

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: P333109-830

Luminaire Tested: **S124RDIW-S1195D1340U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333109-830
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-S1195D1340U830-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9602.2 lumens
Efficiency: N/A
Efficacy: 126.0 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

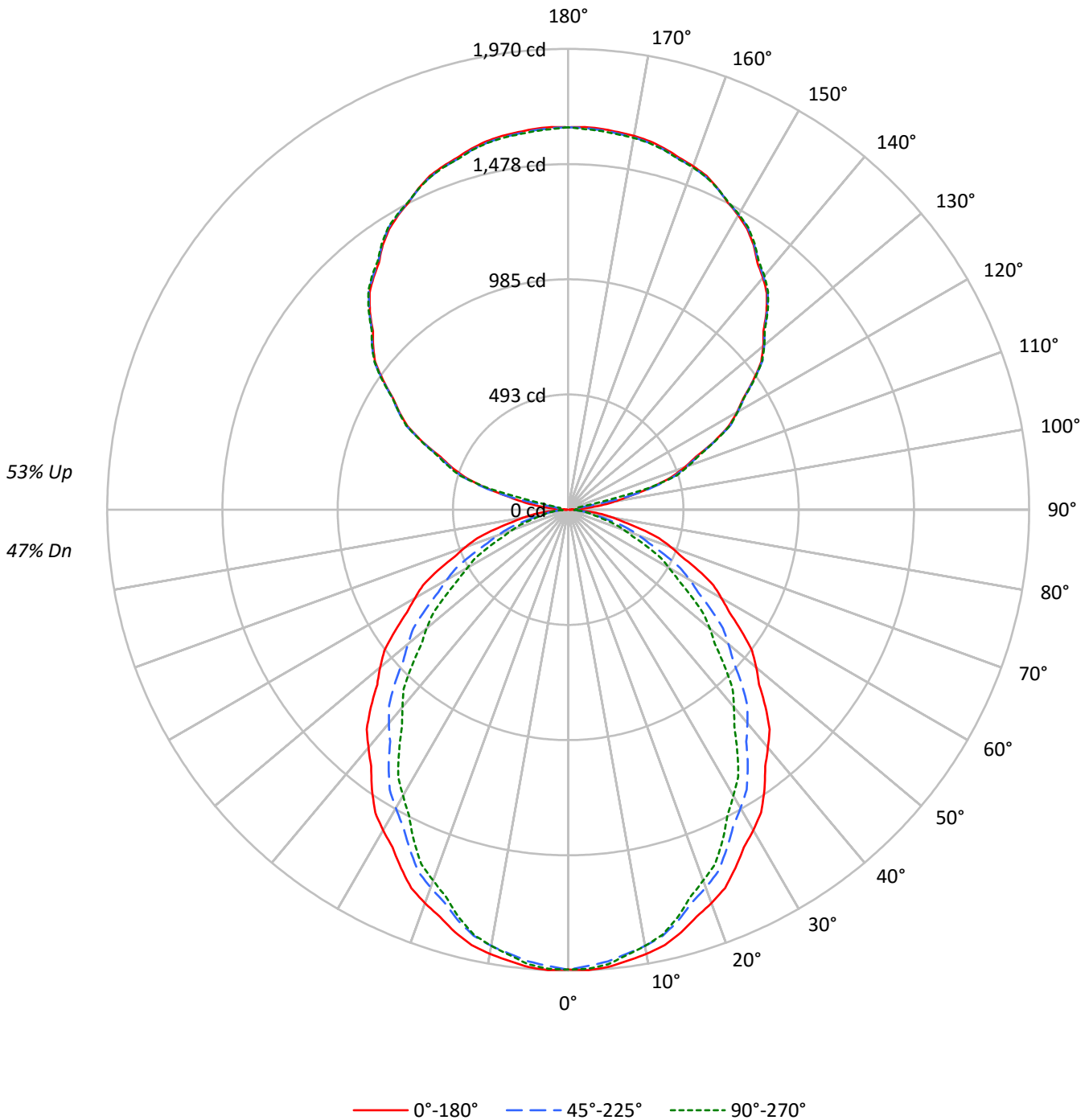
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	97	93	89	86	89	86	83	80	72	70	68	59	58	56	48	47	46	40
2	89	82	76	71	82	75	70	66	63	60	56	53	50	48	42	41	39	34
3	81	72	65	59	74	67	60	55	56	52	48	47	43	40	38	35	33	29
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	31	29	25
5	68	57	49	43	63	53	46	40	45	39	35	38	33	30	31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	22	20
7	58	46	38	33	54	43	36	31	37	31	27	31	27	24	25	22	20	17
8	54	42	34	29	50	39	32	28	34	28	24	28	24	21	23	20	18	16
9	50	38	31	26	46	36	29	25	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15868	15868	15868
5°	15904	15709	15807
10°	15805	15521	15521
15°	15623	15195	15082
20°	15374	14766	14495
25°	15055	14264	13903
30°	14746	13736	13160
35°	14402	13186	12415
40°	13990	12562	11610
45°	13609	11942	10791
50°	13175	11228	9923
55°	12711	10486	8981
60°	12198	9671	8018
65°	11731	8653	7072
70°	11049	7532	6005
75°	10187	6245	4885
80°	8884	4761	4477
85°	7521	4326	4039



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.6	1.9
10°-20°	514.9	5.4
20°-30°	743.5	7.7
30°-40°	842.8	8.8
40°-50°	813.8	8.5
50°-60°	676.7	7.0
60°-70°	467.3	4.9
70°-80°	236.9	2.5
80°-90°	65.5	0.7
90°-100°	55.9	0.6
100°-110°	356.4	3.7
110°-120°	681.9	7.1
120°-130°	865.6	9.0
130°-140°	926.1	9.6
140°-150°	866.0	9.0
150°-160°	698.4	7.3
160°-170°	450.5	4.7
170°-180°	155.3	1.6
0°-30°	1443.1	15.0
0°-40°	2285.8	23.8
0°-60°	3776.4	39.3
0°-90°	4546.1	47.3
90°-120°	1094.2	11.4
90°-150°	3752.0	39.1
90°-180°	5056.0	52.7
0°-180°	9602.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1966	1966	1966	1966	1966	
5°	1963	1956	1938	1953	1951	186
15°	1869	1854	1818	1815	1805	526
25°	1690	1661	1601	1576	1561	778
35°	1461	1412	1338	1288	1260	913
45°	1192	1134	1046	975	945	919
55°	903	841	745	669	638	807
65°	614	548	453	391	370	606
75°	327	270	200	167	157	345
85°	81	53	47	44	44	91
90°	4	17	27	34	37	7
95°	67	28	27	34	35	86
105°	368	375	381	389	348	385
115°	687	690	690	692	692	676
125°	966	970	968	972	973	862
135°	1198	1197	1202	1204	1207	923
145°	1382	1385	1385	1386	1389	863
155°	1515	1516	1512	1517	1514	698
165°	1598	1592	1592	1600	1590	451
175°	1635	1628	1628	1638	1625	156
180°	1635	1635	1635	1635	1635	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6
2.5°	1970.4	1969.3	1968.3	1967.2	1966.1	1964.2	1961.2	1958.2	1955.3	1952.4	1955.3
5°	1962.6	1961.2	1959.9	1958.6	1957.3	1954.6	1950.6	1946.5	1942.6	1938.5	1941.8
7.5°	1944.8	1943.4	1942.0	1940.6	1939.2	1935.9	1930.7	1925.5	1920.2	1915.1	1917.2
10°	1928.0	1926.3	1924.7	1923.0	1921.3	1917.4	1911.5	1905.4	1899.4	1893.4	1894.7
12.5°	1906.3	1904.4	1902.4	1900.4	1898.6	1894.0	1887.0	1879.9	1872.7	1865.7	1866.5
15°	1869.3	1866.2	1863.3	1860.3	1857.3	1851.5	1843.2	1834.8	1826.5	1818.1	1817.4
17.5°	1824.5	1820.0	1815.7	1811.4	1807.0	1799.9	1789.8	1779.8	1769.7	1759.7	1757.8
20°	1789.5	1785.2	1780.8	1776.5	1772.2	1764.3	1752.9	1741.5	1730.1	1718.8	1716.1
22.5°	1751.0	1746.2	1741.3	1736.4	1731.5	1723.0	1710.7	1698.6	1686.4	1674.2	1670.2
25°	1690.2	1684.1	1678.1	1672.2	1666.1	1656.2	1642.6	1628.8	1615.1	1601.4	1595.7
27.5°	1626.4	1618.8	1611.3	1603.7	1596.1	1585.1	1570.4	1555.8	1541.1	1526.4	1519.4
30°	1581.9	1573.5	1565.1	1556.7	1548.4	1536.3	1520.6	1504.9	1489.2	1473.5	1465.1
32.5°	1534.8	1525.4	1516.0	1506.6	1497.1	1484.3	1468.0	1451.8	1435.5	1419.3	1409.6
35°	1461.4	1450.7	1440.0	1429.3	1418.6	1404.9	1388.2	1371.5	1354.7	1338.0	1326.6
37.5°	1382.9	1371.8	1360.7	1349.7	1338.7	1323.9	1305.4	1286.9	1268.4	1249.8	1237.1
40°	1327.5	1316.4	1305.4	1294.4	1283.3	1268.3	1249.2	1230.1	1211.1	1192.0	1178.0
42.5°	1274.5	1262.9	1251.3	1239.7	1228.2	1212.5	1192.6	1172.7	1152.9	1133.0	1118.7
45°	1192.0	1179.6	1167.2	1154.9	1142.6	1126.2	1106.3	1086.2	1066.1	1046.0	1029.6
47.5°	1106.8	1094.0	1081.3	1068.5	1055.7	1038.9	1018.0	997.1	976.3	955.5	938.4
50°	1049.0	1035.9	1022.9	1009.9	996.8	979.6	958.2	936.8	915.4	894.0	877.3
52.5°	990.0	977.2	964.5	951.7	939.0	921.5	899.7	877.7	855.7	833.8	816.8
55°	903.1	889.7	876.3	862.9	849.5	832.0	810.2	788.5	766.8	745.0	727.6
57.5°	816.9	803.0	789.1	775.2	761.3	743.7	722.3	700.8	679.4	658.0	640.4
60°	755.5	742.2	728.8	715.4	702.0	684.7	663.3	641.9	620.4	599.0	581.6
62.5°	700.1	686.3	672.3	658.5	644.5	626.6	604.6	582.7	560.7	538.9	522.7
65°	614.1	599.6	585.3	570.9	556.6	538.7	517.3	495.9	474.5	453.0	438.7
67.5°	524.6	510.9	497.1	483.3	469.6	452.7	432.8	413.0	393.1	373.2	360.9
70°	468.1	454.0	440.0	425.9	411.9	395.3	376.3	357.2	338.2	319.1	308.0
72.5°	407.8	395.2	382.5	369.8	357.0	341.7	323.7	305.7	287.7	269.7	260.2
75°	326.6	314.2	301.8	289.5	277.1	263.1	247.3	231.6	215.9	200.2	192.5
77.5°	244.1	233.7	223.1	212.6	202.1	190.5	177.8	165.1	152.4	139.7	135.2
80°	191.1	181.4	171.7	162.0	152.3	142.5	132.4	122.4	112.4	102.4	101.3
82.5°	145.4	136.5	127.6	118.7	109.8	102.5	96.7	91.0	85.2	79.5	78.7
85°	81.2	74.6	67.9	61.2	54.5	50.7	49.7	48.6	47.7	46.7	46.0
87.5°	28.5	26.9	25.4	23.8	22.2	21.6	21.8	21.9	22.1	22.2	22.3
90°	3.7	6.7	9.6	12.6	15.6	18.2	20.4	22.5	24.7	26.9	28.6
92.5°	15.4	15.6	15.7	15.9	16.0	17.2	19.4	21.6	23.8	25.9	27.5
95°	67.2	58.0	48.7	39.5	30.3	25.8	26.1	26.4	26.6	26.9	28.6
97.5°	142.8	148.5	154.3	160.0	165.8	153.5	123.2	92.9	62.6	32.2	32.4
100°	200.5	205.4	210.3	215.2	220.1	203.8	166.3	128.8	91.2	53.8	49.2
102.5°	265.0	268.6	272.2	275.8	279.4	278.7	273.8	269.0	264.1	259.2	209.3
105°	368.0	369.6	371.3	372.9	374.5	376.0	377.4	378.7	380.0	381.4	383.9
107.5°	463.5	464.4	465.2	466.0	466.8	468.2	470.0	471.8	473.7	475.6	476.7
110°	528.1	529.0	529.8	530.6	531.4	532.6	534.2	535.8	537.5	539.1	539.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	590.7	592.2	593.7	595.1	596.6	597.7	598.5	599.3	600.0	600.8	600.7
115°	687.0	687.9	688.7	689.5	690.3	690.6	690.3	690.0	689.8	689.5	690.0
117.5°	773.8	775.0	776.0	777.1	778.2	779.0	779.7	780.2	780.8	781.5	781.4
120°	832.5	833.6	834.7	835.8	836.9	837.3	837.1	836.8	836.5	836.2	836.8
122.5°	887.3	888.0	888.6	889.3	889.9	890.4	890.8	891.2	891.6	891.9	892.3
125°	965.8	966.9	968.0	969.0	970.2	970.4	969.9	969.3	968.7	968.3	969.0
127.5°	1040.1	1040.4	1040.7	1040.9	1041.2	1042.0	1043.2	1044.4	1045.8	1047.0	1046.8
130°	1088.1	1088.4	1088.6	1088.8	1089.1	1089.7	1090.5	1091.3	1092.1	1093.0	1093.3
132.5°	1132.1	1132.6	1133.0	1133.5	1134.0	1134.8	1135.9	1136.8	1137.8	1138.9	1139.2
135°	1198.1	1197.8	1197.5	1197.3	1197.0	1197.4	1198.4	1199.6	1200.7	1201.7	1202.3
137.5°	1256.5	1256.6	1256.7	1256.9	1257.0	1257.6	1258.8	1260.0	1261.2	1262.3	1263.0
140°	1294.7	1295.2	1295.7	1296.3	1296.8	1297.4	1297.9	1298.4	1299.0	1299.6	1300.3
142.5°	1328.9	1329.8	1330.9	1331.8	1332.8	1333.4	1333.8	1334.1	1334.5	1334.7	1335.4
145°	1381.5	1382.2	1383.1	1383.9	1384.7	1385.2	1385.2	1385.2	1385.2	1385.2	1385.4
147.5°	1423.2	1424.7	1426.3	1427.9	1429.4	1430.0	1429.7	1429.5	1429.2	1428.9	1429.1
150°	1453.6	1454.7	1455.8	1456.9	1457.9	1458.3	1458.1	1457.8	1457.5	1457.3	1457.3
152.5°	1479.0	1479.9	1480.7	1481.6	1482.5	1482.7	1482.2	1481.7	1481.2	1480.7	1481.2
155°	1514.8	1514.9	1515.2	1515.5	1515.8	1515.5	1514.8	1513.9	1513.1	1512.3	1513.3
157.5°	1544.8	1544.6	1544.5	1544.3	1544.2	1543.6	1542.7	1541.7	1540.9	1539.9	1541.3
160°	1562.4	1561.6	1560.8	1559.9	1559.2	1558.6	1558.3	1558.0	1557.7	1557.6	1559.2
162.5°	1578.0	1577.0	1576.0	1575.0	1574.0	1573.3	1573.0	1572.7	1572.4	1572.2	1573.8
165°	1597.9	1596.5	1595.2	1593.7	1592.4	1591.8	1591.8	1591.8	1591.8	1591.8	1593.9
167.5°	1613.5	1612.1	1610.7	1609.3	1607.9	1607.0	1606.9	1606.8	1606.6	1606.4	1608.8
170°	1622.3	1620.7	1619.0	1617.4	1615.8	1615.1	1615.3	1615.6	1615.9	1616.2	1618.3
172.5°	1628.1	1626.5	1624.9	1623.2	1621.6	1621.0	1621.3	1621.6	1621.7	1622.0	1624.2
175°	1634.6	1632.9	1631.3	1629.7	1628.0	1627.3	1627.6	1627.9	1628.1	1628.4	1630.9
177.5°	1637.5	1636.0	1634.4	1632.9	1631.4	1630.8	1631.3	1631.7	1632.1	1632.6	1634.3
180°	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6	1965.6
2.5°	1958.2	1961.2	1964.2	1965.5	1965.2	1964.9	1964.6	1964.4
5°	1945.2	1948.5	1951.9	1953.2	1952.6	1951.9	1951.3	1950.6
7.5°	1919.3	1921.5	1923.6	1924.1	1923.1	1922.0	1920.9	1919.9
10°	1896.0	1897.3	1898.8	1898.8	1897.3	1896.0	1894.7	1893.4
12.5°	1867.3	1868.1	1868.9	1868.3	1866.5	1864.6	1862.7	1860.9
15°	1816.8	1816.1	1815.4	1813.9	1811.6	1809.2	1806.9	1804.6
17.5°	1756.0	1754.1	1752.2	1749.5	1746.0	1742.4	1738.9	1735.3
20°	1713.4	1710.7	1708.1	1704.6	1700.3	1695.9	1691.5	1687.2
22.5°	1666.2	1662.2	1658.2	1654.4	1650.9	1647.3	1643.8	1640.2
25°	1590.0	1584.3	1578.7	1574.1	1570.7	1567.4	1564.1	1560.8
27.5°	1512.4	1505.3	1498.4	1492.4	1487.6	1482.8	1478.0	1473.2
30°	1456.7	1448.4	1440.0	1433.1	1427.8	1422.5	1417.1	1411.7
32.5°	1399.9	1390.2	1380.4	1373.1	1368.0	1362.9	1357.8	1352.7
35°	1315.2	1303.9	1292.5	1283.8	1277.8	1271.8	1265.7	1259.7
37.5°	1224.4	1211.6	1199.0	1189.6	1183.6	1177.5	1171.6	1165.5
40°	1163.9	1149.9	1135.9	1125.8	1119.7	1113.7	1107.8	1101.7
42.5°	1104.4	1090.1	1075.7	1065.5	1059.1	1052.9	1046.6	1040.3
45°	1013.2	996.8	980.4	969.2	963.3	957.2	951.2	945.2
47.5°	921.4	904.5	887.5	875.6	869.0	862.4	855.7	849.1
50°	860.5	843.9	827.1	815.6	809.3	802.9	796.5	790.1
52.5°	799.8	782.9	765.8	754.0	747.4	740.8	734.1	727.5
55°	710.2	692.9	675.4	663.5	657.2	650.8	644.5	638.1
57.5°	622.7	605.0	587.4	576.2	571.4	566.5	561.7	556.9
60°	564.2	546.9	529.4	518.1	512.7	507.4	502.0	496.6
62.5°	506.7	490.7	474.6	464.4	460.1	455.9	451.6	447.3
65°	424.2	409.9	395.5	386.3	382.3	378.2	374.3	370.2
67.5°	348.6	336.1	323.8	315.4	310.9	306.5	302.1	297.7
70°	297.0	286.0	274.9	267.8	264.4	261.1	257.7	254.4
72.5°	250.8	241.4	232.0	225.7	222.6	219.6	216.5	213.4
75°	184.8	177.1	169.4	164.6	162.6	160.5	158.5	156.6
77.5°	130.7	126.2	121.8	119.2	118.6	118.0	117.4	116.8
80°	100.4	99.3	98.3	97.6	97.4	97.0	96.7	96.3
82.5°	78.0	77.3	76.5	76.0	75.7	75.3	75.0	74.6
85°	45.3	44.7	44.0	43.6	43.6	43.6	43.6	43.6
87.5°	22.3	22.4	22.4	22.7	23.1	23.5	23.8	24.2
90°	30.2	31.8	33.5	34.5	35.1	35.6	36.1	36.7
92.5°	29.2	30.8	32.4	33.3	33.5	33.6	33.6	33.7
95°	30.2	31.8	33.5	34.4	34.6	34.9	35.2	35.4
97.5°	32.6	32.8	32.9	33.2	33.5	33.6	33.9	34.2
100°	44.6	40.0	35.3	33.2	33.5	33.6	33.9	34.2
102.5°	159.6	109.7	59.9	35.0	35.1	35.1	35.2	35.3
105°	386.3	388.8	391.2	387.6	377.8	368.0	358.2	348.5
107.5°	478.0	479.2	480.3	481.5	482.5	483.5	484.6	485.6
110°	540.3	540.7	541.3	542.0	542.8	543.7	544.4	545.3



TEST NUMBER: P333109-830

CATALOG NUMBER: S124RDIW-S1195D1340U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	600.5	600.4	600.3	600.8	601.8	602.9	603.9	604.9
115°	690.6	691.2	691.6	691.9	691.9	691.9	691.9	691.9
117.5°	781.2	781.1	781.0	780.9	780.8	780.7	780.6	780.4
120°	837.3	837.8	838.4	838.4	837.8	837.3	836.8	836.2
122.5°	892.6	893.0	893.2	893.2	892.6	892.0	891.6	891.0
125°	969.9	970.7	971.5	972.0	972.3	972.6	972.9	973.2
127.5°	1046.7	1046.5	1046.3	1046.1	1045.9	1045.7	1045.5	1045.3
130°	1093.4	1093.7	1094.0	1094.2	1094.2	1094.2	1094.2	1094.2
132.5°	1139.4	1139.7	1140.0	1140.0	1139.8	1139.6	1139.3	1139.2
135°	1202.9	1203.3	1203.9	1204.5	1205.0	1205.5	1206.1	1206.6
137.5°	1263.6	1264.1	1264.8	1265.0	1264.8	1264.7	1264.5	1264.3
140°	1301.2	1302.0	1302.8	1303.3	1303.6	1303.9	1304.2	1304.5
142.5°	1336.0	1336.5	1337.2	1337.5	1337.6	1337.6	1337.7	1337.7
145°	1385.6	1385.9	1386.2	1386.7	1387.1	1387.7	1388.3	1388.8
147.5°	1429.4	1429.6	1429.7	1430.0	1430.3	1430.6	1430.8	1431.1
150°	1457.3	1457.3	1457.3	1457.4	1457.6	1457.9	1458.2	1458.5
152.5°	1481.6	1482.1	1482.4	1482.6	1482.4	1482.2	1482.1	1482.0
155°	1514.5	1515.5	1516.6	1516.7	1516.0	1515.1	1514.3	1513.5
157.5°	1542.8	1544.2	1545.6	1545.6	1544.2	1542.8	1541.3	1539.9
160°	1560.8	1562.4	1564.1	1564.1	1562.4	1560.8	1559.2	1557.6
162.5°	1575.5	1577.1	1578.7	1578.6	1576.8	1574.9	1573.0	1571.2
165°	1596.1	1598.3	1600.4	1600.2	1597.9	1595.4	1593.0	1590.5
167.5°	1611.2	1613.5	1616.0	1615.8	1613.1	1610.3	1607.7	1605.0
170°	1620.5	1622.7	1624.8	1624.6	1621.9	1619.2	1616.5	1613.7
172.5°	1626.4	1628.6	1630.8	1630.4	1627.4	1624.5	1621.6	1618.6
175°	1633.3	1635.8	1638.2	1637.8	1634.6	1631.3	1628.0	1624.8
177.5°	1636.1	1637.8	1639.6	1639.1	1636.4	1633.9	1631.3	1628.6
180°	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6

(END OF REPORT)