

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: P242819

Luminaire Tested: **S125DR-S1270D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242819  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-22)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125DR-S1270D840-X4F0-XX-UDD-A-W  
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4975.3 lumens  
Efficiency: N/A  
Efficacy: 121.1 lumens/watt  
Spacing Criteria (0/90/45): 1.43 / 1.23 / 1.53  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct

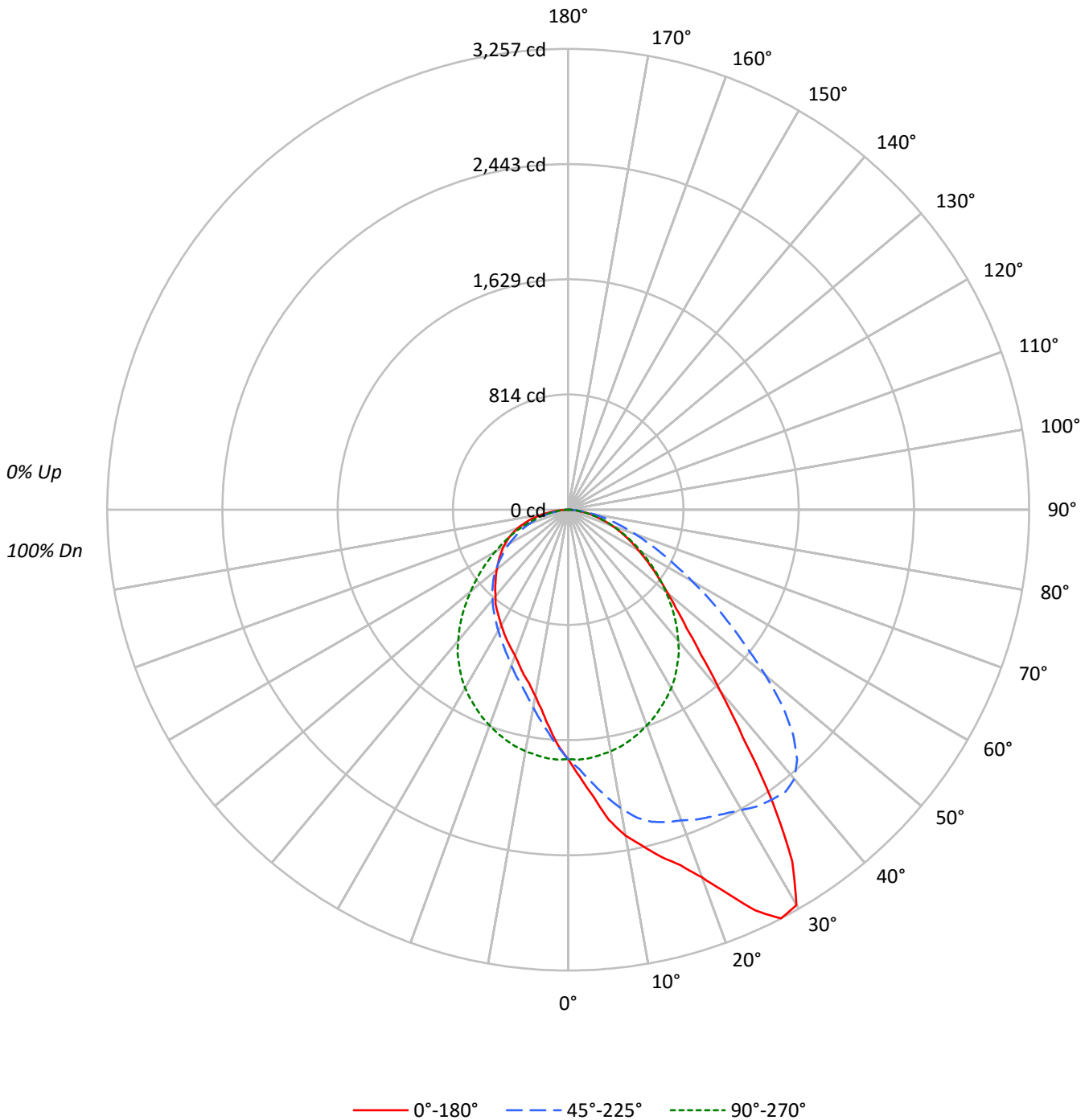
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	90	84	79	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61
4	84	73	64	58	82	71	63	57	69	62	57	67	61	56	64	59	55	53
5	78	65	56	50	76	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	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	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°	12530	12530	12530
5°	14511	12573	11009
10°	16882	12508	9646
15°	18688	12416	8898
20°	20919	12270	8297
25°	24507	12107	8004
30°	26469	11945	7751
35°	21763	11641	7583
40°	15468	11220	7401
45°	11884	10650	7296
50°	10144	9946	7281
55°	9032	9254	7344
60°	8148	8499	7531
65°	7526	7739	7728
70°	6843	6951	7838
75°	6041	6124	7769
80°	5083	4993	7105
85°	4028	3604	5733



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	169.7	3.4
10°-20°	505.4	10.2
20°-30°	821.0	16.5
30°-40°	1003.3	20.2
40°-50°	910.2	18.3
50°-60°	725.0	14.6
60°-70°	505.0	10.1
70°-80°	269.0	5.4
80°-90°	66.7	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°	1496.1	30.1
0°-40°	2499.4	50.2
0°-60°	4134.6	83.1
0°-90°	4975.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4975.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1763	1763	1763	1763	1763	
5°	2034	1937	1762	1585	1543	204
15°	2540	2283	1687	1280	1209	726
25°	3125	2394	1544	1072	1021	1432
35°	2508	2503	1342	909	874	1539
45°	1182	2246	1060	752	726	941
55°	729	1376	747	573	593	655
65°	448	730	460	387	460	444
75°	220	325	223	204	283	237
85°	49	65	44	48	70	58
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°	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0
2.5°	1890.2	1887.2	1884.3	1878.3	1882.8	1870.0	1864.1	1853.6	1840.9	1836.4	1831.1
5°	2033.9	2037.7	2041.4	2025.7	2027.2	2016.7	1992.8	1973.3	1957.6	1937.4	1923.2
7.5°	2212.0	2200.8	2201.5	2191.8	2174.6	2160.4	2137.2	2105.0	2075.8	2042.9	2014.5
10°	2339.2	2340.0	2333.2	2321.3	2302.6	2289.1	2256.2	2224.7	2186.6	2141.7	2109.5
12.5°	2435.0	2438.8	2429.8	2412.6	2405.8	2371.4	2347.5	2308.5	2261.4	2227.7	2174.6
15°	2539.8	2531.5	2525.6	2505.4	2489.6	2458.2	2417.1	2378.1	2328.8	2283.1	2237.5
17.5°	2632.6	2639.3	2629.6	2614.6	2568.2	2531.5	2480.7	2431.3	2372.2	2315.3	2262.2
20°	2765.8	2771.8	2754.5	2722.4	2664.0	2627.3	2554.7	2485.9	2414.8	2336.2	2276.4
22.5°	2931.9	2924.4	2899.7	2846.6	2797.9	2722.4	2642.3	2554.7	2461.2	2369.9	2285.4
25°	3125.0	3093.5	3079.3	3018.7	2952.1	2852.6	2744.8	2622.1	2511.3	2393.9	2292.1
27.5°	3256.7	3243.9	3223.7	3174.3	3098.0	2985.0	2857.8	2711.1	2562.2	2418.6	2290.6
30°	3225.2	3226.7	3228.2	3214.8	3169.9	3089.8	2963.3	2802.4	2616.9	2450.0	2295.8
32.5°	2946.9	2980.5	3012.7	3054.6	3081.6	3082.3	3015.0	2873.5	2681.2	2485.9	2292.8
35°	2508.3	2516.6	2601.1	2685.0	2798.7	2887.0	2946.1	2881.8	2720.9	2503.1	2290.6
37.5°	2027.9	2069.1	2132.7	2227.0	2397.6	2536.8	2719.4	2782.2	2706.7	2517.3	2289.8
40°	1667.2	1704.7	1742.8	1839.4	1977.8	2155.9	2370.7	2554.0	2596.6	2485.9	2267.4
42.5°	1388.9	1416.6	1460.0	1526.6	1636.6	1789.2	1992.0	2245.7	2419.3	2394.6	2220.2
45°	1182.3	1201.0	1234.0	1291.6	1375.4	1498.9	1680.0	1941.9	2170.1	2245.7	2140.2
47.5°	1035.7	1036.4	1063.4	1104.5	1168.1	1281.9	1417.3	1632.8	1879.0	2053.4	2028.7
50°	917.4	913.7	933.9	968.3	1016.2	1085.8	1213.8	1377.6	1611.9	1816.2	1873.0
52.5°	815.7	817.2	827.6	850.8	889.0	945.9	1033.4	1177.1	1368.7	1579.7	1699.4
55°	728.9	725.9	740.1	757.3	786.5	825.4	894.2	1007.2	1169.6	1376.1	1515.3
57.5°	645.0	653.3	659.3	671.2	696.7	723.6	785.0	871.8	1005.7	1189.1	1336.5
60°	573.2	581.4	585.9	597.9	617.4	639.8	684.7	752.1	860.6	1013.2	1159.1
62.5°	508.9	514.8	515.6	526.1	541.0	562.7	595.7	649.5	729.6	858.3	1000.5
65°	447.5	447.5	450.5	461.7	469.2	488.6	515.6	556.7	625.6	729.6	851.6
67.5°	387.6	391.4	390.6	395.9	402.6	419.1	439.3	473.7	528.3	606.9	707.9
70°	329.3	332.3	331.5	335.2	342.7	352.5	368.2	400.3	437.0	502.1	585.9
72.5°	276.9	277.6	275.4	280.6	284.4	292.6	310.6	324.0	357.7	410.1	475.2
75°	220.0	221.5	223.0	226.0	230.5	235.0	244.0	261.2	283.6	324.8	368.9
77.5°	175.1	171.4	175.9	175.1	177.4	181.1	189.3	199.1	218.5	246.2	282.9
80°	124.2	125.0	125.0	125.7	129.5	131.7	138.4	145.2	159.4	178.8	202.8
82.5°	82.3	84.6	83.1	84.6	87.6	89.0	92.0	97.3	104.0	118.2	133.9
85°	49.4	45.6	47.1	48.6	48.6	49.4	52.4	54.6	59.1	65.1	71.8
87.5°	18.0	19.5	20.2	20.2	21.0	21.0	23.9	23.9	26.2	28.4	31.4
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°	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0
2.5°	1826.6	1821.4	1815.4	1804.9	1792.2	1785.5	1775.0	1768.3	1754.8	1743.6	1731.6
5°	1906.0	1886.5	1868.5	1845.3	1819.9	1803.4	1784.0	1762.3	1739.8	1716.6	1691.2
7.5°	1985.3	1953.1	1917.9	1881.3	1845.3	1811.7	1780.2	1748.1	1718.9	1682.2	1651.5
10°	2065.3	2021.9	1975.5	1920.9	1867.8	1821.4	1774.3	1733.1	1691.2	1646.3	1606.6
12.5°	2145.4	2084.1	2013.7	1952.4	1885.8	1827.4	1769.8	1714.4	1659.0	1608.1	1560.2
15°	2174.6	2123.7	2063.1	1977.8	1906.0	1828.9	1755.5	1687.4	1623.8	1568.5	1510.1
17.5°	2203.0	2137.9	2073.6	1991.3	1897.7	1814.7	1731.6	1657.5	1587.2	1517.6	1464.5
20°	2209.8	2142.4	2074.3	1994.3	1897.7	1798.9	1715.9	1622.3	1545.3	1472.7	1403.8
22.5°	2207.5	2129.0	2053.4	1970.3	1876.8	1787.7	1683.0	1587.2	1501.9	1430.8	1358.2
25°	2191.1	2109.5	2016.7	1933.6	1840.9	1744.3	1642.5	1543.8	1458.5	1376.9	1305.8
27.5°	2181.3	2078.1	1976.3	1880.5	1791.5	1702.4	1603.6	1501.9	1408.3	1325.3	1259.4
30°	2159.6	2043.6	1925.4	1824.4	1732.3	1646.3	1554.2	1455.5	1356.7	1275.9	1204.0
32.5°	2140.2	2000.2	1873.8	1761.5	1662.8	1579.7	1496.6	1403.8	1307.3	1225.0	1153.2
35°	2114.0	1957.6	1814.7	1690.4	1586.4	1500.4	1429.3	1341.7	1252.7	1173.4	1104.5
37.5°	2083.3	1902.2	1751.1	1621.6	1508.6	1418.8	1351.5	1283.4	1194.3	1116.5	1055.1
40°	2045.9	1842.3	1680.0	1546.8	1428.5	1334.2	1272.9	1209.3	1138.2	1067.1	1001.2
42.5°	1998.7	1788.5	1608.1	1462.2	1345.5	1254.2	1189.1	1137.4	1076.8	1011.7	951.9
45°	1938.9	1721.1	1529.6	1375.4	1257.2	1166.6	1100.0	1059.6	1012.5	949.6	898.0
47.5°	1859.6	1644.8	1447.2	1287.8	1165.9	1082.1	1018.5	978.8	944.4	895.0	846.3
50°	1746.6	1557.2	1356.7	1198.8	1076.8	992.3	934.6	899.5	871.0	835.1	795.5
52.5°	1620.1	1447.2	1267.6	1112.0	991.5	908.5	852.3	822.4	799.9	776.7	737.8
55°	1484.7	1335.0	1164.4	1016.2	904.7	823.1	773.8	746.8	727.4	707.9	684.0
57.5°	1338.7	1217.5	1061.1	922.7	819.4	743.1	696.7	669.0	653.3	642.8	627.8
60°	1183.1	1082.8	952.6	829.1	728.9	663.0	618.1	597.9	585.2	577.0	566.5
62.5°	1038.7	960.8	842.6	732.6	648.0	586.7	547.8	528.3	516.3	513.3	505.1
65°	897.2	833.6	734.1	640.6	565.7	512.6	478.9	460.2	452.7	448.2	449.0
67.5°	755.0	713.9	630.8	548.5	487.2	440.0	412.3	398.1	394.4	387.6	387.6
70°	627.1	597.9	530.6	461.0	407.8	373.4	349.5	334.5	330.8	327.8	327.0
72.5°	514.1	489.4	433.3	380.9	334.5	305.3	286.6	279.1	272.4	270.9	270.9
75°	403.3	389.1	342.7	298.6	265.7	244.7	231.2	223.0	218.5	217.8	218.5
77.5°	304.6	291.1	258.9	226.0	204.3	187.8	175.1	172.9	166.9	167.6	166.1
80°	215.5	207.3	188.6	163.9	146.7	133.2	127.2	122.0	120.5	118.2	120.5
82.5°	141.4	132.5	121.2	107.8	94.3	87.6	81.6	80.8	80.1	79.3	79.3
85°	77.1	77.8	70.3	58.4	52.4	47.9	44.2	44.2	43.4	42.7	43.4
87.5°	32.9	31.4	28.4	26.2	22.4	20.2	19.5	20.2	18.0	17.2	18.0
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°	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0	1763.0
2.5°	1724.9	1716.6	1709.9	1694.9	1686.7	1675.5	1666.5	1676.2	1665.7	1670.2	1663.5
5°	1678.5	1657.5	1642.5	1620.8	1602.1	1584.9	1572.2	1570.0	1564.0	1561.0	1552.0
7.5°	1623.1	1599.1	1574.5	1547.5	1525.1	1501.1	1486.9	1473.4	1465.2	1454.7	1446.5
10°	1575.2	1540.0	1510.1	1475.7	1445.7	1419.6	1398.6	1388.1	1378.4	1364.2	1358.9
12.5°	1516.1	1479.4	1441.3	1403.8	1375.4	1345.5	1328.3	1311.0	1305.1	1288.6	1287.8
15°	1471.2	1416.6	1380.6	1343.2	1303.6	1279.6	1264.7	1247.4	1240.0	1228.7	1220.5
17.5°	1415.8	1366.4	1321.5	1283.4	1247.4	1228.0	1208.5	1196.6	1183.8	1175.6	1162.1
20°	1354.4	1308.1	1263.2	1222.0	1195.8	1172.6	1157.6	1146.4	1132.9	1129.2	1115.7
22.5°	1302.8	1250.4	1207.8	1174.9	1145.7	1118.7	1102.3	1095.5	1087.3	1073.8	1073.8
25°	1245.9	1192.8	1156.1	1121.7	1096.3	1072.3	1061.1	1051.4	1042.4	1034.2	1031.2
27.5°	1198.1	1150.9	1106.0	1074.6	1052.9	1030.4	1020.7	1008.0	1001.2	994.5	985.5
30°	1147.2	1098.5	1060.4	1030.4	1006.5	987.0	976.5	968.3	962.3	956.3	951.9
32.5°	1094.8	1050.6	1014.0	984.8	960.8	947.4	938.4	933.1	926.4	918.9	912.9
35°	1049.9	1000.5	964.6	939.1	920.4	909.2	898.7	893.5	886.0	886.0	880.0
37.5°	996.8	953.4	921.2	898.0	881.5	871.0	859.1	856.1	850.8	847.8	845.6
40°	950.4	910.7	880.8	857.6	839.6	831.4	822.4	816.4	813.4	809.7	808.2
42.5°	902.5	865.1	836.6	815.7	800.7	794.0	785.7	782.0	775.3	770.0	769.3
45°	853.8	817.2	791.0	773.8	760.3	752.1	746.8	737.8	734.8	728.9	728.1
47.5°	808.9	773.0	746.8	732.6	720.6	714.6	706.4	696.7	692.9	689.2	688.4
50°	757.3	725.1	701.2	687.7	676.5	666.7	658.5	652.5	650.3	650.3	651.8
52.5°	704.9	678.7	659.3	642.1	631.6	621.1	613.6	610.6	606.9	611.4	614.4
55°	654.0	626.3	611.4	595.7	585.2	573.2	569.5	568.0	565.7	571.7	574.7
57.5°	599.4	580.7	562.7	546.3	537.3	529.8	523.8	523.1	527.6	529.1	538.0
60°	547.8	525.3	509.6	497.6	486.4	481.9	480.4	478.9	481.9	490.1	502.9
62.5°	490.9	473.7	456.5	448.2	440.8	432.5	432.5	434.0	440.8	450.5	463.2
65°	435.5	419.8	408.6	398.1	391.4	386.9	388.4	391.4	398.1	410.8	425.0
67.5°	378.6	368.2	357.7	348.0	341.2	342.0	342.7	346.5	354.7	369.7	383.1
70°	324.0	312.0	303.8	300.1	294.8	291.8	296.3	303.8	310.6	324.0	335.2
72.5°	269.4	259.7	253.7	251.4	249.9	247.7	248.4	256.7	266.4	279.9	293.3
75°	215.5	211.8	207.3	204.3	202.0	203.5	205.0	212.5	220.0	234.2	249.2
77.5°	166.9	162.4	159.4	158.6	157.1	157.9	161.6	167.6	175.1	185.6	197.6
80°	119.0	117.5	116.0	115.2	115.2	116.0	122.0	125.7	132.5	142.2	151.2
82.5°	78.6	77.8	77.8	77.8	78.6	78.6	81.6	86.8	92.0	98.8	106.3
85°	45.6	44.2	46.4	47.1	45.6	47.9	49.4	52.4	54.6	58.4	62.1
87.5°	18.7	20.2	19.5	20.2	20.2	21.7	21.0	23.9	25.4	26.9	26.2
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: P242819

CATALOG NUMBER: S125DR-S1270D840-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1763.0	1763.0	1763.0	1763.0
2.5°	1659.0	1664.3	1659.8	1665.7
5°	1548.3	1541.5	1546.0	1543.0
7.5°	1445.7	1439.8	1430.8	1427.8
10°	1350.7	1342.5	1341.7	1336.5
12.5°	1281.1	1273.6	1263.2	1261.7
15°	1216.0	1210.0	1204.8	1209.3
17.5°	1160.6	1155.4	1153.9	1149.4
20°	1109.0	1105.3	1106.8	1097.0
22.5°	1067.8	1059.6	1058.1	1058.1
25°	1024.4	1020.7	1017.0	1020.7
27.5°	986.3	982.5	981.0	981.8
30°	951.9	944.4	945.1	944.4
32.5°	914.4	909.9	908.5	907.0
35°	877.8	877.8	874.0	874.0
37.5°	844.1	843.3	841.1	842.6
40°	805.2	804.4	802.2	797.7
42.5°	767.8	764.8	764.0	763.3
45°	728.1	728.1	726.6	725.9
47.5°	689.2	690.7	693.7	692.9
50°	654.8	655.5	657.8	658.5
52.5°	616.6	621.8	624.8	624.1
55°	581.4	586.7	591.9	592.7
57.5°	546.3	553.0	558.2	559.7
60°	510.4	520.1	526.8	529.8
62.5°	475.9	487.2	493.9	493.9
65°	437.8	449.0	455.0	459.5
67.5°	398.1	409.3	415.3	419.1
70°	354.0	365.2	374.2	377.2
72.5°	310.6	320.3	327.0	330.8
75°	258.9	272.4	279.1	282.9
77.5°	209.5	223.0	226.7	229.0
80°	160.1	167.6	172.9	173.6
82.5°	113.7	119.7	120.5	122.7
85°	67.3	70.3	71.1	70.3
87.5°	27.7	26.9	26.9	28.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)