

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: P242288

Luminaire Tested: **S122DR-S1005D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242288
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-19)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DR-S1005D927-X4F0-XX-UDD-A-W
Description: DEFINE 2 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3370.1 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.23
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

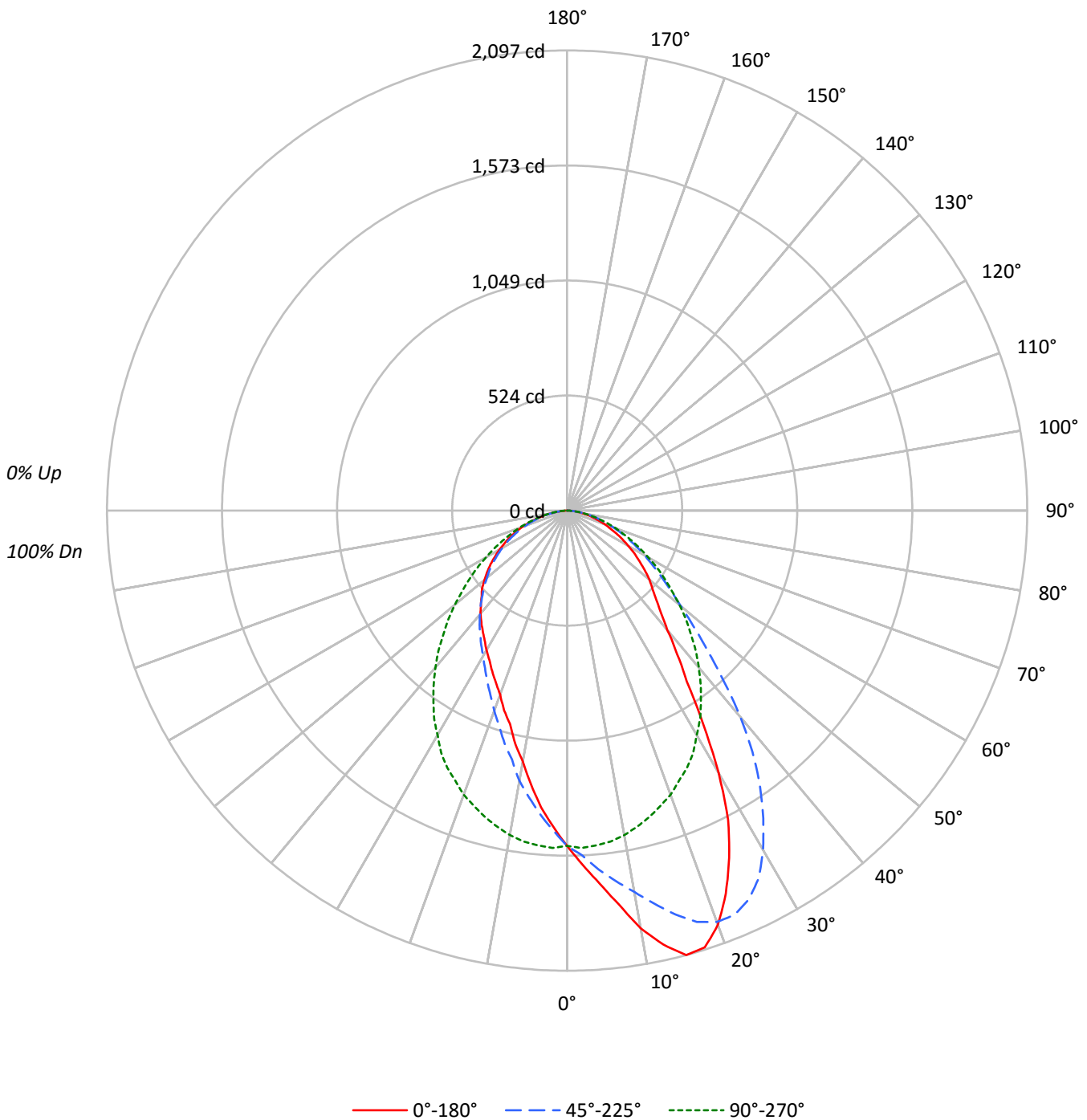
Input Watts (W): 41.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242288

CATALOG NUMBER: S122DR-S1005D927-X4F0-XX-UDD-A-W

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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86				86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74				74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64				64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	58	55				55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49				49
6	74	61	53	47	72	60	52	46	58	51	46	57	51	46	55	50	45	43				43
7	69	56	48	42	67	55	47	42	54	46	41	52	46	41	51	45	41	39				39
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37	35				35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32				32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29				29

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	29097	29097	29097
5°	32621	29289	25954
10°	37381	29047	22461
15°	41354	28515	19844
20°	40725	27942	18089
25°	36721	27183	16979
30°	30346	25969	16168
35°	22116	24697	15591
40°	17664	23197	15270
45°	15435	21461	14834
50°	14508	19780	14544
55°	13376	18072	14154
60°	12255	16259	13554
65°	11169	14634	12967
70°	10136	13049	12096
75°	8986	11275	10715
80°	7733	9335	8633
85°	6928	6928	5136



TEST NUMBER: P242288

CATALOG NUMBER: S122DR-S1005D927-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.5	4.3
10°-20°	423.5	12.6
20°-30°	614.6	18.2
30°-40°	647.9	19.2
40°-50°	573.3	17.0
50°-60°	457.7	13.6
60°-70°	310.9	9.2
70°-80°	159.1	4.7
80°-90°	37.6	1.1
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°	1183.7	35.1
0°-40°	1831.6	54.3
0°-60°	2862.5	84.9
0°-90°	3370.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3370.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1528	1528	1528	1528	1528	
5°	1706	1642	1532	1391	1357	170
15°	2097	1905	1446	1100	1006	581
25°	1747	1956	1293	860	808	792
35°	951	1532	1062	690	670	616
45°	573	907	797	546	551	449
55°	403	522	544	410	426	361
65°	248	309	325	271	288	246
75°	122	150	153	137	146	130
85°	32	35	32	26	24	36
90°	0	0	0	0	0	



TEST NUMBER: P242288

CATALOG NUMBER: S122DR-S1005D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6
2.5°	1615.7	1616.3	1617.5	1608.1	1606.9	1606.9	1598.7	1591.6	1583.4	1572.3	1573.4
5°	1706.1	1712.6	1714.9	1707.9	1697.3	1696.1	1686.2	1669.7	1654.5	1642.1	1633.3
7.5°	1810.6	1813.0	1808.3	1800.1	1793.0	1779.5	1763.1	1747.2	1723.7	1702.6	1687.3
10°	1932.7	1936.3	1926.3	1912.8	1901.6	1885.2	1858.2	1830.6	1797.1	1764.8	1739.0
12.5°	2025.5	2035.5	2022.0	2023.2	2002.0	1978.0	1944.5	1933.9	1883.4	1835.3	1807.1
15°	2097.1	2096.5	2097.7	2086.6	2072.5	2069.0	2034.9	1997.9	1931.6	1905.2	1859.4
17.5°	2086.6	2094.8	2099.5	2096.0	2093.6	2088.3	2073.7	2046.1	2009.7	1965.0	1910.4
20°	2009.1	2020.8	2022.6	2036.1	2043.7	2053.7	2057.8	2051.3	2030.8	1995.0	1949.2
22.5°	1889.3	1890.5	1896.9	1919.8	1938.6	1967.4	1982.6	2011.4	2006.7	1993.8	1957.4
25°	1747.2	1741.3	1761.9	1772.5	1810.6	1850.6	1879.3	1911.0	1939.2	1956.2	1945.1
27.5°	1589.9	1577.5	1608.7	1636.3	1663.3	1702.0	1745.5	1797.1	1836.5	1889.9	1902.8
30°	1379.7	1385.0	1414.3	1444.3	1491.2	1552.3	1602.8	1660.9	1723.7	1785.4	1828.2
32.5°	1153.1	1177.1	1193.0	1242.9	1282.8	1352.7	1432.5	1508.9	1591.1	1663.3	1735.5
35°	951.1	974.6	1000.4	1033.9	1092.0	1159.5	1231.7	1329.8	1436.6	1532.3	1611.0
37.5°	823.1	819.0	834.9	859.5	909.4	967.5	1053.3	1153.1	1281.1	1387.3	1493.0
40°	710.4	708.0	718.6	740.9	776.7	816.7	889.5	974.6	1091.4	1228.8	1360.9
42.5°	632.9	635.2	639.9	654.0	675.8	706.9	756.8	826.1	930.6	1058.0	1202.4
45°	573.0	577.1	583.6	591.2	605.3	632.3	662.8	714.5	799.0	907.1	1046.8
47.5°	526.0	527.2	534.3	541.3	549.5	566.0	593.0	625.9	690.4	782.6	907.7
50°	489.6	485.5	490.2	495.5	504.3	514.9	531.3	561.9	601.8	672.8	773.2
52.5°	445.0	446.2	450.3	451.5	459.1	469.7	484.4	503.1	538.4	590.0	668.1
55°	402.8	405.7	408.0	411.6	418.6	426.2	438.0	452.1	480.3	521.9	583.0
57.5°	362.8	364.0	365.8	373.4	377.5	384.6	396.3	409.2	428.0	460.3	508.4
60°	321.7	321.7	326.4	329.4	335.2	342.3	351.1	363.4	379.9	405.1	442.1
62.5°	284.2	283.6	284.7	290.0	294.1	300.6	309.4	319.4	334.6	356.4	385.1
65°	247.8	246.6	250.1	251.3	256.0	262.4	269.5	280.6	293.0	309.4	336.4
67.5°	211.4	213.1	215.5	217.8	220.2	227.8	232.5	240.7	251.3	265.4	284.2
70°	182.0	182.0	182.0	183.8	187.3	190.8	195.5	202.0	211.9	223.7	240.1
72.5°	149.1	151.5	153.8	152.1	156.8	158.5	164.4	167.3	176.7	183.2	197.3
75°	122.1	122.1	122.1	125.1	126.8	128.6	132.1	135.6	140.3	149.7	157.3
77.5°	96.3	95.7	96.3	96.9	99.2	101.6	102.7	105.7	110.4	115.1	122.1
80°	70.5	71.6	72.2	73.4	73.4	74.6	75.1	79.3	82.2	85.1	89.2
82.5°	50.5	50.5	50.5	50.5	51.1	51.7	53.4	54.0	54.6	56.9	59.9
85°	31.7	31.1	31.1	32.3	31.7	31.7	32.9	34.1	34.1	34.6	36.4
87.5°	15.3	15.3	15.9	15.3	15.3	15.9	15.9	15.3	15.9	16.4	17.0
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: P242288

CATALOG NUMBER: S122DR-S1005D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6
2.5°	1577.5	1572.9	1569.9	1559.3	1550.0	1540.6	1537.6	1538.8	1525.9	1513.6	1508.3
5°	1628.6	1616.9	1605.7	1589.9	1571.1	1550.5	1540.0	1531.8	1511.2	1488.9	1476.0
7.5°	1675.0	1659.7	1639.8	1611.6	1585.8	1555.2	1536.5	1520.6	1491.8	1461.9	1443.7
10°	1716.7	1693.8	1666.2	1629.8	1596.3	1557.0	1529.4	1501.8	1466.6	1429.0	1405.5
12.5°	1752.5	1719.6	1692.6	1643.3	1602.2	1550.5	1516.5	1474.8	1437.2	1390.8	1368.0
15°	1813.6	1756.6	1704.9	1652.1	1603.4	1534.7	1498.3	1446.0	1397.3	1342.1	1315.7
17.5°	1858.8	1797.1	1717.3	1653.3	1599.3	1525.9	1473.6	1411.4	1356.2	1295.2	1259.9
20°	1896.3	1823.0	1735.5	1655.6	1587.5	1500.6	1442.5	1378.5	1311.0	1240.0	1201.2
22.5°	1918.7	1840.6	1754.3	1646.8	1564.0	1480.1	1403.2	1331.6	1262.9	1184.8	1143.7
25°	1919.8	1849.4	1757.8	1642.7	1545.3	1449.6	1361.5	1293.4	1210.6	1139.0	1079.7
27.5°	1900.5	1844.7	1756.0	1634.5	1523.5	1413.7	1318.0	1243.5	1156.0	1078.5	1019.2
30°	1857.6	1828.2	1742.5	1620.4	1496.5	1376.2	1268.1	1180.7	1093.8	1015.1	954.0
32.5°	1791.3	1790.7	1717.9	1600.4	1467.8	1328.6	1215.9	1127.2	1028.6	951.7	894.2
35°	1700.3	1728.4	1680.9	1568.7	1430.2	1284.0	1163.1	1062.1	962.3	888.3	833.7
37.5°	1584.6	1649.8	1631.0	1526.5	1382.0	1236.4	1104.9	999.3	903.6	827.2	773.8
40°	1464.2	1553.5	1566.4	1476.6	1330.4	1179.5	1038.0	932.9	840.1	772.0	718.0
42.5°	1335.1	1443.1	1484.2	1416.7	1274.0	1119.6	978.1	868.3	776.7	711.0	664.6
45°	1187.7	1325.7	1389.7	1348.6	1210.0	1052.7	907.1	796.7	713.3	651.1	614.1
47.5°	1054.4	1204.1	1285.8	1266.4	1141.3	985.2	841.3	733.9	651.1	600.6	566.0
50°	911.2	1066.2	1170.1	1174.8	1066.2	911.8	767.3	667.5	593.0	546.6	519.6
52.5°	786.7	932.9	1048.6	1078.5	982.2	835.4	701.0	601.8	538.4	496.7	473.2
55°	681.6	806.7	932.3	978.1	898.9	758.0	631.7	544.2	482.6	453.2	432.1
57.5°	581.8	691.6	810.8	858.9	808.4	684.6	562.4	485.5	433.3	406.9	390.4
60°	506.1	588.3	691.6	752.1	709.8	602.4	499.0	426.8	385.7	362.8	347.6
62.5°	435.6	506.1	589.5	643.5	625.3	525.5	435.6	374.0	339.9	318.8	308.8
65°	371.0	428.6	496.1	547.2	531.9	455.0	379.3	324.7	296.5	279.5	270.7
67.5°	315.9	359.9	408.0	455.0	442.1	385.1	321.1	277.1	255.4	240.1	234.8
70°	264.2	295.9	337.6	373.4	363.4	318.8	270.7	234.3	216.1	203.7	198.4
72.5°	214.9	239.5	268.9	296.5	290.6	255.4	217.2	192.0	179.1	167.9	163.8
75°	169.7	189.6	209.0	228.4	226.6	197.9	174.4	153.2	142.1	133.3	131.5
77.5°	132.7	145.0	159.1	171.4	168.5	149.7	130.3	117.4	108.6	102.7	102.2
80°	95.7	102.2	111.5	119.8	115.7	108.6	93.9	85.1	79.3	73.4	71.0
82.5°	62.8	69.3	74.0	77.5	74.6	68.1	60.5	55.2	52.3	48.7	48.1
85°	36.4	39.9	42.3	43.4	42.3	38.2	34.1	31.7	28.8	27.0	26.4
87.5°	17.6	17.6	17.6	18.8	17.0	17.0	14.7	12.9	12.3	11.7	10.6
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: P242288

CATALOG NUMBER: S122DR-S1005D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6
2.5°	1502.4	1498.9	1486.5	1480.1	1469.5	1459.5	1453.1	1456.0	1458.4	1457.2	1455.4
5°	1464.2	1453.1	1436.1	1421.4	1410.8	1391.4	1383.2	1379.1	1375.6	1371.5	1367.4
7.5°	1422.0	1406.1	1382.0	1363.3	1344.5	1319.8	1307.5	1300.4	1292.8	1284.0	1275.8
10°	1376.2	1351.5	1325.7	1296.3	1272.8	1251.1	1231.7	1218.8	1207.1	1195.9	1187.7
12.5°	1328.0	1298.7	1265.2	1222.3	1195.9	1162.5	1163.6	1138.4	1118.4	1112.6	1102.6
15°	1276.4	1236.4	1195.9	1148.4	1127.8	1099.6	1082.0	1064.4	1048.6	1037.4	1034.5
17.5°	1220.0	1166.6	1127.2	1092.0	1058.5	1029.8	1014.5	1000.4	986.9	970.5	969.9
20°	1153.7	1109.0	1065.0	1035.1	1000.4	971.1	951.1	937.0	925.9	917.1	909.4
22.5°	1090.8	1040.9	1001.6	968.1	934.1	911.8	897.1	883.6	874.8	864.8	857.8
25°	1022.7	984.6	940.5	903.6	875.4	860.1	847.2	835.4	829.6	823.1	814.9
27.5°	964.6	922.3	878.9	850.1	824.3	810.8	800.8	792.0	786.7	782.6	777.3
30°	902.4	859.5	827.2	799.0	778.5	765.0	759.1	754.4	748.0	745.6	743.3
32.5°	842.5	804.9	778.5	755.0	735.6	728.0	722.7	718.6	713.9	711.6	706.3
35°	786.7	754.4	727.4	713.9	698.1	690.4	686.3	680.5	675.8	673.4	672.8
37.5°	733.3	703.9	685.7	667.5	659.9	655.8	649.9	645.8	644.1	643.5	642.9
40°	681.6	658.7	642.9	628.8	625.9	618.8	614.1	610.6	610.6	611.2	610.6
42.5°	634.7	614.7	601.2	589.5	585.9	582.4	577.7	578.3	579.5	581.8	579.5
45°	587.1	572.4	562.4	556.6	550.1	546.0	545.4	547.2	547.8	548.4	550.1
47.5°	542.5	533.1	523.7	516.7	513.7	513.1	512.0	514.9	517.8	518.4	521.3
50°	503.7	492.6	484.9	480.8	478.5	477.3	478.5	482.0	484.4	487.3	489.1
52.5°	460.3	453.2	448.5	445.6	445.0	446.2	446.2	450.3	454.4	455.0	455.6
55°	421.0	415.1	413.9	408.6	411.0	410.4	413.3	415.7	419.2	422.7	423.3
57.5°	381.0	375.7	372.2	372.8	373.4	375.7	378.1	382.2	386.3	390.4	390.4
60°	341.1	338.8	337.0	337.0	338.2	341.7	344.6	348.7	351.1	353.4	355.2
62.5°	304.7	302.4	300.6	301.8	305.3	307.1	310.6	312.3	314.7	317.0	317.6
65°	266.0	264.8	266.5	267.7	268.3	271.2	275.4	277.1	279.5	280.6	284.7
67.5°	230.7	230.7	230.1	231.9	235.4	236.0	240.1	244.8	244.8	247.2	250.1
70°	194.9	196.1	197.3	198.4	201.4	202.6	205.5	207.2	209.6	211.4	213.1
72.5°	162.0	162.0	163.2	162.6	165.0	167.9	170.3	172.0	174.4	176.7	178.5
75°	129.7	129.7	130.9	131.5	134.4	137.4	136.8	138.0	140.3	142.7	143.8
77.5°	100.4	99.2	100.4	101.0	102.2	104.5	105.1	106.9	109.8	109.2	110.4
80°	72.2	70.5	72.2	72.8	72.8	75.7	75.7	76.9	78.7	76.9	78.7
82.5°	46.4	45.8	47.0	47.0	48.1	47.6	48.7	48.7	50.5	49.9	50.5
85°	25.8	25.2	25.8	25.2	25.8	26.4	26.4	25.8	25.8	27.0	25.2
87.5°	10.0	9.4	8.8	8.8	8.2	7.6	7.0	7.0	7.0	5.9	5.9
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: P242288

CATALOG NUMBER: S122DR-S1005D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1527.6	1527.6	1527.6	1527.6
2.5°	1449.6	1448.4	1448.4	1443.1
5°	1359.1	1357.4	1354.4	1357.4
7.5°	1273.4	1265.8	1264.6	1258.8
10°	1177.7	1173.0	1172.4	1161.3
12.5°	1104.9	1092.0	1094.9	1089.7
15°	1018.6	1018.6	1016.3	1006.3
17.5°	957.0	956.4	951.1	954.6
20°	903.0	899.4	892.4	892.4
22.5°	851.9	852.5	844.8	847.8
25°	814.3	809.6	806.1	807.9
27.5°	775.6	773.8	773.2	767.9
30°	742.7	736.8	738.0	735.1
32.5°	705.1	703.9	702.2	699.8
35°	671.6	672.2	669.3	670.5
37.5°	641.7	644.1	642.3	642.3
40°	612.3	612.3	612.3	614.1
42.5°	584.2	583.0	581.8	581.2
45°	551.3	553.1	553.6	550.7
47.5°	522.5	523.1	522.5	526.0
50°	492.0	490.8	492.0	490.8
52.5°	459.7	460.3	459.1	459.1
55°	425.7	426.8	426.2	426.2
57.5°	391.0	391.6	392.8	389.8
60°	354.6	357.5	357.0	355.8
62.5°	321.1	321.7	321.7	321.7
65°	286.5	287.7	285.9	287.7
67.5°	248.9	249.5	250.7	251.3
70°	214.3	213.7	215.5	217.2
72.5°	177.9	179.7	178.5	179.7
75°	142.7	144.4	143.8	145.6
77.5°	109.2	109.8	109.8	110.4
80°	78.7	77.5	76.3	78.7
82.5°	48.7	49.9	48.7	48.1
85°	25.2	24.7	23.5	23.5
87.5°	5.9	5.3	5.3	4.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)