

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: P242415

Luminaire Tested: **S122RDR-S865D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242415
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-S865D935-X4F0-XX-UDD-A-W
Description: DEFINE 2 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: 2730.4 lumens
Efficiency: N/A
Efficacy: 78.5 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

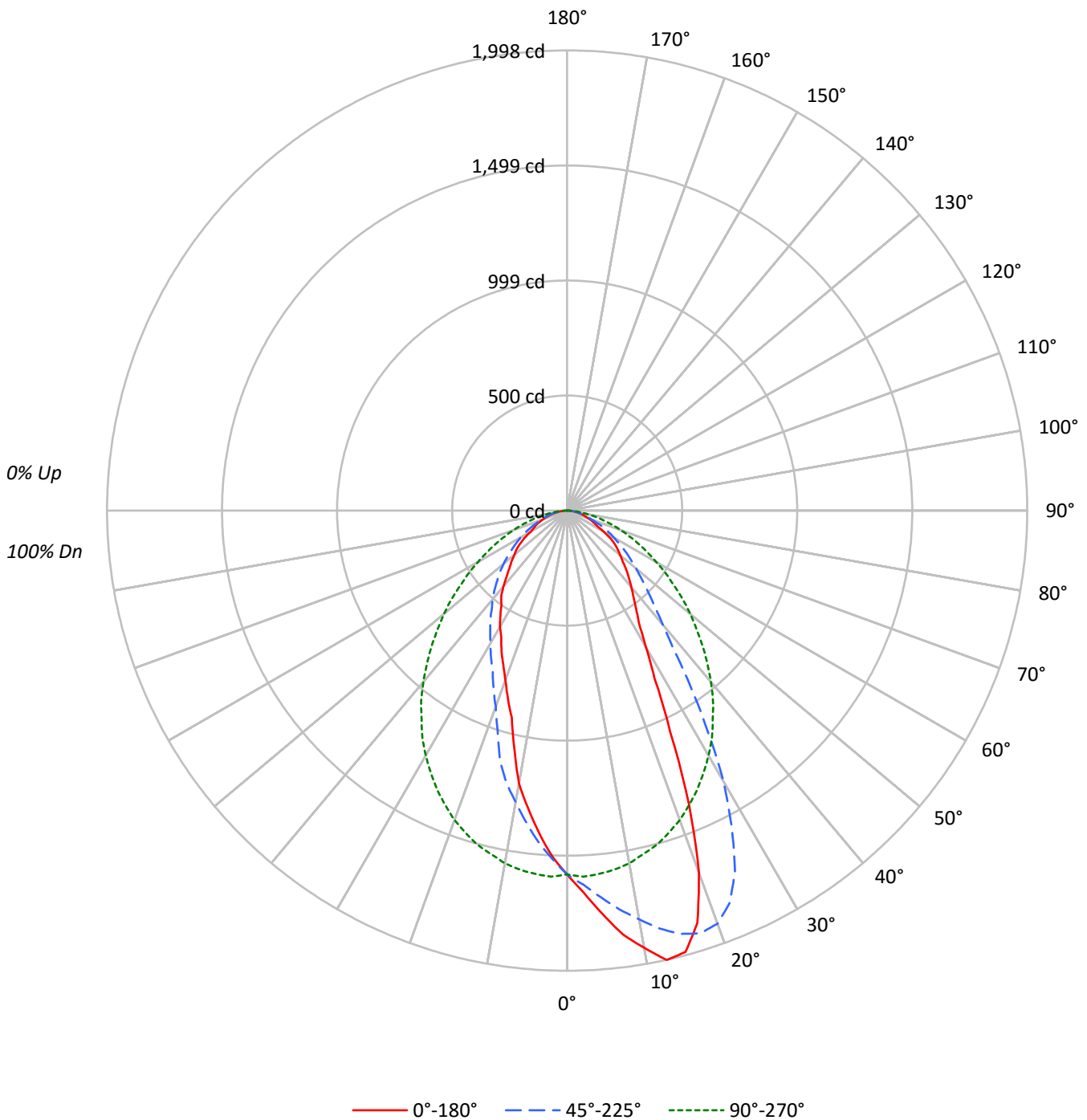
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	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	87	83	80	84	81	78	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	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	39
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	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°	30097	30097	30097
5°	33614	30285	26853
10°	37294	30072	23278
15°	39128	29633	18339
20°	33920	28980	15869
25°	22246	28085	14170
30°	14974	27000	12825
35°	12129	25634	11566
40°	10784	24149	10702
45°	9762	22407	9555
50°	8884	20678	8851
55°	8352	18760	8242
60°	6987	17006	6903
65°	5891	15441	6679
70°	5441	13789	6299
75°	5093	12003	5821
80°	4695	9872	5177
85°	4327	7802	4568



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.9	5.5
10°-20°	418.3	15.3
20°-30°	538.4	19.7
30°-40°	510.7	18.7
40°-50°	437.6	16.0
50°-60°	333.4	12.2
60°-70°	210.3	7.7
70°-80°	104.9	3.8
80°-90°	27.0	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°	1106.6	40.5
0°-40°	1617.3	59.2
0°-60°	2388.3	87.5
0°-90°	2730.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2730.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1580	1580	1580	1580	1580	
5°	1758	1686	1584	1443	1404	173
15°	1984	1903	1503	1125	930	539
25°	1058	1724	1336	765	674	500
35°	522	937	1102	581	497	332
45°	362	494	832	429	355	280
55°	252	308	565	290	248	221
65°	131	176	343	175	148	132
75°	69	77	163	89	79	73
85°	20	20	36	21	21	22
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°	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1
2.5°	1660.2	1661.9	1663.5	1659.7	1659.7	1656.4	1649.3	1643.8	1628.4	1626.2	1626.2
5°	1758.0	1756.9	1759.1	1751.9	1742.1	1739.9	1729.4	1715.7	1701.4	1685.5	1682.2
7.5°	1856.8	1850.2	1847.5	1850.8	1840.3	1826.1	1808.5	1792.0	1767.3	1747.0	1734.4
10°	1928.2	1946.3	1935.3	1916.1	1919.9	1894.1	1880.4	1856.8	1837.0	1802.4	1794.8
12.5°	1998.4	2002.8	2001.2	1992.4	1985.3	1969.3	1949.6	1929.8	1889.2	1859.0	1827.1
15°	1984.2	1994.6	1997.3	1994.1	1996.8	1995.7	1985.8	1968.8	1937.0	1902.9	1873.3
17.5°	1878.8	1890.8	1900.7	1909.5	1923.2	1950.1	1958.4	1961.7	1948.5	1924.3	1899.6
20°	1673.4	1661.3	1711.9	1737.7	1759.6	1814.5	1861.7	1879.9	1909.0	1908.4	1902.9
22.5°	1382.4	1389.0	1436.2	1468.1	1542.8	1597.7	1653.1	1733.8	1797.0	1843.6	1872.2
25°	1058.5	1079.4	1127.1	1168.9	1240.2	1342.4	1435.1	1542.8	1644.3	1724.5	1800.8
27.5°	823.5	826.3	869.7	911.9	955.8	1044.2	1168.3	1297.3	1442.3	1546.6	1678.4
30°	680.8	677.5	693.4	717.0	753.3	818.0	905.9	1032.2	1176.6	1356.6	1517.0
32.5°	579.8	580.9	591.8	607.8	636.3	674.7	728.0	824.6	959.1	1135.4	1330.3
35°	521.6	521.0	529.8	542.4	555.1	583.1	624.2	678.0	771.9	937.2	1129.3
37.5°	473.3	476.0	479.8	488.1	503.5	519.9	545.7	583.6	655.0	757.7	930.0
40°	433.7	434.8	440.9	447.5	455.7	467.8	488.1	517.2	566.0	644.0	762.0
42.5°	397.5	398.6	402.4	408.5	414.5	426.6	442.5	466.7	504.0	560.6	652.8
45°	362.4	362.4	366.2	368.9	376.1	387.1	400.8	421.6	449.1	494.1	558.9
47.5°	328.3	328.3	331.1	336.0	340.9	349.7	364.0	381.6	401.3	438.1	495.8
50°	299.8	300.3	302.0	305.8	308.6	316.2	326.7	341.5	362.4	389.3	435.4
52.5°	276.7	276.2	278.4	279.5	281.1	286.0	293.2	305.8	323.9	346.4	382.7
55°	251.5	249.3	252.6	255.3	256.9	259.1	263.5	271.8	287.7	307.5	336.0
57.5°	221.8	220.7	222.4	225.1	230.0	235.5	238.3	243.8	252.0	267.4	297.6
60°	183.4	183.4	188.3	190.0	196.0	203.7	211.4	215.8	224.0	233.3	254.2
62.5°	149.3	149.9	151.5	153.2	155.9	165.8	177.3	188.3	196.0	204.8	216.9
65°	130.7	131.8	131.8	132.9	135.1	137.3	141.6	149.3	163.1	175.7	186.1
67.5°	114.2	114.2	114.7	115.8	116.4	119.1	120.8	124.6	127.4	141.6	155.9
70°	97.7	99.4	98.8	99.9	100.5	101.6	103.8	105.4	110.4	113.1	120.8
72.5°	82.4	83.5	83.5	84.0	85.6	85.6	87.3	88.9	91.7	93.9	97.2
75°	69.2	68.6	69.2	70.3	70.8	71.4	71.4	73.6	75.2	77.4	80.2
77.5°	56.0	56.5	56.5	56.5	56.5	57.6	57.6	58.7	60.4	61.5	63.1
80°	42.8	43.4	42.8	43.4	43.9	44.5	43.9	44.5	46.1	47.2	47.2
82.5°	30.7	30.7	31.3	31.3	31.3	31.3	32.4	32.4	33.5	32.9	33.5
85°	19.8	19.2	19.2	19.2	19.8	20.3	19.8	19.8	20.3	20.3	20.3
87.5°	8.8	9.3	9.3	9.3	9.3	9.3	9.3	9.9	9.3	9.9	9.3
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°	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1
2.5°	1627.3	1622.9	1619.1	1609.2	1604.2	1593.3	1591.6	1591.1	1576.8	1563.1	1559.2
5°	1673.4	1664.6	1651.5	1636.1	1620.2	1603.7	1592.7	1583.9	1562.0	1541.1	1529.0
7.5°	1719.0	1703.1	1682.2	1655.9	1633.3	1607.0	1588.9	1572.4	1542.2	1514.8	1496.6
10°	1771.1	1740.4	1710.2	1670.1	1638.8	1608.1	1579.5	1554.8	1519.7	1480.2	1452.2
12.5°	1803.5	1769.0	1724.5	1685.5	1642.7	1601.5	1560.9	1527.4	1484.6	1443.4	1408.8
15°	1832.1	1795.9	1745.3	1689.3	1637.2	1586.1	1542.2	1502.7	1448.9	1400.0	1359.4
17.5°	1858.4	1808.5	1756.3	1691.5	1633.9	1571.9	1516.4	1467.0	1408.2	1350.6	1304.5
20°	1870.0	1820.6	1758.0	1693.2	1621.8	1545.5	1484.6	1429.7	1365.4	1301.2	1246.3
22.5°	1862.8	1827.1	1755.8	1675.1	1601.5	1520.8	1450.0	1384.1	1311.1	1245.2	1179.3
25°	1825.5	1812.3	1746.4	1661.9	1578.4	1485.7	1406.0	1336.3	1255.1	1184.8	1115.6
27.5°	1756.9	1776.1	1729.4	1637.7	1547.7	1447.8	1361.0	1282.5	1199.6	1121.1	1051.9
30°	1648.2	1713.5	1695.9	1612.5	1508.7	1411.0	1310.5	1227.6	1137.6	1056.3	988.2
32.5°	1499.4	1618.0	1643.8	1577.3	1469.2	1359.4	1252.9	1170.5	1075.5	988.8	922.9
35°	1339.6	1501.0	1575.1	1530.7	1423.1	1307.2	1198.5	1102.4	1008.0	923.5	857.6
37.5°	1150.2	1365.4	1479.6	1474.7	1372.0	1254.0	1135.9	1040.9	943.8	860.3	791.7
40°	966.8	1205.1	1366.0	1401.7	1318.2	1188.1	1068.4	971.2	876.8	795.5	713.7
42.5°	802.1	1039.3	1246.3	1314.9	1252.9	1123.9	1003.6	900.9	809.8	734.0	650.0
45°	675.3	882.8	1100.8	1211.7	1174.9	1055.2	928.4	831.8	745.6	679.1	599.0
47.5°	584.7	735.7	954.8	1099.7	1095.3	981.7	855.4	762.6	681.3	619.8	551.8
50°	509.5	636.9	815.3	985.5	999.8	908.1	789.5	697.8	623.1	557.8	505.7
52.5°	442.0	541.3	697.3	858.7	905.9	829.6	715.4	632.5	560.6	501.8	459.0
55°	384.9	466.1	588.0	740.6	802.1	746.1	644.0	564.9	506.2	455.7	417.3
57.5°	334.9	398.6	500.2	628.1	697.8	659.9	572.6	507.3	455.1	407.9	377.2
60°	288.2	338.2	421.1	523.8	602.8	578.1	506.2	446.4	403.5	364.0	335.5
62.5°	244.3	285.5	353.6	432.1	502.9	496.3	440.9	393.1	356.9	321.7	298.7
65°	203.7	235.0	290.4	355.8	414.0	418.9	376.6	342.6	309.1	280.6	259.1
67.5°	168.6	190.0	231.7	289.3	333.8	349.2	320.6	293.2	265.7	242.7	223.5
70°	136.7	153.2	181.7	226.2	266.3	282.7	267.9	247.6	224.6	206.4	190.5
72.5°	104.3	120.2	139.5	169.1	202.0	220.2	217.4	204.2	186.7	172.4	157.6
75°	83.5	88.4	102.7	124.6	151.5	166.9	170.7	163.1	148.2	136.7	127.9
77.5°	64.8	68.1	75.8	88.9	107.6	121.3	127.4	126.3	115.3	107.6	99.4
80°	49.4	51.1	54.4	59.3	72.5	86.2	90.0	90.0	82.9	80.2	71.9
82.5°	34.6	35.7	37.3	39.5	43.9	55.5	59.8	60.9	57.1	53.3	47.2
85°	21.4	20.9	22.0	23.6	24.7	28.0	34.6	35.7	34.6	30.2	28.5
87.5°	9.3	9.9	9.9	9.3	9.9	10.4	13.2	15.9	13.7	12.1	11.0
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°	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1	1580.1
2.5°	1552.1	1548.2	1541.1	1530.1	1523.5	1512.0	1504.3	1508.7	1509.8	1508.7	1507.6
5°	1515.9	1504.3	1488.4	1473.0	1458.8	1443.4	1434.6	1430.8	1423.1	1418.7	1416.5
7.5°	1474.7	1457.7	1435.1	1410.4	1387.4	1365.4	1355.5	1347.9	1333.6	1325.9	1318.8
10°	1427.5	1396.2	1373.7	1338.5	1317.1	1285.8	1264.4	1264.9	1243.5	1231.5	1222.7
12.5°	1375.3	1340.2	1299.0	1268.2	1236.4	1212.8	1185.9	1172.7	1149.7	1138.1	1110.7
15°	1316.6	1276.5	1236.9	1194.1	1163.9	1124.9	1087.6	1042.0	1005.3	973.4	964.6
17.5°	1254.0	1204.6	1165.6	1121.7	1074.4	1003.6	957.5	929.5	907.5	891.1	877.9
20°	1189.2	1138.7	1096.4	1020.6	950.9	906.4	874.6	854.3	831.2	813.1	803.2
22.5°	1121.1	1067.8	1006.4	919.6	869.1	835.6	808.2	784.0	770.3	757.1	748.3
25°	1057.4	999.8	904.8	846.6	802.7	765.3	745.6	731.3	714.8	695.6	686.8
27.5°	991.0	899.3	827.4	785.1	740.1	716.5	699.5	675.8	661.0	653.9	644.0
30°	914.7	823.0	769.7	722.5	692.9	666.0	645.1	633.0	618.7	603.9	597.9
32.5°	829.6	760.9	710.4	673.1	642.9	620.9	605.6	584.2	574.8	567.1	552.9
35°	762.0	706.6	659.9	628.1	599.5	580.9	561.7	550.1	531.5	523.8	518.8
37.5°	700.6	652.2	617.1	582.0	560.0	538.0	527.1	507.8	500.7	488.6	478.7
40°	650.0	602.8	569.3	541.9	516.6	501.3	486.4	471.6	459.5	454.6	442.0
42.5°	598.4	562.2	528.7	498.0	483.1	466.7	446.9	437.0	424.4	415.6	409.0
45°	551.8	517.7	489.2	464.5	445.8	428.8	416.7	398.6	391.5	375.5	368.9
47.5°	510.6	477.7	450.2	426.0	407.4	397.5	379.9	364.0	354.1	343.1	333.8
50°	466.1	439.8	413.4	392.6	376.1	360.2	342.0	334.9	317.3	312.4	307.5
52.5°	425.5	400.8	377.2	356.9	340.4	325.0	309.6	299.8	289.3	284.4	281.1
55°	388.2	364.0	340.9	322.8	306.4	290.4	280.6	269.0	263.5	259.7	255.3
57.5°	349.7	327.8	309.6	291.0	274.5	261.3	249.3	242.7	237.2	232.8	226.7
60°	313.5	292.6	276.7	259.7	242.7	232.2	223.5	215.2	208.6	200.9	198.7
62.5°	275.1	257.5	243.2	226.7	212.5	203.1	194.9	187.2	179.0	166.9	163.6
65°	240.5	226.2	210.8	197.1	183.9	174.6	162.5	153.7	150.4	149.3	148.8
67.5°	208.6	194.9	181.7	167.5	155.4	144.9	137.8	136.7	134.5	134.0	132.3
70°	176.8	164.2	151.0	137.8	126.3	124.6	122.4	120.2	117.5	116.4	115.3
72.5°	148.2	135.1	121.9	112.0	108.7	106.5	104.3	102.1	100.5	99.4	98.8
75°	118.0	106.0	97.2	93.3	90.6	88.9	85.6	84.0	82.9	81.3	80.7
77.5°	90.0	82.4	78.0	75.8	72.5	70.8	68.6	67.0	65.3	65.3	64.2
80°	64.8	61.5	58.7	55.5	54.4	52.2	51.6	50.0	50.5	48.9	48.9
82.5°	46.7	42.3	40.1	39.0	37.9	36.2	35.7	35.1	35.1	34.0	34.0
85°	25.8	24.7	23.6	22.5	22.5	20.9	21.4	20.9	20.9	19.8	19.2
87.5°	10.4	9.9	8.8	8.8	8.8	8.2	8.2	7.7	7.7	7.7	7.1
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: P242415

CATALOG NUMBER: S122RDR-S865D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1580.1	1580.1	1580.1	1580.1
2.5°	1501.6	1502.7	1501.0	1502.1
5°	1413.7	1407.1	1406.0	1404.4
7.5°	1310.0	1309.4	1306.1	1302.3
10°	1210.6	1207.9	1207.3	1203.5
12.5°	1094.2	1072.8	1070.6	1059.6
15°	951.5	948.2	937.2	930.0
17.5°	871.8	860.9	857.0	855.4
20°	795.5	785.7	784.0	782.9
22.5°	742.8	732.4	727.5	723.6
25°	681.3	677.5	675.3	674.2
27.5°	633.0	623.1	622.0	619.3
30°	592.9	590.2	586.4	583.1
32.5°	545.7	543.5	540.2	539.1
35°	513.3	505.7	502.4	497.4
37.5°	477.7	473.3	467.8	470.0
40°	434.8	432.1	431.0	430.4
42.5°	400.8	392.0	388.7	388.7
45°	366.2	359.1	354.1	354.7
47.5°	328.9	329.4	326.1	327.2
50°	303.6	300.3	298.1	298.7
52.5°	279.5	276.7	275.1	277.8
55°	252.6	249.3	248.7	248.2
57.5°	223.5	221.8	219.1	217.4
60°	191.6	187.2	181.7	181.2
62.5°	162.5	162.5	162.5	162.5
65°	147.7	147.1	147.7	148.2
67.5°	132.3	131.2	130.1	130.7
70°	114.2	113.6	113.1	113.1
72.5°	96.6	96.6	96.1	95.5
75°	80.2	79.1	79.1	79.1
77.5°	64.2	63.7	63.1	62.6
80°	48.3	47.8	47.2	47.2
82.5°	34.0	33.5	33.5	32.9
85°	19.8	20.3	19.8	20.9
87.5°	7.1	6.6	7.1	6.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)