385.1	1384.2	1383.2	1381.4	1378.5	1375.7	1372.8	1370.0	1372.4
7.5°	1374.5	1373.5	1372.5	1371.5	1370.5	1368.2	1364.5	1360.8	1357.1	1353.4	1354.9
10°	1362.6	1361.4	1360.2	1359.0	1357.8	1355.1	1350.9	1346.6	1342.4	1338.1	1339.0
12.5°	1347.2	1345.9	1344.5	1343.1	1341.8	1338.6	1333.6	1328.5	1323.5	1318.5	1319.1
15°	1321.1	1319.0	1316.8	1314.7	1312.6	1308.6	1302.6	1296.7	1290.8	1284.9	1284.4
17.5°	1289.4	1286.3	1283.2	1280.2	1277.1	1272.0	1264.9	1257.8	1250.7	1243.6	1242.3
20°	1264.7	1261.6	1258.6	1255.5	1252.4	1246.9	1238.8	1230.8	1222.7	1214.7	1212.8
22.5°	1237.5	1234.0	1230.6	1227.1	1223.7	1217.6	1209.0	1200.4	1191.8	1183.2	1180.4
25°	1194.5	1190.2	1186.0	1181.7	1177.5	1170.5	1160.8	1151.1	1141.4	1131.7	1127.7
27.5°	1149.4	1144.1	1138.7	1133.4	1128.0	1120.2	1109.8	1099.5	1089.1	1078.8	1073.8
30°	1117.9	1112.0	1106.1	1100.2	1094.3	1085.8	1074.7	1063.6	1052.4	1041.3	1035.4
32.5°	1084.7	1078.1	1071.4	1064.7	1058.1	1049.0	1037.5	1026.0	1014.5	1003.0	996.2
35°	1032.8	1025.3	1017.7	1010.1	1002.6	992.9	981.1	969.2	957.4	945.6	937.6
37.5°	977.3	969.5	961.7	953.9	946.1	935.7	922.6	909.5	896.4	883.3	874.3
40°	938.2	930.4	922.6	914.8	907.0	896.3	882.8	869.4	855.9	842.4	832.5
42.5°	900.7	892.5	884.4	876.2	868.0	856.9	842.9	828.8	814.8	800.7	790.6
45°	842.4	833.7	824.9	816.2	807.4	796.0	781.8	767.6	753.4	739.3	727.7
47.5°	782.2	773.2	764.2	755.1	746.1	734.2	719.5	704.7	690.0	675.2	663.2
50°	741.4	732.2	722.9	713.7	704.5	692.3	677.2	662.1	646.9	631.8	620.0
52.5°	699.7	690.7	681.6	672.6	663.6	651.3	635.8	620.3	604.8	589.3	577.3
55°	638.2	628.7	619.3	609.8	600.4	588.0	572.6	557.2	541.9	526.5	514.2
57.5°	577.4	567.5	557.7	547.9	538.0	525.5	510.4	495.3	480.2	465.0	452.6
60°	534.0	524.5	515.1	505.6	496.1	483.9	468.7	453.6	438.5	423.3	411.0
62.5°	494.8	485.0	475.2	465.3	455.5	442.8	427.3	411.8	396.3	380.8	369.4
65°	434.0	423.8	413.6	403.5	393.3	380.7	365.5	350.4	335.3	320.2	310.0
67.5°	370.8	361.1	351.3	341.6	331.8	320.0	305.9	291.9	277.8	263.8	255.0
70°	330.8	320.9	310.9	301.0	291.1	279.4	265.9	252.4	239.0	225.5	217.7
72.5°	288.3	279.3	270.3	261.3	252.3	241.5	228.8	216.0	203.3	190.6	183.9
75°	230.8	222.1	213.3	204.6	195.8	185.9	174.8	163.7	152.6	141.5	136.0
77.5°	172.5	165.1	157.7	150.3	142.8	134.6	125.7	116.7	107.7	98.7	95.5
80°	135.1	128.2	121.4	114.5	107.7	100.7	93.6	86.5	79.4	72.3	71.6
82.5°	102.8	96.5	90.2	83.9	77.6	72.4	68.4	64.3	60.2	56.2	55.6
85°	57.4	52.7	48.0	43.3	38.5	35.8	35.1	34.4	33.7	33.0	32.5
87.5°	20.5	19.7	18.9	18.1	17.4	17.2	17.5	17.9	18.2	18.5	18.8
90°	4.5	8.2	11.9	15.6	19.3	22.5	25.1	27.8	30.5	33.2	35.2
92.5°	32.3	36.5	40.7	44.9	49.2	52.2	54.1	56.0	57.8	59.7	60.9
95°	90.5	93.5	96.5	99.5	102.5	105.2	107.6	109.9	112.3	114.6	115.6
97.5°	158.0	160.4	162.8	165.3	167.7	170.3	173.0	175.7	178.5	181.2	182.4
100°	211.1	212.4	213.8	215.1	216.5	218.6	221.7	224.7	227.7	230.7	231.4
102.5°	266.6	267.1	267.7	268.2	268.7	270.4	273.1	275.9	278.6	281.4	282.3
105°	351.3	351.7	352.0	352.3	352.7	353.5	354.8	356.2	357.5	358.9	359.9
107.5°	440.3	440.7	441.1	441.5	441.9	442.2	442.4	442.6	442.8	443.0	443.9
110°	500.6	501.3	501.9	502.6	503.3	503.5	503.1	502.8	502.4	502.1	501.4



TEST NUMBER: P333074

CATALOG NUMBER: S124RDIW-S795D1560U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	563.3	563.5	563.6	563.7	563.9	563.6	563.0	562.4	561.8	561.2	561.1
115°	657.4	657.4	657.4	657.4	657.4	657.1	656.4	655.7	655.1	654.4	654.1
117.5°	746.1	746.3	746.6	746.9	747.2	747.1	746.6	746.1	745.6	745.2	744.0
120°	805.2	806.5	807.9	809.2	810.5	810.7	809.7	808.7	807.7	806.7	805.0
122.5°	866.7	867.2	867.8	868.3	868.8	868.9	868.4	867.9	867.5	867.0	865.9
125°	957.5	957.5	957.5	957.5	957.5	957.3	957.0	956.6	956.3	956.0	955.3
127.5°	1039.8	1040.8	1041.8	1042.8	1043.8	1044.1	1043.5	1043.0	1042.5	1041.9	1041.2
130°	1097.7	1098.7	1099.7	1100.7	1101.7	1102.2	1102.2	1102.2	1102.2	1102.2	1101.6
132.5°	1156.8	1157.6	1158.3	1159.0	1159.8	1160.0	1159.7	1159.5	1159.2	1158.9	1158.3
135°	1234.9	1236.9	1238.9	1241.0	1243.0	1244.0	1244.0	1244.0	1244.0	1244.0	1243.3
137.5°	1320.0	1320.9	1321.8	1322.8	1323.7	1324.5	1325.0	1325.5	1326.1	1326.6	1325.7
140°	1376.7	1377.3	1378.0	1378.7	1379.3	1379.7	1379.7	1379.7	1379.7	1379.7	1379.3
142.5°	1428.5	1429.2	1429.9	1430.5	1431.2	1431.4	1431.1	1430.9	1430.6	1430.3	1430.3
145°	1500.3	1501.6	1503.0	1504.3	1505.7	1506.5	1506.8	1507.2	1507.5	1507.8	1507.5
147.5°	1571.5	1573.1	1574.7	1576.3	1577.9	1578.6	1578.3	1578.0	1577.8	1577.5	1577.2
150°	1614.9	1616.2	1617.6	1618.9	1620.3	1620.9	1620.9	1620.9	1620.9	1620.9	1620.9
152.5°	1655.9	1656.7	1657.5	1658.3	1659.1	1659.7	1659.9	1660.2	1660.5	1660.7	1661.5
155°	1718.9	1718.9	1718.9	1718.9	1718.9	1718.8	1718.4	1718.1	1717.8	1717.4	1718.8
157.5°	1772.0	1771.4	1770.8	1770.2	1769.6	1769.3	1769.2	1769.1	1769.1	1769.0	1770.0
160°	1803.4	1803.0	1802.7	1802.4	1802.0	1801.7	1801.4	1801.0	1800.7	1800.4	1801.4
162.5°	1832.3	1831.5	1830.6	1829.7	1828.8	1828.2	1827.9	1827.6	1827.2	1826.9	1828.7
165°	1871.2	1870.2	1869.2	1868.2	1867.2	1866.4	1865.7	1865.0	1864.4	1863.7	1865.7
167.5°	1901.1	1899.7	1898.3	1896.9	1895.5	1894.8	1894.9	1894.9	1895.0	1895.1	1897.1
170°	1918.0	1916.3	1914.6	1912.9	1911.3	1910.6	1910.9	1911.3	1911.6	1911.9	1913.9
172.5°	1930.0	1928.6	1927.2	1925.8	1924.4	1923.7	1923.8	1923.9	1923.9	1924.0	1926.3
175°	1946.6	1944.9	1943.3	1941.6	1939.9	1938.9	1938.6	1938.2	1937.9	1937.6	1939.9
177.5°	1952.0	1950.7	1949.4	1948.0	1946.7	1946.0	1946.0	1946.0	1946.0	1946.0	1947.9
180°	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6



TEST NUMBER: P333074

CATALOG NUMBER: S124RDIW-S795D1560U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2
2.5°	1384.0	1386.0	1388.1	1389.1	1388.9	1388.7	1388.5	1388.3
5°	1374.7	1377.1	1379.5	1380.4	1379.9	1379.5	1379.0	1378.5
7.5°	1356.4	1358.0	1359.5	1359.8	1359.1	1358.3	1357.6	1356.8
10°	1340.0	1340.9	1341.9	1341.9	1340.9	1340.0	1339.0	1338.1
12.5°	1319.7	1320.2	1320.8	1320.4	1319.1	1317.8	1316.4	1315.1
15°	1284.0	1283.5	1283.0	1282.0	1280.3	1278.6	1277.0	1275.3
17.5°	1241.0	1239.7	1238.3	1236.4	1233.9	1231.4	1228.9	1226.4
20°	1210.9	1209.0	1207.1	1204.7	1201.6	1198.5	1195.4	1192.4
22.5°	1177.6	1174.7	1171.9	1169.2	1166.7	1164.2	1161.7	1159.2
25°	1123.7	1119.7	1115.7	1112.5	1110.1	1107.8	1105.4	1103.0
27.5°	1068.8	1063.9	1058.9	1054.7	1051.3	1047.9	1044.5	1041.1
30°	1029.5	1023.6	1017.7	1012.8	1009.1	1005.3	1001.5	997.7
32.5°	989.3	982.5	975.6	970.4	966.8	963.2	959.6	956.0
35°	929.5	921.5	913.5	907.3	903.1	898.8	894.5	890.3
37.5°	865.3	856.3	847.3	840.7	836.5	832.2	828.0	823.7
40°	822.6	812.6	802.7	795.6	791.4	787.1	782.9	778.6
42.5°	780.5	770.4	760.3	753.0	748.5	744.1	739.7	735.2
45°	716.1	704.5	692.9	685.0	680.7	676.5	672.2	668.0
47.5°	651.2	639.2	627.2	618.8	614.2	609.5	604.8	600.1
50°	608.2	596.4	584.5	576.4	571.9	567.4	562.9	558.4
52.5°	565.3	553.3	541.2	532.9	528.2	523.5	518.9	514.2
55°	501.9	489.6	477.4	469.0	464.5	460.0	455.5	451.0
57.5°	440.1	427.6	415.1	407.2	403.8	400.4	397.0	393.6
60°	398.8	386.5	374.2	366.1	362.4	358.6	354.8	351.0
62.5°	358.1	346.8	335.4	328.2	325.2	322.2	319.1	316.1
65°	299.8	289.7	279.5	273.0	270.2	267.3	264.5	261.7
67.5°	246.3	237.6	228.8	222.9	219.8	216.6	213.5	210.4
70°	209.9	202.1	194.3	189.2	186.9	184.5	182.1	179.8
72.5°	177.3	170.6	163.9	159.5	157.4	155.2	153.0	150.8
75°	130.6	125.2	119.7	116.3	114.9	113.5	112.0	110.6
77.5°	92.4	89.2	86.0	84.2	83.8	83.4	83.0	82.5
80°	70.9	70.2	69.5	69.0	68.8	68.5	68.3	68.1
82.5°	55.1	54.6	54.1	53.7	53.5	53.2	53.0	52.8
85°	32.0	31.6	31.1	30.8	30.8	30.8	30.8	30.8
87.5°	19.0	19.2	19.4	19.7	20.0	20.3	20.6	21.0
90°	37.2	39.2	41.2	42.6	43.2	43.9	44.6	45.2
92.5°	62.1	63.3	64.5	65.3	65.7	66.1	66.5	66.9
95°	116.6	117.6	118.6	119.1	119.1	119.1	119.1	119.1
97.5°	183.7	184.9	186.1	186.7	186.7	186.7	186.7	186.7
100°	232.0	232.7	233.4	233.7	233.7	233.7	233.7	233.7
102.5°	283.2	284.2	285.1	285.7	286.0	286.3	286.5	286.8
105°	360.9	361.9	362.9	363.9	364.9	365.9	366.9	367.9
107.5°	444.9	445.8	446.8	447.2	447.1	447.1	447.0	446.9
110°	500.8	500.1	499.4	499.6	500.6	501.6	502.6	503.6





TEST NUMBER: P333074

CATALOG NUMBER: S124RDIW-S795D1560U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	560.9	560.8	560.7	560.7	560.9	561.1	561.3	561.5
115°	653.7	653.4	653.1	652.7	652.4	652.1	651.7	651.4
117.5°	742.9	741.8	740.6	739.7	739.0	738.4	737.7	737.0
120°	803.3	801.7	800.0	799.5	800.2	800.8	801.5	802.2
122.5°	864.7	863.6	862.5	861.3	860.1	858.9	857.7	856.5
125°	954.6	954.0	953.3	952.6	951.9	951.3	950.6	949.9
127.5°	1040.6	1039.9	1039.2	1038.6	1038.1	1037.6	1037.0	1036.5
130°	1100.9	1100.2	1099.5	1098.5	1097.2	1095.9	1094.5	1093.2
132.5°	1157.6	1156.9	1156.2	1155.6	1155.1	1154.6	1154.0	1153.5
135°	1242.6	1242.0	1241.3	1240.4	1239.4	1238.4	1237.4	1236.4
137.5°	1324.9	1324.0	1323.1	1322.8	1323.0	1323.2	1323.4	1323.6
140°	1379.0	1378.7	1378.3	1378.0	1377.7	1377.3	1377.0	1376.7
142.5°	1430.2	1430.1	1430.1	1430.0	1429.9	1429.9	1429.8	1429.7
145°	1507.2	1506.8	1506.5	1505.8	1504.8	1503.8	1502.8	1501.8
147.5°	1577.0	1576.7	1576.4	1576.1	1575.8	1575.5	1575.1	1574.8
150°	1620.9	1620.9	1620.9	1620.8	1620.4	1620.1	1619.8	1619.4
152.5°	1662.3	1663.1	1663.9	1663.9	1663.0	1662.2	1661.3	1660.4
155°	1720.1	1721.4	1722.8	1722.8	1721.4	1720.1	1718.8	1717.4
157.5°	1771.0	1772.0	1773.0	1772.9	1771.8	1770.7	1769.5	1768.4
160°	1802.4	1803.4	1804.4	1804.0	1802.4	1800.7	1799.0	1797.3
162.5°	1830.5	1832.3	1834.1	1834.2	1832.5	1830.9	1829.2	1827.5
165°	1867.7	1869.7	1871.7	1872.1	1870.7	1869.4	1868.0	1866.7
167.5°	1899.1	1901.1	1903.1	1903.1	1901.0	1898.9	1896.8	1894.7
170°	1916.0	1918.0	1920.0	1919.8	1917.5	1915.1	1912.8	1910.4
172.5°	1928.6	1930.8	1933.1	1933.1	1930.7	1928.4	1926.0	1923.7
175°	1942.3	1944.6	1947.0	1947.0	1944.6	1942.3	1939.9	1937.6
177.5°	1949.8	1951.6	1953.5	1953.4	1951.2	1949.1	1947.0	1944.8
180°	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6

(END OF REPORT)