

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: P243683

Luminaire Tested: **S125DR-H1090D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243683  
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-H1090D930-X4F0-XX-UDD-A-W  
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3449.7 lumens  
Efficiency: N/A  
Efficacy: 109.5 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

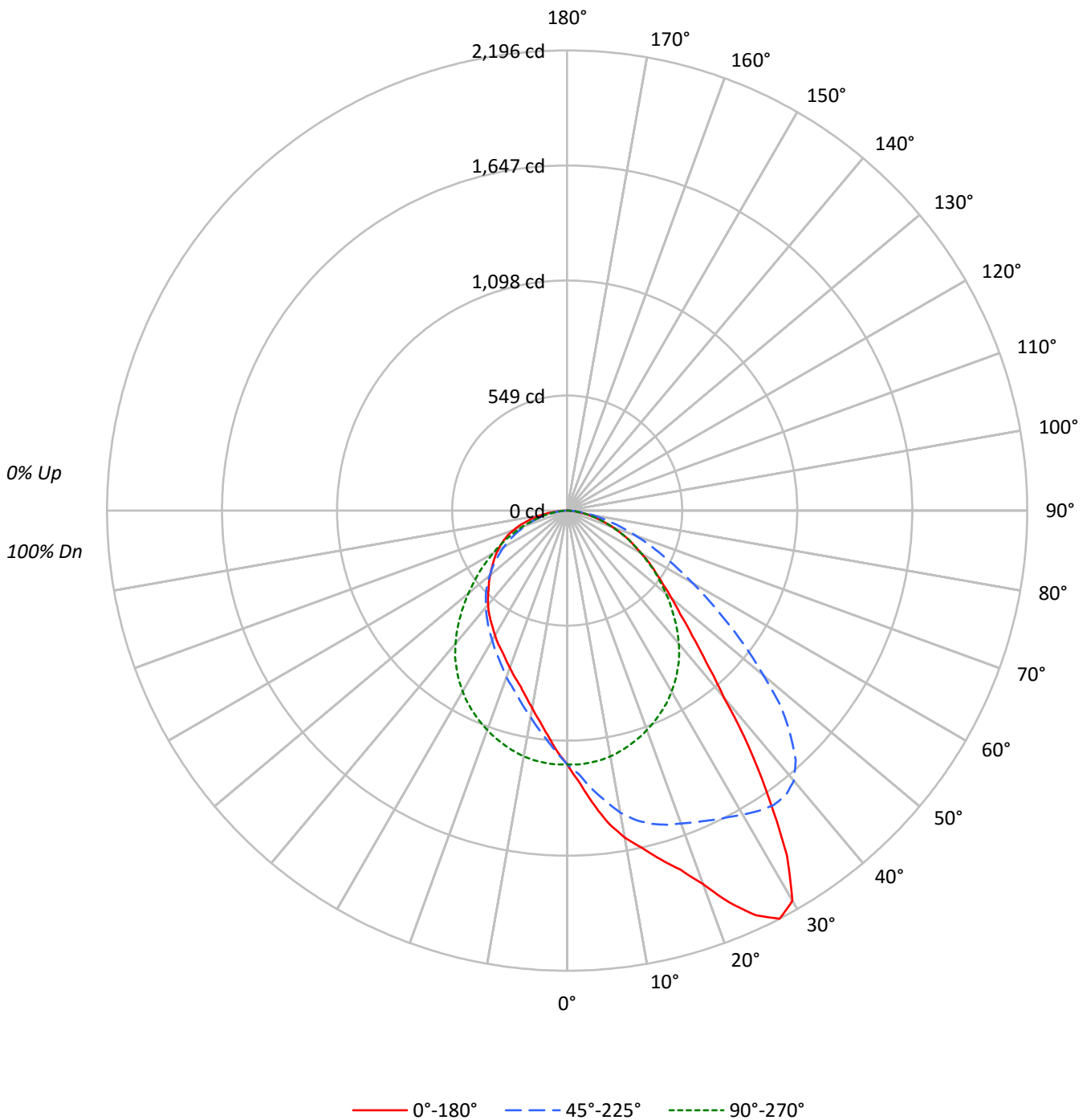
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P243683

CATALOG NUMBER: S125DR-H1090D930-X4F0-XX-UDD-A-W

### Luminous Intensity Polar Plot





TEST NUMBER: P243683

CATALOG NUMBER: S125DR-H1090D930-X4F0-XX-UDD-A-W

**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°	8603	8603	8603
5°	9994	8621	7662
10°	11435	8594	6915
15°	12676	8516	6371
20°	14352	8431	6044
25°	16713	8322	5789
30°	17643	8186	5647
35°	14590	7985	5528
40°	10793	7696	5446
45°	8485	7277	5328
50°	7186	6806	5307
55°	6399	6337	5328
60°	5805	5819	5441
65°	5382	5333	5597
70°	4836	4773	5629
75°	4125	4190	5553
80°	3377	3434	5182
85°	2324	2438	4404



TEST NUMBER: P243683

CATALOG NUMBER: S125DR-H1090D930-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.9	3.4
10°-20°	349.4	10.1
20°-30°	568.0	16.5
30°-40°	691.1	20.0
40°-50°	632.4	18.3
50°-60°	506.1	14.7
60°-70°	352.5	10.2
70°-80°	187.3	5.4
80°-90°	46.0	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°	1034.3	30.0
0°-40°	1725.4	50.0
0°-60°	2863.9	83.0
0°-90°	3449.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3449.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1210	1210	1210	1210	1210	
5°	1401	1330	1208	1100	1074	139
15°	1723	1547	1157	915	866	494
25°	2131	1630	1061	775	738	973
35°	1682	1716	920	660	637	1043
45°	844	1505	724	546	530	666
55°	516	934	511	417	430	466
65°	320	499	317	280	333	315
75°	150	221	153	146	202	162
85°	28	42	30	34	54	37
90°	0	0	0	0	0	



TEST NUMBER: P243683

CATALOG NUMBER: S125DR-H1090D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4
2.5°	1295.8	1290.4	1288.9	1289.4	1286.5	1284.0	1278.1	1270.3	1264.9	1258.0	1256.0
5°	1400.8	1387.6	1390.0	1386.1	1379.7	1371.4	1364.0	1352.2	1341.0	1330.2	1315.9
7.5°	1503.9	1501.5	1494.6	1493.6	1483.3	1469.1	1454.3	1438.1	1414.1	1397.4	1378.3
10°	1584.4	1589.3	1579.5	1580.0	1561.8	1547.6	1534.8	1513.7	1486.7	1464.1	1436.2
12.5°	1649.2	1651.2	1649.7	1643.3	1631.5	1607.5	1595.2	1573.1	1543.7	1512.7	1491.1
15°	1722.8	1717.4	1709.1	1701.2	1684.0	1666.9	1641.3	1615.3	1578.0	1547.1	1515.7
17.5°	1796.4	1795.5	1785.2	1768.5	1746.9	1724.3	1686.0	1652.6	1612.9	1572.1	1532.9
20°	1897.6	1892.2	1876.9	1857.8	1818.0	1786.1	1738.5	1692.9	1640.8	1589.8	1544.2
22.5°	2024.2	2006.5	1991.3	1961.9	1916.2	1860.7	1807.2	1741.0	1668.3	1608.5	1551.5
25°	2131.2	2123.3	2107.1	2074.3	2022.2	1955.5	1876.0	1800.9	1709.6	1630.0	1555.9
27.5°	2196.0	2192.5	2182.7	2151.8	2108.6	2042.3	1957.4	1861.7	1758.2	1650.7	1561.8
30°	2149.8	2150.3	2155.7	2152.3	2133.2	2090.4	2014.9	1918.7	1798.9	1675.2	1563.3
32.5°	1951.5	1964.8	2007.0	2027.1	2054.1	2063.0	2029.1	1949.1	1833.3	1699.7	1568.2
35°	1681.6	1714.0	1742.4	1801.3	1871.5	1929.0	1962.3	1936.3	1847.5	1716.4	1570.7
37.5°	1427.3	1424.9	1469.1	1532.9	1607.5	1705.1	1799.9	1851.9	1822.9	1713.0	1566.2
40°	1163.3	1185.8	1213.3	1269.8	1357.1	1477.4	1590.3	1701.7	1742.0	1682.6	1549.1
42.5°	982.6	993.0	1020.4	1064.6	1127.4	1250.1	1361.6	1504.9	1608.0	1614.8	1511.3
45°	844.2	855.5	863.4	907.1	965.5	1047.9	1162.3	1306.6	1445.0	1504.9	1449.9
47.5°	733.3	739.7	756.9	783.4	821.7	894.8	986.1	1117.1	1267.8	1384.1	1365.5
50°	649.9	654.8	668.5	683.2	714.6	768.6	842.3	949.8	1094.6	1221.7	1263.4
52.5°	576.2	582.6	589.5	603.7	632.7	669.0	728.9	812.8	947.3	1077.4	1143.6
55°	516.4	518.8	526.2	537.0	559.1	586.5	634.2	710.2	804.5	934.1	1025.3
57.5°	464.3	461.9	469.7	477.1	491.8	514.9	549.2	605.7	695.5	805.9	901.2
60°	408.4	410.8	416.7	422.6	432.9	453.0	480.0	525.2	591.0	690.1	787.3
62.5°	360.3	362.2	363.7	372.0	381.4	395.6	417.7	454.5	509.0	591.0	677.8
65°	320.0	316.6	318.5	324.4	331.8	343.6	364.2	391.2	431.9	498.7	570.8
67.5°	272.9	273.9	274.4	277.8	284.2	295.5	310.2	332.3	365.7	418.2	481.5
70°	232.7	233.1	233.6	236.6	242.0	248.4	258.7	275.8	304.3	345.1	394.6
72.5°	191.4	193.4	193.4	195.8	199.8	203.2	213.0	227.3	248.9	281.2	323.0
75°	150.2	153.6	154.6	157.6	161.0	162.0	169.3	180.6	194.4	220.9	253.8
77.5°	116.8	116.8	118.8	122.2	122.2	125.2	133.0	137.9	148.7	166.9	191.9
80°	82.5	83.9	83.9	84.9	86.9	89.3	92.8	97.2	106.5	119.8	133.0
82.5°	54.0	54.5	55.0	57.4	56.4	58.9	60.4	65.8	70.2	76.6	84.9
85°	28.5	28.5	29.0	30.4	31.9	32.4	33.4	35.8	39.3	42.2	47.1
87.5°	11.8	11.3	11.3	12.3	12.3	12.8	13.3	14.2	16.2	16.2	18.2
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: P243683

CATALOG NUMBER: S125DR-H1090D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4
2.5°	1254.6	1250.6	1243.8	1237.9	1230.5	1225.1	1219.7	1212.8	1206.0	1198.6	1190.8
5°	1304.6	1292.8	1279.6	1266.3	1250.6	1237.9	1224.1	1208.4	1195.2	1180.4	1164.7
7.5°	1362.1	1341.4	1318.4	1292.4	1267.8	1245.7	1223.2	1201.6	1181.9	1159.8	1138.2
10°	1417.5	1381.7	1352.7	1317.4	1282.5	1250.1	1219.2	1190.8	1162.3	1134.8	1108.3
12.5°	1455.3	1414.6	1378.3	1337.5	1296.8	1256.0	1215.3	1176.0	1142.2	1108.8	1080.8
15°	1481.3	1452.9	1404.8	1355.7	1302.2	1249.2	1203.0	1157.4	1117.1	1078.4	1045.0
17.5°	1497.5	1460.7	1413.6	1362.1	1303.2	1247.7	1192.2	1137.7	1091.6	1049.9	1012.1
20°	1501.9	1458.7	1409.7	1356.2	1297.3	1236.4	1174.1	1114.7	1064.6	1017.0	978.7
22.5°	1497.5	1447.5	1394.9	1342.9	1281.1	1219.2	1153.9	1089.2	1031.7	982.6	942.4
25°	1490.2	1429.8	1374.8	1313.5	1256.0	1197.1	1129.9	1061.2	1001.3	950.2	905.1
27.5°	1480.8	1411.6	1343.9	1283.5	1221.2	1163.3	1101.4	1031.2	968.9	912.9	870.7
30°	1470.0	1387.6	1312.5	1240.8	1181.9	1124.0	1063.6	997.4	934.5	881.0	835.4
32.5°	1457.8	1362.1	1273.7	1196.6	1133.8	1080.3	1023.9	960.6	898.7	841.3	801.5
35°	1440.6	1327.2	1232.0	1148.5	1083.3	1025.3	975.8	920.3	859.0	805.5	764.2
37.5°	1420.5	1296.3	1189.8	1099.5	1028.3	968.9	923.3	878.1	820.7	769.1	729.4
40°	1393.5	1259.0	1145.1	1047.4	971.4	912.9	868.3	829.5	781.9	729.9	694.0
42.5°	1358.1	1217.8	1094.6	990.5	916.9	854.5	812.8	777.5	736.7	691.6	656.2
45°	1317.9	1170.6	1038.1	936.0	856.0	796.6	755.9	724.0	693.1	652.8	619.9
47.5°	1255.1	1115.2	987.1	874.2	795.6	738.2	699.9	669.5	646.4	614.5	582.1
50°	1180.4	1052.3	926.7	813.3	733.8	678.3	642.0	615.5	595.9	571.3	546.8
52.5°	1098.5	981.7	860.4	754.4	674.9	622.4	584.1	560.5	547.8	528.1	509.0
55°	1002.8	902.1	789.3	692.6	614.5	561.0	528.1	511.4	497.2	487.4	470.2
57.5°	906.6	821.7	721.0	625.3	553.7	506.0	476.6	457.9	447.6	440.8	428.5
60°	801.5	734.8	642.5	559.5	495.7	450.6	424.6	409.4	400.0	396.1	387.8
62.5°	701.4	650.4	566.4	497.2	440.3	400.5	374.5	362.2	356.3	351.9	347.0
65°	602.7	562.5	496.2	431.4	383.3	347.5	326.9	317.1	312.7	307.8	307.3
67.5°	513.9	477.1	424.1	371.1	330.8	300.4	282.2	272.4	267.5	268.0	265.5
70°	426.5	398.1	354.9	311.7	277.3	253.3	236.1	229.7	227.7	227.3	225.3
72.5°	345.1	328.9	291.1	254.7	227.7	209.1	195.4	190.0	187.5	186.5	186.5
75°	273.4	261.6	229.2	201.7	181.1	165.9	156.6	152.6	149.2	151.2	149.7
77.5°	205.2	195.4	173.3	153.6	137.9	125.2	120.7	117.3	115.3	114.9	116.8
80°	144.3	138.4	124.7	109.0	97.2	89.8	86.9	83.9	82.5	81.5	82.5
82.5°	92.8	89.3	79.5	70.2	63.3	59.4	56.4	55.0	52.5	53.0	54.0
85°	50.6	49.6	43.2	40.2	33.9	33.4	31.4	29.9	30.4	29.4	30.9
87.5°	20.6	19.6	18.2	16.7	14.7	13.3	12.3	13.3	11.8	13.3	12.8
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: P243683

CATALOG NUMBER: S125DR-H1090D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4	1210.4
2.5°	1186.8	1181.4	1175.0	1169.2	1160.3	1154.4	1151.5	1152.5	1149.0	1148.1	1147.6
5°	1155.4	1143.1	1131.4	1121.5	1111.2	1099.5	1091.1	1088.7	1087.7	1085.2	1079.8
7.5°	1123.0	1107.3	1092.1	1077.9	1063.1	1049.4	1041.1	1034.2	1030.3	1023.4	1021.9
10°	1088.7	1069.5	1053.3	1032.7	1015.0	1000.8	990.0	984.1	980.7	974.3	968.9
12.5°	1055.8	1035.7	1010.6	992.0	973.3	958.6	946.3	936.5	934.1	925.7	921.3
15°	1020.4	995.9	973.3	951.7	934.1	915.4	908.0	899.2	890.4	883.0	881.5
17.5°	986.6	957.1	935.0	913.9	892.3	878.6	868.8	862.9	856.0	852.1	845.2
20°	945.8	921.8	897.2	877.6	859.0	847.2	833.9	828.5	823.6	814.3	811.3
22.5°	911.5	882.5	861.9	842.3	825.6	808.9	799.6	794.2	786.8	781.9	778.0
25°	875.6	851.6	825.6	805.9	791.7	775.0	768.6	761.8	755.4	751.0	747.0
27.5°	840.8	814.3	793.2	773.5	758.8	747.0	738.2	730.8	726.4	723.0	720.5
30°	804.5	779.9	760.3	742.1	725.4	715.6	707.3	704.3	699.4	697.0	693.1
32.5°	771.6	746.6	727.9	712.2	697.5	687.7	682.7	678.3	673.4	669.0	668.5
35°	734.3	712.7	695.5	678.3	667.5	659.7	654.3	649.9	645.9	642.5	640.5
37.5°	701.4	680.8	661.6	649.4	637.6	630.7	624.8	623.4	619.4	619.9	617.0
40°	666.1	647.4	631.2	618.9	611.1	603.7	599.8	594.9	592.4	592.9	590.5
42.5°	631.7	614.5	599.8	588.5	580.2	574.8	571.3	567.4	564.5	562.5	562.0
45°	596.9	581.6	569.4	558.1	551.2	546.3	541.9	537.0	534.5	533.5	533.0
47.5°	562.5	548.7	535.5	527.6	521.3	516.8	512.4	508.5	506.5	505.1	502.6
50°	527.2	513.4	504.1	494.3	488.9	483.0	478.1	476.1	473.7	473.2	475.6
52.5°	490.3	479.5	471.2	463.3	457.0	450.6	445.7	443.2	444.7	444.7	447.6
55°	455.5	444.2	436.3	430.0	423.1	417.2	412.3	412.3	412.3	415.2	419.2
57.5°	416.7	406.9	401.0	393.6	387.3	383.3	379.9	379.4	381.4	386.3	390.7
60°	377.4	370.6	364.2	358.3	351.9	349.0	348.5	347.5	350.5	355.4	364.7
62.5°	338.7	334.3	326.4	323.5	318.1	314.6	314.6	315.6	320.0	327.9	336.2
65°	301.4	295.0	289.1	286.2	282.7	279.8	279.8	283.7	290.1	297.4	307.8
67.5°	263.1	257.7	253.8	250.8	246.9	245.4	246.9	251.3	259.2	266.5	277.3
70°	221.9	220.9	217.4	213.5	211.5	211.5	213.0	217.9	223.8	235.1	244.4
72.5°	184.1	184.1	182.1	179.6	178.2	179.6	180.6	185.5	192.9	202.7	213.0
75°	149.7	148.2	146.8	145.8	145.3	146.3	147.7	151.7	160.5	169.8	178.2
77.5°	115.8	114.9	113.4	114.4	114.4	114.9	119.3	123.7	128.6	136.0	144.8
80°	83.4	83.9	82.5	82.0	84.4	85.4	88.8	92.3	95.7	104.1	110.4
82.5°	55.0	56.0	55.5	56.4	57.4	57.4	61.4	64.8	67.7	73.6	78.5
85°	31.4	31.9	31.9	33.4	34.4	33.9	37.3	39.3	40.7	45.2	48.1
87.5°	13.7	14.2	14.7	14.7	14.7	16.7	17.2	18.2	18.7	19.6	21.1
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: P243683

CATALOG NUMBER: S125DR-H1090D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1210.4	1210.4	1210.4	1210.4
2.5°	1143.1	1142.7	1145.1	1146.6
5°	1076.4	1074.9	1073.0	1073.9
7.5°	1017.0	1013.1	1012.1	1012.1
10°	964.5	960.6	959.6	958.1
12.5°	919.8	913.9	911.5	909.0
15°	877.6	876.6	871.2	865.8
17.5°	838.8	840.3	834.9	832.4
20°	806.4	802.0	800.1	799.1
22.5°	773.5	770.1	770.1	766.7
25°	744.1	741.2	741.6	738.2
27.5°	716.6	716.1	715.6	714.6
30°	691.1	689.1	687.2	688.1
32.5°	666.5	663.6	662.1	661.6
35°	641.0	640.0	638.1	637.1
37.5°	616.0	616.5	614.0	613.5
40°	589.0	588.5	588.0	587.0
42.5°	560.5	559.1	560.0	559.5
45°	532.1	530.6	531.6	530.1
47.5°	504.1	505.1	505.1	505.6
50°	476.6	478.6	478.6	480.0
52.5°	451.1	455.0	455.0	454.5
55°	423.6	428.0	429.5	430.0
57.5°	397.6	402.0	406.4	407.4
60°	369.6	377.4	381.9	382.8
62.5°	344.6	351.9	357.8	358.3
65°	316.6	325.4	330.8	332.8
67.5°	288.1	295.0	302.4	305.3
70°	255.7	264.1	269.0	270.9
72.5°	221.9	231.2	237.6	238.5
75°	189.5	196.3	201.2	202.2
77.5°	152.6	159.5	163.9	164.9
80°	115.8	121.7	124.7	126.6
82.5°	82.0	85.9	87.4	89.3
85°	50.6	53.5	54.0	54.0
87.5°	22.1	22.6	22.6	23.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)