

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: P332236

Luminaire Tested: **S123DIW-S1165D1535U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332236
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1165D1535U835-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10991.2 lumens
Efficiency: N/A
Efficacy: 132.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

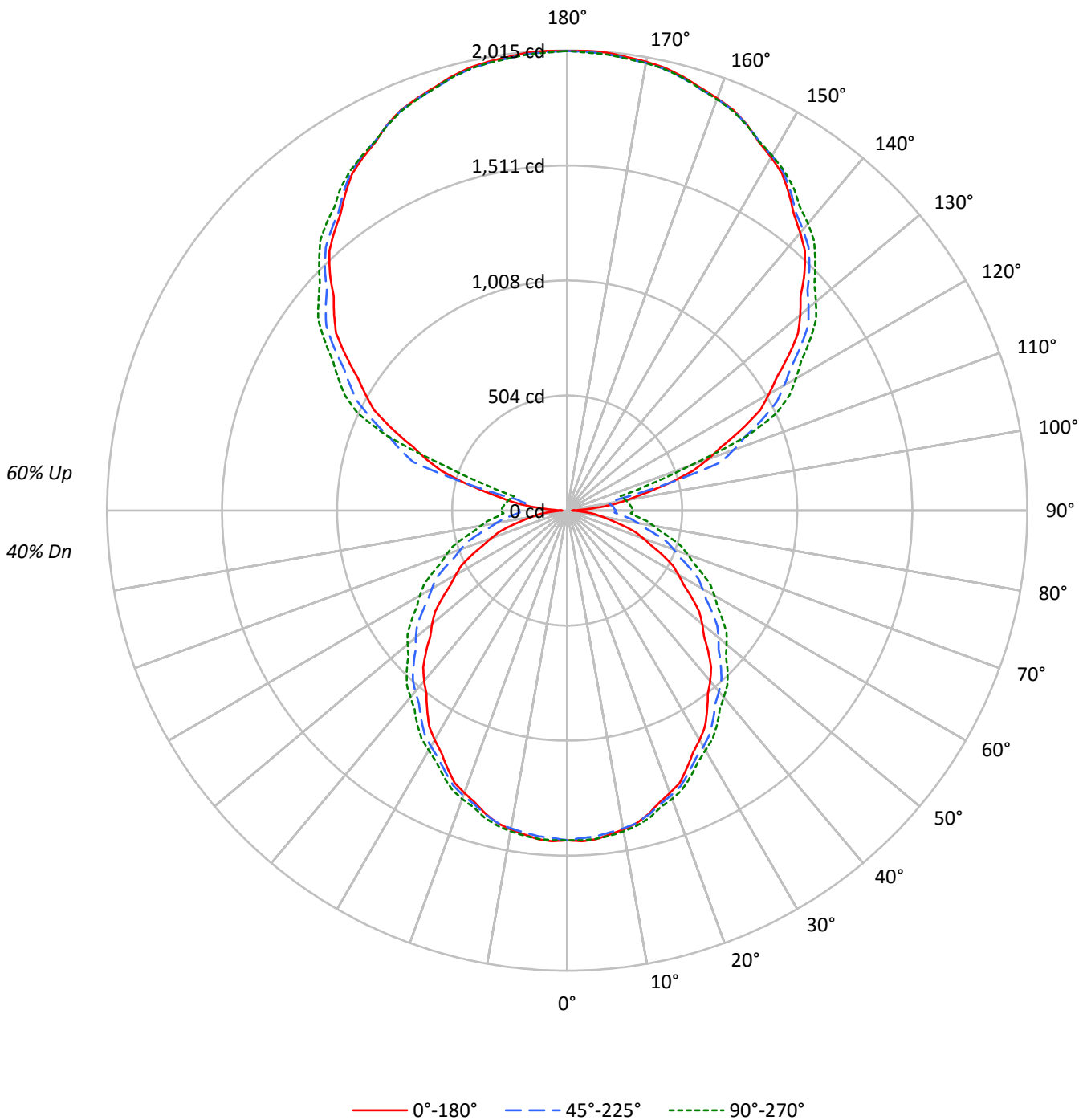
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	47	47	47	40				
1	95	90	86	82	86	82	79	75	67	65	62	53	51	50	40	39	38	32				
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26				
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22				
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19				
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16				
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14				
7	55	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12				
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11				
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10				
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15532	15532	15532
5°	15581	15141	15150
10°	15441	14792	14718
15°	15242	14397	14247
20°	14958	13944	13729
25°	14607	13423	13185
30°	14248	12956	12632
35°	13844	12460	12191
40°	13459	12010	11719
45°	13033	11577	11342
50°	12611	11149	10926
55°	12146	10713	10553
60°	11692	10267	10169
65°	11230	9793	9712
70°	10529	9260	9244
75°	9643	8650	8768
80°	8626	8052	8224
85°	7681	7639	7911



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.8	1.2
10°-20°	390.0	3.5
20°-30°	583.2	5.3
30°-40°	696.5	6.3
40°-50°	728.7	6.6
50°-60°	683.9	6.2
60°-70°	571.2	5.2
70°-80°	408.7	3.7
80°-90°	249.3	2.3
90°-100°	226.1	2.1
100°-110°	461.0	4.2
110°-120°	912.6	8.3
120°-130°	1109.4	10.1
130°-140°	1158.8	10.5
140°-150°	1069.7	9.7
150°-160°	859.6	7.8
160°-170°	554.7	5.0
170°-180°	191.2	1.7
0°-30°	1110.0	10.1
0°-40°	1806.5	16.4
0°-60°	3219.1	29.3
0°-90°	4448.2	40.5
90°-120°	1599.7	14.6
90°-150°	4937.5	44.9
90°-180°	6543.0	59.5
0°-180°	10991.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1443	1443	1443	1443	1443	
5°	1445	1441	1432	1444	1443	137
15°	1375	1380	1379	1393	1393	387
25°	1242	1257	1262	1282	1283	572
35°	1069	1094	1114	1137	1144	668
45°	874	912	951	980	993	674
55°	666	719	775	816	830	597
65°	461	522	591	636	654	455
75°	250	324	402	452	473	267
85°	77	156	239	290	308	81
90°	22	114	214	271	292	18
95°	108	114	202	259	277	126
105°	458	506	445	238	242	485
115°	844	874	941	992	1013	833
125°	1183	1197	1246	1281	1296	1056
135°	1470	1478	1500	1532	1536	1131
145°	1694	1702	1706	1721	1728	1060
155°	1864	1862	1863	1869	1861	859
165°	1966	1962	1960	1971	1961	555
175°	2012	2005	2006	2016	2005	191
180°	2012	2012	2012	2012	2012	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1449.3	1448.5	1447.6	1446.8	1445.9	1444.4	1442.2	1439.9	1437.7	1435.5	1437.7
5°	1444.6	1443.9	1443.2	1442.5	1441.8	1440.4	1438.3	1436.2	1434.1	1432.0	1434.8
7.5°	1430.4	1430.6	1430.7	1430.9	1431.0	1430.1	1428.0	1426.0	1424.0	1421.9	1425.4
10°	1417.9	1418.6	1419.3	1420.0	1420.7	1420.1	1418.4	1416.6	1414.9	1413.1	1416.6
12.5°	1402.8	1403.7	1404.7	1405.7	1406.7	1406.6	1405.4	1404.2	1403.0	1401.8	1405.0
15°	1375.4	1376.5	1377.5	1378.6	1379.6	1380.0	1379.6	1379.3	1378.9	1378.6	1382.1
17.5°	1340.8	1342.9	1345.0	1347.1	1349.2	1350.2	1350.1	1349.9	1349.8	1349.6	1352.8
20°	1315.7	1317.8	1319.9	1322.0	1324.1	1325.5	1326.2	1326.9	1327.6	1328.3	1331.4
22.5°	1289.3	1291.4	1293.5	1295.6	1297.7	1299.2	1300.2	1301.2	1302.1	1303.1	1307.1
25°	1241.8	1245.3	1248.8	1252.3	1255.8	1258.0	1259.1	1260.1	1261.2	1262.2	1266.8
27.5°	1194.0	1198.0	1202.0	1206.0	1209.9	1213.1	1215.3	1217.5	1219.8	1222.0	1225.9
30°	1160.1	1164.6	1169.1	1173.7	1178.2	1181.9	1184.7	1187.5	1190.3	1193.1	1197.3
32.5°	1122.3	1127.4	1132.5	1137.6	1142.7	1147.1	1150.7	1154.4	1158.0	1161.6	1166.1
35°	1068.9	1074.5	1080.1	1085.7	1091.3	1096.3	1100.9	1105.4	1109.9	1114.5	1119.7
37.5°	1012.3	1018.6	1024.9	1031.2	1037.5	1043.4	1049.0	1054.6	1060.2	1065.8	1071.7
40°	974.6	980.9	987.2	993.4	999.7	1006.4	1013.4	1020.3	1027.3	1034.3	1040.3
42.5°	933.1	940.8	948.5	956.1	963.8	971.3	978.6	985.8	993.1	1000.4	1006.9
45°	874.0	882.4	890.7	899.1	907.5	916.1	924.8	933.5	942.3	951.0	957.6
47.5°	812.0	821.5	831.0	840.6	850.1	859.8	869.8	879.8	889.8	899.8	907.2
50°	771.8	781.6	791.4	801.1	810.9	821.2	832.1	842.9	853.7	864.5	872.6
52.5°	729.1	739.4	749.7	760.1	770.4	781.6	793.5	805.4	817.4	829.3	837.7
55°	666.5	678.0	689.5	701.1	712.6	724.6	737.2	749.8	762.4	775.0	784.4
57.5°	605.5	617.5	629.5	641.5	653.6	666.5	680.2	694.0	707.7	721.5	731.0
60°	562.7	575.3	587.9	600.5	613.0	626.5	640.8	655.1	669.5	683.8	693.6
62.5°	522.5	535.4	548.2	561.1	573.9	587.9	603.1	618.2	633.4	648.6	658.3
65°	460.6	474.2	487.8	501.4	515.1	529.6	544.9	560.3	575.7	591.0	601.5
67.5°	397.7	412.2	426.6	441.1	455.5	470.6	486.2	501.9	517.5	533.2	544.6
70°	353.7	368.7	383.7	398.7	413.8	429.7	446.4	463.2	480.0	496.7	507.9
72.5°	313.4	328.5	343.5	358.5	373.5	389.7	407.0	424.3	441.7	459.0	470.5
75°	249.9	266.4	282.8	299.2	315.6	332.5	350.0	367.5	384.9	402.4	413.9
77.5°	194.6	211.2	227.7	244.3	260.8	277.9	295.5	313.1	330.7	348.3	360.5
80°	155.6	172.7	189.9	207.0	224.1	241.7	259.9	278.1	296.2	314.4	326.3
82.5°	121.7	139.1	156.5	173.9	191.2	209.2	227.6	246.1	264.5	282.9	294.8
85°	77.0	94.5	112.0	129.4	146.9	164.9	183.4	201.9	220.4	238.9	250.8
87.5°	42.1	60.2	78.2	96.3	114.4	132.7	151.4	170.1	188.8	207.4	219.6
90°	21.9	42.4	62.8	83.2	103.7	125.0	147.1	169.2	191.4	213.5	226.7
92.5°	47.0	61.5	76.0	90.5	105.0	122.7	143.5	164.3	185.0	205.8	219.6
95°	108.5	108.5	108.5	108.5	108.5	118.9	139.7	160.4	181.2	202.0	215.1
97.5°	198.7	204.9	211.1	217.2	223.4	222.7	215.2	207.6	200.0	192.4	205.5
100°	266.8	284.6	302.4	320.3	338.1	329.1	293.4	257.6	221.8	186.1	198.9
102.5°	344.5	359.3	374.2	389.0	403.9	390.9	350.0	309.2	268.4	227.6	229.2
105°	458.1	470.1	482.2	494.2	506.2	504.8	489.9	475.1	460.2	445.3	396.3
107.5°	576.4	586.4	596.5	606.5	616.6	631.1	650.1	669.0	688.0	707.0	673.2
110°	655.3	664.2	673.2	682.1	691.0	704.3	722.0	739.6	757.2	774.8	773.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	731.8	739.4	746.9	754.5	762.1	774.4	791.4	808.5	825.6	842.6	851.6
115°	843.6	849.7	855.9	862.1	868.3	879.2	894.7	910.3	925.9	941.4	953.1
117.5°	953.0	958.0	963.1	968.1	973.1	982.3	995.7	1009.0	1022.3	1035.7	1046.6
120°	1019.9	1024.6	1029.4	1034.1	1038.8	1047.5	1060.0	1072.5	1085.0	1097.6	1108.3
122.5°	1089.3	1092.6	1096.0	1099.4	1102.7	1110.5	1122.7	1135.0	1147.2	1159.4	1169.1
125°	1182.8	1185.4	1188.1	1190.7	1193.4	1200.5	1211.9	1223.4	1234.8	1246.3	1254.3
127.5°	1274.9	1277.2	1279.5	1281.8	1284.1	1290.2	1300.2	1310.2	1320.2	1330.1	1338.1
130°	1332.3	1334.6	1336.9	1339.2	1341.5	1346.8	1355.1	1363.4	1371.8	1380.1	1388.0
132.5°	1386.0	1388.6	1391.2	1393.8	1396.4	1401.0	1407.6	1414.3	1420.9	1427.6	1435.3
135°	1469.7	1471.4	1473.0	1474.7	1476.3	1479.7	1484.9	1490.0	1495.2	1500.4	1507.7
137.5°	1541.2	1543.4	1545.7	1547.9	1550.1	1552.7	1555.6	1558.5	1561.4	1564.3	1571.4
140°	1587.7	1589.7	1591.7	1593.7	1595.7	1597.7	1599.8	1601.8	1603.9	1605.9	1612.5
142.5°	1632.0	1633.7	1635.4	1637.1	1638.9	1640.3	1641.5	1642.7	1643.9	1645.1	1650.9
145°	1693.9	1695.9	1697.8	1699.8	1701.8	1703.1	1703.8	1704.4	1705.1	1705.8	1709.2
147.5°	1750.6	1752.2	1753.7	1755.2	1756.7	1757.8	1758.5	1759.2	1759.8	1760.5	1762.0
150°	1786.5	1787.5	1788.5	1789.5	1790.5	1791.3	1792.0	1792.7	1793.3	1794.0	1794.6
152.5°	1818.8	1819.3	1819.7	1820.2	1820.7	1821.1	1821.5	1821.9	1822.3	1822.7	1823.9
155°	1864.2	1863.6	1862.9	1862.3	1861.6	1861.4	1861.8	1862.1	1862.4	1862.7	1864.4
157.5°	1899.5	1899.5	1899.4	1899.3	1899.3	1899.1	1898.7	1898.4	1898.1	1897.7	1899.7
160°	1921.1	1920.7	1920.4	1920.1	1919.7	1919.4	1919.1	1918.7	1918.4	1918.1	1920.1
162.5°	1941.4	1940.5	1939.7	1938.8	1937.9	1937.3	1937.0	1936.7	1936.3	1936.0	1938.3
165°	1965.9	1964.9	1963.9	1962.9	1961.9	1961.3	1960.9	1960.6	1960.3	1959.9	1962.6
167.5°	1985.0	1983.7	1982.4	1981.1	1979.7	1979.1	1979.1	1979.1	1979.1	1979.1	1981.7
170°	1995.8	1994.5	1993.1	1991.8	1990.5	1989.8	1989.8	1989.8	1989.8	1989.8	1992.5
172.5°	2003.0	2001.4	1999.8	1998.2	1996.6	1995.9	1996.2	1996.5	1996.7	1997.0	1999.7
175°	2012.2	2010.6	2008.9	2007.3	2005.6	2004.9	2005.3	2005.6	2005.9	2006.3	2008.6
177.5°	2014.6	2013.3	2012.0	2010.7	2009.3	2008.8	2009.1	2009.3	2009.6	2009.9	2012.0
180°	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1439.9	1442.2	1444.4	1445.4	1445.1	1444.8	1444.5	1444.3
5°	1437.6	1440.4	1443.2	1444.4	1444.1	1443.7	1443.4	1443.0
7.5°	1428.9	1432.4	1435.9	1437.5	1437.0	1436.6	1436.2	1435.8
10°	1420.1	1423.6	1427.1	1428.5	1427.8	1427.1	1426.4	1425.7
12.5°	1408.3	1411.5	1414.7	1415.9	1415.2	1414.5	1413.8	1413.1
15°	1385.5	1389.0	1392.5	1394.1	1393.8	1393.4	1393.1	1392.7
17.5°	1355.9	1359.1	1362.2	1363.5	1363.1	1362.6	1362.1	1361.6
20°	1334.5	1337.7	1340.8	1342.6	1342.9	1343.3	1343.6	1344.0
22.5°	1311.1	1315.1	1319.0	1320.9	1320.7	1320.5	1320.3	1320.1
25°	1271.3	1275.9	1280.4	1282.7	1282.7	1282.7	1282.7	1282.7
27.5°	1229.8	1233.7	1237.6	1239.7	1240.0	1240.3	1240.6	1240.9
30°	1201.5	1205.7	1209.8	1211.9	1211.9	1211.9	1211.9	1211.9
32.5°	1170.6	1175.1	1179.5	1182.2	1183.0	1183.9	1184.7	1185.5
35°	1125.0	1130.2	1135.4	1138.8	1140.2	1141.6	1143.0	1144.3
37.5°	1077.6	1083.6	1089.5	1093.0	1094.2	1095.3	1096.4	1097.5
40°	1046.2	1052.1	1058.1	1061.7	1063.1	1064.5	1065.9	1067.3
42.5°	1013.4	1019.9	1026.4	1030.6	1032.5	1034.5	1036.4	1038.4
45°	964.3	970.9	977.6	982.3	985.1	987.9	990.7	993.4
47.5°	914.7	922.2	929.7	934.5	936.6	938.8	941.0	943.1
50°	880.6	888.7	896.7	901.9	904.4	906.8	909.3	911.7
52.5°	846.0	854.3	862.6	868.3	871.3	874.3	877.3	880.3
55°	793.8	803.2	812.7	818.8	821.6	824.4	827.2	830.0
57.5°	740.5	750.0	759.5	765.9	769.2	772.5	775.8	779.0
60°	703.3	713.1	722.9	729.7	733.6	737.4	741.2	745.1
62.5°	668.1	677.9	687.7	694.4	697.9	701.5	705.1	708.6
65°	612.0	622.5	633.0	639.9	643.4	646.9	650.4	653.9
67.5°	556.1	567.6	579.0	586.2	589.2	592.1	595.0	598.0
70°	519.1	530.3	541.4	548.8	552.3	555.8	559.2	562.7
72.5°	481.9	493.4	504.8	512.3	515.8	519.3	522.8	526.3
75°	425.5	437.0	448.5	456.4	460.6	464.8	469.0	473.1
77.5°	372.6	384.8	397.0	404.6	407.9	411.1	414.3	417.5
80°	338.1	350.0	361.9	369.6	373.1	376.6	380.1	383.5
82.5°	306.7	318.6	330.4	338.1	341.6	345.1	348.6	352.1
85°	262.7	274.6	286.4	294.1	297.6	301.1	304.6	308.1
87.5°	231.7	243.9	256.0	263.9	267.5	271.1	274.8	278.4
90°	239.9	253.1	266.3	275.0	279.2	283.3	287.5	291.6
92.5°	233.3	247.0	260.7	269.4	273.0	276.6	280.2	283.8
95°	228.3	241.4	254.6	262.9	266.4	269.9	273.4	276.9
97.5°	218.6	231.6	244.7	253.2	257.0	260.8	264.6	268.5
100°	211.7	224.5	237.2	245.5	249.4	253.2	257.0	260.8
102.5°	230.8	232.4	234.0	236.9	241.0	245.1	249.2	253.2
105°	347.3	298.2	249.2	226.6	230.4	234.2	238.0	241.8
107.5°	639.5	605.7	571.9	534.4	493.2	451.9	410.7	369.5
110°	771.1	769.2	767.3	744.0	699.3	654.6	609.9	565.2



TEST NUMBER: P332236

CATALOG NUMBER: S123DIW-S1165D1535U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	860.6	869.6	878.6	879.7	872.7	865.8	858.8	851.8
115°	964.8	976.5	988.3	996.2	1000.3	1004.4	1008.5	1012.7
117.5°	1057.6	1068.6	1079.6	1086.5	1089.5	1092.5	1095.5	1098.5
120°	1118.9	1129.6	1140.3	1146.9	1149.3	1151.8	1154.2	1156.7
122.5°	1178.7	1188.3	1197.9	1204.1	1206.8	1209.5	1212.2	1214.9
125°	1262.3	1270.3	1278.3	1283.8	1287.0	1290.1	1293.2	1296.3
127.5°	1346.1	1354.1	1362.1	1366.9	1368.6	1370.3	1372.0	1373.8
130°	1396.0	1404.0	1411.9	1416.6	1418.1	1419.5	1420.9	1422.4
132.5°	1443.0	1450.7	1458.3	1462.9	1464.4	1465.8	1467.2	1468.7
135°	1515.0	1522.2	1529.5	1533.5	1534.3	1535.0	1535.8	1536.5
137.5°	1578.5	1585.6	1592.8	1596.9	1597.9	1599.0	1600.1	1601.2
140°	1619.1	1625.6	1632.2	1636.0	1637.1	1638.2	1639.3	1640.3
142.5°	1656.6	1662.4	1668.1	1671.4	1672.2	1673.0	1673.8	1674.7
145°	1712.7	1716.2	1719.6	1722.0	1723.4	1724.8	1726.2	1727.6
147.5°	1763.5	1765.0	1766.5	1767.1	1766.8	1766.6	1766.3	1766.0
150°	1795.3	1796.0	1796.6	1796.8	1796.5	1796.2	1795.9	1795.6
152.5°	1825.1	1826.3	1827.5	1827.4	1826.0	1824.6	1823.2	1821.8
155°	1866.1	1867.7	1869.4	1869.2	1867.2	1865.2	1863.2	1861.3
157.5°	1901.7	1903.7	1905.7	1905.4	1902.8	1900.2	1897.6	1895.0
160°	1922.1	1924.0	1926.0	1925.9	1923.5	1921.2	1918.9	1916.6
162.5°	1940.5	1942.8	1945.0	1945.1	1943.1	1941.0	1939.0	1936.9
165°	1965.2	1967.9	1970.6	1970.7	1968.4	1966.1	1963.7	1961.4
167.5°	1984.4	1987.0	1989.7	1989.7	1987.0	1984.4	1981.7	1979.1
170°	1995.1	1997.8	2000.5	2000.5	1997.8	1995.1	1992.5	1989.8
172.5°	2002.3	2005.0	2007.6	2007.5	2004.6	2001.7	1998.7	1995.8
175°	2010.9	2013.2	2015.6	2015.4	2012.7	2010.1	2007.4	2004.8
177.5°	2014.1	2016.2	2018.4	2018.1	2015.4	2012.8	2010.1	2007.5
180°	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2

(END OF REPORT)