

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: P333002

Luminaire Tested: **S124RDIP-S1195D810U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333002  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIP-S1195D810U835-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7715.0 lumens  
Efficiency: N/A  
Efficacy: 127.1 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-Direct

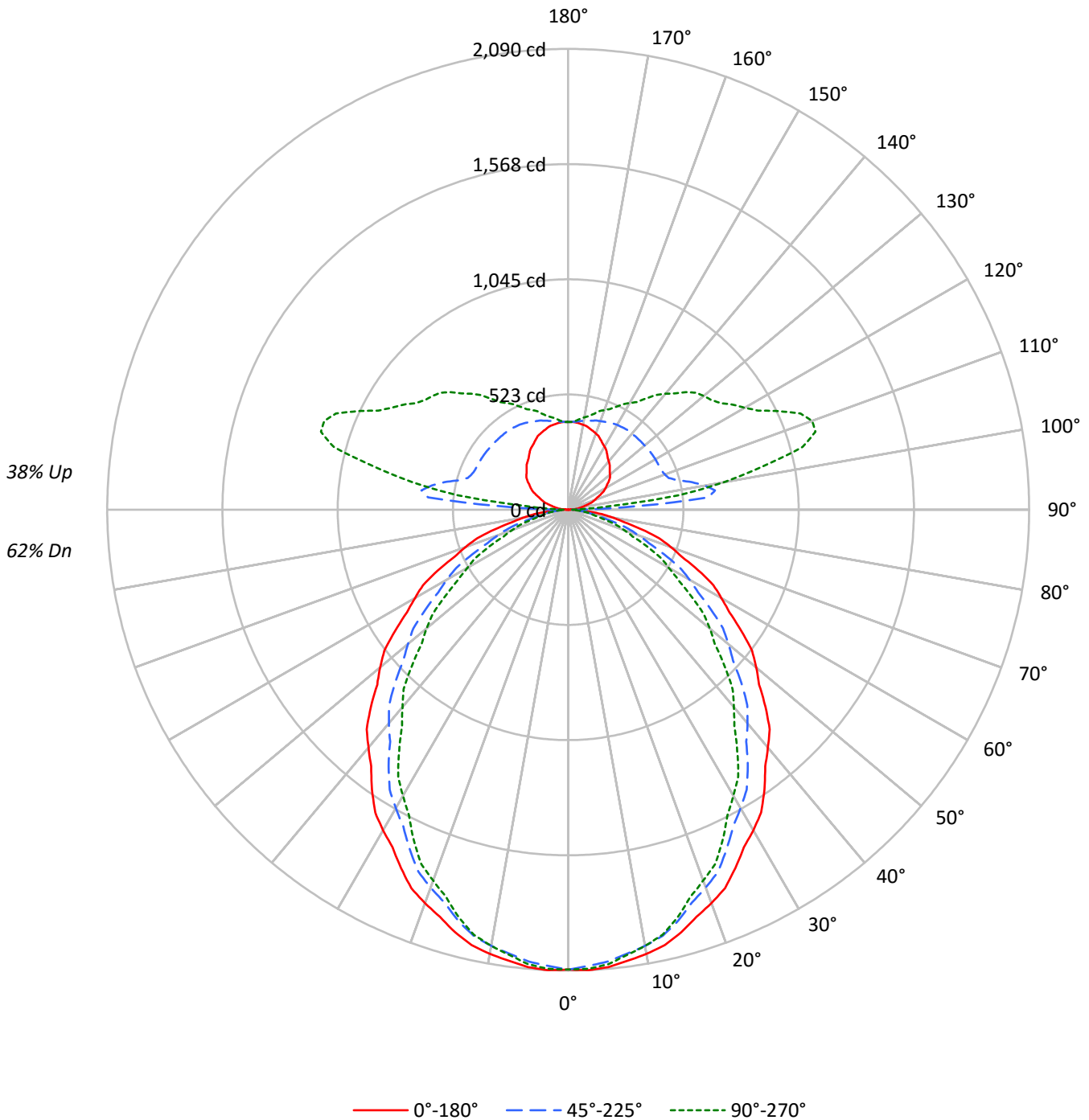
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	68	68	68	62					62			
1	101	97	93	89	94	91	87	84	80	77	75	70	68	66	60	59	58	53					53			
2	92	85	79	74	86	80	74	70	70	66	63	62	58	56	53	51	49	45					45			
3	84	75	68	62	79	70	64	59	62	57	53	55	51	48	48	45	42	39					39			
4	77	66	59	53	72	63	56	50	56	50	46	49	45	41	43	39	37	33					33			
5	71	59	51	45	66	56	49	43	50	44	40	44	39	36	39	35	32	29					29			
6	66	54	45	40	61	51	43	38	45	39	35	40	35	32	35	31	28	26					26			
7	61	48	40	35	57	46	39	33	41	35	31	37	32	28	32	28	25	23					23			
8	57	44	36	31	53	42	35	30	38	32	27	34	29	25	30	26	23	21					21			
9	53	40	33	28	50	38	31	27	35	29	25	31	26	23	27	24	21	19					19			
10	49	37	30	25	46	35	29	24	32	26	22	29	24	21	26	22	19	17					17			

**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	2.5
10°-20°	546.3	7.1
20°-30°	788.8	10.2
30°-40°	894.2	11.6
40°-50°	863.5	11.2
50°-60°	718.0	9.3
60°-70°	495.8	6.4
70°-80°	251.3	3.3
80°-90°	66.7	0.9
90°-100°	287.5	3.7
100°-110°	598.3	7.8
110°-120°	535.9	6.9
120°-130°	450.8	5.8
130°-140°	375.9	4.9
140°-150°	287.1	3.7
150°-160°	201.8	2.6
160°-170°	118.7	1.5
170°-180°	38.6	0.5
0°-30°	1531.0	19.8
0°-40°	2425.2	31.4
0°-60°	4006.7	51.9
0°-90°	4820.4	62.5
90°-120°	1421.6	18.4
90°-150°	2535.4	32.9
90°-180°	2895.0	37.5
0°-180°	7715.0	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°	1	6	14	16	16	5
95°	26	81	637	316	191	29
105°	92	133	513	1104	1100	98
115°	161	202	457	879	1056	160
125°	224	267	455	748	843	200
135°	267	317	451	664	754	206
145°	307	352	449	560	615	193
155°	350	377	436	494	515	161
165°	381	393	418	443	450	107
175°	397	398	401	407	405	38
180°	398	398	398	398	398	



TEST NUMBER: P333002

CATALOG NUMBER: S124RDIP-S1195D810U835-4F0-1E-UDD-F4

**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°	29.5	27.6	25.8	23.7	21.5	20.3	20.9	20.6	20.7	20.7	20.3
90°	0.8	2.3	4.7	5.5	6.3	6.3	10.9	10.9	12.5	14.1	13.3
92.5°	8.9	13.0	20.3	29.9	41.3	57.5	97.3	157.9	217.1	248.0	206.6
95°	25.8	28.1	36.0	46.1	64.9	97.7	165.8	294.0	480.9	637.3	655.3
97.5°	46.3	46.3	53.0	62.4	78.5	106.0	158.4	264.3	450.1	671.2	823.2
100°	59.4	59.4	64.9	74.3	89.1	114.2	160.3	248.7	408.2	628.7	828.8
102.5°	71.9	73.2	78.0	86.8	101.0	124.8	166.5	244.3	380.0	575.5	781.9
105°	91.5	93.8	97.7	107.1	121.2	143.9	181.4	246.3	355.8	512.9	696.7
107.5°	113.1	114.6	118.5	128.5	142.0	164.4	198.8	257.9	351.4	477.9	627.9
110°	127.5	129.0	132.9	142.3	156.4	177.5	211.9	266.6	352.6	466.0	593.5



TEST NUMBER: P333002

CATALOG NUMBER: S124RDIP-S1195D810U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	141.2	142.8	147.3	156.1	170.1	191.3	224.4	276.0	356.4	460.4	574.1
115°	161.1	163.4	168.9	176.7	191.6	212.7	244.0	290.9	363.6	457.4	555.9
117.5°	181.7	183.9	188.8	197.4	211.3	233.2	262.9	306.0	371.3	456.6	547.8
120°	195.5	197.0	202.5	211.1	224.4	246.3	276.0	316.7	376.9	456.6	543.4
122.5°	208.0	209.6	215.0	223.0	237.5	258.8	288.5	326.7	382.5	456.0	538.4
125°	224.4	227.5	232.2	240.8	255.7	277.6	305.7	341.7	391.0	455.1	530.1
127.5°	239.0	241.5	247.1	256.9	272.4	294.5	321.7	354.7	397.7	453.4	519.0
130°	247.1	250.2	256.5	268.2	283.1	305.7	332.3	362.8	402.7	452.7	512.2
132.5°	255.2	257.7	265.9	277.0	293.1	314.5	341.1	370.9	407.1	452.1	505.9
135°	266.6	269.8	277.6	290.9	307.3	327.6	353.4	381.6	413.6	451.2	496.5
137.5°	278.1	281.0	289.6	302.3	319.3	338.7	362.8	389.1	417.5	451.0	488.4
140°	286.2	288.5	297.1	310.4	326.8	345.6	369.1	394.1	420.7	450.4	484.0
142.5°	294.9	297.3	305.3	317.9	333.7	351.9	374.7	397.8	423.2	450.4	480.3
145°	307.3	309.6	317.5	328.4	343.3	360.5	380.8	401.9	424.6	448.8	473.8
147.5°	321.2	322.0	328.9	340.1	352.5	368.0	387.1	405.5	425.4	446.0	468.1
150°	330.0	330.8	337.0	346.4	358.1	373.0	390.2	407.4	425.4	444.1	463.7
152.5°	338.1	338.3	344.5	353.3	363.8	377.4	392.7	408.6	424.1	441.0	458.7
155°	349.5	350.3	355.0	362.8	371.4	383.1	396.4	409.7	422.2	436.3	451.2
157.5°	360.6	360.6	365.0	371.1	378.6	387.8	399.1	409.7	420.2	431.5	443.5
160°	367.5	367.5	370.6	376.1	382.4	391.0	400.3	409.7	418.3	427.7	437.9
162.5°	373.8	373.1	375.6	380.5	386.1	392.8	401.6	409.7	416.5	424.0	432.9
165°	380.8	380.8	382.4	386.3	390.2	394.9	401.9	408.2	412.9	418.3	424.6
167.5°	387.8	387.1	387.8	390.8	393.0	396.6	401.8	406.3	409.1	412.7	417.1
170°	391.0	390.2	391.0	393.3	394.9	397.2	401.1	405.0	406.6	408.9	412.1
172.5°	394.1	393.3	393.5	395.2	396.1	397.8	400.5	403.8	404.1	405.2	407.7
175°	397.2	396.4	396.4	397.2	398.0	398.0	399.6	401.9	401.1	401.1	402.7
177.5°	398.6	398.0	397.4	398.0	398.0	398.0	398.6	399.9	398.6	398.6	399.2
180°	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0



TEST NUMBER: P333002

CATALOG NUMBER: S124RDIP-S1195D810U835-4F0-1E-UDD-F4

**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°	20.1	20.0	19.9	19.9	20.3	20.8	20.9	21.2
90°	14.1	14.9	15.6	15.6	16.4	17.2	16.4	16.4
92.5°	153.6	115.6	92.0	76.3	67.1	62.9	60.2	60.2
95°	579.4	458.2	353.4	277.6	239.3	215.0	201.0	190.8
97.5°	856.0	811.0	734.5	652.9	596.8	549.7	526.2	510.0
100°	943.0	958.6	920.3	862.5	794.4	746.7	723.3	717.0
102.5°	938.6	1016.2	1027.3	1003.2	961.5	926.9	902.2	897.2
105°	875.8	1011.0	1088.4	1120.5	1122.1	1115.8	1104.9	1100.2
107.5°	786.5	930.5	1039.5	1109.2	1147.9	1165.7	1173.5	1175.5
110°	732.7	867.9	981.3	1067.3	1122.8	1155.7	1169.8	1176.8





TEST NUMBER: P333002

CATALOG NUMBER: S124RDIP-S1195D810U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	693.3	812.9	920.0	1006.0	1069.0	1108.8	1128.5	1139.9
115°	653.7	749.9	841.3	916.4	978.2	1025.1	1050.1	1056.4
117.5°	634.3	713.9	785.8	849.5	902.2	941.6	966.9	971.8
120°	625.5	698.3	760.8	816.3	860.9	895.3	915.6	924.2
122.5°	618.0	688.2	745.2	793.8	831.5	860.9	878.1	886.7
125°	605.2	672.5	726.4	769.4	800.7	823.4	838.2	842.9
127.5°	589.6	653.8	707.6	748.5	779.9	800.1	812.6	817.3
130°	577.1	638.8	692.0	733.4	765.5	785.1	797.6	802.3
132.5°	563.9	621.9	673.9	715.3	746.7	768.8	780.7	785.4
135°	545.8	596.6	644.3	683.4	714.7	736.6	749.1	753.8
137.5°	529.4	572.4	612.6	647.9	677.1	698.7	709.0	714.7
140°	520.0	556.7	591.9	624.8	652.1	669.3	680.3	686.5
142.5°	511.2	543.6	573.8	602.2	626.5	642.4	652.1	656.5
145°	498.9	525.5	548.9	570.8	590.4	603.6	611.5	615.4
147.5°	488.7	509.8	528.6	545.8	560.2	571.6	577.5	578.9
150°	482.4	500.4	516.1	530.1	542.7	552.8	557.5	558.3
152.5°	475.6	491.0	505.4	517.0	527.6	535.9	538.7	539.5
155°	465.2	477.8	489.5	498.9	506.7	512.9	515.3	515.3
157.5°	454.1	464.6	474.5	482.0	487.9	492.6	494.0	494.0
160°	447.3	455.9	464.5	470.7	475.4	480.1	480.9	480.9
162.5°	440.4	447.7	454.5	460.1	463.5	468.2	469.0	468.4
165°	430.8	435.5	441.0	444.9	448.0	451.2	450.4	449.6
167.5°	421.6	425.2	429.6	431.9	433.5	435.5	435.4	434.7
170°	416.0	418.3	421.5	423.8	425.4	426.1	425.4	425.4
172.5°	411.0	412.7	414.6	416.3	417.2	418.0	417.2	416.0
175°	404.3	405.0	406.6	406.6	406.6	408.2	406.6	405.0
177.5°	399.9	400.5	400.5	401.1	400.5	401.1	399.9	398.6
180°	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0

(END OF REPORT)