

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: P332237

Luminaire Tested: **S123DIW-S1165D1535U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332237
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
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-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10173.4 lumens
Efficiency: N/A
Efficacy: 122.7 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

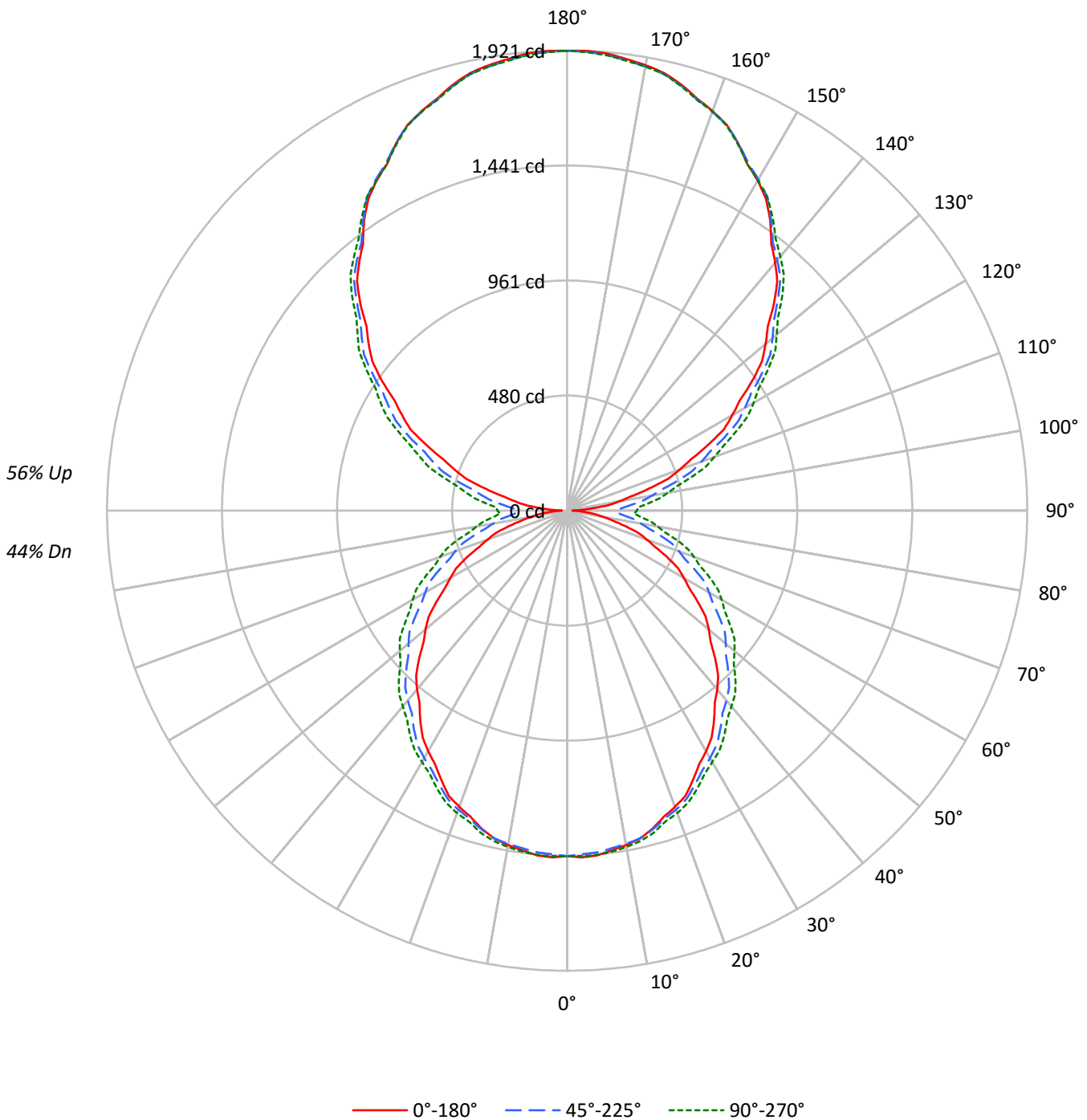
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332237

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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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44				
1	95	91	87	83	87	83	79	76	69	66	64	55	53	52	43	42	41	35				
2	87	79	72	67	79	72	66	62	60	55	52	48	45	42	37	35	34	29				
3	79	69	61	55	72	63	56	51	52	47	43	42	39	36	33	30	28	24				
4	72	61	53	46	65	56	49	43	46	41	37	37	33	30	29	26	24	20				
5	66	54	46	40	60	50	42	37	41	36	31	33	29	26	26	23	21	17				
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	21	18	15				
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	22	18	16	13				
8	52	39	32	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12				
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11				
10	45	33	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10				

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	1.3
10°-20°	390.0	3.8
20°-30°	583.2	5.7
30°-40°	696.5	6.8
40°-50°	728.7	7.2
50°-60°	683.9	6.7
60°-70°	571.2	5.6
70°-80°	408.7	4.0
80°-90°	249.4	2.5
90°-100°	278.0	2.7
100°-110°	486.7	4.8
110°-120°	711.6	7.0
120°-130°	880.3	8.7
130°-140°	960.4	9.4
140°-150°	929.3	9.1
150°-160°	778.9	7.7
160°-170°	518.5	5.1
170°-180°	181.6	1.8
0°-30°	1110.0	10.9
0°-40°	1806.5	17.8
0°-60°	3219.1	31.6
0°-90°	4448.3	43.7
90°-120°	1476.3	14.5
90°-150°	4246.3	41.7
90°-180°	5725.0	56.3
0°-180°	10173.4	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	19
95°	106	179	267	320	338	113
105°	352	395	474	516	535	376
115°	649	674	726	763	776	642
125°	943	949	990	1016	1022	841
135°	1220	1228	1243	1265	1270	940
145°	1478	1479	1484	1494	1495	922
155°	1690	1690	1692	1697	1687	778
165°	1841	1837	1837	1845	1835	519
175°	1915	1909	1909	1917	1908	182
180°	1920	1920	1920	1920	1920	



TEST NUMBER: P332237

CATALOG NUMBER: S123DIW-S1165D1535U835-4F0-1E-UDD-D1

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	132.8	151.4	170.1	188.8	207.5	219.6
90°	21.9	42.4	62.9	83.3	103.8	125.1	147.3	169.5	191.6	213.8	227.0
92.5°	55.7	73.4	91.1	108.8	126.5	145.4	165.4	185.4	205.5	225.5	238.1
95°	106.3	122.2	138.2	154.2	170.1	188.0	207.8	227.6	247.4	267.2	279.4
97.5°	173.4	187.5	201.5	215.6	229.6	245.8	264.0	282.3	300.6	318.9	330.9
100°	219.2	232.4	245.6	258.8	272.0	287.4	305.2	322.9	340.7	358.4	369.6
102.5°	272.3	283.5	294.8	306.1	317.3	332.0	350.0	368.0	386.0	404.0	414.8
105°	351.9	360.9	370.0	379.0	388.1	401.6	419.7	437.7	455.7	473.8	483.5
107.5°	442.9	450.4	457.9	465.5	473.0	484.5	499.9	515.4	530.8	546.3	556.7
110°	499.5	506.5	513.4	520.4	527.3	538.1	552.8	567.4	582.1	596.7	607.1



TEST NUMBER: P332237

CATALOG NUMBER: S123DIW-S1165D1535U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	559.8	565.4	571.0	576.5	582.1	591.7	605.2	618.8	632.3	645.9	656.3
115°	648.7	653.9	659.1	664.3	669.5	678.1	690.0	701.9	713.8	725.7	734.4
117.5°	739.5	742.8	746.0	749.3	752.5	759.6	770.6	781.5	792.4	803.4	811.6
120°	794.9	798.7	802.5	806.2	810.0	816.8	826.6	836.5	846.3	856.2	863.9
122.5°	854.1	856.4	858.8	861.2	863.6	869.8	879.9	890.0	900.1	910.2	917.1
125°	942.7	943.7	944.7	945.7	946.7	951.9	961.4	970.8	980.3	989.8	995.7
127.5°	1025.9	1027.7	1029.5	1031.3	1033.1	1037.8	1045.4	1053.1	1060.7	1068.4	1073.4
130°	1081.4	1083.7	1086.1	1088.4	1090.7	1094.9	1100.9	1106.8	1112.8	1118.8	1124.1
132.5°	1135.6	1138.2	1140.8	1143.5	1146.1	1149.8	1154.7	1159.5	1164.4	1169.2	1174.0
135°	1220.1	1221.7	1223.4	1225.0	1226.7	1229.3	1232.8	1236.3	1239.8	1243.3	1248.3
137.5°	1298.2	1299.6	1300.9	1302.3	1303.7	1306.0	1309.0	1312.0	1315.1	1318.1	1322.2
140°	1351.2	1352.9	1354.5	1356.2	1357.9	1359.4	1360.8	1362.2	1363.6	1364.9	1369.9
142.5°	1400.6	1402.0	1403.4	1404.8	1406.2	1407.3	1408.1	1409.0	1409.8	1410.6	1414.9
145°	1477.9	1478.2	1478.5	1478.8	1479.1	1479.8	1480.8	1481.8	1482.8	1483.8	1486.3
147.5°	1543.8	1545.0	1546.2	1547.5	1548.7	1549.7	1550.7	1551.6	1552.5	1553.5	1554.3
150°	1590.9	1591.6	1592.2	1592.9	1593.6	1594.2	1594.9	1595.6	1596.2	1596.9	1596.9
152.5°	1629.5	1630.4	1631.4	1632.3	1633.2	1633.9	1634.3	1634.7	1635.1	1635.5	1636.1
155°	1690.4	1690.4	1690.4	1690.4	1690.4	1690.6	1690.9	1691.2	1691.6	1691.9	1693.3
157.5°	1742.3	1741.9	1741.5	1741.1	1740.7	1740.6	1740.9	1741.1	1741.4	1741.7	1743.1
160°	1774.9	1774.2	1773.5	1772.8	1772.2	1771.8	1771.8	1771.8	1771.8	1771.8	1773.5
162.5°	1803.8	1802.9	1801.9	1801.0	1800.1	1799.7	1800.0	1800.3	1800.5	1800.8	1802.5
165°	1841.2	1840.2	1839.2	1838.2	1837.2	1836.7	1836.7	1836.7	1836.7	1836.7	1838.7
167.5°	1871.1	1869.7	1868.4	1867.0	1865.7	1865.2	1865.4	1865.7	1866.0	1866.2	1868.3
170°	1887.9	1886.6	1885.3	1883.9	1882.6	1881.9	1881.9	1881.9	1881.9	1881.9	1884.3
172.5°	1901.2	1899.9	1898.5	1897.2	1895.9	1895.2	1895.2	1895.2	1895.2	1895.2	1897.3
175°	1915.1	1913.8	1912.4	1911.1	1909.7	1909.1	1909.1	1909.1	1909.1	1909.1	1911.1
177.5°	1920.8	1919.8	1918.7	1917.6	1916.5	1916.0	1916.0	1916.0	1916.0	1916.0	1917.6
180°	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6



TEST NUMBER: P332237

CATALOG NUMBER: S123DIW-S1165D1535U835-4F0-1E-UDD-D1

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°	231.8	243.9	256.1	264.0	267.6	271.2	274.8	278.5
90°	240.3	253.5	266.7	275.4	279.5	283.7	287.9	292.0
92.5°	250.8	263.5	276.1	283.9	286.7	289.5	292.3	295.1
95°	291.5	303.7	315.9	323.7	327.2	330.7	334.2	337.7
97.5°	342.8	354.8	366.7	374.4	377.7	381.1	384.5	387.8
100°	380.7	391.8	403.0	410.6	414.8	418.9	423.1	427.3
102.5°	425.7	436.5	447.4	454.5	457.8	461.2	464.6	467.9
105°	493.3	503.1	512.9	519.7	523.5	527.3	531.1	534.9
107.5°	567.2	577.6	588.0	594.6	597.3	599.9	602.6	605.3
110°	617.6	628.0	638.4	644.7	646.8	648.9	651.1	653.2



TEST NUMBER: P332237

CATALOG NUMBER: S123DIW-S1165D1535U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	666.7	677.1	687.5	694.2	697.1	700.1	703.0	705.9
115°	743.1	751.9	760.6	766.2	768.6	771.1	773.5	776.0
117.5°	819.9	828.1	836.3	841.4	843.1	844.9	846.7	848.5
120°	871.6	879.3	887.0	891.7	893.5	895.3	897.0	898.8
122.5°	924.0	930.9	937.7	941.9	943.5	945.0	946.5	948.0
125°	1001.7	1007.7	1013.7	1017.3	1018.4	1019.5	1020.6	1021.7
127.5°	1078.5	1083.5	1088.5	1091.5	1092.3	1093.1	1094.0	1094.8
130°	1129.4	1134.7	1140.0	1142.5	1142.3	1142.0	1141.8	1141.5
132.5°	1178.7	1183.5	1188.2	1190.9	1191.4	1192.0	1192.6	1193.1
135°	1253.2	1258.2	1263.1	1266.1	1267.2	1268.3	1269.3	1270.4
137.5°	1326.3	1330.4	1334.6	1336.8	1337.3	1337.8	1338.3	1338.7
140°	1374.8	1379.7	1384.6	1386.7	1386.1	1385.5	1384.9	1384.3
142.5°	1419.3	1423.6	1428.0	1430.1	1430.0	1430.0	1429.9	1429.9
145°	1488.7	1491.2	1493.7	1494.9	1495.0	1495.0	1495.1	1495.1
147.5°	1555.2	1556.0	1556.8	1556.9	1556.1	1555.4	1554.6	1553.9
150°	1596.9	1596.9	1596.9	1596.3	1594.9	1593.6	1592.3	1591.0
152.5°	1636.6	1637.1	1637.7	1637.1	1635.5	1633.9	1632.3	1630.7
155°	1694.6	1695.9	1697.3	1696.8	1694.4	1692.1	1689.7	1687.4
157.5°	1744.5	1745.9	1747.3	1747.1	1745.2	1743.3	1741.4	1739.6
160°	1775.2	1776.9	1778.5	1778.7	1777.4	1776.0	1774.7	1773.3
162.5°	1804.1	1805.8	1807.5	1807.3	1805.1	1803.0	1800.8	1798.7
165°	1840.7	1842.7	1844.7	1844.6	1842.2	1839.9	1837.5	1835.2
167.5°	1870.4	1872.5	1874.5	1874.5	1872.5	1870.4	1868.3	1866.2
170°	1886.6	1889.0	1891.3	1891.3	1889.0	1886.6	1884.3	1881.9
172.5°	1899.3	1901.4	1903.5	1903.4	1901.0	1898.7	1896.3	1894.0
175°	1913.1	1915.1	1917.1	1916.9	1914.6	1912.2	1909.9	1907.6
177.5°	1919.2	1920.8	1922.4	1922.3	1920.4	1918.5	1916.7	1914.8
180°	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6

(END OF REPORT)