

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: P243694

Luminaire Tested: **S125DR-H1270D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243694
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-H1270D940-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: 4407.6 lumens
Efficiency: N/A
Efficacy: 116.9 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

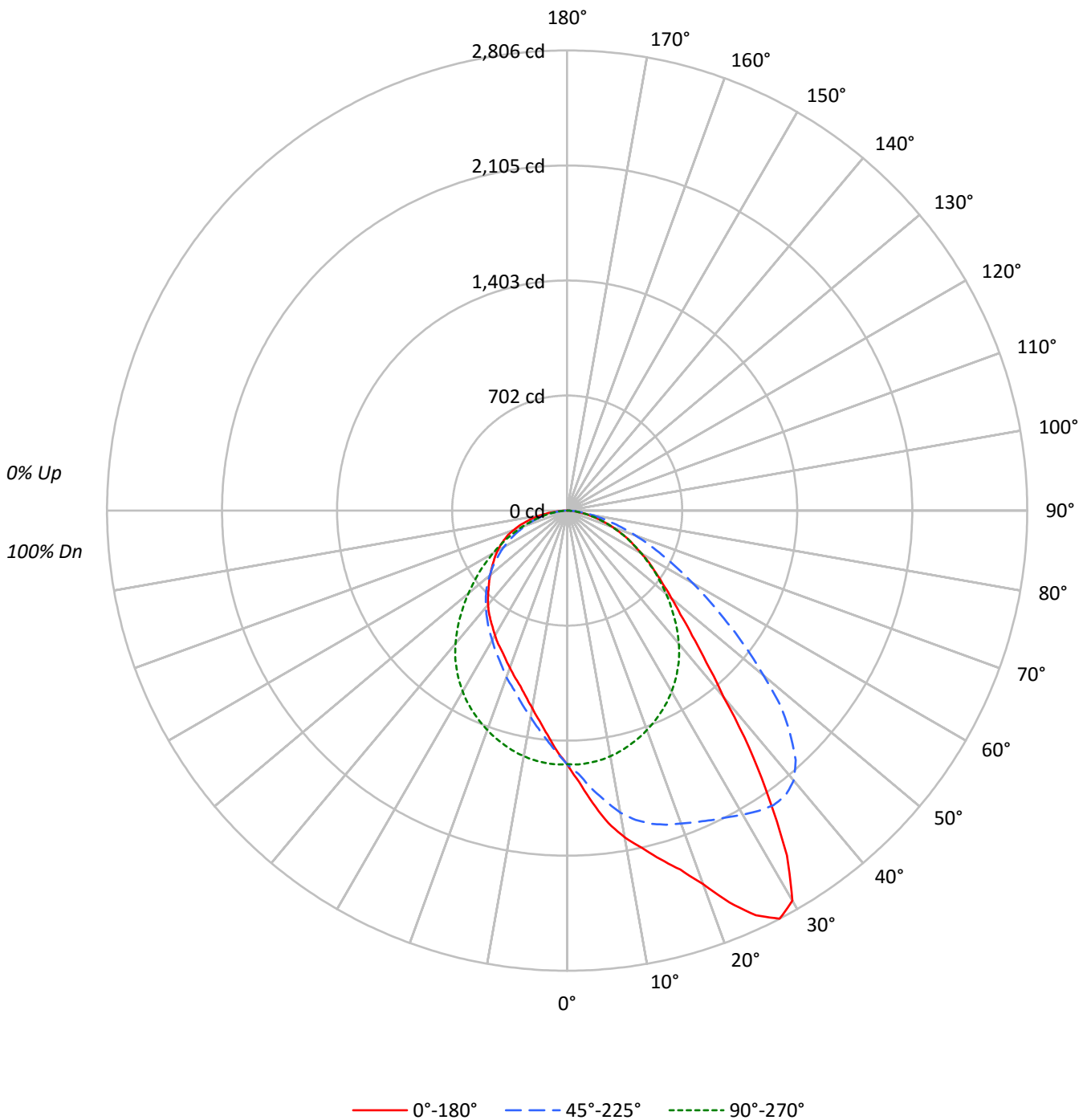
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P243694

CATALOG NUMBER: S125DR-H1270D940-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P243694

CATALOG NUMBER: S125DR-H1270D940-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°	10992	10992	10992
5°	12769	11016	9789
10°	14610	10980	8834
15°	16197	10881	8139
20°	18338	10772	7722
25°	21354	10632	7397
30°	22543	10458	7215
35°	18641	10203	7063
40°	13790	9833	6958
45°	10842	9297	6808
50°	9181	8695	6781
55°	8175	8098	6808
60°	7417	7434	6954
65°	6877	6813	7151
70°	6178	6099	7194
75°	5270	5355	7096
80°	4314	4388	6622
85°	2968	3123	5627



TEST NUMBER: P243694

CATALOG NUMBER: S125DR-H1270D940-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.4	3.4
10°-20°	446.4	10.1
20°-30°	725.8	16.5
30°-40°	883.0	20.0
40°-50°	808.0	18.3
50°-60°	646.6	14.7
60°-70°	450.3	10.2
70°-80°	239.3	5.4
80°-90°	58.8	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°	1321.6	30.0
0°-40°	2204.5	50.0
0°-60°	3659.1	83.0
0°-90°	4407.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4407.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1546	1546	1546	1546	1546	
5°	1790	1700	1544	1405	1372	178
15°	2201	1977	1479	1170	1106	631
25°	2723	2083	1356	990	943	1243
35°	2148	2193	1176	843	814	1332
45°	1079	1923	925	698	677	851
55°	660	1193	654	533	549	595
65°	409	637	405	358	425	402
75°	192	282	195	187	258	207
85°	36	54	38	43	69	47
90°	0	0	0	0	0	



TEST NUMBER: P243694

CATALOG NUMBER: S125DR-H1270D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5
2.5°	1655.6	1648.7	1646.8	1647.5	1643.7	1640.6	1633.0	1623.0	1616.1	1607.3	1604.8
5°	1789.8	1772.9	1776.0	1771.0	1762.8	1752.2	1742.8	1727.7	1713.3	1699.5	1681.3
7.5°	1921.5	1918.4	1909.6	1908.3	1895.2	1877.0	1858.2	1837.5	1806.7	1785.4	1761.0
10°	2024.4	2030.6	2018.1	2018.7	1995.5	1977.3	1961.0	1934.0	1899.6	1870.7	1835.0
12.5°	2107.1	2109.6	2107.8	2099.6	2084.6	2053.8	2038.1	2009.9	1972.3	1932.8	1905.2
15°	2201.2	2194.3	2183.6	2173.6	2151.7	2129.7	2097.1	2063.9	2016.2	1976.7	1936.6
17.5°	2295.3	2294.0	2280.8	2259.5	2231.9	2203.1	2154.2	2111.5	2060.7	2008.7	1958.5
20°	2424.5	2417.6	2398.1	2373.7	2322.9	2282.1	2221.3	2162.9	2096.5	2031.3	1972.9
22.5°	2586.3	2563.7	2544.2	2506.6	2448.3	2377.4	2309.1	2224.4	2131.6	2055.1	1982.3
25°	2723.0	2712.9	2692.2	2650.2	2583.7	2498.5	2396.9	2300.9	2184.3	2082.7	1988.0
27.5°	2805.7	2801.4	2788.8	2749.3	2694.1	2609.5	2501.0	2378.7	2246.4	2109.0	1995.5
30°	2746.8	2747.4	2754.3	2749.9	2725.5	2670.9	2574.3	2451.4	2298.4	2140.4	1997.4
32.5°	2493.4	2510.4	2564.3	2590.0	2624.5	2635.8	2592.5	2490.3	2342.3	2171.7	2003.7
35°	2148.5	2189.9	2226.3	2301.5	2391.2	2464.6	2507.2	2474.0	2360.5	2193.0	2006.8
37.5°	1823.7	1820.5	1877.0	1958.5	2053.8	2178.6	2299.7	2366.1	2329.1	2188.7	2001.1
40°	1486.3	1515.1	1550.2	1622.4	1734.0	1887.6	2031.9	2174.2	2225.7	2149.8	1979.2
42.5°	1255.5	1268.7	1303.8	1360.2	1440.5	1597.3	1739.6	1922.8	2054.5	2063.2	1930.9
45°	1078.7	1093.1	1103.1	1158.9	1233.6	1338.9	1485.0	1669.4	1846.2	1922.8	1852.5
47.5°	936.9	945.1	967.0	1000.9	1049.8	1143.2	1259.9	1427.3	1619.9	1768.5	1744.7
50°	830.3	836.6	854.1	873.0	913.1	982.1	1076.1	1213.5	1398.5	1560.9	1614.2
52.5°	736.2	744.4	753.2	771.4	808.4	854.8	931.3	1038.5	1210.3	1376.5	1461.2
55°	659.7	662.9	672.3	686.1	714.3	749.4	810.2	907.4	1027.9	1193.4	1310.1
57.5°	593.3	590.1	600.2	609.6	628.4	657.9	701.8	773.9	888.6	1029.7	1151.4
60°	521.8	524.9	532.4	540.0	553.1	578.8	613.3	671.0	755.1	881.7	1005.9
62.5°	460.3	462.8	464.7	475.4	487.3	505.5	533.7	580.7	650.3	755.1	866.1
65°	408.9	404.5	407.0	414.5	423.9	439.0	465.3	499.8	551.9	637.2	729.3
67.5°	348.7	349.9	350.6	355.0	363.1	377.5	396.3	424.6	467.2	534.3	615.2
70°	297.3	297.9	298.5	302.3	309.2	317.3	330.5	352.4	388.8	440.9	504.2
72.5°	244.6	247.1	247.1	250.2	255.2	259.6	272.2	290.4	318.0	359.3	412.6
75°	191.9	196.3	197.5	201.3	205.7	207.0	216.4	230.8	248.3	282.2	324.2
77.5°	149.3	149.3	151.8	156.2	156.2	159.9	170.0	176.2	190.0	213.2	245.2
80°	105.4	107.2	107.2	108.5	111.0	114.1	118.5	124.2	136.1	153.0	170.0
82.5°	69.0	69.6	70.2	73.4	72.1	75.3	77.1	84.0	89.7	97.8	108.5
85°	36.4	36.4	37.0	38.9	40.8	41.4	42.6	45.8	50.2	53.9	60.2
87.5°	15.1	14.4	14.4	15.7	15.7	16.3	16.9	18.2	20.7	20.7	23.2
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: P243694

CATALOG NUMBER: S125DR-H1270D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5
2.5°	1602.9	1597.9	1589.1	1581.6	1572.2	1565.3	1558.4	1549.6	1540.8	1531.4	1521.4
5°	1666.9	1651.8	1634.9	1618.0	1597.9	1581.6	1564.0	1544.0	1527.0	1508.2	1488.2
7.5°	1740.3	1713.9	1684.5	1651.2	1619.9	1591.6	1562.8	1535.2	1510.1	1481.9	1454.3
10°	1811.1	1765.4	1728.3	1683.2	1638.7	1597.3	1557.8	1521.4	1485.0	1449.9	1416.0
12.5°	1859.4	1807.4	1761.0	1708.9	1656.9	1604.8	1552.8	1502.6	1459.3	1416.7	1380.9
15°	1892.7	1856.3	1794.8	1732.1	1663.8	1596.0	1537.1	1478.8	1427.3	1377.8	1335.1
17.5°	1913.4	1866.3	1806.1	1740.3	1665.0	1594.1	1523.3	1453.7	1394.7	1341.4	1293.1
20°	1919.0	1863.8	1801.1	1732.7	1657.5	1579.7	1500.1	1424.2	1360.2	1299.4	1250.5
22.5°	1913.4	1849.4	1782.3	1715.8	1636.8	1557.8	1474.4	1391.6	1318.2	1255.5	1204.1
25°	1903.9	1826.8	1756.6	1678.2	1604.8	1529.6	1443.6	1355.8	1279.3	1214.1	1156.4
27.5°	1892.0	1803.6	1717.1	1639.9	1560.3	1486.3	1407.3	1317.6	1237.9	1166.4	1112.5
30°	1878.2	1772.9	1676.9	1585.4	1510.1	1436.1	1359.0	1274.3	1194.0	1125.7	1067.4
32.5°	1862.6	1740.3	1627.4	1528.9	1448.7	1380.3	1308.2	1227.3	1148.3	1074.9	1024.1
35°	1840.6	1695.7	1574.1	1467.5	1384.1	1310.1	1246.7	1175.9	1097.5	1029.1	976.4
37.5°	1814.9	1656.2	1520.1	1404.8	1313.8	1237.9	1179.6	1121.9	1048.5	982.7	931.9
40°	1780.4	1608.6	1463.1	1338.3	1241.1	1166.4	1109.4	1059.8	999.0	932.5	886.8
42.5°	1735.2	1555.9	1398.5	1265.5	1171.5	1091.8	1038.5	993.4	941.3	883.6	838.5
45°	1683.8	1495.7	1326.4	1195.9	1093.7	1017.8	965.8	925.0	885.5	834.1	792.1
47.5°	1603.6	1424.8	1261.1	1116.9	1016.6	943.2	894.3	855.4	825.9	785.2	743.8
50°	1508.2	1344.6	1184.0	1039.1	937.5	866.7	820.3	786.4	761.3	730.0	698.6
52.5°	1403.5	1254.2	1099.3	963.9	862.3	795.2	746.3	716.2	699.9	674.8	650.3
55°	1281.2	1152.7	1008.4	884.9	785.2	716.8	674.8	653.5	635.3	622.7	600.8
57.5°	1158.3	1049.8	921.2	799.0	707.4	646.6	608.9	585.1	571.9	563.2	547.5
60°	1024.1	938.8	820.9	714.9	633.4	575.7	542.5	523.0	511.1	506.1	495.4
62.5°	896.2	830.9	723.7	635.3	562.5	511.7	478.5	462.8	455.3	449.6	443.4
65°	770.1	718.7	634.0	551.2	489.8	444.0	417.7	405.1	399.5	393.2	392.6
67.5°	656.6	609.6	541.8	474.1	422.7	383.8	360.6	348.1	341.8	342.4	339.3
70°	545.0	508.6	453.4	398.2	354.3	323.6	301.6	293.5	291.0	290.4	287.8
72.5°	440.9	420.2	371.9	325.5	291.0	267.2	249.6	242.7	239.6	238.3	238.3
75°	349.3	334.3	292.9	257.7	231.4	212.0	200.1	195.0	190.6	193.2	191.3
77.5°	262.1	249.6	221.4	196.3	176.2	159.9	154.3	149.9	147.4	146.7	149.3
80°	184.4	176.8	159.3	139.2	124.2	114.8	111.0	107.2	105.4	104.1	105.4
82.5°	118.5	114.1	101.6	89.7	80.9	75.9	72.1	70.2	67.1	67.7	69.0
85°	64.6	63.3	55.2	51.4	43.3	42.6	40.1	38.3	38.9	37.6	39.5
87.5°	26.3	25.1	23.2	21.3	18.8	16.9	15.7	16.9	15.1	16.9	16.3
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: P243694

CATALOG NUMBER: S125DR-H1270D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5	1546.5
2.5°	1516.4	1509.5	1501.3	1493.8	1482.5	1475.0	1471.2	1472.5	1468.1	1466.8	1466.2
5°	1476.2	1460.6	1445.5	1433.0	1419.8	1404.8	1394.1	1391.0	1389.7	1386.6	1379.7
7.5°	1434.9	1414.8	1395.3	1377.2	1358.3	1340.8	1330.1	1321.3	1316.3	1307.6	1305.7
10°	1391.0	1366.5	1345.8	1319.5	1296.9	1278.7	1264.9	1257.4	1253.0	1244.8	1237.9
12.5°	1348.9	1323.2	1291.2	1267.4	1243.6	1224.8	1209.1	1196.5	1193.4	1182.8	1177.1
15°	1303.8	1272.4	1243.6	1216.0	1193.4	1169.6	1160.2	1148.9	1137.6	1128.2	1126.3
17.5°	1260.5	1222.9	1194.7	1167.7	1140.1	1122.5	1110.0	1102.5	1093.7	1088.7	1079.9
20°	1208.5	1177.7	1146.4	1121.3	1097.5	1082.4	1065.5	1058.6	1052.3	1040.4	1036.6
22.5°	1164.6	1127.6	1101.2	1076.1	1054.8	1033.5	1021.6	1014.7	1005.3	999.0	994.0
25°	1118.8	1088.1	1054.8	1029.7	1011.5	990.2	982.1	973.3	965.1	959.5	954.5
27.5°	1074.3	1040.4	1013.4	988.3	969.5	954.5	943.2	933.8	928.1	923.8	920.6
30°	1027.9	996.5	971.4	948.2	926.9	914.3	903.7	899.9	893.6	890.5	885.5
32.5°	985.8	953.9	930.0	910.0	891.1	878.6	872.3	866.7	860.4	854.8	854.1
35°	938.2	910.6	888.6	866.7	852.9	842.9	836.0	830.3	825.3	820.9	818.4
37.5°	896.2	869.8	845.4	829.7	814.6	805.9	798.3	796.4	791.4	792.1	788.3
40°	851.0	827.2	806.5	790.8	780.8	771.4	766.3	760.1	756.9	757.6	754.4
42.5°	807.1	785.2	766.3	751.9	741.3	734.4	730.0	725.0	721.2	718.7	718.1
45°	762.6	743.1	727.5	713.0	704.3	698.0	692.3	686.1	682.9	681.7	681.1
47.5°	718.7	701.1	684.2	674.2	666.0	660.4	654.7	649.7	647.2	645.3	642.2
50°	673.5	656.0	644.1	631.5	624.6	617.1	610.8	608.3	605.2	604.5	607.7
52.5°	626.5	612.7	602.0	592.0	583.9	575.7	569.4	566.3	568.2	568.2	571.9
55°	582.0	567.5	557.5	549.4	540.6	533.1	526.8	526.8	526.8	530.5	535.6
57.5°	532.4	519.9	512.4	503.0	494.8	489.8	485.4	484.8	487.3	493.5	499.2
60°	482.3	473.5	465.3	457.8	449.6	445.9	445.3	444.0	447.8	454.0	466.0
62.5°	432.7	427.1	417.0	413.3	406.4	402.0	402.0	403.2	408.9	418.9	429.6
65°	385.1	376.9	369.4	365.6	361.2	357.5	357.5	362.5	370.6	380.0	393.2
67.5°	336.1	329.2	324.2	320.5	315.4	313.6	315.4	321.1	331.1	340.5	354.3
70°	283.5	282.2	277.8	272.8	270.3	270.3	272.2	278.4	286.0	300.4	312.3
72.5°	235.2	235.2	232.7	229.5	227.6	229.5	230.8	237.1	246.5	259.0	272.2
75°	191.3	189.4	187.5	186.3	185.6	186.9	188.8	193.8	205.1	217.0	227.6
77.5°	148.0	146.7	144.9	146.1	146.1	146.7	152.4	158.0	164.3	173.7	185.0
80°	106.6	107.2	105.4	104.7	107.9	109.1	113.5	117.9	122.3	132.9	141.1
82.5°	70.2	71.5	70.9	72.1	73.4	73.4	78.4	82.8	86.5	94.1	100.3
85°	40.1	40.8	40.8	42.6	43.9	43.3	47.7	50.2	52.1	57.7	61.5
87.5°	17.6	18.2	18.8	18.8	18.8	21.3	21.9	23.2	23.8	25.1	27.0
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: P243694

CATALOG NUMBER: S125DR-H1270D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1546.5	1546.5	1546.5	1546.5
2.5°	1460.6	1459.9	1463.1	1465.0
5°	1375.3	1373.4	1370.9	1372.1
7.5°	1299.4	1294.4	1293.1	1293.1
10°	1232.3	1227.3	1226.0	1224.1
12.5°	1175.2	1167.7	1164.6	1161.4
15°	1121.3	1120.0	1113.1	1106.2
17.5°	1071.8	1073.6	1066.7	1063.6
20°	1030.4	1024.7	1022.2	1021.0
22.5°	988.3	984.0	984.0	979.6
25°	950.7	947.0	947.6	943.2
27.5°	915.6	915.0	914.3	913.1
30°	883.0	880.5	878.0	879.2
32.5°	851.6	847.9	846.0	845.4
35°	819.0	817.8	815.3	814.0
37.5°	787.0	787.7	784.5	783.9
40°	752.5	751.9	751.3	750.0
42.5°	716.2	714.3	715.5	714.9
45°	679.8	677.9	679.2	677.3
47.5°	644.1	645.3	645.3	645.9
50°	608.9	611.4	611.4	613.3
52.5°	576.3	581.3	581.3	580.7
55°	541.2	546.9	548.7	549.4
57.5°	508.0	513.6	519.3	520.5
60°	472.2	482.3	487.9	489.2
62.5°	440.2	449.6	457.2	457.8
65°	404.5	415.8	422.7	425.2
67.5°	368.1	376.9	386.3	390.1
70°	326.7	337.4	343.7	346.2
72.5°	283.5	295.4	303.5	304.8
75°	242.1	250.8	257.1	258.4
77.5°	195.0	203.8	209.5	210.7
80°	148.0	155.5	159.3	161.8
82.5°	104.7	109.7	111.6	114.1
85°	64.6	68.4	69.0	69.0
87.5°	28.2	28.8	28.8	30.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)