

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

Luminaire Tested: **S124RDIP-S1195D1205U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333012  
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-S1195D1205U835-4F0-1E-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: 9628.3 lumens  
Efficiency: N/A  
Efficacy: 134.3 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

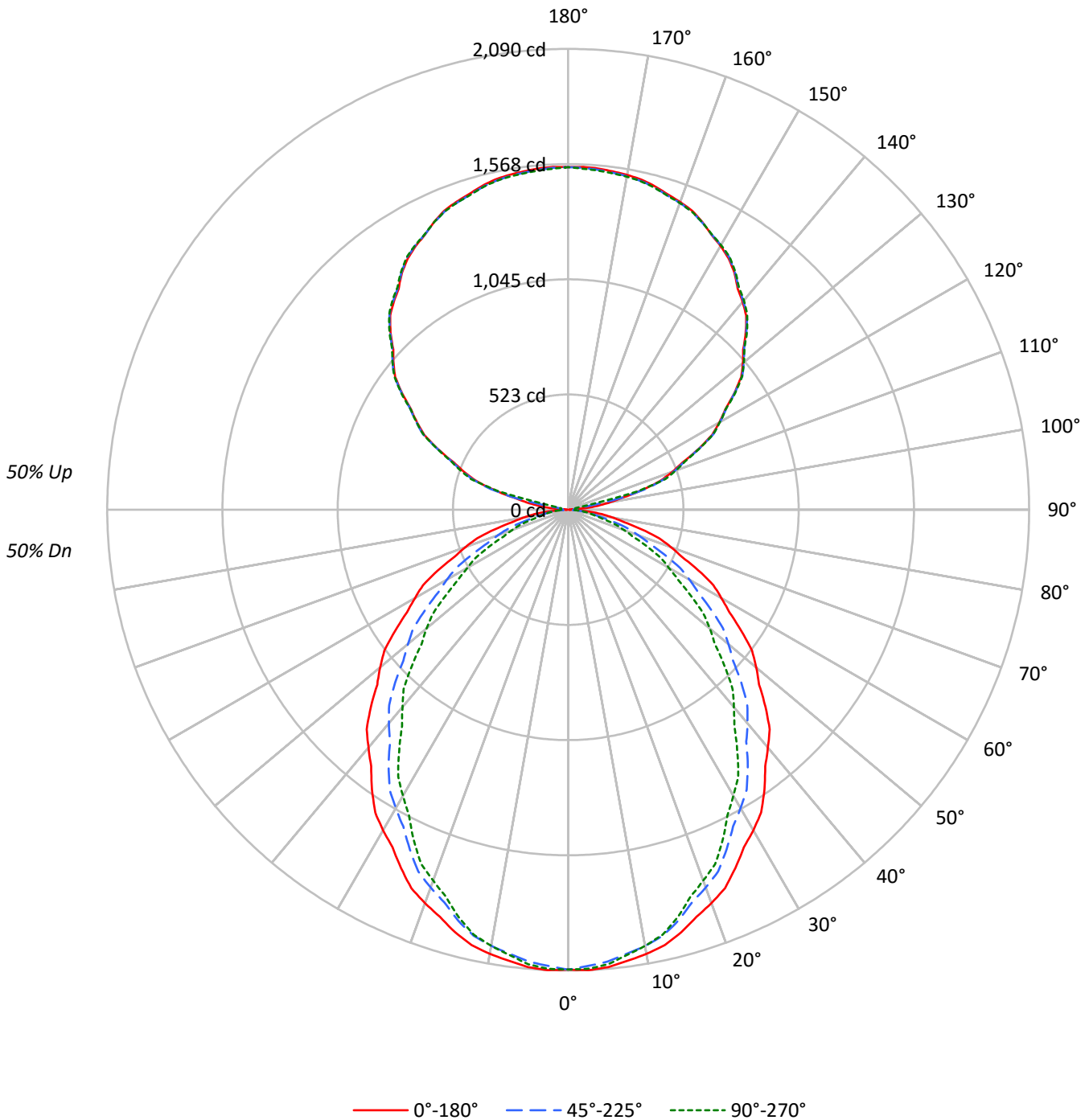
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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°	16835	16835	16835
5°	16874	16667	16771
10°	16768	16467	16467
15°	16575	16121	16002
20°	16311	15667	15378
25°	15973	15134	14750
30°	15645	14573	13962
35°	15281	13991	13172
40°	14842	13328	12318
45°	14439	12670	11449
50°	13978	11912	10528
55°	13485	11125	9529
60°	12943	10261	8507
65°	12445	9181	7503
70°	11722	7990	6371
75°	10808	6625	5181
80°	9428	5049	4751
85°	7984	4585	4289



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	195.9	2.0
10°-20°	546.3	5.7
20°-30°	788.8	8.2
30°-40°	894.2	9.3
40°-50°	863.5	9.0
50°-60°	718.0	7.5
60°-70°	495.8	5.1
70°-80°	251.3	2.6
80°-90°	69.0	0.7
90°-100°	53.1	0.6
100°-110°	338.8	3.5
110°-120°	648.1	6.7
120°-130°	822.7	8.5
130°-140°	880.2	9.1
140°-150°	823.1	8.5
150°-160°	663.8	6.9
160°-170°	428.1	4.4
170°-180°	147.6	1.5
0°-30°	1531.0	15.9
0°-40°	2425.2	25.2
0°-60°	4006.7	41.6
0°-90°	4822.7	50.1
90°-120°	1040.0	10.8
90°-150°	3566.1	37.0
90°-180°	4806.0	49.9
0°-180°	9628.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2085	2085	2085	2085	2085	
5°	2082	2075	2057	2072	2070	197
15°	1983	1967	1929	1925	1915	559
25°	1793	1762	1699	1672	1656	826
35°	1550	1498	1420	1367	1336	968
45°	1265	1204	1110	1034	1003	975
55°	958	892	790	710	677	857
65°	652	581	481	415	393	643
75°	346	287	212	177	166	366
85°	86	56	50	46	46	97
90°	4	16	26	32	35	7
95°	64	27	26	32	34	82
105°	350	357	362	370	331	366
115°	653	656	655	658	658	642
125°	918	922	920	924	925	819
135°	1139	1138	1142	1145	1147	877
145°	1313	1316	1316	1318	1320	820
155°	1440	1441	1437	1442	1438	663
165°	1519	1513	1513	1521	1512	429
175°	1554	1547	1548	1557	1544	148
180°	1554	1554	1554	1554	1554	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2090.5	2089.4	2088.3	2087.1	2086.0	2083.9	2080.8	2077.6	2074.5	2071.4	2074.5
5°	2082.2	2080.8	2079.4	2078.0	2076.6	2073.7	2069.5	2065.2	2061.0	2056.7	2060.2
7.5°	2063.4	2061.9	2060.4	2058.9	2057.4	2053.9	2048.4	2042.9	2037.3	2031.8	2034.1
10°	2045.5	2043.7	2042.0	2040.2	2038.4	2034.3	2028.0	2021.6	2015.2	2008.8	2010.2
12.5°	2022.5	2020.5	2018.4	2016.3	2014.3	2009.5	2002.0	1994.5	1986.9	1979.4	1980.3
15°	1983.2	1980.0	1976.9	1973.7	1970.5	1964.4	1955.6	1946.7	1937.8	1928.9	1928.2
17.5°	1935.7	1931.0	1926.4	1921.8	1917.2	1909.6	1898.9	1888.3	1877.6	1867.0	1865.0
20°	1898.6	1894.0	1889.4	1884.8	1880.2	1871.8	1859.8	1847.7	1835.6	1823.6	1820.7
22.5°	1857.7	1852.6	1847.4	1842.2	1837.0	1828.0	1815.0	1802.1	1789.2	1776.3	1772.0
25°	1793.2	1786.8	1780.4	1774.1	1767.7	1757.2	1742.7	1728.1	1713.6	1699.0	1693.0
27.5°	1725.5	1717.5	1709.5	1701.5	1693.4	1681.7	1666.1	1650.6	1635.0	1619.5	1612.0
30°	1678.3	1669.4	1660.5	1651.6	1642.8	1630.0	1613.3	1596.6	1580.0	1563.3	1554.4
32.5°	1628.4	1618.4	1608.4	1598.4	1588.4	1574.8	1557.5	1540.3	1523.0	1505.8	1495.5
35°	1550.5	1539.1	1527.8	1516.4	1505.1	1490.5	1472.8	1455.1	1437.3	1419.6	1407.5
37.5°	1467.2	1455.4	1443.7	1432.0	1420.3	1404.6	1385.0	1365.3	1345.7	1326.0	1312.5
40°	1408.4	1396.7	1385.0	1373.3	1361.5	1345.6	1325.4	1305.1	1284.9	1264.7	1249.8
42.5°	1352.2	1339.9	1327.6	1315.3	1303.1	1286.4	1265.3	1244.2	1223.2	1202.1	1186.9
45°	1264.7	1251.5	1238.4	1225.3	1212.2	1194.9	1173.7	1152.4	1131.1	1109.8	1092.4
47.5°	1174.3	1160.7	1147.2	1133.6	1120.1	1102.2	1080.1	1057.9	1035.8	1013.7	995.6
50°	1113.0	1099.1	1085.3	1071.5	1057.6	1039.3	1016.6	993.9	971.2	948.5	930.8
52.5°	1050.4	1036.8	1023.3	1009.7	996.2	977.7	954.5	931.2	907.9	884.6	866.6
55°	958.1	943.9	929.7	915.5	901.3	882.7	859.6	836.6	813.5	790.4	772.0
57.5°	866.7	852.0	837.2	822.5	807.7	789.0	766.3	743.5	720.8	698.1	679.4
60°	801.6	787.4	773.2	759.0	744.8	726.4	703.7	681.0	658.2	635.5	617.1
62.5°	742.8	728.1	713.3	698.6	683.8	664.8	641.5	618.2	594.9	571.7	554.6
65°	651.5	636.2	621.0	605.7	590.5	571.5	548.8	526.1	503.4	480.6	465.4
67.5°	556.6	542.0	527.4	512.8	498.2	480.3	459.2	438.2	417.1	396.0	382.9
70°	496.6	481.7	466.8	451.9	437.0	419.4	399.2	379.0	358.8	338.5	326.8
72.5°	432.7	419.3	405.8	392.3	378.8	362.5	343.4	324.3	305.2	286.1	276.1
75°	346.5	333.4	320.2	307.1	294.0	279.1	262.4	245.7	229.1	212.4	204.2
77.5°	259.0	247.9	236.7	225.6	214.4	202.1	188.6	175.2	161.7	148.2	143.4
80°	202.8	192.5	182.2	171.9	161.6	151.2	140.5	129.9	119.2	108.6	107.5
82.5°	154.3	144.8	135.4	125.9	116.5	108.7	102.6	96.5	90.4	84.3	83.5
85°	86.2	79.1	72.0	64.9	57.8	53.8	52.7	51.6	50.6	49.5	48.8
87.5°	30.1	28.4	26.7	25.0	23.3	22.5	22.6	22.7	22.9	23.0	23.0
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°	14.6	14.8	15.0	15.1	15.3	16.4	18.4	20.5	22.6	24.6	26.2
95°	63.9	55.1	46.3	37.6	28.8	24.5	24.8	25.0	25.3	25.6	27.1
97.5°	135.7	141.2	146.7	152.1	157.6	145.9	117.1	88.3	59.5	30.7	30.8
100°	190.6	195.2	199.9	204.5	209.2	193.7	158.0	122.4	86.8	51.1	46.7
102.5°	251.9	255.3	258.7	262.1	265.5	264.9	260.3	255.6	251.0	246.3	199.0
105°	349.7	351.3	352.8	354.4	355.9	357.4	358.7	359.9	361.2	362.5	364.9
107.5°	440.6	441.4	442.2	442.9	443.7	445.0	446.7	448.5	450.2	452.0	453.1
110°	502.0	502.7	503.5	504.3	505.1	506.2	507.8	509.3	510.9	512.4	512.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	561.5	562.9	564.2	565.6	567.0	568.1	568.8	569.5	570.3	571.0	570.9
115°	653.0	653.8	654.6	655.3	656.1	656.4	656.1	655.9	655.6	655.3	655.9
117.5°	735.5	736.5	737.6	738.6	739.6	740.4	741.0	741.6	742.2	742.7	742.6
120°	791.3	792.3	793.4	794.4	795.4	795.8	795.6	795.3	795.0	794.8	795.3
122.5°	843.3	844.0	844.6	845.2	845.8	846.3	846.7	847.0	847.4	847.8	848.1
125°	917.9	919.0	920.0	921.0	922.1	922.3	921.8	921.3	920.8	920.3	921.0
127.5°	988.6	988.8	989.1	989.4	989.6	990.3	991.5	992.7	993.9	995.1	994.9
130°	1034.1	1034.4	1034.7	1034.9	1035.2	1035.7	1036.5	1037.2	1038.0	1038.8	1039.0
132.5°	1076.0	1076.4	1076.9	1077.4	1077.8	1078.6	1079.5	1080.5	1081.5	1082.5	1082.7
135°	1138.7	1138.5	1138.2	1137.9	1137.7	1138.1	1139.1	1140.1	1141.2	1142.2	1142.7
137.5°	1194.3	1194.4	1194.5	1194.6	1194.7	1195.3	1196.4	1197.6	1198.7	1199.8	1200.4
140°	1230.5	1231.0	1231.5	1232.1	1232.6	1233.1	1233.6	1234.1	1234.6	1235.2	1235.9
142.5°	1263.0	1264.0	1264.9	1265.8	1266.8	1267.4	1267.7	1268.0	1268.3	1268.6	1269.2
145°	1313.0	1313.8	1314.6	1315.3	1316.1	1316.5	1316.5	1316.5	1316.5	1316.5	1316.8
147.5°	1352.7	1354.2	1355.6	1357.1	1358.5	1359.1	1358.9	1358.6	1358.3	1358.1	1358.3
150°	1381.6	1382.6	1383.6	1384.7	1385.7	1386.1	1385.8	1385.6	1385.3	1385.0	1385.0
152.5°	1405.7	1406.6	1407.4	1408.2	1409.0	1409.2	1408.8	1408.3	1407.8	1407.4	1407.8
155°	1439.7	1439.9	1440.2	1440.4	1440.7	1440.4	1439.7	1438.9	1438.1	1437.3	1438.4
157.5°	1468.2	1468.1	1467.9	1467.8	1467.6	1467.1	1466.2	1465.4	1464.5	1463.6	1464.9
160°	1485.0	1484.2	1483.4	1482.7	1481.9	1481.4	1481.1	1480.8	1480.6	1480.3	1481.9
162.5°	1499.8	1498.9	1497.9	1496.9	1495.9	1495.3	1495.0	1494.8	1494.5	1494.3	1495.8
165°	1518.7	1517.4	1516.1	1514.8	1513.5	1512.9	1512.9	1512.9	1512.9	1512.9	1514.9
167.5°	1533.5	1532.2	1530.9	1529.5	1528.2	1527.4	1527.3	1527.1	1527.0	1526.8	1529.1
170°	1541.9	1540.4	1538.8	1537.3	1535.7	1535.1	1535.3	1535.6	1535.8	1536.1	1538.2
172.5°	1547.5	1545.9	1544.4	1542.8	1541.3	1540.6	1540.9	1541.2	1541.4	1541.7	1543.7
175°	1553.5	1552.0	1550.4	1548.9	1547.3	1546.7	1546.9	1547.2	1547.5	1547.7	1550.0
177.5°	1556.3	1554.9	1553.4	1552.0	1550.5	1550.0	1550.4	1550.8	1551.3	1551.7	1553.3
180°	1553.5	1553.5	1553.5	1553.5	1553.5	1553.5	1553.5	1553.5	1553.5	1553.5	1553.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2077.6	2080.8	2083.9	2085.3	2085.0	2084.7	2084.4	2084.2
5°	2063.8	2067.3	2070.9	2072.3	2071.6	2070.9	2070.2	2069.5
7.5°	2036.3	2038.6	2040.9	2041.4	2040.3	2039.2	2038.0	2036.9
10°	2011.6	2013.0	2014.5	2014.5	2013.0	2011.6	2010.2	2008.8
12.5°	1981.1	1982.0	1982.8	1982.2	1980.3	1978.3	1976.3	1974.3
15°	1927.5	1926.8	1926.1	1924.5	1922.0	1919.5	1917.1	1914.6
17.5°	1863.0	1861.0	1859.0	1856.2	1852.4	1848.6	1844.9	1841.1
20°	1817.9	1815.0	1812.2	1808.5	1803.9	1799.3	1794.6	1790.0
22.5°	1767.8	1763.5	1759.3	1755.3	1751.5	1747.7	1744.0	1740.2
25°	1686.9	1680.9	1674.9	1670.1	1666.5	1663.0	1659.4	1655.9
27.5°	1604.6	1597.1	1589.7	1583.4	1578.3	1573.2	1568.1	1563.0
30°	1545.5	1536.7	1527.8	1520.5	1514.8	1509.2	1503.5	1497.8
32.5°	1485.2	1474.9	1464.6	1456.8	1451.4	1446.0	1440.6	1435.2
35°	1395.4	1383.4	1371.3	1362.1	1355.7	1349.3	1342.9	1336.5
37.5°	1299.0	1285.5	1272.1	1262.1	1255.7	1249.3	1243.0	1236.6
40°	1234.9	1220.0	1205.1	1194.4	1188.0	1181.6	1175.3	1168.9
42.5°	1171.7	1156.5	1141.3	1130.4	1123.7	1117.1	1110.4	1103.7
45°	1075.0	1057.6	1040.2	1028.3	1022.0	1015.6	1009.2	1002.8
47.5°	977.6	959.6	941.6	929.0	922.0	915.0	907.9	900.9
50°	913.0	895.3	877.5	865.3	858.6	851.8	845.1	838.3
52.5°	848.6	830.6	812.5	800.0	793.0	786.0	778.9	771.9
55°	753.5	735.1	716.6	704.0	697.3	690.5	683.8	677.0
57.5°	660.7	641.9	623.2	611.3	606.2	601.0	595.9	590.8
60°	598.6	580.2	561.7	549.7	544.0	538.3	532.6	526.9
62.5°	537.6	520.6	503.5	492.7	488.2	483.7	479.1	474.6
65°	450.1	434.9	419.6	409.8	405.6	401.3	397.1	392.8
67.5°	369.8	356.6	343.5	334.6	329.9	325.2	320.5	315.8
70°	315.1	303.4	291.7	284.1	280.5	277.0	273.4	269.9
72.5°	266.1	256.1	246.1	239.5	236.2	233.0	229.7	226.4
75°	196.1	187.9	179.7	174.6	172.5	170.3	168.2	166.1
77.5°	138.7	133.9	129.2	126.5	125.8	125.2	124.6	123.9
80°	106.5	105.4	104.3	103.6	103.3	102.9	102.6	102.2
82.5°	82.8	82.0	81.2	80.6	80.3	79.9	79.6	79.2
85°	48.1	47.4	46.7	46.3	46.3	46.3	46.3	46.3
87.5°	23.0	23.1	23.1	23.3	23.7	24.1	24.5	24.9
90°	28.7	30.2	31.8	32.8	33.3	33.8	34.3	34.9
92.5°	27.7	29.3	30.8	31.7	31.8	31.9	32.0	32.1
95°	28.7	30.2	31.8	32.7	32.9	33.2	33.4	33.7
97.5°	31.0	31.1	31.3	31.5	31.8	32.0	32.3	32.5
100°	42.3	38.0	33.6	31.5	31.8	32.0	32.3	32.5
102.5°	151.6	104.3	56.9	33.3	33.3	33.4	33.4	33.5
105°	367.2	369.5	371.8	368.3	359.0	349.7	340.5	331.2
107.5°	454.3	455.4	456.5	457.6	458.6	459.6	460.5	461.5
110°	513.5	514.0	514.5	515.1	515.9	516.7	517.5	518.2





TEST NUMBER: P333012

CATALOG NUMBER: S124RDIP-S1195D1205U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	570.8	570.7	570.6	571.0	572.0	573.0	574.0	574.9
115°	656.4	656.9	657.4	657.7	657.7	657.7	657.7	657.7
117.5°	742.5	742.4	742.3	742.2	742.1	742.0	741.9	741.8
120°	795.8	796.3	796.8	796.8	796.3	795.8	795.3	794.8
122.5°	848.4	848.7	849.0	848.9	848.4	847.9	847.3	846.8
125°	921.8	922.6	923.4	923.9	924.1	924.4	924.7	924.9
127.5°	994.8	994.6	994.5	994.3	994.1	993.9	993.7	993.5
130°	1039.3	1039.6	1039.8	1039.9	1039.9	1039.9	1039.9	1039.9
132.5°	1083.0	1083.3	1083.5	1083.5	1083.3	1083.1	1082.9	1082.7
135°	1143.2	1143.7	1144.3	1144.8	1145.3	1145.8	1146.3	1146.8
137.5°	1201.0	1201.5	1202.1	1202.3	1202.2	1202.0	1201.8	1201.7
140°	1236.7	1237.5	1238.3	1238.8	1239.0	1239.3	1239.5	1239.8
142.5°	1269.8	1270.3	1270.9	1271.2	1271.3	1271.3	1271.4	1271.4
145°	1317.0	1317.3	1317.5	1317.9	1318.4	1318.9	1319.5	1320.0
147.5°	1358.5	1358.7	1358.9	1359.1	1359.4	1359.7	1359.9	1360.2
150°	1385.0	1385.0	1385.0	1385.2	1385.4	1385.7	1386.0	1386.2
152.5°	1408.2	1408.6	1409.0	1409.1	1409.0	1408.8	1408.7	1408.5
155°	1439.4	1440.4	1441.5	1441.6	1440.8	1440.0	1439.3	1438.5
157.5°	1466.3	1467.6	1469.0	1469.0	1467.6	1466.3	1464.9	1463.6
160°	1483.4	1485.0	1486.5	1486.5	1485.0	1483.4	1481.9	1480.3
162.5°	1497.4	1498.9	1500.5	1500.4	1498.6	1496.9	1495.1	1493.3
165°	1517.0	1519.1	1521.1	1521.0	1518.7	1516.3	1514.0	1511.7
167.5°	1531.4	1533.6	1535.9	1535.7	1533.2	1530.6	1528.0	1525.4
170°	1540.2	1542.3	1544.4	1544.1	1541.5	1538.9	1536.4	1533.8
172.5°	1545.8	1547.9	1549.9	1549.6	1546.8	1544.0	1541.2	1538.4
175°	1552.4	1554.7	1557.0	1556.6	1553.5	1550.4	1547.3	1544.2
177.5°	1555.0	1556.6	1558.3	1557.9	1555.4	1552.9	1550.4	1548.0
180°	1553.5	1553.5	1553.5	1553.5	1553.5	1553.5	1553.5	1553.5

(END OF REPORT)