

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: P243663

Luminaire Tested: **S125DR-H1090D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243663  
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-H1090D927-X4F0-XX-UDD-A-W  
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3351.8 lumens  
Efficiency: N/A  
Efficacy: 106.4 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

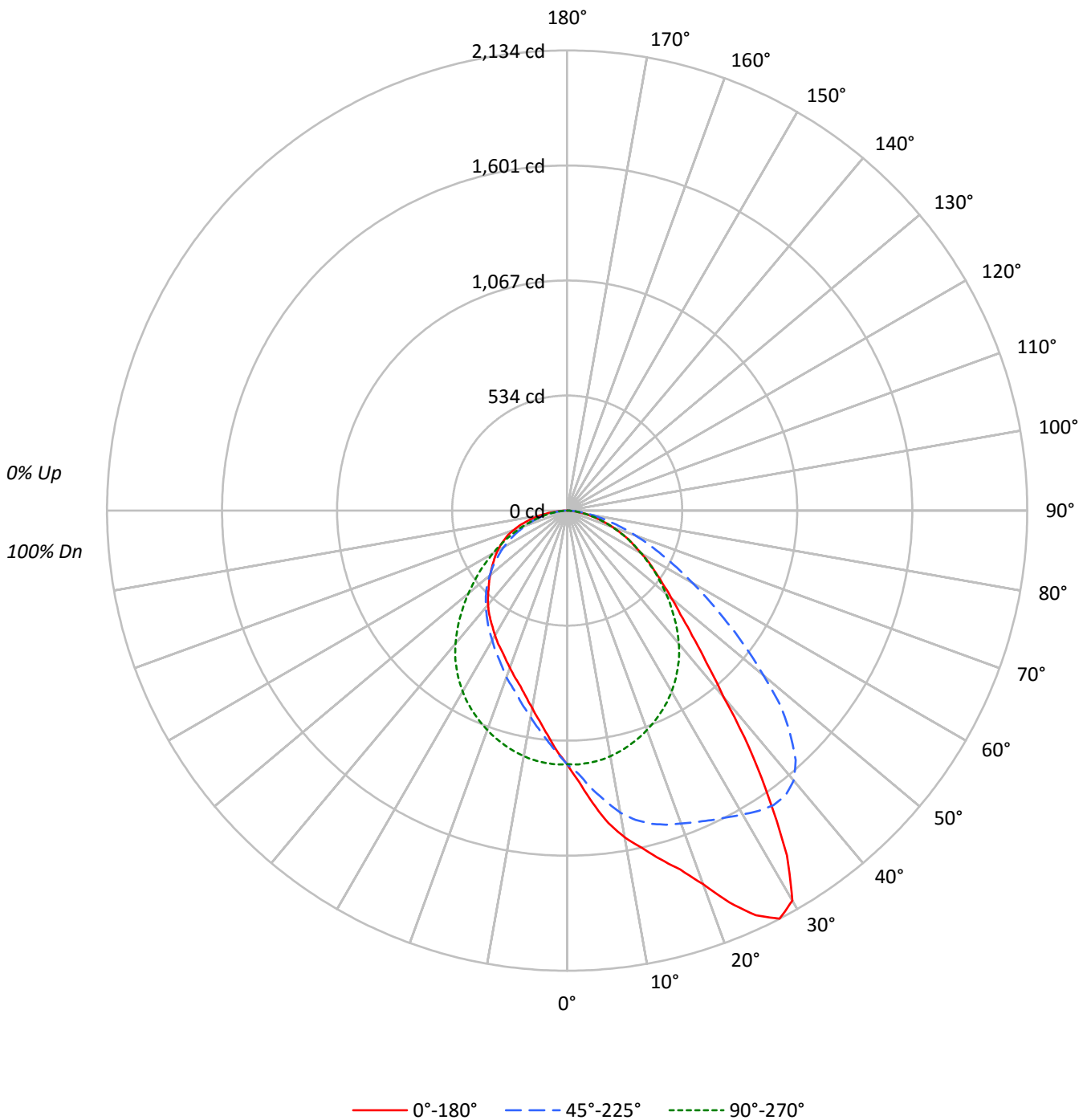
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	8359	8359	8359
5°	9711	8377	7445
10°	11111	8350	6718
15°	12317	8275	6190
20°	13945	8192	5872
25°	16239	8086	5625
30°	17143	7953	5487
35°	14176	7758	5371
40°	10487	7478	5292
45°	8245	7070	5177
50°	6981	6613	5157
55°	6217	6157	5177
60°	5640	5653	5288
65°	5229	5181	5437
70°	4698	4638	5472
75°	4007	4072	5396
80°	3278	3340	5034
85°	2259	2373	4281



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.6	3.4
10°-20°	339.5	10.1
20°-30°	551.9	16.5
30°-40°	671.5	20.0
40°-50°	614.4	18.3
50°-60°	491.7	14.7
60°-70°	342.5	10.2
70°-80°	182.0	5.4
80°-90°	44.7	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°	1005.0	30.0
0°-40°	1676.5	50.0
0°-60°	2782.7	83.0
0°-90°	3351.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3351.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1176	1176	1176	1176	1176	
5°	1361	1292	1174	1068	1044	135
15°	1674	1503	1125	889	841	480
25°	2071	1584	1031	753	717	945
35°	1634	1668	894	641	619	1013
45°	820	1462	703	531	515	647
55°	502	908	497	405	418	453
65°	311	484	308	272	323	306
75°	146	215	148	142	196	158
85°	28	41	29	33	52	36
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°	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1
2.5°	1259.1	1253.8	1252.4	1252.9	1250.0	1247.6	1241.9	1234.3	1229.0	1222.3	1220.4
5°	1361.1	1348.2	1350.6	1346.8	1340.6	1332.5	1325.3	1313.9	1302.9	1292.4	1278.6
7.5°	1461.3	1458.9	1452.2	1451.2	1441.2	1427.4	1413.1	1397.4	1374.0	1357.8	1339.2
10°	1539.5	1544.2	1534.7	1535.2	1517.5	1503.7	1491.3	1470.8	1444.6	1422.6	1395.5
12.5°	1602.4	1604.3	1602.9	1596.7	1585.3	1561.9	1550.0	1528.5	1499.9	1469.8	1448.9
15°	1674.0	1668.7	1660.6	1653.0	1636.3	1619.6	1594.8	1569.5	1533.3	1503.2	1472.7
17.5°	1745.5	1744.6	1734.5	1718.3	1697.3	1675.4	1638.2	1605.8	1567.1	1527.6	1489.4
20°	1843.7	1838.5	1823.7	1805.1	1766.5	1735.5	1689.2	1644.9	1594.3	1544.7	1500.4
22.5°	1966.8	1949.6	1934.8	1906.2	1861.9	1808.0	1756.0	1691.6	1621.0	1562.8	1507.5
25°	2070.8	2063.1	2047.4	2015.4	1964.9	1900.0	1822.8	1749.8	1661.1	1583.8	1511.8
27.5°	2133.7	2130.4	2120.8	2090.8	2048.8	1984.4	1901.9	1808.9	1708.3	1603.9	1517.5
30°	2088.9	2089.4	2094.6	2091.3	2072.7	2031.2	1957.7	1864.3	1747.9	1627.7	1519.0
32.5°	1896.2	1909.1	1950.1	1969.7	1995.9	2004.5	1971.6	1893.8	1781.3	1651.6	1523.7
35°	1633.9	1665.4	1693.0	1750.3	1818.5	1874.3	1906.7	1881.4	1795.1	1667.8	1526.1
37.5°	1386.9	1384.5	1427.4	1489.4	1561.9	1656.8	1748.8	1799.4	1771.3	1664.4	1521.8
40°	1130.3	1152.2	1178.9	1233.8	1318.7	1435.5	1545.2	1653.5	1692.6	1634.9	1505.1
42.5°	954.8	964.8	991.5	1034.4	1095.5	1214.7	1323.0	1462.2	1562.4	1569.0	1468.4
45°	820.3	831.3	838.9	881.3	938.1	1018.2	1129.3	1269.5	1404.0	1462.2	1408.8
47.5°	712.5	718.7	735.4	761.2	798.4	869.4	958.1	1085.5	1231.9	1344.9	1326.8
50°	631.4	636.2	649.6	663.9	694.4	746.8	818.4	922.8	1063.5	1187.0	1227.6
52.5°	559.9	566.1	572.8	586.6	614.7	650.0	708.2	789.8	920.4	1046.8	1111.2
55°	501.7	504.1	511.3	521.7	543.2	569.9	616.2	690.1	781.7	907.6	996.3
57.5°	451.2	448.8	456.4	463.6	477.9	500.3	533.7	588.5	675.8	783.1	875.6
60°	396.8	399.2	404.9	410.6	420.6	440.2	466.4	510.3	574.2	670.5	765.0
62.5°	350.1	352.0	353.4	361.5	370.6	384.4	405.9	441.6	494.6	574.2	658.6
65°	310.9	307.6	309.5	315.2	322.4	333.8	353.9	380.1	419.7	484.5	554.7
67.5°	265.2	266.1	266.6	269.9	276.1	287.1	301.4	322.9	355.3	406.3	467.9
70°	226.1	226.5	227.0	229.9	235.1	241.3	251.3	268.0	295.7	335.3	383.4
72.5°	186.0	187.9	187.9	190.3	194.1	197.4	207.0	220.8	241.8	273.3	313.8
75°	145.9	149.3	150.2	153.1	156.4	157.4	164.5	175.5	188.9	214.6	246.6
77.5°	113.5	113.5	115.4	118.8	118.8	121.6	129.2	134.0	144.5	162.2	186.5
80°	80.1	81.6	81.6	82.5	84.4	86.8	90.1	94.4	103.5	116.4	129.2
82.5°	52.5	52.9	53.4	55.8	54.8	57.2	58.7	63.9	68.2	74.4	82.5
85°	27.7	27.7	28.1	29.6	31.0	31.5	32.4	34.8	38.2	41.0	45.8
87.5°	11.4	11.0	11.0	11.9	11.9	12.4	12.9	13.8	15.7	15.7	17.6
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1
2.5°	1219.0	1215.2	1208.5	1202.8	1195.6	1190.4	1185.1	1178.5	1171.8	1164.6	1157.0
5°	1267.6	1256.2	1243.3	1230.4	1215.2	1202.8	1189.4	1174.2	1161.3	1147.0	1131.7
7.5°	1323.4	1303.4	1281.0	1255.7	1231.9	1210.4	1188.5	1167.5	1148.4	1126.9	1106.0
10°	1377.3	1342.5	1314.4	1280.0	1246.2	1214.7	1184.7	1157.0	1129.3	1102.6	1076.9
12.5°	1414.0	1374.5	1339.2	1299.6	1260.0	1220.4	1180.8	1142.7	1109.8	1077.3	1050.2
15°	1439.3	1411.7	1364.9	1317.2	1265.3	1213.7	1168.9	1124.6	1085.5	1047.8	1015.3
17.5°	1455.1	1419.3	1373.5	1323.4	1266.2	1212.3	1158.4	1105.5	1060.7	1020.1	983.4
20°	1459.4	1417.4	1369.7	1317.7	1260.5	1201.3	1140.8	1083.1	1034.4	988.2	951.0
22.5°	1455.1	1406.4	1355.4	1304.8	1244.7	1184.7	1121.2	1058.3	1002.5	954.8	915.7
25°	1447.9	1389.3	1335.8	1276.2	1220.4	1163.2	1097.9	1031.1	972.9	923.3	879.4
27.5°	1438.8	1371.6	1305.8	1247.1	1186.6	1130.3	1070.2	1002.0	941.4	887.1	846.0
30°	1428.4	1348.2	1275.3	1205.6	1148.4	1092.1	1033.5	969.1	908.0	856.1	811.7
32.5°	1416.4	1323.4	1237.6	1162.7	1101.7	1049.7	994.8	933.3	873.2	817.4	778.8
35°	1399.7	1289.6	1197.1	1116.0	1052.5	996.3	948.1	894.2	834.6	782.6	742.6
37.5°	1380.2	1259.5	1156.0	1068.3	999.1	941.4	897.1	853.2	797.4	747.3	708.7
40°	1354.0	1223.3	1112.6	1017.7	943.8	887.1	843.7	806.0	759.7	709.2	674.4
42.5°	1319.6	1183.2	1063.5	962.4	890.9	830.3	789.8	755.4	715.8	672.0	637.6
45°	1280.5	1137.4	1008.7	909.5	831.7	774.0	734.4	703.4	673.4	634.3	602.3
47.5°	1219.5	1083.5	959.1	849.4	773.1	717.3	680.1	650.5	628.1	597.1	565.6
50°	1147.0	1022.5	900.4	790.2	713.0	659.1	623.8	598.1	579.0	555.1	531.3
52.5°	1067.3	953.8	836.0	733.0	655.8	604.7	567.5	544.6	532.2	513.2	494.6
55°	974.3	876.6	766.9	672.9	597.1	545.1	513.2	496.9	483.1	473.6	456.9
57.5°	880.9	798.4	700.6	607.6	538.0	491.7	463.1	445.0	434.9	428.3	416.3
60°	778.8	713.9	624.3	543.7	481.7	437.8	412.5	397.7	388.7	384.9	376.8
62.5°	681.5	631.9	550.4	483.1	427.8	389.2	363.9	352.0	346.2	341.9	337.2
65°	585.7	546.5	482.2	419.2	372.5	337.7	317.6	308.1	303.8	299.0	298.5
67.5°	499.3	463.6	412.1	360.5	321.4	291.9	274.2	264.7	259.9	260.4	258.0
70°	414.4	386.8	344.8	302.8	269.5	246.1	229.4	223.2	221.3	220.8	218.9
72.5°	335.3	319.5	282.8	247.5	221.3	203.2	189.8	184.6	182.2	181.2	181.2
75°	265.6	254.2	222.7	196.0	176.0	161.2	152.1	148.3	145.0	146.9	145.5
77.5°	199.4	189.8	168.4	149.3	134.0	121.6	117.3	114.0	112.1	111.6	113.5
80°	140.2	134.5	121.1	105.9	94.4	87.3	84.4	81.6	80.1	79.2	80.1
82.5°	90.1	86.8	77.3	68.2	61.5	57.7	54.8	53.4	51.0	51.5	52.5
85°	49.1	48.2	42.0	39.1	32.9	32.4	30.5	29.1	29.6	28.6	30.0
87.5°	20.0	19.1	17.6	16.2	14.3	12.9	11.9	12.9	11.4	12.9	12.4
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1	1176.1
2.5°	1153.2	1147.9	1141.7	1136.0	1127.4	1121.7	1118.8	1119.8	1116.5	1115.5	1115.0
5°	1122.7	1110.7	1099.3	1089.7	1079.7	1068.3	1060.2	1057.8	1056.8	1054.5	1049.2
7.5°	1091.2	1075.9	1061.1	1047.3	1033.0	1019.6	1011.5	1004.9	1001.0	994.4	992.9
10°	1057.8	1039.2	1023.5	1003.4	986.3	972.4	961.9	956.2	952.9	946.7	941.4
12.5°	1025.8	1006.3	982.0	963.8	945.7	931.4	919.5	910.0	907.6	899.5	895.2
15°	991.5	967.7	945.7	924.7	907.6	889.4	882.3	873.7	865.1	858.0	856.5
17.5°	958.6	930.0	908.5	888.0	867.0	853.7	844.1	838.4	831.7	827.9	821.2
20°	919.0	895.6	871.8	852.7	834.6	823.2	810.3	805.0	800.3	791.2	788.3
22.5°	885.6	857.5	837.5	818.4	802.2	786.0	776.9	771.6	764.5	759.7	755.9
25°	850.8	827.4	802.2	783.1	769.3	753.0	746.8	740.2	734.0	729.7	725.9
27.5°	817.0	791.2	770.7	751.6	737.3	725.9	717.3	710.1	705.8	702.5	700.1
30°	781.7	757.8	738.7	721.1	704.9	695.3	687.2	684.4	679.6	677.2	673.4
32.5°	749.7	725.4	707.3	692.0	677.7	668.2	663.4	659.1	654.3	650.0	649.6
35°	713.5	692.5	675.8	659.1	648.6	641.0	635.7	631.4	627.6	624.3	622.4
37.5°	681.5	661.5	642.9	631.0	619.5	612.8	607.1	605.7	601.9	602.3	599.5
40°	647.2	629.0	613.3	601.4	593.8	586.6	582.8	578.0	575.6	576.1	573.7
42.5°	613.8	597.1	582.8	571.8	563.7	558.5	555.1	551.3	548.5	546.5	546.1
45°	579.9	565.1	553.2	542.3	535.6	530.8	526.5	521.7	519.4	518.4	517.9
47.5°	546.5	533.2	520.3	512.7	506.5	502.2	497.9	494.1	492.2	490.7	488.4
50°	512.2	498.9	489.8	480.3	475.0	469.3	464.5	462.6	460.2	459.7	462.1
52.5°	476.4	465.9	457.8	450.2	444.0	437.8	433.0	430.7	432.1	432.1	434.9
55°	442.6	431.6	424.0	417.8	411.1	405.4	400.6	400.6	400.6	403.5	407.3
57.5°	404.9	395.4	389.6	382.5	376.3	372.5	369.1	368.7	370.6	375.3	379.6
60°	366.7	360.1	353.9	348.1	341.9	339.1	338.6	337.7	340.5	345.3	354.3
62.5°	329.1	324.8	317.1	314.3	309.0	305.7	305.7	306.7	310.9	318.6	326.7
65°	292.8	286.6	280.9	278.0	274.7	271.8	271.8	275.7	281.9	289.0	299.0
67.5°	255.6	250.4	246.6	243.7	239.9	238.5	239.9	244.2	251.8	259.0	269.5
70°	215.6	214.6	211.3	207.5	205.5	205.5	207.0	211.7	217.5	228.4	237.5
72.5°	178.8	178.8	176.9	174.6	173.1	174.6	175.5	180.3	187.4	197.0	207.0
75°	145.5	144.0	142.6	141.6	141.2	142.1	143.6	147.4	156.0	165.0	173.1
77.5°	112.6	111.6	110.2	111.1	111.1	111.6	115.9	120.2	125.0	132.1	140.7
80°	81.1	81.6	80.1	79.6	82.0	83.0	86.3	89.7	93.0	101.1	107.3
82.5°	53.4	54.4	53.9	54.8	55.8	55.8	59.6	63.0	65.8	71.5	76.3
85°	30.5	31.0	31.0	32.4	33.4	32.9	36.2	38.2	39.6	43.9	46.7
87.5°	13.4	13.8	14.3	14.3	14.3	16.2	16.7	17.6	18.1	19.1	20.5
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: P243663

CATALOG NUMBER: S125DR-H1090D927-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1176.1	1176.1	1176.1	1176.1
2.5°	1110.7	1110.3	1112.6	1114.1
5°	1045.9	1044.4	1042.5	1043.5
7.5°	988.2	984.4	983.4	983.4
10°	937.1	933.3	932.4	930.9
12.5°	893.7	888.0	885.6	883.2
15°	852.7	851.8	846.5	841.3
17.5°	815.0	816.5	811.2	808.8
20°	783.6	779.3	777.4	776.4
22.5°	751.6	748.3	748.3	744.9
25°	723.0	720.1	720.6	717.3
27.5°	696.3	695.8	695.3	694.4
30°	671.5	669.6	667.7	668.6
32.5°	647.6	644.8	643.4	642.9
35°	622.8	621.9	620.0	619.0
37.5°	598.5	599.0	596.6	596.1
40°	572.3	571.8	571.3	570.4
42.5°	544.6	543.2	544.2	543.7
45°	517.0	515.5	516.5	515.1
47.5°	489.8	490.7	490.7	491.2
50°	463.1	465.0	465.0	466.4
52.5°	438.3	442.1	442.1	441.6
55°	411.6	415.9	417.3	417.8
57.5°	386.3	390.6	394.9	395.8
60°	359.1	366.7	371.0	372.0
62.5°	334.8	341.9	347.7	348.1
65°	307.6	316.2	321.4	323.3
67.5°	279.9	286.6	293.8	296.6
70°	248.5	256.6	261.3	263.3
72.5°	215.6	224.6	230.8	231.8
75°	184.1	190.8	195.5	196.5
77.5°	148.3	155.0	159.3	160.2
80°	112.6	118.3	121.1	123.0
82.5°	79.6	83.5	84.9	86.8
85°	49.1	52.0	52.5	52.5
87.5°	21.5	21.9	21.9	22.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)