

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: P243679

Luminaire Tested: **S125DR-H1270D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243679
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-H1270D840-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4991.6 lumens
Efficiency: N/A
Efficacy: 132.4 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

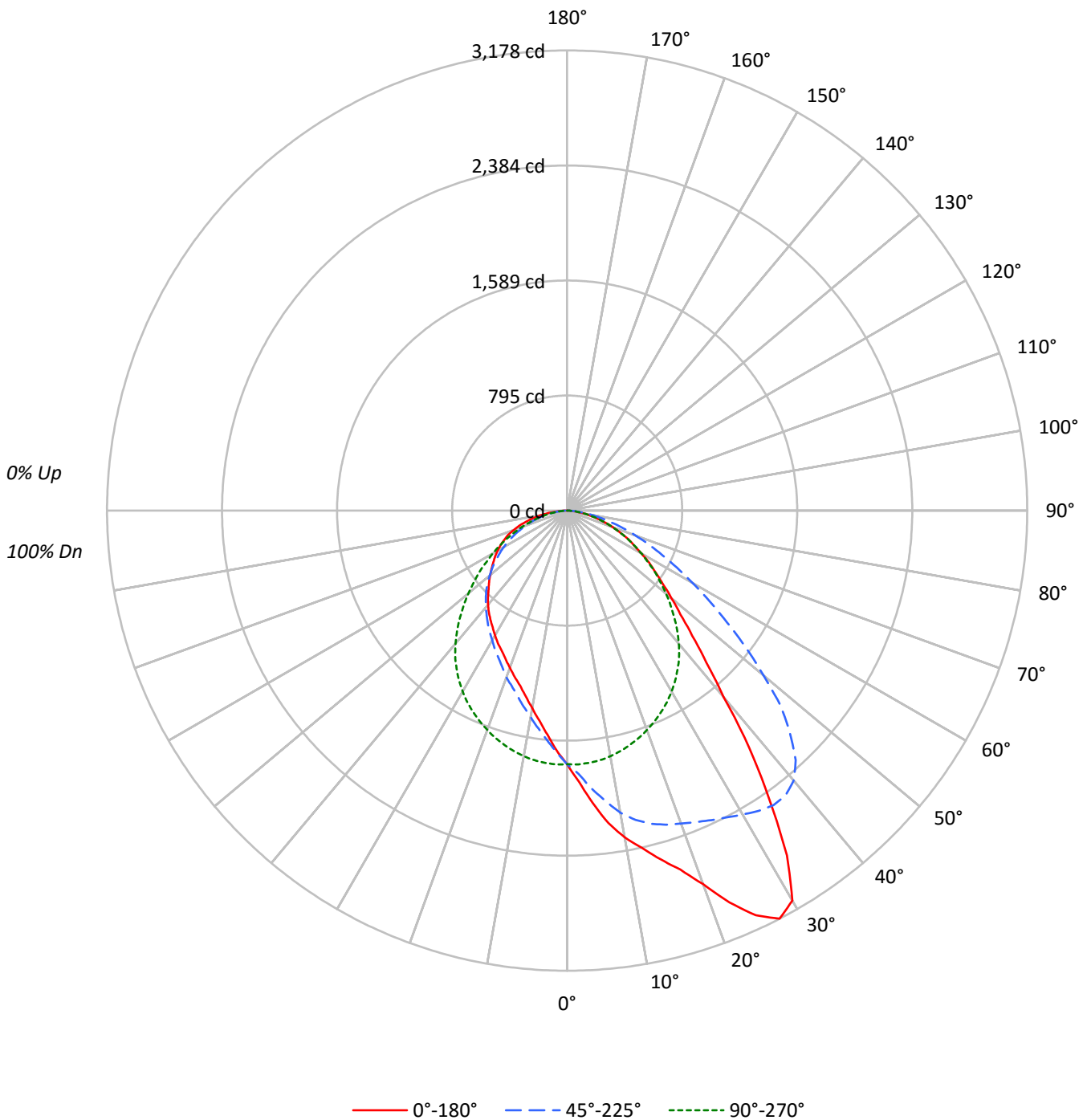
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	12448	12448	12448
5°	14462	12475	11087
10°	16546	12435	10005
15°	18343	12323	9218
20°	20767	12199	8745
25°	24183	12042	8377
30°	25530	11844	8172
35°	21112	11554	7999
40°	15617	11136	7881
45°	12279	10530	7709
50°	10397	9847	7680
55°	9258	9170	7710
60°	8399	8419	7875
65°	7788	7716	8098
70°	6995	6907	8146
75°	5967	6066	8035
80°	4883	4969	7498
85°	3360	3531	6369



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.2	3.4
10°-20°	505.6	10.1
20°-30°	821.9	16.5
30°-40°	1000.0	20.0
40°-50°	915.0	18.3
50°-60°	732.3	14.7
60°-70°	510.0	10.2
70°-80°	271.1	5.4
80°-90°	66.6	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°	1496.7	30.0
0°-40°	2496.6	50.0
0°-60°	4144.0	83.0
0°-90°	4991.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4991.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1751	1751	1751	1751	1751	
5°	2027	1925	1749	1591	1554	202
15°	2493	2239	1675	1325	1253	715
25°	3084	2359	1536	1121	1068	1408
35°	2433	2484	1332	954	922	1509
45°	1222	2178	1048	790	767	963
55°	747	1352	740	604	622	674
65°	463	722	459	405	482	456
75°	217	320	221	212	293	235
85°	41	61	43	49	78	53
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°	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4
2.5°	1875.0	1867.2	1865.0	1865.7	1861.5	1857.9	1849.4	1838.0	1830.2	1820.3	1817.4
5°	2027.0	2007.8	2011.3	2005.7	1996.4	1984.3	1973.7	1956.7	1940.3	1924.7	1904.1
7.5°	2176.1	2172.6	2162.6	2161.2	2146.3	2125.7	2104.4	2080.9	2046.1	2022.0	1994.3
10°	2292.6	2299.7	2285.5	2286.2	2259.9	2239.3	2220.9	2190.3	2151.3	2118.6	2078.1
12.5°	2386.3	2389.2	2387.0	2377.8	2360.8	2326.0	2308.2	2276.2	2233.6	2188.9	2157.6
15°	2492.9	2485.1	2473.0	2461.6	2436.8	2411.9	2375.0	2337.3	2283.4	2238.6	2193.2
17.5°	2599.4	2598.0	2583.1	2558.9	2527.7	2495.0	2439.6	2391.3	2333.8	2274.8	2218.0
20°	2745.7	2737.9	2715.9	2688.2	2630.6	2584.5	2515.6	2449.5	2374.3	2300.4	2234.3
22.5°	2928.9	2903.4	2881.4	2838.7	2772.7	2692.4	2615.0	2519.1	2414.0	2327.4	2245.0
25°	3083.8	3072.4	3049.0	3001.4	2926.1	2829.5	2714.5	2605.8	2473.7	2358.6	2251.4
27.5°	3177.5	3172.5	3158.3	3113.6	3051.1	2955.2	2832.4	2693.9	2544.0	2388.5	2259.9
30°	3110.8	3111.5	3119.3	3114.3	3086.6	3024.8	2915.4	2776.2	2602.9	2424.0	2262.0
32.5°	2823.8	2843.0	2904.1	2933.2	2972.3	2985.0	2936.0	2820.3	2652.7	2459.5	2269.1
35°	2433.2	2480.1	2521.3	2606.5	2708.1	2791.2	2839.5	2801.8	2673.3	2483.6	2272.7
37.5°	2065.3	2061.8	2125.7	2218.0	2326.0	2467.3	2604.4	2679.7	2637.8	2478.7	2266.3
40°	1683.2	1715.9	1755.7	1837.3	1963.8	2137.8	2301.1	2462.3	2520.6	2434.6	2241.4
42.5°	1421.9	1436.8	1476.5	1540.5	1631.4	1808.9	1970.1	2177.5	2326.7	2336.6	2186.8
45°	1221.6	1237.9	1249.3	1312.5	1397.0	1516.3	1681.8	1890.6	2090.9	2177.5	2098.0
47.5°	1061.1	1070.3	1095.2	1133.5	1188.9	1294.7	1426.8	1616.5	1834.5	2002.8	1975.8
50°	940.3	947.4	967.3	988.6	1034.1	1112.2	1218.7	1374.3	1583.8	1767.7	1828.1
52.5°	833.8	843.0	853.0	873.6	915.5	968.0	1054.7	1176.1	1370.7	1558.9	1654.8
55°	747.1	750.7	761.4	777.0	808.9	848.7	917.6	1027.7	1164.0	1351.5	1483.6
57.5°	671.9	668.3	679.7	690.3	711.6	745.0	794.7	876.4	1006.4	1166.2	1304.0
60°	590.9	594.5	603.0	611.5	626.4	655.5	694.6	759.9	855.1	998.6	1139.2
62.5°	521.3	524.1	526.3	538.3	551.8	572.4	604.4	657.7	736.5	855.1	980.8
65°	463.1	458.1	460.9	469.5	480.1	497.2	527.0	566.0	625.0	721.6	826.0
67.5°	394.9	396.3	397.0	402.0	411.2	427.6	448.9	480.8	529.1	605.1	696.7
70°	336.6	337.4	338.1	342.3	350.1	359.4	374.3	399.1	440.3	499.3	571.0
72.5°	277.0	279.8	279.8	283.4	289.1	294.0	308.2	328.8	360.1	407.0	467.3
75°	217.3	222.3	223.7	228.0	233.0	234.4	245.0	261.4	281.2	319.6	367.2
77.5°	169.0	169.0	171.9	176.8	176.8	181.1	192.5	199.6	215.2	241.5	277.7
80°	119.3	121.4	121.4	122.9	125.7	129.3	134.2	140.6	154.1	173.3	192.5
82.5°	78.1	78.8	79.5	83.1	81.7	85.2	87.4	95.2	101.6	110.8	122.9
85°	41.2	41.2	41.9	44.0	46.2	46.9	48.3	51.8	56.8	61.1	68.2
87.5°	17.0	16.3	16.3	17.8	17.8	18.5	19.2	20.6	23.4	23.4	26.3
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°	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4
2.5°	1815.3	1809.6	1799.7	1791.2	1780.5	1772.7	1764.9	1754.9	1745.0	1734.4	1723.0
5°	1887.8	1870.7	1851.5	1832.4	1809.6	1791.2	1771.3	1748.6	1729.4	1708.1	1685.3
7.5°	1970.9	1941.0	1907.6	1870.0	1834.5	1802.5	1769.9	1738.6	1710.2	1678.2	1647.0
10°	2051.1	1999.3	1957.4	1906.2	1855.8	1808.9	1764.2	1723.0	1681.8	1642.0	1603.7
12.5°	2105.8	2046.8	1994.3	1935.3	1876.4	1817.4	1758.5	1701.7	1652.7	1604.4	1563.9
15°	2143.4	2102.2	2032.6	1961.6	1884.2	1807.5	1740.7	1674.7	1616.5	1560.3	1512.1
17.5°	2166.9	2113.6	2045.4	1970.9	1885.6	1805.4	1725.1	1646.3	1579.5	1519.2	1464.5
20°	2173.3	2110.8	2039.7	1962.3	1877.1	1789.0	1698.8	1612.9	1540.5	1471.6	1416.2
22.5°	2166.9	2094.4	2018.4	1943.2	1853.7	1764.2	1669.7	1576.0	1492.9	1421.9	1363.6
25°	2156.2	2068.9	1989.3	1900.5	1817.4	1732.2	1634.9	1535.5	1448.8	1375.0	1309.6
27.5°	2142.7	2042.6	1944.6	1857.2	1767.0	1683.2	1593.7	1492.2	1402.0	1321.0	1259.9
30°	2127.1	2007.8	1899.1	1795.4	1710.2	1626.4	1539.0	1443.2	1352.3	1274.8	1208.8
32.5°	2109.3	1970.9	1843.0	1731.5	1640.6	1563.2	1481.5	1389.9	1300.4	1217.3	1159.8
35°	2084.5	1920.4	1782.6	1661.9	1567.5	1483.6	1411.9	1331.7	1242.9	1165.5	1105.8
37.5°	2055.4	1875.7	1721.6	1590.9	1487.9	1402.0	1335.9	1270.6	1187.5	1112.9	1055.4
40°	2016.3	1821.7	1656.9	1515.6	1405.5	1321.0	1256.4	1200.3	1131.4	1056.1	1004.2
42.5°	1965.2	1762.1	1583.8	1433.2	1326.7	1236.5	1176.1	1125.0	1066.0	1000.7	949.6
45°	1906.9	1693.9	1502.1	1354.4	1238.6	1152.7	1093.7	1047.6	1002.8	944.6	897.0
47.5°	1816.0	1613.6	1428.2	1264.9	1151.3	1068.2	1012.8	968.7	935.4	889.2	842.3
50°	1708.1	1522.7	1340.9	1176.8	1061.8	981.5	929.0	890.6	862.2	826.7	791.2
52.5°	1589.5	1420.4	1245.0	1091.6	976.5	900.6	845.2	811.1	792.6	764.2	736.5
55°	1451.0	1305.4	1142.0	1002.1	889.2	811.8	764.2	740.0	719.5	705.2	680.4
57.5°	1311.8	1188.9	1043.3	904.8	801.1	732.2	689.6	662.6	647.7	637.8	620.0
60°	1159.8	1063.2	929.7	809.6	717.3	652.0	614.3	592.3	578.8	573.1	561.1
62.5°	1014.9	941.0	819.6	719.5	637.1	579.5	541.9	524.1	515.6	509.2	502.1
65°	872.1	813.9	718.0	624.3	554.7	502.8	473.0	458.8	452.4	445.3	444.6
67.5°	743.6	690.3	613.6	536.9	478.7	434.7	408.4	394.2	387.1	387.8	384.2
70°	617.2	576.0	513.5	451.0	401.3	366.5	341.6	332.4	329.5	328.8	326.0
72.5°	499.3	475.8	421.2	368.6	329.5	302.6	282.7	274.9	271.3	269.9	269.9
75°	395.6	378.5	331.7	291.9	262.1	240.1	226.6	220.9	215.9	218.7	216.6
77.5°	296.9	282.7	250.7	222.3	199.6	181.1	174.7	169.7	166.9	166.2	169.0
80°	208.8	200.3	180.4	157.7	140.6	130.0	125.7	121.4	119.3	117.9	119.3
82.5°	134.2	129.3	115.1	101.6	91.6	85.9	81.7	79.5	76.0	76.7	78.1
85°	73.2	71.7	62.5	58.2	49.0	48.3	45.5	43.3	44.0	42.6	44.7
87.5°	29.8	28.4	26.3	24.1	21.3	19.2	17.8	19.2	17.0	19.2	18.5
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°	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4	1751.4
2.5°	1717.3	1709.5	1700.3	1691.7	1679.0	1670.4	1666.2	1667.6	1662.6	1661.2	1660.5
5°	1671.9	1654.1	1637.1	1622.8	1607.9	1590.9	1578.8	1575.3	1573.8	1570.3	1562.5
7.5°	1625.0	1602.3	1580.2	1559.6	1538.3	1518.4	1506.4	1496.4	1490.7	1480.8	1478.7
10°	1575.3	1547.6	1524.1	1494.3	1468.7	1448.1	1432.5	1424.0	1419.0	1409.8	1402.0
12.5°	1527.7	1498.6	1462.3	1435.4	1408.4	1387.1	1369.3	1355.1	1351.5	1339.5	1333.1
15°	1476.5	1441.0	1408.4	1377.1	1351.5	1324.6	1313.9	1301.1	1288.3	1277.7	1275.6
17.5°	1427.5	1384.9	1353.0	1322.4	1291.2	1271.3	1257.1	1248.6	1238.6	1232.9	1223.0
20°	1368.6	1333.8	1298.3	1269.9	1242.9	1225.8	1206.7	1198.8	1191.7	1178.3	1174.0
22.5°	1318.9	1277.0	1247.1	1218.7	1194.6	1170.4	1156.9	1149.1	1138.5	1131.4	1125.7
25°	1267.0	1232.2	1194.6	1166.2	1145.6	1121.4	1112.2	1102.3	1093.0	1086.6	1081.0
27.5°	1216.6	1178.3	1147.7	1119.3	1098.0	1081.0	1068.2	1057.5	1051.1	1046.2	1042.6
30°	1164.0	1128.5	1100.1	1073.8	1049.7	1035.5	1023.4	1019.2	1012.1	1008.5	1002.8
32.5°	1116.5	1080.2	1053.3	1030.5	1009.2	995.0	987.9	981.5	974.4	968.0	967.3
35°	1062.5	1031.2	1006.4	981.5	965.9	954.5	946.7	940.3	934.6	929.7	926.8
37.5°	1014.9	985.1	957.4	939.6	922.6	912.6	904.1	902.0	896.3	897.0	892.7
40°	963.8	936.8	913.3	895.6	884.2	873.6	867.9	860.8	857.2	857.9	854.4
42.5°	914.1	889.2	867.9	851.6	839.5	831.7	826.7	821.0	816.8	813.9	813.2
45°	863.6	841.6	823.9	807.5	797.6	790.5	784.1	777.0	773.4	772.0	771.3
47.5°	813.9	794.0	774.8	763.5	754.3	747.9	741.5	735.8	732.9	730.8	727.3
50°	762.8	742.9	729.4	715.2	707.4	698.9	691.8	688.9	685.4	684.7	688.2
52.5°	709.5	693.9	681.8	670.4	661.2	652.0	644.9	641.3	643.5	643.5	647.7
55°	659.1	642.7	631.4	622.2	612.2	603.7	596.6	596.6	596.6	600.8	606.5
57.5°	603.0	588.8	580.2	569.6	560.4	554.7	549.7	549.0	551.8	558.9	565.3
60°	546.2	536.2	527.0	518.5	509.2	505.0	504.3	502.8	507.1	514.2	527.7
62.5°	490.1	483.7	472.3	468.0	460.2	455.2	455.2	456.7	463.1	474.4	486.5
65°	436.1	426.8	418.3	414.1	409.1	404.8	404.8	410.5	419.7	430.4	445.3
67.5°	380.7	372.9	367.2	362.9	357.2	355.1	357.2	363.6	375.0	385.6	401.3
70°	321.0	319.6	314.6	308.9	306.1	306.1	308.2	315.3	323.9	340.2	353.7
72.5°	266.3	266.3	263.5	259.9	257.8	259.9	261.4	268.5	279.1	293.3	308.2
75°	216.6	214.5	212.4	210.9	210.2	211.6	213.8	219.5	232.2	245.7	257.8
77.5°	167.6	166.2	164.1	165.5	165.5	166.2	172.6	179.0	186.1	196.7	209.5
80°	120.7	121.4	119.3	118.6	122.2	123.6	128.5	133.5	138.5	150.6	159.8
82.5°	79.5	81.0	80.3	81.7	83.1	83.1	88.8	93.7	98.0	106.5	113.6
85°	45.5	46.2	46.2	48.3	49.7	49.0	54.0	56.8	58.9	65.3	69.6
87.5°	19.9	20.6	21.3	21.3	21.3	24.1	24.9	26.3	27.0	28.4	30.5
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: P243679

CATALOG NUMBER: S125DR-H1270D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1751.4	1751.4	1751.4	1751.4
2.5°	1654.1	1653.4	1656.9	1659.1
5°	1557.5	1555.4	1552.5	1554.0
7.5°	1471.6	1465.9	1464.5	1464.5
10°	1395.6	1389.9	1388.5	1386.3
12.5°	1330.9	1322.4	1318.9	1315.3
15°	1269.9	1268.4	1260.6	1252.8
17.5°	1213.8	1215.9	1208.1	1204.5
20°	1166.9	1160.5	1157.7	1156.2
22.5°	1119.3	1114.3	1114.3	1109.4
25°	1076.7	1072.4	1073.1	1068.2
27.5°	1036.9	1036.2	1035.5	1034.1
30°	1000.0	997.1	994.3	995.7
32.5°	964.5	960.2	958.1	957.4
35°	927.5	926.1	923.3	921.9
37.5°	891.3	892.0	888.5	887.8
40°	852.3	851.6	850.8	849.4
42.5°	811.1	808.9	810.4	809.6
45°	769.9	767.7	769.2	767.0
47.5°	729.4	730.8	730.8	731.5
50°	689.6	692.5	692.5	694.6
52.5°	652.7	658.4	658.4	657.7
55°	612.9	619.3	621.4	622.2
57.5°	575.3	581.7	588.1	589.5
60°	534.8	546.2	552.5	554.0
62.5°	498.6	509.2	517.7	518.5
65°	458.1	470.9	478.7	481.5
67.5°	416.9	426.8	437.5	441.8
70°	370.0	382.1	389.2	392.0
72.5°	321.0	334.5	343.7	345.2
75°	274.1	284.1	291.2	292.6
77.5°	220.9	230.8	237.2	238.6
80°	167.6	176.1	180.4	183.2
82.5°	118.6	124.3	126.4	129.3
85°	73.2	77.4	78.1	78.1
87.5°	32.0	32.7	32.7	34.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)