

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: P242911

Luminaire Tested: **S125RDR-S1090D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242911  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-32)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125RDR-S1090D830-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3792.9 lumens  
Efficiency: N/A  
Efficacy: 109.0 lumens/watt  
Spacing Criteria (0/90/45): 1.4 / 1.21 / 1.48  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct

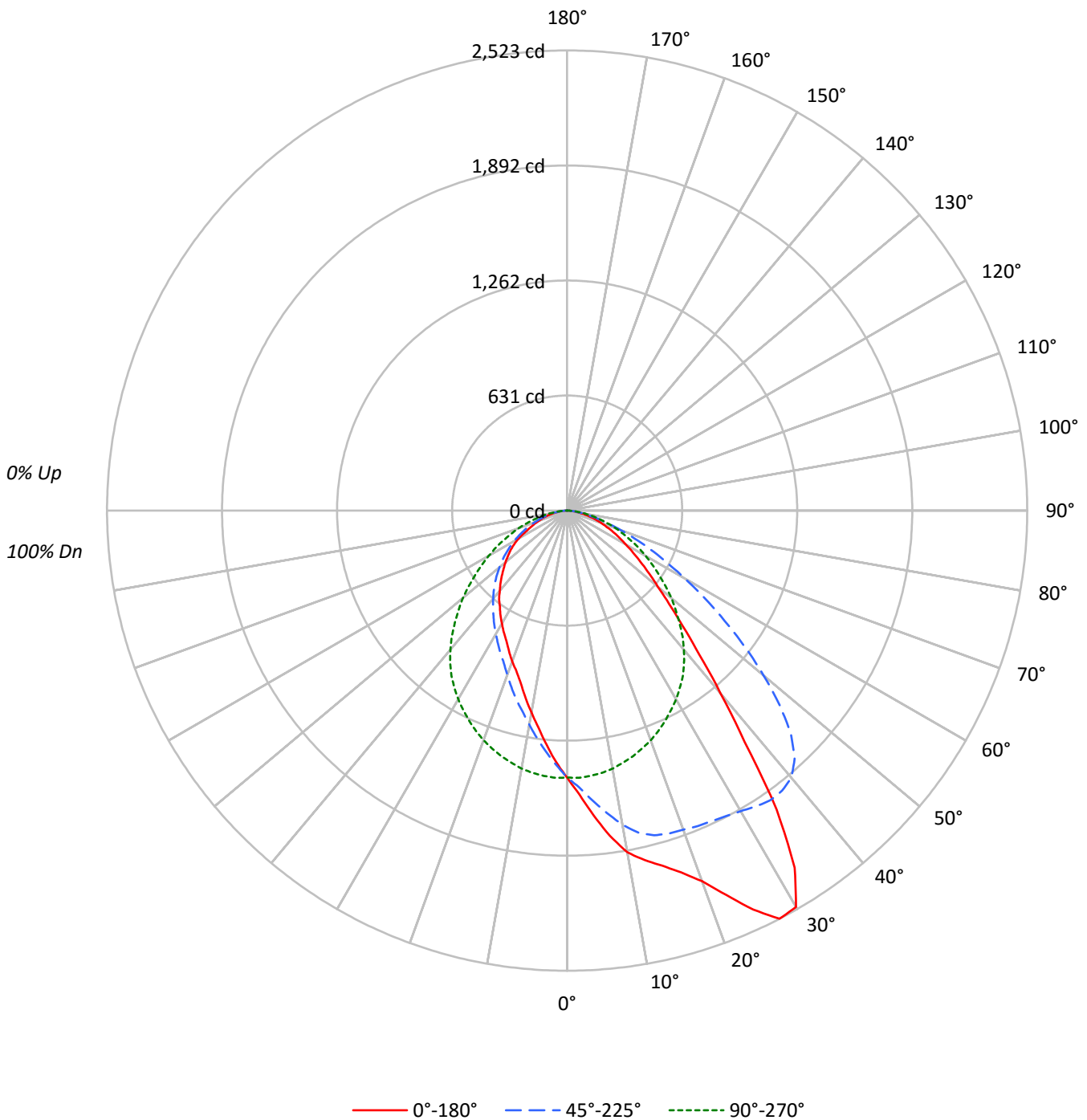
Input Watts (W): 34.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73
3	92	83	75	69	90	81	74	69	78	72	67	76	70	66	73	69	65	63
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48
6	73	60	52	45	71	59	51	45	57	50	45	56	49	44	54	49	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	50	44	39	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	42	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28

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

	0°	90°	180°
0°	10404	10404	10404
5°	11971	10418	9201
10°	13731	10366	8119
15°	14831	10259	7217
20°	16354	10136	6663
25°	18926	9972	6183
30°	20596	9800	5869
35°	17374	9600	5579
40°	12133	9239	5330
45°	9000	8753	5086
50°	7176	8246	4877
55°	6092	7618	4691
60°	5262	7056	4391
65°	4689	6448	3781
70°	4121	5906	3447
75°	3564	5116	3235
80°	2705	4306	2705
85°	2251	3384	2544



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.4	3.7
10°-20°	411.6	10.9
20°-30°	652.6	17.2
30°-40°	788.6	20.8
40°-50°	702.2	18.5
50°-60°	538.4	14.2
60°-70°	349.7	9.2
70°-80°	169.7	4.5
80°-90°	39.9	1.1
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°	1204.5	31.8
0°-40°	1993.1	52.5
0°-60°	3233.7	85.3
0°-90°	3792.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3792.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1464	1464	1464	1464	1464	
5°	1678	1595	1460	1327	1290	167
15°	2016	1843	1394	1074	981	577
25°	2413	1878	1272	865	788	1111
35°	2002	1940	1106	704	643	1214
45°	895	1737	871	558	506	710
55°	492	1054	615	410	379	445
65°	279	502	383	263	225	277
75°	130	176	186	130	118	138
85°	28	30	42	33	31	33
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°	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9
2.5°	1558.9	1557.7	1560.1	1553.5	1554.1	1543.8	1543.8	1536.0	1525.8	1518.0	1514.4
5°	1677.9	1679.1	1676.7	1667.6	1661.6	1652.6	1642.4	1624.4	1609.3	1594.9	1583.5
7.5°	1799.2	1800.4	1792.6	1790.8	1775.2	1765.6	1742.8	1719.3	1698.9	1671.8	1652.6
10°	1902.6	1902.0	1893.6	1887.0	1873.8	1856.9	1834.7	1805.9	1778.8	1748.8	1719.9
12.5°	1962.7	1960.9	1959.7	1951.3	1939.3	1924.8	1906.8	1878.6	1843.7	1810.1	1775.2
15°	2015.6	2011.4	2003.6	1993.4	1975.9	1958.5	1937.5	1912.2	1880.4	1843.1	1811.9
17.5°	2079.3	2079.9	2067.9	2057.1	2034.2	2005.4	1974.1	1935.7	1894.8	1856.9	1825.7
20°	2162.2	2160.4	2148.4	2120.8	2093.7	2055.3	2018.0	1968.1	1915.2	1861.7	1820.3
22.5°	2281.2	2275.8	2263.2	2224.7	2179.0	2126.8	2064.9	2001.2	1934.5	1872.0	1814.3
25°	2413.4	2409.8	2385.2	2343.1	2284.2	2207.9	2133.4	2049.8	1957.9	1878.0	1811.9
27.5°	2522.8	2515.6	2493.3	2453.7	2396.0	2313.7	2210.9	2102.7	1993.4	1888.2	1797.4
30°	2509.6	2518.6	2516.2	2500.0	2459.1	2387.0	2293.8	2168.2	2031.8	1902.6	1789.0
32.5°	2320.9	2328.7	2355.7	2399.6	2412.8	2394.8	2331.1	2217.5	2075.1	1923.6	1782.4
35°	2002.4	2013.2	2054.1	2118.4	2202.5	2272.8	2287.2	2224.7	2097.9	1939.9	1775.8
37.5°	1597.3	1667.6	1695.3	1760.8	1893.0	2021.0	2132.2	2157.4	2088.9	1936.3	1768.0
40°	1307.7	1322.1	1383.4	1459.7	1566.7	1701.3	1878.6	2006.6	2010.8	1912.2	1742.8
42.5°	1072.1	1091.3	1128.6	1185.7	1273.4	1408.0	1592.5	1771.6	1868.4	1846.1	1709.7
45°	895.4	909.2	939.9	986.8	1057.1	1168.2	1325.7	1521.0	1676.1	1736.7	1645.4
47.5°	757.2	764.4	792.7	830.5	884.6	968.7	1096.7	1273.4	1457.9	1581.1	1557.1
50°	649.0	657.4	677.9	704.9	748.8	817.3	914.6	1055.9	1247.6	1406.8	1438.7
52.5°	564.9	571.5	582.3	607.6	641.8	690.5	764.4	888.8	1056.5	1228.3	1312.5
55°	491.6	496.4	506.6	521.0	549.9	587.7	655.6	744.0	883.4	1054.1	1162.2
57.5°	429.1	431.5	437.5	451.9	472.9	501.2	552.9	633.4	734.4	894.8	1013.8
60°	370.2	372.6	381.0	390.0	405.6	430.9	469.3	521.6	617.8	744.6	865.4
62.5°	323.3	324.5	326.9	335.9	349.2	367.2	395.4	435.7	507.2	614.8	727.2
65°	278.8	279.4	280.6	287.9	296.3	310.7	330.5	360.6	418.3	502.4	603.4
67.5°	234.4	235.6	239.8	242.2	252.4	259.6	272.2	296.3	340.7	400.8	482.6
70°	198.3	197.7	201.9	204.9	207.9	216.9	224.8	243.4	268.6	311.9	377.4
72.5°	164.7	162.9	164.1	164.7	168.9	174.3	182.1	191.7	209.7	236.2	282.4
75°	129.8	130.4	130.4	131.6	134.6	137.0	139.4	145.4	156.2	176.1	203.1
77.5°	97.4	96.2	99.2	99.2	101.6	104.6	106.4	108.8	113.0	122.0	138.2
80°	66.1	66.1	66.7	68.5	67.9	69.1	72.1	74.5	79.9	84.7	89.5
82.5°	46.9	46.3	46.9	46.9	46.9	48.1	48.7	48.7	49.9	51.7	54.7
85°	27.6	27.6	28.2	28.2	28.8	28.8	29.4	29.4	29.4	30.0	30.6
87.5°	13.2	12.6	12.0	12.0	12.6	13.8	13.2	12.6	12.6	12.6	13.2
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°	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9
2.5°	1514.4	1510.2	1502.4	1495.2	1486.2	1478.3	1472.9	1466.3	1457.9	1447.7	1439.3
5°	1570.9	1557.7	1540.2	1525.2	1506.0	1491.0	1475.3	1460.3	1445.3	1426.1	1409.2
7.5°	1633.4	1607.5	1583.5	1552.3	1524.0	1499.4	1475.3	1450.7	1427.3	1400.8	1376.2
10°	1689.9	1656.8	1620.2	1578.1	1539.6	1503.0	1469.3	1436.3	1401.4	1370.8	1337.7
12.5°	1742.8	1697.7	1654.4	1598.5	1550.5	1503.6	1458.5	1415.2	1377.4	1335.3	1299.3
15°	1770.4	1728.3	1681.5	1616.6	1552.3	1498.2	1447.7	1394.2	1347.9	1303.5	1263.8
17.5°	1786.6	1742.2	1688.1	1625.0	1555.9	1488.6	1424.9	1367.8	1314.9	1263.8	1219.9
20°	1779.4	1736.7	1680.9	1621.4	1546.2	1475.3	1405.0	1340.1	1279.4	1224.7	1177.3
22.5°	1762.0	1717.5	1664.0	1600.3	1530.0	1453.7	1377.4	1307.1	1242.8	1185.7	1132.8
25°	1744.6	1684.5	1629.2	1567.9	1500.0	1425.5	1347.9	1271.6	1203.7	1146.0	1089.5
27.5°	1727.7	1655.0	1586.5	1527.6	1454.9	1387.6	1311.9	1233.2	1162.2	1103.9	1046.3
30°	1703.1	1619.0	1541.4	1472.3	1404.4	1341.3	1270.4	1194.1	1120.8	1060.1	1001.2
32.5°	1672.4	1581.7	1494.6	1412.2	1347.3	1284.8	1222.3	1150.2	1079.3	1016.2	956.1
35°	1647.8	1533.6	1441.1	1356.3	1283.6	1222.9	1165.2	1106.4	1034.8	969.9	911.6
37.5°	1613.6	1488.0	1383.4	1290.8	1215.1	1155.0	1108.8	1052.9	986.2	923.1	869.0
40°	1582.9	1437.5	1320.3	1228.9	1148.4	1084.1	1041.4	995.8	936.3	878.0	823.9
42.5°	1542.0	1391.2	1256.6	1160.4	1079.3	1018.0	974.7	936.3	888.8	834.7	775.8
45°	1486.2	1328.7	1191.1	1088.9	1007.2	946.5	906.2	870.8	832.9	782.4	732.0
47.5°	1419.4	1269.2	1124.4	1012.0	933.3	876.2	836.5	807.1	779.4	735.6	684.5
50°	1335.9	1192.3	1051.7	943.5	858.2	804.7	768.0	745.8	721.1	682.1	641.2
52.5°	1237.4	1113.0	975.9	864.8	785.4	736.2	701.3	679.1	659.8	629.8	591.3
55°	1132.8	1020.4	894.2	793.9	719.9	669.5	635.8	614.8	602.8	575.7	545.1
57.5°	1014.4	927.9	813.7	715.7	649.0	598.5	573.3	554.7	540.9	521.0	498.2
60°	889.4	832.9	733.2	641.2	581.1	533.6	511.4	496.4	483.8	467.5	450.7
62.5°	762.6	725.3	641.8	566.1	512.0	474.2	453.7	440.5	425.5	415.9	399.6
65°	652.0	615.4	555.3	493.4	442.3	410.4	395.4	383.4	374.4	362.4	351.0
67.5°	529.4	512.6	468.1	421.9	384.6	354.0	340.7	331.1	320.9	313.7	305.3
70°	418.3	411.1	381.6	353.4	319.1	299.9	287.9	284.2	271.0	263.8	258.4
72.5°	319.7	317.3	303.5	286.1	264.4	248.2	237.4	233.2	226.0	220.5	217.5
75°	232.6	233.8	230.8	218.1	209.1	198.3	188.7	186.3	180.3	175.5	172.5
77.5°	158.7	164.7	163.5	162.9	158.7	150.8	146.6	144.8	138.2	136.4	135.8
80°	101.0	107.6	113.6	113.0	111.8	110.0	107.0	105.2	102.2	100.4	99.2
82.5°	58.9	64.9	69.7	73.9	73.9	72.1	70.3	69.7	69.7	68.5	68.5
85°	31.9	33.1	34.9	39.1	42.1	42.7	42.1	41.5	39.7	40.3	40.9
87.5°	13.8	13.8	14.4	14.4	13.8	16.8	18.6	19.2	18.0	16.8	15.6
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°	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9	1463.9
2.5°	1433.3	1424.9	1418.8	1406.8	1398.4	1394.8	1388.2	1386.4	1393.0	1388.2	1387.6
5°	1396.6	1379.2	1365.4	1351.5	1336.5	1326.9	1312.5	1310.1	1306.5	1301.1	1299.9
7.5°	1353.9	1332.3	1316.1	1293.2	1274.6	1259.6	1241.6	1234.4	1230.7	1224.1	1213.3
10°	1310.7	1283.6	1259.6	1236.8	1212.1	1192.3	1174.3	1160.4	1151.4	1143.0	1139.4
12.5°	1268.0	1240.4	1207.9	1179.1	1150.8	1128.0	1107.6	1099.7	1089.5	1079.3	1069.7
15°	1223.5	1186.9	1153.2	1121.4	1097.9	1073.9	1054.7	1041.4	1026.4	1022.2	1006.0
17.5°	1176.1	1141.8	1102.1	1067.9	1041.4	1016.2	995.2	979.6	968.1	951.9	944.1
20°	1132.2	1089.5	1051.1	1020.4	990.4	959.1	937.5	924.9	914.0	901.4	895.4
22.5°	1085.3	1043.9	1004.2	966.9	936.3	905.6	891.8	878.6	866.0	854.6	846.1
25°	1039.6	997.6	956.1	918.9	887.0	864.8	846.7	831.7	825.1	813.7	805.3
27.5°	994.0	949.5	907.4	868.4	843.7	821.5	807.1	795.1	782.4	772.2	764.4
30°	950.1	904.4	857.6	828.1	801.7	780.6	764.4	753.0	744.0	735.0	729.6
32.5°	906.2	858.8	818.5	786.0	761.4	744.0	727.2	716.3	706.7	696.5	689.9
35°	858.8	810.7	777.0	745.8	721.1	704.3	692.9	677.3	669.5	662.2	655.6
37.5°	816.1	770.4	733.2	706.1	683.3	667.1	652.0	644.2	634.0	628.0	622.6
40°	768.0	727.2	694.1	665.3	649.6	631.0	617.2	606.4	599.1	590.7	584.7
42.5°	724.7	687.5	655.6	630.4	610.0	594.9	581.7	570.9	561.3	555.9	551.1
45°	684.5	646.6	615.4	591.3	573.3	558.3	544.5	539.1	527.0	519.8	517.4
47.5°	642.4	608.2	577.5	555.3	536.6	522.8	509.6	497.6	491.6	484.4	480.8
50°	599.7	567.3	539.1	517.4	499.4	483.8	471.7	464.5	455.5	448.9	444.1
52.5°	557.1	527.6	499.4	479.0	463.9	448.3	434.5	427.3	418.9	415.3	412.3
55°	516.8	485.0	460.9	440.5	424.3	409.8	397.2	390.0	384.6	380.4	379.2
57.5°	470.5	444.7	421.9	403.8	386.4	372.6	361.2	354.6	349.8	349.2	344.9
60°	425.5	402.6	382.2	362.4	348.0	335.3	325.7	317.9	313.1	312.5	311.3
62.5°	380.4	358.8	340.1	323.3	310.7	298.7	289.7	280.6	278.2	274.6	271.6
65°	335.9	316.1	300.5	286.7	272.8	262.6	253.6	248.2	241.6	238.0	231.4
67.5°	292.1	275.8	260.8	249.4	238.0	227.8	219.9	212.1	207.3	204.3	198.9
70°	248.8	236.8	221.8	209.1	200.7	192.9	186.9	177.9	174.9	172.5	170.1
72.5°	207.9	197.7	185.7	176.1	167.7	160.5	153.2	150.2	147.2	144.8	143.6
75°	170.1	159.9	149.0	141.8	135.8	129.8	126.2	123.2	122.0	121.4	119.0
77.5°	132.2	126.2	117.2	110.6	106.4	104.0	100.4	99.2	99.8	96.8	96.2
80°	95.6	92.5	85.3	82.9	79.9	77.5	75.7	72.7	69.7	68.5	66.7
82.5°	64.9	61.9	60.1	55.9	53.5	52.3	50.5	49.9	51.1	49.3	48.7
85°	37.9	34.9	33.7	33.1	31.9	33.1	32.5	31.9	31.2	30.6	31.2
87.5°	15.0	15.0	14.4	15.6	13.8	14.4	14.4	13.8	13.8	13.8	13.2
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: P242911

CATALOG NUMBER: S125RDR-S1090D830-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1463.9	1463.9	1463.9	1463.9
2.5°	1387.0	1380.4	1378.6	1381.0
5°	1293.8	1287.8	1290.8	1289.6
7.5°	1215.1	1207.3	1198.3	1200.7
10°	1131.6	1125.6	1122.0	1125.0
12.5°	1061.3	1058.3	1055.3	1052.9
15°	998.8	991.6	988.6	980.8
17.5°	938.7	936.3	928.5	923.1
20°	886.4	884.0	876.2	881.0
22.5°	843.1	837.1	835.9	832.9
25°	802.9	795.1	792.1	788.4
27.5°	762.0	757.8	753.6	752.4
30°	722.3	718.1	715.1	715.1
32.5°	686.9	683.9	680.9	680.3
35°	652.6	647.8	646.6	643.0
37.5°	616.6	612.4	612.4	613.0
40°	582.3	579.3	578.7	574.5
42.5°	545.7	544.5	542.1	540.9
45°	513.2	509.0	509.0	506.0
47.5°	479.0	475.4	476.0	472.3
50°	444.7	442.9	442.3	441.1
52.5°	410.4	409.8	412.9	409.8
55°	380.4	378.6	382.2	378.6
57.5°	344.9	343.7	347.3	344.9
60°	310.1	306.5	308.3	308.9
62.5°	268.6	266.8	268.0	264.4
65°	230.2	228.4	226.0	224.8
67.5°	200.1	194.7	194.7	195.9
70°	166.5	166.5	165.9	165.9
72.5°	143.0	142.4	141.2	140.6
75°	119.0	119.6	118.4	117.8
77.5°	93.1	90.1	91.3	90.1
80°	66.7	66.1	67.9	66.1
82.5°	49.3	48.7	49.3	48.1
85°	31.9	31.2	30.6	31.2
87.5°	13.8	13.2	13.2	13.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)