

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: P243251

Luminaire Tested: **S122RDR-H1005D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243251
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-68)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-H1005D927-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2869.6 lumens
Efficiency: N/A
Efficacy: 76.1 lumens/watt
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

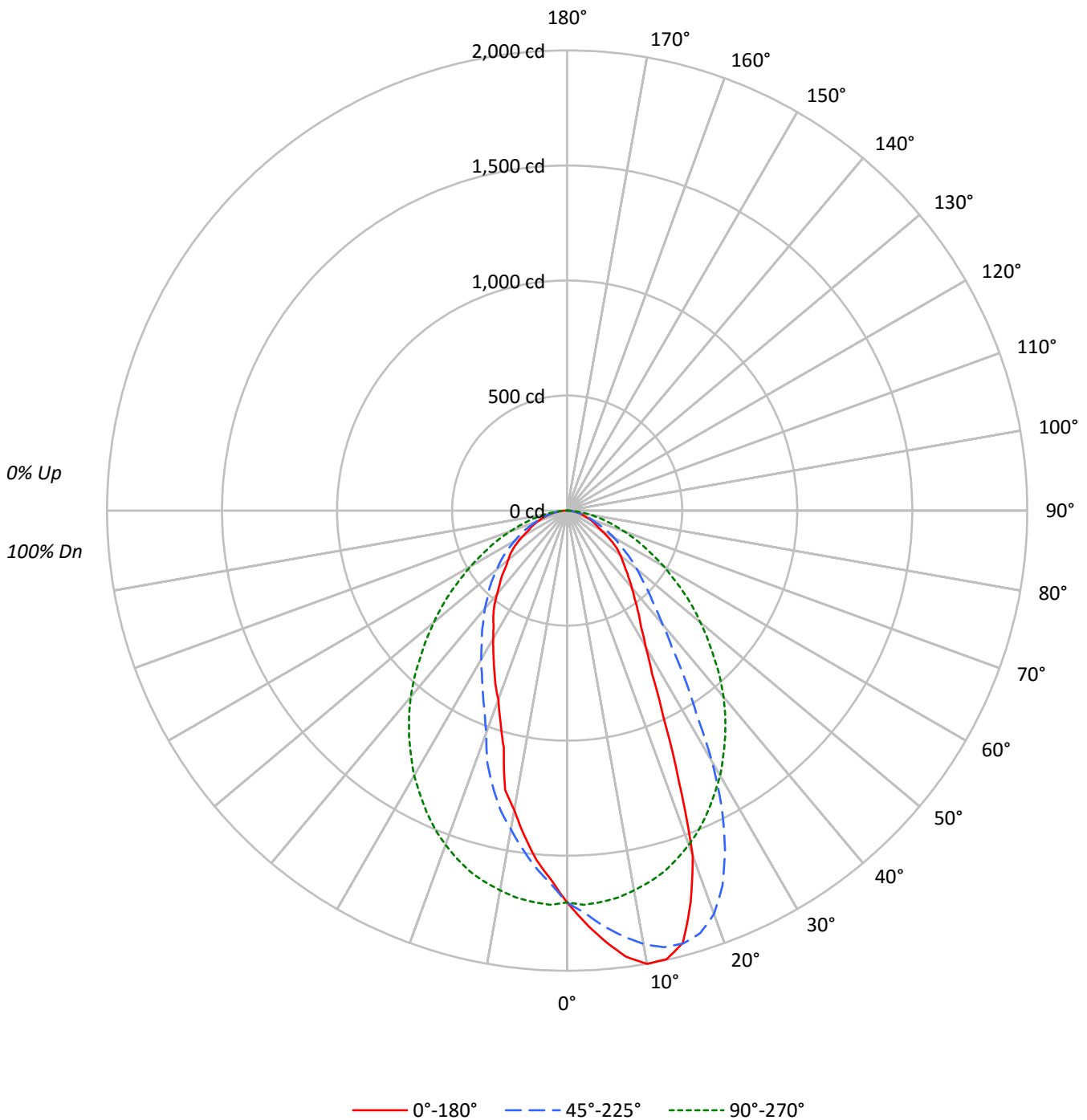
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78	76
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	58
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	32433	32433	32433
5°	35903	32652	29147
10°	38687	32426	25562
15°	38345	32050	21007
20°	32345	31340	17732
25°	20796	30376	15786
30°	15024	29253	14142
35°	12515	27843	13008
40°	10861	26295	11776
45°	9695	24330	10775
50°	8949	22405	9906
55°	8030	20463	9438
60°	6411	18423	8491
65°	5877	16550	7833
70°	5397	14614	7446
75°	4923	12791	7050
80°	4278	10629	6603
85°	3409	8523	6097



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.2	5.6
10°-20°	441.0	15.4
20°-30°	555.9	19.4
30°-40°	533.7	18.6
40°-50°	459.6	16.0
50°-60°	351.4	12.2
60°-70°	223.6	7.8
70°-80°	113.3	3.9
80°-90°	29.9	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1158.1	40.4
0°-40°	1691.7	59.0
0°-60°	2502.8	87.2
0°-90°	2869.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2869.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1703	1703	1703	1703	1703	
5°	1878	1812	1708	1558	1524	183
15°	1944	1948	1625	1245	1065	527
25°	990	1624	1445	868	751	473
35°	538	891	1197	645	559	339
45°	360	499	903	478	400	280
55°	242	304	616	332	284	213
65°	130	168	367	204	174	130
75°	67	76	174	105	96	71
85°	16	18	39	30	28	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7
2.5°	1793.0	1795.2	1796.3	1793.5	1787.4	1788.0	1782.4	1772.9	1761.2	1750.6	1756.8
5°	1877.7	1880.4	1879.9	1874.9	1868.7	1863.2	1853.7	1840.3	1826.4	1811.9	1809.1
7.5°	1955.7	1961.8	1960.1	1950.6	1946.2	1938.4	1922.2	1907.2	1886.0	1865.4	1857.0
10°	2000.2	2005.3	2002.5	2000.2	1995.2	1987.4	1972.9	1958.4	1935.0	1913.3	1901.1
12.5°	1996.9	2001.3	2003.6	2005.8	2004.1	2001.3	1995.2	1983.0	1964.0	1944.0	1928.4
15°	1944.5	1937.3	1932.3	1946.2	1951.2	1970.1	1974.6	1976.3	1963.5	1948.4	1944.5
17.5°	1785.2	1787.4	1825.8	1819.7	1828.1	1874.3	1892.7	1917.8	1928.4	1925.0	1931.7
20°	1595.7	1569.5	1588.5	1616.3	1642.5	1710.0	1754.5	1794.1	1839.8	1865.4	1889.9
22.5°	1265.9	1266.4	1312.1	1357.8	1416.9	1489.9	1557.8	1633.6	1715.0	1764.6	1821.9
25°	989.5	1016.3	1036.3	1056.4	1142.2	1212.4	1325.5	1417.4	1529.4	1623.6	1720.0
27.5°	800.1	828.0	831.3	876.4	927.1	984.0	1058.1	1202.9	1317.7	1455.9	1575.1
30°	683.1	688.7	700.4	712.1	749.4	802.3	882.0	972.8	1100.4	1258.1	1418.0
32.5°	598.4	597.3	609.0	627.4	648.0	683.6	728.8	804.0	919.3	1044.7	1231.3
35°	538.2	536.6	544.9	551.6	563.9	592.8	633.5	683.1	766.1	890.9	1035.8
37.5°	481.4	484.7	489.8	497.0	513.2	531.5	558.8	600.1	665.8	748.3	887.0
40°	436.8	440.7	446.3	451.3	463.6	478.6	497.0	529.9	573.9	645.8	752.2
42.5°	396.7	398.4	402.8	410.1	419.0	432.4	450.2	475.3	512.0	562.2	655.2
45°	359.9	359.9	364.9	371.6	377.2	390.0	403.9	427.9	456.3	499.2	565.5
47.5°	328.7	329.3	332.1	333.2	339.3	351.0	366.1	385.0	408.4	441.3	503.1
50°	302.0	304.2	305.3	307.0	309.2	315.4	325.9	340.4	366.1	395.0	436.3
52.5°	274.1	276.9	279.1	282.5	285.8	286.4	294.2	303.7	321.5	351.6	385.0
55°	241.8	244.0	248.5	251.3	255.7	259.6	265.8	272.5	284.2	304.2	338.8
57.5°	205.0	205.6	210.1	212.8	221.8	230.7	236.2	243.5	251.8	265.8	292.0
60°	168.3	169.9	170.5	172.7	180.5	190.0	201.1	212.3	221.2	233.5	251.8
62.5°	148.2	148.8	150.4	152.7	153.2	157.7	161.0	174.4	190.0	202.3	214.5
65°	130.4	130.9	130.9	132.6	134.8	137.1	138.7	143.7	150.4	167.7	182.8
67.5°	113.7	113.1	114.2	115.9	116.4	118.1	120.9	123.7	128.1	133.2	148.8
70°	96.9	96.9	96.4	98.1	99.7	100.3	102.0	104.7	107.5	112.0	117.0
72.5°	80.2	81.3	81.3	82.5	83.0	85.2	86.4	87.5	91.4	93.6	97.5
75°	66.9	66.3	68.0	67.4	68.5	69.1	70.8	72.4	73.5	75.8	79.1
77.5°	53.5	52.4	53.5	52.9	54.0	55.2	55.2	56.8	57.9	60.2	61.8
80°	39.0	39.0	39.6	40.7	40.7	41.2	42.3	41.8	44.0	44.6	46.2
82.5°	26.7	27.3	27.3	27.9	27.9	27.9	29.0	29.0	29.5	30.6	31.2
85°	15.6	15.0	15.6	15.6	15.6	16.2	16.7	16.2	17.3	18.4	18.4
87.5°	4.5	4.5	5.0	5.6	5.6	6.1	6.1	6.1	6.7	6.7	7.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7
2.5°	1756.8	1754.0	1746.7	1740.0	1727.8	1717.8	1714.4	1715.0	1699.9	1684.3	1679.9
5°	1805.2	1795.2	1780.7	1765.7	1747.3	1728.9	1717.2	1707.7	1684.3	1660.9	1647.5
7.5°	1845.3	1829.2	1808.0	1784.1	1760.1	1732.8	1713.9	1696.0	1663.7	1631.9	1614.7
10°	1882.1	1859.3	1830.3	1799.1	1767.3	1731.7	1704.4	1676.5	1635.8	1600.2	1570.7
12.5°	1917.2	1881.0	1851.5	1806.3	1771.2	1722.8	1685.4	1653.1	1605.2	1560.6	1527.8
15°	1920.6	1894.9	1855.4	1808.6	1755.1	1710.0	1663.1	1625.3	1570.7	1521.1	1464.8
17.5°	1920.0	1899.9	1858.7	1810.8	1746.7	1687.7	1637.0	1587.4	1525.0	1467.0	1418.6
20°	1899.9	1886.0	1850.4	1793.5	1728.9	1660.9	1604.6	1546.1	1473.2	1413.5	1360.6
22.5°	1852.6	1855.9	1828.1	1777.4	1707.7	1631.9	1566.8	1499.3	1424.7	1356.1	1289.3
25°	1772.4	1808.0	1799.7	1752.3	1678.2	1595.2	1521.1	1445.3	1365.1	1292.1	1230.2
27.5°	1672.6	1739.5	1754.0	1717.2	1646.4	1553.4	1469.3	1386.8	1304.9	1226.3	1162.8
30°	1554.5	1654.2	1691.0	1670.9	1605.8	1508.3	1410.8	1330.0	1240.3	1156.7	1089.8
32.5°	1405.7	1545.6	1610.2	1616.3	1562.9	1458.1	1350.0	1263.1	1171.2	1092.1	1020.2
35°	1239.7	1411.3	1516.6	1545.0	1506.6	1403.0	1289.3	1197.4	1099.3	1019.6	947.2
37.5°	1072.5	1274.2	1412.4	1467.6	1442.0	1341.7	1221.3	1128.3	1031.3	950.0	882.0
40°	918.8	1110.4	1289.8	1376.2	1368.4	1275.4	1153.9	1057.5	958.9	883.7	809.0
42.5°	781.2	966.1	1163.4	1279.3	1285.4	1204.0	1079.8	982.8	888.1	813.5	735.5
45°	672.5	835.2	1030.8	1168.9	1195.7	1128.8	1002.9	903.2	816.8	746.6	668.6
47.5°	585.6	712.1	893.7	1055.8	1103.2	1044.7	924.3	829.6	748.3	688.1	614.6
50°	510.4	629.0	783.4	933.3	1002.9	958.9	846.3	756.1	682.5	624.6	560.0
52.5°	443.5	535.4	669.2	812.9	906.5	866.4	770.6	687.5	618.5	564.4	510.4
55°	388.3	465.2	583.4	711.5	797.9	775.6	690.3	616.2	555.5	504.2	460.2
57.5°	331.5	396.1	491.4	605.6	690.3	687.0	616.8	545.5	497.6	449.1	417.3
60°	281.9	334.3	411.7	508.7	593.9	594.5	539.9	483.6	442.4	400.6	370.5
62.5°	237.9	279.7	347.1	425.1	493.1	510.4	469.7	420.7	387.2	354.9	329.3
65°	200.0	231.2	281.9	352.7	406.2	429.6	402.8	367.2	339.3	310.3	287.5
67.5°	164.9	187.8	225.1	280.8	334.3	351.6	340.4	313.1	293.1	269.1	251.8
70°	129.8	149.3	175.5	217.3	261.3	285.3	281.9	262.4	245.7	228.4	212.3
72.5°	103.1	114.2	134.3	164.4	199.5	226.2	227.3	217.3	203.4	188.9	178.3
75°	83.0	88.0	97.5	120.9	148.8	171.1	178.9	173.8	162.7	153.8	146.5
77.5°	64.1	68.5	74.7	85.8	107.5	124.8	134.3	134.8	128.1	120.3	114.8
80°	47.9	49.6	54.0	59.6	70.8	85.8	96.9	96.9	93.0	89.1	85.8
82.5°	32.9	34.5	36.8	39.6	45.1	54.0	64.1	65.7	63.5	62.4	57.9
85°	18.4	20.1	21.2	22.8	25.1	29.5	36.8	39.0	39.6	36.2	34.0
87.5°	7.2	7.2	7.8	8.4	8.9	10.6	13.4	16.7	16.7	15.0	14.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7	1702.7
2.5°	1674.3	1666.5	1656.5	1647.5	1635.3	1623.0	1620.8	1625.3	1626.4	1620.8	1622.5
5°	1634.7	1620.2	1608.0	1587.9	1575.1	1558.4	1547.3	1547.3	1547.3	1538.9	1531.1
7.5°	1593.5	1574.0	1550.6	1531.7	1505.5	1483.7	1473.2	1468.1	1458.1	1449.8	1440.3
10°	1545.6	1518.3	1489.3	1459.8	1436.9	1406.9	1389.0	1377.9	1360.6	1353.4	1339.4
12.5°	1489.3	1462.0	1426.9	1379.0	1372.3	1335.5	1310.5	1289.8	1268.7	1251.4	1245.3
15°	1444.2	1396.8	1350.0	1316.0	1266.4	1244.7	1207.9	1204.6	1187.3	1136.6	1097.1
17.5°	1371.2	1328.8	1277.0	1239.1	1199.6	1151.1	1112.1	1073.7	1036.9	1001.2	1000.1
20°	1306.6	1257.0	1207.9	1166.7	1097.6	1028.5	1004.6	969.5	947.7	919.3	911.0
22.5°	1235.8	1184.0	1122.7	1062.5	981.7	938.3	912.1	884.2	862.5	849.7	836.9
25°	1164.5	1112.7	1031.3	957.2	902.1	868.1	845.8	815.7	800.1	789.0	772.2
27.5°	1094.8	1029.1	943.3	884.2	839.7	801.2	781.2	756.6	739.4	724.9	714.3
30°	1025.7	935.5	862.5	816.8	771.1	747.2	721.0	702.6	689.8	676.4	659.1
32.5°	950.0	855.3	807.9	751.6	724.9	690.3	671.4	652.4	635.7	626.3	620.1
35°	861.9	785.6	743.3	702.0	668.0	645.2	618.5	606.8	597.8	579.5	571.7
37.5°	787.3	732.1	687.5	650.8	619.6	595.1	582.8	562.7	549.9	543.8	535.4
40°	725.4	676.4	638.0	600.6	574.4	556.6	534.9	524.3	507.6	501.5	494.8
42.5°	671.9	626.8	586.7	558.3	535.4	510.9	499.8	482.0	474.7	459.7	454.1
45°	617.9	577.8	542.7	514.8	493.1	478.1	458.0	446.8	434.0	426.2	411.2
47.5°	563.9	528.2	499.2	475.8	456.9	438.5	421.8	412.3	396.1	387.8	380.0
50°	522.1	487.5	460.2	436.8	417.3	398.9	388.3	372.7	358.3	348.8	346.0
52.5°	472.5	442.4	417.3	399.5	380.0	366.6	352.1	334.9	327.6	318.1	315.9
55°	428.5	403.9	382.8	363.8	347.1	332.1	315.4	303.1	297.5	293.1	289.7
57.5°	387.2	363.8	344.3	327.1	312.6	297.0	283.0	275.8	270.8	265.8	262.4
60°	346.6	325.4	307.6	293.1	278.0	263.0	253.0	246.8	242.9	235.7	233.5
62.5°	310.3	290.8	272.5	259.1	245.2	233.5	225.1	216.7	210.6	205.0	193.3
65°	270.8	253.5	239.6	226.2	212.8	203.9	194.5	185.0	177.2	177.2	177.2
67.5°	235.7	220.6	206.2	194.5	182.8	172.2	162.7	162.1	159.4	158.2	156.6
70°	200.0	189.4	176.1	163.3	151.5	146.5	144.9	142.1	138.7	138.2	135.9
72.5°	167.7	155.5	143.2	132.0	129.8	127.6	124.2	121.5	119.2	117.6	116.4
75°	137.1	124.8	114.8	112.0	109.2	105.3	102.5	100.3	99.2	99.2	98.6
77.5°	104.7	97.5	93.0	88.6	86.4	84.1	82.5	81.3	79.7	80.2	79.1
80°	76.9	74.7	70.8	68.0	66.9	64.6	63.5	63.0	61.8	61.8	61.3
82.5°	55.2	51.3	49.6	47.9	46.8	45.7	46.2	45.7	45.1	44.6	45.1
85°	31.8	31.2	30.1	30.1	30.1	29.5	29.5	29.5	29.0	28.4	28.4
87.5°	13.9	14.5	14.5	13.4	15.0	15.0	14.5	14.5	13.9	15.0	13.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P243251

CATALOG NUMBER: S122RDR-H1005D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1702.7	1702.7	1702.7	1702.7
2.5°	1615.2	1614.7	1611.3	1605.8
5°	1527.8	1525.5	1520.0	1524.4
7.5°	1434.2	1428.0	1422.5	1425.2
10°	1333.9	1331.6	1328.3	1321.6
12.5°	1223.0	1231.9	1222.4	1243.6
15°	1058.6	1098.2	1048.6	1065.3
17.5°	976.7	977.3	970.6	962.8
20°	899.8	880.3	887.6	874.8
22.5°	825.7	821.3	819.0	814.6
25°	759.4	751.1	748.3	751.1
27.5°	710.4	706.5	695.9	694.2
30°	649.1	647.4	644.1	643.0
32.5°	610.7	603.4	601.7	595.1
35°	567.8	563.9	561.1	559.4
37.5°	524.9	522.6	517.6	520.4
40°	489.8	478.6	474.2	473.6
42.5°	451.3	445.2	436.3	433.5
45°	406.7	403.9	401.2	400.0
47.5°	367.7	366.1	362.7	361.0
50°	339.9	335.4	334.9	334.3
52.5°	313.1	311.5	309.8	312.0
55°	288.1	285.8	284.2	284.2
57.5°	260.8	256.9	253.5	254.1
60°	229.0	226.8	224.0	222.9
62.5°	192.2	192.2	191.7	191.7
65°	175.0	173.8	173.3	173.8
67.5°	156.0	154.9	153.2	153.8
70°	134.3	133.7	134.3	133.7
72.5°	114.8	114.2	114.8	115.9
75°	96.9	96.4	95.8	95.8
77.5°	78.6	78.0	76.9	78.0
80°	61.3	60.7	60.2	60.2
82.5°	43.5	44.0	43.5	43.5
85°	28.4	29.0	28.4	27.9
87.5°	14.5	15.0	13.9	13.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)