

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: P333012-840

Luminaire Tested: **S124RDIP-S1195D1205U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333012-840  
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: S124RDIP-S1195D1205U840-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 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: 9723.2 lumens  
Efficiency: N/A  
Efficacy: 135.6 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

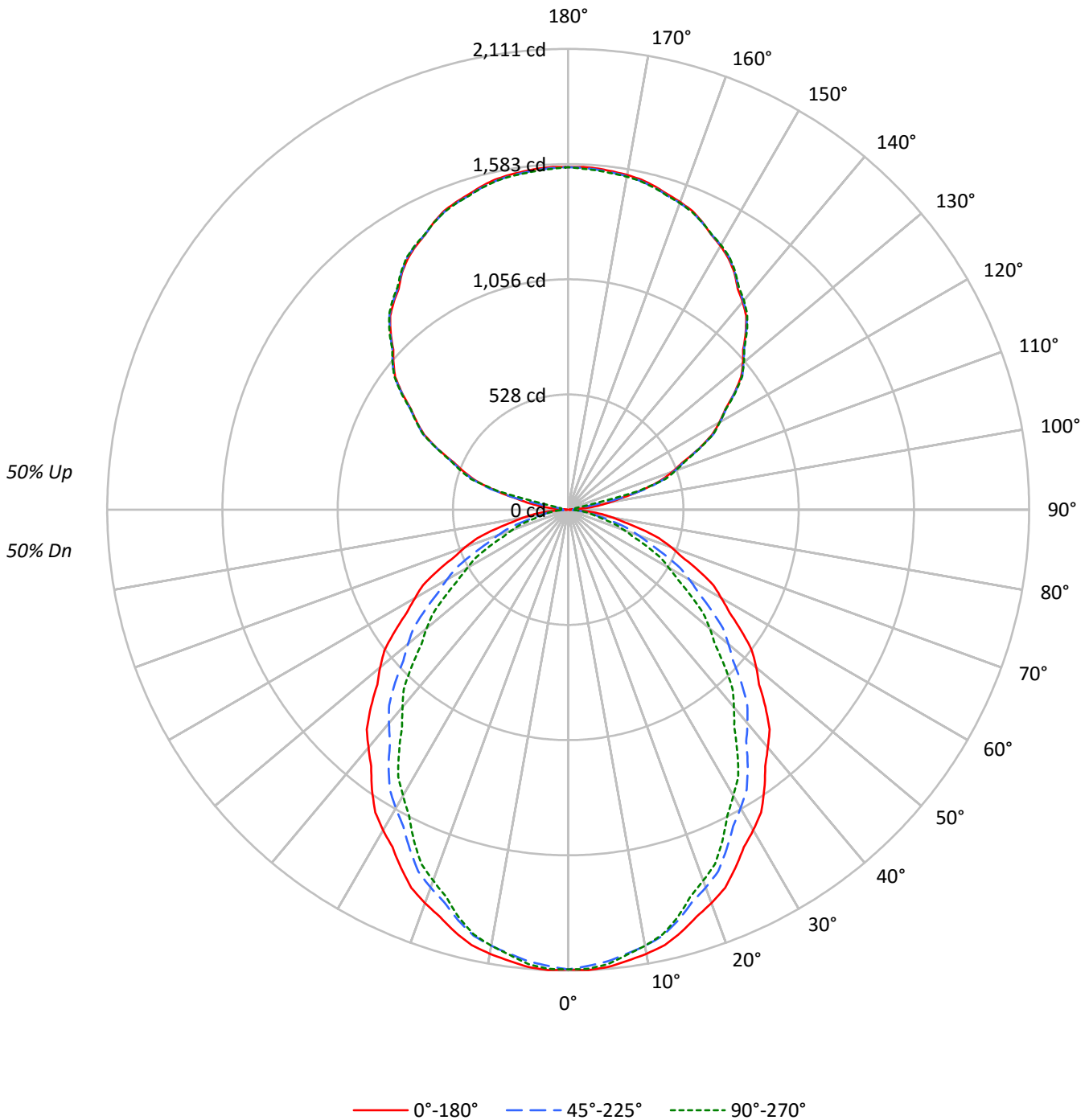
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	74	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	43	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	36	33	30	27								
5	69	57	49	44	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	44	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°	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	2.0
10°-20°	551.7	5.7
20°-30°	796.6	8.2
30°-40°	903.0	9.3
40°-50°	872.0	9.0
50°-60°	725.1	7.5
60°-70°	500.7	5.1
70°-80°	253.8	2.6
80°-90°	69.6	0.7
90°-100°	53.7	0.6
100°-110°	342.1	3.5
110°-120°	654.5	6.7
120°-130°	830.8	8.5
130°-140°	888.9	9.1
140°-150°	831.2	8.5
150°-160°	670.3	6.9
160°-170°	432.4	4.4
170°-180°	149.0	1.5
0°-30°	1546.1	15.9
0°-40°	2449.1	25.2
0°-60°	4046.2	41.6
0°-90°	4870.3	50.1
90°-120°	1050.3	10.8
90°-150°	3601.3	37.0
90°-180°	4853.0	49.9
0°-180°	9723.2	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°	4	16	26	33	35	7
95°	64	27	26	33	34	83
105°	353	360	366	374	334	370
115°	659	663	662	664	664	649
125°	927	931	929	933	934	827
135°	1150	1149	1154	1156	1158	886
145°	1326	1329	1330	1331	1333	828
155°	1454	1455	1452	1456	1453	670
165°	1534	1528	1528	1536	1527	433
175°	1569	1562	1563	1572	1559	149
180°	1569	1569	1569	1569	1569	



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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°	30.4	28.7	27.0	25.2	23.5	22.7	22.8	22.9	23.1	23.2	23.2
90°	3.5	6.4	9.3	12.1	14.9	17.5	19.6	21.6	23.7	25.9	27.4
92.5°	14.7	14.9	15.1	15.2	15.5	16.6	18.6	20.7	22.8	24.8	26.5
95°	64.5	55.6	46.8	38.0	29.1	24.7	25.0	25.2	25.5	25.9	27.4
97.5°	137.0	142.6	148.1	153.6	159.2	147.3	118.3	89.2	60.1	31.0	31.1
100°	192.5	197.1	201.9	206.5	211.3	195.6	159.6	123.6	87.7	51.6	47.2
102.5°	254.4	257.8	261.3	264.7	268.1	267.5	262.9	258.1	253.5	248.7	201.0
105°	353.1	354.8	356.3	357.9	359.4	360.9	362.2	363.5	364.8	366.1	368.5
107.5°	444.9	445.8	446.6	447.3	448.1	449.4	451.1	452.9	454.6	456.5	457.6
110°	507.0	507.7	508.5	509.3	510.1	511.2	512.8	514.3	515.9	517.5	518.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	567.0	568.5	569.8	571.2	572.6	573.7	574.4	575.1	575.9	576.6	576.5
115°	659.4	660.2	661.1	661.8	662.6	662.9	662.6	662.4	662.1	661.8	662.4
117.5°	742.8	743.8	744.9	745.9	746.9	747.7	748.3	748.9	749.5	750.0	749.9
120°	799.1	800.1	801.2	802.2	803.2	803.7	803.4	803.1	802.8	802.6	803.1
122.5°	851.6	852.3	852.9	853.5	854.1	854.6	855.1	855.4	855.8	856.2	856.5
125°	927.0	928.1	929.1	930.1	931.2	931.4	930.9	930.4	929.9	929.4	930.1
127.5°	998.4	998.6	998.9	999.2	999.4	1000.1	1001.3	1002.5	1003.7	1004.9	1004.7
130°	1044.3	1044.6	1044.9	1045.1	1045.4	1045.9	1046.7	1047.4	1048.2	1049.0	1049.2
132.5°	1086.6	1087.0	1087.5	1088.0	1088.4	1089.2	1090.1	1091.2	1092.2	1093.2	1093.4
135°	1149.9	1149.7	1149.4	1149.1	1148.9	1149.3	1150.3	1151.3	1152.5	1153.5	1154.0
137.5°	1206.1	1206.2	1206.3	1206.4	1206.5	1207.1	1208.2	1209.4	1210.5	1211.6	1212.2
140°	1242.6	1243.1	1243.6	1244.3	1244.8	1245.3	1245.8	1246.3	1246.8	1247.4	1248.1
142.5°	1275.5	1276.5	1277.4	1278.3	1279.3	1279.9	1280.2	1280.5	1280.8	1281.1	1281.7
145°	1326.0	1326.8	1327.6	1328.3	1329.1	1329.5	1329.5	1329.5	1329.5	1329.5	1329.8
147.5°	1366.0	1367.6	1369.0	1370.5	1371.9	1372.5	1372.3	1372.0	1371.7	1371.5	1371.7
150°	1395.2	1396.2	1397.2	1398.4	1399.4	1399.8	1399.5	1399.3	1399.0	1398.7	1398.7
152.5°	1419.6	1420.5	1421.3	1422.1	1422.9	1423.1	1422.7	1422.2	1421.7	1421.3	1421.7
155°	1453.9	1454.1	1454.4	1454.6	1454.9	1454.6	1453.9	1453.1	1452.3	1451.5	1452.6
157.5°	1482.7	1482.6	1482.4	1482.3	1482.1	1481.6	1480.7	1479.9	1478.9	1478.0	1479.4
160°	1499.6	1498.8	1498.0	1497.3	1496.5	1496.0	1495.7	1495.4	1495.2	1494.9	1496.5
162.5°	1514.6	1513.7	1512.7	1511.7	1510.7	1510.1	1509.7	1509.5	1509.2	1509.0	1510.6
165°	1533.7	1532.4	1531.1	1529.7	1528.4	1527.8	1527.8	1527.8	1527.8	1527.8	1529.8
167.5°	1548.6	1547.3	1546.0	1544.6	1543.3	1542.5	1542.4	1542.2	1542.1	1541.9	1544.2
170°	1557.1	1555.6	1554.0	1552.5	1550.8	1550.2	1550.4	1550.7	1551.0	1551.3	1553.4
172.5°	1562.8	1561.2	1559.6	1558.0	1556.5	1555.8	1556.1	1556.4	1556.6	1556.9	1558.9
175°	1568.8	1567.3	1565.7	1564.2	1562.6	1562.0	1562.2	1562.5	1562.8	1563.0	1565.3
177.5°	1571.7	1570.2	1568.7	1567.3	1565.8	1565.3	1565.7	1566.1	1566.6	1567.0	1568.6
180°	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8



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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°	23.2	23.3	23.3	23.5	23.9	24.3	24.7	25.1
90°	29.0	30.5	32.1	33.1	33.6	34.1	34.6	35.2
92.5°	28.0	29.6	31.1	32.0	32.1	32.2	32.3	32.4
95°	29.0	30.5	32.1	33.0	33.2	33.5	33.7	34.0
97.5°	31.3	31.4	31.6	31.8	32.1	32.3	32.6	32.8
100°	42.7	38.4	33.9	31.8	32.1	32.3	32.6	32.8
102.5°	153.1	105.3	57.5	33.6	33.6	33.7	33.7	33.8
105°	370.8	373.1	375.5	371.9	362.5	353.1	343.9	334.5
107.5°	458.8	459.9	461.0	462.1	463.1	464.1	465.0	466.1
110°	518.6	519.1	519.6	520.2	521.0	521.8	522.6	523.3





TEST NUMBER: P333012-840

CATALOG NUMBER: S124RDIP-S1195D1205U840-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	576.4	576.3	576.2	576.6	577.6	578.7	579.7	580.6
115°	662.9	663.4	663.9	664.2	664.2	664.2	664.2	664.2
117.5°	749.8	749.7	749.6	749.5	749.4	749.3	749.2	749.1
120°	803.7	804.2	804.7	804.7	804.2	803.7	803.1	802.6
122.5°	856.8	857.1	857.4	857.3	856.8	856.3	855.7	855.2
125°	930.9	931.7	932.5	933.0	933.2	933.5	933.8	934.0
127.5°	1004.6	1004.4	1004.3	1004.1	1003.9	1003.7	1003.5	1003.3
130°	1049.6	1049.9	1050.1	1050.2	1050.2	1050.2	1050.2	1050.2
132.5°	1093.7	1094.0	1094.2	1094.2	1094.0	1093.8	1093.6	1093.4
135°	1154.5	1155.0	1155.6	1156.1	1156.6	1157.1	1157.6	1158.1
137.5°	1212.8	1213.4	1214.0	1214.2	1214.1	1213.9	1213.7	1213.6
140°	1248.9	1249.7	1250.5	1251.0	1251.2	1251.5	1251.7	1252.0
142.5°	1282.3	1282.8	1283.4	1283.7	1283.8	1283.8	1283.9	1283.9
145°	1330.0	1330.3	1330.5	1330.9	1331.4	1331.9	1332.5	1333.0
147.5°	1371.9	1372.1	1372.3	1372.5	1372.8	1373.1	1373.3	1373.6
150°	1398.7	1398.7	1398.7	1398.9	1399.1	1399.4	1399.7	1399.9
152.5°	1422.1	1422.5	1422.9	1423.0	1422.9	1422.7	1422.6	1422.4
155°	1453.6	1454.6	1455.7	1455.8	1455.0	1454.2	1453.5	1452.7
157.5°	1480.8	1482.1	1483.5	1483.5	1482.1	1480.8	1479.4	1478.0
160°	1498.0	1499.6	1501.2	1501.2	1499.6	1498.0	1496.5	1494.9
162.5°	1512.2	1513.7	1515.3	1515.2	1513.4	1511.7	1509.8	1508.0
165°	1532.0	1534.1	1536.1	1536.0	1533.7	1531.3	1528.9	1526.6
167.5°	1546.5	1548.7	1551.1	1550.8	1548.3	1545.7	1543.1	1540.4
170°	1555.4	1557.5	1559.6	1559.3	1556.7	1554.1	1551.6	1548.9
172.5°	1561.0	1563.2	1565.2	1564.9	1562.1	1559.2	1556.4	1553.6
175°	1567.7	1570.0	1572.4	1572.0	1568.8	1565.7	1562.6	1559.4
177.5°	1570.3	1572.0	1573.7	1573.3	1570.7	1568.2	1565.7	1563.3
180°	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8

(END OF REPORT)