

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: P242936

Luminaire Tested: **S125RDR-S1090D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242936  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-32)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125RDR-S1090D940-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3588.4 lumens  
Efficiency: N/A  
Efficacy: 103.1 lumens/watt  
Spacing Criteria (0/90/45): 1.4 / 1.21 / 1.48  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct

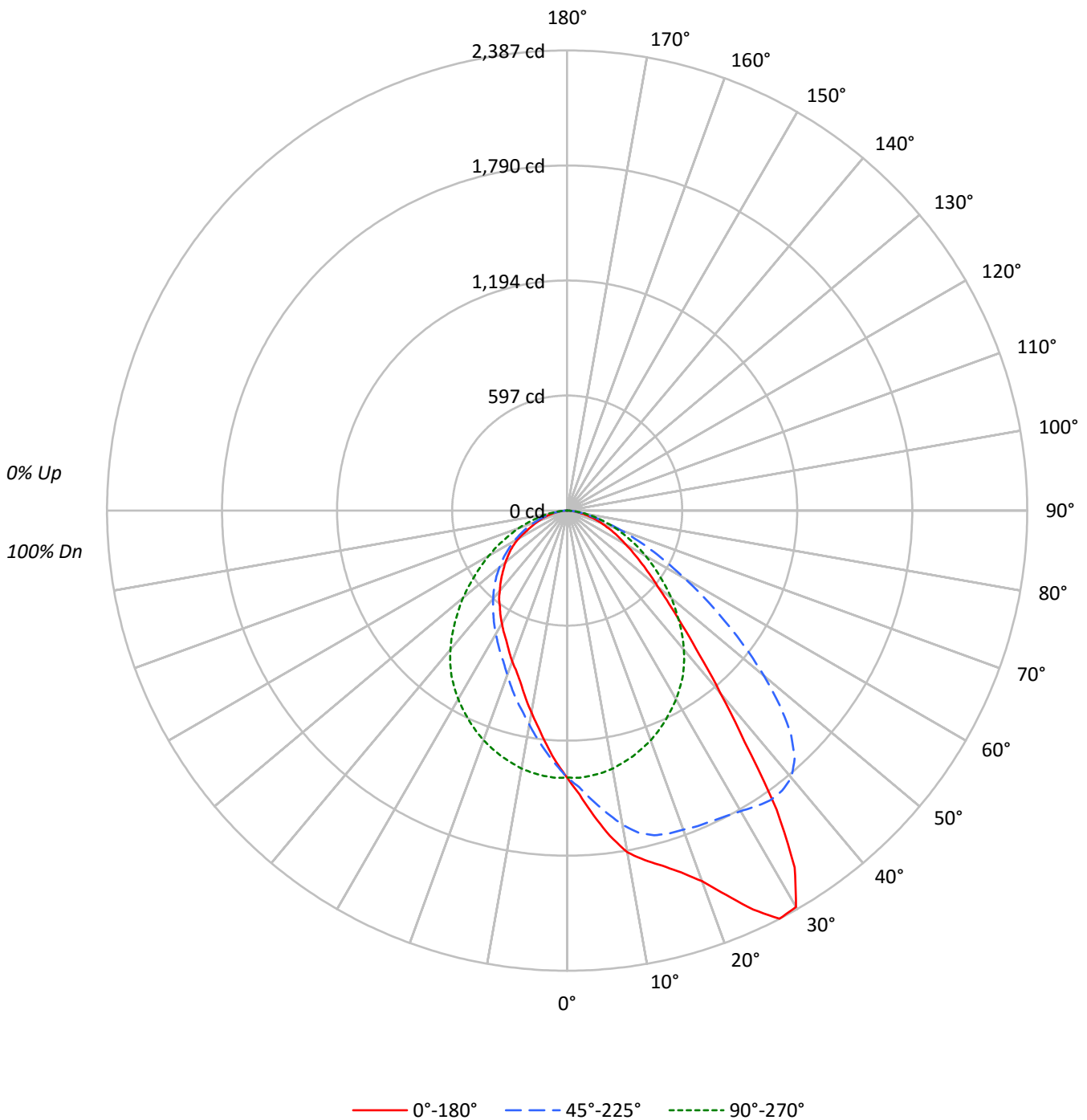
Input Watts (W): 34.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P242936

CATALOG NUMBER: S125RDR-S1090D940-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73
3	92	83	75	69	90	81	74	69	78	72	67	76	70	66	73	69	65	63
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48
6	73	60	52	45	71	59	51	45	57	50	45	56	49	44	54	49	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	50	44	39	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	42	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28

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

	0°	90°	180°
0°	9844	9844	9844
5°	11325	9857	8705
10°	12991	9806	7681
15°	14031	9705	6828
20°	15472	9589	6304
25°	17906	9434	5849
30°	19485	9271	5553
35°	16437	9082	5278
40°	11478	8741	5043
45°	8514	8280	4812
50°	6789	7802	4614
55°	5763	7207	4439
60°	4978	6675	4154
65°	4436	6100	3575
70°	3898	5588	3260
75°	3372	4839	3059
80°	2558	4072	2558
85°	2137	3197	2414



TEST NUMBER: P242936

CATALOG NUMBER: S125RDR-S1090D940-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.8	3.7
10°-20°	389.4	10.9
20°-30°	617.4	17.2
30°-40°	746.0	20.8
40°-50°	664.3	18.5
50°-60°	509.4	14.2
60°-70°	330.8	9.2
70°-80°	160.5	4.5
80°-90°	37.7	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°	1139.6	31.8
0°-40°	1885.6	52.5
0°-60°	3059.3	85.3
0°-90°	3588.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3588.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1385	1385	1385	1385	1385	
5°	1587	1509	1382	1255	1220	158
15°	1907	1744	1319	1016	928	546
25°	2283	1777	1203	818	746	1051
35°	1894	1835	1047	666	608	1148
45°	847	1643	824	528	479	672
55°	465	997	582	388	358	421
65°	264	475	363	248	213	262
75°	123	167	176	123	111	131
85°	26	28	39	31	30	31
90°	0	0	0	0	0	



TEST NUMBER: P242936

CATALOG NUMBER: S125RDR-S1090D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0
2.5°	1474.8	1473.7	1475.9	1469.7	1470.2	1460.6	1460.6	1453.2	1443.5	1436.1	1432.7
5°	1587.4	1588.5	1586.2	1577.7	1572.0	1563.5	1553.8	1536.8	1522.6	1508.9	1498.1
7.5°	1702.2	1703.4	1696.0	1694.3	1679.5	1670.4	1648.8	1626.6	1607.3	1581.7	1563.5
10°	1800.0	1799.4	1791.5	1785.2	1772.7	1756.8	1735.8	1708.5	1682.9	1654.5	1627.2
12.5°	1856.9	1855.2	1854.0	1846.1	1834.7	1821.0	1804.0	1777.3	1744.3	1712.4	1679.5
15°	1906.9	1902.9	1895.5	1885.9	1869.4	1852.9	1833.0	1809.1	1779.0	1743.7	1714.2
17.5°	1967.2	1967.7	1956.4	1946.1	1924.5	1897.2	1867.7	1831.3	1792.6	1756.8	1727.2
20°	2045.6	2043.9	2032.5	2006.4	1980.8	1944.4	1909.2	1862.0	1811.9	1761.3	1722.1
22.5°	2158.2	2153.1	2141.1	2104.7	2061.5	2012.1	1953.5	1893.2	1830.1	1771.0	1716.4
25°	2283.3	2279.9	2256.5	2216.7	2161.0	2088.8	2018.3	1939.3	1852.3	1776.7	1714.2
27.5°	2386.7	2379.9	2358.9	2321.4	2266.8	2188.9	2091.7	1989.3	1885.9	1786.4	1700.5
30°	2374.2	2382.8	2380.5	2365.1	2326.5	2258.2	2170.1	2051.3	1922.2	1800.0	1692.5
32.5°	2195.7	2203.1	2228.7	2270.2	2282.7	2265.6	2205.4	2097.9	1963.2	1819.9	1686.3
35°	1894.4	1904.6	1943.3	2004.1	2083.7	2150.2	2163.9	2104.7	1984.8	1835.3	1680.0
37.5°	1511.2	1577.7	1603.9	1665.8	1790.9	1912.0	2017.2	2041.1	1976.2	1831.8	1672.6
40°	1237.1	1250.8	1308.8	1381.0	1482.2	1609.5	1777.3	1898.4	1902.3	1809.1	1648.8
42.5°	1014.3	1032.5	1067.7	1121.7	1204.7	1332.1	1506.6	1676.1	1767.6	1746.6	1617.5
45°	847.1	860.2	889.2	933.5	1000.1	1105.2	1254.2	1439.0	1585.7	1643.1	1556.7
47.5°	716.4	723.2	749.9	785.7	836.9	916.5	1037.6	1204.7	1379.3	1495.8	1473.1
50°	614.0	622.0	641.3	666.9	708.4	773.2	865.3	998.9	1180.3	1331.0	1361.1
52.5°	534.4	540.7	550.9	574.8	607.2	653.3	723.2	840.9	999.5	1162.1	1241.7
55°	465.1	469.6	479.3	492.9	520.2	556.0	620.3	703.9	835.8	997.2	1099.6
57.5°	405.9	408.2	413.9	427.5	447.4	474.2	523.1	599.2	694.8	846.6	959.1
60°	350.2	352.5	360.5	369.0	383.8	407.6	444.0	493.5	584.5	704.4	818.7
62.5°	305.9	307.0	309.3	317.8	330.3	347.4	374.1	412.2	479.8	581.6	687.9
65°	263.8	264.4	265.5	272.3	280.3	293.9	312.7	341.1	395.7	475.3	570.8
67.5°	221.7	222.9	226.8	229.1	238.8	245.6	257.5	280.3	322.4	379.2	456.5
70°	187.6	187.1	191.0	193.9	196.7	205.2	212.6	230.3	254.1	295.1	357.0
72.5°	155.8	154.1	155.2	155.8	159.8	164.9	172.3	181.4	198.4	223.4	267.2
75°	122.8	123.4	123.4	124.5	127.4	129.6	131.9	137.6	147.8	166.6	192.2
77.5°	92.1	91.0	93.8	93.8	96.1	98.9	100.6	102.9	106.9	115.4	130.8
80°	62.5	62.5	63.1	64.8	64.2	65.4	68.2	70.5	75.6	80.2	84.7
82.5°	44.3	43.8	44.3	44.3	44.3	45.5	46.1	46.1	47.2	48.9	51.7
85°	26.2	26.2	26.7	26.7	27.3	27.3	27.9	27.9	27.9	28.4	29.0
87.5°	12.5	11.9	11.4	11.4	11.9	13.1	12.5	11.9	11.9	11.9	12.5
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: P242936

CATALOG NUMBER: S125RDR-S1090D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0
2.5°	1432.7	1428.7	1421.4	1414.5	1406.0	1398.6	1393.5	1387.2	1379.3	1369.6	1361.7
5°	1486.2	1473.7	1457.2	1443.0	1424.8	1410.6	1395.8	1381.6	1367.3	1349.1	1333.2
7.5°	1545.3	1520.8	1498.1	1468.5	1441.8	1418.5	1395.8	1372.5	1350.3	1325.3	1302.0
10°	1598.7	1567.5	1532.8	1493.0	1456.6	1421.9	1390.1	1358.8	1325.8	1296.8	1265.6
12.5°	1648.8	1606.1	1565.2	1512.3	1466.8	1422.5	1379.8	1338.9	1303.1	1263.3	1229.2
15°	1674.9	1635.1	1590.8	1529.4	1468.5	1417.4	1369.6	1319.0	1275.2	1233.2	1195.6
17.5°	1690.3	1648.2	1597.0	1537.3	1472.0	1408.3	1348.0	1294.0	1244.0	1195.6	1154.1
20°	1683.5	1643.1	1590.2	1533.9	1462.9	1395.8	1329.2	1267.8	1210.4	1158.7	1113.8
22.5°	1667.0	1624.9	1574.3	1514.0	1447.5	1375.3	1303.1	1236.6	1175.7	1121.7	1071.7
25°	1650.5	1593.6	1541.3	1483.3	1419.1	1348.6	1275.2	1203.0	1138.8	1084.2	1030.8
27.5°	1634.6	1565.8	1500.9	1445.2	1376.4	1312.8	1241.1	1166.6	1099.6	1044.4	989.8
30°	1611.2	1531.7	1458.3	1392.9	1328.7	1269.0	1201.9	1129.7	1060.3	1002.9	947.2
32.5°	1582.3	1496.4	1414.0	1336.1	1274.7	1215.5	1156.4	1088.2	1021.1	961.4	904.5
35°	1558.9	1450.9	1363.4	1283.2	1214.4	1157.0	1102.4	1046.7	979.0	917.6	862.5
37.5°	1526.5	1407.7	1308.8	1221.2	1149.6	1092.7	1049.0	996.1	933.0	873.3	822.1
40°	1497.5	1360.0	1249.1	1162.7	1086.5	1025.6	985.3	942.1	885.8	830.6	779.5
42.5°	1458.9	1316.2	1188.8	1097.9	1021.1	963.1	922.2	885.8	840.9	789.7	734.0
45°	1406.0	1257.0	1126.8	1030.2	952.9	895.5	857.4	823.8	788.0	740.2	692.5
47.5°	1342.9	1200.8	1063.7	957.4	882.9	828.9	791.4	763.6	737.4	695.9	647.6
50°	1263.9	1128.0	994.9	892.6	811.9	761.3	726.6	705.6	682.2	645.3	606.6
52.5°	1170.6	1052.9	923.3	818.1	743.1	696.5	663.5	642.5	624.3	595.8	559.4
55°	1071.7	965.4	846.0	751.0	681.1	633.4	601.5	581.6	570.2	544.7	515.7
57.5°	959.7	877.8	769.8	677.1	614.0	566.3	542.4	524.8	511.7	492.9	471.3
60°	841.4	788.0	693.6	606.6	549.8	504.9	483.8	469.6	457.7	442.3	426.4
62.5°	721.5	686.2	607.2	535.6	484.4	448.6	429.2	416.7	402.5	393.4	378.1
65°	616.9	582.2	525.3	466.8	418.4	388.3	374.1	362.7	354.2	342.8	332.0
67.5°	500.9	485.0	442.9	399.1	363.9	334.9	322.4	313.3	303.6	296.8	288.8
70°	395.7	388.9	361.0	334.3	301.9	283.7	272.3	268.9	256.4	249.6	244.5
72.5°	302.5	300.2	287.1	270.6	250.2	234.8	224.6	220.6	213.8	208.7	205.8
75°	220.0	221.2	218.3	206.4	197.9	187.6	178.5	176.2	170.6	166.0	163.2
77.5°	150.1	155.8	154.6	154.1	150.1	142.7	138.7	137.0	130.8	129.1	128.5
80°	95.5	101.8	107.5	106.9	105.7	104.0	101.2	99.5	96.7	94.9	93.8
82.5°	55.7	61.4	66.0	69.9	69.9	68.2	66.5	66.0	66.0	64.8	64.8
85°	30.1	31.3	33.0	37.0	39.8	40.4	39.8	39.2	37.5	38.1	38.7
87.5°	13.1	13.1	13.6	13.6	13.1	15.9	17.6	18.2	17.1	15.9	14.8
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: P242936

CATALOG NUMBER: S125RDR-S1090D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0	1385.0
2.5°	1356.0	1348.0	1342.3	1331.0	1323.0	1319.6	1313.3	1311.6	1317.9	1313.3	1312.8
5°	1321.3	1304.8	1291.7	1278.6	1264.4	1255.3	1241.7	1239.4	1236.0	1230.9	1229.8
7.5°	1280.9	1260.5	1245.1	1223.5	1205.9	1191.7	1174.6	1167.8	1164.4	1158.1	1147.9
10°	1240.0	1214.4	1191.7	1170.1	1146.7	1128.0	1110.9	1097.9	1089.3	1081.4	1078.0
12.5°	1199.6	1173.5	1142.8	1115.5	1088.8	1067.2	1047.8	1040.4	1030.8	1021.1	1012.0
15°	1157.6	1122.9	1091.0	1060.9	1038.7	1016.0	997.8	985.3	971.1	967.1	951.7
17.5°	1112.6	1080.2	1042.7	1010.3	985.3	961.4	941.5	926.7	915.9	900.6	893.2
20°	1071.1	1030.8	994.4	965.4	937.0	907.4	886.9	875.0	864.8	852.8	847.1
22.5°	1026.8	987.6	950.0	914.8	885.8	856.8	843.7	831.2	819.3	808.5	800.5
25°	983.6	943.8	904.5	869.3	839.2	818.1	801.1	786.9	780.6	769.8	761.8
27.5°	940.4	898.3	858.5	821.5	798.2	777.2	763.6	752.2	740.2	730.6	723.2
30°	898.9	855.7	811.3	783.5	758.4	738.5	723.2	712.4	703.9	695.3	690.2
32.5°	857.4	812.4	774.4	743.7	720.3	703.9	687.9	677.7	668.6	658.9	652.7
35°	812.4	767.0	735.1	705.6	682.2	666.3	655.5	640.7	633.4	626.5	620.3
37.5°	772.1	728.9	693.6	668.0	646.4	631.1	616.9	609.5	599.8	594.1	589.0
40°	726.6	687.9	656.7	629.4	614.6	597.0	583.9	573.7	566.8	558.9	553.2
42.5°	685.7	650.4	620.3	596.4	577.1	562.9	550.3	540.1	531.0	525.9	521.4
45°	647.6	611.8	582.2	559.4	542.4	528.2	515.1	510.0	498.6	491.8	489.5
47.5°	607.8	575.4	546.4	525.3	507.7	494.6	482.1	470.8	465.1	458.2	454.8
50°	567.4	536.7	510.0	489.5	472.5	457.7	446.3	439.5	431.0	424.7	420.2
52.5°	527.0	499.2	472.5	453.1	438.9	424.1	411.1	404.2	396.3	392.9	390.0
55°	488.9	458.8	436.1	416.7	401.4	387.7	375.8	369.0	363.9	359.9	358.7
57.5°	445.2	420.7	399.1	382.1	365.6	352.5	341.7	335.4	330.9	330.3	326.3
60°	402.5	380.9	361.6	342.8	329.2	317.2	308.1	300.8	296.2	295.6	294.5
62.5°	359.9	339.4	321.8	305.9	293.9	282.6	274.0	265.5	263.2	259.8	257.0
65°	317.8	299.1	284.3	271.2	258.1	248.5	239.9	234.8	228.6	225.1	218.9
67.5°	276.3	261.0	246.7	235.9	225.1	215.5	208.1	200.7	196.1	193.3	188.2
70°	235.4	224.0	209.8	197.9	189.9	182.5	176.8	168.3	165.4	163.2	160.9
72.5°	196.7	187.1	175.7	166.6	158.6	151.8	145.0	142.1	139.3	137.0	135.9
75°	160.9	151.2	141.0	134.2	128.5	122.8	119.4	116.6	115.4	114.8	112.6
77.5°	125.1	119.4	110.9	104.6	100.6	98.4	94.9	93.8	94.4	91.5	91.0
80°	90.4	87.6	80.7	78.5	75.6	73.3	71.6	68.8	66.0	64.8	63.1
82.5°	61.4	58.6	56.9	52.9	50.6	49.5	47.8	47.2	48.3	46.6	46.1
85°	35.8	33.0	31.8	31.3	30.1	31.3	30.7	30.1	29.6	29.0	29.6
87.5°	14.2	14.2	13.6	14.8	13.1	13.6	13.6	13.1	13.1	13.1	12.5
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: P242936

CATALOG NUMBER: S125RDR-S1090D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1385.0	1385.0	1385.0	1385.0
2.5°	1312.2	1305.9	1304.2	1306.5
5°	1224.1	1218.4	1221.2	1220.1
7.5°	1149.6	1142.2	1133.7	1135.9
10°	1070.6	1064.9	1061.5	1064.3
12.5°	1004.0	1001.2	998.4	996.1
15°	944.9	938.1	935.3	927.9
17.5°	888.1	885.8	878.4	873.3
20°	838.6	836.3	828.9	833.5
22.5°	797.7	792.0	790.8	788.0
25°	759.6	752.2	749.3	745.9
27.5°	720.9	716.9	713.0	711.8
30°	683.4	679.4	676.6	676.6
32.5°	649.8	647.0	644.2	643.6
35°	617.4	612.9	611.8	608.3
37.5°	583.3	579.3	579.3	579.9
40°	550.9	548.1	547.5	543.5
42.5°	516.2	515.1	512.8	511.7
45°	485.5	481.6	481.6	478.7
47.5°	453.1	449.7	450.3	446.9
50°	420.7	419.0	418.4	417.3
52.5°	388.3	387.7	390.6	387.7
55°	359.9	358.2	361.6	358.2
57.5°	326.3	325.2	328.6	326.3
60°	293.4	290.0	291.7	292.2
62.5°	254.1	252.4	253.6	250.2
65°	217.8	216.0	213.8	212.6
67.5°	189.3	184.2	184.2	185.3
70°	157.5	157.5	156.9	156.9
72.5°	135.3	134.7	133.6	133.0
75°	112.6	113.1	112.0	111.4
77.5°	88.1	85.3	86.4	85.3
80°	63.1	62.5	64.2	62.5
82.5°	46.6	46.1	46.6	45.5
85°	30.1	29.6	29.0	29.6
87.5°	13.1	12.5	12.5	12.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)