

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: P242244

Luminaire Tested: **S121RDR-S1025D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242244  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-28)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121RDR-S1025D935-X4F0-XX-UDD-A-W  
Description: DEFINE 1 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3075.1 lumens  
Efficiency: N/A  
Efficacy: 74.8 lumens/watt  
Spacing Criteria (0/90/45): 0.96 / 1.23 / 1.1  
Luminous Opening: Rectangular (W 3.88' x L: 0.09' x H: 0')  
CIE Type: Direct

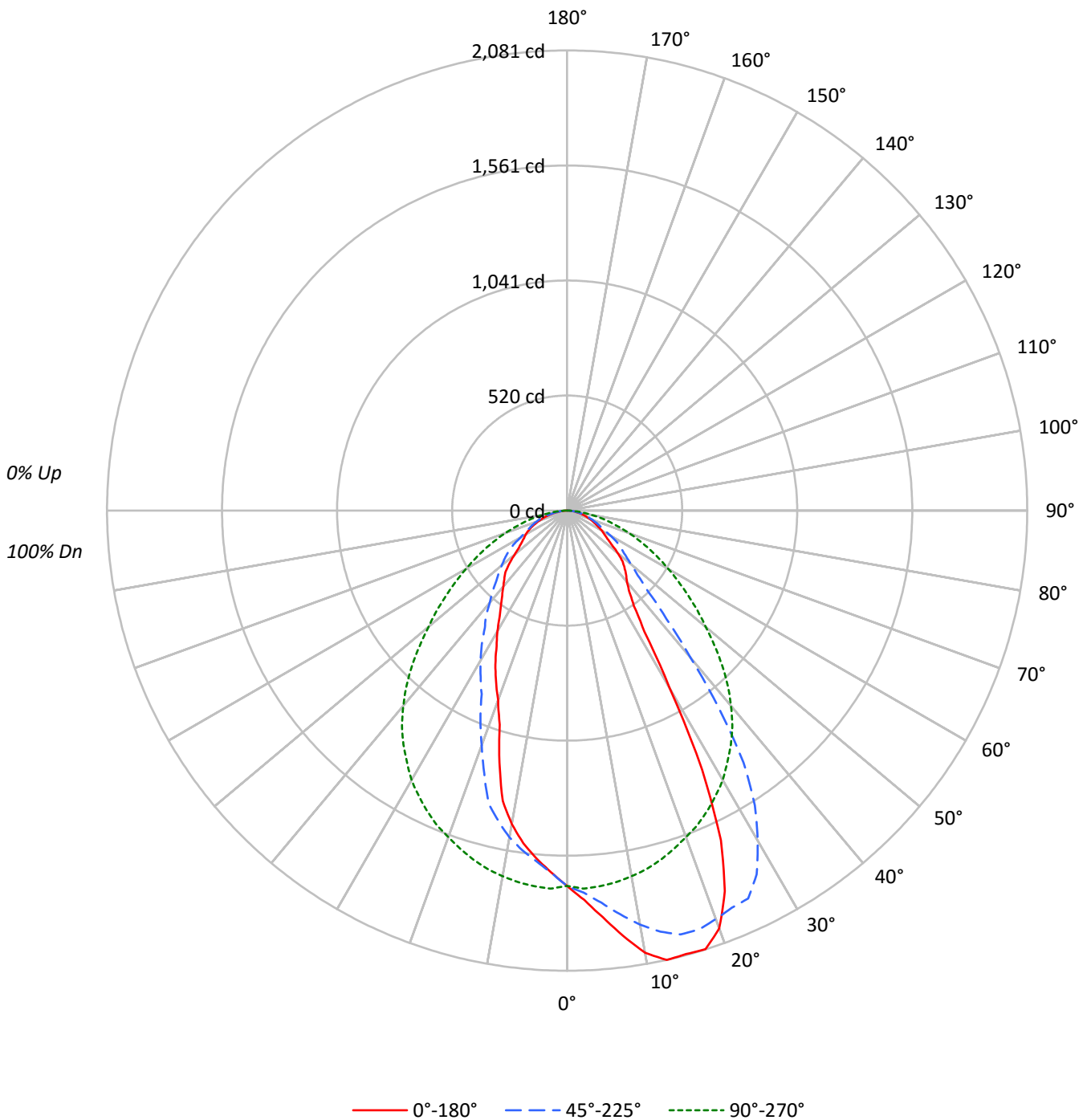
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	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	82	87	83	80	84	81	78	76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	68	67
4	88	77	69	64	85	76	69	63	73	67	62	71	66	61	69	65	61	59
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49	47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	48	44	43
8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40	39
9	63	50	43	38	61	50	43	38	49	42	37	48	42	37	47	41	37	35
10	59	47	40	35	58	46	39	35	45	39	35	44	39	34	44	38	34	33

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	50290	50290	50290
5°	54885	50729	46991
10°	61085	50528	43310
15°	63690	50144	36249
20°	63416	49555	28769
25°	53776	49000	25115
30°	31654	48159	21568
35°	19019	46690	18834
40°	16288	44573	17375
45°	15399	41551	16522
50°	13764	37734	14294
55°	11468	34445	12920
60°	10661	31384	12853
65°	9843	28584	12437
70°	9287	25756	11721
75°	8769	22793	10670
80°	7832	19059	9368
85°	7377	14958	7377



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	162.7	5.3
10°-20°	463.5	15.1
20°-30°	633.2	20.6
30°-40°	589.9	19.2
40°-50°	487.7	15.9
50°-60°	359.6	11.7
60°-70°	229.9	7.5
70°-80°	118.3	3.8
80°-90°	30.4	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°	1259.4	41.0
0°-40°	1849.3	60.1
0°-60°	2696.5	87.7
0°-90°	3075.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3075.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1697	1697	1697	1697	1697	
5°	1845	1780	1706	1592	1580	182
15°	2076	1984	1635	1371	1182	585
25°	1645	1936	1499	915	768	714
35°	526	1391	1291	649	521	357
45°	368	519	992	454	394	282
55°	222	297	667	325	250	204
65°	140	162	408	189	177	140
75°	77	84	199	105	93	80
85°	22	22	44	25	22	24
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°	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3
2.5°	1762.3	1761.1	1763.0	1761.7	1760.4	1757.2	1754.7	1747.0	1735.6	1729.2	1735.6
5°	1845.3	1850.4	1848.5	1845.9	1840.2	1835.1	1823.6	1816.6	1796.2	1780.2	1784.7
7.5°	1939.7	1946.1	1937.8	1932.1	1928.9	1914.2	1901.4	1881.7	1859.3	1841.5	1831.3
10°	2030.3	2032.3	2029.7	2024.6	2013.7	1997.8	1979.3	1957.0	1928.9	1901.4	1882.9
12.5°	2081.4	2084.6	2088.4	2079.5	2071.2	2058.4	2039.3	2016.9	1982.5	1950.6	1929.5
15°	2076.3	2078.8	2085.9	2082.7	2078.8	2073.1	2062.2	2043.7	2019.5	1984.4	1954.4
17.5°	2080.1	2082.0	2085.2	2073.7	2067.3	2060.3	2046.3	2033.5	2013.1	1985.7	1963.3
20°	2011.2	2042.5	2038.6	2053.9	2060.3	2059.7	2046.3	2022.0	1994.0	1965.9	1955.7
22.5°	1863.2	1888.0	1891.2	1914.8	1944.2	1967.8	1997.2	2008.0	1986.3	1944.2	1930.2
25°	1644.9	1662.8	1680.7	1714.5	1745.8	1811.5	1871.5	1916.8	1941.6	1935.9	1908.5
27.5°	1322.1	1302.9	1373.8	1412.7	1500.1	1595.8	1680.0	1763.0	1802.5	1855.5	1882.3
30°	925.2	923.3	976.9	1044.5	1175.3	1263.4	1421.0	1554.3	1658.3	1723.4	1796.2
32.5°	649.6	659.1	698.7	740.2	812.3	955.8	1076.4	1260.2	1437.6	1579.9	1669.2
35°	525.8	527.0	536.0	560.9	604.9	684.6	778.4	957.1	1197.7	1391.0	1524.3
37.5°	460.7	464.5	467.1	481.1	497.1	530.9	590.2	714.0	913.1	1128.7	1360.4
40°	421.1	424.3	426.9	431.3	440.9	456.9	495.8	555.1	670.0	868.4	1126.2
42.5°	394.3	393.1	398.8	400.7	405.8	414.7	432.0	463.9	530.2	664.9	886.9
45°	367.5	369.4	369.4	372.0	376.5	381.6	388.6	408.4	442.2	518.8	692.9
47.5°	339.5	338.8	342.6	344.6	349.0	353.5	358.6	368.8	388.6	433.2	534.1
50°	298.6	299.9	306.9	313.3	319.7	325.4	331.8	338.2	350.9	375.2	437.1
52.5°	255.2	255.2	262.9	267.4	276.3	290.3	301.2	310.7	319.0	331.2	368.2
55°	222.0	222.7	225.2	229.1	235.4	242.5	256.5	273.1	287.1	297.3	317.8
57.5°	199.1	199.7	200.4	203.5	206.7	209.3	217.6	230.3	248.8	267.4	279.5
60°	179.9	179.3	179.3	181.2	183.8	187.0	191.4	196.5	206.7	226.5	248.2
62.5°	158.2	159.5	159.5	161.4	163.3	166.5	168.5	173.6	179.3	188.2	210.6
65°	140.4	141.7	140.4	142.3	143.6	145.5	148.7	151.2	156.3	162.1	171.0
67.5°	122.5	123.1	124.4	125.1	126.3	127.0	129.5	132.7	135.9	139.7	146.8
70°	107.2	107.2	107.2	108.5	109.7	109.7	111.7	112.9	116.1	120.0	123.8
72.5°	90.6	91.2	91.2	90.6	93.2	93.8	94.4	95.7	98.3	101.5	104.6
75°	76.6	75.3	75.3	75.9	77.8	77.8	78.5	79.1	81.0	83.6	85.5
77.5°	60.0	60.0	60.6	61.3	61.9	61.9	63.2	63.2	65.7	67.0	68.3
80°	45.9	47.2	47.9	47.2	47.2	47.9	47.9	49.1	49.8	50.4	51.7
82.5°	34.5	35.1	33.8	33.8	34.5	34.5	35.1	35.1	35.7	36.4	36.4
85°	21.7	21.7	22.3	21.7	22.3	21.7	21.7	23.0	22.3	22.3	23.0
87.5°	10.2	10.8	10.2	10.8	10.2	10.8	10.8	10.8	10.8	10.8	10.2
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°	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3
2.5°	1733.6	1733.0	1729.8	1722.8	1717.7	1708.1	1708.1	1711.3	1694.7	1683.2	1682.6
5°	1773.8	1767.5	1756.6	1743.2	1731.1	1714.5	1708.1	1705.6	1683.2	1666.0	1660.3
7.5°	1816.6	1800.6	1782.1	1760.4	1740.0	1716.4	1704.3	1694.7	1666.0	1644.9	1632.2
10°	1861.3	1835.7	1807.0	1775.7	1747.7	1715.8	1696.0	1679.4	1646.2	1616.9	1602.2
12.5°	1900.8	1865.1	1828.7	1787.9	1749.6	1709.4	1682.0	1660.3	1621.3	1586.2	1568.4
15°	1919.3	1881.0	1851.0	1794.9	1743.2	1702.4	1667.3	1634.7	1593.3	1554.3	1526.9
17.5°	1935.3	1893.2	1853.6	1800.6	1740.7	1687.7	1645.6	1604.1	1559.4	1518.6	1484.8
20°	1930.8	1895.1	1846.6	1790.4	1733.6	1672.4	1624.5	1571.6	1516.1	1474.6	1438.8
22.5°	1905.3	1875.9	1825.5	1771.9	1717.0	1651.3	1597.1	1539.7	1471.4	1426.1	1385.9
25°	1872.7	1844.7	1794.9	1739.4	1685.1	1621.3	1557.5	1498.8	1425.4	1371.2	1319.5
27.5°	1847.2	1805.1	1755.3	1693.4	1641.1	1580.5	1513.5	1454.2	1375.0	1315.1	1255.1
30°	1817.9	1770.0	1708.8	1643.0	1587.5	1532.0	1466.9	1407.6	1320.2	1251.9	1177.2
32.5°	1733.6	1734.3	1661.5	1588.2	1528.8	1469.5	1411.4	1348.2	1261.5	1181.1	1104.5
35°	1623.9	1666.6	1613.0	1528.8	1455.4	1400.6	1352.7	1290.8	1194.5	1111.5	1024.7
37.5°	1477.1	1552.4	1558.8	1471.4	1390.4	1325.9	1278.7	1227.0	1130.0	1040.7	954.6
40°	1330.4	1429.9	1469.5	1408.9	1320.8	1246.8	1199.6	1152.4	1061.1	964.8	885.0
42.5°	1150.4	1311.9	1361.0	1343.1	1248.7	1168.9	1119.2	1076.4	987.7	893.3	814.2
45°	947.5	1165.8	1237.2	1255.7	1176.0	1090.5	1033.0	991.6	913.7	830.8	748.5
47.5°	761.2	1001.1	1119.2	1138.3	1096.2	1013.3	947.5	904.1	842.3	770.8	689.1
50°	580.6	826.3	995.4	1024.7	1014.5	930.3	869.7	818.6	771.4	707.6	631.1
52.5°	462.0	660.4	861.4	916.3	919.5	853.1	789.3	742.7	696.8	646.4	576.8
55°	368.8	510.5	714.0	807.2	816.1	770.2	711.4	666.8	632.3	585.1	526.4
57.5°	310.7	395.0	571.7	697.4	701.2	688.5	632.3	595.3	566.6	525.8	474.1
60°	265.4	313.3	440.9	587.7	606.8	606.8	562.1	529.6	502.2	471.5	422.4
62.5°	229.7	255.9	334.3	467.1	516.2	523.9	495.8	467.1	446.6	416.0	370.7
65°	193.3	213.1	259.1	361.1	428.8	442.8	428.8	407.7	391.8	359.9	324.1
67.5°	158.9	178.0	206.7	273.7	347.7	365.0	362.4	351.6	335.0	311.4	273.7
70°	131.4	142.9	164.0	202.9	273.1	299.3	306.9	297.3	282.7	257.1	229.7
72.5°	108.5	117.4	127.6	155.7	204.2	238.6	251.4	246.3	235.4	211.2	188.2
75°	88.7	94.4	101.5	114.9	146.8	185.7	200.4	199.1	188.2	167.8	149.3
77.5°	71.5	73.4	78.5	86.8	102.7	137.8	149.3	153.1	144.8	127.6	112.9
80°	53.6	56.2	58.7	63.2	70.8	91.2	105.9	111.7	104.6	94.4	79.8
82.5°	37.6	38.3	40.8	43.4	47.2	55.5	70.8	77.2	70.8	60.0	55.5
85°	23.6	23.0	23.6	24.2	28.1	30.0	39.6	44.0	42.8	36.4	31.3
87.5°	10.8	10.8	10.2	10.8	10.2	12.1	14.0	20.4	15.3	13.4	12.1
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°	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3	1697.3
2.5°	1677.5	1675.6	1669.2	1660.3	1652.6	1639.8	1639.8	1643.0	1642.4	1643.7	1642.4
5°	1650.7	1641.8	1632.2	1620.1	1608.6	1592.0	1590.1	1591.3	1590.7	1590.1	1586.2
7.5°	1616.2	1606.0	1593.9	1578.6	1565.8	1549.9	1545.4	1544.1	1539.0	1537.1	1532.0
10°	1583.1	1570.9	1555.0	1536.5	1519.2	1500.7	1489.3	1482.9	1474.6	1465.6	1458.0
12.5°	1546.0	1530.1	1509.7	1487.3	1458.6	1438.2	1421.0	1410.1	1398.6	1383.3	1372.5
15°	1506.5	1473.9	1449.7	1413.3	1378.2	1371.2	1345.1	1310.6	1308.0	1233.4	1207.2
17.5°	1453.5	1426.7	1381.4	1334.2	1286.3	1247.4	1248.1	1154.9	1126.2	1125.6	1079.6
20°	1398.6	1361.6	1309.3	1261.5	1211.1	1130.7	1066.9	1036.2	989.6	971.8	945.6
22.5°	1334.2	1285.7	1224.5	1159.4	1089.2	1024.1	961.6	932.2	908.6	888.8	878.0
25°	1257.6	1208.5	1135.1	1054.1	975.6	915.0	880.5	867.1	826.9	812.9	799.5
27.5°	1180.4	1126.8	1031.1	953.3	888.8	847.4	811.6	789.3	770.2	734.4	718.5
30°	1107.1	1020.9	941.8	870.3	821.8	782.9	756.8	711.4	684.6	668.1	661.0
32.5°	1027.3	935.4	863.9	802.1	752.3	718.5	679.5	648.9	636.8	615.1	583.8
35°	945.6	862.0	787.4	737.6	694.9	648.9	624.7	595.3	564.7	548.1	545.6
37.5°	866.5	787.4	733.8	681.5	629.8	603.0	567.2	536.0	525.1	509.8	493.2
40°	795.0	727.4	677.6	617.7	586.4	544.9	517.5	501.5	475.4	469.6	464.5
42.5°	736.3	678.3	622.1	568.5	532.2	499.0	474.7	456.2	447.9	433.9	429.4
45°	677.0	623.4	566.0	523.9	482.4	454.3	437.7	421.8	412.2	408.4	400.7
47.5°	623.4	571.1	518.1	466.4	438.4	419.9	401.3	393.1	387.3	379.0	374.5
50°	572.3	514.3	464.5	432.0	402.0	385.4	373.3	365.6	356.7	347.7	335.0
52.5°	520.7	470.9	423.0	388.6	366.3	355.4	343.9	335.6	317.8	300.5	289.7
55°	468.3	417.3	378.4	352.2	336.3	324.8	311.4	287.1	270.5	261.0	255.9
57.5°	421.1	375.2	340.7	319.0	307.5	288.4	264.8	249.5	241.2	237.4	234.8
60°	370.7	331.2	302.4	285.9	268.0	242.5	229.7	222.0	219.5	218.2	216.3
62.5°	327.3	292.2	269.9	251.4	225.9	212.5	205.5	201.6	201.6	199.7	198.4
65°	281.4	254.0	234.8	208.0	194.6	188.9	186.3	184.4	182.5	181.9	179.3
67.5°	243.7	219.5	194.6	180.6	172.3	169.1	166.5	165.9	163.3	161.4	159.5
70°	205.5	181.9	161.4	155.1	150.6	149.3	146.8	144.2	142.3	139.7	138.5
72.5°	167.2	144.8	137.8	134.6	130.2	128.3	125.1	123.1	120.0	118.7	117.4
75°	127.6	118.7	114.9	112.3	109.1	104.6	103.4	101.5	100.2	98.3	96.3
77.5°	101.5	96.3	91.9	88.7	86.1	82.9	80.4	79.8	78.5	76.6	75.9
80°	75.9	72.1	70.2	67.0	63.8	61.9	60.6	60.0	58.1	57.4	56.8
82.5°	52.3	49.1	47.9	44.0	42.8	42.8	42.1	40.8	39.6	38.9	38.3
85°	29.4	28.1	26.2	26.8	24.9	24.9	24.2	23.6	23.0	22.3	21.7
87.5°	11.5	10.8	10.2	9.6	9.6	7.7	7.7	7.7	8.3	7.7	7.0
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: P242244

CATALOG NUMBER: S121RDR-S1025D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1697.3	1697.3	1697.3	1697.3
2.5°	1644.3	1645.6	1641.1	1638.6
5°	1586.2	1584.3	1581.8	1579.9
7.5°	1526.9	1525.0	1525.0	1517.3
10°	1454.8	1449.7	1445.9	1439.5
12.5°	1362.9	1355.3	1352.7	1345.1
15°	1189.4	1173.4	1162.6	1181.7
17.5°	1068.8	1027.3	1030.5	1014.5
20°	945.0	928.4	936.7	912.4
22.5°	864.6	854.4	844.8	839.7
25°	789.9	777.8	763.1	768.2
27.5°	696.1	696.1	686.6	690.4
30°	648.3	643.2	627.2	630.4
32.5°	573.6	567.2	565.3	566.6
35°	537.9	527.7	524.5	520.7
37.5°	488.1	484.3	484.9	482.4
40°	454.9	451.8	447.9	449.2
42.5°	426.2	424.3	420.5	421.1
45°	398.2	396.2	394.3	394.3
47.5°	366.9	363.1	359.9	356.0
50°	326.1	318.4	312.7	310.1
52.5°	282.0	278.2	274.4	274.4
55°	254.0	252.0	250.8	250.1
57.5°	234.2	232.9	232.9	231.0
60°	216.3	216.3	215.7	216.9
62.5°	199.1	197.2	197.8	197.8
65°	179.3	178.7	178.0	177.4
67.5°	158.2	157.6	158.2	157.0
70°	137.2	137.2	136.5	135.3
72.5°	115.5	116.8	115.5	114.9
75°	95.1	94.4	95.1	93.2
77.5°	75.9	73.4	74.7	75.3
80°	56.2	56.2	55.5	54.9
82.5°	37.6	38.3	37.0	37.0
85°	21.7	21.7	20.4	21.7
87.5°	6.4	6.4	6.4	7.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)