

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: P332803-940

Luminaire Tested: **S124DIW-S795D1560U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332803-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D1560U940-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8604.3 lumens
Efficiency: N/A
Efficacy: 126.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

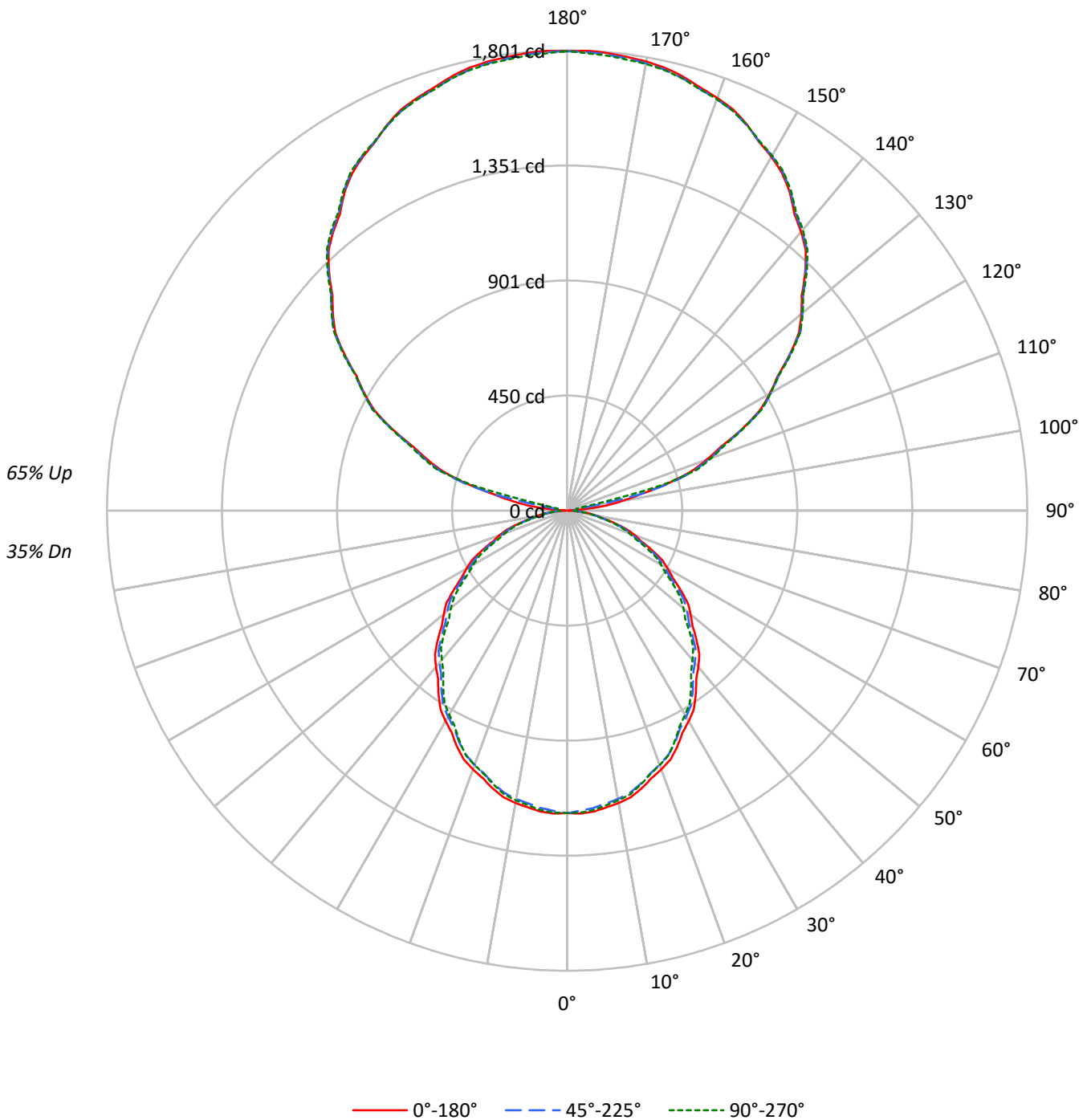
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	35
1	94	90	86	83	85	82	78	76	66	64	62	51	50	48	38	37	36	30
2	86	79	73	68	77	71	66	62	58	54	51	45	42	40	33	32	30	25
3	78	69	62	56	71	63	57	52	51	46	43	40	37	34	29	27	26	21
4	72	61	53	48	65	56	49	44	45	40	36	35	32	29	26	24	22	18
5	66	54	46	41	59	49	43	37	40	35	31	32	28	25	24	21	19	16
6	60	49	41	35	54	44	37	32	36	31	27	29	25	22	21	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	19	19	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	15	13	11
9	48	36	29	24	43	33	27	22	27	22	19	22	18	15	16	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	16	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9556	9556	9556
5°	9585	9469	9539
10°	9525	9393	9439
15°	9410	9260	9283
20°	9257	9094	9101
25°	9082	8905	8879
30°	8869	8682	8603
35°	8647	8451	8339
40°	8416	8186	8037
45°	8176	7927	7775
50°	7910	7695	7458
55°	7623	7396	7156
60°	7335	7061	6846
65°	7011	6739	6468
70°	6649	6314	6069
75°	6095	5798	5652
80°	5421	5202	5072
85°	4742	4566	4474



TEST NUMBER: P332803-940

CATALOG NUMBER: S124DIW-S795D1560U940-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.5	1.3
10°-20°	314.1	3.7
20°-30°	462.3	5.4
30°-40°	537.4	6.2
40°-50°	537.5	6.2
50°-60°	470.1	5.5
60°-70°	349.1	4.1
70°-80°	198.4	2.3
80°-90°	62.4	0.7
90°-100°	61.5	0.7
100°-110°	392.1	4.6
110°-120°	750.0	8.7
120°-130°	952.1	11.1
130°-140°	1018.7	11.8
140°-150°	952.6	11.1
150°-160°	768.2	8.9
160°-170°	495.5	5.8
170°-180°	170.8	2.0
0°-30°	887.8	10.3
0°-40°	1425.3	16.6
0°-60°	2432.8	28.3
0°-90°	3042.8	35.4
90°-120°	1203.6	14.0
90°-150°	4127.0	48.0
90°-180°	5561.0	64.6
0°-180°	8604.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1184	1184	1184	1184	1184	
5°	1183	1179	1168	1178	1177	112
15°	1126	1122	1108	1113	1111	317
25°	1020	1013	1000	1000	997	469
35°	877	870	858	851	846	548
45°	716	709	694	684	681	552
55°	542	538	526	514	508	485
65°	367	362	353	344	339	363
75°	195	191	186	182	181	208
85°	51	51	49	49	48	56
90°	4	19	30	37	40	6
95°	74	31	30	37	39	95
105°	405	413	420	428	383	423
115°	756	759	758	761	761	743
125°	1062	1067	1065	1069	1070	948
135°	1318	1317	1322	1325	1327	1015
145°	1520	1523	1524	1525	1528	949
155°	1666	1667	1663	1668	1665	768
165°	1758	1751	1751	1760	1750	496
175°	1798	1790	1791	1802	1787	171
180°	1798	1798	1798	1798	1798	



TEST NUMBER: P332803-940

CATALOG NUMBER: S124DIW-S795D1560U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7
2.5°	1186.8	1186.2	1185.7	1185.3	1184.7	1183.6	1181.7	1179.8	1177.9	1176.2	1177.8
5°	1182.8	1182.0	1181.1	1180.3	1179.4	1177.8	1175.5	1173.1	1170.8	1168.5	1170.8
7.5°	1171.8	1170.9	1170.1	1169.2	1168.4	1166.7	1164.1	1161.5	1159.0	1156.4	1158.2
10°	1161.9	1161.1	1160.2	1159.4	1158.5	1156.7	1154.0	1151.3	1148.5	1145.8	1147.5
12.5°	1149.0	1148.2	1147.3	1146.5	1145.7	1143.7	1140.9	1137.9	1135.1	1132.1	1134.0
15°	1125.9	1125.0	1124.2	1123.3	1122.5	1120.5	1117.3	1114.2	1111.0	1107.9	1109.1
17.5°	1098.0	1096.9	1095.8	1094.8	1093.8	1091.7	1088.8	1085.7	1082.7	1079.8	1080.6
20°	1077.5	1076.4	1075.4	1074.3	1073.3	1071.1	1068.0	1064.8	1061.7	1058.5	1059.2
22.5°	1055.5	1054.1	1052.7	1051.3	1049.9	1047.7	1044.5	1041.3	1038.1	1035.0	1036.2
25°	1019.6	1018.2	1016.6	1015.2	1013.7	1011.5	1008.5	1005.6	1002.6	999.7	999.9
27.5°	978.7	977.1	975.6	974.1	972.6	970.4	967.7	965.0	962.2	959.5	958.9
30°	951.4	949.7	948.0	946.3	944.6	942.4	939.6	936.9	934.2	931.4	930.6
32.5°	922.5	921.0	919.4	917.9	916.4	914.2	911.3	908.4	905.5	902.6	901.6
35°	877.4	875.8	874.4	872.9	871.5	869.2	866.3	863.4	860.4	857.5	856.0
37.5°	829.7	828.4	827.1	825.7	824.3	822.1	818.9	815.7	812.6	809.4	807.8
40°	798.6	796.9	795.2	793.5	791.8	789.4	786.3	783.1	780.0	776.8	774.7
42.5°	765.3	764.2	763.2	762.2	761.2	758.9	755.5	752.0	748.4	744.9	742.5
45°	716.1	714.6	713.2	711.7	710.2	707.8	704.5	701.1	697.7	694.3	692.0
47.5°	664.7	663.7	662.7	661.6	660.7	658.6	655.5	652.4	649.3	646.1	643.5
50°	629.8	628.9	628.1	627.2	626.4	624.6	621.6	618.7	615.6	612.7	609.8
52.5°	595.7	594.7	593.6	592.6	591.6	589.5	586.4	583.3	580.1	577.0	574.4
55°	541.6	540.9	540.3	539.7	539.0	537.3	534.3	531.4	528.4	525.5	522.9
57.5°	490.0	489.3	488.6	487.9	487.1	485.3	482.4	479.5	476.6	473.7	471.3
60°	454.3	453.3	452.2	451.2	450.1	448.2	445.5	442.7	440.0	437.3	435.3
62.5°	419.5	418.6	417.7	416.8	415.9	414.0	411.1	408.1	405.3	402.3	400.6
65°	367.0	366.0	365.0	363.9	362.8	361.2	359.2	357.0	354.9	352.8	350.7
67.5°	314.3	313.3	312.4	311.4	310.5	309.0	306.9	304.9	302.9	300.9	298.8
70°	281.7	280.3	278.7	277.2	275.8	274.2	272.5	270.8	269.1	267.5	265.8
72.5°	246.8	245.3	243.9	242.4	240.9	239.5	238.2	236.7	235.4	234.1	232.7
75°	195.4	194.3	193.3	192.3	191.2	190.1	189.0	188.0	187.0	185.9	185.0
77.5°	146.2	145.8	145.3	144.9	144.4	143.7	142.8	141.9	140.9	140.0	139.7
80°	116.6	116.0	115.4	114.8	114.1	113.6	113.2	112.8	112.4	111.9	111.5
82.5°	87.8	87.6	87.2	86.9	86.7	86.5	86.4	86.3	86.2	86.1	85.9
85°	51.2	51.2	51.2	51.2	51.2	51.0	50.6	50.2	49.8	49.3	49.3
87.5°	20.5	21.0	21.5	22.0	22.5	22.9	23.2	23.5	23.8	24.2	24.5
90°	4.0	7.3	10.6	13.9	17.2	20.1	22.4	24.8	27.2	29.6	31.4
92.5°	16.9	17.1	17.3	17.5	17.7	18.9	21.3	23.7	26.1	28.5	30.3
95°	73.9	63.8	53.7	43.5	33.3	28.4	28.7	29.0	29.2	29.6	31.4
97.5°	157.0	163.4	169.7	176.1	182.4	168.9	135.5	102.2	68.8	35.5	35.7
100°	220.5	226.0	231.3	236.7	242.0	224.1	182.9	141.6	100.4	59.2	54.1
102.5°	291.5	295.5	299.4	303.4	307.3	306.6	301.2	295.9	290.4	285.1	230.2
105°	404.7	406.5	408.3	410.2	412.0	413.6	415.1	416.6	418.0	419.5	422.2
107.5°	509.9	510.9	511.8	512.6	513.5	515.0	517.0	519.1	521.0	523.1	524.4
110°	580.9	581.8	582.7	583.6	584.5	585.9	587.6	589.4	591.2	593.0	593.6



TEST NUMBER: P332803-940

CATALOG NUMBER: S124DIW-S795D1560U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	649.8	651.4	653.0	654.6	656.2	657.5	658.3	659.2	660.0	660.8	660.7
115°	755.7	756.6	757.5	758.4	759.3	759.6	759.3	759.0	758.8	758.4	759.0
117.5°	851.2	852.4	853.6	854.8	856.0	856.9	857.6	858.3	858.9	859.5	859.4
120°	915.8	916.9	918.2	919.4	920.5	921.0	920.7	920.4	920.1	919.8	920.4
122.5°	976.0	976.7	977.4	978.1	978.9	979.5	979.9	980.3	980.7	981.1	981.5
125°	1062.4	1063.5	1064.7	1066.0	1067.1	1067.4	1066.8	1066.2	1065.6	1065.1	1066.0
127.5°	1144.1	1144.4	1144.7	1145.0	1145.3	1146.1	1147.5	1148.9	1150.2	1151.6	1151.5
130°	1196.9	1197.1	1197.4	1197.7	1198.0	1198.6	1199.5	1200.4	1201.3	1202.2	1202.5
132.5°	1245.2	1245.7	1246.3	1246.9	1247.4	1248.2	1249.4	1250.4	1251.6	1252.8	1253.0
135°	1317.9	1317.5	1317.2	1317.0	1316.6	1317.1	1318.3	1319.5	1320.7	1321.9	1322.5
137.5°	1382.2	1382.2	1382.3	1382.5	1382.6	1383.3	1384.6	1386.0	1387.2	1388.6	1389.2
140°	1424.1	1424.7	1425.3	1425.8	1426.5	1427.1	1427.6	1428.3	1428.9	1429.4	1430.4
142.5°	1461.7	1462.8	1463.9	1465.0	1466.1	1466.8	1467.1	1467.5	1467.8	1468.2	1468.8
145°	1519.6	1520.5	1521.3	1522.2	1523.1	1523.6	1523.6	1523.6	1523.6	1523.6	1523.8
147.5°	1565.6	1567.2	1568.9	1570.6	1572.3	1572.9	1572.6	1572.4	1572.0	1571.7	1572.0
150°	1598.9	1600.1	1601.2	1602.5	1603.7	1604.1	1603.8	1603.6	1603.2	1602.9	1602.9
152.5°	1626.8	1627.8	1628.8	1629.7	1630.7	1630.9	1630.3	1629.8	1629.2	1628.7	1629.2
155°	1666.2	1666.4	1666.7	1667.1	1667.3	1667.1	1666.2	1665.3	1664.4	1663.4	1664.6
157.5°	1699.2	1699.1	1698.9	1698.7	1698.5	1697.9	1696.8	1695.9	1694.9	1693.8	1695.4
160°	1718.6	1717.7	1716.8	1715.9	1715.0	1714.4	1714.0	1713.8	1713.5	1713.2	1715.0
162.5°	1735.8	1734.6	1733.5	1732.4	1731.3	1730.5	1730.2	1729.9	1729.7	1729.3	1731.1
165°	1757.6	1756.0	1754.6	1753.1	1751.6	1750.9	1750.9	1750.9	1750.9	1750.9	1753.2
167.5°	1774.8	1773.3	1771.7	1770.1	1768.5	1767.7	1767.5	1767.4	1767.2	1767.0	1769.6
170°	1784.5	1782.7	1780.8	1779.1	1777.3	1776.6	1776.8	1777.2	1777.4	1777.7	1780.1
172.5°	1790.9	1789.1	1787.3	1785.6	1783.8	1783.0	1783.3	1783.6	1783.9	1784.2	1786.5
175°	1797.9	1796.1	1794.3	1792.5	1790.7	1790.0	1790.3	1790.6	1790.9	1791.2	1793.9
177.5°	1801.2	1799.5	1797.8	1796.1	1794.5	1793.9	1794.3	1794.8	1795.3	1795.7	1797.7
180°	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9



TEST NUMBER: P332803-940

CATALOG NUMBER: S124DIW-S795D1560U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7
2.5°	1179.5	1181.2	1182.9	1183.7	1183.5	1183.3	1183.1	1182.9
5°	1173.1	1175.5	1177.8	1178.8	1178.3	1177.9	1177.5	1177.1
7.5°	1160.1	1162.0	1163.8	1164.6	1164.4	1164.1	1163.9	1163.6
10°	1149.1	1150.8	1152.5	1153.2	1152.7	1152.3	1151.9	1151.5
12.5°	1135.9	1137.6	1139.5	1140.1	1139.6	1139.0	1138.4	1137.8
15°	1110.4	1111.6	1112.9	1113.2	1112.6	1112.0	1111.3	1110.7
17.5°	1081.4	1082.2	1083.0	1083.2	1082.7	1082.3	1081.9	1081.5
20°	1059.8	1060.4	1061.0	1061.1	1060.7	1060.3	1059.9	1059.4
22.5°	1037.2	1038.4	1039.6	1039.7	1038.9	1038.2	1037.4	1036.7
25°	1000.1	1000.3	1000.6	1000.2	999.4	998.5	997.7	996.8
27.5°	958.5	958.0	957.4	956.7	955.6	954.6	953.5	952.4
30°	929.7	928.9	928.0	927.1	926.0	925.0	923.9	922.9
32.5°	900.5	899.6	898.6	897.5	896.4	895.4	894.3	893.3
35°	854.5	853.0	851.5	850.2	849.2	848.2	847.1	846.1
37.5°	806.2	804.6	803.1	801.6	800.1	798.8	797.4	795.9
40°	772.6	770.5	768.4	766.8	765.7	764.7	763.7	762.6
42.5°	740.0	737.6	735.1	733.6	732.9	732.2	731.5	730.8
45°	689.6	687.3	685.0	683.6	682.9	682.2	681.6	681.0
47.5°	640.9	638.3	635.6	633.6	632.0	630.4	628.7	627.1
50°	606.8	603.9	600.9	598.8	597.5	596.3	595.0	593.8
52.5°	571.9	569.2	566.6	564.5	562.9	561.3	559.7	558.1
55°	520.4	517.9	515.3	513.4	512.2	511.0	509.6	508.4
57.5°	468.9	466.5	464.0	462.3	461.0	459.8	458.6	457.4
60°	433.5	431.6	429.6	428.2	427.1	426.1	425.0	424.0
62.5°	398.9	397.2	395.5	394.0	393.0	391.9	390.9	389.9
65°	348.7	346.5	344.4	342.9	341.8	340.7	339.7	338.6
67.5°	296.9	294.8	292.7	291.6	291.3	291.1	290.7	290.4
70°	264.1	262.4	260.7	259.6	259.0	258.3	257.7	257.1
72.5°	231.4	230.1	228.7	227.7	227.0	226.4	225.8	225.2
75°	184.2	183.3	182.5	182.0	181.8	181.6	181.4	181.2
77.5°	139.5	139.2	139.0	138.6	138.0	137.5	137.0	136.4
80°	111.1	110.7	110.2	109.9	109.7	109.5	109.3	109.1
82.5°	85.6	85.3	85.1	84.9	84.7	84.4	84.3	84.0
85°	49.3	49.3	49.3	49.2	49.0	48.8	48.6	48.3
87.5°	24.9	25.2	25.6	25.8	25.9	26.0	26.1	26.3
90°	33.2	35.0	36.7	38.0	38.5	39.1	39.8	40.3
92.5°	32.1	33.9	35.7	36.6	36.7	36.9	37.0	37.1
95°	33.2	35.0	36.7	37.8	38.1	38.4	38.7	39.0
97.5°	35.8	36.0	36.2	36.5	36.7	37.1	37.4	37.6
100°	49.0	44.0	38.9	36.5	36.7	37.1	37.4	37.6
102.5°	175.5	120.6	65.9	38.5	38.5	38.6	38.7	38.7
105°	424.9	427.7	430.3	426.2	415.5	404.7	394.0	383.3
107.5°	525.8	527.1	528.3	529.6	530.7	531.8	533.0	534.1
110°	594.2	594.9	595.4	596.2	597.1	598.0	598.9	599.8



TEST NUMBER: P332803-940

CATALOG NUMBER: S124DIW-S795D1560U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	660.6	660.4	660.3	660.8	662.0	663.1	664.2	665.4
115°	759.6	760.2	760.8	761.2	761.2	761.2	761.2	761.2
117.5°	859.3	859.2	859.1	859.0	858.8	858.7	858.6	858.4
120°	921.0	921.6	922.2	922.2	921.6	921.0	920.4	919.8
122.5°	981.9	982.2	982.6	982.4	981.9	981.2	980.6	980.1
125°	1066.8	1067.7	1068.6	1069.3	1069.5	1069.8	1070.1	1070.4
127.5°	1151.3	1151.1	1150.9	1150.7	1150.5	1150.2	1150.0	1149.8
130°	1202.8	1203.1	1203.4	1203.5	1203.5	1203.5	1203.5	1203.5
132.5°	1253.4	1253.7	1253.9	1254.0	1253.7	1253.5	1253.3	1253.0
135°	1323.0	1323.7	1324.3	1324.9	1325.4	1326.1	1326.7	1327.2
137.5°	1389.9	1390.5	1391.2	1391.4	1391.2	1391.1	1390.9	1390.7
140°	1431.3	1432.2	1433.1	1433.6	1434.0	1434.2	1434.5	1434.9
142.5°	1469.5	1470.2	1470.8	1471.1	1471.2	1471.3	1471.3	1471.4
145°	1524.2	1524.5	1524.7	1525.3	1525.8	1526.4	1527.1	1527.6
147.5°	1572.2	1572.4	1572.7	1573.0	1573.2	1573.5	1573.9	1574.1
150°	1602.9	1602.9	1602.9	1603.1	1603.4	1603.7	1604.0	1604.3
152.5°	1629.7	1630.1	1630.7	1630.8	1630.6	1630.4	1630.2	1630.0
155°	1665.8	1667.1	1668.2	1668.4	1667.5	1666.6	1665.7	1664.8
157.5°	1696.9	1698.5	1700.0	1700.0	1698.5	1696.9	1695.4	1693.8
160°	1716.8	1718.6	1720.4	1720.4	1718.6	1716.8	1715.0	1713.2
162.5°	1733.0	1734.7	1736.5	1736.3	1734.4	1732.3	1730.3	1728.2
165°	1755.6	1758.0	1760.4	1760.2	1757.6	1754.9	1752.2	1749.5
167.5°	1772.3	1774.9	1777.5	1777.4	1774.3	1771.4	1768.4	1765.4
170°	1782.5	1784.9	1787.3	1787.0	1784.0	1781.0	1778.1	1775.0
172.5°	1789.0	1791.4	1793.8	1793.3	1790.1	1786.9	1783.7	1780.4
175°	1796.5	1799.3	1802.0	1801.5	1797.9	1794.3	1790.7	1787.2
177.5°	1799.6	1801.5	1803.4	1803.0	1800.1	1797.2	1794.3	1791.4
180°	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9

(END OF REPORT)