

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: P243693

Luminaire Tested: **S125DR-H1090D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243693  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-61)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125DR-H1090D940-X4F0-XX-UDD-A-W  
Description: DEFINE 5 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: 3773.0 lumens  
Efficiency: N/A  
Efficacy: 119.8 lumens/watt  
Spacing Criteria (0/90/45): 1.43 / 1.22 / 1.53  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct

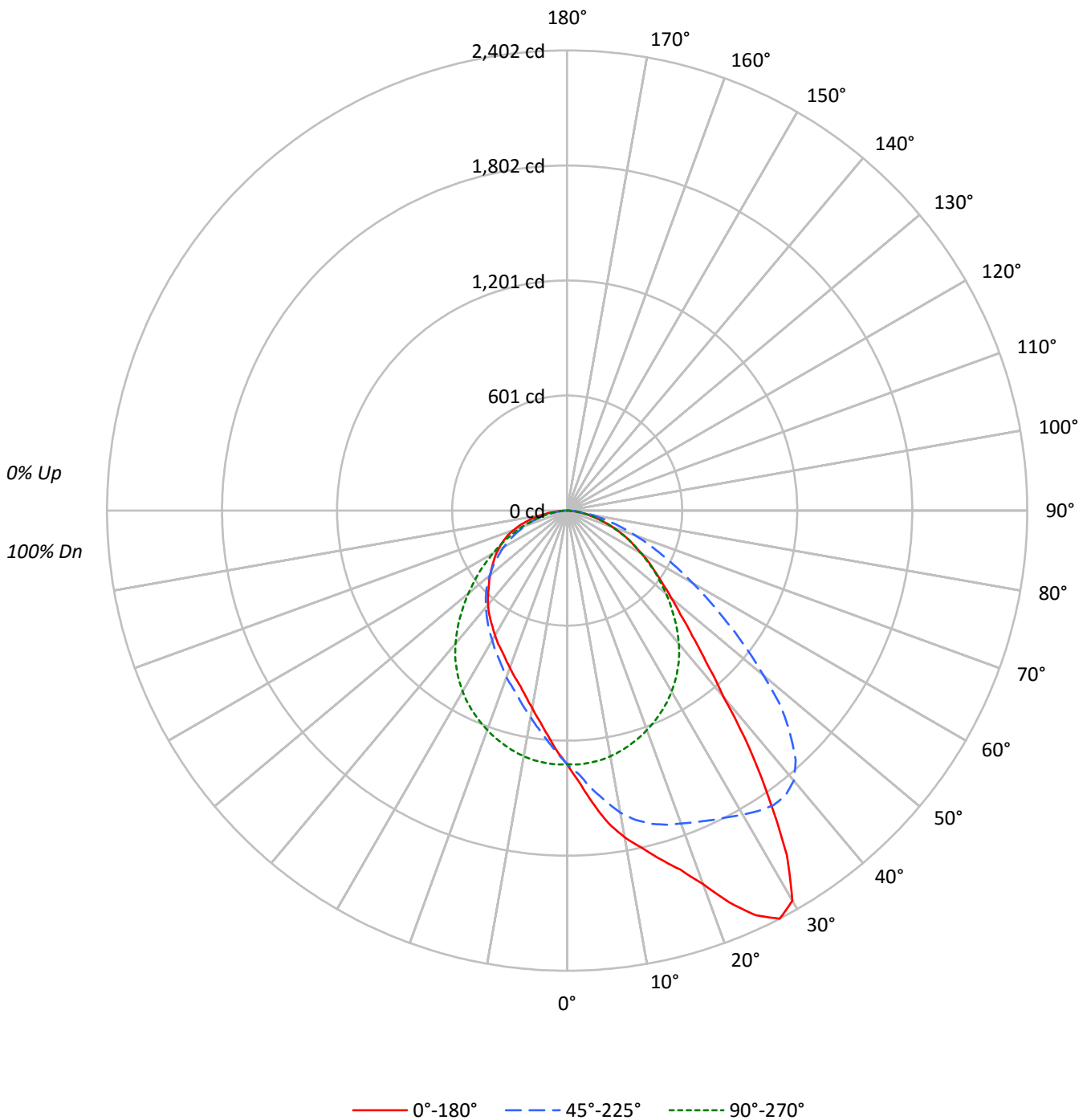
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	63	61
4	84	73	64	58	82	71	63	57	69	62	56	66	61	56	64	59	55	53
5	78	65	56	50	75	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	40
7	67	53	45	39	65	53	44	39	51	44	38	50	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	40	34	46	39	34	44	38	34	32
9	58	45	37	31	57	44	36	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	90°	180°
0°	9409	9409	9409
5°	10931	9430	8380
10°	12506	9399	7563
15°	13865	9315	6968
20°	15697	9221	6610
25°	18279	9102	6332
30°	19297	8952	6176
35°	15958	8734	6046
40°	11804	8417	5957
45°	9281	7959	5828
50°	7859	7444	5805
55°	6997	6932	5828
60°	6348	6364	5952
65°	5886	5832	6122
70°	5289	5220	6157
75°	4512	4586	6074
80°	3692	3757	5669
85°	2536	2667	4819



TEST NUMBER: P243693

CATALOG NUMBER: S125DR-H1090D940-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.9	3.4
10°-20°	382.1	10.1
20°-30°	621.3	16.5
30°-40°	755.8	20.0
40°-50°	691.6	18.3
50°-60°	553.5	14.7
60°-70°	385.5	10.2
70°-80°	204.9	5.4
80°-90°	50.3	1.3
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°	1131.3	30.0
0°-40°	1887.1	50.0
0°-60°	3132.3	83.0
0°-90°	3773.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3773.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1324	1324	1324	1324	1324	
5°	1532	1455	1322	1202	1175	152
15°	1884	1692	1266	1001	947	540
25°	2331	1783	1161	848	807	1064
35°	1839	1877	1007	722	697	1140
45°	923	1646	792	598	580	728
55°	565	1022	559	456	470	509
65°	350	545	347	306	364	344
75°	164	242	167	160	221	178
85°	31	46	33	37	59	40
90°	0	0	0	0	0	



TEST NUMBER: P243693

CATALOG NUMBER: S125DR-H1090D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8
2.5°	1417.2	1411.3	1409.7	1410.3	1407.0	1404.4	1397.9	1389.3	1383.4	1375.9	1373.8
5°	1532.1	1517.6	1520.3	1516.0	1509.0	1499.9	1491.9	1479.0	1466.6	1454.8	1439.2
7.5°	1644.9	1642.2	1634.7	1633.6	1622.3	1606.7	1590.6	1572.9	1546.6	1528.4	1507.4
10°	1732.9	1738.3	1727.5	1728.1	1708.2	1692.6	1678.7	1655.6	1626.1	1601.4	1570.8
12.5°	1803.8	1805.9	1804.3	1797.3	1784.4	1758.1	1744.7	1720.5	1688.3	1654.5	1630.9
15°	1884.3	1878.4	1869.3	1860.7	1841.9	1823.1	1795.2	1766.7	1725.9	1692.1	1657.7
17.5°	1964.8	1963.7	1952.5	1934.2	1910.6	1885.9	1844.0	1807.5	1764.0	1719.5	1676.5
20°	2075.4	2069.5	2052.8	2031.9	1988.4	1953.5	1901.5	1851.5	1794.6	1738.8	1688.9
22.5°	2213.9	2194.6	2177.9	2145.7	2095.8	2035.1	1976.6	1904.1	1824.7	1759.2	1696.9
25°	2330.9	2322.3	2304.6	2268.7	2211.8	2138.7	2051.8	1969.6	1869.8	1782.8	1701.8
27.5°	2401.8	2398.0	2387.3	2353.5	2306.2	2233.8	2140.9	2036.2	1922.9	1805.4	1708.2
30°	2351.3	2351.9	2357.8	2354.0	2333.1	2286.4	2203.7	2098.5	1967.5	1832.2	1709.8
32.5°	2134.4	2148.9	2195.1	2217.1	2246.6	2256.3	2219.3	2131.8	2005.1	1859.1	1715.2
35°	1839.2	1874.6	1905.8	1970.2	2046.9	2109.8	2146.3	2117.8	2020.6	1877.3	1717.9
37.5°	1561.1	1558.4	1606.7	1676.5	1758.1	1865.0	1968.6	2025.5	1993.8	1873.5	1713.0
40°	1272.3	1297.0	1327.1	1388.8	1484.3	1615.9	1739.3	1861.2	1905.2	1840.3	1694.2
42.5°	1074.7	1086.0	1116.1	1164.4	1233.1	1367.3	1489.2	1645.9	1758.7	1766.2	1652.9
45°	923.4	935.7	944.3	992.1	1055.9	1146.1	1271.2	1429.0	1580.4	1645.9	1585.8
47.5°	802.0	809.0	827.8	856.8	898.7	978.6	1078.5	1221.8	1386.6	1513.9	1493.5
50°	710.8	716.1	731.2	747.3	781.6	840.7	921.2	1038.8	1197.1	1336.2	1381.8
52.5°	630.2	637.2	644.7	660.3	692.0	731.7	797.2	889.0	1036.1	1178.3	1250.8
55°	564.7	567.4	575.5	587.3	611.5	641.5	693.6	776.8	879.9	1021.6	1121.4
57.5°	507.8	505.2	513.7	521.8	537.9	563.1	600.7	662.5	760.7	881.5	985.6
60°	446.6	449.3	455.8	462.2	473.5	495.5	525.0	574.4	646.3	754.8	861.1
62.5°	394.0	396.2	397.8	406.9	417.1	432.7	456.8	497.1	556.7	646.3	741.4
65°	350.0	346.3	348.4	354.8	362.9	375.8	398.3	427.9	472.4	545.4	624.3
67.5°	298.5	299.6	300.1	303.8	310.8	323.2	339.3	363.4	399.9	457.4	526.6
70°	254.5	255.0	255.5	258.8	264.7	271.6	282.9	301.7	332.8	377.4	431.6
72.5°	209.4	211.5	211.5	214.2	218.5	222.2	233.0	248.6	272.2	307.6	353.2
75°	164.3	168.0	169.1	172.3	176.1	177.2	185.2	197.6	212.6	241.6	277.5
77.5°	127.8	127.8	129.9	133.7	133.7	136.9	145.5	150.8	162.7	182.5	209.9
80°	90.2	91.8	91.8	92.9	95.0	97.7	101.5	106.3	116.5	131.0	145.5
82.5°	59.1	59.6	60.1	62.8	61.7	64.4	66.0	71.9	76.8	83.7	92.9
85°	31.1	31.1	31.7	33.3	34.9	35.4	36.5	39.2	42.9	46.2	51.5
87.5°	12.9	12.3	12.3	13.4	13.4	14.0	14.5	15.6	17.7	17.7	19.9
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: P243693

CATALOG NUMBER: S125DR-H1090D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8
2.5°	1372.1	1367.8	1360.3	1353.9	1345.8	1339.9	1334.0	1326.5	1319.0	1310.9	1302.4
5°	1426.9	1414.0	1399.5	1385.0	1367.8	1353.9	1338.9	1321.7	1307.2	1291.1	1273.9
7.5°	1489.7	1467.2	1441.9	1413.5	1386.6	1362.5	1337.8	1314.2	1292.7	1268.5	1244.9
10°	1550.4	1511.2	1479.5	1440.9	1402.7	1367.3	1333.5	1302.4	1271.2	1241.2	1212.2
12.5°	1591.7	1547.2	1507.4	1462.9	1418.3	1373.8	1329.2	1286.3	1249.2	1212.7	1182.1
15°	1620.2	1589.0	1536.4	1482.7	1424.2	1366.2	1315.8	1265.9	1221.8	1179.4	1142.9
17.5°	1637.9	1597.6	1546.1	1489.7	1425.3	1364.6	1304.0	1244.4	1193.9	1148.3	1106.9
20°	1642.7	1595.5	1541.8	1483.3	1418.8	1352.3	1284.1	1219.1	1164.4	1112.3	1070.4
22.5°	1637.9	1583.1	1525.7	1468.8	1401.1	1333.5	1262.1	1191.2	1128.4	1074.7	1030.7
25°	1629.8	1563.8	1503.7	1436.6	1373.8	1309.3	1235.8	1160.6	1095.1	1039.3	989.9
27.5°	1619.6	1543.9	1469.8	1403.8	1335.6	1272.3	1204.7	1127.9	1059.7	998.5	952.3
30°	1607.8	1517.6	1435.5	1357.1	1292.7	1229.3	1163.3	1090.8	1022.1	963.6	913.7
32.5°	1594.4	1489.7	1393.1	1308.8	1240.1	1181.6	1119.8	1050.6	982.9	920.1	876.6
35°	1575.6	1451.6	1347.4	1256.2	1184.8	1121.4	1067.2	1006.6	939.5	880.9	835.8
37.5°	1553.6	1417.8	1301.3	1202.5	1124.7	1059.7	1009.8	960.4	897.6	841.2	797.7
40°	1524.1	1377.0	1252.4	1145.6	1062.4	998.5	949.7	907.2	855.2	798.3	759.1
42.5°	1485.4	1331.9	1197.1	1083.3	1002.8	934.6	889.0	850.3	805.8	756.4	717.7
45°	1441.4	1280.3	1135.4	1023.7	936.2	871.3	826.7	791.8	758.0	714.0	678.0
47.5°	1372.7	1219.7	1079.6	956.1	870.2	807.4	765.5	732.2	707.0	672.1	636.7
50°	1291.1	1151.0	1013.5	889.5	802.6	741.9	702.2	673.2	651.7	624.9	598.0
52.5°	1201.4	1073.7	941.1	825.1	738.1	680.7	638.8	613.1	599.1	577.6	556.7
55°	1096.7	986.7	863.2	757.5	672.1	613.6	577.6	559.4	543.8	533.1	514.3
57.5°	991.5	898.7	788.6	683.9	605.5	553.5	521.3	500.9	489.6	482.1	468.7
60°	876.6	803.6	702.7	612.0	542.2	492.8	464.4	447.7	437.5	433.2	424.1
62.5°	767.1	711.3	619.5	543.8	481.5	438.1	409.6	396.2	389.7	384.9	379.5
65°	659.2	615.2	542.7	471.9	419.3	380.1	357.5	346.8	342.0	336.6	336.1
67.5°	562.1	521.8	463.8	405.8	361.8	328.5	308.7	297.9	292.6	293.1	290.4
70°	466.5	435.4	388.1	340.9	303.3	277.0	258.2	251.2	249.1	248.6	246.4
72.5°	377.4	359.7	318.3	278.6	249.1	228.7	213.7	207.8	205.1	204.0	204.0
75°	299.0	286.1	250.7	220.6	198.1	181.4	171.2	167.0	163.2	165.3	163.7
77.5°	224.4	213.7	189.5	168.0	150.8	136.9	132.1	128.3	126.2	125.6	127.8
80°	157.8	151.4	136.4	119.2	106.3	98.2	95.0	91.8	90.2	89.1	90.2
82.5°	101.5	97.7	87.0	76.8	69.3	65.0	61.7	60.1	57.4	58.0	59.1
85°	55.3	54.2	47.2	44.0	37.0	36.5	34.4	32.7	33.3	32.2	33.8
87.5°	22.5	21.5	19.9	18.3	16.1	14.5	13.4	14.5	12.9	14.5	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



TEST NUMBER: P243693

CATALOG NUMBER: S125DR-H1090D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8	1323.8
2.5°	1298.1	1292.2	1285.2	1278.7	1269.1	1262.6	1259.4	1260.5	1256.7	1255.7	1255.1
5°	1263.7	1250.3	1237.4	1226.7	1215.4	1202.5	1193.4	1190.7	1189.6	1186.9	1181.0
7.5°	1228.3	1211.1	1194.5	1178.9	1162.8	1147.7	1138.6	1131.1	1126.8	1119.3	1117.7
10°	1190.7	1169.8	1152.0	1129.5	1110.2	1094.6	1082.8	1076.3	1072.6	1065.6	1059.7
12.5°	1154.7	1132.7	1105.3	1084.9	1064.5	1048.4	1035.0	1024.3	1021.6	1012.5	1007.6
15°	1116.1	1089.2	1064.5	1040.9	1021.6	1001.2	993.1	983.5	973.8	965.8	964.2
17.5°	1079.0	1046.8	1022.7	999.6	976.0	960.9	950.2	943.8	936.2	931.9	924.4
20°	1034.5	1008.2	981.3	959.9	939.5	926.6	912.1	906.2	900.8	890.6	887.4
22.5°	996.9	965.2	942.7	921.2	903.0	884.7	874.5	868.6	860.5	855.2	850.9
25°	957.7	931.4	903.0	881.5	865.9	847.7	840.7	833.2	826.2	821.4	817.1
27.5°	919.6	890.6	867.5	846.0	829.9	817.1	807.4	799.3	794.5	790.8	788.1
30°	879.9	853.0	831.6	811.7	793.4	782.7	773.6	770.4	765.0	762.3	758.0
32.5°	843.9	816.5	796.1	778.9	762.8	752.1	746.7	741.9	736.5	731.7	731.2
35°	803.1	779.5	760.7	741.9	730.1	721.5	715.6	710.8	706.5	702.7	700.6
37.5°	767.1	744.6	723.7	710.2	697.3	689.8	683.4	681.8	677.5	678.0	674.8
40°	728.5	708.1	690.4	676.9	668.4	660.3	656.0	650.6	648.0	648.5	645.8
42.5°	690.9	672.1	656.0	643.7	634.5	628.6	624.9	620.6	617.4	615.2	614.7
45°	652.8	636.1	622.7	610.4	602.9	597.5	592.7	587.3	584.6	583.5	583.0
47.5°	615.2	600.2	585.7	577.1	570.1	565.3	560.5	556.2	554.0	552.4	549.7
50°	576.6	561.5	551.3	540.6	534.7	528.2	522.9	520.7	518.0	517.5	520.2
52.5°	536.3	524.5	515.4	506.8	499.8	492.8	487.4	484.8	486.4	486.4	489.6
55°	498.2	485.8	477.2	470.3	462.7	456.3	450.9	450.9	450.9	454.2	458.5
57.5°	455.8	445.0	438.6	430.5	423.6	419.3	415.5	415.0	417.1	422.5	427.3
60°	412.8	405.3	398.3	391.9	384.9	381.7	381.2	380.1	383.3	388.7	398.9
62.5°	370.4	365.6	357.0	353.8	347.9	344.1	344.1	345.2	350.0	358.6	367.7
65°	329.6	322.6	316.2	313.0	309.2	306.0	306.0	310.3	317.3	325.3	336.6
67.5°	287.7	281.8	277.5	274.3	270.0	268.4	270.0	274.9	283.4	291.5	303.3
70°	242.6	241.6	237.8	233.5	231.4	231.4	233.0	238.4	244.8	257.1	267.3
72.5°	201.3	201.3	199.2	196.5	194.9	196.5	197.6	202.9	211.0	221.7	233.0
75°	163.7	162.1	160.5	159.4	158.9	160.0	161.6	165.9	175.5	185.7	194.9
77.5°	126.7	125.6	124.0	125.1	125.1	125.6	130.5	135.3	140.7	148.7	158.4
80°	91.3	91.8	90.2	89.7	92.3	93.4	97.2	100.9	104.7	113.8	120.8
82.5°	60.1	61.2	60.7	61.7	62.8	62.8	67.1	70.9	74.1	80.5	85.9
85°	34.4	34.9	34.9	36.5	37.6	37.0	40.8	42.9	44.6	49.4	52.6
87.5°	15.0	15.6	16.1	16.1	16.1	18.3	18.8	19.9	20.4	21.5	23.1
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: P243693

CATALOG NUMBER: S125DR-H1090D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1323.8	1323.8	1323.8	1323.8
2.5°	1250.3	1249.7	1252.4	1254.0
5°	1177.3	1175.7	1173.5	1174.6
7.5°	1112.3	1108.0	1106.9	1106.9
10°	1054.9	1050.6	1049.5	1047.9
12.5°	1006.0	999.6	996.9	994.2
15°	959.9	958.8	952.9	947.0
17.5°	917.4	919.1	913.2	910.5
20°	882.0	877.2	875.0	874.0
22.5°	846.0	842.3	842.3	838.5
25°	813.8	810.6	811.2	807.4
27.5°	783.8	783.2	782.7	781.6
30°	755.9	753.7	751.6	752.6
32.5°	729.0	725.8	724.2	723.7
35°	701.1	700.0	697.9	696.8
37.5°	673.7	674.3	671.6	671.0
40°	644.2	643.7	643.1	642.1
42.5°	613.1	611.5	612.5	612.0
45°	581.9	580.3	581.4	579.8
47.5°	551.3	552.4	552.4	552.9
50°	521.3	523.4	523.4	525.0
52.5°	493.3	497.6	497.6	497.1
55°	463.3	468.1	469.7	470.3
57.5°	434.8	439.7	444.5	445.6
60°	404.2	412.8	417.7	418.7
62.5°	376.9	384.9	391.4	391.9
65°	346.3	355.9	361.8	364.0
67.5°	315.1	322.6	330.7	333.9
70°	279.7	288.8	294.2	296.3
72.5°	242.6	252.8	259.8	260.9
75°	207.2	214.7	220.1	221.2
77.5°	167.0	174.5	179.3	180.4
80°	126.7	133.1	136.4	138.5
82.5°	89.7	93.9	95.6	97.7
85°	55.3	58.5	59.1	59.1
87.5°	24.2	24.7	24.7	25.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)