

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: P243791

Luminaire Tested: **S125RDR-H1090D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243791  
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-H1090D935-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

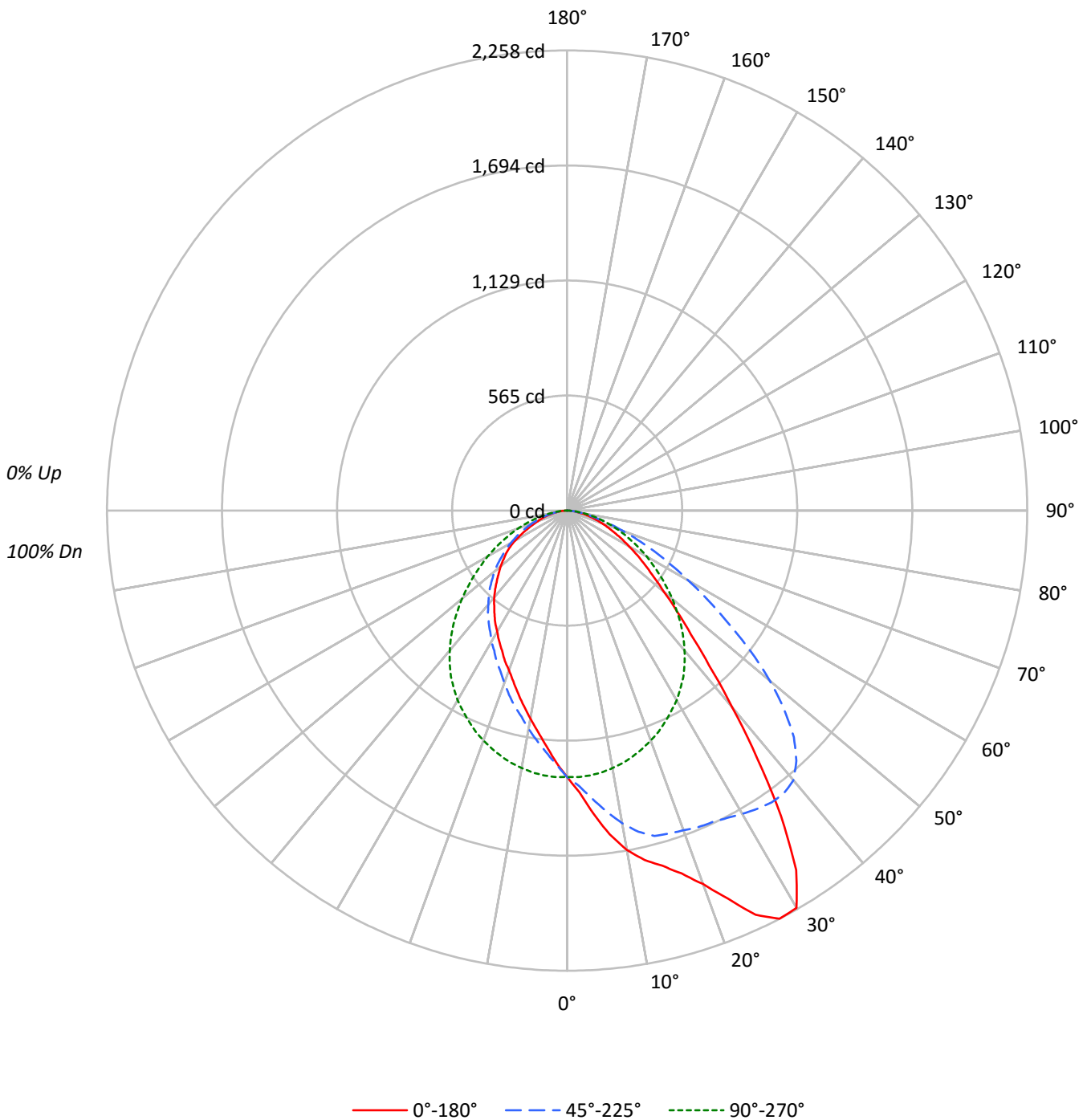
Lumens per Lamp: N/A  
Luminaire Lumens: 3479.1 lumens  
Efficiency: N/A  
Efficacy: 110.4 lumens/watt  
Spacing Criteria (0/90/45): 1.42 / 1.22 / 1.5  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (A<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	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°	9291	9291	9291
5°	10665	9305	8277
10°	12202	9259	7482
15°	13272	9184	6842
20°	14749	9080	6304
25°	17162	8951	5935
30°	18479	8818	5632
35°	15876	8622	5388
40°	11696	8310	5165
45°	8638	7924	4897
50°	6843	7450	4699
55°	5781	6904	4522
60°	4981	6395	4185
65°	4324	5824	3644
70°	3792	5332	3188
75°	3216	4668	3018
80°	2505	3905	2505
85°	2202	3131	2283



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.8	3.6
10°-20°	372.3	10.7
20°-30°	593.8	17.1
30°-40°	721.0	20.7
40°-50°	649.6	18.7
50°-60°	499.6	14.4
60°-70°	324.2	9.3
70°-80°	156.0	4.5
80°-90°	36.9	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°	1091.9	31.4
0°-40°	1812.8	52.1
0°-60°	2962.0	85.1
0°-90°	3479.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3479.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1307	1307	1307	1307	1307	
5°	1495	1420	1304	1189	1160	149
15°	1804	1653	1248	994	930	517
25°	2188	1687	1141	818	757	1001
35°	1830	1748	994	671	621	1119
45°	859	1573	788	535	487	683
55°	466	967	557	390	365	423
65°	257	470	346	248	217	258
75°	117	159	170	121	110	126
85°	27	28	38	31	28	31
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°	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3
2.5°	1382.9	1388.1	1384.0	1386.6	1382.4	1380.4	1375.2	1367.4	1359.6	1352.4	1351.8
5°	1494.9	1493.9	1489.7	1484.0	1479.9	1469.5	1464.3	1446.7	1434.8	1420.3	1413.0
7.5°	1601.7	1599.1	1592.9	1585.1	1581.5	1568.0	1553.5	1531.2	1512.5	1489.7	1472.6
10°	1690.8	1690.3	1685.7	1680.5	1666.5	1651.4	1637.5	1614.1	1586.1	1557.6	1533.8
12.5°	1756.2	1753.6	1747.9	1739.0	1727.6	1717.3	1698.6	1677.4	1643.2	1614.1	1581.5
15°	1803.8	1802.8	1794.5	1791.4	1769.1	1754.6	1729.7	1708.5	1682.0	1653.0	1617.8
17.5°	1867.1	1869.2	1861.9	1844.3	1824.1	1801.8	1766.5	1731.8	1695.0	1661.3	1632.8
20°	1950.0	1944.8	1932.4	1911.1	1874.9	1847.4	1812.1	1769.1	1719.4	1669.6	1628.6
22.5°	2060.9	2055.2	2035.5	2009.6	1964.0	1913.7	1859.8	1795.5	1738.5	1681.5	1627.6
25°	2188.5	2177.6	2148.5	2120.6	2055.8	2002.4	1922.0	1845.3	1762.4	1686.7	1626.0
27.5°	2257.9	2257.9	2244.4	2213.9	2162.5	2083.7	2001.9	1899.7	1803.8	1700.2	1614.1
30°	2251.7	2248.1	2253.2	2240.3	2207.1	2148.0	2066.6	1959.3	1837.0	1718.3	1615.2
32.5°	2091.0	2092.6	2123.7	2144.9	2161.5	2147.0	2094.1	1997.2	1875.4	1735.9	1611.0
35°	1829.8	1833.9	1888.9	1925.1	1999.3	2041.8	2054.2	2001.9	1892.5	1748.4	1603.8
37.5°	1531.2	1531.2	1594.9	1649.9	1732.8	1837.5	1915.8	1935.5	1882.1	1747.9	1597.5
40°	1260.6	1259.1	1309.3	1376.7	1465.4	1581.0	1697.6	1797.6	1810.6	1727.6	1575.8
42.5°	1031.5	1028.9	1083.9	1121.2	1214.5	1317.6	1472.6	1614.1	1695.0	1664.9	1543.6
45°	859.4	857.3	893.1	935.6	1001.4	1108.7	1238.8	1395.9	1531.7	1573.2	1483.5
47.5°	729.8	730.9	750.0	785.8	841.8	918.5	1035.1	1180.8	1348.7	1444.6	1407.8
50°	618.9	622.5	637.0	664.0	704.9	766.6	866.7	998.3	1170.9	1297.9	1305.7
52.5°	536.0	541.2	556.7	571.2	605.4	649.0	726.7	840.8	983.3	1135.7	1190.1
55°	466.5	469.1	477.9	493.5	518.9	555.1	611.6	698.7	830.9	966.7	1062.6
57.5°	408.5	408.5	414.2	425.0	445.3	477.9	515.8	587.8	699.2	822.1	924.2
60°	350.4	352.5	356.6	368.5	382.0	406.9	443.7	489.3	585.7	688.4	798.3
62.5°	301.7	305.3	309.5	315.2	327.6	345.2	371.1	413.1	477.9	572.8	670.7
65°	257.1	260.7	261.2	268.0	276.3	290.8	310.5	341.1	395.0	469.6	550.5
67.5°	217.7	219.3	220.8	226.0	233.8	243.1	256.1	278.9	321.4	371.7	450.4
70°	182.5	183.5	184.0	189.7	193.3	201.6	208.4	222.9	249.8	288.7	349.9
72.5°	149.3	147.7	147.2	151.9	153.4	160.2	168.5	178.8	193.3	220.8	266.4
75°	117.1	117.7	118.2	120.8	121.3	124.4	129.6	136.3	143.1	159.1	188.2
77.5°	90.2	88.1	88.1	91.2	92.3	92.8	96.4	100.0	103.7	113.0	124.4
80°	61.2	62.2	62.2	62.2	62.7	63.8	65.8	68.9	71.5	77.2	79.3
82.5°	43.5	43.5	43.0	44.1	44.6	45.1	45.1	45.1	46.7	48.2	50.3
85°	27.0	27.5	25.9	27.0	27.5	27.5	27.5	27.5	29.0	28.5	29.0
87.5°	11.4	11.9	11.9	12.4	12.4	13.0	12.4	13.0	12.4	12.4	13.0
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3
2.5°	1350.3	1344.1	1341.0	1334.7	1326.4	1321.3	1316.1	1308.8	1303.1	1294.3	1286.5
5°	1400.1	1387.6	1376.2	1360.7	1345.6	1332.7	1319.2	1304.2	1290.7	1275.6	1259.6
7.5°	1455.5	1435.8	1412.0	1384.5	1361.2	1341.0	1318.2	1295.9	1275.6	1251.8	1230.0
10°	1508.9	1477.3	1445.7	1408.9	1374.7	1344.6	1314.0	1282.9	1256.5	1226.9	1200.0
12.5°	1550.4	1520.3	1473.1	1427.5	1382.9	1344.1	1305.7	1267.9	1233.1	1200.5	1168.4
15°	1586.7	1536.9	1497.0	1447.2	1392.8	1339.9	1292.2	1248.2	1206.2	1167.8	1135.2
17.5°	1597.0	1552.4	1508.9	1450.8	1392.3	1332.1	1277.2	1224.9	1178.2	1135.7	1098.9
20°	1596.0	1550.9	1503.7	1448.3	1386.1	1320.2	1259.1	1200.5	1147.6	1098.9	1059.5
22.5°	1580.4	1536.9	1489.2	1433.2	1370.0	1302.1	1237.8	1173.0	1115.5	1064.7	1024.3
25°	1563.8	1508.9	1459.1	1402.6	1342.5	1279.8	1211.4	1141.4	1081.3	1028.4	982.8
27.5°	1549.3	1483.5	1422.3	1366.9	1305.2	1248.7	1180.8	1107.7	1046.0	990.6	943.4
30°	1526.0	1456.6	1382.4	1321.8	1262.2	1203.1	1140.9	1074.5	1007.1	950.6	903.5
32.5°	1505.8	1418.2	1337.8	1269.4	1209.8	1158.0	1098.4	1034.6	968.8	914.9	864.1
35°	1483.5	1378.8	1294.8	1214.5	1154.9	1098.4	1051.2	993.7	928.4	871.3	825.7
37.5°	1457.1	1338.4	1242.0	1160.1	1098.4	1040.3	997.8	946.5	887.4	830.9	785.8
40°	1427.5	1296.9	1186.0	1101.5	1035.1	977.1	941.3	895.7	845.4	789.4	747.5
42.5°	1390.2	1252.8	1135.2	1042.9	969.3	917.0	881.2	843.3	797.2	748.5	702.9
45°	1343.0	1197.9	1074.5	977.1	904.5	853.7	816.4	788.4	751.6	706.0	663.0
47.5°	1285.5	1140.4	1012.3	911.3	841.3	792.6	757.8	729.8	701.8	662.4	621.5
50°	1209.3	1074.5	951.7	848.5	774.4	727.2	696.1	673.8	648.5	616.3	579.0
52.5°	1125.3	1000.4	880.2	783.7	712.2	665.0	632.9	614.2	595.1	568.6	536.5
55°	1027.9	926.3	811.7	717.4	647.4	600.8	575.4	557.2	541.2	520.9	494.0
57.5°	924.7	835.6	736.1	649.0	583.1	539.1	516.8	501.8	488.3	473.8	451.5
60°	816.4	753.2	658.8	579.0	521.5	485.2	463.9	449.9	437.5	425.6	409.0
62.5°	703.4	651.0	580.5	512.6	461.3	427.1	411.6	399.6	386.7	376.3	364.4
65°	588.8	558.8	510.1	446.3	399.1	371.1	356.1	346.3	340.0	328.1	318.8
67.5°	484.7	468.1	426.6	383.6	347.3	321.9	307.9	300.6	293.9	288.2	277.8
70°	385.6	373.7	349.9	319.3	290.8	269.0	258.7	256.6	247.3	241.5	236.4
72.5°	293.9	290.8	271.1	257.6	241.5	224.4	216.7	212.5	206.3	201.1	199.0
75°	208.9	213.6	207.3	200.6	192.8	178.8	172.1	170.0	164.3	162.8	160.2
77.5°	142.5	149.3	151.4	148.2	144.6	140.0	135.3	133.2	127.5	126.5	124.9
80°	89.7	99.5	103.2	102.6	101.1	101.6	95.9	95.4	92.8	91.2	92.8
82.5°	54.4	59.6	66.3	67.9	65.8	66.9	65.3	63.2	63.2	64.3	62.2
85°	29.5	30.1	33.2	35.2	37.8	39.9	37.8	38.4	37.8	37.8	36.3
87.5°	13.0	13.5	13.5	13.0	14.0	15.0	17.1	18.1	17.6	16.1	14.0
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°	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3	1307.3
2.5°	1280.3	1276.7	1270.5	1265.3	1253.4	1245.1	1244.0	1244.5	1243.5	1242.5	1242.0
5°	1249.2	1237.3	1225.9	1216.0	1202.6	1189.1	1182.9	1180.3	1179.2	1173.5	1176.6
7.5°	1216.0	1197.9	1184.4	1165.8	1149.7	1138.3	1127.4	1122.2	1121.2	1113.4	1111.3
10°	1180.8	1159.0	1138.8	1120.1	1104.1	1088.0	1075.0	1070.4	1064.2	1057.9	1048.6
12.5°	1146.1	1119.1	1096.8	1076.1	1054.3	1036.2	1025.8	1019.1	1011.3	1005.6	1002.5
15°	1104.6	1081.8	1054.3	1032.0	1009.7	993.7	979.7	967.2	960.0	955.3	942.4
17.5°	1067.3	1037.2	1011.3	990.0	965.7	947.5	933.0	922.7	910.2	900.9	892.6
20°	1027.4	996.3	972.4	947.0	922.1	899.8	881.7	873.4	864.6	855.8	851.1
22.5°	984.3	957.4	930.4	904.0	877.6	853.7	842.3	830.4	822.6	813.8	807.6
25°	947.0	917.5	890.5	861.0	831.9	817.9	802.4	790.5	784.3	775.4	768.7
27.5°	907.1	878.6	846.5	815.9	798.8	774.9	764.6	755.2	746.9	738.1	733.5
30°	869.8	836.6	804.5	780.6	758.3	741.2	731.4	720.0	708.6	704.4	698.2
32.5°	830.4	794.6	766.6	742.8	724.1	703.4	694.1	684.7	673.8	668.7	663.0
35°	789.4	754.7	727.2	705.5	686.3	670.7	660.4	650.5	643.8	636.0	631.9
37.5°	746.4	716.4	689.9	668.1	650.5	638.1	625.1	617.3	608.0	600.8	597.7
40°	705.5	678.5	653.1	632.9	616.8	601.8	590.4	580.5	574.8	568.6	563.4
42.5°	668.7	640.7	618.9	597.7	583.1	568.6	557.2	550.0	540.1	537.5	530.3
45°	629.3	603.4	581.6	561.9	546.9	534.9	521.5	512.6	506.4	500.2	497.6
47.5°	589.4	565.5	545.3	527.2	511.6	498.1	487.8	478.4	471.7	466.0	462.9
50°	550.5	529.7	509.5	491.9	475.8	466.0	453.6	443.2	438.0	431.8	428.2
52.5°	509.5	492.4	470.7	455.6	440.6	427.6	415.2	408.5	403.3	398.1	395.5
55°	471.2	453.0	434.4	418.3	403.8	390.3	380.5	375.3	368.5	365.4	364.9
57.5°	431.8	413.1	397.6	383.1	366.5	356.1	347.3	341.1	335.4	332.8	332.8
60°	388.8	373.7	359.2	343.1	331.2	319.3	310.0	305.8	300.1	299.1	295.5
62.5°	349.4	335.4	321.4	306.3	295.5	283.5	276.8	271.1	268.0	263.8	259.7
65°	308.4	296.0	282.5	269.5	260.7	247.8	241.5	234.8	231.2	226.5	221.3
67.5°	269.0	257.1	244.7	232.7	225.5	213.0	208.9	200.6	198.0	192.8	188.2
70°	227.6	219.3	209.4	197.5	191.3	181.4	177.3	169.5	165.4	162.2	159.7
72.5°	191.8	184.0	172.6	164.8	157.1	150.8	144.1	140.5	136.8	134.3	133.7
75°	156.5	146.7	140.0	132.7	127.5	121.3	118.2	115.6	114.0	112.5	110.9
77.5°	119.7	115.6	108.9	101.6	97.4	94.9	92.8	91.7	90.2	89.7	88.1
80°	89.2	83.5	79.3	76.7	73.6	71.5	70.0	66.3	64.3	63.2	62.2
82.5°	59.1	57.5	54.4	51.8	49.2	48.7	47.2	46.1	45.6	45.6	45.1
85°	35.8	31.6	31.6	31.1	31.1	30.6	29.5	29.5	28.5	30.1	30.1
87.5°	14.5	14.5	13.5	13.5	14.0	13.0	12.4	12.4	12.4	11.9	12.4
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: P243791

CATALOG NUMBER: S125RDR-H1090D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1307.3	1307.3	1307.3	1307.3
2.5°	1242.0	1239.4	1239.9	1236.8
5°	1170.9	1169.4	1164.2	1160.1
7.5°	1106.1	1099.4	1098.9	1094.7
10°	1045.5	1039.3	1036.2	1036.7
12.5°	992.6	985.9	985.9	981.7
15°	936.1	929.4	930.4	929.9
17.5°	889.5	884.8	881.2	878.1
20°	843.9	838.2	836.1	833.5
22.5°	801.9	797.7	798.3	798.3
25°	762.0	762.5	757.8	756.8
27.5°	726.7	725.7	724.6	722.6
30°	693.5	689.4	688.4	686.3
32.5°	659.3	658.8	654.7	656.2
35°	624.6	623.1	622.0	621.0
37.5°	592.5	589.4	588.8	587.8
40°	559.8	558.8	554.1	556.7
42.5°	524.6	522.5	522.5	522.5
45°	495.0	489.3	489.3	487.2
47.5°	461.8	459.8	458.7	455.1
50°	429.2	426.1	425.0	425.0
52.5°	395.5	395.0	396.0	393.9
55°	366.0	366.5	366.0	364.9
57.5°	333.8	331.2	331.2	331.7
60°	295.5	295.5	296.5	294.4
62.5°	258.7	257.6	254.0	253.0
65°	220.8	216.7	216.2	216.7
67.5°	187.1	185.6	183.0	183.5
70°	158.1	157.6	155.0	153.4
72.5°	132.2	132.2	130.6	130.6
75°	110.4	109.4	108.9	109.9
77.5°	85.0	82.4	83.5	81.9
80°	61.7	62.7	61.7	61.2
82.5°	45.6	44.6	45.1	44.6
85°	29.0	28.0	28.5	28.0
87.5°	11.9	12.4	12.4	11.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)