

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: P332448

Luminaire Tested: **S123RDIW-S775D1535U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332448
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: S123RDIW-S775D1535U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1535 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9058.6 lumens
Efficiency: N/A
Efficacy: 133.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

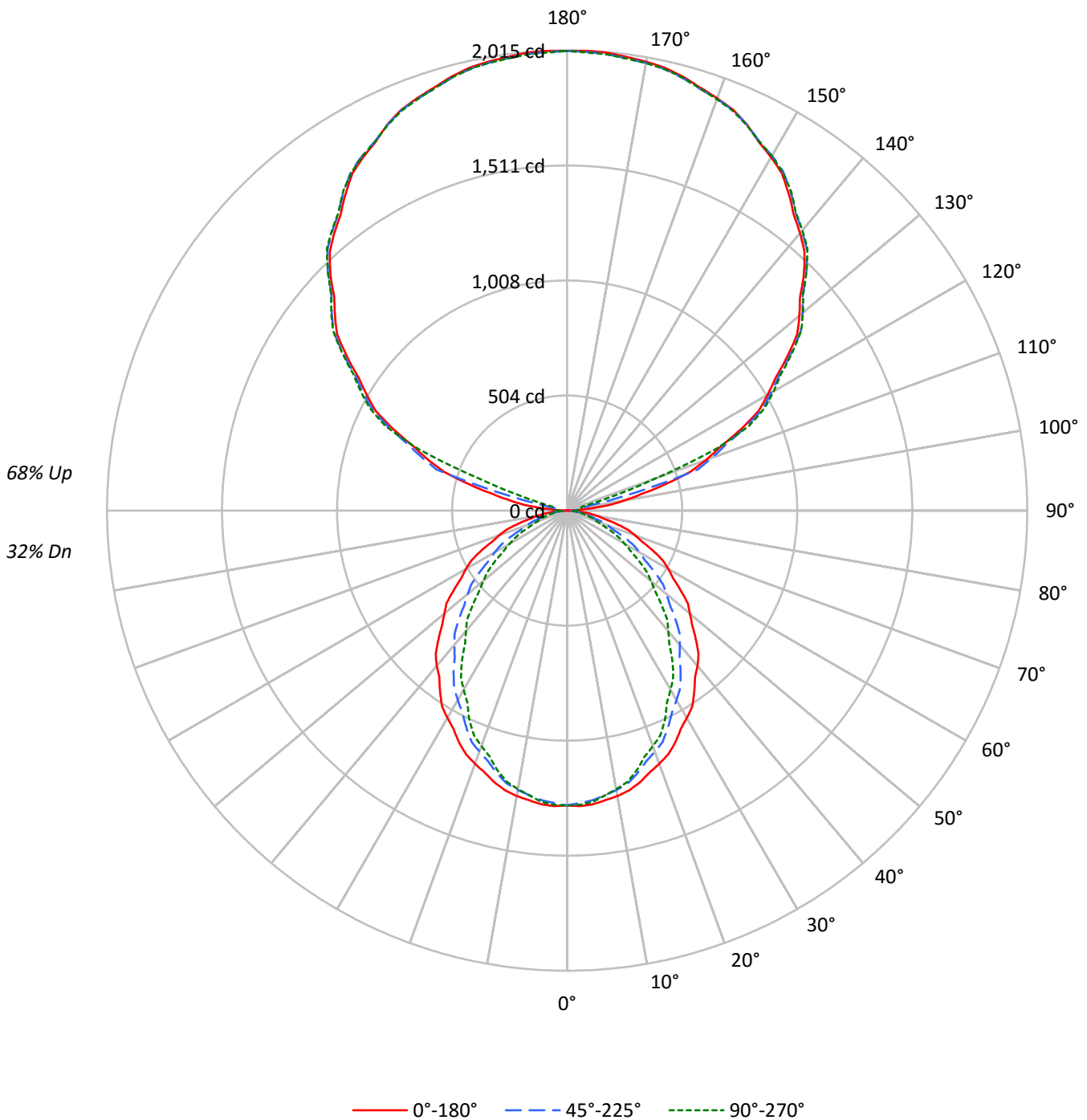
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	103	103	103	103	93	93	93	93	73	73	73	56	56	56	40	40	40	32																				
1	94	90	86	83	85	81	78	75	65	62	61	49	48	47	35	35	34	28																				
2	86	79	73	68	77	71	66	62	57	53	50	44	41	39	31	30	29	23																				
3	78	69	62	57	70	63	57	52	50	46	43	39	36	34	28	26	25	20																				
4	72	61	54	48	64	56	49	44	45	40	36	35	31	29	25	23	22	17																				
5	66	55	47	41	59	50	43	38	40	35	31	31	28	25	23	21	19	15																				
6	61	49	41	36	54	44	38	33	36	31	27	28	25	22	21	18	17	13																				
7	56	44	36	31	50	40	33	29	33	28	24	26	22	19	19	17	15	12																				
8	52	40	33	27	47	36	30	25	30	25	21	23	20	17	17	15	13	11																				
9	48	36	29	24	43	33	27	23	27	22	19	21	18	15	16	14	12	10																				
10	45	33	26	22	41	30	24	20	25	20	17	20	16	14	15	13	11	9																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13897	13897	13897
5°	13950	13758	13837
10°	13871	13585	13539
15°	13722	13266	13127
20°	13518	12869	12569
25°	13307	12423	12025
30°	13027	11908	11257
35°	12741	11393	10553
40°	12476	10784	9681
45°	12129	10185	8894
50°	11747	9503	8013
55°	11357	8724	7191
60°	11001	7890	6288
65°	10534	6986	5387
70°	9951	5866	4349
75°	9100	4616	4092
80°	8114	4091	3763
85°	6854	3619	3359



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.2	1.3
10°-20°	337.3	3.7
20°-30°	485.7	5.4
30°-40°	547.1	6.0
40°-50°	523.4	5.8
50°-60°	428.6	4.7
60°-70°	289.2	3.2
70°-80°	145.5	1.6
80°-90°	44.1	0.5
90°-100°	73.2	0.8
100°-110°	348.7	3.8
110°-120°	837.5	9.2
120°-130°	1066.5	11.8
130°-140°	1139.5	12.6
140°-150°	1065.6	11.8
150°-160°	859.5	9.5
160°-170°	554.7	6.1
170°-180°	191.2	2.1
0°-30°	944.3	10.4
0°-40°	1491.4	16.5
0°-60°	2443.4	27.0
0°-90°	2922.2	32.3
90°-120°	1259.4	13.9
90°-150°	4531.0	50.0
90°-180°	6136.0	67.7
0°-180°	9058.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1291	1291	1291	1291	1291	
5°	1291	1285	1273	1282	1281	122
15°	1231	1219	1190	1185	1178	347
25°	1120	1093	1046	1025	1012	515
35°	970	930	867	823	803	607
45°	797	748	669	611	584	615
55°	605	552	465	406	383	542
65°	414	355	274	225	212	409
75°	219	168	111	101	98	233
85°	56	34	29	27	27	62
90°	2	17	36	42	45	7
95°	91	34	46	56	57	113
105°	446	454	327	78	66	472
115°	836	845	858	873	879	825
125°	1178	1190	1196	1199	1202	1052
135°	1467	1475	1482	1486	1482	1129
145°	1692	1702	1706	1709	1709	1059
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°	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1
2.5°	1295.2	1294.5	1293.7	1293.0	1292.3	1290.8	1288.5	1286.3	1284.1	1281.8	1283.9
5°	1291.1	1289.9	1288.7	1287.6	1286.4	1284.4	1281.6	1278.8	1276.0	1273.3	1275.3
7.5°	1279.1	1277.9	1276.6	1275.3	1274.1	1271.6	1268.0	1264.4	1260.8	1257.1	1258.3
10°	1269.1	1267.4	1265.8	1264.2	1262.5	1259.6	1255.4	1251.3	1247.1	1242.9	1243.1
12.5°	1254.8	1253.0	1251.2	1249.4	1247.6	1244.1	1239.0	1233.9	1228.7	1223.6	1223.5
15°	1231.4	1228.8	1226.2	1223.7	1221.1	1216.6	1210.1	1203.6	1197.0	1190.5	1189.4
17.5°	1201.8	1198.9	1195.9	1192.9	1189.9	1184.3	1176.0	1167.7	1159.4	1151.2	1148.7
20°	1180.1	1176.3	1172.6	1168.9	1165.2	1158.9	1150.0	1141.2	1132.4	1123.5	1120.5
22.5°	1155.8	1151.5	1147.2	1142.9	1138.6	1131.8	1122.4	1113.0	1103.6	1094.2	1090.4
25°	1120.4	1114.6	1108.7	1102.9	1097.1	1088.8	1078.1	1067.4	1056.7	1046.0	1041.1
27.5°	1077.4	1071.0	1064.6	1058.2	1051.8	1042.6	1030.7	1018.8	1006.8	994.9	988.1
30°	1048.1	1041.1	1034.2	1027.2	1020.2	1010.2	997.2	984.1	971.1	958.1	950.2
32.5°	1018.8	1010.9	1003.0	995.1	987.2	976.3	962.5	948.8	935.0	921.2	912.6
35°	969.6	961.2	952.8	944.5	936.1	924.7	910.3	895.8	881.4	867.0	857.0
37.5°	919.8	910.4	901.1	891.8	882.5	870.2	854.8	839.4	824.0	808.6	797.2
40°	887.9	877.7	867.4	857.2	847.0	833.6	817.1	800.6	784.0	767.5	755.4
42.5°	851.9	841.7	831.4	821.2	811.0	797.3	780.2	763.1	746.1	729.0	715.8
45°	796.8	786.4	775.9	765.4	754.9	740.8	722.8	704.9	687.0	669.1	655.8
47.5°	741.8	730.3	718.8	707.3	695.8	681.1	663.2	645.2	627.3	609.4	595.0
50°	701.5	690.6	679.7	668.7	657.8	642.9	624.1	605.2	586.4	567.5	553.1
52.5°	665.5	653.7	641.8	629.9	618.1	602.8	584.1	565.5	546.8	528.1	513.2
55°	605.2	593.8	582.4	571.0	559.6	544.0	524.2	504.5	484.7	464.9	451.4
57.5°	549.5	537.1	524.7	512.2	499.8	483.7	463.8	443.9	424.0	404.2	391.4
60°	511.0	498.2	485.4	472.6	459.8	443.7	424.4	405.1	385.8	366.5	353.9
62.5°	472.4	459.6	446.8	434.0	421.3	405.2	385.9	366.6	347.3	327.9	316.1
65°	413.6	400.8	388.0	375.2	362.4	346.9	328.8	310.6	292.5	274.3	262.9
67.5°	354.8	341.8	328.9	315.9	303.0	287.8	270.4	253.0	235.6	218.2	209.7
70°	316.2	303.7	291.1	278.5	266.0	251.5	235.2	219.0	202.7	186.4	178.2
72.5°	277.7	265.3	252.9	240.5	228.2	214.6	199.8	185.0	170.2	155.4	148.7
75°	218.8	207.7	196.5	185.3	174.2	162.2	149.4	136.6	123.8	111.0	108.7
77.5°	165.2	155.1	145.0	134.9	124.8	115.7	107.4	99.2	91.0	82.7	81.5
80°	130.9	121.3	111.8	102.3	92.7	85.5	80.6	75.7	70.9	66.0	65.3
82.5°	98.2	90.0	81.7	73.5	65.3	60.0	57.7	55.4	53.2	50.9	50.2
85°	55.5	50.4	45.3	40.1	35.0	32.1	31.4	30.7	30.0	29.3	28.9
87.5°	20.4	19.0	17.6	16.3	14.9	14.6	15.5	16.3	17.2	18.1	18.1
90°	1.5	4.8	8.1	11.5	14.8	18.6	22.9	27.2	31.6	35.9	37.2
92.5°	27.8	26.9	25.9	25.0	24.1	25.2	28.5	31.8	35.0	38.3	40.4
95°	91.2	77.6	64.0	50.3	36.7	31.7	35.4	39.0	42.7	46.3	48.7
97.5°	183.3	177.2	171.1	164.9	158.8	143.8	119.9	96.0	72.1	48.1	50.8
100°	252.7	259.3	265.9	272.6	279.2	256.6	204.8	153.0	101.2	49.3	52.0
102.5°	331.6	336.4	341.2	345.9	350.7	324.8	268.2	211.6	155.0	98.4	90.1
105°	445.5	449.2	452.8	456.5	460.1	447.0	417.1	387.2	357.3	327.4	268.6
107.5°	565.7	568.6	571.5	574.5	577.4	581.2	585.9	590.7	595.4	600.1	557.0
110°	645.8	648.5	651.1	653.8	656.5	659.6	663.3	666.9	670.6	674.2	663.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	722.4	724.8	727.2	729.6	731.9	735.0	738.6	742.3	745.9	749.6	749.8
115°	835.7	837.7	839.7	841.7	843.7	846.2	849.2	852.1	855.1	858.1	861.4
117.5°	945.4	947.9	950.3	952.8	955.3	957.3	958.8	960.3	961.8	963.4	966.0
120°	1013.6	1016.6	1019.6	1022.6	1025.6	1027.6	1028.5	1029.5	1030.5	1031.5	1034.2
122.5°	1083.0	1085.4	1087.9	1090.3	1092.8	1094.7	1095.9	1097.2	1098.4	1099.7	1101.6
125°	1178.0	1180.7	1183.4	1186.0	1188.7	1190.7	1192.0	1193.3	1194.7	1196.0	1196.7
127.5°	1270.1	1272.8	1275.5	1278.1	1280.8	1282.9	1284.5	1286.1	1287.7	1289.3	1290.3
130°	1327.5	1330.2	1332.9	1335.5	1338.2	1340.2	1341.5	1342.8	1344.2	1345.5	1346.8
132.5°	1382.6	1385.2	1387.9	1390.5	1393.2	1395.1	1396.1	1397.2	1398.2	1399.3	1400.6
135°	1466.6	1468.6	1470.6	1472.6	1474.6	1476.2	1477.5	1478.9	1480.2	1481.5	1482.5
137.5°	1538.3	1540.9	1543.4	1545.9	1548.4	1550.1	1550.8	1551.5	1552.3	1553.0	1554.6
140°	1586.2	1588.2	1590.2	1592.2	1594.2	1595.6	1596.6	1597.6	1598.6	1599.6	1601.0
142.5°	1630.4	1632.4	1634.4	1636.4	1638.4	1639.9	1640.9	1641.9	1642.9	1643.9	1644.9
145°	1692.3	1694.6	1697.0	1699.3	1701.6	1703.1	1703.8	1704.4	1705.1	1705.8	1706.4
147.5°	1750.6	1752.2	1753.7	1755.2	1756.7	1757.8	1758.5	1759.2	1759.8	1760.5	1761.2
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°	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1
2.5°	1285.9	1288.0	1290.0	1290.9	1290.5	1290.1	1289.7	1289.4
5°	1277.4	1279.5	1281.6	1282.4	1282.0	1281.5	1281.0	1280.6
7.5°	1259.5	1260.6	1261.8	1262.0	1261.2	1260.4	1259.6	1258.8
10°	1243.4	1243.6	1243.8	1243.4	1242.2	1241.0	1239.9	1238.7
12.5°	1223.3	1223.2	1223.1	1222.3	1221.0	1219.6	1218.3	1216.9
15°	1188.2	1187.0	1185.9	1184.5	1182.9	1181.2	1179.6	1178.0
17.5°	1146.2	1143.8	1141.3	1138.9	1136.4	1134.0	1131.6	1129.2
20°	1117.5	1114.4	1111.4	1108.5	1105.7	1102.9	1100.1	1097.3
22.5°	1086.7	1082.9	1079.1	1075.9	1073.3	1070.7	1068.1	1065.5
25°	1036.3	1031.4	1026.5	1022.8	1020.2	1017.6	1015.1	1012.5
27.5°	981.3	974.6	967.8	962.4	958.5	954.6	950.7	946.8
30°	942.3	934.3	926.4	920.6	916.9	913.2	909.4	905.7
32.5°	903.9	895.3	886.6	880.3	876.4	872.5	868.6	864.7
35°	847.0	837.0	827.0	819.9	815.7	811.5	807.3	803.1
37.5°	785.8	774.5	763.1	754.9	749.7	744.5	739.4	734.2
40°	743.3	731.2	719.1	710.4	705.0	699.7	694.3	689.0
42.5°	702.5	689.3	676.1	667.1	662.3	657.5	652.7	647.9
45°	642.6	629.3	616.0	606.6	601.0	595.4	589.9	584.3
47.5°	580.5	566.1	551.7	542.0	537.0	532.0	527.1	522.1
50°	538.7	524.2	509.8	499.9	494.6	489.2	483.9	478.5
52.5°	498.2	483.2	468.2	458.3	453.5	448.7	443.9	439.1
55°	437.9	424.4	410.9	401.8	397.2	392.5	387.9	383.2
57.5°	378.7	365.9	353.2	344.8	340.9	336.9	332.9	329.0
60°	341.3	328.8	316.2	308.0	304.0	300.0	296.1	292.1
62.5°	304.3	292.5	280.7	272.7	268.5	264.4	260.3	256.1
65°	251.5	240.1	228.7	221.7	219.2	216.6	214.1	211.5
67.5°	201.2	192.7	184.1	178.5	175.8	173.0	170.3	167.5
70°	170.1	161.9	153.8	148.5	145.9	143.3	140.8	138.2
72.5°	142.1	135.4	128.8	124.9	123.8	122.8	121.7	120.6
75°	106.3	104.0	101.7	100.3	99.8	99.4	98.9	98.4
77.5°	80.2	78.9	77.7	76.8	76.4	75.9	75.4	75.0
80°	64.6	63.9	63.2	62.6	62.1	61.7	61.2	60.7
82.5°	49.5	48.8	48.1	47.7	47.6	47.5	47.4	47.3
85°	28.4	27.9	27.5	27.2	27.2	27.2	27.2	27.2
87.5°	18.2	18.3	18.4	18.4	18.3	18.3	18.2	18.2
90°	38.5	39.9	41.2	42.2	42.9	43.5	44.2	44.8
92.5°	42.5	44.7	46.8	48.0	48.4	48.8	49.2	49.6
95°	51.0	53.3	55.6	56.8	56.8	56.8	56.8	56.8
97.5°	53.5	56.1	58.8	60.3	60.6	60.9	61.3	61.6
100°	54.6	57.3	60.0	61.5	61.8	62.1	62.5	62.8
102.5°	81.9	73.7	65.4	61.6	62.2	62.8	63.4	64.0
105°	209.8	151.0	92.2	63.1	63.8	64.5	65.1	65.8
107.5°	513.8	470.7	427.6	383.9	339.6	295.2	250.9	206.6
110°	652.3	641.3	630.4	601.1	553.6	506.1	458.6	411.1



TEST NUMBER: P332448

CATALOG NUMBER: S123RDIW-S775D1535U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	750.0	750.2	750.4	745.5	735.4	725.4	715.4	705.3
115°	864.8	868.1	871.4	873.7	875.1	876.4	877.7	879.1
117.5°	968.7	971.3	974.0	975.5	975.7	976.0	976.3	976.5
120°	1036.9	1039.5	1042.2	1043.5	1043.5	1043.5	1043.5	1043.5
122.5°	1103.4	1105.3	1107.2	1108.2	1108.5	1108.7	1109.0	1109.3
125°	1197.3	1198.0	1198.6	1199.3	1200.0	1200.6	1201.3	1202.0
127.5°	1291.4	1292.5	1293.5	1293.7	1293.1	1292.4	1291.7	1291.1
130°	1348.1	1349.5	1350.8	1351.1	1350.5	1349.8	1349.1	1348.5
132.5°	1402.0	1403.3	1404.6	1404.8	1403.9	1403.0	1402.0	1401.1
135°	1483.5	1484.5	1485.5	1485.5	1484.5	1483.5	1482.5	1481.5
137.5°	1556.2	1557.8	1559.4	1559.8	1559.2	1558.5	1557.8	1557.2
140°	1602.3	1603.6	1604.9	1605.3	1604.6	1604.0	1603.3	1602.6
142.5°	1646.0	1647.1	1648.1	1648.2	1647.3	1646.3	1645.4	1644.5
145°	1707.1	1707.8	1708.4	1708.8	1708.8	1708.8	1708.8	1708.8
147.5°	1761.8	1762.5	1763.2	1762.7	1761.2	1759.7	1758.1	1756.6
150°	1795.3	1796.0	1796.6	1796.5	1795.5	1794.5	1793.5	1792.5
152.5°	1825.1	1826.3	1827.5	1827.3	1825.8	1824.2	1822.7	1821.2
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)