

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: P243688

Luminaire Tested: **S125DR-H1090D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243688
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-H1090D935-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3643.0 lumens
Efficiency: N/A
Efficacy: 115.7 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

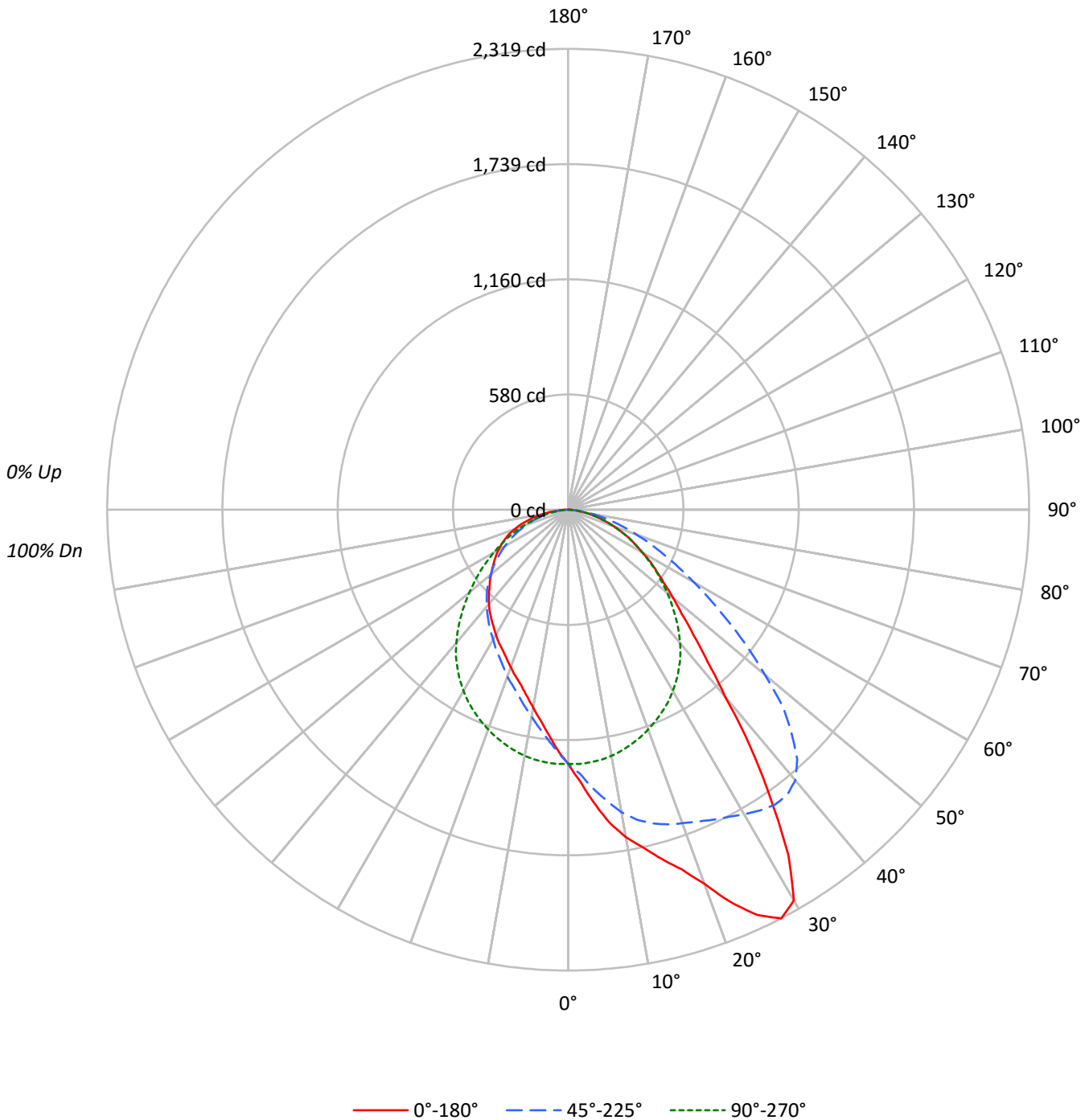
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	9085	9085	9085
5°	10555	9105	8091
10°	12075	9075	7302
15°	13387	8994	6728
20°	15156	8904	6383
25°	17649	8789	6114
30°	18632	8644	5964
35°	15408	8433	5838
40°	11398	8128	5751
45°	8962	7685	5627
50°	7588	7187	5605
55°	6757	6693	5627
60°	6131	6145	5747
65°	5684	5632	5910
70°	5106	5041	5945
75°	4355	4427	5866
80°	3565	3626	5472
85°	2455	2577	4648



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.5	3.4
10°-20°	369.0	10.1
20°-30°	599.9	16.5
30°-40°	729.8	20.0
40°-50°	667.8	18.3
50°-60°	534.5	14.7
60°-70°	372.2	10.2
70°-80°	197.8	5.4
80°-90°	48.6	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°	1092.3	30.0
0°-40°	1822.1	50.0
0°-60°	3024.4	83.0
0°-90°	3643.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3643.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1278	1278	1278	1278	1278	
5°	1479	1405	1276	1161	1134	147
15°	1819	1634	1222	967	914	522
25°	2251	1721	1121	818	780	1028
35°	1776	1813	972	697	673	1101
45°	892	1589	765	577	560	703
55°	545	986	540	441	454	492
65°	338	527	335	296	351	333
75°	159	233	161	154	214	171
85°	30	45	32	36	57	39
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°	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2
2.5°	1368.4	1362.7	1361.2	1361.7	1358.6	1356.0	1349.8	1341.5	1335.8	1328.5	1326.4
5°	1479.4	1465.4	1467.9	1463.8	1457.1	1448.3	1440.5	1428.0	1416.1	1404.7	1389.7
7.5°	1588.2	1585.6	1578.4	1577.3	1566.4	1551.4	1535.9	1518.7	1493.3	1475.7	1455.5
10°	1673.2	1678.4	1668.0	1668.5	1649.4	1634.3	1620.9	1598.6	1570.1	1546.2	1516.7
12.5°	1741.6	1743.7	1742.2	1735.4	1723.0	1697.6	1684.6	1661.3	1630.2	1597.5	1574.7
15°	1819.4	1813.7	1804.9	1796.6	1778.4	1760.3	1733.3	1705.9	1666.5	1633.8	1600.6
17.5°	1897.1	1896.1	1885.2	1867.6	1844.8	1820.9	1780.5	1745.3	1703.3	1660.3	1618.8
20°	2003.9	1998.2	1982.1	1961.9	1919.9	1886.3	1836.0	1787.8	1732.8	1678.9	1630.7
22.5°	2137.7	2119.0	2102.9	2071.8	2023.6	1965.0	1908.5	1838.6	1761.9	1698.6	1638.5
25°	2250.6	2242.4	2225.3	2190.5	2135.6	2065.1	1981.1	1901.8	1805.4	1721.4	1643.2
27.5°	2319.1	2315.4	2305.1	2272.4	2226.8	2156.8	2067.2	1966.1	1856.7	1743.2	1649.4
30°	2270.3	2270.9	2276.6	2272.9	2252.7	2207.6	2127.8	2026.2	1899.7	1769.1	1650.9
32.5°	2060.9	2074.9	2119.5	2140.8	2169.3	2178.6	2142.8	2058.3	1936.0	1795.0	1656.1
35°	1775.8	1810.1	1840.1	1902.3	1976.4	2037.1	2072.3	2044.9	1951.0	1812.6	1658.7
37.5°	1507.3	1504.8	1551.4	1618.8	1697.6	1800.7	1900.8	1955.7	1925.1	1809.0	1654.0
40°	1228.5	1252.3	1281.3	1341.0	1433.2	1560.2	1679.4	1797.1	1839.6	1776.9	1635.9
42.5°	1037.7	1048.6	1077.6	1124.3	1190.6	1320.2	1437.9	1589.2	1698.1	1705.4	1596.0
45°	891.6	903.5	911.8	957.9	1019.6	1106.7	1227.4	1379.8	1526.0	1589.2	1531.2
47.5°	774.4	781.1	799.3	827.3	867.7	944.9	1041.4	1179.8	1338.9	1461.7	1442.0
50°	686.3	691.5	706.0	721.5	754.7	811.7	889.5	1003.0	1155.9	1290.2	1334.2
52.5°	608.5	615.3	622.5	637.6	668.1	706.5	769.7	858.4	1000.4	1137.8	1207.7
55°	545.3	547.9	555.7	567.1	590.4	619.4	669.7	750.0	849.6	986.4	1082.8
57.5°	490.4	487.8	496.1	503.8	519.4	543.7	580.0	639.6	734.5	851.1	951.7
60°	431.3	433.9	440.1	446.3	457.2	478.4	506.9	554.6	624.1	728.8	831.4
62.5°	380.5	382.5	384.1	392.9	402.8	417.8	441.1	480.0	537.5	624.1	715.8
65°	338.0	334.3	336.4	342.6	350.4	362.8	384.6	413.1	456.1	526.6	602.8
67.5°	288.2	289.2	289.8	293.4	300.1	312.0	327.6	350.9	386.2	441.6	508.5
70°	245.7	246.2	246.7	249.8	255.5	262.3	273.2	291.3	321.4	364.4	416.7
72.5°	202.2	204.2	204.2	206.8	211.0	214.6	225.0	240.0	262.8	297.0	341.1
75°	158.6	162.2	163.3	166.4	170.0	171.1	178.8	190.8	205.3	233.3	268.0
77.5°	123.4	123.4	125.4	129.1	129.1	132.2	140.5	145.7	157.1	176.2	202.7
80°	87.1	88.6	88.6	89.7	91.7	94.3	98.0	102.6	112.5	126.5	140.5
82.5°	57.0	57.5	58.1	60.6	59.6	62.2	63.8	69.5	74.1	80.9	89.7
85°	30.1	30.1	30.6	32.1	33.7	34.2	35.2	37.8	41.5	44.6	49.8
87.5°	12.4	11.9	11.9	13.0	13.0	13.5	14.0	15.0	17.1	17.1	19.2
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°	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2
2.5°	1324.9	1320.7	1313.5	1307.3	1299.5	1293.8	1288.1	1280.8	1273.6	1265.8	1257.5
5°	1377.8	1365.3	1351.3	1337.3	1320.7	1307.3	1292.7	1276.2	1262.2	1246.6	1230.0
7.5°	1438.4	1416.6	1392.3	1364.8	1338.9	1315.6	1291.7	1268.9	1248.2	1224.8	1202.0
10°	1497.0	1459.1	1428.6	1391.2	1354.4	1320.2	1287.6	1257.5	1227.4	1198.4	1170.4
12.5°	1536.9	1493.9	1455.5	1412.5	1369.5	1326.4	1283.4	1242.0	1206.2	1170.9	1141.4
15°	1564.4	1534.3	1483.5	1431.7	1375.2	1319.2	1270.5	1222.3	1179.8	1138.8	1103.6
17.5°	1581.5	1542.6	1492.8	1438.4	1376.2	1317.6	1259.1	1201.5	1152.8	1108.7	1068.8
20°	1586.1	1540.5	1488.7	1432.2	1370.0	1305.7	1239.9	1177.2	1124.3	1074.0	1033.6
22.5°	1581.5	1528.6	1473.1	1418.2	1352.9	1287.6	1218.6	1150.2	1089.6	1037.7	995.2
25°	1573.7	1509.9	1451.9	1387.1	1326.4	1264.2	1193.2	1120.7	1057.4	1003.5	955.8
27.5°	1563.8	1490.8	1419.2	1355.5	1289.6	1228.5	1163.2	1089.0	1023.2	964.1	919.5
30°	1552.4	1465.4	1386.1	1310.4	1248.2	1187.0	1123.3	1053.3	986.9	930.4	882.2
32.5°	1539.5	1438.4	1345.1	1263.7	1197.4	1140.9	1081.3	1014.4	949.1	888.4	846.5
35°	1521.3	1401.6	1301.0	1212.9	1144.0	1082.8	1030.5	971.9	907.1	850.6	807.1
37.5°	1500.1	1368.9	1256.5	1161.1	1085.9	1023.2	975.0	927.3	866.7	812.2	770.3
40°	1471.6	1329.6	1209.3	1106.1	1025.8	964.1	917.0	876.0	825.7	770.8	732.9
42.5°	1434.3	1286.0	1155.9	1046.0	968.3	902.4	858.4	821.1	778.0	730.3	693.0
45°	1391.8	1236.3	1096.3	988.5	904.0	841.3	798.2	764.6	731.9	689.4	654.7
47.5°	1325.4	1177.7	1042.4	923.2	840.2	779.6	739.2	707.0	682.7	649.0	614.8
50°	1246.6	1111.3	978.6	858.9	774.9	716.4	678.0	650.0	629.3	603.4	577.4
52.5°	1160.1	1036.7	908.7	796.7	712.7	657.3	616.8	591.9	578.5	557.7	537.5
55°	1059.0	952.7	833.5	731.4	649.0	592.5	557.7	540.1	525.1	514.7	496.6
57.5°	957.4	867.7	761.4	660.4	584.7	534.4	503.3	483.6	472.7	465.5	452.5
60°	846.5	776.0	678.5	590.9	523.5	475.8	448.4	432.3	422.5	418.3	409.5
62.5°	740.7	686.8	598.2	525.1	465.0	423.0	395.5	382.5	376.3	371.7	366.5
65°	636.5	594.0	524.0	455.6	404.8	367.0	345.2	334.9	330.2	325.0	324.5
67.5°	542.7	503.8	447.8	391.9	349.4	317.2	298.0	287.7	282.5	283.0	280.4
70°	450.4	420.4	374.8	329.1	292.9	267.5	249.3	242.6	240.5	240.0	237.9
72.5°	364.4	347.3	307.4	269.0	240.5	220.8	206.3	200.6	198.0	197.0	197.0
75°	288.7	276.3	242.1	213.0	191.3	175.2	165.4	161.2	157.6	159.6	158.1
77.5°	216.7	206.3	183.0	162.2	145.7	132.2	127.5	123.9	121.8	121.3	123.4
80°	152.4	146.2	131.7	115.1	102.6	94.9	91.7	88.6	87.1	86.0	87.1
82.5°	98.0	94.3	84.0	74.1	66.9	62.7	59.6	58.1	55.5	56.0	57.0
85°	53.4	52.4	45.6	42.5	35.8	35.2	33.2	31.6	32.1	31.1	32.7
87.5°	21.8	20.7	19.2	17.6	15.6	14.0	13.0	14.0	12.4	14.0	13.5
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°	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2
2.5°	1253.4	1247.7	1240.9	1234.7	1225.4	1219.1	1216.0	1217.1	1213.4	1212.4	1211.9
5°	1220.2	1207.2	1194.8	1184.4	1173.5	1161.1	1152.3	1149.7	1148.7	1146.1	1140.4
7.5°	1186.0	1169.4	1153.3	1138.3	1122.7	1108.2	1099.4	1092.2	1088.0	1080.7	1079.2
10°	1149.7	1129.5	1112.4	1090.6	1071.9	1056.9	1045.5	1039.3	1035.7	1028.9	1023.2
12.5°	1115.0	1093.7	1067.3	1047.6	1027.9	1012.3	999.4	989.0	986.4	977.6	972.9
15°	1077.6	1051.7	1027.9	1005.1	986.4	966.7	958.9	949.6	940.3	932.5	930.9
17.5°	1041.9	1010.8	987.4	965.2	942.3	927.8	917.5	911.2	904.0	899.8	892.6
20°	998.8	973.4	947.5	926.8	907.1	894.7	880.7	875.0	869.8	859.9	856.8
22.5°	962.6	932.0	910.2	889.5	871.9	854.2	844.4	838.7	830.9	825.7	821.6
25°	924.7	899.3	871.9	851.1	836.1	818.5	811.7	804.5	797.7	793.1	788.9
27.5°	887.9	859.9	837.6	816.9	801.4	788.9	779.6	771.8	767.1	763.5	760.9
30°	849.6	823.6	802.9	783.7	766.1	755.7	746.9	743.8	738.6	736.0	731.9
32.5°	814.8	788.4	768.7	752.1	736.6	726.2	721.0	716.4	711.2	706.5	706.0
35°	775.4	752.6	734.5	716.4	704.9	696.7	691.0	686.3	682.1	678.5	676.4
37.5°	740.7	718.9	698.7	685.8	673.3	666.1	659.9	658.3	654.2	654.7	651.6
40°	703.4	683.7	666.6	653.6	645.3	637.6	633.4	628.2	625.6	626.2	623.6
42.5°	667.1	649.0	633.4	621.5	612.7	607.0	603.4	599.2	596.1	594.0	593.5
45°	630.3	614.2	601.3	589.4	582.1	576.9	572.3	567.1	564.5	563.4	562.9
47.5°	594.0	579.5	565.5	557.2	550.5	545.8	541.2	537.0	534.9	533.4	530.8
50°	556.7	542.2	532.3	522.0	516.3	510.1	504.9	502.8	500.2	499.7	502.3
52.5°	517.8	506.4	497.6	489.3	482.6	475.8	470.7	468.1	469.6	469.6	472.7
55°	481.0	469.1	460.8	454.1	446.8	440.6	435.4	435.4	435.4	438.5	442.7
57.5°	440.1	429.7	423.5	415.7	409.0	404.8	401.2	400.7	402.8	407.9	412.6
60°	398.6	391.3	384.6	378.4	371.7	368.5	368.0	367.0	370.1	375.3	385.1
62.5°	357.7	353.0	344.7	341.6	335.9	332.3	332.3	333.3	338.0	346.3	355.1
65°	318.3	311.5	305.3	302.2	298.6	295.5	295.5	299.6	306.3	314.1	325.0
67.5°	277.8	272.1	268.0	264.9	260.7	259.2	260.7	265.4	273.7	281.5	292.9
70°	234.3	233.3	229.6	225.5	223.4	223.4	225.0	230.1	236.4	248.3	258.1
72.5°	194.4	194.4	192.3	189.7	188.2	189.7	190.8	195.9	203.7	214.1	225.0
75°	158.1	156.5	155.0	153.9	153.4	154.5	156.0	160.2	169.5	179.3	188.2
77.5°	122.3	121.3	119.7	120.8	120.8	121.3	126.0	130.6	135.8	143.6	152.9
80°	88.1	88.6	87.1	86.6	89.2	90.2	93.8	97.4	101.1	109.9	116.6
82.5°	58.1	59.1	58.6	59.6	60.6	60.6	64.8	68.4	71.5	77.8	82.9
85°	33.2	33.7	33.7	35.2	36.3	35.8	39.4	41.5	43.0	47.7	50.8
87.5°	14.5	15.0	15.6	15.6	15.6	17.6	18.1	19.2	19.7	20.7	22.3
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: P243688

CATALOG NUMBER: S125DR-H1090D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1278.2	1278.2	1278.2	1278.2
2.5°	1207.2	1206.7	1209.3	1210.9
5°	1136.7	1135.2	1133.1	1134.1
7.5°	1074.0	1069.9	1068.8	1068.8
10°	1018.5	1014.4	1013.4	1011.8
12.5°	971.4	965.2	962.6	960.0
15°	926.8	925.8	920.1	914.4
17.5°	885.8	887.4	881.7	879.1
20°	851.6	847.0	844.9	843.9
22.5°	816.9	813.3	813.3	809.7
25°	785.8	782.7	783.2	779.6
27.5°	756.8	756.3	755.7	754.7
30°	729.8	727.8	725.7	726.7
32.5°	703.9	700.8	699.2	698.7
35°	677.0	675.9	673.8	672.8
37.5°	650.5	651.0	648.4	647.9
40°	622.0	621.5	621.0	619.9
42.5°	591.9	590.4	591.4	590.9
45°	561.9	560.3	561.4	559.8
47.5°	532.3	533.4	533.4	533.9
50°	503.3	505.4	505.4	506.9
52.5°	476.4	480.5	480.5	480.0
55°	447.3	452.0	453.6	454.1
57.5°	419.9	424.5	429.2	430.2
60°	390.3	398.6	403.3	404.3
62.5°	363.9	371.7	377.9	378.4
65°	334.3	343.7	349.4	351.4
67.5°	304.3	311.5	319.3	322.4
70°	270.1	278.9	284.1	286.1
72.5°	234.3	244.1	250.9	251.9
75°	200.1	207.3	212.5	213.6
77.5°	161.2	168.5	173.1	174.2
80°	122.3	128.5	131.7	133.7
82.5°	86.6	90.7	92.3	94.3
85°	53.4	56.5	57.0	57.0
87.5°	23.3	23.8	23.8	24.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)