

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: P243796

Luminaire Tested: **S125RDR-H1090D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243796  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-71)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125RDR-H1090D940-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

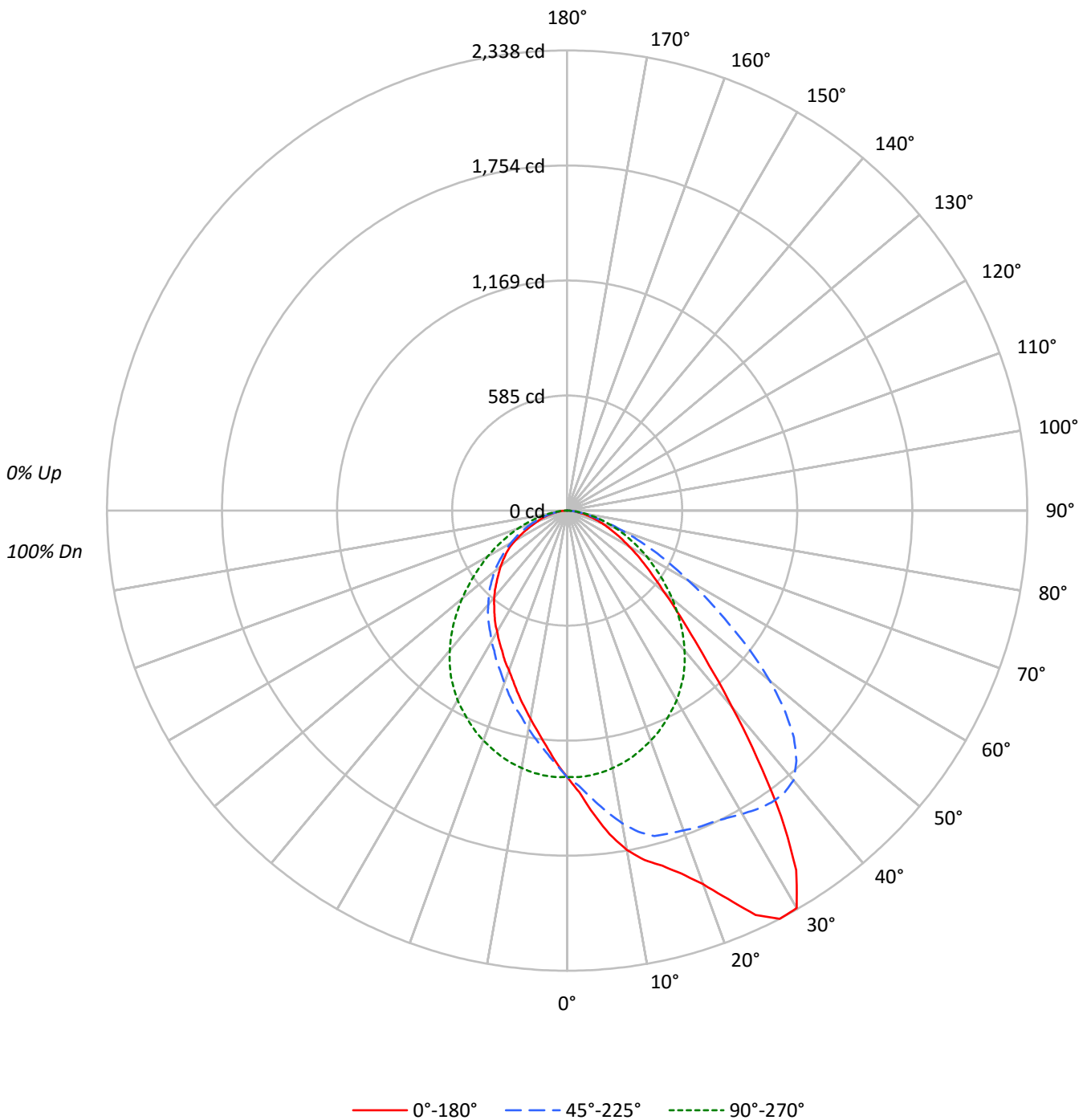
Lumens per Lamp: N/A  
Luminaire Lumens: 3603.2 lumens  
Efficiency: N/A  
Efficacy: 114.4 lumens/watt  
Spacing Criteria (0/90/45): 1.42 / 1.22 / 1.5  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (Ain): 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	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				
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	68	78	72	67	75	70	66	73	69	65					63				
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	66	61	56					54				
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50					48				
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44					42				
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39					37				
8	63	50	42	36	61	49	41	36	48	41	36	47	40	35	45	40	35					33				
9	59	46	38	32	57	45	38	32	44	37	32	43	37	32	42	36	32					30				
10	55	42	35	29	54	42	34	29	41	34	29	40	34	29	39	33	29					27				

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

	0°	90°	180°
0°	9623	9623	9623
5°	11046	9637	8571
10°	12638	9589	7749
15°	13746	9512	7087
20°	15275	9404	6529
25°	17774	9270	6147
30°	19138	9133	5833
35°	16442	8929	5580
40°	12113	8606	5350
45°	8947	8207	5072
50°	7088	7717	4867
55°	5987	7151	4683
60°	5159	6624	4334
65°	4478	6031	3774
70°	3928	5521	3302
75°	3331	4836	3125
80°	2591	4044	2591
85°	2275	3237	2365



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.3	3.6
10°-20°	385.6	10.7
20°-30°	615.0	17.1
30°-40°	746.7	20.7
40°-50°	672.8	18.7
50°-60°	517.4	14.4
60°-70°	335.8	9.3
70°-80°	161.6	4.5
80°-90°	38.2	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°	1130.8	31.4
0°-40°	1877.5	52.1
0°-60°	3067.7	85.1
0°-90°	3603.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3603.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1354	1354	1354	1354	1354	
5°	1548	1471	1351	1232	1201	154
15°	1868	1712	1293	1029	963	536
25°	2266	1747	1182	847	784	1036
35°	1895	1811	1029	695	643	1159
45°	890	1629	816	554	505	707
55°	483	1001	577	404	378	438
65°	266	486	359	257	224	267
75°	121	165	176	126	114	131
85°	28	30	40	32	29	32
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°	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9
2.5°	1432.3	1437.6	1433.3	1436.0	1431.7	1429.6	1424.2	1416.2	1408.1	1400.6	1400.1
5°	1548.2	1547.2	1542.9	1537.0	1532.7	1521.9	1516.6	1498.3	1486.0	1470.9	1463.4
7.5°	1658.8	1656.1	1649.7	1641.6	1637.9	1623.9	1608.9	1585.8	1566.5	1542.9	1525.1
10°	1751.2	1750.6	1745.8	1740.4	1725.9	1710.4	1695.9	1671.7	1642.7	1613.2	1588.5
12.5°	1818.8	1816.1	1810.2	1801.1	1789.3	1778.5	1759.2	1737.2	1701.8	1671.7	1637.9
15°	1868.2	1867.1	1858.5	1855.3	1832.2	1817.2	1791.4	1769.4	1742.0	1712.0	1675.5
17.5°	1933.7	1935.8	1928.3	1910.1	1889.1	1866.0	1829.5	1793.6	1755.4	1720.6	1691.0
20°	2019.6	2014.2	2001.3	1979.3	1941.7	1913.3	1876.8	1832.2	1780.7	1729.1	1686.7
22.5°	2134.5	2128.5	2108.1	2081.3	2034.1	1982.0	1926.2	1859.6	1800.5	1741.5	1685.7
25°	2266.5	2255.2	2225.2	2196.2	2129.1	2073.8	1990.6	1911.1	1825.2	1746.9	1684.0
27.5°	2338.5	2338.5	2324.5	2292.8	2239.7	2158.1	2073.3	1967.5	1868.2	1760.8	1671.7
30°	2332.0	2328.3	2333.6	2320.2	2285.8	2224.6	2140.4	2029.2	1902.5	1779.6	1672.8
32.5°	2165.6	2167.2	2199.4	2221.4	2238.6	2223.6	2168.8	2068.4	1942.3	1797.9	1668.5
35°	1895.0	1899.3	1956.2	1993.8	2070.6	2114.6	2127.5	2073.3	1960.0	1810.7	1661.0
37.5°	1585.8	1585.8	1651.8	1708.7	1794.6	1903.1	1984.1	2004.5	1949.2	1810.2	1654.5
40°	1305.6	1304.0	1356.0	1425.8	1517.6	1637.3	1758.1	1861.7	1875.2	1789.3	1632.0
42.5°	1068.3	1065.6	1122.5	1161.2	1257.8	1364.6	1525.1	1671.7	1755.4	1724.3	1598.7
45°	890.1	887.9	925.0	969.0	1037.2	1148.3	1283.0	1445.7	1586.3	1629.3	1536.4
47.5°	755.9	756.9	776.8	813.8	871.8	951.3	1072.1	1222.9	1396.8	1496.2	1458.0
50°	641.0	644.7	659.8	687.7	730.1	794.0	897.6	1033.9	1212.7	1344.2	1352.3
52.5°	555.1	560.5	576.6	591.6	627.0	672.1	752.6	870.7	1018.4	1176.2	1232.6
55°	483.2	485.8	495.0	511.1	537.4	574.9	633.5	723.7	860.5	1001.2	1100.5
57.5°	423.0	423.0	428.9	440.2	461.1	495.0	534.2	608.8	724.2	851.4	957.2
60°	362.9	365.0	369.3	381.7	395.6	421.4	459.5	506.8	606.6	712.9	826.7
62.5°	312.4	316.2	320.5	326.4	339.3	357.5	384.4	427.9	495.0	593.2	694.7
65°	266.3	270.0	270.6	277.5	286.1	301.2	321.6	353.2	409.1	486.4	570.1
67.5°	225.5	227.1	228.7	234.1	242.1	251.8	265.2	288.8	332.8	384.9	466.5
70°	189.0	190.0	190.6	196.5	200.2	208.8	215.8	230.8	258.8	299.0	362.4
72.5°	154.6	153.0	152.5	157.3	158.9	165.9	174.5	185.2	200.2	228.7	275.9
75°	121.3	121.9	122.4	125.1	125.6	128.8	134.2	141.2	148.2	164.8	194.9
77.5°	93.4	91.3	91.3	94.5	95.6	96.1	99.9	103.6	107.4	117.0	128.8
80°	63.3	64.4	64.4	64.4	65.0	66.0	68.2	71.4	74.1	80.0	82.1
82.5°	45.1	45.1	44.6	45.6	46.2	46.7	46.7	46.7	48.3	49.9	52.1
85°	27.9	28.5	26.8	27.9	28.5	28.5	28.5	28.5	30.1	29.5	30.1
87.5°	11.8	12.3	12.3	12.9	12.9	13.4	12.9	13.4	12.9	12.9	13.4
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°	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9
2.5°	1398.5	1392.0	1388.8	1382.3	1373.8	1368.4	1363.0	1355.5	1349.6	1340.5	1332.4
5°	1450.0	1437.1	1425.3	1409.2	1393.6	1380.2	1366.2	1350.7	1336.7	1321.1	1304.5
7.5°	1507.4	1487.0	1462.3	1433.9	1409.7	1388.8	1365.2	1342.1	1321.1	1296.5	1273.9
10°	1562.7	1530.0	1497.2	1459.1	1423.7	1392.5	1360.9	1328.7	1301.3	1270.7	1242.8
12.5°	1605.7	1574.5	1525.7	1478.4	1432.3	1392.0	1352.3	1313.1	1277.1	1243.3	1210.0
15°	1643.2	1591.7	1550.4	1498.8	1442.5	1387.7	1338.3	1292.7	1249.2	1209.5	1175.7
17.5°	1654.0	1607.8	1562.7	1502.6	1441.9	1379.7	1322.8	1268.5	1220.2	1176.2	1138.1
20°	1652.9	1606.2	1557.4	1499.9	1435.5	1367.3	1304.0	1243.3	1188.6	1138.1	1097.3
22.5°	1636.8	1591.7	1542.3	1484.3	1418.9	1348.5	1282.0	1214.9	1155.3	1102.7	1060.8
25°	1619.6	1562.7	1511.2	1452.7	1390.4	1325.4	1254.6	1182.1	1119.8	1065.1	1017.8
27.5°	1604.6	1536.4	1473.1	1415.6	1351.7	1293.2	1222.9	1147.2	1083.3	1025.9	977.0
30°	1580.4	1508.5	1431.7	1368.9	1307.2	1246.0	1181.6	1112.9	1043.1	984.6	935.7
32.5°	1559.5	1468.8	1385.6	1314.7	1253.0	1199.3	1137.6	1071.5	1003.3	947.5	894.9
35°	1536.4	1428.0	1341.0	1257.8	1196.1	1137.6	1088.7	1029.1	961.5	902.4	855.2
37.5°	1509.0	1386.1	1286.3	1201.4	1137.6	1077.4	1033.4	980.3	919.1	860.5	813.8
40°	1478.4	1343.2	1228.3	1140.8	1072.1	1011.9	974.9	927.6	875.6	817.6	774.1
42.5°	1439.8	1297.5	1175.7	1080.1	1003.9	949.7	912.6	873.4	825.7	775.2	727.9
45°	1390.9	1240.6	1112.9	1011.9	936.8	884.2	845.5	816.5	778.4	731.2	686.6
47.5°	1331.3	1181.0	1048.4	943.8	871.3	820.8	784.9	755.9	726.9	686.1	643.7
50°	1252.4	1112.9	985.6	878.8	802.0	753.2	721.0	697.9	671.6	638.3	599.6
52.5°	1165.5	1036.1	911.5	811.7	737.6	688.8	655.5	636.1	616.3	588.9	555.6
55°	1064.5	959.3	840.7	743.0	670.5	622.2	595.9	577.1	560.5	539.5	511.6
57.5°	957.7	865.4	762.3	672.1	603.9	558.3	535.2	519.7	505.7	490.7	467.6
60°	845.5	780.0	682.3	599.6	540.1	502.5	480.5	466.0	453.1	440.7	423.6
62.5°	728.5	674.3	601.3	530.9	477.8	442.4	426.2	413.9	400.5	389.7	377.4
65°	609.8	578.7	528.2	462.2	413.4	384.4	368.8	358.6	352.2	339.8	330.2
67.5°	501.9	484.8	441.8	397.3	359.7	333.4	318.9	311.4	304.4	298.5	287.7
70°	399.4	387.1	362.4	330.7	301.2	278.6	267.9	265.7	256.1	250.2	244.8
72.5°	304.4	301.2	280.8	266.8	250.2	232.4	224.4	220.1	213.7	208.3	206.1
75°	216.3	221.2	214.7	207.8	199.7	185.2	178.2	176.1	170.2	168.6	165.9
77.5°	147.6	154.6	156.8	153.5	149.8	144.9	140.1	138.0	132.1	131.0	129.4
80°	92.9	103.1	106.8	106.3	104.7	105.2	99.3	98.8	96.1	94.5	96.1
82.5°	56.4	61.7	68.7	70.3	68.2	69.3	67.6	65.5	65.5	66.6	64.4
85°	30.6	31.1	34.4	36.5	39.2	41.3	39.2	39.7	39.2	39.2	37.6
87.5°	13.4	14.0	14.0	13.4	14.5	15.6	17.7	18.8	18.3	16.6	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°	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9	1353.9
2.5°	1326.0	1322.2	1315.8	1310.4	1298.1	1289.5	1288.4	1288.9	1287.9	1286.8	1286.3
5°	1293.8	1281.4	1269.6	1259.4	1245.5	1231.5	1225.1	1222.4	1221.3	1215.4	1218.6
7.5°	1259.4	1240.6	1226.7	1207.3	1190.7	1178.9	1167.6	1162.2	1161.2	1153.1	1151.0
10°	1222.9	1200.4	1179.4	1160.1	1143.5	1126.8	1113.4	1108.6	1102.1	1095.7	1086.0
12.5°	1186.9	1159.0	1135.9	1114.5	1091.9	1073.1	1062.4	1055.4	1047.4	1041.5	1038.2
15°	1144.0	1120.4	1091.9	1068.8	1045.8	1029.1	1014.6	1001.7	994.2	989.4	976.0
17.5°	1105.3	1074.2	1047.4	1025.4	1000.1	981.3	966.3	955.6	942.7	933.0	924.4
20°	1064.0	1031.8	1007.1	980.8	955.0	931.9	913.2	904.6	895.4	886.3	881.5
22.5°	1019.4	991.5	963.6	936.2	908.9	884.2	872.4	860.0	852.0	842.8	836.4
25°	980.8	950.2	922.3	891.7	861.6	847.1	831.0	818.7	812.2	803.1	796.1
27.5°	939.5	909.9	876.7	845.0	827.3	802.6	791.8	782.2	773.6	764.5	759.6
30°	900.8	866.5	833.2	808.5	785.4	767.7	757.5	745.7	733.9	729.6	723.1
32.5°	860.0	823.0	794.0	769.3	750.0	728.5	718.8	709.2	697.9	692.5	686.6
35°	817.6	781.6	753.2	730.6	710.8	694.7	683.9	673.7	666.7	658.7	654.4
37.5°	773.0	741.9	714.5	692.0	673.7	660.8	647.4	639.4	629.7	622.2	619.0
40°	730.6	702.7	676.4	655.5	638.8	623.3	611.5	601.3	595.3	588.9	583.5
42.5°	692.5	663.5	641.0	619.0	603.9	588.9	577.1	569.6	559.4	556.7	549.2
45°	651.7	624.9	602.3	581.9	566.4	554.0	540.1	530.9	524.5	518.0	515.4
47.5°	610.4	585.7	564.7	546.0	529.9	515.9	505.2	495.5	488.5	482.6	479.4
50°	570.1	548.6	527.7	509.5	492.8	482.6	469.7	459.0	453.6	447.2	443.4
52.5°	527.7	510.0	487.4	471.9	456.3	442.9	430.0	423.0	417.7	412.3	409.6
55°	488.0	469.2	449.9	433.2	418.2	404.2	394.0	388.7	381.7	378.5	377.9
57.5°	447.2	427.9	411.8	396.7	379.5	368.8	359.7	353.2	347.3	344.6	344.6
60°	402.6	387.1	372.0	355.4	343.0	330.7	321.0	316.7	310.8	309.8	306.0
62.5°	361.8	347.3	332.8	317.3	306.0	293.6	286.7	280.8	277.5	273.2	269.0
65°	319.4	306.5	292.6	279.2	270.0	256.6	250.2	243.2	239.4	234.6	229.2
67.5°	278.6	266.3	253.4	241.0	233.5	220.6	216.3	207.8	205.1	199.7	194.9
70°	235.7	227.1	216.9	204.5	198.1	187.9	183.6	175.5	171.3	168.0	165.3
72.5°	198.6	190.6	178.8	170.7	162.7	156.2	149.2	145.5	141.7	139.0	138.5
75°	162.1	151.9	144.9	137.4	132.1	125.6	122.4	119.7	118.1	116.5	114.9
77.5°	124.0	119.7	112.7	105.2	100.9	98.2	96.1	95.0	93.4	92.9	91.3
80°	92.3	86.4	82.1	79.5	76.2	74.1	72.5	68.7	66.6	65.5	64.4
82.5°	61.2	59.6	56.4	53.7	51.0	50.5	48.9	47.8	47.2	47.2	46.7
85°	37.0	32.7	32.7	32.2	32.2	31.7	30.6	30.6	29.5	31.1	31.1
87.5°	15.0	15.0	14.0	14.0	14.5	13.4	12.9	12.9	12.9	12.3	12.9
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: P243796

CATALOG NUMBER: S125RDR-H1090D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1353.9	1353.9	1353.9	1353.9
2.5°	1286.3	1283.6	1284.1	1280.9
5°	1212.7	1211.1	1205.7	1201.4
7.5°	1145.6	1138.6	1138.1	1133.8
10°	1082.8	1076.4	1073.1	1073.7
12.5°	1028.0	1021.1	1021.1	1016.8
15°	969.5	962.5	963.6	963.1
17.5°	921.2	916.4	912.6	909.4
20°	874.0	868.1	865.9	863.2
22.5°	830.5	826.2	826.7	826.7
25°	789.1	789.7	784.9	783.8
27.5°	752.6	751.6	750.5	748.3
30°	718.3	714.0	712.9	710.8
32.5°	682.9	682.3	678.0	679.6
35°	646.9	645.3	644.2	643.1
37.5°	613.6	610.4	609.8	608.8
40°	579.8	578.7	573.9	576.6
42.5°	543.3	541.1	541.1	541.1
45°	512.7	506.8	506.8	504.6
47.5°	478.3	476.2	475.1	471.3
50°	444.5	441.3	440.2	440.2
52.5°	409.6	409.1	410.1	408.0
55°	379.0	379.5	379.0	377.9
57.5°	345.7	343.0	343.0	343.6
60°	306.0	306.0	307.1	304.9
62.5°	267.9	266.8	263.0	262.0
65°	228.7	224.4	223.9	224.4
67.5°	193.8	192.2	189.5	190.0
70°	163.7	163.2	160.5	158.9
72.5°	136.9	136.9	135.3	135.3
75°	114.3	113.3	112.7	113.8
77.5°	88.0	85.4	86.4	84.8
80°	63.9	65.0	63.9	63.3
82.5°	47.2	46.2	46.7	46.2
85°	30.1	29.0	29.5	29.0
87.5°	12.3	12.9	12.9	11.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)