

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: P333073-830

Luminaire Tested: **S124RDIW-S795D1560U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333073-830  
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-S795D1560U830-4F0-1E-UDD-F  
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, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8909.1 lumens  
Efficiency: N/A  
Efficacy: 130.8 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

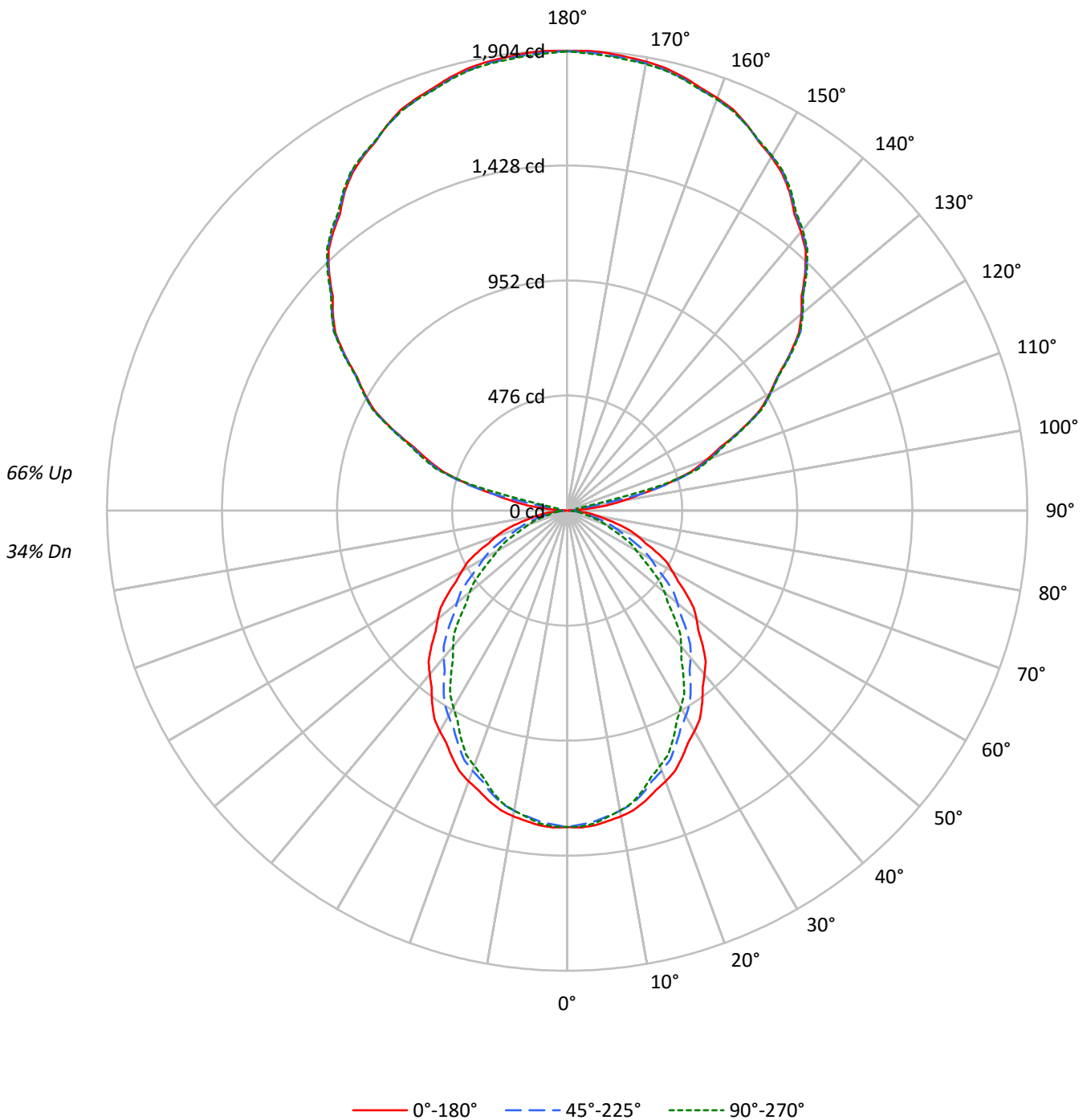
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	94	90	87	83	85	82	78	76	65	63	61	51	49	48	37	36	35	29
2	86	79	73	68	77	71	67	62	57	54	51	45	42	40	33	31	30	25
3	79	69	62	57	71	63	57	52	51	47	43	40	37	34	29	27	26	21
4	72	62	54	48	65	56	49	44	45	40	37	35	32	29	26	24	22	18
5	66	55	47	41	59	50	43	38	40	35	32	32	28	25	24	21	19	16
6	61	49	41	36	55	45	38	33	36	31	28	29	25	22	21	19	17	14
7	56	44	37	31	51	40	34	29	33	28	24	26	22	20	20	17	15	12
8	52	40	33	27	47	37	30	25	30	25	22	24	20	18	18	16	14	11
9	48	37	29	24	44	33	27	23	27	23	19	22	18	16	17	14	12	10
10	45	33	26	22	41	31	24	20	25	21	17	20	17	14	15	13	11	9

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

	0°	45°	90°
0°	10571	10571	10571
5°	10594	10464	10529
10°	10528	10339	10339
15°	10407	10122	10046
20°	10241	9836	9655
25°	10029	9502	9260
30°	9822	9149	8766
35°	9594	8784	8270
40°	9319	8368	7734
45°	9065	7955	7188
50°	8776	7479	6610
55°	8466	6984	5983
60°	8126	6442	5341
65°	7815	5765	4713
70°	7360	5016	4001
75°	6784	4161	3250
80°	5918	3166	2985
85°	5011	2881	2686



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.0	1.4
10°-20°	343.0	3.8
20°-30°	495.3	5.6
30°-40°	561.4	6.3
40°-50°	542.1	6.1
50°-60°	450.8	5.1
60°-70°	311.3	3.5
70°-80°	157.8	1.8
80°-90°	46.0	0.5
90°-100°	65.0	0.7
100°-110°	414.4	4.7
110°-120°	792.8	8.9
120°-130°	1006.4	11.3
130°-140°	1076.8	12.1
140°-150°	1006.9	11.3
150°-160°	812.0	9.1
160°-170°	523.7	5.9
170°-180°	180.5	2.0
0°-30°	961.2	10.8
0°-40°	1522.6	17.1
0°-60°	2515.6	28.2
0°-90°	3030.6	34.0
90°-120°	1272.2	14.3
90°-150°	4362.3	49.0
90°-180°	5879.0	66.0
0°-180°	8909.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1309	1309	1309	1309	1309	
5°	1307	1303	1291	1301	1299	124
15°	1245	1235	1211	1209	1202	351
25°	1126	1106	1067	1050	1040	519
35°	974	940	891	858	839	608
45°	794	756	697	649	630	612
55°	602	560	496	446	425	538
65°	409	365	302	260	247	404
75°	218	180	133	111	104	230
85°	54	35	31	29	29	61
90°	4	20	31	40	43	6
95°	78	33	31	39	41	100
105°	428	436	444	453	405	448
115°	799	803	802	804	805	786
125°	1123	1128	1126	1130	1131	1002
135°	1393	1392	1397	1400	1403	1073
145°	1606	1610	1610	1612	1615	1003
155°	1761	1762	1758	1763	1760	812
165°	1858	1851	1851	1861	1849	525
175°	1900	1892	1893	1904	1889	181
180°	1900	1900	1900	1900	1900	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4
2.5°	1312.6	1311.8	1311.1	1310.4	1309.7	1308.3	1306.4	1304.5	1302.5	1300.5	1302.5
5°	1307.3	1306.5	1305.5	1304.7	1303.7	1302.0	1299.3	1296.7	1293.9	1291.3	1293.5
7.5°	1295.5	1294.6	1293.6	1292.7	1291.8	1289.6	1286.1	1282.6	1279.1	1275.6	1277.1
10°	1284.3	1283.2	1282.0	1280.9	1279.8	1277.2	1273.3	1269.2	1265.3	1261.2	1262.1
12.5°	1269.8	1268.6	1267.2	1265.9	1264.7	1261.7	1257.0	1252.2	1247.5	1242.7	1243.3
15°	1245.2	1243.2	1241.1	1239.2	1237.2	1233.4	1227.8	1222.2	1216.6	1211.1	1210.6
17.5°	1215.3	1212.4	1209.5	1206.6	1203.7	1198.9	1192.2	1185.5	1178.8	1172.1	1170.9
20°	1192.0	1189.1	1186.3	1183.4	1180.4	1175.3	1167.6	1160.1	1152.4	1144.9	1143.1
22.5°	1166.4	1163.1	1159.9	1156.6	1153.4	1147.6	1139.5	1131.4	1123.3	1115.2	1112.6
25°	1125.9	1121.8	1117.9	1113.8	1109.8	1103.2	1094.1	1085.0	1075.8	1066.7	1062.9
27.5°	1083.4	1078.4	1073.3	1068.3	1063.2	1055.8	1046.0	1036.3	1026.5	1016.8	1012.1
30°	1053.7	1048.1	1042.5	1037.0	1031.4	1023.4	1013.0	1002.5	991.9	981.5	975.9
32.5°	1022.4	1016.2	1009.8	1003.5	997.3	988.7	977.9	967.0	956.2	945.4	939.0
35°	973.5	966.4	959.2	952.1	945.0	935.9	924.7	913.5	902.4	891.3	883.7
37.5°	921.1	913.8	906.4	899.1	891.7	881.9	869.6	857.2	844.9	832.5	824.1
40°	884.3	876.9	869.6	862.2	854.9	844.8	832.1	819.4	806.7	794.0	784.7
42.5°	848.9	841.2	833.6	825.9	818.1	807.7	794.5	781.2	768.0	754.7	745.2
45°	794.0	785.8	777.5	769.3	761.0	750.3	736.9	723.5	710.1	696.8	685.9
47.5°	737.3	728.8	720.3	711.7	703.2	692.0	678.2	664.2	650.4	636.4	625.1
50°	698.8	690.1	681.4	672.7	664.0	652.5	638.3	624.1	609.7	595.5	584.4
52.5°	659.5	651.0	642.4	634.0	625.5	613.9	599.3	584.7	570.0	555.4	544.1
55°	601.5	592.6	583.7	574.8	565.9	554.2	539.7	525.2	510.8	496.2	484.7
57.5°	544.2	534.9	525.7	516.4	507.1	495.3	481.1	466.8	452.6	438.3	426.6
60°	503.3	494.4	485.5	476.5	467.6	456.1	441.8	427.5	413.3	399.0	387.4
62.5°	466.4	457.1	447.9	438.6	429.3	417.4	402.7	388.1	373.5	358.9	348.2
65°	409.1	399.4	389.8	380.3	370.7	358.8	344.5	330.3	316.0	301.8	292.2
67.5°	349.5	340.4	331.1	322.0	312.7	301.6	288.3	275.1	261.8	248.6	240.3
70°	311.8	302.5	293.0	283.7	274.4	263.3	250.6	237.9	225.3	212.5	205.2
72.5°	271.7	263.3	254.8	246.3	237.8	227.6	215.7	203.6	191.6	179.6	173.3
75°	217.5	209.3	201.0	192.8	184.5	175.2	164.8	154.3	143.8	133.4	128.2
77.5°	162.6	155.6	148.6	141.7	134.6	126.9	118.5	110.0	101.5	93.0	90.0
80°	127.3	120.8	114.4	107.9	101.5	94.9	88.2	81.5	74.8	68.1	67.5
82.5°	96.9	91.0	85.0	79.1	73.1	68.2	64.5	60.6	56.7	53.0	52.4
85°	54.1	49.7	45.2	40.8	36.3	33.7	33.1	32.4	31.8	31.1	30.6
87.5°	19.3	18.6	17.8	17.1	16.4	16.2	16.5	16.9	17.2	17.4	17.7
90°	4.2	7.7	11.2	14.7	18.2	21.2	23.7	26.2	28.7	31.3	33.2
92.5°	17.9	18.1	18.3	18.5	18.7	20.0	22.5	25.1	27.6	30.2	32.0
95°	78.1	67.4	56.7	46.0	35.3	30.0	30.3	30.6	30.9	31.3	33.2
97.5°	166.0	172.7	179.4	186.2	192.8	178.5	143.3	108.0	72.8	37.5	37.7
100°	233.1	238.8	244.5	250.2	255.8	236.9	193.3	149.7	106.1	62.6	57.2
102.5°	308.1	312.4	316.5	320.7	324.8	324.0	318.4	312.7	307.0	301.3	243.4
105°	427.8	429.7	431.6	433.6	435.5	437.2	438.8	440.4	441.9	443.5	446.3
107.5°	538.9	540.0	540.9	541.9	542.8	544.3	546.5	548.7	550.7	552.9	554.3
110°	614.1	615.0	616.0	616.9	617.8	619.3	621.1	623.0	624.9	626.8	627.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	686.8	688.5	690.2	691.9	693.6	694.9	695.8	696.7	697.6	698.5	698.3
115°	798.8	799.7	800.7	801.6	802.6	803.0	802.6	802.3	802.0	801.6	802.3
117.5°	899.8	901.0	902.3	903.5	904.8	905.8	906.4	907.2	907.9	908.5	908.4
120°	968.0	969.2	970.5	971.8	973.0	973.5	973.2	972.9	972.5	972.2	972.9
122.5°	1031.6	1032.4	1033.1	1033.9	1034.7	1035.3	1035.8	1036.1	1036.6	1037.1	1037.5
125°	1122.9	1124.2	1125.4	1126.7	1127.9	1128.2	1127.7	1127.0	1126.3	1125.8	1126.7
127.5°	1209.3	1209.7	1209.9	1210.2	1210.6	1211.4	1213.0	1214.4	1215.8	1217.3	1217.1
130°	1265.1	1265.4	1265.6	1266.0	1266.3	1267.0	1267.9	1268.9	1269.8	1270.7	1271.0
132.5°	1316.2	1316.7	1317.4	1318.0	1318.5	1319.4	1320.6	1321.7	1323.0	1324.2	1324.5
135°	1393.0	1392.6	1392.3	1392.0	1391.7	1392.1	1393.5	1394.7	1396.0	1397.2	1397.9
137.5°	1460.9	1461.0	1461.1	1461.3	1461.4	1462.2	1463.6	1465.0	1466.3	1467.7	1468.4
140°	1505.2	1505.9	1506.6	1507.1	1507.8	1508.4	1509.0	1509.7	1510.3	1510.9	1511.9
142.5°	1545.0	1546.1	1547.4	1548.5	1549.6	1550.4	1550.8	1551.1	1551.5	1551.9	1552.6
145°	1606.2	1607.1	1608.1	1609.0	1610.0	1610.4	1610.4	1610.4	1610.4	1610.4	1610.7
147.5°	1654.8	1656.5	1658.3	1660.1	1661.9	1662.6	1662.3	1662.0	1661.6	1661.3	1661.6
150°	1690.1	1691.3	1692.5	1693.8	1695.1	1695.5	1695.3	1695.0	1694.6	1694.3	1694.3
152.5°	1719.6	1720.6	1721.6	1722.6	1723.6	1723.9	1723.3	1722.7	1722.1	1721.6	1722.1
155°	1761.1	1761.4	1761.7	1762.1	1762.4	1762.1	1761.1	1760.2	1759.3	1758.2	1759.5
157.5°	1796.1	1795.9	1795.7	1795.5	1795.4	1794.7	1793.6	1792.5	1791.5	1790.4	1792.1
160°	1816.6	1815.6	1814.7	1813.7	1812.8	1812.1	1811.8	1811.5	1811.2	1810.8	1812.8
162.5°	1834.8	1833.5	1832.3	1831.2	1829.9	1829.2	1828.8	1828.5	1828.2	1827.9	1829.8
165°	1857.8	1856.1	1854.6	1853.0	1851.4	1850.7	1850.7	1850.7	1850.7	1850.7	1853.1
167.5°	1875.9	1874.3	1872.6	1871.0	1869.3	1868.5	1868.3	1868.1	1867.9	1867.7	1870.5
170°	1886.2	1884.3	1882.4	1880.5	1878.6	1877.8	1878.1	1878.5	1878.8	1879.1	1881.6
172.5°	1893.0	1891.1	1889.2	1887.3	1885.5	1884.6	1885.0	1885.3	1885.6	1885.9	1888.4
175°	1900.4	1898.5	1896.6	1894.7	1892.8	1892.1	1892.3	1892.6	1893.0	1893.3	1896.1
177.5°	1903.8	1902.1	1900.3	1898.5	1896.8	1896.1	1896.6	1897.1	1897.6	1898.1	1900.2
180°	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4
2.5°	1304.5	1306.4	1308.3	1309.3	1309.1	1308.9	1308.7	1308.5
5°	1295.7	1298.0	1300.2	1301.1	1300.6	1300.2	1299.8	1299.3
7.5°	1278.5	1280.0	1281.4	1281.7	1281.0	1280.3	1279.6	1278.8
10°	1263.0	1263.9	1264.8	1264.8	1263.9	1263.0	1262.1	1261.2
12.5°	1243.9	1244.3	1244.9	1244.5	1243.3	1242.1	1240.8	1239.5
15°	1210.2	1209.8	1209.3	1208.3	1206.7	1205.1	1203.6	1202.0
17.5°	1169.7	1168.5	1167.2	1165.4	1163.0	1160.6	1158.3	1155.9
20°	1141.3	1139.5	1137.7	1135.5	1132.6	1129.6	1126.7	1123.9
22.5°	1109.9	1107.2	1104.6	1102.0	1099.7	1097.3	1095.0	1092.6
25°	1059.1	1055.4	1051.6	1048.6	1046.3	1044.1	1041.9	1039.6
27.5°	1007.4	1002.8	998.1	994.1	990.9	987.7	984.5	981.3
30°	970.3	964.8	959.2	954.6	951.1	947.5	944.0	940.4
32.5°	932.5	926.0	919.5	914.6	911.3	907.9	904.5	901.1
35°	876.1	868.6	861.0	855.2	851.2	847.2	843.1	839.1
37.5°	815.6	807.1	798.6	792.4	788.4	784.4	780.4	776.4
40°	775.3	765.9	756.6	749.9	745.9	741.9	737.9	733.9
42.5°	735.7	726.1	716.6	709.7	705.5	701.3	697.2	693.0
45°	675.0	664.0	653.1	645.6	641.6	637.6	633.6	629.6
47.5°	613.8	602.5	591.2	583.2	578.9	574.5	570.0	565.6
50°	573.3	562.1	550.9	543.3	539.0	534.8	530.6	526.3
52.5°	532.8	521.5	510.1	502.3	497.9	493.4	489.1	484.7
55°	473.1	461.5	450.0	442.1	437.8	433.6	429.3	425.1
57.5°	414.8	403.0	391.2	383.8	380.6	377.4	374.2	371.0
60°	375.9	364.3	352.7	345.1	341.6	338.0	334.4	330.8
62.5°	337.5	326.9	316.1	309.3	306.5	303.7	300.8	297.9
65°	282.6	273.1	263.4	257.3	254.7	251.9	249.3	246.7
67.5°	232.1	223.9	215.7	210.1	207.2	204.2	201.2	198.3
70°	197.8	190.5	183.1	178.3	176.2	173.9	171.6	169.5
72.5°	167.1	160.8	154.5	150.3	148.4	146.3	144.2	142.1
75°	123.1	118.0	112.8	109.6	108.3	107.0	105.6	104.2
77.5°	87.1	84.1	81.1	79.4	79.0	78.6	78.2	77.8
80°	66.8	66.2	65.5	65.0	64.8	64.6	64.4	64.2
82.5°	51.9	51.5	51.0	50.6	50.4	50.1	50.0	49.8
85°	30.2	29.8	29.3	29.0	29.0	29.0	29.0	29.0
87.5°	17.9	18.1	18.3	18.6	18.9	19.1	19.4	19.8
90°	35.1	36.9	38.8	40.2	40.7	41.4	42.0	42.6
92.5°	33.9	35.8	37.7	38.7	38.8	39.0	39.1	39.2
95°	35.1	36.9	38.8	40.0	40.2	40.6	40.9	41.2
97.5°	37.9	38.1	38.3	38.5	38.8	39.2	39.5	39.8
100°	51.8	46.5	41.1	38.5	38.8	39.2	39.5	39.8
102.5°	185.5	127.5	69.7	40.7	40.7	40.8	40.9	40.9
105°	449.1	452.0	454.9	450.5	439.2	427.8	416.5	405.1
107.5°	555.7	557.1	558.5	559.8	561.0	562.1	563.4	564.6
110°	628.1	628.8	629.3	630.2	631.1	632.1	633.0	634.0





TEST NUMBER: P333073-830

CATALOG NUMBER: S124RDIW-S795D1560U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	698.2	698.0	698.0	698.5	699.7	700.9	702.1	703.3
115°	803.0	803.5	804.2	804.6	804.6	804.6	804.6	804.6
117.5°	908.3	908.1	908.0	908.0	907.8	907.7	907.6	907.4
120°	973.5	974.1	974.8	974.8	974.1	973.5	972.9	972.2
122.5°	1037.8	1038.2	1038.6	1038.4	1037.8	1037.2	1036.5	1035.9
125°	1127.7	1128.6	1129.5	1130.2	1130.5	1130.8	1131.1	1131.4
127.5°	1216.9	1216.7	1216.5	1216.3	1216.1	1215.8	1215.5	1215.3
130°	1271.4	1271.7	1272.0	1272.1	1272.1	1272.1	1272.1	1272.1
132.5°	1324.8	1325.1	1325.4	1325.5	1325.2	1324.9	1324.7	1324.5
135°	1398.5	1399.1	1399.8	1400.4	1401.0	1401.7	1402.3	1402.9
137.5°	1469.1	1469.8	1470.6	1470.7	1470.6	1470.4	1470.2	1470.0
140°	1512.9	1513.8	1514.8	1515.3	1515.7	1516.0	1516.3	1516.6
142.5°	1553.3	1554.0	1554.6	1555.0	1555.1	1555.2	1555.2	1555.3
145°	1611.1	1611.4	1611.7	1612.2	1612.8	1613.4	1614.1	1614.7
147.5°	1661.8	1662.1	1662.4	1662.6	1662.9	1663.2	1663.6	1663.9
150°	1694.3	1694.3	1694.3	1694.5	1694.8	1695.1	1695.4	1695.7
152.5°	1722.6	1723.1	1723.6	1723.7	1723.5	1723.3	1723.2	1723.0
155°	1760.8	1762.1	1763.3	1763.5	1762.6	1761.6	1760.7	1759.7
157.5°	1793.7	1795.4	1797.0	1797.0	1795.4	1793.7	1792.1	1790.4
160°	1814.7	1816.6	1818.4	1818.4	1816.6	1814.7	1812.8	1810.8
162.5°	1831.7	1833.6	1835.5	1835.3	1833.2	1831.1	1828.9	1826.7
165°	1855.7	1858.2	1860.8	1860.6	1857.8	1854.9	1852.1	1849.3
167.5°	1873.3	1876.0	1878.9	1878.7	1875.5	1872.4	1869.2	1866.0
170°	1884.1	1886.7	1889.2	1888.9	1885.7	1882.5	1879.4	1876.2
172.5°	1890.9	1893.5	1896.0	1895.5	1892.2	1888.8	1885.4	1881.9
175°	1898.9	1901.9	1904.7	1904.2	1900.4	1896.6	1892.8	1889.0
177.5°	1902.1	1904.2	1906.2	1905.7	1902.7	1899.6	1896.6	1893.6
180°	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4

(END OF REPORT)